GRE

JAN 2016

PROJECT ID: 1224-21-71

COUNTY: MANITOWOC

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
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 = 464



N

DESIGN DESIGNATION

A.A.D.T.	2016	=	25,000
A.A.D.T.	2036	=	29,500
D.H.V.		=	3,600
D.D.		=	60/40
T.		=	15.9%
DESIGN SPEED		=	70 MPH
ESALS		=	10,650,700

CONVENTIONAL SYMBOLS

PLAN

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

PROFILE

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

UTILITIES

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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

PLAN OF PROPOSED IMPROVEMENT

SHEBOYGAN - MANITOWOC

SCL - STH 310

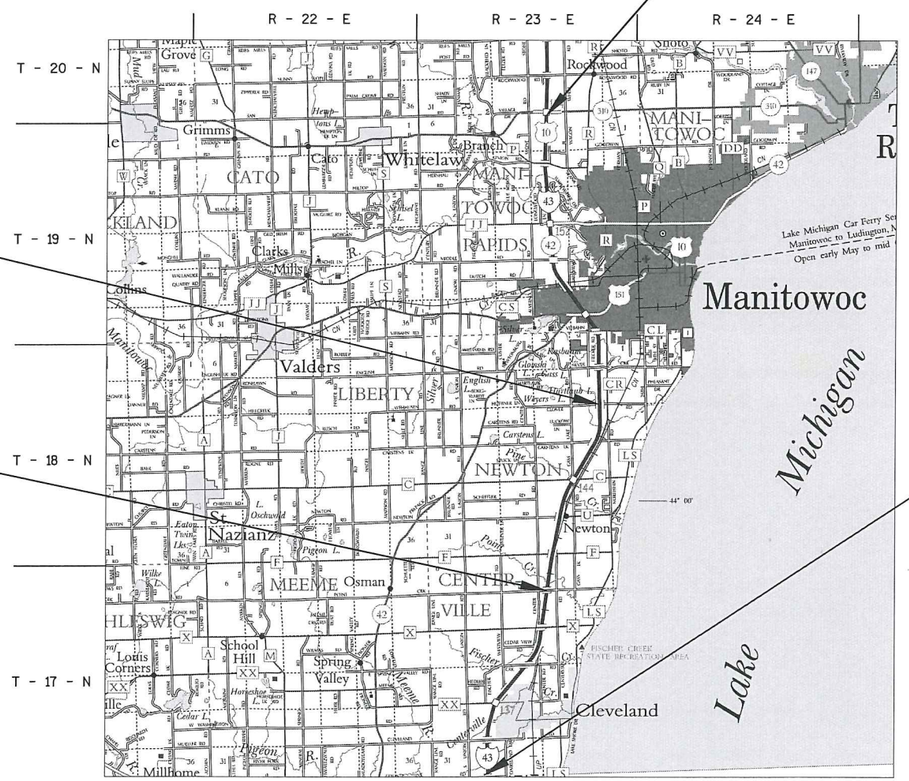
IH 43

MANITOWOC COUNTY

STATE PROJECT	FEDERAL PROJECT	
	PROJECT	CONTRACT
1224-21-71	WISC 2016006	1

STATE PROJECT NUMBER
1224-21-71

END PROJECT 1224-21-71
STA 1939+14.29'NB'
X = 214389.85
Y = 323193.07



STA 1501+10.30'NB'
BEGIN PAVING LIMITS

STA 1216+88.99'NB'
END PAVING LIMITS

BEGIN PROJECT 1224-21-71
STA 930+05.38'NB'
X = 203690.05
Y = 228171.20

LAYOUT
SCALE 0 4 MI.

TOTAL NET LENGTH OF CENTERLINE = 13.679 MI.

HORIZONTAL POSITIONS SHOWN ON THIS PLAN ARE WISCONSIN COUNTY COORDINATES, MANITOWOC 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.

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

PREPARED BY

Surveyor	NE REGION
Designer	S. PORTER
Project Manager	B. HAEN
Regional Examiner	
Regional Supervisor	C. KAROW

APPROVED FOR THE DEPARTMENT
DATE: 10/14/15 (Signature)

E

GENERAL NOTES

THE LOCATION OF EXISTING UTILITIES AS SHOWN ON THE PLANS ARE APPROXIMATE, THERE MAY BE OTHER UTILITY INSTALLATIONS WITHIN THE PROJECT AREA THAT ARE NOT SHOWN. THE CONTRACTOR SHALL NOTIFY DIGGERS HOTLINE AND ALL OTHER UTILITIES IN THE VICINITY OF THE PROJECT TO LOCATE THEIR FACILITIES AT LEAST 3 WORKING DAYS PRIOR TO BEGINNING WORK.

WETLANDS ARE PRESENT IN SEVERAL AREAS ADJACENT TO THE PROJECT. DO NOT OPERATE EQUIPMENT OUTSIDE OF THE SLOPE INTERCEPTS IN WETLAND AREAS UNLESS DIRECTED BY THE ENGINEER.

INLET AND DISCHARGE ELEVATIONS FOR DRAINAGE STRUCTURES SHOWN ON THE PLAN ARE APPROXIMATE AND SHALL BE DETERMINED BY THE ENGINEER IN THE FIELD.

EXISTING DRAINAGE DITCHES AND CULVERT PIPES WILL REMAIN FUNCTIONAL DURING EXCAVATION OPERATIONS.

ALL DISTURBED AREAS SHALL BE TOPSOILED (SALVAGED), FERTILIZED, SEEDED, AND MULCHED. DISTURBED AREAS ADJACENT TO LAWNS SHALL BE SEEDED WITH MIXTURE NO. 40.

ALL CONTINUOUSLY REINFORCED CONCRETE REPAIRS ARE SEVEN (7) FEET IN LENGTH UNLESS OTHERWISE NOTED IN THE PLANS.

ALL SHOULDER BASE PATCH LENGTHS ADJACENT TO CONTINUOUSLY REINFORCED CONCRETE REPAIRS SHALL MATCH THE REPAIR LENGTHS UNLESS OTHERWISE NOTED IN THE PLANS. INDIVIDUAL SHOULDER BASE PATCHES NOT ADJACENT TO CONTINUOUSLY REINFORCED CONCRETE REPAIRS ARE SIX (6) FEET IN LENGTH UNLESS OTHERWISE NOTED IN THE PLANS.

ALL SHOULDER BASE PATCHES 6 FEET IN LENGTH REQUIRE, AT A MINIMUM, TWO (2) TIE BARS. SEE CONSTRUCTION DETAILS FOR MORE INFORMATION.

FOR BASE PATCHING ON EXISTING RAMPS, REFER TO THE CONSTRUCTION DETAILS FOR DRILLED DOWEL AND STANDARD DETAIL DRAWINGS FOR DRILLED TIE BAR SPACINGS.

CONCRETE BASE PATCH SHES AND CONTINUOUSLY REINFORCED CONCRETE REPAIR SHES WILL BE FIELD LOCATED BY THE ENGINEER.

DNR AREA LIAISON

MATTHEW SCHAEVE
DEPARTMENT OF NATURAL RESOURCES
NORTHEAST REGION
2984 SHAWANO AVE
GREEN BAY, WI 54313
(920) 662-5472
MATTHEW.SCHAEVE@WISCONSIN.GOV

COUNTY SURVEYOR OR SURVEYS CONTACT PERSON

JOHN KROPP - MANITOWOC COUNTY
MANITOWOC COUNTY HIGHWAY OFFICE
3500 STH 310
MANITOWOC, WI 54220-9659
(920) 323-6512
jmkropp@att.net

CONTACT: CORMAC MCINNIS
WISDOT-NORTHEAST REGION
944 VANDERPERREN WAY
GREEN BAY, WI 54304
(920) 492-5638
cormac.mcinnis@dot.wi.gov

UTILITIES

ALLIANT ENERGY - ELECTRICITY
JOE KOCHAN
4421 TOWER DRIVE
SHEBOYGAN, WI 53081
(920) 459-6331 CELL: (920) 948-2052
JOEKOCHAN@ALLIANTENERGY.COM

ANR PIPELINE COMPANY - GAS/PETROLEUM
STEVE WHITTY
W8715 TOWER DRIVE
ADELL, WI 53001
(262) 626-3441 CELL: (920) 375-0475
STEVEN_WHITTY@TRANSCANADA.COM

ATC MANAGEMENT, INC. - ELECTRICITY
TONY MARCINIAK
P.O. BOX 47
WAUKESHA, WI 53187
(262) 506-6814
TMARCINIAK@ATCLLC.COM

CHARTER COMMUNICATIONS - COMMUNICATIONS
NICK FRASE
3315 LINCOLN AVENUE
TWO RIVERS, WI 54241
(920) 739-2216 EXT 30 CELL: (920) 304-6797
NICK.FRASE@CHARTER.COM

CITY OF MANITOWOC - SEWER
GREG J. MINIKEL P.E.
900 QUAY STREET
MANITOWOC, WI 54220
(920) 686-6910 CELL: (920) 374-0411
GMINIKEL@MANITOWOC.ORG

NSIGHT - COMMUNICATIONS
DOUGLAS STAHL
7520 ENGLISH LAKE ROAD
MANITOWOC, WI 54220
(920) 758-3603 CELL: (920) 323-4200
DOUG.STAHL@NSIGHT.COM

MANITOWOC PUBLIC UTILITIES - COMMUNICATIONS
STEVE BACALZO
1303 SOUTH 8TH STREET
P.O. BOX 1090
MANITOWOC, WI 54221-1090
(920) 686-4310
SBACALZO@MPU.ORG

MANITOWOC PUBLIC UTILITIES - ELECTRICITY
STEVE BACALZO
1303 SOUTH 8TH STREET
P.O. BOX 1090
MANITOWOC, WI 54221-1090
(920) 686-4310
SBACALZO@MPU.ORG

QWEST COMMUNICATIONS - COMMUNICATIONS
RUDY WHEELER
GREEN BAY, WI
(920) 362-1184
RUFUS.WHEELER@CENTURYLINK.COM

TDS TELECOM - COMMUNICATIONS
STEVE JAKUBIEC
10 COLLEGE AVENUE, SUITE 218A
APPLETON, WI 54911
(920) 882-4166 CELL: (920) 562-7221
STEVE.JAKUBIEC@TDSTELECOM.COM

TIME WARNER CABLE - COMMUNICATIONS
VINCE ALBIN
3520 DESTINATION DRIVE
APPLETON, WI 54915
(920) 831-9249 CELL: (920) 378-0444
VINCE.ALBIN@TWCABLE.COM

WE ENERGIES - ELECTRICITY
AL SCHMITT
245 SAND DRIVE
WEST BEND, WI 53095
(262) 338-7662 CELL: (414) 322-1824
ALAN.SCHMITT@WE-ENERGIES.COM

WINDSTREAM KDL, INC. - COMMUNICATIONS
JIM KOSTUCH
13935 BISHOPS DRIVE
BROOKFIELD, WI 53005
(262) 792-7938
JAMES.KOSTUCH@WINDSTREAM.COM

WISCONSIN PUBLIC SERVICE CORPORATION - ELECTRICITY
JEFF PELISCHEK
800 COLUMBUS STREET
TWO RIVERS, WI 54241
(920) 657-1816 CELL: (920) 323-4836
JSPELISCHEK@WISCONSINPUBLICSERVICE.COM

WISCONSIN PUBLIC SERVICE CORPORATION - GAS/PETROLEUM
JERRY PEOT
800 COLUMBUS STREET
TWO RIVERS, WI 54241
(920) 657-1815 CELL: (920) 655-0522
GJPEOT@WISCONSINPUBLICSERVICES.COM

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

2

N

BEGIN PROJECT
STA 930+05.38'NB'

STA BACK = 1007+09.28'SB'
STA AHEAD = 1006+90.46'SB
EQUATION

STA 1034+50.00'NB'

COUNTY LINE RD

S CLEVELAND RD

NORTH AVE

INTERSTATE 43

WESTVIEW RD

WEIGH STATION

CTH XX

CENTER RD

FISHER CREEK RD

CTH X

NEWTON RD

POINT CREEK RD

CTH F

CTH U

CTH C

CARSTENS LAKE RD

CLOVER RD

SILVER CREEK RD

VIEBAHN RD

USH 151

CALUMET AVE

W CUSTER ST

RR TRACKS

MIDDLE RD

CTH JJ

CTH P

HOMESTEAD RD

STH 310

USH 10

END PROJECT
STA 1939+14.29'NB'

BEGIN PAVING LIMITS
STA 1501+10.30'NB'

STA 1634+50.00'NB'

STA 1779+85.00'NB'

EQUATION
STA BACK = 1042+48.20'SB'
STA AHEAD = 1042+20.41'SB'

EQUATION
STA BACK = 1147+02.06'SB'
STA AHEAD = 1147+37.97'SB'

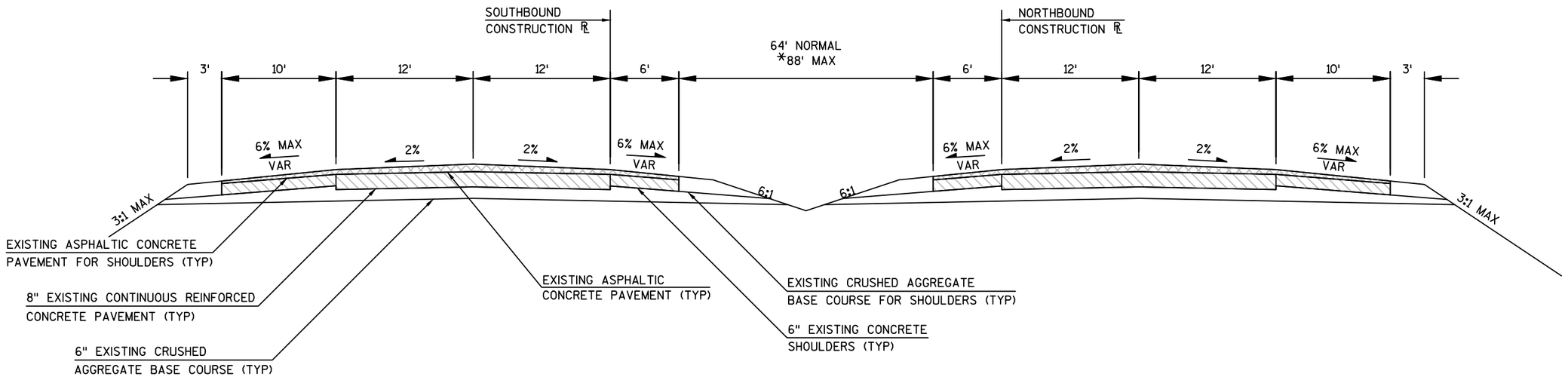
END PAVING LIMITS
STA 1216+88.99'NB'

EQUATION
STA BACK = 1549+04.01'SB'
STA AHEAD = 1549+02.65'SB'

EQUATION
STA BACK = 1614+48.05'SB'
STA AHEAD = 1615+09.92'SB'

EQUATION
STA BACK = 1722+97.01'SB'
STA AHEAD = 1722+49.83'SB'

PROJECT NO: 1224-21-71	HWY: IH 43	COUNTY: MANITOWOC	PROJECT OVERVIEW	SHEET 3	E



EXISTING TYPICAL SECTION FOR IH 43

STA. 927+87.70'NB' - STA 1216+88.98'NB'
STA. 1503+10.30'NB' - STA 1939+14.29'NB'
*STA. 1615+09.92'NB' - STA. 1939+14.29'NB'

SOUTHBOUND EXISTING ASPHALT OVERLAY DEPTHS

2"

STA. 975+76'SB' - STA. 984+29'SB'
STA. 1052+21'SB' - STA. 1057+20'SB'
STA. 1127+63'SB' - STA. 1132+06'SB'
STA. 1501+07.31'SB' - STA. 1502+90'SB'
STA. 1682+08'SB' - STA. 1686+80'SB'
STA. 1689+25'SB' - STA. 1695+64'SB'
STA. 1778+58'SB' - STA. 1783+58'SB'
STA. 1844+94'SB' - STA. 1855+42'SB'

3"

STA. 1686+80'SB' - STA. 1689+25'SB'

4"

STA. 929+03.68'SB' - STA. 975+76'SB'
STA. 984+29'SB' - STA. 1052+21'SB'
STA. 1057+20'SB' - STA. 1127+63'SB'
STA. 1132+06'SB' - STA. 1204+11'SB'
STA. 1502+90'SB' - STA. 1655+33'SB'
STA. 1726+33'SB' - STA. 1778+58'SB'
STA. 1855+42'SB' - STA. 1939+14.29'SB'

6"

STA. 1204+11'SB' - STA. 1216+72.29'SB'
STA. 1655+33'SB' - STA. 1682+08'SB'
STA. 1695+64'SB' - STA. 1726+33'SB'
STA. 1783+58'SB' - STA. 1844+94'SB'

NORTHBOUND EXISTING ASPHALT OVERLAY DEPTHS

3"

STA. 975+76'NB' - STA. 984+29'NB'
STA. 1051+19'NB' - STA. 1056+38'NB'
STA. 1127+24'NB' - STA. 1131+60'NB'
STA. 1501+10.30'NB' - STA. 1503+93'NB'
STA. 1682+20'NB' - STA. 1685+91'NB'
STA. 1689+47'NB' - STA. 1694+22'NB'
STA. 1778+50'NB' - STA. 1782+50'NB'
STA. 1845+51'NB' - STA. 1855+07'NB'

2"

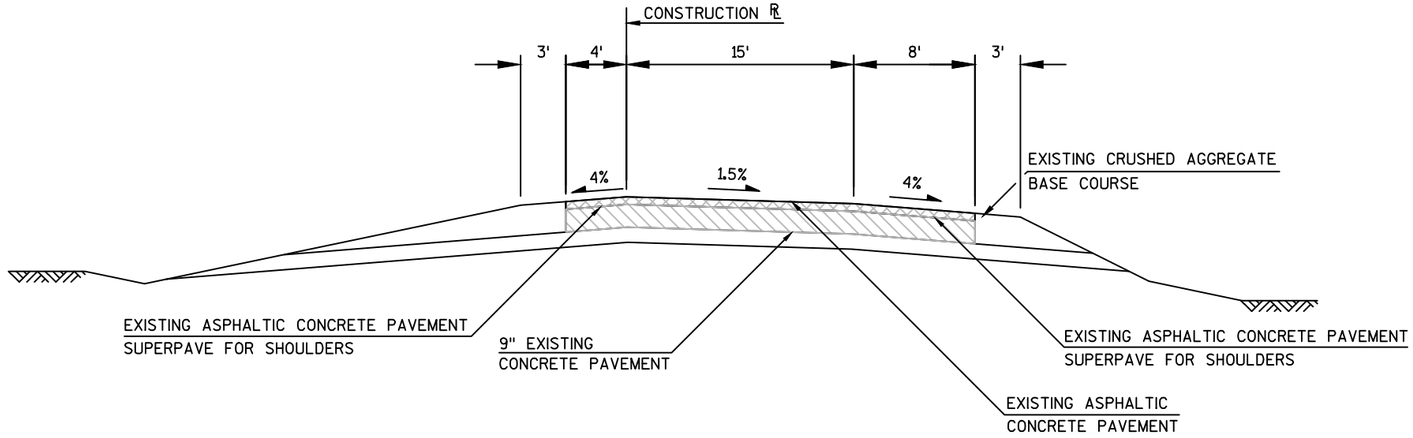
STA. 1685+91'NB' - STA. 1689+47'NB'

4"

STA. 927+87.70'NB' - STA. 975+76'NB'
STA. 984+29'NB' - STA. 1051+19'NB'
STA. 1056+38'NB' - STA. 1127+24'NB'
STA. 1131+60'NB' - STA. 1149+39'NB'
STA. 1602+33'NB' - STA. 1682+20'NB'
STA. 1726+33'NB' - STA. 1778+50'NB'
STA. 1782+50'NB' - STA. 1845+51'NB'
STA. 1855+07'NB' - STA. 1939+14.29'NB'

6"

STA. 1149+39'NB' - STA. 1216+88.98'NB'
STA. 1503+93'NB' - STA. 1602+33'NB'
STA. 1694+22'NB' - STA. 1726+33'NB'



EXISTING TYPICAL SECTION FOR RAMPS

① 6" EXISTING ASPHALTIC CONCRETE PAVEMENT

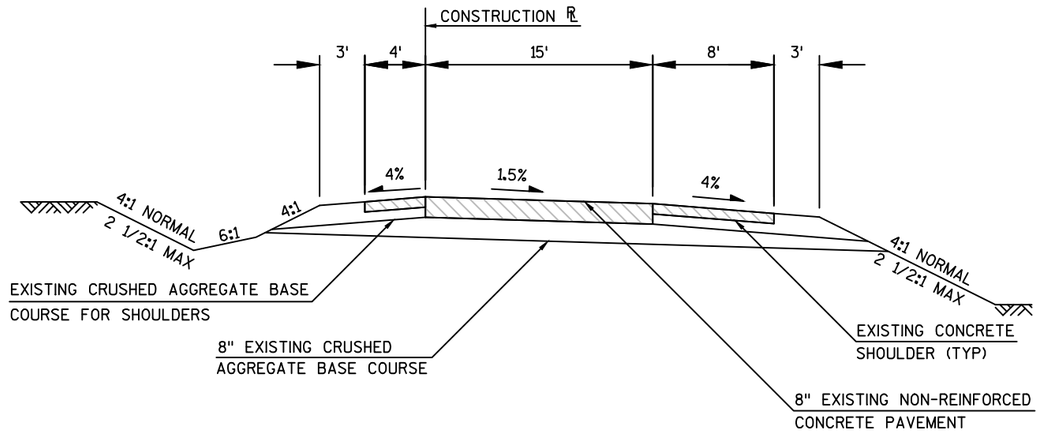
CTH XX RAMPS

② STA. 1020+07.95'SE' - STA. 1023+78.47'SE'
② STA. 1017+30.58'SW' - STA. 1024+14.99'SW'
② STA. 1045+27.88'NE' - STA. 1052+33.35'NE'
② STA. 1044+13.34'NW' - STA. 1047+73.81'NW'

② 4" EXISTING ASPHALTIC CONCRETE PAVEMENT

USH 151 RAMPS

① STA. 1619+33.49'SE' - STA. 1622+84.09'SE'
② STA. 1619+77.59'SW' - STA. 1627+27.04'SW'
① STA. 1643+54.00'NE' - STA. 1650+60.23'NE'
② STA. 1648+66.72'NW' - STA. 1651+82.57'NW'



EXISTING TYPICAL SECTION FOR RAMPS

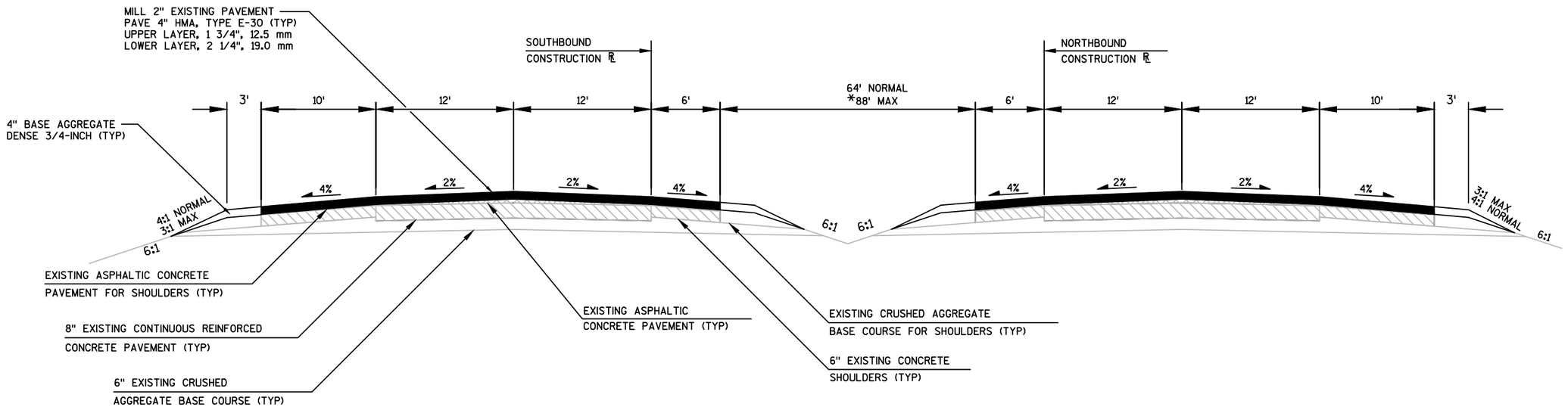
CTH XX RAMPS

STA. 1023+78.47'SE' - STA. 1034+82.95'SE'
STA. 1024+14.99'SW' - STA. 1032+70.58'SW'
STA. 1037+50.06'NE' - STA. 1045+27.88'NE'
STA. 1032+90.68'NW' - STA. 1044+13.34'NW'

USH 151 RAMPS

STA. 1622+84.09'SE' - STA. 1629+33.49'SE'
STA. 1627+27.04'SW' - STA. 1632+81.51'SW'
STA. 1636+48.68'NE' - STA. 1643+54.00'NE'
STA. 1640+64.92'NW' - STA. 1648+66.72'NW'

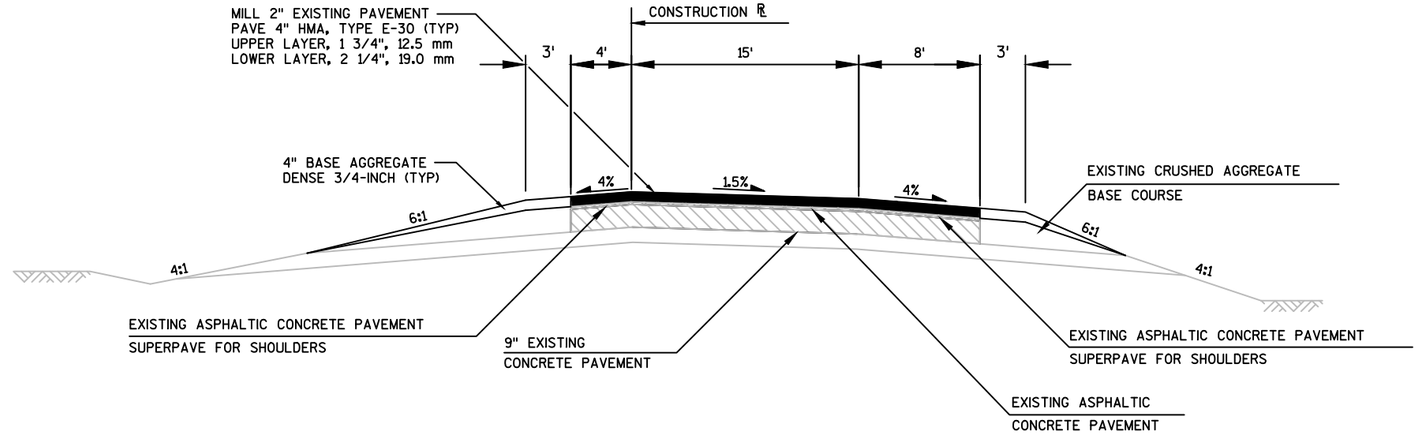
2



FINISHED TYPICAL SECTION FOR IH 43

STA. 930+05.38'NB' - STA 1216+88.99'NB'
STA. 1503+10.30'NB' - STA 1939+14.29'NB'
*STA. 1615+09.92'NB' - STA. 1939+14.29'NB'

PROJECT NO:1224-21-71	HWY: IH 43	COUNTY: MANITOWOC	TYPICAL SECTIONS - IH 43	SHEET 6	E



FINISHED TYPICAL SECTION FOR RAMPS

① 6" EXISTING ASPHALTIC CONCRETE PAVEMENT

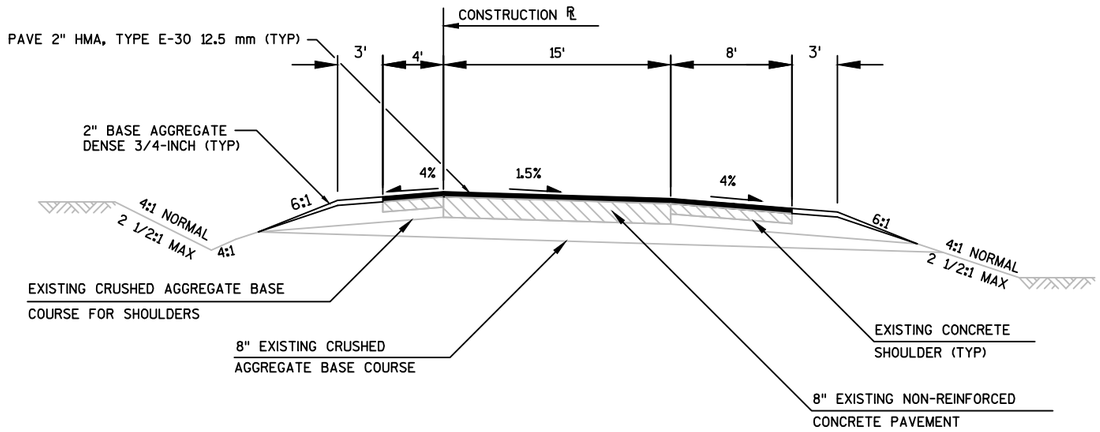
② 4" EXISTING ASPHALTIC CONCRETE PAVEMENT

CTH XX RAMPS

② STA. 1020+07.95'SE' - STA. 1023+78.47'SE'
② STA. 1017+30.58'SW' - STA. 1024+14.99'SW'
② STA. 1045+27.88'NE' - STA. 1052+33.35'NE'
② STA. 1044+13.34'NW' - STA. 1047+73.81'NW'

USH 151 RAMPS

① STA. 1619+33.49'SE' - STA. 1622+84.09'SE'
② STA. 1619+77.59'SW' - STA. 1627+27.04'SW'
① STA. 1643+54.00'NE' - STA. 1650+60.23'NE'
② STA. 1648+66.72'NW' - STA. 1651+82.57'NW'



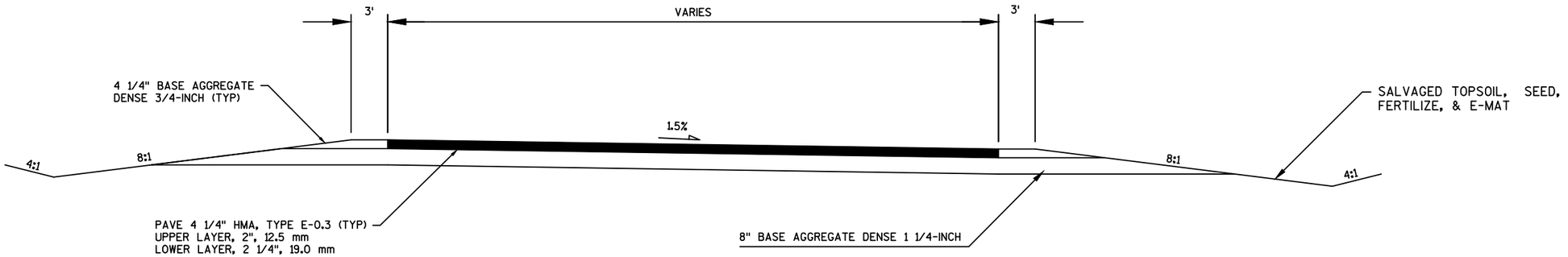
FINISHED TYPICAL SECTION FOR RAMPS

CTH XX RAMPS

STA. 1023+78.47'SE' - STA. 1034+82.95'SE'
STA. 1024+14.99'SW' - STA. 1032+70.58'SW'
STA. 1037+50.06'NE' - STA. 1045+27.88'NE'
STA. 1032+90.68'NW' - STA. 1044+13.34'NW'

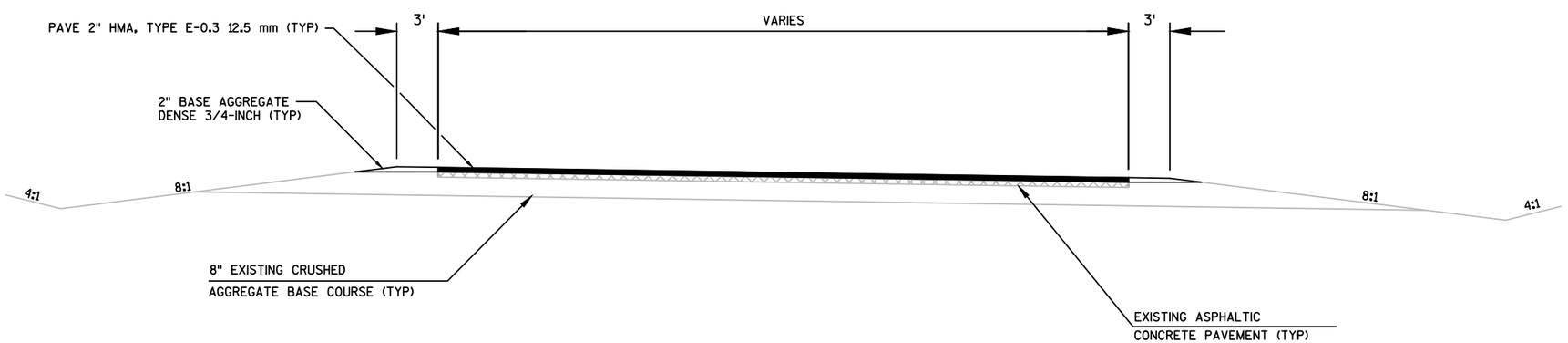
USH 151 RAMPS

STA. 1622+84.09'SE' - STA. 1629+33.49'SE'
STA. 1627+27.04'SW' - STA. 1632+81.51'SW'
STA. 1636+48.68'NE' - STA. 1643+54.00'NE'
STA. 1640+64.92'NW' - STA. 1648+66.72'NW'



FINISHED TYPICAL SECTION FOR
STH 42/USH 10/CTH JJ PARK AND RIDE EXPANSION

STA 0+35.00'PNR - STA 1+25.00'PNR'

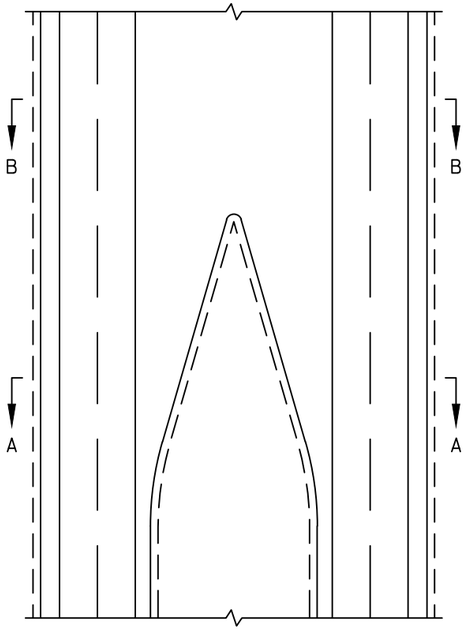


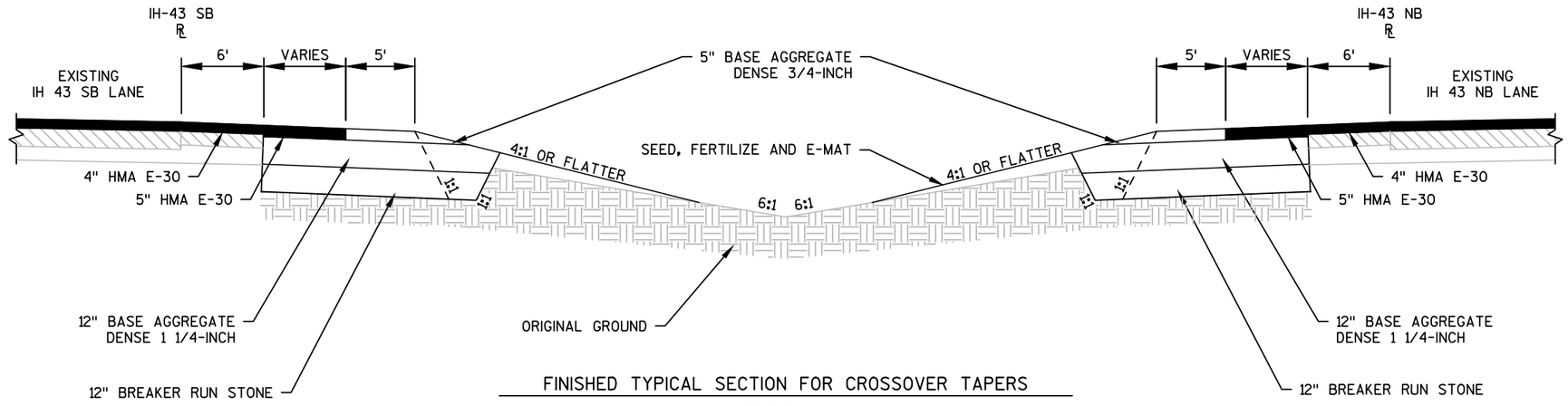
FINISHED TYPICAL SECTION FOR
PARK AND RIDES

STH 42/USH 10/CTH JJ, STA 1+25.00'PNR' - STA 1+85.26'PNR'
STH 310
USH 151

PROJECT NO:1224-21-71	HWY: IH 43	COUNTY: MANITOWOC	TYPICAL SECTIONS - IH 43	SHEET 8	E

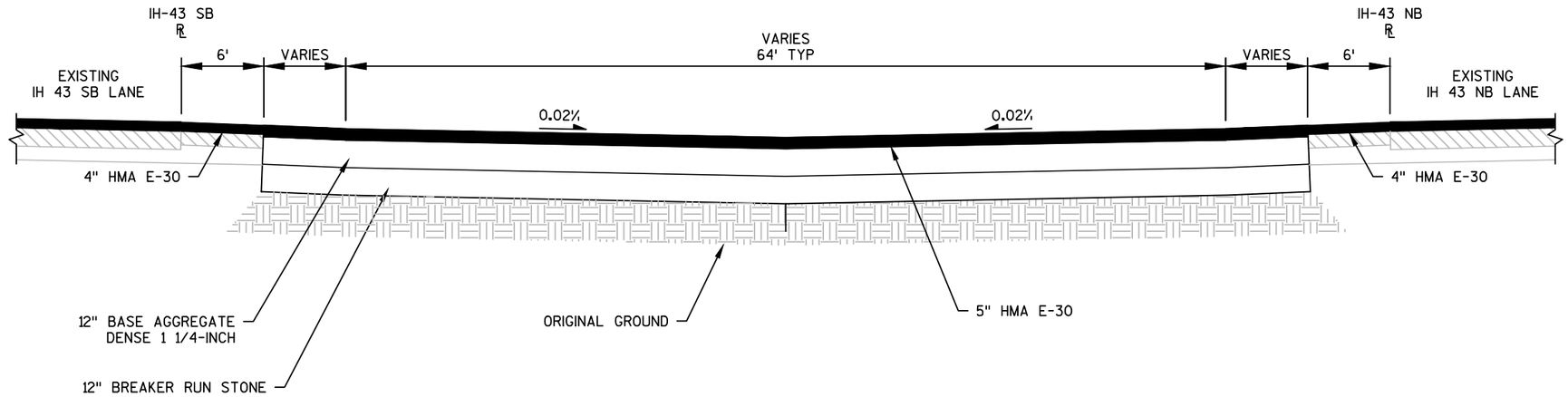
2





FINISHED TYPICAL SECTION FOR CROSSOVER TAPERS

SECTION A-A

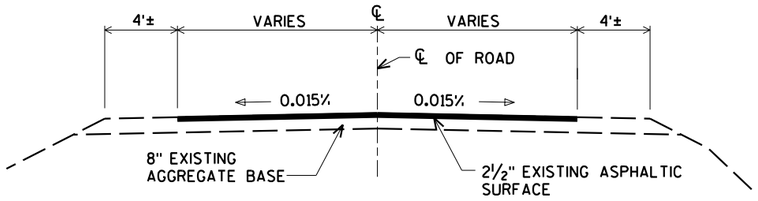


FINISHED TYPICAL SECTION FOR CROSSOVERS

SECTION B-B

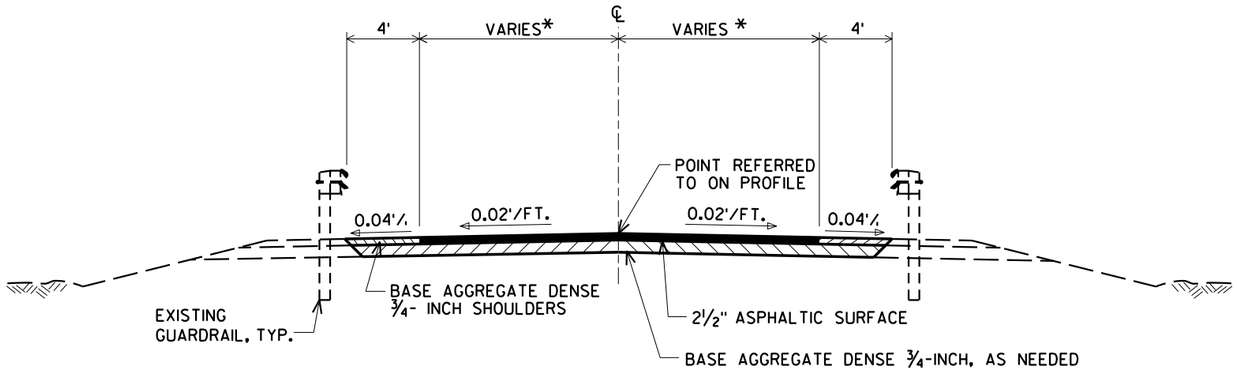
STA 1190+01.21'NB' - STA 1203+80.75'NB'
STA 1515+38.09'NB' - STA 1529+72.97'NB'

PROJECT NO:1224-21-71	HWY: IH 43	COUNTY: MANITOWOC	TYPICAL SECTIONS - IH 43 CROSSOVERS	SHEET 9	E



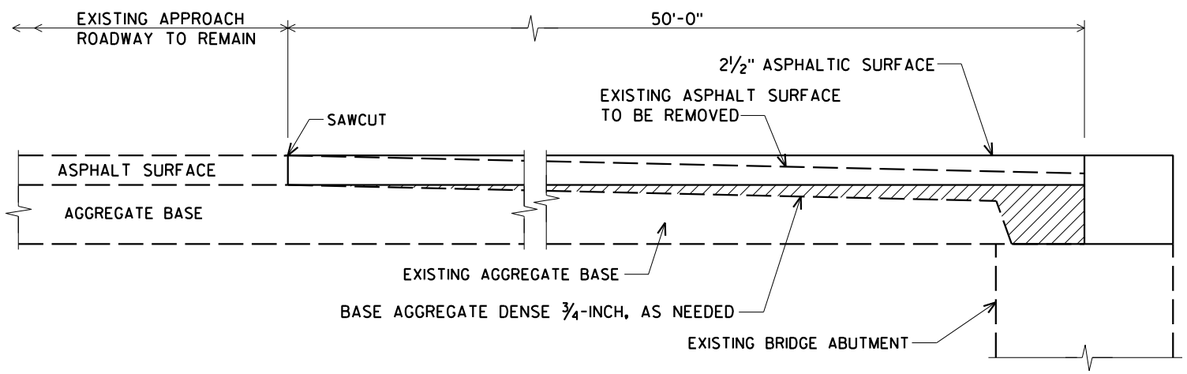
TYPICAL EXISTING SECTION

THIS SHEET APPLIES TO THE FOLLOWING ROADS AT OVERPASS BRIDGES OF IH 43:
- SOUTH CLEVELAND ROAD
- FISHER CREEK ROAD
- CTH X
- UCKER POINT CREEK ROAD
- SILVER CREEK ROAD
- VIEBAHN STREET (CTH CL)
- MIDDLE ROAD
- COUNTY LINE ROAD



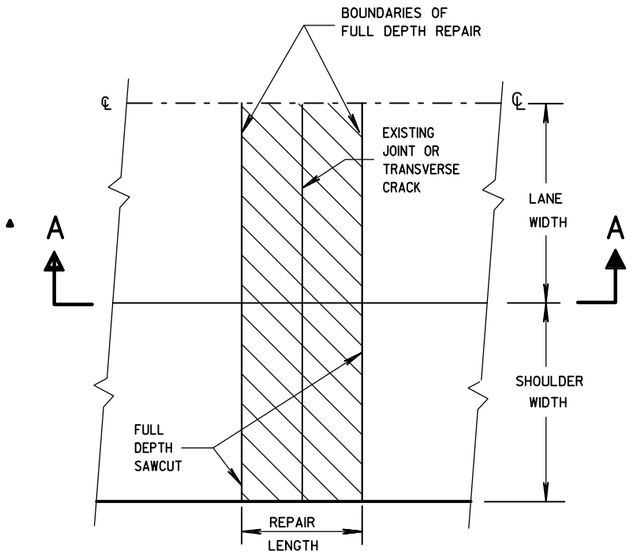
TYPICAL FINISHED SECTION

* TAPER FROM FULL WIDTH BETWEEN BARRIERS AT THE BRIDGE WINGWALLS TO MATCH EXISTING PAVED WIDTH AT THE PROJECT LIMITS.

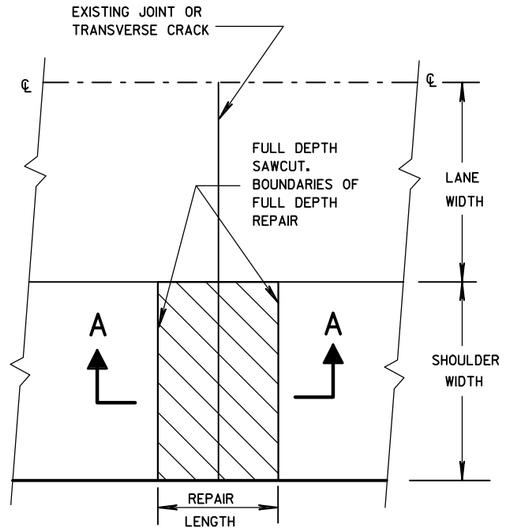


TYPICAL APPROACH DETAIL

PROJECT NO: 1224-21-71	HWY: VARIOUS	COUNTY: MANITOWOC	TYPICAL SECTIONS	SHEET 10	E



PLAN VIEW
(SHOULDER WITH LANE REPAIR)



PLAN VIEW
(SHOULDER REPAIR)

FULL DEPTH CONCRETE PAVEMENT REMOVAL
(SEE NOTE)

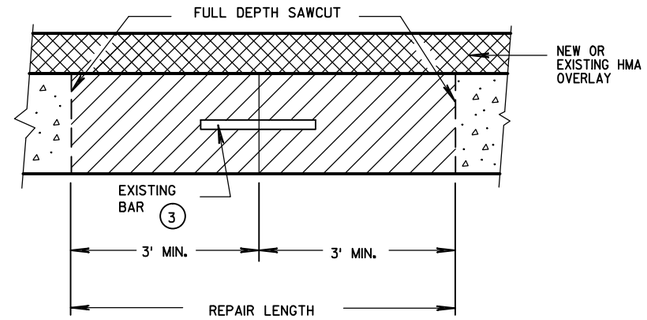
NOTES

SAW CUT, DRILL, AND LIFT OUT EXISTING CONCRETE PAVEMENT WITHIN THE BOUNDARIES OF CONCRETE REPAIR AREAS. THE CONTRACTOR MAY MAKE ADDITIONAL SAW CUTS INSIDE THE REPAIR LIMITS TO REDUCE WEIGHT AND SIZE OF CONCRETE PIECES. ADDITIONAL SAW CUTS ARE NOT PAID FOR BY THE DEPARTMENT.

PROVIDE 6-FOOT MINIMUM DISTANCE FROM BOUNDARIES OF CONCRETE REPAIR AREAS ADJACENT TRANSVERSE JOINT OR CRACK.

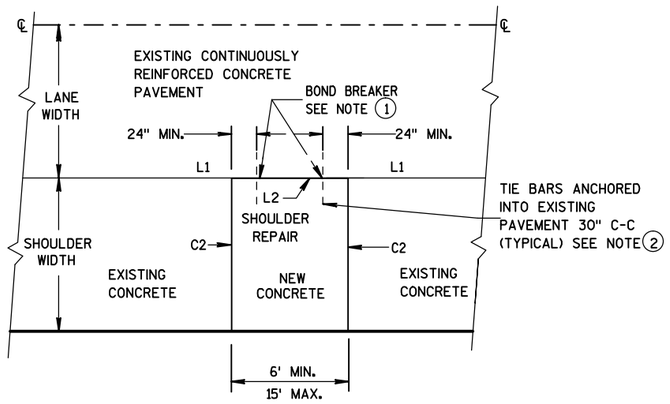
THE LENGHTH OF THE REPAIRS MAY VARY FROM THE DIMENSIONS SHOWN IF THE EXISTING CONCRETE PAVEMENT IS NONDOWELED AND THE PAVEMENT IS OVERLAID AFTER REPAIRING.

(3) DOWEL BARS MIGHT NOT EXIST.

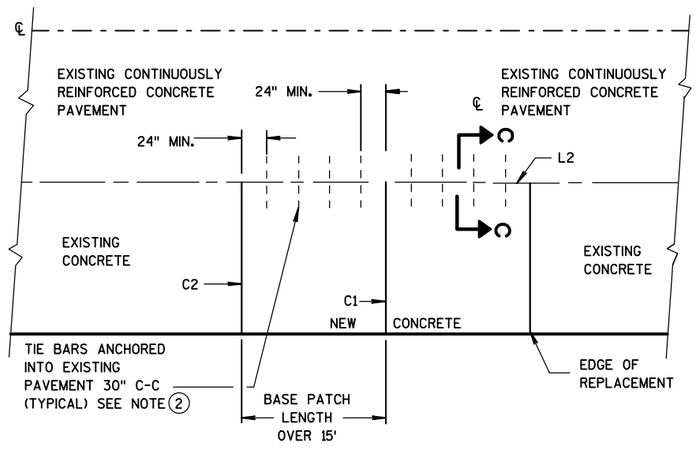


SECTION A-A

CONCRETE REMOVAL



PLAN VIEW
SHOULDER CONCRETE BASE PATCH
15' MAXIMUM LENGTH

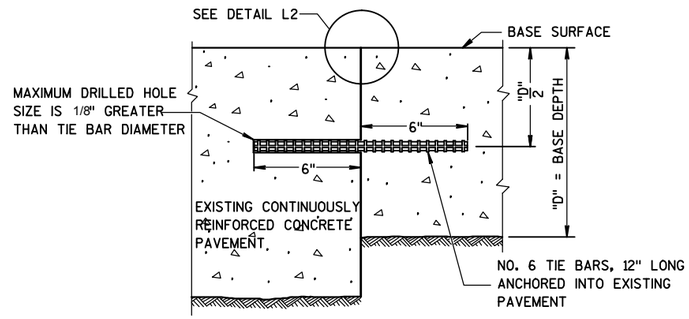


PLAN VIEW
SHOULDER CONCRETE BASE PATCH
GREATER THAN 15' IN LENGTH

NOTES

(1) USE AN ENGINEER-APPROVED BOND BREAKER FOR SHOULDER BASE PATCHES UP TO 15 FEET IN LENGTH.

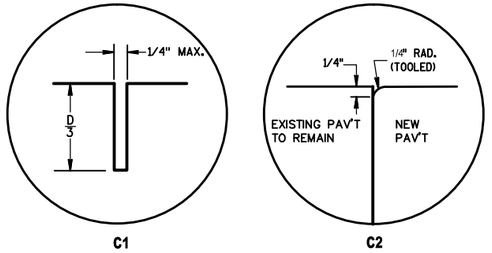
(2) WITH THE APPROVAL OF THE ENGINEER, FOR SHOULDER PAVEMENT REPLACEMENTS LESS THAN 30 FEET IN LENGTH, DRILLED TIE BARS MAY BE INSTALLED ON 6:1 SKEW HORIZONTALLY, DIRECTION OF SKEW ALTERNATING WITH EACH SUCCESSIVE BAR. DRIVE SKEWED TIE BARS TO A DEPTH OF 6 INCHES AND TO SUCH A DIAMETER AS TO PROVIDE A TIGHT DRIVEN FIT.



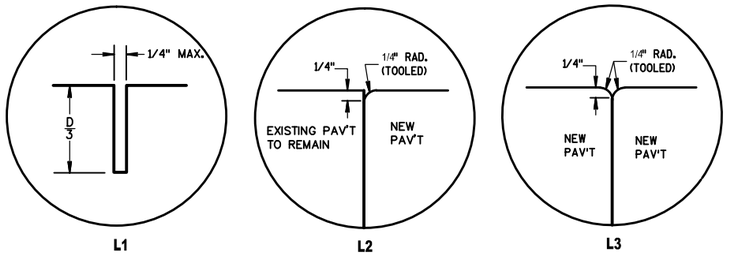
SECTION C-C

TIE BARS ANCHORED
INTO EXISTING PAVEMENT

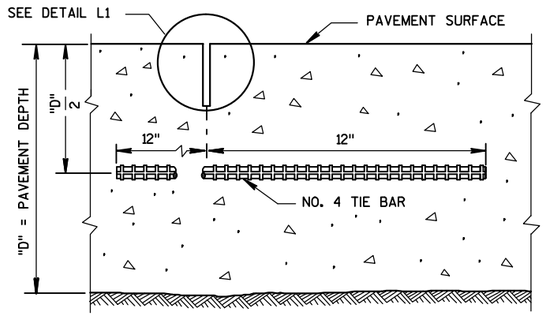
2



TRANSVERSE JOINTS



LONGITUDINAL JOINTS



SECTION B-B
SAWED LONGITUDINAL JOINT

NOTES

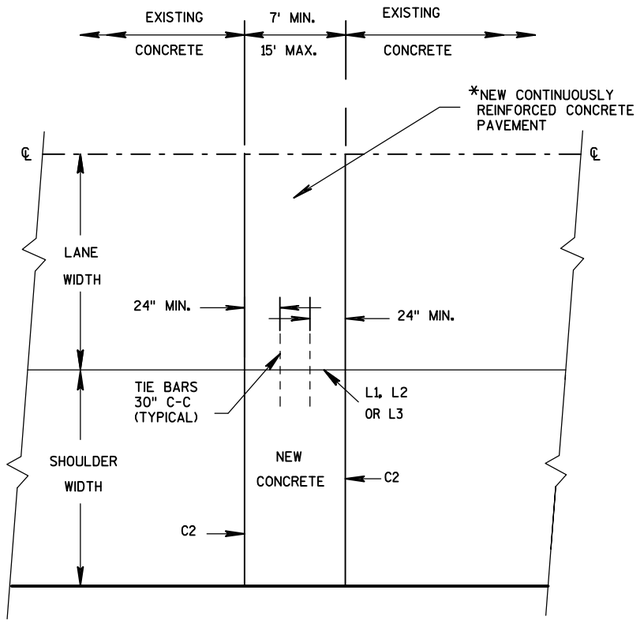
CONCRETE BASE PATCHES OF EXISTING NODOWELED CONCRETE PAVEMENTS DO NOT NEED TO BE DOWELED.

DO NOT SEAL OR FILL JOINTS.

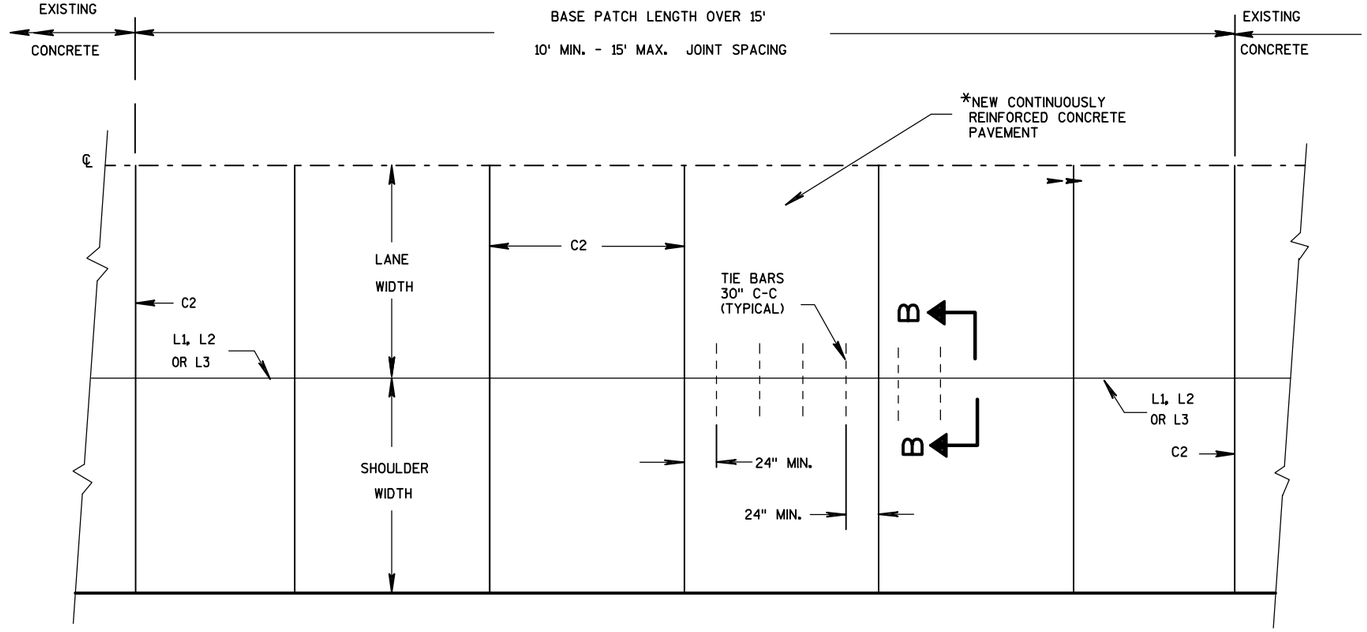
ANCHOR TIE BARS INTO DRILLED HOLES WITH AN EPOXY.

PROVIDE A MINIMUM DISTANCE OF 24 INCHES FROM AN EXISTING TRANSVERSE JOINT OR THE EDGE OF REPLACEMENT TO THE CENTER OF THE TIE BAR NEAREST THAT JOINT OR EDGE.

* SEE SDD 13A7 CONTINUOUSLY REINFORCED CONCRETE PAVEMENT REPAIR AND REPLACEMENT FOR MORE DETAILS OF REINFORCEMENT LAYOUT.

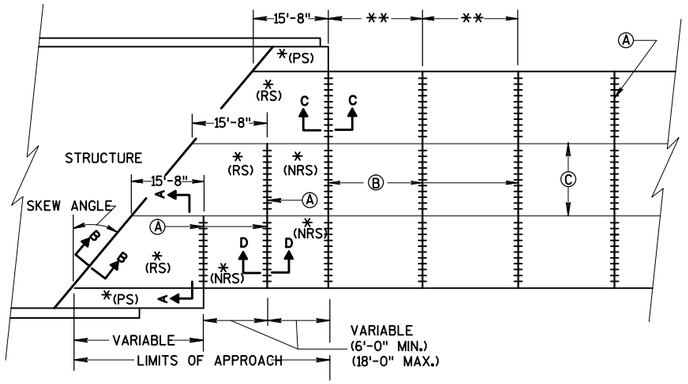


PLAN VIEW
SHOULDER WITH LANE CONCRETE BASE PATCH
15' MAXIMUM LENGTH

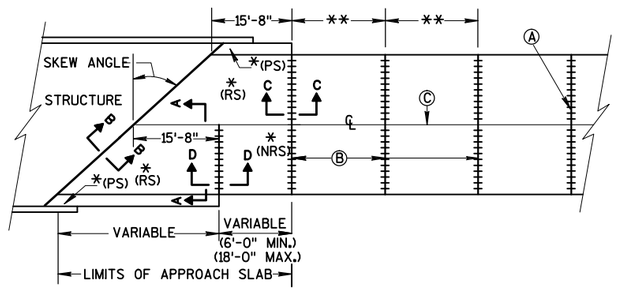


PLAN VIEW
SHOULDER WITH LANE CONCRETE BASE PATCH
GREATER THAN 15' IN LENGTH

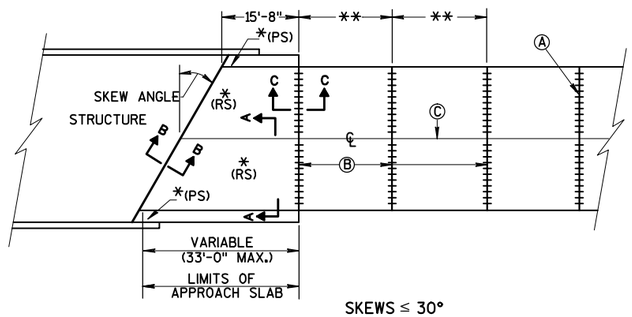
PROJECT NO: 1224-21-71	HWY: IH 43	COUNTY: MANITOWOC	CONSTRUCTION DETAILS - IH 43 BASE PATCHING	SHEET 12	E



SKEWED APPROACH
(PAVEMENT MORE THAN 2 LANES)



SKEWS > 30°
(PAVEMENT WIDTH ≤ 30')



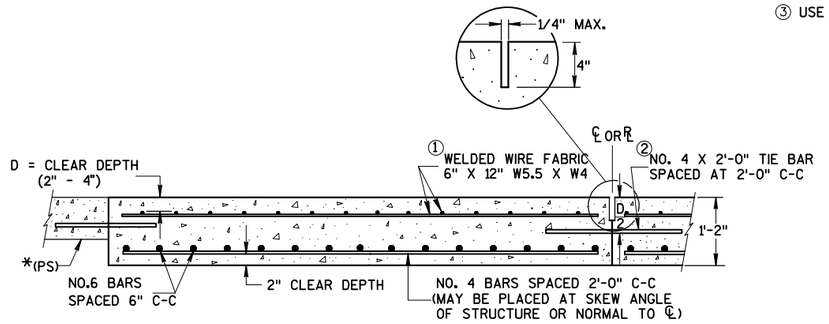
SKEWS ≤ 30°
(PAVEMENT WIDTH ≤ 30')

APPROACH SLAB AND ADJACENT PAVEMENT

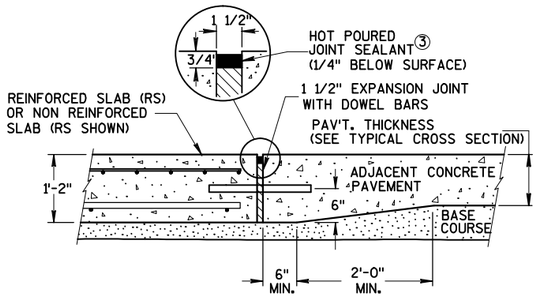
*(RS) = REINFORCED CONCRETE SLAB
*(PS) = PAVED CONCRETE SHOULDER: CONCRETE PAVEMENT, OR CONCRETE SURFACE DRAIN (SEE DETAILS ELSEWHERE IN THE PLAN)
*(NRS) = NON-REINFORCED CONCRETE SLAB

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

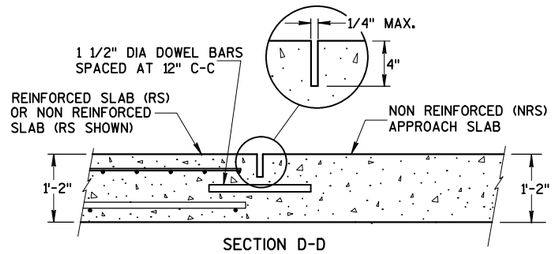
Ⓐ STANDARD CONTRACTION JOINT NORMAL TO ℄ OR ℄
Ⓑ 1 1/2" EXPANSION JOINT WITH DOWEL BARS NORMAL TO ℄ OR ℄
Ⓒ STANDARD LONGITUDINAL JOINT AND TIE BARS.



SECTION A-A
REINFORCEMENT POSITIONING DETAIL



SECTION C-C
TRANSITION DETAIL
APPROACH SLAB TO ADJACENT PAVEMENT



SECTION D-D
CONTRACTION JOINT

NOTES

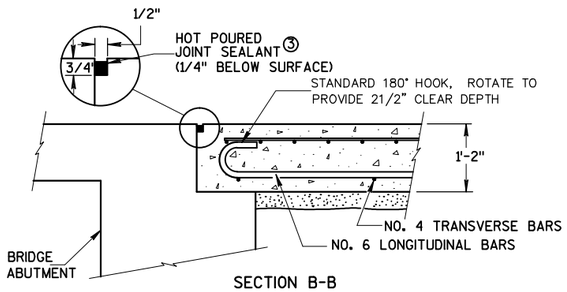
APPROACH SLABS ABUTTING AN HMA PAVEMENT OVER BASE COURSE DO NOT NEED TO BE DOWELED.

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

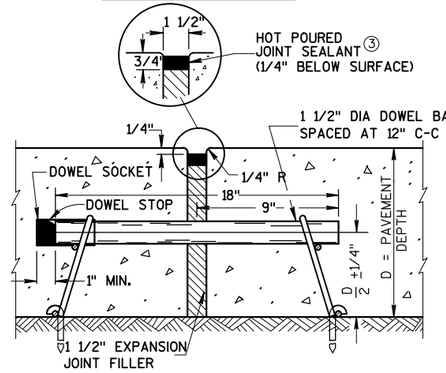
① THE CONTRACTOR MAY USE NO. 4 BARS SPACED AT 2'-0" C-C IN BOTH THE LONGITUDINAL AND TRANSVERSE DIRECTIONS FOR TOP REINFORCEMENT AS AN ALTERNATIVE TO THE WELDED WIRE FABRIC.

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

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

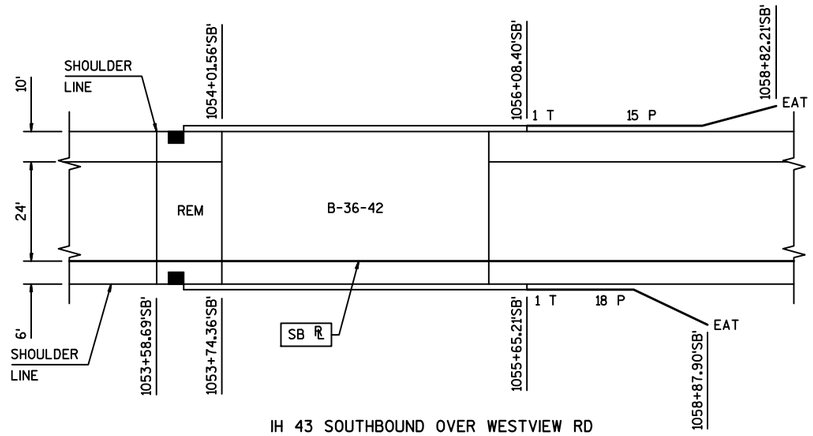


SECTION B-B
BEND DETAIL
BOTTOM REINFORCEMENT

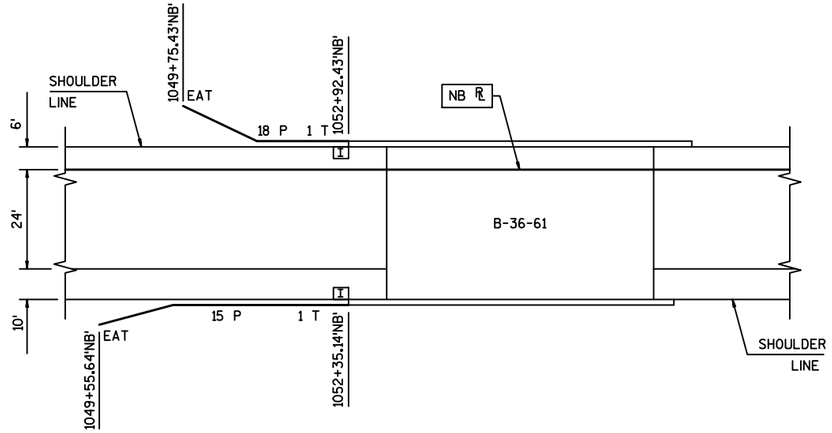


EXPANSION JOINT

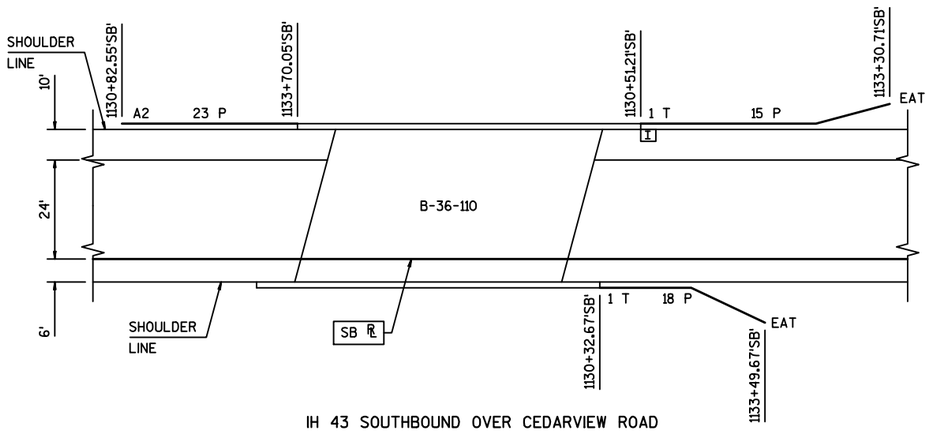
CONCRETE PAVEMENT
APPROACH SLAB



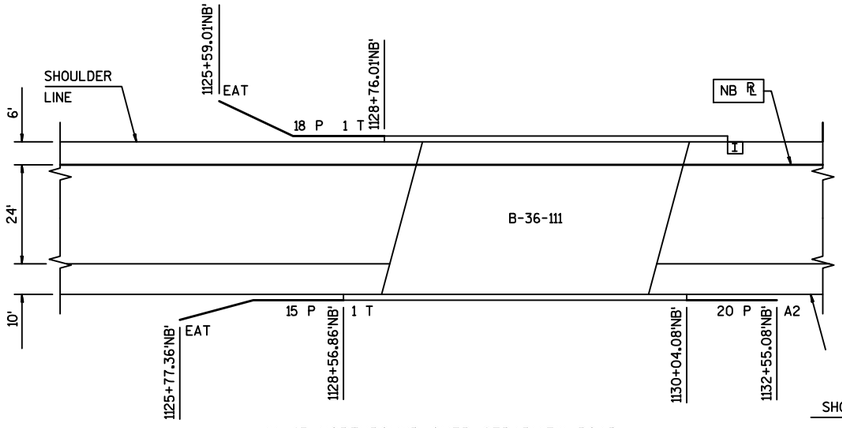
IH 43 SOUTHBOUND OVER WESTVIEW RD



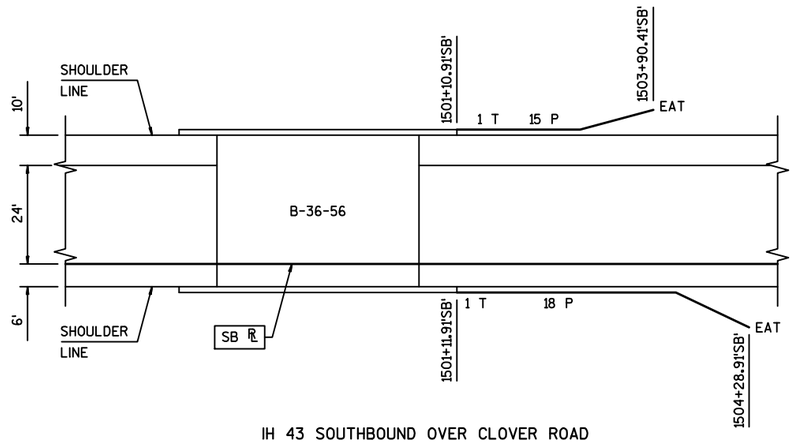
IH 43 NORTHBOUND OVER WESTVIEW RD



IH 43 SOUTHBOUND OVER CEDARVIEW ROAD



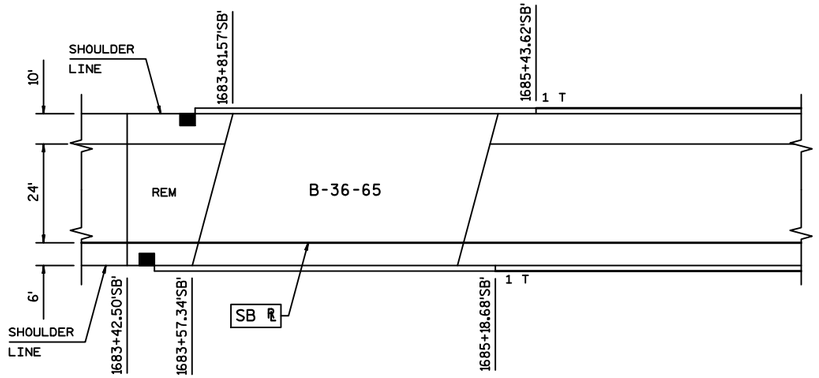
IH 43 NORTHBOUND OVER CEDARVIEW ROAD



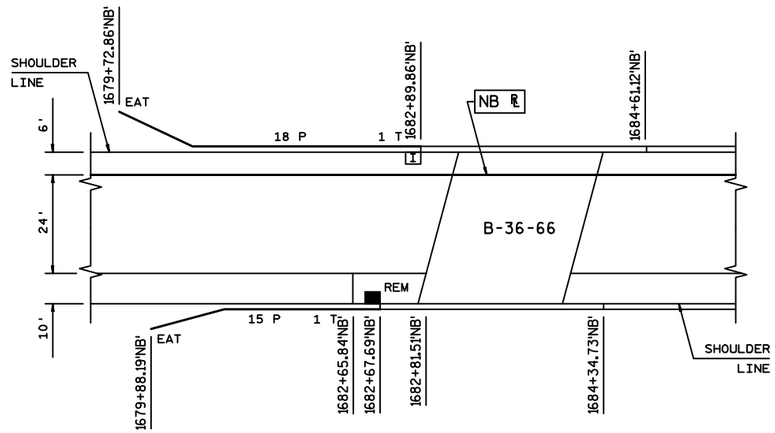
IH 43 SOUTHBOUND OVER CLOVER ROAD

LEGEND

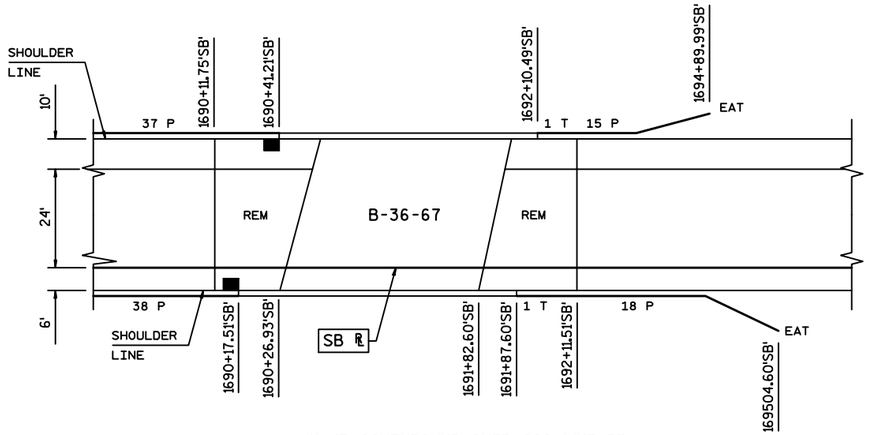
■ = REMOVE AND REPLACE INLET
I = ADJUSTING/RECONSTRUCTING INLET
EAT = MGS ENERGY ABSORBING TERMINAL
P = MGS PANELS AT 12.5 FT
T = MGS THRIE BEAM TRANSITION
A2 = MGS END TREATMENT, TYPE 2



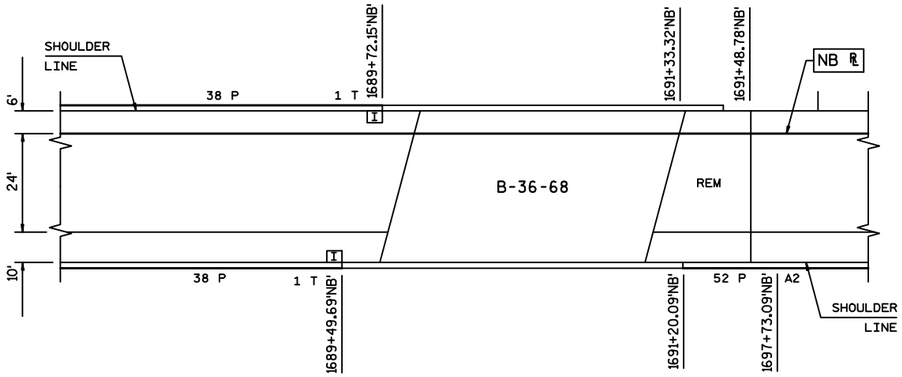
IH 43 SOUTHBOUND OVER W CUSTER STREET



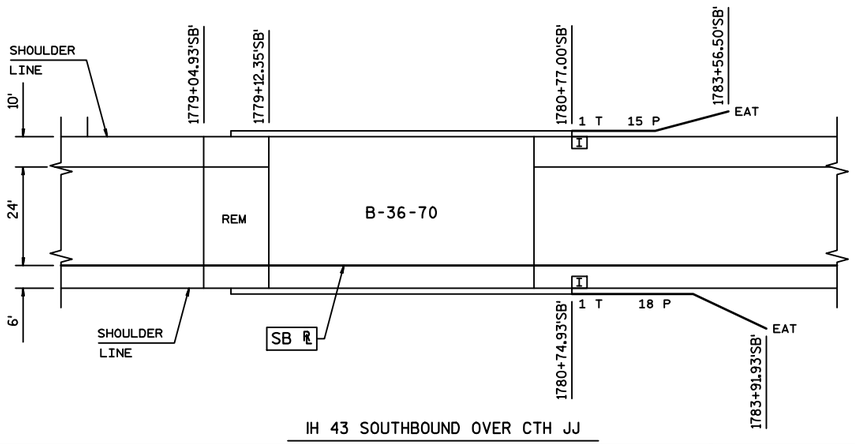
IH 43 NORHBOUND OVER W CUSTER STREET



IH 43 SOUTHBOUND OVER SOO LINE RR



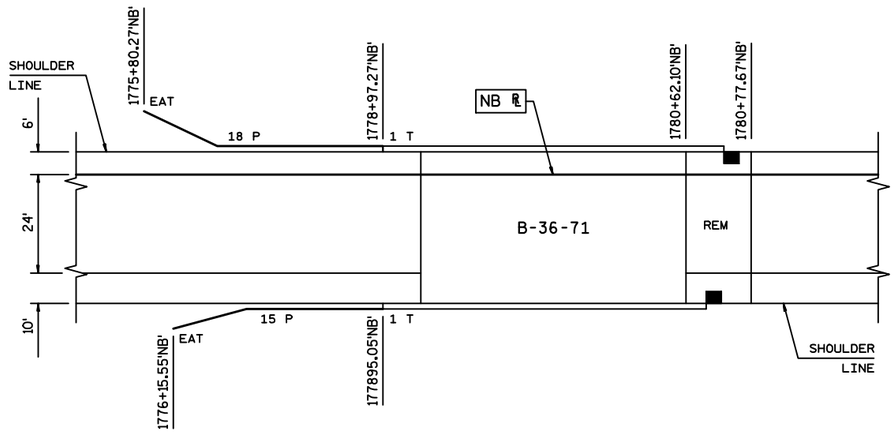
IH 43 NORTHBOUND OVER SOO LINE RR



IH 43 SOUTHBOUND OVER CTH JJ

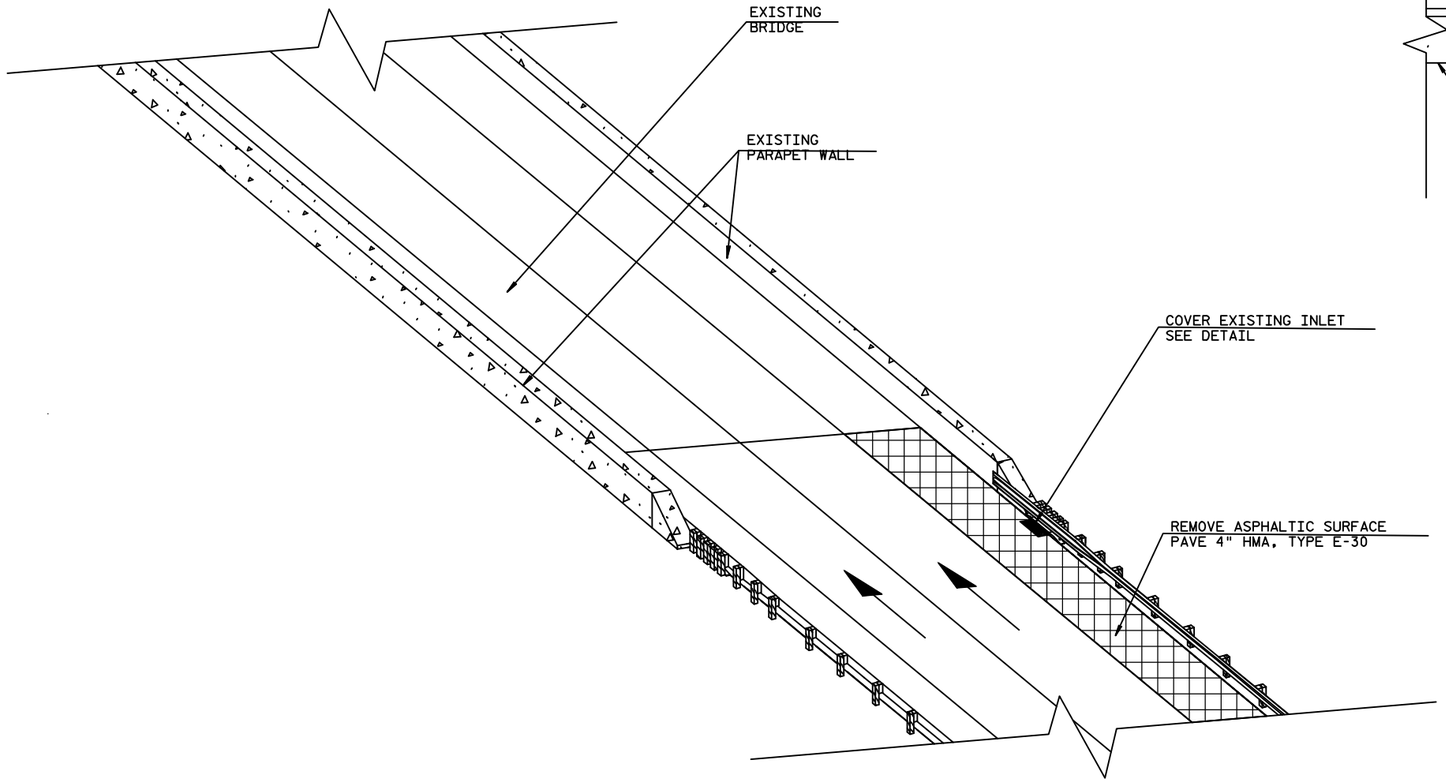
LEGEND

- ■ REMOVE AND REPLACE INLET
- [I] ADJUSTING/RECONSTRUCTING INLET
- REM = REMOVE AND REPLACE CONCRETE APPROACH SLAB AND SHOULDERS
- EAT = MGS ENERGY ABSORBING TERMINAL
- P = MGS PANELS AT 12.5 FT
- T = MGS THRIE BEAM TRANSITION
- A2 = MGS END TREATMENT, TYPE 2

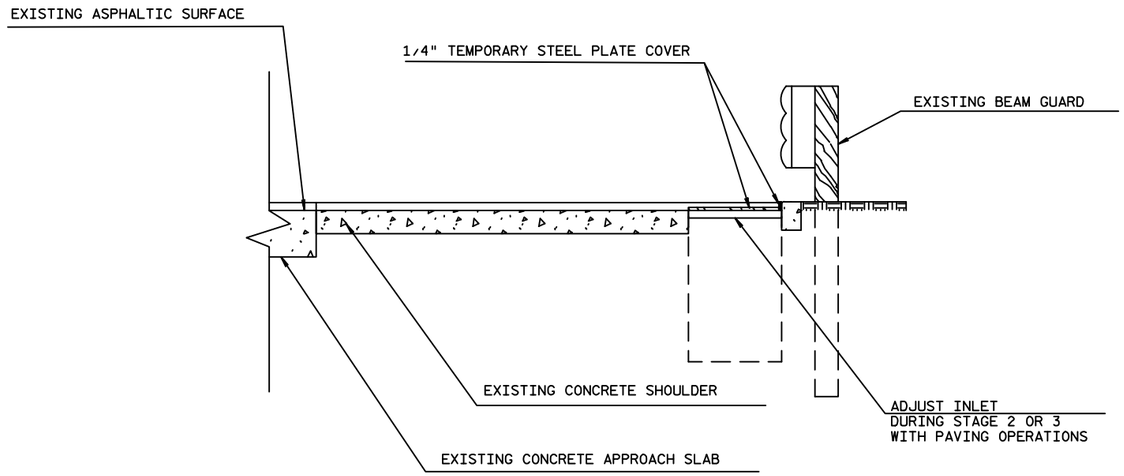


IH 43 NORTHBOUND OVER CTH JJ

2

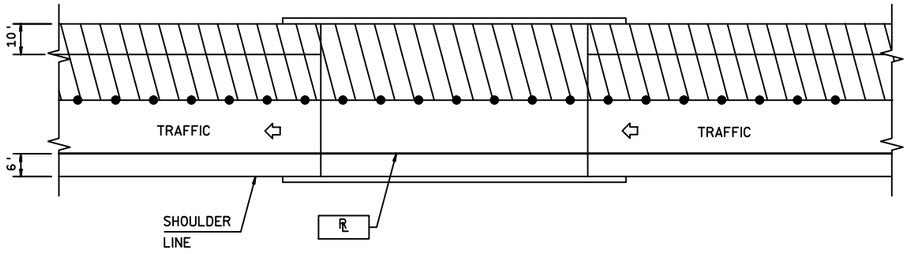


TEMPORARY SHOULDER IMPROVEMENT AT STRUCTURE APPROACHES



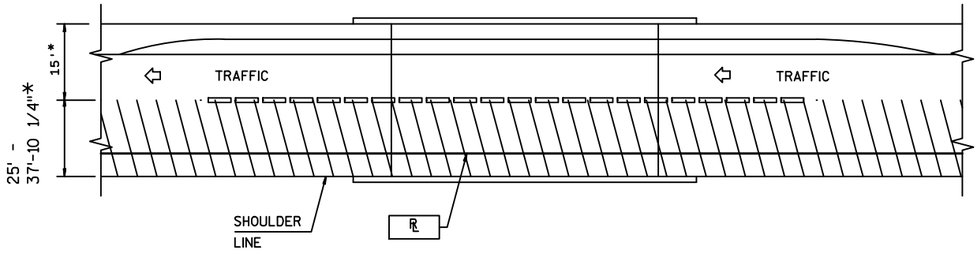
COVERING EXISTING INLET DETAIL

*NOTE: SEE STRUCTURE PLANS FOR MORE INFORMATION.



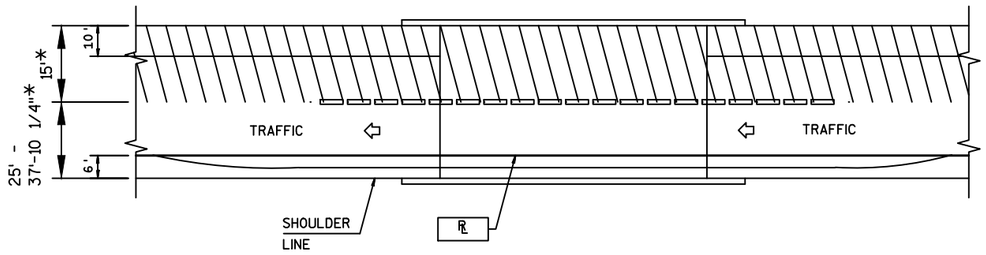
IH 43 STAGE 1 TRAFFIC DETAIL AT STRUCTURES

REFER TO SDD 15D12 FOR MORE DETAILS



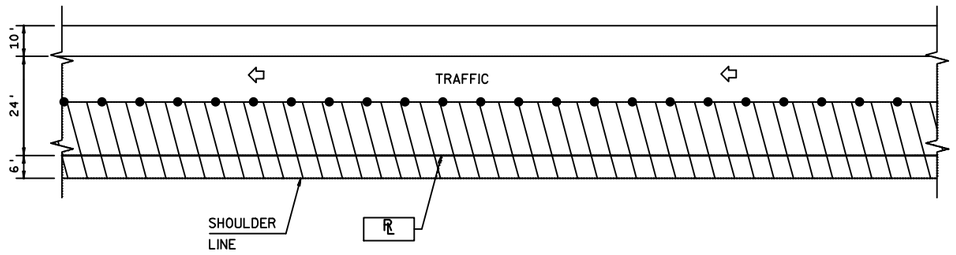
IH 43 STAGE 2A TRAFFIC DETAIL AT STRUCTURES

REFER TO SDD 15D3 FOR MORE DETAILS



IH 43 STAGE 2B TRAFFIC DETAIL AT STRUCTURES

REFER TO SDD 15D3 FOR MORE DETAILS



IH 43 STAGE 3 TRAFFIC DETAIL

INSIDE CLOSURE SHOWN OUTSIDE CLOSURE IS SIMILAR

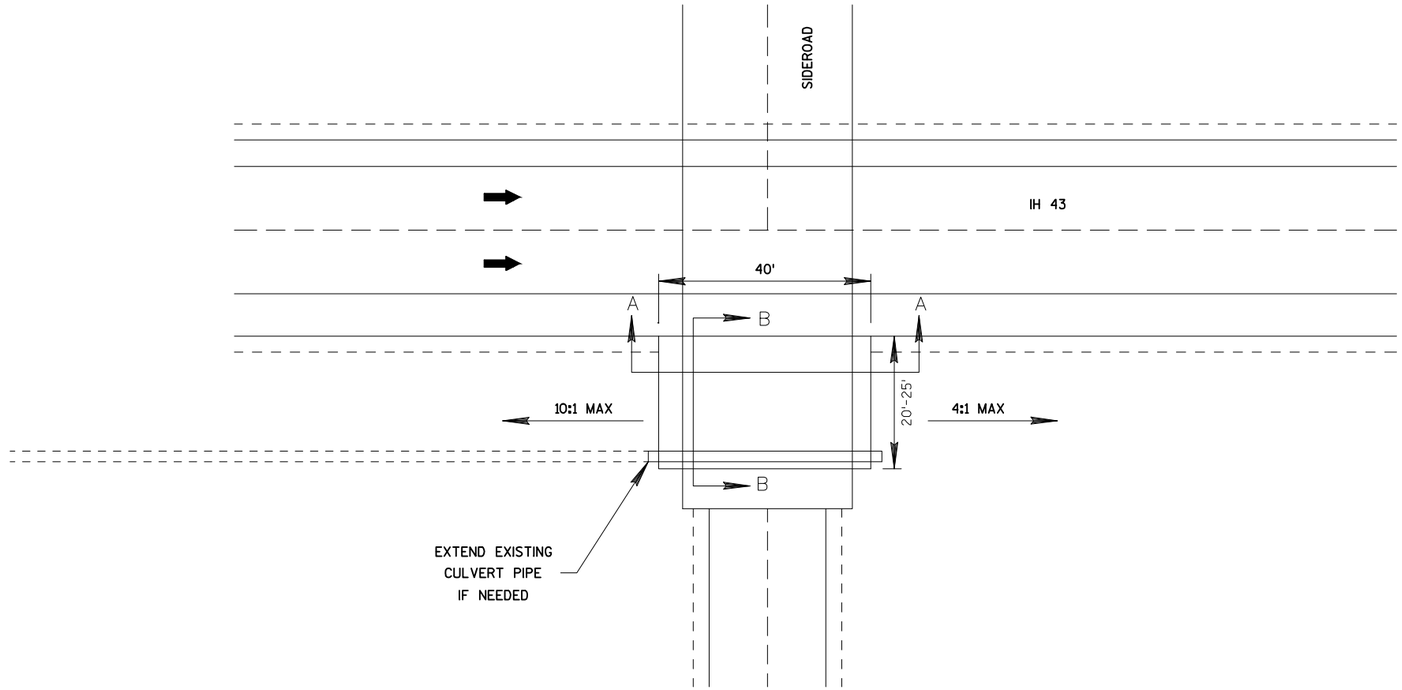
REFER TO SDD 15D12 FOR MORE DETAILS

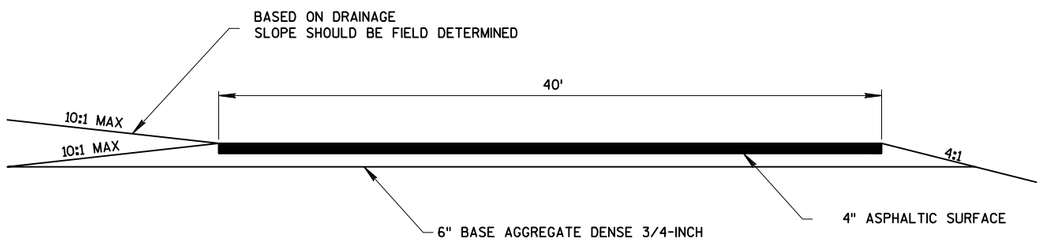
LEGEND

- WORK ZONE
- TEMPORARY PRECAST BARRIER WALL
- TRAFFIC CONTROL DRUM
- DIRECTION OF TRAVEL

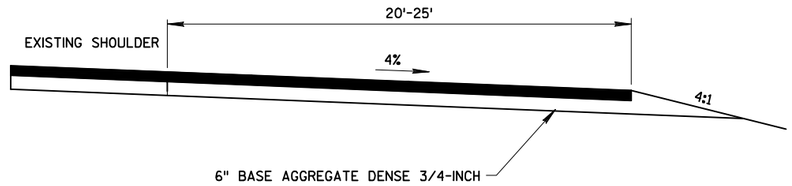
PROJECT NO: 1124-21-71	HWY: IH 43	COUNTY: MANITOWOC	PLAN: CONSTRUCTION DETAILS	SHEET 17	E

2





SECTION A-A



SECTION B-B

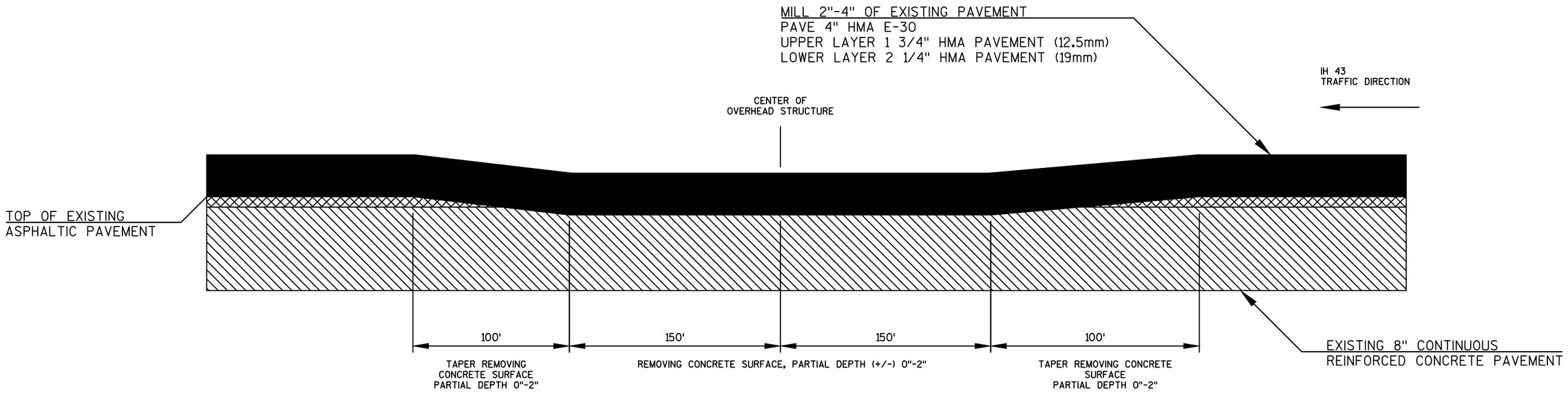
TRAFFIC ENFORCEMENT PAD

STA 979+59.00'NB' - STA 979+99.00'NB'
STA 1634+06.00'NB' - STA 1634+46.00'NB'
STA 1103+42.00'SB' - STA 1103+82.00SB'
STA 1605+44.00'SB' - STA 1605+84.00'SB'

PROJECT NO: 1124-21-71	HWY: IH 43	COUNTY: MANITOWOC	PLAN: CONSTRUCTION DETAILS	SHEET 18	E

NOTES

MAINTAIN MINIMUM BRIDGE CLEARANCE OF 16 FT



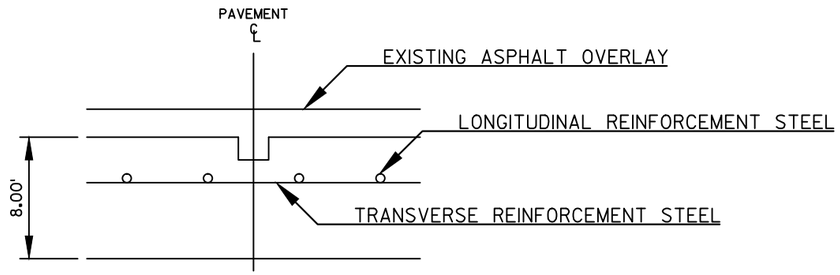
IH 43 PAVING DETAIL AT OVERHEAD STRUCTURES

B-36-0037 CLEVELAND ROAD OVER IH 43

B-36-0059 SILVER CREEK ROAD OVER IH 43

B-36-0063 USH 151/STH 42 OVER IH 43

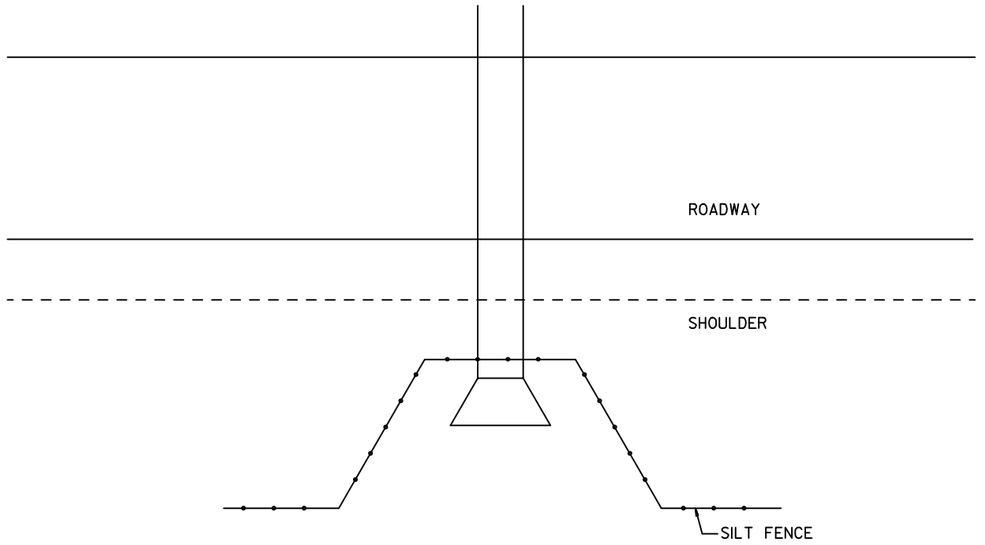
B-36-0069 MIDDLE ROAD OVER IH 43



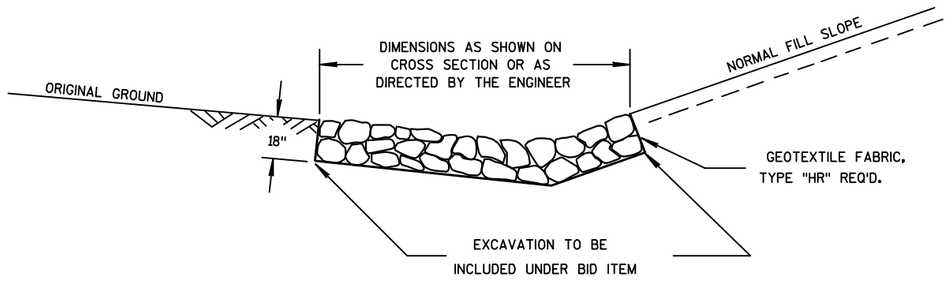
IH 43 REINFORCMENT DETAIL
FOR INFORMATION ONLY

EXISTING VERTICAL BRIDGE CLEARANCE DATA					
ROADWAY	BRIDGE	OVERPASS	CLEARANCE	APPROXIMATE ASPHALT DEPTHS NB	SB
IH 43	B-36-0037	CLEVELAND RD	16.14	3"	2"
IH 43	B-36-0059	SILVER CREEK RD	16.24	6"	4"
IH 43	B-36-0063	USH 151/STH 42	16.17	4"	4"
IH 43	B-36-0069	MIDDLE RD	16.24	4"	4"

2

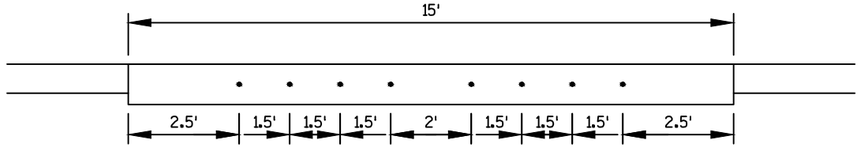


TYPICAL SILT FENCE DETAIL AT PIPE INLET



DETAIL FOR MEDIUM RANDOM RIPRAP IN DITCHES

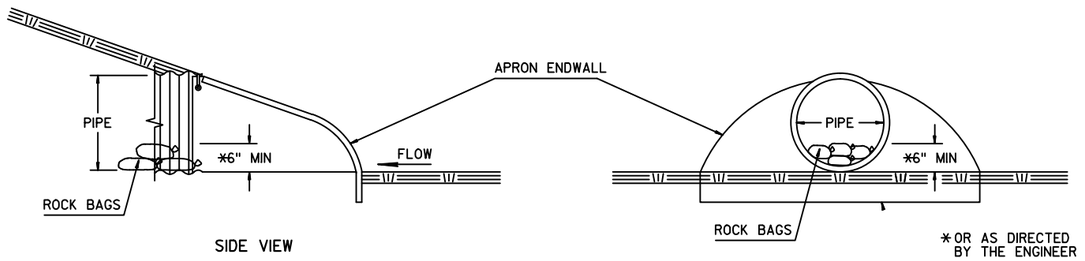
STA 980+89.04'NB'
STA 1699+89.00 - STA 1701+89.00'NB'



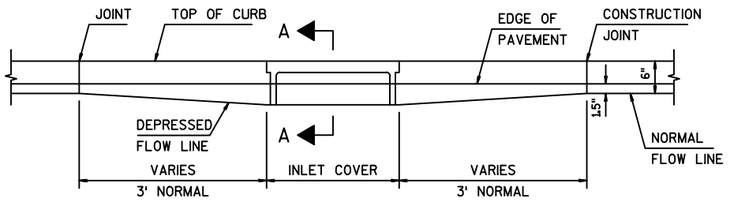
PROPOSED DOWEL BAR LAYOUT ON RAMPS

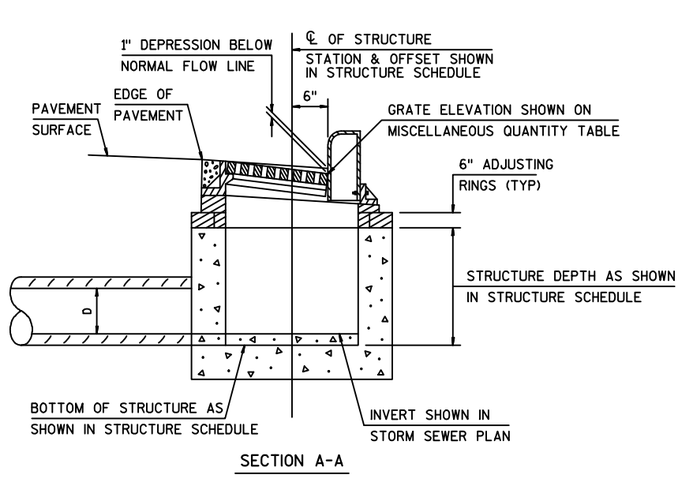
CTH XX

USH 151



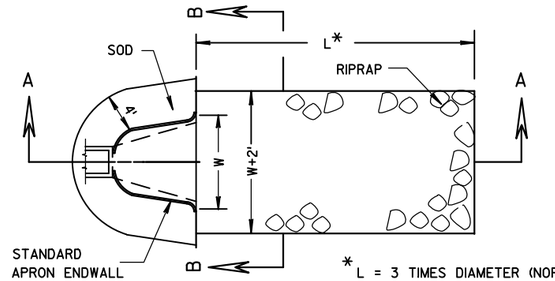
CULVERT PIPE CHECKS



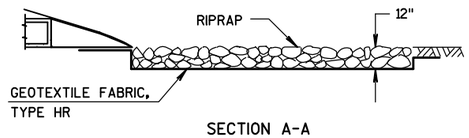


SECTION A-A

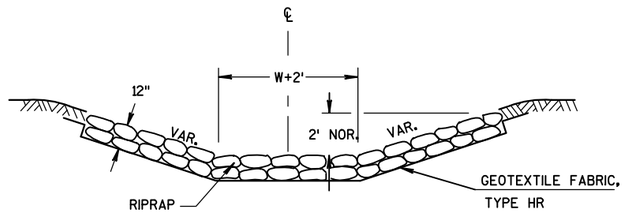
DETAIL OF CURB AND GUTTER AT INLETS



*L = 3 TIMES DIAMETER (NOR.) OR 10' MIN. OR AS DIRECTED BY THE ENGINEER

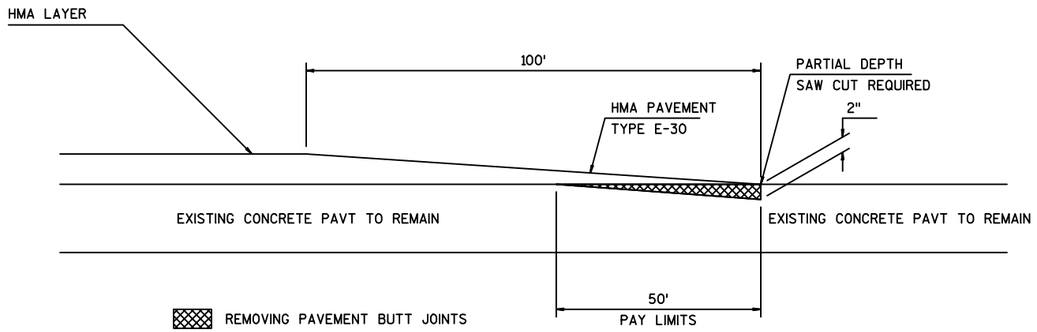


SECTION A-A



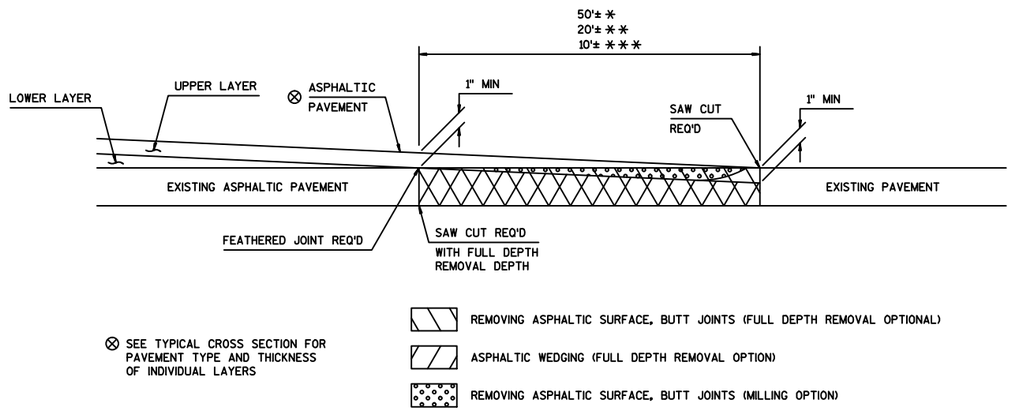
SECTION B-B

SOD, RIPRAP AND GEOTEXTILE FABRIC DETAIL AT APRON ENDWALLS



REMOVING PAVEMENT BUTT JOINT DETAIL

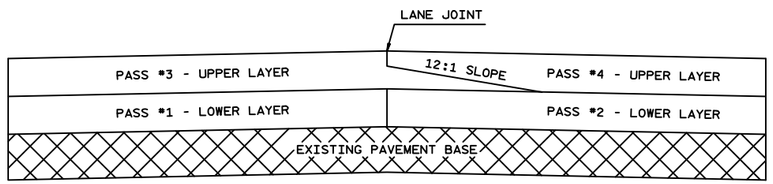
RAMPS



⊗ SEE TYPICAL CROSS SECTION FOR PAVEMENT TYPE AND THICKNESS OF INDIVIDUAL LAYERS

BUTT JOINT DETAIL FOR ASPHALTIC PAVEMENTS

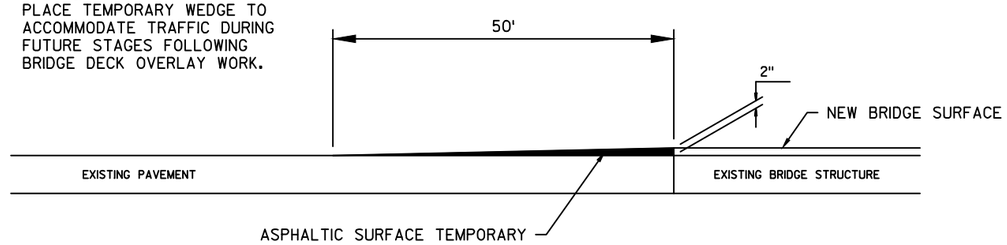
* MAINLINE
** SIDEROADS
*** PRIVATE ENTRANCES



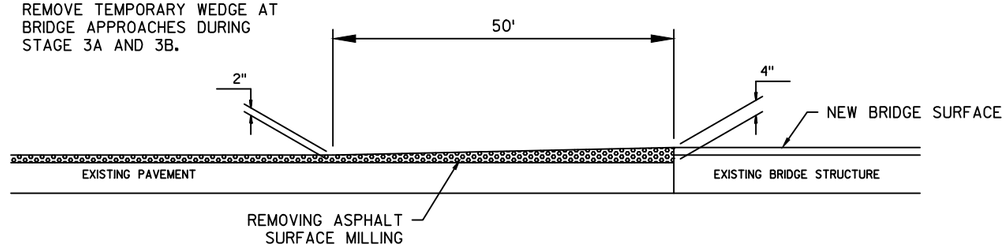
LOWER AND UPPER LAYERS

ASPHALT PAVEMENT LAYERING DETAIL

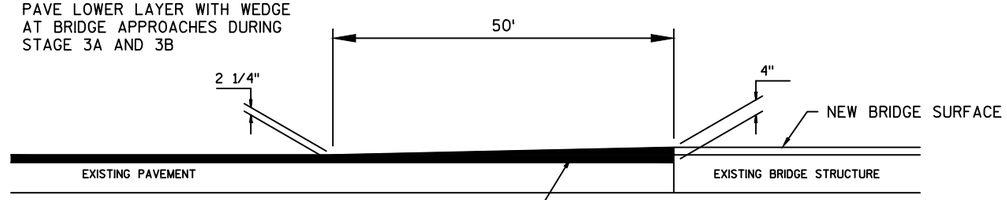
STEP 1:
PLACE TEMPORARY WEDGE TO ACCOMMODATE TRAFFIC DURING FUTURE STAGES FOLLOWING BRIDGE DECK OVERLAY WORK.



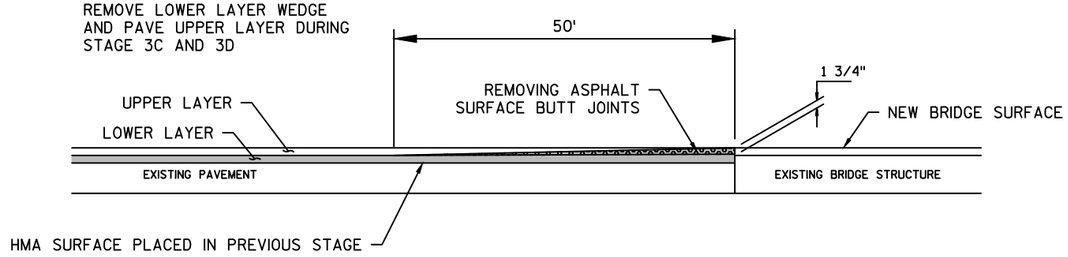
STEP 2:
REMOVE TEMPORARY WEDGE AT BRIDGE APPROACHES DURING STAGE 3A AND 3B.



STEP 2:
PAVE LOWER LAYER WITH WEDGE AT BRIDGE APPROACHES DURING STAGE 3A AND 3B



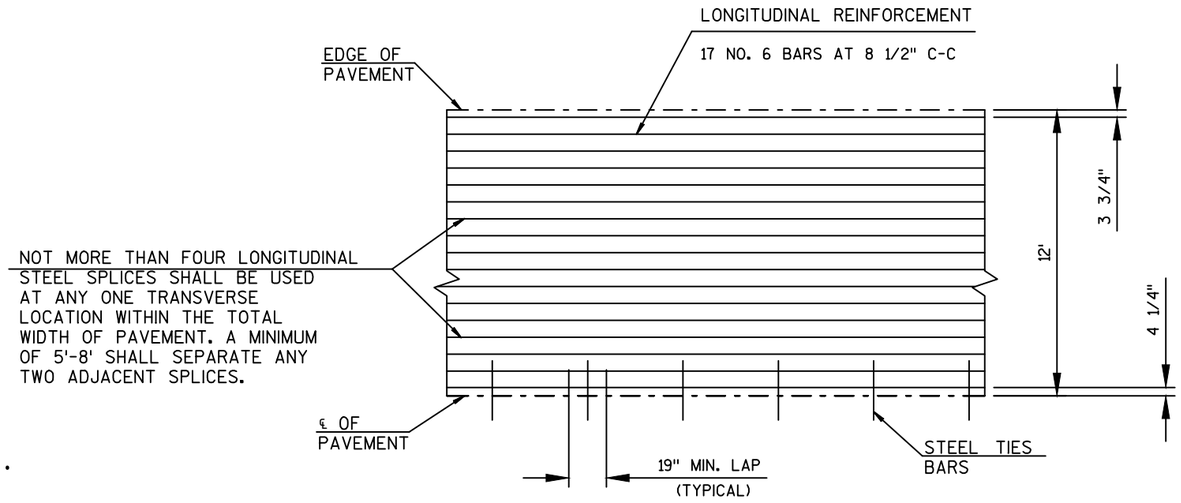
STEP 2:
REMOVE LOWER LAYER WEDGE AND PAVE UPPER LAYER DURING STAGE 3C AND 3D



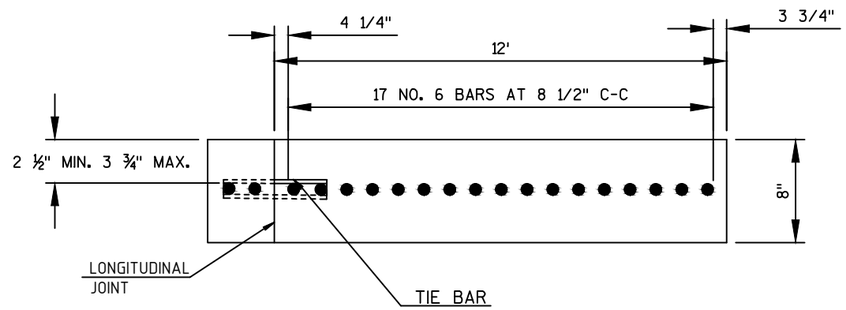
BRIDGE APPROACH PAVING DETAIL

IH 43 BRIDGE APPROACHES

2



REINFORCEMENT STEEL PLACEMENT



LONGITUDINAL CENTERLINE JOINT DETAIL

CONTINUOUSLY REINFORCED CONCRETE LONGITUDINAL BAR SPACING

NOTE: SEE STANDARD DETAIL FOR MORE INFORMATION

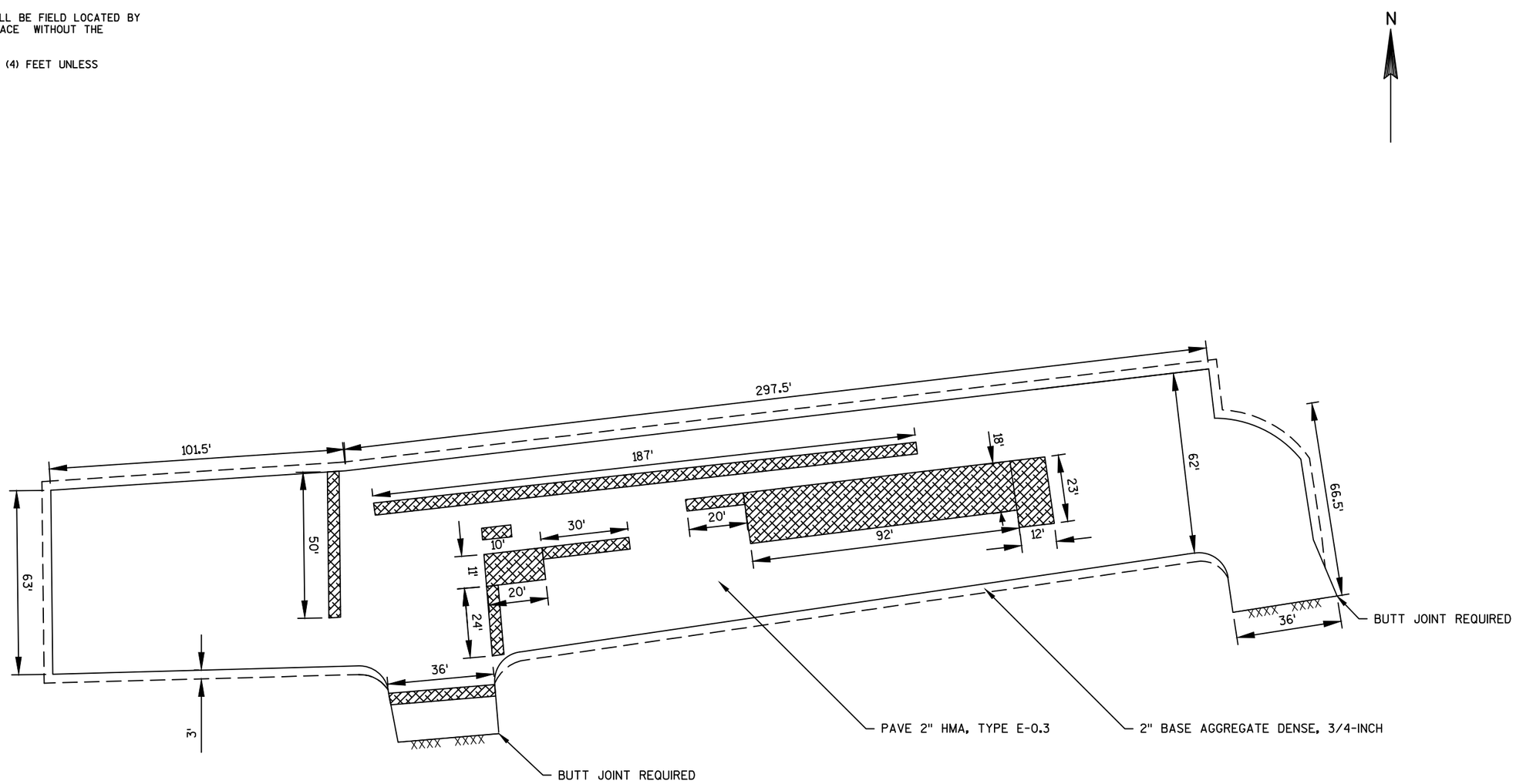
NOTES

THE AREAS OF ASPHALTIC SURFACE PATCHING WILL BE FIELD LOCATED BY THE ENGINEER. DO NOT REMOVE ASPHALTIC SURFACE WITHOUT THE ENGINEERS CONSENT.

ASPHALTIC SURFACE PATCHING WIDTHS ARE FOUR (4) FEET UNLESS OTHERWISE NOTED IN THE PLANS.

SEE PLAN SHEETS FOR MORE INFORMATION.

2



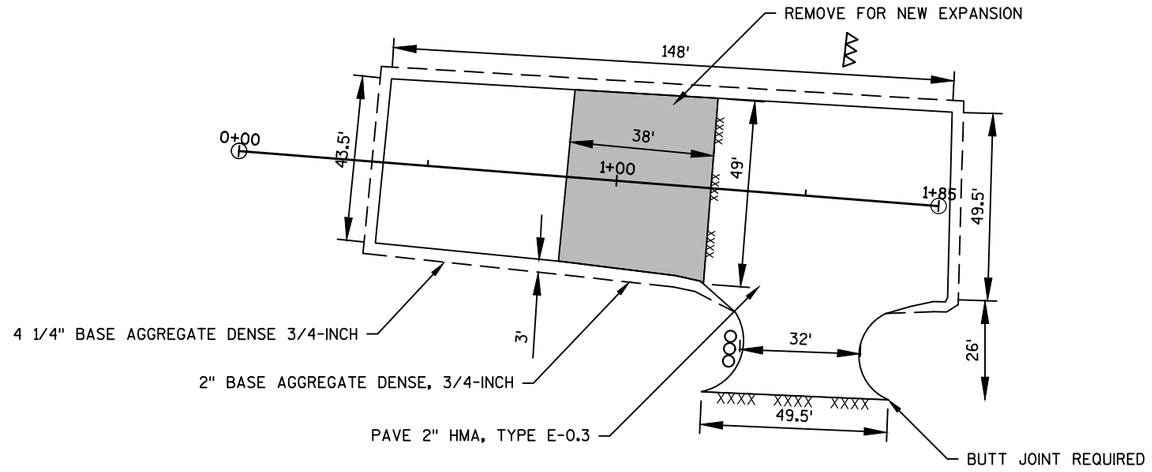
USH 151 PARK & RIDE

LEGEND

BASE PATCHING ASPHALTIC

XXXX SAWCUT

PROJECT NO:1224-21-71	HWY: IH 43	COUNTY: MANITOWOC	CONSTRUCTION DETAILS	SHEET 24	E



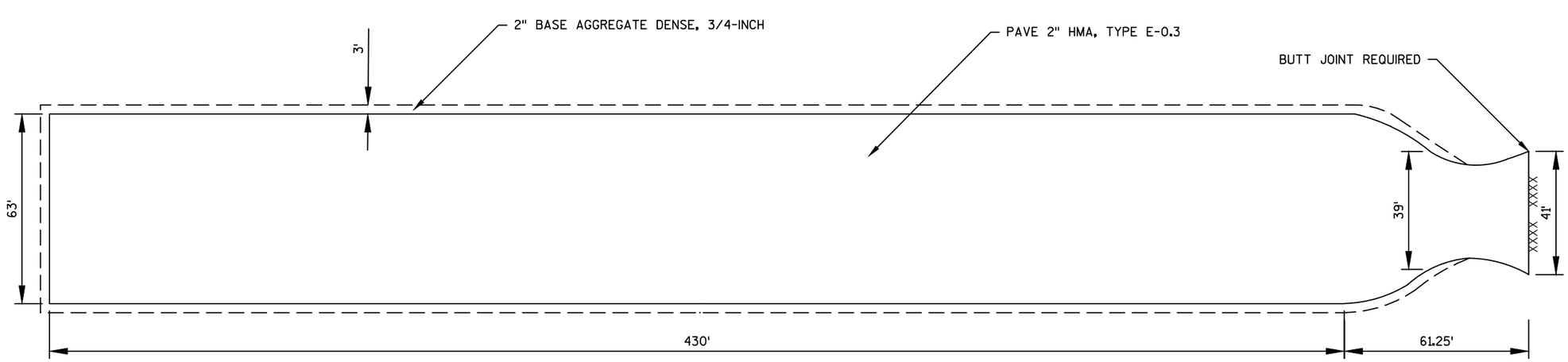
STH 42 PARK & RIDE

LEGEND

XXXX SAWCUT

TEMPORARY DITCH CHECK

CULVERT PIPE CHECK



STH 310 PARK & RIDE

PROJECT NO:1224-21-71	HWY: IH 43	COUNTY: MANITOWOC	CONSTRUCTION DETAILS	SHEET 25	E

NOTE
CROSSOVERS TO BE CONSTRUCTED WITH PROJECT (1224-21-71) AND UTILIZED BY PROJECT 1224-21-73

CROSSOVERS AND TEMPORARY CULVERTS TO BE REMOVED BY OTHERS WITH PROJECT 1224-21-73

CONNECT SLOTTED CORRUGATED METAL PIPE SURFACE DRAIN WITH TEMPORARY CULVERT PIPE

SLOTTED CORRUGATED METAL PIPE SURFACE DRAINS

N

1191'SB'+69.39
6.00' RT

1190'SB' 64.00 648.446 648.206 58.00
1192'SB' 64.00 648,660 648.381 57.01
1194'SB' 649,040 64.00 64.00 648.374 52.64 648.690 46.49 648.755
1196'SB' 649,147 64.00 -2.01% 648.781 649,328 64.00 -2.00% 648.941 649,465 64.00 -2.00% 649.057
SS
648.869 38.99 649.215 31.39 649.103 29.53 649.141 21.94 649.248 14.44 649.212 8.35
1190'NB' 6.00 648.765 648.885 0.00
1192'NB' 6.00 649.078 649,198 0.00
1194'NB' 649,378 0.00 649,537 0.00
1196'NB' 649,655 0.00 -2.00% 649,732 0.00 -2.00% 649,839 0.00 -2.00%

N

1202'SB'+66.39
6.00' RT

1198'SB' 649,465 64.00 -2.00% 649.057
1200'SB' 649,605 64.00 -2.00% 649.174 649,769 64.00 -2.00% 649.390 649,936 64.00 -2.00% 649.428 649.532 36.29 649.662 24.62
1202'SB' 650,028 64.00 650,198 64.00 649.863 649.495 55.65 50.66 43.88 649.963 17.03 650.191 10.28 650.312
1204'SB' 64.00 650,358 650.533 64.00 650,118 650.292 58.00 58.00
649,839 0.00 649,986 0.00 650,154 0.00 650,302 0.00 650,398 0.00 650,433 0.00 650,533 0.00 650,576 0.00
1198'NB' 1200'NB' 1202'NB' 6.00 1204'NB'

COVER PLATE TEMPORARY INLET PROTECTION TYPE C ATTACH TEMPORARY CULVERT PIPE TO EXISTING INLET

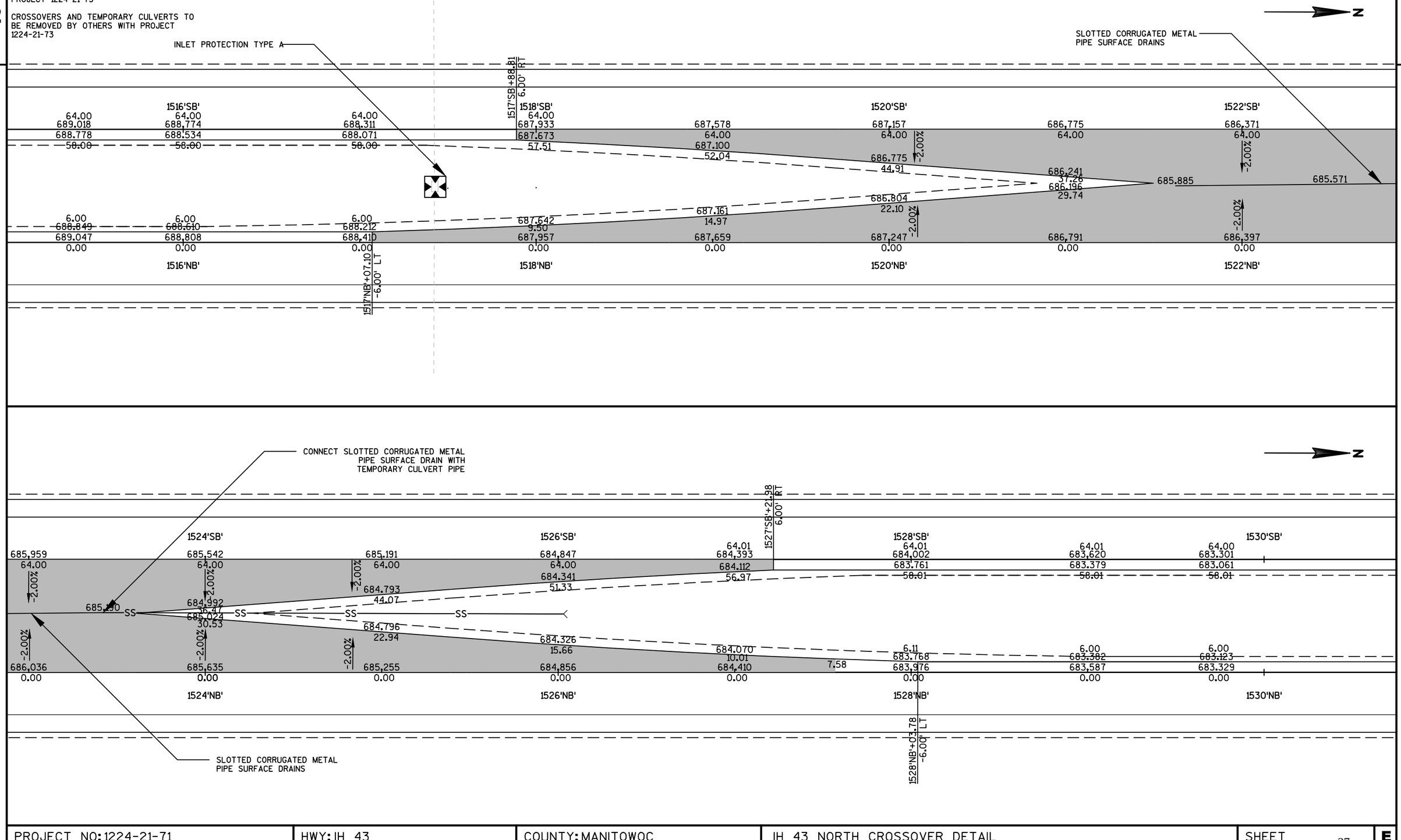
SLOTTED CORRUGATED METAL PIPE SURFACE DRAINS

CULVERT PIPE CHECK

PROJECT NO: 1224-21-71	HWY: IH 43	COUNTY: MANITOWOC	IH 43 SOUTH CROSSOVER DETAIL	SHEET 26	E

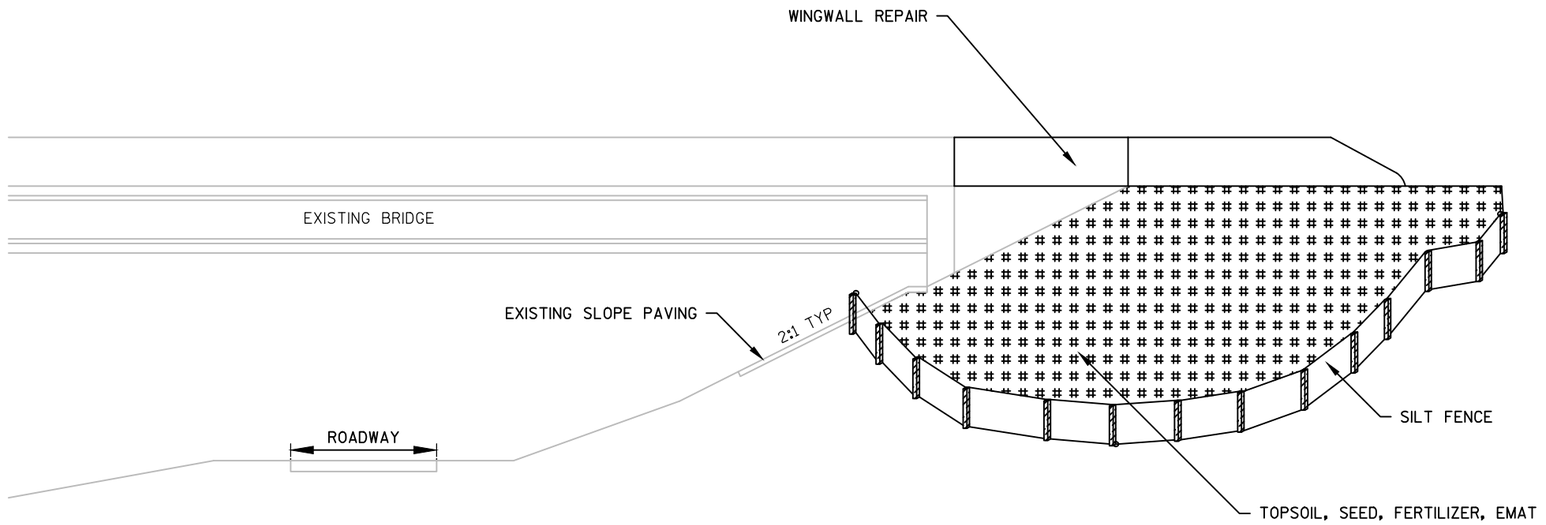
NOTE
CROSSOVERS TO BE CONSTRUCTED WITH PROJECT (1224-21-71) AND UTILIZED BY PROJECT 1224-21-73

CROSSOVERS AND TEMPORARY CULVERTS TO BE REMOVED BY OTHERS WITH PROJECT 1224-21-73



PROJECT NO: 1224-21-71	HWY: IH 43	COUNTY: MANITOWOC	IH 43 NORTH CROSSOVER DETAIL	SHEET 27	E

2



ELEVATION

EROSION CONTROL AT WINGWALL REPAIRS

STA 1682+50'NB' B-36-66 SE WINGWALL
STA 1691+82'SB' B-36-67 NW WINGWALL
STA 1691+92'SB' B-36-67 NE WINGWALL

LEGEND

EROSION MAT CLASS 1 TYPE B

PROJECT NO:1224-21-71	HWY: IH 43	COUNTY: MANITOWOC	PLAN: EROSION CONTROL DETAILS	SHEET 28	E

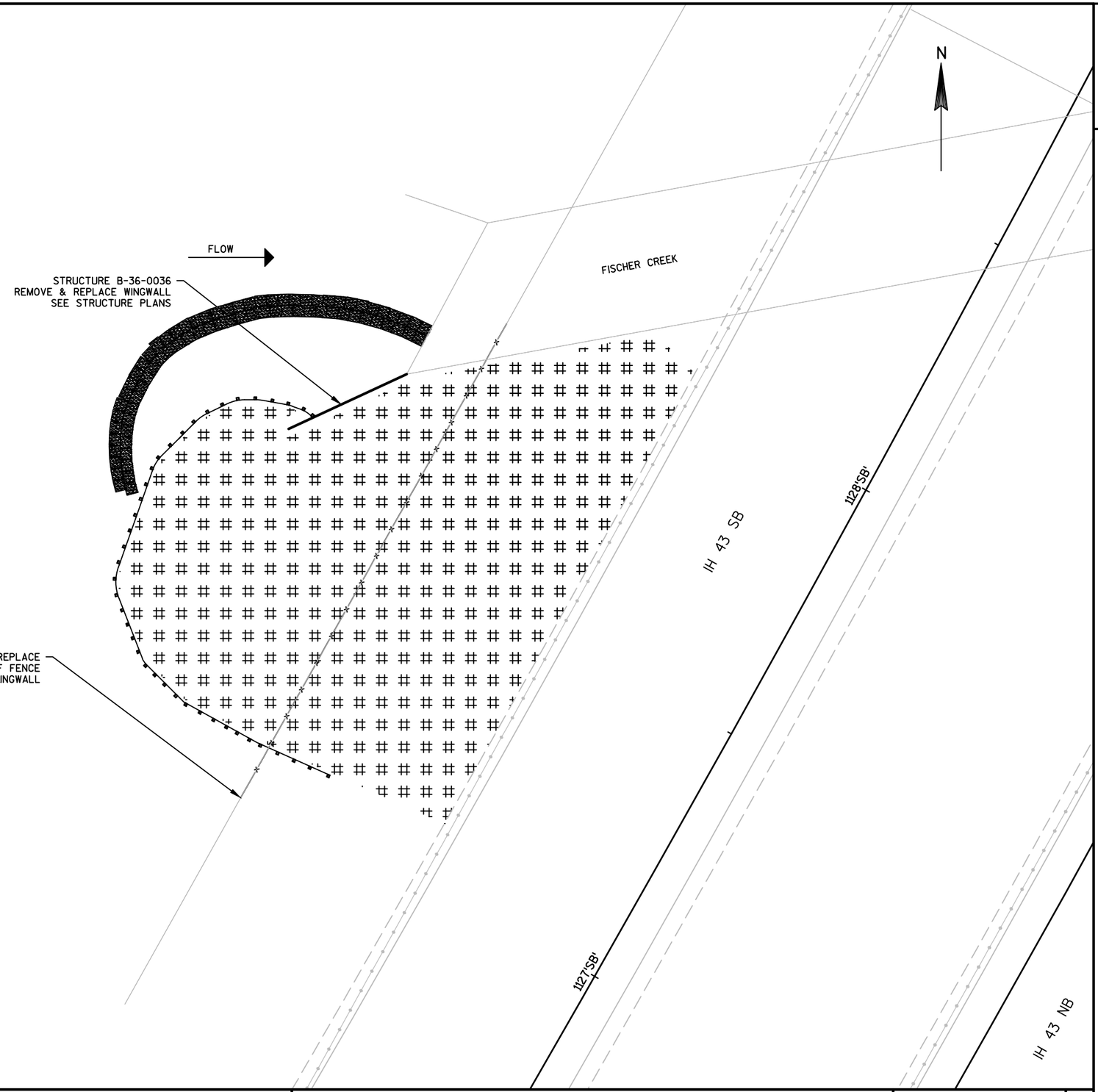
NOTES
WINGWALL REPLACEMENT WORK SHALL COINCIDE WITH B-36-110 STRUCTURE WORK.

CLEARING AND GRUBBING IS NEEDED TO ACCESS THE WINGWALL.

ONLY REMOVE TREES IDENTIFIED BY THE ENGINEER FOR REMOVAL.

SANDBAGS SHALL BE INCIDENTAL TO THE REMOVING OLD STRUCTURE BID ITEMS.

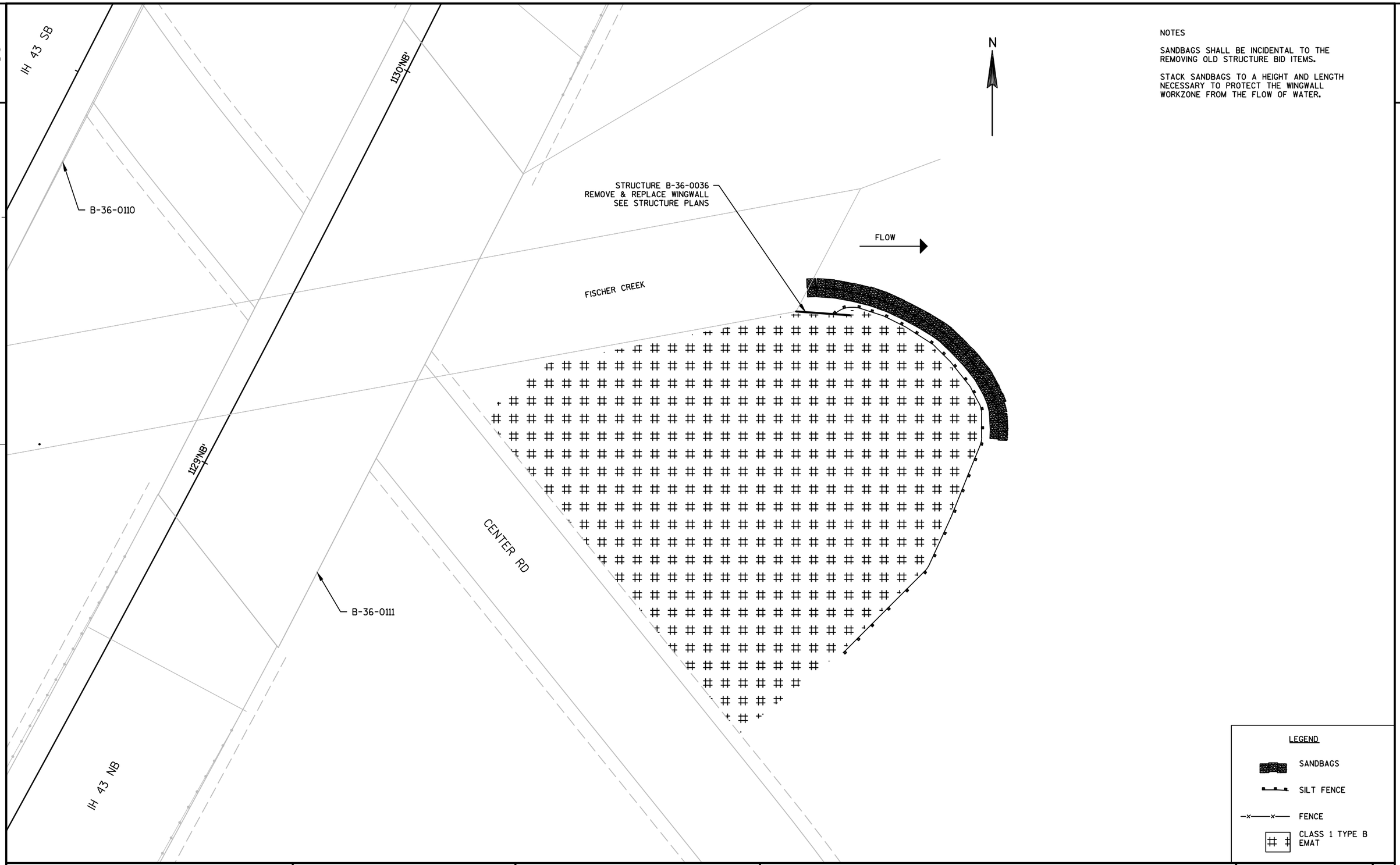
STACK SANDBAGS TO A HEIGHT AND LENGTH NECESSARY TO PROTECT THE WINGWALL WORKZONE FROM THE FLOW OF WATER.



LEGEND

- SANDBAGS
- SILT FENCE
- FENCE
- CLASS 1 TYPE B EMAT

PROJECT NO:1224-21-71	HWY: IH 43	COUNTY: MANITOWOC	EROSION CONTROL DETAIL	SHEET 29	E



NOTES

SANDBAGS SHALL BE INCIDENTAL TO THE REMOVING OLD STRUCTURE BID ITEMS.

STACK SANDBAGS TO A HEIGHT AND LENGTH NECESSARY TO PROTECT THE WINGWALL WORKZONE FROM THE FLOW OF WATER.

2

PROJECT NO: 1224-21-71	HWY: IH 43	COUNTY: MANITOWOC	EROSION CONTROL DETAIL	SHEET 30	E

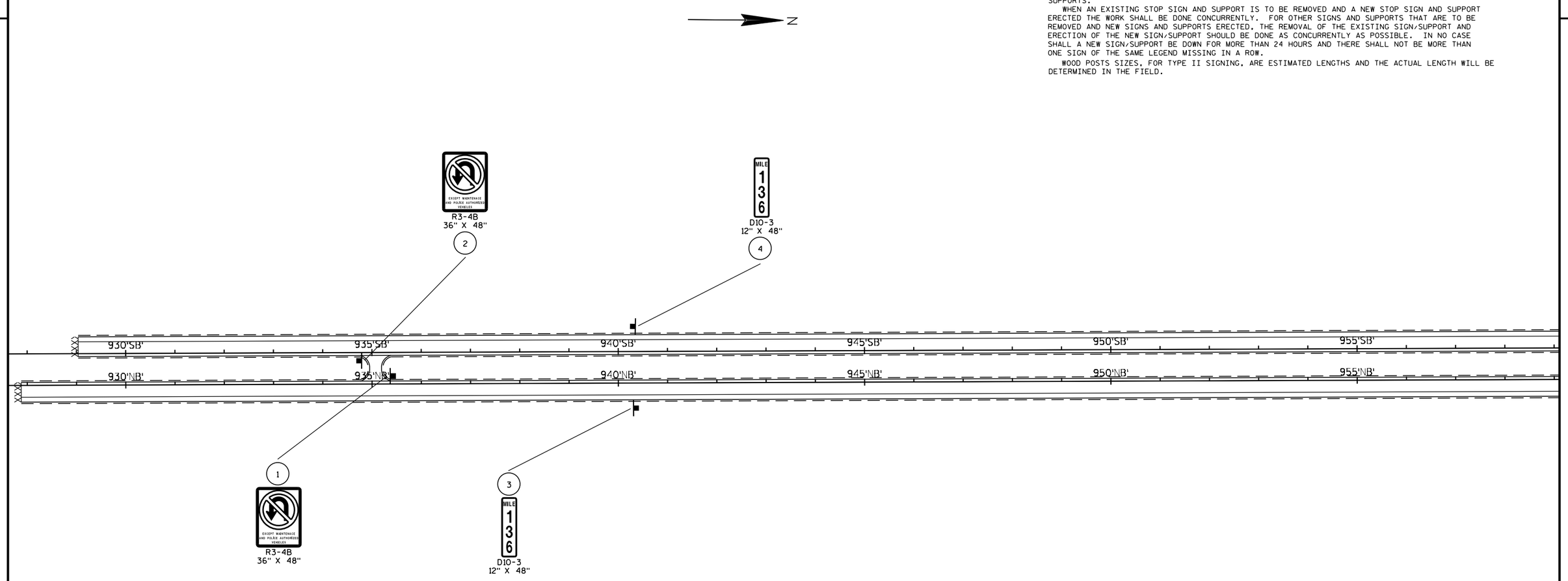
2

SIGNING NOTES

TYPE II SIGNS AND SUPPORTS REMOVED UNDER THE CONTRACT SHALL BE DELIVERED TO THE REGIONAL TRAFFIC UNIT. SIGNS SHALL BE CAREFULLY REMOVED FROM THE SUPPORTS, SORTED BY BASE MATERIAL AND PALLETIZED BY MATERIAL TYPE. SUPPORTS SHALL BE SORTED BY LENGTH AND TYPE. THE REGIONAL TRAFFIC UNIT 920-492-5653, SHALL BE NOTIFIED THREE WORKING DAYS PRIOR TO DELIVERY OF SIGNS AND SUPPORTS.

WHEN AN EXISTING STOP SIGN AND SUPPORT IS TO BE REMOVED AND A NEW STOP SIGN AND SUPPORT ERECTED THE WORK SHALL BE DONE CONCURRENTLY. FOR OTHER SIGNS AND SUPPORTS THAT ARE TO BE REMOVED AND NEW SIGNS AND SUPPORTS ERECTED, THE REMOVAL OF THE EXISTING SIGN/SUPPORT AND ERECTION OF THE NEW SIGN/SUPPORT SHOULD BE DONE AS CONCURRENTLY AS POSSIBLE. IN NO CASE SHALL A NEW SIGN/SUPPORT BE DOWN FOR MORE THAN 24 HOURS AND THERE SHALL NOT BE MORE THAN ONE SIGN OF THE SAME LEGEND MISSING IN A ROW.

WOOD POSTS SIZES, FOR TYPE II SIGNING, ARE ESTIMATED LENGTHS AND THE ACTUAL LENGTH WILL BE DETERMINED IN THE FIELD.



LEGEND

- BUTTERFLY
- CANTILEVER
- SIGN BRIDGE
- SIGN POSTS
- STEEL POSTS
- SIGN-REMOVE AND REPLACE
- SIGN-REMOVE EXISTING
- SIGN-PLACE NEW

PLAN SHEET PRODUCED BY WisDOT-NE REGION

PROJECT NO: 1224-21-71	HWY: IH 43	COUNTY: MANITOWOC	PERMANENT SIGNING	SHEET 31	E

2

SIGNING NOTES

TYPE II SIGNS AND SUPPORTS REMOVED UNDER THE CONTRACT SHALL BE DELIVERED TO THE REGIONAL TRAFFIC UNIT. SIGNS SHALL BE CAREFULLY REMOVED FROM THE SUPPORTS, SORTED BY BASE MATERIAL AND PALLETIZED BY MATERIAL TYPE. SUPPORTS SHALL BE SORTED BY LENGTH AND TYPE. THE REGIONAL TRAFFIC UNIT 920-492-5653, SHALL BE NOTIFIED THREE WORKING DAYS PRIOR TO DELIVERY OF SIGNS AND SUPPORTS.

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WOOD POSTS SIZES, FOR TYPE II SIGNING, ARE ESTIMATED LENGTHS AND THE ACTUAL LENGTH WILL BE DETERMINED IN THE FIELD.

N

960'SB' 965'SB' 970'SB' 975'SB' 980'SB' 985'SB' 990'SB'

960'NB' 965'NB' 970'NB' 975'NB' 980'NB' 985'NB' 990'NB'

EMERGENCY STOPPING ONLY
R8-7
7

S. Cleveland Rd
M1-94
108" X 21"
9

Sheboygan 10
Kohler 12
Milwaukee 66
E8-1
192" X 84"
303

301
E1-5
120" X 30"

300
EXIT 137
XX
Kiel
Cleveland
1 MILE
E1-1A
180" X 156"

5
W11-3
6
3 MILES AHEAD
W57-52

8
S. Cleveland Rd
M1-94
108" X 21"

302
Lakeshore Tech College
EXIT 137
E3-1
156" X 84"

LEGEND

- BUTTERFLY
- CANTILEVER
- SIGN BRIDGE
- SIGN POSTS
- STEEL POSTS
- SIGN-REMOVE AND REPLACE
- SIGN-REMOVE EXISTING
- SIGN-PLACE NEW

PLAN SHEET PRODUCED BY WisDOT-NE REGION

PROJECT NO: 1224-21-71	HWY: IH 43	COUNTY: MANITOWOC	PERMANENT SIGNING	SHEET 32	E

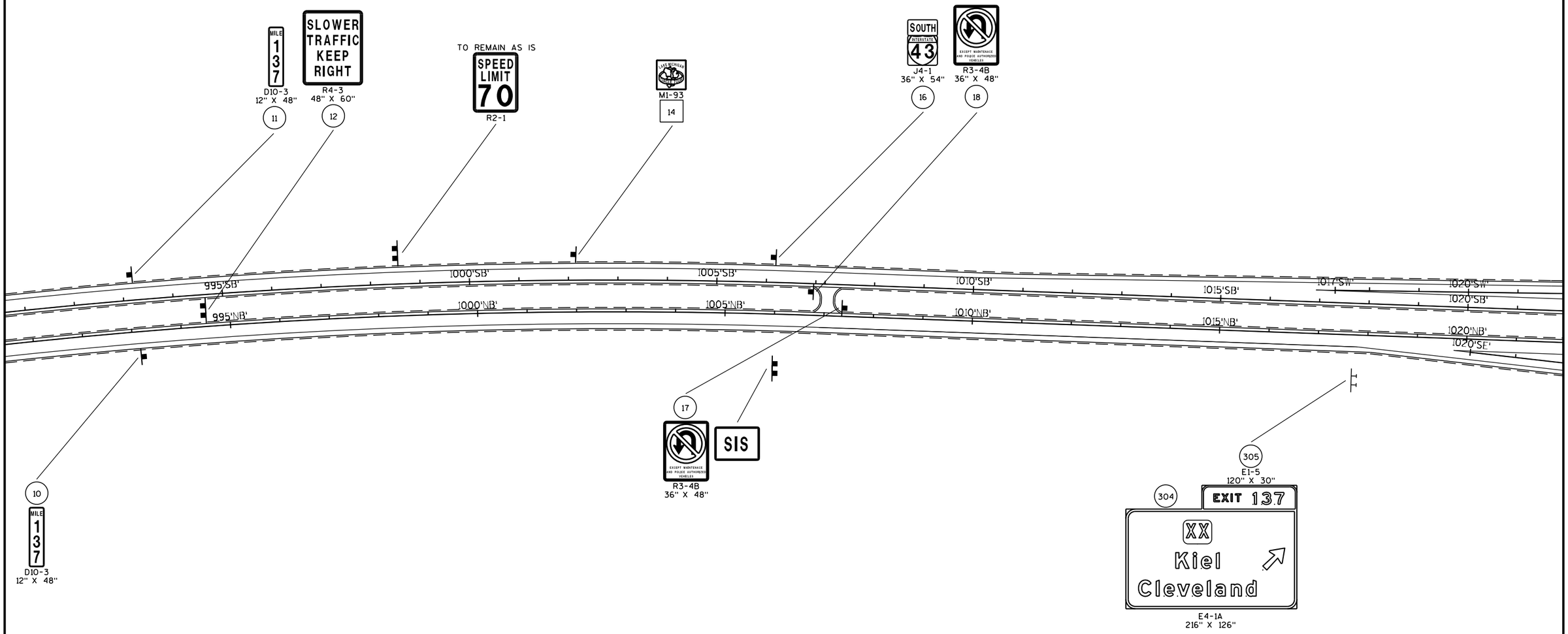
2

SIGNING NOTES

TYPE II SIGNS AND SUPPORTS REMOVED UNDER THE CONTRACT SHALL BE DELIVERED TO THE REGIONAL TRAFFIC UNIT. SIGNS SHALL BE CAREFULLY REMOVED FROM THE SUPPORTS, SORTED BY BASE MATERIAL AND PALLETIZED BY MATERIAL TYPE. SUPPORTS SHALL BE SORTED BY LENGTH AND TYPE. THE REGIONAL TRAFFIC UNIT 920-492-5653, SHALL BE NOTIFIED THREE WORKING DAYS PRIOR TO DELIVERY OF SIGNS AND SUPPORTS.

WHEN AN EXISTING STOP SIGN AND SUPPORT IS TO BE REMOVED AND A NEW STOP SIGN AND SUPPORT ERECTED THE WORK SHALL BE DONE CONCURRENTLY. FOR OTHER SIGNS AND SUPPORTS THAT ARE TO BE REMOVED AND NEW SIGNS AND SUPPORTS ERECTED, THE REMOVAL OF THE EXISTING SIGN/SUPPORT AND ERECTION OF THE NEW SIGN/SUPPORT SHOULD BE DONE AS CONCURRENTLY AS POSSIBLE. IN NO CASE SHALL A NEW SIGN/SUPPORT BE DOWN FOR MORE THAN 24 HOURS AND THERE SHALL NOT BE MORE THAN ONE SIGN OF THE SAME LEGEND MISSING IN A ROW.

WOOD POSTS SIZES, FOR TYPE II SIGNING, ARE ESTIMATED LENGTHS AND THE ACTUAL LENGTH WILL BE DETERMINED IN THE FIELD.



LEGEND

- BUTTERFLY
- CANTILEVER
- SIGN BRIDGE
- SIGN POSTS
- STEEL POSTS
- SIGN-REMOVE AND REPLACE
- SIGN-REMOVE EXISTING
- SIGN-PLACE NEW

PLAN SHEET PRODUCED BY WisDOT-NE REGION

PROJECT NO: 1224-21-71	HWY: IH 43	COUNTY: MANITOWOC	PERMANENT SIGNING	SHEET 33	E

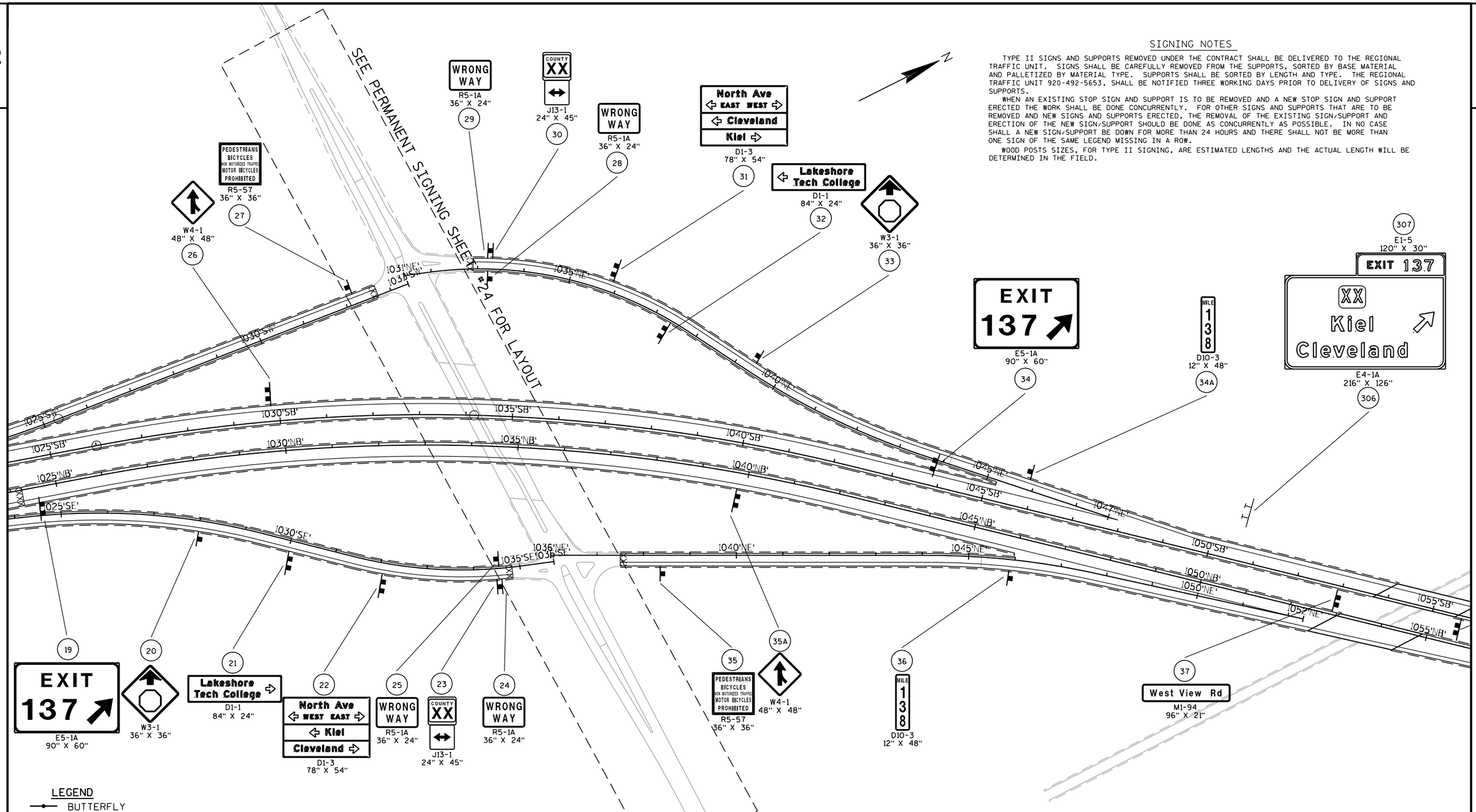
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WOOD POSTS SIZES, FOR TYPE II SIGNING, ARE ESTIMATED LENGTHS AND THE ACTUAL LENGTH WILL BE DETERMINED IN THE FIELD.



LEGEND

- BUTTERFLY
- CANTILEVER
- SIGN BRIDGE
- SIGN POSTS
- STEEL POSTS
- SIGN-REMOVE AND REPLACE
- SIGN-REMOVE EXISTING
- SIGN-PLACE NEW

PLAN SHEET PRODUCED BY WisDOT-NE REGION

PROJECT NO: 1224-21-71	HWY: IH 43	COUNTY: MANITOWOC	PERMANENT SIGNING	SHEET 34	E

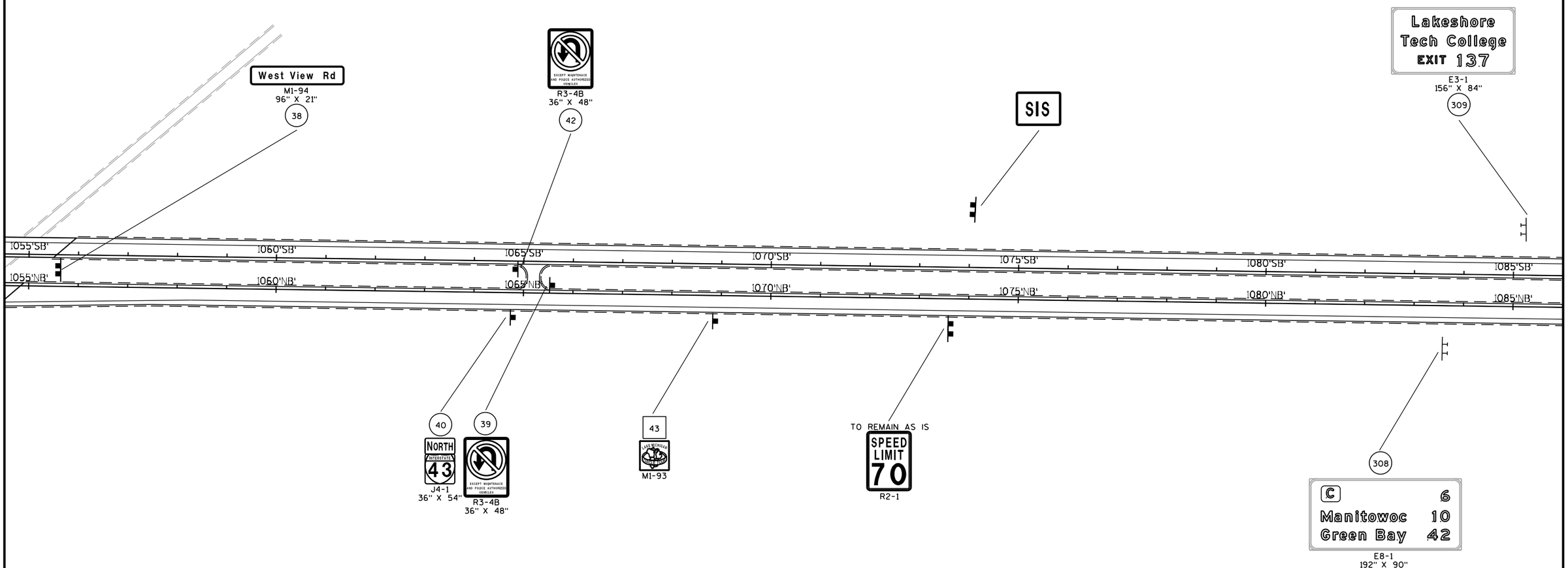
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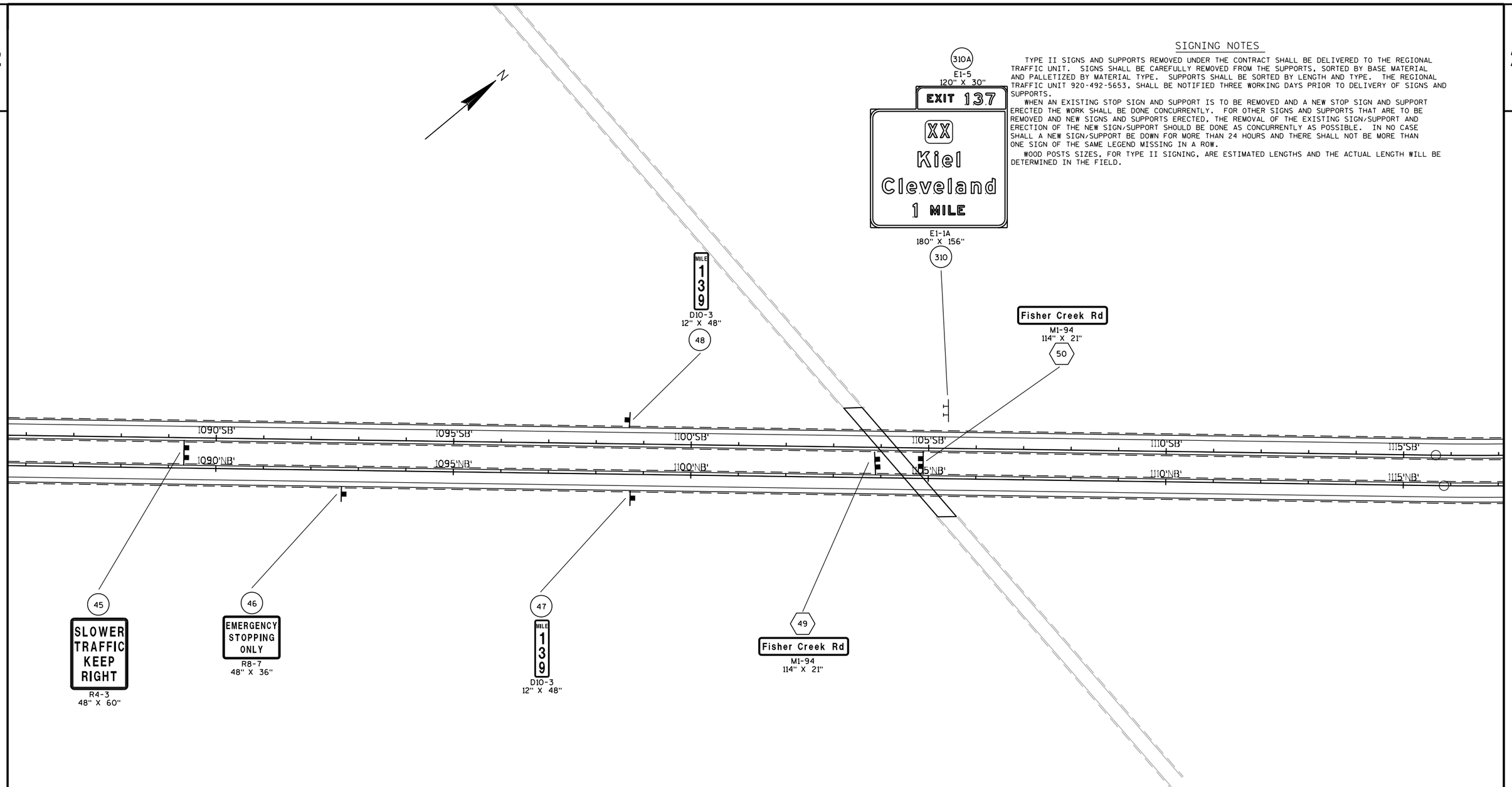
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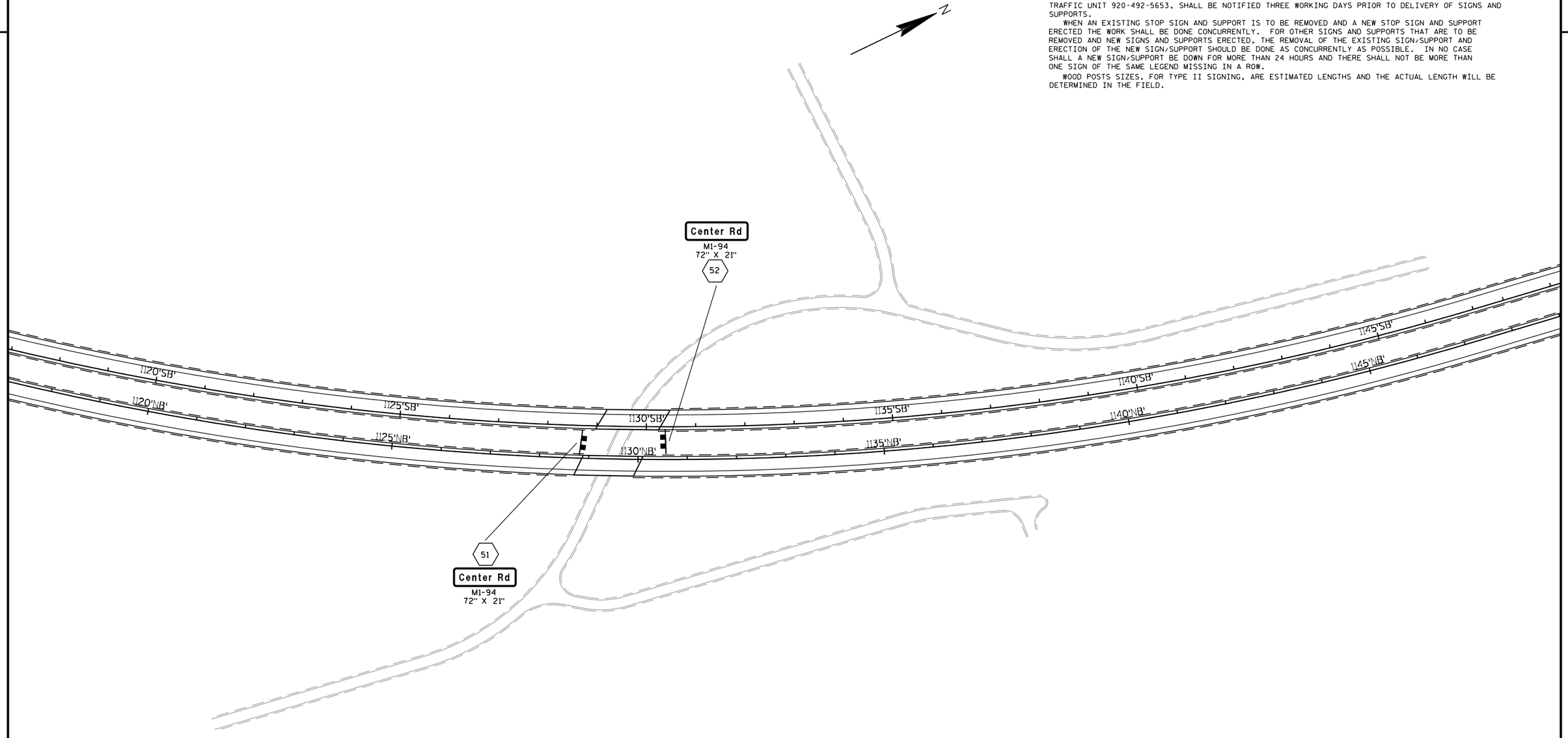
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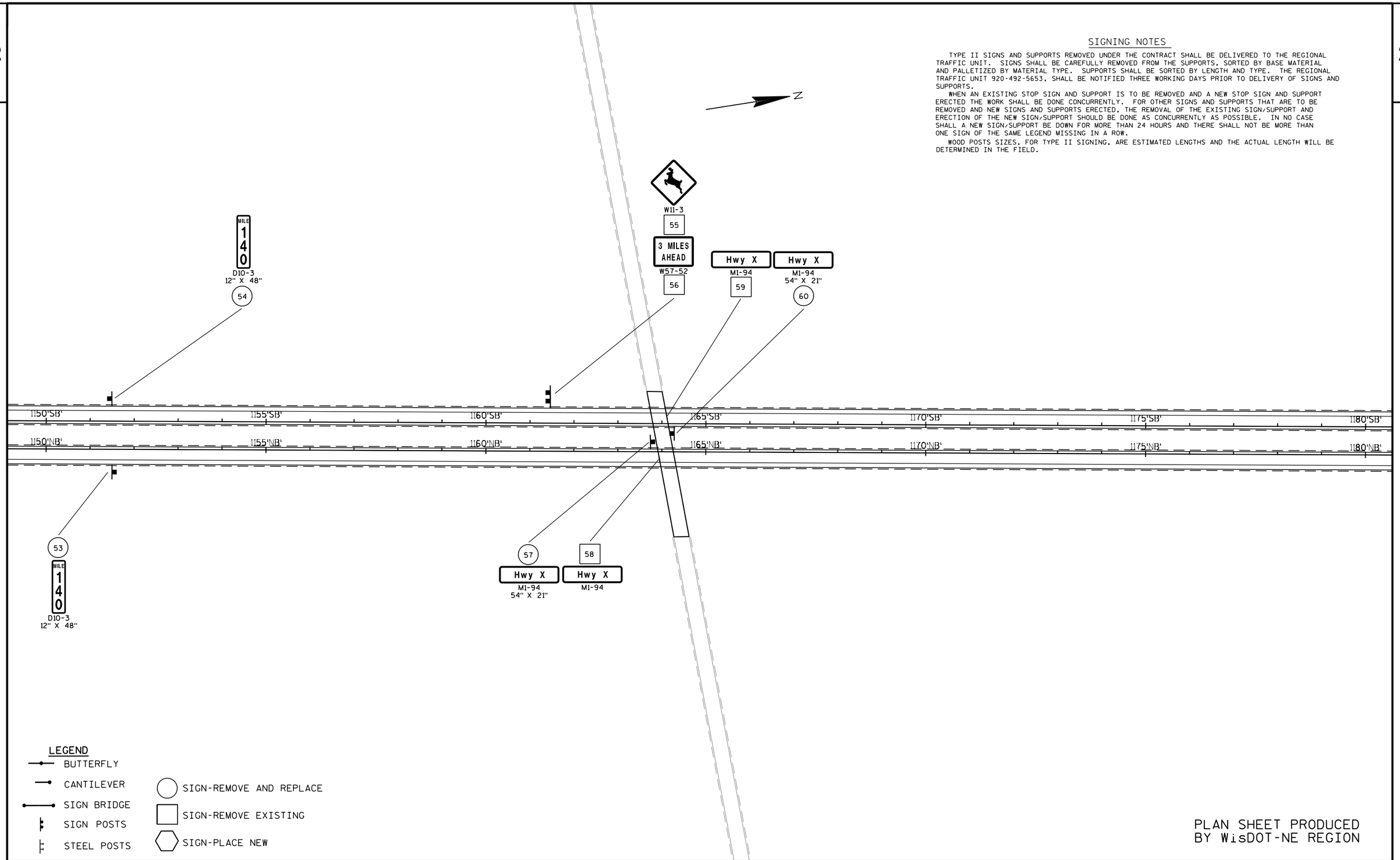
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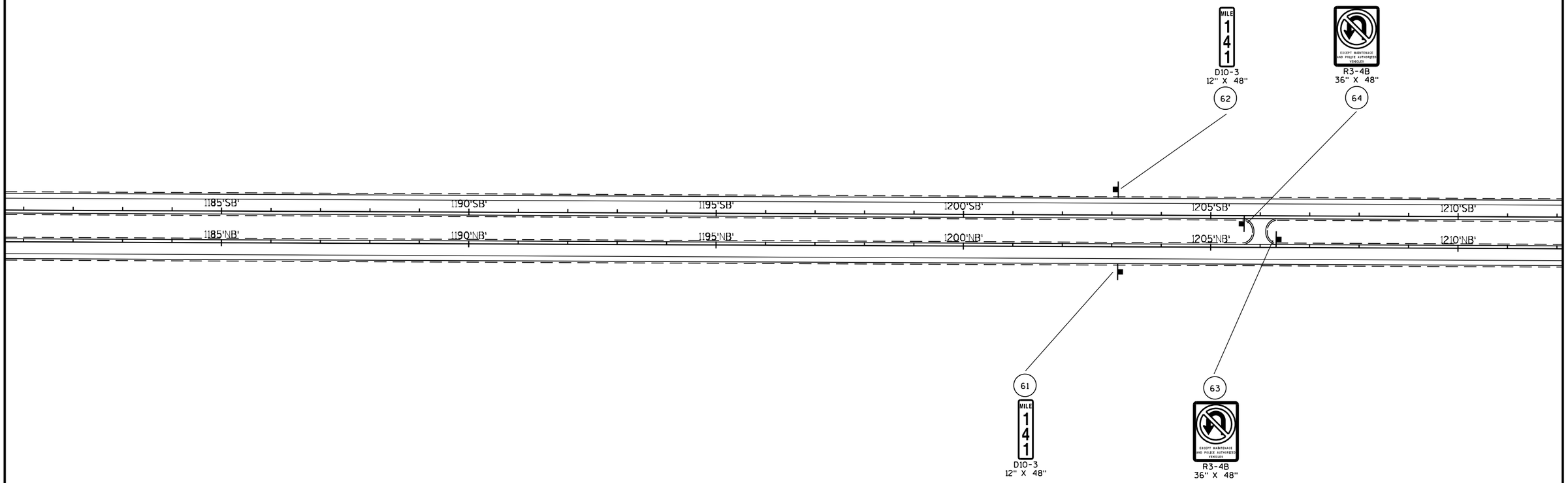
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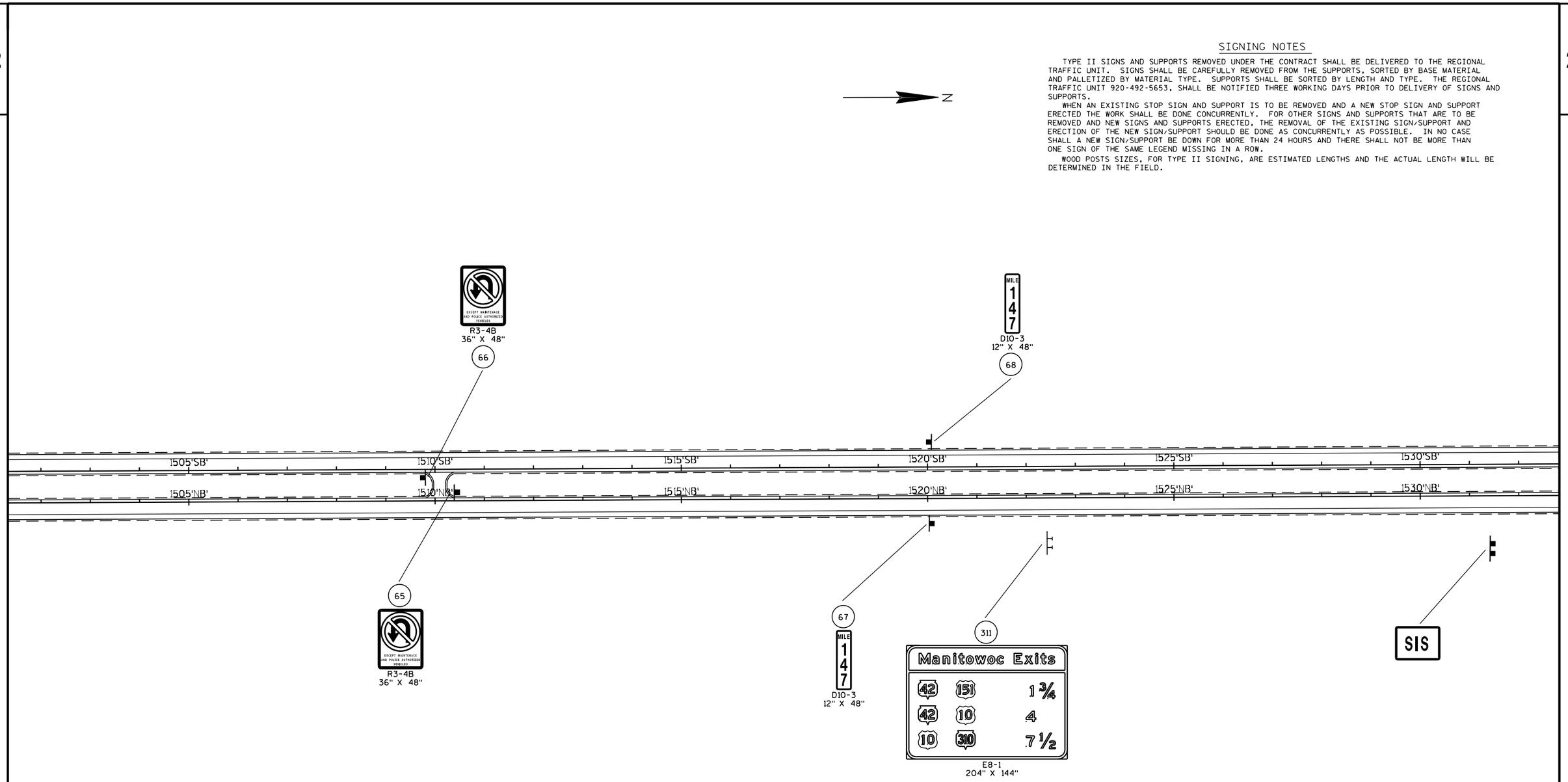
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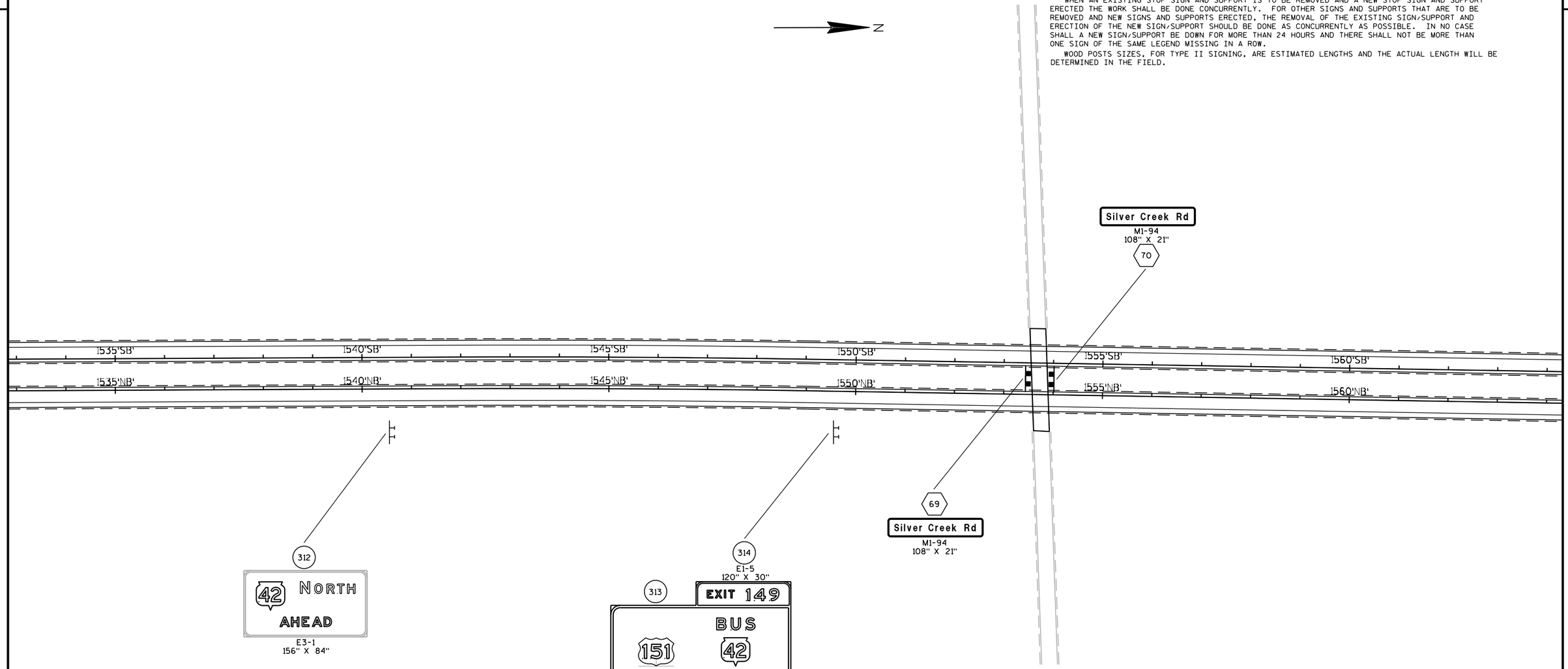
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N

EMERGENCY STOPPING ONLY
R8-7
71

MILE 148
D10-3
12" X 48"
73

SLOWER TRAFFIC KEEP RIGHT
R4-3
48" X 60"
75

C 4
Sheboygan 21
Milwaukee 77
E8-1
192" X 90"
316

BUCKLE UP IT'S THE LAW
R5-53A
76

1565'SB' 1570'SB' 1575'SB' 1580'SB' 1585'SB' 1590'SB' 1595'SB'

1565'NB' 1570'NB' 1575'NB' 1580'NB' 1585'NB' 1590'NB' 1595'NB'

72
MILE 148
D10-3
12" X 48"

315
Wisconsin Maritime Museum
Silver Lake College
EXIT 149
E3-1
216" X 144"

74
EMERGENCY STOPPING ONLY
R8-7

SIS

317
HOSPITAL
EXIT 149
E10-61
144" X 54"

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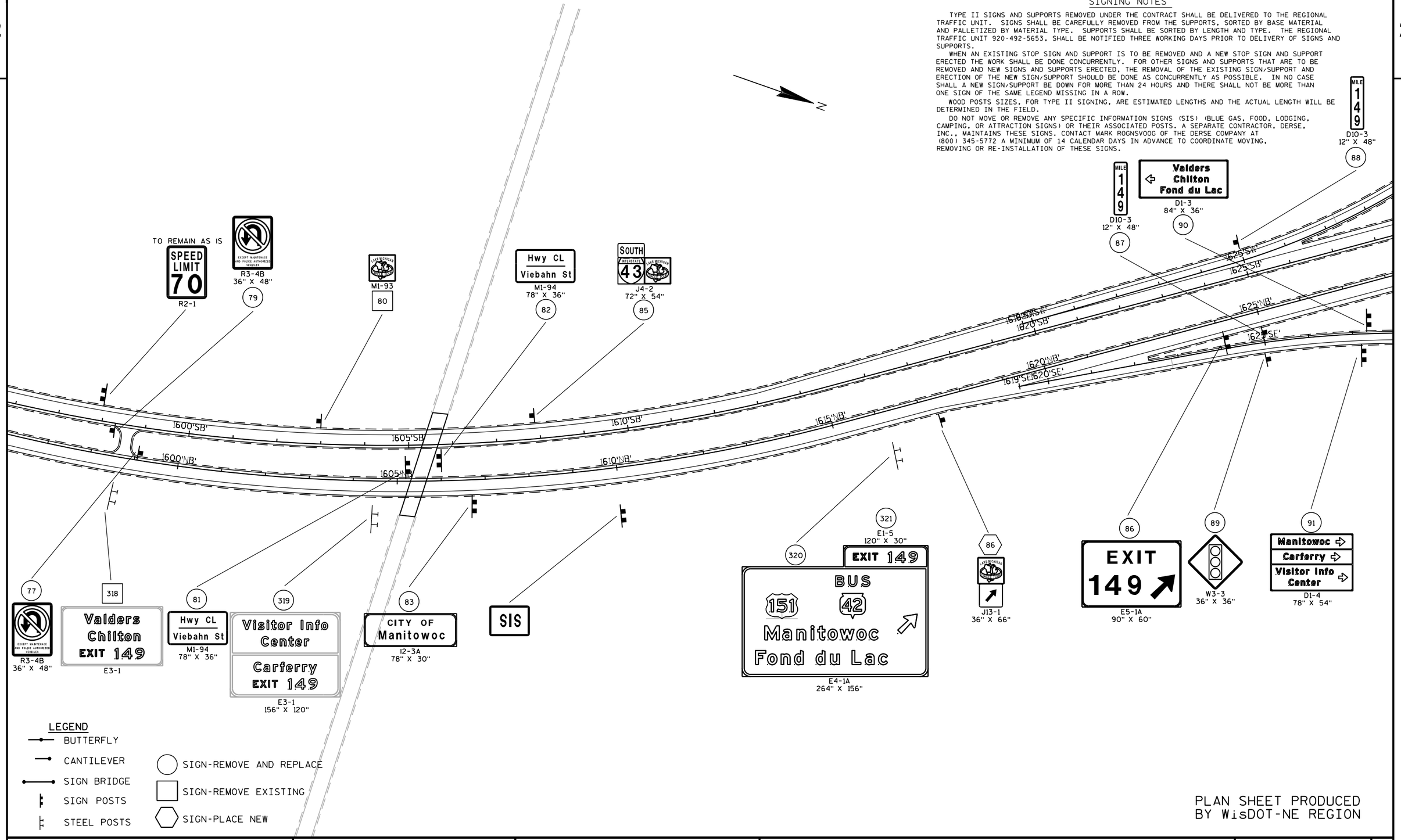
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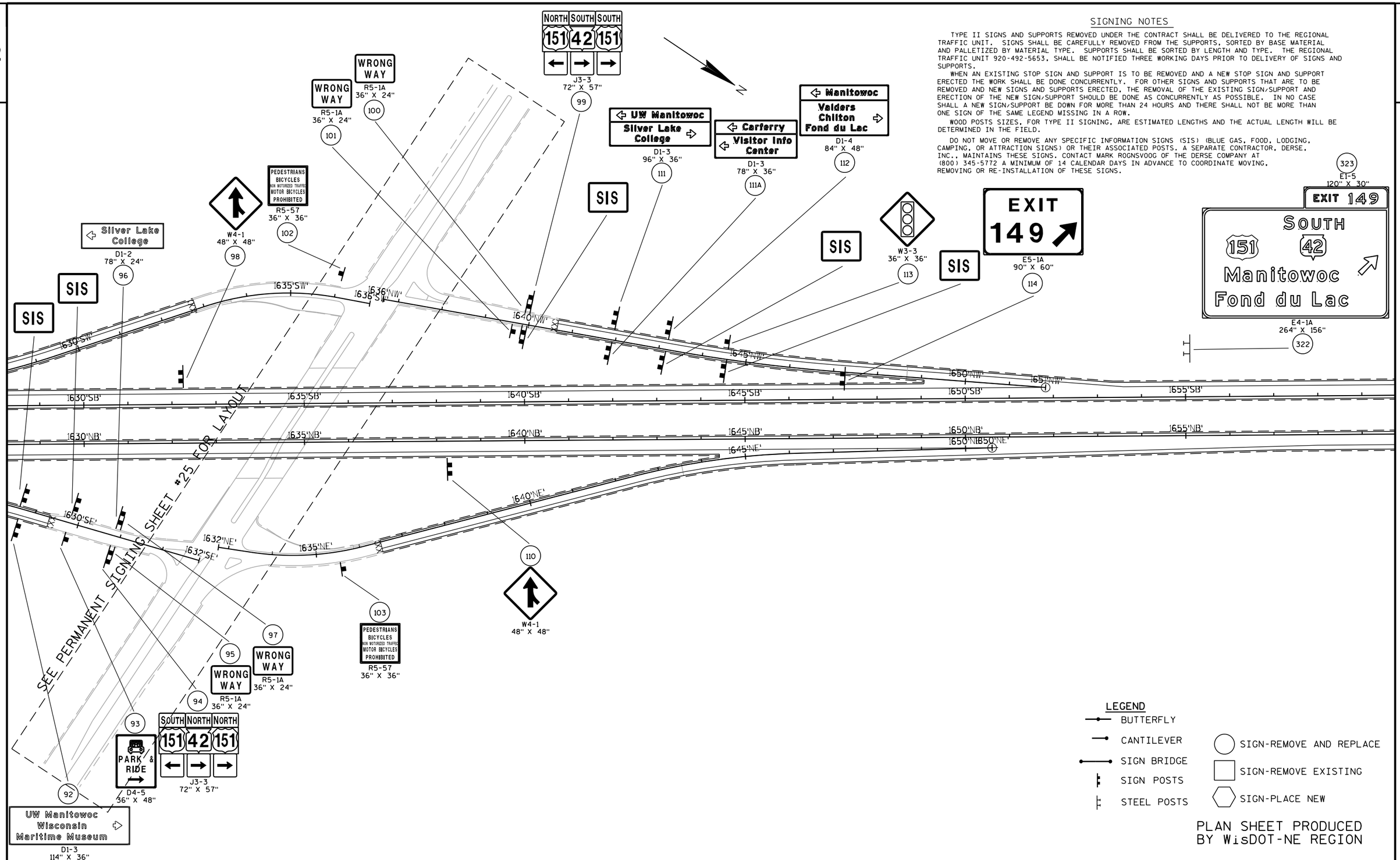
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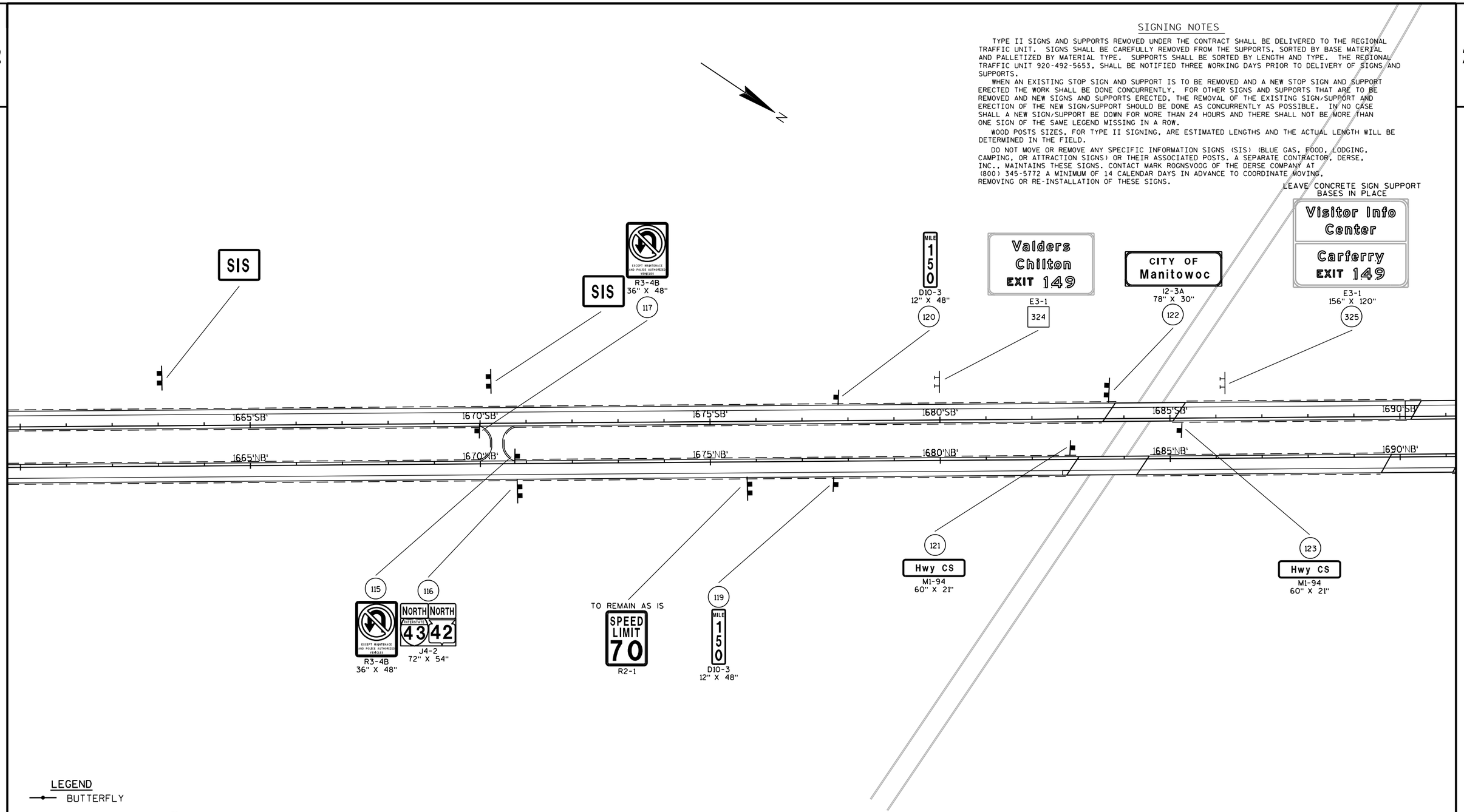
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LEAVE CONCRETE SIGN SUPPORT BASES IN PLACE



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PLAN SHEET PRODUCED BY WisDOT-NE REGION

PROJECT NO: 1224-21-71	HWY: IH 43	COUNTY: MANITOWOC	PERMANENT SIGNING	SHEET 45	E

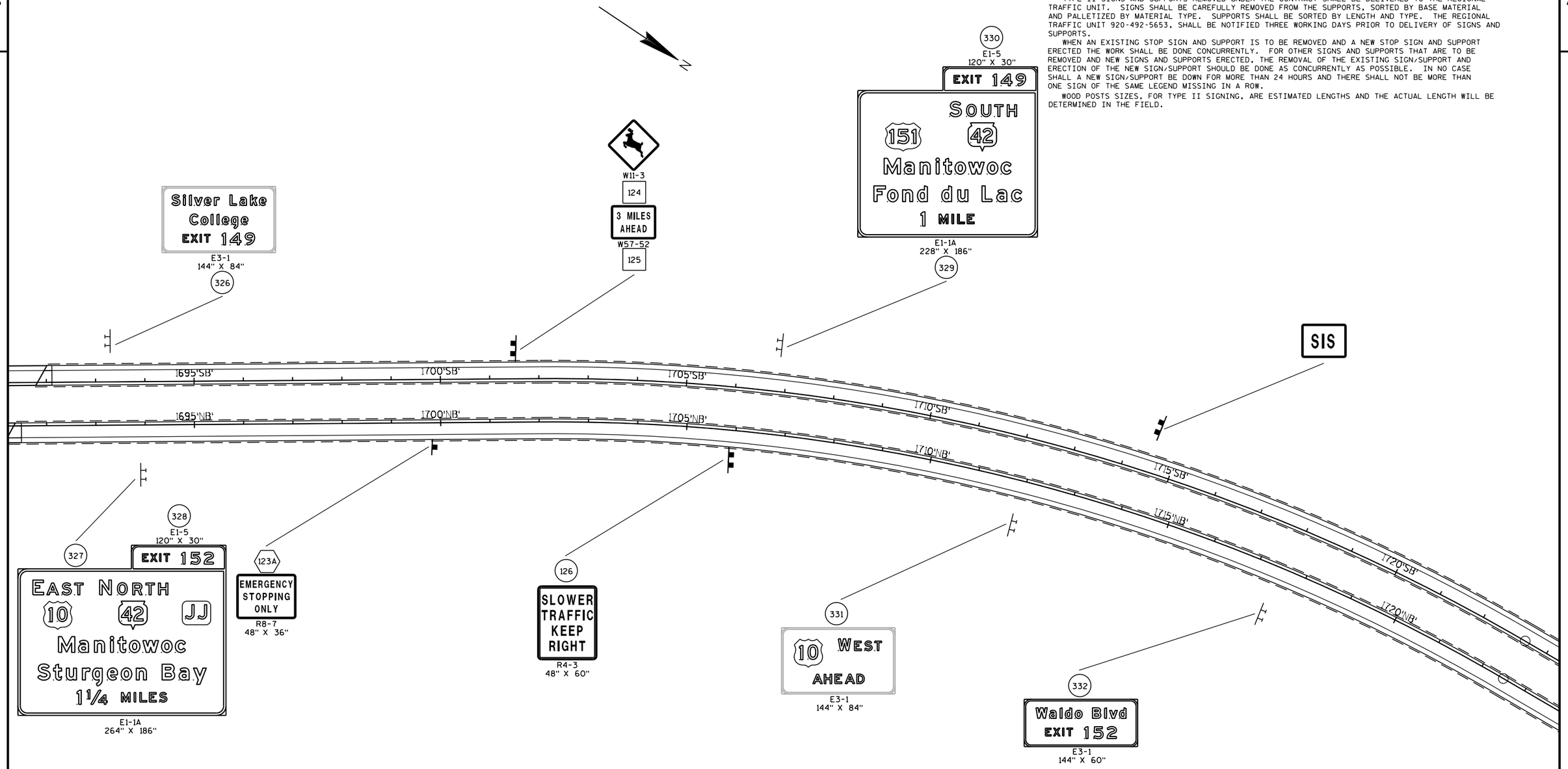
2

SIGNING NOTES

TYPE II SIGNS AND SUPPORTS REMOVED UNDER THE CONTRACT SHALL BE DELIVERED TO THE REGIONAL TRAFFIC UNIT. SIGNS SHALL BE CAREFULLY REMOVED FROM THE SUPPORTS, SORTED BY BASE MATERIAL AND PALLETIZED BY MATERIAL TYPE. SUPPORTS SHALL BE SORTED BY LENGTH AND TYPE. THE REGIONAL TRAFFIC UNIT 920-492-5653, SHALL BE NOTIFIED THREE WORKING DAYS PRIOR TO DELIVERY OF SIGNS AND SUPPORTS.

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WOOD POSTS SIZES, FOR TYPE II SIGNING, ARE ESTIMATED LENGTHS AND THE ACTUAL LENGTH WILL BE DETERMINED IN THE FIELD.



LEGEND

- BUTTERFLY
- CANTILEVER
- SIGN BRIDGE
- SIGN POSTS
- STEEL POSTS
- SIGN-REMOVE AND REPLACE
- SIGN-REMOVE EXISTING
- SIGN-PLACE NEW

PLAN SHEET PRODUCED BY WisDOT-NE REGION

PROJECT NO: 1224-21-71	HWY: IH 43	COUNTY: MANITOWOC	PERMANENT SIGNING	SHEET 46	E

2

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N

1725'SB' 1730'SB' 1735'SB' 1740'SB' 1745'SB' 1750'SB'

1725'NB' 1730'NB' 1735'NB' 1740'NB' 1745'NB' 1750'NB'

128 Middle Rd M1-94 72" X 21"

129 MILE 151 D10-3 12" X 48"

133 R3-4B 36" X 48" (EXCEPT MAINTENANCE AND POLICE AUTHORIZED VEHICLES)

TO REMAIN AS IS
SPEED LIMIT 70 R2-1

132 SOUTH EAST SOUTH INTERSTATE 43 10 42 J4-3 108" X 54"

127 Middle Rd M1-94 72" X 21"

130 MILE 151 D10-3 12" X 48"

333 Manitowoc Co Airport EXIT 152 E3-1 168" X 84"

131 R3-4B 36" X 48" (EXCEPT MAINTENANCE AND POLICE AUTHORIZED VEHICLES)

SIS

LEGEND

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- CANTILEVER
- SIGN BRIDGE
- SIGN POSTS
- STEEL POSTS
- SIGN-REMOVE AND REPLACE
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PLAN SHEET PRODUCED BY WisDOT-NE REGION

PROJECT NO: 1224-21-71	HWY: IH 43	COUNTY: MANITOWOC	PERMANENT SIGNING	SHEET 47	E

2

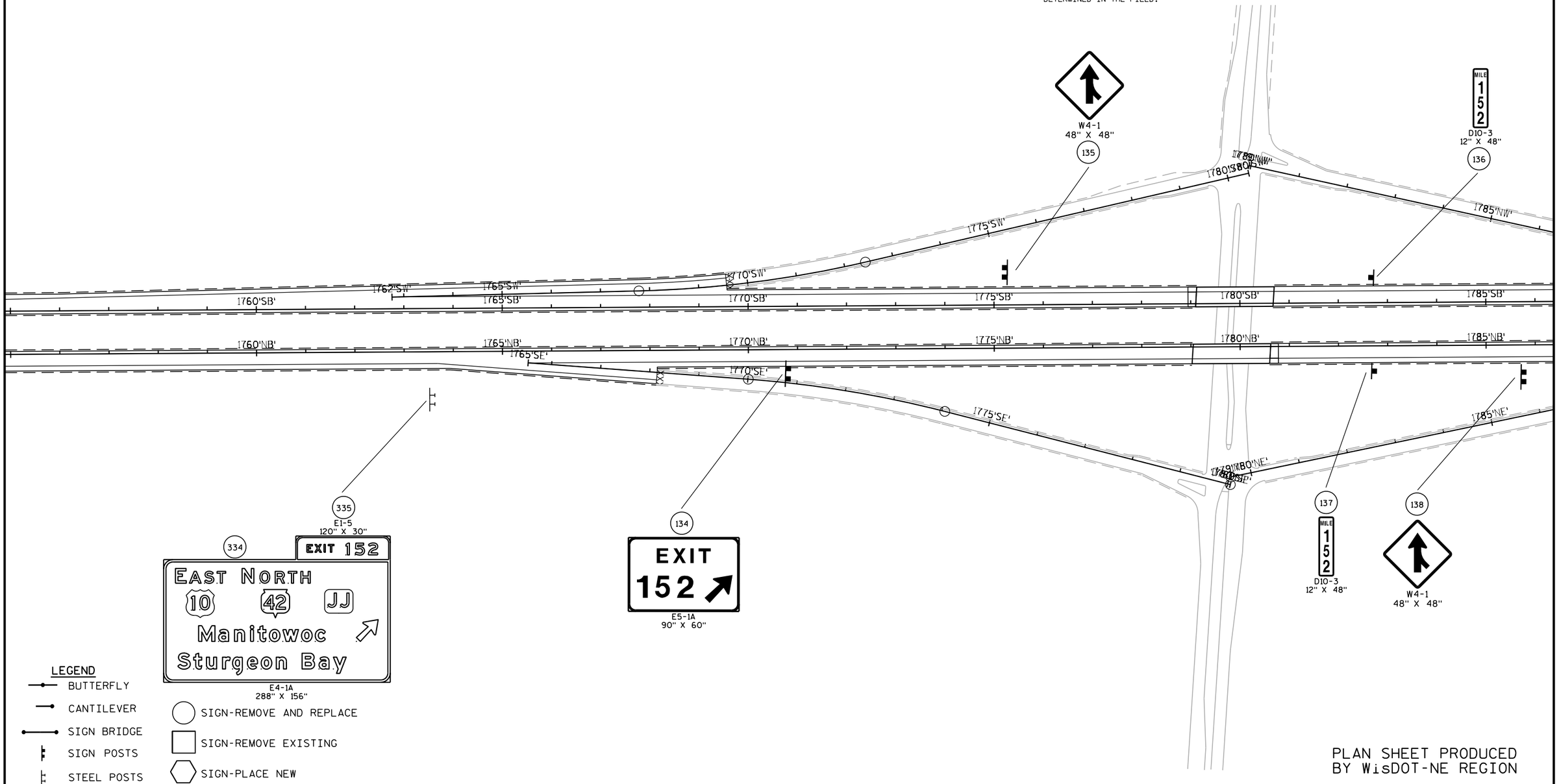
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PLAN SHEET PRODUCED BY WisDOT-NE REGION

PROJECT NO: 1224-21-71	HWY: IH 43	COUNTY: MANITOWOC	PERMANENT SIGNING	SHEET 48	E

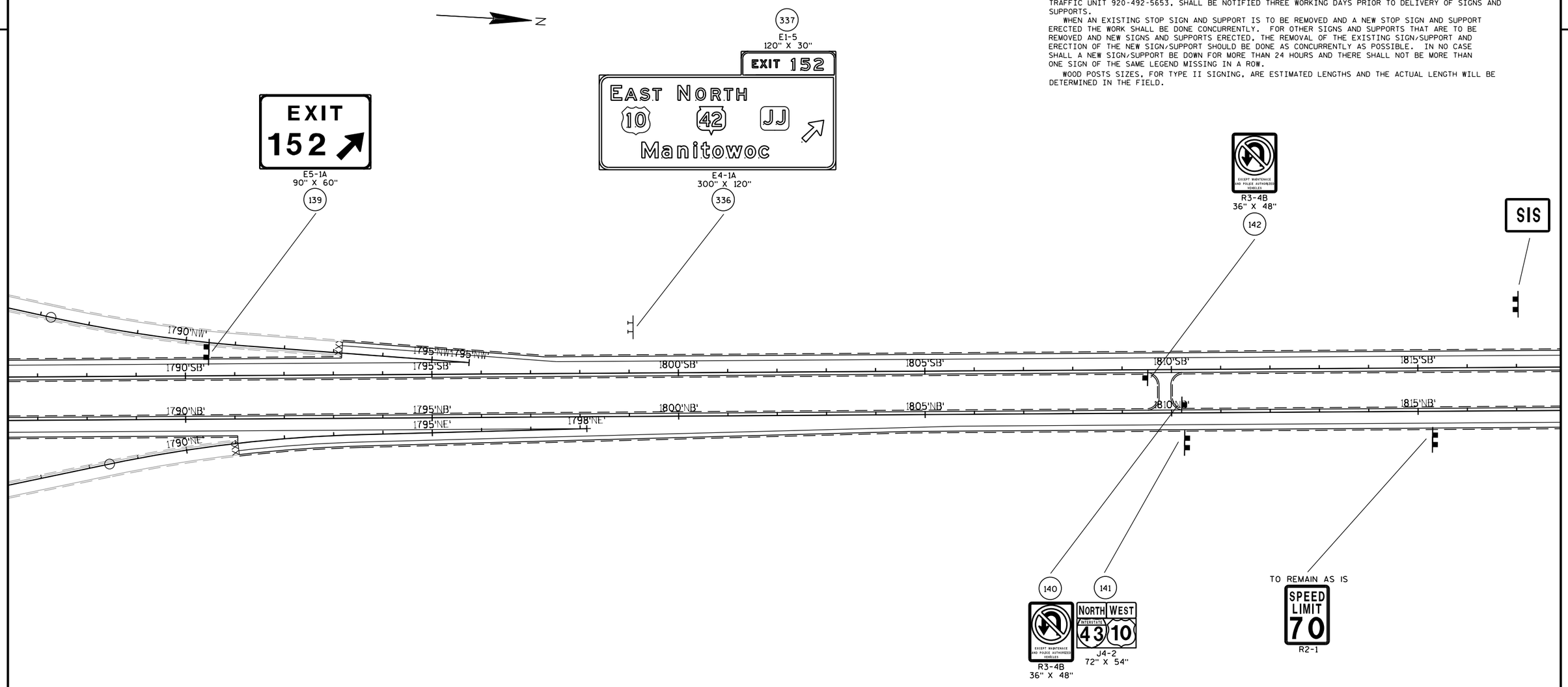
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- SIGN POSTS
- STEEL POSTS
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PLAN SHEET PRODUCED BY WisDOT-NE REGION

PROJECT NO: 1224-21-71	HWY: IH 43	COUNTY: MANITOWOC	PERMANENT SIGNING	SHEET 49	E

2

SIGNING NOTES

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WOOD POSTS SIZES, FOR TYPE II SIGNING, ARE ESTIMATED LENGTHS AND THE ACTUAL LENGTH WILL BE DETERMINED IN THE FIELD.

N

HOSPITAL
EXIT 152
E10-61
144" X 54"
238

Manitowoc Co
Airport
EXIT 152
E3-1
168" X 84"
339

Waldo Blvd
EXIT 152
E3-1
144" X 60"
340

MILE 153
D10-3
12" X 48"
145

42 SOUTH
AHEAD
E3-1
156" X 84"
341

1820'SB' 1825'SB' 1830'SB' 1835'SB' 1840'SB' 1845'SB'

1820'NB' 1825'NB' 1830'NB' 1835'NB' 1840'NB' 1845'NB'

144
MILE 153
D10-3
12" X 48"

146
Manitowoc River
13-1
114" X 21"

LEGEND

- BUTTERFLY
- CANTILEVER
- SIGN BRIDGE
- SIGN POSTS
- STEEL POSTS
- SIGN-REMOVE AND REPLACE
- SIGN-REMOVE EXISTING
- SIGN-PLACE NEW

PLAN SHEET PRODUCED
BY WisDOT-NE REGION

PROJECT NO: 1224-21-71	HWY: IH 43	COUNTY: MANITOWOC	PERMANENT SIGNING	SHEET 50	E

SIGNING NOTES

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N

345
E1-5
120" X 30"
EXIT 152
EAST NORTH
10 42 JJ
Manitowoc
1¼ MILES

Manitowoc River
13-1
114" X 21"
147

E1-1A
264" X 150"
344

Hwy P
M1-94
54" X 21"
150

Hwy P
M1-94
151

Wisconsin
Maritime Museum
EXIT 152
E3-1
216" X 84"
347

1850'SB' 1855'SB' 1860'SB' 1865'SB' 1870'SB' 1875'SB' 1880'SB'

1850'NB' 1855'NB' 1860'NB' 1865'NB' 1870'NB' 1875'NB' 1880'NB'

343
E1-5
120" X 30"

148
Hwy P
M1-94

149
Hwy P
M1-94
54" X 21"

342
EXIT 154
WEST
10 310
Two Rivers
Appleton
1 MILE
E1-1A
204" X 186"

346
LEAVE CONCRETE SIGN SUPPORT BASES IN PLACE

HOSPITAL
EXIT 154
E10-61
144" X 54"

LEGEND
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- CANTILEVER
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- STEEL POSTS
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PLAN SHEET PRODUCED BY WisDOT-NE REGION

PROJECT NO: 1224-21-71	HWY: IH 43	COUNTY: MANITOWOC	PERMANENT SIGNING	SHEET 51 E

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N

EMERGENCY STOPPING ONLY
R8-7
48" X 36"
152

MILE 154
D10-3
12" X 48"
154

W11-3
155

2 MILES AHEAD
W57-52
156

SLOWER TRAFFIC KEEP RIGHT
R4-3
48" X 60"
157

EXCEPT MAINTENANCE AND POLICE AUTHORIZED VEHICLES
R3-4B
36" X 48"
159

TO REMAIN AS IS
SPEED LIMIT 70
R2-1

1885'SB' 1890'SB' 1895'SB' 1900'SB' 1905'SB' 1910'SB'

1885'NB' 1890'NB' 1895'NB' 1900'NB' 1905'NB' 1910'NB'

153
MILE 154
D10-3
12" X 48"

158
EXCEPT MAINTENANCE AND POLICE AUTHORIZED VEHICLES
R3-4B
36" X 48"

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PLAN SHEET PRODUCED BY WisDOT-NE REGION

PROJECT NO: 1224-21-71	HWY: IH 43	COUNTY: MANITOWOC	PERMANENT SIGNING	SHEET 52	E

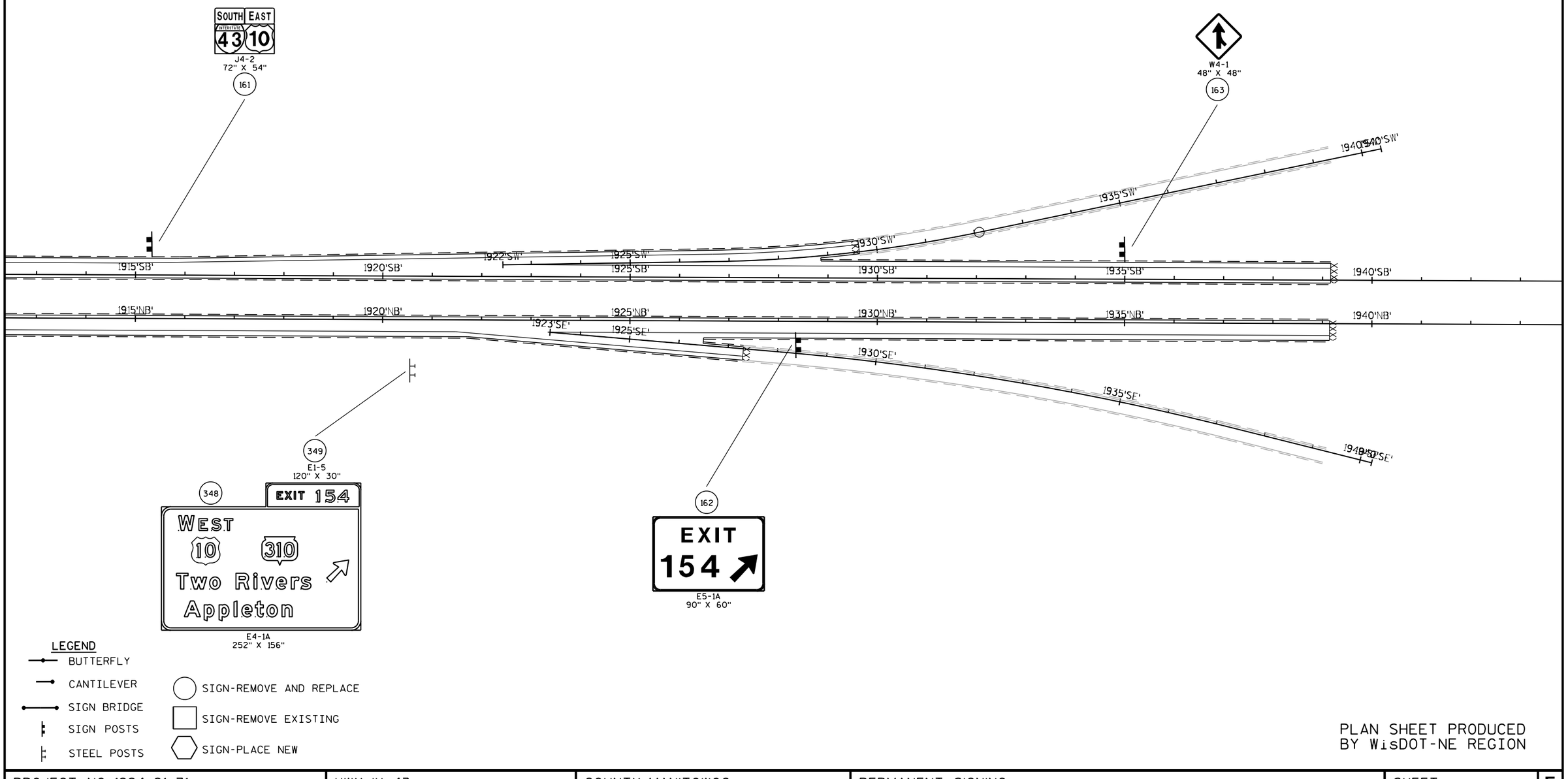
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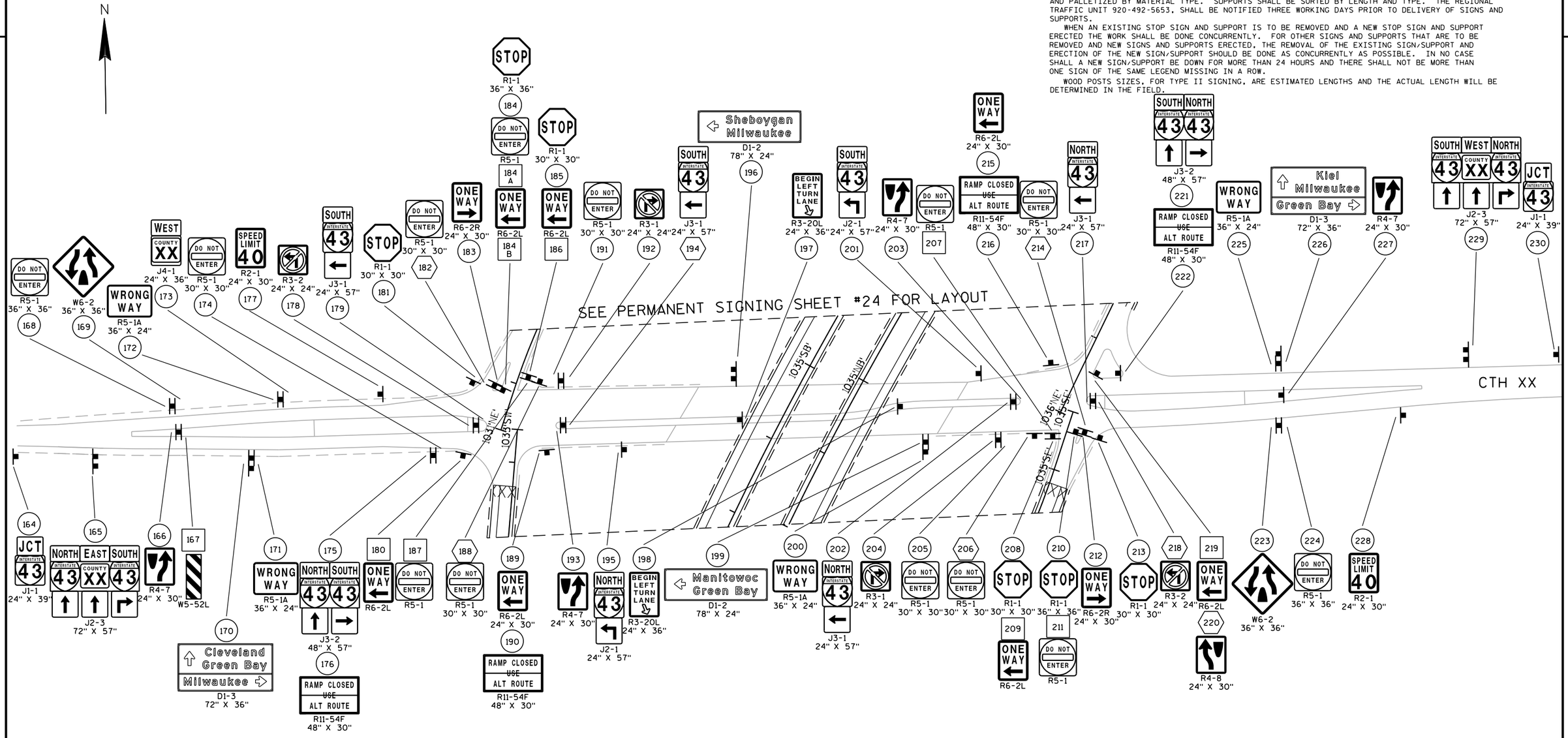
PROJECT NO: 1224-21-71	HWY: IH 43	COUNTY: MANITOWOC	PERMANENT SIGNING	SHEET 53	E

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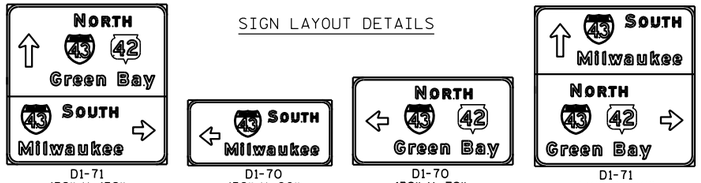
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- CANTILEVER
- SIGN BRIDGE
- SIGN POSTS
- STEEL POSTS

- SIGN-REMOVE AND REPLACE
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PLAN SHEET PRODUCED BY WisDOT-NE REGION

PROJECT NO: 1224-21-71	HWY: IH 43	COUNTY: MANITOWOC	PERMANENT SIGNING	SHEET 54 E

SIGN LAYOUT DETAILS



SIGNING NOTES

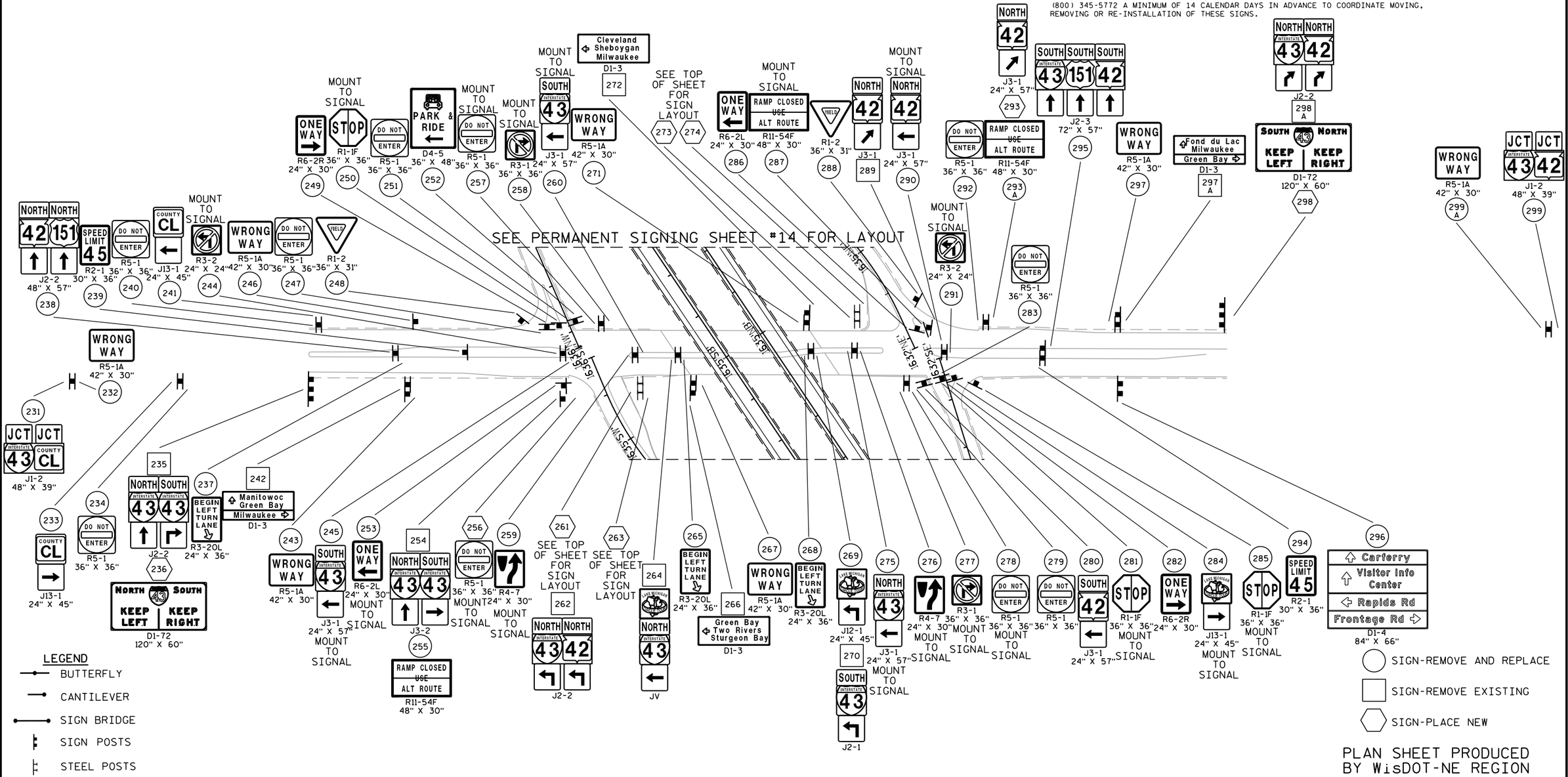
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DO NOT MOVE OR REMOVE ANY SPECIFIC INFORMATION SIGNS (SIS) (BLUE GAS, FOOD, LODGING, CAMPING, OR ATTRACTION SIGNS) OR THEIR ASSOCIATED POSTS. A SEPARATE CONTRACTOR, DERSE, INC., MAINTAINS THESE SIGNS. CONTACT MARK ROGNSVOOG OF THE DERSE COMPANY AT (800) 345-5772 A MINIMUM OF 14 CALENDAR DAYS IN ADVANCE TO COORDINATE MOVING, REMOVING OR RE-INSTALLATION OF THESE SIGNS.

N



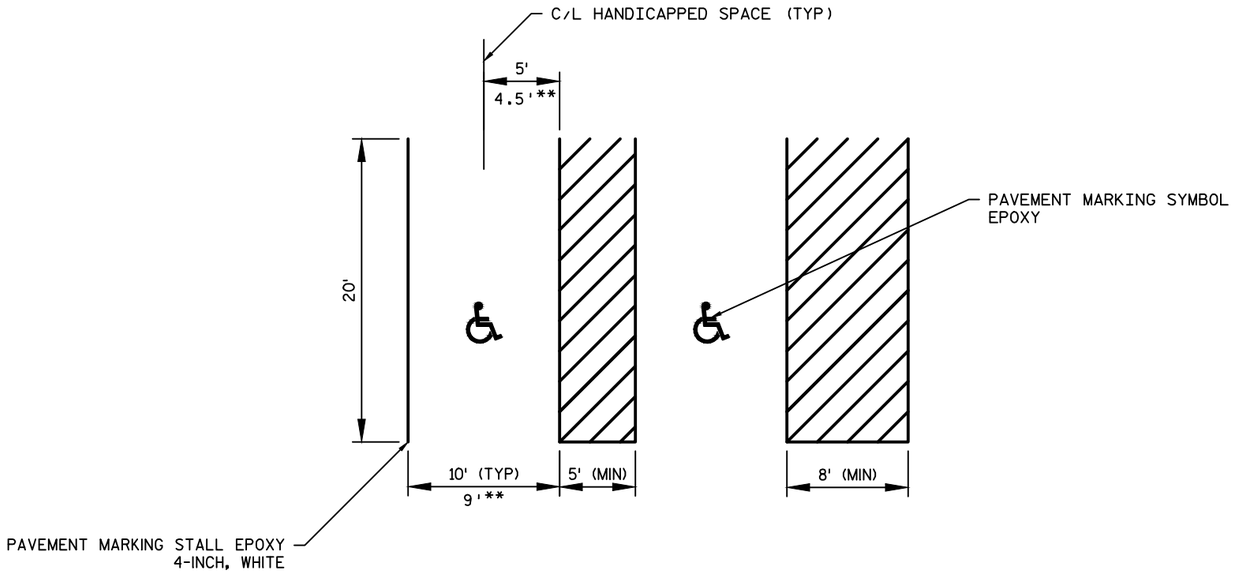
LEGEND

- BUTTERFLY
- CANTILEVER
- SIGN BRIDGE
- SIGN POSTS
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- SIGN-REMOVE AND REPLACE
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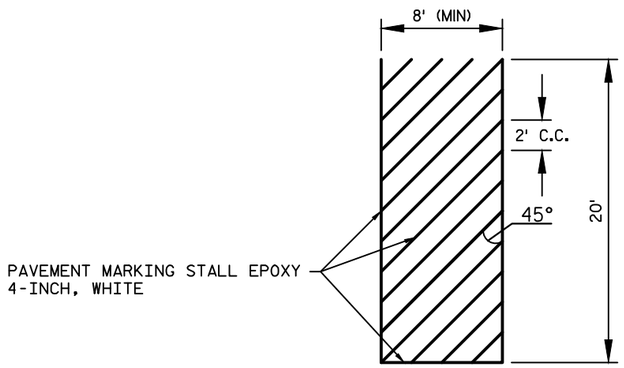
PLAN SHEET PRODUCED BY WisDOT-NE REGION

PROJECT NO: 1224-21-71	HWY: IH 43	COUNTY: MANITOWOC	PERMANENT SIGNING	SHEET 55	E



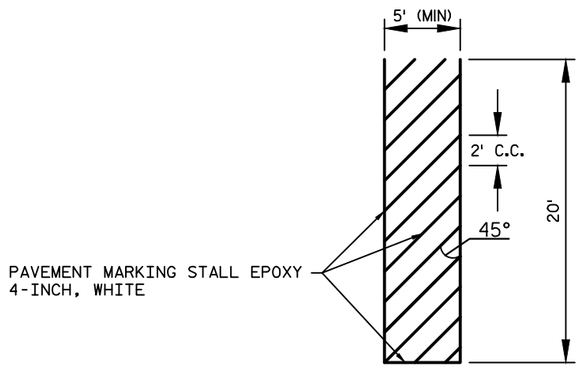
PAVEMENT MARKING DETAIL HANDICAPPED STALLS

USH 151
STH 42**
STH 310



PAVEMENT MARKING DETAIL BETWEEN
HANDICAPPED SPACES - VAN STALL

USH 151
STH 42
STH 310



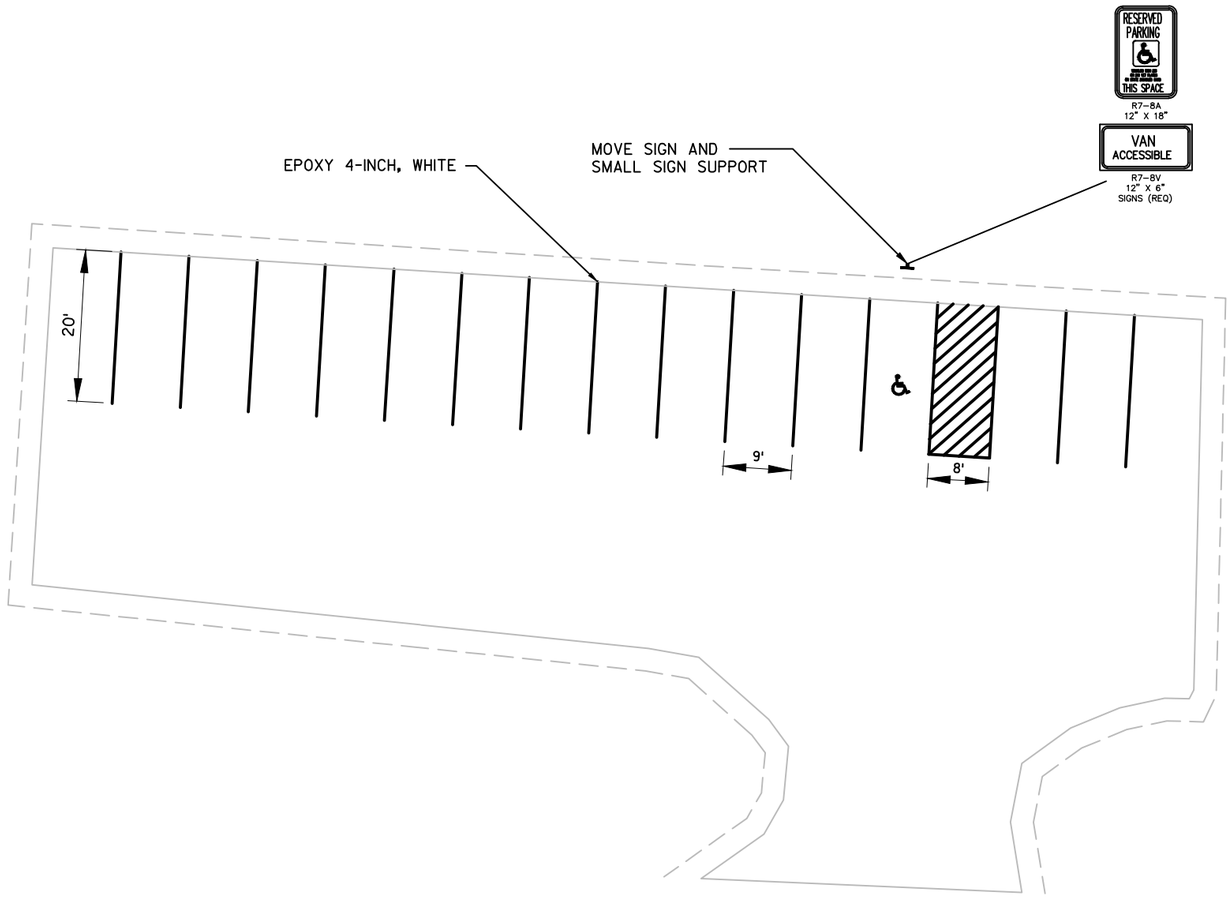
PAVEMENT MARKING DETAIL BETWEEN
HANDICAPPED SPACES - CAR STALL

USH 151
STH 42
STH 310

PROJECT NO:1224-21-71	HWY: IH 43	COUNTY: MANITOWOC	PAVEMENT MARKING DETAILS	SHEET 56	E

2

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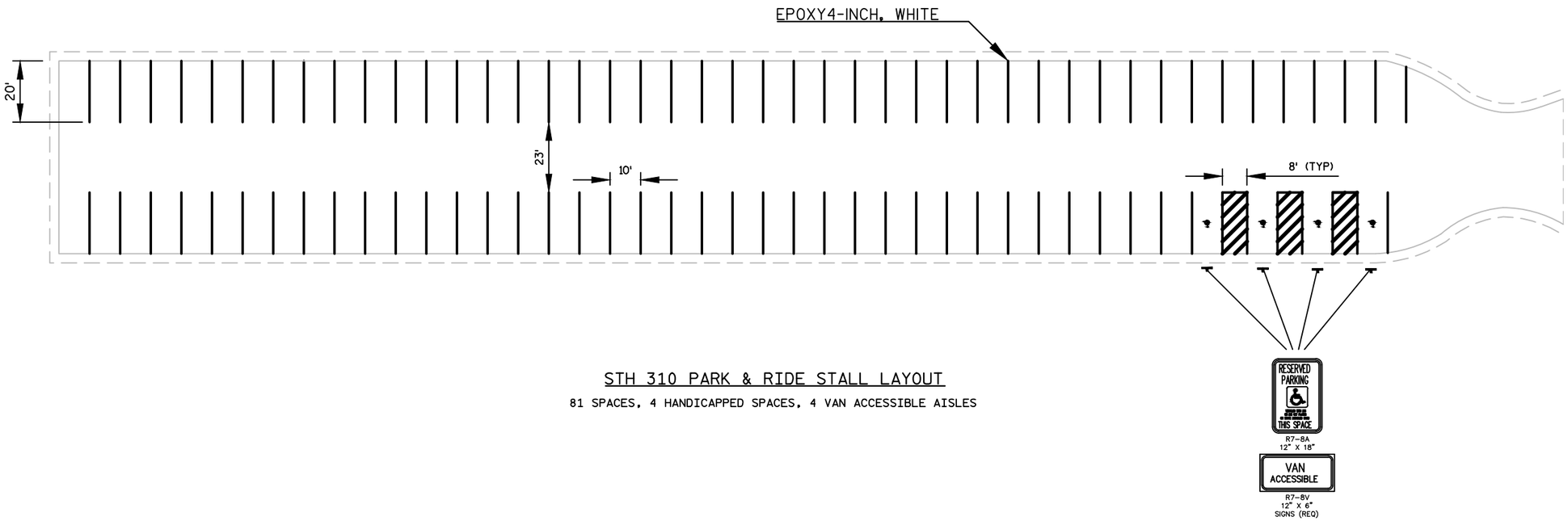
STH 42 PARK & RIDE STALL LAYOUT

15 SPACES. 1 HANDICAPPED SPACE, 1 VAN ACCESSIBLE AISLE

PROJECT NO:1224-21-71	HWY: IH 43	COUNTY: MANITOWOC	PAVEMENT MARKING DETAILS	SHEET 57	E

2

N



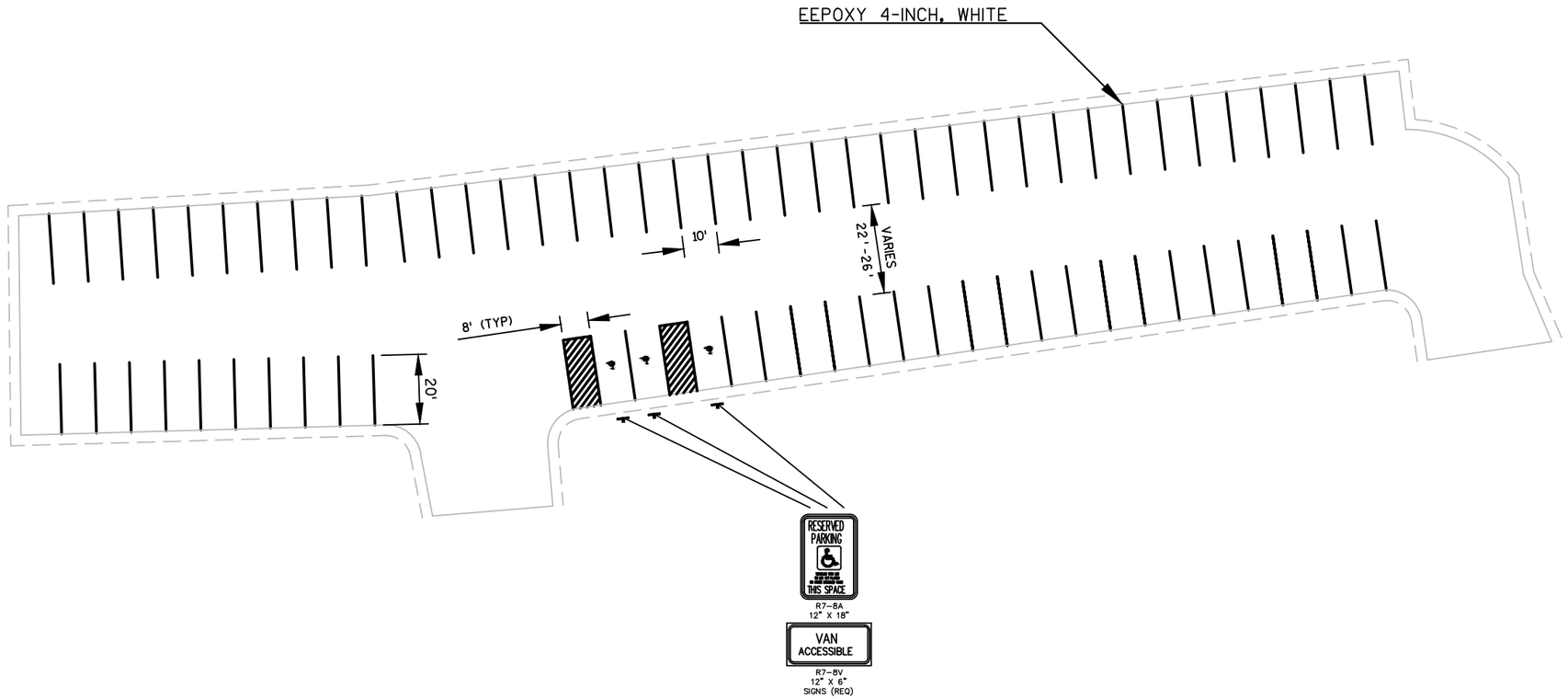
STH 310 PARK & RIDE STALL LAYOUT

81 SPACES, 4 HANDICAPPED SPACES, 4 VAN ACCESSIBLE AISLES

PROJECT NO:1224-21-73	HWY: IH 43	COUNTY: MANITOWOC	PAVEMENT MARKING DETAILS	SHEET 58	E

2

N



USH 151 PARK & RIDE STALL LAYOUT

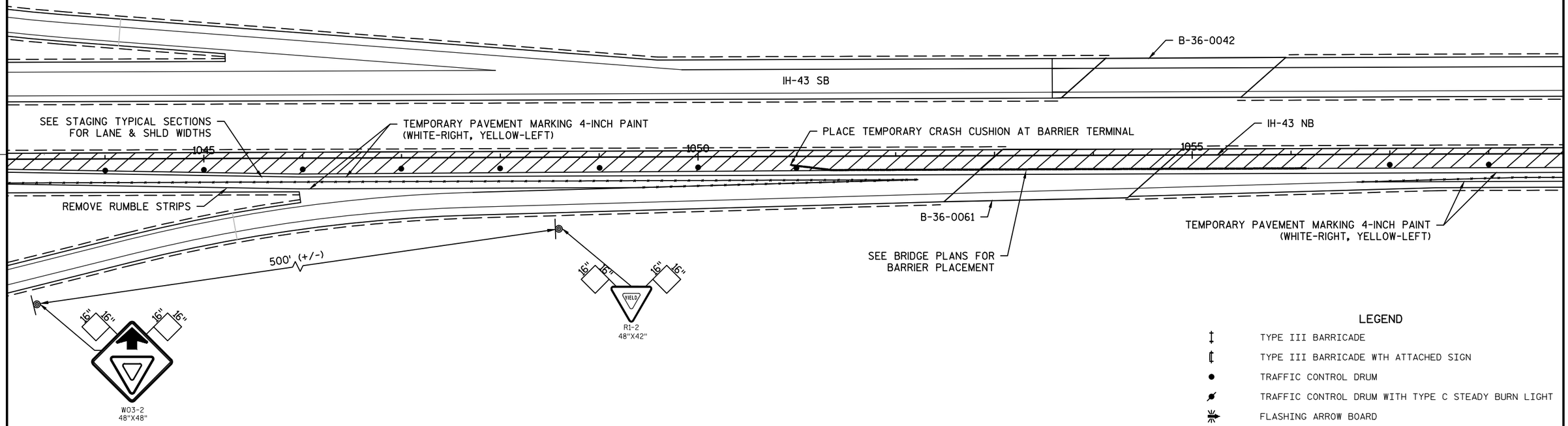
69 SPACES, 3 HANDICAPPED SPACES, 3 VAN ACCESSIBLE AISLES

PROJECT NO:1224-21-71	HWY: IH 43	COUNTY: MANITOWOC	PAVEMENT MARKING DETAILS	SHEET 59	E

NOTES

THE FLAGS ATTACHED TO THE W03-2 AND R1-2 SIGNS ARE INCIDENTAL TO THE TRAFFIC CONTROL SIGN ITEM

REFER TO SDD 15D3 AND 15D15 FOR ADDITIONAL INFORMATION OF THE ADVANCED WARNING SIGNAGE



LEGEND

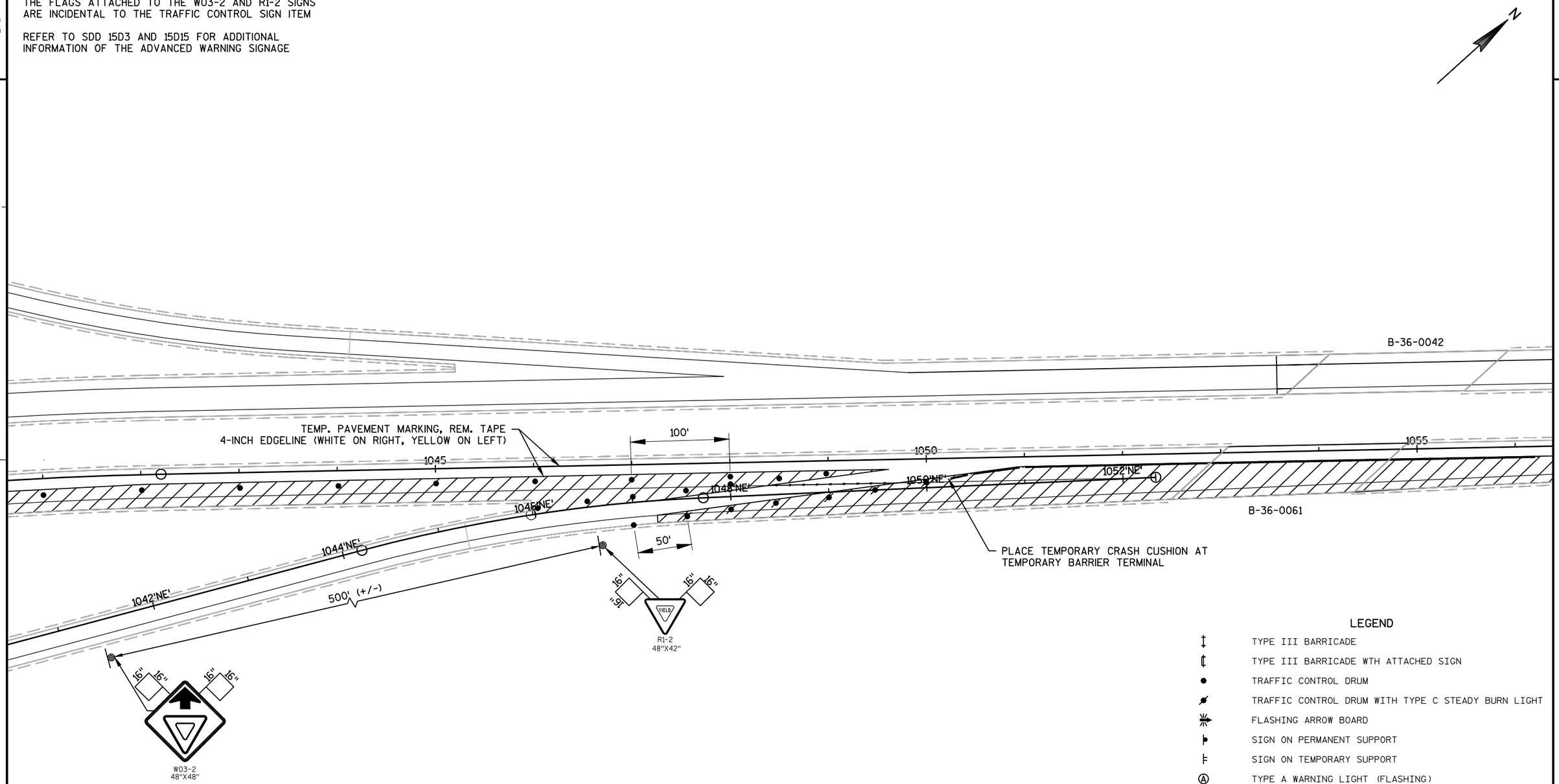
- TYPE III BARRICADE
- TYPE III BARRICADE WTH ATTACHED SIGN
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- FLASHING ARROW BOARD
- SIGN ON PERMANENT SUPPORT
- SIGN ON TEMPORARY SUPPORT
- (A) TYPE A WARNING LIGHT (FLASHING)
- (B) TYPE B WARNING LIGHT (HIGH INTENSITY FLASHING)
- (C) TYPE C WARNING LIGHT (STEADY BURN)
- CONCRETE BARRIER TEMPORARY PRECAST
- WORK AREA
- MB PORTABLE CHANGEABLE MESSAGE BOARD
- REMOVING PAVEMENT MARKING

PROJECT NO:1224-21-71	HWY: IH 43	COUNTY: MANITOWOC	TRAFFIC CONTROL DETAIL - STAGE 2A (CTH XX ON RAMP)	SHEET 60	E

NOTES

THE FLAGS ATTACHED TO THE W03-2 AND R1-2 SIGNS ARE INCIDENTAL TO THE TRAFFIC CONTROL SIGN ITEM

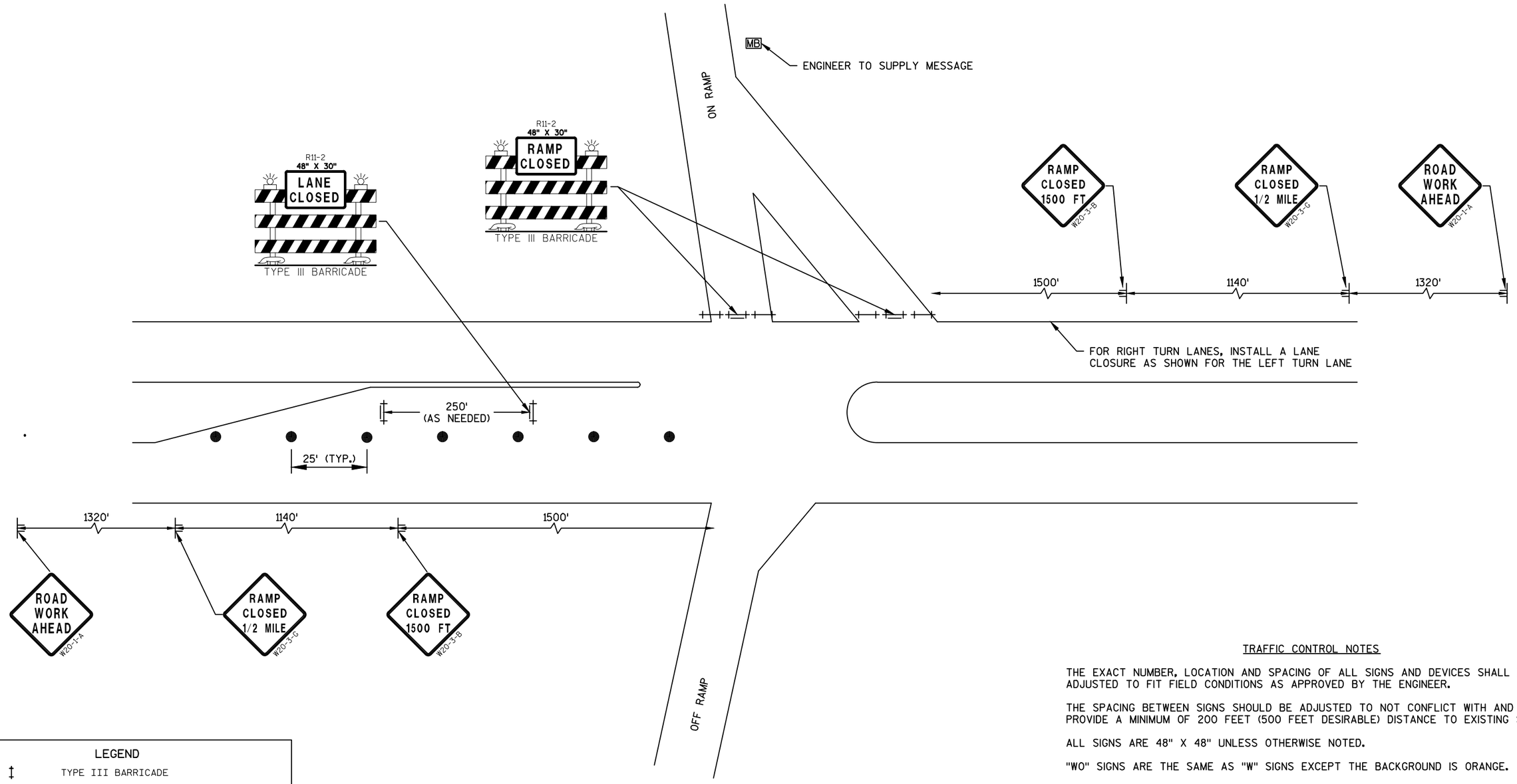
REFER TO SDD 15D3 AND 15D15 FOR ADDITIONAL INFORMATION OF THE ADVANCED WARNING SIGNAGE



LEGEND

- TYPE III BARRICADE
- TYPE III BARRICADE WTH ATTACHED SIGN
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- FLASHING ARROW BOARD
- SIGN ON PERMANENT SUPPORT
- SIGN ON TEMPORARY SUPPORT
- (A) TYPE A WARNING LIGHT (FLASHING)
- (B) TYPE B WARNING LIGHT (HIGH INTENSITY FLASHING)
- (C) TYPE C WARNING LIGHT (STEADY BURN)
- CONCRETE BARRIER TEMPORARY PRECAST
- WORK AREA
- MB PORTABLE CHANGEABLE MESSAGE BOARD
- REMOVING PAVEMENT MARKING

PROJECT NO: 1224-21-71	HWY: IH 43	COUNTY: MANITOWOC	TRAFFIC CONTROL DETAIL - STAGE 2B (CTH XX ON RAMP)	SHEET 61	E



LEGEND

↕	TYPE III BARRICADE
⇕	TYPE III BARRICADE WTH ATTACHED SIGN
●	TRAFFIC CONTROL DRUM
⊢	SIGN ON TEMPORARY SUPPORT
Ⓐ	TYPE A WARNING LIGHT (FLASHING)
Ⓒ	TYPE C WARNING LIGHT (STEADY BURN)
MB	PORTABLE CHANGEABLE MESSAGE BOARD

RAMP CLOSURES
CTH XX
USH 151
USH 10/STH 42/CTH JJ
STH 310

TRAFFIC CONTROL 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 DESIRABLE) DISTANCE TO EXISTING SIGNS.

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 REOMVED OR COVERED AS NEEDED AND AS APPROVED BY THE ENGINEER. NO WARNING LIGHTS SHALL BE WORKING ON "COVERED" OR "DOWNED" SIGNS.

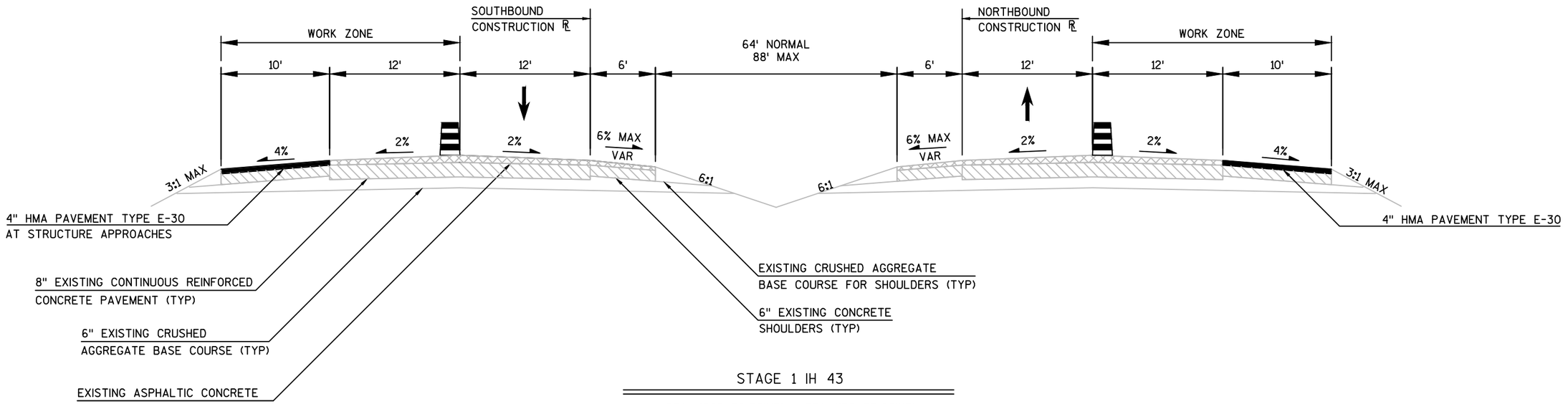
CONSIDER GEOMETRICS WHEN LOCATING SIGNS AND ARROW BOARD SO THE DRIVER HAS A CLEAR VIEW OF THE ARROW BOARD AND LANE CLOSURE DRUMS FOR A MINIMUM 1600 FEET IN FRONT OF DRUMS.

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.

PROJECT NO: 1224-21-71	HWY: IH 43	COUNTY: MANITOWOC	TRAFFIC CONTROL DETAIL	SHEET 62	E

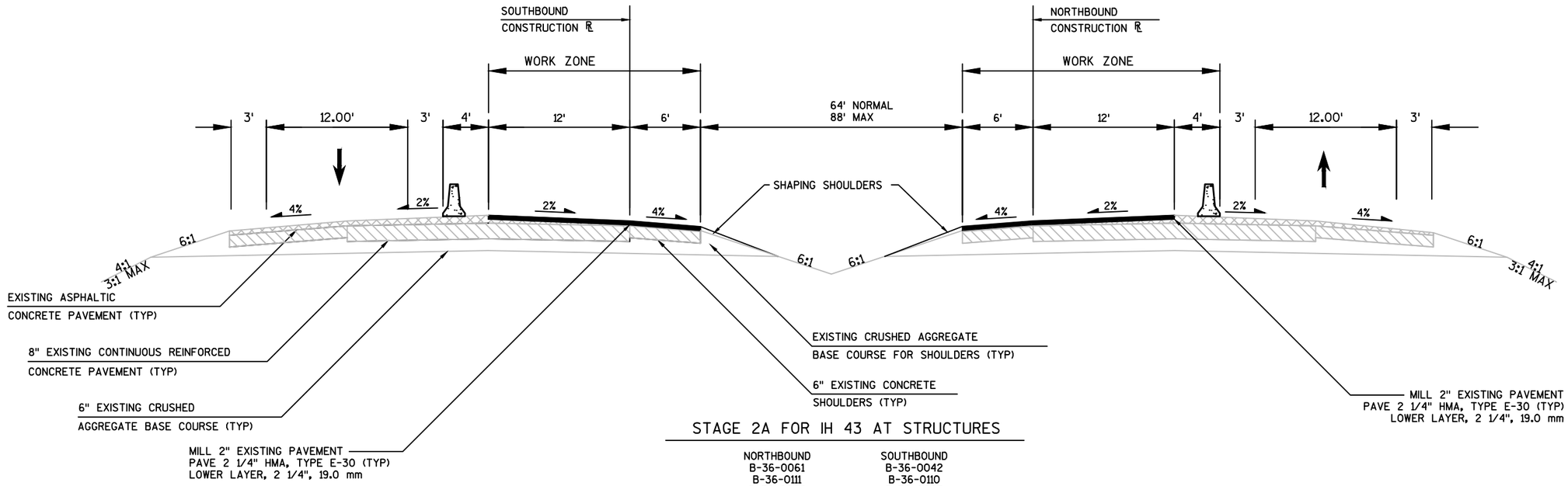
FILE NAME : N:\PDS\C3D\12242100\SHEETSPLAN\C3D 2014\12242171\025002_TC.DWG
LAYOUT NAME - 025001_TCB
PLOT DATE : 7/8/2015 9:37 AM PLOT BY : PORTER, STEVEN J PLOT NAME : PLOT SCALE : 1 IN:10 FT
WISDOT/CADDS SHEET 42

2



STAGE 1 IH 43

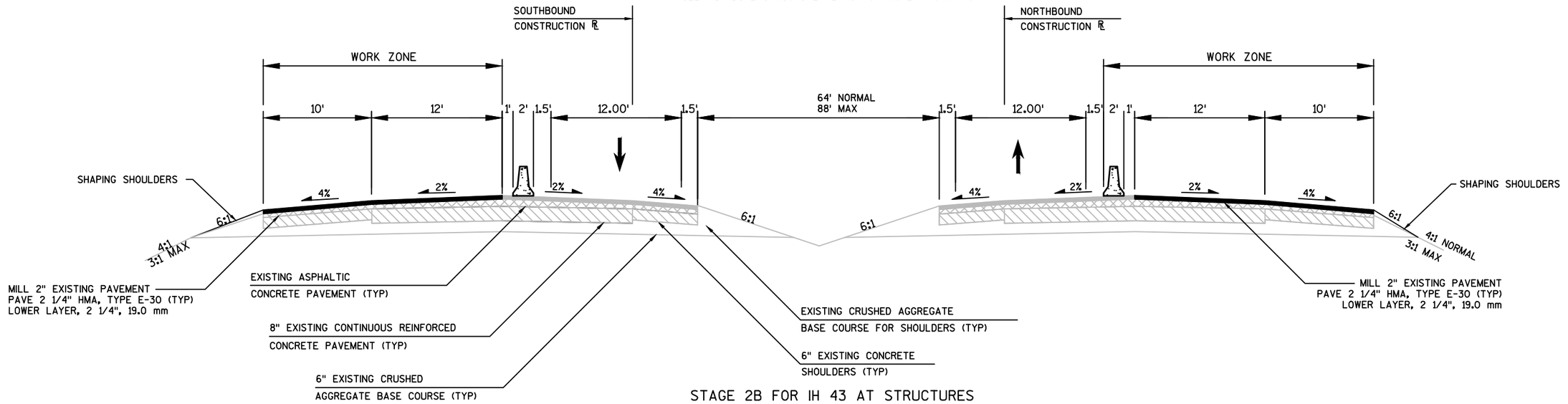
STA. 1028+39.00'NB' - STA 1138+07.00'NB'
STA. 1658+36.00'NB' - STA 1788+62.00'NB'
STA. 1050+00.00'SB' - STA. 1154+88.00'SB'
STA. 1675+57.00'SB' - STA. 1805+27.00'SB'



STAGE 2A FOR IH 43 AT STRUCTURES

NORTHBOUND	SOUTHBOUND
B-36-0061	B-36-0042
B-36-0111	B-36-0110
B-36-0066	B-36-0065
B-36-0068	B-36-0067
B-36-0071	B-36-0070

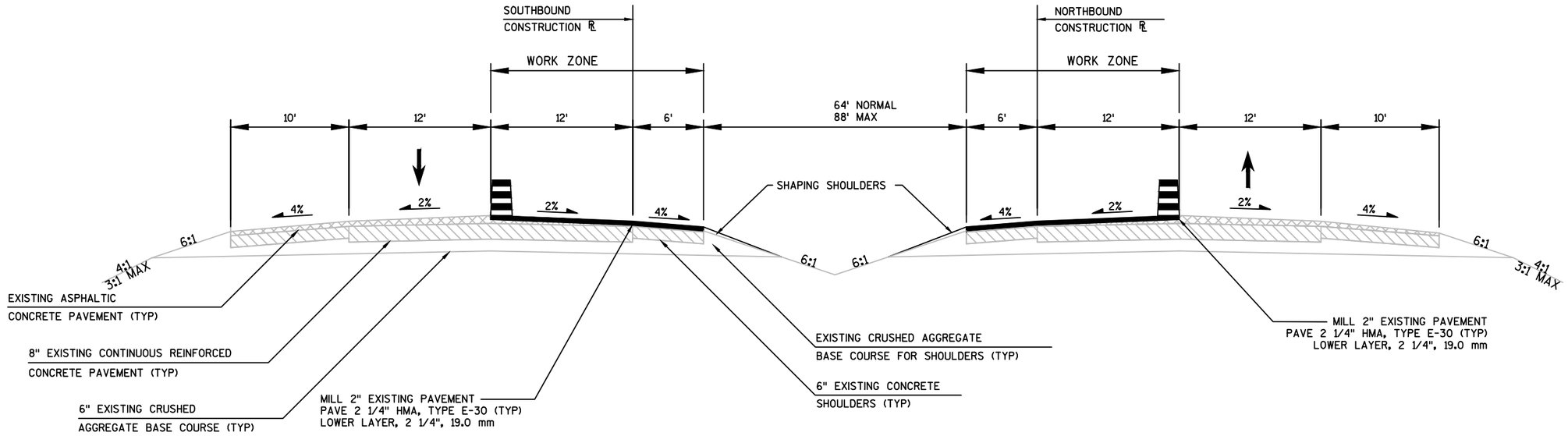
SEE INDIVIDUAL STRUCTURE PLANS FOR MORE INFORMATION



STAGE 2B FOR IH 43 AT STRUCTURES

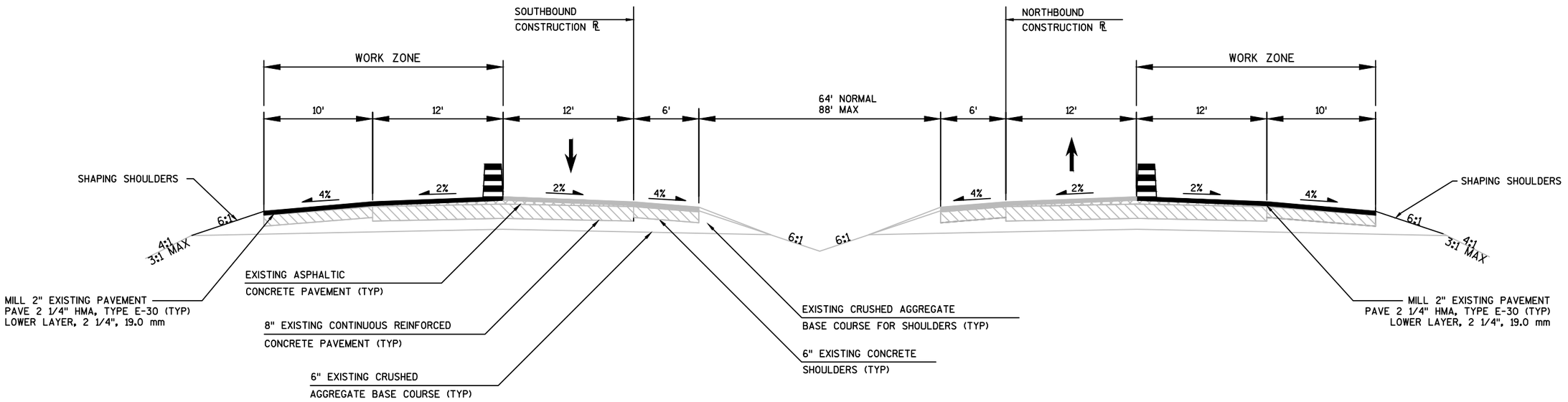
NORTHBOUND	SOUTHBOUND
B-36-0061	B-36-0042
B-36-0111	B-36-0110
B-36-0066	B-36-0065
B-36-0068	B-36-0067
B-36-0071	B-36-0070

SEE INDIVIDUAL STRUCTURE PLANS FOR MORE INFORMATION



STAGE 3A FOR IH 43 MAINLINE

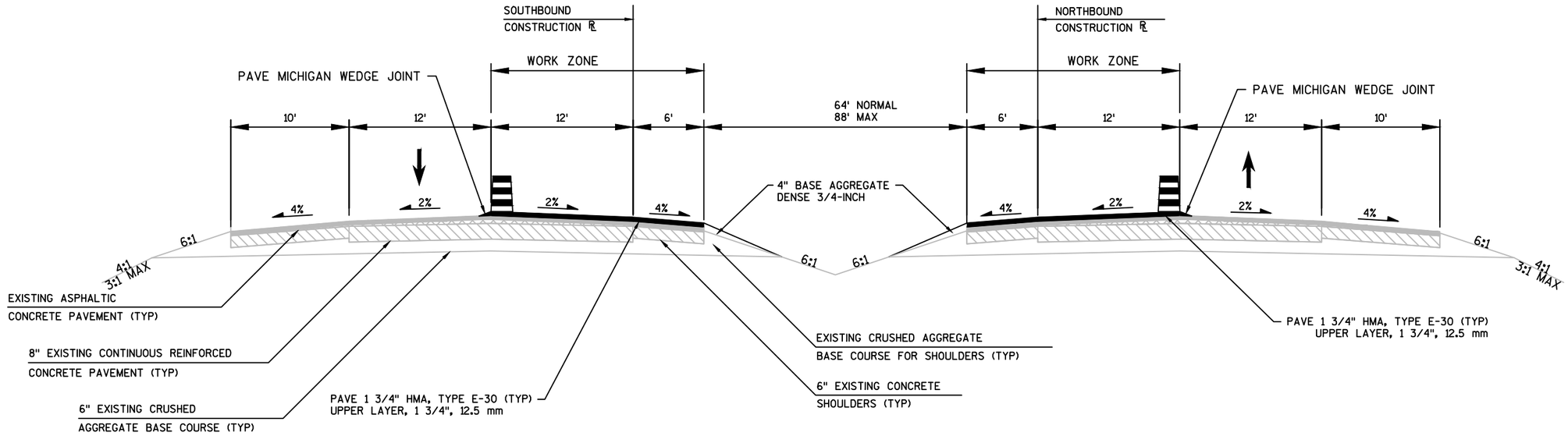
STA 1501+10.30'NB' - STA 1682+96.86'NB'
STA 1501+10.30'SB' - STA 1683+57.34'SB'



STAGE 3B FOR IH 43 MAINLINE

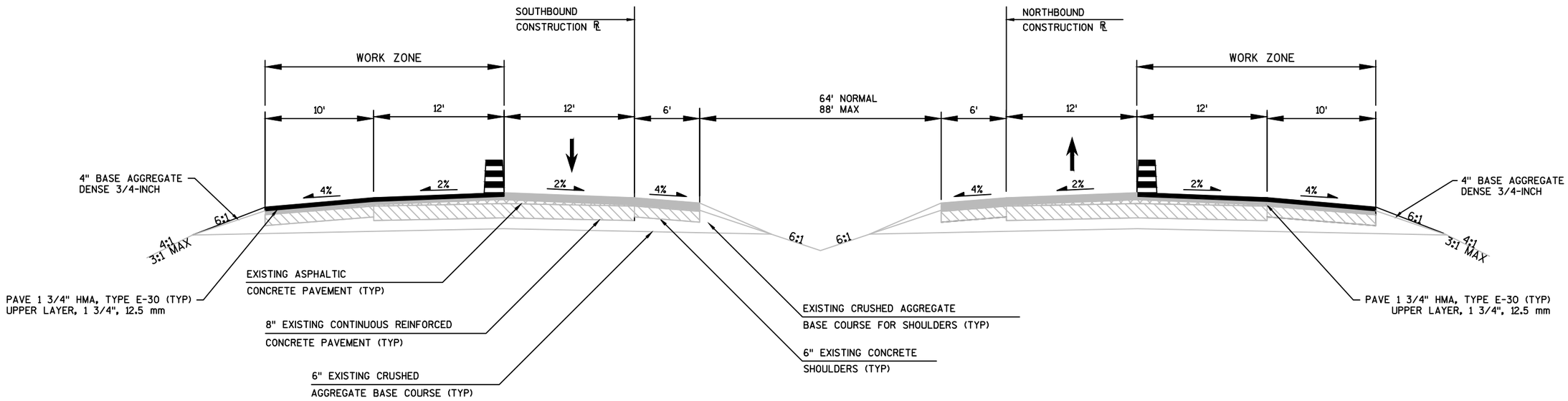
STA 1501+10.30'NB' - STA 1682+96.86'NB'
STA 1501+10.30'SB' - STA 1683+57.34'SB'

PROJECT NO: 1224-21-71	HWY: IH 43	COUNTY: MANITOWOC	STAGE CONSTRUCTION - IH 43	SHEET 65	E



STAGE 3C FOR IH 43 MAINLINE

STA 1501+10.30'NB' - STA 1682+96.86'NB'
STA 1501+10.30'SB' - STA 1683+57.34'SB'



STAGE 3D FOR IH 43 MAINLINE

STA 1501+10.30'NB' - STA 1682+96.86'NB'
STA 1501+10.30'SB' - STA 1683+57.34'SB'

PROJECT NO: 1224-21-71	HWY: IH 43	COUNTY: MANITOWOC	STAGE CONSTRUCTION - IH 43	SHEET 66	E

FILE NAME : N:\PDS\C3D\12242100\SHEETSPLAN\C3D 2014\12242171\026001_S1.DWG PLOT DATE : 5/7/2015 8:25 AM PLOT BY : HEIM, BRENT P PLOT NAME : PLOT SCALE : 1 IN:10 FT
WISDOT/CADDS SHEET 42

DATE 09NOV15 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	1224-21-71 QUANTITY
0010	201.0115	Clearing	ACRE	0.200	0.200
0020	201.0120	Clearing	ID	70.000	70.000
0030	201.0215	Grubbing	ACRE	0.200	0.200
0040	201.0220	Grubbing	ID	70.000	70.000
0050	203.0100	Removing Small Pipe Culverts	EACH	2.000	2.000
0060	203.0200	Removing Old Structure (station) 01. STA 1129+28	LS	1.000	1.000
0070	203.0200	Removing Old Structure (station) 10. STA 1683+74	LS	1.000	1.000
0080	203.0200	Removing Old Structure (station) 11. STA 1691+05	LS	1.000	1.000
0090	203.0210.S	Abatement of Asbestos Containing Material (structure) 06. B-36-0059	LS	1.000	1.000
0100	204.0100	Removing Pavement	SY	720.000	720.000
0110	204.0105	Removing Pavement Butt Joints	SY	1,200.000	1,200.000
0120	204.0109.S	Removing Concrete Surface Partial Depth	SF	24,000.000	24,000.000
0130	204.0110	Removing Asphaltic Surface	SY	17,950.000	17,950.000
0140	204.0115	Removing Asphaltic Surface Butt Joints	SY	15,825.000	15,825.000
0150	204.0120	Removing Asphaltic Surface Milling	SY	644,920.000	644,920.000
0160	204.0150	Removing Curb & Gutter	LF	220.000	220.000
0170	204.0165	Removing Guardrail	LF	7,365.000	7,365.000
0180	204.0170	Removing Fence	LF	48.000	48.000
0190	204.0175	Removing Concrete Slope Paving	SY	56.000	56.000
0200	204.0220	Removing Inlets	EACH	9.000	9.000
0210	204.9060.S	Removing (item description) 01. Culvert Endwalls	EACH	11.000	11.000
0220	205.0100	Excavation Common	CY	5,940.000	5,940.000
0230	206.1000	Excavation for Structures Bridges (structure) 10. B-36-0066	LS	1.000	1.000
0240	206.1000	Excavation for Structures Bridges (structure) 11. B-36-0067	LS	1.000	1.000
0250	206.2000	Excavation for Structures Culverts (structure) 01. B-36-0036	LS	1.000	1.000
0260	210.0100	Backfill Structure	CY	140.000	140.000
0270	211.0100	Prepare Foundation for Asphaltic Paving (project) 01. 1224-21-71	LS	1.000	1.000
0280	213.0100	Finishing Roadway (project) 01. 1224-21-71	EACH	1.000	1.000
0290	305.0110	Base Aggregate Dense 3/4-Inch	TON	22,850.000	22,850.000
0300	305.0120	Base Aggregate Dense 1 1/4-Inch	TON	8,750.000	8,750.000
0310	305.0500	Shaping Shoulders	STA	3,040.000	3,040.000
0320	311.0110	Breaker Run	TON	7,380.000	7,380.000
0330	371.1000.S	QMP Base Aggregate Dense 1 1/4-Inch Compaction	TON	8,450.000	8,450.000
0340	390.0203	Base Patching Asphaltic	SY	440.000	440.000
0350	390.0403	Base Patching Concrete Shes	SY	1,620.000	1,620.000
0360	415.1080	Concrete Pavement HES 8-Inch	SY	310.000	310.000
0370	415.1410	Concrete Pavement Approach Slab HES	SY	410.000	410.000
0380	416.0610	Drilled Tie Bars	EACH	2,544.000	2,544.000
0390	416.0620	Drilled Dowel Bars	EACH	3,892.000	3,892.000
0400	416.1710	Concrete Pavement Repair	SY	1,360.000	1,360.000
0410	416.1720	Concrete Pavement Replacement	SY	363.000	363.000
0420	440.4410	Incentive IRI Ride	DOL	109,830.000	109,830.000
0430	455.0105	Asphaltic Material PG58-28	TON	9,030.000	9,030.000
0440	455.0605	Tack Coat	GAL	86,250.000	86,250.000
0450	460.1100	HMA Pavement Type E-0.3	TON	845.000	845.000

3

DATE 09NOV15 — 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	1224-21-71 QUANTITY
0460	460.1130	HMA Pavement Type E-30	TON	163,360.000	163,360.000
0470	460.2000	Incentive Density HMA Pavement	DOL	104,810.000	104,810.000
0480	460.4000	HMA Cold Weather Paving	TON	9,610.000	9,610.000
0490	460.4110.S	Reheating HMA Pavement Longitudinal Joints	LF	314,600.000	314,600.000
0500	465.0105	Asphaltic Surface	TON	475.000	475.000
0510	465.0125	Asphaltic Surface Temporary	TON	4,175.000	4,175.000
0520	465.0400	Asphaltic Shoulder Rumble Strips	LF	276,650.000	276,650.000
0530	502.0100	Concrete Masonry Bridges	CY	28.000	28.000
0540	502.3100	Expansion Device (structure) 02. B-36-0037	LS	1.000	1.000
0550	502.3100	Expansion Device (structure) 03. B-36-0042	LS	1.000	1.000
0560	502.3100	Expansion Device (structure) 04. B-36-0043	LS	1.000	1.000
0570	502.3100	Expansion Device (structure) 05. B-36-0045	LS	1.000	1.000
0580	502.3100	Expansion Device (structure) 06. B-36-0059	LS	1.000	1.000
0590	502.3100	Expansion Device (structure) 07. B-36-0061	LS	1.000	1.000
0600	502.3100	Expansion Device (structure) 08. B-36-0062	LS	1.000	1.000
0610	502.3100	Expansion Device (structure) 09. B-36-0065	LS	1.000	1.000
0620	502.3100	Expansion Device (structure) 10. B-36-0066	LS	1.000	1.000
0630	502.3100	Expansion Device (structure) 13. B-36-0069	LS	1.000	1.000
0640	502.3100	Expansion Device (structure) 16. B-36-0074	LS	1.000	1.000
0650	502.3200	Protective Surface Treatment	SY	13,718.000	13,718.000
0660	502.3210	Pigmented Surface Sealer	SY	3,134.000	3,134.000
0670	502.5002	Masonry Anchors Type L No. 4 Bars	EACH	11.000	11.000
0680	502.5005	Masonry Anchors Type L No. 5 Bars	EACH	880.000	880.000
0690	504.0100	Concrete Masonry Culverts	CY	14.000	14.000
0700	505.0400	Bar Steel Reinforcement HS Structures	LB	950.000	950.000
0710	505.0600	Bar Steel Reinforcement HS Coated Structures	LB	32,690.000	32,690.000
0720	505.0904	Bar Couplers No. 4	EACH	12.000	12.000
0730	505.0905	Bar Couplers No. 5	EACH	84.000	84.000
0740	505.0907	Bar Couplers No. 7	EACH	36.000	36.000
0750	506.2610	Bearing Pads Elastomeric Laminated	EACH	8.000	8.000
0760	506.7050.S	Removing Bearings (structure) 16. B-36-0074	EACH	8.000	8.000
0770	509.0301	Preparation Decks Type 1	SY	1,473.000	1,473.000
0780	509.0302	Preparation Decks Type 2	SY	791.000	791.000
0790	509.0500	Cleaning Decks	SY	13,503.000	13,503.000
0800	509.1000	Joint Repair	SY	416.000	416.000
0810	509.1500	Concrete Surface Repair	SF	1,230.000	1,230.000
0820	509.2000	Full-Depth Deck Repair	SY	42.000	42.000
0830	509.2500	Concrete Masonry Overlay Decks	CY	1,407.000	1,407.000
0840	509.9005.S	Removing Concrete Masonry Deck Overlay (structure) 11. B-36-0067	SY	692.000	692.000
0850	509.9010.S	Removing Asphaltic Concrete Deck Overlay (structure) 03. B-36-0042	SY	826.000	826.000

3

DATE 09NOV15 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	1224-21-71 QUANTITY
0860	509.9010.S	Removing Asphaltic Concrete Deck Overlay (structure) 07. B-36-0061	SY	1,053.000	1,053.000
0870	509.9010.S	Removing Asphaltic Concrete Deck Overlay (structure) 09. B-36-0065	SY	689.000	689.000
0880	509.9010.S	Removing Asphaltic Concrete Deck Overlay (structure) 10. B-36-0066	SY	689.000	689.000
0890	509.9010.S	Removing Asphaltic Concrete Deck Overlay (structure) 12. B-36-0068	SY	692.000	692.000
0900	509.9010.S	Removing Asphaltic Concrete Deck Overlay (structure) 14. B-36-0070	SY	701.000	701.000
0910	509.9010.S	Removing Asphaltic Concrete Deck Overlay (structure) 15. B-36-0071	SY	701.000	701.000
0920	509.9010.S	Removing Asphaltic Concrete Deck Overlay (structure) 17. B-36-0110	SY	571.000	571.000
0930	509.9010.S	Removing Asphaltic Concrete Deck Overlay (structure) 18. B-36-0111	SY	539.000	539.000
0940	509.9050.S	Cleaning Parapets	LF	7,864.000	7,864.000
0950	516.0500	Rubberized Membrane Waterproofing	SY	18.000	18.000
0960	517.3000.S	Structure Overcoating Cleaning and Priming (structure) 02. B-36-0037	LS	1.000	1.000
0970	517.3000.S	Structure Overcoating Cleaning and Priming (structure) 04. B-36-0043	LS	1.000	1.000
0980	517.3000.S	Structure Overcoating Cleaning and Priming (structure) 05. B-36-0045	LS	1.000	1.000
0990	517.3000.S	Structure Overcoating Cleaning and Priming (structure) 06. B-36-0059	LS	1.000	1.000
1000	517.3000.S	Structure Overcoating Cleaning and Priming (structure) 08. B-36-0062	LS	1.000	1.000
1010	517.4000.S	Containment and Collection of Waste Materials (structure) 02. B-36-0037	LS	1.000	1.000
1020	517.4000.S	Containment and Collection of Waste Materials (structure) 04. B-36-0043	LS	1.000	1.000
1030	517.4000.S	Containment and Collection of Waste Materials (structure) 05. B-36-0045	LS	1.000	1.000
1040	517.4000.S	Containment and Collection of Waste Materials (structure) 06. B-36-0059	LS	1.000	1.000
1050	517.4000.S	Containment and Collection of Waste Materials (structure) 08. B-36-0062	LS	1.000	1.000
1060	520.1012	Apron Endwalls for Culvert Pipe 12-Inch	EACH	3.000	3.000
1070	520.2012	Culvert Pipe Temporary 12-Inch	LF	800.000	800.000
1080	520.8000	Concrete Collars for Pipe	EACH	3.000	3.000
1090	520.8700	Cleaning Culvert Pipes	EACH	16.000	16.000
1100	521.1024	Apron Endwalls for Culvert Pipe Steel 24-Inch	EACH	1.000	1.000
1110	521.2005.S	Surface Drain Pipe Corrugated Metal Slotted (inch) 01. 12-Inch	LF	680.000	680.000
1120	522.0118	Culvert Pipe Reinforced Concrete Class III 18-Inch	LF	50.000	50.000
1130	522.0142	Culvert Pipe Reinforced Concrete Class III 42-Inch	LF	32.000	32.000
1140	522.1018	Apron Endwalls for Culvert Pipe Reinforced Concrete 18-Inch	EACH	9.000	9.000
1150	522.1024	Apron Endwalls for Culvert Pipe Reinforced Concrete 24-Inch	EACH	1.000	1.000
1160	522.1030	Apron Endwalls for Culvert Pipe Reinforced Concrete 30-Inch	EACH	1.000	1.000

3

DATE 09NOV15 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	1224-21-71 QUANTITY
1170	522.1042	Apron Endwalls for Culvert Pipe Reinforced Concrete 42-Inch	EACH	1.000	1.000
1180	522.1054	Apron Endwalls for Culvert Pipe Reinforced Concrete 54-Inch	EACH	1.000	1.000
1190	524.0118	Culvert Pipe Salvaged 18-Inch	LF	8.000	8.000
1200	524.0154	Culvert Pipe Salvaged 54-Inch	LF	8.000	8.000
1210	524.0618	Apron Endwalls for Culvert Pipe Salvaged 18-Inch	EACH	1.000	1.000
1220	601.0409	Concrete Curb & Gutter 30-Inch Type A	LF	220.000	220.000
1230	603.8000	Concrete Barrier Temporary Precast Delivered	LF	5,038.000	5,038.000
1240	603.8125	Concrete Barrier Temporary Precast Installed	LF	10,075.000	10,075.000
1250	604.0400	Slope Paving Concrete	SY	56.000	56.000
1260	604.9010.S	Slope Paving Repair Crushed Aggregate	CY	23.000	23.000
1270	606.0200	Riprap Medium	CY	70.000	70.000
1280	611.0430	Reconstructing Inlets	EACH	4.000	4.000
1290	611.0600	Inlet Covers Type A	EACH	9.000	9.000
1300	611.3220	Inlets 2x2-FT	EACH	9.000	9.000
1310	611.8115	Adjusting Inlet Covers	EACH	25.000	25.000
1320	611.8120.S	Cover Plates Temporary	EACH	17.000	17.000
1330	614.0010	Barrier System Grading Shaping Finishing	EACH	26.000	26.000
1340	614.0150	Anchor Assemblies for Steel Plate Beam Guard	EACH	3.000	3.000
1350	614.0220	Steel Thrie Beam Bullnose Terminal	EACH	8.000	8.000
1360	614.0230	Steel Thrie Beam	LF	575.000	575.000
1370	614.0397	Guardrail Mow Strip Emulsified Asphalt	SY	3,786.000	3,786.000
1380	614.0400	Adjusting Steel Plate Beam Guard	LF	1,615.000	1,615.000
1390	614.0905	Crash Cushions Temporary	EACH	16.000	16.000
1400	614.2300	MGS Guardrail 3	LF	6,750.000	6,750.000
1410	614.2500	MGS Thrie Beam Transition	LF	780.000	780.000
1420	614.2610	MGS Guardrail Terminal EAT	EACH	18.000	18.000
1430	614.2620	MGS Guardrail Terminal Type 2	EACH	5.000	5.000
1440	616.0100	Fence Woven Wire (height) 01. 4.5-Feet	LF	48.000	48.000
1450	616.0407	Fence Chain Link Salvaged 7-FT	LF	48.000	48.000
1460	618.0100	Maintenance And Repair of Haul Roads (project) 01. 1224-21-71	EACH	1.000	1.000
1470	619.1000	Mobilization	EACH	1.000	1.000
1480	624.0100	Water	MGAL	310.000	310.000
1490	625.0100	Topsoil	SY	970.000	970.000
1500	625.0500	Salvaged Topsoil	SY	21,935.000	21,935.000
1510	628.1504	Silt Fence	LF	4,860.000	4,860.000
1520	628.1520	Silt Fence Maintenance	LF	4,860.000	4,860.000
1530	628.1905	Mobilizations Erosion Control	EACH	5.000	5.000
1540	628.1910	Mobilizations Emergency Erosion Control	EACH	5.000	5.000
1550	628.2004	Erosion Mat Class I Type B	SY	22,900.000	22,900.000
1560	628.7005	Inlet Protection Type A	EACH	12.000	12.000
1570	628.7015	Inlet Protection Type C	EACH	41.000	41.000
1580	628.7504	Temporary Ditch Checks	LF	445.000	445.000
1590	628.7555	Culvert Pipe Checks	EACH	45.000	45.000
1600	629.0210	Fertilizer Type B	CWT	16.000	16.000
1610	630.0120	Seeding Mixture No. 20	LB	620.000	620.000
1620	630.0200	Seeding Temporary	LB	310.000	310.000
1630	633.0100	Delineator Posts Steel	EACH	50.000	50.000
1640	633.0500	Delineator Reflectors	EACH	50.000	50.000

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DATE 09NOV15 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	1224-21-71 QUANTITY
1650	633.1100	Delineators Temporary	EACH	16.000	16.000
1660	633.5200	Markers Culvert End	EACH	54.000	54.000
1670	634.0612	Posts Wood 4x6-Inch X 12-FT	EACH	64.000	64.000
1680	634.0614	Posts Wood 4x6-Inch X 14-FT	EACH	87.000	87.000
1690	634.0616	Posts Wood 4x6-Inch X 16-FT	EACH	90.000	90.000
1700	634.0618	Posts Wood 4x6-Inch X 18-FT	EACH	14.000	14.000
1710	635.0200	Sign Supports Structural Steel HS	LB	33,025.000	33,025.000
1720	635.0300	Sign Supports Replacing Base Connection Bolts	EACH	5.000	5.000
1730	636.0100	Sign Supports Concrete Masonry	CY	46.200	46.200
1740	636.0500	Sign Supports Steel Reinforcement	LB	2,704.000	2,704.000
1750	637.1210	Signs Type I Reflective H	SF	6,161.500	6,161.500
1760	637.2210	Signs Type II Reflective H	SF	2,653.650	2,653.650
1770	637.2215	Signs Type II Reflective H Folding	SF	82.380	82.380
1780	637.2230	Signs Type II Reflective F	SF	166.000	166.000
1790	638.2102	Moving Signs Type II	EACH	2.000	2.000
1800	638.2601	Removing Signs Type I	EACH	37.000	37.000
1810	638.2602	Removing Signs Type II	EACH	212.000	212.000
1820	638.3000	Removing Small Sign Supports	EACH	257.000	257.000
1830	638.3100	Removing Structural Steel Sign Supports	EACH	75.000	75.000
1840	638.4000	Moving Small Sign Supports	EACH	1.000	1.000
1850	642.5401	Field Office Type D	EACH	1.000	1.000
1860	643.0200	Traffic Control Surveillance and Maintenance (project) 01. 1224-21-71	DAY	212.000	212.000
1870	643.0300	Traffic Control Drums	DAY	63,330.000	63,330.000
1880	643.0420	Traffic Control Barricades Type III	DAY	8,570.000	8,570.000
1890	643.0500	Traffic Control Flexible Tubular Marker Posts	EACH	86.000	86.000
1900	643.0600	Traffic Control Flexible Tubular Marker Bases	EACH	86.000	86.000
1910	643.0705	Traffic Control Warning Lights Type A	DAY	15,260.000	15,260.000
1920	643.0715	Traffic Control Warning Lights Type C	DAY	8,575.000	8,575.000
1930	643.0800	Traffic Control Arrow Boards	DAY	730.000	730.000
1940	643.0900	Traffic Control Signs	DAY	14,810.000	14,810.000
1950	643.0920	Traffic Control Covering Signs Type II	EACH	1,550.000	1,550.000
1960	643.1050	Traffic Control Signs PCMS	DAY	970.000	970.000
1970	645.0120	Geotextile Fabric Type HR	SY	215.000	215.000
1980	646.0106	Pavement Marking Epoxy 4-Inch	LF	308,700.000	308,700.000
1990	646.0600	Removing Pavement Markings	LF	3,727.000	3,727.000
2000	646.0790.S	Removing Raised Pavement Markers	EACH	1,420.000	1,420.000
2010	646.0841.S	Pavement Marking Grooved Wet Reflective Contrast Tape 4-Inch	LF	35,925.000	35,925.000
2020	646.0843.S	Pavement Marking Grooved Wet Reflective Contrast Tape 8-Inch	LF	14,725.000	14,725.000
2030	647.0256	Pavement Marking Symbols Epoxy	EACH	8.000	8.000
2040	647.0656	Pavement Marking Parking Stall Epoxy	LF	4,290.000	4,290.000
2050	647.0803	Pavement Marking Aerial Enforcement Bars Epoxy 24-Inch	LF	290.000	290.000
2060	649.0400	Temporary Pavement Marking Removable Tape 4-Inch	LF	1,560.000	1,560.000
2070	649.0402	Temporary Pavement Marking Paint 4-Inch	LF	306,450.000	306,450.000
2080	650.6000	Construction Staking Pipe Culverts	EACH	2.000	2.000
2090	650.8000	Construction Staking Resurfacing Reference	LF	156,500.000	156,500.000
2100	652.0800	Conduit Loop Detector	LF	450.000	450.000

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DATE 09NOV15 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	1224-21-71 QUANTITY
2110	653.0105	Pull Boxes Steel 12x24-Inch	EACH	6.000	6.000
2120	655.0700	Loop Detector Lead In Cable	LF	3,110.000	3,110.000
2130	655.0800	Loop Detector Wire	LF	1,340.000	1,340.000
2140	690.0150	Sawing Asphalt	LF	2,250.000	2,250.000
2150	690.0250	Sawing Concrete	LF	35,474.000	35,474.000
2160	715.0502	Incentive Strength Concrete Structures	DOL	500.000	500.000
2170	ASP.1T0A	On-the-Job Training Apprentice at $5.00/HR	HRS	2,100.000	2,100.000
2180	ASP.1T0G	On-the-Job Training Graduate at $5.00/HR	HRS	5,760.000	5,760.000
2190	SPV.0060	Special 18. Strapping B-36-0111	EACH	2.000	2.000
2200	SPV.0090	Special 01. Removing Rumble Strips	LF	400.000	400.000
2210	SPV.0180	Special 01. Grade and Shape Ditch	SY	11,375.000	11,375.000
2220	SPV.0180	Special 02. Base Patching Concrete HES	SY	1,665.000	1,665.000
2230	SPV.0180	Special 03. Continuously Reinforced Concrete Repair HES	SY	3,045.000	3,045.000

CLEARING AND GRUBBING

CATEGORY	STATION	201.0115 CLEARING ACRE	201.0215 GRUBBING ACRE	201.0120 CLEARING ID	201.0220 GRUBBING ID
	NORTHBOUND				
0010	969+00.00 'NB' - 970+00.00 'NB'	--	--	3	3
0010	1093+00.00 'NB' - 1094+00.00 'NB'	--	--	4	4
0010	1101+00.00 'NB' - 1102+00.00 'NB'	--	--	--	--
0010	1124+00.00 'NB' - 1126+00.00 'NB'	--	--	--	--
0010	1539+00.00 'NB' - 1540+00.00 'NB'	--	--	10	10
0010	1579+00.00 'NB' - 1580+00.00 'NB'	--	--	10	10
0010	1637+00.00 'NB' - 1638+00.00 'NB'	--	--	3	3
0010	1745+00.00 'NB' - 1750+00.00 'NB'	--	--	--	--
	NORTHBOUND TOTALS	**0.0**	**0.0**	**30**	**30**
	SOUTHBOUND				
0010	942+00.00 'SB' - 944+00.00 'SB'	--	--	9	9
0010	1069+00.00 'SB' - 1070+00.00 'SB'	--	--	3	3
0010	1083+00.00 'SB' - 1084+00.00 'SB'	--	--	9	9
0010	1127+00.00 'SB' - 1128+00.00 'SB'	0.2	0.2	--	--
0010	1610+00.00 'SB' - 1611+00.00 'SB'	--	--	4	4
0010	1897+00.00 'SB' - 1898+00.00 'SB'	--	--	7	7
	SOUTHBOUND TOTALS	**0.2**	**0.2**	**32**	**32**
	UNDISTRIBUTED	**0.0**	**0.0**	**8**	**8**
	PROJECT TOTALS	**0.2**	**0.2**	**70**	**70**

REMOVING SMALL PIPE CULVERTS

CATEGORY	STATION	SIZE LENGTH FT	x	DIA. IN	203.0100 REMOVING SMALL PIPE CULVERTS EA	204.9060.S REMOVING CULVERT ENDWALLS EACH	MATERIAL	REMARKS
	NORTHBOUND							
0010	1036+14.04 'NB'	70	x	18	--	1	CPRC	
0010	1163+78.00 'NB' - 1164+46.00 'NB'	68	x	24	--	1	CPRC	
0010	1548+89.04 'NB'	198	x	54	--	1	CPRC	
0010	1598+49.33 'NB' - 1598+99.82 'NB'	50	x	18	1	--	CPRC	MAINT. CROSSSOVER
0010	1665+89.04 'NB'	348	x	42	1	--	CPRC	REMOVE 32'
0010	1722+89.00 'NB'	200	x	24	--	1	CPRC	
0010	1800+89.00 'NB'	120	x	18	--	--	CPRC	
0010	1838+89.00 'NB'	86	x	18	--	1	CPRC	
	NORTHBOUND TOTALS				**2**	**5**		
	SOUTHBOUND							
0010	1072+89.04 'SB'	108	x	18	--	1	CPRC	
0010	1096+89.04 'SB'	80	x	18	--	1	CPRC	
0010	1102+39.04 'SB'	84	x	18	--	1	CPRC	
0010	1767+89.00 'SB'	140	x	18	--	1	CPRC	
0010	1847+19.00 'SB'	180	x	18	--	1	CPRC	
0010	1926+89.00 'SB'	240	x	30	--	1	CPRC	
	SOUTHBOUND TOTALS				**0**	**6**		
	PROJECT TOTALS				**2**	**11**		

REMOVING PAVEMENT AND ASPHALTIC SURFACE

CATEGORY	STATION		TO	STATION	LOCATION	SIZE LENGTH FT	x	SIZE WIDTH FT	204.0100 REMOVING PAVEMENT SY	204.0109.S REMOVING CONCRETE SURFACE PARTIAL DEPTH SF	204.0105 REMOVING PAVEMENT BUTT JOINTS SY	**204.0110 REMOVING ASPHALTIC SURFACE SY	204.0115 REMOVING ASPHALTIC SURFACE BUTT JOINTS SY	204.0120 REMOVING ASPHALTIC SURFACE MILLING SY	646.0790.S REMOVING RAISED PAVEMENT MARKERS EACH	REMARKS
NORTHBOUND																
0010	930+05.38	'NB'	-	932+05.38	'NB'	IH 43 NB	200	x 40	--	--	--	--	889	--	2	PROJECT LIMITS S. SEG
0010	932+05.38	'NB'	-	1052+99.43	'NB'	IH 43 NB	12094	x 40	--	--	--	--	--	53,750	120	MAINLINE S. SEG
0010	934+70.26	'NB'	-	935+44.26	'NB'	IH 43 NB	74	x 64	--	--	--	--	--	190	--	MAINT. CROSSOVER
0010	978+26.00	'NB'	-	981+26.00	'NB'	IH 43 NB	300	x 40	--	12,000	--	--	--	--	--	UNDER B-36-0037
0010	1006+97.33	'NB'	-	1007+71.33	'NB'	IH 43 NB	74	x 64	--	--	--	--	--	185	--	MAINT. CROSSOVER
0010	1047+99.43	'NB'	-	1052+99.43	'NB'	IH 43 NB	500	x 6	--	--	--	333	222	--	--	B-36-0061 TEMP SHLD & APPR
0010	1054+85.25	'NB'	-	1059+85.25	'NB'	IH 43 NB	500	x 16	--	--	--	889	222	--	--	B-36-0061 TEMP SHLD & APPR
0010	1054+85.25	'NB'	-	1128+86.01	'NB'	IH 43 NB	7401	x 40	--	--	--	--	--	32,900	74	MAINLINE S. SEG
0010	1064+82.98	'NB'	-	1065+56.98	'NB'	IH 43 NB	74	x 64	--	--	--	--	--	195	--	MAINT. CROSSOVER
0010	1123+86.01	'NB'	-	1128+86.01	'NB'	IH 43 NB	500	x 16	--	--	--	889	222	--	--	B-36-0111 TEMP SHLD & APPR
0010	1130+07.26	'NB'	-	1135+07.26	'NB'	IH 43 NB	500	x 16	--	--	--	889	222	--	--	B-36-0111 TEMP SHLD & APPR
0010	1130+07.26	'NB'	-	1214+88.99	'NB'	IH 43 NB	8482	x 40	--	--	--	--	--	37,700	85	MAINLINE S. SEG
0010	1205+62.28	'NB'	-	1206+36.28	'NB'	IH 43 NB	74	x 64	--	--	--	--	--	190	--	MAINT. CROSSOVER
0010	1214+88.99	'NB'	-	1216+88.99	'NB'	IH 43 NB	200	x 40	--	--	--	--	889	--	2	PROJECT LIMITS S. SEG
0010	1503+10.30	'NB'	-	1505+10.30	'NB'	IH 43 NB	200	x 40	--	--	--	--	889	--	2	PROJECT LIMITS N. SEG
0010	1505+10.30	'NB'	-	1682+84.86	'NB'	IH 43 NB	17775	x 40	--	--	--	--	--	79,000	178	MAINLINE N. SEG
0010	1509+72.26	'NB'	-	1510+46.26	'NB'	IH 43 NB	74	x 64	--	--	--	--	--	185	--	MAINT. CROSSOVER
0010	1598+37.57	'NB'	-	1599+11.57	'NB'	IH 43 NB	74	x 64	--	--	--	--	--	220	--	MAINT. CROSSOVER
0010	1669+99.91	'NB'	-	1670+73.91	'NB'	IH 43 NB	74	x 88	--	--	--	--	--	305	--	MAINT. CROSSOVER
0010	1677+96.86	'NB'	-	1682+96.86	'NB'	IH 43 NB	500	x 16	--	--	--	889	222	--	--	B-36-0066 TEMP SHLD & APPR
0010	1682+84.86	'NB'	-	1682+96.86	'NB'	IH 43 NB	12	x 30	--	--	--	--	--	40	--	MAINLINE N. SEG
0010	1682+84.86	'NB'	-	1682+96.86	'NB'	IH 43 NB	12	x 10	14	--	--	--	--	--	--	B-36-0066 SHLD APPR
0010	1684+51.20	'NB'	-	1689+51.20	'NB'	IH 43 NB	500	x 16	--	--	--	889	222	--	--	B-36-0066 TEMP SHLD & APPR
0010	1684+51.20	'NB'	-	1689+77.65	'NB'	IH 43 NB	526	x 40	--	--	--	--	--	2,340	5	MAINLINE N. SEG
0010	1689+51.20	'NB'	-	1689+77.65	'NB'	IH 43 NB	26	x 16	--	--	--	47	222	--	--	B-36-0068 TEMP SHLD & APPR
0010	1691+33.32	'NB'	-	1696+33.32	'NB'	IH 43 NB	500	x 16	--	--	--	889	222	--	--	B-36-0068 TEMP SHLD & APPR
0010	1691+33.32	'NB'	-	1691+56.32	'NB'	IH 43 NB	23	x 40	104	--	--	--	--	--	--	APPROACH SLAB
0010	1691+56.32	'NB'	-	1779+04.27	'NB'	IH 43 NB	8748	x 40	--	--	--	--	--	38,880	87	MAINLINE N. SEG
0010	1743+39.39	'NB'	-	1744+13.39	'NB'	IH 43 NB	74	x 88	--	--	--	--	--	260	--	MAINT. CROSSOVER
0010	1774+04.27	'NB'	-	1779+04.27	'NB'	IH 43 NB	500	x 16	--	--	--	889	222	--	--	B-36-0071 TEMP SHLD & APPR
0010	1780+62.10	'NB'	-	1785+62.10	'NB'	IH 43 NB	500	x 16	--	--	--	889	222	--	--	B-36-0071 TEMP SHLD & APPR
0010	1780+62.10	'NB'	-	1780+77.67	'NB'	IH 43 NB	16	x 40	74	--	--	--	--	--	--	APPROACH SLAB
0010	1780+77.67	'NB'	-	1845+15.22	'NB'	IH 43 NB	6438	x 40	--	--	--	--	--	28,610	64	MAINLINE N. SEG
0010	1809+49.79	'NB'	-	1810+23.79	'NB'	IH 43 NB	74	x 88	--	--	--	--	--	260	--	MAINT. CROSSOVER
0010	1845+15.22	'NB'	-	1847+15.22	'NB'	IH 43 NB	200	x 40	--	--	--	--	889	--	2	MANITOWOC RIVER BRIDGE SOUTH APPR
0010	1852+16.16	'NB'	-	1854+16.16	'NB'	IH 43 NB	200	x 40	--	--	--	--	889	--	2	MANITOWOC RIVER BRIDGE NORTH APPR
0010	1854+16.16	'NB'	-	1937+14.29	'NB'	IH 43 NB	8298	x 40			--			36,880	83	MAINLINE N. SEG
0010	1906+11.02	'NB'	-	1906+85.02	'NB'	IH 43 NB	74	x 88	--	--	--	--	--	260	--	MAINT. CROSSOVER
0010	1937+14.29	'NB'	-	1939+14.29	'NB'	IH 43 NB	200	x 40	--	--	--	--	889	--	2	PROJECT LIMITS N. SEG
NORTHBOUND TOTALS									**192**	**12,000**	**0**	**7,491**	**7,553**	**312,350**	**709**	

**ADDITIONAL QUANTITES LOCATED ELSWHERE IN THE PLAN

REMOVING PAVEMENT AND ASPHALTIC SURFACE CONTINUED

CATEGORY	STATION		TO	STATION	LOCATION	SIZE LENGTH FT	x	SIZE WIDTH FT	204.0100 REMOVING PAVEMENT SY	204.0109.S REMOVING CONCRETE SURFACE PARTIAL DEPTH SF	204.0105 REMOVING PAVEMENT BUTT JOINTS SY	**204.0110 REMOVING ASPHALTIC SURFACE SY	204.0115 REMOVING ASPHALTIC SURFACE BUTT JOINTS SY	204.0120 REMOVING ASPHALTIC SURFACE MILLING SY	646.0790.S REMOVING RAISED PAVEMENT MARKERS EACH	REMARKS
	SOUTHBOUND															
0010	930+05.38	'SB'	-	932+05.38	'SB'	IH 43 SB	200	x 40	--	--	--	--	889	--	2	PROJECT LIMITS S. SEG
0010	932+05.38	'SB'	-	1053+58.69	'SB'	IH 43 SB	12153	x 40	--	--	--	--	--	54,015	122	MAINLINE S. SEG
0010	978+26.00	'SB'	-	981+26.00	'SB'	IH 43 SB	300	x 40	--	12,000	--	--	--	--	--	UNDER B-36-0037
0010	1050+00.00	'SB'	-	1053+72.39	'SB'	IH 43 SB	372	x 16	--	--	--	670	222	--	--	B-36-0042 TEMP SHLD & APPR
0010	1053+58.69	'SB'	-	1054+01.56	'SB'	IH 43 SB	31	x 40	140	--	--	--	--	--	--	B-36-0042 APPROACH SLAB
0010	1055+58.21	'SB'	-	1060+58.21	'SB'	IH 43 SB	500	x 16	--	--	--	889	222	--	--	B-36-0042 TEMP SHLD & APPR
0010	1055+58.21	'SB'	-	1129+01.06	'SB'	IH 43 SB	7343	x 40	--	--	--		--	32,635	73	MAINLINE S. SEG
0010	1124+01.06	'SB'	-	1129+01.06	'SB'	IH 43 SB	500	x 16	--	--	--	889	222	--	--	B-36-0110 TEMP SHLD & APPR
0010	1130+28.17	'SB'	-	1135+28.17	'SB'	IH 43 SB	500	x 16	--	--	--	889	222	--	--	B-36-0110 TEMP SHLD & APPR
0010	1130+28.17	'SB'	-	1214+88.99	'SB'	IH 43 SB	8461	x 40	--	--	--	--	--	37,600	85	MAINLINE S. SEG
0010	1214+88.99	'SB'	-	1216+88.99	'SB'	IH 43 SB	200	x 40	--	--	--	--	889	--	2	PROJECT LIMITS S. SEG
0010	1501+10.30	'SB'	-	1503+10.30	'SB'	IH 43 SB	200	x 40	--	--	--	--	889	--	2	PROJECT LIMITS N. SEG
0010	1503+10.30	'SB'	-	1683+42.50	'SB'	IH 43 SB	18032	x 40	--	--	--	--	--	80,145	180	MAINLINE N. SEGMENT
0010	1678+57.34	'SB'	-	1683+57.34	'SB'	IH 43 SB	500	x 16	--	--	--	889	222	--	--	B-36-0065 TEMP SHLD & APPR
0010	1683+42.50	'SB'	-	1683+81.57	'SB'	IH 43 SB	39	x 40	113	--	--	--	--	--	--	APPROACH SLAB
0010	1685+11.68	'SB'	-	1690+11.68	'SB'	IH 43 SB	500	x 16	--	--	--	889	222	--	--	B-36-0065 SHLDR APPR
0010	1685+11.68	'SB'	-	1690+11.75	'SB'	IH 43 SB	500	x 40	--	--	--	--	--	2,225	5	MAINLINE N. SEG
0010	1690+11.68	'SB'	-	1690+26.93	'SB'	IH 43 SB	15	x 16	--	--	--	27		--	--	B-36-0067 TEMP SHLD & APPR
0010	1691+82.60	'SB'	-	1696+82.60	'SB'	IH 43 SB	500	x 16	--	--	--	889	222	--	--	B-36-0067 TEMP SHLD & APPR
0010	1690+11.75	'SB'	-	1690+46.63	'SB'	IH 43 SB	24	x 40	105	--	--	--	--	--	--	APPROACH SLAB
0010	1691+82.60	'SB'	-	1692+11.51	'SB'	IH 43 SB	21	x 40	95	--	--	--	--	--	--	APPROACH SLAB
0010	1692+11.51	'SB'	-	1778+94.61	'SB'	IH 43 SB	8683	x 40	--	--	--	--	--	38,600	87	MAINLINE N. SEG
0010	1774+10.09	'SB'	-	1779+10.09	'SB'	IH 43 SB	500	x 16	--	--	--	889	222	--	--	B-36-0070 TEMP SHLD & APPR
0010	1780+67.93	'SB'	-	1785+67.93	'SB'	IH 43 SB	500	x 16	--	--	--	889	222	--	--	B-36-0070 TEMP SHLD & APPR
0010	1778+94.61	'SB'	-	1779+10.09	'SB'	IH 43 SB	16	x 40	75	--	--	--	--	--	--	APPROACH SLAB
0010	1780+67.93	'SB'	-	1845+47.26	'SB'	IH 43 SB	6479	x 40	--	--	--	--	--	28,800	65	MAINLINE N. SEG
0010	1845+47.26	'SB'	-	1847+47.26	'SB'	IH 43 SB	200	x 40	--	--	--	--	889	--	2	MANITOWOC RIVER BRIDGE SOUTH APPR
0010	1852+48.09	'SB'	-	1854+48.09	'SB'	IH 43 SB	200	x 40	--	--	--	--	889	--	2	MANITOWOC RIVER BRIDGE NORTH APPR
0010	1854+48.09	'SB'	-	1939+14.29	'SB'	IH 43 SB	8466	x 40	--	--	--	--	--	37,630	85	PROJECT LIMITS N. SEG
	SOUTHBOUND TOTALS								**528**	**12,000**	**0**	**7,808**	**6,442**	**311,650**	**711**	

**ADDITIONAL QUANTITES LOCATED ELSWHERE IN THE PLAN

REMOVING PAVEMENT AND ASPHALTIC SURFACE CONTINUED

CATEGORY	STATION	TO	STATION	LOCATION	SIZE LENGTH FT x WIDTH FT	204.0100 REMOVING PAVEMENT SY	204.0109.S REMOVING CONCRETE SURFACE PARTIAL DEPTH SF	204.0105 REMOVING PAVEMENT BUTT JOINTS SY	**204.0110 REMOVING ASPHALTIC SURFACE SY	204.0115 REMOVING ASPHALTIC SURFACE BUTT JOINTS SY	204.0120 REMOVING ASPHALTIC SURFACE MILLING SY	646.0790.S REMOVING RAISED PAVEMENT MARKERS EACH	REMARKS
				CTH XX									
0010	1020+07.95 'SE'	-	1023+78.47 'SE'	CTH XX	371 x 27	--	--	--	--	--	1,115	--	SE RAMP
0010	1034+32.95 'SE'	-	1034+82.95 'SE'	CTH XX	50 x 27	--	--	150	--	--	--	--	SE RAMP
0010	1017+30.58 'SW'	-	1024+14.99 'SW'	CTH XX	684 x 27	--	--	--	--	--	2,050	--	SW RAMP
0010	1032+20.58 'SW'	-	1032+70.58 'SW'	CTH XX	50 x 27	--		150	--	--	--	--	SW RAMP
0010	1045+27.88 'NE'	-	1052+33.35 'NE'	CTH XX	705 x 27	--	--	--	--	--	2,120	--	NE RAMP
0010	1037+50.06 'NE'	-	1038+00.06 'NE'	CTH XX	50 x 27	--	--	150	--	--	--	--	NE RAMP
0010	1044+13.34 'NW'	-	1047+73.81 'NW'	CTH XX	360 x 27	--	--	--	--	--	1,080	--	NW RAMP
0010	1032+90.68 'NW'	-	1033+40.68 'NW'	CTH XX	50 x 27	--	--	150	--	--	--	--	NW RAMP
				CTH XX TOTALS		**0**	**0**	**600**	**0**	**0**	**6,365**	**0**	
				USH 151									
0010	1619+33.49 'SE'	-	1622+84.09 'SE'	USH 151	351 x 27	--	--	--	--	--	1,050	--	SE RAMP
0010	1628+83.49 'SE'	-	1629+33.49 'SE'	USH 151	50 x 27	--	--	150	--	--	--	--	SE RAMP
0010	1619+77.59 'SW'	-	1627+27.04 'SW'	USH 151	749 x 27	--	--	--	--	--	2,250	--	SW RAMP
0010	1632+31.51 'SW'	-	1632+81.51 'SW'	USH 151	50 x 27	--	--	150	--	--	--	--	SW RAMP
0010	1643+54.00 'NE'	-	1650+60.23 'NE'	USH 151	706 x 27	--	--	--	--	--	2,120	--	NE RAMP
0010	1636+48.68 'NE'	-	1636+98.68 'NE'	USH 151	50 x 27	--	--	150	--	--	--	--	NE RAMP
0010	1648+66.72 'NW'	-	1651+82.57 'NW'	USH 151	316 x 27	--	--	--	--	--	950	--	NW RAMP
0010	1640+64.92 'NW'	-	1641+14.92 'NW'	USH 151	50 x 27	--	--	150	--	--	--	--	NW RAMP
				USH 151 TOTALS		**0**	**0**	**600**	**0**	**600**	**6,370**	**0**	
				USH 10/STH 42/CTH JJ									
0010	1767+65.03 'SE'	-	1768+15.03 'SE'		50 x 27	--	--	--	--	150	--	--	SE RAMP
0010	1765+52.05 'SE'	-	1767+65.03 'SE'		213 x 27	--	--	--	--	--	640	--	SE RAMP
0010	1769+06.95 'SW'	-	1769+56.95 'SW'		50 x 27	--	--	--	--	150	--	--	SW RAMP
0010	1762+76.07 'SW'	-	1769+06.95 'SW'		631 x 27	--	--	--	--	--	1,895	--	SW RAMP
0010	1791+05.18 'NE'	-	1791+55.18 'NE'		50 x 27	--	--	--	--	150	--	--	NE RAMP
0010	1791+55.18 'NE'	-	1798+13.55 'NE'		658 x 27	--	--	--	--	--	1,975	--	NE RAMP
0010	1793+16.82 'NW'	-	1793+66.82 'NW'		50 x 27	--	--	--	--	150	--	--	NW RAMP
0010	1793+66.82 'NW'	-	1795+75.60 'NW'		209 x 27	--	--	--	--	--	630	--	NW RAMP
				USH 10/STH 42/CTH JJ TOTALS		**0**	**0**	**0**	**0**	**600**	**5,140**	**0**	
				STH 310 RAMPS									
0010	1926+80.77 'SE'	-	1927+30.77 'SE'		50 x 27	--	--	--	--	150	--	--	SE RAMP
0010	1923+38.57 'SE'	-	1926+80.77 'SE'		342 x 27	--	--	--	--	--	1,030	--	SE RAMP
0010	1929+14.15 'SW'	-	1929+64.15 'SW'		50 x 27	--	--	--	--	150	--	--	SW RAMP
0010	1922+42.63 'SW'	-	1929+14.15 'SW'		672 x 27	--	--	--	--	--	2,015	--	SW RAMP
				STH 310 RAMP TOTALS		**0**	**0**	**0**	**0**	**300**	**3,045**	**0**	
				PARK & RIDES									
0010	USH 151 EAST ENTRANCE				20 x 36	--	--	--	--	85	--	--	USH 151 E. ENT
0010	USH 151 WEST ENTRANCE				20 x 36	--	--	--	--	85	--	--	USH 151 W. ENT
0010	STH 42				20 x 36	--	--	--	--	80	--	--	STH 42
0010	STH 310				20 x 36	--	--	--	--	80	--	--	STH 310
				PARK & RIDE TOTALS		**0**	**0**	**0**	**0**	**329**	**0**	**0**	
					PROJECT TOTALS	**720**	**24,000**	**1,200**	**15,300**	**15,825**	**644,920**	**1,420**	

**ADDITIONAL QUANTITES LOCATED ELSWHERE IN THE PLAN

REMOVING CURB & GUTTER

CATEGORY	LOCATION		204.0150 REMOVING CURB & GUTTER LF	REMARKS
	NORTHBOUND			
0010	B-36-0061	IH 43 NB	12	LT & RT
0010	B-36-0111	IH 43 NB	6	LT
0010	B-36-0066	IH 43 NB	12	LT & RT
0010	B-36-0068	IH 43 NB	12	LT & RT
0010	B-36-0071	IH 43 NB	12	LT & RT
		NORTHBOUND TOTALS	**54**	
	SOUTHBOUND			
0010	B-36-0042	IH 43 SB	12	LT & RT
0010	B-36-0110	IH 43 SB	6	LT & RT
0010	B-36-0065	IH 43 SB	12	LT & RT
0010	B-36-0067	IH 43 SB	12	LT & RT
0010	B-36-0070	IH 43 SB	12	LT & RT
		SOUTHBOUND TOTALS	**54**	
	OVERPASS TOTALS			
0010	B-36-0074	COUNTY LINE RD	12	NW & SW QUAD
0010	B-36-0037	CLEVELAND RD	12	NE & SE QUAD
0010	B-36-0043	FISHER CREEK RD	12	NW & SW QUAD
0010	B-36-0045	CTH X	16	NW & SW QUAD
0010	B-36-0059	SILVER CREEK RD	12	NW & SW QUAD
0010	B-36-0062	VIEBAHN STREET	24	NW, SW, NE, & SE QUAD
0010	B-36-0069	MIDDLE ROAD	24	NW, SW, NE, & SE QUAD
		OVERPASS TOTALS	**112**	
		PROJECT TOTALS	**220**	

REMOVING GUARDRAIL SUMMARY

CATEGORY	STATION	TO	STATION	LOCATION	204.0165 REMOVING GUARDRAIL LF	REMARKS
		NORTHBOUND				
0010	1049+72.00 'NB'	-	1052+30.00 'NB'	IH 43 NB	258	B-36-0061, SE QUAD
0010	1050+25.00 'NB'	-	1052+96.00 'NB'	IH 43 NB	271	B-36-0061, SW QUAD
0010	1126+03.00 'NB'	-	1128+74.00 'NB'	IH 43 NB	271	B-36-0111, SW QUAD
0010	1125+94.00 'NB'	-	1128+52.00 'NB'	IH 43 NB	258	B-36-0111, SE QUAD
0010	1130+09.00 'NB'	-	1132+65.00 'NB'	IH 43 NB	256	B-36-0111, NE QUAD
0010	1680+19.00 'NB'	-	1682+90.00 'NB'	IH 43 NB	271	B-36-0066, SW QUAD
0010	1680+42.00 'NB'	-	1682+63.00 'NB'	IH 43 NB	221	B-36-0066, SE QUAD
0010	1684+39.00 'NB'	-	1689+64.00 'NB'	IH 43 NB	525	B-36-0068, SE QUAD
0010	1684+69.00 'NB'	-	1689+94.00 'NB'	IH 43 NB	525	B-36-0068, SW QUAD
0010	1691+25.00 'NB'	-	1697+81.00 'NB'	IH 43 NB	656	B-36-0068, NE QUAD
0010	1776+22.00 'NB'	-	1778+93.00 'NB'	IH 43 NB	271	B-36-0071, SW QUAD
0010	1776+69.00 'NB'	-	1778+90.00 'NB'	IH 43 NB	221	B-36-0071, SE QUAD
			NORTHBOUND TOTALS		**4004**	
		SOUTHBOUND				
0010	1055+68.00 'SB'	-	1058+39.00 'SB'	IH 43 SB	271	B-36-0042, NW QUAD
0010	1056+07.00 'SB'	-	1058+65.00 'SB'	IH 43 SB	258	B-36-0042, NE QUAD
0010	1126+17.00 'SB'	-	1129+12.00 'SB'	IH 43 SB	295	B-36-0110. SW QUAD
0010	1130+56.00 'SB'	-	1133+14.00 'SB'	IH 43 SB	258	B-36-0110. NW QUAD
0010	1130+36.00 'SB'	-	1133+07.00 'SB'	IH 43 SB	271	B-36-0110. NE QUAD
0010	1685+19.00 'SB'	-	1690+31.00 'SB'	IH 43 SB	512	B-36-0067, SE QUAD
0010	1685+49.00 'SB'	-	1690+61.00 'SB'	IH 43 SB	512	B-36-0067, SW QUAD
0010	1692+15.00 'SB'	-	1694+36.00 'SB'	IH 43 SB	221	B-36-0067, NW QUAD
0010	1692+22.00 'SB'	-	1694+93.00 'SB'	IH 43 SB	271	B-36-0067, NE QUAD
0010	1780+79.00 'SB'	-	1783+50.00 'SB'	IH 43 SB	271	B-36-0070, NE QUAD
0010	1780+82.00 'SB'	-	1783+03.00 'SB'	IH 43 SB	221	B-36-0070, NW QUAD
			SOUTHBOUND TOTALS		**3361**	
			PROJECT TOTALS		**7365**	

REMOVING FENCE

CATEGORY	STATION	TO	STATION	204.0170 REMOVING FENCE LF	616.0100 FENCE WOVEN WIRE 4.5-FT LF	616.0407 FENCE CHAIN LINK SALVAGED 7-FT LF	REMARKS
		NORTHBOUND					
0010	1665+50.00 NB'	-	1665+98.00 NB'	--	--	48	ACCESS TO CULVERT
		SOUTHBOUND					
0010	1127+25.00 'SB'	-	1127+73.00 'SB'	48	48	--	B-36-0036 SW WING
			PROJECT TOTALS	**48**	**48**	**48**	

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REMOVING INLETS

CATEGORY	STATION	204.0220 REMOVING INLETS EACH	REMARKS
	NORTHBOUND		
0010	1682+67.69 'NB' RT	1	B-36-0066 SE QUAD
0010	1780+75.10 'NB' RT	1	B-36-0071 SE QUAD
0010	1780+75.10 'NB' LT	1	B-36-0071 SW QUAD
	NORTHBOUND TOTALS	**3**	
	SOUTHBOUND		
0010	1053+53.89 'SB' RT	1	B-36-0042 SE QUAD
0010	1053+89.56 'SB' LT	1	B-36-0042 SW QUAD
0010	1683+45.34 'SB' LT	1	B-36-0065 SW QUAD
0010	1683+45.34 'SB' RT	1	B-36-0065 SE QUAD
0010	1690+17.51 'SB' RT	1	B-36-0067 SE QUAD
0010	1690+41.21 'SB' LT	1	B-36-0067 SW QUAD
	SOUTHBOUND TOTALS	**6**	
	PROJECT TOTALS	**9**	

FINISHING ROADWAY PROJECT

CATEGORY	LOCATION	213.0100 FINISHING ROADWAY PROJECT EACH
0010	PROJECT IH 43	1
	PROJECT TOTAL	**1**

BASE AGGREGATE SUMMARY

CATEGORY	STATION	TO	STATION	LOCATION	**305.0110 BASE AGGREGATE DENSE 3/4-INCH TON	305.0120 BASE AGGREGATE DENSE 1 1/4-INCH TON	305.0500 SHAPING SHOULDERS STA	311.0110 BREAKER RUN TON	624.0100 WATER MGAL	REMARKS
			NORTHBOUND							
0010	930+05.38 'NB'	-	1052+45.13 'NB'	IH 43 NB	1815	--	245	--	18.2	
0010	979+59.00 'NB'	-	979+99.00 'NB'	IH 43 NB	30	--	--	--	0.3	LAW ENFORCEMENT PAD
0010	1054+34.52 'NB'	-	1128+69.73 'NB'	IH 43 NB	1105	--	149	--	11.1	
0010	1129+89.75 'NB'	-	1216+88.99 'NB'	IH 43 NB	1290	--	174	--	12.9	
0010	1503+10.30 'NB'	-	1682+72.66 'NB'	IH 43 NB	2660	--	359	--	26.6	
0010	1634+06.00 'NB'	-	1634+46.00 'NB'	IH 43 NB	30	--	--	--	0.3	LAW ENFORCEMENT PAD
0010	1684+25.28 'NB'	-	1689+57.00 'NB'	IH 43 NB	80	--	11	--	0.8	
0010	1691+12.50 'NB'	-	1779+01.85 'NB'	IH 43 NB	1300	--	176	--	13.0	
0010	1780+59.59 'NB'	-	1847+01.90 'NB'	IH 43 NB	985	--	133	--	9.9	
0010	1852+02.71 'NB'	-	1939+14.32 'NB'	IH 43 NB	1290	--	174	--	12.9	
			NORTHBOUND TOTALS		**10584**	**0**	**1420**	**0**	**105.8**	
			SOUTHBOUND							
0010	930+05.38 'SB'	-	1007+09.28 SB BK	IH 43 SB	1140	--	154	--	11.4	
0010	1006+90.46 SB AH	-	1042+48.20 SB BK	IH 43 SB	530	--	71	--	5.3	
0010	1042+20.41 SB AH	-	1054+16.29 'SB'	IH 43 SB	180	--	24	--	1.8	
0010	1055+98.31 'SB'	-	1129+21.78 SB	IH 43 SB	1085	--	146	--	10.8	
0010	1103+42.00 'SB'	-	1103+82.00 SB	IH 43 SB	30	--	--	--	0.3	LAW ENFORCEMENT PAD
0010	1130+50.19 'SB'	-	1147+02.06 SB BK	IH 43 SB	245	--	33	--	2.4	
0010	1147+37.97 SB AH	-	1216+88.99 'SB'	IH 43 SB	1030	--	139	--	10.3	
0010	1503+10.30 'SB'	-	1549+04.01 SB BK	IH 43 SB	680	--	92	--	6.8	
0010	1549+04.01 SB AH	-	1614+61.44 SB BK	IH 43 SB	970	--	131	--	9.7	
0010	1605+44.00 SB'	-	1605+84.00 SB'	IH 43 SB	30	--	--	--	0.3	LAW ENFORCEMENT PAD
0010	1615+09.92 SB AH	-	1683+83.63 'SB'	IH 43 SB	1020	--	137	--	10.2	
0010	1685+36.17 'SB'	-	1690+48.32 'SB'	IH 43 SB	75	--	10	--	0.8	
0010	1692+03.27 'SB'	-	1722+97.01 SB BK	IH 43 SB	460	--	62	--	4.6	
0010	1722+49.83 SB AH	-	1779+12.55 SB	IH 43 SB	840	--	113	--	8.4	
0010	1780+70.24 'SB'	-	1847+58.95 'SB'	IH 43 SB	990	--	134	--	9.9	
0010	1852+61.41 'SB'	-	1870+50.54 SB BK	IH 43 SB	265	--	36	--	2.7	
0010	1870+40.60 SB AH	-	1939+16.26 'SB'	IH 43 SB	1020	--	138	--	10.2	
			SOUTHBOUND TOTALS		**10589**	**0**	**1421**	**0**	**105.9**	

**ADDITIONAL QUANTITES LOCATED ELSWHERE IN THE PLAN

PREPARE FOUNDATION FOR ASPHALT PAVING

CATEGORY	LOCATION	213.0100 PREPARE FOUNDATION FOR ASPHALT PAVING LS
0010	PROJECT IH 43	1
	PROJECT TOTAL	**1**

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BASE AGGREGATE SUMMARY CONTINUED

CATEGORY	STATION	TO	STATION	LOCATION	**305.0110 BASE AGGREGATE DENSE 3/4-INCH TON	305.0120 BASE AGGREGATE DENSE 1 1/4-INCH TON	305.0500 SHAPING SHOULDERS STA	311.0110 BREAKER RUN TON	624.0100 WATER MGAL	REMARKS
			CTH XX INTERCHANGE							
0010	1037+50.06 NE	-	1045+97.59 NE	CTH XX NE RAMP	130	--	23	--	1.3	
0010	1032+90.68 NW	-	1045+22.11 NW	CTH XX NW RAMP	185	--	25	--	1.9	
0010	1023+20.62 SE	-	1034+82.95 SE	CTH XX SE RAMP	175	--	23	--	1.8	
0010	1023+34.09 SW	-	1032+70.58 SW	CTH XX SW RAMP	140	--	19	--	1.4	
			CTH XX INTERCHANGE TOTALS		**630**	**0**	**90**	**0**	**6.3**	
			USH 151 INTERCHANGE							
0010	1636+48.68 NE	-	1644+41.20 NE	USH 151 NE RAMP	120	--	16	--	1.2	
0010	1640+64.92 NW	-	1649+06.53 NW	USH 151 NW RAMP	125	--	17	--	1.2	
0010	1622+33.13 SE	-	1629+33.49 SE	USH 151 SE RAMP	105	--	14	--	1.1	
0010	1626+38.26 SW	-	1632+81.51 SW	USH 151 SW RAMP	95	--	13	--	1.0	
			USH 151 INTERCHANGE TOTALS		**445**	**0**	**60**	**0**	**4.4**	
			STH 310 INTERCHANGE							
0010	1926+48.88 SE	-	1927+30.77 SE	STH 310 SE RAMP	12	--	2	--	0.1	
0010	1928+85.24 SW	-	1929+64.15 SW	STH 310 SW RAMP	12	--	2	--	0.1	
			STH 310 INTERCHANGE TOTALS		**24**	**0**	**3**	**0**	**0.2**	
			PARK & RIDES							
			USH 151		70	--	18	--	1.0	
			STH 310		75	--	20	--	1.0	
			CTH 42		33	300	7	--	0.3	PARK AND RIDE EXPANSION
			PARK & RIDE TOTALS		**178**	**300**	**46**	**0**	**2.3**	
			CROSSOVERS							
0010	1188+15.21 'NB'	-	1202+49.43 'NB'	IH 43 NB	--	4225	--	3690	42.5	SOUTH CROSSOVER
0010	1515+38.11 'NB'	-	1529+72.97 'NB'	IH 43 NB	--	4225	--	3690	42.5	NORTH CROSSOVER
			CROSSOVER TOTALS		**0**	**8450**	**0**	**7380**	**85.0**	
			PROJECT TOTALS		**22450**	**8750**	**3040**	**7380**	**310.0**	

**ADDITIONAL QUANTITES LOCATED ELSWHERE IN THE PLAN

BASE PATCHING SUMMARY

CATEGORY	STATION	TO	STATION	LOCATION	SPV.0180.02 BASE PATCHING CONCRETE HES SY	390.0403 BASE PATCHING CONCRETE SHES SY	390.0203 BASE PATCHING ASPHALTIC SY	**416.061 DRILLED TIE BARS EACH	**416.062 DRILLED DOWEL BARS EACH	**690.0250 SAWING CONCRETE LF	SPV.0180.03 CONTINUOUSLY REINFORCED CONCRETE REPAIR HES SY	REMARKS
			NORTHBOUND									
0010	930+05.38 'NB'	-	940+54.42 'NB'	IH 43 NB	6.7	--	--	2	--	26	0.0	BEGIN - MI. 136
0010	940+54.42 'NB'	-	993+36.00 'NB'	IH 43 NB	71.1	--	--	28	--	452	32.0	MI. 136 - MI. 137
0010	993+36.00 'NB'	-	1045+47.03 'NB'	IH 43 NB	51.3	--	--	20	--	311	18.7	MI. 137 - MI. 138
0010	1045+47.03 'NB'	-	1098+38.00 'NB'	IH 43 NB	90.9	--	--	36	--	631	46.7	MI. 138 - MI. 139
0010	1098+38.00 'NB'	-	1150+76.14 'NB'	IH 43 NB	53.3	--	--	33	--	778	98.7	MI. 139 - MI. 140
0010	1150+76.14 'NB'	-	1203+48.31 'NB'	IH 43 NB	39.1	--	--	60	--	1,046	176.0	MI. 140 - MI. 141
0010	1203+48.31 'NB'	-	1216+88.99 'NB'	IH 43 NB	45.1	--	--	26	--	595	93.3	MI. 141 - MI. 142
0010	1501+10.30 'NB'	-	1520+66.00 'NB'	IH 43 NB	0.0	--	--	12	--	248	37.3	MI. 146 - MI. 147
0010	1520+66.00 'NB'	-	1572+66.00 'NB'	IH 43 NB	4.0	--	--	2	--	18	0.0	MI. 147 - MI. 148
0010	1572+66.00 'NB'	-	1625+49.50 'NB'	IH 43 NB	36.2	--	--	33	--	697	96.0	MI. 148 - MI. 149
0010	1625+49.50 'NB'	-	1677+75.00 'NB'	IH 43 NB	32.4	--	--	19	--	256	22.7	MI. 149 - MI. 150
0010	1677+75.00 'NB'	-	1730+24.72 'NB'	IH 43 NB	56.4	--	--	20	--	736	97.3	MI. 150 - MI. 151
0010	1730+24.72 'NB'	-	1782+60.43 'NB'	IH 43 NB	27.8	--	--	43	--	545	94.7	MI. 151 - MI. 152
0010	1782+60.43 'NB'	-	1835+79.58 'NB'	IH 43 NB	28.7	--	--	20	--	349	37.3	MI. 152 - MI. 153
0010	1835+79.58 'NB'	-	1888+10.00 'NB'	IH 43 NB	12.4	--	--	38	--	524	97.3	MI. 153 - MI. 154
0010	1888+10.00 'NB'	-	1939+14.29 'NB'	IH 43 NB	22.4	--	--	57	--	953	137.3	MI. 154 - END
			NORTHBOUND TOTALS		**578**	**0**	**0**	**449**	**0**	**8,165**	**1,086**	
			SOUTHBOUND									
0010	930+05.38 'SB'	-	940+54.43 'SB'	IH 43 SB	13.3	--	--	10	--	132	13.3	BEGIN - MI. 136
0010	940+54.43 'SB'	-	993+47.20 'SB'	IH 43 SB	31.1	--	--	19	--	420	54.7	MI. 136 - MI. 137
0010	993+47.20 'SB'	-	1045+47.03 'SB'	IH 43 SB	95.1	--	--	58	--	962	102.7	MI. 137 - MI. 138
0010	1045+47.03 'SB'	-	1098+38.00 'SB'	IH 43 SB	31.8	--	--	34	--	767	102.7	MI. 138 - MI. 139
0010	1098+38.00 'SB'	-	1150+76.14 'SB'	IH 43 SB	25.3	--	--	10	--	106	0.0	MI. 139 - MI. 140
0010	1150+76.14 'SB'	-	1203+48.31 'SB'	IH 43 SB	63.1	--	--	66	--	1,010	120.0	MI. 140 - MI. 141
0010	1203+48.31 'SB'	-	1216+88.99 'SB'	IH 43 SB	24.0	--	--	12	--	158	9.3	MI. 141 - MI. 142
0010	1501+07.31 'SB'	-	1520+66.00 'SB'	IH 43 SB	31.3	--	--	15	--	447	72.0	MI. 146 - MI. 147
0010	1520+66.00 'SB'	-	1572+66.00 'SB'	IH 43 SB	38.2	--	--	18	--	366	41.3	MI. 147 - MI. 148
0010	1572+66.00 'SB'	-	1625+49.50 'SB'	IH 43 SB	51.3	--	--	23	--	805	110.7	MI. 148 - MI. 149
0010	1625+49.50 'SB'	-	1677+75.00 'SB'	IH 43 SB	87.8	--	--	48	--	1,237	158.7	MI. 149 - MI. 150
0010	1677+75.00 'SB'	-	1730+24.72 'SB'	IH 43 SB	84.9	--	--	108	--	1,542	270.7	MI. 150 - MI. 151
0010	1730+24.72 'SB'	-	1782+60.43 'SB'	IH 43 SB	156.4	--	--	48	--	1,698	229.3	MI. 151 - MI. 152
0010	1782+60.43 'SB'	-	1835+79.58 'SB'	IH 43 SB	44.0	--	--	21	--	484	56.0	MI. 152 - MI. 153
0010	1835+79.58 'SB'	-	1888+10.00 'SB'	IH 43 SB	73.8	--	--	44	--	972	134.7	MI. 153 - MI. 154
0010	1888+10.00 'SB'	-	1939+16.18 'SB'	IH 43 SB	80.9	--	--	65	--	1,308	202.7	MI. 154 - END
			SOUTHBOUND TOTALS		**933**	**0**	**0**	**599**	**0**	**12,414**	**1,679**	

**ADDITIONAL QUANTITES LOCATED ELSWHERE IN THE PLAN

3

BASE PATCHING SUMMARY CONTINUED

CATEGORY	STATION	TO	STATION	LOCATION	SPV.0180.02 BASE PATCHING CONCRETE HES SY	390.0403 BASE PATCHING CONCRETE SHES SY	390.0203 BASE PATCHING ASPHALTIC SY	**416.061 DRILLED TIE BARS EACH	**416.062 DRILLED DOWEL BARS EACH	**690.0250 SAWING CONCRETE LF	SPV.0180.03 CONTINUOUSLY REINFORCED CONCRETE REPAIR HES SY	REMARKS
				CTH XX INTERCHANGE								
0010	1023+78.47 SE	-	1034+82.95 SE	CTH XX SE RAMP	--	286.7	--	114	448	1,199	--	
0010	1037+50.06 NE	-	1045+27.88 NE	CTH XX NE RAMP	--	42.7	--	14	64	170	--	
0010	1024+14.99 SW	-	1032+70.58 SW	CTH XX SW RAMP	--	73.3	--	30	40	268	--	
0010	1032+90.68 NW	-	1044+13.34 NW	CTH XX NW RAMP	--	45.3	--	16	64	184	--	
				CTH XX INTERCHANGE TOTALS	**0**	**448**	**0**	**174**	**616**	**1,821**	**0**	
				USH 151 INTERCHANGE								
0010	1622+84.09 SE	-	1629+33.49 SE	USH 151 SE RAMP	--	270.0	--	85	176	876	--	
0010	1636+48.68 NE	-	1643+54.00 NE	USH 151 NE RAMP	--	348.7	--	137	80	1,017	--	
0010	1627+27.04 SW	-	1632+81.51 SW	USH 151 SW RAMP	--	204.9	--	94	128	709	--	
0010	1640+64.92 NW	-	1648+66.72 NW	USH 151 NW RAMP	--	202.4	--	70	112	654	--	
				USH 151 INTERCHANGE TOTALS	**0**	**1,026**	**0**	**386**	**496**	**3,256**	**0**	
				PARK & RIDES								
				USH 151	--	--	398	--	--	--	--	
				PARK & RIDE TOTALS	**0**	**0**	**398**	**0**	**0**	**0**	**0**	
				UNDISTRIBUTED	**154**	**146**	**42**	**162**	**111**	**2,569**	**280**	
				PROJECT TOTALS	**1,665**	**1,620**	**440**	**1,770**	**1,223**	**28,225**	**3,045**	

**ADDITIONAL QUANTITES LOCATED ELSWHERE IN THE PLAN

CONCRETE REPAIR SUMMARY

CATEGORY	STATION		TO	STATION	LOCATION	416.1710 CONCRETE PAVEMENT REPAIR SY	416.1720 CONCRETE PAVEMENT REPLACEMENT SY	**416.0610 DRILLED TIE BARS EACH	**416.0620 DRILLED DOWEL BARS EACH	**690.0250 SAWING CONCRETE LF
	WESTBOUND									
0200	8+12.42	'WB'			USH 151	8	--	4	16	36
0200	8+71.45	'WB'			USH 151	8	--	4	16	36
0200	8+90.44	'WB'			USH 151	8	--	4	16	36
0200	10+10.43	'WB'			USH 151	8	--	4	16	36
0200	10+31.42	'WB'			USH 151	16	--	6	32	66
0200	11+31.42	'WB'			USH 151	16	--	6	32	66
0200	11+70.42	'WB'			USH 151	8	--	4	13	36
0200	11+90.42	'WB'			USH 151	16	--	6	16	66
0200	12+09.42	'WB'			USH 151	8	--	4	16	36
0200	12+28.42	'WB'			USH 151	16	--	6	32	66
0200	12+89.42	'WB'			USH 151	8	--	4	16	36
0200	13+09.42	'WB'			USH 151	16	--	6	32	66
0200	13+30.42	'WB'			USH 151	16	--	6	32	66
0200	13+52.44	'WB'	-	13+74.44	'WB' USH 151	--	29	16	16	104
0200	14+43.44	'WB'	-	14+61.44	'WB' USH 151	--	48	21	32	150
0200	14+66.34	'WB'	-	15+02.34	'WB' USH 150	--	48	28	16	156
0200	14+81.42	'WB'			USH 151	8	--	2	16	36
0200	15+00.42	'WB'			USH 151	8	--	2	16	36
0200	15+19.42	'WB'			USH 151	16	--	6	32	66
0200	15+39.42	'WB'			USH 151	8	--	4	16	36
0200	15+79.42	'WB'			USH 151	16	--	6	32	66
0200	15+99.42	'WB'			USH 151	16	--	6	32	66
0200	16+19.42	'WB'			USH 151	16	--	6	32	66
0200	16+39.42	'WB'			USH 151	16	--	6	32	66
0200	16+58.42	'WB'	-	16+85.42	USH 151	--	108	40	48	288
0200	17+36.42	'WB'			USH 151	16	--	6	32	66
0200	17+56.43	'WB'			USH 151	16	--	6	32	66
0200	17+98.42	'WB'			USH 151	16	--	6	32	66
0200	18+98.41	'WB'			USH 151	8	--	4	16	36
0200	18+98.41	'WB'			USH 151	13	--	6	16	56
0200	19+79.42	'WB'			USH 151	21	--	9	32	72
0200	19+99.42	'WB'			USH 151	16	--	6	32	66
0200	20+59.42	'WB'			USH 151	8	--	4	16	36
0200	21+20.42	'WB'			USH 151	16	--	6	32	66
0200	21+39.42	'WB'			USH 151	16	--	6	32	66
0200	21+58.35	'WB'			USH 151	8	--	4	16	36
0200	21+78.40	'WB'			USH 151	16	--	6	32	66
0200	22+00.37	'WB'			USH 151	8	--	4	16	36
0200	22+40.35	'WB'			USH 151	8	--	4	16	36
0200	22+61.40	'WB'			USH 151	16	--	6	32	66
0200	22+78.37	'WB'	-	23+01.36	'WB' USH 151	--	31	18	16	106
0200	22+81.51	'WB'			USH 151	16	--	6	32	66
0200	23+21.44	'WB'			USH 151	24	--	6	48	90
0200	23+39.44	'WB'			USH 151	8	--	4	16	36
0200	23+80.43	'WB'			USH 151	16	--	6	32	66
0200	24+02.43	'WB'			USH 151	16	--	6	32	66
0200	24+22.42	'WB'	-	24+40.42	'WB' USH 151	--	24	14	16	84
0200	24+63.42	'WB'			USH 151	16	--	6	32	66
0200	24+82.42	'WB'			USH 151	16	--	6	32	66
0200	25+02.42	'WB'			USH 151	8	--	4	16	36
0200	25+23.42	'WB'			USH 151	16	--	6	32	66
0200	26+42.49	'WB'			USH 151	16	--	6	32	66
0200	27+24.40	'WB'			USH 151	8	--	4	16	36
0200	27+64.42	'WB'			USH 151	8	--	4	16	36
0200	27+99.42	'WB'			USH 151	16	--	6	32	66
0200	28+29.42	'WB'			USH 151	27	--	9	32	102
0200	37+63.92	'WB'	-	37+75.92	'WB' USH 152	32	--	12	32	108
					WESTBOUND TOTALS	**701**	**288**	**413**	**1,453**	**3,782**

**ADDITIONAL QUANTITES LOCATED ELSWHERE IN THE PLAN

CONCRETE REPAIR SUMMARY CONTINUED

CATEGORY	STATION		TO	STATION	LOCATION	416.1710 CONCRETE PAVEMENT REPAIR SY	416.1720 CONCRETE PAVEMENT REPLACEMENT SY	**416.0610 DRILLED TIE BARS EACH	**416.0620 DRILLED DOWEL BARS EACH	**690.0250 SAWING CONCRETE LF
	EASTBOUND									
0200	3+49.00	'EB'			USH 151	13	--	9	16	56
0200	4+70.00	'EB'			USH 151	8	--	6	16	36
0200	4+87.00	'EB'			USH 151	16	--	6	32	66
0200	5+88.00	'EB'			USH 151	16	--	6	32	66
0200	6+30.00	'EB'			USH 151	16	--	6	32	66
0200	6+51.00	'EB'			USH 151	28	--	9	32	102
0200	6+71.00	'EB'			USH 151	8	--	6	16	36
0200	6+89.00	'EB'			USH 151	16	--	6	32	66
0200	7+08.00	'EB'			USH 151	16	--	6	32	66
0200	7+90.00	'EB'			USH 151	16	--	6	32	66
0200	10+34.00	'EB'	-	10+54.00 'EB'	USH 151	--	27	21	16	88
0200	10+88.00	'EB'	-	11+00.00 'EB'	USH 152	32	--	12	32	108
0200	10+94.00	'EB'			USH 151	16	--	6	32	66
0200	11+55.00	'EB'			USH 151	8	--	6	16	36
0200	11+55.00	'EB'			USH 151	8	--	6	16	36
0200	11+75.00	'EB'			USH 151	8	--	6	16	36
0200	11+75.00	'EB'			USH 151	8	--	6	16	36
0200	11+94.00	'EB'			USH 151	8	--	6	16	36
0200	11+94.00	'EB'			USH 151	16	--	6	32	66
0200	12+13.00	'EB'			USH 151	8	--	6	16	36
0200	12+32.00	'EB'			USH 151	16	--	6	32	66
0200	12+48.20	'EB'	-	12+84.20	USH 150	--	48	28	16	156
0200	12+55.00	'EB'			USH 151	16	--	6	32	66
0200	12+76.00	'EB'			USH 151	16	--	6	32	66
0200	12+96.00	'EB'			USH 151	8	--	6	16	36
0200	13+37.00	'EB'			USH 151	8	--	6	16	36
0200	14+73.00	'EB'			USH 151	16	--	6	32	66
0200	14+93.00	'EB'			USH 151	26	--	6	48	90
0200	15+12.00	'EB'			USH 151	16	--	6	32	66
0200	15+31.00	'EB'			USH 151	16	--	6	32	66
0200	15+50.00	'EB'			USH 151	16	--	6	32	66
0200	15+71.00	'EB'			USH 151	32	--	12	32	122
0200	15+91.00	'EB'			USH 151	16	--	6	32	66
0200	16+11.00	'EB'			USH 151	8	--	6	16	36
0200	16+31.00	'EB'			USH 151	8	--	6	16	36
0200	16+51.00	'EB'			USH 151	8	--	6	16	36
0200	17+11.00	'EB'			USH 151	8	--	6	16	36
0200	17+31.00	'EB'			USH 151	8	--	6	16	36
0200	17+70.00	'EB'			USH 151	16	--	6	32	66
0200	18+30.00	'EB'			USH 151	8	--	6	16	36
0200	19+71.00	'EB'			USH 151	8	--	6	16	36
0200	21+13.00	'EB'			USH 151	8	--	6	16	36
0200	23+16.00	'EB'			USH 151	16	--	6	32	66
0200	23+94.00	'EB'			USH 151	16	--	6	32	66
0200	24+75.00	'EB'			USH 151	8	--	6	16	36
0200	26+06.35	'EB'		26+18.35 'EB'	USH 152	32	--	12	32	108
0200	26+76.00	'EB'			USH 151	16	--	6	32	66
0200	26+95.00	'EB'			USH 151	8	--	6	16	36
0200	27+36.00	'EB'			USH 151	8	--	6	16	36
0200	27+75.00	'EB'			USH 151	8	--	6	16	36
					EASTBOUND TOTALS	**659**	**75**	**361**	**1,216**	**2,942**

**ADDITIONAL QUANTITES LOCATED ELSWHERE IN THE PLAN

PROJECT TOTALS	**1,360**	**363**	**774**	**2,669**	**6,724**

HMA SUMMARY

CATEGORY	STATION		TO	STATION		455.0105 ASPHALTIC MATERIAL PG58-28 TON	455.0605 TACK COAT GAL	460.1100 HMA PAVEMENT TYPE E-0.3 TON	460.1130 HMA PAVEMENT TYPE E-30 TON	**465.0105 ASPHALTIC SURFACE TON	460.4000 HMA COLD WEATHER PAVING TON	460.4110.S REHEATING HMA PAVEMENT LONGITUDINAL JOINTS LF	465.0125 ASPHALTIC SURFACE TEMPORARY TON	REMARKS
NORTHBOUND														
0010	930+05.38	'NB'	-	1017+80.41	'NB'	493	4680	--	8970	--	561	17550	--	
0010	934+70.26	'NB'	-	935+44.26	'NB'	2	28	--	44	--	--	--	--	MAINTENANCE X-OVER
0010	979+59.00	'NB'	-	979+99.00	'NB'	--	11	--	--	20	--	--	--	LAW ENFORCEMENT PAD
0010	1006+97.33	'NB'	-	1007+71.33	'NB'	2	28	--	42	--	--	--	--	MAINTENANCE X-OVER
0010	1017+80.41	'NB'	-	1023+77.37	'NB'	50	476	--	912	--	57	1194	--	
0010	1023+77.37	'NB'	-	1045+29.45	'NB'	121	1148	--	2200	--	137	4304	--	
0010	1045+29.45	'NB'	-	1058+28.17	'NB'	101	960	--	1840	--	115	2597	--	
0010	1058+28.17	'NB'	-	1216+88.99	'NB'	892	8459	--	16213	--	1013	31722	--	
0010	1064+82.98	'NB'	-	1065+56.98	'NB'	2	28	--	45	--	--	--	--	MAINTENANCE X-OVER
0010	1123+86.01	'NB'	-	1128+86.01	'NB'	--	62	--	--	--	--	--	256	B-36-0111 TEMP SHLD & APPR
0010	1130+07.26	'NB'	-	1135+07.26	'NB'	--	62	--	--	--	--	--	256	B-36-0111 TEMP SHLD & APPR
0010	1205+62.28	'NB'	-	1206+36.28	'NB'	2	28	--	44	--	--	--	--	MAINTENANCE X-OVER
0010	1503+10.30	'NB'	-	1617+41.71	'NB'	643	6097	--	11685	--	730	22863	--	
0010	1509+72.26	'NB'	-	1510+46.26	'NB'	2	28	--	43	--	--	--	--	MAINTENANCE X-OVER
0010	1598+37.57	'NB'	-	1599+11.57	'NB'	3	28	--	50	--	--	--	--	MAINTENANCE X-OVER
0010	1617+41.71	'NB'	-	1622+82.98	'NB'	44	422	--	809	--	51	1083	--	
0010	1622+82.98	'NB'	-	1643+55.65	'NB'	117	1105	--	2119	--	132	4145	--	
0010	1634+06.00	'NB'	-	1634+46.00	'NB'	--	11	--	--	20	--	--	--	LAW ENFORCEMENT PAD
0010	1643+55.65	'NB'	-	1657+98.90	'NB'	141	1339	--	2567	--	160	2887	--	
0010	1657+98.90	'NB'	-	1763+68.46	'NB'	594	5637	--	10804	--	675	21139	--	
0010	1669+99.91	'NB'	-	1670+73.91	'NB'	4	35	--	70	--	4	--	--	MAINTENANCE X-OVER
0010	1677+96.86	'NB'	-	1682+96.86	'NB'	--	62	--	--	--	--	--	256	B-36-0066 TEMP SHLD & APPR
0010	1684+51.20	'NB'	-	1689+51.20	'NB'	--	62	--	--	--	--	--	256	B-36-0066 TEMP SHLD & APPR
0010	1689+51.20	'NB'	-	1689+77.65	'NB'	--	3	--	--	--	--	--	63	B-36-0068 TEMP SHLD & APPR
0010	1691+33.32	'NB'	-	1696+33.32	'NB'	--	62	--	--	--	--	--	256	B-36-0068 TEMP SHLD & APPR
0010	1743+39.39	'NB'	-	1744+13.39	'NB'	3	35	--	60	--	4	--	--	MAINTENANCE X-OVER
0010	1763+68.46	'NB'	-	1768+14.19	'NB'	45	428	--	820	--	51	891	--	
0010	1768+14.19	'NB'	-	1791+05.86	'NB'	129	1222	--	2343	--	146	4583	--	
0010	1774+04.27	'NB'	-	1779+04.27	'NB'	--	62	--	--	--	--	--	256	B-36-0071 TEMP SHLD & APPR
0010	1780+62.10	'NB'	-	1785+62.10	'NB'	--	62	--	--	--	--	--	256	B-36-0071 TEMP SHLD & APPR
0010	1791+05.86	'NB'	-	1805+68.97	'NB'	144	1367	--	2620	--	164	2926	--	
0010	1805+68.97	'NB'	-	1847+15.22	'NB'	233	2211	--	4238	--	265	8293	--	
0010	1809+49.79	'NB'	-	1810+23.79	'NB'	3	35	--	60	--	--	--	--	MAINTENANCE X-OVER
0010	1852+16.16	'NB'	-	1921+47.94	'NB'	390	3697	--	7086	--	443	13864	--	
0010	1906+11.02	'NB'	-	1906+85.02	'NB'	3	35	--	60	--	--	--	--	MAINTENANCE X-OVER
0010	1921+47.94	'NB'	-	1927+29.50	'NB'	62	586	--	1122	--	70	1163	--	
0010	1927+29.50	'NB'	-	1939+14.29	'NB'	67	632	--	1211	--	76	2370	--	
NORTHBOUND TOTALS						**4,294**	**41233**	**0**	**78078**	**41**	**4856**	**143,574**	**1,858**	

**ADDITIONAL QUANTITES LOCATED ELSWHERE IN THE PLAN

HMA SUMMARY CONTINUED

CATEGORY	STATION		TO	STATION		455.0105 ASPHALTIC MATERIAL PG58-28 TON	455.0605 TACK COAT GAL	460.1100 HMA PAVEMENT TYPE E-0.3 TON	460.1130 HMA PAVEMENT TYPE E-30 TON	**465.0105 ASPHALTIC SURFACE TON	460.4000 HMA COLD WEATHER PAVING TON	460.4110.S REHEATING HMA PAVEMENT LONGITUDINAL JOINTS LF	465.0125 ASPHALTIC SURFACE TEMPORARY TON	REMARKS
	SOUTHBOUND													
0010	930+05.38	'SB'	-	1007+09.28	SB BK	433	4109	--	7875	--	492	15408	--	
0010	1006+90.46	SB AH	-	1010+03.15	'SB'	18	167	--	320	--	20	626	--	
0010	1010+03.15	'SB'	-	1024+14.05	'SB'	108	1024	--	1962	--	123	2822	--	
0010	1024+14.05	'SB'	-	1042+48.20	SB BK	103	978	--	1875	--	117	3669	--	
0010	1042+20.41	SB AH	-	1044+14.48	'SB'	11	104	--	198	--	12	389	--	
0010	1044+14.48	'SB'	-	1049+83.96	'SB'	47	444	--	852	--	53	1139	--	
0010	1050+00.00	'SB'	-	1053+72.39	'SB'	--	46	--	--	--	--	--	204	B-36-0042 TEMP SHLD & APPR
0010	1049+83.96	'SB'	-	1147+02.06	SB BK	546	5183	--	9934	--	621	19437	--	
0010	1055+58.21	'SB'	-	1060+58.21	'SB'	--	62	--	--	--	--	--	256	B-36-0042 TEMP SHLD & APPR
0010	1103+42.00	'SB'	-	1103+82.00	SB	--	11	--	--	20	--	--	--	LAW ENFORCEMENT PAD
0010	1124+01.06	'SB'	-	1129+01.06	'SB'	--	62	--	--	--	--	--	256	B-36-0110 TEMP SHLD & APPR
0010	1130+28.17	'SB'	-	1135+28.17	'SB'	--	62	--	--	--	--	--	256	B-36-0110 TEMP SHLD & APPR
0010	1147+37.97	SB AH	-	1216+88.99	'SB'	391	3707	--	7105	--	444	13903	--	
0010	1503+10.30	'SB'	-	1549+04.01	SB BK	258	2450	--	4696	--	293	9188	--	
0010	1549+02.65	SB AH	-	1613+02.18	'SB'	360	3413	--	6542	--	409	12800	--	
0010	1605+44.00	SB'	-	1605+84.00	SB'	--	11	--	--	20	--	--	--	LAW ENFORCEMENT PAD
0010	1613+02.18	'SB'	-	1614+61.44	'SB'	9	88	--	169	--	11	319	--	
0010	1615+09.92	'SB'	-	1627+25.34	'SB'	95	902	--	1729	--	108	2431	--	
0010	1627+25.34	'SB'	-	1648+67.81	'SB'	120	1143	--	2190	--	137	4285	--	
0010	1648+67.81	'SB'	-	1653+58.98	'SB'	40	378	--	725	--	45	983	--	
0010	1653+58.98	'SB'	-	1722+97.01	SB BK	390	3700	--	7092	--	443	13877	--	
0010	1678+57.34	'SB'	-	1683+57.34	'SB'	--	62	--	--	--	--	--	256	B-36-0065 TEMP SHLD & APPR
0010	1685+11.68	'SB'	-	1690+11.68	'SB'	--	62	--	--	--	--	--	256	B-36-0065 TEMP SHLD & APPR
0010	1690+11.68	'SB'	-	1690+26.93	'SB'	--	2	--	--	--	--	--	61	B-36-0067 TEMP SHLD & APPR
0010	1691+82.60	'SB'	-	1696+82.60	'SB'	--	62	--	--	--	--	--	256	B-36-0067 TEMP SHLD & APPR
0010	1722+49.83	SB AH	-	1754+90.45	'SB'	182	1728	--	3313	--	207	6482	--	
0010	1754+90.45	'SB'	-	1769+56.52	'SB'	108	1026	--	1966	--	123	2933	--	
0010	1769+56.52	'SB'	-	1793+17.66	'SB'	133	1259	--	2414	--	151	4723	--	
0010	1774+10.09	'SB'	-	1779+10.09	'SB'	--	62	--	--	--	--	--	256	B-36-0070 TEMP SHLD & APPR
0010	1780+67.93	'SB'	-	1785+67.93	'SB'	--	62	--	--	--	--	--	256	B-36-0070 TEMP SHLD & APPR
0010	1793+17.66	'SB'	-	1797+53.04	'SB'	34	323	--	619	--	39	871	--	
0010	1797+53.04	'SB'	-	1847+47.26	'SB'	281	2664	--	5105	--	319	9989	--	
0010	1852+48.09	'SB'	-	1870+50.54	SB BK	101	961	--	1843	--	115	3605	--	
0010	1870+40.60	SB AH	-	1914+86.07	'SB'	250	2371	--	4544	--	284	8891	--	
0010	1914+86.07	'SB'	-	1929+63.18	'SB'	110	1044	--	2001	--	125	2955	--	
0010	1929+63.18	'SB'	-	1939+16.18	'SB'	54	508	--	974	--	63	1906	--	
				SOUTHBOUND TOTALS		**4,182**	**40242**	**0**	**76043**	**41**	**4755**	**143,631**	**2,317**	
	CROSSOVERS													
0010	1188+15.21	'NB'	-	1202+49.43	'NB'	80	316	--	1460	--	--	--	--	SOUTH CROSSOVER
0010	1515+38.11	'NB'	-	1529+72.97	'NB'	80	316	--	1485	--	--	--	--	NORTH CROSSOVER
				CROSSOVER TOTALS		**160**	**632**	**0**	**2,945**	**0**	**0**	**0**	**0**	

**ADDITIONAL QUANTITES LOCATED ELSWHERE IN THE PLAN

HMA SUMMARY CONTINUED

CATEGORY	STATION	TO	STATION	455.0105 ASPHALTIC MATERIAL PG58-28 TON	455.0605 TACK COAT GAL	460.1100 HMA PAVEMENT TYPE E-0.3 TON	460.1130 HMA PAVEMENT TYPE E-30 TON	**465.0105 ASPHALTIC SURFACE TON	460.4000 HMA COLD WEATHER PAVING TON	460.4110.S REHEATING HMA PAVEMENT LONGITUDINAL JOINTS LF	465.0125 ASPHALTIC SURFACE TEMPORARY TON	REMARKS
	CTH XX INTERCHANGE											
0010	1023+77.37 SE	-	1034+82.95 SE	12	199	--	221	--	--	2212	--	
0010	1020+07.95 SE	-	1023+77.37 SE	14	133	--	255	--	--	739	--	
0010	1037+45.54 NE	-	1045+29.45 NE	9	141	--	157	--	--	1568	--	
0010	1045+29.45 NE	-	1052+33.35 NE	27	253	--	486	--	--	1408	--	
0010	1024+14.05 SW	-	1032+70.58 SW	9	154	--	171	--	--	1714	--	
0010	1017+30.58 SW	-	1024+14.05 SW	26	246	--	472	--	--	1367	--	
0010	1034+07.88 NW	-	1044+14.48 NW	11	181	--	201	--	--	2014	--	
0010	1044+14.48 NW	-	1047+73.81 NW	14	129	--	248	--	--	719	--	
	CTH XX INTERCHANGE TOTALS			**122**	**1437**	**0**	**2211**	**0**	**0**	**11741**		
	USH 151 INTERCHANGE											
0010	1622+82.98 SE	-	1629+33.49 SE	7	117	--	130	--	--	1302	--	
0010	1619+33.49 SE	-	1622+82.98 SE	13	126	--	241	--	--	699	--	
0010	1636+70.76 NE	-	1643+55.65 NE	8	123	--	137	--	--	1370	--	
0010	1643+55.65 NE	-	1650+60.23 NE	27	254	--	486	--	--	1410	--	
0010	1627+25.34 SW	-	1632+81.51 SW	6	100	--	111	--	--	1113	--	
0010	1619+77.59 SW	-	1627+25.34 SW	28	269	--	516	--	--	1496	--	
0010	1640+74.57 NW	-	1648+67.81 NW	9	143	--	159	--	--	1587	--	
0010	1648+67.81 NW	-	1651+82.57 NW	12	113	--	217	--	--	630	--	
	USH 151 INTERCHANGE TOTALS			**110**	**1245**	**0**	**1997**	**0**	**0**	**9607**		
	USH 10/STH 42/CTH JJ											
0010	1765+52.05 'SE'	-	1768+15.03 'SE'	10	95	--	181	--	--	526	--	
0010	1791+05.18 'NE'	-	1798+13.55 'NE'	27	255	--	489	--	--	1417	--	
0010	1762+76.07 'SW'	-	1769+56.95 'SW'	26	245	--	470	--	--	1362	--	
0010	1793+16.82 'NW'	-	1795+75.60 'NW'	10	93	--	179	--	--	518	--	
	USH 10/STH 42/CTH JJ TOTALS			**73**	**688**	**0**	**1319**	**0**	**0**	**3823**		
	STH 310 RAMPS											
0010	1923+38.57 'SE'		1927+30.77 'SE'	15	140	--	271	--	--	780	--	
0010	1922+42.63 'SW'		1929+64.15 'SW'	27	260	--	498	--	--	1444	--	
	STH 310 RAMP TOTALS			**42**	**400**	**0**	**768**	**0**	**0**	**2224**		
	PARK & RIDES											
0010	USH 151			19	162	355	--	--	--	--	--	
0010	STH 310			18	165	330	--	--	--	--	--	
0010	CTH 42			9	45	160	--	--	--	--	--	
	PARK & RIDE TOTALS			**46**	**372**	**845**	**0**	**0**	**0**	**0**	**0**	
	PROJECT TOTALS			**9030**	**86250**	**845**	**163360**	**82**	**9610**	**314600**	**4175**	

**ADDITIONAL QUANTITES LOCATED ELSWHERE IN THE PLAN

ASPHALTIC SHOULDER RUMBLE STRIPS

CATEGORY	STATION		TO	STATION		LOCATION	465.0400 ASPHALTIC SHOULDER RUMBLE STRIPS LF	SPV.0090.01 REMOVING RUMBLE STRIPS LF
NORTHBOUND								
0010	930+05.38	NB LT	-	1053+01.33	NB LT	IH 43 NB	12296	--
0010	930+05.38	NB RT	-	1017+80.41	NB RT	IH 43 NB	8775	--
0010	1023+20.99	NB RT	-	1045+96.40	NB RT	IH 43 NB	2275	--
0010	1042+00.00	NB RT	-	1046+00.00	NB RT	IH 43 NB	--	400
0010	1054+45.36	NB RT	-	1128+75.47	NB RT	IH 43 NB	7430	--
0010	1054+83.34	NB LT	-	1128+85.94	NB LT	IH 43 NB	7403	--
0010	1129+95.90	NB RT	-	1216+88.55	NB RT	IH 43 NB	8693	--
0010	1130+07.19	NB LT	-	1216+88.55	NB LT	IH 43 NB	8681	--
0010	1503+10.30	NB LT	-	1682+97.63	NB LT	IH 43 NB	17987	--
0010	1501+11.43	NB RT	-	1617+41.71	NB RT	IH 43 NB	11630	--
0010	1622+32.50	NB RT	-	1644+41.33	NB RT	IH 43 NB	2209	--
0010	1650+73.57	NB RT	-	1682+81.41	NB RT	IH 43 NB	3208	--
0010	1684+34.09	NB RT	-	1689+64.33	NB RT	IH 43 NB	530	--
0010	1684+50.35	NB LT	-	1689+77.78	NB LT	IH 43 NB	527	--
0010	1691+48.78	NB RT	-	1763+68.46	NB RT	IH 43 NB	7220	--
0010	1691+48.78	NB LT	-	1779+04.36	NB LT	IH 43 NB	8756	--
0010	1768+14.51	NB RT	-	1779+02.73	NB RT	IH 43 NB	1088	--
0010	1780+77.67	NB RT	-	1791+05.43	NB RT	IH 43 NB	1028	--
0010	1780+77.67	NB LT	-	1847+15.22	NB LT	IH 43 NB	6638	--
0010	1798+21.52	NB RT	-	1847+06.58	NB RT	IH 43 NB	4885	--
0010	1852+07.44	NB RT	-	1921+47.94	NB RT	IH 43 NB	6941	--
0010	1852+16.16	NB LT		1939+14.29	NB LT	IH 43 NB	8698	--
0010	1926+49.12	NB RT	-	1939+14.31	NB RT	IH 43 NB	1270	--
						NORTHBOUND TOTALS	**138,168**	**400**

CATEGORY	STATION		TO	STATION		465.0400 ASPHALTIC SHOULDER RUMBLE STRIPS LF
SOUTHBOUND						
0010	930+05.39	SB RT	-	1007+09.28	SB RT BK	7704
0010	930+05.39	SB LT	-	1007+09.28	SB LT BK	7704
0010	1006+90.46	SB RT AH	-	1042+48.20	SB RT BK	3558
0010	1006+90.46	SB LT AH	-	1016+91.90	SB	1001
0010	1023+34.05	SB LT	-	1042+48.20	SB LT BK	1914
0010	1042+20.41	SB RT AH	-	1053+58.69	SB	1138
0010	1042+20.41	SB LT AH	-	1045+21.97	SB	302
0010	1047+95.51	SB LT	-	1053+58.69	SB LT	563
0010	1055+56.24	SB RT	-	1129+00.68	SB RT	7344
0010	1055+83.53	SB LT	-	1129+14.31	SB LT	7331
0010	1130+28.60	SB RT	-	1147+02.06	SB RT BK	1673
0010	1130+42.53	SB LT	-	1147+02.06	SB LT BK	1660
0010	1147+37.97	SB RT AH	-	1216+88.48	SB RT	6951
0010	1147+37.97	SB LT AH	-	1216+88.48	SB LT	6951
0010	1501+06.32	SB LT	-	1549+04.01	SB LT BK	4798
0010	1503+10.30	SB RT	-	1549+04.01	SB RT BK	4594
0010	1549+02.65	SB LT AH	-	1614+61.44	SB LT BK	6559
0010	1549+02.65	SB RT AH	-	1614+61.44	SB RT BK	6559
0010	1615+09.92	SB LT AH	-	1620+09.04	SB LT	499
0010	1615+09.92	SB RT AH	-	1683+42.50	SB RT	6833
0010	1626+38.13	SB LT	-	1649+06.42	SB LT	2268
0010	1653+58.98	SB LT	-	1683+42.50	SB LT	2984
0010	1685+10.85	SB RT	-	1690+11.75	SB RT	501
0010	1685+27.27	SB LT	-	1690+11.75	SB LT	484
0010	1692+11.51	SB RT	-	1722+97.01	SB RT BK	3086
0010	1692+11.51	SB LT	-	1722+97.01	SB LT BK	3086
0010	1722+49.83	SB RT AH	-	1778+94.61	SB RT	5645
0010	1722+49.83	SB LT AH	-	1762+89.31	SB LT	4039
0010	1769+57.44	SB LT	-	1778+94.61	SB LT	937
0010	1780+67.73	SB RT	-	1847+47.26	SB RT	6680
0010	1780+69.35	SB LT	-	1793+16.84	SB LT	1247
0010	1795+67.32	SB LT	-	1847+54.84	SB LT	5188
0010	1852+48.09	SB RT	-	1870+50.54	SB RT BK	1802
0010	1852+56.73	SB LT	-	1870+50.54	SB LT BK	1794
0010	1870+40.60	SB RT AH	-	1939+16.18	SB RT	6876
0010	1870+40.60	SB LT AH	-	1922+42.63	SB LT	5202
0010	1928+85.76	SB LT	-	1939+16.18	SB LT	1030
					SOUTHBOUND TOTALS	**138,482**
					PROJECT TOTALS	**276,650**

CULVERT PIPE SUMMARY

CAT.	STATION	TO	STATION	520.1012 APRON ENDWALLS FOR CULVERT PIPE 12-INCH EACH	520.2012 CULVERT PIPE TEMPORARY 12-INCH LF	520.8700 CLEANING CULVERT PIPES EACH	520.8000 CONCRETE COLLARS FOR PIPE EACH	521.1024 APRON ENDWALLS FOR CULVERT PIPE STEEL 24-INCH EACH	521.2005.S SURFACE DRAIN PIPE CORRUGATED METAL SLOTTED 12-INCH LF	522.0118 CULVERT PIPE REINFORCED CONCRETE CL III 18-INCH LF	522.0142 CULVERT PIPE REINFORCED CONCRETE CL III 42-INCH LF	522.1018 APRON ENDWALLS FOR CULVERT PIPE REINFORCED CONCRETE 18-INCH EACH	522.1024 APRON ENDWALLS FOR CULVERT PIPE REINFORCED CONCRETE 24-INCH EACH	REMARKS
	NORTHBOUND													
0010	978+89.04 'NB'	-	980+29.04 'NB'	--	--	1	--	--	--	--	--	--	--	
0010	1036+14.04 'NB'			--	--	1	--	--	--	--	--	1	--	
0010	1148+77.00 'NB'			--	--	1	--	--	--	--	--	--	--	
0010	1163+78.00 'NB'	-	1164+46.00 'NB'	--	--	1	--	1	--	--	--	--	--	
0010	1192+98.81 'NB'	-	1194+38.94 'NB'	1	140	--	--	--	--	--	--	--	--	
0010	1194+38.94 'NB'	-	1199+38.50 'NB'	--	--	--	--	--	500	--	--	--	--	
0010	1197+92.23 'NB'	-	1201+94.49 'NB'	1	400	--	--	--	--	--	--	--	--	
0010	1521+62.46 'NB'	-	1523+42.08 'NB'	--	--	--	--	--	180	--	--	--	--	
0010	1523+42.08 'NB'	-	1526+03.00 'NB'	1	260	--	--	--	--	--	--	--	--	
0010	1534+89.04 'NB'			--	--	1	--	--	--	--	--	--	--	
0010	1548+89.04 'NB'			--	--	--	1	--	--	--	--	--	--	
0010	1598+49.33 'NB'	-	1598+99.82 'NB'	--	--	--	--	--	--	50	--	2	--	MAINT. X-OVER
0010	1665+89.04 'NB'			--	--	--	1	--	--	--	32	--	--	
0010	1722+89.00 'NB'			--	--	--	--	--	--	--	--	--	1	
0010	1729+39.00 'NB'			--	--	1	--	--	--	--	--	--	--	
0010	1800+89.00 'NB'			--	--	--	1	--	--	--	--	--	--	
0010	1838+89.00 'NB'			--	--	--	--	--	--	--	--	1	--	
0010	1878+89.00 'NB'			--	--	1	--	--	--	--	--	--	--	
0010	1889+89.00 'NB'			--	--	1	--	--	--	--	--	--	--	
	NORTHBOUND TOTALS			**3**	**800**	**8**	**3**	**1**	**680**	**50**	**32**	**4**	**1**	
	SOUTHBOUND													
0010	972+89.04 'SB'			--	--	1	--	--	--	--	--	--	--	
0010	978+89.04 'SB'	-	980+20.04 'SB'	--	--	1	--	--	--	--	--	--	--	
0010	1072+89.04 'SB'			--	--	--	--	--	--	--	--	1	--	
0010	1096+89.04 'SB'			--	--	--	--	--	--	--	--	1	--	
0010	1102+39.04 'SB'			--	--	1	--	--	--	--	--	1	--	
0010	1113+89.04 'SB'			--	--	1	--	--	--	--	--	--	--	
0010	1178+89.04 'SB'			--	--	1	--	--	--	--	--	--	--	
0010	1184+89.04 'SB'			--	--	1	--	--	--	--	--	--	--	
0010	1187+89.04 'SB'			--	--	1	--	--	--	--	--	--	--	
0010	1553+07.00 'SB'	-	1554+34.00 'SB'	--	--	1	--	--	--	--	--	--	--	
0010	1767+89.00 'SB'			--	--	--	--	--	--	--	--	1	--	
0010	1847+19.00 'SB'			--	--	--	--	--	--	--	--	1	--	
0010	1926+89.00 'SB'			--	--	--	--	--	--	--	--	--	--	
	SOUTHBOUND TOTALS			**0**	**0**	**8**	**0**	**0**	**0**	**0**	**0**	**5**	**0**	
	PROJECT TOTALS			**3**	**800**	**16**	**3**	**1**	**680**	**50**	**32**	**9**	**1**	

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CULVERT PIPE SUMMARY CONTINUED

CATEGORY	STATION	TO	STATION	522.1030 APRON ENDWALLS FOR CULVERT PIPE REINFORCED CONCRETE 30-INCH EACH	522.1042 APRON ENDWALLS FOR CULVERT PIPE REINFORCED CONCRETE 42-INCH EACH	522.1054 APRON ENDWALLS FOR CULVERT PIPE REINFORCED CONCRETE 54-INCH EACH	524.0118 CULVERT PIPE SALVAGED 18-INCH LF	524.0154 CULVERT PIPE SALVAGED 54-INCH LF	524.0618 APRON ENDWALLS FOR CULVERT PIPE SALVAGED 18-INCH EACH	633.5200 MARKERS CULVERT END EACH	REMARKS
	NORTHBOUND										
0010	978+89.04 'NB'	-	980+29.04 'NB'	--	--	--	--	--	--	2	
0010	1036+14.04 'NB'			--	--	--	--	--	--	2	
0010	1148+77.00 'NB'			--	--	--	--	--	--	2	
0010	1163+78.00 'NB'	-	1164+46.00 'NB'	--	--	--	--	--	--	2	
0010	1534+89.04 'NB'			--	--	--	--	--	--	2	
0010	1548+89.04 'NB'			--	--	1	--	8	--	2	
0010	1598+49.33 'NB'	-	1598+99.82 'NB'	--	--	--	--	--	--	2	MAINT. CROSSOVER
0010	1665+89.04 'NB'			--	1	--	--	--	--	2	
0010	1722+89.00 'NB'			--	--	--	--	--	--	2	
0010	1729+39.00 'NB'			--	--	--	--	--	--	2	
0010	1800+89.00 'NB'			--	--	--	8	--	1	2	
0010	1838+89.00 'NB'			--	--	--	--	--	--	2	
0010	1878+89.00 'NB'			--	--	--	--	--	--	2	
0010	1889+89.00 'NB'			--	--	--	--	--	--	2	
	NORTHBOUND TOTALS			**0**	**1**	**1**	**8**	**8**	**1**	**28**	
	SOUTHBOUND										
0010	972+89.04 'SB'			--	--	--	--	--	--	2	
0010	978+89.04 'SB'	-	980+20.04 'SB'	--	--	--	--	--	--	2	
0010	1072+89.04 'SB'			--	--	--	--	--	--	2	
0010	1096+89.04 'SB'			--	--	--	--	--	--	2	
0010	1102+39.04 'SB'			--	--	--	--	--	--	2	
0010	1113+89.04 'SB'			--	--	--	--	--	--	2	
0010	1178+89.04 'SB'			--	--	--	--	--	--	2	
0010	1184+89.04 'SB'			--	--	--	--	--	--	2	
0010	1187+89.04 'SB'			--	--	--	--	--	--	2	
0010	1553+07.00 'SB'	-	1554+34.00 'SB'	--	--	--	--	--	--	2	
0010	1767+89.00 'SB'			--	--	--	--	--	--	2	
0010	1847+19.00 'SB'			--	--	--	--	--	--	2	
0010	1926+89.00 'SB'			1	--	--	--	--	--	2	
	SOUTHBOUND TOTALS			**1**	**0**	**0**	**0**	**0**	**0**	**26**	
	PROJECT TOTALS			**1**	**1**	**1**	**8**	**8**	**1**	**54**	

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CONCRETE PAVEMENT SUMMARY

CATEGORY	STATION	TO	STATION	415.1080 CONCRETE PAVEMENT HES 8-INCH SY	601.0409 CONCRETE CURB & GUTTER 30-INCH TYPE A LF	415.1410 CONCRETE PAVEMENT APPROACH SLAB HES SY	REMARKS
			NORTHBOUND				
0010	1052+24.14 'NB'	-	1052+30.14 'NB'	--	12	--	B-36-0061 SE & SW QUAD
0010	1130+22.00 'NB'	-	1130+28.00 'NB'	--	6	--	B-36-0111 NW QUAD
0010	1682+65.84 'NB'	-	1682+81.51 'NB'	15	12	--	B-36-0066 S. APPROACH
0010	1691+33.11 'NB'	-	1691+48.78 'NB'	45	12	60	B-36-0068 N. APPROACH
0010	1780+62.00 'NB'	-	1780+77.67 'NB'	30	12	44	B-36-0071 N. APPROACH
			NORTHBOUND TOTALS	**90**	**54**	**103**	
			SOUTHBOUND				
0010	1053+58.69 'SB'	-	1054+01.56 'SB'	62	12	78	B-36-0042 S. APPROACH
0010	1130+22.26 'SB'	-	1130+28.26 'SB'	--	6	--	B-36-0110 NW QUAD
0010	1683+42.50 'SB'	-	1683+81.57 'SB'	49	12	64	B-36-0065 S. APPROACH
0010	1690+11.75 'SB'	-	1690+27.42 'SB'	45	12	60	B-36-0067 S. APPROACH
0010	1691+82.12 'SB'	-	1692+11.51 'SB'	35	--	60	B-36-0067 N. APPROACH
0010	1778+94.61 'SB'	-	1779+10.28 'SB'	30	12	45	B-36-0070 S. APPROACH
0010	1780+79.31 'SB'	-	1780+85.31 'SB'	--	12	--	B-36-0070 NE & NW QUAD
			SOUTHBOUND TOTALS	**220**	**54**	**307**	
			OVERPASS TOTALS				
0010	B-36-0074		COUNTY LINE RD	--	12	--	NW & SW QUAD
0010	B-36-0037		CLEVELAND RD	--	12	--	NE & SE QUAD
0010	B-36-0043		FISHER CREEK RD	--	12	--	NW & SW QUAD
0010	B-36-0045		CTH X	--	16	--	NW & SW QUAD
0010	B-36-0059		SILVER CREEK RD	--	12	--	NW & SW QUAD
0010	B-36-0062		VIEBAHN STREET	--	24	--	NW, SW, NE, & SE QUAD
0010	B-36-0069		MIDDLE ROAD	--	24	--	NW, SW, NE, & SE QUAD
			OVERPASS TOTALS	**0**	**112**	**0**	
			PROJECT TOTALS	**310**	**220**	**410**	

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TEMPORARY CONCRETE BARRIER SUMMARY

CATEGORY	STATION	TO	STATION	603.8000 CONCRETE BARRIER TEMPORARY PRECAST DELIVERED LF	603.8125 CONCRETE BARRIER TEMPORARY PRECAST INSTALLED LF	614.0905 CRASH CUSHIONS TEMPORARY EACH	BACK WIDTH STAGE 2A FT	BACK WIDTH STAGE 2B FT	OBJECT MARKING PATERN STAGE 2A	OBJECT MARKING PATERN STAGE 2B	CRASH TEST LEVEL	TRAFFIC DIRECTION	**TRAFFIC LOCATION STAGE 2A	**TRAFFIC LOCATION STAGE 2B	CRASH CUSHION SHIELDS
	NORTHBOUND														
0010	105149.43 'NB'	-	105636.93 'NB'	488	975	2	2	1	OM-3L	OM-3R	TL-3	UNIDIRECTIONAL	RT	LT	B-36-0061 STRUCTURE WORK
0010	1127+36.01 'NB'	-	1131+61.01 'NB'	425	850	2	2	1	OM-3L	OM-3R	TL-3	UNIDIRECTIONAL	RT	LT	B-36-0111 STRUCTURE WORK
0010	1681+46.86 'NB'	-	1692+83.32 'NB'	1,138	2,275	2	2	1	OM-3L	OM-3R	TL-3	UNIDIRECTIONAL	RT	LT	B-36-0066/68 STRUCTURE WORK
0010	1777+54.27 'NB'	-	1782+16.77 'NB'	463	925	2	2	1	OM-3L	OM-3R	TL-3	UNIDIRECTIONAL	RT	LT	B-36-0071 STRUCTURE WORK
	NORTHBOUND TOTALS			**2,513**	**5,025**	**8**									
	SOUTHBOUND														
0010	1052+20.71 'SB'	-	1057+08.21 'SB'	488	975	2	2	1	OM-3R	OM-3L	TL-3	UNIDIRECTIONAL	LT	RT	B-36-0042 STRUCTURE WORK
0010	1127+40.67 'SB'	-	1131+78.17 'SB'	438	875	2	2	1	OM-3R	OM-3L	TL-3	UNIDIRECTIONAL	LT	RT	B-36-0110 STRUCTURE WORK
0010	1682+07.34 'SB'	-	1693+32.60 'SB'	1,138	2,275	2	2	1	OM-3R	OM-3L	TL-3	UNIDIRECTIONAL	LT	RT	B-36-0065/67 STRUCTURE WORK
0010	1777+55.43 'SB'	-	1782+17.93 'SB'	463	925	2	2	1	OM-3R	OM-3L	TL-3	UNIDIRECTIONAL	LT	RT	B-36-0070 STRUCTURE WORK
	SOUTHBOUND TOTALS			**2525**	**5050**	**8**									
	PROJECT TOTALS			**5038**	**10075**	**16**									

**LT AND RT IS BASED ON ALIGNMENT STATIONING

INLET SUMMARY

CATEGORY	STATION	LOCATION	611.0600 INLET COVER TYPE A EACH	611.0430 RECONSTRUCTING INLETS EACH	611.8115 ADJUSTING INLET COVERS EACH	611.3220 INLETS 2X2-FT EACH	611.8120.S COVER PLATES TEMPORARY EACH	REMARKS	GUTTER FLOWLINE ELEVATION	FLOWLINE ELEVATION	DEPTH
	NORTHBOUND										
0010	1052+35.14 'NB' LT	IH 43 NB	--	--	1	--	--	B-36-0061 SW QUAD	717.18	714.69	2.49
0010	1052+92.43 'NB' RT	IH 43 NB	--	--	1	--	--	B-36-0061 SE QUAD	716.46	713.36	3.10
0010	1130+22.26 'NB' LT	IH 43 NB	--	--	1	--	1	B-36-0111 NW QUAD	643.16	639.91	3.25
0010	1197+92.23 'NB' LT	IH 43 NB	--	--	--	--	1	MEDIAN	645.64	643.34	2.30
0010	1682+67.69 'NB' RT	IH 43 NB	1	--	--	1	1	B-36-0066 SE QUAD	741.77	738.14	3.63
0010	1682+89.86 'NB' LT	IH 43 NB	--	1	--	--	1	B-36-0066 SW QUAD	742.14	739.34	2.80
0010	1689+49.69 'NB' RT	IH 43 NB	--	1	--	--	1	B-36-0068 SE QUAD	750.74	747.54	3.20
0010	1689+72.15 'NB' LT	IH 43 NB	--	1	--	--	1	B-36-0068 SW QUAD	751.11	748.12	2.99
0010	1780+75.10 'NB' RT	IH 43 NB	1	--	--	1	1	B-36-0071 SE QUAD	760.30	757.10	3.20
0010	1780+75.10 'NB' LT	IH 43 NB	1	--	--	1	1	B-36-0071 SW QUAD	760.57	757.12	3.45
	NORTHBOUND TOTALS		**3**	**3**	**3**	**3**	**8**				
	SOUTHBOUND										
0010	1053+53.89 'SB' RT	IH 43 SB	1	--	--	1	1	B-36-0042 SE QUAD	717.68	715.53	2.15
0010	1053+89.56 'SB' LT	IH 43 SB	1	--	--	1	1	B-36-0042 SW QUAD	717.82	715.00	2.82
0010	1130+51.21 'SB' LT	IH 43 SB	--	1	--	--	1	B-36-0110 NW QUAD	638.19	635.44	2.75
0010	1683+45.34 'SB' LT	IH 43 SB	1	--	--	1	1	B-36-0065 SW QUAD	743.69	740.31	3.38
0010	1683+45.34 'SB' RT	IH 43 SB	1	--	--	1	1	B-36-0065 SE QUAD	743.40	740.80	2.60
0010	1690+17.51 'SB' RT	IH 43 SB	1	--	--	1	1	B-36-0067 SE QUAD	751.95	749.30	2.65
0010	1690+41.21 'SB' LT	IH 43 SB	1	--	--	1	1	B-36-0067 SW QUAD	752.14	749.38	2.76
0010	1780+74.93 'SB' RT	IH 43 SB	--	--	1	--	1	B-36-0070 SE QUAD	760.68	757.33	3.35
0010	1780+77.00 'SB' LT	IH 43 SB	--	--	1	--	1	B-36-0070 SW QUAD	760.52	757.18	3.34
	SOUTHBOUND TOTALS		**6**	**1**	**2**	**6**	**9**				
	OVERPASS STRUCTURES										
0010	B-36-0074	COUNTY LINE RD	--	--	1	--	--	NW QUAD	707.16	704.31	2.85
0010	B-36-0074	COUNTY LINE RD	--	--	1	--	--	SW QUAD	707.09	704.34	2.75
0010	B-36-0037	CLEVELAND RD	--	--	1	--	--	NE QUAD	725.27	722.52	2.75
0010	B-36-0037	CLEVELAND RD	--	--	1	--	--	SE QUAD	725.28	722.53	2.75
0010	B-36-0043	FISHER CREEK RD	--	--	1	--	--	SW QUAD	675.63	673.28	2.35
0010	B-36-0043	FISHER CREEK RD	--	--	1	--	--	NW QUAD	675.90	673.85	2.05
0010	B-36-0045	CTH X	--	--	1	--	--	NE STRUCTURE	672.48	669.72	2.76
0010	B-36-0045	CTH X	--	--	1	--	--	NW STRUCTURE	672.40	669.35	3.05
0010	B-36-0045	CTH X	--	--	1	--	--	SE STRUCTURE	672.23	668.66	3.57
0010	B-36-0045	CTH X	--	--	1	--	--	SW STRUCTURE	672.27	668.22	4.05
0010	B-36-0059	SILVER CREEK RD	--	--	1	--	--	NW QUAD	694.11	691.11	3.00
0010	B-36-0059	SILVER CREEK RD	--	--	1	--	--	SW QUAD	693.94	690.91	3.03
0010	B-36-0062	VIEBAHN STREET	--	--	1	--	--	NE QUAD	705.34	702.15	3.19
0010	B-36-0062	VIEBAHN STREET	--	--	1	--	--	SE QUAD	705.37	703.07	2.30
0010	B-36-0062	VIEBAHN STREET	--	--	1	--	--	SW QUAD	704.11	701.71	2.40
0010	B-36-0062	VIEBAHN STREET	--	--	1	--	--	NW QUAD	704.49	701.29	3.20
0010	B-36-0069	MIDDLE ROAD	--	--	1	--	--	SE QUAD	759.82	756.17	3.65
0010	B-36-0069	MIDDLE ROAD	--	--	1	--	--	NE QUAD	759.94	757.49	2.45
0010	B-36-0069	MIDDLE ROAD	--	--	1	--	--	NW QUAD	760.52	757.12	3.40
0010	B-36-0069	MIDDLE ROAD	--	--	1	--	--	SW QUAD	760.51	756.86	3.65
	OVERPASS TOTALS		**0**	**0**	**20**	**0**	**0**				
	PROJECT TOTALS		**9**	**4**	**25**	**9**	**17**				

BEAM GUARD SUMMARY

CATEGORY	STATION	TO	STATION	LOCATION	614.0220 THRIE BEAM BULLNOSE TERMINAL EACH	614.0230 STEEL THRIE BEAM LF	614.0400 ADJUSTING STEEL PLATE BEAM GUARD LF	614.2300 MGS GUARDRAIL 3 LF	614.2500 MGS THRIE BEAM TRANSITION LF	614.2610 MGS GUARDRAIL TERMINAL EAT EACH	614.2620 MGS GUARDRAIL TERMINALTYPE 2 EACH	614.0397 GUARDRAIL MOW STRIP EMULSIFIED ASPHALT SY	REMARKS
				NORTHBOUND									
0010	978+88.10 'NB'	-	980+57.26 'NB'	IH 43 NB	2	125	--	--	--	--	--	--	CLEVELAND ROAD
0010	1049+55.64 'NB'	-	1052+35.14 'NB'	IH 43 NB	--	--	--	188	39	1	--	125	B-36-0061 SE QUAD
0010	1049+75.43 'NB'	-	1052+92.43 'NB'	IH 43 NB	--	--	--	225	39	1	--	142	B-36-0061 SW QUAD
0010	1103+45.43 'NB'	-	1105+27.11 'NB'	IH 43 NB	2	150	--	--	--	--	--	--	FISHER CREEK ROAD
0010	1125+59.01 'NB'	-	1128+76.01 'NB'	IH 43 NB	--	--	--	225	39	1	--	142	B-36-0111 SW QUAD
0010	1125+77.36 'NB'	-	1128+56.86 'NB'	IH 43 NB	--	--	--	188	39	1	--	125	B-36-0111 SE QUAD
0010	1130+04.08 'NB'	-	1132+55.08 'NB'	IH 43 NB	--	--	--	250	--	--	1	110	B-36-0111 NE QUAD
0010	1163+07.40 'NB'	-	1165+01.47 'NB'	IH 43 NB	2	175	--	--	--	--	--	--	CTH X
0010	1552+89.15 'NB'	-	1554+58.35 'NB'	IH 43 NB	2	125	--	--	--	--	--	--	SILVER CREEK ROAD
0010	1679+72.86 'NB'	-	1682+89.86 'NB'	IH 43 NB	--	--	--	225	39	1	--	142	B-36-0066 SW QUAD
0010	1679+88.19 'NB'	-	1682+67.69 'NB'	IH 43 NB	--	--	--	188	39	1	--	125	B-36-0066 SE QUAD
0010	1684+34.73 'NB'	-	1689+49.69 'NB'	IH 43 NB	--	--	--	475	39	--	--	228	B-36-0066 NE QUAD TO B-36-0068 SE QUAD
0010	1684+61.12 'NB'	-	1689+72.15 'NB'	IH 43 NB	--	--	--	475	39	--	--	228	B-36-0066 NW QUAD TO B-36-0068 SW QUAD
0010	1691+20.09 'NB'	-	1697+73.09 'NB'	IH 43 NB	--	--	--	650		--	1	289	B-36-0068 NE QUAD
0010	1775+80.27 'NB'	-	1778+97.27 'NB'	IH 43 NB	--	--	--	225	39	1	--	142	B-36-0071 SW QUAD
0010	1776+15.55 'NB'	-	1778+95.05 'NB'	IH 43 NB	--	--	--	188	39	1	--	125	B-36-0071 SE QUAD
0010	1842+13.98 'NB'	-	1846+94.98 'NB'	IH 43 NB	--	--	490	--	--	--	--	--	MANITOWOC RIVER BRIDGE SE QUAD
0010	1844+31.51 'NB'	-	1847+09.38 'NB'	IH 43 NB	--	--	275	--	--	--	--	--	MANITOWOC RIVER BRIDGE SW QUAD
			NORTHBOUND TOTALS		**8**	**575.0**	**765.0**	**3,500.0**	**390.0**	**8.0**	**2.0**	**1,923.3**	
				SOUTHBOUND									
0010	1056+08.40 'SB'	-	1058+87.90 'SB'	IH 43 SB	--	--	--	225	39	1	--	142	B-36-0042 NE QUAD
0010	1055+65.21 'SB'	-	1058+82.21 'SB'	IH 43 SB	--	--	--	188	39	1	--	125	B-36-0042 NW QUAD
0010	1130+82.55 'SB'	-	1133+70.05 'SB'	IH 43 SB	--	--	--	288	--	--	1	128	B-36-0110 SW QUAD
0010	1130+32.67 'SB'	-	1133+49.67 'SB'	IH 43 SB	--	--	--	225	39	1	--	142	B-36-0110 NE QUAD
0010	1130+51.21 'SB'	-	1133+30.71 'SB'	IH 43 SB	--	--	--	188	39	1	--	125	B-36-0110 NW QUAD
0010	1631+20.30 'SB'	-	1633+85.80 'SB'	IH 43 SB	--	--	--	212.5	--	1	1	119	SOUTH OF USH 151 RT
0010	1685+18.68 'SB'	-	1690+17.51 'SB'	IH 43 SB	--	--	--	475	39	--	--	228	B-36-0065 NE QUAD TO B-36-0067 SE QUAD
0010	1685+43.62 'SB'	-	1690+41.21 'SB'	IH 43 SB	--	--	--	463	39	--	--	223	B-36-0065 NW QUAD TO B-36-0067 SW QUAD
0010	1692+10.49 'SB'	-	1694+89.99 'SB'	IH 43 SB	--	--	--	188	39	1	--	125	B-36-0067 NW QUAD
0010	1691+87.60 'SB'	-	1695+04.60 'SB'	IH 43 SB	--	--	--	225	39	1	--	142	B-36-0067 NE QUAD
0010	1780+74.93 'SB'	-	1783+91.93 'SB'	IH 43 SB	--	--	--	225	39	1	--	142	B-36-0070 NE QUAD
0010	1780+77.00 'SB'	-	1783+56.50 'SB'	IH 43 SB	--	--	--	188	39	1	--	125	B-36-0070 NW QUAD
0010	1843+98.00 'SB'	-	1847+53.21 'SB'	IH 43 SB	--	--	350	--	--	--	--	--	
0010	1852+53.93 'SB'	-	1855+32.93 'SB'	IH 43 SB	--	--	275	--	--	--	--	--	
0010	1852+68.33 'SB'	-	1854+99.33 'SB'	IH 43 SB	--	--	225	--	--	--	--	--	
			SOUTHBOUND TOTALS		**0**	**0**	**850**	**3,088**	**390**	**9**	**2**	**1,766**	
				USH 151 SE RAMP									
0010	1056+08.40 'SE'	-	1058+87.90 'SE'	USH 151 SE	--	--	--	163	--	1	1	97	USH 151 SE RAMP
			USH 151 SE RAMP TOTALS		**0**	**0**	**0**	**163**	**0**	**1**	**1**	**97**	
			PROJECT TOTAL		**8**	**575**	**1,615**	**6,750**	**780**	**18**	**5**	**3,786**	

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BARRIER SYSTEM GRADING, SHAPING & FINISHING SUMMARY

CATEGORY	STATION	TO	STATION	LOCATION	614.0010 BARRIER SYSTEM GRADING, SHAPING & FINISHING EACH	*COMMON EXCAVATION CY	*BORROW CY	*SALVAGED TOPSOIL SY	*FERTILIZER TYPE B CWT	*SEEDING NO. 20 LB	*MULCH SY	REMARKS
			NORTHBOUND									
0010	976+78.00 'NB'	-	982+66.79 'NB'	IH 43 NB	2	141	164	3614	2.3	98	3614	CLEVELAND ROAD BULLNOSE
0010	1048+60.83 'NB'	-	1053+11.56 'NB'	IH 43 NB	2	--	148	417	0.3	11	417	B-36-0061 SOUTH APPROACH LT & RT
0010	1101+35.78 'NB'	-	1107+36.73 'NB'	IH 43 NB	2	36	459	3614	2.3	98	3614	FISHER CREEK ROAD BULLNOSE
0010	1124+66.20 'NB'	-	1128+90.07 'NB'	IH 43 NB	2	--	141	417	0.3	11	417	B-36-0111 SOUTH APPROACH LT & RT
0010	1161+04.20 'NB'	-	1167+05.00 'NB'	IH 43 NB	2	156	114	3614	2.3	98	3614	CTH X BULLNOSE
0010	1550+79.48 'NB'	-	1556+68.00 'NB'	IH 43 NB	2	92	264	3614	2.3	98	3614	SILVER CREEK ROAD BULLNOSE
0010	1678+82.86 'NB'	-	1683+03.89 'NB'	IH 43 NB	2	--	102	417	0.3	11	417	B-36-0066 SOUTH APPROACH LT & RT
0010	1774+85.76 'NB'	-	1779+04.78 'NB'	IH 43 NB	2	--	89	417	0.3	11	417	B-36-0071 SOUTH APPROACH LT & RT
			NORTHBOUND TOTALS		**16**	**425**	**1481**	**16125**	**10.2**	**435**	**16125**	
			SOUTHBOUND									
0010	1055+49.41 'SB'	-	1059+76.75 'SB'	IH 43 SB	2	--	118	417	0.3	11	417	B-36-0042 SOUTH APPROACH LT & RT
0010	1130+25.08 'SB'	-	1134+42.52 'SB'	IH 43 SB	2	--	130	417	0.3	11	417	B-36-0110 SOUTH APPROACH LT & RT
0010	1631+20.30 'SB'	-	1633+85.80 'SB'	IH 43 SB	1	--	41	417	0.3	11	417	SOUTH OF USH 151 RT
0010	1691+78.69 'SB'	-	1696+29.01 'SB'	IH 43 SB	2	--	103	417	0.3	11	417	B-36-0067 SOUTH APPROACH LT & RT
0010	1780+67.32 'SB'	-	1784+86.31 'SB'	IH 43 SB	2	--	104	417	0.3	11	417	B-36-0070 SOUTH APPROACH LT & RT
			SOUTHBOUND TOTALS		**9**	**0**	**496**	**2087**	**1.3**	**56**	**2087**	
			USH 151 RAMP									
0010	1780+67.32 'SE'	-	1784+86.31 'SE'	USH 151 SE RAMP	1	--	22	417	0.3	11	417	USH 151 SE RAMP
			USH 151 RAMP TOTALS		1	0	22	417	0.3	11	417	
			PROJECT TOTAL		**26**	**425**	**1,999**	**18,630**	**12**	**503**	**18,630**	

*FOR INFORMATION ONLY
** SEE CROSS SECTIONS FOR MORE INFORMATION

LANDSCAPING SUMMARY

CATEGORY	STATION	TO	STATION	LOCATION	625.0100 TOPSOIL SY	625.0500 SALVAGED TOPSOIL SY	628.2004 EROSION MAT CLASS I, TYPE B SY	629.0210 FERTILIZER TYPE B CWT	630.0120 SEEDING MIXTURE NO. 20 LB	630.0200 SEEDING TEMPORARY LB	SPV.0180.01 GRADE AND SHAPE DITCH SY	REMARKS
			NORTHBOUND									
0010	940+89.04 'NB'			IH 43 NB	5	--	5	0.003	0.1	0.1	--	PERIMETER RESTORATION
0010	965+00.00 'NB'			IH 43 NB	--	11	11	0.007	0.3	0.2	--	SIGN NO. 200
0010	972+89.04 'NB'			IH 43 NB	4	--	4	0.002	0.1	0.1	--	PERIMETER RESTORATION
0010	960+50.00 'NB'	-	979+50.00 'NB'	IH 43 NB	--	2111	2111	1.330	57.0	28.5	2111.1	GRADE & SHAPE
0010	985+80.00 'NB'			IH 43 NB	--	11	11	0.007	0.3	0.2	--	SIGN NO. 202
0010	1017+50.00 'NB'			IH 43 NB	--	11	11	0.007	0.3	0.2	--	SIGN NO.205
0010	1034+64.04 'NB'	-	1037+64.04 'NB'	IH 43 NB	--	333	333	0.210	9.0	4.5	333.3	GRADE & SHAPE
0010	1036+14.04 'NB'			IH 43 NB	10	--	10	0.006	0.3	0.1	--	ENDWALL REPLACEMENT
0010	1083+50.00 'NB'			IH 43 NB	--	11	11	0.007	0.3	0.2	--	SIGN NO. 208
0010	1129+50.00 'NB'			IH 43 NB	--	625	625	0.394	16.9	8.4	--	B-36-0036 SE WING
0010	1163+50.00 'NB'			IH 43 NB	11	--	11	0.007	0.3	0.1	--	ENDWALL REPLACEMENT
0010	1188+15.21 'NB'	-	1202+49.43	IH 43 NB	--	3860	3860	2.432	104.2	52.1	--	SOUTH CROSSOVER
0010	1515+38.09 'NB'	-	1529+72.97	IH 43 NB	--	3865	3865	2.435	104.3	52.2	--	NORTH CROSSOVER
0010	1522+30.00 'NB'			IH 43 NB	--	11	11	0.007	0.3	0.2	--	SIGN NO. 211
0010	1540+50.00 'NB'			IH 43 NB	--	11	11	0.007	0.3	0.2	--	SIGN NO. 212
0010	1541+39.04 'NB'	-	1543+39.04 'NB'	IH 43 NB	--	222	222	0.140	6.0	3.0	222.2	GRADE & SHAPE
0010	1548+89.04 'NB'			IH 43 NB	44	--	44	0.028	1.2	0.6	0.0	ENDWALL/PIPE RE-LAY
0010	1549+50.00 'NB'			IH 43 NB	--	11	11	0.007	0.3	0.2	--	SIGN NO. 213
0010	1574+30.00 'NB'			IH 43 NB	--	11	11	0.007	0.3	0.2	--	SIGN NO. 215
0010	1585+89.04 'NB'	-	1587+89.04 'NB'	IH 43 NB	--	222	222	0.140	6.0	3.0	222.2	GRADE & SHAPE
0010	1590+40.00 'NB'			IH 43 NB	--	11	11	0.007	0.3	0.2	--	SIGN NO. 217
0010	1598+50.00 'NB'			IH 43 NB	--	11	11	0.007	0.3	0.2	--	SIGN NO. 218
0010	1598+99.82 'NB'	-	1600+39.00 'NB'	IH 43 NB	--	309	309	0.195	8.4	4.2	--	GRADE & SHAPE
0010	1597+49.33 'NB'		1598+49.33 'NB'	IH 43 NB	--	222	222	0.140	6.0	3.0	222.2	PIPE REPLACEMENT
0010	1604+50.00 'NB'			IH 43 NB	--	11	11	0.007	0.3	0.2	--	SIGN NO. 219
0010	1616+10.00 'NB'			IH 43 NB	--	11	11	0.007	0.3	0.2	--	SIGN NO. 220
0010	1665+53.41 'NB'			IH 43 NB	93	--	93	0.059	2.5	1.3	--	ENDWALL REPLACEMENT
0010	1682+50.00 'NB'			IH 43 NB	--	100	100	0.063	2.7	1.4	--	B-36-0066 SE WING
0010	1694+00.00 'NB'			IH 43 NB		11	11	0.007	0.3	0.2	--	SIGN NO. 227
0010	1701+64.00 'NB'	-	1702+14.00 'NB'	IH 43 NB	167	--	167	0.105	4.5	2.3	166.7	FORESLOPE RESTORATION
0010	1712+00.00 'NB'			IH 43 NB	--	11	11	0.007	0.3	0.2	--	SIGN NO. 231
0010	1717+40.00 'NB'			IH 43 NB	--	11	11	0.007	0.3	0.2	--	SIGN NO. 232
0010	1722+89.00 'NB'			IH 43 NB	4	--	4	0.002	0.1	0.1	--	PERIMETER RESTORATION
0010	1738+90.00 'NB'			IH 43 NB	--	11	11	0.007	0.3	0.2	--	SIGN NO. 233
0010	1763+50.00 'NB'			IH 43 NB	--	11	11	0.007	0.3	0.2	--	SIGN NO. 234
0010	1800+89.00 'NB'			IH 43 NB	24	--	24	0.015	0.6	0.3	--	ENDWALL/PIPE RE-LAY
0010	1838+89.00 'NB'			IH 43 NB	10	--	10	0.006	0.3	0.1	--	ENDWALL REPLACEMENT
0010	1865+00.00 'NB'			IH 43 NB	--	11	11	0.007	0.3	0.2	--	SIGN NO.242
0010	1872+80.00 'NB'			IH 43 NB	--	11	11	0.007	0.3	0.2	--	SIGN NO.246
0010	1877+50.00 'NB'	-	1888+00.00 'NB'	IH 43 NB	--	1750	1750	1.100	47.3	23.6	1750.0	GRADE & SHAPE
0010	1920+60.00 'NB'			IH 43 NB	--	11	11	0.007	0.3	0.2	--	SIGN NO. 248
			NORTHBOUND TOTALS		**370**	**13843**	**14212**	**9**	**384**	**192**	**5028**	

LANDSCAPING SUMMARY CONTINUED

CATEGORY	STATION	TO	STATION	LOCATION	625.0100 TOPSOIL SY	625.0500 SALVAGED TOPSOIL SY	628.2004 EROSION MAT CLASS I, TYPE B SY	629.0210 FERTILIZER TYPE B CWT	630.0120 SEEDING MIXTURE NO. 20 LB	630.0200 SEEDING TEMPORARY LB	SPV.0180.01 GRADE AND SHAPE DITCH SY	REMARKS
			SOUTHBOUND									
0010	963+39.04 'SB'	-	973+39.04 'SB'	IH 43 SB	--	1667	1667	1.050	45.0	22.5	1666.7	GRADE & SHAPE
0010	976+89.04 'SB'	-	978+89.04 'SB'	IH 43 SB	--	222	222	0.140	6.0	3.0	222.2	GRADE & SHAPE
0010	986+60.00 'SB'			IH 43 SB	--	11	11	0.007	0.3	0.2	--	SIGN NO. 203
0010	1050+50.00 'SB'			IH 43 SB	--	11	11	0.007	0.3	0.2	--	SIGN NO. 206
0010	1072+89.04 'SB'			IH 43 SB	10	--	10	0.006	0.3	0.1	--	ENDWALL REPLACEMENT
0010	1085+20.00 'SB'			IH 43 SB	--	11	11	0.007	0.3	0.2	--	SIGN NO. 209
0010	1096+89.04 'SB'			IH 43 SB	10	--	10	0.006	0.3	0.1	--	ENDWALL REPLACEMENT
0010	1102+39.04 'SB'			IH 43 SB	10	--	10	0.006	0.3	0.1	--	ENDWALL REPLACEMENT
0010	1105+20.00 'SB'			IH 43 SB	--	11	11	0.007	0.3	0.2	--	SIGN NO. 210
0010	1127+50.00 'SB'			IH 43 SB	--	625	625	0.394	16.9	8.4	--	B-36-0036 SW WING
0010	1164+39.04 'SB'	-	1166+39.04 'SB'	IH 43 SB	222	--	222	0.140	6.0	3.0	222.2	GRADE & SHAPE
0010	1587+00.00 'SB'			IH 43 SB	--	11	11	0.007	0.3	0.2	--	SIGN NO.216
0010	1631+00.00 SB'			IH 43 SB	--	2	2	--	0.1	0.0	--	FILL SINKHOLE (2 CY)
0010	1655+10.00 'SB'			IH 43 SB	--	11	11	0.007	0.3	0.2	--	SIGN NO. 222
0010	1680+00.00 'SB'			IH 43 SB	--	11	11	0.007	0.3	0.2	--	SIGN NO. 224
0010	1691+82.60 'SB'			IH 43 SB	--	100	100	0.063	2.7	1.4	--	B-36-0067 NE WING
0010	1691+92.60 'SB'			IH 43 SB	--	100	100	0.063	2.7	1.4	--	B-36-0067 NW WING
0010	1693+15.00 'SB'			IH 43 SB	--	11	11	0.007	0.3	0.2	--	SIGN NO.226
0010	1706+90.00 'SB'			IH 43 SB	--	11	11	0.007	0.3	0.2	--	SIGN NO. 229
0010	1767+89.00 'SB'			IH 43 SB	10	--	10	0.006	0.3	0.1	--	ENDWALL REPLACEMENT
0010	1799+00.00 'SB'			IH 43 SB	--	11	11	0.007	0.3	0.2	--	SIGN NO. 236
0010	1823+00.00 'SB'			IH 43 SB	--	11	11	0.007	0.3	0.2	--	SIGN NO. 238
0010	1829+00.00 'SB'			IH 43 SB	--	11	11	0.007	0.3	0.2	--	SIGN NO. 239
0010	1834+20.00 'SB'			IH 43 SB	--	11	11	0.007	0.3	0.2	--	SIGN NO. 240
0010	1842+00.00 'SB'			IH 43 SB	--	11	11	0.007	0.3	0.2	--	SIGN NO. 241
0010	1847+19.00 'SB'			IH 43 SB	10	--	10	0.006	0.3	0.1	--	ENDWALL REPLACEMENT
0010	1863+60.00 'SB'			IH 43 SB	--	11	11	0.007	0.3	0.2	--	SIGN NO. 244
0010	1876+90.00 'SB'			IH 43 SB	--	11	11	0.007	0.3	0.2	--	SIGN NO. 247
0010	1877+90.00 'SB'	-	1888+00.00			1683	1683	1.061	45.5	22.7	1683.3	GRADE & SHAPE
0010	1926+89.00 'SB'			IH 43 SB	12	--	12	0.007	0.3	0.2	--	ENDWALL REPLACEMENT
			SOUTHBOUND TOTALS		**282**	**4577**	**4859**	**4**	**132**	**66**	**3795**	
			USH 151 INTERCHANGE									
	1632+75.00 SW'		USH 151 SW RAMP		2	2	2	0.001	0.1	0.0	0.0	FILL SINKHOLE (3 CY)
	1640+67.00 NW'		USH 151 NW RAMP		2	2	2	0.001	0.1	0.0	0.0	FILL SINKHOLE (2 CY)
											5	
			USH 151 INTERCHANGE TOTALS		**4**	**4**	**4**	**0.003**	**0**	**0**	**0**	
			USH 10/STH 42/CTH JJ									
			NE On Ramp		--	1667	1667	1.05	45.0	22.5	1666.7	GRADE & SHAPE
			STH 42		250	--	250	0.16	6.8	3.4	--	PARK AND RIDE
			USH 10/STH 42/CTH JJ TOTALS		**250**	**1667**	**1917**	**1**	**52**	**26**	**1667**	
			UNDISTRIBUTED QUANTITY		**64**	**1844**	**1908**	**1.3**	**52**	**26**	**885**	
			PROJECT TOTALS		**970**	**21,935**	**22,900**	**16**	**620**	**310**	**11,375**	

EROSION CONTROL SUMMARY

CATEGORY	STATION	TO	STATION	606.0200 RIP RAP MEDIUM CY	628.1504 SILT FENCE LF	628.1520 SILT FENCE MAINTENANCE LF	628.7005 INLET PROTECTION TYPE A EACH	628.7015 INLET PROTECTION TYPE C EACH	628.7504 TEMPORARY DITCH CHECKS LF	628.7555 CULVERT PIPE CHECKS EACH	645.0120 GEOTEXTILE FABRIC TYPE HR SY	REMARKS
	NORTHBOUND											
0010	940+89.04 'NB'			--	--	--	1	--	--	--	--	
0010	972+89.04 'NB'			--	--	--	1	--	--	--	--	
0010	976+85.00 'NB'			--	--	--	--	--	10	--	--	
0010	960+50.00 'NB'			--	--	--	--	--	10	--	--	
0010	962+50.00 'NB'			--	--	--	--	--	10	--	--	
0010	964+50.00 'NB'			--	--	--	--	--	10	--	--	
0010	966+50.00 'NB'			--	--	--	--	--	10	--	--	
0010	968+50.00 'NB'			--	--	--	--	--	10	--	--	
0010	970+50.00 'NB'			--	--	--	--	--	10	--	--	
0010	972+50.00 'NB'			--	--	--	--	--	10	--	--	
0010	974+50.00 'NB'			--	--	--	--	--	10	--	--	
0010	978+00.00 'NB'			--	--	--	--	--	15	--	--	
0010	980+29.04 'NB'			--	--	--	--	--	--	10	--	
0010	980+89.04 'NB'			15	--	--	1	--	--	--	57	
0010	1048+47.00 'NB'	-	1050+12.00 'NB'	--	175	175	--	--	--	--	--	RT EAT GRADING
0010	1048+76.00 'NB'	-	1050+46.00 'NB'	--	175	175	--	--	--	--	--	LT EAT GRADING
0010	1052+35.14 'NB'			--	--	--	--	1	--	--	--	B-36-0061 SW QUAD
0010	1052+92.43 'NB'			--	--	--	--	1	--	--	--	B-36-0061 SE QUAD
0010	1102+39.00 'NB'			--	--	--	1	--	--	--	--	
0010	1106+58.00 'NB'			--	--	--	--	--	15	--	--	
0010	1130+22.26 'NB'			--	--	--	--	1	--	--	--	B-36-0111 NW QUAD
0010	1036+00.00 'NB'			--	--	--	--	--	10	--	--	
0010	1037+66.00 'NB'			--	--	--	--	--	10	--	--	
0010	1124+47.00 'NB'	-	1126+21.00 'NB'	--	180	180	--	--	--	--	--	LT EAT GRADING
0010	1124+54.00 'NB'	-	1126+47.00 'NB'	--	200	200	--	--	--	--	--	RT EAT GRADING
0010	1129+50.00 'NB'			--	150	150	--	--	--	--	--	
0010	1162+27.00 'NB'			--	--	--	1	--	15	--	--	
0010	1165+50.00 'NB'			--	--	--	--	--	--	--	--	
0010	1187+90.00 'NB'			--	--	--	1	1	--	--	--	SOUTH CROSSOVER
0010	1201+94.49 'NB'			--	--	--	--	--	--	1	--	SOUTH CROSSOVER
0010	1517+50.00 'NB'			--	--	--	1	--		--	--	NORTH CROSSOVER
0010	1529+00.00 'NB'			--	--	--	--	--	20	--	--	NORTH CROSSOVER
0010	1534+90.00 'NB'			--	--	--	1	--		--	--	NORTH CROSSOVER
0010	1543+42.00 'NB'			--	--	--	--	--	10	--	--	
0010	1548+97.00 'NB'			--	--	--	1	--	--	--	--	
0010	1552+00.00 'NB'			--	--	--	--	--	15	--	--	
0010	1555+15.00 'NB'			--	--	--	1	--	--	--	--	
0010	1587+92.00 'NB'			--	--	--	--	--	10	--	--	
0010	1597+45.00 'NB'			--	--	--	--	--	15	--	--	
0010	1599+11.00 'NB'			--	--	--	--	--	--	5	--	
0010	1623+15.00 'NB'	-	1626+33.00 'NB'	--	330	330	--	--	--	--	--	USH 151 SE RAMP
0010	1664+91.00 'NB'	-	1666+41.00 'NB'	--	150	150	--	--	--	--	--	
0010	1678+73.00 'NB'	-	1680+43.00 'NB'	--	180	180	--	--	--	--	--	LT EAT GRADING
0010	1678+81.00 'NB'	-	1680+44.00 'NB'	--	175	175	--	--	--	--	--	RT EAT GRADING
0010	1682+50.00 'NB'			--	100	100	--	--	--	--	--	B-36-66 SE WING
			PAGE TOTALS	**15**	**1815**	**1815**	**10**	**4**	**225**	**16**	**57**	

EROSION CONTROL SUMMARY CONTINUED

CATEGORY	STATION	TO	STATION	606.0200 RIP RAP MEDIUM CY	628.1504 SILT FENCE LF	628.1520 SILT FENCE MAINTENANCE LF	628.7005 INLET PROTECTION TYPE A EACH	628.7015 INLET PROTECTION TYPE C EACH	628.7504 TEMPORARY DITCH CHECKS LF	628.7555 CULVERT PIPE CHECKS EACH	645.0120 GEOTEXTILE FABRIC TYPE HR SY	REMARKS
0010	1682+67.69 'NB'			--	--	--	--	1	--	--	--	B-36-0066 SE QUAD
0010	1682+89.86 'NB'			--	--	--	--	1	--	--	--	B-36-0066 SW QUAD
0010	1689+49.69 'NB'			--	--	--	--	1	--	--	--	B-36-0068 SE QUAD
0010	1689+72.15 'NB'			--	--	--	--	1	--	--	--	B-36-0068 SW QUAD
0010	1699+89.00 'NB'	-	1701+89.00 'NB'	52	--	--	--	--	--	--	158	
0010	1722+89.00 'NB'			--	--	--	1	--	--	--	--	
0010	1774+76.00 'NB'	-	1776+48.00 'NB'	--	175	175	--	--	--	--	--	LT EAT GRADING
0010	1775+08.00 'NB'	-	1776+70.00 'NB'	--	165	165	--	--	--	--	--	RT EAT GRADING
0010	1780+75.10 'NB'			--	--	--	--	1	--	--	--	B-36-0071 SE QUAD
0010	1780+75.10 'NB'			--	--	--	--	1	--	--	--	B-36-0071 SW QUAD
0010	1800+72.00 'NB'	-	1801+72.00 'NB'	--	100	100	--	--	--	--	--	
0010	1867+85.00 'NB'			--	--	--	--	--	--	--	--	
0010	1878+90.00 'NB'			--	--	--	--	--	10	--	--	
0010	1881+00.00 'NB'			--	--	--	--	--	10	--	--	
0010	1884+00.00 'NB'			--	--	--	--	--	10	--	--	
0010	1887+00.00 'NB'			--	--	--	--	--	10	--	--	
			NORTHBOUND TOTALS	**67**	**2255**	**2255**	**11**	**10**	**265**	**16**	**215**	
			SOUTHBOUND									
0010	963+35.00 'SB'			--	--	--	--	--	15	--	--	
0010	965+35.00 'SB'			--	--	--	--	--	15	--	--	
0010	967+35.00 'SB'			--	--	--	--	--	15	--	--	
0010	969+35.00 'SB'			--	--	--	--	--	15	--	--	
0010	971+35.00 'SB'			--	--	--	--	--	15	--	--	
0010	976+86.00 'SB'			--	--	--	--	--	10	--	--	
0010	1053+53.89 'SB'			--	--	--	--	1	--	--	--	B-36-0042 SE QUAD
0010	1053+89.56 'SB'			--	--	--	--	1	--	--	--	B-36-0042 SW QUAD
0010	1058+29.00 'SB'	-	1059+87.00 'SB'	--	165	165	--	--	--	--	--	RT EAT GRADING
0010	1058+20.00 'SB'	-	1059+84.00 'SB'	--	185	185	--	--	--	--	--	LT EAT GRADING
0010	1130+51.21 'SB'			--	--	--	--	1	--	--	--	B-36-0110 NW QUAD
0010	1127+50.00 'SB'			--	150	150	--	--	--	--	--	B-36-36 SW WING
0010	1132+61.00 'SB'	-	1134+58.00 'SB'	--	200	200	--	--	--	--	--	LT EAT GRADING
0010	1132+82.00 'SB'	-	1134+54.00 'SB'	--	175	175	--	--	--	--	--	RT EAT GRADING
0010	1164+37.00 'SB'			--			--	--	--	5	--	
0010	1630+98.00 'SB'	-	1634+83.00 'SB'	--	400	400	--	--	--	--	--	BEAMGUARD LT
0010	1683+45.34 'SB'			--	--	--	--	1	--	--	--	B-36-0065 SW QUAD
0010	1683+45.34 'SB'			--	--	--	--	1	--	--	--	B-36-0065 SE QUAD
0010	1690+17.51 'SB'			--	--	--	--	1	--	--	--	B-36-0067 SE QUAD
0010	1690+41.21 'SB'			--	--	--	--	1	--	--	--	B-36-0067 SW QUAD
0010	1691+82.60 'SB'			--	100	100	--	--	--	--	--	B-36-67 NE WING
0010	1691+92.60 'SB'			--	100	100	--	--	--	--	--	B-36-67 NW WING
0010	1694+33.00 'SB'	-	1696+00.00 'SB'	--	180	180	--	--	--	--	--	
0010	1694+81.00 'SB'	-	1696+44.00 'SB'	--	170	170	--	--	--	--	--	
0010	1780+74.93 'SB'			--	--	--	--	1	--	--	--	
0010	1780+77.00 'SB'			--	--	--	--	1	--	--	--	
0010	1782+98.00 'SB'	-	1784+61.00 'SB'	--	170	170	--	--	--	--	--	LT EAT GRADING
0010	1783+85.00 'SB'	-	1784+95.00 'SB'	--	165	165	--	--	--	--	--	RT EAT GRADING
0010	1847+26.00 'SB'			--	--	--	--	--	15	--	--	
0010	1926+90.00 'SB'			--	--	--	--	--	--	20	--	
			SOUTHBOUND TOTALS	**0.0**	**2160**	**2160**	**0**	**9**	**100**	**25**	**0**	

CATEGORY	STATION	TO	STATION	606.0200 RIP RAP MEDIUM CY	628.1504 SILT FENCE LF	628.1520 SILT FENCE MAINTENANCE LF	628.7005 INLET PROTECTION TYPE A EACH	628.7015 INLET PROTECTION TYPE C EACH	628.7504 TEMPORARY DITCH CHECKS LF	628.7555 CULVERT PIPE CHECKS EACH	645.0120 GEOTEXTILE FABRIC TYPE HR SY	REMARKS
		RAMPS										
0010	1780+50.00			--	--	--	--	--	10	--	--	USH 10/STH 42/CTH JJ
0010	1782+50.00			--	--	--	--	--	10	--	--	USH 10/STH 42/CTH JJ
0010	1785+50.00			--	--	--	--	--	10	--	--	USH 10/STH 42/CTH JJ
0010	1787+75.00			--	--	--	--	--	10	--	--	USH 10/STH 42/CTH JJ
		OVERPASS STRUCTURES										
0010	B-36-0074	COUNTY LINE RD		--	--	--	--	2	--	--	--	NW & SW QUAD
0010	B-36-0037	CLEVELAND RD		--	--	--	--	2	--	--	--	NE & SE QUAD
0010	B-36-0043	FISHER CREEK RD		--	--	--	--	2	--	--	--	NW & SW QUAD
0010	B-36-0045	CTH X		--	--	--	--	4	--	--	--	NW & SW QUAD
0010	B-36-0059	SILVER CREEK RD		--	--	--	--	2	--	--	--	NW & SW QUAD
0010	B-36-0062	VIEBAHN STREET		--	--	--	--	4	--	--	--	NW, SW, NE, & SE QUAD
0010	B-36-0069	MIDDLE ROAD		--	--	--	--	4	--	--	--	NW, SW, NE, & SE QUAD
		OVERPASS TOTALS		**0**	**0**	**0**	**0**	**20**	**40**	**0**	**0**	
		PARK AND RIDE										
0010		STH 42		--	--	--	--	--	20	5	--	
		PARK AND RIDE TOTALS		**--**	**--**	**--**	**--**	**--**	**20**	**5**	**--**	
		UNDISTRIBUTED QUANTITY		**3**	**445**	**445**	**1**	**2**	**40**	**4**	**0**	
		PROJECT TOTALS		**70**	**4,860**	**4,860**	**12**	**41**	**445**	**45**	**215**	

EROSION CONTROL MOBILIZATIONS

CATEGORY	LOCATION	628.1905 MOBILIZATIONS EROSION CONTROL EACH	628.1910 MOBILIZATIONS EMERGENCY EROSION CONTROL EACH
0010	PROJECT IH 43	5	5
	PROJECT TOTAL	**5**	**5**

3

DELINEATOR SUMMARY

CATEGORY	LOCATION	633.1100 DELINEATORS TEMPORARY EACH	643.0500 TRAFFIC CONTROL FLEXIBLE TUBULAR MARKER POSTS EACH	643.0600 TRAFFIC CONTROL FLEXIBLE TUBULAR MARKER BASES EACH	633.0100 DELINEATOR POSTS STEEL EACH	633.0500 DELINEATOR REFLECTORS EACH	REMARKS
0010	SOUTH CROSSOVER	8	43	43	--	--	NOT IN USE X-OVER
0010	NORTH CROSSOVER	8	43	43	--	--	NOT IN USE X-OVER
0010	NORTHBOUND	--	--	--	25	25	REPLACE MISSING
0010	SOUTHBOUND	--	--	--	25	25	REPLACE MISSING
	PROJECT TOTALS	**16**	**86**	**86**	**50**	**50**	

PARK & RIDE SIGNING SUMMARY

CAT	LOCATION	638.2102 MOVING SIGNS TYPE II EA	638.4000 MOVING SMALL SIGN SUPPORTS EA	REMARKS
0010	STH 42 PARK & RIDE	2	1	HANDICAP AND VAN ACCESSIBLE
	PROJECT TOTALS	**2**	**1**	

3

TRAFFIC CONTROL SUMMARY

CAT.	STATION	TO	STATION	APPROX. SERVICE PERIOD DAYS	643.0300 DRUMS NO. IN SERVICE	643.0300 DRUMS DAY	643.0420 BARRICADES TYPE III NO. IN SERVICE	643.0420 BARRICADES TYPE III DAY	643.0705 WARNING LIGHTS TYPE A NO. IN SERVICE	643.0705 WARNING LIGHTS TYPE A DAY	643.0715 WARNING LIGHTS TYPE C NO. IN SERVICE	643.0715 WARNING LIGHTS TYPE C DAY	643.0800 ARROW BOARDS NO. IN SERVICE	643.0800 ARROW BOARDS DAY	643.0900 SIGNS NO. IN SERVICE	643.0900 SIGNS DAY	643.0920 COVERING SIGNS TYPE II NO. OF CYCLES	643.0920 COVERING SIGNS TYPE II NO. IN SERVICE	643.0920 COVERING SIGNS TYPE II EACH	643.1050 PCMS NO. IN SERVICE	643.1050 PCMS DAY	REMARKS
STAGE 1 NORTHBOUND																						
0010	1104+26.01 'NB'	-	1135+07.26 'NB'	1	48	48	8	8	14	16	14	14	1	1	21	21	1	5	5	2	2	B-36-0111 RT LN CLOSURE S. SECTION
0010	1661+36.86 'NB'	-	1786+67.93 'NB'	1	155	155	8	8	16	16	22	22	1	1	23	23	1	19	19	2	2	B-36-0066 - B-36-0071 RT LN CLOSURE N. SECTION
	STAGE 1 NORTHBOUND TOTALS			**2**	**203**	**203**	**16**	**16**	**30**	**32**	**36**	**36**	**2**	**2**	**44**	**44**	**2**	**24**	**24**	**4**	**4**	
STAGE 2A NORTHBOUND																						
0010	1029+94.43 'NB'	-	1133+57.26 'NB'	20	119	2380	5	100	10	200	18	360	2	40	20	400	1	16	16	2	40	B-36-0042 - B-36-0110 LT LN CLOSURE S. SECTION
0010	1630+00.00 'NB'	-	1783+12.10 'NB'	29	71	2059	11	319	22	638	18	522	2	58	28	812	1	24	24	2	58	B-36-66/68/71 LT LN CLOSURE N. SECTION
	STAGE 2A NORTHBOUND TOTALS			**49**	**190**	**4439**	**16**	**419**	**32**	**838**	**36**	**882**	**4**	**98**	**48**	**1212**	**2**	**40**	**40**	**4**	**98**	
	STAGE 2A NORTHBOUND TOTALS			**49**	**190**	**4439**	**16**	**419**	**32**	**838**	**36**	**882**	**4**	**98**	**48**	**1212**	**2**	**40**	**40**	**4**	**98**	
STAGE 2B NORTHBOUND																						
0010	1029+94.43 'NB'	-	1133+57.26 'NB'	21	126	2646	5	105	10	210	24	504	2	42	20	420	1	16	16	2	42	B-36-0042 - B-36-0110 RT LN CLOSURE S. SECTION
0010	1630+00.00 'NB'	-	1783+12.10 'NB'	29	98	2842	12	348	24	696	32	928	2	58	36	1044	1	24	24	2	58	B-36-0065 - B-36-0070 RT LN CLOSURE N. SECTION
	STAGE 2B NORTHBOUND TOTALS			**50**	**224**	**5488**	**17**	**453**	**34**	**906**	**56**	**1432**	**4**	**100**	**56**	**1464**	**2**	**40**	**40**	**4**	**100**	
STAGE 3 NORTHBOUND																						
0010	910+45.38 'NB'	-	1218+88.99 'NB'	6	324	1944	22	132	44	264	14	84	2	12	42	252	2	47	94	2	12	LT LN CLOSURE S. SECTION
0010	910+45.38 'NB'	-	1218+88.99 'NB'	9	346	3114	23	207	46	414	23	207	2	18	44	396	2	47	94	2	18	RT LN CLOSURE S. SECTION
0010	1481+50.30 'NB'	-	1684+81.51 'NB'	6	219	1314	14	84	28	168	14	84	2	12	31	186	2	31	62	2	12	LT LN CLOSURE N. SECTION LIMITS TO CUSTER ST
0010	1481+50.30 'NB'	-	1684+81.51 'NB'	9	254	2286	16	144	32	288	31	279	2	18	38	342	2	31	62	2	18	RT LN CLOSURE N. SECTION LIMITS TO CUSTER ST
0010	1661+36.86 'NB'	-	1941+14.29 'NB'	6	295	1770	20	120	40	240	14	84	2	12	39	234	2	43	86	2	12	LT LN CLOSURE N. SECTION CUSTER ST TO N. LIMITS
0010	1661+36.86 'NB'	-	1941+14.29 'NB'	9	365	3285	24	216	48	432	48	432	2	18	56	504	2	43	86	2	18	RT LN CLOSURE N. SECTION CUSTER ST TO N. LIMITS
	STAGE 3 NORTHBOUND TOTALS			**45**	**1803**	**13713**	**119**	**903**	**238**	**1806**	**144**	**1170**	**12**	**90**	**250**	**1914**	**12**	**242**	**484**	**12**	**90**	
	NORTHBOUND PROJECT TOTALS			**146**	**2420**	**23843**	**168**	**1791**	**334**	**3582**	**272**	**3520**	**22**	**290**	**398**	**4634**	**18**	**346**	**588**	**24**	**292**	

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TRAFFIC CONTROL SUMMARY CONTINUED

CAT.	STATION	TO	STATION	APPROX. SERVICE PERIOD DAYS	643.0300 DRUMS NO. IN SERVICE	643.0300 DRUMS DAY	643.0420 BARRICADES TYPE III NO. IN SERVICE	643.0420 BARRICADES TYPE III DAY	643.0705 WARNING LIGHTS TYPE A NO. IN SERVICE	643.0705 WARNING LIGHTS TYPE A DAY	643.0715 WARNING LIGHTS TYPE C NO. IN SERVICE	643.0715 WARNING LIGHTS TYPE C DAY	643.0800 ARROW BOARDS NO. IN SERVICE	643.0800 ARROW BOARDS DAY	643.0900 SIGNS NO. IN SERVICE	643.0900 SIGNS DAY	643.0920 COVERING SIGNS TYPE II NO. OF CYCLES	643.0920 COVERING SIGNS TYPE II NO. IN SERVICE	643.0920 COVERING SIGNS TYPE II EACH	643.1050 PCMS NO. IN SERVICE	643.1050 PCMS DAY	REMARKS
STAGE 1 SOUTHBOUND																						
0010	1050+00.00 'SB'	-	1154+88.17 'SB'	1	120	120	7	7	14	14	14	14	1	1	21	21	1	16	16	2	2	B-36-0042 - B-36-0110 RT LN CLOSURE S. SECTION
0010	1677+57.24 'SB'	-	1805+27.93 'SB'	1	171	171	8	8	16	16	27	27	1	1	27	27	1	20	20	2	2	B-36-0065 - B-36-0070 RT LN CLOSURE N. SECTION
STAGE 1 SOUTHBOUND TOTALS				**2**	**291**	**291**	**15**	**15**	**30**	**30**	**41**	**41**	**2**	**2**	**48**	**48**	**2**	**36**	**36**	**4**	**4**	
STAGE 2A SOUTHBOUND																						
0010	1051+08.69 'SB'	-	1153+33.17 'SB'	20	110	2200	5	100	10	200	18	360	2	40	21	420	1	16	16	2	40	B-36-0042 - B-36-0110 LT LN CLOSURE S. SECTION
0010	1679+92.50 'SB'	-	1803+72.93 'SB'	29	130	3770	7	203	14	406	18	522	2	58	23	667	1	19	19	2	58	B-36-0066/68/71 LT LN CLOSURE N. SECTION
STAGE 2A SOUTHBOUND TOTALS				**49**	**240**	**5,970**	**12**	**303**	**24**	**606**	**36**	**882**	**4**	**98**	**44**	**1,087**	**2**	**35**	**35**	**4**	**98**	
STAGE 2B SOUTHBOUND																						
0010	1051+08.69 'SB'	-	1153+33.17 'SB'	21	110	2310	5	105	10	210	18	378	2	42	21	441	1	16	16	2	42	B-36-0042 - B-36-0110 RT LN CLOSURE S. SECTION
0010	1679+92.50 'SB'	-	1803+72.93 'SB'	29	165	4785	9	261	18	522	35	1015	2	58	30	870	1	19	19	2	58	B-36-0065 - B-36-0070 RT LN CLOSURE N. SECTION
STAGE 2B SOUTHBOUND TOTALS				**50**	**275**	**7095**	**14**	**366**	**28**	**732**	**53**	**1393**	**4**	**100**	**51**	**1311**	**2**	**35**	**35**	**4**	**100**	
STAGE 3 SOUTHBOUND																						
0010	910+45.38 'SB'	-	1236+48.99 'SB'	6	324	1944	22	132	44	264	14	84	2	12	42	252	2	50	100	2	12	LT LN CLOSURE S. SECTION
0010	910+45.38 'SB'	-	1236+48.99 'SB'	9	359	3231	24	216	48	432	31	279	2	18	49	441	2	50	100	2	18	RT LN CLOSURE S. SECTION
0010	1499+10.30 'SB'	-	1703+41.57 'SB'	6	218	1308	14	84	28	168	14	84	2	12	33	198	2	31	62	2	12	LT LN CLOSURE N. SECTION LIMITS TO CUSTER ST
0010	1499+10.30 'SB'	-	1703+41.57 'SB'	9	253	2277	16	144	32	288	31	279	2	18	37	333	2	31	62	2	18	RT LN CLOSURE N. SECTION LIMITS TO CUSTER ST
0010	1683+11.68 'SB'	-	1958+74.29 'SB'	6	291	1746	19	114	38	228	14	84	2	12	41	246	2	42	84	2	12	LT LN CLOSURE N. SECTION CUSTER ST TO N. LIMITS
0010	1683+11.68 'SB'	-	1958+74.29 'SB'	9	348	3132	22	198	44	396	40	360	2	18	47	423	2	42	84	2	18	RT LN CLOSURE N. SECTION CUSTER ST TO N. LIMITS
STAGE 3 SOUTHBOUND TOTALS				**45**	**1793**	**13638**	**117**	**888**	**234**	**1776**	**144**	**1170**	**12**	**90**	**249**	**1893**	**12**	**246**	**492**	**12**	**90**	
SOUTHBOUND PROJECT TOTALS				**146**	**2,599**	**26,994**	**158**	**1,572**	**316**	**3,144**	**274**	**3,486**	**22**	**290**	**392**	**4,339**	**18**	**352**	**598**	**24**	**292**	

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TRAFFIC CONTROL SUMMARY CONTINUED

CAT.	STATION	TO	STATION	APPROX. SERVICE PERIOD DAYS	643.0300 DRUMS NO. IN SERVICE	DAY	643.0420 BARRICADES TYPE III NO. IN SERVICE	DAY	643.0705 WARNING LIGHTS TYPE A NO. IN SERVICE	DAY	643.0715 WARNING LIGHTS TYPE C NO. IN SERVICE	DAY	643.0800 ARROW BOARDS NO. IN SERVICE	DAY	643.0900 SIGNS NO. IN SERVICE	DAY	643.0920 COVERING SIGNS TYPE II NO. OF CYCLES	NO. IN SERVICE	EACH	643.1050 PCMS NO. IN SERVICE	DAY	REMARKS
	NORTHBOUND RAMPS																					
0010	CTH XX 'SE' RAMP			3	32	96	4	12	8	24	0	0	0	0	8	24	--	--	--	1	7	
0010	CTH XX 'NE' RAMP			2	21	42	5	10	10	20	0	0	0	0	11	22	1	10	10	1	7	
0010	USH 151 'SE' RAMP			3	28	84	4	12	8	24	0	0	0	0	8	24	--	--	--	1	7	
0010	USH 151'NE' RAMP			3	30	90	6	18	12	36	0	0	0	0	12	36	3	12	36	1	7	
0010	STH 42/CTHJJ/USH10 'SE' RAMP			1	29	29	4	4	8	8	0	0	0	0	8	8	--	--	--	1	7	
0010	STH 42/CTHJJ/USH10 'NE' RAMP			1	26	26	5	5	10	10	0	0	0	0	11	11	1	6	6	1	7	
0010	STH 310 'SE' RAMP			1	31	31	5	5	8	10	0	0	0	0	8	8	--	--	--	1	7	
	NORTHBOUND RAMP TOTALS			**14**	**197**	**398**	**33**	**66**	**64**	**132**	**0**	**0**	**0**	**0**	**66**	**133**	**5**	**28**	**52**	**7**	**49**	
	SOUTHBOUND RAMPS																					
0010	CTH XX 'SW' RAMP			2	38	76	6	12	12	24	0	0	0	0	12	24	1	9	9	1	7	
0010	CTH XX 'NW' RAMP			2	28	56	4	8	8	16	0	0	0	0	8	16	--	--	--	1	7	
0010	USH 151 'SW' RAMP			3	34	102	5	15	10	30	0	0	0	0	11	33	3	9	27	1	7	
0010	USH 151'NW' RAMP			3	30	90	4	12	8	24	0	0	0	0	8	24	--	--	--	1	7	
0010	STH 42/CTHJJ/USH10 'SW' RAMP			1	31	31	6	6	12	12	0	0	0	0	12	12	1	7	7	1	7	
0010	STH 42/CTHJJ/USH10 'NW' RAMP			1	31	31	5	5	8	10	0	0	0	0	8	8	--	--	--	1	7	
0010	STH 310 'SW' RAMP			1	34	34	6	6	12	12	0	0	0	0	12	12	1	6	6	1	7	
	SOUTHBOUND RAMP TOTALS			**13**	**226**	**420**	**36**	**64**	**70**	**128**	**0**	**0**	**0**	**0**	**71**	**129**	**6**	**31**	**49**	**7**	**49**	
	PARK AND RIDES																					
0010	USH 151			2	0	0	4	8	8	16	0	0	0	0	4	8	--	--	--	2	14	
0010	STH 310			1	0	0	3	3	6	6	0	0	0	0	1	1	--	--	--	1	7	
0010	STH 42			4	0	0	3	12	6	24	0	0	0	0	1	4	--	--	--	1	7	
	PARK AND RIDE TOTALS			**7**	**0**	**0**	**10**	**23**	**20**	**46**	**0**	**0**	**0**	**0**	**6**	**13**	**0**	**0**	**0**	**4**	**28**	

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TRAFFIC CONTROL SUMMARY CONTINUED

CAT.	STATION	TO	STATION	APPROX. SERVICE PERIOD DAYS	643.0300 DRUMS NO. IN SERVICE	DAY	643.0420 BARRICADES TYPE III NO. IN SERVICE	DAY	643.0705 WARNING LIGHTS TYPE A NO. IN SERVICE	DAY	643.0715 WARNING LIGHTS TYPE C NO. IN SERVICE	DAY	643.0800 ARROW BOARDS NO. IN SERVICE	DAY	643.0900 SIGNS NO. IN SERVICE	DAY	643.0920 COVERING SIGNS TYPE II NO. OF CYCLES	NO. IN SERVICE	EACH	643.1050 PCMS NO. IN SERVICE	DAY	REMARKS
	OVERPASS STRUCTURES																					
0010	COUNTY LINE RD			28	0	0	18	504	28	784	0	0	0	0	14	392	--	--	--	2	14	B-36-0074
0010	CLEVELAND RD			28	0	0	18	504	28	784	0	0	0	0	14	392	--	--	--	2	14	B-36-0037
0010	FISHER CREEK RD			28	0	0	18	504	28	784	0	0	0	0	14	392	--	--	--	2	14	B-36-0043
0010	CTH X			28	0	0	18	504	28	784	0	0	0	0	14	392	--	--	--	2	14	B-36-0045
0010	SILVER CREEK RD			28	0	0	18	504	28	784	0	0	0	0	14	392	--	--	--	2	14	B-36-0059
0010	VIEBAHN STREET			28	0	0	18	504	28	784	0	0	0	0	14	392	--	--	--	2	14	B-36-0062
0010	MIDDLE ROAD			28	0	0	18	504	28	784	0	0	0	0	14	392	--	--	--	2	14	B-36-0069
	OVERPASS STRUCTURE TOTALS			**196**	**0**	**0**	**126**	**3,528**	**196**	**5,488**	**0**	**0**	**0**	**0**	**98**	**2,744**	**0**	**0**	**0**	**14**	**98**	
	USH 151																					
0200	0+00 'WB'	-	28+56.64 'WB'	7	40	280	4	28	8	56	5	35	1	7	13	91	--	--	--	--	--	LT LN AND TURN LANE CLOSURE
0200	0+00 'WB'	-	28+56.64 'WB'	7	40	280	4	28	8	56	5	35	1	7	13	91	--	--	--	--	--	RT LN CLOSURE
0200	0+00 'EB'	-	28+56.64 'EB'	7	40	280	3	21	6	42	5	35	1	7	12	84	--	--	--	--	--	LT LN AND TURN LANE CLOSURE
0200	0+00 'EB'	-	28+56.64 'EB'	7	40	280	3	21	6	42	5	35	1	7	12	84	--	--	--	--	--	RT LN AND TURN LANE CLOSURE
	USH 151 TOTALS			**28**	**160**	**1,120**	**14**	**98**	**28**	**196**	**20**	**140**	**4**	**28**	**50**	**350**	**0**	**0**	**0**	**0**	**0**	
	UNDISTRIBUTED					**10,555**		**1,428**		2,544		**1,429**		**122**		**2,468**			**263**		**162**	
	CATEGORY 0200 TOTALS			**28**	**160**	**1,120**	**14**	**98**	**28**	**196**	**20**	**140**	**4**	**28**	**50**	**350**	**0**	**0**	**0**	**0**	**0**	
	CATEGORY 0010 TOTALS			**522**	**5,442**	**62,210**	**531**	**8,472**	**1,000**	**15,064**	**546**	**8,435**	**44**	**702**	**1,031**	**14,460**	**47**	**757**	**1,550**	**80**	**970**	
	PROJECT TOTALS			**550**	**5,602**	**63,330**	**545**	**8,570**	**1,028**	**15,260**	**566**	**8,575**	**48**	**730**	**1,081**	**14,810**	**47**	**757**	**1,550**	**80**	**970**	

PAVEMENT MARKING SUMMARY

CATEGORY	STATION		TO	STATION		**646.0106 PAVEMENT MARKING EPOXY 4-INCH EDGELINE (WHITE) SOLID LF	**646.0106 PAVEMENT MARKING EPOXY 4-INCH DASHED (WHITE) 3' LINE, 9' GAP LF	**646.0106 PAVEMENT MARKING EPOXY 4-INCH EDGELINE (YELLOW) SOLID LF	646.0841.S PAVEMENT MARKING GROOVED WET REFLECTIVE CONTRAST TAPE 4-INCH LF	646.0843.S PAVEMENT MARKING GROOVED WET REFLECTIVE CONTRAST TAPE 8-INCH LF	647.0656 PAVEMENT MARKING PARKING STALL EPOXY LF	647.0803 PAVEMENT MARKING AERIAL ENFORCEMENT BARS EPOXY 24-INCH LF	647.0256 PAVEMENT MARKING SYMBOLS EPOXY EACH	REMARKS
	NORTHBOUND													
0010	930+05.38	'NB'	-	1019+74.24	'NB'	8,969	50	8,969	2,243		--	48	--	
0010	1019+74.24	'NB'	-	1023+70.99	'NB'	397	--	397	100	794	--	12	--	MAINLINE & RAMP SECTION
0010	1023+70.99	'NB'	-	1045+46.40	'NB'	2,175	--	2,175	544	--	--	24	--	
0010	1045+46.40	'NB'	-	1052+22.26	'NB'	676	--	676	169	1,352	--	12	--	MAINLINE & RAMP SECTION
0010	1052+22.26	'NB'	-	1216+88.99	'NB'	16,467	--	16,467	4,117	--	--	--	--	
0010	1503+10.30	'NB'	-	1619+30.90	'NB'	11,621	50	11,621	2,906	--	--	--	--	
0010	1619+30.90	'NB'	-	1622+82.50	'NB'	352	--	352	88	703	--	--	--	MAINLINE & RAMP SECTION
0010	1622+82.50	'NB'	-	1643+91.33	'NB'	2,109	--	2,109	528	--	--	36	--	
0010	1643+91.33	'NB'	-	1650+73.57	'NB'	682	--	682	171	1,364	--	12	--	MAINLINE & RAMP SECTION
0010	1650+73.57	'NB'	-	1765+55.28	'NB'	11,482	50	11,482	2,871	--	--	--	--	
0010	1765+55.28	'NB'	-	1768+64.51	'NB'	309	--	309	78	618	--	--	--	MAINLINE & RAMP SECTION
0010	1768+64.51	'NB'	-	1790+55.43	'NB'	2,191	--	2,191	548	--	--	--	--	
0010	1790+55.43	'NB'	-	1798+21.52	'NB'	766	--	766	192	1,532	--	--	--	MAINLINE & RAMP SECTION
0010	1798+21.52	'NB'	-	1847+06.58	'NB'	4,885	--	4,885	1,222	--	--	--	--	
0010	1852+07.44	'NB'	-	1923+33.91	'NB'	7,126	50	7,126	1,782	--	--	--	--	
0010	1923+33.91	'NB'	-	1926+99.12	'NB'	365	--	365	92	730	--	--	--	MAINLINE & RAMP SECTION
0010	1926+99.12	'NB'	-	1939+14.31	'NB'	1,215	--	1,215	304	--	--	--	--	
				NORTHBOUND TOTALS		**143,774**			**17,955**	**7,094**	**0**	**144**	**0**	
	SOUTHBOUND													
0010	930+05.38	'SB'	-	1007+09.28	SB BK	7,704	--	7,704	1,926	--	--	--	--	
0010	1006+90.46	SB AH	-	1016+91.90	'SB'	1,001	--	1,001	251	--	--	--	--	
0010	1016+91.90	'SB'	-	1023+84.05	SB BK	692	--	692	174	1,384	--	12	--	MAINLINE & RAMP SECTION
0010	1023+84.02	SB AH	-	1042+48.20	SB BK	1,864	--	1,864	467	--	--	24	--	
0010	1042+20.41	SB AH	-	1044+71.97	'SB'	252	--	252	70	--	--	12	--	
0010	1044+71.97	'SB'	-	1047+95.51	'SB'	324	--	324	81	647	--	--	--	MAINLINE & RAMP SECTION
0010	1047+95.51	'SB'	-	1147+02.06	SB BK	9,907	50	9,907	2,477	--	--	48	--	
0010	1147+37.97	SB AH	-	1216+88.99	'SB'	6,951	--	6,951	1,738	--	--	--	--	
0010	1503+10.30	'SB'	-	1549+04.01	SB BK	4,594	--	4,594	1,149	--	--	--	--	
0010	1549+02.65	SB AH	-	1614+61.44	SB BK	6,559	--	6,559	1,640	--	--	--	--	
0010	1615+09.92	SB AH	-	1620+09.04	'SB'	499	--	499	125	--	--	--	--	
0010	1620+09.04	'SB'	-	1626+88.13	'SB'	679	--	679	170	1,358	--	14	--	MAINLINE & RAMP SECTION
0010	1626+88.13	'SB'	-	1648+06.42	'SB'	2,118	--	2,118	530	--	--	36	--	
0010	1648+06.42	'SB'	-	1651+78.60	'SB'	372	--	372	94	744	--	--	--	MAINLINE & RAMP SECTION
0010	1651+78.60	'SB'	-	1722+97.01	SB BK	7,118	50	7,118	1,780	--	--	--	--	
0010	1722+49.83	SB AH	-	1762+89.31	'SB'	4,039	--	4,039	1,010	--	--	--	--	
0010	1762+89.31	'SB'	-	1770+07.44	'SB'	718	--	718	180	1,436	--	--	--	MAINLINE & RAMP SECTION
0010	1770+07.44	'SB'	-	1792+16.84	'SB'	2,209	--	2,209	553	--	--	--	--	
0010	1792+16.84	'SB'	-	1795+67.32	'SB'	350	--	350	88	701	--	--	--	MAINLINE & RAMP SECTION
0010	1795+67.32	'SB'	-	1847+54.84	'SB'	5,188	50	5,188	1,297	--	--	--	--	
0010	1852+56.73	'SB'	-	1870+50.54	SB BK	1,794	--	1,794	449	--	--	--	--	
0010	1870+40.60	SB AH	-	1922+57.35	'SB'	5,217	--	5,217	1,305	--	--	--	--	
0010	1922+57.35	'SB'	-	1929+35.76	'SB'	678	--	678	170	1,359	--	--	--	MAINLINE & RAMP SECTION
0010	1929+35.76	'SB'	-	1939+16.23	'SB'	980	--	980	246	--	--	--	--	
				SOUTHBOUND TOTALS		**143,767**			**17,970**	**7,630**	**0**	**146**	**0**	

3

PAVEMENT MARKING SUMMARY CONTINUED

CATEGORY	STATION		TO	STATION	**646.0106 PAVEMENT MARKING EPOXY 4-INCH EDGELINE (WHITE) SOLID LF	**646.0106 PAVEMENT MARKING EPOXY 4-INCH DASHED (WHITE) 3' LINE, 9' GAP LF	**646.0106 PAVEMENT MARKING EPOXY 4-INCH EDGELINE (YELLOW) SOLID LF	646.0841.S PAVEMENT MARKING GROOVED WET REFLECTIVE CONTRAST TAPE 4-INCH LF	646.0843.S PAVEMENT MARKING GROOVED WET REFLECTIVE CONTRAST TAPE 8-INCH LF	647.0656 PAVEMENT MARKING PARKING STALL EPOXY LF	647.0803 PAVEMENT MARKING AERIAL ENFORCEMENT BARS EPOXY 24-INCH LF	647.0256 PAVEMENT MARKING SYMBOLS EPOXY EACH	REMARKS
CTH XX INTERCHANGE													
0010	1023+70.99	SE	-	1034+82.95	SE	1,112	--	1,112	--	--	--	--	--	
0010	1037+50.06	NE	-	1045+46.40	NE	796	--	796	--	--	--	--	--	
0010	1023+84.02	SW	-	1032+70.58	SW	887	--	887	--	--	--	--	--	
0010	1032+90.68	NW	-	1044+71.97	NW	1,181	--	1,181	--	--	--	--	--	
CTH XX INTERCHANGE TOTALS						**7,952**		**0**	**0**	**0**	**0**	**0**	
USH 151 INTERCHANGE													
0010	1622+82.50	SE	-	1629+33.49	SE	651	--	651	--	--	--	--	--	
0010	1636+48.68	NE	-	1643+91.33	NE	743	--	743	--	--	--	--	--	
0010	1626+88.13	SW	-	1632+81.51	SW	593	--	593	--	--	--	--	--	
0010	1640+64.92	NW	-	1648+06.42	NW	742	--	742	--	--	--	--	--	
USH 151 INTERCHANGE TOTALS						**5,457**		**0**	**0**	**0**	**0**	**0**	
STH 310 INTERCHANGE													
0010	1926+99.12	SE	-	1927+30.77	SE	32	--	32	--	--	--	--	--	
0010	1929+35.76	SW	-	1929+64.15	SW	28	--	28	--	--	--	--	--	
STH 310 INTERCHANGE TOTALS						**120**		**0**	**0**	**0**	**0**	**0**	
PARK & RIDES													
USH 151						--	--	--	--	--	1,722	--	3	HANDICAP SYMBOL
STH 310						--	--	--	--	--	2,123	--	4	HANDICAP SYMBOL
CTH 42						--	--	--	--	--	445	--	1	HANDICAP SYMBOL
PARK & RIDE TOTALS						**0**		**0**	**0**	**4,290**	**0**	**8**	
PROJECT TOTALS						**301,070**		**35,925**	**14,725**	**4,290**	**290**	**8**	

**ADDITIONAL QUANTITES LOCATED ELSWHERE IN THE PLAN

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TEMPORARY PAVEMENT MARKING SUMMARY

CATEGORY	STATION		TO	STATION		646.0600 REMOVING PAVEMENT MARKINGS LF	TEMPORARY PAVEMENT MARKING 649.0100 4-INCH LF	TEMPORARY PAVEMENT MARKING 649.0400 REMOVABLE TAPE 4-INCH LF
	NORTHBOUND							
0010	930+05.38	'NB'	-	1052+99.43	'NB'	--	24,588	--
0010	1042+47.07	'NB'	-	1052+22.26	'NB'	2,168	--	--
0010	B-36-0061	'NB'				186	186	186
0010	1054+85.25	'NB'	-	1128+86.01	'NB'	--	14,802	--
0010	B-36-0111					121	121	121
0010	1130+07.26	'NB'		1216+88.99	'NB'	--	17,364	--
0010	1501+10.30	'NB'	-	1682+96.86	'NB'	--	36,374	--
0010	B-36-0066					154	154	154
0010	1684+51.20	'NB'	-	1689+77.65	'NB'	--	1,052	--
0010	B-36-0068					156	156	156
0010	1691+33.32	'NB'	-	1779+04.27	'NB'	--	17,542	--
0010	B-36-0071					160	158	160
0010	1780+62.10	'NB'	-	1847+15.22	'NB'	--	13,306	--
0010	1852+16.16	'NB'	-	1939+14.29	'NB'	--	17,396	--
				NORTHBOUND TOTALS		**2,945**	**143,199**	**777**
	SOUTHBOUND							
0010	930+05.38	'SB'	-	1007+09.28	'SB' BK	--	15,408	--
0010	1006+90.46	'SB' AH	-	1042+48.20	'SB' BK	--	7,116	--
0010	1042+20.41	'SB' AH	-	1053+72.39	'SB'	--	2,304	--
0010	B-36-0042					186	186	186
0010	1055+58.21	'SB'	-	1129+01.06	'SB'	--	14,686	--
0010	B-36-0110					127	130	127
0010	1130+28.17	'SB'		1147+02.06	'SB' BK	--	3,348	--
0010	1147+37.97	'SB' AH	-	1216+88.99	'SB'	--	13,902	--
0010	1501+07.31	'SB'	-	1549+04.01	'SB' BK	--	9,594	--
0010	1549+02.65	'SB' AH	-	1683+57.34	'SB'	--	26,910	--
0010	B-36-0065					154	154	154
0010	1685+11.68	'SB'		1690+26.93	'SB'	--	1,030	--
0010	B-36-0067					156	156	156
0010	1691+82.60	'SB'		1722+97.01	'SB' BK	--	6,228	--
0010	1722+49.83	'SB' AH	-	1779+10.09	'SB'	--	11,320	--
0010	B-36-0070					159	160	160
0010	1780+67.93	'SB'	-	1847+47.26	'SB'	--	13,358	--
0010	1852+48.09	'SB'	-	1870+50.54	'SB' BK	--	3,604	--
0010	1870+40.60	'SB' AH	-	1939+16.18	'SB'	--	13,752	--
				SOUTHBOUND TOTALS		**782**	**143,346**	**783**

TEMPORARY PAVEMENT MARKING SUMMARY CONTINUED

CATEGORY	STATION		TO	STATION		646.0600 REMOVING PAVEMENT MARKINGS LF	TEMPORARY PAVEMENT MARKING 649.0402 PAINT 4-INCH LF	TEMPORARY PAVEMENT MARKING 649.0400 REMOVABLE TAPE 4-INCH LF
	CTH XX INTERCHANGE							
0010	1020+07.95	'SE'	-	1034+82.95	'SE'	--	2,950	--
0010	1021+66.74	'SW	-	1032+70.58	'SW'	--	2,208	--
0010	1032+90.68	'NW'	-	1046+00.00	'NW'	--	2,618	--
0010	1037+50.06	'NE'	-	1047+72.10	'NE'	--	2,044	--
				CTH XX TOTALS		**0**	**9,820**	**0**
	USH 151 INTERCHANGE							
0010	1622+00.00	'SE'	-	1629+33.49	'SE'	--	1,470	--
0010	1624+60.93	'SW'	-	1632+81.51	'SW'	--	1,650	--
0010	1640+64.92	'NW'	-	1650+00.00	'NW'	--	1,870	--
0010	1636+48.68	'NE'	-	1646+12.85	'NE'	--	1,930	--
				USH 151 TOTALS		**0**	**6,920**	**0**
0010	**USH 10/STH 42/CTH JJ INTERCHANGE**							
0010	1765+50.00	'SE'	-	1769+56.95	'SE'	--	410	--
0010	1763+00.00	'SW'	-	1769+56.95	'SW'	--	660	--
0010	1793+16.82	'NW'	-	1795+75.00	'NW'	--	260	--
0010	1791+05.18	'NE'	-	1798+20.00	'NE'	--	715	--
				USH 10/STH 42/CTH JJ TOTALS		**0**	**2,045**	**0**
	STH 310 INTERCHANGE							
0010	1923+38.57	'SE'	-	1927+30.77	'SE'	--	395	--
0010	1922+42.63	'SW'	-	1929+64.15	'SW'	--	725	--
				STH 310 TOTALS		**0**	**1,120**	**0**
				PROJECT TOTALS		**3,727**	**306,450**	**1,560**

LOOP DETECTOR SUMMARY

CATEGORY	LOCATION		LOOP NO.	# OF TURNS	652.0800 CONDUIT LOOP DETECTOR LF	653.0105 PULL BOXES STEEL 12X24-INCH EACH	655.0700 LOOP DETECTOR LEAD IN CABLE LF	655.0800 LOOP DETECTOR WIRE LF	REMARKS
	EASTBOUND								
0200	10+94.00	EB'	61	4	70	1	160	170	USH 151 & STH 42
0200	12+66.00	EB'	63	2	85	1	540	250	USH 151 & STH 42
0200	26+12.00	EB'	11	4	70	1	1080	250	IH 43 & USH 151
				EASTBOUND TOTALS	**225**	**3**	**1780**	**670**	
	WESTBOUND								
0200	16+72.00	WB'	21	4	70	1	470	250	USH 151 & STH 42
0200	14+81.00	WB'	23	2	85	1	190	170	USH 151 & STH 42
0200	37+70.00	WB'	51	4	70	1	670	250	IH 43 & USH 151
				WESTBOUND TOTALS	**225**	**3**	**1330**	**670**	
				PROJECT TOTALS	**450**	**6**	**3110**	**1340**	

CONSTRUCTION STAKING SUMMARY

CATEGORY	STATION		TC	STATION		650.6000 CONSTRUCTION STAKING PIPE CULVERTS EACH	650.8000 CONSTRUCTION STAKING RESURFACING REFERENCE LF
NORTHBOUND							
0010	930+05.38	'NB'	-	1216+88.99	'NB'	--	28,684
0010	973+50.78	'NB'	-	1006+90.46	'NB'	--	--
0010	1026+00.72	'NB'	-	1042+34.30	'NB'	--	--
0010	1115+67.83	'NB'	-	1147+37.97	'NB'	--	--
0010	1503+10.30	'NB'	-	1939+14.29	'NB'	--	43,604
0010	1541+71.07	'NB'	-	1549+03.35	'NB'	--	--
0010	1590+89.61	'NB'	-	1614+48.05	'NB'	--	--
0010	1598+49.33	'NB'	-	1598+99.82	'NB'	1	--
0010	1665+89.04	'NB'	-	1598+99.82	'NB'	1	--
0010	1702+02.31	'NB'	-	1722+97.01	'NB'	--	--
0010	1857+46.69	'NB'	-	1870+50.53	'NB'	--	--
				NORTHBOUND TOTALS		**2**	**72,288**
SOUTHBOUND							
0010	930+05.38	'SB'	-	1216+88.99	'SB'	--	28,684
0010	973+60.19	'SB'	-	1006+99.88	'SB'	--	--
0010	1025+86.83	'SB'	-	1042+20.41	'SB'	--	--
0010	1115+85.79	'SB'	-	1147+20.01	'SB'	--	--
0010	1503+10.30	'SB'	-	1939+14.29	'SB'	--	43,604
0010	1541+70.42	'SB'	-	1549+02.65	'SB'	--	--
0010	1591+51.47	'SB'	-	1615+09.92	'SB'	--	--
0010	1702+02.30	'SB'	-	1722+49.83	'SB'	--	--
0010	1857+46.70	'SB'	-	1870+40.60	'SB'	--	--
				SOUTHBOUND TOTALS		**0**	**72,288**

CATEGORY	STATION		TO	STATION		650.6000 CONSTRUCTION STAKING PIPE CULVERTS EACH	650.8000 CONSTRUCTION STAKING RESURFACING REFERENCE LF
CTH XX RAMPS							
0010	1020+07.95	'SE'	-	1034+82.95	'SE'	--	1,475
0010	1024+24.33	'SE'	-	1029+36.70	'SE'	--	--
0010	1031+38.14	'SE'	-	1035+02.96	'SE'	--	--
0010	1017+30.58	'SW'	-	1032+70.58	'SW'	--	1,540
0010	1021+66.74	'SW'	-	1025+33.09	'SW'	--	--
0010	1037+50.06	'NE'	-	1052+33.35	'NE'	--	1,483
0010	1044+19.54	'NE'	-	1047+72.10	'NE'	--	--
0010	1032+90.68	'NW'	-	1047+73.81	'NW'	--	1,483
0010	1031+94.25	'NW'	-	1037+80.67	'NW'	--	--
0010	1039+27.89	'NW'	-	1043+57.14	'NW'	--	--
					CTH XX RAMP TOTALS	**0.0**	**5,981**
USH 151 RAMPS							
0010	1619+33.49	'SE'	-	1629+33.49	'SE'	--	1,000
0010	1623+94.44	'SE'	-	1628+77.57	'SE'	--	--
0010	1619+77.59	'SW'	-	1632+81.51	'SW'	--	1,304
0010	1624+60.93	'SW'	-	1629+41.13	'SW'	--	--
0010	1636+48.68	'NE'	-	1650+60.23	'NE'	--	1,412
0010	1642+44.30	'NE'	-	1646+12.85	'NE'	--	--
0010	1640+64.92	'NW'	-	1651+82.57	'NW'	--	1,118
0010	1643+31.82	'NW'	-	1647+14.66	'NW'	--	--
					USH 151 RAMP TOTALS	**0.0**	**4,833**
STH 310 RAMPS							
0010	1923+38.57	SE'	-	1927+30.77	SE'	--	392
0010	1922+42.63	SW'	-	1929+64.15	SW'	--	718
					STH 310 RAMP TOTALS	**0.0**	**1,110**
					PROJECT TOTALS	**2**	**156,500**

SAWING SUMMARY

CATEGORY	STATION	TO	STATION	**690.0150 SAWING ASPHALT LF	**690.0250 SAWING CONCRETE LF	REMARKS
	NORTHBOUND					
0010	930+05.38 'NB'			40	--	PROJECT LIMITS SOUTH SEG.
0010	1216+88.98 'NB'			40	--	PROJECT LIMITS SOUTH SEG.
0010	1503+10.30 'NB'			40	--	PROJECT LIMITS NORTH SEG
0010	1682+65.84 'NB'	-	1682+81.51 'NB'	--	29	B-36-0066 APPROACH SHOULDER
0010	1691+48.78 'NB'			--	40	B-36-0068 APPROACH SLAB
0010	1780+77.67 'NB'			--	40	B-36-0071 APPROACH SLAB
0010	1598+62.49 'NB'	-	1598+86.66 'NB'	48	--	MAINT. CROSSOVER PIPE INSTALL
0010	1847+15.22 'NB'			40	--	MANITOWOC RIVER BRIDGE BUTT JOINT
0010	1852+16.16 'NB'			40	--	MANITOWOC RIVER BRIDGE BUTT JOINT
	NORTHBOUND TOTALS			**248**	**109**	
	SOUTHBOUND					
0010	930+05.38 'SB'			40	--	PROJECT LIMITS SOUTH SEG.
0010	1053+58.69 'SB'			--	40	B-36-0042 APPROACH SLAB
0010	1216+88.98 'SB'			40	--	PROJECT LIMITS SOUTH SEG.
0010	1503+10.30 'SB'			40	--	PROJECT LIMITS NORTH SEG.
0010	1683+42.50 'SB'			--	40	B-36-0065 APPROACH SLAB
0010	1690+11.75 'SB'			--	40	B-36-0067 APPROACH SLAB
0010	1692+11.51 'SB'			--	40	B-36-0067 APPROACH SLAB
0010	1778+94.61 'SB'			--	40	B-36-0070 APPROACH SLAB
0010	1847+47.26 'SB'			40	--	MANITOWOC RIVER BRIDGE BUTT JOINT
0010	1852+48.09 'SB'			40	--	MANITOWOC RIVER BRIDGE BUTT JOINT
	SOUTHBOUND TOTALS			**200**	**200**	

CATEGORY	STATION	TO	STATION	**690.0150 SAWING ASPHALT LF	**690.0250 SAWING CONCRETE LF	REMARKS
	CTH XX RAMPS					
0010	1032+70.58 SW'			--	27	PAVING LIMITS
0010	1034+82.95 SE'			--	27	PAVING LIMITS
0010	1032+90.68 NW'			--	27	PAVING LIMITS
0010	1037+50.06 NE'			--	27	PAVING LIMITS
	CTH XX TOTALS			**0**	**108**	
	USH 151 RAMPS					
0010	1632+81.51 SW'			--	27	PAVING LIMITS
0010	1629+33.49 SE'			--	27	PAVING LIMITS
0010	1640+64.92 NW'			--	27	PAVING LIMITS
0010	1636+48.68 NE'			--	27	PAVING LIMITS
	USH 151 TOTALS			**0**	**108**	
	USH 10/STH 42/CTH JJ RAMPS					
0010	1769+56.95 SW'			27	--	PAVING LIMITS
0010	1768+15.03 SE'			27	--	PAVING LIMITS
0010	1793+16.82 NW'			27	--	PAVING LIMITS
0010	1791+05.18 NE'			27	--	PAVING LIMITS
	USH 10/STH 42/CTH JJ TOTALS			**108**	**0**	
	STH 310 RAMPS					
0010	1929+64.15 SW'			27	--	PAVING LIMITS
0010	1927+30.77 SE'			27	--	PAVING LIMITS
	STH 310 RAMP TOTALS			**54**	**0**	
	PARK & RIDES					
0010	USH 151			72	--	ENTRANCE LIMITS
0010	USH 151			1052	--	ASPHALT PATCHING
0010	STH 42			49	--	REMOVAL LIMITS
0010	STH 42			50	--	ENTRANCE LIMITS
0010	STH 310			41	--	ENTRANCE LIMITS
	PARK & RIDGE TOTALS			**1264**	**0**	

**ADDITIONAL QUANTITES LOCATED ELSWHERE IN THE PLAN

PROJECT TOTALS	**1874**	**525**	

OVERPASS APPROACH SUMMARY

CATEGORY	STATION	TO	STATION	**204.0110 REMOVING ASPHALTIC SURFACE SY	**305.0110 BASE AGGREGATE DENSE 3/4-INCH TON	**465.0105 ASPHALTIC SURFACE TON	**646.0106 PAVEMENT MARKING EPOXY 4-INCH LF	**650.0150 SAWING ASPHALT SY	REMARKS
SOUTH CLEVELAND ROAD									
0010	48+10.23	-	51+27.32	--	--	--	640	--	DOUBLE YELLOW CENTERLINE
0010	48+10.23	-	48+58.14	175	26	26	--	--	
0010	50+77.32	-	51+27.32	175	26	26	--	--	
0010	48+10.23			--	--	--	--	22	APPROACH LIMITS
0010	51+27.32			--	--	--	--	22	APPROACH LIMITS
SOUTH CLEVELAND ROAD TOTALS				**350**	**52**	**52**	**640**	**44**	
FISHER CREEK ROAD									
0010	47+59.16	-	51+62.40	--	--	--	810	--	DOUBLE YELLOW CENTERLINE
0010	47+59.16	-	48+09.16	160	26	24	--	--	
0010	51+12.40	-	51+62.40	160	26	24	--	--	
0010	47+59.16			--	--	--	--	22	APPROACH LIMITS
0010	51+62.40			--	--	--	--	22	APPROACH LIMITS
FISHER CREEK ROAD TOTALS				**320**	**52**	**48**	**810**	**44**	
CTH X									
0010	48+06.33	-	52+53.57	--	--	--	895	--	DOUBLE YELLOW CENTERLINE
0010	48+06.33	-	52+53.57	--	--	--	895	--	WHITE EDGE LINES
0010	48+06.33	-	48+06.33	190	25	28	--	--	
0010	52+03.57	-	52+53.57	190	25	28	--	--	
0010	48+06.33			--	--	--	--	34	APPROACH LIMITS
0010	52+53.57			--	--	--	--	34	APPROACH LIMITS
CTH X TOTALS				**380**	**50**	**56**	**1,790**	**68**	
POINT CREEK ROAD									
0010	48+07.80	-	52+53.54	--	--	--	890	--	DOUBLE YELLOW CENTERLINE
0010	48+07.80	-	48+57.80	155	24	23	--	--	
0010	52+03.54	-	52+53.54	155	24	23	--	--	
0010	48+07.80			--	--	--	--	22	APPROACH LIMITS
0010	52+53.54			--	--	--	--	22	APPROACH LIMITS
POINT CREEK ROAD TOTALS				**310**	**48**	**46**	**890**	**44**	
SILVER CREEK ROAD									
0010	47+43.65	-	50+85.13	--	--	--	690	--	DOUBLE YELLOW CENTERLINE
0010	47+43.65	-	48+13.45	165	25	--	--	--	
0010	50+35.13	-	50+85.13	165	25	25	--	--	
0010	47+43.65	-	47+93.65	--	--	24	--	--	
0010	47+43.65			--	--	--	--	22	APPROACH LIMITS
0010	50+85.13			--	--	--	--	22	APPROACH LIMITS
SILVER CREEK ROAD TOTALS				**330**	**50**	**49**	**690**	**44**	
PAGE TOTALS				**1,690**	**252**	**251**	**4,820**	**244**	

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OVERPASS APPROACH SUMMARY CONTINUED

CATEGORY	STATION	TO	STATION	**204.0110 REMOVING ASPHALTIC SURFACE SY	**305.0110 BASE AGGREGATE DENSE 3/4-INCH TON	**465.0105 ASPHALTIC SURFACE TON	**646.0106 PAVEMENT MARKING EPOXY 4-INCH LF	**650.0150 SAWING ASPHALT SY	REMARKS
	VIEBAHN STREET								
0010	47+47.73	-	51+08.11	--	--	--	725	--	DOUBLE YELLOW CENTERLINE
0010	47+47.73	-	51+08.11	--	--	--	725	--	WHITE EDGE LINES
0010	47+47.73	-	47+97.73	170	27	25	--	--	
0010	50+58.11	-	51+08.11	170	27	25	--	--	
0010	47+47.73			--	--	--	--	22	APPROACH LIMITS
0010	51+08.11			--	--	--	--	22	APPROACH LIMITS
	VIEBAHN STREET TOTALS			**340**	**54**	**50**	**1,450**	**44**	
	MIDDLE ROAD								
0010	47+81.83	-	51+29.49	--	--	--	700	--	DOUBLE YELLOW CENTERLINE
0010	47+81.83	-	48+31.83	155	24	23	--	--	
0010	50+79.99	-	51+29.49	155	24	23	--	--	
0010	47+81.83			--	--	--	--	22	APPROACH LIMITS
0010	51+29.49			--	--	--	--	22	APPROACH LIMITS
	MIDDLE ROAD TOTALS			**310**	**48**	**46**	**700**	**44**	
	COUNTY LINE ROAD								
0010	48+06.67	-	51+34.83	--	--	--	660	--	DOUBLE YELLOW CENTERLINE
0010	48+06.67	-	48+56.67	155	24	23	--	--	
0010	50+84.83	-	51+34.83	155	24	23	--	--	
0010	48+06.67			--	--	--	--	22	APPROACH LIMITS
0010	51+34.83			--	--	--	--	22	APPROACH LIMITS
	COUNTY LINE ROAD TOTALS			**310**	**48**	**46**	**660**	**44**	
	OVERPASS TOTALS			**2,650**	**402**	**393**	**7,630**	**376**	

**ADDITIONAL QUANTITES LOCATED ELSWHERE IN THE PLAN

3

EARTHWORK SUMMARY

Location	205.0100 COMMON EXCAVATION (1)	AVAILABLE MATERIAL (5)	UNEXPANDED FILL	EXPLANDED FILL (13)	MASS ORDINATE +/- (14)	WASTE
STH 42 PARK AND RIDE	86	86	58	73	13	13
SOUTH CROSSOVER	2,836	2,836	345	431	2,405	2,405
NORTH CROSSOVER	3,019	3,019	521	652	2,367	2,367
	5,940	5,940	925	1,156	4,784	4,784
	5,940.05	5,940.05	924.53	1,155.66	4,784.38	4,784.38
Total Common Exc	5,940					

1) Common Excavation is the sum of the Cut and EBS Excavation columns. Item number 205.0100
3) EBS Excavation to be backfilled with Select Borrow material. Note: this is designers choice, can be backfilled with Borrow, or Cut as well.
5) Available Material = Cut - Salvaged/Unusuable Pavement Material
13) Expanded Fill. Factor = 1.25
Depending on selections: **Expanded Fill = (Unexpanded Fill - Rock* Rock Factor - Reduced Marsh - Reduced EBS) * Fill Fa**
Or Expanded Fill = (Unexpanded Fill - Rock* Rock Factor - Reduced EBS) * Fill Factor
Or Expanded Fill = (Unexpanded Fill - Rock* Rock Factor - Reduced Marsh) * Fill Factor
Or Expanded Fill = (Unexpanded Fill - Rock* Rock Factor) * Fill Factor
14) The Mass Ordinate + or - Qty calculated for the Division. Plus quantity indicates an excess of material within the Division. Minus indicates a s

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ERECTION & REMOVAL OF PERMANENT SIGNING, TYPE II

SIGN NO.	LOCATION	SIGN CODE	W X H	637.2210 SIGNS TYPE II REFLECTIVE TYPE H S.F.	637.2215 FOLDING SIGNS TYPE II REFLECTIVE TYPE H S.F.	637.2230 SIGNS TYPE II REFLECTIVE TYPE F S.F.	634.0612 POSTS WOOD 4x6x12 EACH	634.0614 POSTS WOOD 4x6x14 EACH	634.0616 POSTS WOOD 4x6x16 EACH	634.0618 POSTS WOOD 4x6x18 EACH	638.2602 REMOVING SIGNS TYPE II EACH	638.3000 REMOVING SMALL SIGN SUPPORTS EACH	TYPE/SIZE OF STEEL	REMARKS
1	IH-43, S. OF S. CLEVELAND RD OVERPASS	R3-4B	36" X 48"	12.00	---	---	---	---	1	---	1	1	---	
2	"	R3-4B	36" X 48"	12.00	---	---	---	---	1	---	1	1	---	
3	"	D10-3	12" X 48"	4.00	---	---	1	---	---	---	1	1	---	MILE 136
4	"	D10-3	12" X 48"	4.00	---	---	1	---	---	---	1	1	---	MILE 136
5	"	W11-3	---	---	---	---	---	---	---	---	1	2	---	
6	"	W57-52	---	---	---	---	---	---	---	---	---	---	---	PART OF REMOVAL FOR SIGN #5
7	"	R8-7	---	---	---	---	---	---	---	---	1	1	---	
8	"	M1-94	108" X 21"	15.75	---	---	2	---	---	---	---	---	---	S. CLEVELAND RD, SEE SIGN DETAIL SHEET
9	IH-43, N. OF S. CLEVELAND RD OVERPASS	M1-94	108" X 21"	15.75	---	---	2	---	---	---	---	---	---	S. CLEVELAND RD, SEE SIGN DETAIL SHEET
10	"	D10-3	12" X 48"	4.00	---	---	1	---	---	---	1	1	---	MILE 137
11	"	D10-3	12" X 48"	4.00	---	---	1	---	---	---	1	1	---	MILE 137
12	"	R4-3	48" X 60"	20.00	---	---	---	---	2	---	1	2	---	
13	VACANT	---	---	---	---	---	---	---	---	---	---	---	---	
14	IH-43, N. OF S. CLEVELAND RD OVERPASS	M1-93	---	---	---	---	---	---	---	---	1	1	---	
15	VACANT	---	---	---	---	---	---	---	---	---	---	---	---	
16	IH-43, N. OF S. CLEVELAND RD OVERPASS	J4-1	36" X 54"	13.50	---	---	---	---	1	---	1	1	---	SOUTH INTERSTATE 43
17	"	R3-4B	36" X 48"	12.00	---	---	---	---	1	---	1	1	---	
18	"	R3-4B	36" X 48"	12.00	---	---	---	---	1	---	1	1	---	
19	IH-43 OFF-RAMP TO CTH XX/NORTH AVE	E5-1A	90" X 60"	37.50	---	---	---	---	2	---	1	2	---	EXIT 137
20	"	W3-1	36" X 36"	---	---	9.00	---	1	---	---	1	1	---	
21	"	D1-1	84" X 24"	14.00	---	---	---	2	---	---	1	2	---	SEE SIGN DETAIL SHEET
22	"	D1-3	78" X 54"	29.25	---	---	---	---	2	---	1	2	---	SEE SIGN DETAIL SHEET
23	"	J13-1	24" X 45"	7.50	---	---	---	1	---	---	1	1	---	CTH XX, SEE PLAN SHEET
24	"	R5-1A	36" X 24"	6.00	---	---	---	---	---	---	---	---	---	MOUNT ON BACKSIDE OF SIGN #23, PART OF REMOVAL FOR SIGN #23
25	"	R5-1A	36" X 24"	6.00	---	---	---	---	---	---	1	1	---	
26	IH-43, S. OF CTH XX/NORTH AVE	W4-1	48" X 48"	---	---	16.00	---	---	2	---	1	2	---	
27	CTH XX/NORTH AVE ON-RAMP TO IH-43	R5-57	36" X 36"	9.00	---	---	---	1	---	---	1	1	---	
28	IH-43 OFF-RAMP TO CTH XX/NORTH AVE	R5-1A	36" X 24"	6.00	---	---	1	---	---	---	1	1	---	
29	"	R5-1A	36" X 24"	6.00	---	---	---	---	---	---	---	---	---	MOUNT ON BACKSIDE OF SIGN #30, PART OF REMOVAL FOR SIGN #30
30	"	J13-1	24" X 45"	7.50	---	---	---	1	---	---	1	1	---	CTH XX, SEE PLAN SHEET
31	"	D1-3	78" X 54"	29.25	---	---	---	---	2	---	1	2	---	SEE SIGN DETAIL SHEET
32	"	D1-1	84" X 24"	14.00	---	---	---	2	---	---	1	2	---	SEE SIGN DETAIL SHEET
33	"	W3-1	36" X 36"	---	---	9.00	---	1	---	---	1	1	---	
34	"	E5-1A	90" X 60"	37.50	---	---	---	---	2	---	1	2	---	EXIT 137
34A	IH-43, N. OF CTH XX/NORTH AVE	D10-3	12" X 48"	4.00	---	---	1	---	---	---	1	1	---	MILE 138
35	CTH XX/NORTH AVE ON-RAMP TO IH-43	R5-57	36" X 36"	9.00	---	---	---	1	---	---	1	1	---	
35A	IH-43, N. OF CTH XX/NORTH AVE	W4-1	48" X 48"	---	---	16.00	---	---	2	---	1	2	---	
36	"	D10-3	12" X 48"	4.00	---	---	1	---	---	---	1	1	---	MILE 138
37	"	M1-94	96" X 21"	14.00	---	---	2	---	---	---	1	2	---	WEST VIEW RD, SEE SIGN DETAIL SHEET
38	"	M1-94	96" X 21"	14.00	---	---	2	---	---	---	1	2	---	WEST VIEW RD, SEE SIGN DETAIL SHEET
39	"	R3-4B	36" X 48"	12.00	---	---	---	---	1	---	1	1	---	
40	"	J4-1	36" X 54"	13.50	---	---	---	---	1	---	1	1	---	NORTH INTERSTATE 43
	PAGE SUBTOTALS			409.00	0.00	50.00	15	10	21	0	35	47		

PLAN SHEET PRODUCED

BY WisDOT - NE REGION

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ERECTION & REMOVAL OF PERMANENT SIGNING, TYPE II

SIGN NO.	LOCATION	SIGN CODE	W X H	637.2210 SIGNS TYPE II REFLECTIVE TYPE H S.F.	637.2215 FOLDING SIGNS TYPE II REFLECTIVE TYPE H S.F.	637.2230 SIGNS TYPE II REFLECTIVE TYPE F S.F.	634.0612 POSTS WOOD 4x6x12 EACH	634.0614 POSTS WOOD 4x6x14 EACH	634.0616 POSTS WOOD 4x6x16 EACH	634.0618 POSTS WOOD 4x6x18 EACH	638.2602 REMOVING SIGNS TYPE II EACH	638.3000 REMOVING SMALL SIGN SUPPORTS EACH	TYPE/SIZE OF STEEL	REMARKS
41	VACANT	---	---	---	---	---	---	---	---	---	---	---	---	
42	IH-43, N. OF CTH XX/NORTH AVE	R3-4B	36" X 48"	12.00	---	---	---	---	1	---	1	1	---	
43	"	M1-93	---	---	---	---	---	---	---	---	1	1	---	
44	VACANT	---	---	---	---	---	---	---	---	---	---	---	---	
45	IH-43, N. OF CTH XX/NORTH AVE	R4-3	48" X 60"	20.00	---	---	---	---	2	---	1	2	---	
46	"	R8-7	48" X 36"	12.00	---	---	---	1	---	---	1	1	---	
47	"	D10-3	12" X 48"	4.00	---	---	1	---	---	---	1	1	---	MILE 139
48	"	D10-3	12" X 48"	4.00	---	---	1	---	---	---	1	1	---	MILE 139
49	"	M1-94	114" X 21"	16.63	---	---	2	---	---	---	1	2	---	FISHER CREEK RD, SEE SIGN DETAIL SHEET
50	IH-43, N. OF FISHER CREEK RD OVERPASS	M1-94	114" X 21"	16.63	---	---	2	---	---	---	1	2	---	FISHER CREEK RD, SEE SIGN DETAIL SHEET
51	"	M1-94	72" X 21"	10.50	---	---	2	---	---	---	1	2	---	CENTER RD, SEE SIGN DETAIL SHEET
52	"	M1-94	72" X 21"	10.50	---	---	2	---	---	---	1	2	---	CENTER RD, SEE SIGN DETAIL SHEET
53	IH-43, N. OF CENTER RD OVERPASS	D10-3	12" X 48"	4.00	---	---	1	---	---	---	1	1	---	
54	"	D10-3	12" X 48"	4.00	---	---	1	---	---	---	1	1	---	
55	"	W11-3	---	---	---	---	---	---	---	---	---	2	---	PART OF REMOVAL FOR SIGN #56
56	"	W57-52	---	---	---	---	---	---	---	---	1	---	---	
57	"	M1-94	54" X 21"	7.88	---	---	1	---	---	---	1	1	---	HWY X, SEE SIGN DETAIL SHEET
58	"	M1-94	---	---	---	---	---	---	---	---	1	---	---	
59	"	M1-94	---	---	---	---	---	---	---	---	1	---	---	
60	"	M1-94	54" X 21"	7.88	---	---	1	---	---	---	1	1	---	HWY X, SEE SIGN DETAIL SHEET
61	IH-43, N. OF HWY X OVERPASS	D10-3	12" X 48"	4.00	---	---	1	---	---	---	1	1	---	MILE 141
62	"	D10-3	12" X 48"	4.00	---	---	1	---	---	---	1	1	---	MILE 141
63	"	R3-4B	36" X 48"	12.00	---	---	---	---	1	---	1	1	---	
64	"	R3-4B	36" X 48"	12.00	---	---	---	---	1	---	1	1	---	
65	"	R3-4B	36" X 48"	12.00	---	---	---	---	1	---	1	1	---	
66	"	R3-4B	36" X 48"	12.00	---	---	---	---	1	---	1	1	---	
67	"	D10-3	12" X 48"	4.00	---	---	1	---	---	---	1	1	---	MILE 147
68	"	D10-3	12" X 48"	4.00	---	---	1	---	---	---	1	1	---	MILE 147
69	"	M1-94	108" X 21"	15.75	---	---	2	---	---	---	---	---	---	SILVER CREEK RD, SEE SIGN DETAIL SHEET
70	"	M1-94	108" X 21"	15.75	---	---	2	---	---	---	---	---	---	SILVER CREEK RD, SEE SIGN DETAIL SHEET
71	IH-43, N. OF SILVER CREEK RD	R8-7	---	---	---	---	---	---	---	---	1	1	---	
72	"	D10-3	12" X 48"	4.00	---	---	1	---	---	---	1	1	---	MILE 148
73	"	D10-3	12" X 48"	4.00	---	---	1	---	---	---	1	1	---	MILE 148
74	"	R8-7	---	---	---	---	---	---	---	---	1	1	---	
75	"	R4-3	48" X 60"	20.00	---	---	---	---	2	---	1	2	---	
76	"	R5-53A	---	---	---	---	---	---	---	---	1	1	---	
77	"	R3-4B	36" X 48"	12.00	---	---	---	---	1	---	1	2	---	
78	VACANT	---	---	---	---	---	---	---	---	---	---	---	---	
79	IH-43, N. OF SILVER CREEK RD	R3-4B	36" X 48"	12.00	---	---	---	---	1	---	1	2	---	
80	"	M1-93	---	---	---	---	---	---	---	---	1	1	---	
	PAGE SUBTOTALS			277.50	0.00	0.00	24	1	11	0	34	41		

PLAN SHEET PRODUCED

BY WisDOT - NE REGION

3

ERECTION & REMOVAL OF PERMANENT SIGNING, TYPE II

SIGN NO.	LOCATION	SIGN CODE	W X H	637.2210 SIGNS TYPE II REFLECTIVE TYPE H S.F.	637.2215 FOLDING SIGNS TYPE II REFLECTIVE TYPE H S.F.	637.2230 SIGNS TYPE II REFLECTIVE TYPE F S.F.	634.0612 POSTS WOOD 4x6x12 EACH	634.0614 POSTS WOOD 4x6x14 EACH	634.0616 POSTS WOOD 4x6x16 EACH	634.0618 POSTS WOOD 4x6x18 EACH	638.2602 REMOVING SIGNS TYPE II EACH	638.3000 REMOVING SMALL SIGN SUPPORTS EACH	TYPE/SIZE OF STEEL	REMARKS
81	IH-43, N. OF SILVER CREEK RD	M1-94	78" X 36"	19.50	---	---	---	2	---	---	1	2	---	HWY CL - VIEBAHN ST, SEE SIGN DETAIL SHEET
82	"	M1-94	78" X 36"	19.50	---	---	---	2	---	---	1	2	---	HWY CL - VIEBAHN ST, SEE SIGN DETAIL SHEET
83	"	I2-3A	78" X 30"	16.25	---	---	---	2	---	---	1	2	---	CITY OF MANITOWOC, SEE SIGN DETAIL SHEET
84	VACANT	---	---	---	---	---	---	---	---	---	---	---	---	
85	IH-43, N. OF HWY CL - VIEBAHN ST	J4-1	36" X 54"	13.50	---	---	---	---	1	---	1	1	---	SOUTH INTERSTATE 43
86	IH-43 OFF-RAMP TO USH 151-STH 42	E5-1A	90" X 60"	37.50	---	---	---	---	2	---	1	2	---	EXIT 149
87	"	D10-3	12" X 48"	4.00	---	---	---	1	---	---	---	1	1	---	MILE 149
88	"	D10-3	12" X 48"	4.00	---	---	---	1	---	---	---	1	1	---	MILE 149
89	"	W3-3	36" X 36"	---	---	9.00	---	1	---	---	---	1	1	---	
90	"	D1-3	84" X 36"	21.00	---	---	---	---	---	2	---	1	2	---	SEE SIGN DETAIL SHEET
91	"	D1-4	78" X 54"	29.25	---	---	---	---	---	2	---	1	2	---	SEE SIGN DETAIL SHEET
92	"	D1-3	114" X 36"	28.50	---	---	---	---	2	---	---	1	2	---	UW-MANITOWOC, WISCONSIN MARITIME MUSEUM, SEE SIGN DETAIL SHEET
93	"	D4-5	36" X 48"	12.00	---	---	---	---	1	---	---	1	1	---	SEE SIGN DETAIL SHEET
94	"	J3-3	72" X 57"	28.50	---	---	---	---	---	2	---	1	2	---	SOUTH USH 151, NORTH STH 42, NORTH USH 151, SEE PLAN SHEET
95	"	R5-1A	36" X 24"	6.00	---	---	---	---	---	---	---	---	---	---	PART OF REMOVAL FOR SIGN #94, MOUNT ON BACKSIDE OF SIGN #94
96	"	D1-2	78" X 24"	13.00	---	---	---	---	2	---	---	1	2	---	SILVER LAKE COLLEGE, SEE SIGN DETAIL SHEET
97	"	R5-1A	36" X 24"	6.00	---	---	---	---	---	---	---	---	---	---	PART OF REMOVAL FOR SIGN #96, MOUNT ON BACKSIDE OF SIGN #96
98	I-43 SB, S. OF USH 151	W4-1	48" X 48"	---	---	16.00	---	---	2	---	1	2	---	
99	I-43 SB OFF-RAMP TO USH 151	J3-3	72" X 57"	28.50	---	---	---	2	---	---	1	2	---	NORTH USH 151, SOUTH STH 42, SOUTH USH 151, SEE PLAN SHEET
100	"	R5-1A	36" X 24"	6.00	---	---	---	---	---	---	---	---	---	PART OF REMOVAL FOR SIGN #99, MOUNT ON BACKSIDE OF SIGN #99
101	"	R5-1A	36" X 24"	6.00	---	---	---	1	---	---	1	---	---	
102	USH 151 TO I-43 SB ON-RAMP	R5-57	36" X 36"	9.00	---	---	---	1	---	---	1	1	---	
103	USH 151 TO I-43 NB ON-RAMP	R5-57	36" X 36"	9.00	---	---	---	1	---	---	1	1	---	
104-109	VACANT	---	---	---	---	---	---	---	---	---	---	---	---	
110	IH-43, N. OF USH 151/STH 42	W4-1	48" X 48"	---	---	16.00	---	---	---	---	1	2	---	
111	IH-43 OFF-RAMP TO USH 151-STH 42	D1-3	96" X 36"	24.00	---	---	---	2	---	---	1	2	---	SEE SIGN DETAIL SHEET
111A		D1-3	78" X 36"	19.50	---	---	---	2	---	---	1	2	---	
112	"	D1-4	84" X 48"	28.00	---	---	---	---	2	---	1	2	---	SEE SIGN DETAIL SHEET
113	"	W3-3	36" X 36"	---	---	9.00	---	1	---	---	1	1	---	
114	"	E5-1A	90" X 60"	37.50	---	---	---	---	2	---	1	2	---	EXIT 149
115	IH-43, N. OF USH 151/STH 42	R3-4B	36" X 48"	12.00	---	---	---	---	1	---	1	1	---	
116	"	J4-2	72" X 54"	27.00	---	---	---	---	1	---	1	1	---	NORTH INTERSTATE 43, NORTH STH 42
117	"	R3-4B	36" X 48"	12.00	---	---	---	---	1	---	1	1	---	
118	VACANT	---	---	---	---	---	---	---	---	---	---	---	---	
119	IH-43, N. OF USH 151/STH 42	D10-3	12" X 48"	4.00	---	---	---	1	---	---	---	1	1	---	MILE 150
120	"	D10-3	12" X 48"	4.00	---	---	---	1	---	---	---	1	1	---	MILE 150
121	"	M1-94	60" X 21"	8.75	---	---	---	1	---	---	---	1	1	---	HWY CS, SEE SIGN DETAIL SHEET
122	"	I2-3A	78" X 30"	16.25	---	---	---	---	2	---	---	1	2	---	CITY OF MANITOWOC, SEE SIGN DETAIL SHEET
123	"	M1-94	60" X 21"	8.75	---	---	---	1	---	---	---	1	1	---	HWY CS, SEE SIGN DETAIL SHEET
123A	IH-43, N. OF HWY CS OVERPASS	R8-7	48" X 36"	12.00	---	---	---	---	1	---	---	---	---	---	
124	"	W11-3	---	---	---	---	---	---	---	---	1	2	---	
125	"	W57-52	---	---	---	---	---	---	---	---	---	---	---	PART OF REMOVAL FOR SIGN #124
126	"	R4-3	48" X 60"	20.00	---	---	---	---	---	2	---	1	2	---	
127	"	M1-94	72" X 21"	10.50	---	---	---	2	---	---	---	---	---	---	MIDDLE RD, SEE SIGN DETAIL SHEET
128	"	M1-94	72" X 21"	10.50	---	---	---	2	---	---	---	---	---	---	MIDDLE RD, SEE SIGN DETAIL SHEET
	PAGE SUBTOTALS			571.75	0.00	50.00	10	25	20	0	35	53		

PLAN SHEET PRODUCED

BY WisDOT - NE REGION

ERECTION & REMOVAL OF PERMANENT SIGNING, TYPE II

SIGN NO.	LOCATION	SIGN CODE	W X H	637.2210 SIGNS TYPE II REFLECTIVE TYPE H S.F.	637.2215 FOLDING SIGNS TYPE II REFLECTIVE TYPE H S.F.	637.2230 SIGNS TYPE II REFLECTIVE TYPE F S.F.	634.0612 POSTS WOOD 4x6x12 EACH	634.0614 POSTS WOOD 4x6x14 EACH	634.0616 POSTS WOOD 4x6x16 EACH	634.0618 POSTS WOOD 4x6x18 EACH	638.2602 REMOVING SIGNS TYPE II EACH	638.3000 REMOVING SMALL SIGN SUPPORTS EACH	TYPE/SIZE OF STEEL	REMARKS
129	IH-43, N. OF MIDDLE RD OVERPASS	D10-3	12" X 48"	4.00	---	---	1	---	---	---	1	1	---	MILE 151
130	"	D10-3	12" X 48"	4.00	---	---	1	---	---	---	1	1	---	MILE 151
131	"	R3-4B	36" X 48"	12.00	---	---	---	---	1	---	1	1	---	
132	"	J4-3	108" X 54"	40.50	---	---	---	---	---	3	---	---	---	SOUTH INTERSTATE 43, EAST USH 10, SOUTH STH 42
133	"	R3-4B	36" X 48"	12.00	---	---	---	---	1	---	1	1	---	
134	"	E5-1A	90" X 60"	37.50	---	---	---	---	2	---	1	2	---	EXIT 152
135	"	W4-1	48" X 48"	---	---	16.00	---	2	---	---	1	2	---	
136	IH-43, N. OF USH 10/STH 42/CTH JJ	D10-3	12" X 48"	4.00	---	---	1	---	---	---	1	1	---	MILE 152
137	"	D10-3	12" X 48"	4.00	---	---	1	---	---	---	1	1	---	MILE 152
138	"	W4-1	48" X 48"	---	---	16.00	---	2	---	---	1	2	---	
139	"	E5-1A	90" X 60"	37.50	---	---	---	---	2	---	1	2	---	
140	"	R3-4B	36" X 48"	12.00	---	---	---	---	1	---	1	1	---	
141	"	J4-2	72" X 54"	27.00	---	---	---	---	2	---	1	1	---	NORTH INTERSTATE 43, WEST USH 10
142	"	R3-4B	36" X 48"	12.00	---	---	---	---	1	---	1	1	---	
143	VACANT	---	---	---	---	---	---	---	---	---	---	---	---	
144	IH-43, N. OF USH 10/STH 42/CTH JJ	D10-3	12" X 48"	4.00	---	---	1	---	---	---	1	1	---	MILE 153
145	"	D10-3	12" X 48"	4.00	---	---	1	---	---	---	1	1	---	MILE 153
146	"	I3-1	114" X 21"	16.63	---	---	2	---	---	---	1	2	---	MANITOWOC RIVER, SEE SIGN DETAIL SHEET
147	"	I3-1	114" X 21"	16.63	---	---	2	---	---	---	1	2	---	MANITOWOC RIVER, SEE SIGN DETAIL SHEET
148	"	M1-94	---	---	---	---	---	---	---	---	1	---	---	
149	"	M1-94	54" X 21"	7.88	---	---	1	---	---	---	1	1	---	HWY P, SEE SIGN DETAIL SHEET
150	"	M1-94	54" X 21"	7.88	---	---	1	---	---	---	1	1	---	HWY P, SEE SIGN DETAIL SHEET
151	"	M1-94	---	---	---	---	---	---	---	---	1		---	
152	IH-43, N. OF HWY P OVERPASS	R8-7	48" X 36"	12.00	---	---	---	1	---	---	1	1	---	
153	"	D10-3	12" X 48"	4.00	---	---	1	---	---	---	1	1	---	MILE 154
154	"	D10-3	12" X 48"	4.00	---	---	1	---	---	---	1	1	---	MILE 154
155	"	W11-3	---	---	---	---	---	---	---	---	1	2	---	
156	"	W57-52	---	---	---	---	---	---	---	---	---	---	---	PART OF REMOVAL FOR SIGN #155
157	"	R4-3	48" X 60"	20.00	---	---	---	---	2	---	1	2	---	
158	"	R3-4B	36" X 48"	12.00	---	---	---	---	1	---	1	1	---	
159	"	R3-4B	36" X 48"	12.00	---	---	---	---	1	---	1	1	---	
160	VACANT	---	---	---	---	---	---	---	---	---	---	---	---	
161	IH-43, N. OF HWY P OVERPASS	J4-2	72" X 54"	27.00	---	---	---	---	2	---	1	2	---	SOUTH INTERSTATE 43, EAST USH 10
162	"	E5-1A	90" X 60"	37.50	---	---	---	---	2	---	1	2	---	EXIT 154
163	"	W4-1	48" X 48"	---	---	16.00	---	---	---	---	---	---	---	
164	CTH XX, W. OF I-43 SB RAMP TERMINI	J1-1	24" X 39"	6.50	---	---	---	1	---	---	1	1	---	JCT I-43
165	"	J2-3	72" X 57"	28.50	---	---	---	---	2	---	1	2	---	NORTH I-43, EAST CTH XX, SOUTH I-43, SEE PLAN SHEET
166	"	R4-7	24" X 30"	5.00	---	---	---	1	---	---	1	1	---	
167	"	W5-52L	---	---	---	---	---	---	---	---	---	---	---	PART OF REMOVAL FOR SIGN #166
168	"	R5-1	30" X 30"	6.25	---	---	---	---	---	---	---	---	---	PART OF REMOVAL FOR SIGN #169, MOUNT ON BACKSIDE OF SIGN #169
169	"	W6-2	36" X 36"	---	---	9.00	---	1	---	---	1	1	---	
170	"	D1-3	72" X 36"	18.00	---	---	---	2	---	---	1	2	---	CLEVELAND, GREEN BAY, MILWAUKEE, SEE SIGN DETAIL SHEET
171	"	R5-1A	36" X 24"	6.00	---	---	---	---	---	---	---	---	---	PART OF REMOVAL FOR SIGN #170, MOUNT ON BACKSIDE OF SIGN #170
172	"	R5-1A	36" X 24"	6.00	---	---	---	---	---	---	---	---	---	PART OF REMOVAL FOR SIGN #173, MOUNT ON BACKSIDE OF SIGN #173
	PAGE SUBTOTALS			468.25	0.00	57.00	14	10	20	3	35	45		

PLAN SHEET PRODUCED
BY WisDOT - NE REGION

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ERECTION & REMOVAL OF PERMANENT SIGNING, TYPE II

SIGN NO.	LOCATION	SIGN CODE	W X H	637.2210 SIGNS TYPE II REFLECTIVE TYPE H S.F.	637.2215 FOLDING SIGNS TYPE II REFLECTIVE TYPE H S.F.	637.2230 SIGNS TYPE II REFLECTIVE TYPE F S.F.	634.0612 POSTS WOOD 4x6x12 EACH	634.0614 POSTS WOOD 4x6x14 EACH	634.0616 POSTS WOOD 4x6x16 EACH	634.0618 POSTS WOOD 4x6x18 EACH	638.2602 REMOVING SIGNS TYPE II EACH	638.3000 REMOVING SMALL SIGN SUPPORTS EACH	TYPE/SIZE OF STEEL	REMARKS
173	CTH XX, W. OF I-43 SB RAMP TERMINI	J4-1	24" X 36"	6.00	---	---	---	1	---	---	1	1	---	WEST CTH XX
174	"	R5-1	30" X 30"	6.25	---	---	---	---	---	---	---	---	---	PART OF REMOVAL FOR SIGN #175, MOUNT ON BACKSIDE OF SIGN #175
175	"	J3-2	48" X 57"	19.00	---	---	---	---	1	---	1	1	---	NORTH I-43, SOUTH I-43, SEE PLAN SHEET
176	"	R11-54F	48" X 30"	---	10.00	---	---	---	---	---	---	---	---	PART OF REMOVAL FOR SIGN #175, MOUNT BELOW SIGN #175
177	"	R2-1	24" X 30"	5.00	---	---	---	1	---	---	1	1	---	40 MPH
178	"	R3-2	24" X 24"	4.00	---	---	---	---	1	---	1	1	---	
179	"	J3-1	24" X 57"	9.50	---	---	---	---	---	---	---	---	---	SOUTH I-43, SEE PLAN SHEET, PART OF REMOVAL FOR SIGN #178, MOUNT ON BACKSIDE OF SIGN #178
180	"	R6-2L	---	---	---	---	---	---	---	---	1	1	---	
181	I-43 SB OFF-RAMP, AT CTH XX RAMP TERMINI	R1-1	30" X 30"	5.18	---	---	---	1	---	---	1	1	---	
182	"	R5-1	30" X 30"	6.25	---	---	---	---	---	---	---	---	---	MOUNT ON BACKSIDE OF SIGN #183
183	"	R6-2R	24" X 30"	5.00	---	---	---	1	---	---	1	1	---	
184	"	R1-1	36" X 36"	7.46	---	---	---	1	---	---	1	1	---	
184A	"	R5-1	---	---	---	---	---	---	---	---	---	---	---	PART OF REMOVAL FOR SIGN #184
184B	"	R6-2L	---	---	---	---	---	---	---	---	---	---	---	PART OF REMOVAL FOR SIGN #184
185	"	R1-1	30" X 30"	5.18	---	---	---	1	---	---	1	1	---	
186	"	R6-2L	---	---	---	---	---	---	---	---	---	---	---	PART OF REMOVAL FOR SIGN #186
187	"	R5-1	---	---	---	---	---	---	---	---	---	---	---	PART OF REMOVAL FOR SIGN #186
188	"	R5-1	30" X 30"	6.25	---	---	---	1	---	---	---	---	---	
189	CTH XX, BETWEEN I-43 RAMP TERMINI INTERSECTIONS	R6-2L	24" X 30"	5.00	---	---	---	---	1	---	1	1	---	
190	"	R11-54F	48" X 30"	---	10.00	---	---	---	---	---	---	---	---	PART OF REMOVAL FOR SIGN #189, MOUNT BELOW SIGN #189
191	"	R5-1	30" X 30"	6.25	---	---	---	---	---	---	---	---	---	PART OF REMOVAL FOR SIGN #192, MOUNT ON BACKSIDE OF SIGN #192
192	"	R3-1	24" X 24"	4.00	---	---	---	1	---	---	1	1	---	
193	"	R4-7	24" X 30"	5.00	---	---	---	---	1	---	1	1	---	
194	"	J3-1	24" X 57"	9.50	---	---	---	---	---	---	---	---	---	SOUTH I-43, SEE PLAN SHEET, PART OF REMOVAL FOR SIGN #193, MOUNT ON BACKSIDE OF SIGN #193
195	"	J2-1	24" X 57"	9.50	---	---	---	---	1	---	1	1	---	NORTH I-43, SEE PLAN SHEET
196	"	D1-2	78" X 24"	13.00	---	---	---	2	---	---	1	2	---	SHEBOYGAN, MILWAUKEE, SEE SIGN DETAIL SHEET
197	"	R3-20L	24" X 36"	6.00	---	---	---	1	---	---	1	1	---	
198	"	R3-20L	24" X 36"	6.00	---	---	---	1	---	---	1	1	---	
199	"	D1-2	78" X 24"	13.00	---	---	---	2	---	---	1	2	---	MANITOWOC, GREEN BAY, SEE SIGN DETAIL SHEET
200	"	R5-1A	36" X 24"	6.00	---	---	---	---	---	---	---	---	---	PART OF REMOVAL FOR SIGN #199, MOUNT ON BACKSIDE OF SIGN #199
201	"	J2-1	24" X 57"	9.50	---	---	---	---	1	---	1	1	---	SOUTH I-43, SEE PLAN SHEET
202	"	J3-1	24" X 57"	9.50	---	---	---	---	1	---	1	1	---	NORTH I-43, SEE PLAN SHEET
203	"	R4-7	24" X 30"	5.00	---	---	---	---	---	---	---	---	---	PART OF REMOVAL FOR SIGN #202, MOUNT ON BACKSIDE OF SIGN #202
204	"	R3-1	24" X 24"	4.00	---	---	---	1	---	---	1	1	---	
205	"	R5-1	30" X 30"	6.25	---	---	---	---	---	---	---	---	---	PART OF REMOVAL FOR SIGN #204, MOUNT ON BACKSIDE OF SIGN #204
206	I-43 NB OFF-RAMP, AT CTH XX RAMP TERMINI	R5-1	30" X 30"	6.25	---	---	---	1	---	---	---	---	---	
207	"	R5-1	---	---	---	---	---	---	---	---	---	---	---	PART OF REMOVAL FOR SIGN #208
208	"	R1-1	30" X 30"	5.18	---	---	---	1	---	---	1	1	---	
209	"	R6-2L	---	---	---	---	---	---	---	---	---	---	---	PART OF REMOVAL FOR SIGN #208
210	"	R1-1	36" X 36"	7.46	---	---	---	1	---	---	1	1	---	
211	"	R5-1	---	---	---	---	---	---	---	---	---	---	---	PART OF REMOVAL FOR SIGN #210
212	"	R6-2R	24" X 30"	5.00	---	---	---	1	---	---	1	1	---	
213	"	R1-1	30" X 30"	5.18	---	---	---	1	---	---	1	1	---	
214	"	R5-1	30" X 30"	6.25	---	---	---	---	---	---	---	---	---	MOUNT ON BACKSIDE OF SIGN #212
215	CTH XX, AT I-43 NB RAMP TERMINI INTERSECTION	R6-2L	24" X 30"	5.00	---	---	---	---	1	---	1	1	---	
	PAGE SUBTOTALS			242.89	20.00	0.00	0	20	8	0	25	27		

PLAN SHEET PRODUCED

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ERECTION & REMOVAL OF PERMANENT SIGNING, TYPE II

SIGN NO.	LOCATION	SIGN CODE	W X H	637.2210 SIGNS TYPE II REFLECTIVE TYPE H S.F.	637.2215 FOLDING SIGNS TYPE II REFLECTIVE TYPE H S.F.	637.2230 SIGNS TYPE II REFLECTIVE TYPE F S.F.	634.0612 POSTS WOOD 4x6x12 EACH	634.0614 POSTS WOOD 4x6x14 EACH	634.0616 POSTS WOOD 4x6x16 EACH	634.0618 POSTS WOOD 4x6x18 EACH	638.2602 REMOVING SIGNS TYPE II EACH	638.3000 REMOVING SMALL SIGN SUPPORTS EACH	TYPE/SIZE OF STEEL	REMARKS
216	CTH XX, AT I-43 NB RAMP TERMINI INTERSECTION	R11-54F	48" X 30"	---	10.00	---	---	---	---	---	---	---	---	PART OF REMOVAL FOR SIGN #215, MOUNT BELOW SIGN #215
217	"	J3-1	24" X 57"	9.50	---	---	---	---	1	---	1	1	---	NORTH I-43, SEE PLAN SHEET
218	"	R3-2	24" X 24"	4.00	---	---	---	---	---	---	---	---	---	MOUNT ON BACKSIDE OF SIGN #217
219	"	R6-2L	---	---	---	---	---	---	---	---	1	1	---	
220	"	R4-8	24" X 30"	5.00	---	---	---	1	---	---	---	---	---	
221	"	J3-2	48" X 57"	19.00	---	---	---	---	1	---	1	1	---	SOUTH I-43, NORTH I-43, SEE PLAN SHEET
222	"	R11-54F	48" X 30"	---	10.00	---	---	---	---	---	---	---	---	PART OF REMOVAL FOR SIGN #221, MOUNT BELOW SIGN #221
223	CTH XX, E. OF I-43 NB RAMP TERMINI INTERSECTION	W6-2	36" X 36"	---	---	9.00	---	1	---	---	1	1	---	
224	"	R5-1	30" X 30"	6.25	---	---	---	---	---	---	---	---	---	PART OF REMOVAL FOR SIGN #223, MOUNT ON BACKSIDE OF SIGN #223
225	"	R5-1A	36" X 24"	6.00	---	---	---	---	---	---	---	---	---	PART OF REMOVAL FOR SIGN #225, MOUNT ON BACKSIDE OF SIGN #225
226	"	D1-3	72" X 36"	18.00	---	---	---	2	---	---	1	2	---	KIEL, MILWAUKEE, GREEN BAY, SEE SIGN DETAIL SHEET
227	"	R4-7	30" X 36"	7.50	---	---	---	1	---	---	1	1	---	
228	"	R2-1	24" X 30"	5.00	---	---	---	1	---	---	1	1	---	40 MPH
229	"	J2-3	72" X 57"	28.50	---	---	---	---	2	---	1	2	---	SOUTH I-43, WEST CTH XX, NORTH I-43, SEE PLAN SHEET
230	"	J1-1	24" X 39"	6.50	---	---	---	---	1	---	---	1	1	---	JCT I-43
231	USH 151/STH 42, W. OF CTH CL	J1-2	48" X 39"	13.00	---	---	---	1	---	---	1	1	---	JCT I-43, JCT CTH CL
232	"	R5-1A	42" X 30"	8.75	---	---	---	---	---	---	---	---	---	PART OF REMOVAL FOR SIGN #231, MOUNT ON BACKSIDE OF SIGN #231
233	"	J13-1	24" X 45"	7.50	---	---	---	---	1	---	1	1	---	CTH CL, SEE PLAN SHEET
234	"	R5-1	36" X 36"	9.00	---	---	---	---	---	---	---	---	---	PART OF REMOVAL FOR SIGN #233, MOUNT ON BACKSIDE OF SIGN #233
235	USH 151/STH 42, E. OF CTH CL	J2-2	---	---	---	---	---	---	---	---	1	1	---	
236	"	D1-72	120" X 60"	50.00	---	---	---	---	---	3	---	---	---	SEE SIGN DETAIL SHEET
237	"	R3-20L	24" X 36"	6.00	---	---	---	---	---	---	---	---	---	PART OF REMOVAL FOR SIGN #238, MOUNT ON BACKSIDE OF SIGN #238
238	"	J2-2	48" X 57"	19.00	---	---	---	---	1	---	1	1	---	NORTH STH 42, NORTH USH 151, SEE PLAN SHEET
239	"	R2-1	30" X 36"	7.50	---	---	---	1	---	---	1	1	---	45 MPH
240	"	R5-1	36" X 36"	9.00	---	---	---	---	---	---	---	---	---	PART OF REMOVAL FOR SIGN #241, MOUNT ON BACKSIDE OF SIGN #241
241	"	J13-1	24" X 45"	7.50	---	---	---	---	1	---	1	1	---	CTH CL, SEE PLAN SHEET
242	"	D1-3	---	---	---	---	---	---	---	---	1	2	---	
243	"	R5-1A	42" X 30"	8.75	---	---	---	1	---	---	---	---	---	PART OF REMOVAL FOR SIGN #242
244	USH 151/STH 42, AT I-43 SB RAMP TERMINI	R3-2	24" X 24"	4.00	---	---	---	---	---	---	---	---	---	MOUNT TO SIGNAL, PART OF REMOVAL FOR SIGN #245, MOUNT ON BACKSIDE OF SIGN #245
245	"	J3-1	24" X 57"	9.50	---	---	---	---	---	---	1	---	---	MOUNT TO SIGNAL, SOUTH I-43, SEE PLAN SHEET
246	USH 151/STH 42, E. OF CTH CL	R5-1A	42" X 30"	8.75	---	---	---	1	---	---	1	1	---	
247	I-43 SB OFF-RAMP AT USH 151 INTERSECTION	R5-1	36" X 36"	9.00	---	---	---	---	---	---	---	---	---	PART OF REMOVAL FOR SIGN #249, MOUNT ON BACKSIDE OF SIGN #249
248	"	R1-2	36" X 31"	3.88	---	---	---	1	---	---	1	1	---	
249	"	R6-2R	24" X 30"	5.00	---	---	---	1	---	---	1	1	---	
250	"	R1-1F	36" X 36"	---	7.46	---	---	---	---	---	1	---	---	MOUNT TO SIGNAL
251	"	R5-1	36" X 36"	9.00	---	---	---	---	---	---	---	---	---	PART OF REMOVAL FOR SIGN #252, MOUNT ON BACKSIDE OF SIGN #252
252	"	D4-5	36" X 48"	12.00	---	---	---	---	1	---	1	1	---	
253	USH 151/STH 42, AT I-43 SB RAMP TERMINI	R6-2L	24" X 30"	5.00	---	---	---	---	---	---	1	---	---	MOUNT TO SIGNAL, SIGN FACING NORTH
254	"	J3-2	---	---	---	---	---	---	---	---	---	---	---	PART OF REMOVAL FOR SIGN #255
255	"	R11-54F	48" X 30"	10.00	---	---	1	---	---	---	1	1	---	MOUNT NEXT TO SIGNAL
256	"	R5-1	36" X 36"	9.00	---	---	---	---	---	---	---	---	---	MOUNT TO SIGNAL, SIGN FACING EAST
257	USH 151/STH 42, BETWEEN I-43 RAMP TERMINI	R5-1	36" X 36"	9.00	---	---	---	---	---	---	---	---	---	MOUNT TO SIGNAL, PART OF REMOVAL FOR SIGN #258
258	"	R3-1	36" X 36"	9.00	---	---	---	---	---	---	1	---	---	MOUNT TO SIGNAL
259	"	R4-7	24" X 30"	5.00	---	---	---	---	---	---	---	---	---	MOUNT TO SIGNAL, PART OF REMOVAL FOR SIGN #260, MOUNT TO BACKSIDE OF SIGN #260
	PAGE SUBTOTALS			369.38	27.46	9.00	1	13	8	3	25	24		

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ERECTION & REMOVAL OF PERMANENT SIGNING, TYPE II

SIGN NO.	LOCATION	SIGN CODE	W X H	637.2210 SIGNS TYPE II REFLECTIVE TYPE H S.F.	637.2215 FOLDING SIGNS TYPE II REFLECTIVE TYPE H S.F.	637.2230 SIGNS TYPE II REFLECTIVE TYPE F S.F.	634.0612 POSTS WOOD 4x6x12 EACH	634.0614 POSTS WOOD 4x6x14 EACH	634.0616 POSTS WOOD 4x6x16 EACH	634.0618 POSTS WOOD 4x6x18 EACH	638.2602 REMOVING SIGNS TYPE II EACH	638.3000 REMOVING SMALL SIGN SUPPORTS EACH	TYPE/SIZE OF STEEL	REMARKS
260	USH 151/STH 42, BETWEEN I-43 RAMP TERMINI	J3-1	24" X 57"	9.50	---	---	---	---	---	---	1	---	---	SOUTH I-43, SEE PLAN SHEET
261	"	D1-71	132" X 132"	---	---	---	---	---	---	---	---	---	2-TYPE B	SEE SIGN DETAIL SHEET, SEE TYPE I QUANTITIES FOR SIGN SQ FOOTAGE, STEEL AND CONCRETE
262	"	J2-2	---	---	---	---	---	---	---	---	1	1	---	
263	"	D1-70	132" X 60"	---	---	---	---	---	---	---	---	---	---	SEE SIGN DETAIL SHEET, SEE TYPE I QUANTITIES FOR SIGN SQ FOOTAGE, MOUNT TO BACKSIDE OF STRUCTURAL STEEL
264	"	JV	---	---	---	---	---	---	---	---	1	1	---	
265	"	R3-20L	24" X 36"	6.00	---	---	---	1	---	---	---	---	---	PART OF REMOVAL FOR SIGN #264
266	"	D1-3	---	---	---	---	---	---	---	---	1	2	---	
267	"	R5-1A	42" X 30"	8.75	---	---	---	1	---	---	---	---	---	PART OF REMOVAL FOR SIGN #266
268	"	R3-20L	24" X 36"	6.00	---	---	---	---	1	---	1	1	---	
269	"	J12-1	24" X 45"	7.50	---	---	---	---	---	---	---	---	---	PART OF REMOVAL FOR SIGN # 268, MOUNT ON BACKSIDE OF SIGN #268
270	"	J2-1	---	---	---	---	---	---	---	---	---	---	---	PART OF REMOVAL FOR SIGN #268
271	"	R5-1A	42" X 30"	8.75	---	---	---	1	---	---	---	---	---	PART OF REMOVAL FOR SIGN #272
272	"	D1-3	---	---	---	---	---	---	---	---	1	2	---	
273	"	D1-70	132" X 72"	---	---	---	---	---	---	---	---	---	2-TYPE B	SEE SIGN DETAIL SHEET, SEE TYPE I QUANTITIES FOR SIGN SQ FOOTAGE, STEEL AND CONCRETE
274	"	D1-71	132" X 132"	---	---	---	---	---	---	---	---	---	---	SEE SIGN DETAIL SHEET, SEE TYPE I QUANTITIES FOR SIGN SQ FOOTAGE, MOUNT TO BACKSIDE OF STRUCTURAL STEEL
275	"	J3-1	24" X 57"	9.50	---	---	---	---	---	---	1	---	---	NORTH I-43, MOUNT TO SIGNAL, SEE PLAN SHEET
276	"	R4-7	24" X 30"	5.00	---	---	---	---	---	---	---	---	---	MOUNT TO SIGNAL, MOUNT ON BACKSIDE OF SIGN #275
277	"	R3-1	36" X 36"	9.00	---	---	---	---	---	---	1	---	---	MOUNT TO SIGNAL
278	"	R5-1	36" X 36"	9.00	---	---	---	---	---	---	---	---	---	MOUNT TO SIGNAL, MOUNT ON BACKSIDE OF SIGN #277
279	I-43 NB OFF-RAMP AT USH 151 INTERSECTION	R5-1	36" X 36"	9.00	---	---	---	---	---	---	---	---	---	PART OF REMOVAL FOR SIGN #280, MOUNT ON BACKSIDE OF SIGN #280
280	"	J3-1	24" X 57"	9.50	---	---	---	---	1	---	1	1	---	SOUTH STH 42, SEE PLAN SHEET
281	"	R1-1F	36" X 36"	---	7.46	---	---	---	---	---	1	---	---	MOUNT TO SIGNAL
282	"	R6-2R	24" X 30"	5.00	---	---	---	1	---	---	1	1	---	
283	"	R5-1	36" X 36"	9.00	---	---	---	---	---	---	---	---	---	PART OF REMOVAL FOR SIGN #282, MOUNT ON BACKSIDE OF SIGN #282
284	"	J13-1	24" X 45"	7.50	---	---	---	---	---	---	1	---	---	LAKE MICHIGAN CIRCLE TOUR, SEE PLAN SHEET, MOUNT TO SIGNAL
285	"	R1-1F	36" X 36"	---	7.46	---	---	---	---	---	1	---	---	MOUNT TO SIGNAL
286	USH 151/STH 42, AT I-43 NB RAMP TERMINI	R6-2L	24" X 30"	5.00	---	---	---	1	---	---	1	1	---	
287	"	R11-54F	48" X 30"	---	10.00	---	---	---	---	---	1	---	---	MOUNT TO SIGNAL
288	"	R1-2	36" X 31"	3.88	---	---	---	1	---	---	1	1	---	
289	"	J3-1	---	---	---	---	---	---	---	---	---	---	---	PART OF REMOVAL FOR SIGN #287
290	"	J3-1	24" X 57"	9.50	---	---	---	---	---	---	1	---	---	NORTH STH 42, SEE PLAN SHEET, MOUNT TO SIGNAL
291	"	R3-2	24" X 24"	4.00	---	---	---	---	---	---	---	---	---	PART OF REMOVAL FOR SIGN #290, MOUNT TO SIGNAL, MOUNT ON BACKSIDE OF SIGN #290
292	USH 151, E. OF I-43 NB RAMP TERMINI	R5-1	36" X 36"	9.00	---	---	---	---	---	---	---	---	---	PART OF REMOVAL FOR SIGN #293A, MOUNT ON BACKSIDE OF SIGN #293A
293	"	J3-1	24" X 57"	9.50	---	---	---	---	---	1	---	---	---	NORTH STH 42, SEE PLAN SHEET
293A	"	R11-54F	48" X 30"	---	10.00	---	---	---	---	---	1	1	---	MOUNT BELOW SIGN #293
294	"	R2-1	30" X 36"	7.50	---	---	---	---	---	---	---	---	---	45 MPH, PART OF REMOVAL FOR SIGN #295, MOUNT ON BACKSIDE OF SIGN #295
295	"	J2-3	72" X 57"	28.50	---	---	---	---	---	2	1	2	---	
296	"	D1-4	84" X 66"	38.50	---	---	---	---	---	2	1	2	---	SEE SIGN DETAIL SHEET, REMOUNT ENGINE BRAKING SIGNS TO LEFT POST
297	"	R5-1A	42" X 30"	8.75	---	---	---	1	---	---	---	---	---	PART OF REMOVAL FOR SIGN #297A
297A	"	D1-3	---	---	---	---	---	---	---	---	1	2	---	
298	"	D1-72	120" X 60"	50.00	---	---	---	---	---	3	---	---	---	SEE SIGN DETAIL SHEET
298A	"	J2-2	---	---	---	---	---	---	---	---	1	1	---	
299	USH 151, E. OF RAPIDS RD	J1-2	48" X 39"	13.00	---	---	---	1	---	---	1	1	---	JCT I-43, JCT STH 42
299A	"	R5-1A	42" X 30"	8.75	---	---	---	---	---	---	---	---	---	PART OF REMOVAL FOR SIGN #299, MOUNT ON BACKSIDE OF SIGN #299
	PAGE SUBTOTALS			314.88	34.92	0.00	0	8	2	8	23	20		
	PROJECT TOTALS			**2653.65**	**82.38**	**166.00**	**64**	**87**	**90**	**14**	**212**	**257**		

PLAN SHEET PRODUCED
BY WisDOT - NE REGION

3

3

ERECTION & REMOVAL OF PERMANENT SIGNING, TYPE I

SIGN NO.	LOCATION	SIGN CODE	W X H	637.1220 SIGNS TYPE I REFLECTIVE TYPE H S.F.	638.2601 REMOVING SIGNS TYPE I EACH	638.3100 REMOVING STRUCTURAL STEEL SUPPORTS EACH	TYPE/SIZE OF STEEL	636.0100 SIGN SUPPORTS CONCRETE MASONRY CY	636.0500 SIGN SUPPORTS STEEL REINFORCEMENT LB	635.0200 SIGN SUPPORTS STRUCT. STEEL HIGH-STRENGTH LB	635.0300 SIGN SUPPORTS REPLACING BASE CONNECTION BOLTS EACH	INFO ONLY - POST LENGTH TO BE VERIFIED BY CONTRACTOR: POST NO. 1 LENGTH (ROAD SIDE) FT	POST NO. 2 LENGTH (DITCH) FT	DISTANCE BETWEEN POSTS (S) FT	REMARKS
261	USH 151/STH 42, BETWEEN I-43 RAMP TERMINI	D1-71	132" X 132"	121.00	---	---	2-TYPE B	1.6	98	1034	---	22.0	24.3	9.0	SEE SIGN DETAIL SHEET
263	"	D1-70	132" X 60"	55.00	---	---	---	---	---	---	---	---	---	---	MOUNT ON BACKSIDE OF SIGN #261 STRUCTURAL STEEL, SEE SIGN DETAIL SHEET
273	"	D1-70	132" X 72"	66.00	---	---	2-TYPE B	1.6	98	1051	---	22.3	25.1	9.0	SEE SIGN DETAIL SHEET
274	"	D1-71	132" X 132"	121.00	---	---	---	---	---	---	---	---	---	---	MOUNT ON BACKSIDE OF SIGN #273 STRUCTURAL STEEL, SEE SIGN DETAIL SHEET
300	IH-43 NB, S. OF CLEVELAND RD OVERPASS	E1-1A	180" X 156"	195.00	1	2	2-TYPE B	1.6	98	1139	---	25.5	27.4	9.0	SEE SIGN DETAIL SHEEET
301	"	E1-5	120" X 30"	25.00	---	---	---	---	---	---	---	---	---	---	EXIT 137, MOUNT ABOVE SIGN #200, SEE SIGN DETAIL SHEET
302	IH-43 NB, N. OF CLEVELAND RD OVERPASS	E3-1	156" X 84"	91.00	1	2	2-TYPE A	1.2	68	621	---	19.2	19.9	9.0	LAKESHORE TECH COLLEGE, SEE SIGN DETAIL SHEET
303	IH-43 SB, N. OF CLEVELAND RD OVERPASS	E8-1	192" X 84"	112.00	1	2	2-TYPE B	1.6	98	887	---	19.0	18.1	9.6	SHEBOYGAN 10, KOHLER 12, MILWAUKEE 66, SEE SIGN DETAIL SHEET
304	IH-43 SB, AT CTH XX OFF-RAMP	E4-1A	216" X 126"	189.00	1	2	2-TYPE B	1.6	98	1021	---	23.0	22.5	10.8	SEE SIGN DETAIL SHEEET
305	"	E1-5	120" X 30"	25.00	---	---	---	---	---	---	---	---	---	---	EXIT 137, MOUNT ABOVE SIGN #204, SEE SIGN DETAIL SHEET
306	IH-43 NB, AT CTH XX OFF-RAMP	E4-1A	216" X 126"	189.00	1	2	2-TYPE B	1.6	98	1040	---	22.4	24.3	10.8	SEE SIGN DETAIL SHEEET
307	"	E1-5	120" X 30"	25.00	---	---	---	---	---	---	---	---	---	---	EXIT 137, MOUNT ABOVE SIGN #206, SEE SIGN DETAIL SHEET
308	IH-43 NB, N. OF CTH XX INTERCHANGE	E8-1	192" X 90"	120.00	1	2	2-TYPE B	1.6	98	770	---	13.6	16.2	9.6	CTH C 6, MANITOWOC 10, GREEN BAY 42, SEE SIGN DETAIL SHEET
309	IH-43 SB, N. OF CTH XX INTERCHANGE	E3-1	156" X 84"	91.00	1	2	2-TYPE A	1.2	68	570	---	17.2	17.6	9.0	LAKESHORE TECH COLLEGE EXIT 137, SEE SIGN DETAIL SHEET
310	IH-43 SB, N. OF FISHER CREEK RD OVERPASS	E1-1A	180" X 156"	195.00	1	2	2-TYPE B	1.6	98	984	---	22.6	20.6	9.0	SEE SIGN DETAIL SHEEET
310A	"	E1-5	120" X 30"	25.00	---	---	---	---	---	---	---	---	---	---	EXIT 137, MOUNT ABOVE SIGN #210, SEE SIGN DETAIL SHEET
311	IH-43 NB, S. OF SILVER CREEK RD OVERPASS	E8-1	204" X 144"	204.00	1	2	2-TYPE B	1.6	98	1026	---	22.2	23.6	10.2	MANITOWOC EXITS, SEE SIGN DETAIL SHEET
312	"	E3-1	156" X 84"	91.00	1	2	2-TYPE A	1.2	68	602	---	19.1	18.4	9.0	STH 42 NORTH AHEAD, SEE SIGN DETAIL SHEET
313	"	E1-1A	228" X 186"	294.50	1	2	2-TYPE D	1.8	112	1580	---	26.5	26.2	11.4	SEE SIGN DETAIL SHEEET
314	"	E1-5	120" X 30"	25.00	---	---	---	---	---	---	---	---	---	---	EXIT 149, MOUNT ABOVE SIGN #213, SEE SIGN DETAIL SHEET
315	IH-43 NB, N. OF SILVER CREEK RD OVERPASS	E3-1	216" X 144"	216.00	1	2	2-TYPE B	---	---	1040	1	22.6	24.1	---	SEE SIGN DETAIL SHEET, LEAVE CONCRETE BASES IN PLACE
316	IH-43 SB, N. OF SILVER CREEK RD OVERPASS	E8-1	192" X 90"	120.00	1	2	2-TYPE B	1.6	98	946	---	19.5	21.3	9.6	CTH C 4, SHEBOYGAN 21, MILWAUKEE 77, SEE SIGN DETAIL SHEET
317	IH-43 NB, N. OF SILVER CREEK RD OVERPASS	E10-61	144" X 54"	54.00	1	2	2-TYPE A	1.2	68	552	---	15.5	17.8	9.0	HOSPITAL EXIT 149
318	"	E3-1	---	---	1	2	---	---	---	---	---	---	---	---	
319	"	E3-1	156" X 120"	130.00	1	2	2-TYPE B	1.6	98	601	---	18.1	19.3	9.0	CARFERRY EXIT 149, VISITOR INFO CENTER
320	IH-43 NB, AT USH 151 OFF-RAMP	E4-1A	264" X 156"	286.00	1	2	2-TYPE C	1.8	100	1282	---	24.9	23.4	13.2	SEE SIGN DETAIL SHEEET
321	"	E1-5	120" X 30"	25.00	---	---	---	---	---	---	---	---	---	---	EXIT 149, MOUNT ABOVE SIGN #220, SEE SIGN DETAIL SHEET
322	IH-43 SB, AT USH 151 OFF-RAMP	E4-1A	264" X 156"	286.00	1	2	2-TYPE C	1.8	100	1202	---	23.6	20.5	13.2	SEE SIGN DETAIL SHEEET
323	"	E1-5	120" X 30"	25.00	---	---	---	---	---	---	---	---	---	---	EXIT 149, MOUNT ABOVE SIGN #222, SEE SIGN DETAIL SHEET
324	IH-43 SB, S. OF HWY CS	E3-1	---	---	1	2	---	---	---	---	---	---	---	---	
325	IH-43 SB, N. OF HWY CS	E3-1	156" X 120"	130.00	1	2	2-TYPE B	---	---	772	1	24.2	27.5	---	CARFERRY EXIT 149, VISITOR INFO CENTER, LEAVE CONCRETE BASES IN PLACE
	PAGE SUBTOTALS			3168.50	20	40		24.6	1466	16635	2				

PLAN SHEET PRODUCED

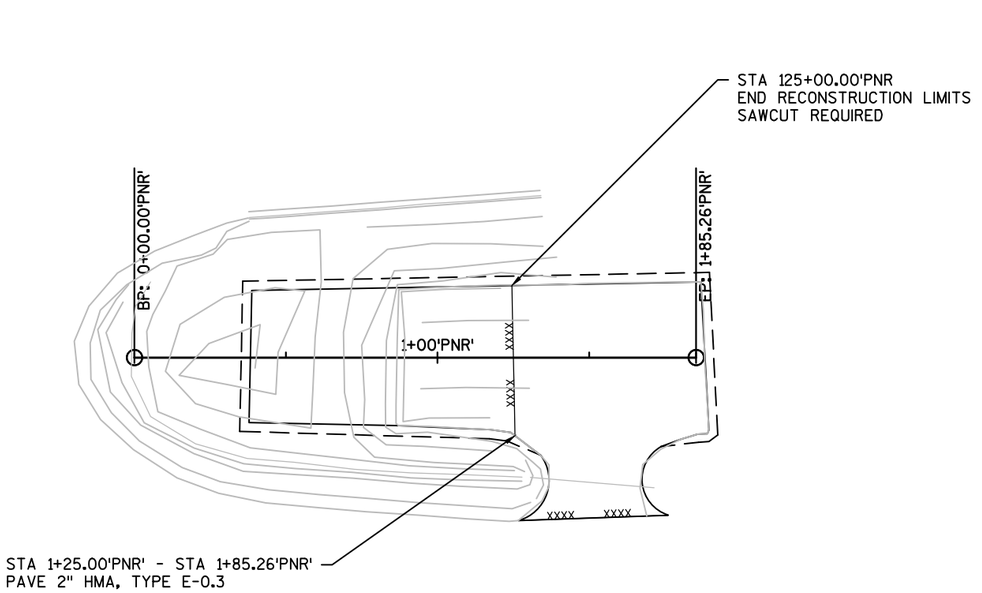
BY WisDOT - NE REGION

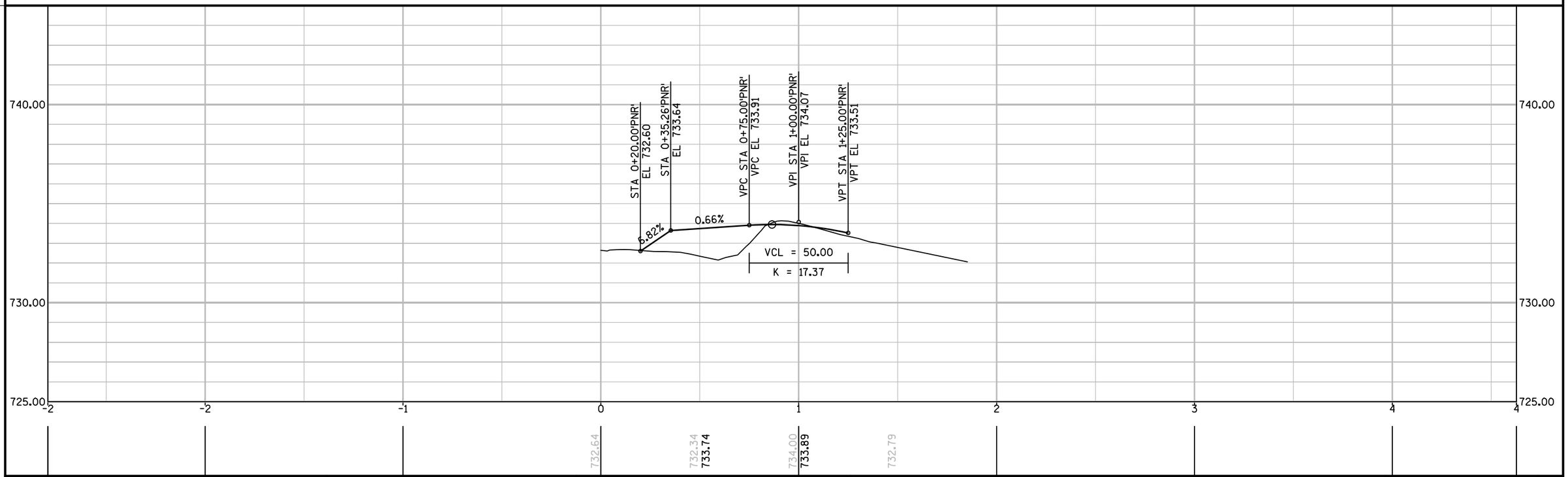
3

ERECTION & REMOVAL OF PERMANENT SIGNING, TYPE I

SIGN NO.	LOCATION	SIGN CODE	W X H	637.1220 SIGNS TYPE I REFLECTIVE TYPE H S.F.	638.2601 REMOVING SIGNS TYPE I EACH	638.3100 REMOVING STRUCTURAL STEEL SUPPORTS EACH	TYPE/SIZE OF STEEL	636.0100 SIGN SUPPORTS CONCRETE MASONRY CY	636.0500 SIGN SUPPORTS STEEL REINFORCEMENT LB	635.0200 SIGN SUPPORTS STRUCT. STEEL HIGH-STRENGTH LB	635.0300 SIGN SUPPORTS REPLACING BASE CONNECTION BOLTS EACH	INFO ONLY - POST LENGTH TO BE VERIFIED BY CONTRACTOR: POST NO. 1 LENGTH (ROAD SIDE) FT	POST NO. 2 LENGTH (DITCH) FT	DISTANCE BETWEEN POSTS (S) FT	REMARKS
326	IH-43 SB, N. OF HWY CS	E3-1	144" X 84"	84.00	1	2	2-TYPE A	1.2	68	649	---	18.8	22.6	9.0	SILVER LAKE COLLEGE EXIT 149
327	IH-43 NB, N. OF HWY CS	E1-1A	264" X 186"	341.00	1	2	3-TYPE C	2.7	150	2298	---	28.5 / 30.7	33.0	9.0	SEE SIGN DETAIL SHEEET
328	"	E1-5	120" X 30"	25.00	---	---	---	---	---	---	---	---	---	---	EXIT 152, MOUNT ABOVE SIGN #227, SEE SIGN DETAIL SHEET
329	IH-43 SB, N. OF HWY CS	E1-1A	228" X 186"	294.50	1	3	3-TYPE C	2.7	150	2258	---	27.5 / 29.8	32.8	9.0	SEE SIGN DETAIL SHEEET
330	"	E1-5	120" X 30"	25.00	---	---	---	---	---	---	---	---	---	---	EXIT 149, MOUNT ABOVE SIGN #229, SEE SIGN DETAIL SHEET
331	IH-43 NB, N. OF HWY CS	E3-1	144" X 84"	84.00	1	2	2-TYPE A	1.2	68	632	---	19.2	20.8	9.0	USH 10 WEST AHEAD
332	"	E3-1	144" X 60"	60.00	1	2	2-TYPE A	1.2	68	554	---	16.7	16.8	9.0	WALDO BLVD EXIT 152
333	IH-43 NB, N. OF MIDDLE RD OVERPASS	E3-1	168" X 84"	98.00	1	2	2-TYPE A	1.2	68	618	---	19.0	19.8	9.0	MANITOWOC CO AIRPORT EXIT 152
334	IH-43 NB, AT USH 10/STH 42 OFF-RAMP	E4-1A	288" X 156"	312.00	1	2	2-TYPE D	---	---	1443	1	25.0	28.8	---	SEE SIGN DETAIL SHEET, LEAVE CONCRETE BASES IN PLACE
335	"	E1-5	120" X 30"	25.00	---	---	---	---	---	---	---	---	---	---	EXIT 152, MOUNT ABOVE SIGN #234, SEE SIGN DETAIL SHEET
336	IH-43 SB, AT USH 10/STH 42 OFF-RAMP	E4-1A	300" X 120"	250.00	1	2	2-TYPE B	1.6	98	1002	---	21.0	23.3	15.0	SEE SIGN DETAIL SHEEET
337	"	E1-5	120" X 30"	25.00	---	---	---	---	---	---	---	---	---	---	EXIT 152, MOUNT ABOVE SIGN #236, SEE SIGN DETAIL SHEET
338	IH-43 SB, N. OF USH 10/STH 42 OFF-RAMP	E10-61	144" X 54"	54.00	1	2	2-TYPE A	1.2	68	556	---	15.9	17.8	9.0	HOSPITAL EXIT 152
339	"	E3-1	168" X 84"	98.00	1	2	2-TYPE A	1.2	68	531	---	16.6	15.0	9.0	MANITOWOC CO AIRPORT EXIT 152
340	"	E3-1	144" X 60"	60.00	1	2	2-TYPE A	1.2	68	442	---	13.8	10.4	9.0	WALDO BLVD EXIT 152
341	"	E3-1	156" X 84"	91.00	1	2	2-TYPE A	1.2	68	594	---	19.4	17.4	9.0	STH 42 SOUTH AHEAD
342	IH-43 NB, S. OF CTH P OVERPASS	E1-1A	204" X 186"	263.50	1	2	2-TYPE C	---	---	1288	1	26.2	22.4	---	SEE SIGN DETAIL SHEET, LEAVE CONCRETE BASES IN PLACE
343	"	E1-5	120" X 30"	25.00	---	---	---	---	---	---	---	---	---	---	EXIT 154, MOUNT ABOVE SIGN #242, SEE SIGN DETAIL SHEET
344	IH-43 SB, S. OF CTH P OVERPASS	E1-1A	264" X 150"	275.00	1	2	2-TYPE B	1.6	98	973	---	23.4	19.1	13.2	SEE SIGN DETAIL SHEEET
345	"	E1-5	120" X 30"	25.00	---	---	---	---	---	---	---	---	---	---	EXIT 152, MOUNT ABOVE SIGN #244, SEE SIGN DETAIL SHEET
346	IH-43 NB, N. OF CTH P OVERPASS	E10-61	144" X 54"	54.00	1	2	2-TYPE A	---	---	428	1	12.6	10.4	---	HOSPITAL EXIT 154, LEAVE CONCRETE BASES IN PLACE
347	IH-43 SB, N. OF CTH P OVERPASS	E3-1	216" X 84"	126.00	1	2	2-TYPE B	1.6	98	787	---	16.8	14.1	10.8	WISCONSIN MARITIME MUSEUM EXIT 152
348	IH-43 NB, AT USH 10/STH 310 OFF-RAMP	E4-1A	252" X 156"	273.00	1	2	2-TYPE C	1.8	100	1337	---	24.4	26.8	12.6	SEE SIGN DETAIL SHEEET
349	"	E1-5	120" X 30"	25.00	---	---	---	---	---	---	---	---	---	---	EXIT 154, MOUNT ABOVE SIGN #248, SEE SIGN DETAIL SHEET
	PAGE SUBTOTALS			2993.00	17	35		21.6	1238	16390	3				
	PROJECT TOTALS			**6161.50**	**37**	**75**		**46.2**	**2704**	**33025**	**5**				

PLAN SHEET PRODUCED
BY WisDOT - NE REGION





PROJECT NO: 1224-21-71	HWY: IH 43	COUNTY: MANITOWOC	PLAN AND PROFILE: STH 42/USH10/CTHJJ PARK AND RIDE	SHEET E

FILE NAME : N:\PDS\C3D\12242100\SHEETSPLAN\C3D 2012\12242171\050101_PP.DWG PLOT DATE : 2/26/2015 10:14 AM PLOT BY : PORTER, STEVEN J PLOT NAME : PLOT SCALE : 1 IN:50 FT

WISDOT/CADDS SHEET 44

NOTE
CROSSOVERS AND TEMPORARY CULVERTS
TO BE REMOVED BY OTHERS WITH PROJECT
1224-21-73

LEGEND
③ PROPOSED STRUCTURE

N

CONNECT SLOTTED CORRUGATED METAL
PIPE SURFACE DRAIN WITH
TEMPORARY CULVERT PIPE

1192'SB' 1194'SB' 1196'SB'

1192'NB' 1194'NB' 1196'NB'

SLOTTED CORRUGATED METAL
PIPE SURFACE DRAINS

5 5

650 650

645 645

640 640

1

12" CORRUGATED METAL PIPE @ 1.43%

645.23

647.25

PROJECT NO: 1224-21-71	HWY: IH 43	COUNTY: MANITOWOC	PLAN AND PROFILE: STORM SEWER	SHEET 124	E

NOTE
CROSSOVERS AND TEMPORARY CULVERTS
TO BE REMOVED BY OTHERS WITH PROJECT
1224-21-73

LEGEND
[2] EXISTING STRUCTURE
③ PROPOSED STRUCTURE

N

COVER PLATE TEMPORARY
INLET PROTECTION TYPE C
ATTACH TEMPORARY CULVERT PIPE
TO EXISTING INLET

1198'SB' 1200'SB' 1202'SB'

[2]

③

1198'NB' 1200'NB' 1202'NB'

SLOTTED CORRUGATED METAL
PIPE SURFACE DRAINS

5 5

655
650
645

[2]
645.64
643.34

12" @ 0.76%

③
646.40

PROJECT NO: 1224-21-71	HWY: IH 43	COUNTY: MANITOWOC	PLAN AND PROFILE: STORM SEWER	SHEET 125	E

NOTE
CROSSOVERS AND TEMPORARY CULVERTS
TO BE REMOVED BY OTHERS WITH PROJECT
1224-21-73

LEGEND
④ PROPOSED STRUCTURE

N

CONNECT SLOTTED CORRUGATED METAL
PIPE SURFACE DRAIN WITH
TEMPORARY CULVERT PIPE

1522'SB' 1524'SB' 1526'SB'

1522'NB' 1524'NB' 1526'NB'

5 5

SLOTTED CORRUGATED METAL
PIPE SURFACE DRAINS

690 690

685 685

683.69

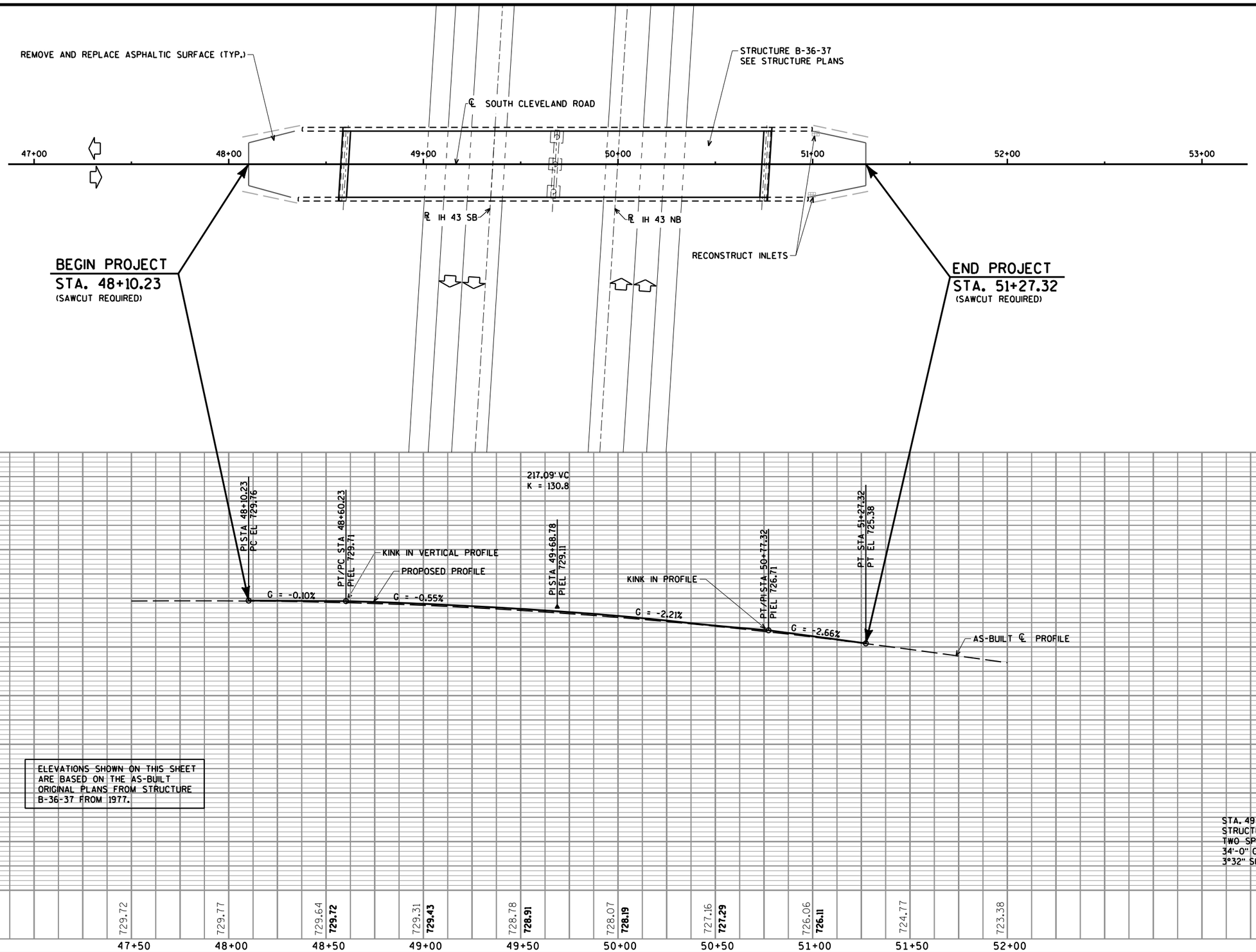
12" CORRUGATED METAL PIPE @ 1.16%

④

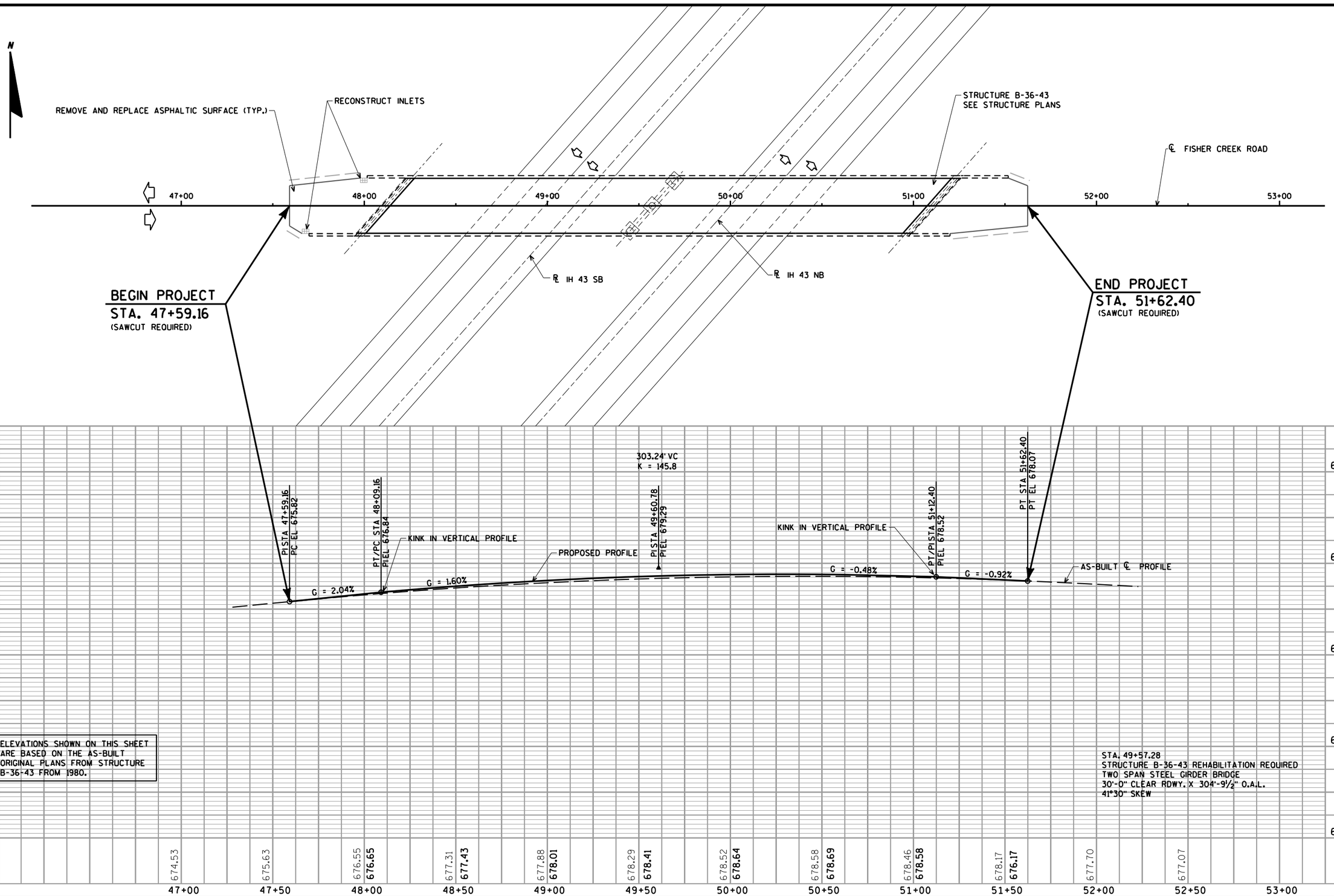
680.67

680 680

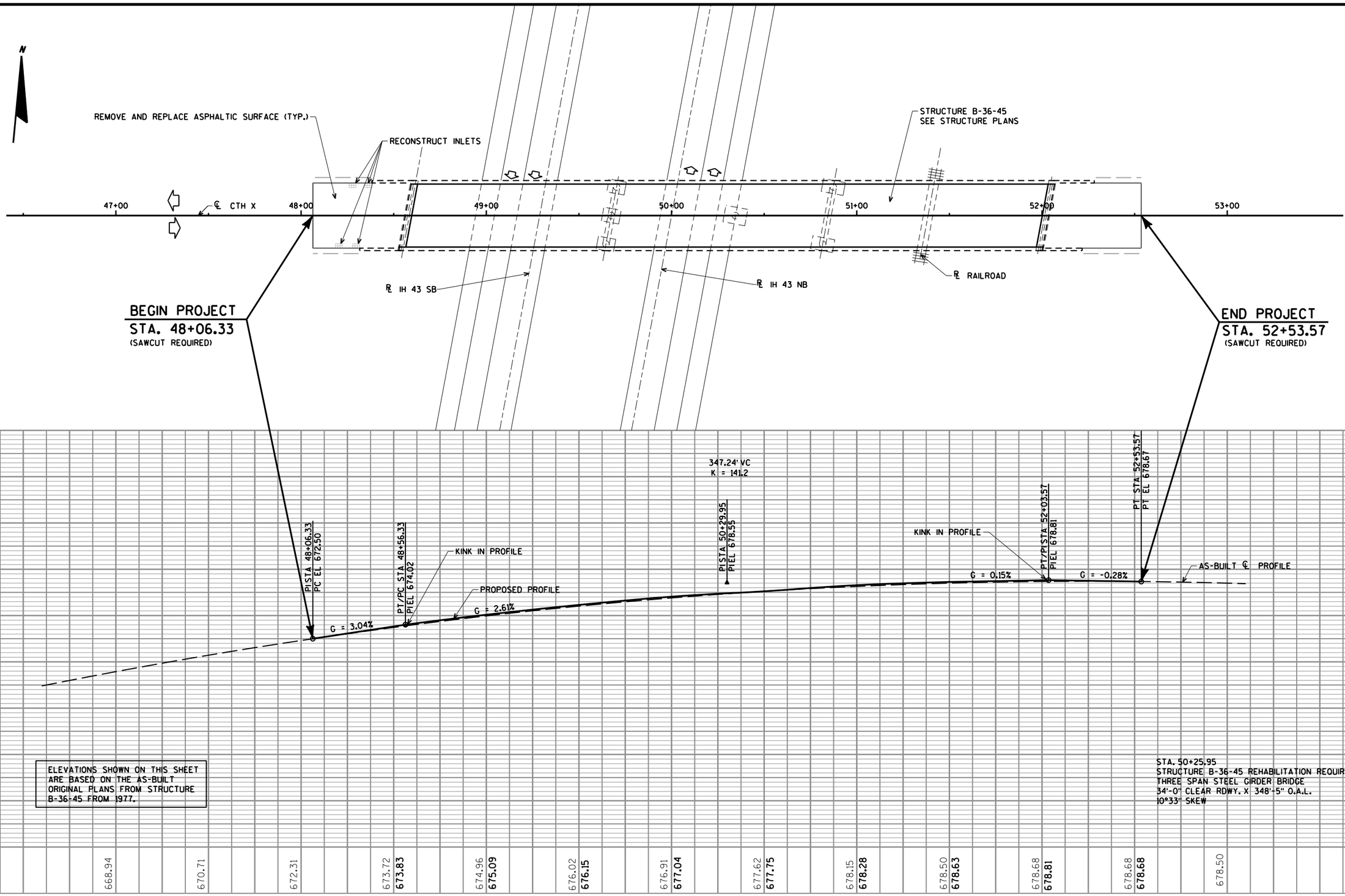
PROJECT NO: 1224-21-71	HWY: IH 43	COUNTY: MANITOWOC	PLAN AND PROFILE: STORM SEWER	SHEET 126	E



PROJECT NO: 1224-21-71	HWY: S. CLEVELAND ROAD	COUNTY: MANITOWOC	PLAN AND PROFILE	SCALE, FEET 0 25 50	SHEET 127 E

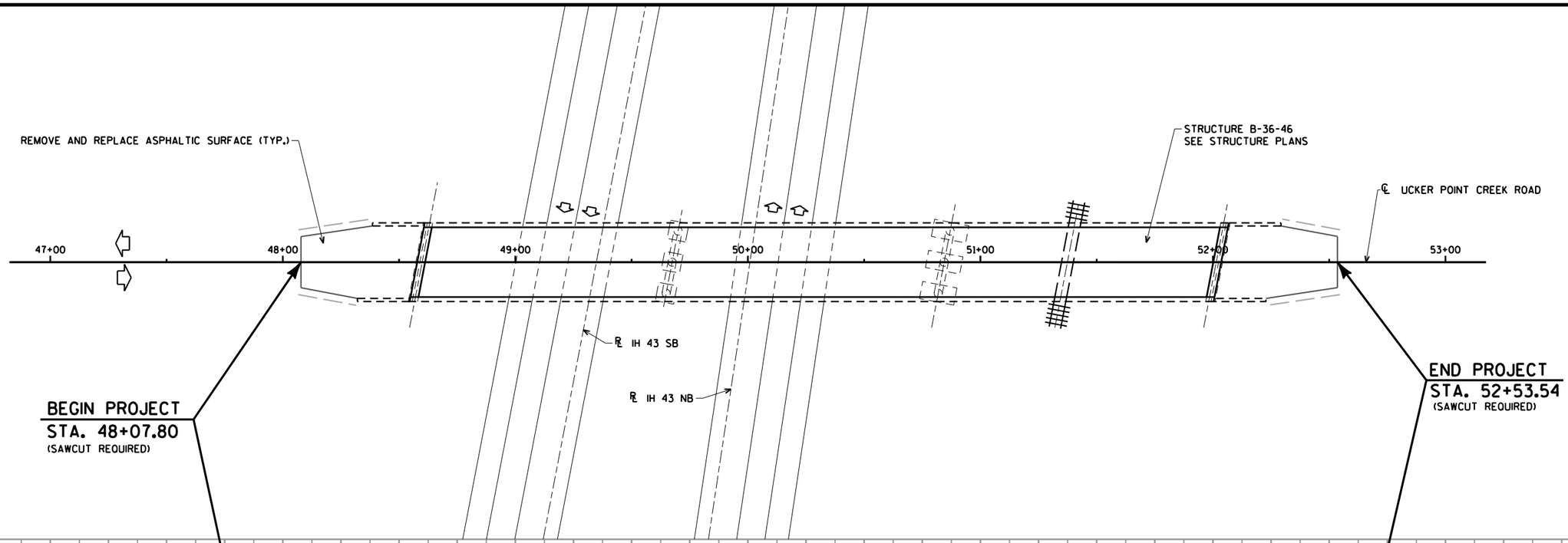


PROJECT NO: 1224-21-71	HWY: FISHER CREEK ROAD	COUNTY: MANITOWOC	PLAN AND PROFILE	SCALE, FEET 0 25 50	SHEET 128	E



PROJECT NO: 1224-21-71	HWY: CTH X	COUNTY: MANITOWOC	PLAN AND PROFILE	SCALE, FEET 0 25 50	SHEET E

U:\42-0888.00 - Manitowoc County, IH43 Rehabs\B-36-45\RDWY\B-36-45 PP.DGN 12/10/2014 PENTABLE:BReau_shd_util.tbl untitled 1:50



PROJECT NO: 1224-21-71	HWY: UCKER POINT CREEK RD.	COUNTY: MANITOWOC	PLAN AND PROFILE	SCALE, FEET 0 25 50	SHEET 130	E

N

REMOVE AND REPLACE ASPHALTIC SURFACE (TYP.)

STRUCTURE B-36-59
SEE STRUCTURE PLANS

℄ SIVER CREEK ROAD

46+00 47+00 48+00 49+00 50+00 51+00 52+00

℄ IH 43 SB

℄ IH 43 NB

BEGIN PROJECT
STA. 47+63.45
(SAWCUT REQUIRED)

END PROJECT
STA. 50+85.13
(SAWCUT REQUIRED)

PI STA 47+63.45
PC EL 693.63

PT/PC STA 48+13.45
PI EL 695.06

221.68' VC
K =136.8

PI STA 49+24.29
PI EL 697.70

PT/PI STA 50+35.13
PI EL 698.54

PT STA 50+85.13
PT EL 698.73

KINK IN PROFILE

KINK IN PROFILE

PROPOSED PROFILE

AS-BUILT ℄ PROFILE

G = 2.86%

G = 2.36%

G = 0.76%

G = 0.38%

710 700 690 680 670

690.03 691.74 693.26 694.60 **694.68** 695.75 **695.87** 696.72 **696.85** 697.50 **697.63** 698.10 **698.22** 698.51 **698.60** 698.83 699.15

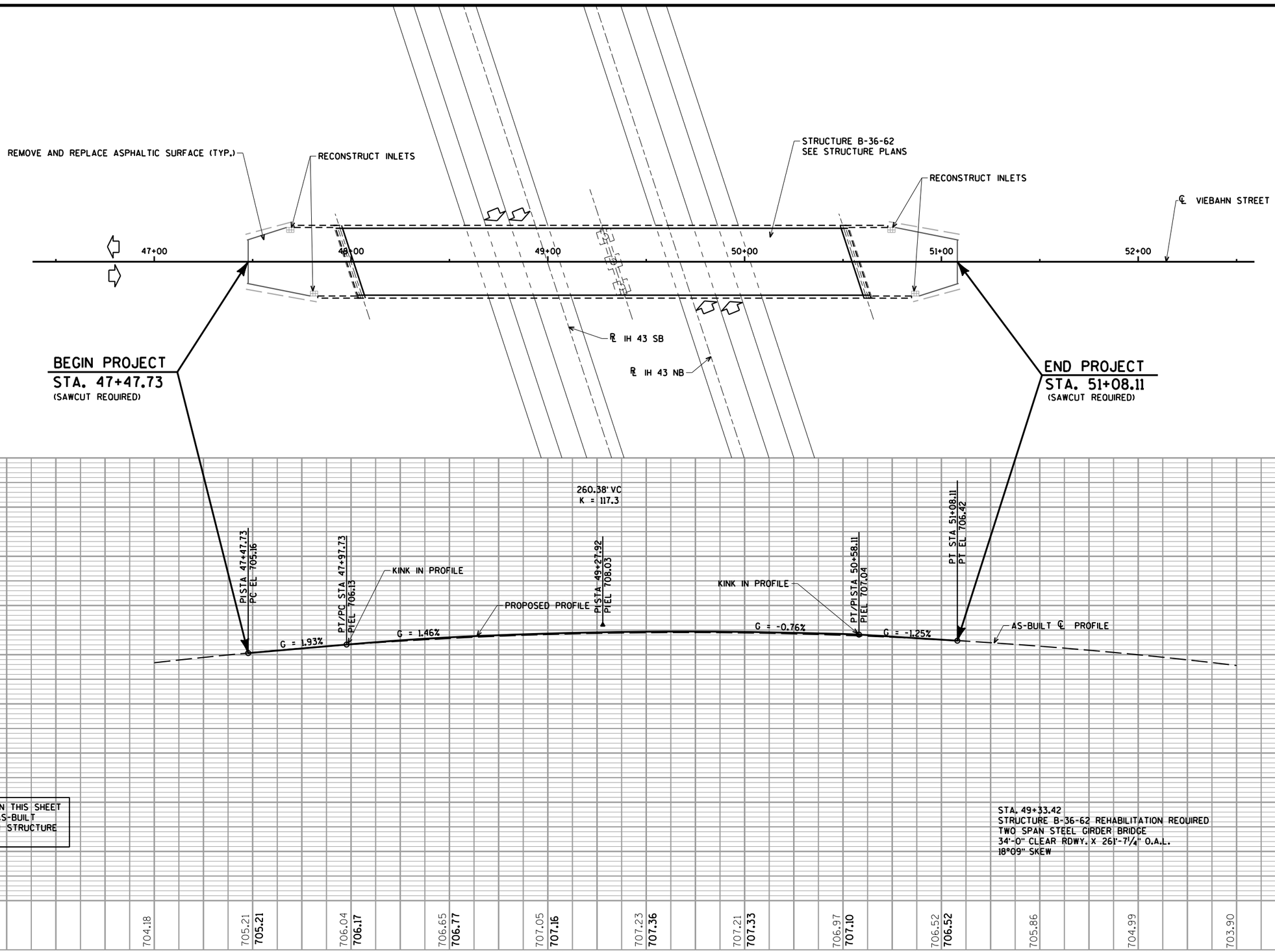
46+50 47+00 47+50 48+00 48+50 49+00 49+50 50+00 50+50 51+00 51+50

ELEVATIONS SHOWN ON THIS SHEET ARE BASED ON THE AS-BUILT ORIGINAL PLANS FROM STRUCTURE B-36-59 FROM 1978.

STA. 49+21.04
STRUCTURE B-36-59 REHABILITATION REQUIRED
TWO SPAN STEEL GIRDER BRIDGE
32'-0" CLEAR RDWY. X 222'-10" O.A.L.
3°1" SKEW

PROJECT NO: 1224-21-71	HWY: SILVER CREEK ROAD	COUNTY: MANITOWOC	PLAN AND PROFILE	SCALE, FEET 0 25 50	SHEET E

U:\42-0888.00 - Manitowoc County, IH43 Rehabs\B-36-59\RDWY\B-36-59 PP.DGN 12/10/2014 PENTABLE:BReau_shd_util.tbl untitled 1:50



PROJECT NO: 1224-21-71	HWY: VIEBAHN ST. (CTH CL)	COUNTY: MANITOWOC	PLAN AND PROFILE	SCALE, FEET 0 25 50	SHEET E

U:\42-0888.00 - Manitowoc County, IH43 Rehabs\B-36-62\RDWY\B-36-62 PP.DGN 1/22/2015 PENTABLE:BReau_shd_util.tbl kruegerjo 1:49.9999

WISDOT/CADDS SHEET 40

N

REMOVE AND REPLACE ASPHALTIC SURFACE (TYP.)

STRUCTURE B-36-69
SEE STRUCTURE PLANS

℄ MIDDLE ROAD

47+00 48+00 49+00 50+00 51+00 52+00

℄ IH 43 NB

℄ IH 43 SB

BEGIN PROJECT
STA. 47+81.83
(SAWCUT REQUIRED)

END PROJECT
STA. 51+29.49
(SAWCUT REQUIRED)

247.66' VC
K = 95.6

PI STA 47+81.83
PC EL 761.41

PT/PC STA 48+31.83
PI EL 762.08

KINK IN PROFILE

PI STA 49+55.66
PI EL 763.14

KINK IN PROFILE

PROPOSED PROFILE

PT/PI STA 50+79.49
PI EL 761.01

PT STA 51+29.49
PT EL 759.90

G = 1.34%

G = 0.86%

G = -1.73%

G = -2.22%

AS-BUILT ℄ PROFILE

780
770
760
750
740

		758.75		759.96		760.93		761.63	761.65		762.08	762.22		762.28	762.42		762.22	762.37		761.90	762.05		761.33	761.47		760.51	760.55		759.42		758.09		756.49	
46+50		47+00		47+50		48+00		48+50		49+00		49+50		50+00		50+50		51+00		51+50		52+00		52+50	

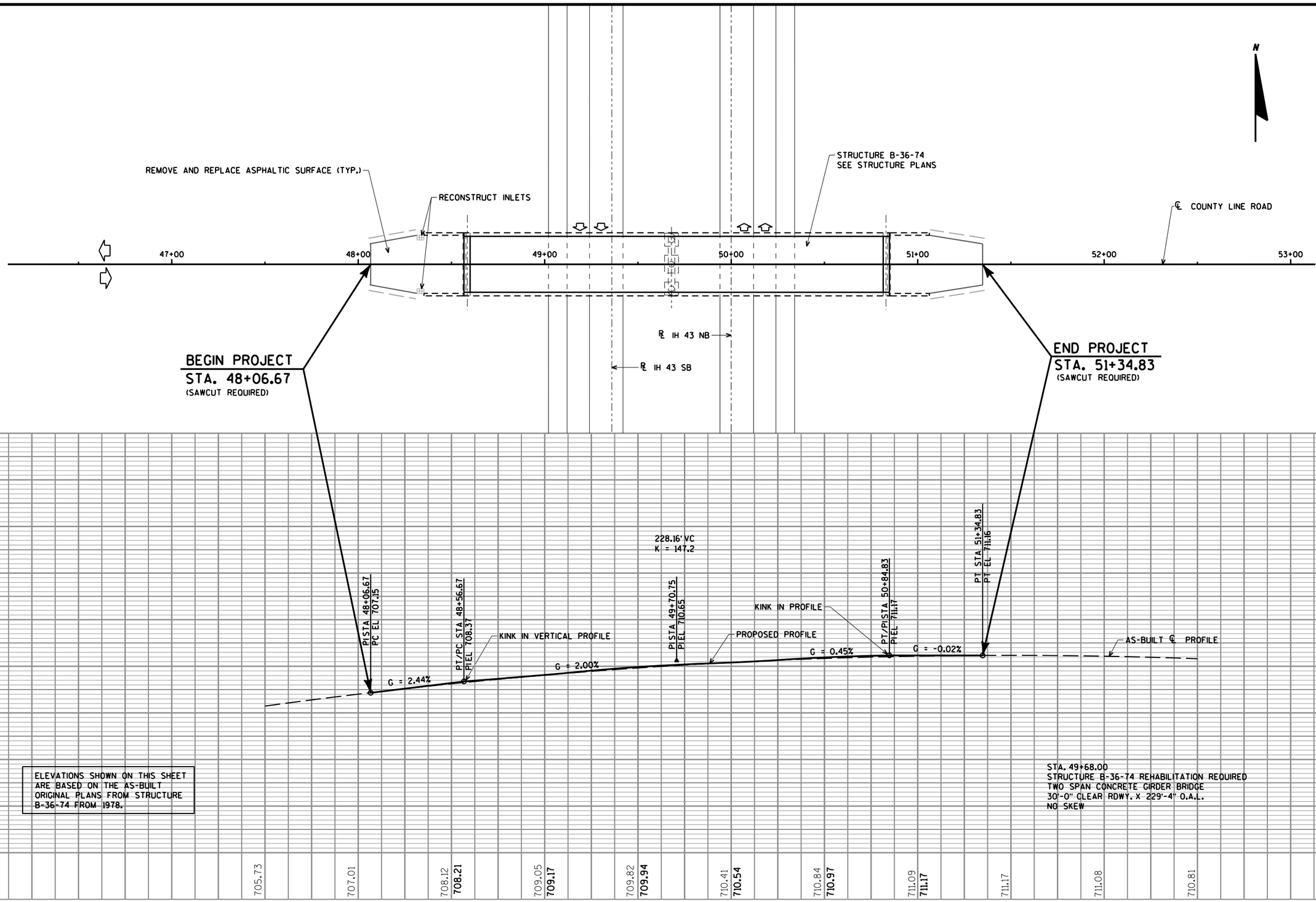
ELEVATIONS SHOWN ON THIS SHEET ARE BASED ON THE AS-BUILT ORIGINAL PLANS FROM STRUCTURE B-36-69 FROM 1978.

STA. 49+55.91
STRUCTURE B-36-69 REHABILITATION REQUIRED
TWO SPAN CONCRETE GIRDER BRIDGE
30'-0" CLEAR RDWY. X 249'-4" O.A.L.
3°35" SKEW

PROJECT NO: 1224-01-71	HWY: MIDDLE ROAD	COUNTY: MANITOWOC	PLAN AND PROFILE	SCALE, FEET 0 25 50	SHEET 133 E

U:\42-0888.00 - Manitowoc County, IH43 Rehabs\B-36-69\RDWY\B-36-69 PP.DGN 12/10/2014 PENTABLE:BReau_shd_util.tbl untitled 1:50

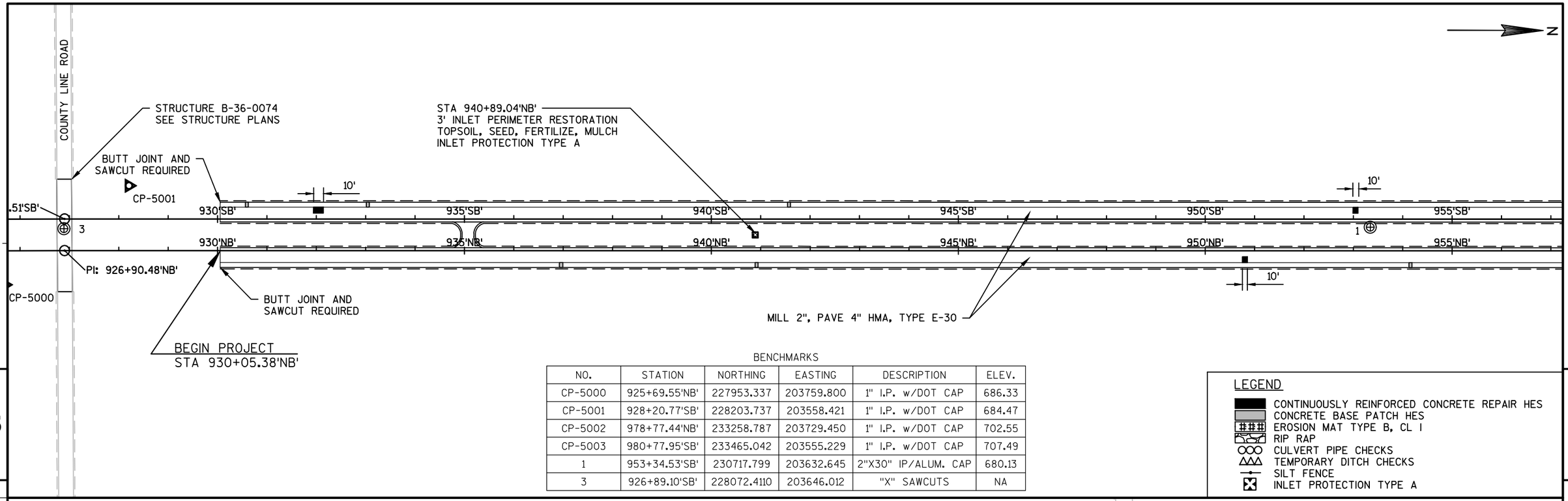
WISDOT/CADDS SHEET 40



PROJECT NO: 1224-21-71	HWY: COUNTY LINE ROAD	COUNTY: MANITOWOC	PLAN AND PROFILE	SCALE, FEET 0 25 50	SHEET E

U:\42-0888.00 - Manitowoc County, IH43 Rehabs\B-36-74\RDWY\B-36-74 PP.DGN 12/10/2014 PENTABLE:BReau_shd_util.tbl untitled 1:50

WISDOT/CADDS SHEET 40

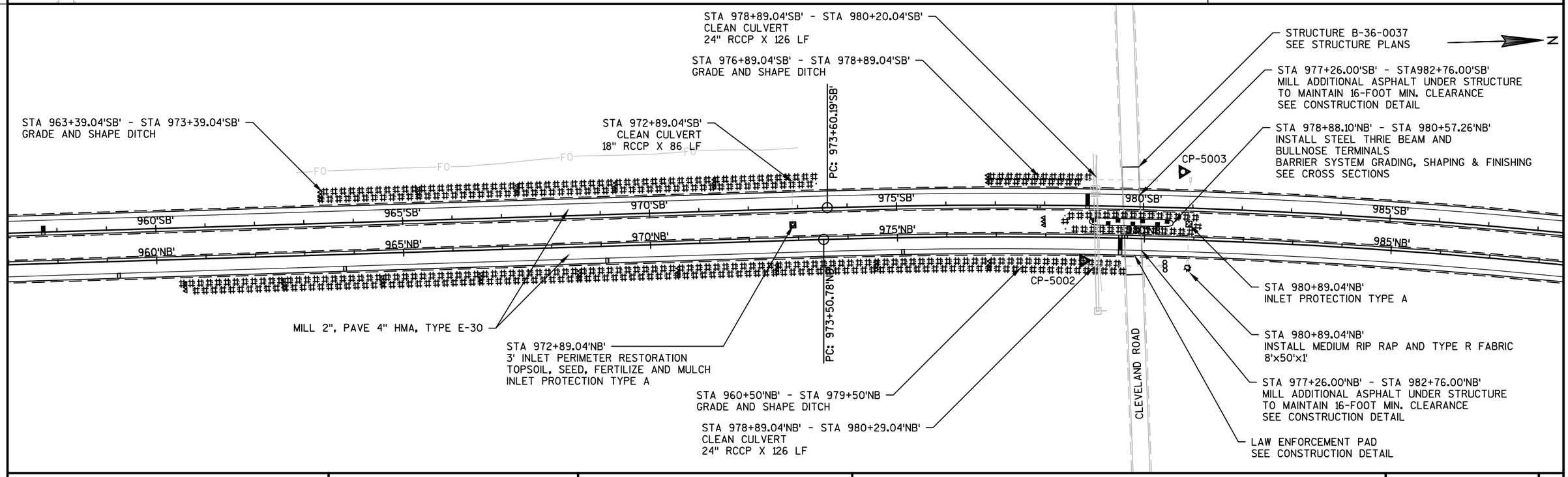


BENCHMARKS

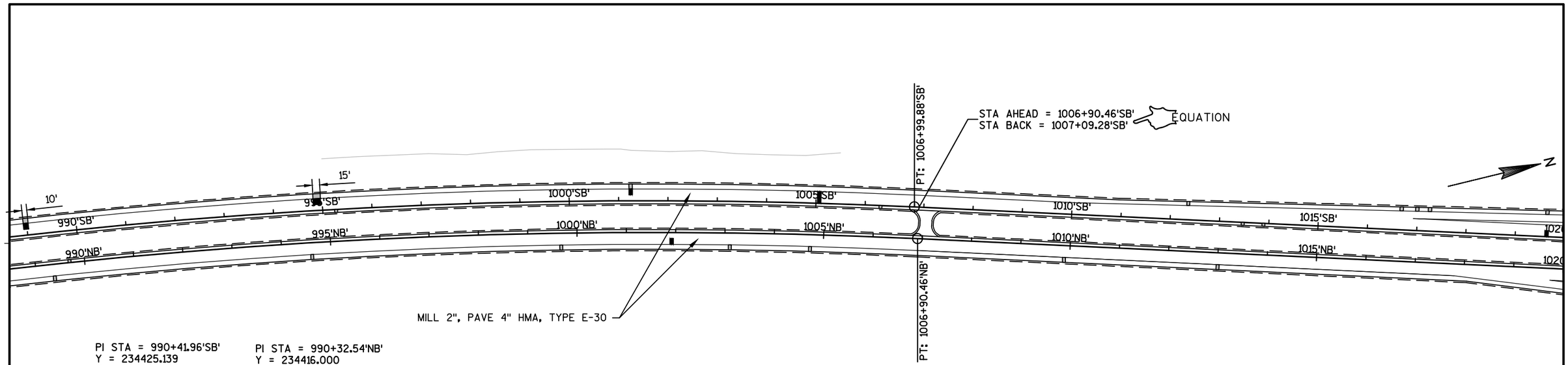
NO.	STATION	NORTHING	EASTING	DESCRIPTION	ELEV.
CP-5000	925+69.55'NB'	227953.337	203759.800	1" I.P. w/DOT CAP	686.33
CP-5001	928+20.77'SB'	228203.737	203558.421	1" I.P. w/DOT CAP	684.47
CP-5002	978+77.44'NB'	233258.787	203729.450	1" I.P. w/DOT CAP	702.55
CP-5003	980+77.95'SB'	233465.042	203555.229	1" I.P. w/DOT CAP	707.49
1	953+34.53'SB'	230717.799	203632.645	2"X30" IP/ALUM. CAP	680.13
3	926+89.10'SB'	228072.4110	203646.012	"X" SAWCUTS	NA

LEGEND

- CONTINUOUSLY REINFORCED CONCRETE REPAIR HES
- CONCRETE BASE PATCH HES
- EROSION MAT TYPE B, CL I
- RIP RAP
- CULVERT PIPE CHECKS
- TEMPORARY DITCH CHECKS
- SILT FENCE
- INLET PROTECTION TYPE A



PROJECT NO: 1224-21-71	HWY: IH 43	COUNTY: MANITOWOC	PLAN	SHEET 135	E



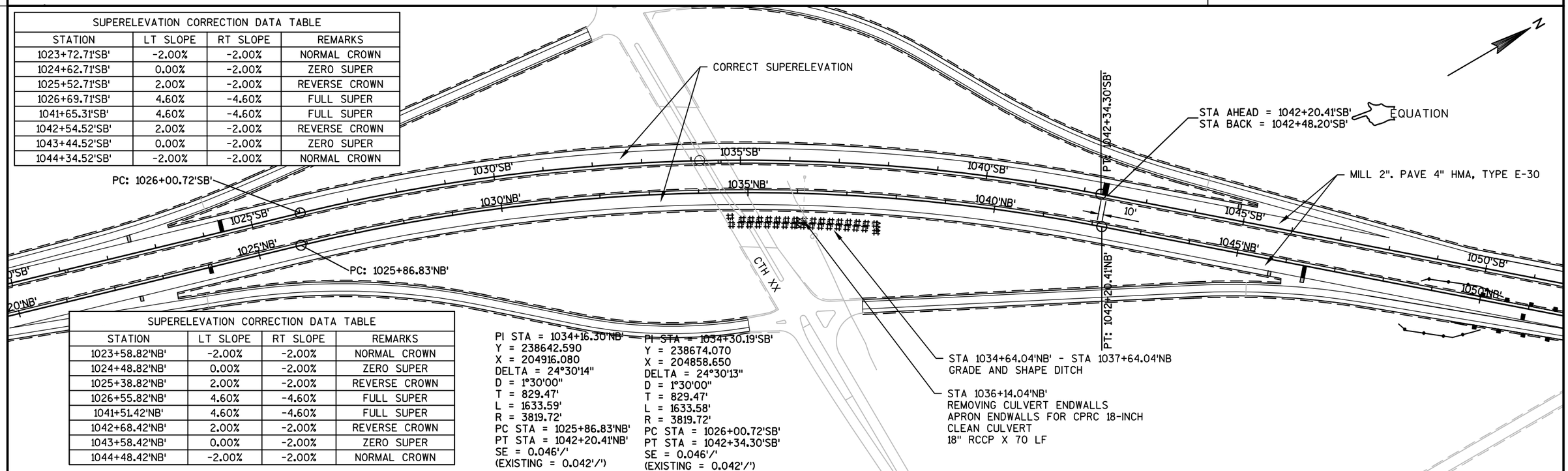
PI STA = 990+41.96'SB'
Y = 234425.139
X = 203601.900
DELTA = 16°41'54"
D = 0°30'00"
T = 1681.77'
L = 3339.69'
R = 11459.16'
PC STA = 973+60.19'SB'
PT STA = 1006+99.88'SB'
SE = R.C.

PI STA = 990+32.54'NB'
Y = 234416.000
X = 203665.940
DELTA = 16°41'54"
D = 0°30'00"
T = 1681.76'
L = 3339.68'
R = 11459.16'
PC STA = 973+50.78'NB'
PT STA = 1006+90.46'NB'
SE = R.C.

LEGEND

- CONTINUOUSLY REINFORCED CONCRETE REPAIR HES
- CONCRETE BASE PATCH HES
- EROSION MAT TYPE B, CL I
- RIP RAP
- CULVERT PIPE CHECKS
- TEMPORARY DITCH CHECKS
- SILT FENCE
- INLET PROTECTION TYPE A

SUPERELEVATION CORRECTION DATA TABLE			
STATION	LT SLOPE	RT SLOPE	REMARKS
1023+72.71'SB'	-2.00%	-2.00%	NORMAL CROWN
1024+62.71'SB'	0.00%	-2.00%	ZERO SUPER
1025+52.71'SB'	2.00%	-2.00%	REVERSE CROWN
1026+69.71'SB'	4.60%	-4.60%	FULL SUPER
1041+65.31'SB'	4.60%	-4.60%	FULL SUPER
1042+54.52'SB'	2.00%	-2.00%	REVERSE CROWN
1043+44.52'SB'	0.00%	-2.00%	ZERO SUPER
1044+34.52'SB'	-2.00%	-2.00%	NORMAL CROWN



SUPERELEVATION CORRECTION DATA TABLE			
STATION	LT SLOPE	RT SLOPE	REMARKS
1023+58.82'NB'	-2.00%	-2.00%	NORMAL CROWN
1024+48.82'NB'	0.00%	-2.00%	ZERO SUPER
1025+38.82'NB'	2.00%	-2.00%	REVERSE CROWN
1026+55.82'NB'	4.60%	-4.60%	FULL SUPER
1041+51.42'NB'	4.60%	-4.60%	FULL SUPER
1042+68.42'NB'	2.00%	-2.00%	REVERSE CROWN
1043+58.42'NB'	0.00%	-2.00%	ZERO SUPER
1044+48.42'NB'	-2.00%	-2.00%	NORMAL CROWN

PI STA = 1034+16.30'NB'
Y = 238642.590
X = 204916.080
DELTA = 24°30'14"
D = 1°30'00"
T = 829.47'
L = 1633.59'
R = 3819.72'
PC STA = 1025+86.83'NB'
PT STA = 1042+20.41'NB'
SE = 0.046'/'
(EXISTING = 0.042'/')

PI STA = 1034+30.19'SB'
Y = 238674.070
X = 204858.650
DELTA = 24°30'13"
D = 1°30'00"
T = 829.47'
L = 1633.58'
R = 3819.72'
PC STA = 1026+00.72'SB'
PT STA = 1042+34.30'SB'
SE = 0.046'/'
(EXISTING = 0.042'/')

STA 1034+64.04'NB' - STA 1037+64.04'NB
GRADE AND SHAPE DITCH

STA 1036+14.04'NB'
REMOVING CULVERT ENDWALLS
APRON ENDWALLS FOR CPRC 18-INCH
CLEAN CULVERT
18" RCCP X 70 LF

PROJECT NO: 1224-21-71	HWY: IH 43	COUNTY: MANITOWOC	PLAN	SHEET 136	E

STA 1053+58.69'SB' - STA 1054+01.56'SB'
REMOVE AND REPLACE CONCRETE
APPROACH SLAB AND SHOULDERS

STRUCTURE B-36-0042
SEE STRUCTURE PLANS

WESTVIEW ROAD

STA 1072+89.04'SB'
REMOVING CULVERT ENDWALLS
APRON ENDWALLS FOR CPRC 18-INCH

1055'SB' 1060'SB' 1065'SB' 1070'SB' 1075'SB' 1080'SB'

1055'NB' 1060'NB' 1065'NB' 1070'NB' 1075'NB' 1080'NB'

10'

STRUCTURE B-36-0061
SEE STRUCTURE PLANS

MILL 2", PAVE 4" HMA, TYPE E-30

5

5

LEGEND

- CONTINUOUSLY REINFORCED CONCRETE REPAIR HES
- CONCRETE BASE PATCH HES
- EROSION MAT TYPE B, CL I
- RIP RAP
- CULVERT PIPE CHECKS
- TEMPORARY DITCH CHECKS
- SILT FENCE
- INLET PROTECTION TYPE A

STRUCTURE B-36-0043
SEE STRUCTURE PLANS

FISCHER CREEK ROAD

STA 1102+39.04'SB'
REMOVING CULVERT ENDWALLS
APRON ENDWALLS FOR CPRC 18-INCH
CLEAN CULVERT

LAW ENFORCEMENT PAD
SEE CONSTRUCTION DETAIL

STA 1113+89.04'NB'
CLEAN CULVERT
18" RCCP X 84 LF

STA 1096+89.04'SB'
REMOVING CULVERT ENDWALLS
APRON ENDWALLS FOR CPRC 18-INCH

CP-5005

1085'SB' 1090'SB' 1095'SB' 1100'SB' 1105'SB' 1110'SB'

1085'NB' 1090'NB' 1095'NB' 1100'NB' 1110'NB'

CP-5004

MILL 2", PAVE 4" HMA, TYPE E-30

INLET PROTECTION TYPE A

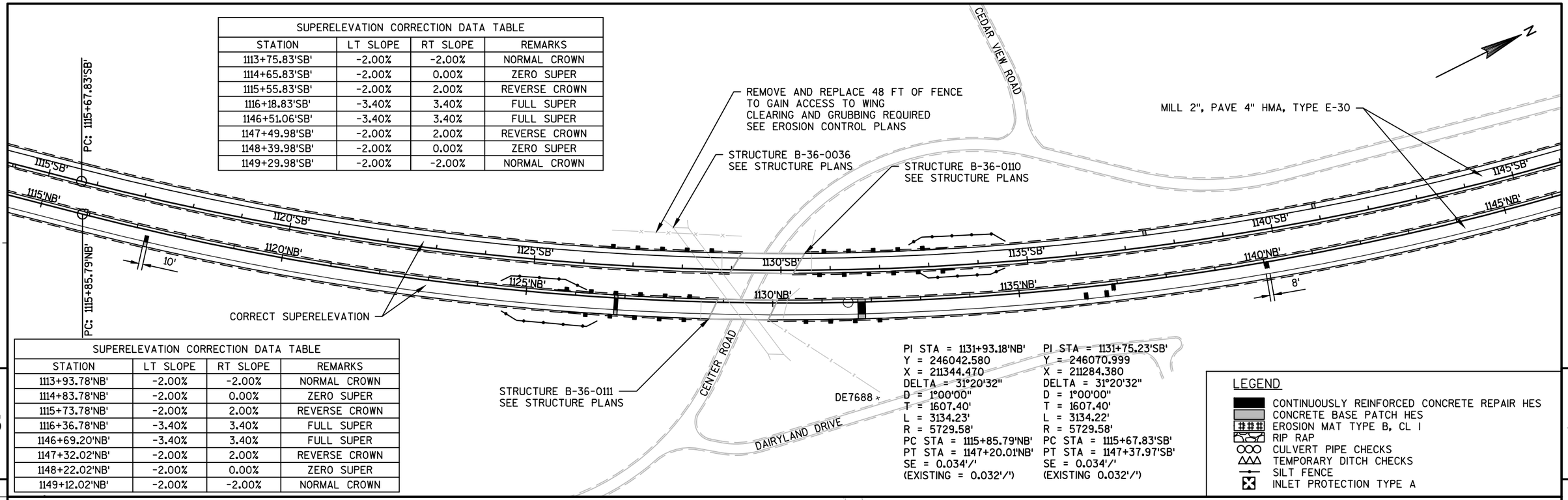
STA 1103+45.43'NB' - STA 1105+27.11'NB'
INSTALL STEEL THRIE BEAM AND BULLNOSE TERMINALS
BARRIER SYSTEM GRADING, SHAPING & FINISHING
SEE CROSS SECTIONS

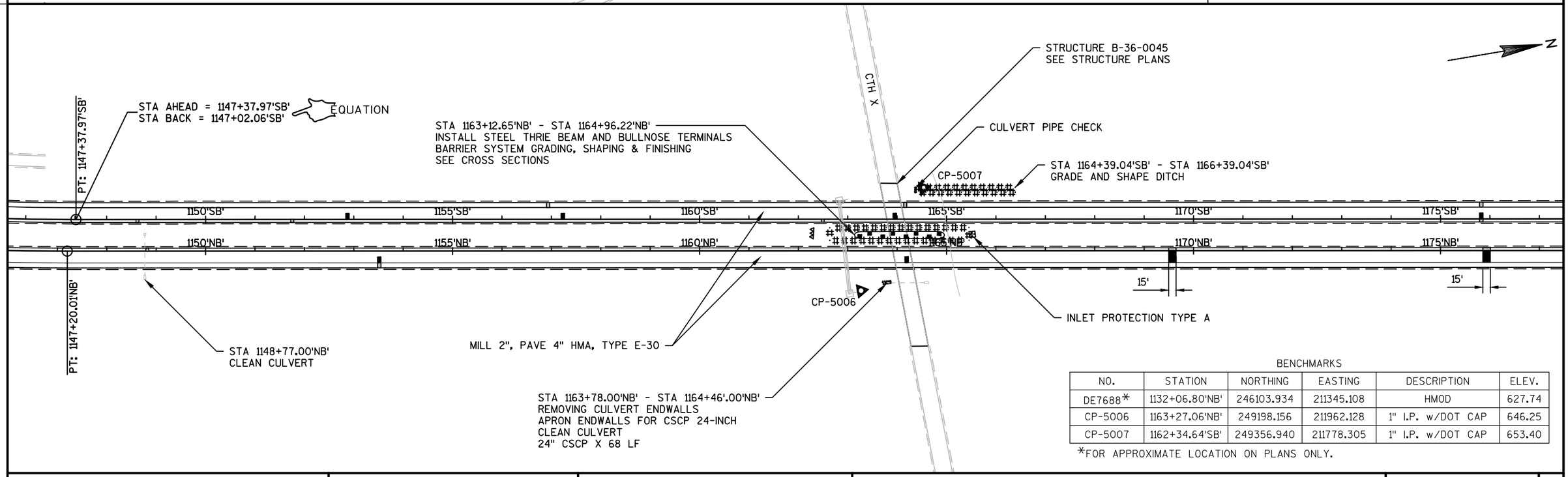
BENCHMARKS

NO.	STATION	NORTHING	EASTING	DESCRIPTION	ELEV.
CP-5004	1103+75.99'NB'	243877.605	209540.897	1" I.P. w/DOT CAP	652.31
CP-5005	1104+75.94'SB'	244071.028	209470.655	1" I.P. w/DOT CAP	650.37

SUPERELEVATION CORRECTION DATA TABLE			
STATION	LT SLOPE	RT SLOPE	REMARKS
1113+75.83'SB'	-2.00%	-2.00%	NORMAL CROWN
1114+65.83'SB'	-2.00%	0.00%	ZERO SUPER
1115+55.83'SB'	-2.00%	2.00%	REVERSE CROWN
1116+18.83'SB'	-3.40%	3.40%	FULL SUPER
1146+51.06'SB'	-3.40%	3.40%	FULL SUPER
1147+49.98'SB'	-2.00%	2.00%	REVERSE CROWN
1148+39.98'SB'	-2.00%	0.00%	ZERO SUPER
1149+29.98'SB'	-2.00%	-2.00%	NORMAL CROWN

SUPERELEVATION CORRECTION DATA TABLE			
STATION	LT SLOPE	RT SLOPE	REMARKS
1113+93.78'NB'	-2.00%	-2.00%	NORMAL CROWN
1114+83.78'NB'	-2.00%	0.00%	ZERO SUPER
1115+73.78'NB'	-2.00%	2.00%	REVERSE CROWN
1116+36.78'NB'	-3.40%	3.40%	FULL SUPER
1146+69.20'NB'	-3.40%	3.40%	FULL SUPER
1147+32.02'NB'	-2.00%	2.00%	REVERSE CROWN
1148+22.02'NB'	-2.00%	0.00%	ZERO SUPER
1149+12.02'NB'	-2.00%	-2.00%	NORMAL CROWN





BENCHMARKS

NO.	STATION	NORTHING	EASTING	DESCRIPTION	ELEV.
DE7688*	1132+06.80'NB'	246103.934	211345.108	HMOD	627.74
CP-5006	1163+27.06'NB'	249198.156	211962.128	1" I.P. w/DOT CAP	646.25
CP-5007	1162+34.64'SB'	249356.940	211778.305	1" I.P. w/DOT CAP	653.40

*FOR APPROXIMATE LOCATION ON PLANS ONLY.

PROJECT NO: 1224-21-71	HWY: IH 43	COUNTY: MANITOWOC	PLAN	SHEET 138	E

STA 1178+89.04'SB'
CLEAN CULVERT
18" RCCP X 88 LF

STA 1184+89.04'SB'
CLEAN CULVERT
60" RCCP X 96 LF

STA 1187+89.04'SB'
CLEAN CULVERT
18" RCCP X 98 LF

STA 1188+15.21'NB' - STA 1202+49.43'NB'
CONSTRUCT CROSSOVER
SEE SDD 15D11

10'
10'
15'
15'
15'

1180'SB' 1185'SB' 1190'SB' 1195'SB' 1200'SB' 1205'SB'
1180'NB' 1185'NB' 1190'NB' 1195'NB' 1200'NB' 1205'NB'

MILL 2", PAVE 4" HMA, TYPE E-30

OL0244

5

5

LEGEND

- CONTINUOUSLY REINFORCED CONCRETE REPAIR HES
- CONCRETE BASE PATCH HES
- EROSION MAT TYPE B, CL I
- RIP RAP
- CULVERT PIPE CHECKS
- TEMPORARY DITCH CHECKS
- SILT FENCE
- INLET PROTECTION TYPE A

BENCHMARKS

NO.	STATION	NORTHING	EASTING	DESCRIPTION	ELEV.
CP-5008	1217+31.72'NB'	254529.419	212849.994	1" I.P. w/DOT CAP	640.65
CP-5009	1218+34.61'SB'	254662.389	212681.498	1" I.P. w/DOT CAP	644.06
OL0244*	1177+52.70'NB'	250587.000	212299.000	HMOD	649.78
OL0245*	1229+07.70'NB'	255674.000	213134.000	HMOD	639.51

*FOR APPROXIMATE LOCATION ON PLAN ONLY.

POINT CREEK ROAD

BUTT JOINT AND
SAWCUT REQUIRED

CP-5009

1210'SB' 1215'SB' 1220'SB' 1225'SB' 1230'SB' 1235'SB' 1240'SB'
1210'NB' 1215'NB' 1220'NB' 1225'NB' 1230'NB' 1235'NB' 1240'NB'

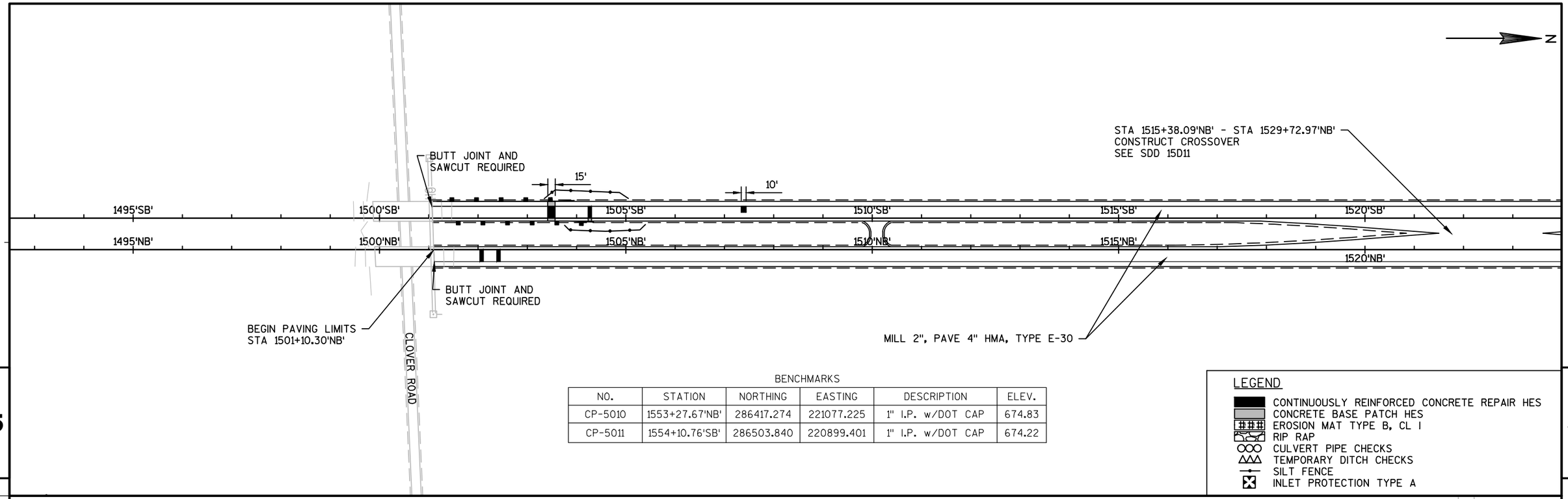
10' 15' 10'

CP-5008

END PAVING LIMITS
STA 1216+88.99'NB'
BUTT JOINT AND
SAWCUT REQUIRED

OL0245

PROJECT NO: 1224-21-71	HWY: IH 43	COUNTY: MANITOWOC	PLAN	SHEET 139	E

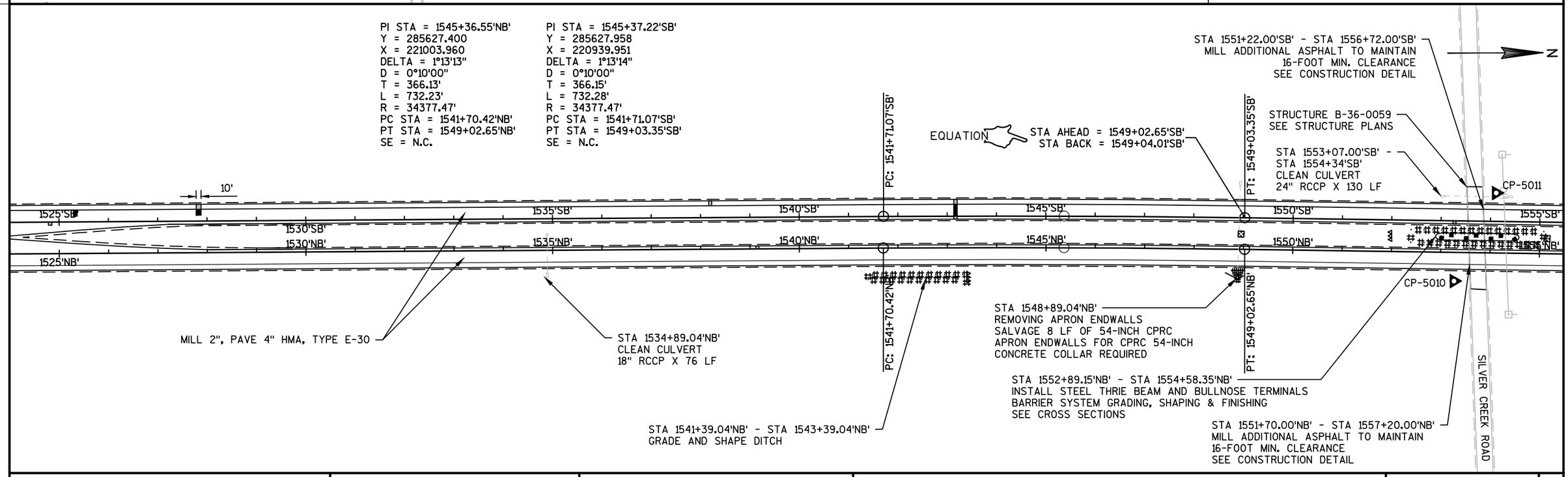


BENCHMARKS

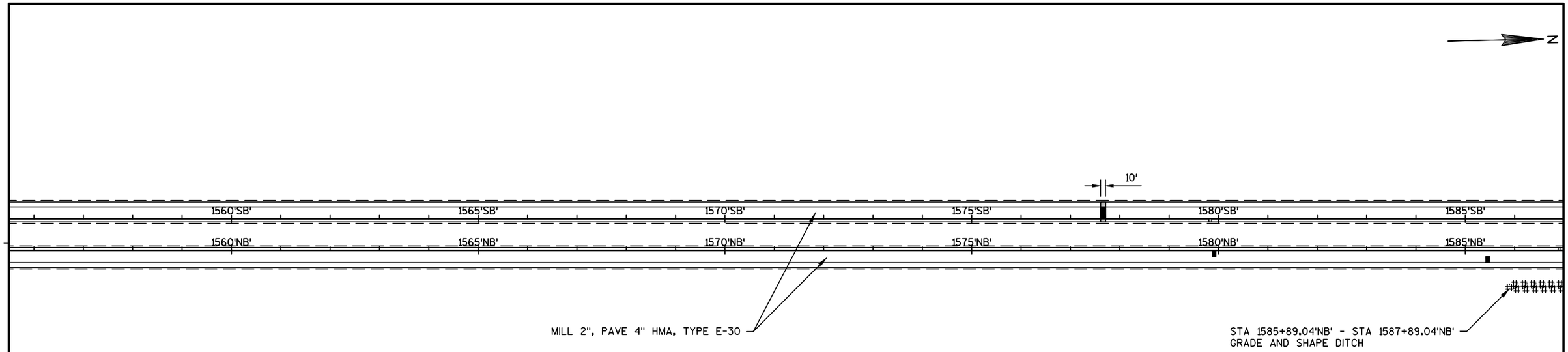
NO.	STATION	NORTHING	EASTING	DESCRIPTION	ELEV.
CP-5010	1553+27.67'NB'	286417.274	221077.225	1" I.P. w/DOT CAP	674.83
CP-5011	1554+10.76'SB'	286503.840	220899.401	1" I.P. w/DOT CAP	674.22

LEGEND

- CONTINUOUSLY REINFORCED CONCRETE REPAIR HES
- CONCRETE BASE PATCH HES
- EROSION MAT TYPE B, CL I
- RIP RAP
- CULVERT PIPE CHECKS
- TEMPORARY DITCH CHECKS
- SILT FENCE
- INLET PROTECTION TYPE A



PROJECT NO: 1224-21-71	HWY: IH 43	COUNTY: MANITOWOC	PLAN	SHEET 140	E



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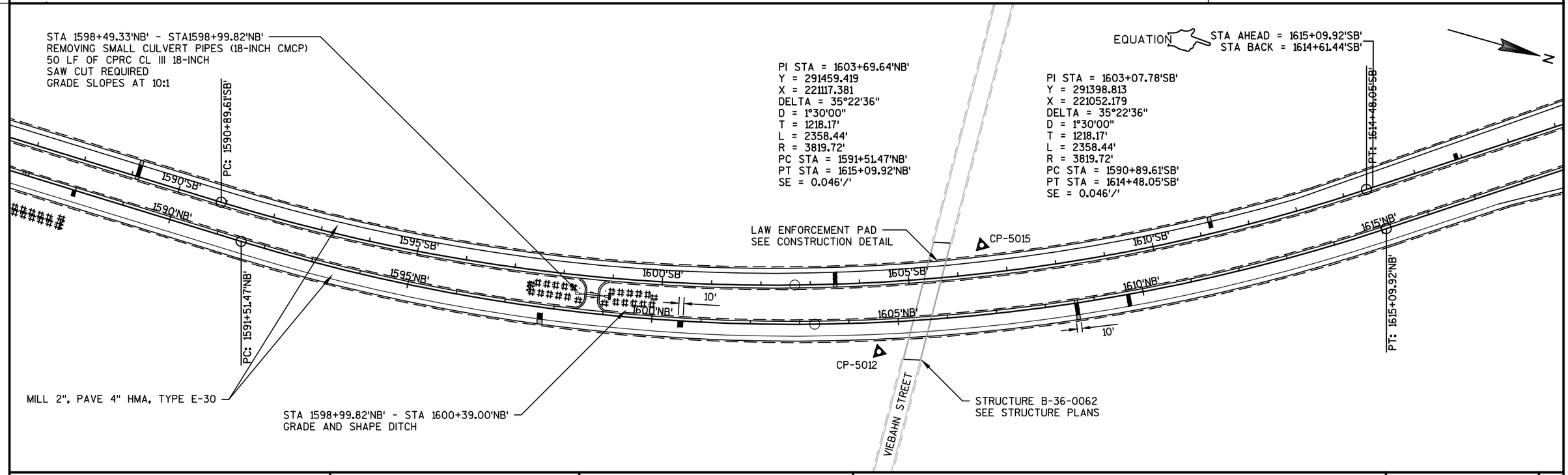
BENCHMARKS

NO.	STATION	NORTHING	EASTING	DESCRIPTION	ELEV.
CP-5012	1604+58.16'NB'	291545.714	220953.608	1" I.P. w/DOT CAP	683.37
CP-5015	1606+55.02'SB'	291686.950	220689.011	1" I.P. w/DOT CAP	678.05

LEGEND

- CONTINUOUSLY REINFORCED CONCRETE REPAIR HES
- CONCRETE BASE PATCH HES
- EROSION MAT TYPE B, CL I
- RIP RAP
- CULVERT PIPE CHECKS
- TEMPORARY DITCH CHECKS
- SILT FENCE
- INLET PROTECTION TYPE A

5



PROJECT NO: 1224-21-71	HWY: IH 43	COUNTY: MANITOWOC	PLAN	SHEET 141	E

FILL, SHAPE, AND FINISH HOLE
W/ TOPSOIL, SEED AND EMAT

STA 1632+29.00'SB' - STA 1638+45.00'SB'
MILL ADDITIONAL ASPHALT UNDER STRUCTURE
TO MAINTAIN 16-FOOT MIN. CLEARANCE
SEE CONSTRUCTION DETAIL

FILL, SHAPE, AND FINISH HOLE
W/ TOPSOIL SEED AND EMAT

FILL HOLE
W/ TOPSOIL, SEED AND EMAT

CP-5014

1620'SB' 1625'SB' 1630'SB' 1635'SB' 1640'SB' 1645'SB'

15'

1620'NB' 1625'NB' 1630'NB' 1635'NB' 1640'NB' 1645'NB'

10'

CP-5013

STA 1631+66.00'NB' - STA 1637+72.00'NB'
MILL ADDITIONAL ASPHALT UNDER STRUCTURE
TO MAINTAIN 16-FOOT MIN. CLEARANCE
SEE CONSTRUCTION DETAIL

MILL 2", PAVE 4" HMA, TYPE E-30

LAW ENFORCEMENT PAD
SEE CONSTRUCTION DETAIL

USH 151

5

5

LEGEND

- CONTINUOUSLY REINFORCED CONCRETE REPAIR HES
- CONCRETE BASE PATCH HES
- EROSION MAT TYPE B, CL I
- RIP RAP
- CULVERT PIPE CHECKS
- TEMPORARY DITCH CHECKS
- SILT FENCE
- INLET PROTECTION TYPE A

BENCHMARKS

NO.	STATION	NORTHING	EASTING	DESCRIPTION	ELEV.
CP-5013	1633+31.19'NB'	294004.103	219454.204	1" I.P. w/DOT CAP	693.32
CP-5014	1636+61.85'SB'	294161.985	219098.643	1" I.P. w/DOT CAP	695.09

MILL 2", PAVE 4" HMA, TYPE E-30

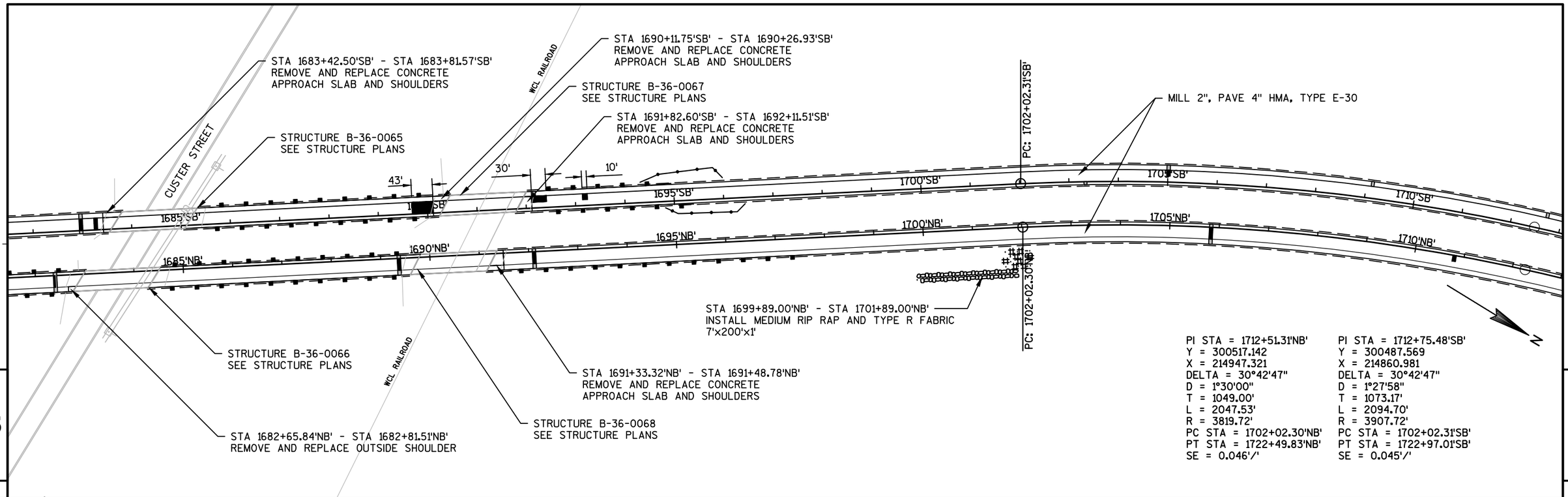
1655'SB' 1660'SB' 1665'SB' 1670'SB' 1675'SB' 1680'SB'

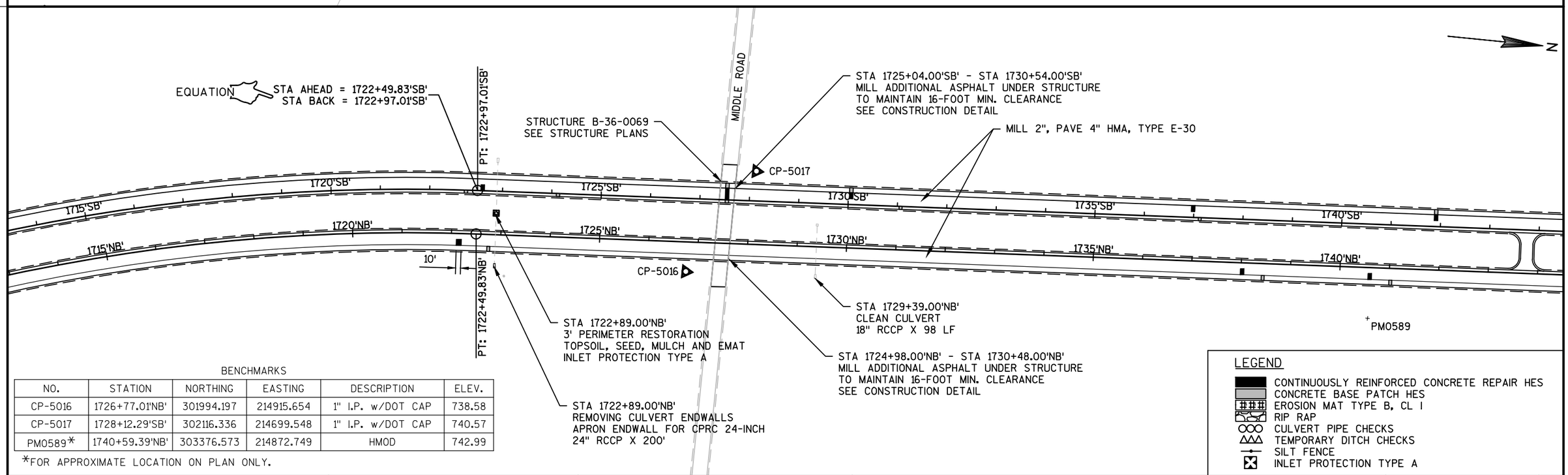
1655'NB' 1660'NB' 1665'NB' 1670'NB' 1675'NB' 1680'NB'

48 LF OF FENCE CHAIN LINK SALVAGED 7-FT
FOR ACCESS TO APRON ENDWALL

STA 1665+89.04'NB'
REMOVING SMALL CULVERT PIPES (42-INCH CPRC)
32 LF OF CPRC CL III 42-INCH
APRON ENDWALL FOR 42-INCH CPRC
CONCRETE COLLAR REQUIRED

PROJECT NO: 1224-21-71	HWY: IH 43	COUNTY: MANITOWOC	PLAN	SHEET 142	E





BENCHMARKS

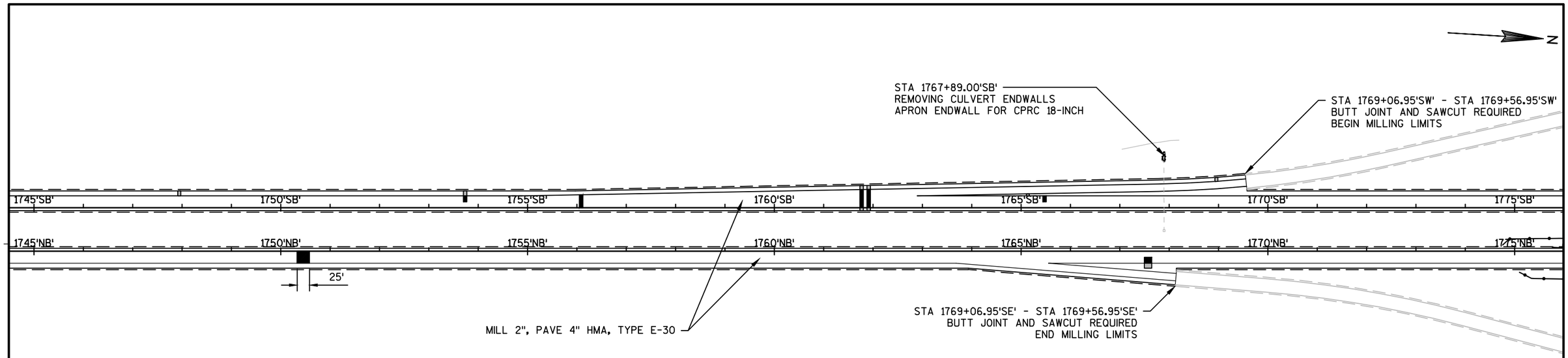
NO.	STATION	NORTHING	EASTING	DESCRIPTION	ELEV.
CP-5016	1726+77.01'NB'	301994.197	214915.654	1" I.P. w/DOT CAP	738.58
CP-5017	1728+12.29'SB'	302116.336	214699.548	1" I.P. w/DOT CAP	740.57
PM0589*	1740+59.39'NB'	303376.573	214872.749	HMOD	742.99

*FOR APPROXIMATE LOCATION ON PLAN ONLY.

LEGEND

- CONTINUOUSLY REINFORCED CONCRETE REPAIR HES
- CONCRETE BASE PATCH HES
- EROSION MAT TYPE B, CL I
- RIP RAP
- CULVERT PIPE CHECKS
- TEMPORARY DITCH CHECKS
- SILT FENCE
- INLET PROTECTION TYPE A

PROJECT NO: 1224-21-71	HWY: IH 43	COUNTY: MANITOWOC	PLAN	SHEET 143	E



5

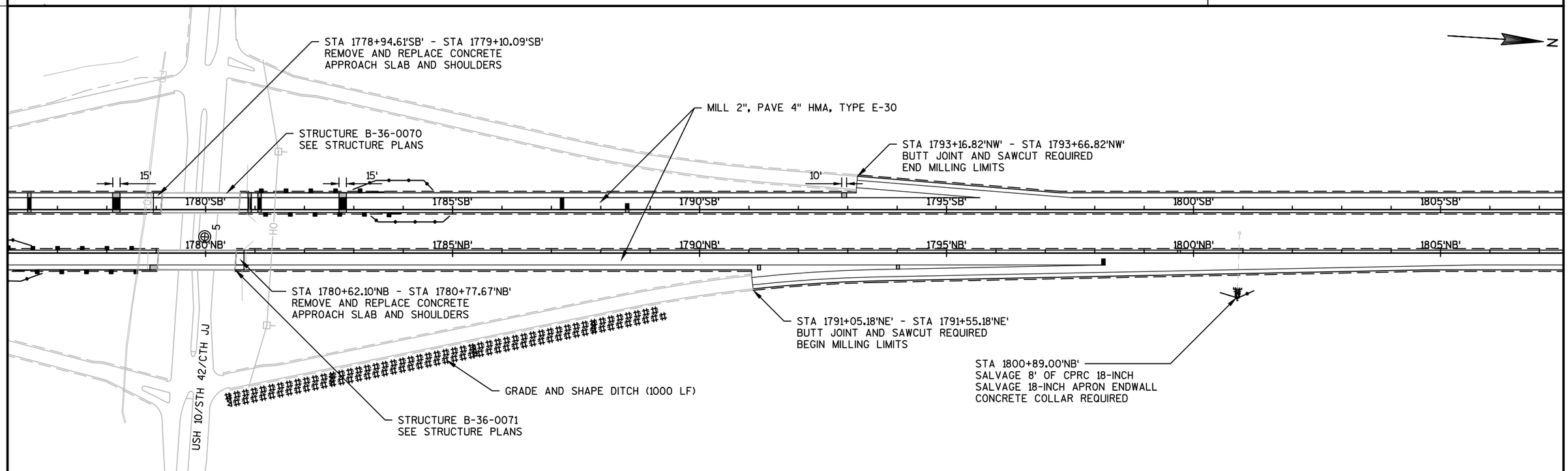
BENCHMARKS

NO.	STATION	NORTHING	EASTING	DESCRIPTION	ELEV.
5	1779+98.41'NB'	307299.650	214493.610	BERNTSEN NAIL	NA

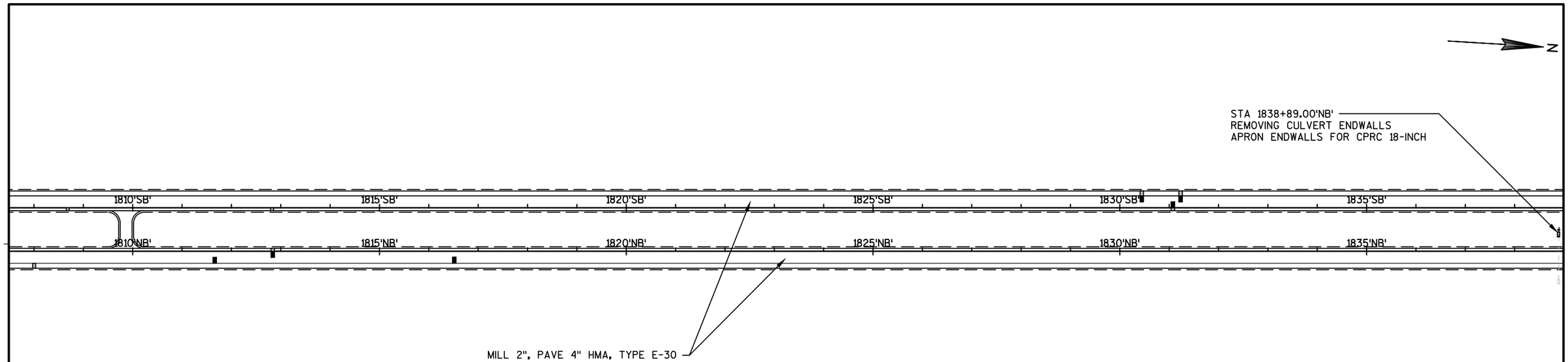
LEGEND

- CONTINUOUSLY REINFORCED CONCRETE REPAIR HES
- CONCRETE BASE PATCH HES
- EROSION MAT TYPE B, CL I
- RIP RAP
- CULVERT PIPE CHECKS
- TEMPORARY DITCH CHECKS
- SILT FENCE
- INLET PROTECTION TYPE A

5



PROJECT NO: 1224-21-71	HWY: IH 43	COUNTY: MANITOWOC	PLAN	SHEET 144	E

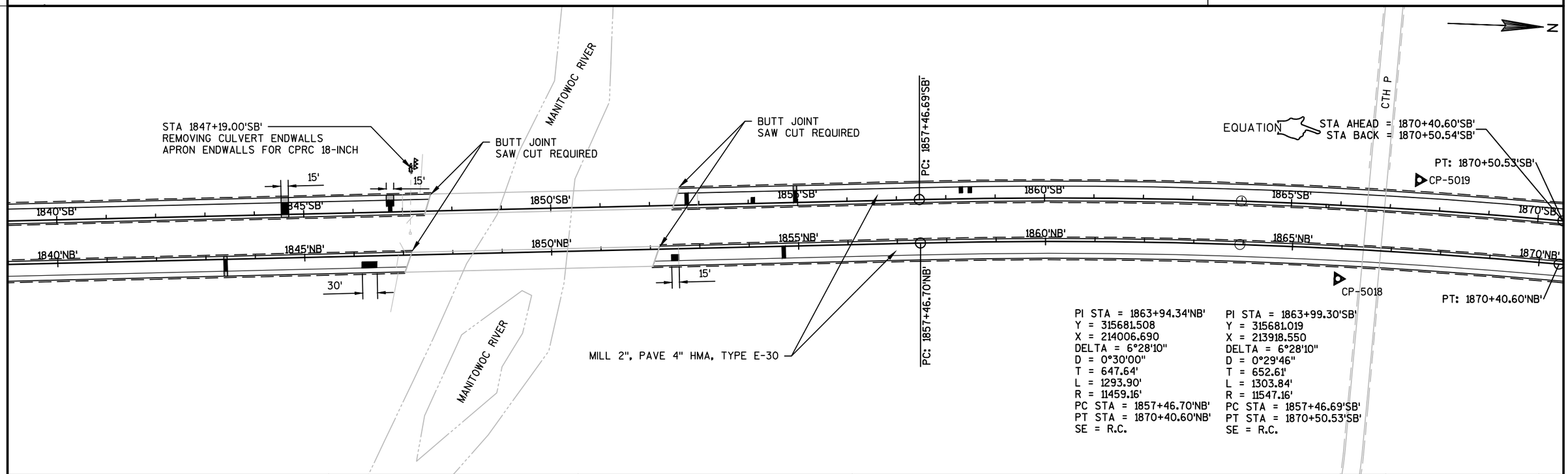


BENCHMARKS

NO.	STATION	NORTHING	EASTING	DESCRIPTION	ELEV.
CP-5018	1865+95.18'NB'	315882.400	214086.485	1" I.P. w/DOT CAP	722.24
CP-5019	1867+55.56'SB'	316039.558	213880.639	1" I.P. w/DOT CAP	725.37

LEGEND

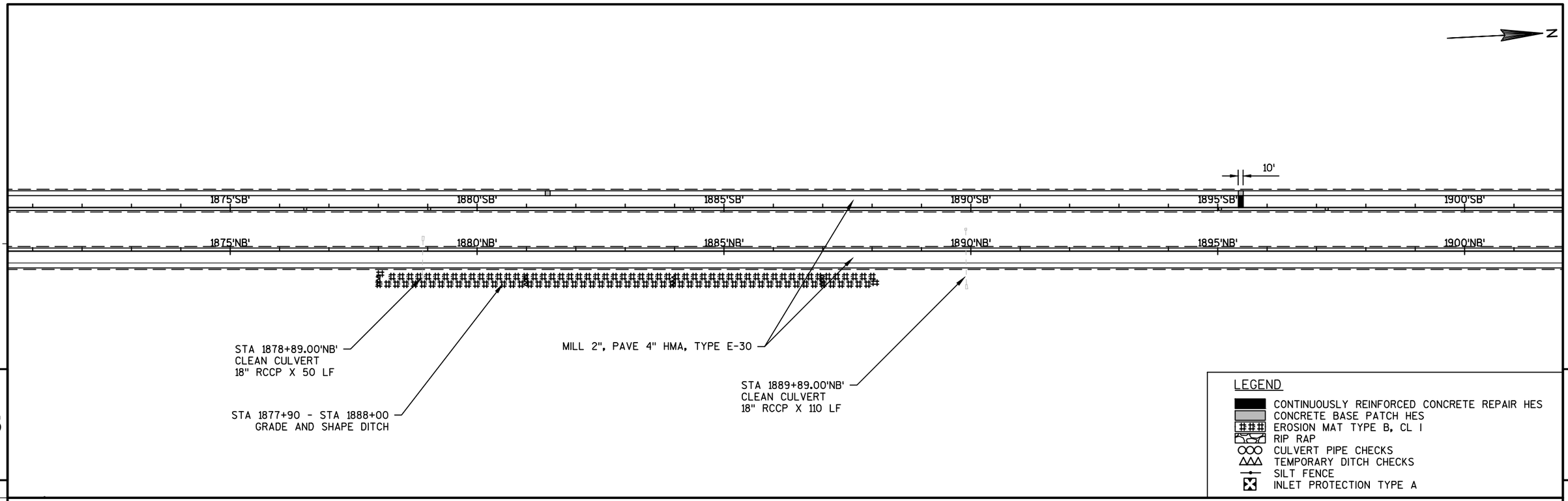
- CONTINUOUSLY REINFORCED CONCRETE REPAIR HES
- CONCRETE BASE PATCH HES
- EROSION MAT TYPE B, CL I
- RIP RAP
- CULVERT PIPE CHECKS
- TEMPORARY DITCH CHECKS
- SILT FENCE
- INLET PROTECTION TYPE A

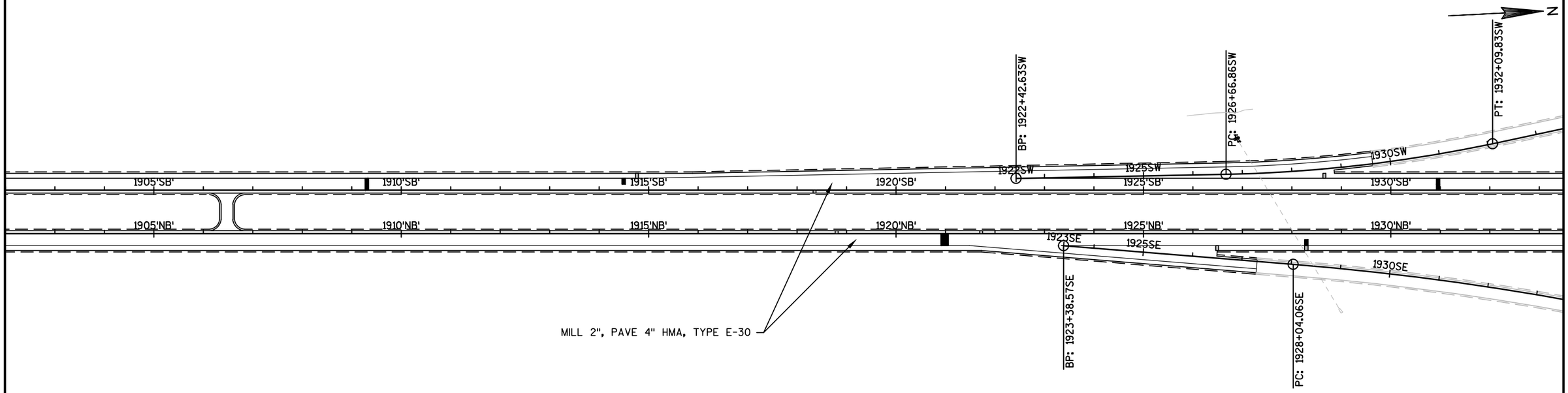


PI STA = 1863+94.34'NB'
Y = 315681.508
X = 214006.690
DELTA = 6°28'10"
D = 0°30'00"
T = 647.64'
L = 1293.90'
R = 11459.16'
PC STA = 1857+46.70'NB'
PT STA = 1870+40.60'NB'
SE = R.C.

PI STA = 1863+99.30'SB'
Y = 315681.019
X = 213918.550
DELTA = 6°28'10"
D = 0°29'46"
T = 652.61'
L = 1303.84'
R = 11547.16'
PC STA = 1857+46.69'SB'
PT STA = 1870+50.53'SB'
SE = R.C.

PROJECT NO: 1224-21-71	HWY: IH 43	COUNTY: MANITOWOC	PLAN	SHEET 145	E





PROJECT NO: 1224-21-71	HWY: IH 43	COUNTY: MANITOWOC	PLAN	SHEET	E

FILE NAME : N:\PDS\C3D\12242100\SHEETSPLAN\C3D 2014\12242171\050201_PN.DWG PLOT DATE : 5/7/2015 1:21 PM PLOT BY : HEIM, BRENT P PLOT NAME : PLOT SCALE : 1" = 200'_XREF

WISDOT/CADDS SHEET 44

N

STA 1926+89.00'SB'
REMOVING CULVERT ENDWALLS
APRON ENDWALLS FOR CPRC 30-INCH
CULVERT PIPE CHECK

STA 1929+14.15'SW' - STA 1929+64.15'SW'
BUTT JOINT AND SAWCUT REQUIRED
BEGIN MILLING LIMITS

BP: 1922+42.63SW
PC: 1926+66.86SW
PT: 1932+09.83SW
EP: 1940+39.51SW

STH 310 SW RAMP

1920'SB' 1922SW 1925SW 1925'SB' 1930SW 1930'SB' 1935SW 1935'SB' 1940'SB' 1945'SB' 1950'SB'

1920'NB' 1923SE 1925'NB' 1925SE 1930'NB' 1930SE 1935'NB' 1935SE 1940'NB' 1945'NB' 1950'NB'

20' 10' 15' 10' 10' 10'

STA 1938+64.29'SB' - STA 1939+14.29'SB'
BUTT JOINT AND SAWCUT REQUIRED

STA 1938+64.29'NB' - STA 1939+14.29'NB'
BUTT JOINT AND SAWCUT REQUIRED

7
6

END PROJECT
STA 1939+14.29'NB'

BP: 1923+38.57SE
PC: 1928+04.06SE

STA 1926+80.77'SE' - STA 1927+30.77'SE'
BUTT JOINT AND SAWCUT REQUIRED
END MILLING LIMITS

MILL 2", PAVE 4" HMA, TYPE E-30

STH 310 SE RAMP

PT: 1937+24.30SE
EP: 1940+23.76SE

5 5

LEGEND

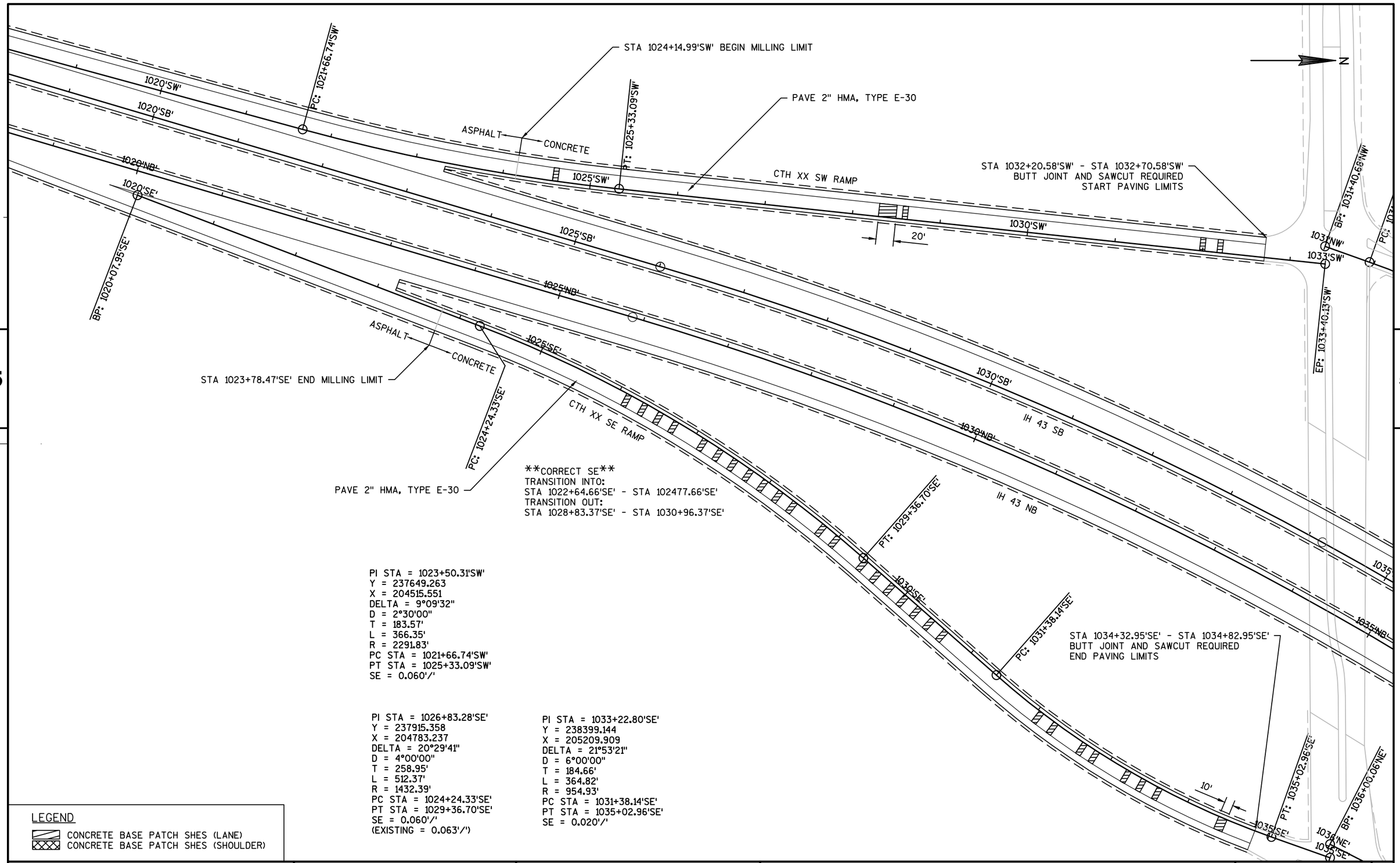
- CONTINUOUSLY REINFORCED CONCRETE REPAIR HES
- CONCRETE BASE PATCH HES
- EROSION MAT TYPE B, CL I
- RIP RAP
- CULVERT PIPE CHECKS
- TEMPORARY DITCH CHECKS
- SILT FENCE
- INLET PROTECTION TYPE A

BENCHMARKS

NO.	STATION	NORTHING	EASTING	DESCRIPTION	ELEV.
6	1940+31.14'NB'	323306.644	214456.974	2"X30" IP/ALUM. CAP	781.14
7	1940+30.59'NB'	323306.582	214447.492	2"X30" IP/ALUM. CAP	781.22

PROJECT NO: 1224-21-71	HWY: IH 43	COUNTY: MANITOWOC	PLAN	SHEET 147	E

FILE NAME : N:\PDS\C3D\12242100\SHEETSPLAN\C3D 2014\12242171\050201_PN.DWG PLOT DATE : 5/7/2015 1:21 PM PLOT BY : HEIM, BRENT P PLOT NAME : PLOT SCALE : 1" = 200'_XREF



PI STA = 1023+50.31'SW'
Y = 237649.263
X = 204515.551
DELTA = 9°09'32"
D = 2°30'00"
T = 183.57'
L = 366.35'
R = 2291.83'
PC STA = 1021+66.74'SW'
PT STA = 1025+33.09'SW'
SE = 0.060'/'

PI STA = 1026+83.28'SE'
Y = 237915.358
X = 204783.237
DELTA = 20°29'41"
D = 4°00'00"
T = 258.95'
L = 512.37'
R = 1432.39'
PC STA = 1024+24.33'SE'
PT STA = 1029+36.70'SE'
SE = 0.060'/'
(EXISTING = 0.063'/')

PI STA = 1033+22.80'SE'
Y = 238399.144
X = 205209.909
DELTA = 21°53'21"
D = 6°00'00"
T = 184.66'
L = 364.82'
R = 954.93'
PC STA = 1031+38.14'SE'
PT STA = 1035+02.96'SE'
SE = 0.020'/'

LEGEND

CONCRETE BASE PATCH SHES (LANE)
CONCRETE BASE PATCH SHES (SHOULDER)

PROJECT NO: 1224-21-71	HWY: IH 43	COUNTY: MANITOWOC	PLAN - CTH XX RAMPS	SHEET 148	E

PI STA = 1035+00.68'NW'
Y = 238973.456
X = 204720.606
DELTA = 41°02'56"
D = 7°00'00"
T = 306.43'
L = 586.41'
R = 818.51'
PC STA = 1031+94.25'NW'
PT STA = 1037+80.67'NW'
SE = 0.020'/'

PI STA = 1041+43.76'NW'
Y = 239302.429
X = 205303.727
DELTA = 15°01'26"
D = 3°30'00"
T = 215.86'
L = 429.25'
R = 1637.02'
PC STA = 1039+27.89'NW'
PT STA = 1043+57.14'NW'
SE = 0.059'/'
(EXISTING = 0.058'/')

STA 1044+13.34'NW' END MILLING LIMIT

PT: 1043+57.14'NW'

ASPHALT

CONCRETE

PAVE 2" HMA, TYPE E-30

CORRECT SE
TRANSITION INTO:
STA 1037+70.22'NW' - STA 1039+80.22'NW'
TRANSITION OUT:
STA 1043+04.81'NW - STA 1045+14.81'NW'

PC: 1039+27.89'NW'

CTH XX NW RAMP

1040'NW'

PT: 1037+80.67'NW'

1035'NW'

1045'NW'

1045'SB'

1045'NB'

1045'NE'

ASPHALT

CONCRETE

STA 1045+27.88'NE' BEGIN MILLING LIMIT

PC: 1044+19.54'NE'

PT: 1047+72.10'NE'

PI STA = 1045+96.50'NE'
Y = 239525.900
X = 205735.770
DELTA = 12°20'22"
D = 3°30'00"
T = 176.96'
L = 352.55'
R = 1637.02'
PC STA = 1044+19.54'NE'
PT STA = 1047+72.10'NE'
SE = 0.059'/'
(EXISTING = 0.058'/')

CORRECT SE
TRANSITION INTO:
STA 1042+61.87'NE' - STA 1044+71.87'NE'
TRANSITION OUT:
STA 1047+19.77'NE' - STA 1049+29.77'NE'

1040'SB'

1040'NB'

1040'NE'

CTH XX NE RAMP

PAVE 2" HMA, TYPE E-30

IH 43 SB

IH 43 NB

1035'SB'

STA 1032+90.68'NW' - STA 1033+40.68'NW'
BUTT JOINT AND SAWCUT REQUIRED
END PAVING LIMITS

PC: 1031+94.25'NW'

STA 1037+50.06'NE' - STA 1038+00.06'NE'
BUTT JOINT AND SAWCUT REQUIRED
BEGIN PAVING LIMITS

BP: 10

N

LEGEND
CONCRETE BASE PATCH SHES (LANE)
CONCRETE BASE PATCH SHES (SHOULDER)

5

5

PROJECT NO: 1224-21-71	HWY: IH 43	COUNTY: MANITOWOC	PLAN - CTH XX RAMPS	SHEET 149 E

FILE NAME : N:\PDS\C3D\12242100\SHEETSPLAN\C3D 2014\12242171\050202_PN.DWG PLOT DATE : 5/7/2015 9:27 AM PLOT BY : HEIM, BRENT P PLOT NAME : PLOT SCALE : 1:100_XREF

N

USH 151 SW RAMP

USH 151 SE RAMP

IH 43 NB

IH 43 SB

1635:SW'

1630:SE'

1630:NB'

1630:SB'

1630:SW'

1625:SB'

1625:SW'

1625:NB'

1625:SE'

PC: 1633+02.11'SW'

57'

STA 1632+31.51'SW' - STA 1632+81.51'SW'
BUTT JOINT AND SAWCUT REQUIRED
START PAVING LIMITS

STA 1632+75.00'SW'
FILL SINKHOLE WITH 3 CY BORROW
TOPSOIL, SEED, FERTILIZE, MULCH AND EMAT

8'

PI STA = 1627+02.76'SW'
Y = 293381.619
X = 219656.847
DELTA = 16°48'25"
D = 3°30'00"
T = 241.84'
L = 480.20'
R = 1637.02'
PC STA = 1624+60.93'SW'
PT STA = 1629+41.13'SW'
SE = 0.059'/'
(EXISTING = 0.058'/')

PT: 1629+41.13'SW'

PAVE 2" HMA, TYPE E-30

12'

20'

CONCRETE

40'

ASPHALT

STA 1627+27.04'SW' START MILLING LIMIT

CORRECT SE
TRANSITION INTO:
STA 1623+03.26'SW' - STA 1625+13.26'SW'
TRANSITION OUT:
STA 1628+88.80'SW' - STA 1630+98.80'SW'

PC: 1624+60.93'SW

STA 1628+83.49'SE' - STA 1629+33.49'SE'
BUTT JOINT AND SAWCUT REQUIRED
END PAVING LIMITS

PT: 1628+77.57'SE'

95'

16'

PAVE 2" HMA, TYPE E-30

PI STA = 1626+36.90'SE'
Y = 293440.806
X = 219864.441
DELTA = 12°04'42"
D = 2°30'00"
T = 242.47'
L = 483.13'
R = 2291.83'
PC STA = 1623+94.44'SE'
PT STA = 1628+77.57'SE'
SE = 0.046'/'

27'

PC: 1623+94.44'SE'

CONCRETE

ASPHALT

STA 1622+84.09'SE' END MILLING LIMIT

LEGEND
- CONCRETE BASE PATCH SHES (LANE)
- CONCRETE BASE PATCH SHES (SHOULDER)
- SILT FENCE
- EROSION MAT TYPE B, CL I
- MGS GUARDRAIL 3

PROJECT NO: 1224-21-71	HWY: IH 43	COUNTY: MANITOWOC	PLAN - USH 151 RAMPS	SHEET 150	E

FILE NAME : N:\PDS\C3D\12242100\SHEETSPLAN\C3D 2014\12242171\050203_PN.DWG PLOT DATE : 5/7/2015 9:35 AM PLOT BY : HEIM, BRENT P PLOT NAME : PLOT SCALE : 1" = 100'_XREF

WISDOT/CADDS SHEET 44

N

CORRECT SE
TRANSITION INTO:
STA 1640+86.63'NE' - STA 1642+96.63'NE'
TRANSITION OUT:
STA 1645+60.52'NE' - STA 1647+70.52'NE'

PI STA = 1644+29.35'NE'
Y = 294898.870
X = 218819.650
DELTA = 12°53'58"
D = 3°30'00"
T = 185.06'
L = 368.55'
R = 1637.02'
PC STA = 1642+44.30'NE'
PT STA = 1646+12.85'NE'
SE = 0.059'/'
(EXISTING = 0.057'/')

PI STA = 1645+23.40'NW'
Y = 294864.611
X = 218596.304
DELTA = 5°44'34"
D = 1°30'00"
T = 191.58'
L = 382.84'
R = 3819.72'
PC STA = 1643+31.82'NW'
PT STA = 1647+14.66'NW'
SE = 0.028'/'

STA 101648+66.72'NW' END MILLING LIMIT

STA 101643+54.00'NE' START PAVING LIMIT

PAVE 2" HMA, TYPE E-30

PAVE 2" HMA, TYPE E-30

STA 1640+67.00'NW'
FILL SINKHOLE WITH 2 CY BORROW
TOPSOIL, SEED, FERTILIZE, MULCH

STA 1640+64.92'NW' - STA 1641+14.92'NW'
BUTT JOINT AND SAWCUT REQUIRED
END PAVING LIMITS

STA 1636+48.68'NE' - STA 1636+98.68'NE'
BUTT JOINT AND SAWCUT REQUIRED
START PAVING LIMITS

PT: 1647+14.66'NW'
PC: 1643+31.82'NW'
PT: 1646+12.85'NE'
PC: 1642+44.30'NE'
PT: 1636+08.58'NE'

USH 151 NW RAMP
USH 151 NE RAMP
IH 43 SB
IH 43 NB

ASPHALT
CONCRETE

10'
12'
23'
69'
8'
10'
196'
73'

1650'NW
1650'SB
1645'NW
1645'SB
1645'NE
1644'NE
1640'NW
1640'SB
1640'NE

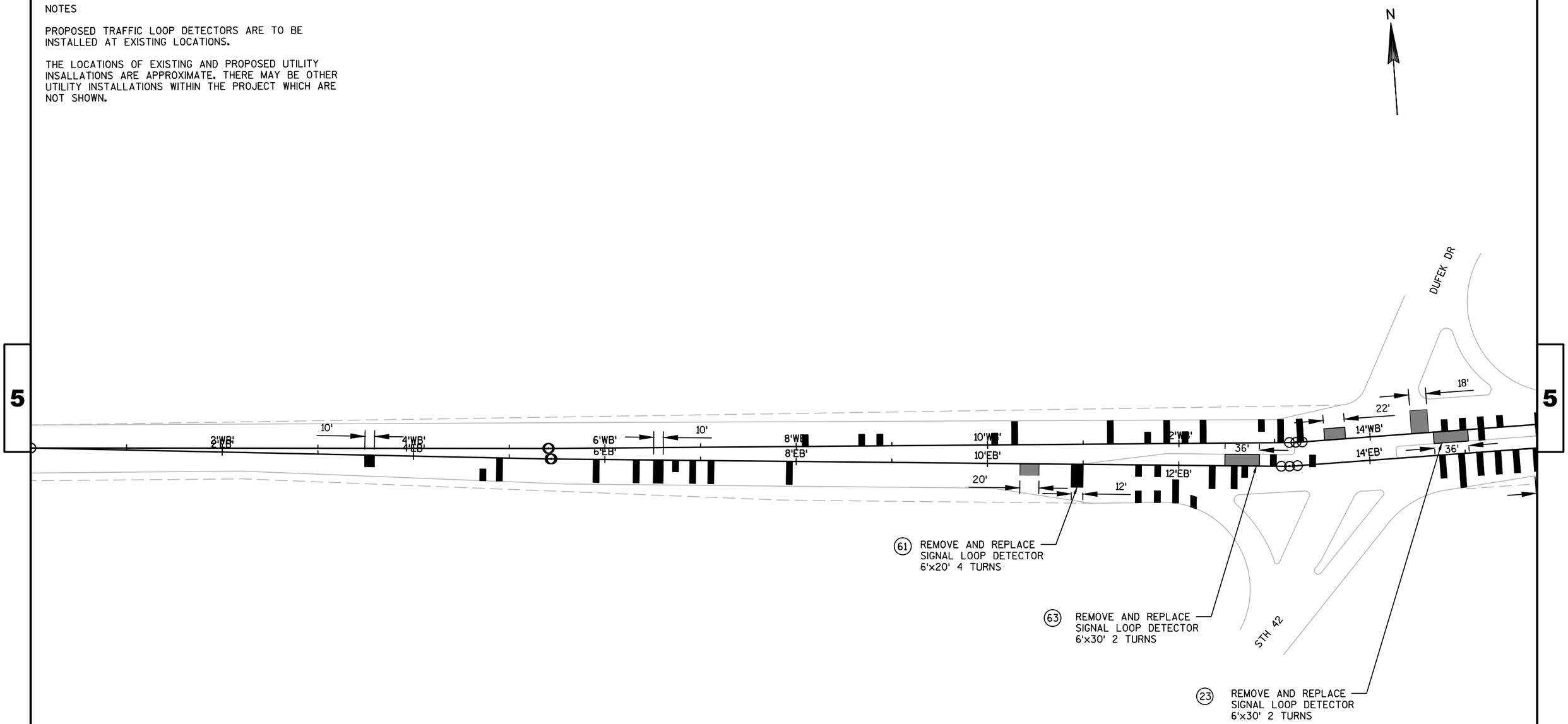
LEGEND
- CONCRETE BASE PATCH SHES (LANE)
- CONCRETE BASE PATCH SHES (SHOULDER)
- EROSION MAT TYPE B, CL I

PROJECT NO: 1224-21-71	HWY: IH 43	COUNTY: MANITOWOC	PLAN - USH 151 RAMPS	SHEET 151	E

NOTES

PROPOSED TRAFFIC LOOP DETECTORS ARE TO BE INSTALLED AT EXISTING LOCATIONS.

THE LOCATIONS OF EXISTING AND PROPOSED UTILITY INSALLATIONS ARE APPROXIMATE. THERE MAY BE OTHER UTILITY INSTALLATIONS WITHIN THE PROJECT WHICH ARE NOT SHOWN.



LEGEND

(23) TRAFFIC LOOP DETECTOR NUMBER

CONCRETE PAVEMENT REPAIR

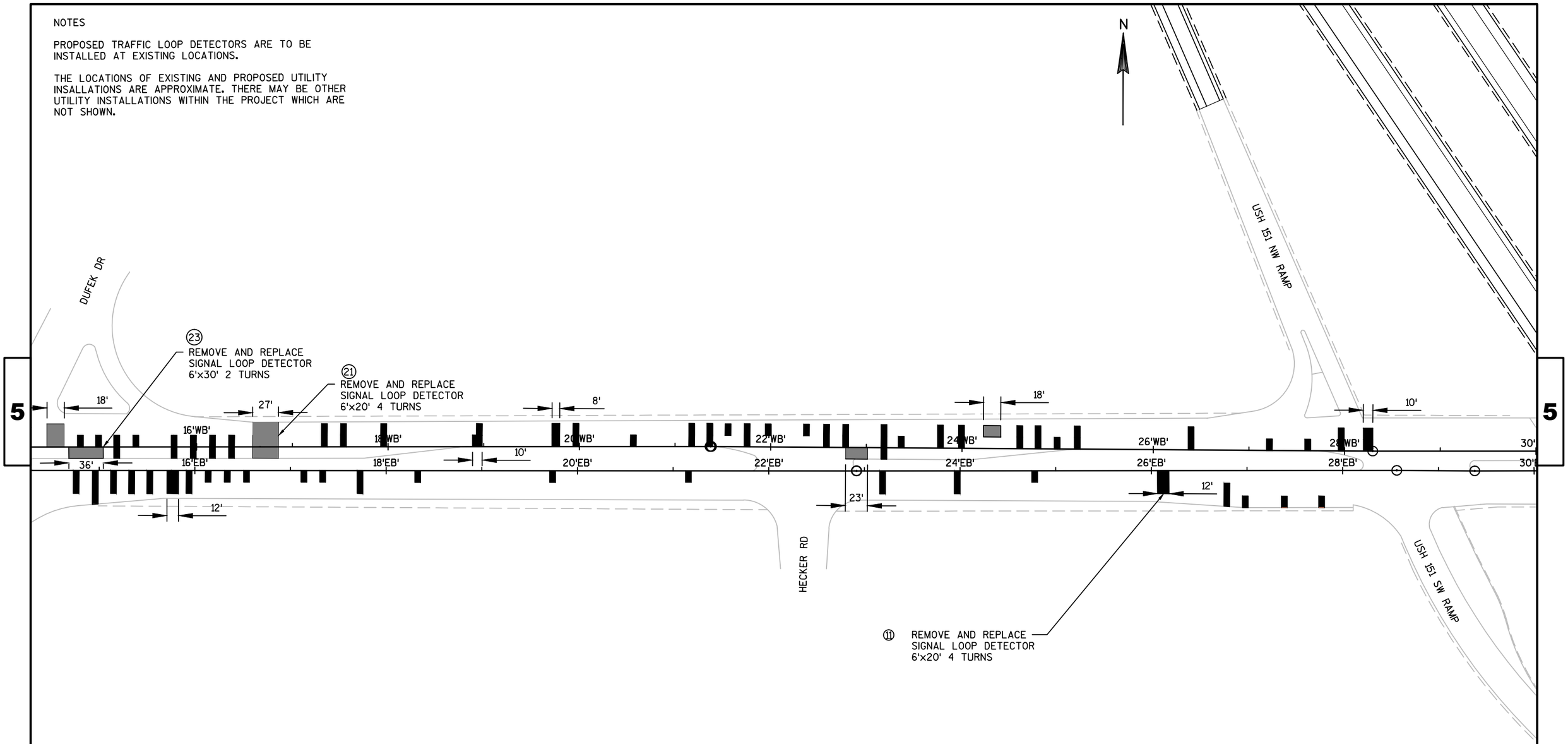
CONCRETE PAVEMENT REPLACEMENT

PROJECT NO:1224-21-71	HWY: IH 43	COUNTY: MANITOWOC	PLAN - USH 151	SHEET 152	E

NOTES

PROPOSED TRAFFIC LOOP DETECTORS ARE TO BE INSTALLED AT EXISTING LOCATIONS.

THE LOCATIONS OF EXISTING AND PROPOSED UTILITY INSALLATIONS ARE APPROXIMATE. THERE MAY BE OTHER UTILITY INSTALLATIONS WITHIN THE PROJECT WHICH ARE NOT SHOWN.



LEGEND

(23) TRAFFIC LOOP DETECTOR NUMBER

CONCRETE PAVEMENT REPAIR

CONCRETE PAVEMENT REPLACEMENT

PROJECT NO: 1224-21-71	HWY: IH 43	COUNTY: MANITOWOC	PLAN - USH 151	SHEET 153	E

NOTES

PROPOSED TRAFFIC LOOP DETECTORS ARE TO BE INSTALLED AT EXISTING LOCATIONS.

THE LOCATIONS OF EXISTING AND PROPOSED UTILITY INSALLATIONS ARE APPROXIMATE. THERE MAY BE OTHER UTILITY INSTALLATIONS WITHIN THE PROJECT WHICH ARE NOT SHOWN.

N

USH 151 NW RAMP

USH 151 NW RAMP

(51)
REMOVE AND REPLACE
SIGNAL LOOP DETECTOR
6'x20' 4 TURNS

10'

12'

28'WB' 30'WB' 32'WB' 34'WB' 36'WB' 38'WB' 40'WB'

28'EB' 30'EB' 32'EB' 34'EB' 36'EB' 38'EB' 40'EB'

5

5

USH 151 SW RAMP

USH 151 SE RAMP

LEGEND

(23) TRAFFIC LOOP DETECTOR NUMBER

CONCRETE PAVEMENT REPAIR

CONCRETE PAVEMENT REPLACEMENT

PROJECT NO:1224-21-71	HWY: IH 43	COUNTY: MANITOWOC	PLAN - USH 151	SHEET 154	E

Standard Detail Drawing List

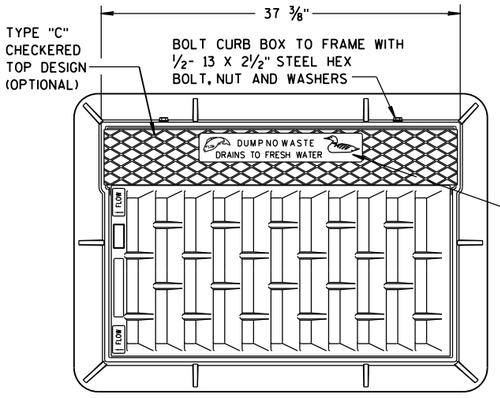
08A05-19A	INLET COVERS TYPE A, H, A-S, H-S & Z
08C07-01	INLETS 2X2-FT, 2X2.5-FT, 2X3-FT AND 2.5X3-FT
08D01-18	CONCRETE CURB, CONCRETE CURB AND GUTTER AND TIES
08D13-01	SLOTTED CORRUGATED METAL PIPE SURFACE DRAINS
08E08-03	TYPICAL INSTALLATIONS OF EROSION BALES / TEMPORARY DITCH CHECKS
08E09-06	SILT FENCE
08E10-02	INLET PROTECTION TYPE A, B, C AND D
08F01-11	APRON ENDWALLS FOR CULVERT PIPE
08F04-07	JOINT TIES FOR CONCRETE PIPE AND CONCRETE COLLAR DETAIL
09B02-09	CONDUIT
09B04-11	PULL BOX
09F09-04	LOOP DETECTOR PLACED IN CRUSHED AGGREGATE BASE (NEW CONCRETE PAVEMENT)
11A01-05	MAINTENANCE CROSSOVER FOR FREEWAYS
12A03-10	NAME PLATE (STRUCTURES)
13A03-06	CONCRETE PAVEMENT SHOULDERS
13A05-05A	SHOULDER RUMBLE STRIP, MILLING
13A05-05B	SHOULDER RUMBLE STRIP, MILLING
13A07-02	CONTINUOUSLY REINFORCED CONCRETE PAVEMENT REPAIR AND REPLACEMENT
13B02-07A	CONCRETE BRIDGE APPROACH
13C01-18	CONCRETE PAVEMENT LONGITUDINAL JOINTS AND TIES
13C09-12A	CONCRETE PAVEMENT REPAIR AND REPLACEMENT
13C09-12B	CONCRETE PAVEMENT REPAIR AND REPLACEMENT
13C09-12C	CONCRETE PAVEMENT REPAIR AND REPLACEMENT
13C14-05A	BASE PATCHING CONCRETE
13C14-05B	BASE PATCHING CONCRETE
13C14-05C	BASE PATCHING CONCRETE
13C18-03A	CONCRETE PAVEMENT JOINTING
13C18-03B	CONCRETE PAVEMENT STEEL REINFORCEMENT
14B07-14A	CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"
14B07-14B	CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"
14B07-14C	CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"
14B07-14D	CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"
14B07-14E	CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"
14B07-14F	CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"
14B07-14G	CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"
14B07-14H	CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"
14B08-02A	CRASH CUSHION/SAND BARREL ARRAY AND OTHER TEMPORARY BARRIER LAYOUT DETAILS
14B08-02B	CRASH CUSHION/SAND BARREL ARRAY AND OTHER TEMPORARY BARRIER LAYOUT DETAILS
14B08-02C	CRASH CUSHION/SAND BARREL ARRAY AND OTHER TEMPORARY BARRIER LAYOUT DETAILS
14B08-02D	CRASH CUSHION/SAND BARREL ARRAY AND OTHER TEMPORARY BARRIER LAYOUT DETAILS
14B08-02E	CRASH CUSHION/SAND BARREL ARRAY AND OTHER TEMPORARY BARRIER LAYOUT DETAILS
14B26-03A	STEEL THRIE BEAM BULLNOSE TERMINAL
14B26-03B	STEEL THRIE BEAM BULLNOSE TERMINAL
14B26-03C	STEEL THRIE BEAM BULLNOSE TERMINAL
14B26-03D	STEEL THRIE BEAM BULLNOSE TERMINAL
14B26-03E	STEEL THRIE BEAM BULLNOSE TERMINAL
14B28-03	GUARDRAIL MOW STRIP
14B42-03A	MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL
14B42-03B	MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL
14B42-03C	MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL
14B44-02A	MIDWEST GUARDRAIL SYSTEM ENERGY ABSORBING TERMINAL (MGS)
14B44-02B	MIDWEST GUARDRAIL SYSTEM ENERGY ABSORBING TERMINAL (MGS)
14B44-02C	MIDWEST GUARDRAIL SYSTEM ENERGY ABSORBING TERMINAL (MGS)
14B45-04A	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-04B	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-04C	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-04D	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-04E	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-04F	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-04G	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-04H	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-04I	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-04J	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B47-02A	MIDWEST GUARDRAIL SYSTEM (MGS) TYPE 2 TERMINAL
14B47-02B	MIDWEST GUARDRAIL SYSTEM (MGS) TYPE 2 TERMINAL
14B47-02C	MIDWEST GUARDRAIL SYSTEM (MGS) TYPE 2 TERMINAL
15A02-08	DELINEATOR POST, DELINEATOR, AND DELINEATOR BRACKET WITH REFLECTIVE SHEETING

6

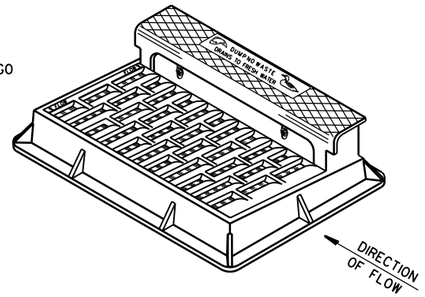
Standard Detail Drawing List

15A03-02A	FLEXIBLE MARKER POST FOR CULVERT END
15A03-02B	FLEXIBLE MARKER POST FOR CULVERT END
15A06-02	DELINEATOR LAYOUT
15B01-08A	FENCE WOVEN WIRE
15B01-08B	FENCE WOVEN WIRE
15B03-15A	FENCE CHAIN LINK
15B03-15B	FENCE CHAIN LINK
15C02-05A	BARRICADES AND SIGNS FOR MAINLINE CLOSURES
15C02-05B	BARRICADES AND SIGNS FOR MAINLINE 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
15C07-12A	PAVEMENT MARKING SYMBOLS
15C08-16A	PAVEMENT MARKING (MAINLINE)
15C11-05	FLEXIBLE TUBULAR MARKER POST, ANCHOR & BASES
15C14-01	AERIAL ENFORCEMENT BARS PAVEMENT MARKING DETAILS
15C19-02A	MOVING PAVEMENT MARKING OPERATION TWO-LANE TWO-WAY ROADWAY
15C19-02C	MOVING PAVEMENT MARKING OPERATION MULTI-LANE DIVIDED ROADWAY
15C31-01A	PAVEMENT MARKING (RAMPS AND GORES)
15D03-02	TRAFFIC CONTROL, LANE CLOSURE, SPEEDS GREATER THAN 40 M.P.H. WITH BARRIER
15D11-05	TRAFFIC CONTROL, SINGLE LANE CROSSOVER
15D12-05B	TRAFFIC CONTROL, LANE CLOSURE, SPEED REDUCTION
15D15-01	TRAFFIC CONTROL, EXIT AND ENTRANCE RAMP WITHIN LANE CLOSURE
15D16-02	TRAFFIC CONTROL, EXIT RAMP CLOSURE
15D27-02	TRAFFIC CONTROL, SHOULDER CLOSURE ON DIVIDED ROADWAY, SPEEDS GREATER THAN 40 MPH
16A01-06	LANDMARK REFERENCE MONUMENTS AND COVERS

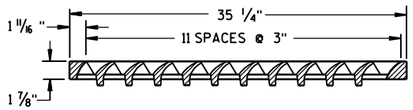
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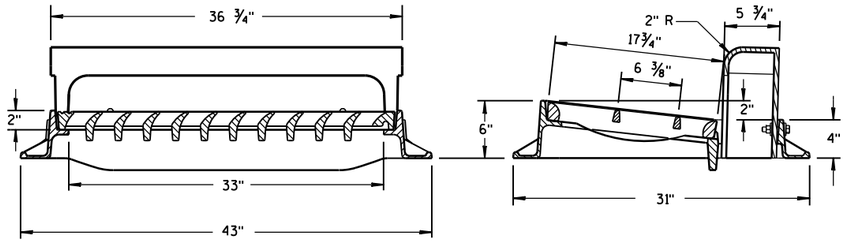


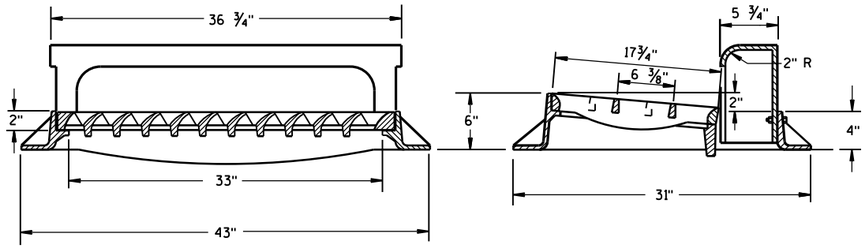
NOTE:
GRATE IS REVERSIBLE.



NOTE: CURB BOX HEIGHT ADJUSTABLE 6" TO 9"

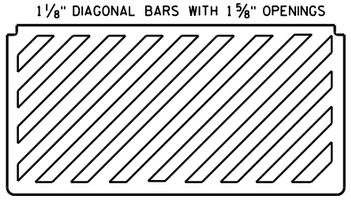






TYPE "H"

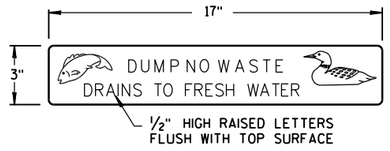
NOTE: EITHER CASTING IS ACCEPTABLE



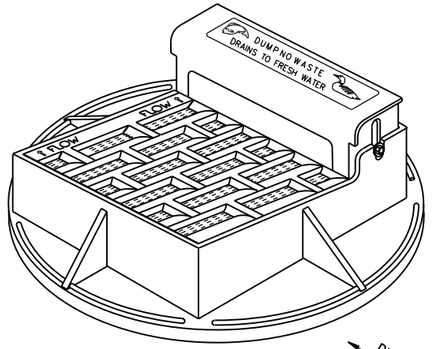
SPECIAL GRATE FOR TYPE "H" COVER

(MEASURES 35 1/4" X 17 3/4" X 2")

(NOTED AS TYPE H-S ON DRAINAGE TABLE)



LOGO DETAIL



NOTE: CURB BOX ADJUSTABLE 4" TO 9"

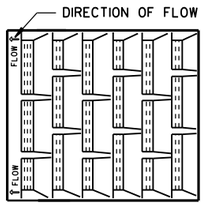
NOTE:
GRATE IS REVERSIBLE.

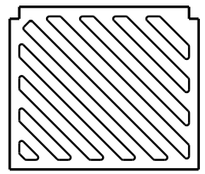
GENERAL NOTES

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

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

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

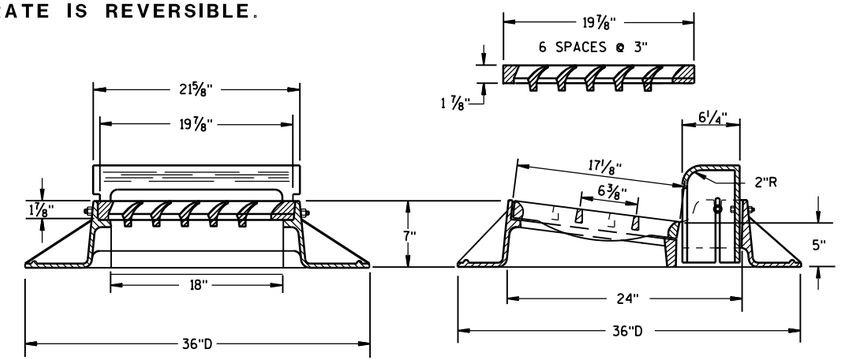




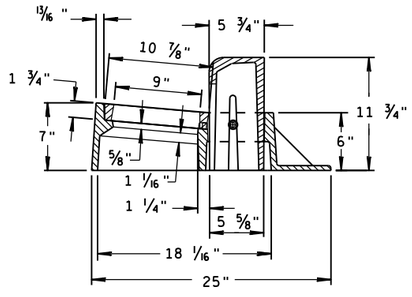
SPECIAL GRATE FOR TYPE "A" COVER

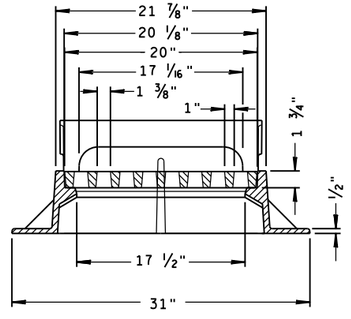
(MEASURES 19 3/4" X 17" X 1 7/8")

(NOTED AS TYPE A-S ON DRAINAGE TABLE)

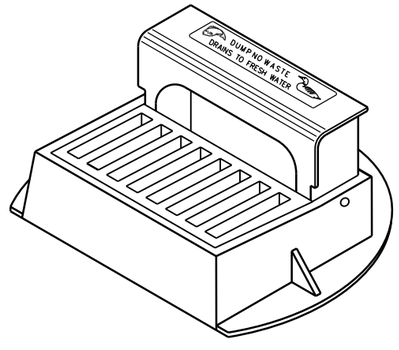


TYPE "A"





TYPE "Z"



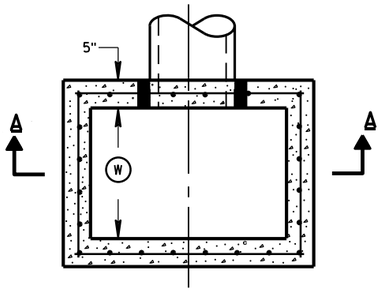
INLET COVERS
TYPE A, H, A-S, H-S & Z

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

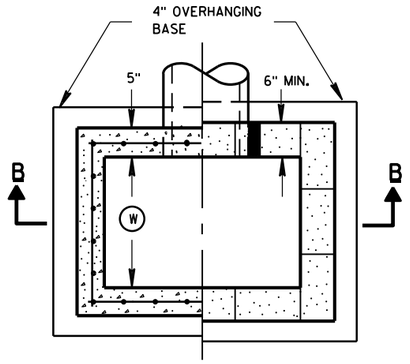
APPROVED
11-27-13 — DATE
/S/ Jerry H. Zogg — ROADWAY STANDARDS ENGINEER
FHWA

6

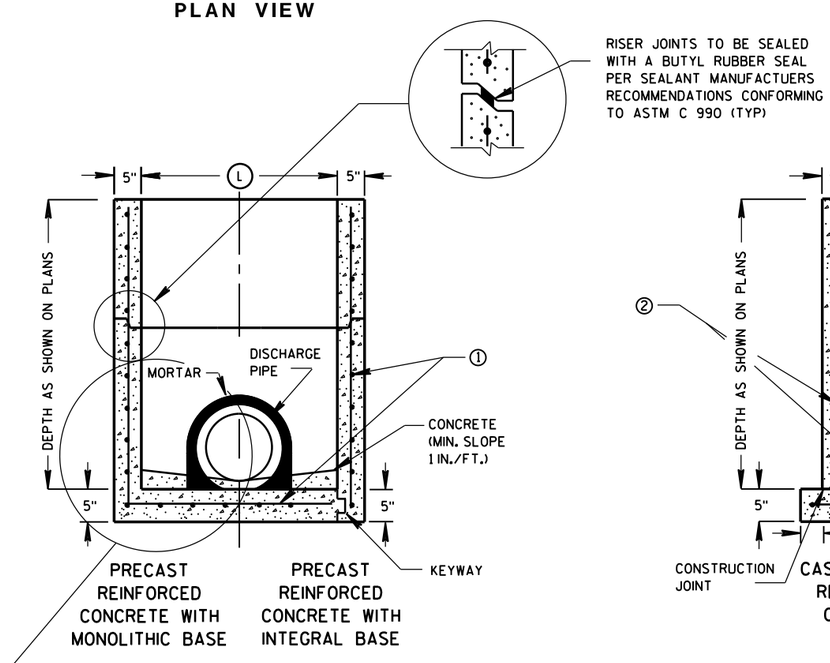
S.D.D. 8 A 5-19a



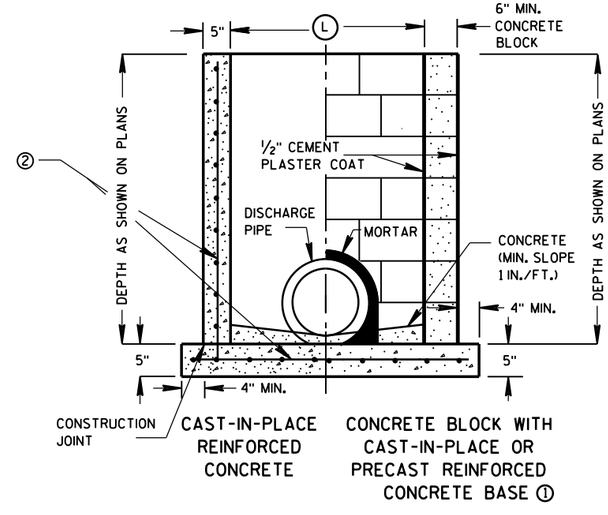
PLAN VIEW



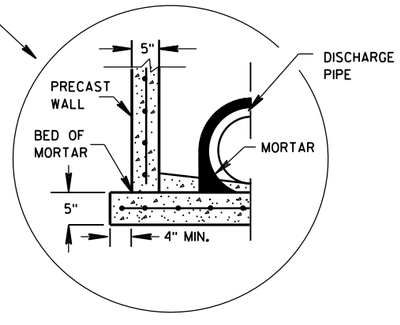
PLAN VIEW



SECTION A-A



SECTION B-B



SEPARATE PRECAST REINFORCED CONCRETE BASE OPTION

GENERAL NOTES

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

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

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

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

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

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

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

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

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

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

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

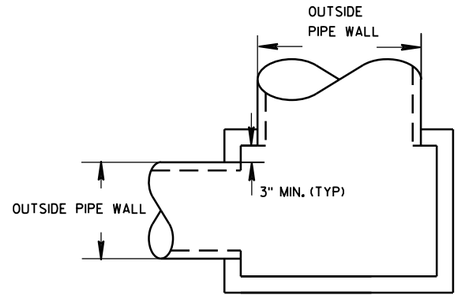
② CONTRACTOR TO PROVIDE DRAWING(S) STAMPED BY A PROFESSIONAL ENGINEER FOR STEEL REINFORCING DESIGN FOR CAST-IN-PLACE STRUCTURES.

INLET COVER MATRIX

INLET SIZE		INLET COVER TYPE	ALL A'S	ALL B'S	BW	F	ALL H'S	S	T	V	WM
	WIDTH (W) (FT)	LENGTH (L) (FT)									
2X2-FT	2	2	X	X				X		X	
2X2.5-FT	2	2.5			X			X	X	X	X
2X3-FT	2	3					X				
2.5X3-FT	2.5	3				X					

PIPE MATRIX

INLET SIZE	MAXIMUM INSIDE PIPE DIAMETER	
	WIDTH (IN)	LENGTH (IN)
2X2-FT	12	12
2X2.5-FT	12	18
2X3-FT	12	24
2.5X3-FT	18	24



DETAIL "A"

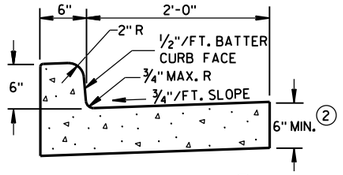
INLETS 2X2-FT, 2X2.5-FT, 2X3-FT AND 2.5X3-FT

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

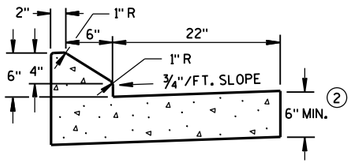
APPROVED
6/5/2012
DATE
FHWA

/S/ Jerry H. Zogg
ROADWAY STANDARDS DE
ENGINEER

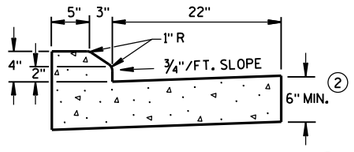
6
S.D.D. 8 C 7-1



TYPES A & D ①

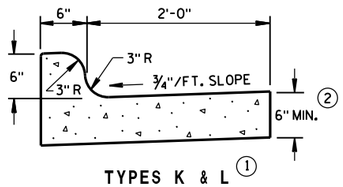


6" SLOPED CURB TYPES G & J ①

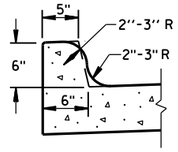


4" SLOPED CURB TYPES G & J ①

CONCRETE CURB & GUTTER 30"

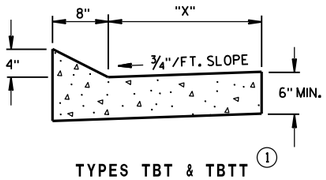


TYPES K & L ①



OPTIONAL CURB SHAPE FOR TYPES K & L ①

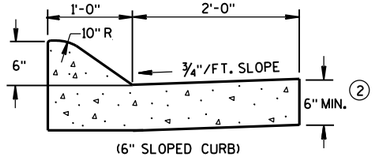
CONCRETE CURB & GUTTER 30"



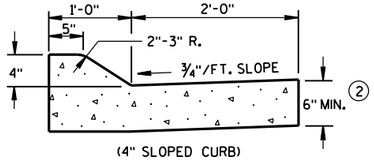
TYPES TBT & TBTT ①

CONCRETE CURB & GUTTER

TBT & TBTT	"X"
30"	22"
36"	28"

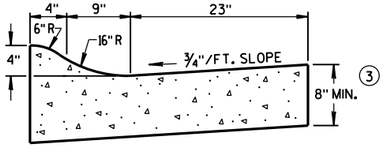


(6" SLOPED CURB)



(4" SLOPED CURB)

TYPES A & D ①



4" SLOPED CURB TYPES R & T ① ④

CONCRETE CURB & GUTTER 36"

GENERAL NOTES

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

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

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

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

UNLESS OTHERWISE SHOWN ON THE TYPICAL CROSS SECTIONS, THE BASE AGGREGATE AND COMMON EXCAVATION LIMITS ARE 2'-0" BEHIND THE BACK OF CURBS.

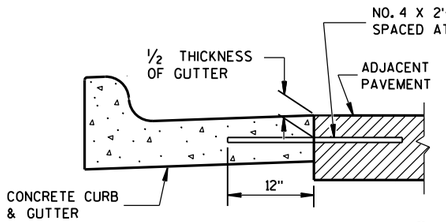
① TIE BARS ARE REQUIRED FOR CURB AND GUTTER TYPES A, G, K, R AND TBTT.

② THE BOTTOM OF CURB AND GUTTER MAY BE CONSTRUCTED EITHER LEVEL OR PARALLEL TO THE SLOPE OF THE SUBGRADE OR BASE AGGREGATE PROVIDED A 6" MINIMUM GUTTER THICKNESS IS MAINTAINED.

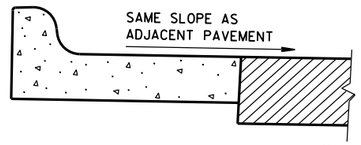
③ THE BOTTOM OF CURB AND GUTTER MAY BE CONSTRUCTED EITHER LEVEL OR PARALLEL TO THE SLOPE OF THE SUBGRADE OR BASE AGGREGATE PROVIDED A 8" MINIMUM GUTTER THICKNESS IS MAINTAINED.

④ THE FACE OF CURB IS 6" FROM THE BACK OF CURB.

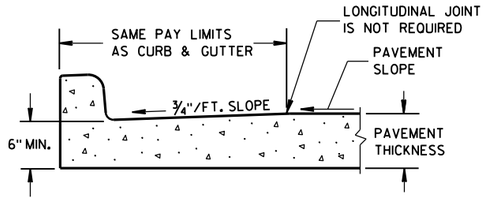
⑤ WHEN REVERSE SLOPE GUTTER IS REQUIRED, THE LOCATION(S) WILL BE SHOWN ELSEWHERE IN THE PLAN.



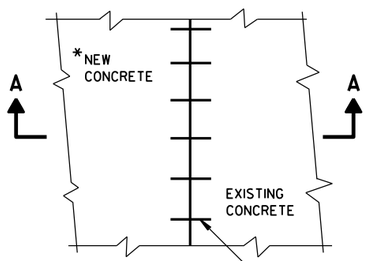
TYPICAL TIE BAR LOCATION ①



REVERSE SLOPE GUTTER ⑤
(TYPICAL FOR ALL CURB & GUTTER TYPES)

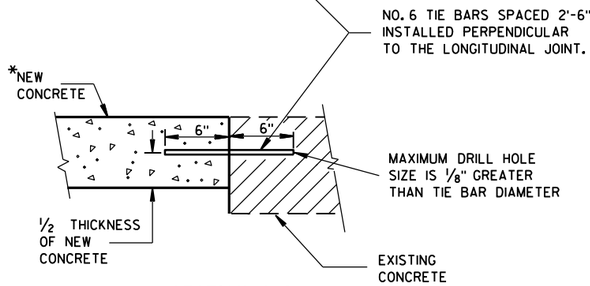


PARTIAL SECTION OF PAVEMENT
WITH INTEGRAL CURB & GUTTER



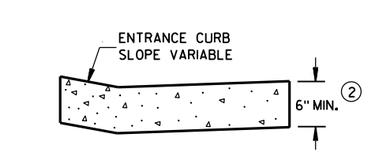
PLAN VIEW

*NEW CURB & GUTTER, SURFACE DRAINS, CONCRETE PAVEMENT OR OTHER NEW CONCRETE.

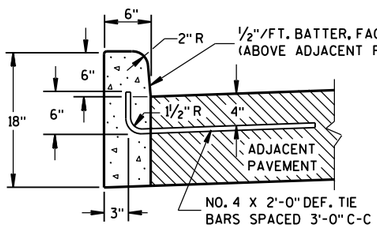


SECTION A-A

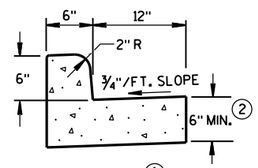
TIE BARS DRILLED
INTO EXISTING PAVEMENT



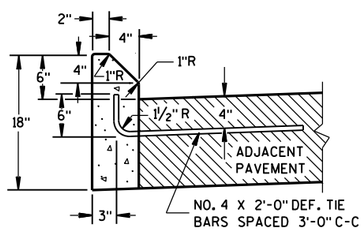
DRIVEWAY ENTRANCE CURB
(WHEN DIRECTED BY THE ENGINEER)



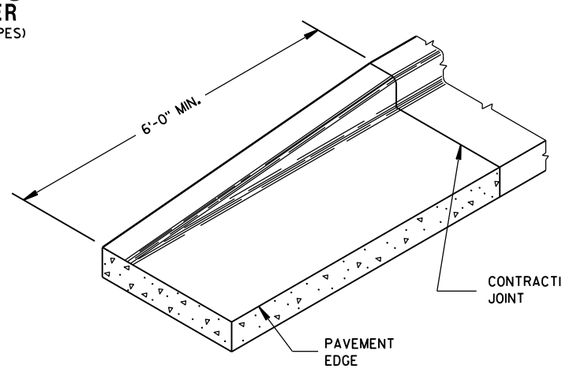
① TYPES A & D



① TYPES A & D
CONCRETE CURB & GUTTER 18"



① TYPES G & J



END SECTION CURB & GUTTER

CONCRETE CURB

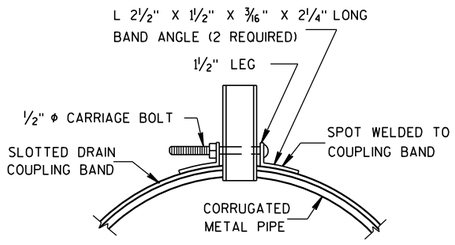
CONCRETE CURB, CONCRETE CURB & GUTTER AND TIES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

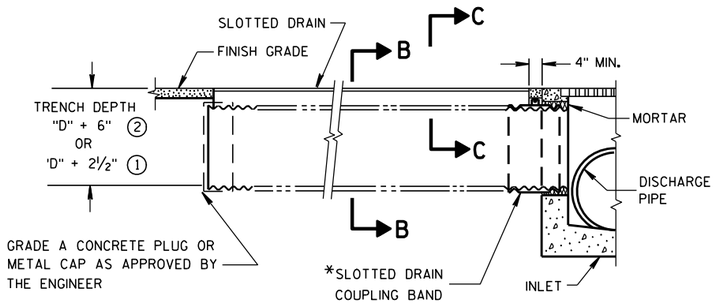
APPROVED
June, 2015 — DATE
/S/ Jerry H. Zogg
ROADWAY STANDARDS DEVELOPMENT ENGINEER
FHWA

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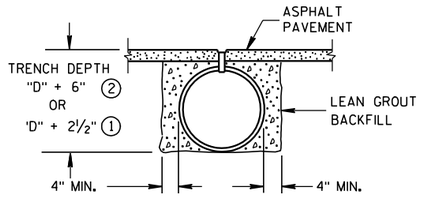
S.D.D. 8 D 1-18



SECTION A-A



SLOTTED DRAIN INSTALLATION TYPE "A"



SECTION B-B

GENERAL NOTES

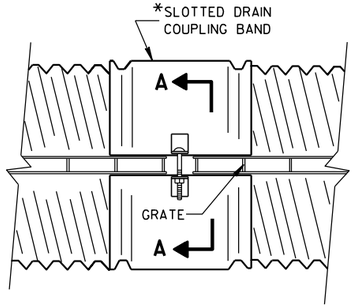
DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.

BACKFILL MATERIAL

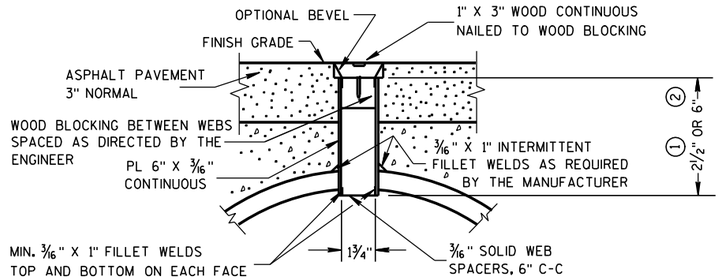
THE LEAN GROUT BACKFILL MATERIAL SHALL BE A FINE AGGREGATE, IN ACCORDANCE WITH SUBSECTION 501.3.6.3.6 OF THE STANDARD SPECIFICATIONS, MIXED WITH 150 POUNDS OF CEMENT AND APPROXIMATELY 30 GALLONS OF WATER FOR EACH 3000 POUNDS OF FINE AGGREGATE.

THE PIPE FOR THE SLOTTED DRAIN SHALL MEET AASHTO DESIGNATION M-36, AND THE GRATE ASSEMBLIES SHALL BE MADE FROM STRUCTURAL STEEL SUITABLY WELDED TO FORM THE OPEN SLOT AND HOT-DIP GALVANIZED TO MEET THE PROVISIONS OF AASHTO DESIGNATION M-111.

NORMAL PIPE SIZES ARE 12-INCH THROUGH 24-INCH DIAMETER IN 0.064 INCH THICKNESS, AND 30-INCH DIAMETER PIPE IN 0.079 INCH THICKNESS.

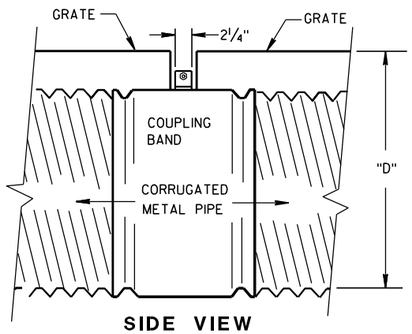


PLAN VIEW



SECTION C-C

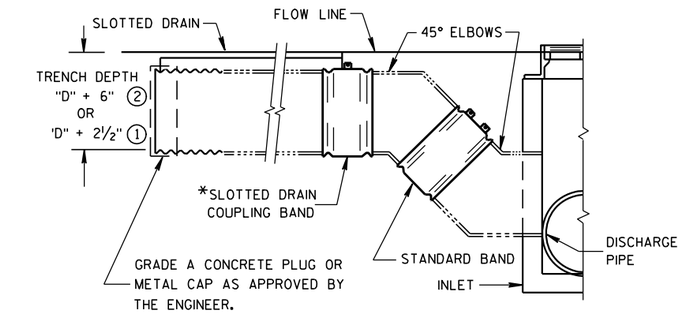
GRATE SLOT DETAIL



SIDE VIEW

*TYPICAL COUPLING BAND FOR SLOTTED DRAIN

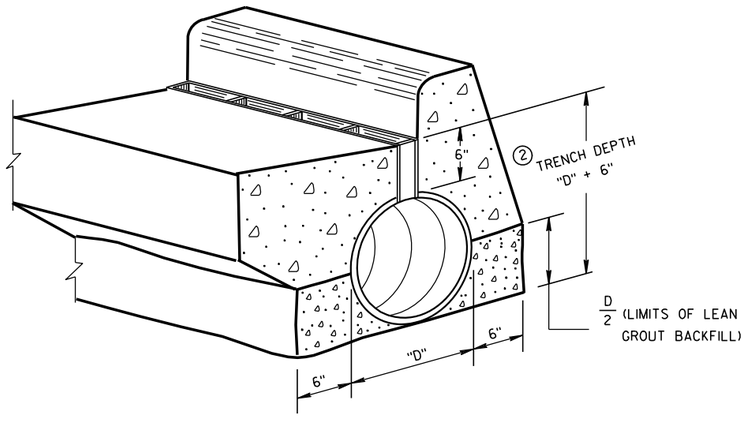
(ALTERNATES PERMITTED AS APPROVED BY THE ENGINEER)



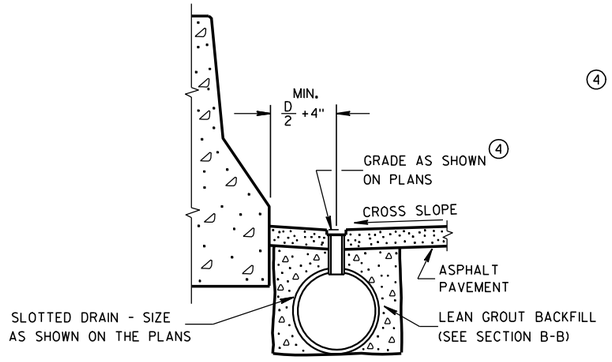
SLOTTED DRAIN INSTALLATION TYPE "B"

NOTE:

TO PREVENT "FLOATING" OF THE SLOTTED DRAIN DURING BACKFILL OPERATIONS PROVIDE ADEQUATE WEDGES, OR POUR THE LEAN GROUT ON TOP OF THE PLUGGED SLOT ALLOWING IT TO SLOUGH TO THE SIDES OF THE PIPE. THIS WILL PROVIDE ENOUGH WEIGHT ON TOP TO KEEP THE PIPE FROM FLOATING.



SLOTTED DRAIN INSTALLATION IN FLOW LINE OF CURB & GUTTER TYPE "C"



SLOTTED DRAIN INSTALLATION AT MEDIAN BARRIER TYPE "D"

① 2½" NORMAL GRATE DEPTH.

② 6" SPECIAL GRATE DEPTH, WHEN SPECIFIED ON THE PLANS.

③ FOR SCREEDING DIRECTLY OVER THE SLOTTED DRAIN WITH ASPHALT PAVER. FOR CONCRETE SURFACE USE 3" WIDE TAPE OVER THE SLOT TO KEEP MATERIAL OUT OF THE PIPE.

④ WHEN THE SURFACE IS CONCRETE PAVEMENT THE GRADE AS SHOWN ON THE PLANS WILL BE FLUSH WITH THE TOP OF THE SLOTTED DRAIN.

SLOTTED CORRUGATED METAL PIPE SURFACE DRAINS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

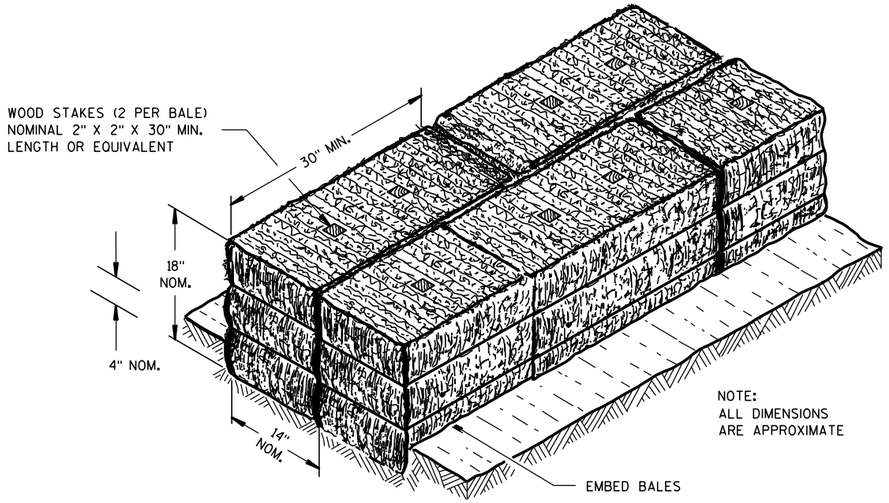
8/30/79 — DATE

/S/ D. L. Str--- — CHIEF ROADWAY DEVELOP ENGINEER

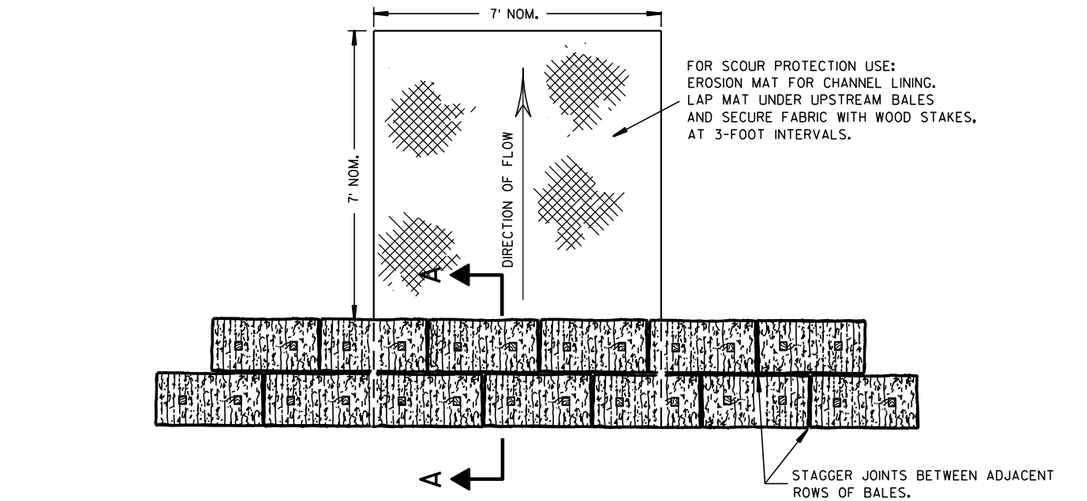
FHWA

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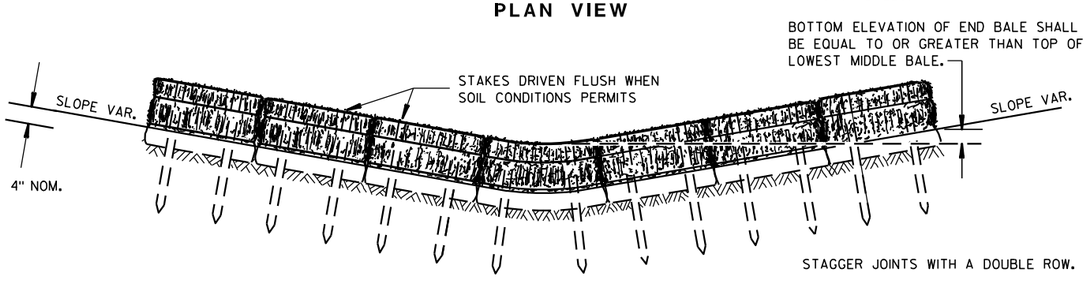
S.D.D. 13 D 13-1



SECTION A-A



PLAN VIEW



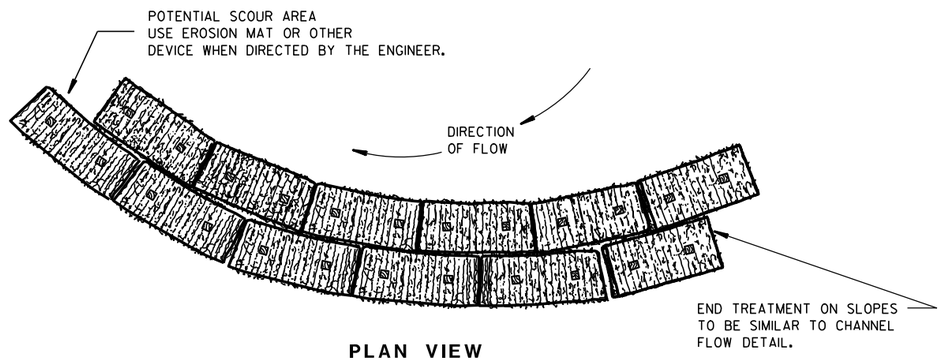
FRONT ELEVATION

TEMPORARY DITCH CHECK USING EROSION BALES ①

GENERAL NOTES

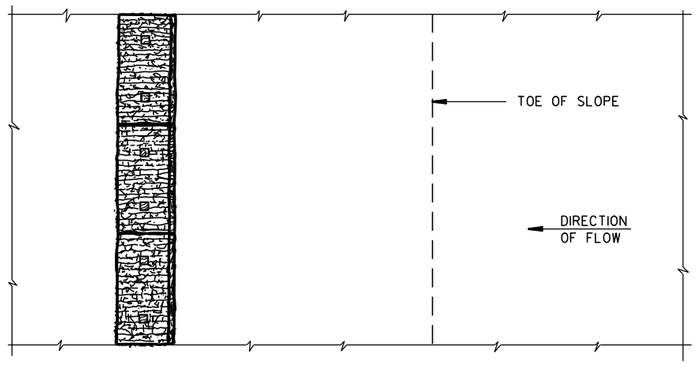
DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.

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

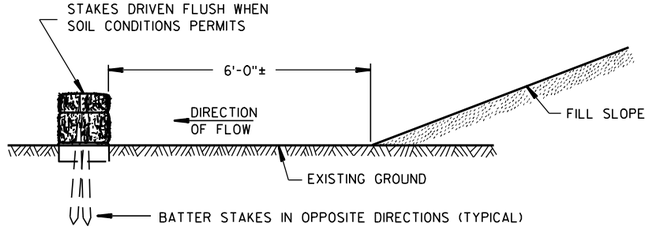


PLAN VIEW

WHEN ALTERING THE DIRECTION OF FLOW



PLAN VIEW



FRONT ELEVATION

WHEN EXISTING GROUND SLOPES AWAY FROM FILL SLOPE

EROSION BALES FOR SHEET FLOW

TYPICAL INSTALLATIONS OF EROSION BALES / TEMPORARY DITCH CHECKS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

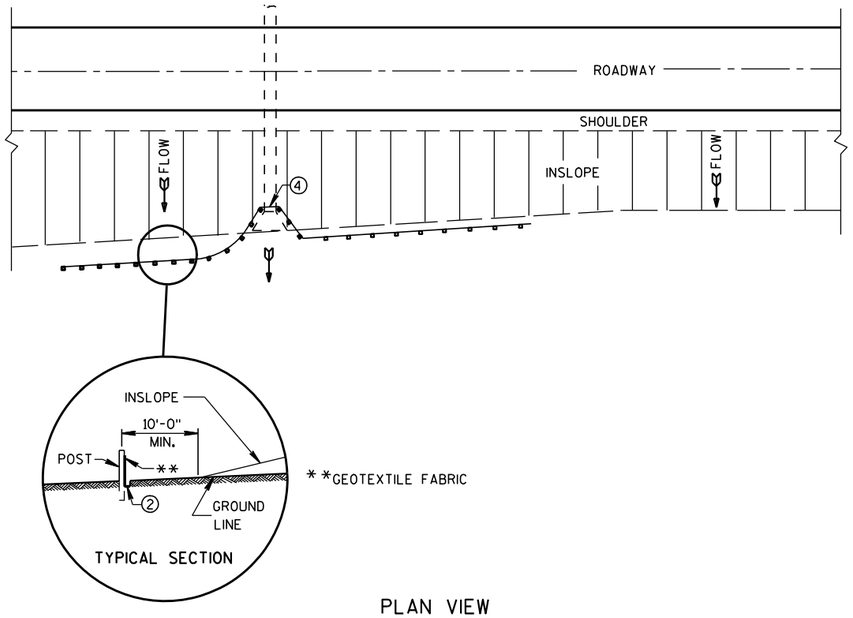
APPROVED
6/04/02 DATE
/S/ Beth Cannestra
CHIEF ROADWAY DEVELOPMENT ENGINEER
FHWA

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S.D.D. 8 E 8-3

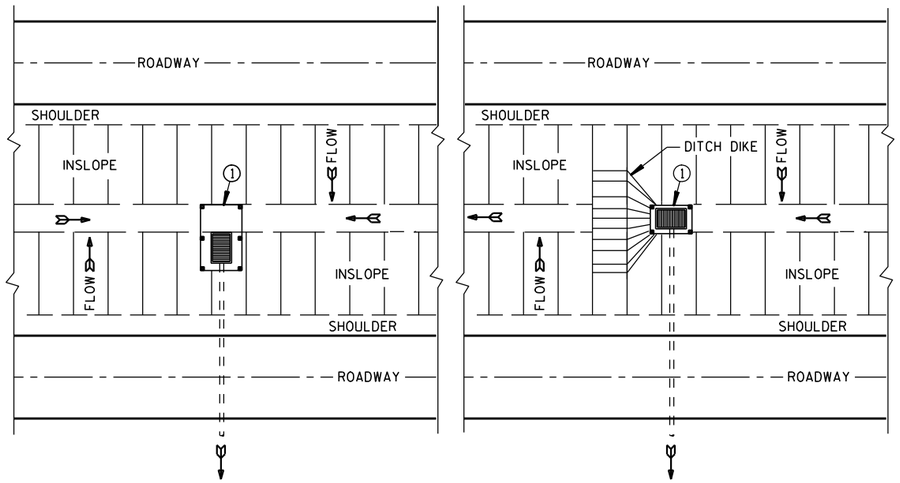
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S.D.D. 8 E 8-3



PLAN VIEW

TYPICAL APPLICATION OF SILT FENCE



PLAN VIEW

SILT FENCE AT MEDIAN SURFACE DRAINS

GENERAL NOTES

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

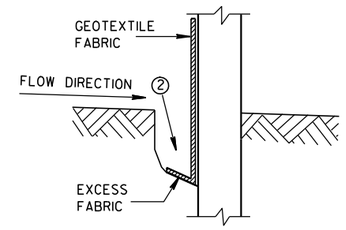
① HORIZONTAL BRACE REQUIRED WITH 2" X 4" WOODEN FRAME OR EQUIVALENT AT TOP OF POSTS.

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

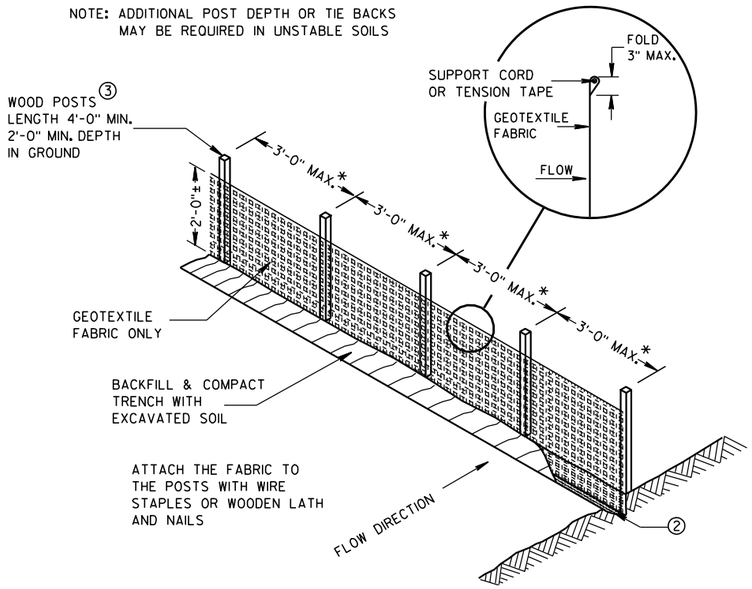
③ WOOD POSTS SHALL BE A MINIMUM SIZE OF 1⅛" X 1⅛" OF OAK OR HICKORY.

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

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

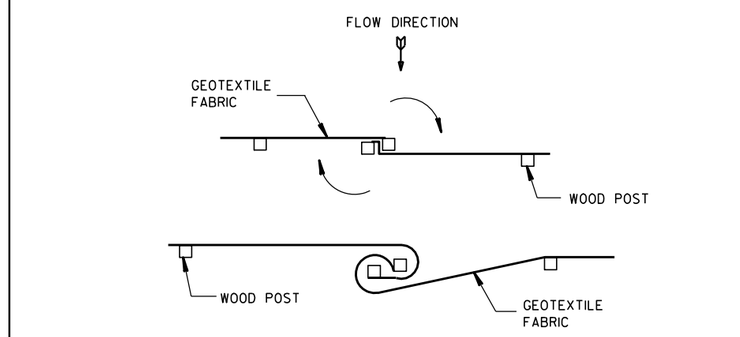


TRENCH DETAIL

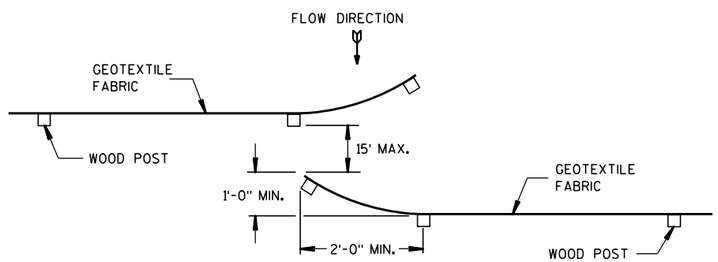


*NOTE: 8'-0" POST SPACING ALLOWED IF A WOVEN GEOTEXTILE FABRIC IS USED.

SILT FENCE

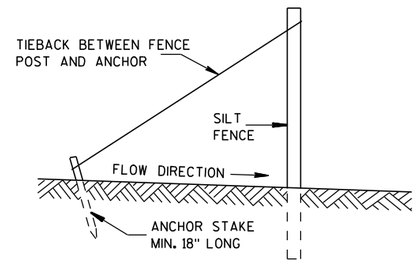


TWIST METHOD



HOOK METHOD

JOINING TWO LENGTHS OF SILT FENCE ⑤



SILT FENCE TIE BACK

(WHEN REQUIRED BY THE ENGINEER)

SILT FENCE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

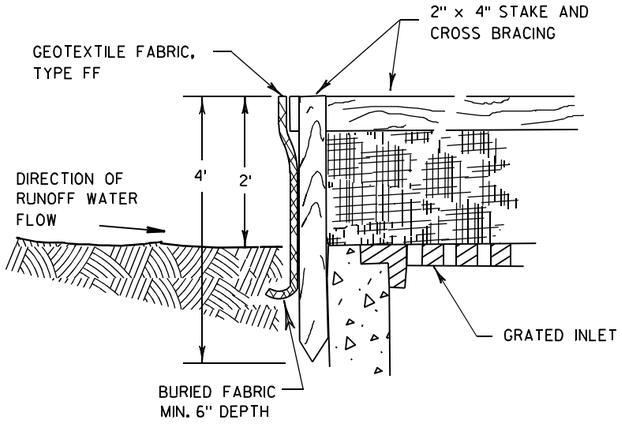
APPROVED
4-29-05 DATE
/S/ Beth Cannestra
CHIEF ROADWAY DEVELOPMENT ENGINEER
FHWA

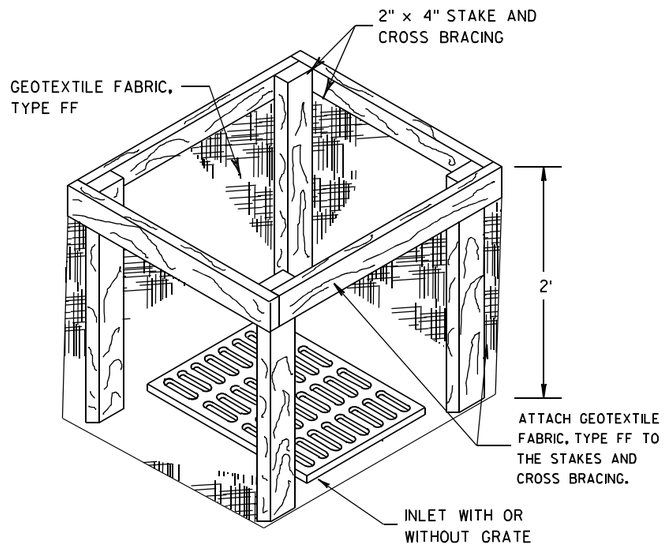
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S.D.D. 8 E 9-6

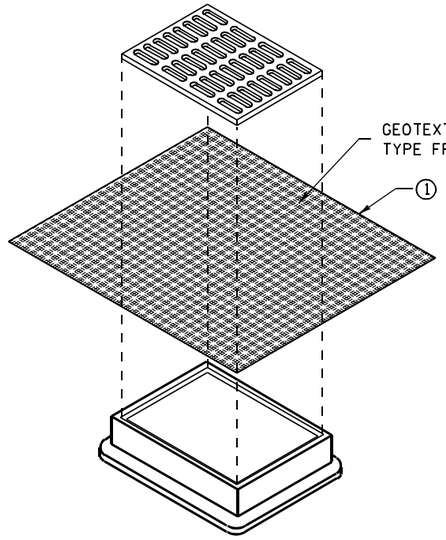
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S.D.D. 8 E 9-6



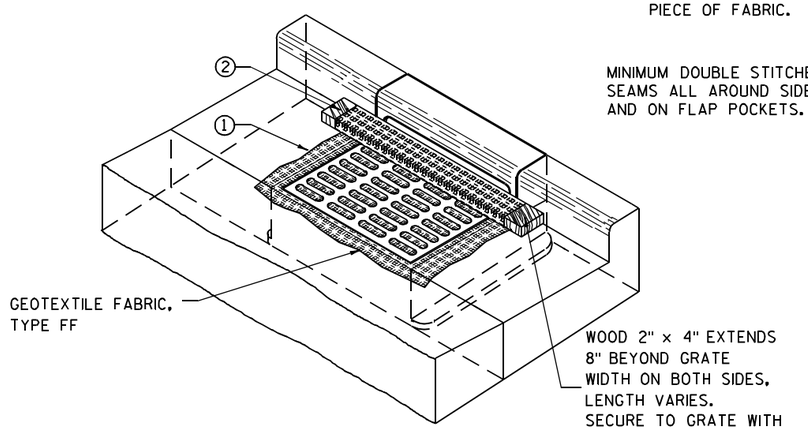


INLET PROTECTION, TYPE A

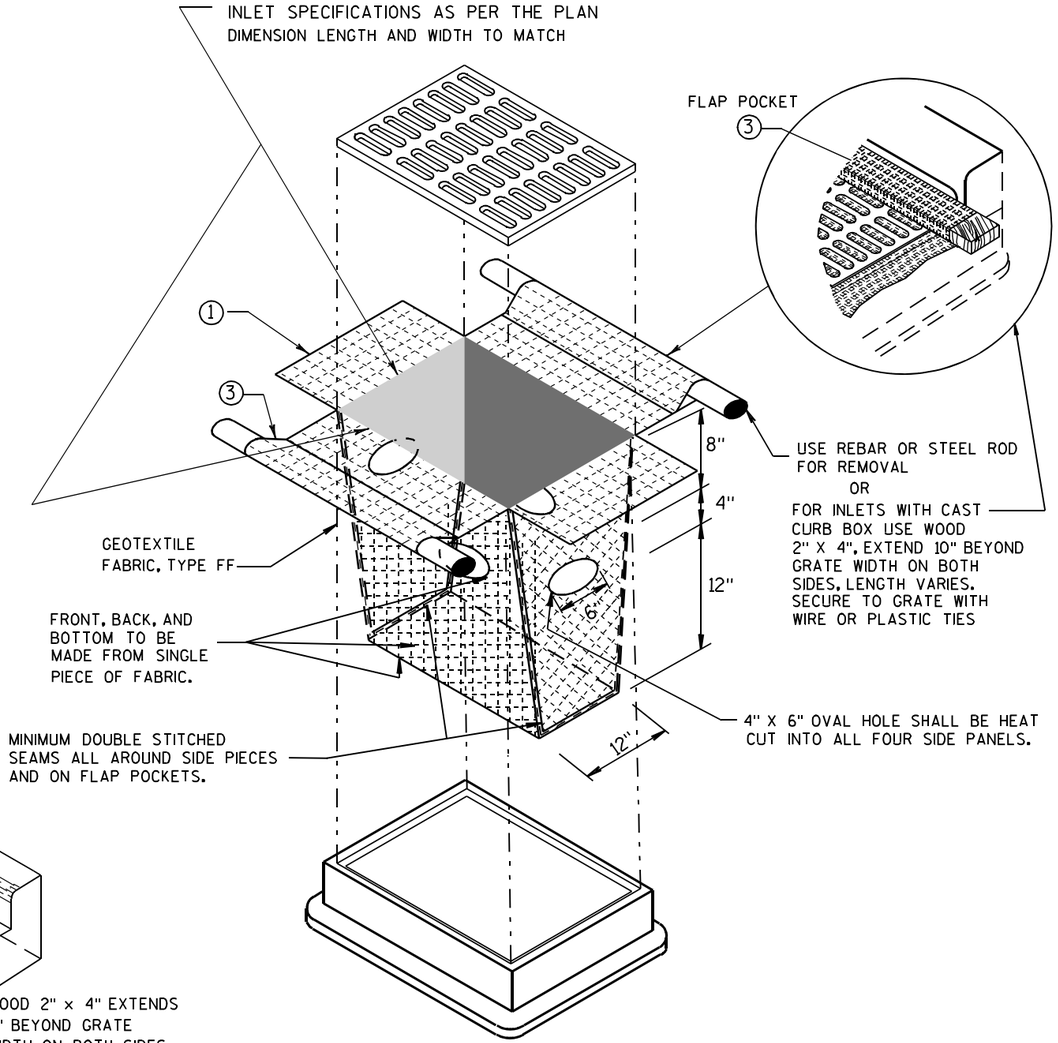


INLET PROTECTION, TYPE B
(WITHOUT CURB BOX)

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



INLET PROTECTION, TYPE C (WITH CURB BOX)



INLET PROTECTION, TYPE D

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

GENERAL NOTES

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

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

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

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

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

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

INSTALLATION NOTES

TYPE B & C

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

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

TYPE D

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

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

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

INLET PROTECTION
TYPE A, B, C, AND D

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

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S.D.D. 8 E 10-2

METAL APRON ENDWALLS

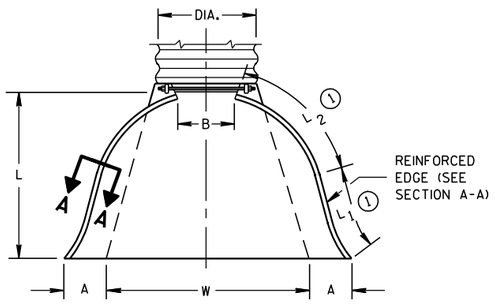
PIPE DIA. (IN.)	MIN. THICK. (Inches) STEEL	MIN. THICK. (Inches) ALUM.	DIMENSIONS (Inches) A (±1")	B (MAX.)	H (±1")	L (±1 1/2")	L1 ①	L2 ①	W (±2")	APPROX. SLOPE	BODY
12	.064	.060	6	6	6	21	12	17 1/2	24	2 1/2 to 1	1 Pc.
15	.064	.060	7	8	6	26	14	21 3/4	30	2 1/2 to 1	1 Pc.
18	.064	.060	8	10	6	31	15	28 1/4	36	2 1/2 to 1	1 Pc.
21	.064	.060	9	12	6	36	18	29 5/8	42	2 1/2 to 1	1 Pc.
24	.064	.075	10	13	6	41	18	37 1/4	48	2 1/2 to 1	1 Pc.
30	.079	.075	12	16	8	51	18	52 1/4	60	2 1/2 to 1	1 Pc.
36	.079	.105	14	19	9	60	24	59 3/4	72	2 1/2 to 1	2 Pc.
42	.109	.105	16	22	11	69	24	75 5/8	84	2 1/2 to 1	2 Pc.
48	.109	.105	18	27	12	78	24	81	90	2 1/4 to 1	3 Pc.
54	.109	.105	18	30	12	84	30	85 1/2	102	2 1/4 to 1	3 Pc.
60	.109×	.105×	18	33	12	87	—	—	114	2 to 1	3 Pc.
66	.109×	.105×	18	36	12	87	—	—	120	2 to 1	3 Pc.
72	.109×	.105×	18	39	12	87	—	—	126	2 to 1	3 Pc.
78	.109×	.105×	18	42	12	87	—	—	132	1 1/2 to 1	3 Pc.
84	.109×	.105×	18	45	12	87	—	—	138	1 1/2 to 1	3 Pc.
90	.109×	.105×	18	37	12	87	—	—	144	1 1/2 to 1	3 Pc.
96	.109×	.105×	18	35	12	87	—	—	150	1 1/2 to 1	3 Pc.

× EXCEPT CENTER PANEL SEE GENERAL NOTES

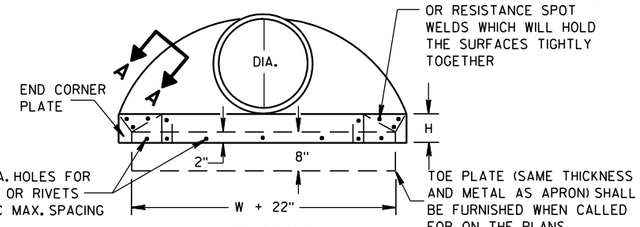
REINFORCED CONCRETE APRON ENDWALLS

PIPE DIA. (IN.)	DIMENSIONS (Inches) T	A	B	C	D	E	G	APPROX. SLOPE
12	2	4	24	48 7/8	72 1/8	24	2	3 to 1
15	2 1/4	6	27	46	73	30	2 1/4	3 to 1
18	2 1/2	9	27	46	73	36	2 1/2	3 to 1
21	2 3/4	9	36	37 1/2	73 1/2	42	2 3/4	3 to 1
24	3	9 1/2	43 1/2	30	73 1/2	48	3	3 to 1
27	3 1/4	10 1/2	49 1/2	24	73 1/2	54	3 1/4	3 to 1
30	3 1/2	12	54	19 3/4	73 1/2	60	3 1/2	3 to 1
36	4	15	63	34 3/4	97 3/4	72	4	3 to 1
42	4 1/2	21	63	35	98	78	4 1/2	3 to 1
48	5	24	72	26	98	84	5	3 to 1
54	5 1/2	27	65	* 33 1/4 - ** 35	* 98 1/4 - ** 100	90	5 1/2	2 2/5 to 1
60	6	* 30 - ** 35	60	39	99	96	5	2 to 1
66	6 1/2	* 24 - ** 30	* 72 - ** 78	* 21 - ** 27	99	102	5 1/2	2 to 1
72	7	* 24 - ** 36	78	21	99	108	6	2 to 1
78	7 1/2	* 24 - ** 36	78	21	99	114	6 1/2	2 to 1
84	8	36	90 1/2	21	111 1/2	120	6 1/2	1 1/2 to 1
90	8 1/2	41	87 1/2	24	111 1/2	132	6 1/2	1 1/2 to 1

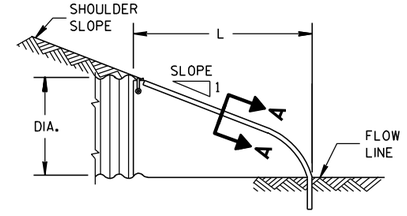
*MINIMUM
**MAXIMUM



PLAN VIEW

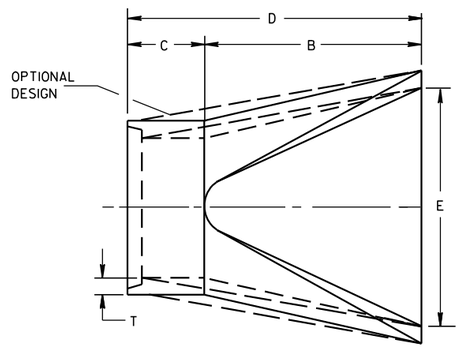


END VIEW

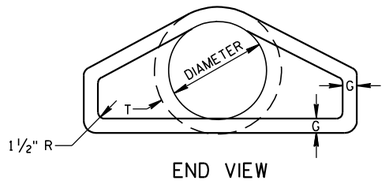


SIDE ELEVATION

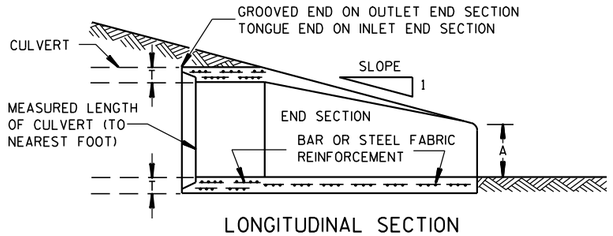
METAL ENDWALLS



PLAN

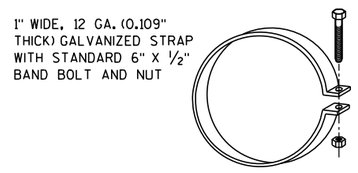


END VIEW



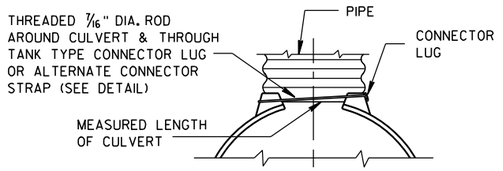
LONGITUDINAL SECTION

CONCRETE ENDWALLS

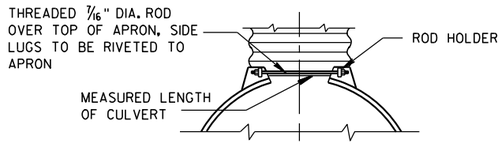


ALTERNATE FOR TYPE 1 CONNECTION

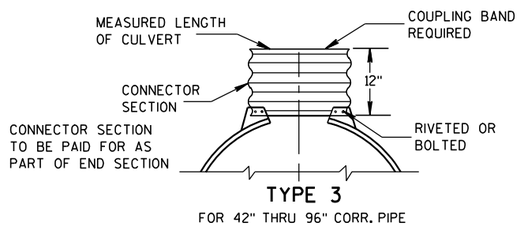
END SECTION CONNECTOR STRAP



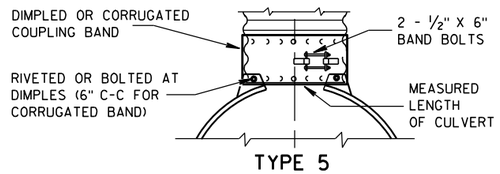
TYPE 1
FOR 12" THRU 24" CORR. PIPE



TYPE 2
FOR 30" THRU 96" CORR. PIPE



TYPE 3
FOR 42" THRU 96" CORR. PIPE



TYPE 5
ALTERNATE FOR:
ALL SIZES CORRUGATED CIRCULAR PIPE

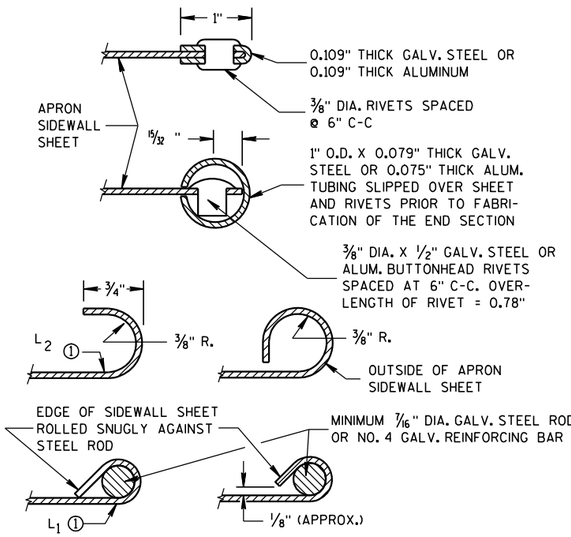
NOTE: DIMPLED BAND FITS OVER OUTSIDE OF ENDWALL. AND CORRUGATED BAND FITS INSIDE ENDWALL. DIMPLED BAND MAY BE USED WITH HELICALLY CORRUGATED PIPE.

FOR CIRCUMFERENTIALLY CORRUGATED PIPE USE ENDWALL CONNECTION DETAILS 1, 2, 3 OR 5 AS APPLICABLE.

FOR HELICALLY CORRUGATED PIPE USE ENDWALL CONNECTION DETAILS 1, 2 OR 5.

FOR HELICALLY CORRUGATED PIPES WITH TWO CIRCUMFERENTIAL CORRUGATIONS AT EACH END USE ENDWALL CONNECTION DETAILS 1, 2 OR 3.

CONNECTION DETAILS



SECTION A-A

GENERAL NOTES

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

CONCRETE CULVERT ENDWALLS MAY NOT BE USED WITH GALVANIZED STEEL OR ALUMINUM CULVERT PIPE OR VISE VERSA. GALVANIZED STEEL OR ALUMINUM ENDWALLS SHALL NORMALLY BE INSTALLED ON CULVERT PIPE OF THE SAME METAL.

ALL THREE PIECE STEEL APRON ENDWALLS FOR 60" DIAMETER PIPE AND LARGER SHALL HAVE 0.109" SIDES AND 0.138" CENTER PANELS. ALL THREE PIECE ALUMINUM APRON ENDWALLS FOR 60" DIAMETER PIPE AND LARGER SHALL HAVE 0.105" SIDES AND 0.134" CENTER PANELS. THE WIDTH OF CENTER PANELS SHALL BE GREATER THAN 20 PERCENT OF THE PIPE PERIMETER.

LAP SEAMS SHALL BE TIGHTLY JOINED BY GALVANIZED RIVETS OR BOLTS FOR STEEL UNITS AND ALUMINUM RIVETS AND BOLTS FOR ALUMINUM UNITS. FOR THE 60" THROUGH 96" DIAMETER APRON ENDWALL SIZES, THE REINFORCED EDGES AND CENTER PANEL SEAMS SHALL BE FURTHER REINFORCED WITH GALVANIZED STEEL OR ALUMINUM STIFFENER ANGLES. THE ANGLES SHALL BE ATTACHED BY GALVANIZED NUTS AND BOLTS FOR STEEL UNITS AND ALUMINUM NUTS AND BOLTS FOR ALUMINUM UNITS.

WHERE TWO OR MORE PIPES WITH APRON ENDWALLS ARE LAID ADJACENT TO EACH OTHER, THEY SHALL BE SEPARATED BY A DISTANCE SUFFICIENT TO PROVIDE A MINIMUM CLEARANCE OF 6 INCHES BETWEEN APRON ENDWALLS.

① FOR PIPE SIZES UP TO 60" DIAMETER, A 180° ROLLED EDGE MAY BE USED INSTEAD OF STEEL ROD REINFORCEMENT. SEE SECTION A-A.

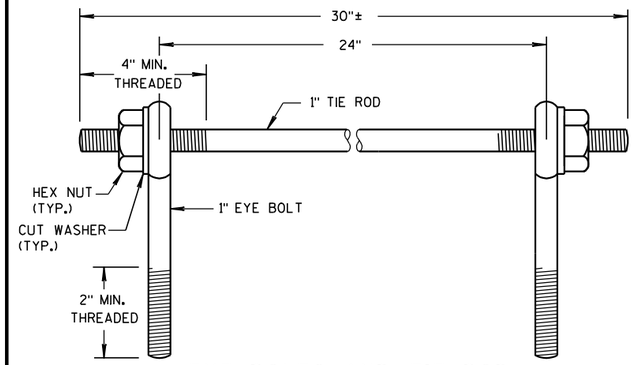
APRON ENDWALLS FOR CULVERT PIPE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

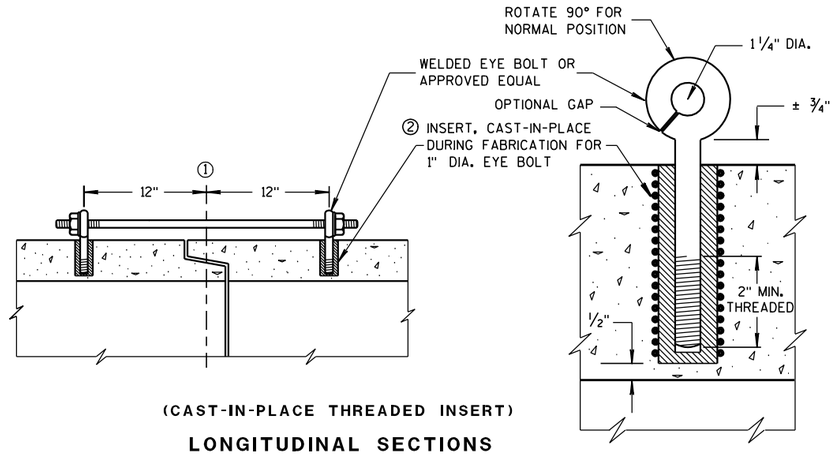
APPROVED
11/30/94 DATE
/S/ Rory L. Rhinesmith
CHIEF ROADWAY DEVELOPMENT ENGINEER
FHWA

6

S.D.D. 8 F 1-11



EYE BOLTS AND TIE ROD



(CAST-IN-PLACE THREADED INSERT)

LONGITUDINAL SECTIONS

EYE BOLT AND TIE ROD ASSEMBLY (ALTERNATE NO. 1)

GENERAL NOTES

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

CONCRETE CULVERT AND STORM SEWER PIPE SHALL BE TIED TOGETHER IN THE MANNER ILLUSTRATED BY THIS DETAIL AT LOCATIONS DESIGNATED IN THE STANDARD SPECIFICATIONS AND THE PLAN. THE CONTRACTOR MAY USE EITHER ALTERNATE 1, 2 OR 3 FOR DRAINAGE STRUCTURES. ONLY ALTERNATE 1 AND 3 MAY BE USED FOR CATTLE PASSES, UNLESS OTHERWISE STATED IN THE CONTRACT. THE MATERIALS, FABRICATION AND WORK NECESSARY TO TIE THE PIPE BY THIS DETAIL WILL BE CONSIDERED INCIDENTAL TO THE PIPE AND APRON ENDWALLS IF REQUIRED.

DETAILED DRAWINGS FOR PROPOSED ALTERNATE DESIGNS FOR JOINT TIES SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL.

JOINT TIES TO BE HOT-DIP GALVANIZED PER ASTM A 153.

① ℄ OF TONGUE AND GROOVE OR BELL AND SPIGOT JOINTS.

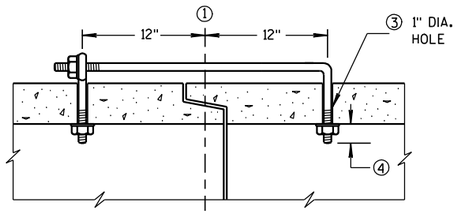
② THE INSIDE OF THE THREADED INSERTS SHALL BE CLEAN TO ALLOW THE INSERTION OF THREADED EYE BOLTS.

③ HOLES SHALL BE CAST-IN-PLACE OR DRILLED 12 INCHES FROM ℄ OF TONGUE AND GROOVE.

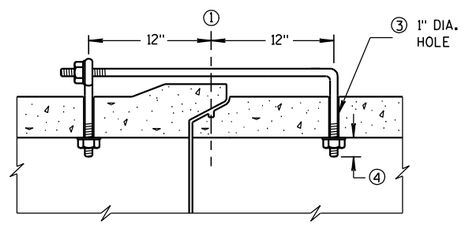
④ BOLT PROJECTION INSIDE OF PIPE SHALL NOT EXCEED 2 INCHES.

⑤ OPENING TO BE ROD DIAMETER PLUS 1 INCH.

⑥ LENGTH ADEQUATE TO EXTEND TO WITHIN 1/2 INCH OF THE INNER SURFACE OF THE PIPE.



(TONGUE & GROOVE PIPE)

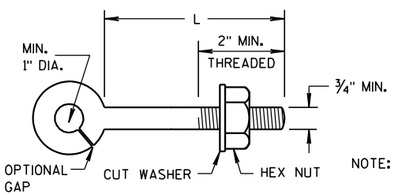


(MODIFIED BELL PIPE)

LONGITUDINAL SECTION

EYE BOLT DIMENSION TABLE

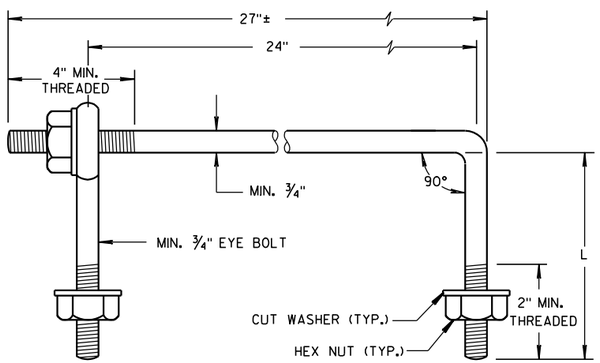
PIPE SIZE	L = LENGTH	
	TONGUE & GROOVE PIPE	MODIFIED BELL PIPE
18" TO 24"	4 1/2"	6 1/4"
30"	5"	7"
36"	5 1/2"	7"
42"	6"	
48"	6 1/2"	
60"	7 1/2"	
66"	8"	



NOTE:

EYE BOLT

NOTE: TWO EYE BOLTS MAY BE USED WITH A 30" LONG THREADED ROD IN LIEU OF THE 90° BENT TIE ROD.



EYE BOLT AND TIE ROD

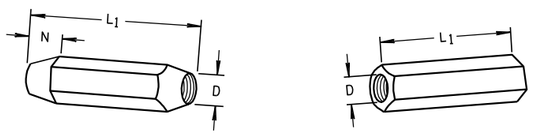
(JOINT TIES FOR 18" TO 66" DIA. CONCRETE PIPE)

EYE BOLT AND TIE ROD ASSEMBLY (ALTERNATE NO. 2)

ADJUSTABLE TIE ROD TABLE

PIPE DIAMETER	TIE ROD DIAMETER	D	L_1	N
12-60	5/8	5/8	5	1/2
66-84	3/4	3/4	5	1/2
90-108	1	1	7	1 1/16

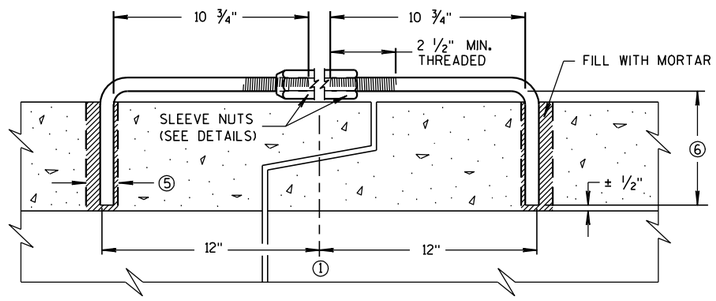
DIMENSIONS SHOWN ARE IN INCHES



TAPERED PLAIN

RIGHT AND LEFT THREADS

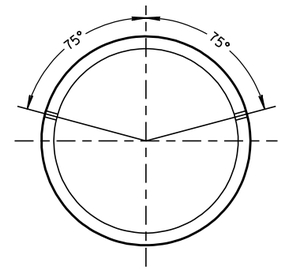
SLEEVE NUTS



LONGITUDINAL SECTION

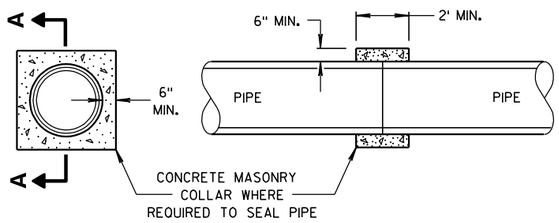
(JOINT TIES FOR 12" TO 108" DIA. CONCRETE PIPE)

ADJUSTABLE TIE ROD (ALTERNATE NO. 3)



PLACEMENT OF (2) CAST-IN-PLACE INSERTS OR HOLES DURING FABRICATION FOR PIPE SECTIONS REQUIRING TIE RODS

TRANSVERSE SECTION



SECTION A-A

CONCRETE COLLAR DETAIL

JOINT TIES FOR CONCRETE PIPE AND CONCRETE COLLAR DETAIL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

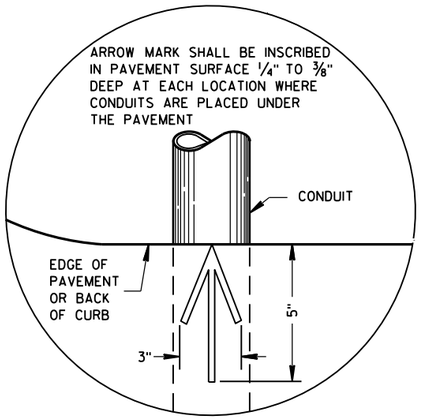
APPROVED
6/5/2012 — DATE
/S/ Jerry H. Zogg — ROADWAY STANDARDS ENGINEER
FHWA

6

S.D.D. 8 F 4-7

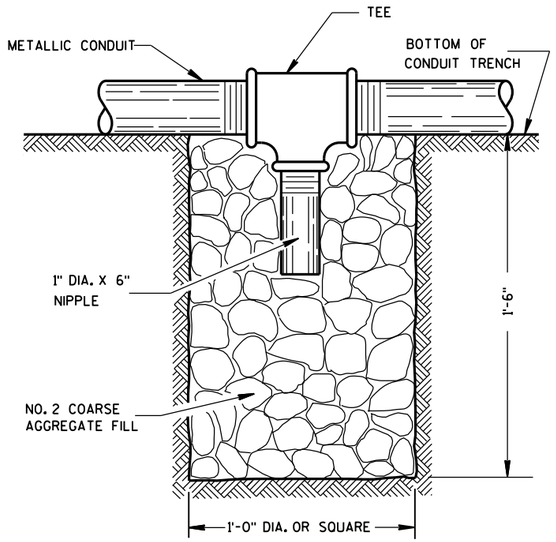
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S.D.D. 8 F 4-7



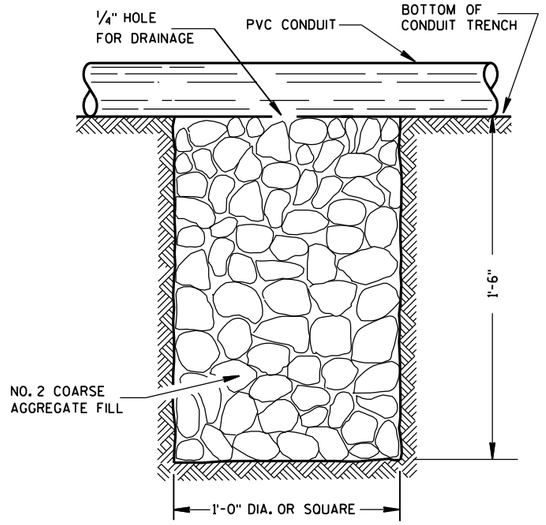
PLAN VIEW

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.

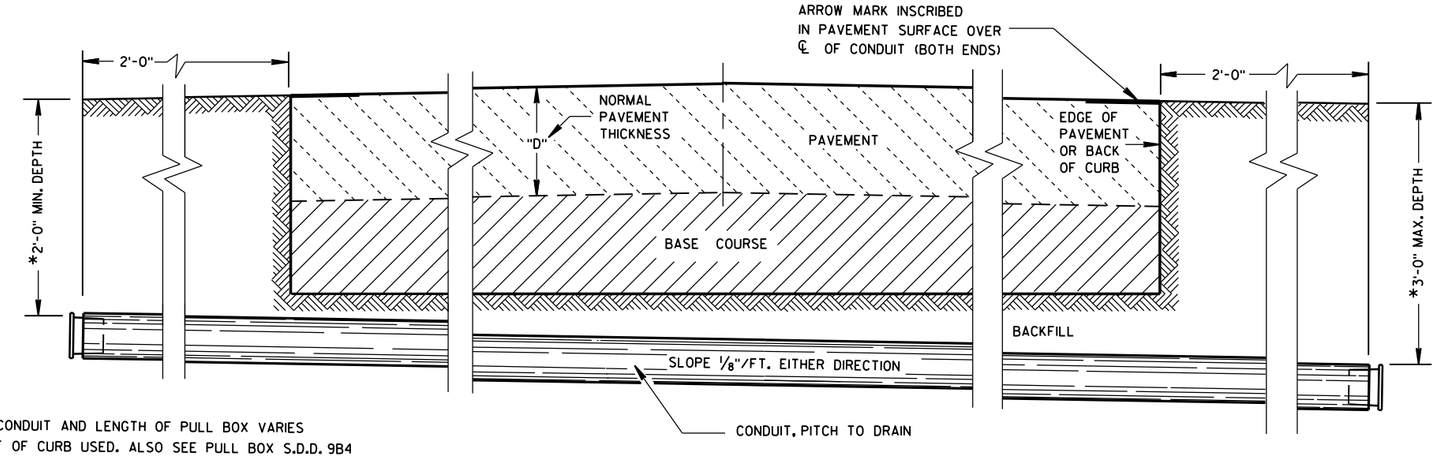
PRIOR TO CONDUIT ACCEPTANCE, CONDUIT CAPS OR PLUGS SHALL BE REMOVED, AND THE CAPS, PLUGS AND CONDUIT ENDS SHALL BE THOROUGHLY CLEANED AND THEN THE CAPS OR PLUGS REINSTALLED TO ENSURE THAT THE CAPS OR PLUGS CAN BE EASILY REMOVED IN THE FUTURE.

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.).

TRACER 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
June, 2015 — DATE
/S/ Ahmet Demirbilek — STATE ELECTRICAL
FHWA

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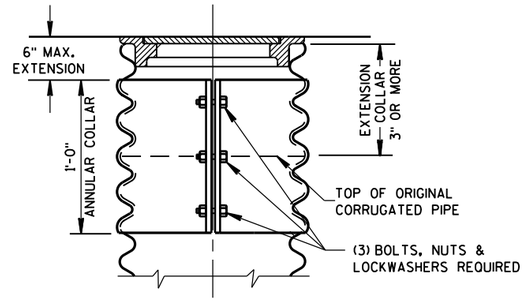
S.D.D. 9 B 2-9

TABLE OF NOMINAL DIMENSIONS AND WEIGHTS

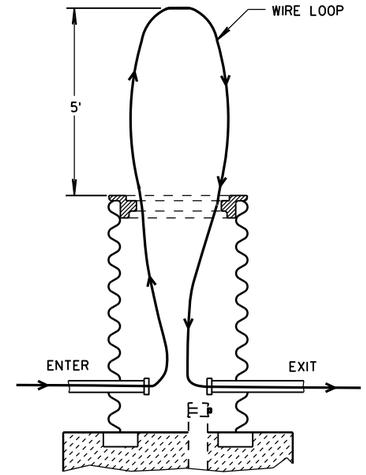
DIMENSION IN INCHES		CORRUGATED STEEL PIPE								
PIPE DIAMETER (INSIDE)	A	12	12	12	18	18	18	24	24	24
PIPE LENGTH **	B	24	30	36	24	30	36	36	42	48
WALL THICKNESS	C	0.064	0.064	0.064	0.064	0.064	0.064	0.064	0.064	0.064
COVER	D	10 1/4	10 1/4	10 1/4	16 1/4	16 1/4	16 1/4	22 1/4	22 1/4	22 1/4
FRAME	E	14 1/2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

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

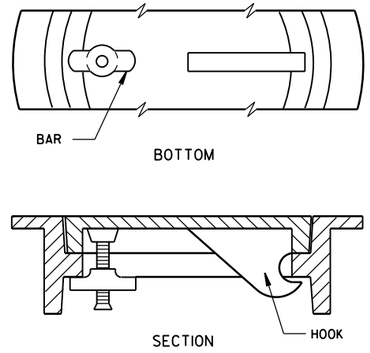
** NORMALLY USED LENGTHS. THE PROJECT ENGINEER SHALL DETERMINE IF PIPE LENGTHS, OTHER THAN THOSE SPECIFIED, SHALL BE USED, TO A MAXIMUM OF 48" (CONTINUOUS LENGTH, NON-SPLICED). THE ADDITIONAL LENGTH SHALL BE INCIDENTAL TO THE PULL BOX BID PRICE.



CORRUGATED PIPE EXTENDER

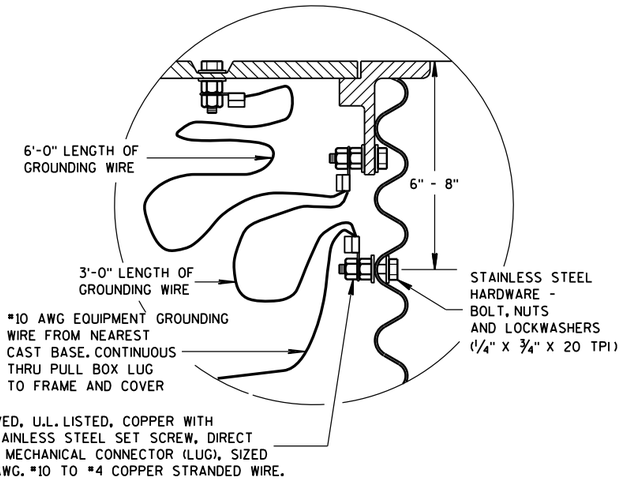


MEASUREMENT DETAIL FOR WIRE/CABLE IN THE PULL BOX

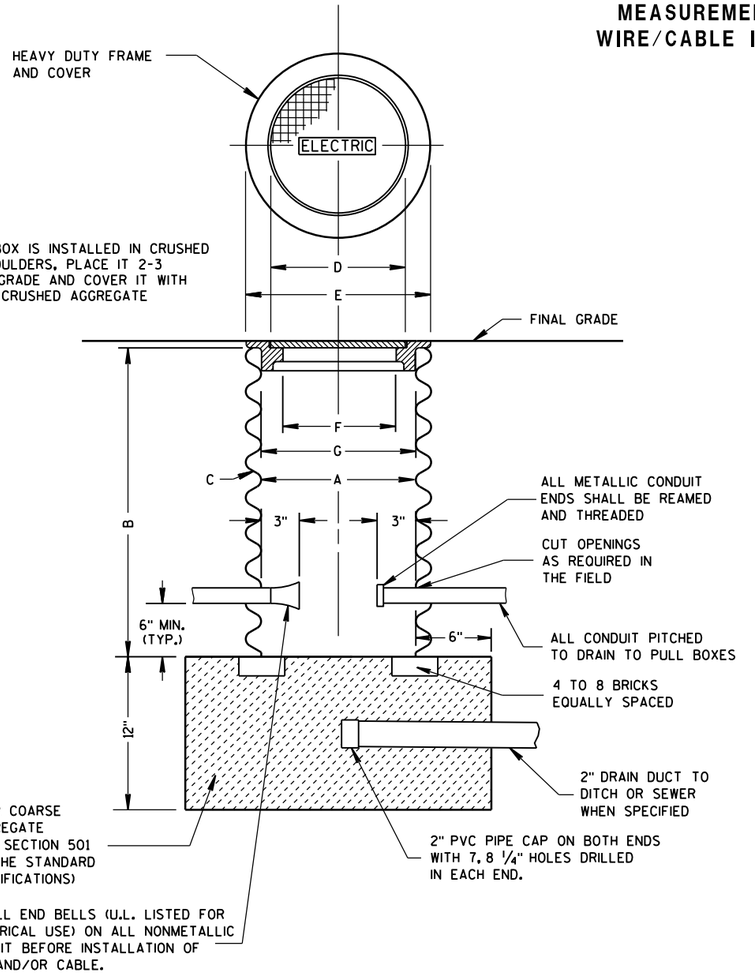


ALTERNATE COVER (LOCKING)

TIGHTENING BAR TYPE



EQUIPMENT GROUNDING LUG AND LOCATION IN STEEL PULL BOXES



PULL BOX

GENERAL NOTES

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

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

PULL BOXES LOCATED IN THE ROADWAYS SHALL HAVE LOCKING COVERS.

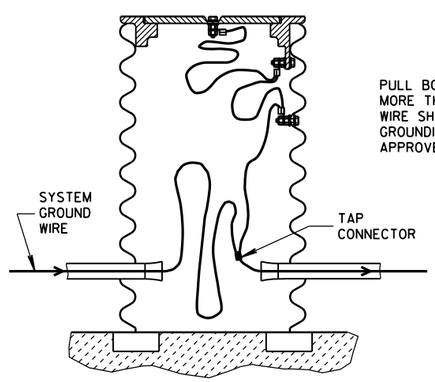
ENTRANCE HOLES INTO PULL BOXES SHALL BE CUT WITH A CIRCULAR HOLE SAW OR HYDRAULIC CONDUIT PUNCH. HOLE SIZE SHALL BE THE OUTSIDE DIAMETER OF THE CONDUIT THAT IS TO FIT IN THE OPENING PLUS NO MORE THAN 1/4".

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

GROUNDING LUGS (MECHANICAL CONNECTORS) SHALL BE U.L. LISTED AND APPROVED FOR USE WITH COPPER WIRE.

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

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



PULL BOX TO NEAREST BASE DISTANCE MORE THAN 20 FEET. PULL BOX GROUND WIRE SHALL CONNECT AT SYSTEM GROUNDING WIRE. USE DEPARTMENT APPROVED TAP CONNECTOR.

EQUIPMENT GROUNDING LUG AND LOCATION IN STEEL PULL BOXES

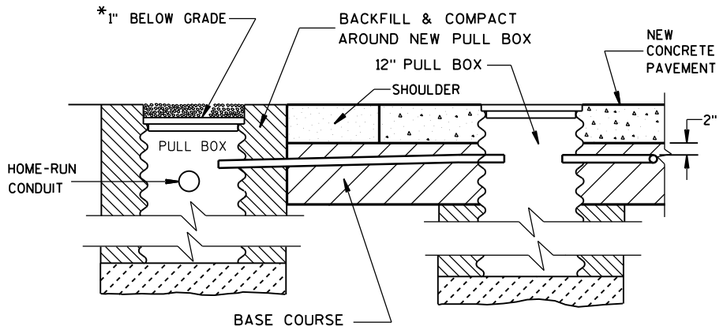
PULL BOX

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
Sept. 2014 — DATE
/S/ Ahmet Demirbilek — STATE ELECTRICAL
FHWA

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S.D.D. 9 B 4-11



SECTION A-A

NO CURB & GUTTER

LOOP DETECTOR INSTALLATION DETAILS

*RECESS PULL BOX SO THAT THE COVER IS 3" BELOW GRADE IN SHOULDER AREAS OF CRUSHED AGGREGATE. BACKFILL OVER COVER WITH THE CRUSHED AGGREGATE TO BRING THE AREA TO GRADE LEVEL.

GENERAL NOTES

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

LOOP SIZE, LOCATION, NUMBER OF TURNS OF WIRE AND ASSOCIATED SIGNAL PHASE SHALL BE AS SHOWN ON THE PLANS.

PITCH LEAD OUT CONDUIT TO DRAIN TO ROADSIDE PULL BOX.

SPLICES SHALL BE INSTALLED BY USING CAST IN PLACE SPLICE KITS LISTED ON THE DEPARTMENTS APPROVED PRODUCTS LIST OR AN ENGINEER APPROVED EQUAL. NON-INSULATED BUTT SPLICES TO FIT #12 AWG STRANDED WIRE SHALL BE USED. SPLICES SHALL BE SOLDERED AND INSULATED FROM EACH OTHER AS PER INSTRUCTIONS INCLUDED IN THE SPLICE KIT.

MEASURE GROUND RESISTANCE USING A MEGGER. REPLACE LOOP WIRE NOT ATTAINING A READING OF INFINITY TO GROUND.

AFTER SPLICING THE LOOP WIRE TO THE LOOP LEAD-IN CABLE, THE CONTRACTOR SHALL MEASURE INDUCTANCE, GROUND RESISTANCE AND WIRE RESISTANCE AT THE CABINET END OF THE LEAD-IN CABLE AND FURNISH A COPY OF THE READINGS TO THE PROJECT ENGINEER FOR EVALUATION.

LOOP DETECTOR LEADS SHALL BE IDENTIFIED WITH THEIR ASSOCIATED LOOP BY USE OF WATERPROOF TAGS AT BOTH ENDS OF THE CABLE. A LISTING OF THE CABLE IDENTIFICATION PER INDIVIDUAL LOOP LEAD-IN SHALL BE PLACED IN THE CABINET.

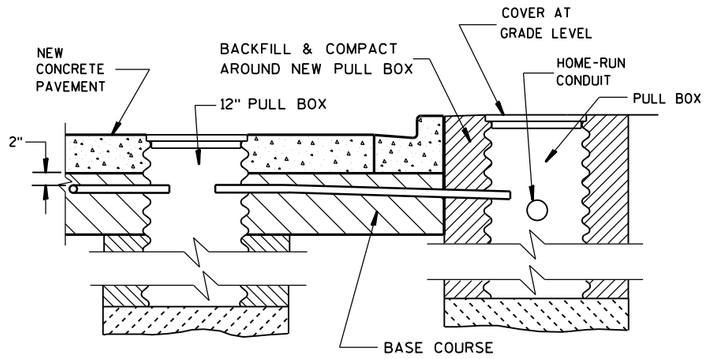
THE #12 AWG LOOP WIRE FROM THE LOOP TO THE ROADSIDE PULL BOX, SHALL BE HAND TWISTED AT LEAST 3 TWISTS PER FOOT BEFORE INSTALLATION.

SPLICES OF LOOP WIRE TO LEAD-IN CABLE SHALL BE MADE ONLY IN PULL BOXES AT THE SIDE OF THE ROAD.

THE #12 AWG LOOP WIRE SHALL BE INSTALLED FROM THE ROADSIDE PULL BOX, THROUGH THE LOOP DUCT, BACK TO THE ROADSIDE PULL BOX, AND BE INSTALLED IN ONE, NON-SPLICED, CONTINUOUS LENGTH.

PROTECTION OF THE CONDUIT, CONDULET AND PULL BOX SHALL BE REQUIRED AFTER INSTALLATION AND BEFORE THE NEW CONCRETE PAVEMENT IS PLACED.

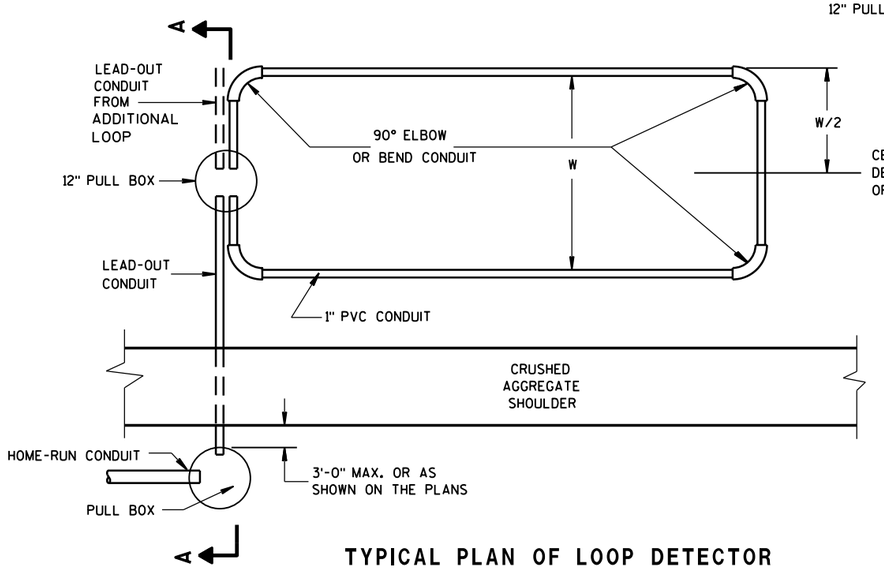
12" PULL BOXES IN PAVEMENT SHALL BE CORRUGATED STEEL ONLY.



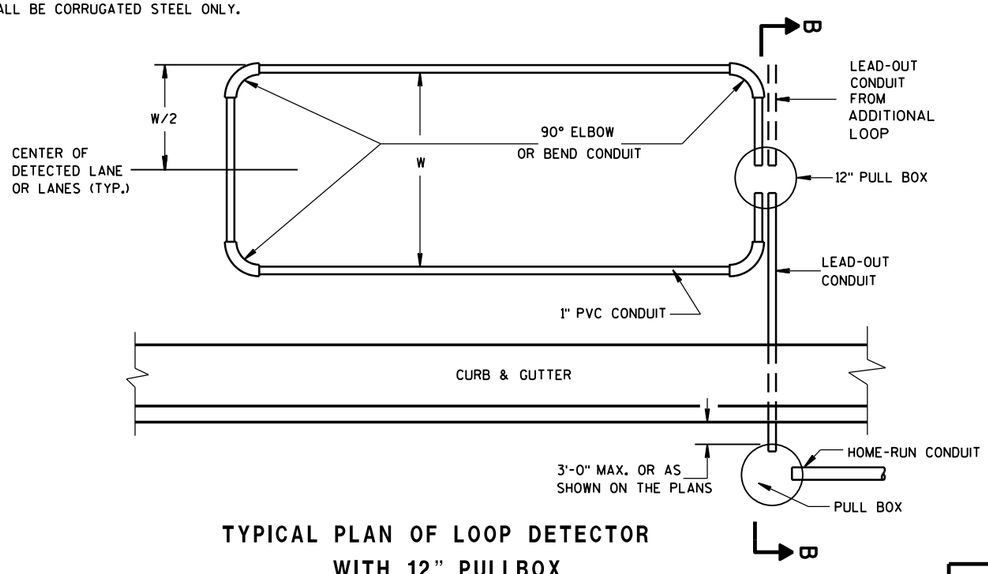
SECTION B-B

CURB & GUTTER

LOOP DETECTOR INSTALLATION DETAILS



TYPICAL PLAN OF LOOP DETECTOR WITH 12" PULLBOX



TYPICAL PLAN OF LOOP DETECTOR WITH 12" PULLBOX

LOOP DETECTOR PLACED IN CRUSHED AGGREGATE BASE (NEW CONCRETE PAVEMENT)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

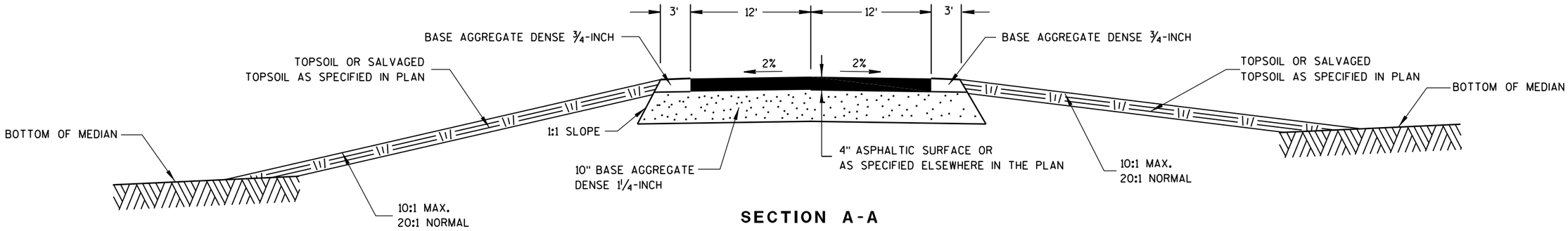
Sept. 2014 — DATE

/S/ Ahmet Demirbilek — STATE ELECTRICAL

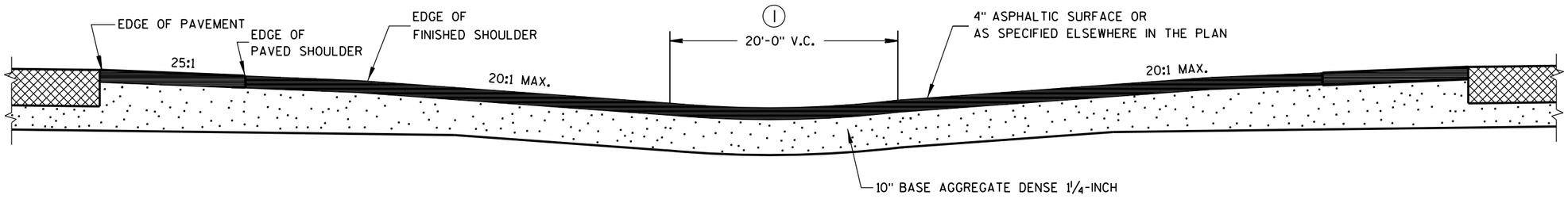
FHWA

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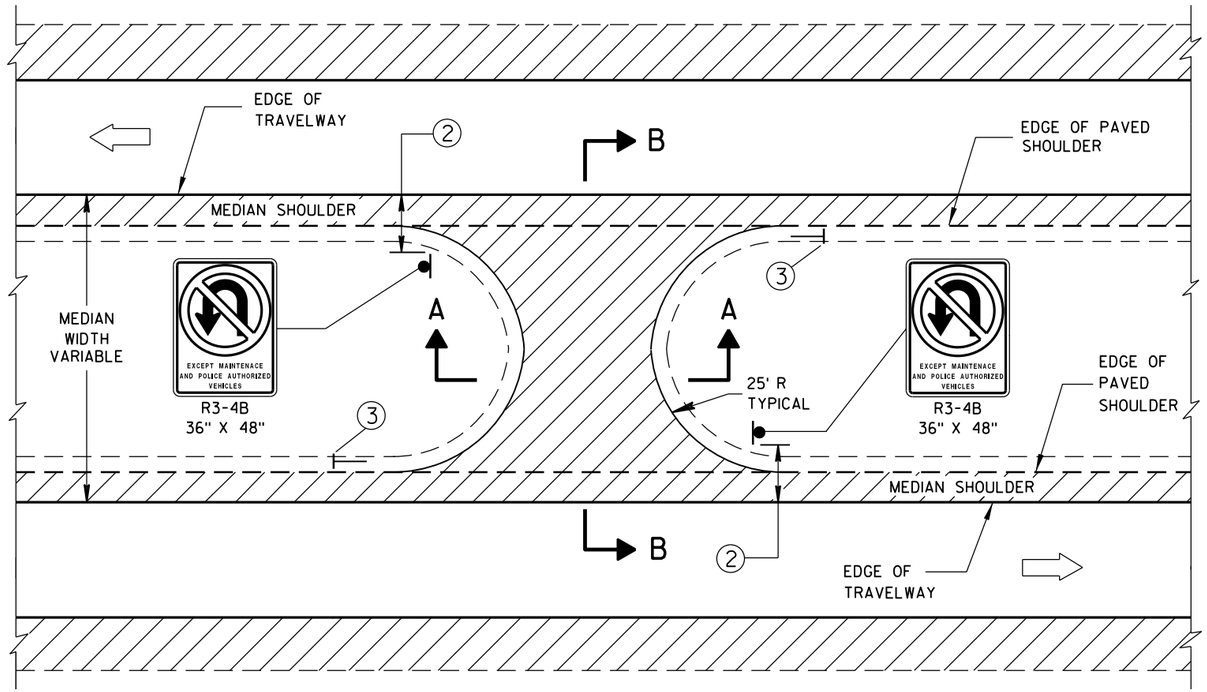
S.D.D. 9 F 9-4



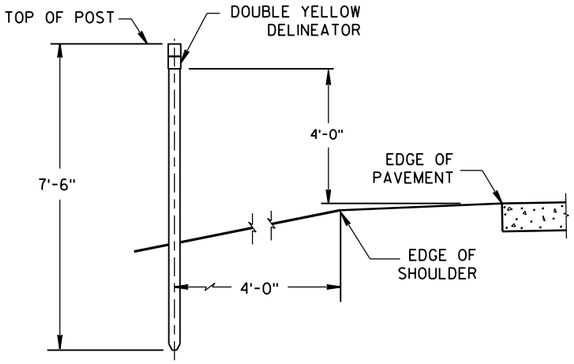
SECTION A-A



SECTION B-B



PLAN VIEW



DOUBLE YELLOW DELINEATOR INSTALLATION

GENERAL NOTES

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

(1) ADJUST VERTICAL CURVE LOCATION LATERALLY TO MAINTAIN 20:1 MAX.

(2) SIGNING DETAILS AND SPECIFICATIONS ARE PROVIDED ELSEWHERE IN THE CONTRACT.

(3) INSTALL DOUBLE YELLOW DELINEATOR. SEE STANDARD DETAIL DRAWING 15A2.

MAINTENANCE CROSSOVER FOR FREEWAYS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

8/2013 — DATE

/S/ Jerry H. Zogg — ROADWAY STANDARDS DEVELOPMENT ENGINEER

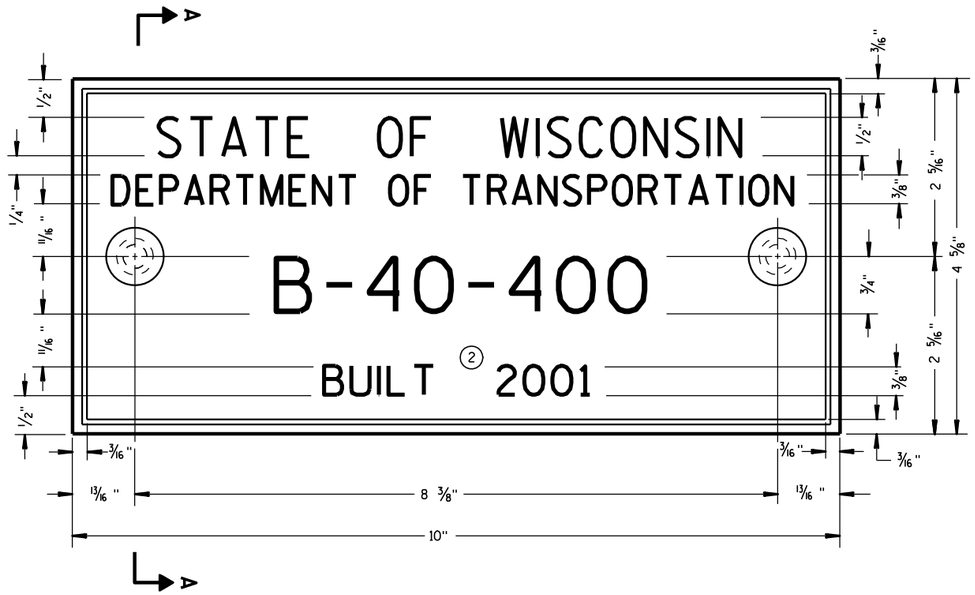
FHWA

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S.D.D. 11 A 1-5

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S.D.D. 11 A 1-5



TYPICAL NAME PLATE
(BRIDGES, CULVERTS, AND RETAINING WALLS)

FOR MULTI-UNIT STRUCTURES
LINE 3 ABOVE SHALL READ

B = BRIDGE
C = CULVERT
R = RETAINING WALL

COUNTY NO.

BRIDGE NO.

UNIT NO. FOR MULTIPLE UNIT BRIDGE

B-40-400-1A

NUMBERING DESIGNATION
MULTI-UNIT STRUCTURES

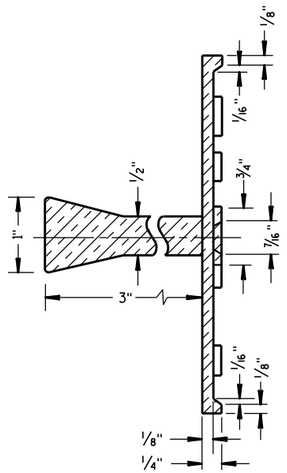
GENERAL NOTES

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

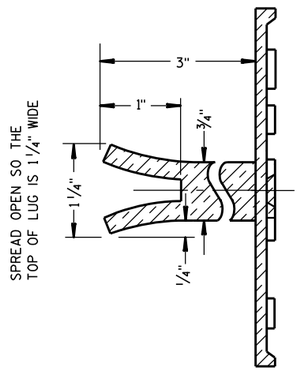
THE BRIDGE NUMBER AND YEAR BUILT SHOWN ON THIS DRAWING ARE EXAMPLES ONLY. SEE CONSTRUCTION PLANS FOR INDIVIDUAL NUMBERING AND YEAR BUILT.

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

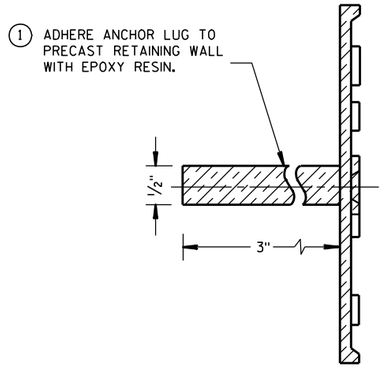
(2) REHABILITATION OF AN EXISTING STRUCTURE SHOULD USE THE DATE OF ORIGINAL STRUCTURE CONSTRUCTION.



SECTION A-A



ALTERNATE LUG



ALTERNATE LUG
(FOR ATTACHMENT TO PRECAST STRUCTURES)

NAME PLATE (STRUCTURES)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

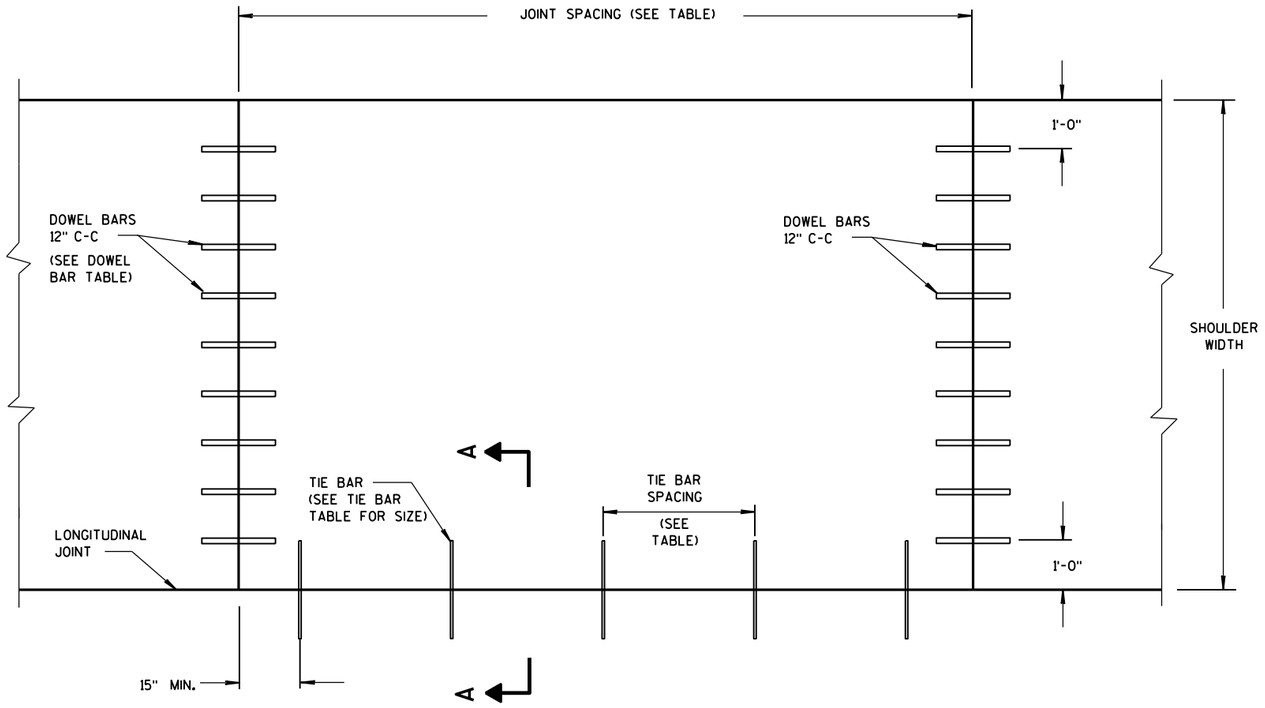
3/26/10 DATE

/S/ Scot Beck -- CHIEF STRUCTURAL DEVELOPMENT ENGINEER

FHWA

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S.D.D. 12 A 3-10



PLAN VIEW

CONCRETE PAVEMENT SHOULDER

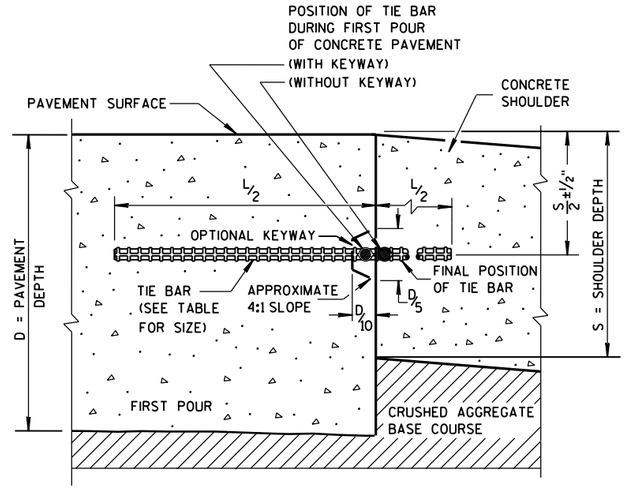
GENERAL NOTES

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

TRANSVERSE JOINT DETAILS ARE SHOWN ELSEWHERE IN THE PLAN.

FINISH THE SHOULDER PAVEMENT CONFORMING TO SUBSECTION 415.3.8 OF THE STANDARD SPECIFICATIONS.

TIE BARS SHALL CONFORM TO SUBSECTION 505.2.4 OF THE STANDARD SPECIFICATIONS.



SECTION A-A

LONGITUDINAL CONSTRUCTION JOINT

TIE BAR TABLE

PAVEMENT DEPTH (D)	TIE BAR SIZE	TIE BAR LENGTH (L)	MAX. TIE BAR SPACING
< 10 ½"	NO. 4	30"	36"
≥ 10 ½"	NO. 5	36"	36"
	NO. 4*	30"	24"**

* SUBSTITUTE BENT BARS AT LONGITUDINAL JOINTS WHEN EQUIPMENT LIMITATIONS DURING CONSTRUCTION WARRANT (e.g. AUXILIARY LANES OR TURN LANES)

** CONFORM TO 15" MINUMUM SPACING FROM TRANSVERSE JOINTS; SPACING BETWEEN TIE BARS WILL BE 30" AT TRANSVERSE JOINTS.

PAVEMENT DEPTH, DOWEL BAR SIZE AND JOINT SPACING TABLE

PAVEMENT DEPTH (D)	DOWEL BAR DIAMETER***	CONTRACTION JOINT SPACING
5 ½", 6", 6 ½"	NONE	12'
7", 7 ½"	1"	14'
8", 8 ½"	1 ¼"	15'
9", 9 ½"	1 ¼"	15'
10" & ABOVE	1 ½"	15'

*** FOR DOWELED CONCRETE SHOULDERS WITH TRAPEZOIDAL CROSS SECTIONS, CHOSE THE APPROPRIATE DOWEL BAR DIAMETER BASED ON THE SMALLER PAVEMENT DEPTH (LIKELY THE OUTSIDE EDGE OF THE SHOULDER). IF USING BASKETS, USE BASKETS FOR THE AVERAGE THICKNESS OF THE CROSS SECTION.

CONCRETE PAVEMENT SHOULDERS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

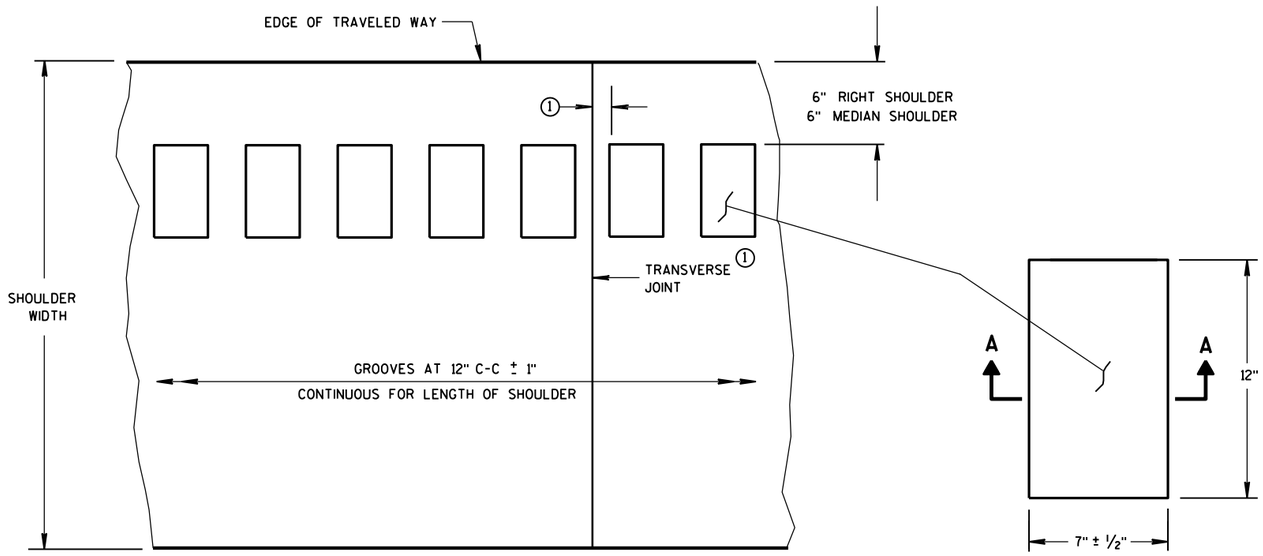
APPROVED
June, 2015 — DATE
/S/ Peter Kemp, P.E. — PAVEMENT SUPEF
FHWA

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S.D.D. 13 A 3-6

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S.D.D. 13 A 3-6



PLAN VIEW
SHOULDER WITH GROOVES

PLAN VIEW
(SINGLE GROOVE)

PLACEMENT DETAIL FOR MILLED RUMBLE STRIP

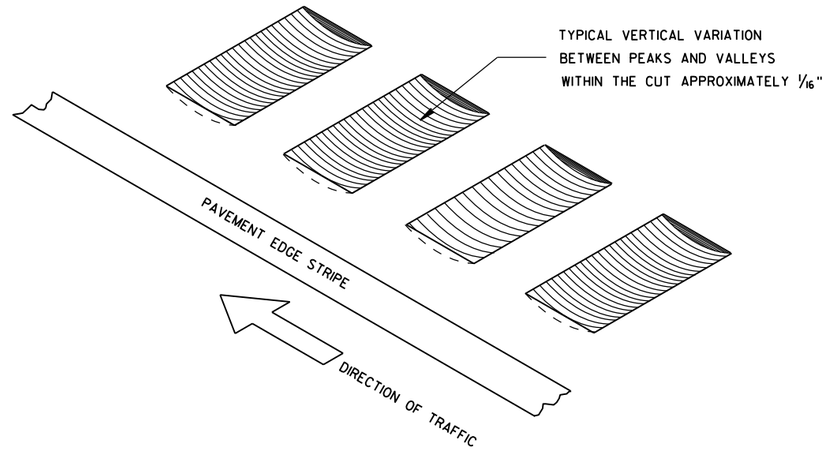
GENERAL NOTES

DETAILS OF CONSTRUCTION SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND APPLICABLE SPECIAL PROVISIONS.

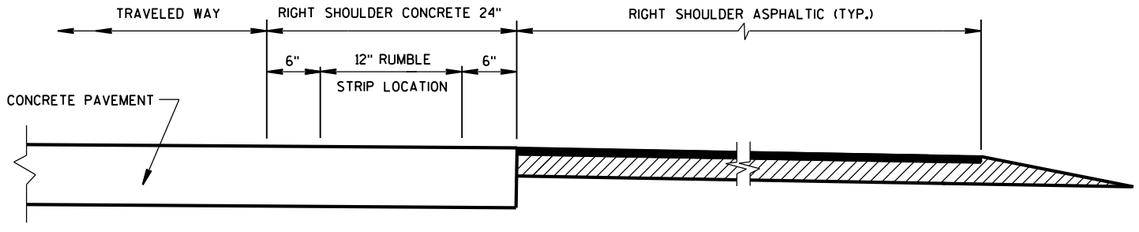
RUMBLE STRIPS ON EXPRESSWAYS

DO NOT INSTALL RUMBLE STRIPS ACROSS SIDE ROAD INTERSECTIONS, COMMERCIAL DRIVEWAYS, PRIVATE DRIVEWAYS OR ADJACENT TO RIGHT TURN LANES, LEFT TURN LANES, TURN LANE TAPERS, BRIDGE DECKS, BRIDGE APPROACHES, OR 100 FEET IN ADVANCE OF RAILROAD CROSSING. THE ATTACHED STANDARD DETAIL DRAWING SHOWS THE LOCATION OF THE RUMBLE STRIPS AT INTERCHANGE AREAS.

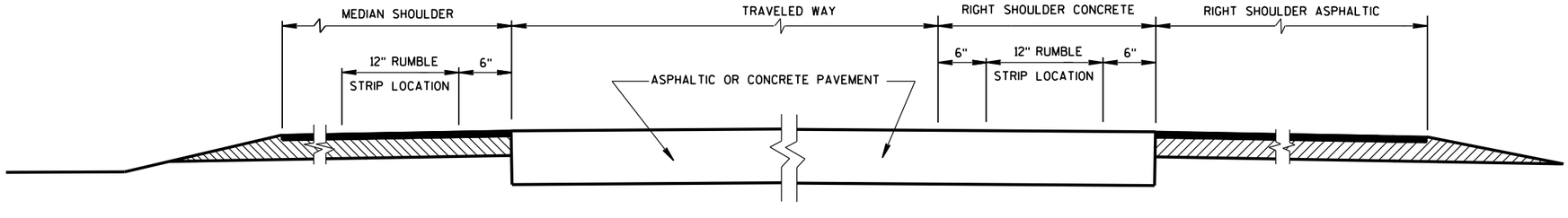
(1) CONCRETE PAVEMENT - RUMBLE STRIPS SHALL BE A MINIMUM OF 6" AWAY FROM TRANSVERSE JOINTS.



ISOMETRIC



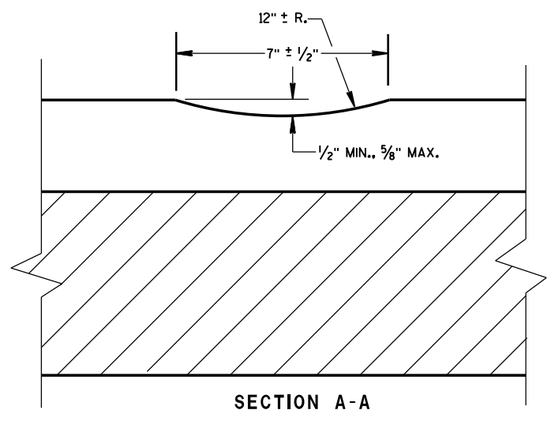
SECTION VIEW
CONCRETE PAVEMENT EXTENDS INTO RIGHT SHOULDER)



SECTION VIEW

TYPICAL LOCATIONS OF SHOULDER RUMBLE STRIPS IN RURAL DIVIDED HIGHWAYS

(ONE ROADWAY IS SHOWN)



SECTION A-A

SHOULDER RUMBLE STRIP, MILLING

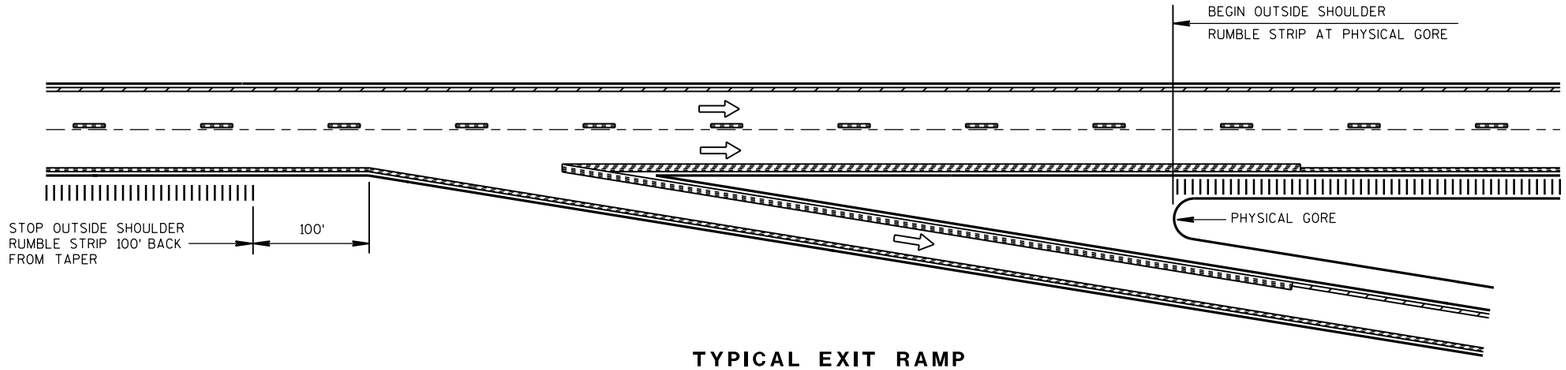
STATE OF WISCONSIN
DEPARTMENT OF TRANSPOI

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S.D.D. 13 A 5-5a

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S.D.D. 13 A 5-5a



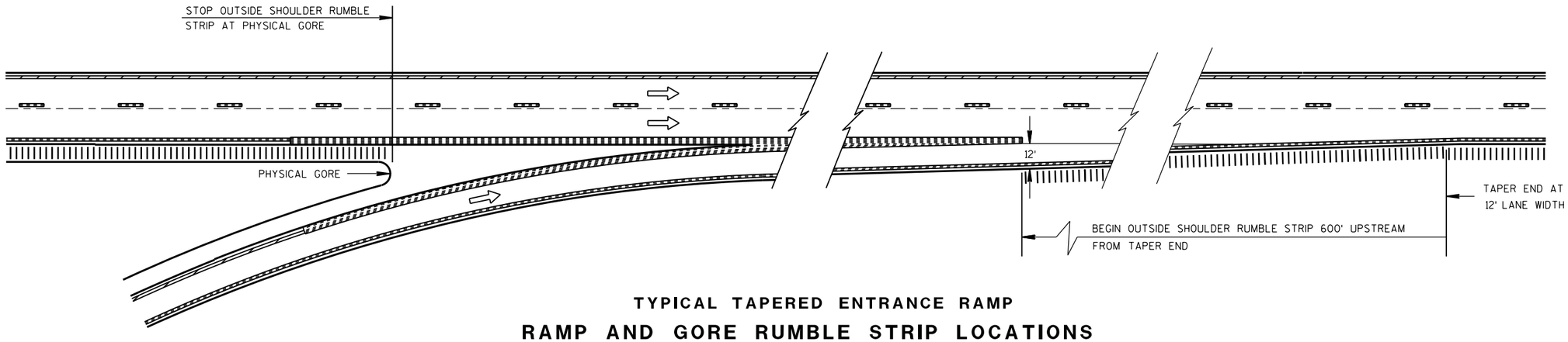
TYPICAL EXIT RAMP

NOTES:

NO RUMBLE STRIP ON EXIT, DIRECTIONAL, OR ENTRANCE RAMPS, EXCEPT NEAR THE ENTRANCE TAPER END AND ALONG THE PARALLEL RAMP AREA AS SHOWN.

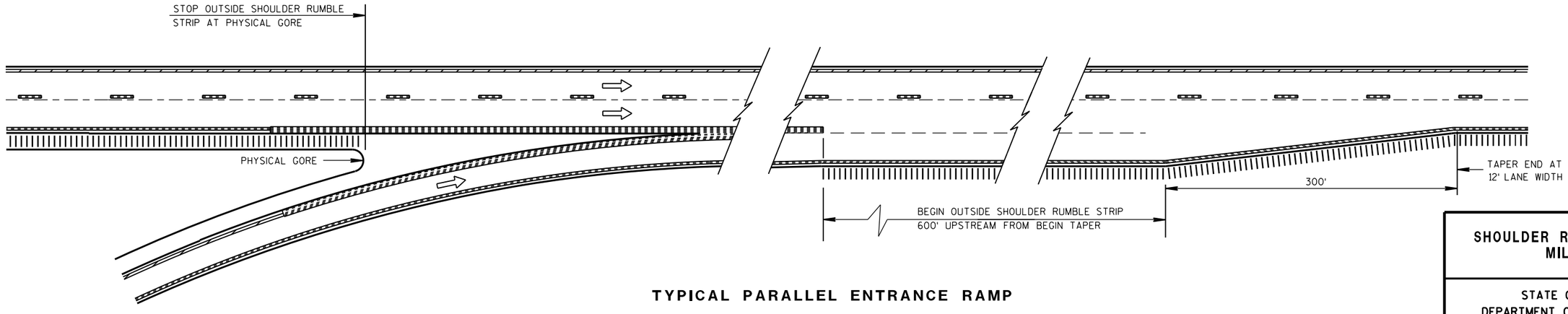
PAVEMENT MARKING DETAILS AND SPECIFICATIONS ARE PROVIDED ELSEWHERE IN THE CONTRACT.

NOTE:
ARROW SYMBOL (⇨)
SHOWS DIRECTION OF TRAVEL



TYPICAL TAPERED ENTRANCE RAMP

RAMP AND GORE RUMBLE STRIP LOCATIONS



TYPICAL PARALLEL ENTRANCE RAMP

RAMP AND GORE RUMBLE STRIP LOCATIONS

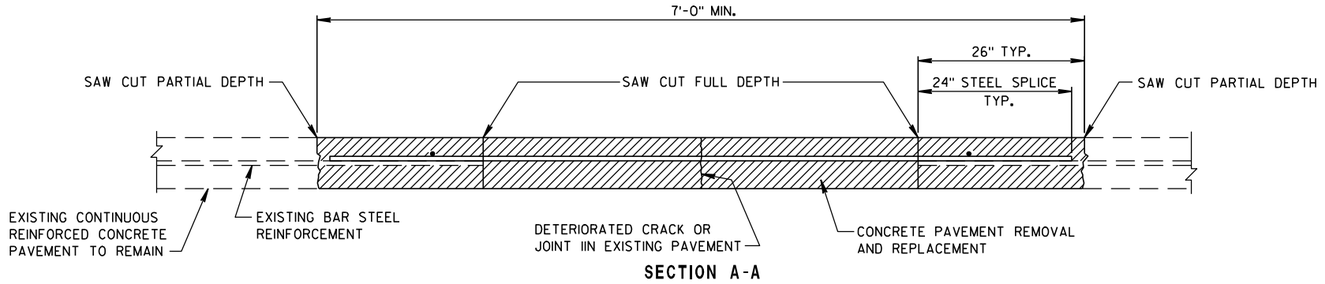
SHOULDER RUMBLE STRIP, MILLING

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

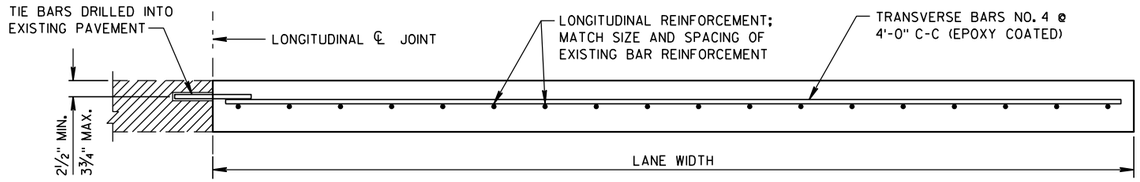
APPROVED
12/17/2012 DATE
/S/ Jerry H. Zoga
ROADWAY STANDARDS ENGINEER
FHWA

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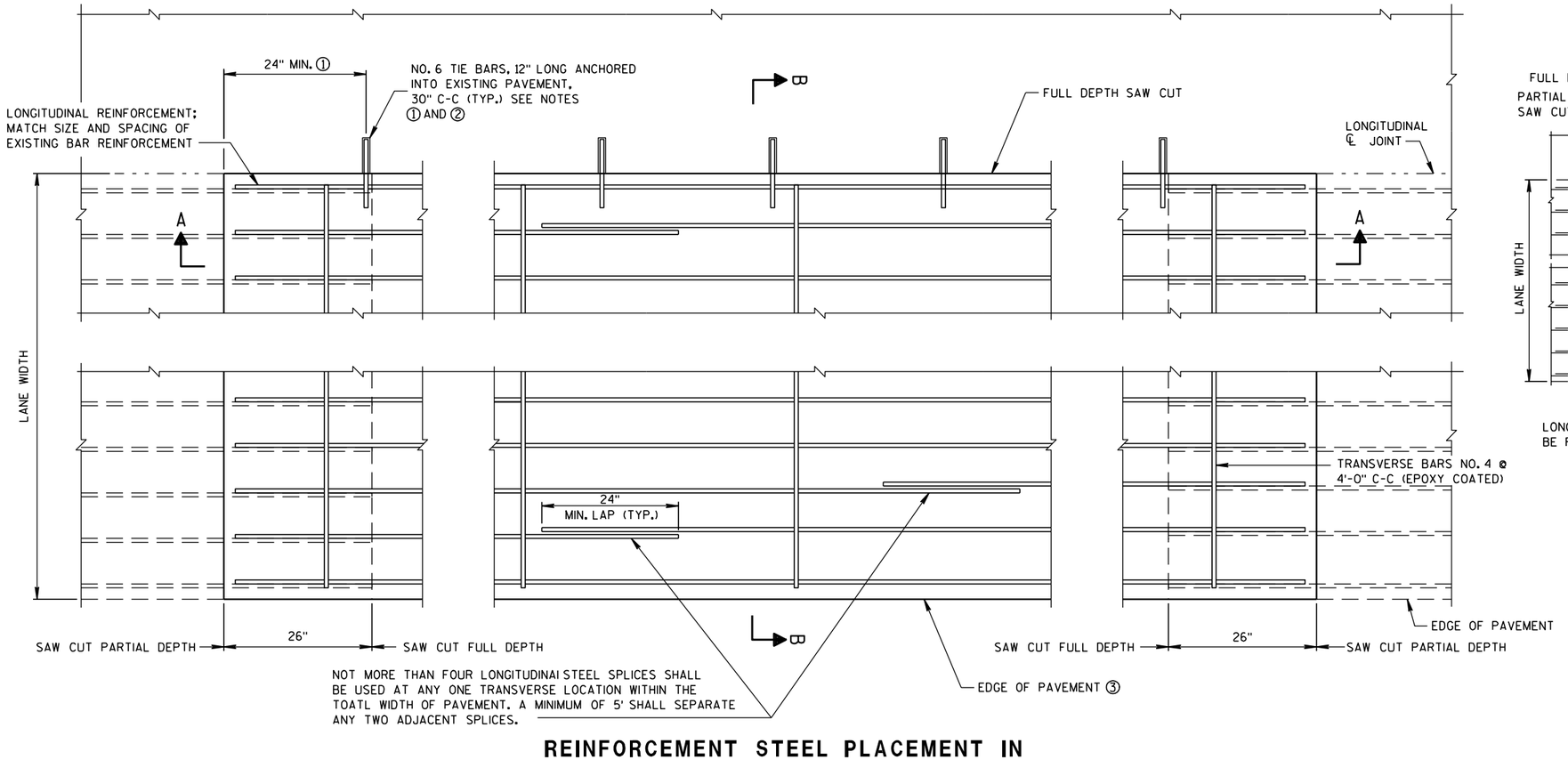
S.D.D. 13 A 5-5b



SECTION A-A



SECTION B-B



REINFORCEMENT STEEL PLACEMENT IN CONTINUOUSLY REINFORCED CONCRETE PAVEMENT REPLACEMENT

GENERAL NOTES

PLACE ALL BAR STEEL REINFORCEMENT AT MID PAVEMENT DEPTH UNLESS OTHERWISE NOTED.

PAY FOR THE TRANSVERSE AND LONGITUDINAL JOINT SAW CUT AS LINEAR FEET OF "SAWING CONCRETE".

WHEN THE PASSING AND TRAVELING LANES ARE TO BE REPLACED, REPLACE THE PASSING LANE FIRST.

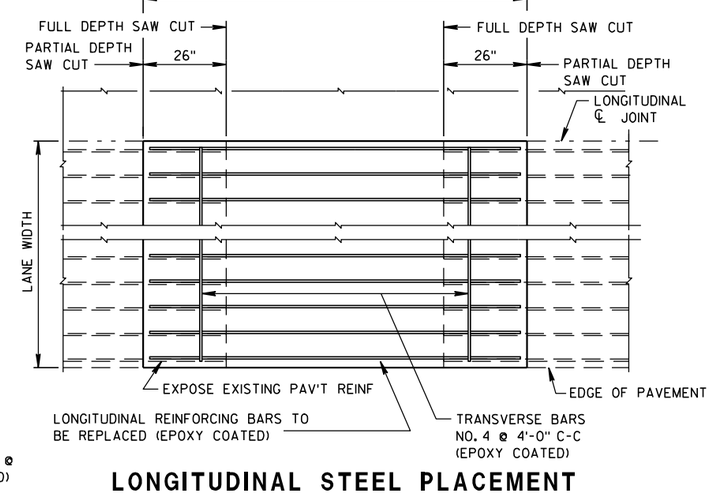
ADD TRANSVERSE STEEL BARS TO REPAIRS GREATER THAN 6'IN LENGTH, USE NO. 4 BARS PLACED TRANSVERSELY AND SPACED 4'C-C. PAYMENT SHALL BE INCIDENTAL TO "CONCRETE PAVEMENT CONTINUOUS REINFORCEMENT".

TIE ALL CONCRETE PAVEMENT REPAIRS WHICH ARE GREATER THAN 15'IN LENGTH, AND ARE ADJACENT TO EXISING CONCRETE PAVEMENT, TO THE EXISTING PAVEMENT USING TIE BARS. DETAILS FOR TIE BAR CONSTRUCTION SHALL CONFORM TO THE STANDARD SPECIFICATIONS AND STANDARD DETAIL DRAWINGS.

① PROVIDE A MINIMUM DISTANCE OF 24 INCHES FROM AN EXISTING TRANSVERSE JOINT OR THE EDGE OF REPLACEMENT TO THE CENTER OF THE TIE BAR NEAREST THAT JOINT OR EDGE.

② ANCHOR TIE BARS INTO DRILLED HOLES WITH AN EPOXY.

③ SAW CUT THE LONGITUDINAL EDGE JOINT IF THE ADJACENT SHOULDER IS CONCRETE.



LONGITUDINAL STEEL PLACEMENT IN CRCP REPAIRS

PLAN VIEW

CONTINUOUSLY REINFORCED CONCRETE PAVEMENT REPAIR AND REPLACEMENT

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

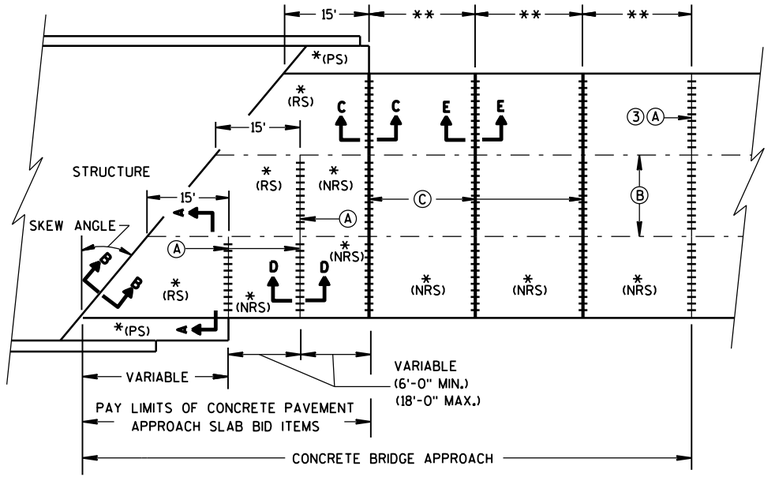
11/1/2011 — DATE

/S/ Deb Bischoff — PAVEMENT POLICY & DE NEER

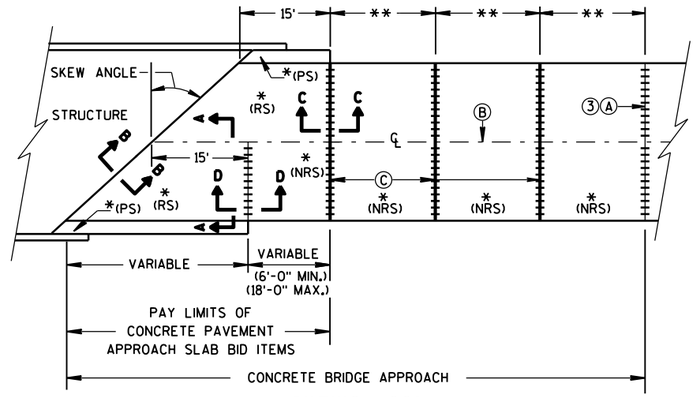
FHWA

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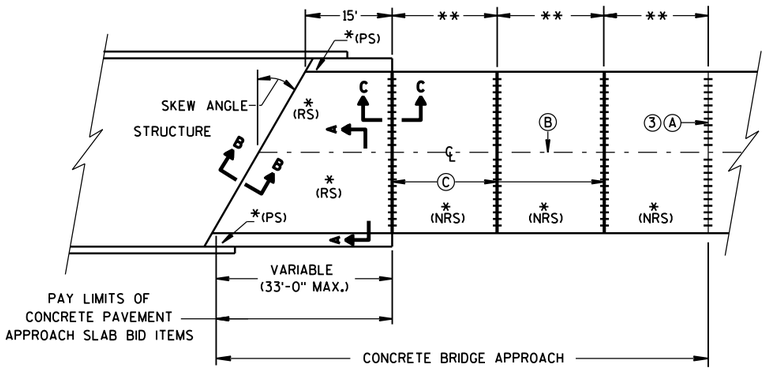
S.D.D. 13 A 7-2



SKEWED APPROACH
(PAVEMENT MORE THAN 2 LANES)



SKEWS >30°
(PAVEMENT WIDTH ≤30')



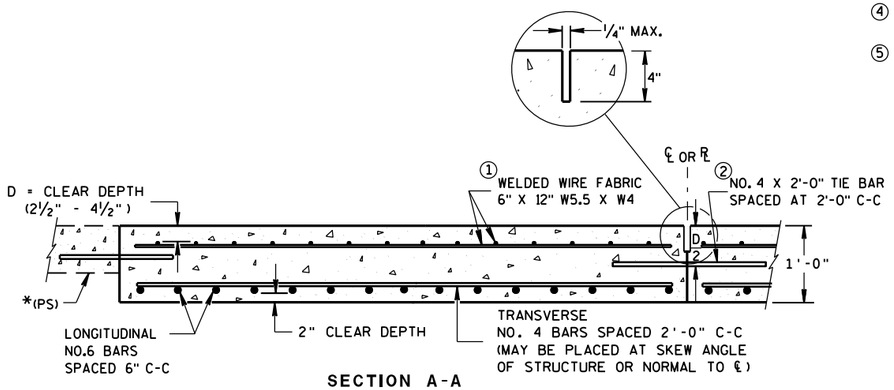
SKEWS ≤30°
(PAVEMENT WIDTH ≤30')

APPROACH SLAB AND ADJACENT PAVEMENT

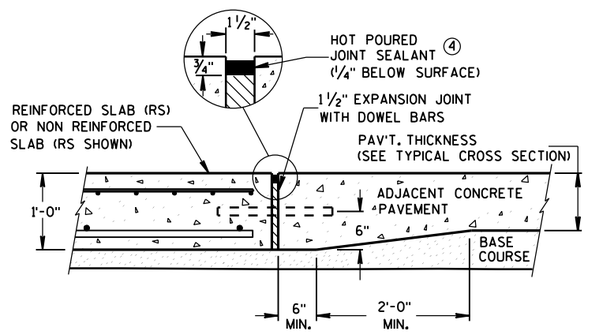
*(RS) = REINFORCED CONCRETE SLAB
*(PS) = PAVED CONCRETE SHOULDER: CONCRETE PAVEMENT, OR CONCRETE SURFACE DRAIN (SEE DETAILS ELSEWHERE IN THE PLAN)
*(NRS) = NON-REINFORCED CONCRETE SLAB

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

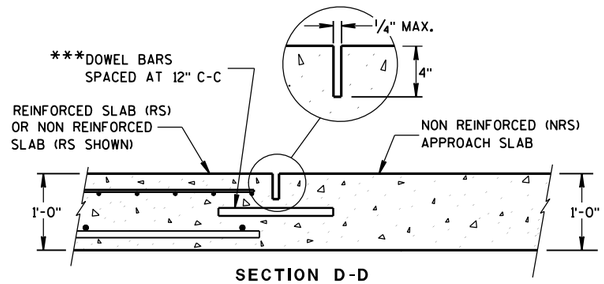
(A) STANDARD CONTRACTION JOINT NORMAL TO ℄ OR ℄
(B) STANDARD LONGITUDINAL JOINT AND TIE BARS.
(C) 1½" EXPANSION JOINT WITH DOWEL BARS NORMAL TO ℄ OR ℄



SECTION A-A
REINFORCEMENT POSITIONING DETAIL



SECTION C-C
TRANSITION DETAIL
APPROACH SLAB TO ADJACENT PAVEMENT



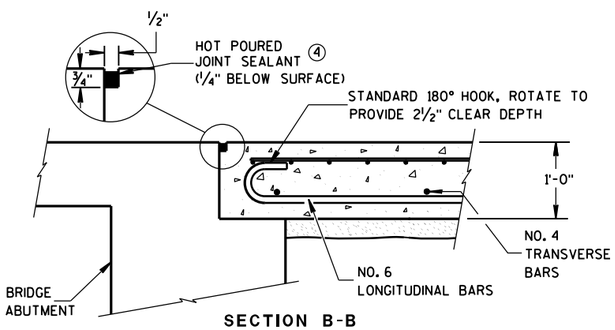
SECTION D-D
CONTRACTION JOINT

GENERAL NOTES

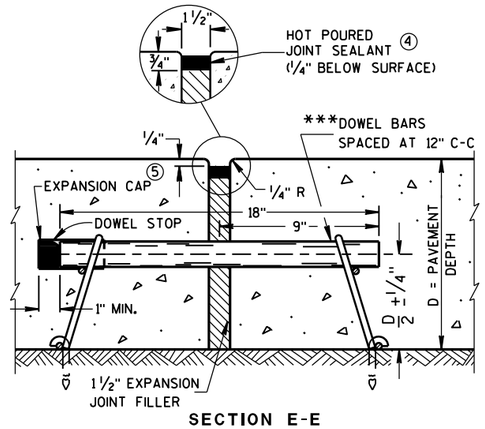
THE CONTRACTOR MAY SPLICE NO. 6 BARS IN THE APPROACH SLAB FOR SKEWED STRUCTURES ONLY. STAGGER SPLICES WITH A MAXIMUM OF ONE SPLICE PER BAR. THE LENGTH OF LAP IS 20 INCHES.

TACK WELD DOWEL BARS TO THE BASKETS ON ALTERNATE ENDS.

1. THE CONTRACTOR MAY USE NO. 4 BARS SPACED AT 2'-0" C-C IN BOTH THE LONGITUDINAL AND TRANSVERSE DIRECTIONS FOR TOP REINFORCEMENT AS AN ALTERNATIVE TO THE WELDED WIRE FABRIC.
2. THE CONTRACTOR MAY OMIT TIE BARS BETWEEN REINFORCED SLABS WHERE SLAB REINFORCEMENT BARS EXTEND ACROSS THE CENTERLINE OR REFERENCE LINE.
3. DO NOT DOWEL A CONTRACTION JOINT THAT ABUTS AN HMA PAVEMENT.
4. USE A JOINT SEALANT MEETING THE REQUIREMENTS OF ASTM D6690.
5. PLACE EXPANSION CAP ON THE END OF THE DOWEL THAT IS NOT TACK WELDED TO THE BASKET. DO NOT FORCE DOWEL BAR PAST THE DOWEL STOP.



SECTION B-B
BEND DETAIL
BOTTOM REINFORCEMENT



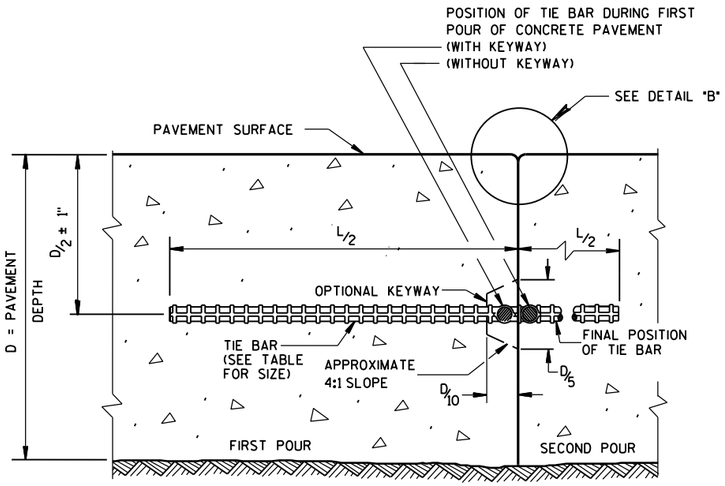
SECTION E-E
EXPANSION JOINT

CONCRETE BRIDGE APPROACH

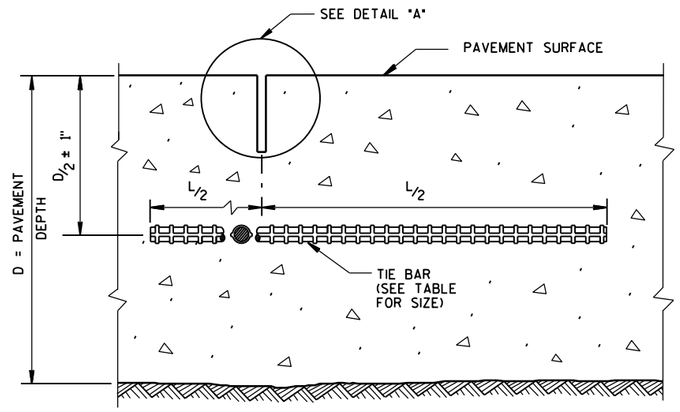
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
June, 2014 — DATE
/S/ Deb Bischoff — PAVEMENT POLICY & DE
FHWA
EER

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S.D.D. 13 B 2-7a



CONSTRUCTION JOINT



SAWED JOINT

GENERAL NOTES

DO NOT SEAL OR FILL LONGITUDINAL JOINTS.

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

CORRELATE LONGITUDINAL JOINTS WITH LANE LINES WHEN POSSIBLE.

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

(2) PAVEMENT THAT WAS IN PLACE PRIOR TO THE CONTRACT.

PLAN VIEW

SECTION A-A

LONGITUDINAL CONSTRUCTION JOINT TIE BARS ANCHORED INTO EXISTING PAVEMENT

DETAIL "A"

DETAIL "B"

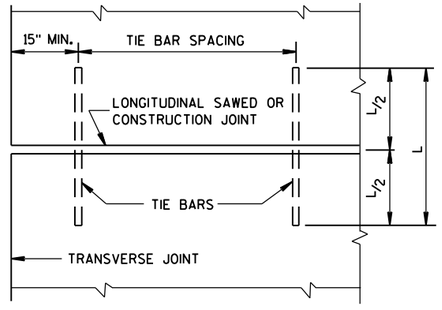
DETAIL "C"

TIE BAR TABLE

PAVEMENT DEPTH (D)	TIE BAR SIZE	TIE BAR LENGTH (L)	MAX. TIE BAR SPACING
< 10 1/2"	NO. 4	30"	36"
≥ 10 1/2"	NO. 5	36"	36"
	NO. 4 *	30"	24"**

* SUBSTITUTE BENT BARS AT LONGITUDINAL JOINTS WHEN EQUIPMENT LIMITATIONS DURING CONSTRUCTION WARRANT (e.g. AUXILIARY LANES OR TURN LANES)

** CONFORM TO 15" MINUMUM SPACING FROM TRANSVERSE JOINTS; SPACING BETWEEN TIE BARS WILL BE 30" AT TRANSVERSE JOINTS.



PLAN VIEW
SHOWING LOCATION OF TIE BARS

CONCRETE PAVEMENT LONGITUDINAL JOINTS AND TIES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

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S.D.D. 13 C 1-18

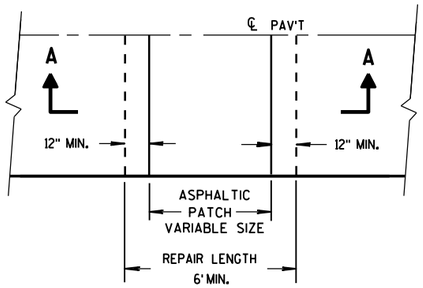
GENERAL NOTES

SAW CUT, DRILL, AND LIFT OUT EXISTING CONCRETE PAVEMENT WITHIN THE BOUNDARIES OF CONCRETE REPAIR AREAS. THE CONTRACTOR MAY MAKE ADDITIONAL SAW CUTS INSIDE THE REPAIR LIMITS TO REDUCE WEIGHT AND SIZE OF CONCRETE PIECES. ADDITIONAL SAW CUTS ARE NOT PAID FOR BY THE DEPARTMENT.

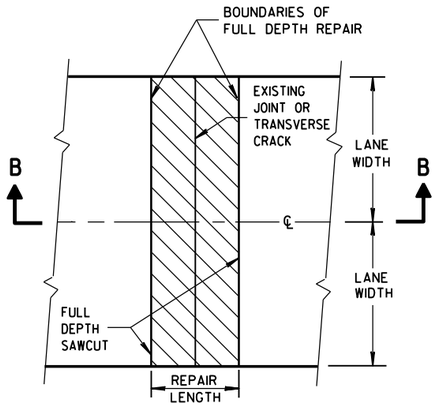
PROVIDE A 6-FOOT MINIMUM DISTANCE FROM BOUNDARIES OF CONCRETE REPAIR AREAS TO ADJACENT TRANSVERSE JOINT OR CRACK IN THE SAME LANE.

THE LENGTH OF THE REPAIRS MAY VARY FROM THE DIMENSIONS SHOWN IF THE EXISTING CONCRETE PAVEMENT IS NONDOWELED AND THE PAVEMENT IS TO BE OVERLAID AFTER REPAIRING.

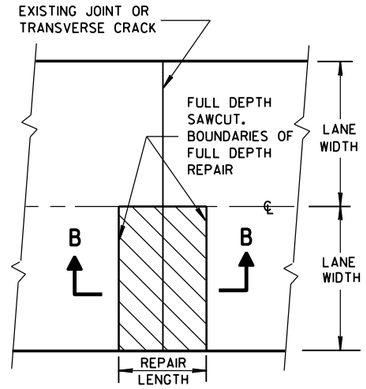
(1) DOWEL BARS MIGHT NOT EXIST.



PLAN VIEW

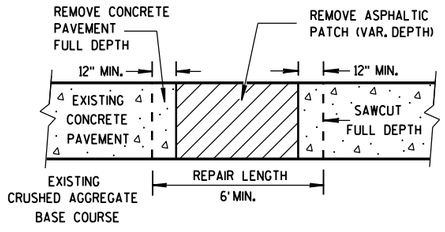


PLAN VIEW
(DOUBLE LANE REPAIR)



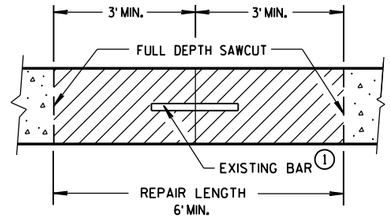
PLAN VIEW
(SINGLE LANE REPAIR)

FULL DEPTH CONCRETE PAVEMENT REMOVAL



SECTION A-A

HMA PATCH REMOVAL



SECTION B-B

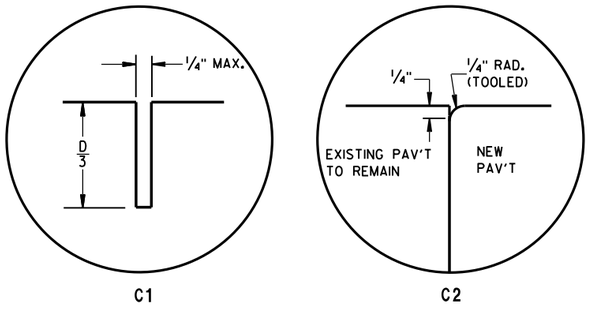
CONCRETE REMOVAL

CONCRETE PAVEMENT REPAIR AND REPLACEMENT

STATE OF WISCONSIN
DEPARTMENT OF TRANSPO

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S.D.D. 13 C 9-12a



C1 C2

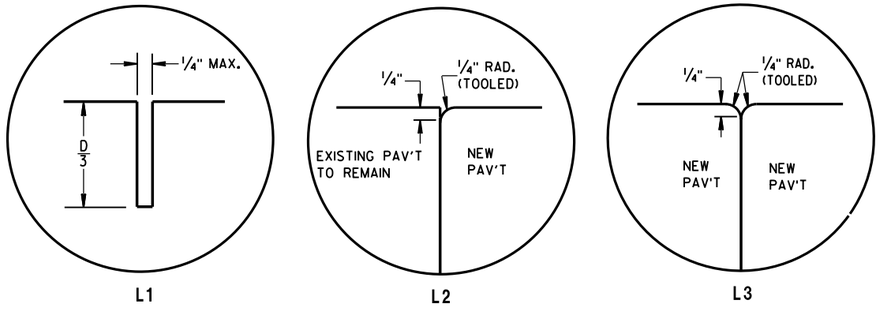
TRANSVERSE JOINTS

TIE BAR TABLE

PAVEMENT DEPTH (D)	TIE BAR SIZE	TIE BAR LENGTH (L)	MAX. TIE BAR SPACING
< 10 ½"	NO. 4	30"	36"
≥ 10 ½"	NO. 5	36"	36"
	NO. 4 *	30"	24"**

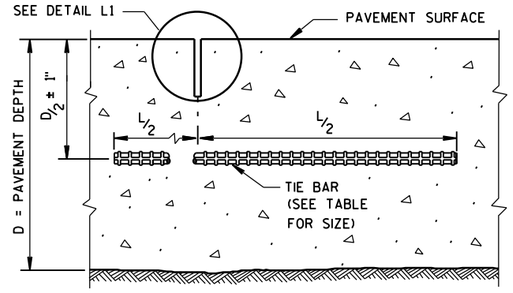
* SUBSTITUTE BENT BARS AT LONGITUDINAL JOINTS WHEN EQUIPMENT LIMITATIONS DURING CONSTRUCTION WARRANT (e.g. AUXILIARY LANES OR TURN LANES)

** CONFORM TO 15" MINUMUM SPACING FROM TRANSVERSE JOINTS; SPACING BETWEEN TIE BARS WILL BE 30" AT TRANSVERSE JOINTS.



L1 L2 L3

LONGITUDINAL JOINTS



SECTION C-C

SAWED LONGITUDINAL JOINT

GENERAL NOTES

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

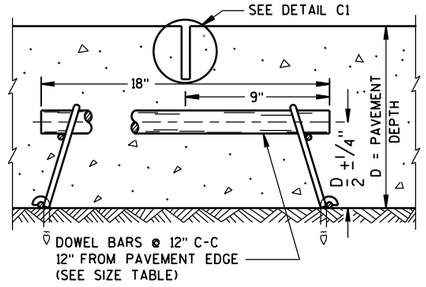
CONCRETE PAVEMENT REPAIRS OF EXISTING NONDOWELED CONCRETE PAVEMENTS DO NOT NEED TO BE DOWELED.

DO NOT SEAL OR FILL JOINTS.

ANCHOR DOWEL BARS AND TIE BARS INTO DRILLED HOLES WITH AN EPOXY.

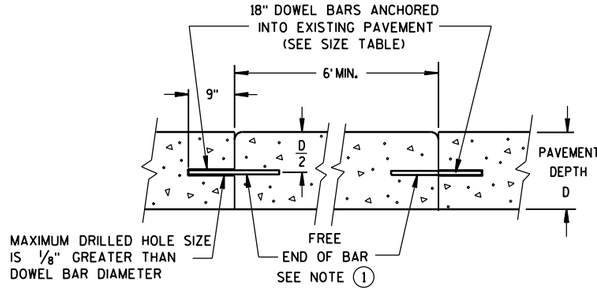
FOR MULTI-LANE CONCRETE PAVEMENT REPLACEMENTS, PROVIDE A MINIMUM DISTANCE OF 15 INCHES FROM ALL TRANSVERSE JOINTS OR EDGES OF REPLACEMENT TO THE CENTER OF THE TIE BAR NEAREST THAT JOINT OR EDGE.

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

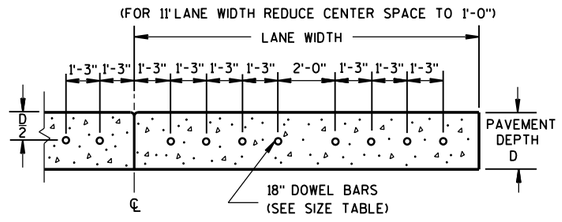


SECTION F-F

CONTRACTION JOINT



SECTION D-D

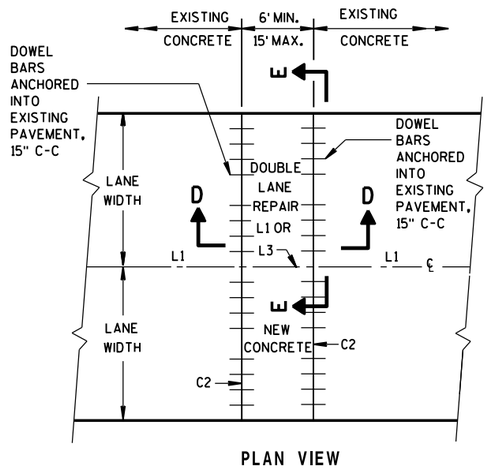


SECTION E-E

DRILLED DOWEL BAR CONSTRUCTION JOINT

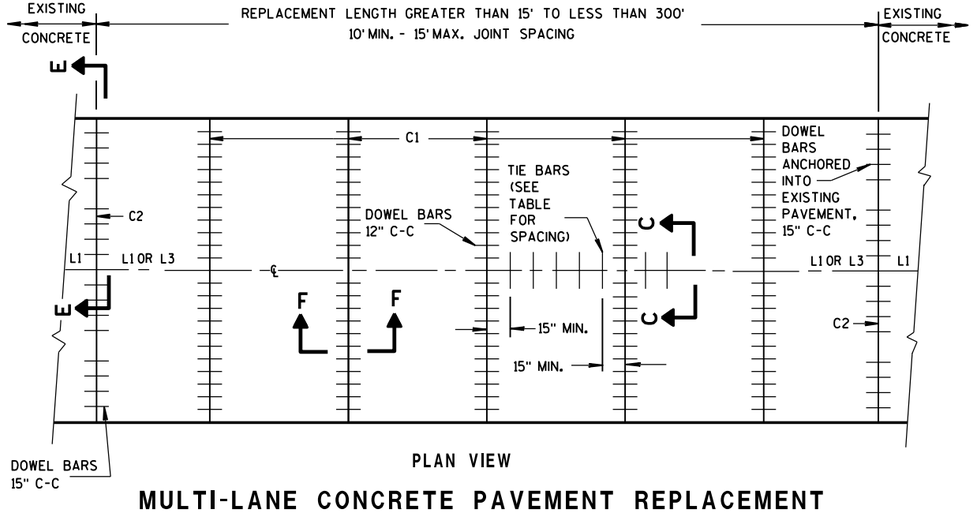
PAVEMENT DEPTH, DOWEL BAR SIZE AND JOINT SPACING TABLE

PAVEMENT DEPTH (D)	DOWEL BAR DIAMETER	CONTRACTION JOINT SPACING
5 ½", 6",6 ½"	NONE	12'
7",7 ½"	1"	14'
8",8 ½"	1 ¼"	15'
9",9 ½"	1 ¼"	15'
10" & ABOVE	1 ½"	15'



PLAN VIEW

MULTI-LANE CONCRETE PAVEMENT REPAIR



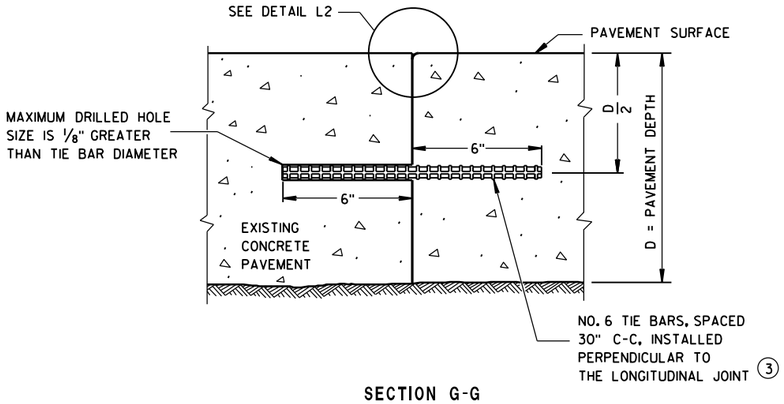
PLAN VIEW

MULTI-LANE CONCRETE PAVEMENT REPLACEMENT

CONCRETE PAVEMENT REPAIR AND REPLACEMENT

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOR

6
S.D.D. 13 C 9-12b



SECTION G-G

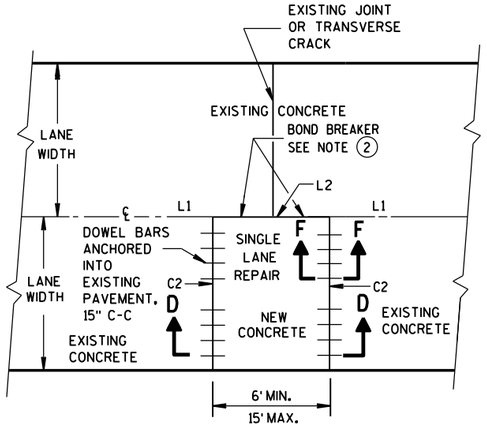
TIE BARS ANCHORED INTO EXISTING PAVEMENT

GENERAL NOTES

(1) WITH THE APPROVAL OF THE ENGINEER, FOR SINGLE LANE PAVEMENT REPLACEMENTS LESS THAN 30 FEET IN LENGTH, THE CONTRACTOR MAY INSTALL DRILLED TIE BARS ON 6:1 SKEW HORIZONTALLY, DIRECTION OF SKEW ALTERNATING WITH EACH SUCCESSIVE BAR. DRIVE SKEWED TIE BARS TO A DEPTH OF 6 INCHES IN A HOLE OF SUCH A DIAMETER AS TO PROVIDE A TIGHT DRIVEN FIT.

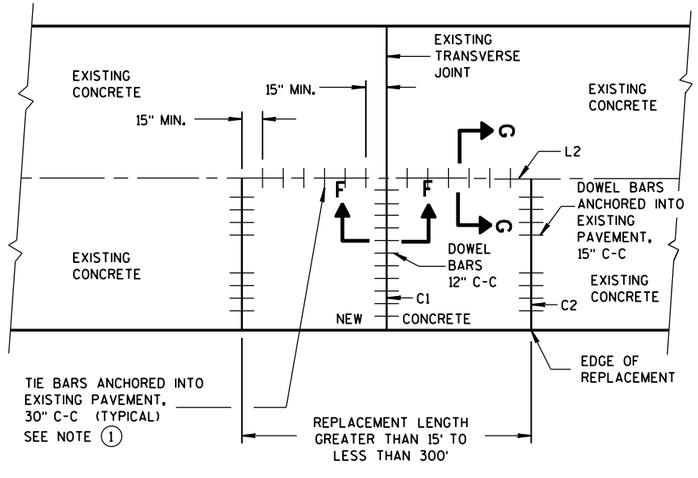
(2) USE AN ENGINEER-APPROVED BOND BREAKER (E.G. RELEASE AGENT, CURING COMPOUND) FOR SINGLE LANE REPAIRS UP TO 15 FEET IN LENGTH.

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



PLAN VIEW

SINGLE LANE CONCRETE PAVEMENT REPAIR



PLAN VIEW

SINGLE LANE CONCRETE PAVEMENT REPLACEMENT

CONCRETE PAVEMENT REPAIR AND REPLACEMENT

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

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S.D.D. 13 C 9-12c

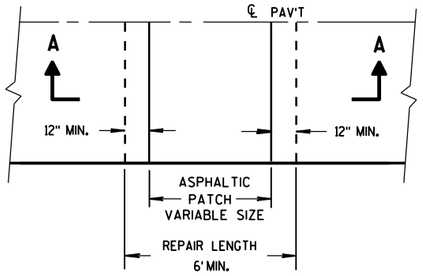
GENERAL NOTES

SAW CUT, DRILL, AND LIFT OUT EXISTING CONCRETE PAVEMENT WITHIN THE BOUNDARIES OF CONCRETE REPAIR AREAS. THE CONTRACTOR MAY MAKE ADDITIONAL SAW CUTS INSIDE THE REPAIR LIMITS TO REDUCE WEIGHT AND SIZE OF CONCRETE PIECES. ADDITIONAL SAW CUTS ARE NOT PAID FOR BY THE DEPARTMENT.

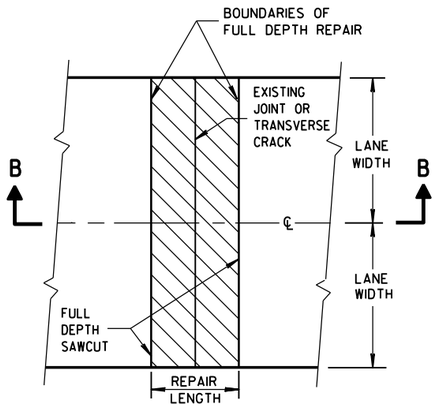
PROVIDE 6-FOOT MINIMUM DISTANCE FROM BOUNDARIES OF CONCRETE REPAIR AREAS TO ADJACENT TRANSVERSE JOINT OR CRACK.

THE LENGTH OF THE REPAIRS MAY VARY FROM THE DIMENSIONS SHOWN IF THE EXISTING CONCRETE PAVEMENT IS NONDOWELED AND THE PAVEMENT IS TO BE OVERLAID AFTER REPAIRING.

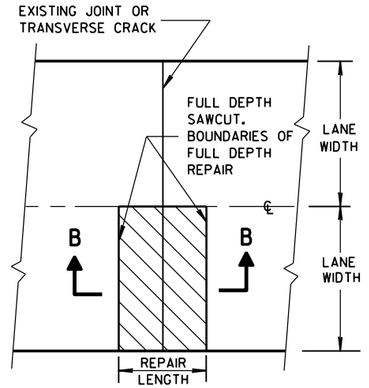
(1) DOWEL BARS MIGHT NOT EXIST.



PLAN VIEW

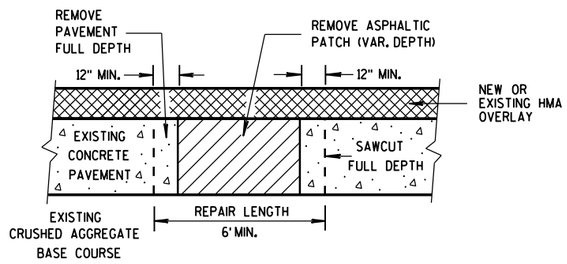


PLAN VIEW
(DOUBLE LANE REPAIR)



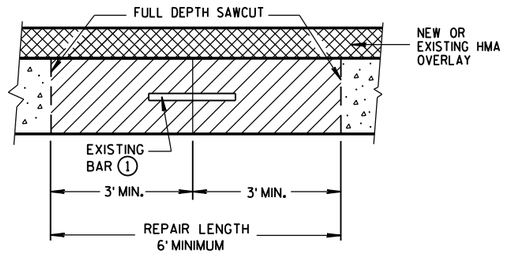
PLAN VIEW
(SINGLE LANE REPAIR)

FULL DEPTH CONCRETE PAVEMENT REMOVAL



SECTION A-A

HMA PATCH REMOVAL



SECTION B-B

CONCRETE REMOVAL

BASE PATCHING CONCRETE

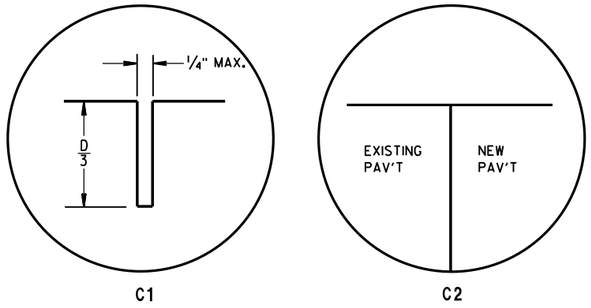
STATE OF WISCONSIN
DEPARTMENT OF TRANSPOI

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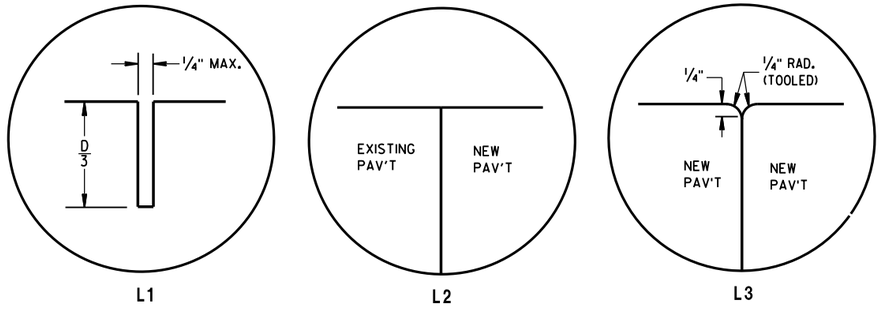
S.D.D. 13 C 14-5a

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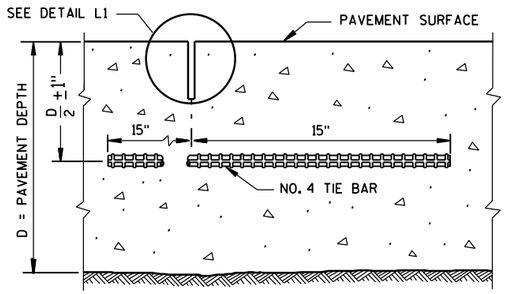
S.D.D. 13 C 14-5a



TRANSVERSE JOINTS

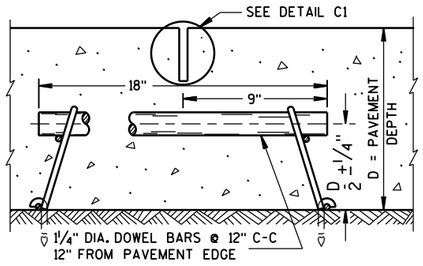


LONGITUDINAL JOINTS



SECTION C-C

SAWED LONGITUDINAL JOINT



SECTION F-F

CONTRACTION JOINT

GENERAL NOTES

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

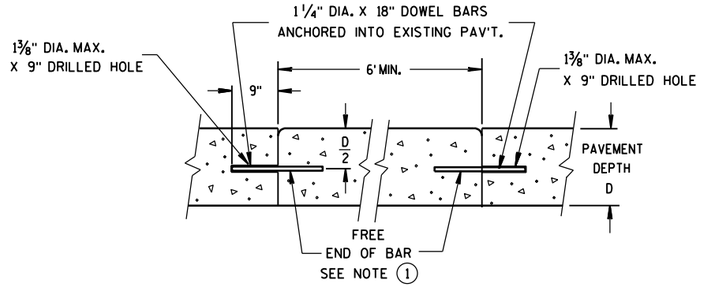
CONCRETE BASE PATCHES OF EXISTING NONDOWELED CONCRETE PAVEMENTS DO NOT NEED TO BE DOWELED.

DO NOT SEAL OR FILL JOINTS.

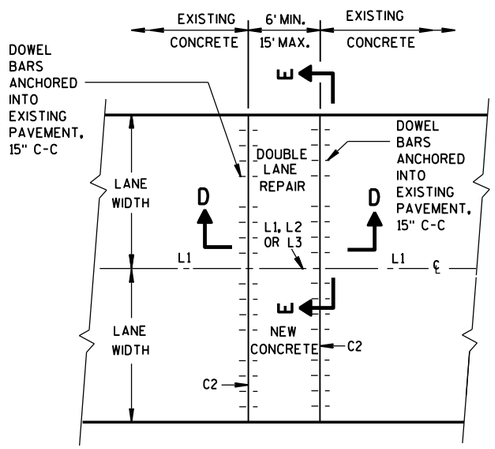
ANCHOR DOWEL BARS AND TIE BARS INTO DRILLED HOLES WITH AN EPOXY.

PROVIDE A MINIMUM DISTANCE OF 15 INCHES FROM AN EXISTING TRANSVERSE JOINT OR THE EDGE OF REPLACEMENT TO THE CENTER OF THE TIE BAR NEAREST THAT JOINT OR EDGE.

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

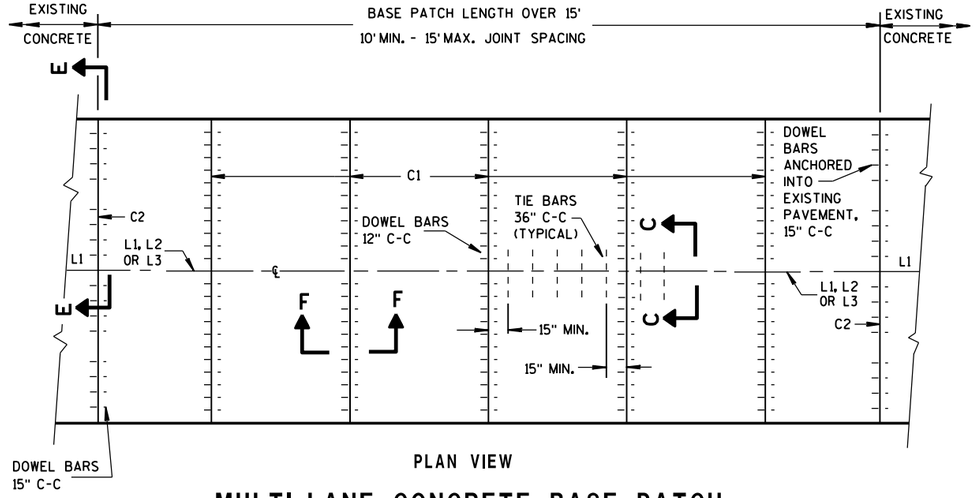


SECTION D-D



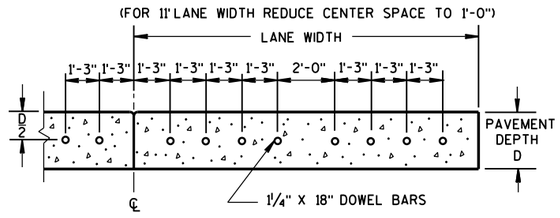
PLAN VIEW

MULTI-LANE CONCRETE BASE PATCH 15' MAXIMUM LENGTH



PLAN VIEW

MULTI-LANE CONCRETE BASE PATCH GREATER THAN 15' IN LENGTH



SECTION E-E

SPACING OF DOWEL BARS ANCHORED INTO EXISTING PAVEMENT

BASE PATCHING CONCRETE

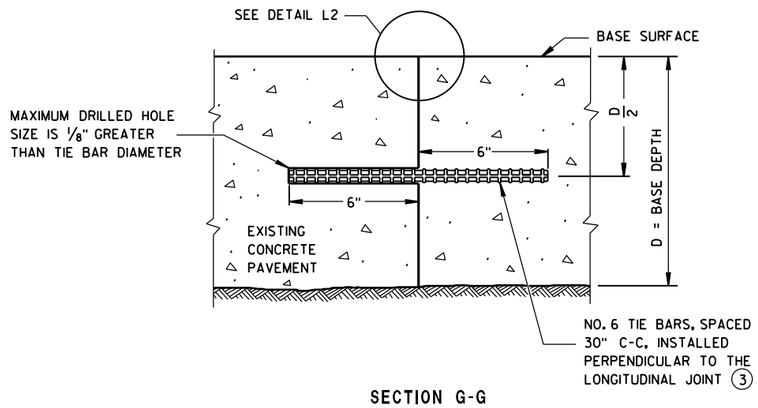
STATE OF WISCONSIN
DEPARTMENT OF TRANSPOI

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S.D.D. 13 C 14-5b

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S.D.D. 13 C 14-5b



SECTION G-G

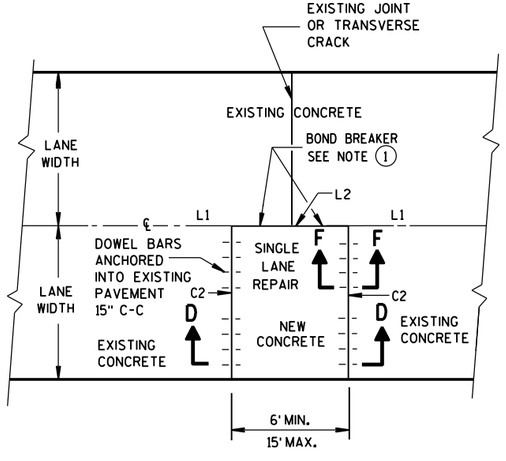
TIE BARS ANCHORED INTO EXISTING PAVEMENT

GENERAL NOTES

(1) USE AN ENGINEER-APPROVED BOND BREAKER (E.G. RELEASE AGENT, CURING COMPOUND) FOR SINGLE LANE BASE PATCHES UP TO 15 FEET IN LENGTH.

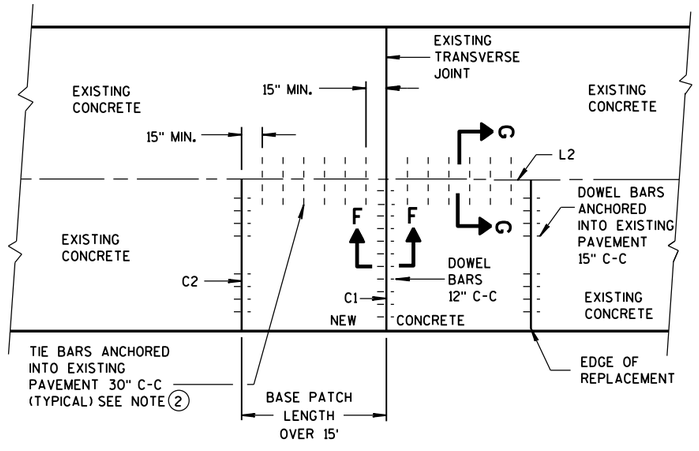
(2) WITH THE APPROVAL OF THE ENGINEER, FOR SINGLE LANE PAVEMENT REPLACEMENTS LESS THAN 30 FEET IN LENGTH, DRILLED TIE BARS MAY BE INSTALLED ON 6:1 SKEW HORIZONTALLY, DIRECTION OF SKEW ALTERNATING WITH EACH SUCCESSIVE BAR. DRIVE SKEWED TIE BARS TO A DEPTH OF 6 INCHES IN A HOLE OF SUCH A DIAMETER AS TO PROVIDE A TIGHT DRIVEN FIT.

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



PLAN VIEW

SINGLE LANE CONCRETE BASE PATCH 15' MAXIMUM LENGTH



PLAN VIEW

SINGLE LANE CONCRETE BASE PATCH GREATER THAN 15' IN LENGTH

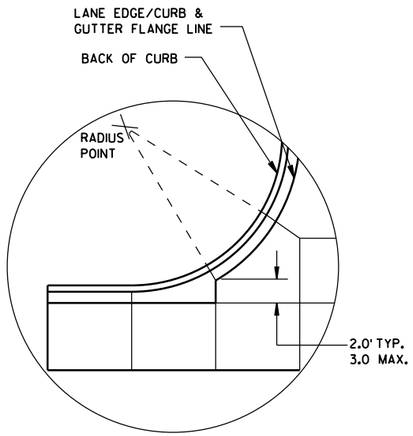
BASE PATCHING CONCRETE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

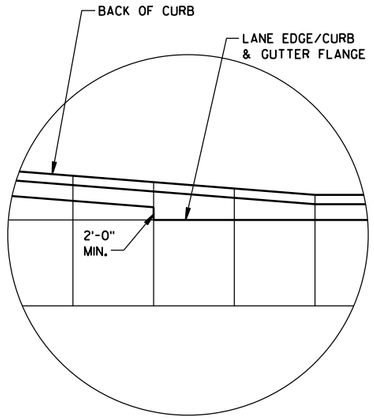
APPROVED
June, 2015 — DATE
/S/ Peter Kemp, P.E. — PAVEMENT SUPER
FHWA

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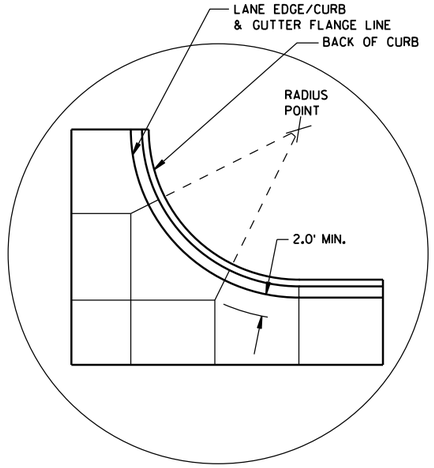
S.D.D. 13 C 14-5c



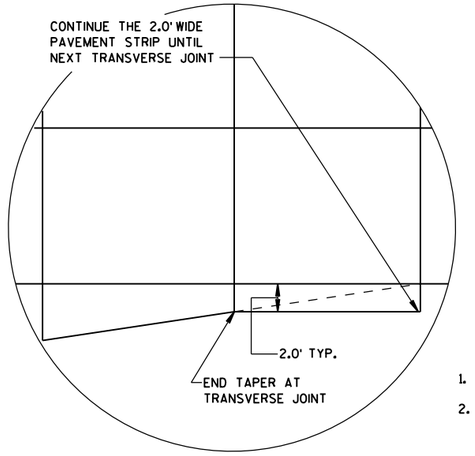
DETAIL "A"



DETAIL "B"



DETAIL "C"



DETAIL "D"

GENERAL NOTES

THE PRIMARY ROADWAY CONTROLS THE TRANSVERSE JOINT PATTERN.

ALIGN NEW JOINTS WITH EXISTING JOINTS OR CRACKS.

CONSTRUCT TRANSVERSE JOINTS PERPENDICULAR TO THE ROADWAY.

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

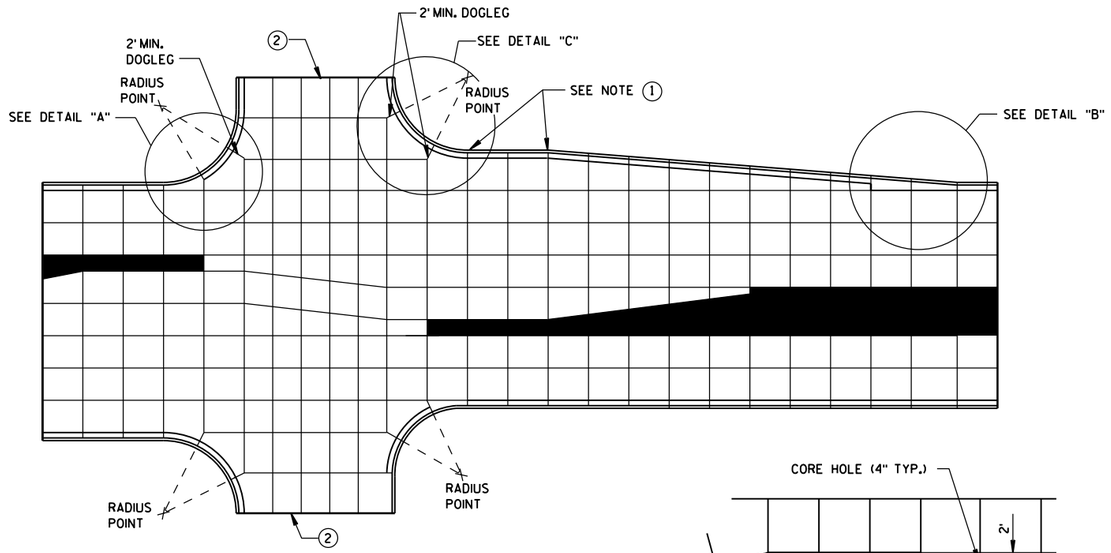
AVOID SLABS LESS THAN 2 FEET WIDE OR GREATER THAN 15 FEET WIDE.

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

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

CORRELATE LONGITUDINAL JOINTS WITH LANE LINES WHEN POSSIBLE.

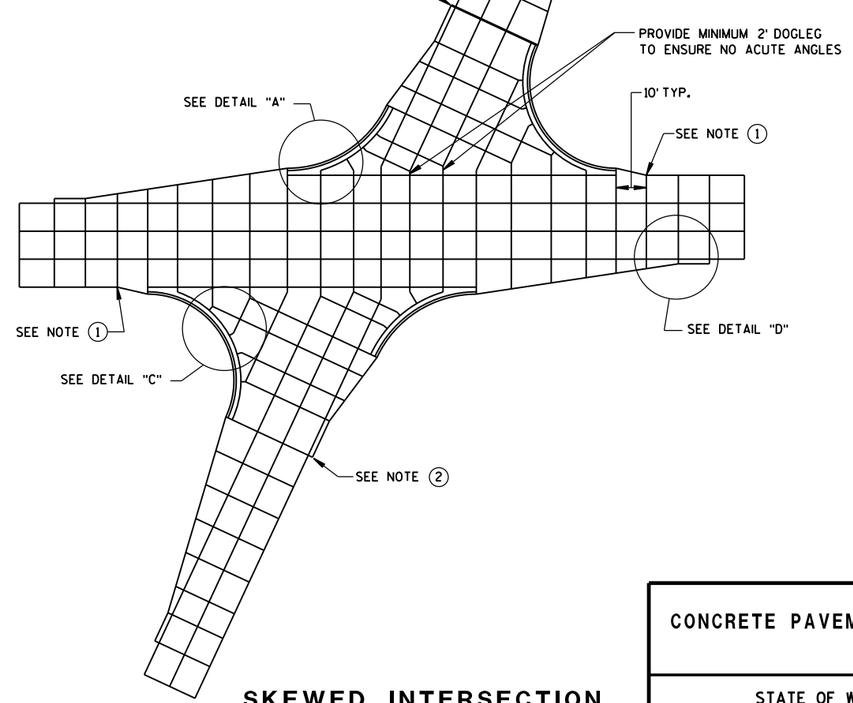
1. PROVIDE TRANSVERSE JOINTS AT ALL PAVEMENT WIDTH CHANGES.
2. CONSTRUCT DOWELED EXPANSION JOINT ON THE SIDE ROAD OF AN INTERSECTION IF THE SIDE ROAD IS CONCRETE PAVEMENT AND GREATER THAN 300 FEET IN LENGTH. ALIGN EXPANSION JOINT WITH EDGE OF RADIUS.
3. THE ENGINEER MAY APPROVE SLIGHT VARIATIONS FROM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



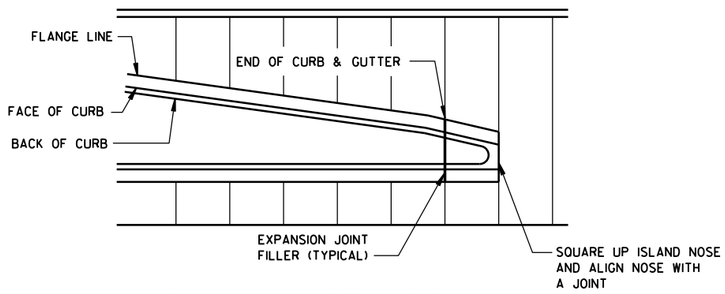
STANDARD INTERSECTION

PAVEMENT DEPTH AND JOINT SPACING TABLE

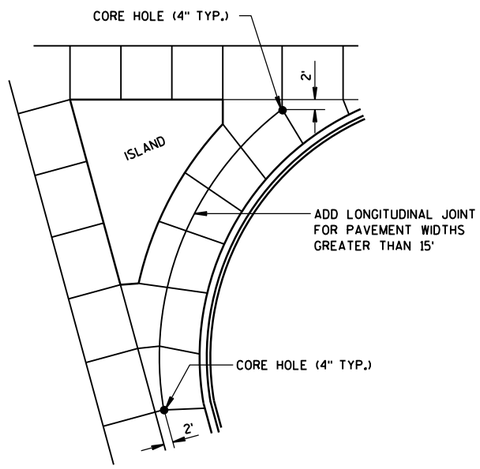
PAVEMENT DEPTH (D)	CONTRACTION JOINT SPACING
6", 6½"	12'
7", 7½"	14'
8" & ABOVE	15'



SKEWED INTERSECTION



APPROACH TO MEDIAN



LARGE RIGHT TURN

CONCRETE PAVEMENT JOINTING

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOR

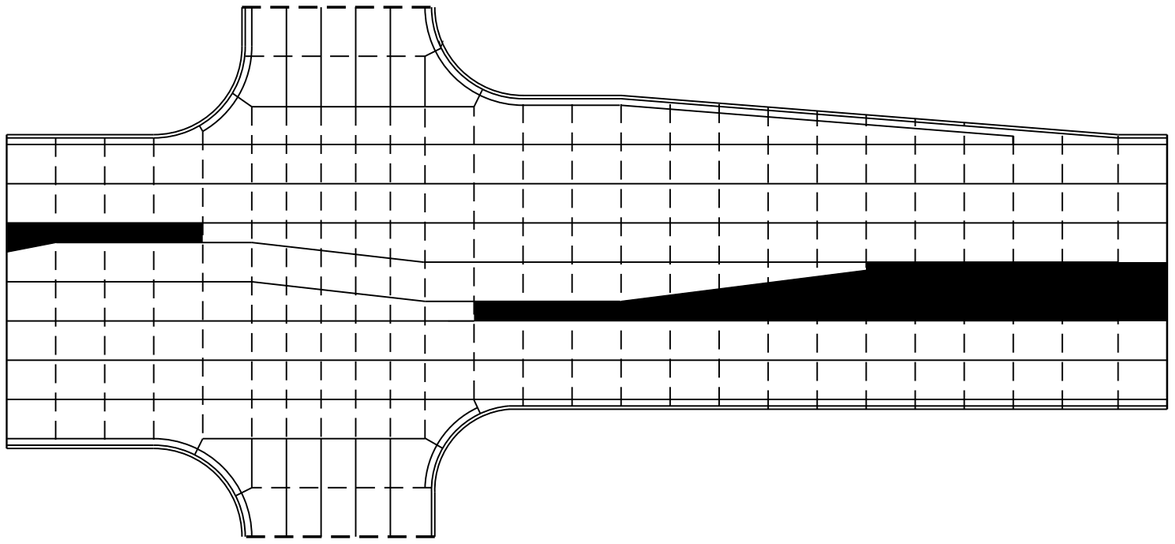
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S.D.D. 13 C 18-3a

LEGEND

POTENTIAL DOWELED EXPANSION JOINT

DOWELED JOINT

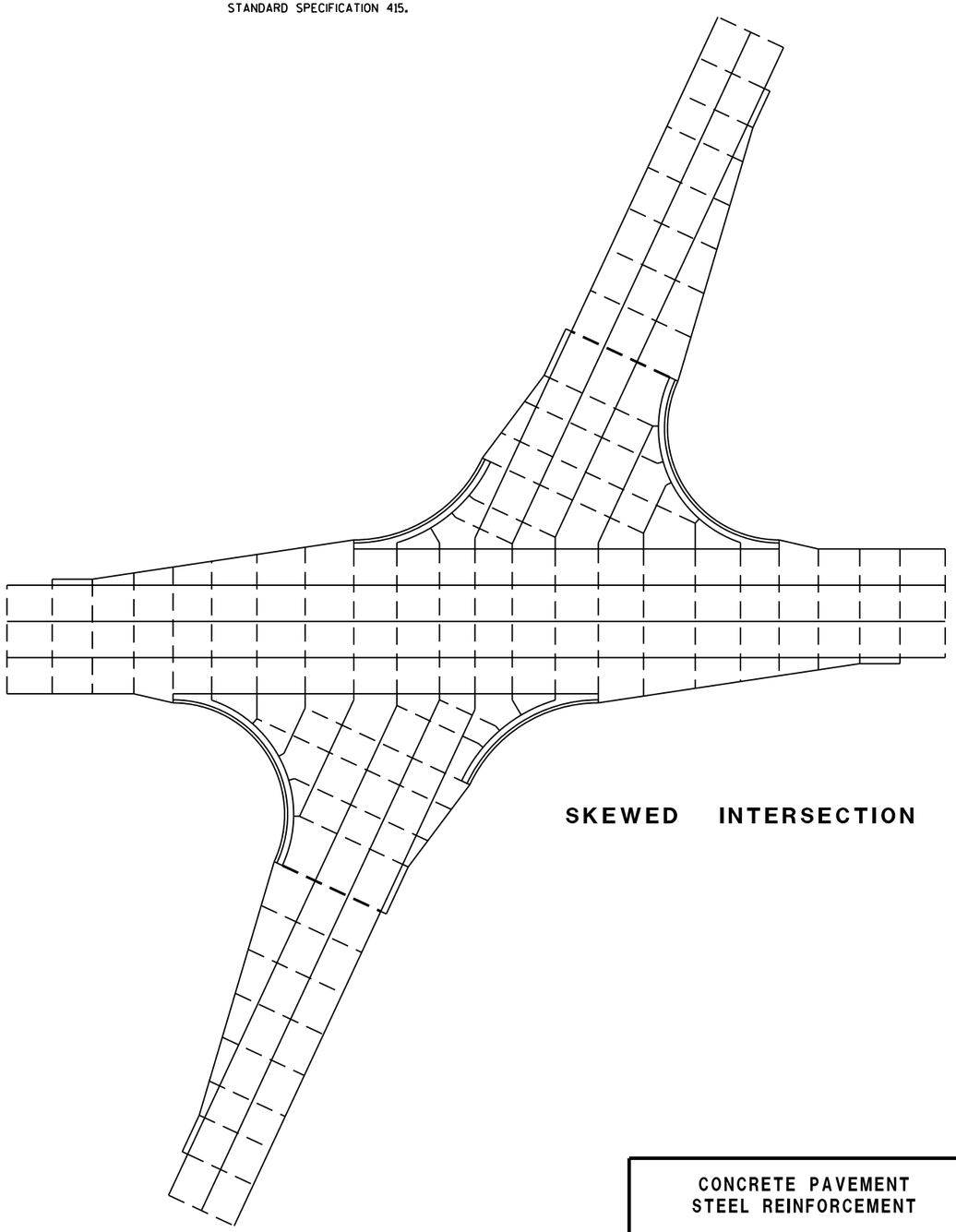
TIED JOINT



STANDARD INTERSECTION

GENERAL NOTES

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



SKEWED INTERSECTION

CONCRETE PAVEMENT
STEEL REINFORCEMENT

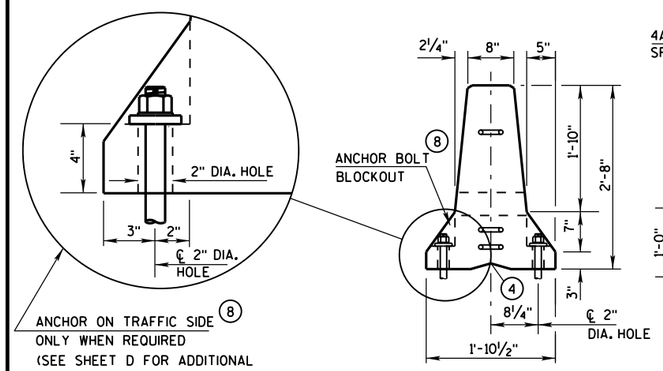
STATE OF WISCONSIN
DEPARTMENT OF TRANSPOI

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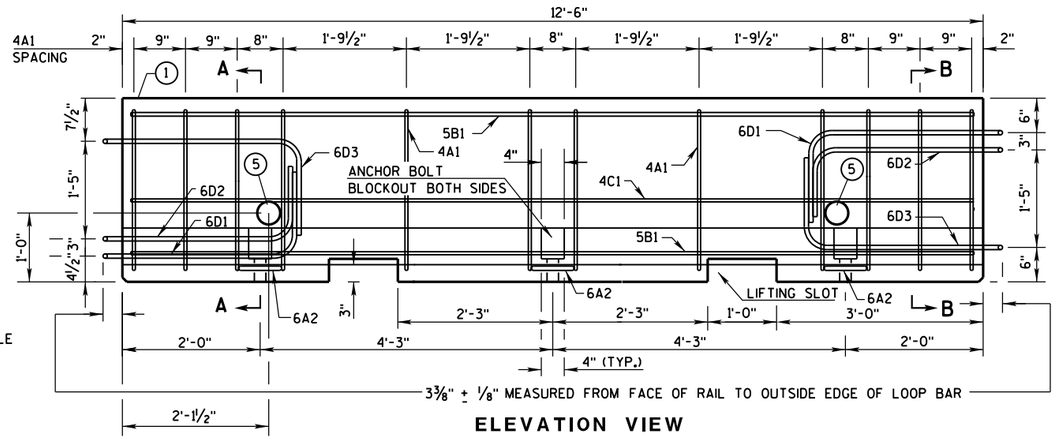
S.D.D. 13 C 18-3b

6

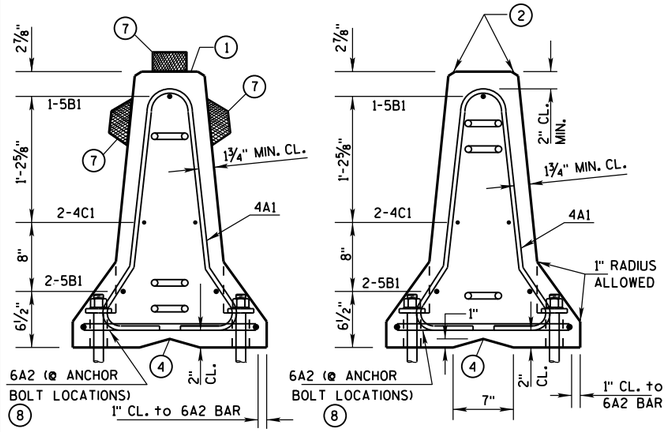
S.D.D. 13 C 18-3b



END VIEW

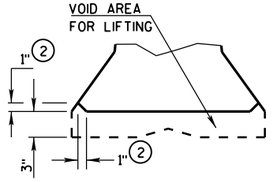


ELEVATION VIEW

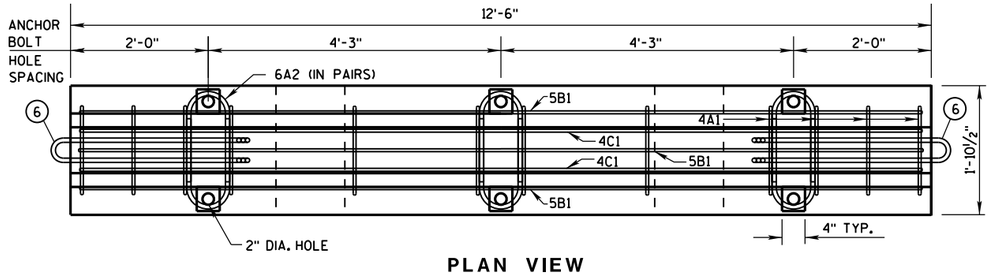


SECTION A-A
(STIRRUP PLACEMENT)

SECTION B-B
(STIRRUP PLACEMENT)

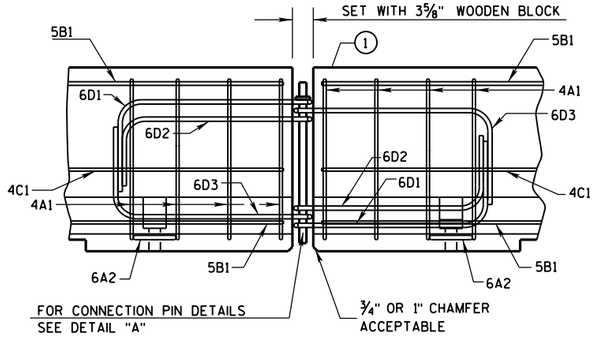


DETAIL "B"
LIFTING SLOT DETAIL

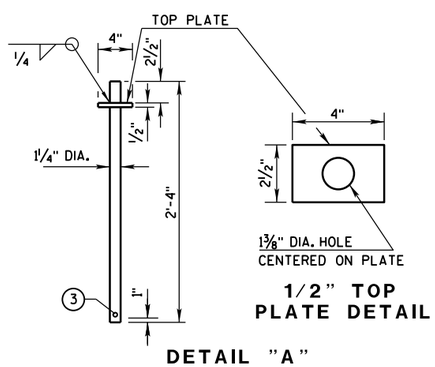


PLAN VIEW

DETAILS OF BARRIER SECTION

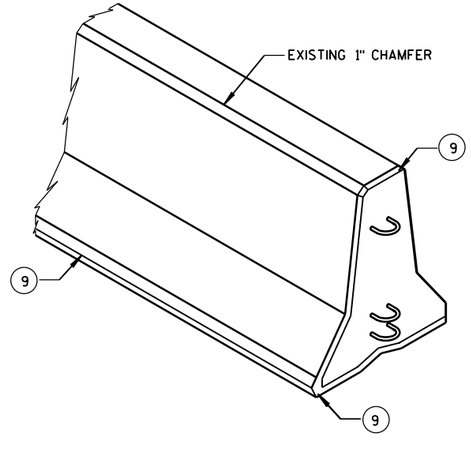


DETAILS OF BARRIER CONNECTION



1/2" TOP
PLATE DETAIL

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



GENERAL NOTES

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

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

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

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

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

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

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

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

(2) 1" CHAMFER TO PREVENT SPALLING.

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

(4) "V" NOTCH IS OPTIONAL.

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

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

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

(8) SEE SHEET D FOR ANCHORING CRITERIA.

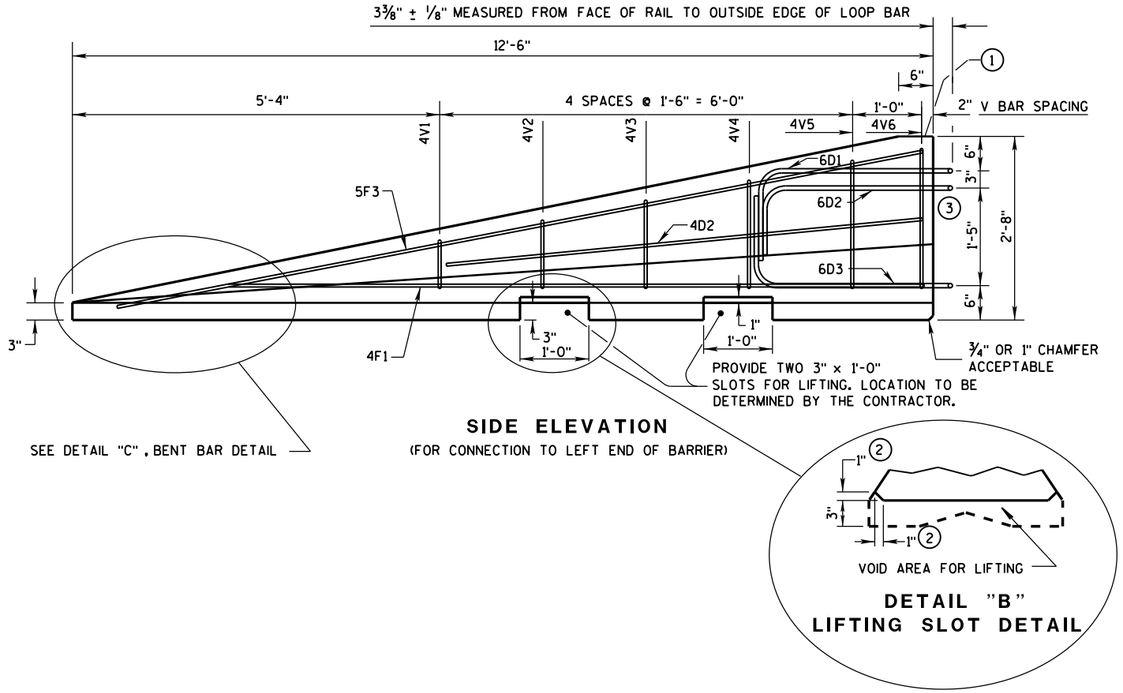
(9) 1" CHAMFER OPTIONAL.

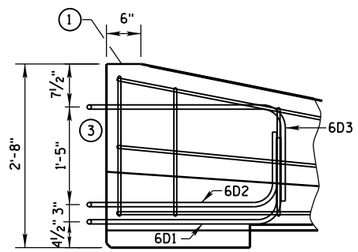
CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOI

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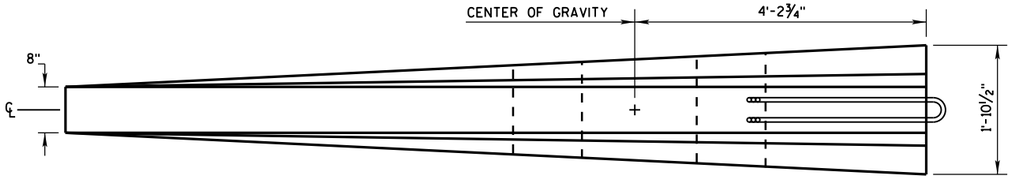
S.D.D. 14 B 7-14a

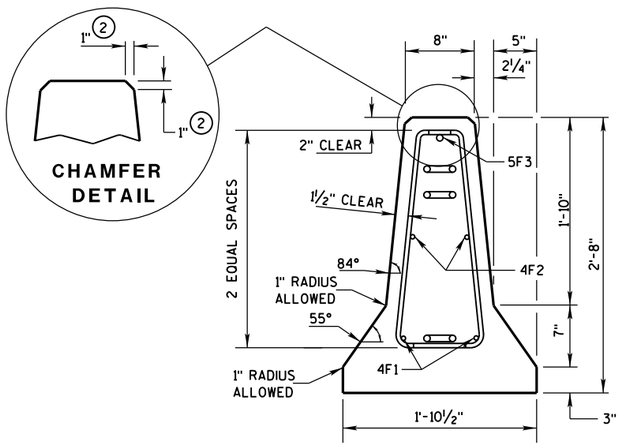


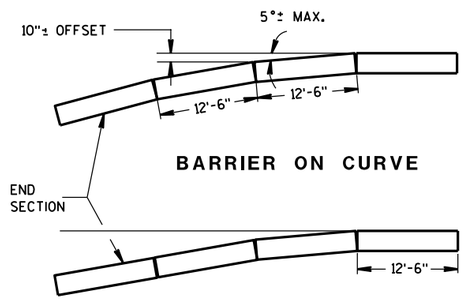


GENERAL NOTES

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







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

DETAILS OF BARRIER TAPER SECTION

CONCRETE BARRIER
TEMPORARY PRECAST, 12'-6"

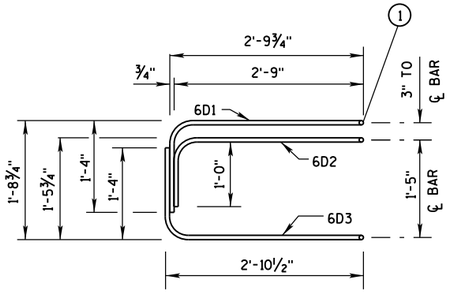
STATE OF WISCONSIN
DEPARTMENT OF TRANSPOI

6
S.D.D. 14 B 7-14b

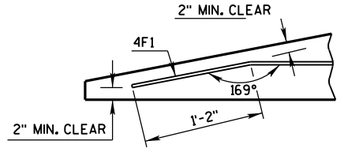
BARRIER TAPER SECTION BILL OF MATERIALS

(PER 12'-6" BARRIER TAPER SECTION)

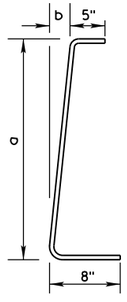
BAR	BAR SIZE	NO. OF BARS	LENGTH FT.
4V1	4	2	1'-11"
4V2	4	2	2'-2"
4V3	4	2	2'-6"
4V4	4	2	2'-9"
4V5	4	2	3'-2"
4V6	4	2	3'-4"
4F1	4	2	12'-0"
4F2	4	2	7'-6"
5F3	5	1	11'-9"
LOOP ASSEMBLY			
6D1	6	1	8'-5"
6D2	6	1	7'-7"
6D3	6	1	8'-6"



ELEVATION
LOOP BAR ASSEMBLY



DETAIL "C"
BENT BAR DETAIL



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

4V BARS
2 AT EACH SIZE REQUIRED
FOR STIRRUP ASSEMBLY

TAPER BARRIER SECTION

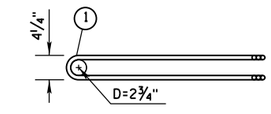
GENERAL NOTES

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

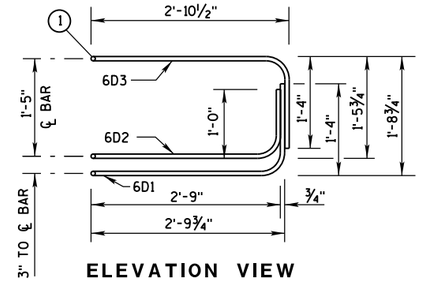
BARRIER SECTION BILL OF MATERIALS

(PER 12'-6" BARRIER SECTION)

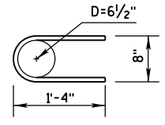
BAR	BAR SIZE	NO. OF BARS	LENGTH FT.
4A1	4	12	6'-0"
6A2	6	6	2'-11"
5B1	5	3	12'-2"
4C1	4	2	12'-2"
LOOP ASSEMBLY			
6D1	6	2	8'-5"
6D2	6	2	7'-7"
6D3	6	2	8'-6"



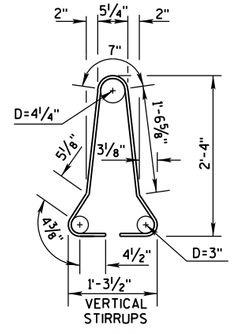
PLAN VIEW
LOOP BAR ASSEMBLY
(MARKED END SHOWN, INVERT FOR OTHER END)



ELEVATION VIEW



6A2



4A1

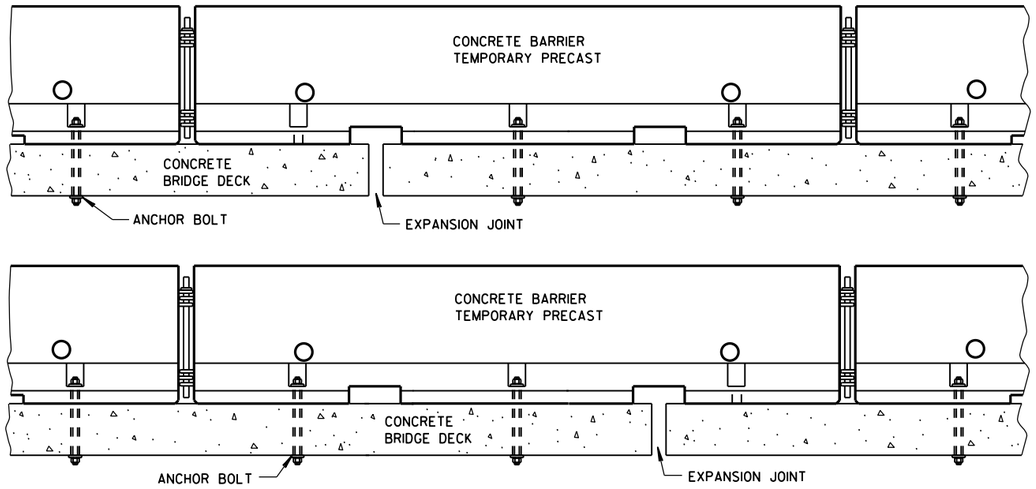
BARRIER SECTION

CONCRETE BARRIER
TEMPORARY PRECAST, 12'-6"

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOR

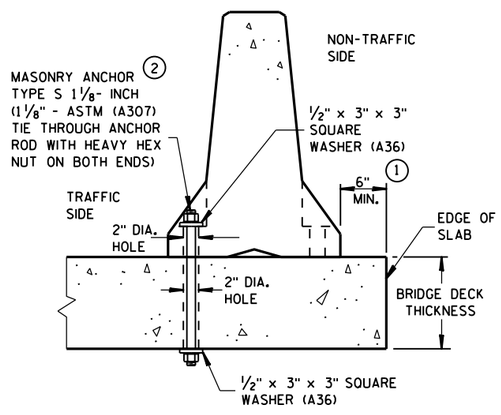
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S.D.D. 14 B 7-14c



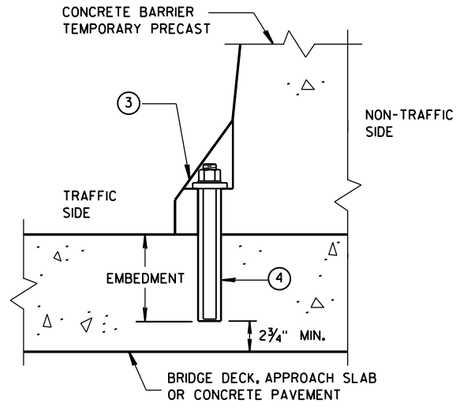
TREATMENT AT BRIDGE DECK EXPANSION JOINTS

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



THROUGH BOLTED ANCHOR INSTALLATION ON BRIDGE DECK

(DO NOTUSE ON CONCRETE BRIDGE DECK WITH ASPHALT OVERLAY)



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

(DO NOT USE ON CONCRETE WITH AN ASPHALTIC OVERLAY)

GENERAL NOTES

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

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

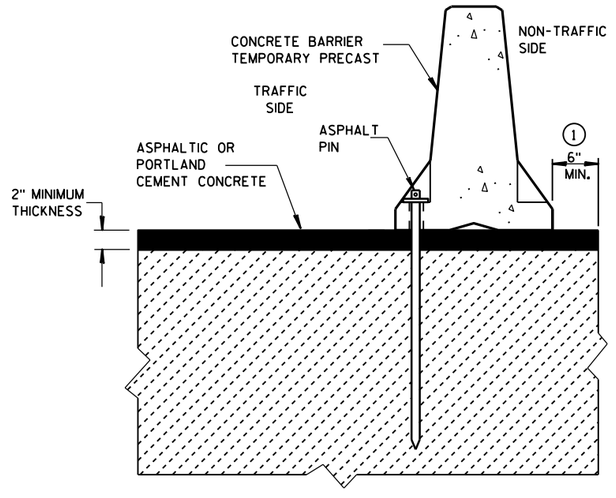
② ANCHORING IS INCIDENTAL TO CONCRETE BARRIER TEMPORARY PRECAST.

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

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

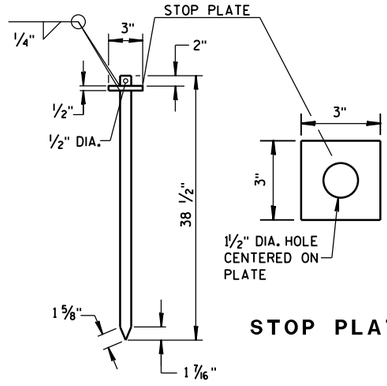
③ 1⅛" DIAMENTER A307 THREADED ROD, ½" X 3" X 3" SQUARE PLATE WASHER WITH ASTM A36 STEEL, ASTM A563A HEAVY HEX NUT.

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



STAKE DOWN INSTALLATION FOR ASPHALTIC OR PORTLAND CEMENT CONCRETE SURFACE

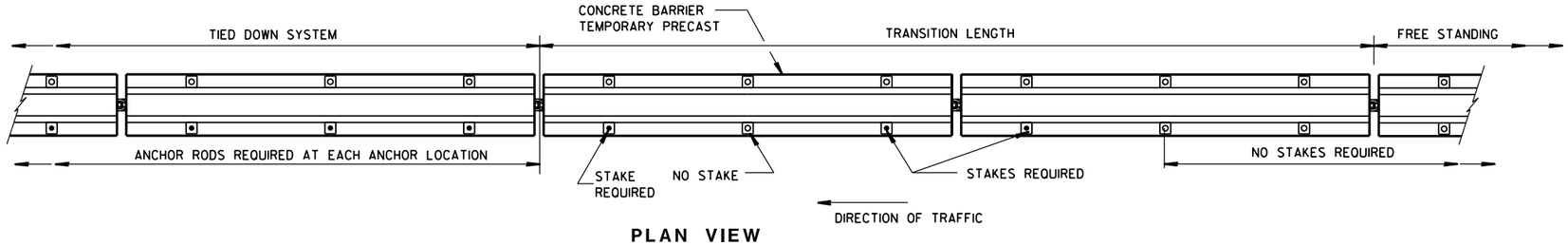
(STAKING IS INCIDENTAL TO CONCRETE BARRIER TEMPORARY PRECAST)



STOP PLATE

ASPHALT PIN

(ASTM A36 STEEL)



PLAN VIEW

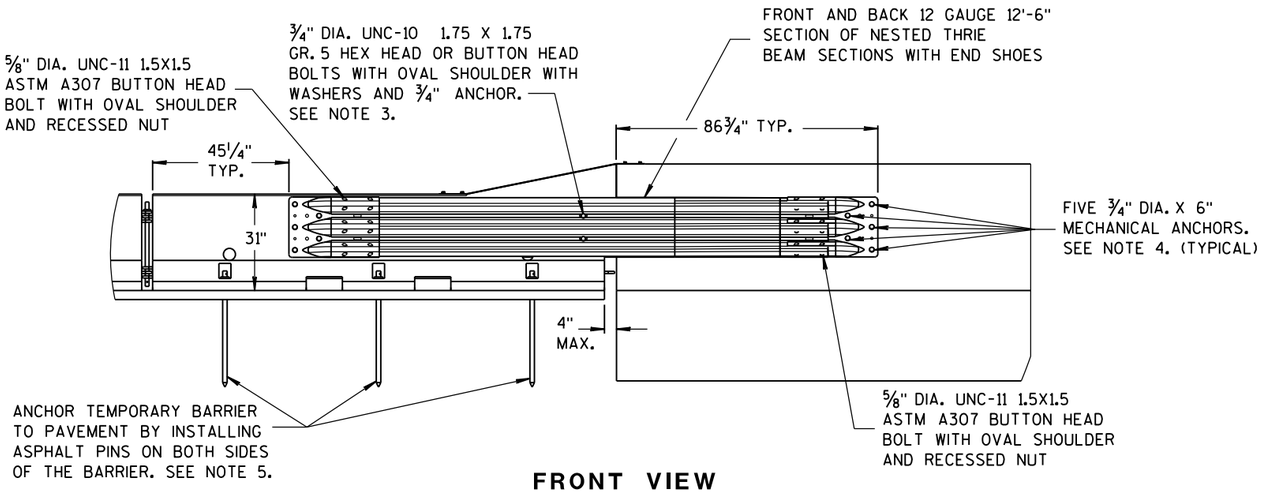
FREE STANDING TRANSITION TO TIED-DOWN SYSTEM

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

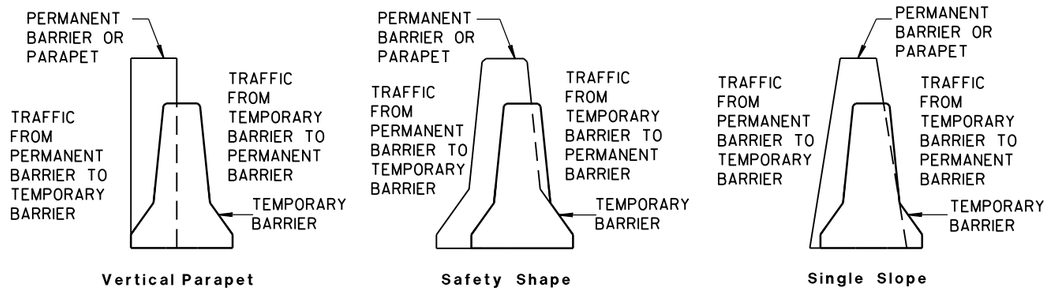
CONCRETE BARRIER
TEMPORARY PRECAST, 12'-6"

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOI

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



FRONT VIEW

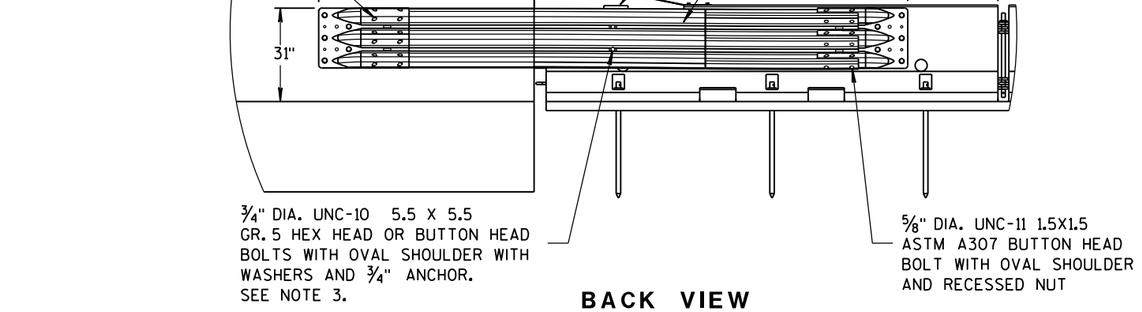


TEMPORARY BARRIER PLACEMENT FOR BI-DIRECTIONAL TRANSITION TO TIED-DOWN SYSTEM

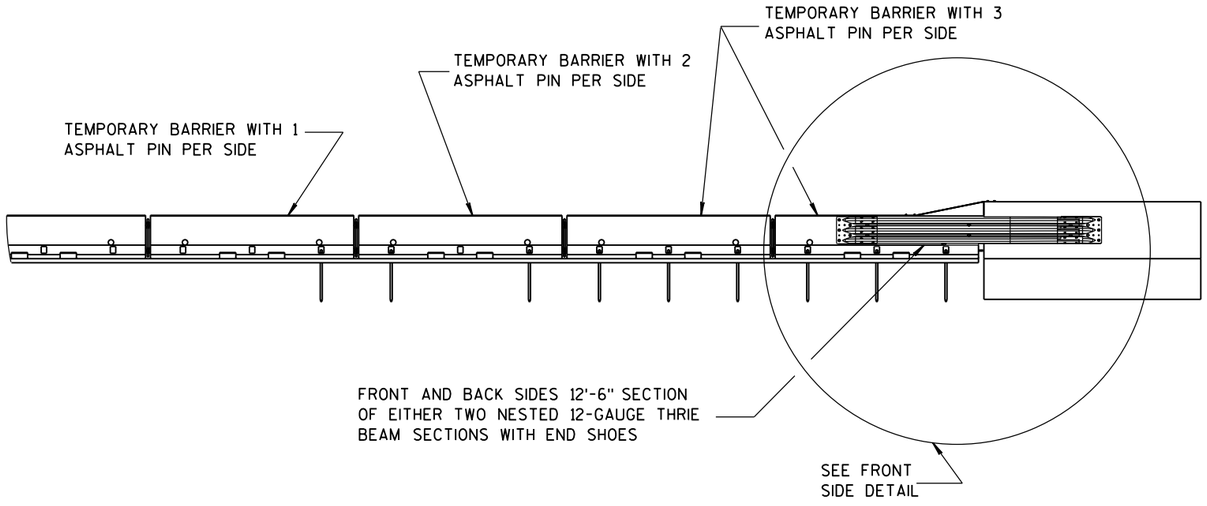
NOTES

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

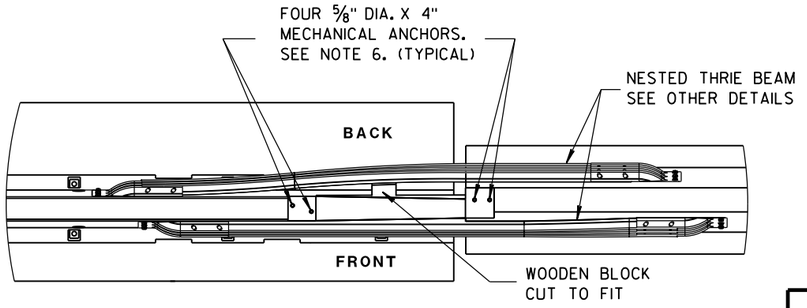
1. CAP END PLATE PLACED FLUSH WITH UPSTREAM END OF PERMANENT BARRIER OR PARAPET.
2. THRIE BEAM PIECES ARE OFFSET 15 1/4" TO PREVENT INTERFERENCE FROM THE ANCHORS ON OPPOSING SIDES.
3. MINIMUM MECHANICAL OR ADHESIVE ANCHOR STRENGTH REQUIREMENTS: ULTIMATE TENSILE LOAD 9.48 KIPS AND ULTIMATE SHEAR LOAD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



BACK VIEW



FRONT VIEW



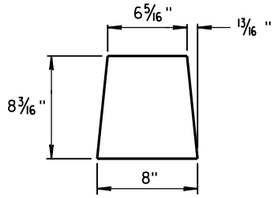
PLAN VIEW

BI-DIRECTIONAL TRANSITION TO TIED-DOWN SYSTEM

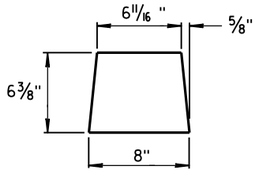
CONCRETE BARRIER
TEMPORARY PRECAST, 12'-6"

STATE OF WISCONSIN
DEPARTMENT OF TRANSPO

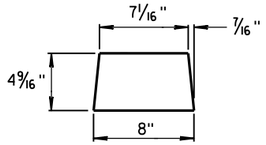
6
S.D.D. 14 B 7-14e



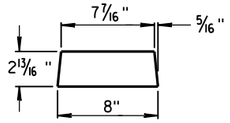
GUSSET 1



GUSSET 2

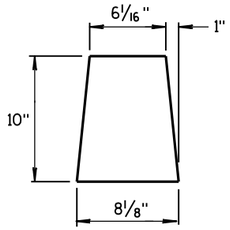


GUSSET 3

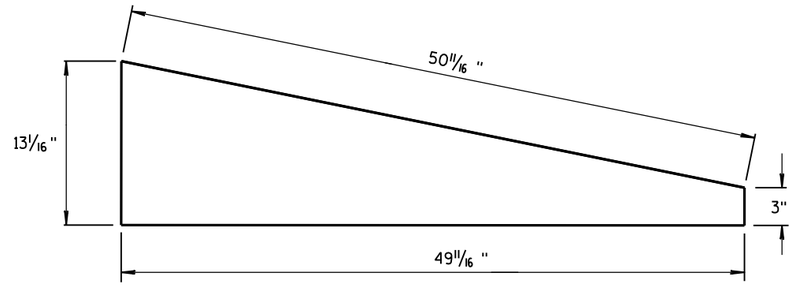


GUSSET 4

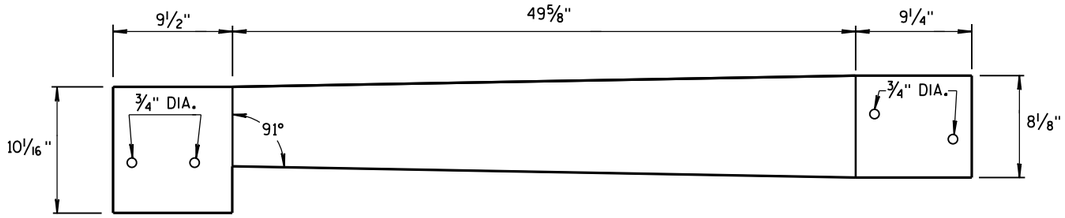
GUSSETS

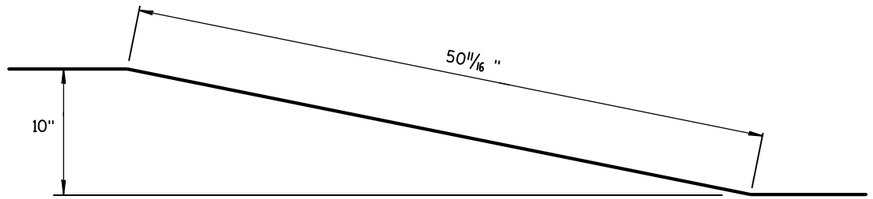


END PLATE



SIDE PLATE

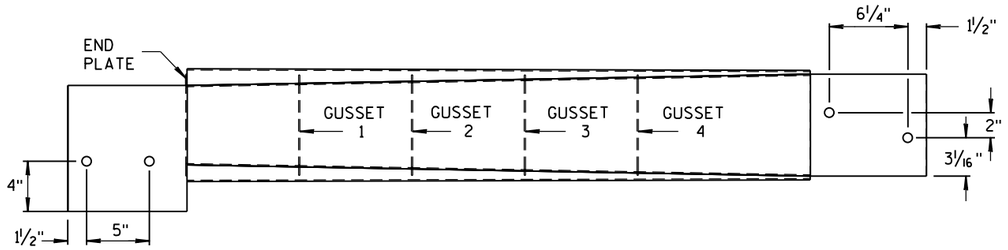


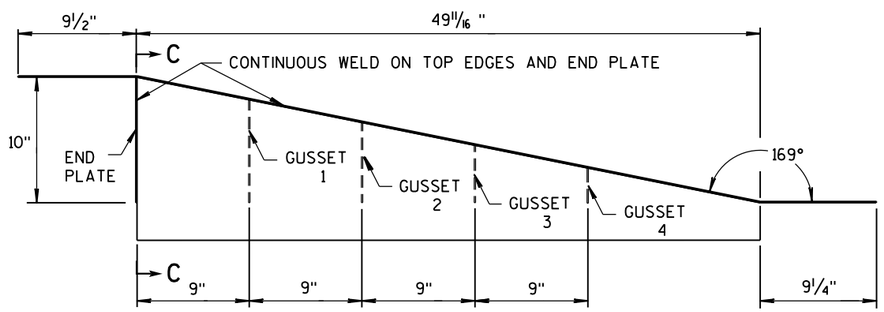


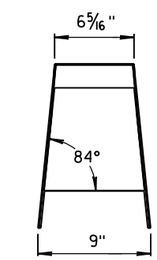
TOP PLATE

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

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







SECTION C-C

NOTES

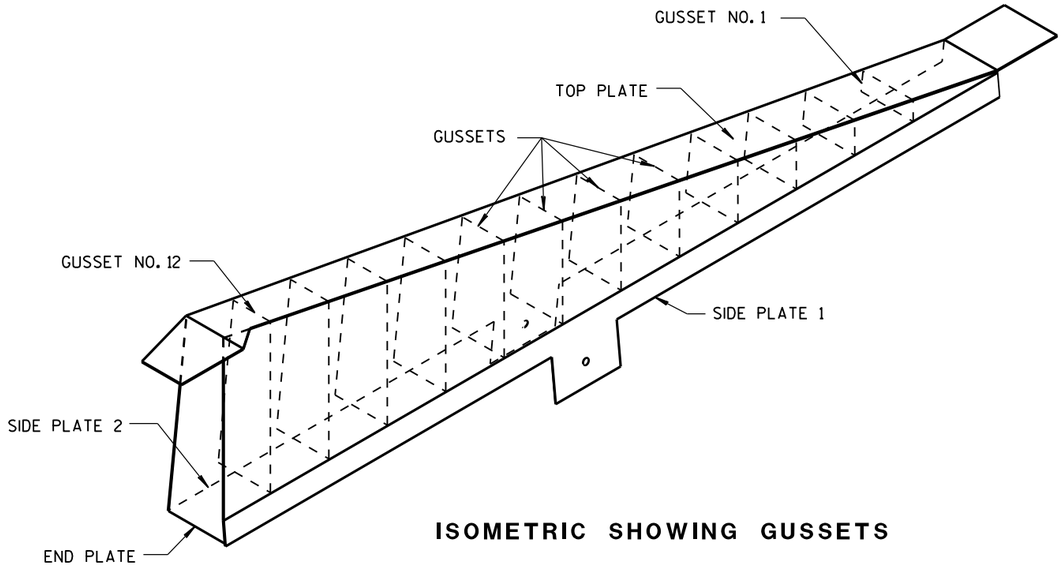
1. FOUR GUSSETS AND END PLATE ARE STITCH WELDED ON THREE SIDES.
2. TWO TRIANGULAR SIDE PLATES ARE STITCH WELDED TO TOP PLATE, END PLATE, AND GUSSETS.

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

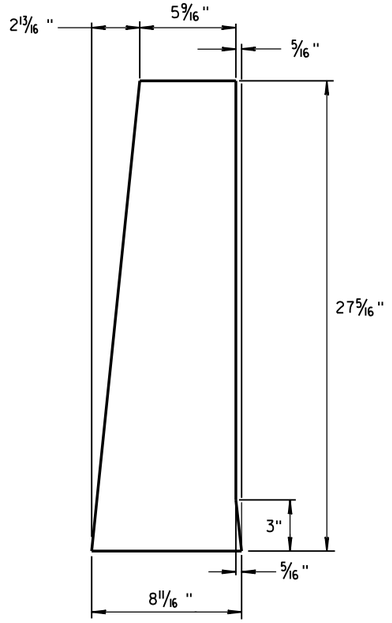
CONCRETE BARRIER
TEMPORARY PRECAST, 12'-6"

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOI

6
S.D.D. 14 B 7-14f

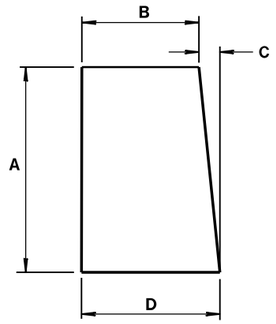


ISOMETRIC SHOWING GUSSETS



END PLATE

1/8" STEEL PLATE



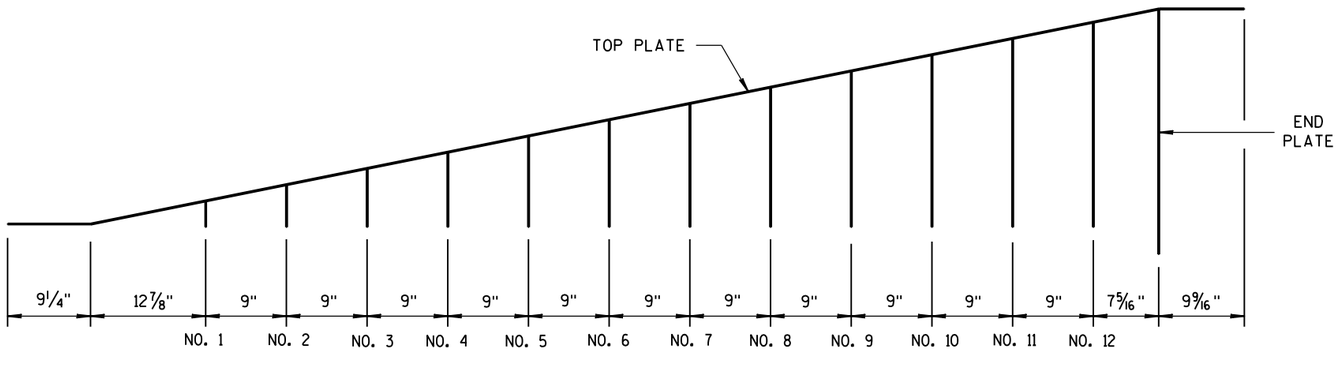
GUSSETS 1 - 12

ALL GUSSETS 1/8" STEEL PLATE

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

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

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



GUSSET LOCATION

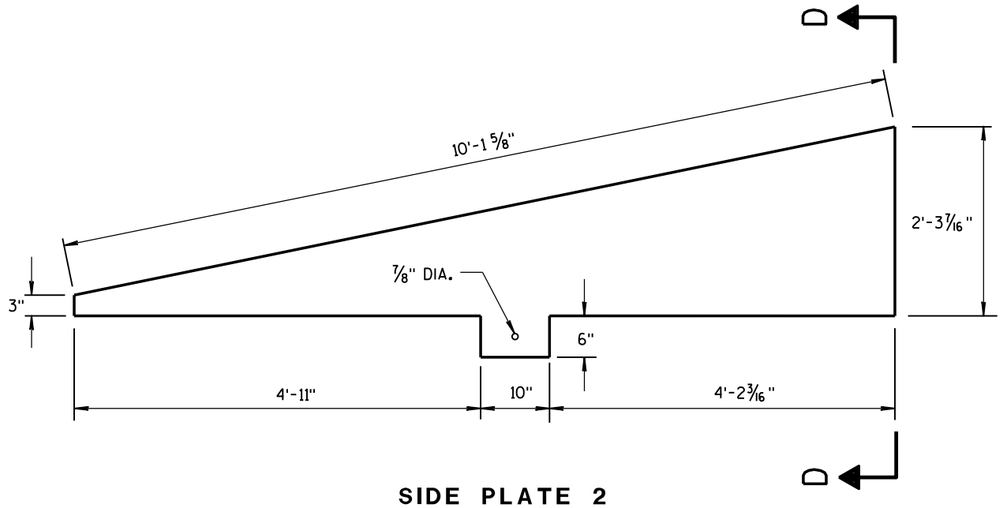
CAP DETAILS FOR TEMPORARY CONCRETE BARRIER TO 56" PERMANENT CONCRETE BARRIER

CONCRETE BARRIER
TEMPORARY PRECAST, 12'-6"

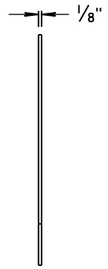
STATE OF WISCONSIN
DEPARTMENT OF TRANSPOI

6

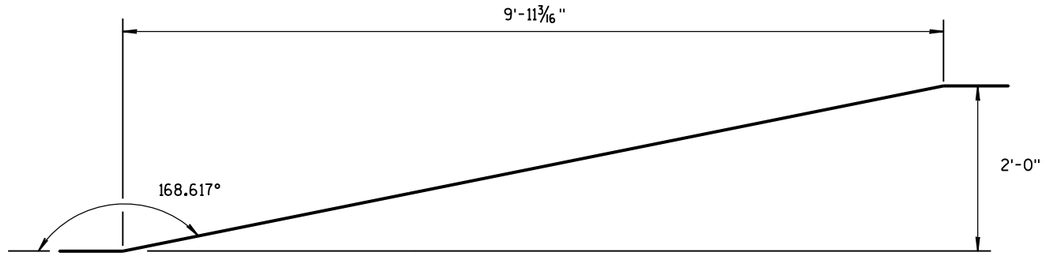
S.D.D. 14 B 7-14g



SIDE PLATE 2

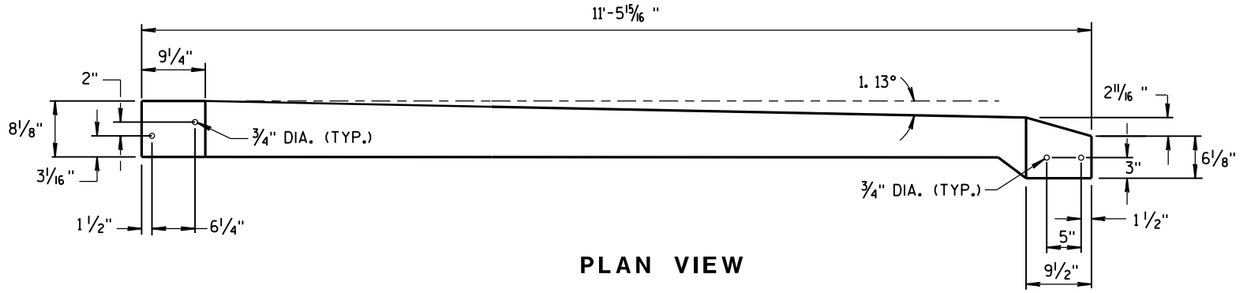


END VIEW



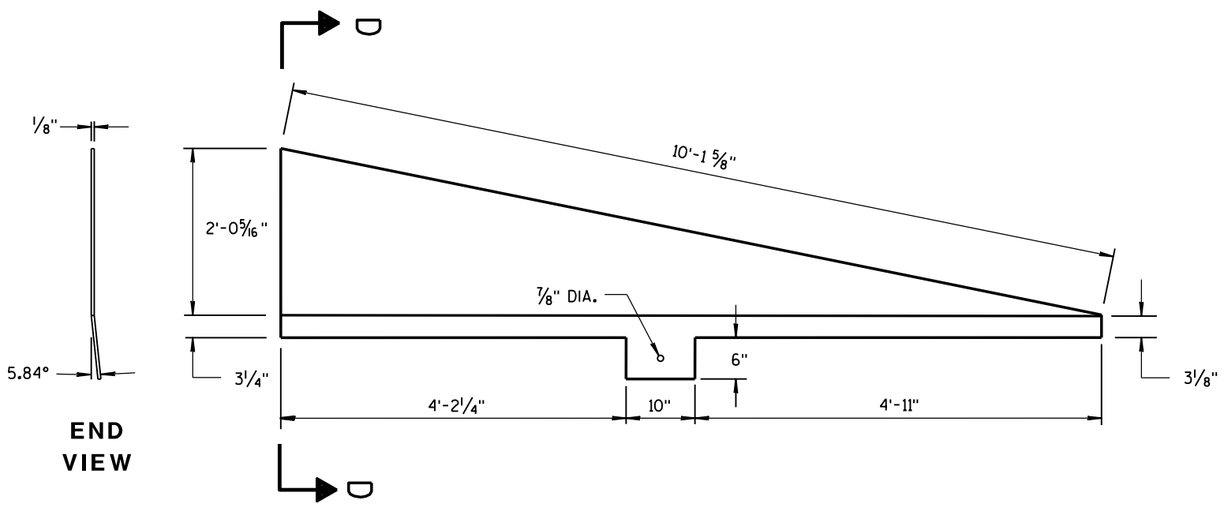
SIDE VIEW

TOP PLATE



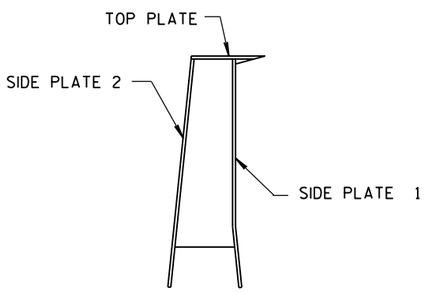
PLAN VIEW

TOP PLATE



END VIEW

SIDE PLATE 1



SECTION D-D

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

CONCRETE BARRIER
TEMPORARY PRECAST, 12'-6"

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

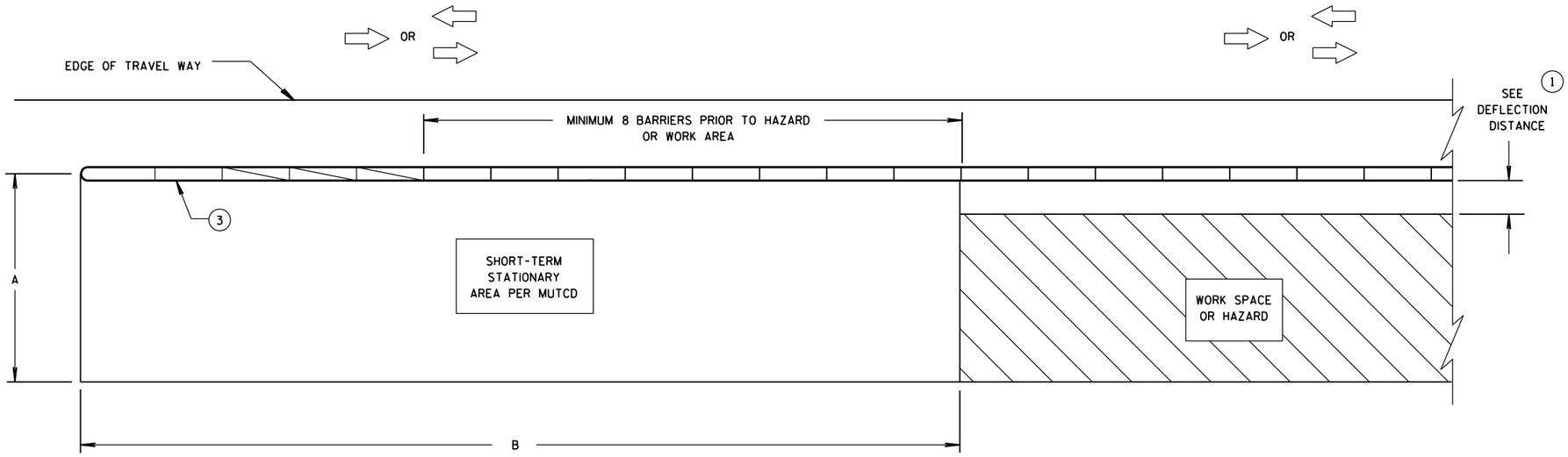
APPROVED
June 2014 — DATE
/S/ Jerry H. Zoaa — ROADWAY STANDARD D ENGINEER
FHWA

6

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

6

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



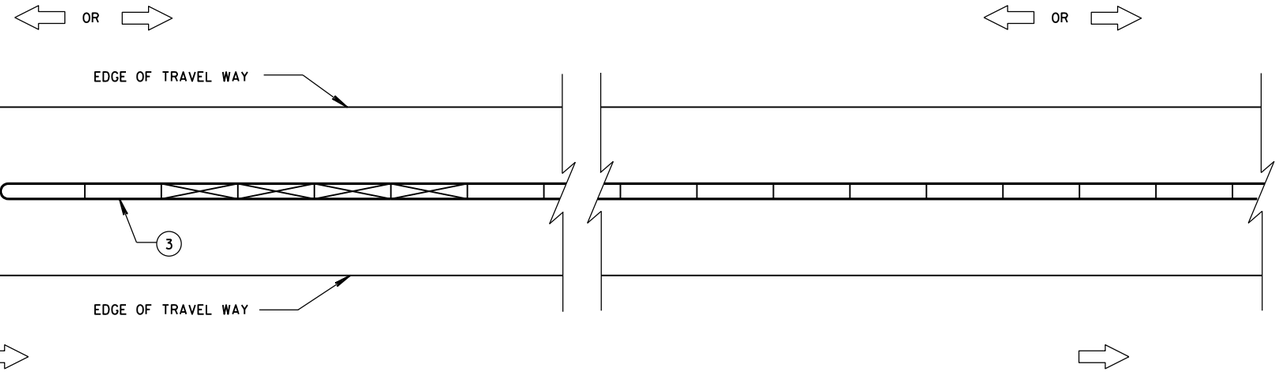
CRASH CUSHION/SAND BARREL ARRAY AND TEMPORARY BARRIER INSTALLATION FOR TRAFFIC ON ONE SIDE OF BARRIER

DIMENSION A TABLE (2)

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

DIMENSION B TABLE (2)

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



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

LEGEND

DIRECTION OF TRAVEL

CRASH CUSHION OR SAND BARREL ARRAY

SEE FREE STANDING TRANSITION TO TIED-DOWN SYSTEM DETAILS

SEE BI-DIRECTIONAL TRANSITION TO TIED-DOWN SYSTEM DETAILS

3 PINS PLACED ON TRAFFIC SIDE OF BARRIER

PERMANENT CONCRETE BARRIER OR CONCRETE PARAPET

FREE STANDING TEMPORARY BARRIER

GENERAL NOTES

SEE STANDARD DETAIL DRAWING 14B7 FOR MORE INFORMATION.

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

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

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

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

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

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

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

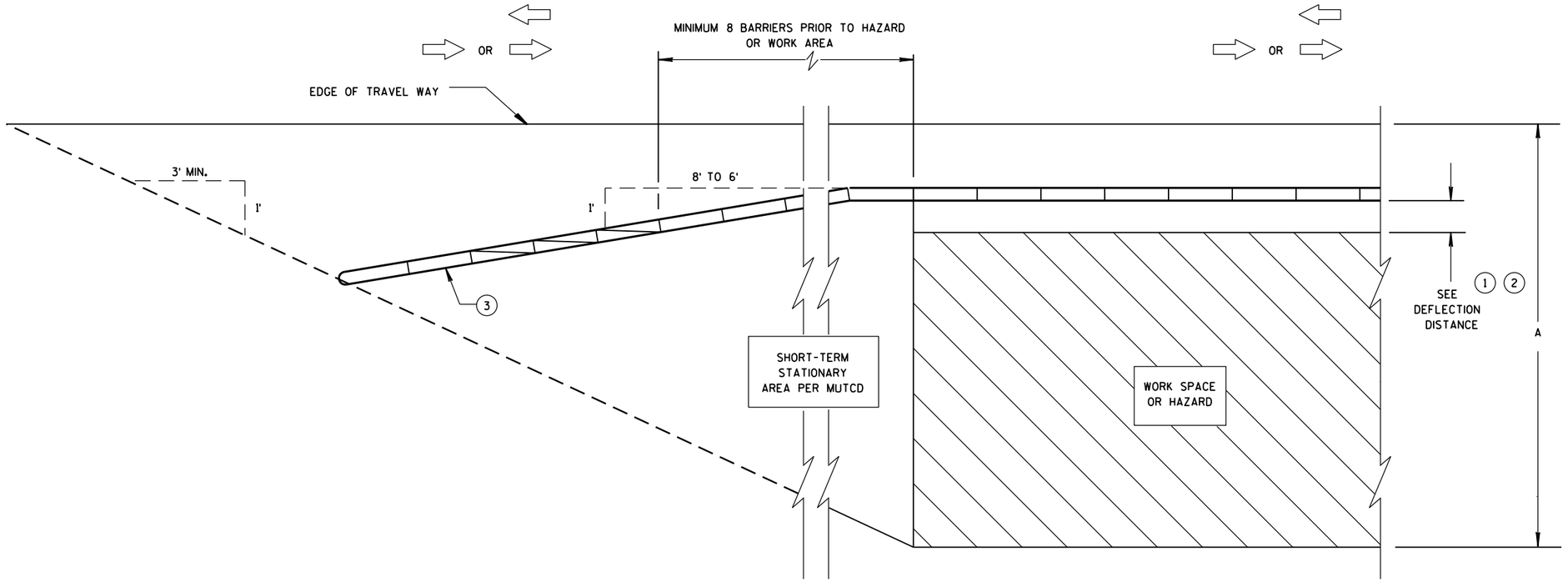
(3) ANCHOR TEMPORARY BARRIER ACCORDING TO CRASH CUSHION OR SAND BARREL MANUFACTURER'S RECOMMENDATIONS. IF MANUFACTURER'S RECOMMENDATIONS ARE NOT PROVIDED, ANCHOR 3 PINS ON TRAFFIC SIDE.

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

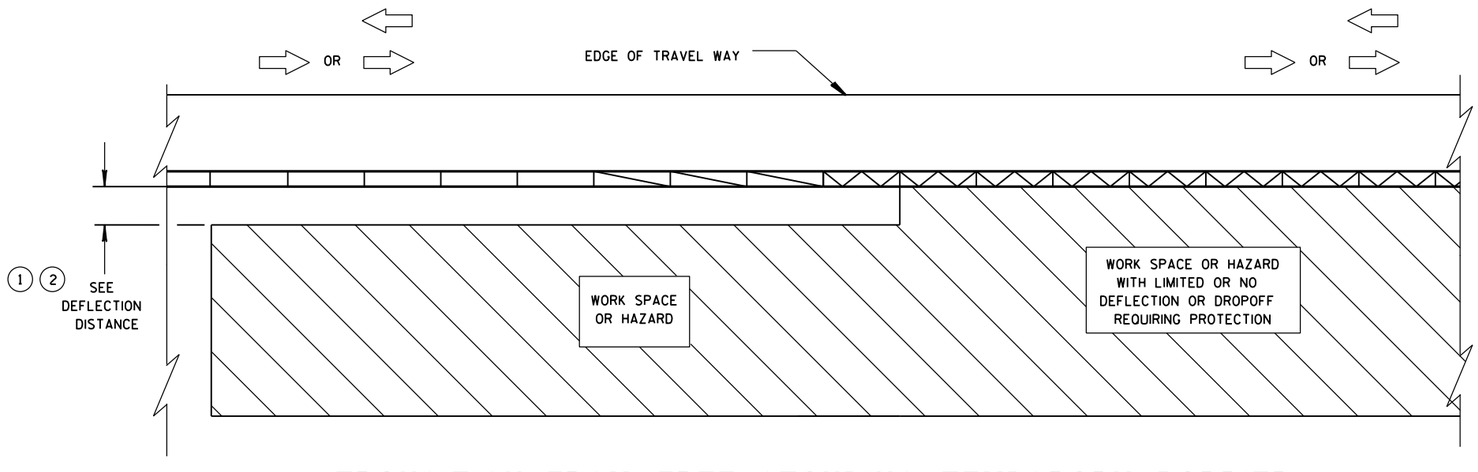
STATE OF WISCONSIN
DEPARTMENT OF TRANSPOI

6

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



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



TRANSITION FROM FREE STANDING TEMPORARY BARRIER TO ANCHORED BARRIER

LEGEND

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

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

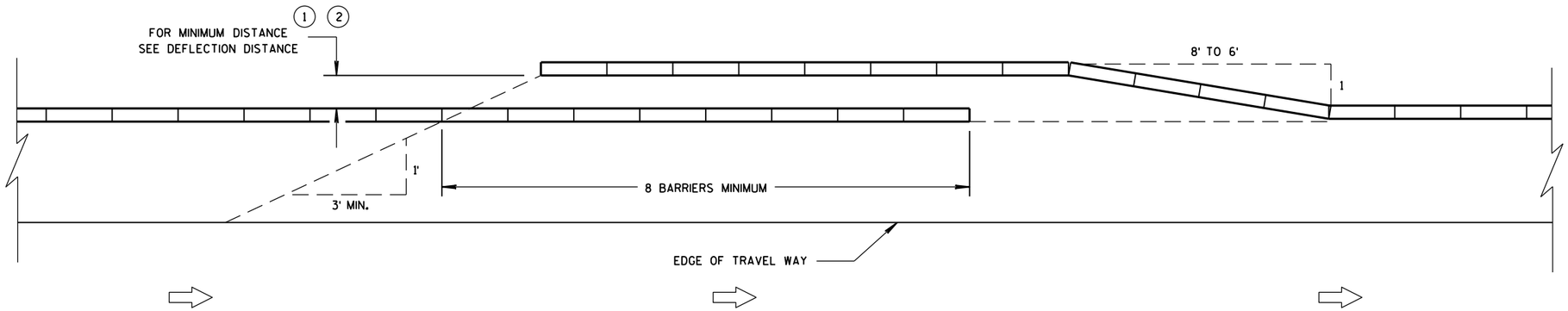
STATE OF WISCONSIN
DEPARTMENT OF TRANSPOI

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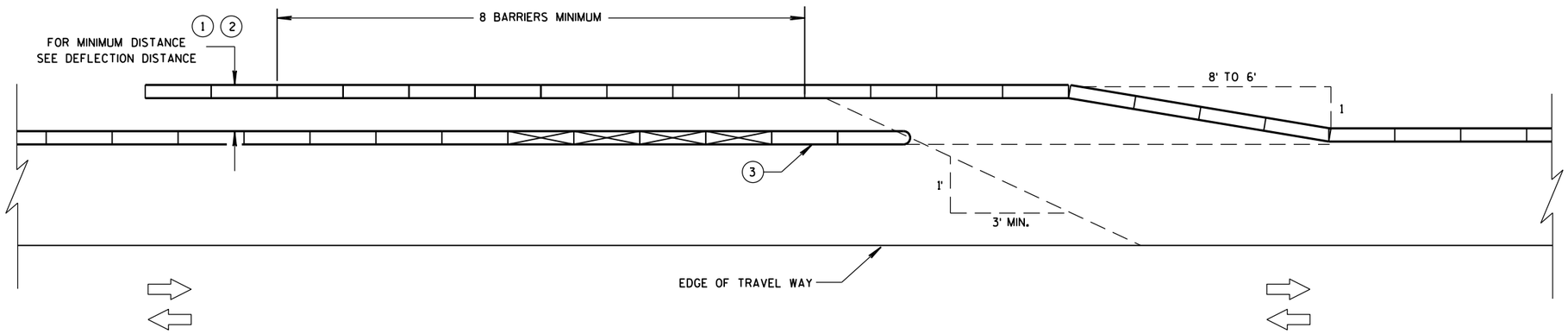
S.D.D. 14 B 8-2b

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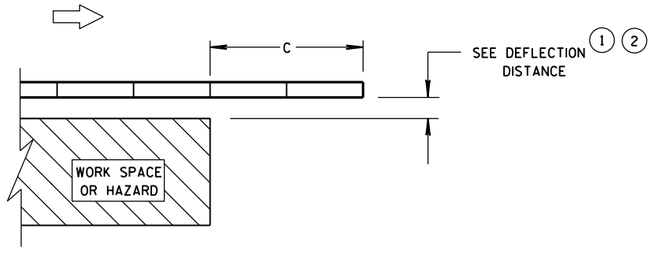
S.D.D. 14 B 8-2b



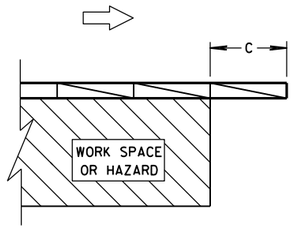
TEMPORARY BARRIER OVERLAP - ONE-WAY TRAFFIC



TEMPORARY BARRIER OVERLAP - TWO-WAY TRAFFIC



ENDING TEMPORARY BARRIER DOWNSTREAM - UNANCHORED



ENDING TEMPORARY BARRIER DOWNSTREAM - ANCHORED

LEGEND

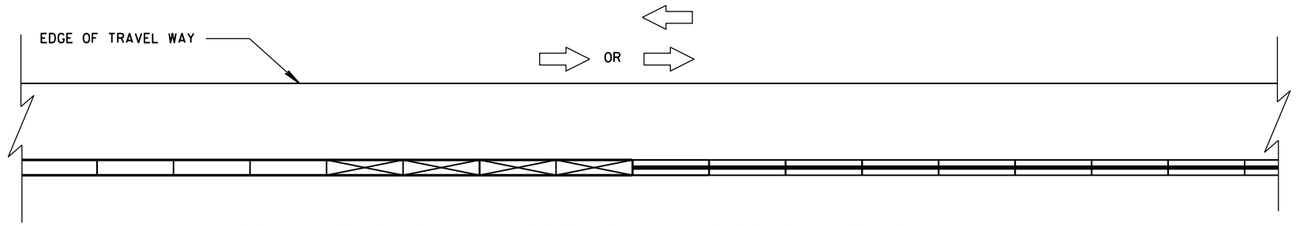
- DIRECTION OF TRAVEL
- CRASH CUSHION OR SAND BARREL ARRAY
- SEE FREE STANDING TRANSITION TO TIED-DOWN SYSTEM DETAILS
- SEE BI-DIRECTIONAL TRANSITION TO TIED-DOWN SYSTEM DETAILS
- 3 PINS PLACED ON TRAFFIC SIDE OF BARRIER
- PERMANENT CONCRETE BARRIER OR CONCRETE PARAPET
- FREE STANDING TEMPORARY BARRIER

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

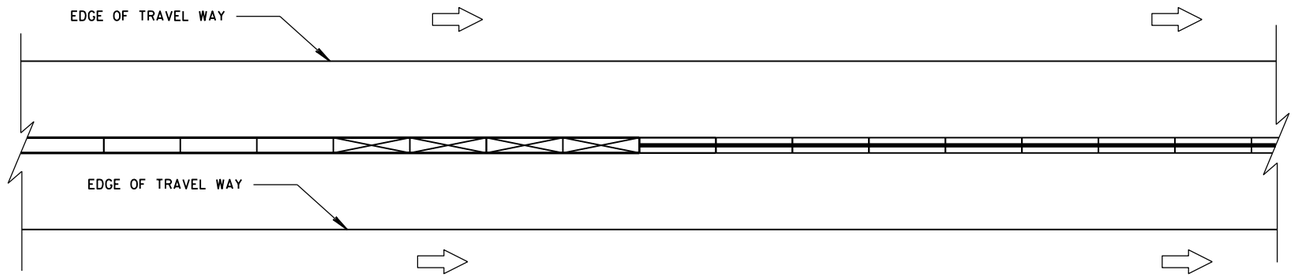
STATE OF WISCONSIN
DEPARTMENT OF TRANSPOR

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



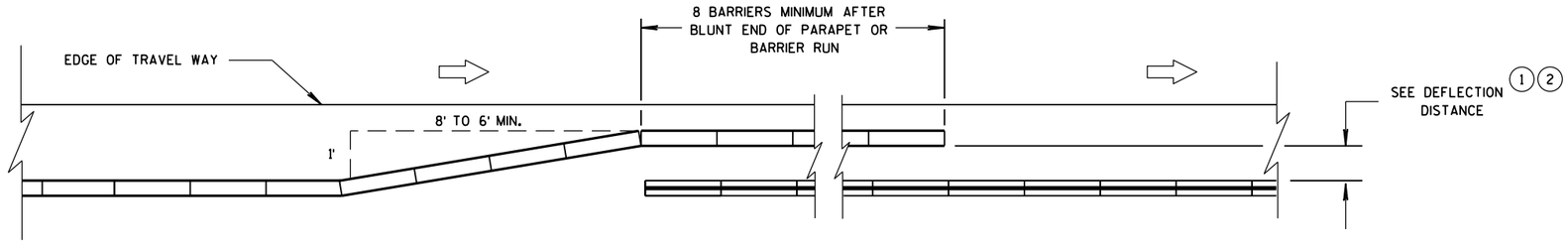
CONNECTING TEMPORARY BARRIER TO PERMANENT
CONCRETE BARRIER-TRAFFIC ON ONE SIDE



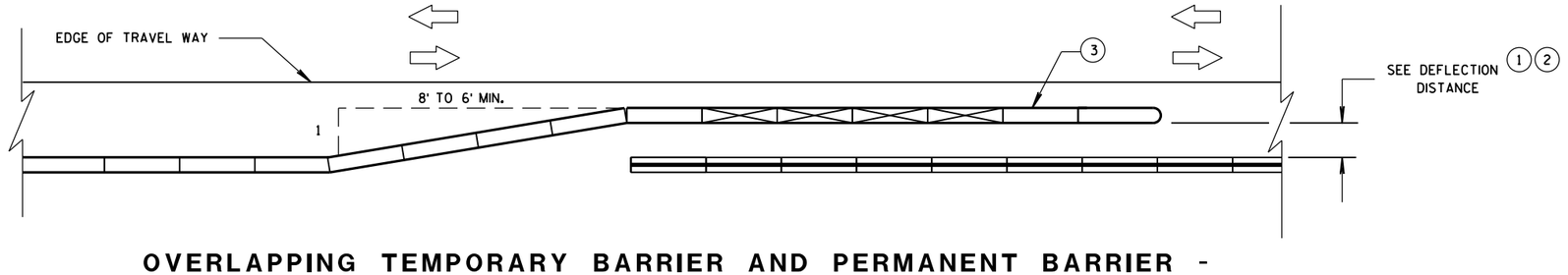
CONNECTING TEMPORARY BARRIER TO PERMANENT
CONCRETE BARRIER-TRAFFIC ON BOTH SIDES

LEGEND

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



OVERLAPPING TEMPORARY BARRIER AND PERMANENT BARRIER -
ONE WAY TRAFFIC



OVERLAPPING TEMPORARY BARRIER AND PERMANENT BARRIER -
TWO WAY TRAFFIC

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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOI

6

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

LEGEND

DIRECTION OF TRAVEL

CRASH CUSHION OR SAND BARREL ARRAY

SEE FREE STANDING TRANSITION TO TIED-DOWN SYSTEM DETAILS

SEE BI-DIRECTIONAL TRANSITION TO TIED-DOWN SYSTEM DETAILS

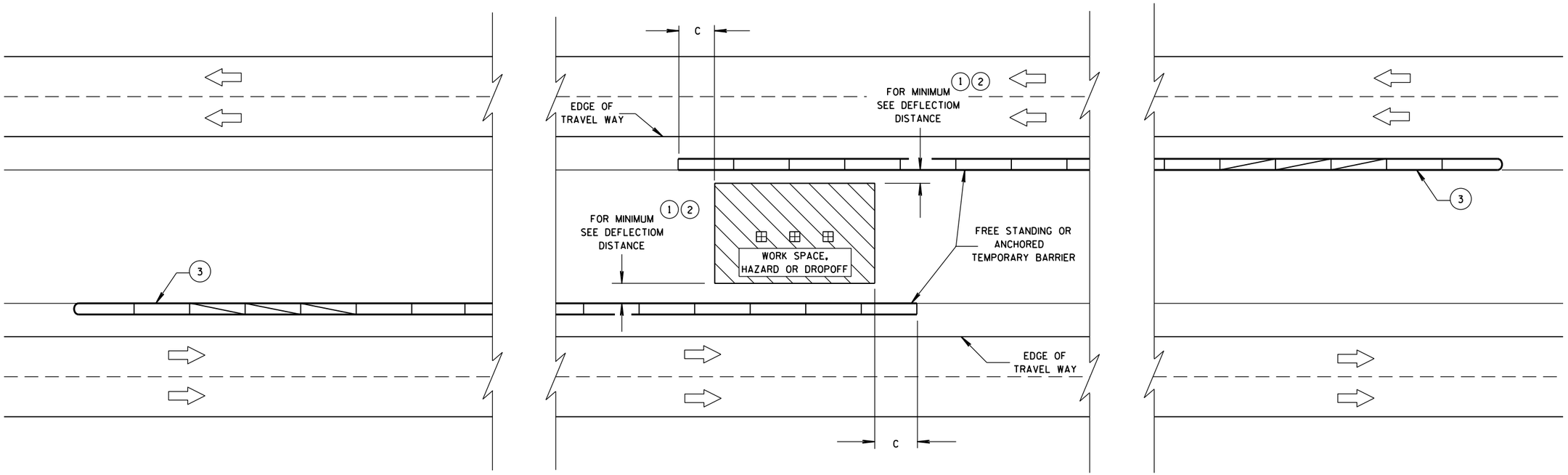
3 PINS PLACED ON TRAFFIC SIDE OF BARRIER

PERMANENT CONCRETE BARRIER OR CONCRETE PARAPET

FREE STANDING TEMPORARY BARRIER

DIMENSION C TABLE (2)

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



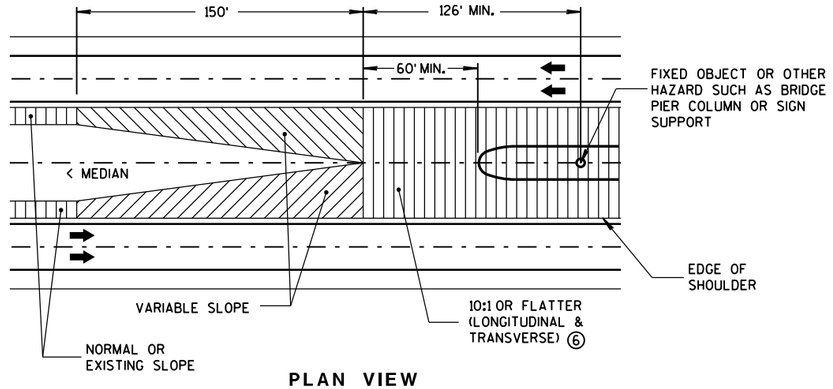
CRASH CUSHION/SAND BARREL ARRAY AND OTHER TEMPORARY BARRIER LAYOUT DETAILS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

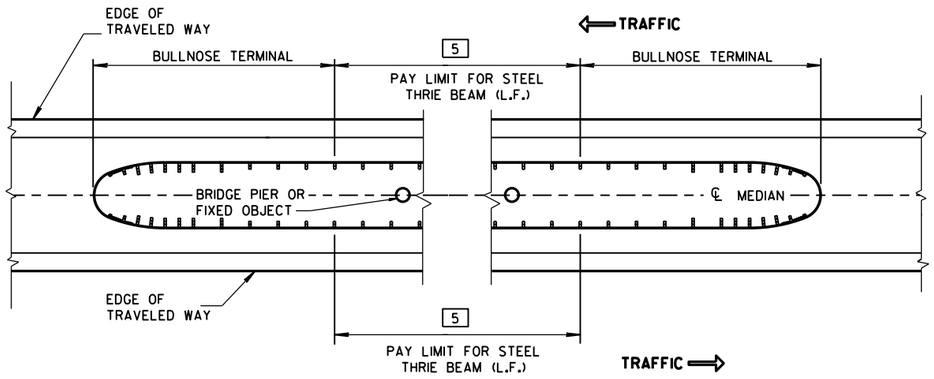
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S.D.D. 14 B 8-2e

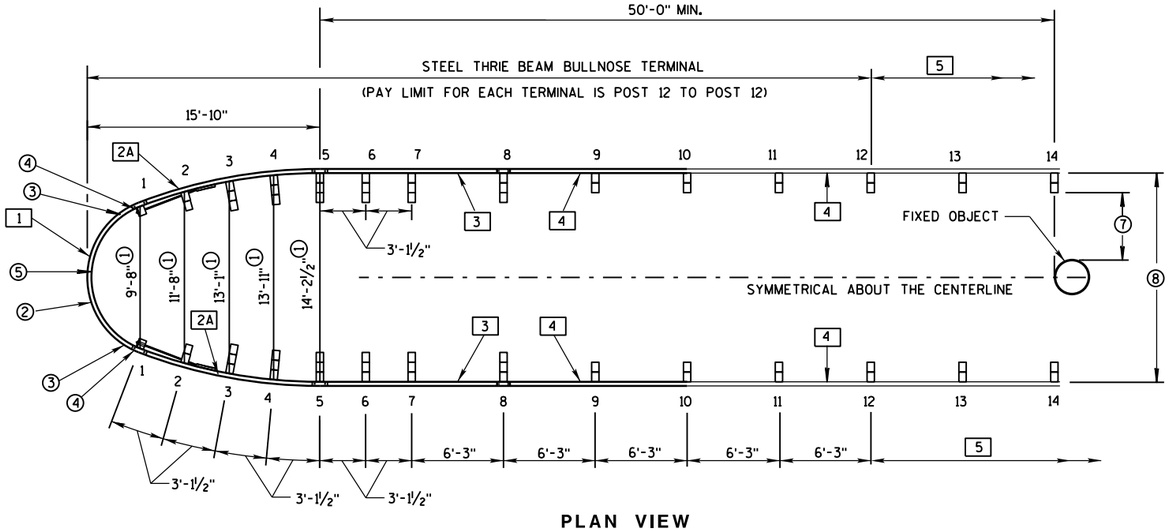


PLAN VIEW

GRADING AT BULLNOSE
(ALL INSTALLATIONS)

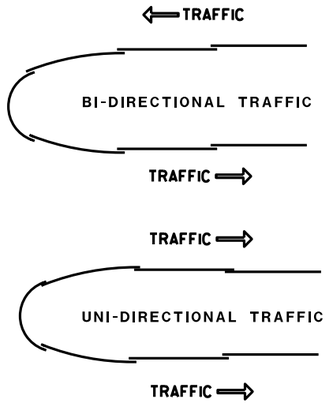


MEDIAN HAZARD PROTECTION PAY LIMITS



PLAN VIEW

TYPICAL BULLNOSE LAYOUT



LAPPING DETAIL
(ALL INSTALLATIONS)

GENERAL NOTES

SEE STANDARD DETAIL DRAWINGS 14 B 26a-e.

PUNCHING, DRILLING, CUTTING OR WELDING IS NOT PERMITTED ON ANY GALVANIZED THRIE BEAM ACCESSORY OR TERMINAL ACCESSORY.

OTHER ANCHOR CABLE ASSEMBLIES HAVING 40,000 LBS. MIN. BREAKING STRENGTH MAY BE USED.

FOR POSTS 2 THROUGH 14, IF POST CANNOT BE INSTALLED AT SPECIFIED LOCATION 1 EXTRA STANDARD WOOD BLOCK MAY BE ADDED.

THE USE OF STEEL POSTS ON THE BULLNOSE IS NOT ALLOWED.

BOLTS AND ALL NECESSARY HARDWARE SHALL BE GALVANIZED IN ACCORDANCE WITH ASTM A 153.

ALL THRIE BEAM SHALL BE 12-GAUGE.

IF ROCK IS ENCOUNTERED, REMOVE ROCK TO FULL DEPTH OF POST PLUS 2½" AND 12" DIAMETER AROUND POST. SEE SDD 14B15 OR SDD 14B42 FOR MORE INFORMATION.

[1] SLOTTED THRIE BEAM RAIL NO. 1. (POST 1 TO POST 1)

[2A] SLOTTED THRIE BEAM RAIL NO. 2A. (POST 1 TO POST 5)

[3] SLOTTED THRIE BEAM RAIL NO. 3. (POST 5 TO POST 8)

[4] UNBENT STANDARD THRIE-BEAM RAIL NO.4. (POST 8 TO POST 10 & POST 10 TO POST 12)

[5] BEYOND POST 12: CONSTRUCT STEEL THRIE BEAM - USE UNBENT STANDARD THRIE BEAM RAIL NO. 5.

① DIMENSIONS ARE FROM BACK OF RAIL TO BACK OF RAIL WHERE RAIL IS BOLTED TO POST OR BLOCK.

② U-BOLT CABLE CLIPS (3 PER CABLE) SPACED OUT ON NOSE, TO HOLD CABLE TO BACKSIDE OF THE RAIL.

③ NOSE CABLE W/SWAGGED END BUTTONS.

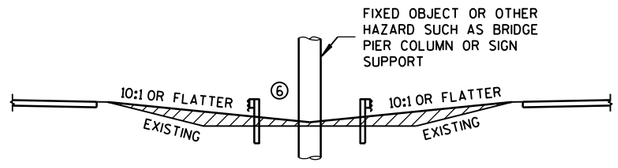
④ NOSE CABLE ANCHOR PLATE (BACKSIDE OF SPLICE).

⑤ THE SLACK IN THE NOSE CABLES SHALL BE EVENLY DISTRIBUTED BETWEEN THE CABLE CLIP FASTENERS AND POST NO. 1 ON EITHER SIDE OF THE NOSE.

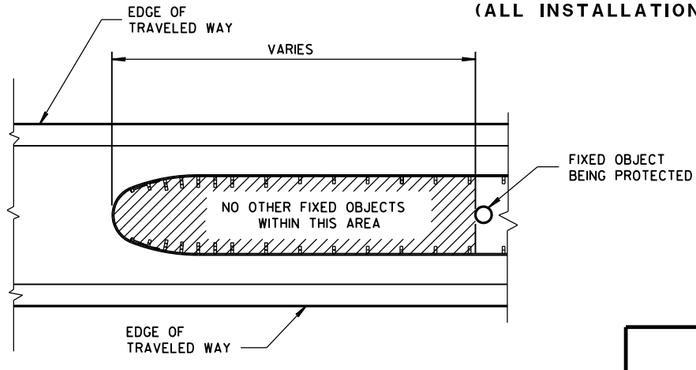
⑥ PROVIDE SUITABLE DRAINAGE WHEN MEDIAN GRADING IMPEDES NORMAL FLOW.

⑦ 2'-6" MINIMUM LATERAL DISTANCE BETWEEN BACK OF POST AND FACE OF FIXED OBJECT.

⑧ MAXIMUM WIDTH OF SYSTEM IS 14'-2½" MEASURED FROM BACK OF RAIL TO BACK OF RAIL WHERE RAIL IS BOLTED TO A POST OR BLOCK.



MEDIAN GRADING SECTION
(ALL INSTALLATIONS)

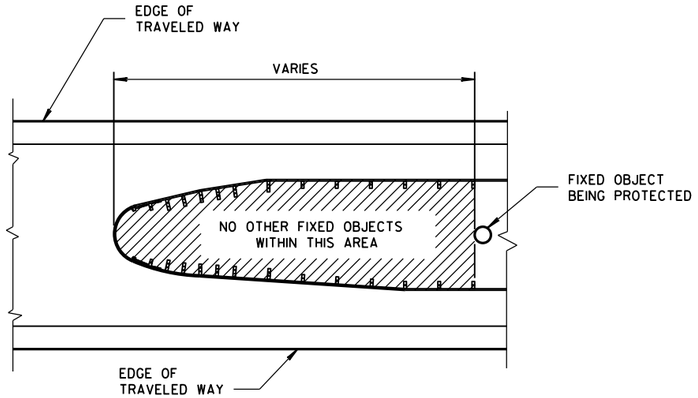


HAZARD FREE AREA INSIDE BULLNOSE

STEEL THRIE BEAM BULLNOSE TERMINAL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPO

6
S.D.D. 14 B 26-3a



HAZARD FREE
AREA INSIDE BULLNOSE

GENERAL NOTES

SEE STANDARD DETAIL DRAWINGS 14 B 26a-e.

FOR POSTS 2 THROUGH 14, IF POST CANNOT BE INSTALLED AT SPECIFIED LOCATION 1 EXTRA STANDARD WOOD BLOCK MAY BE ADDED.

[1] SLOTTED THRIE BEAM RAIL NO. 1. (POST 1 TO POST 1)

[2A] SLOTTED THRIE BEAM RAIL NO. 2A, (POST 1 TO POST 5)

[2B] SLOTTED THRIE BEAM RAIL NO. 2B, (POST 1 TO POST 5)

[3] SLOTTED THRIE BEAM RAIL NO. 3. (POST 5 TO POST 8)

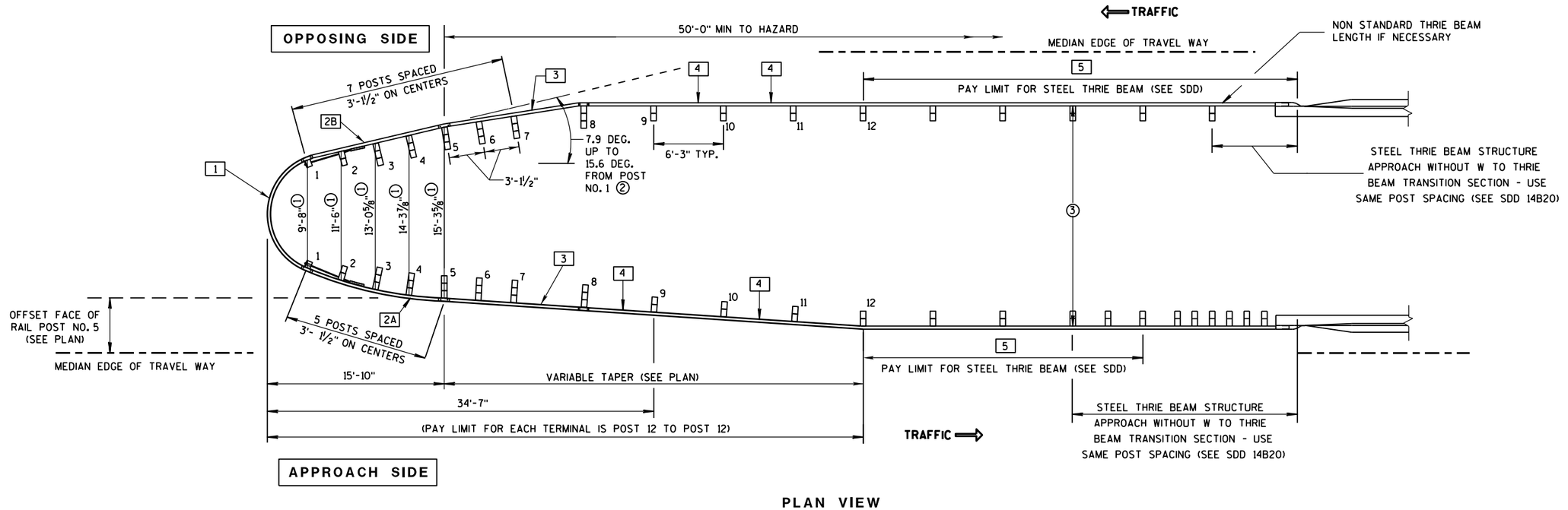
[4] UNBENT STANDARD THRIE-BEAM RAIL NO. 4, (POST 8 TO POST 10 & POST 10 TO POST 12)

[5] BEYOND POST 12: CONSTRUCT STEEL THRIE BEAM - USE UNBENT STANDARD THRIE BEAM RAIL NO. 5.

① DIMENSIONS ARE FROM BACK OF RAIL TO BACK OF RAIL WHERE RAIL IS BOLTED TO POST.

② TAPER BEGINNING AT POST NO. 1 MUST CONTINUE TO POST NO. 5. PAST POST NO. 5 TAPER MAY END OR BE EXTENDED UP TO 15.6 DEGREES TO FIT VARIABLE MEDIAN WIDTHS. (SEE PLAN)

③ FOR MEDIANS WIDER THAN 14'-2½" MEASURED FROM BACK OF RAIL TO BACK OF RAIL WHERE RAIL IS BOLTED TO A POST OR BLOCK.



PLAN VIEW

WIDENED BULLNOSE DESIGN

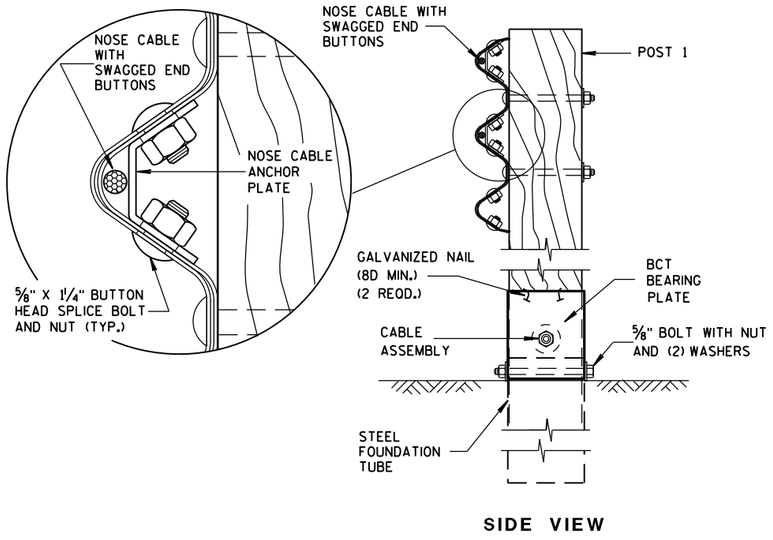
(INSTALLATION AT TWIN BRIDGES WITH BI-DIRECTIONAL TRAFFIC SHOWN)

STEEL THRIE BEAM
BULLNOSE TERMINAL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOI

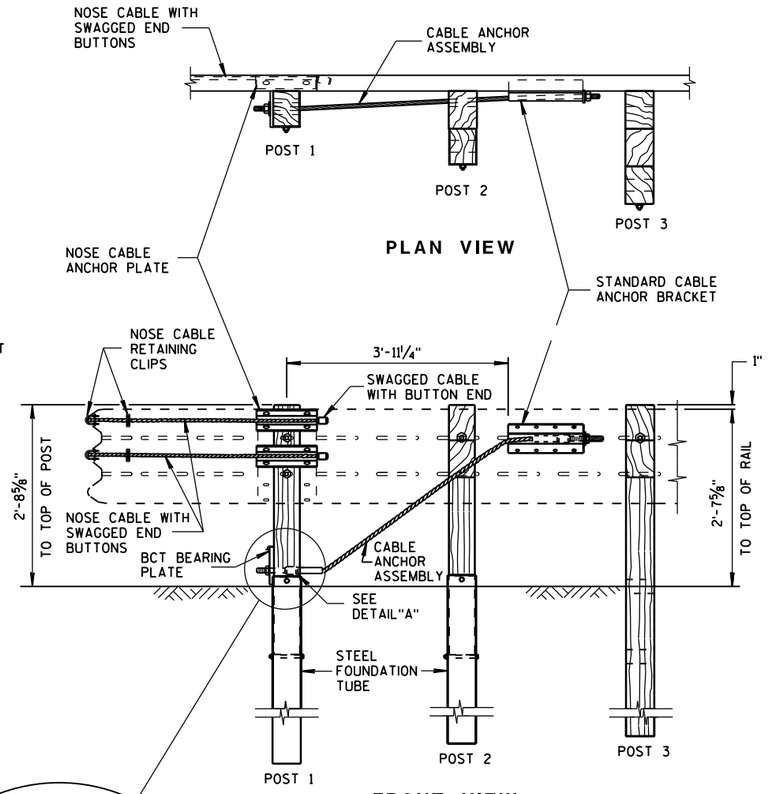
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S.D.D. 14 B 26-3b



SIDE VIEW

NOSE CABLE ASSEMBLY AT POST NO. 1



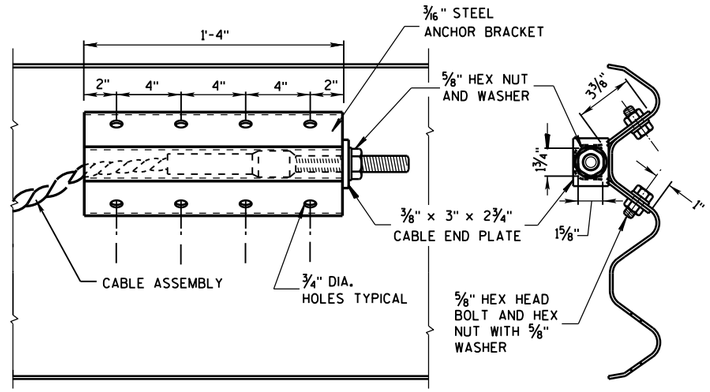
PLAN VIEW

FRONT VIEW

NOSE CABLE ANCHOR AND STANDARD BRACKET ASSEMBLY

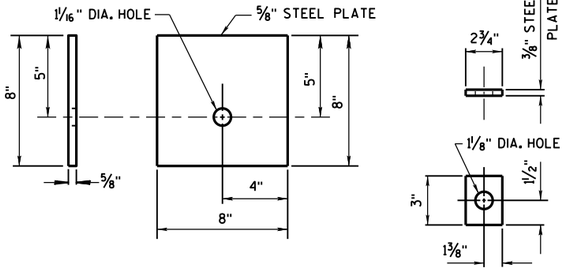
GENERAL NOTES

SEE STANDARD DETAIL DRAWINGS 14 B 26a-e.



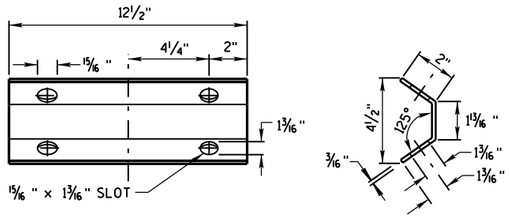
FRONT VIEW END VIEW

DETAILS OF CABLE ANCHOR BRACKET



BCT BEARING PLATE

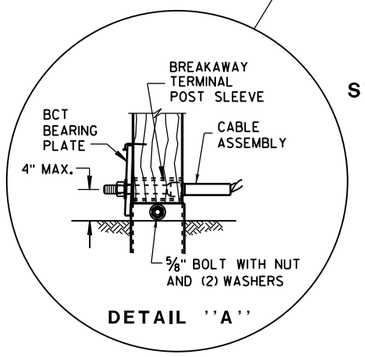
CABLE END PLATE



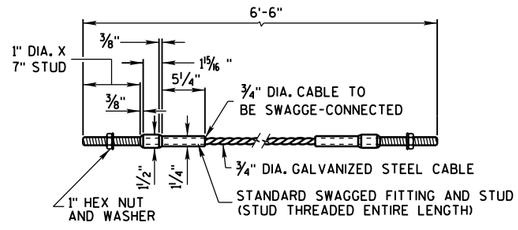
ELEVATION VIEW END VIEW

NOSE CABLE ANCHOR PLATE

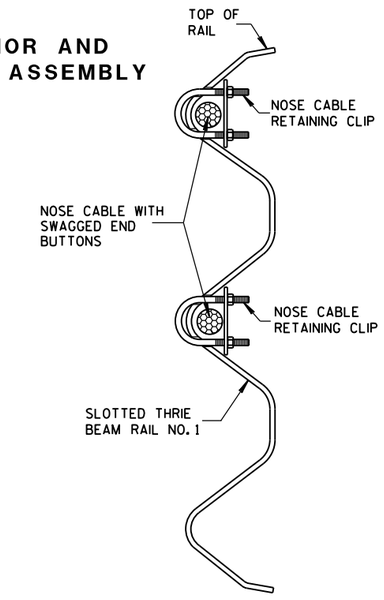
NOTE: 12 1/2" x 5 13/16" x 3/16" STEEL PLATE (A306)



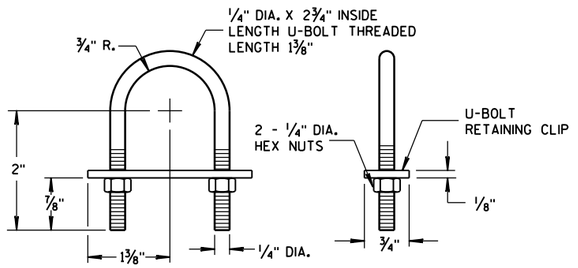
DETAIL ''A''



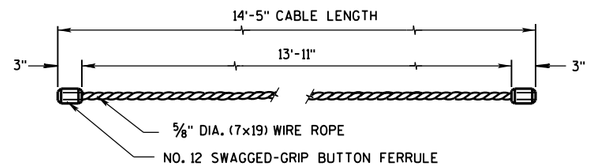
DETAILS OF CABLE ANCHOR ASSEMBLY



PLACEMENT OF NOSE CABLE RETAINING CLIP



NOSE CABLE RETAINING CLIP



NOSE CABLE WITH SWAGGED END BUTTONS

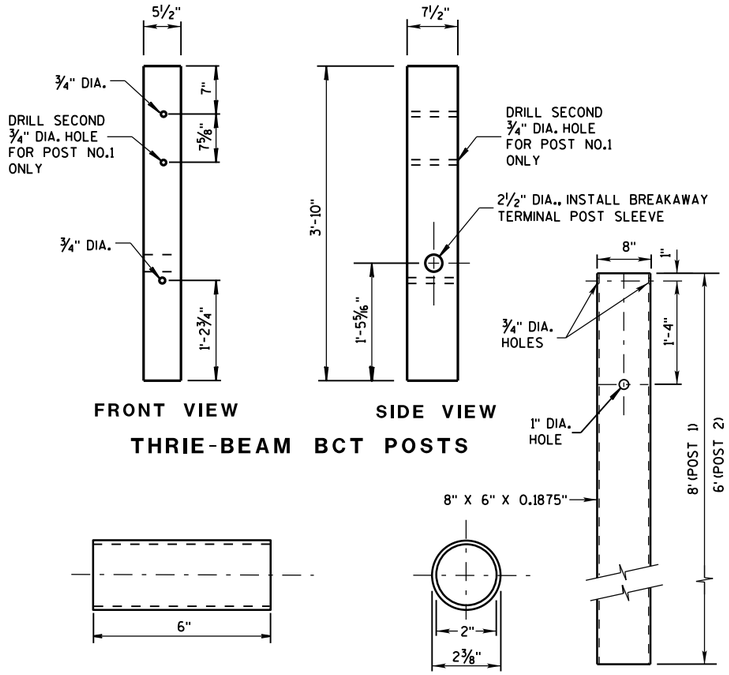
TO PULL OFF SWAGGED GRIP BUTTON FERRULE FROM WIRE ROPE REQUIRES A FORCE EQUAL TO 98% OF THE WIRE ROPE'S BREAKING STRENGHT.

STEEL THRIE BEAM BULLNOSE TERMINAL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOI

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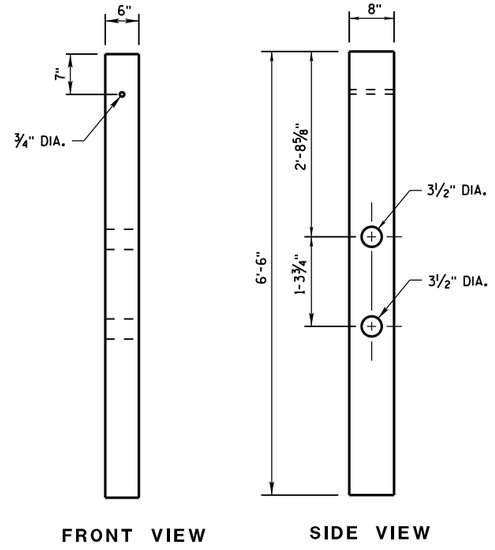
S.D.D. 14 B 26-3c



THRIE-BEAM BCT POSTS

BREAKAWAY TERMINAL POST SLEEVE

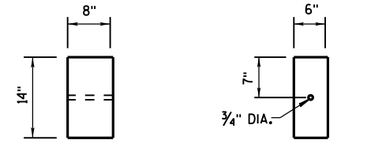
STEEL FOUNDATION TUBE



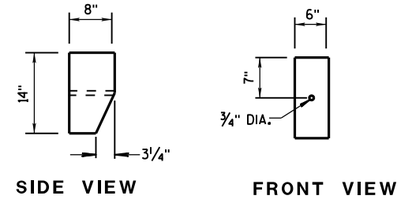
THRIE-BEAM CRT WOOD POSTS

GENERAL NOTES

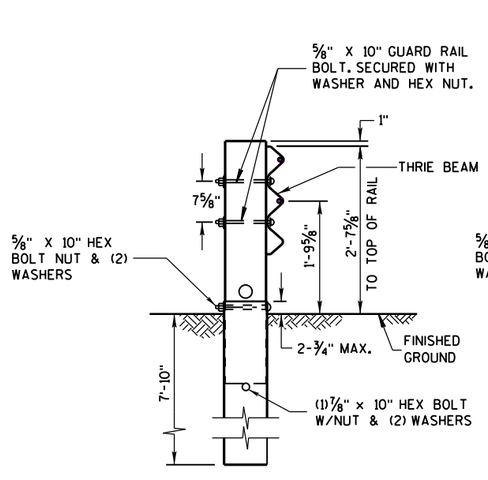
SEE STANDARD DETAIL DRAWINGS 14 B 26a-e.



STANDARD WOOD BLOCK

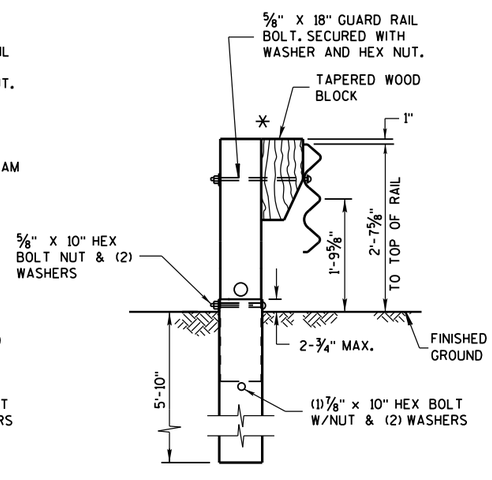


TAPERED WOOD BLOCK



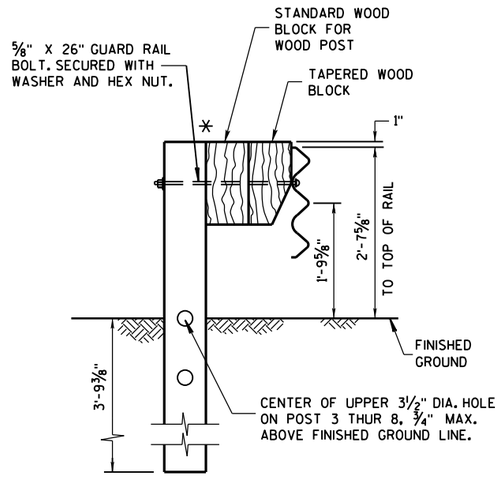
THRIE-BEAM BCT POST
(WITH 8'-0" FOUNDATION TUBE)

POST NO. 1



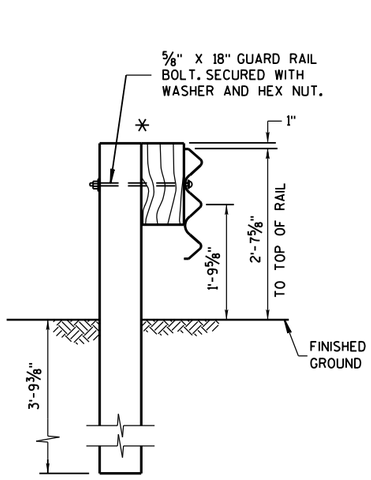
THRIE-BEAM BCT POST
(WITH 6'-0" FOUNDATION TUBE AND 1'-2" TAPERED BLOCK)

POST NO. 2



THRIE-BEAM CRT POST
(6'-6" LONG POST WITH 1'-2" BLOCK AND 1'-2" TAPERED BLOCK)

POST NO. 3,4,5,6,7, & 8



THRIE-BEAM POST
(6'-6" LONG POST WITH 1'-2" BLOCK)

POST NO. 9,10,11,& 12

(ALSO USE FOR STEEL THRIE BEAM BEYOND POST 12)

* IF NEEDED DUE TO AN UNDERGROUND OBSTACLE ADD 1 ADDITIONAL STANDARD BLOCKOUT TO POST.

STEEL THRIE BEAM BULLNOSE TERMINAL

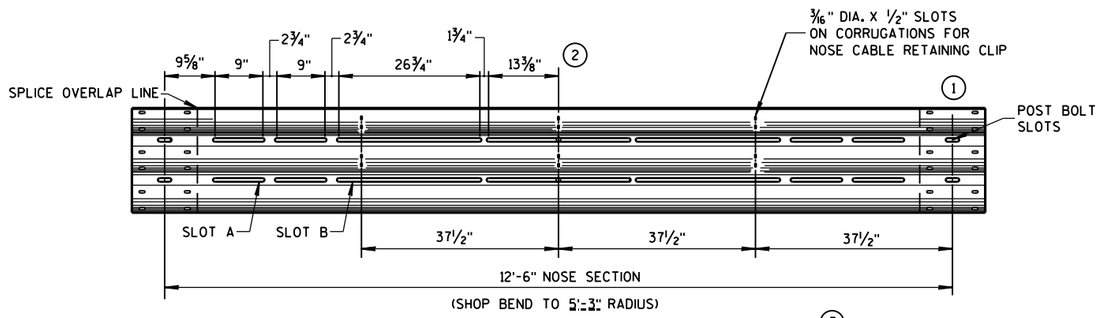
STATE OF WISCONSIN
DEPARTMENT OF TRANSPOI 201

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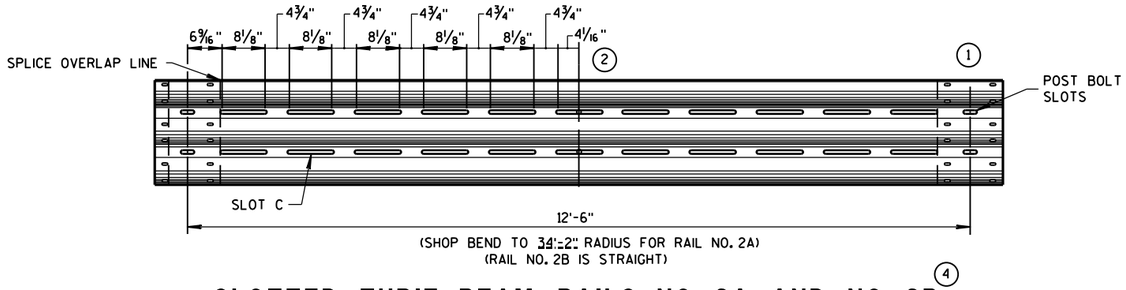
S.D.D. 14 B 26-3d

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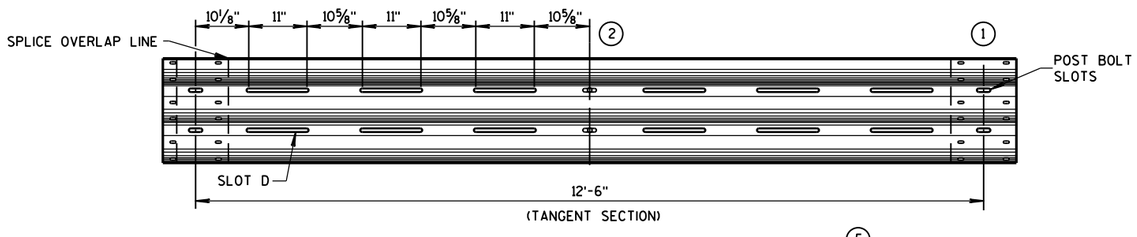
S.D.D. 14 B 26-3d



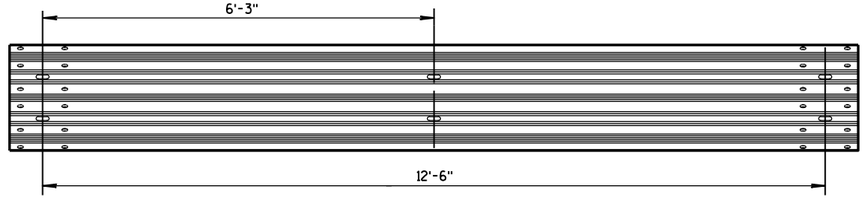
SLOTTED THRIE BEAM RAIL NO. 1 (3)



SLOTTED THRIE BEAM RAILS NO. 2A AND NO. 2B (4)



SLOTTED THRIE BEAM RAIL NO. 3 (5)



UNBENT STANDARD THRIE BEAM RAIL NO. 4 AND NO. 5

GENERAL NOTES

SEE STANADRD DETAIL DRAWINGS 14 B 26a-e.

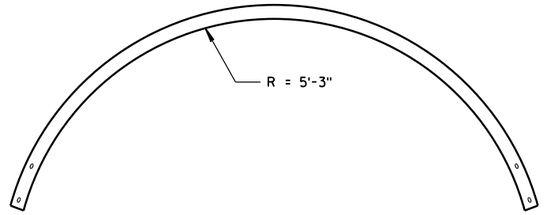
(1) SLOTTED THRIE BEAM RAIL DIMENSIONS SHOWN ARE BEFORE BENDING TO THE RADIUS SHOWN.

(2) SLOT SIZE AND SPACING SYMMETRIC.

(3) SLOTTED THRIE BEAM RAIL NO. 1, 12'-6", SHOP BEND TO R=5'-3".

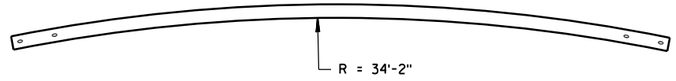
(4) SLOTTED THRIE BEAM RAIL NO. 2A, 12'-6", SHOP BEND TO R=34'-2".
SLOTTED THRIE BEAM RAIL NO. 2B, 12'-6", RAIL IS STRAIGHT.

(5) SLOTTED THRIE BEAM RAIL NO. 3, 12'-6", TANGENT.



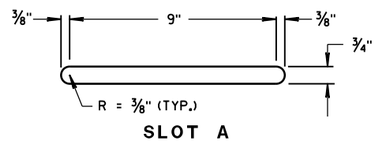
PLAN VIEW

SLOTTED THRIE BEAM RAIL NO. 1

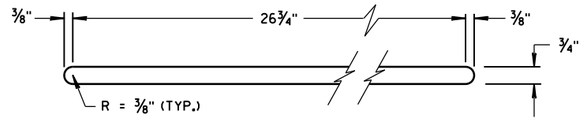


PLAN VIEW

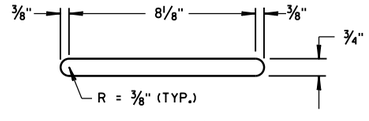
SLOTTED THRIE BEAM RAIL NO. 2A



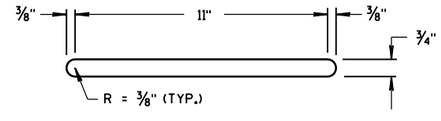
SLOT A



SLOT B



SLOT C



SLOT D

SLOT DETAILS

STEEL THRIE BEAM
BULLNOSE TERMINAL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

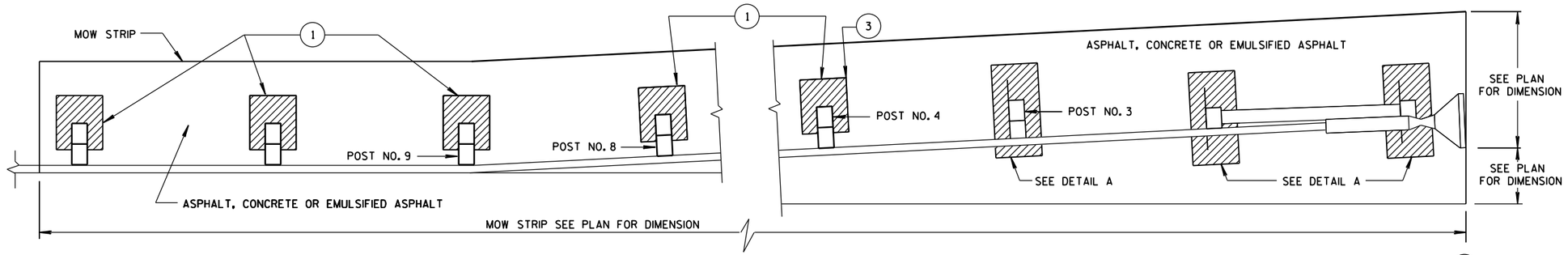
APPROVED
June 2014 — DATE
/S/ Jerry H. Zogg — ROADWAY STANDARDS DEVELOPMENT ENGINEER
NT
FHWA

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S.D.D. 14 B 26-3e

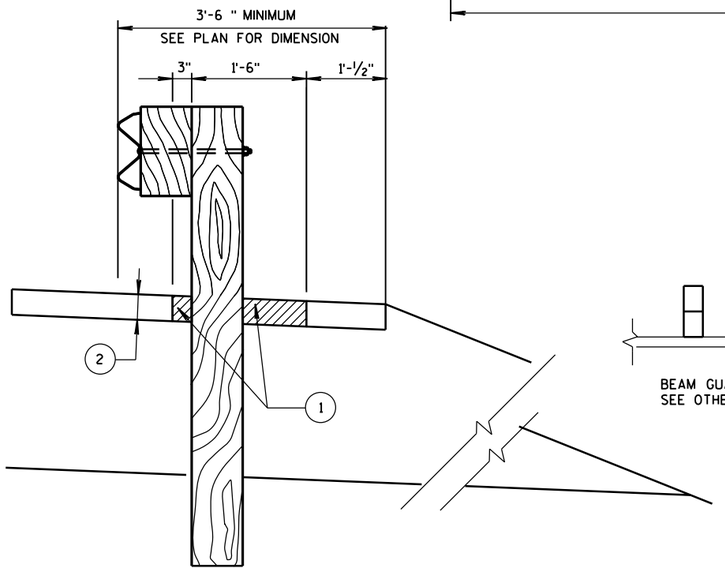
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S.D.D. 14 B 26-3e

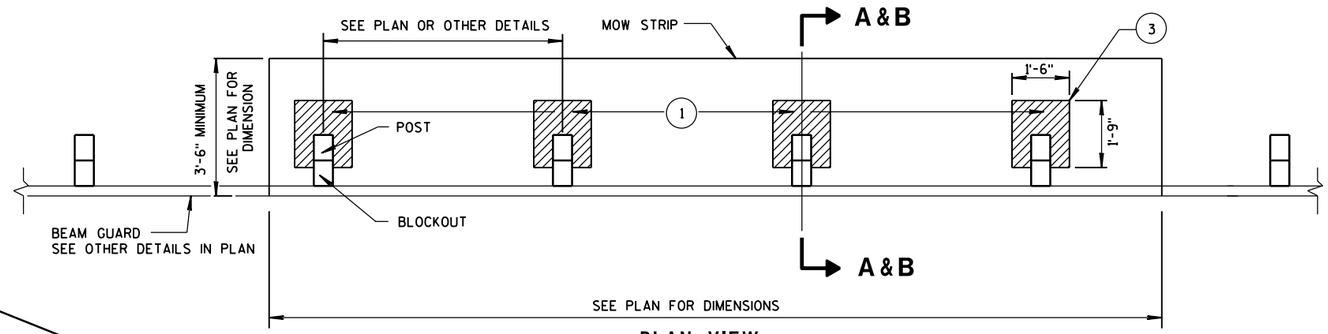


PLAN VIEW

MOW STRIP LAYOUT FOR ENERGY ABORBING TERMINAL

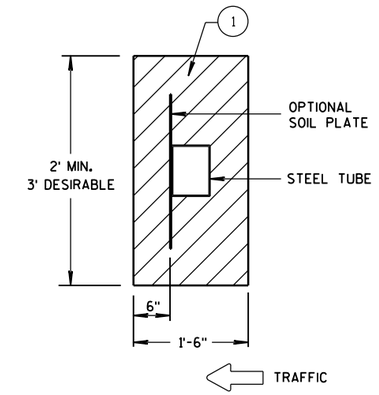


SECTION A-A

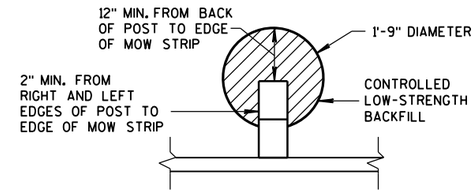


PLAN VIEW

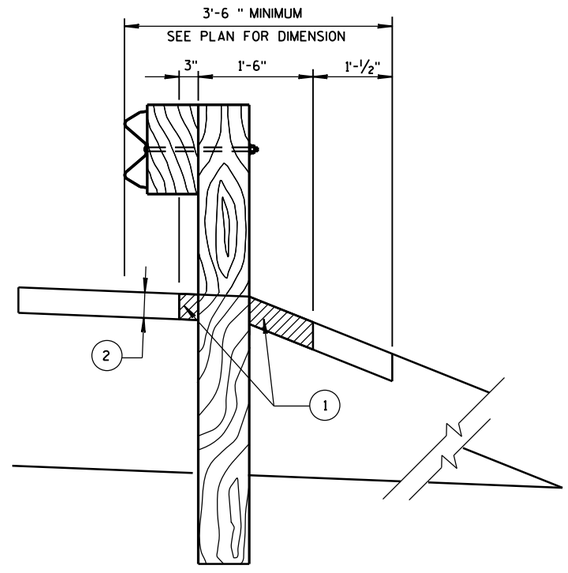
MOW STRIP FOR TYPICAL BLOCKOUT LAYOUT



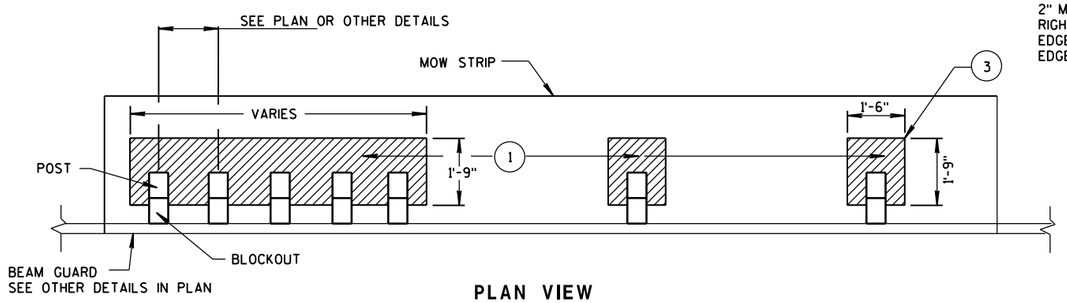
DETAIL A



ALTERNATIVE HMA
MOW STRIP DESIGN

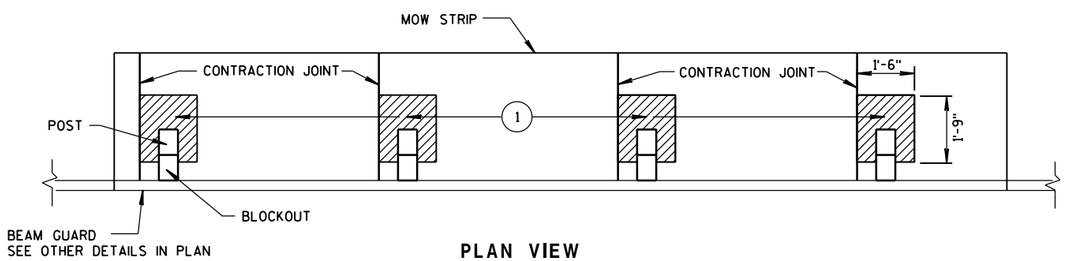


SECTION B-B



PLAN VIEW

MOW STRIP FOR TIGHT SPACING LAYOUT



PLAN VIEW

JOINT PLACEMENT FOR CONCRETE MOW STRIP

1 CONTROLLED LOW-STRENGTH BACKFILL OR EMULSIFIED ASPHALT.

2 DEPTH OF MOW STRIP:
ASPHALT - 4"
CONCRETE - 4"
EMULSIFIED ASPHALT - 1" OR LESS

3 FOR EMULSIFIED ASPHALT MOW STRIP LEAVE OUTS NOT REQUIRED. (TYPICAL FOR ALL POSTS.)

GUARDRAIL MOW STRIP

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

NT

6

S.D.D. 14 B 28-3

6

S.D.D. 14 B 28-3

GENERAL NOTES

(1) WOOD OR STEEL POSTS (w6X9 OR w6X8.5) MAY BE USED. DO NOT INTERMIX WOOD AND STEEL POSTS. INSTALL STEEL POSTS WITH HOLES ON APPROACHING TRAFFIC SIDE.

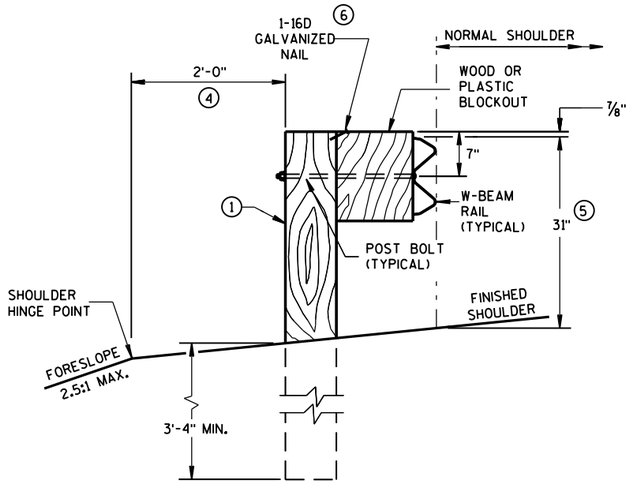
(2) USE WOOD OR APPROVED PLASTIC BLOCKOUTS. WOOD BLOCKOUTS MAY BE CONSTRUCTED OUT OF TWO OR MORE WOOD BLOCKOUTS. SEE ALTERNATE WOOD BLOCKOUT DETAIL. DIMENSIONS OF APPROVED PLASTIC BLOCKOUTS MAY VARY.

(3) IF ROCK IS ENCOUNTERED DURING EXCAVATION, PROVIDE A HOLE 12 INCHES IN DIAMETER EXTENDING 20 INCHES DEEP INTO THE ROCK. PLACE APPROXIMATELY 2½ INCHES OF GRANULAR MATERIAL IN THE BOTTOM OF THE HOLE. CUT THE POSTS THE TO LENGTH AMD INSTALL. BACKFILL WITH EXCAVATED MATERIAL AND COMPACT. BACKFILL IS TO BE FREE OF LARGE ROCKS.

(4) WHEN THE DISTANCE FROM BACK OF POST TO SHOULDER HINGE POINT IS LESS THAN 2 FEET INSTALL LONGER POST AT HALF POST SPACING (K).

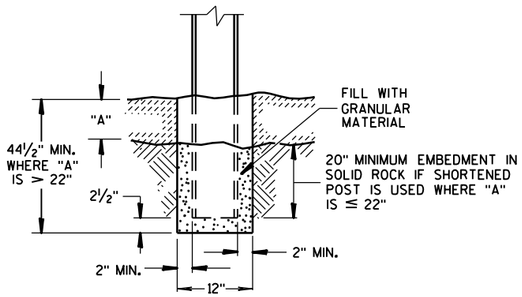
(5) FOR NEW MGS INSTALLATION TOP OF W-BEAM RAIL TOLERANCE IS ± 1". FOR EXISTING MGS INSTALLATION TOP OF W-BEAM IS BETWEEN 27¾" TO 32".

(6) WHEN USING STEEL POST AND WOOD BLOCKOUTS INSTALL FOUR 16D GALVANIZED NAILS. INSTALL NAILS AT THE BACK CORNERS OF THE BLOCK AND BEND THE NAILS OVER THE FLANGE OF THE STEEL POST.



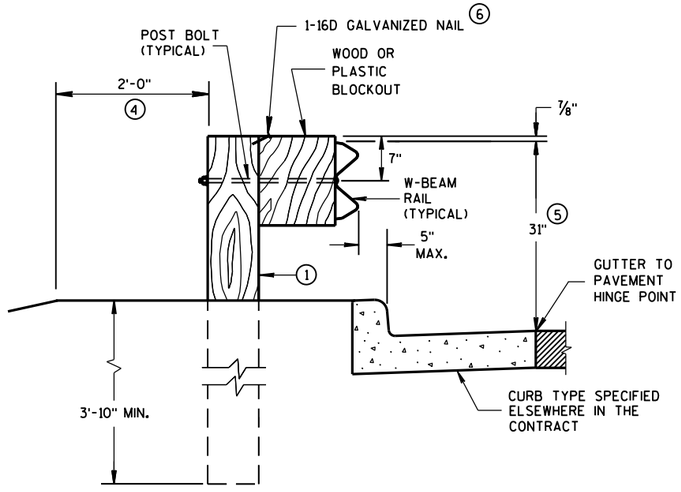
END VIEW

LOCATED ALONG A ROADWAY SHOULDER
STANDARD INSTALLATION



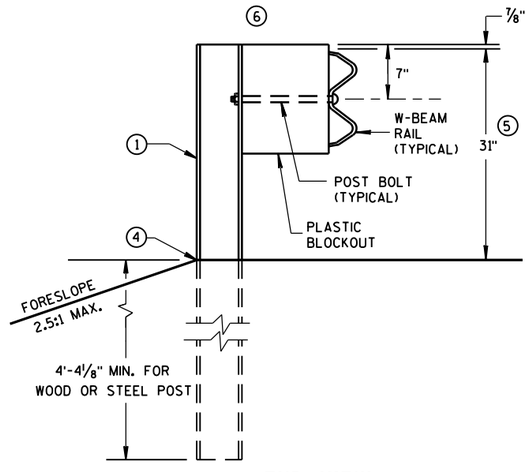
END VIEW

SETTING STEEL OR WOOD POST IN ROCK (3)



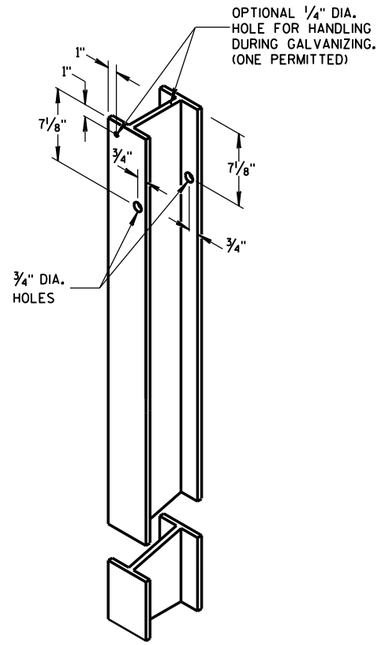
END VIEW

LOCATED ALONG A CURBED ROADWAY

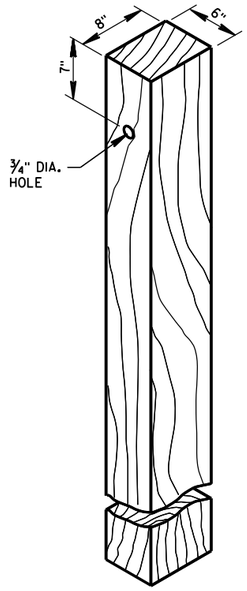


END VIEW

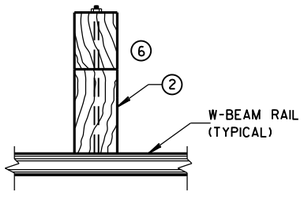
MGS LONGER POST AT HALFPOST SPACING W BEAM (K)



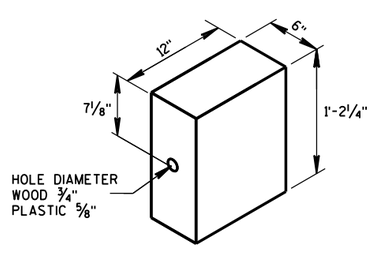
STEEL POST &
HOLE PUNCHING DETAIL
(w6X9) (1)



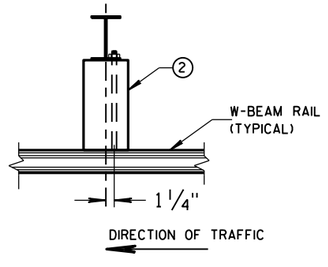
WOOD POST
(6" X 8") NOMINAL (1)



PLAN VIEW
WOOD POST,
BLOCKOUT & BEAM



WOOD OR
PLASTIC BLOCKOUT (2)

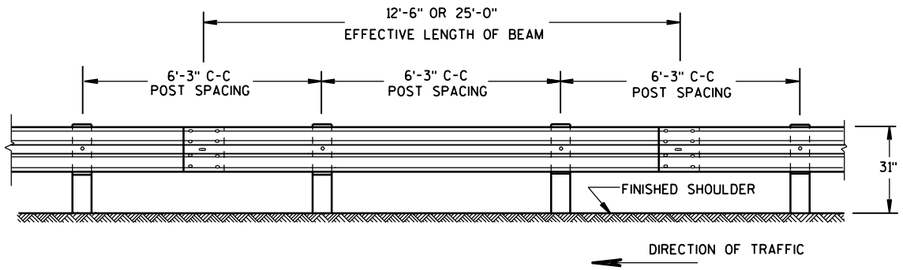


PLAN VIEW
STEEL POST,
PLASTIC BLOCKOUT & BEAM

MIDWEST GUARDRAIL SYSTEM
(MGS) GUARDRAIL

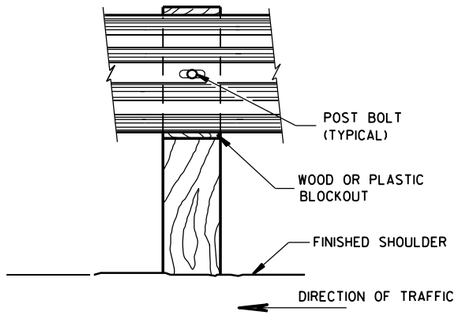
STATE OF WISCONSIN
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S.D.D. 14 B 42-3a



FRONT VIEW

POST SPACING STANDARD INSTALLATION



FRONT VIEW AT WOOD POST

GENERAL NOTES

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

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

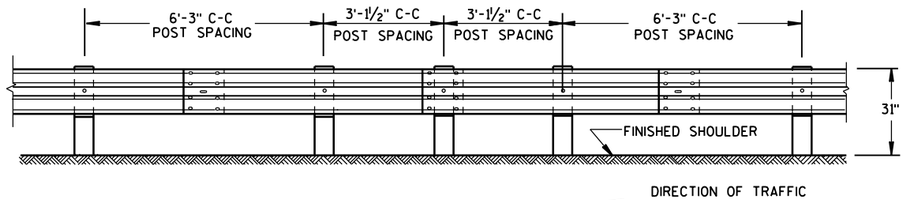
(9) REVERSE EVERY OTHER REFLECTOR FOR 2-WAY VISIBILITY. THE CONTRACTOR MAY FURNISH TWO-SIDED REFLECTORS IN LIEU OF ONE-SIDED REFLECTORS.

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

(11) 25 FEET OF HALF POST SPACING IS REQUIRED ON APPROACH AND DEPARTURE ENDS OF QUARTER POST SPACING.

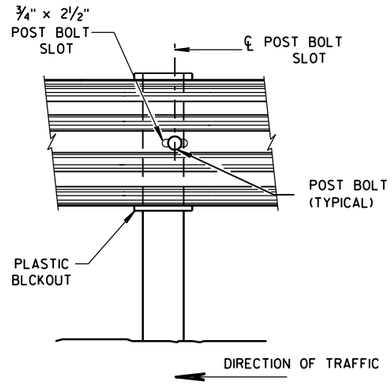
POST BOLTS ARE A 5/8" DIAMETER ASTM A307 GUARDRAIL BOLT. A POST BOLT REQUIRES 5/8" DIAMETER A563A DOUBLE RECESSED (DR) HEAVY HEX NUT AND 5/8" DIAMETER F844 FLAT WASHER. POST BOLTS MAY BE LONGER IF MULTIPLE BLOCKOUTS ARE BEING USED.

GUARD RAIL SPLICE BOLTS ARE A 5/8" DIAMETER ASTM A307 GUARDRAIL HEAD BOLT. A GUARDRAIL SPLICE BOLT REQUIRES 5/8" DIAMETER A563A DOUBLE RECESSED (DR) HEAVY HEX NUT.

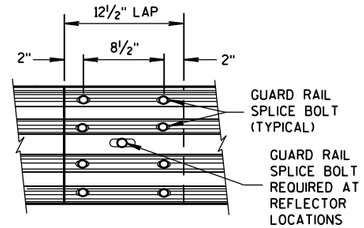


FRONT VIEW

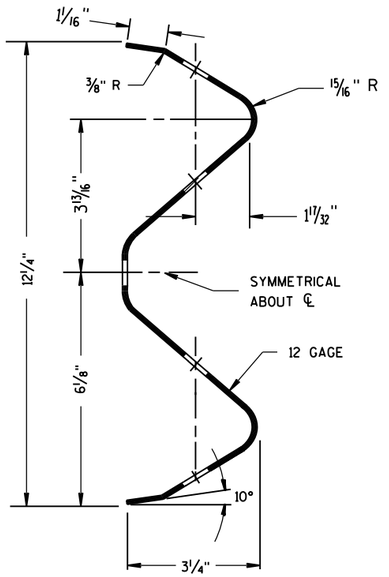
HALF POST SPACING (HS) AND HALF POST SPACING WITH LONGER POSTS (K)



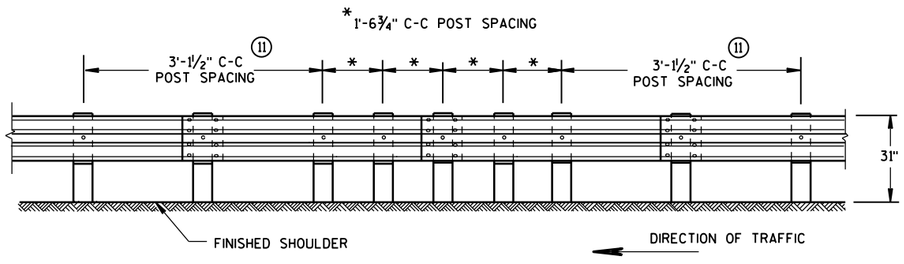
FRONT VIEW AT STEEL POST



FRONT VIEW
MID-SPAN BEAM SPLICE

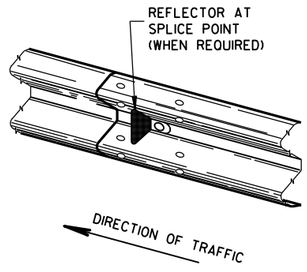


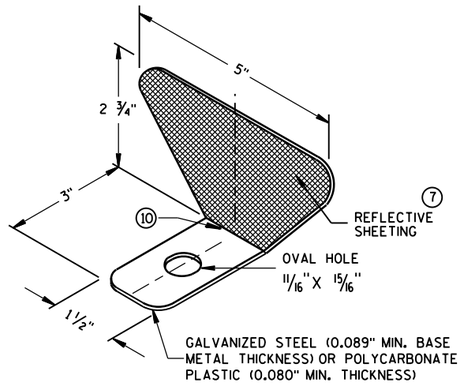
SECTION THRU W-BEAM RAIL



FRONT VIEW

QUARTER POST SPACING (QS)





REFLECTOR SPACING (8)

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

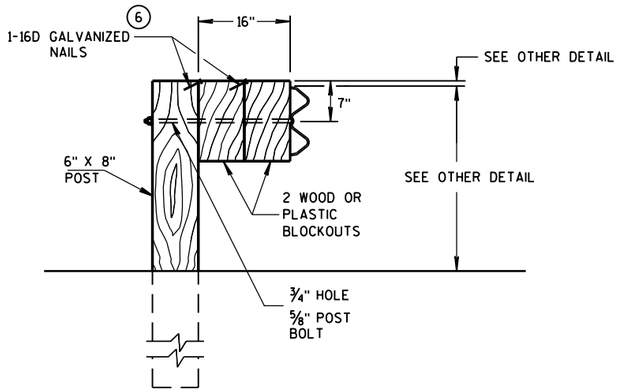
ONE SIDED REFLECTOR DETAIL AND TYPICAL INSTALLATION (7)

MIDWEST GUARDRAIL SYSTEM
(MGS) GUARDRAIL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPO

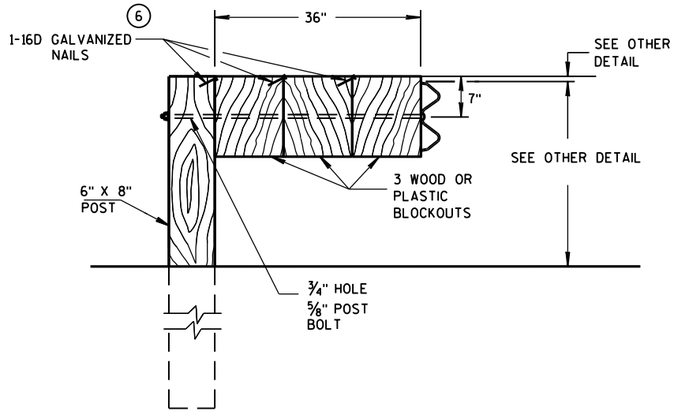
6

S.D.D. 14 B 42-3b



DETAIL FOR 16" BLOCKOUT DEPTH

IT IS ACCEPTABLE TO USE BLOCKOUTS UP TO 16" DEEP TO INCREASE THE POST OFFSET TO AVOID UNDERGROUND OBSTACLES. THERE IS NO LIMIT TO THE NUMBER OF POSTS THAT CAN HAVE ADDITIONAL BLOCKOUTS UP TO 16" DEEP.

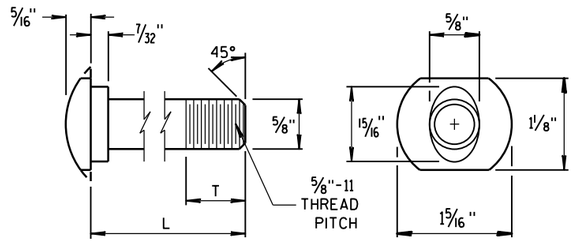


DETAIL FOR 36" BLOCKOUT DEPTH

NOTES: UNDER SPECIAL CIRCUMSTANCES, SUCH AS AVOIDING OBSTACLES THAT ARE NOT RELOCATED, IT IS ACCEPTABLE TO INSTALL ADDITIONAL BLOCKOUTS TO OBTAIN UP TO 36" DEPTH FOR ONE OR TWO POSTS IN A SECTION OF GUARDRAIL.

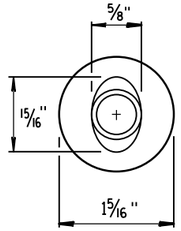
DO NOT USE 16" OR 36" BLOCKOUTS IF IT CAUSES THE POST TO BE DRIVEN BEYOND SHOULDER HINGE POINT OR CAUSES A FIXED OBJECT TO BE WITHIN THE DEFLECTION DISTANCE OF THE BARRIER.

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

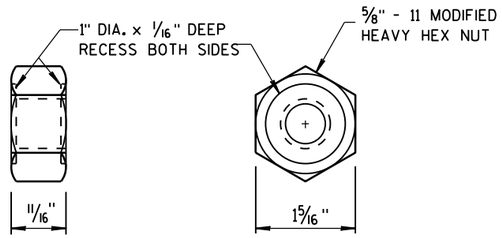


POST BOLT TABLE

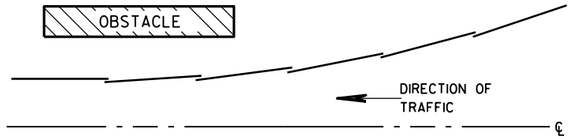
L	T (MIN.)
1¼"	1⅛"
2"	1¾"
10"	4"
14"	4 1/16"
18"	4"
21"	4 1/16"
25"	4"



ALTERNATE BOLT HEAD

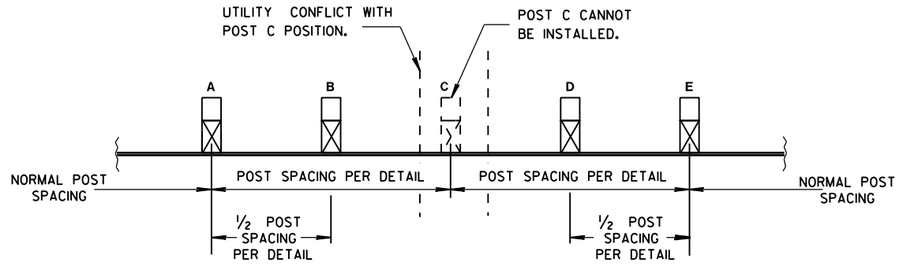


POST BOLT AND RECESS NUT

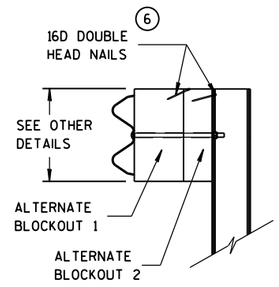


PLAN VIEW

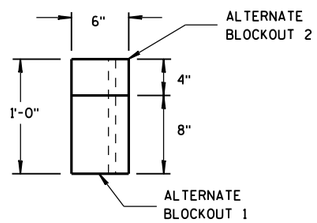
BEAM LAPPING DETAIL



POST DRIVING FOR CONTINUOUS UNDERGROUND OBSTRUCTION



SIDE VIEW



TOP VIEW

ALTERNATE WOOD BLOCKOUT DETAIL

MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

6
S.D.D. 14 B 42-3c

GENERAL NOTES

(A) THE SLOPE IN THE AREA BOUNDED BY THE GRADELINE, THE HINGE POINT LINE (HPL), AND THE CLEAR ZONE LIMITS (CZL) SHALL BE 4:1 OR FLATTER.

(B) AFTER FINAL ASSEMBLY, RECHECK CABLE TO BE SURE IT IS TAUT AND HAS NOT RELAXED.

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

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

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

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

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

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

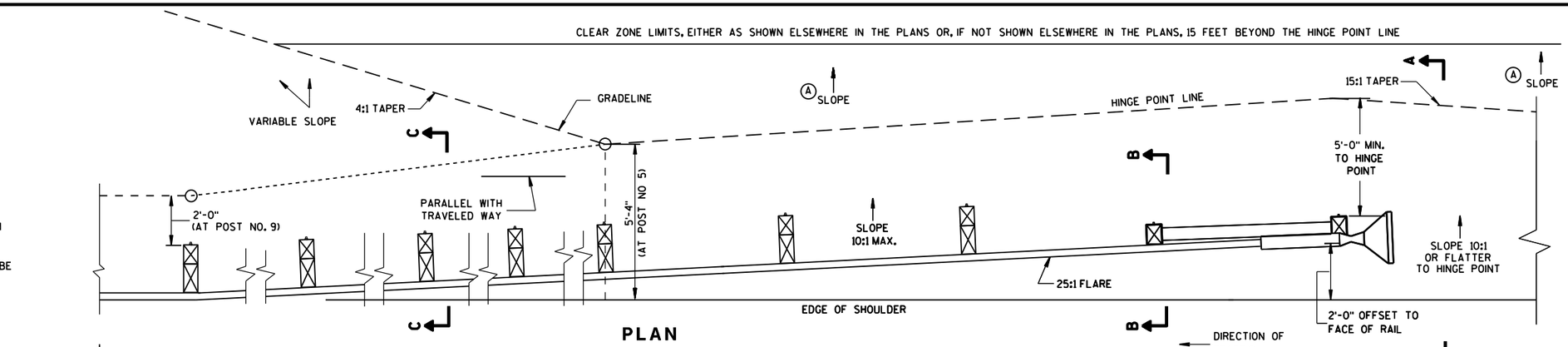
SEE SDD 14B42 FOR MORE INFORMATION.

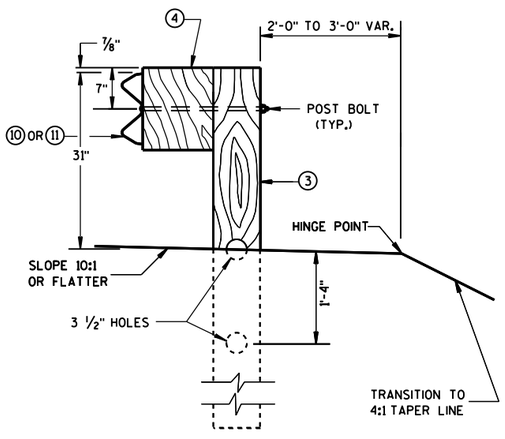
* DO NOT ATTACH BLOCKOUTS TO POSTS 1 AND 2.

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

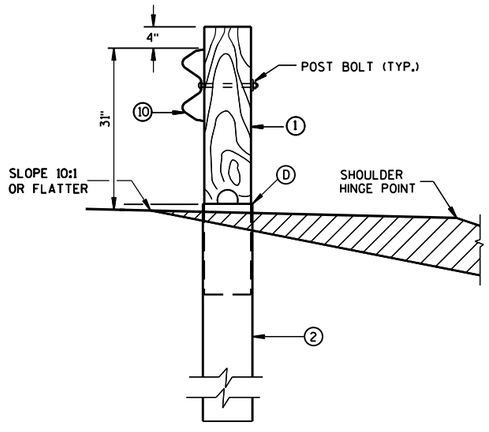
W-BEAM RAIL SPLICES ARE LOCATED AT POST NUMBER 3, AND BETWEEN POST 5 AND 6, BETWEEN POSTS 7 AND 8, AND MIDDLE OF THE SPAN AFTER POST 9.

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

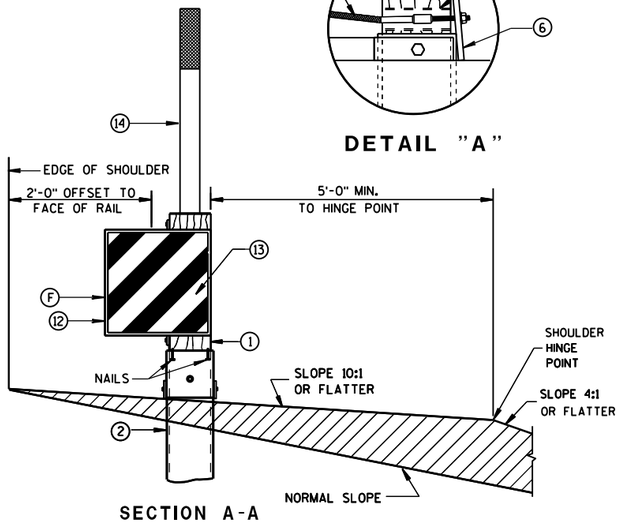




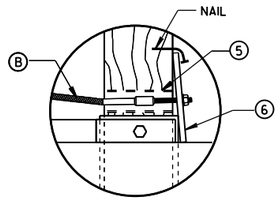
SECTION C-C
TYPICAL AT POST NOS. 3-9



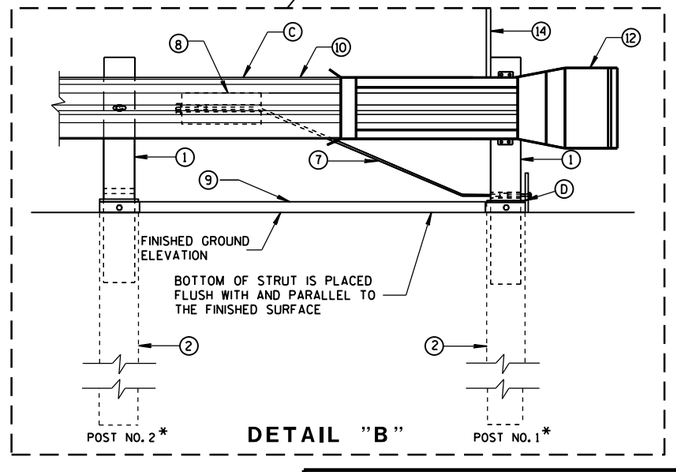
SECTION B-B
TYPICAL AT POST NO. 2*



SECTION A-A
TYPICAL AT POST NO. 1*



DETAIL "A"

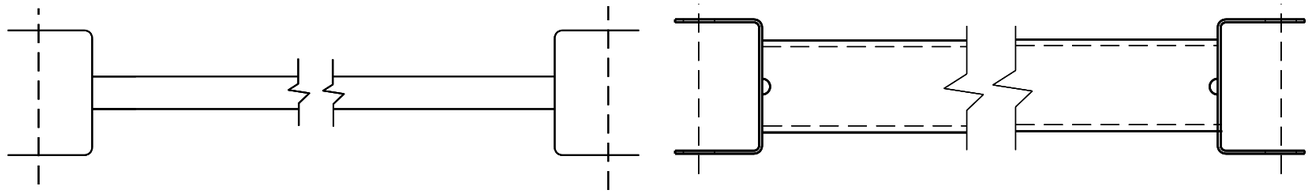


DETAIL "B"

MIDWEST GUARDRAIL SYSTEM
ENERGY ABSORBING TERMINAL (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPO

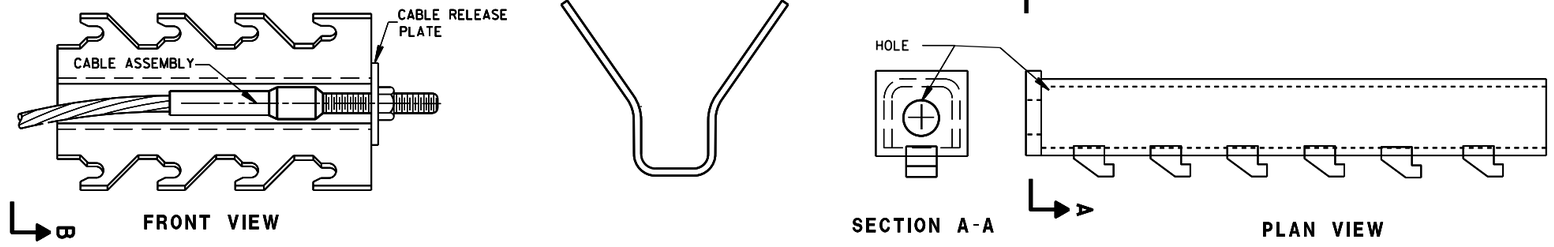
S.D.D. 14 B 44-2a



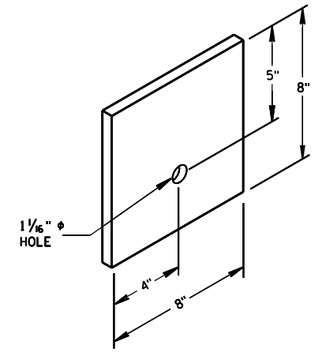
GENERIC GROUND STRUT (9) (H)

BILL OF MATERIALS

PART NO.	DESCRIPTION MATERIALS PROVIDED BY MGS EAT MANUFACTURER. SEE MANUFACTURER'S DETAILS FOR MORE INFORMATION.
(1)	WOOD BREAKAWAY POST
(2)	6" X 8" X 0.188", 6'-0" LONG FOUNDATION TUBE AT POSTS 1 AND 2
(3)	WOOD CRT
(4)	WOOD BLOCKOUT
(5)	PIPE SLEEVE
(6)	BEARING PLATE
(7)	BCT CABLE ASSEMBLY
(8)	ANCHOR CABLE BOX
(9)	GROUND STRUT
(10)	PERFORATED W-BEAM RAIL END PANEL, 12'-6" LONG.
(11)	STANDARD W-BEAM RAIL. MULTIPLE SECTIONS REQUIRED. SECTIONS VARY IN LENGTH.
(12)	END SECTION EAT
(13)	0.040" ALUMINUM SHEET WITH REFLECTIVE SHEETING TYPE F PER SECTION 637 OF THE STANDARD SPECIFICATIONS
(14)	EAT MARKER POST - YELLOW (SEE APPROVED PRODUCTS LIST)



GENERIC ANCHOR CABLE BOX (8) (H)

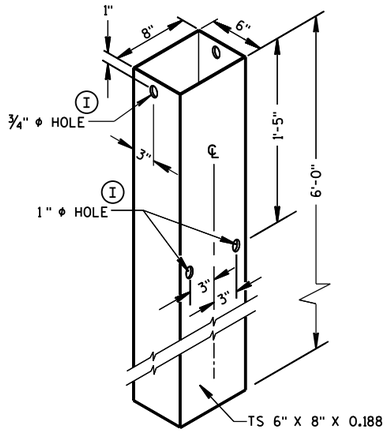


BEARING PLATE (6)

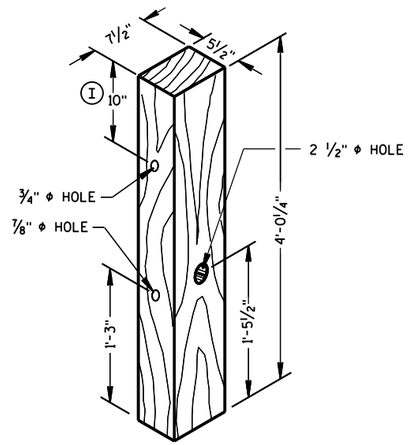
MIDWEST GUARDRAIL SYSTEM
ENERGY ABSORBING TERMINAL
(MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOI

6
S.D.D. 14 B 44-2b

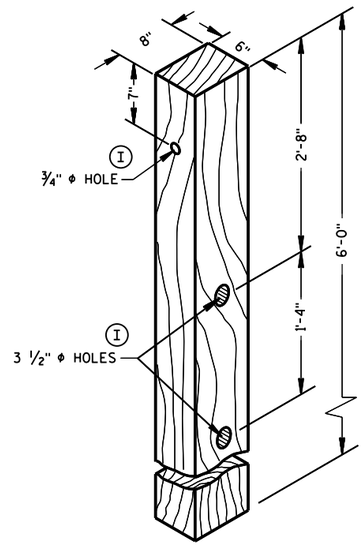


FOUNDATION TUBE (2)



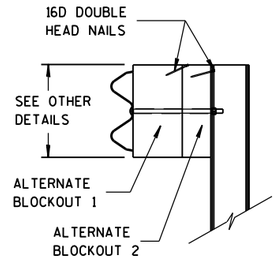
POSTS NUMBER 1 AND 2

WOOD BREAKAWAY POST (1)

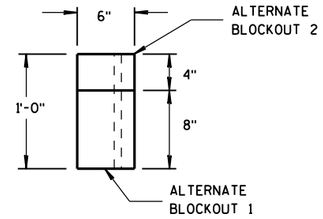


POSTS NUMBER 3-9

WOOD CRT POST (3)

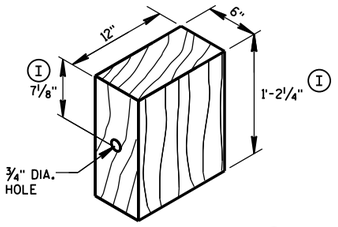


SIDE VIEW



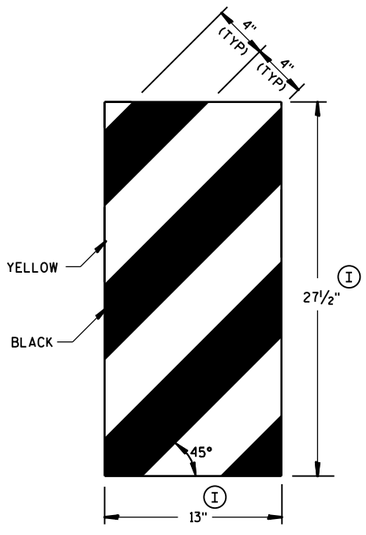
TOP VIEW

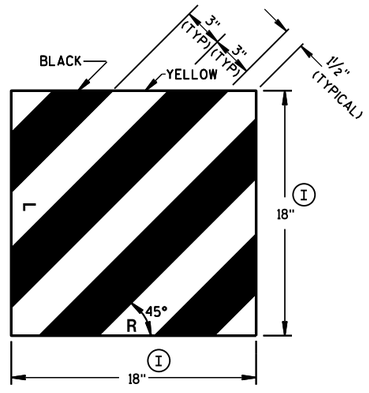
ALTERNATE WOOD BLOCKOUT DETAIL



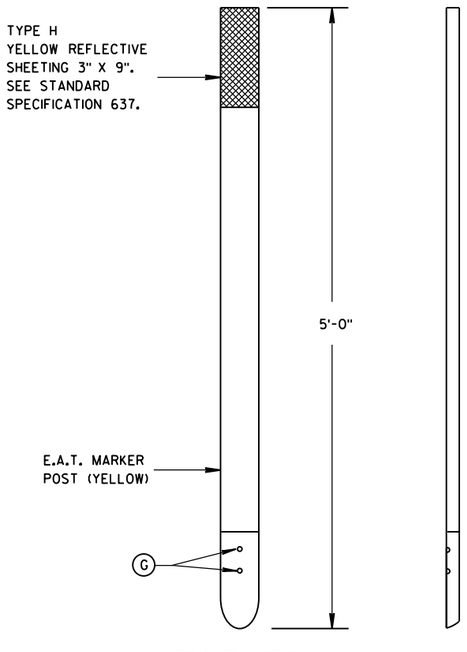
WOOD BLOCKOUT (4)

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





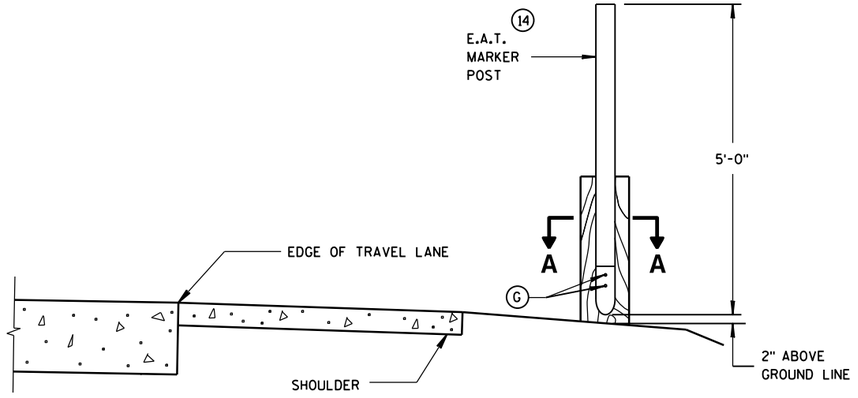
GENERIC REFLECTIVE SHEETING (13) (H)



FRONT VIEW

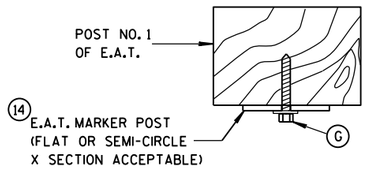
SIDE VIEW

E.A.T. MARKER POST (14)



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

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



SECTION A-A

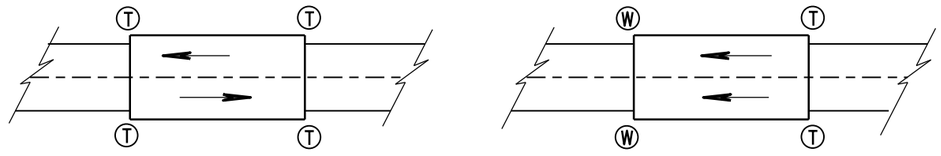
MIDWEST GUARDRAIL SYSTEM
ENERGY ABSORBING TERMINAL
(MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

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



TWO WAY TRAFFIC **ONE WAY TRAFFIC**

Ⓣ THRIE BEAM CONNECTION

Ⓦ W-BEAM CONNECTION WHEN REQUIRED

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

GENERAL NOTES

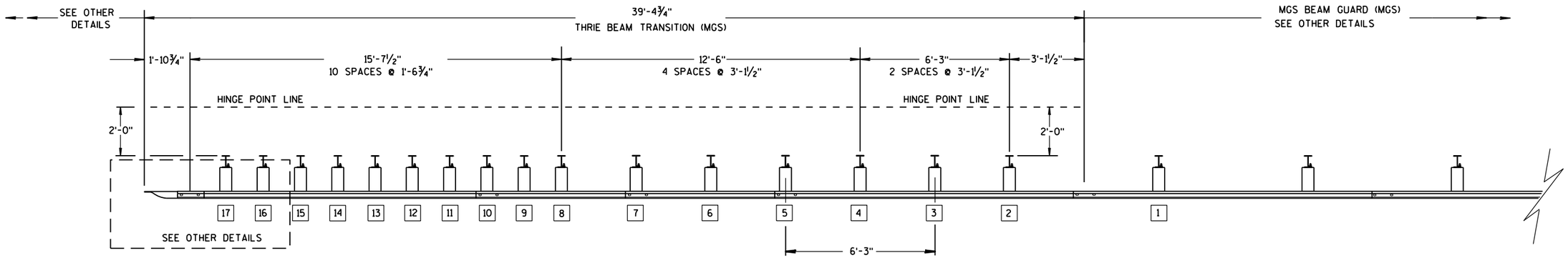
IF ROCK IS ENCOUNTERED, REMOVE ROCK TO FULL DEPTH OF POST PLUS 2½", AND 12" DIAMETER AROUND POST. SEE 14B42 FOR MORE DETAILS.

TRANSITION USES STEEL POSTS ONLY.

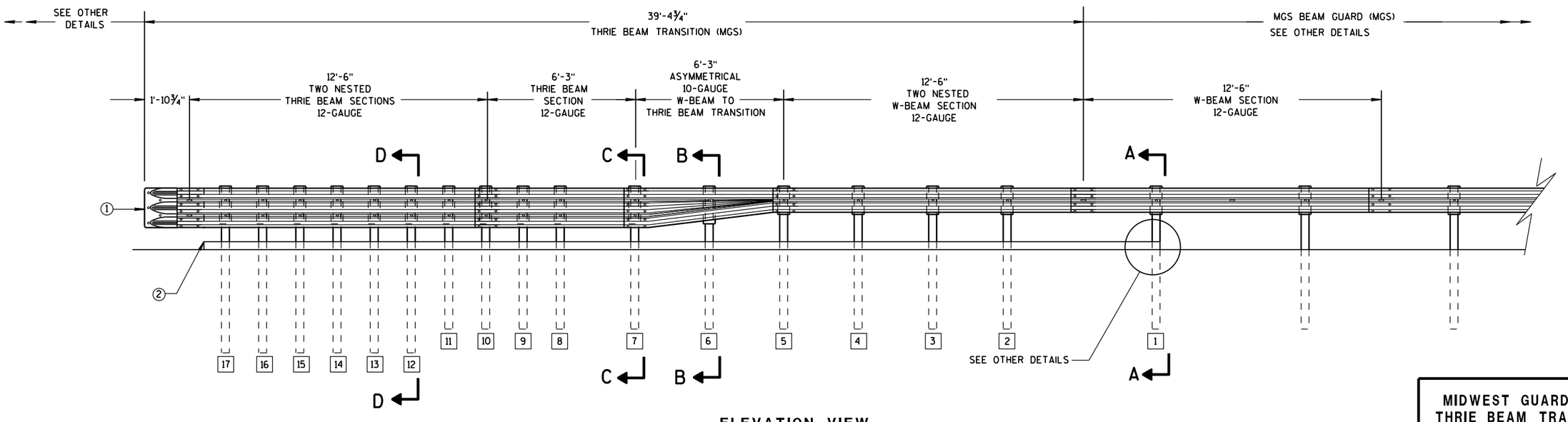
SEE STANDARD DETAIL DRAWING 14 B 42 FOR MORE INFORMATION.

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

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



PLAN VIEW



ELEVATION VIEW

MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION

MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOI

6

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

6

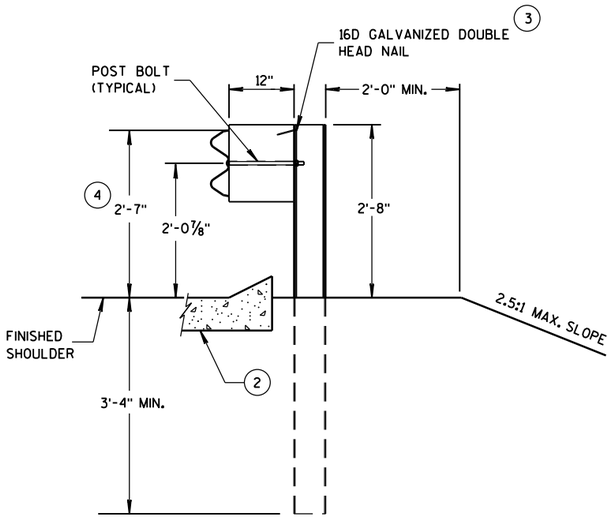
S.D.D. 14 B 45-4a

GENERAL NOTES

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

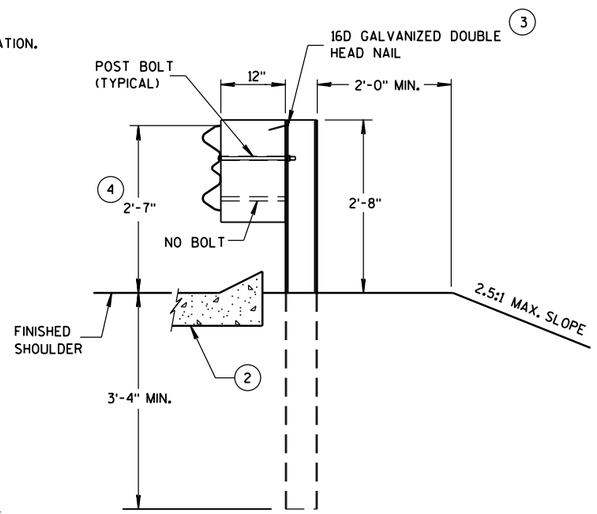
(3) WHEN USING STEEL POSTS AND WOOD BLOCKOUTS INSTALL FOUR 10D GALVANIZED NAILS. INSTALL NAILS AT THE BACK CORNERS OF THE BLOCK AND BEND THE NAILS OVER THE FLANGE OF THE STEEL POST.

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



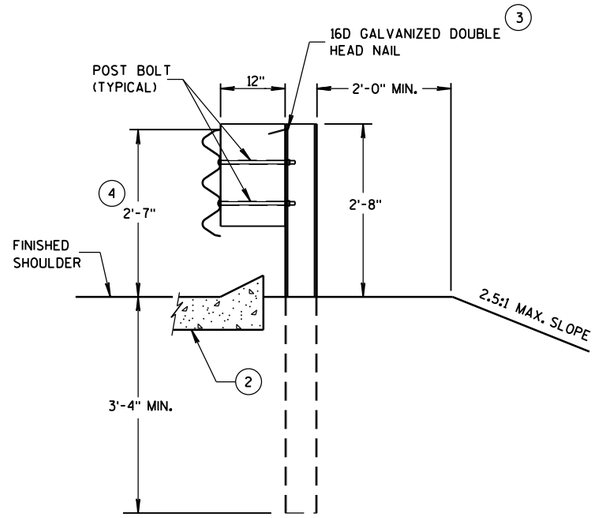
SECTION A-A

POSTS 1-5



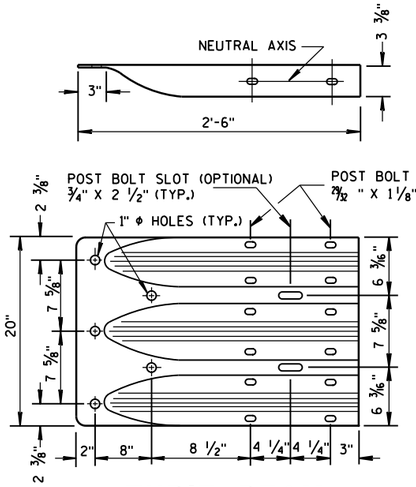
SECTION B-B

POST 6



SECTION C-C

POSTS 7-11



THRIE BEAM TERMINAL CONNECTOR

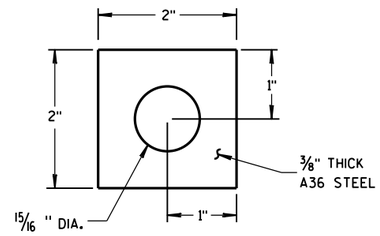
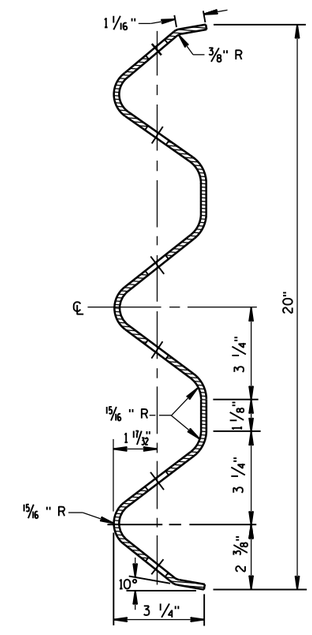
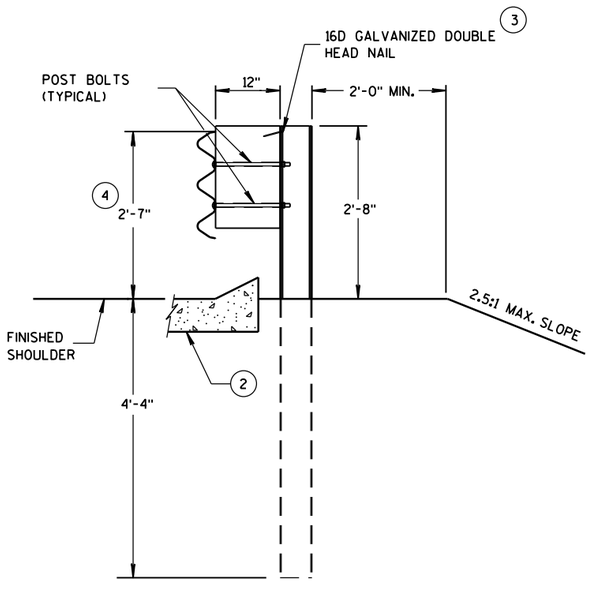


PLATE WASHER DETAIL

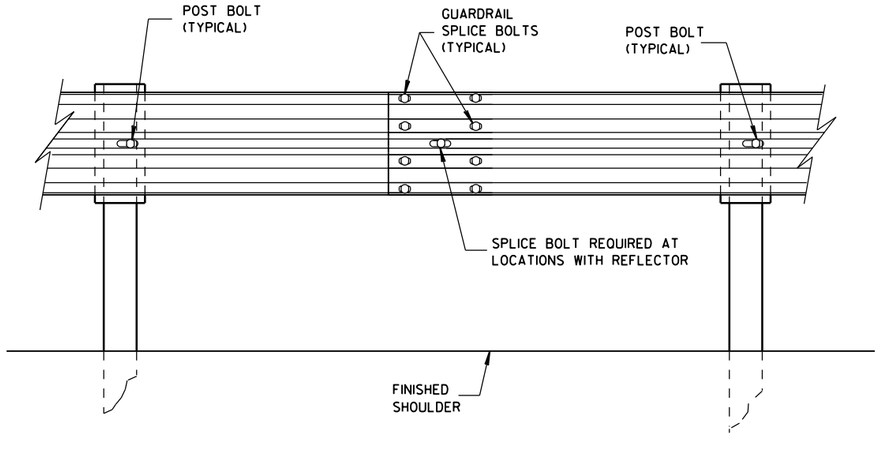


SECTION THRU THRIE BEAM RAIL ELEMENT



SECTION D-D

POSTS 12-17



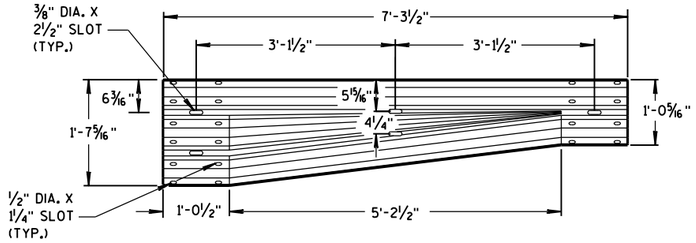
SPLICE DETAIL

MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

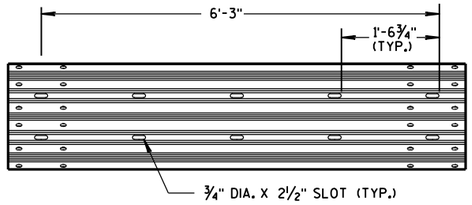
STATE OF WISCONSIN
DEPARTMENT OF TRANSPOI

6

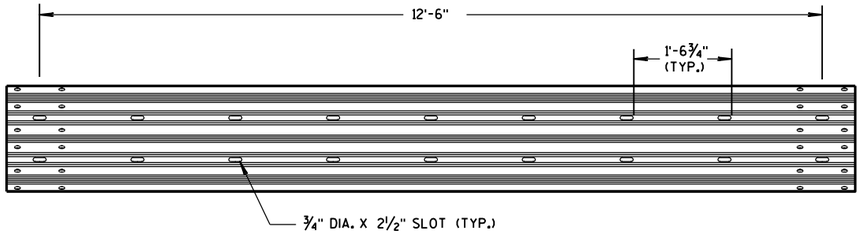
S.D.D. 14 B 45-4b



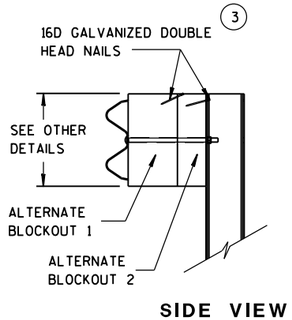
W-BEAM TO THRIE BEAM TRANSITION SECTION



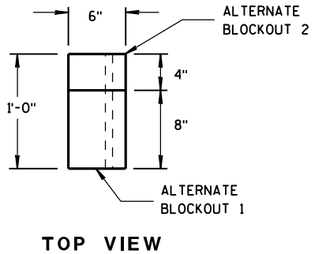
6'-3" THRIE BEAM SECTION



12'-6" THRIE BEAM SECTION

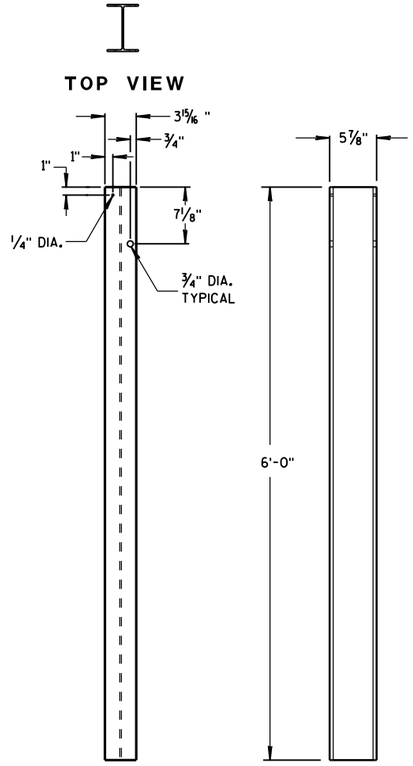


SIDE VIEW

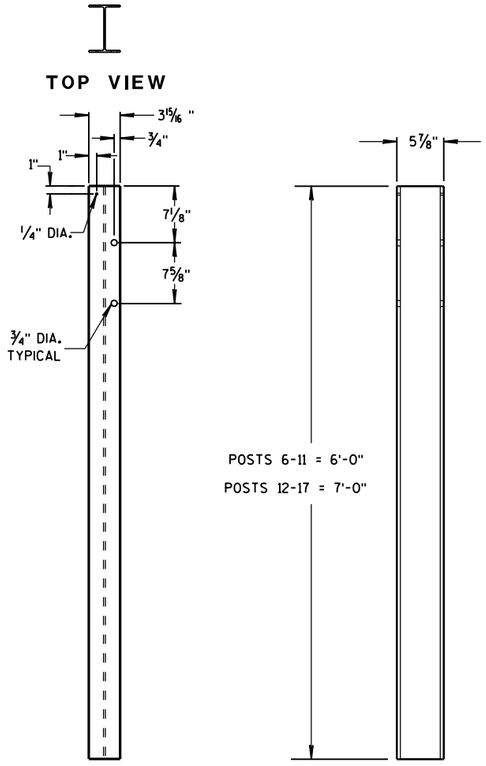


TOP VIEW

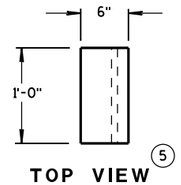
ALTERNATE WOOD BLOCKOUT DETAIL



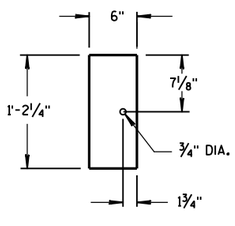
STEEL POSTS 1-5



STEEL POSTS 6-17

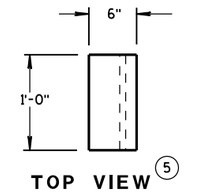


TOP VIEW

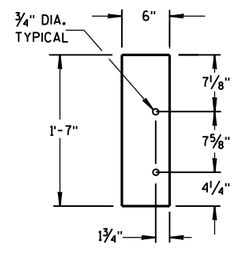


FRONT VIEW

BLOCKOUT POSTS 1-5



TOP VIEW



FRONT VIEW

BLOCKOUT POSTS 6-17

GENERAL NOTES

STEEL POSTS ARE W6X9 OR W6X8.5.

BOLT HOLES FOR POST ARE ON FRONT AND OF SIDE OF POST.

(3) WHEN USING STEEL POSTS AND WOOD BLOCKOUTS INSTALL FOUR 16D GALVANIZED NAILS. INSTALL NAILS AT THE BACK CORNERS OF THE BLOCK AND BEND THE NAILS OVER THE FLANGE OF THE STEEL POST.

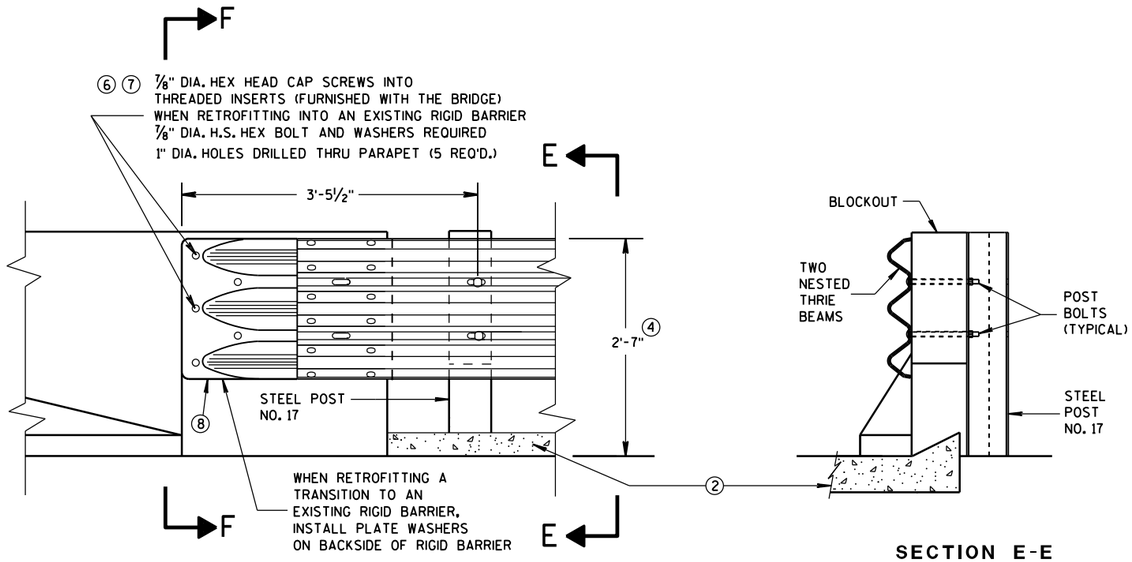
(5) WOOD BLOCKS MAY BE CONSTRUCTED OUT OF 2 WOOD BLOCKS. SEE ALTERNATE WOOD BLOCK DETAIL.

MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOR

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



FRONT VIEW

SECTION E-E

THRIE BEAM CONNECTION TO BRIDGE PARAPET WITH SQUARE ENDS

GENERAL NOTES

THESE ARE TYPICAL CONNECTION DETAILS. ADJUST THE POSTION OF CONNECTIONS TO EXISTING BRIDGES TO FIT THE ACTUAL BRIDGE AND SITE DIMENSIONS.

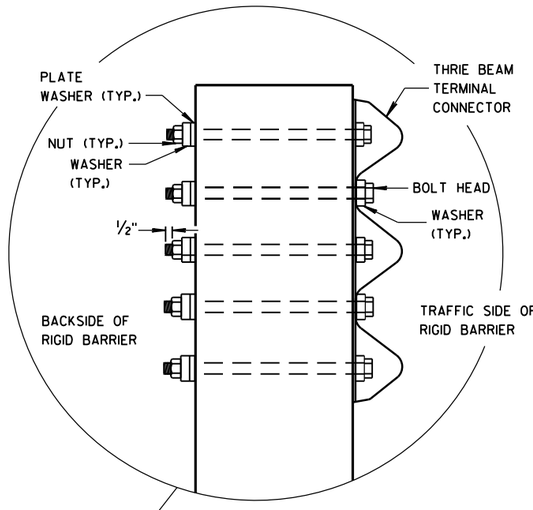
② OPTIONAL CURB AND GUTTER OR DRAINAGE FEATURE SEE PLAN FOR INFORMATION.

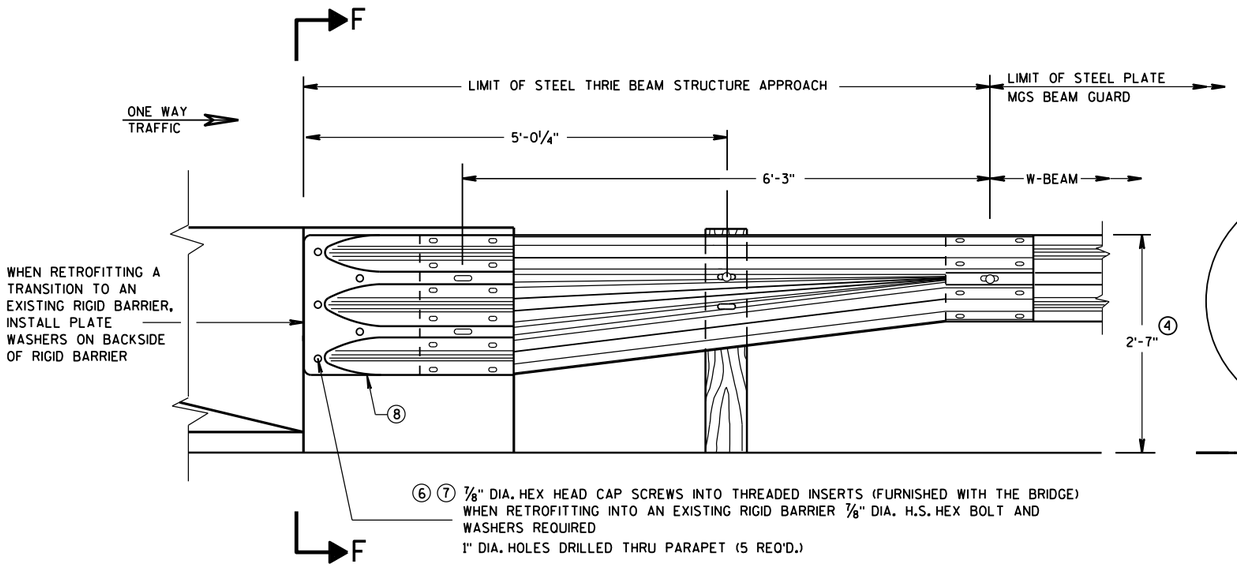
④ TOLERANCE FOR TOP OF BEAM IS ± 1".

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

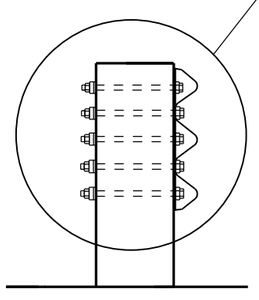
⑦ BOLTS MAY BE A325 BOLTS OR A449 BOLTS. BOLT LENGTH AND THREADING LENGTH ARE TO ALLOW FOR A TIGHT CONNECTION BETWEEN RIGID BARRIER AND THRIE BEAM CONNECTION PLATE. CONTRACTOR IS TO FIELD VERIFY BOLT LENGTH AND THREAD LENGTH. ONE ROUND WASHER REQUIRED BETWEEN BOLT HEAD AND THRIE BEAM CONNECTOR PLATE.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

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

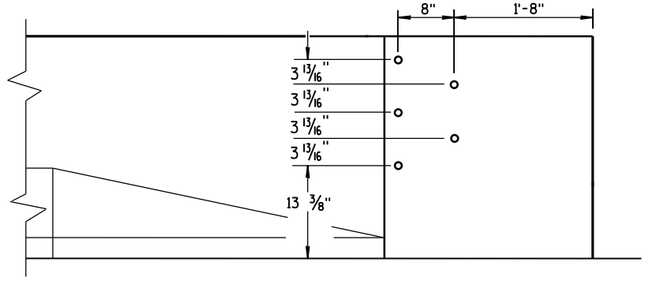




FRONT VIEW



SECTION F-F



DRILL HOLE LOCATION

W BEAM TRANSITION AND CONNECTION TO BRIDGE PARAPETS WITH SQUARE ENDS

(USE ONLY ON THE TRAFFIC EXIT END OF ONE WAY BRIDGES)

MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

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

6

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

GENERAL NOTES

THESE ARE TYPICAL CONNECTION DETAILS. ADJUST THE POSTION OF CONNECTIONS TO EXISTING BRIDGES TO FIT THE ACTUAL BRIDGE AND SITE DIMENSIONS.

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

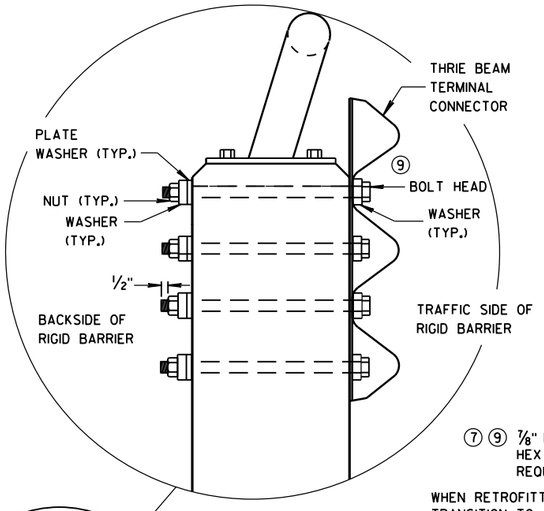
(4) TOLERANCE FOR TOP OF BEAM IS ± 1".

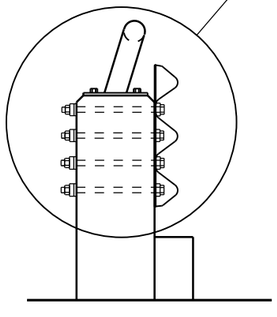
(6) DRILLING BOLT HOLES THROUGH THE PARAPET, BOLTS, NUTS, WASHERS AND REPAIRING DAMAGED CONCRETE ARE INCIDENTAL TO THE CONTRACT.

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

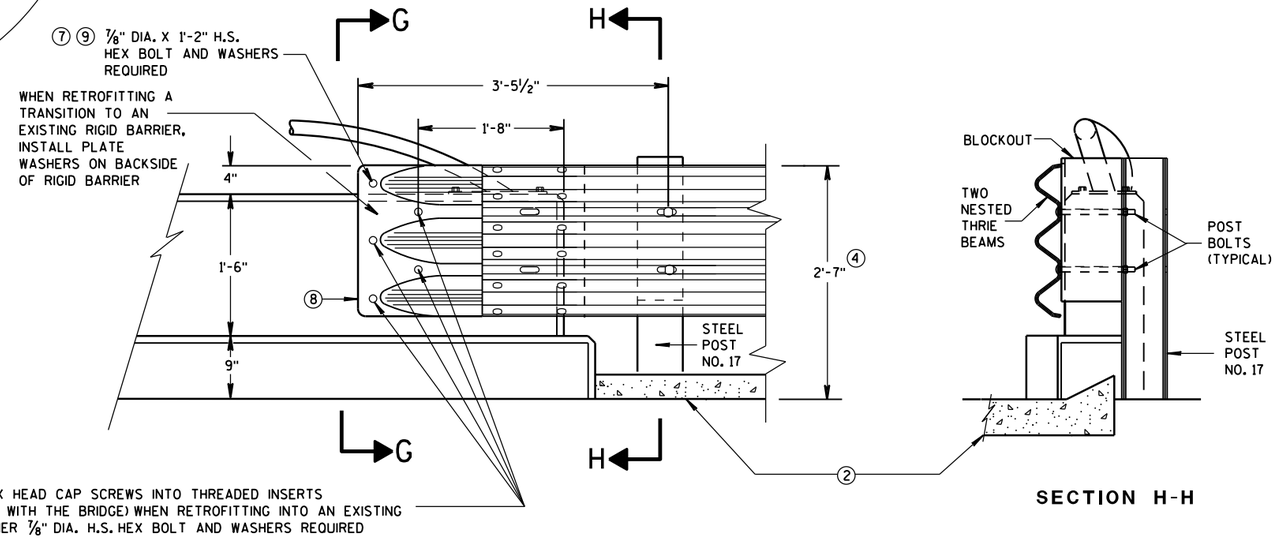
(8) THE RECESS FOR A W-BEAM CONNECTION, WHICH EXISTS ON SOME PARAPETS OF THIS TYPE, SHALL BE FILLED WITH A TREATED TIMBER BLOCKOUT. BLOCKOUT SIZE IS 1'-6" X 2'-0" X 3 1/2".

(9) BOLT, NUT AND WASHERS NOT REQUIRED FOR THIS LOCATION WHEN RETROFITTING AN EXISTING PAPAPET AND THE HOLE IS EITHER ABOVE PARAPET OR WITHIN 4 INCHES OF THE EDGE OF PARAPET.





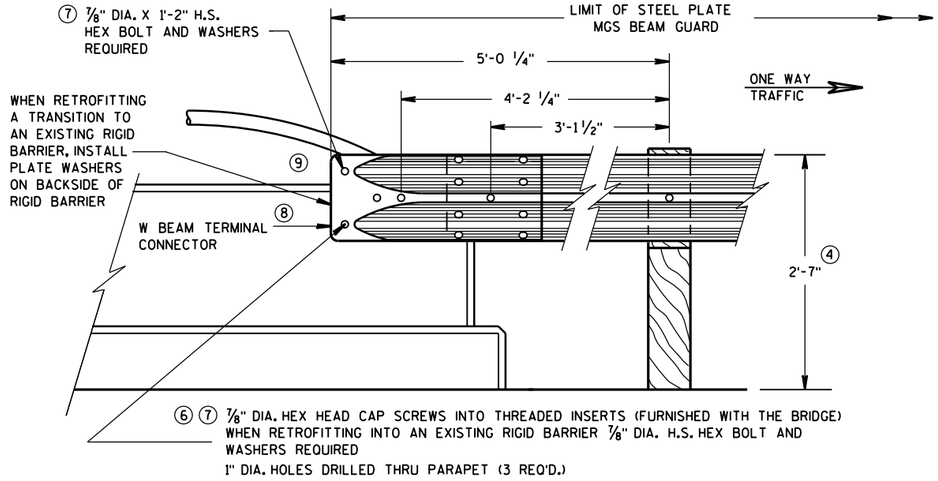
SECTION G-G



FRONT VIEW

SECTION H-H

THRIE BEAM CONNECTION TO VERTICAL FACED PARAPETS



FRONT VIEW

W BEAM CONNECTION TO VERTICAL FACE PARAPET

(USE ONLY ON THE TRAFFIC EXIT END OF ONE WAY BRIDGES)

MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

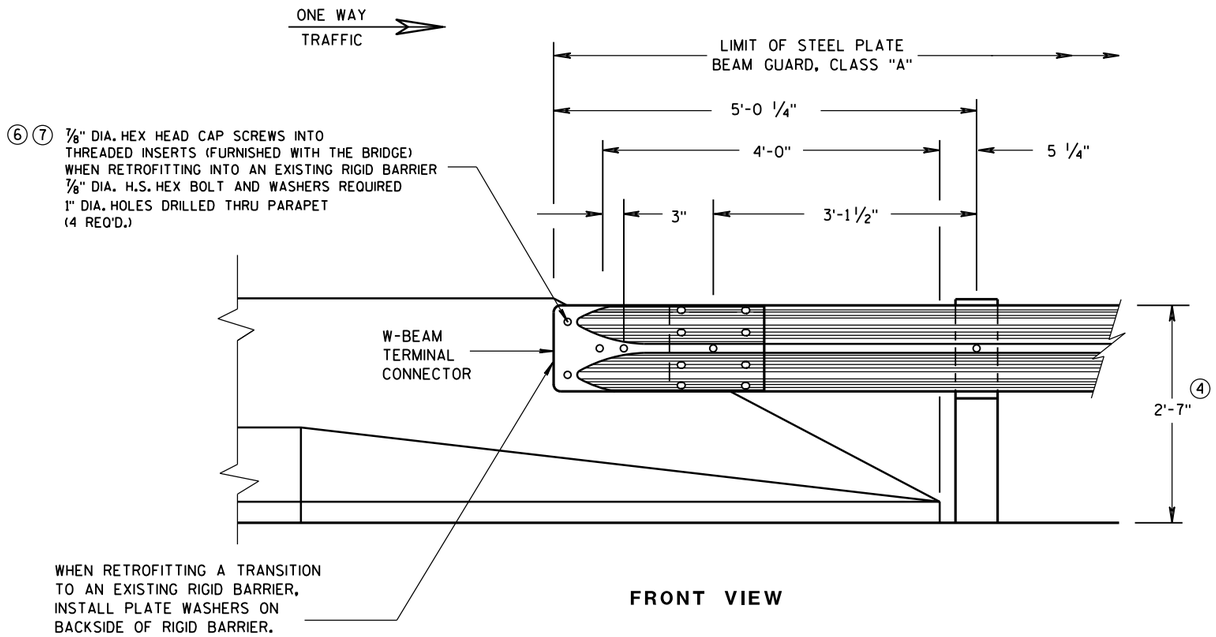
APPROVED
June, 2015 — DATE
/S/ Jerry H. Zogg — ROADWAY STANDARDS DEVELOPMENT ENGINEER
FHWA

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

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



FRONT VIEW

W BEAM CONNECTION TO PARAPETS WITH SLOPED ENDS

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

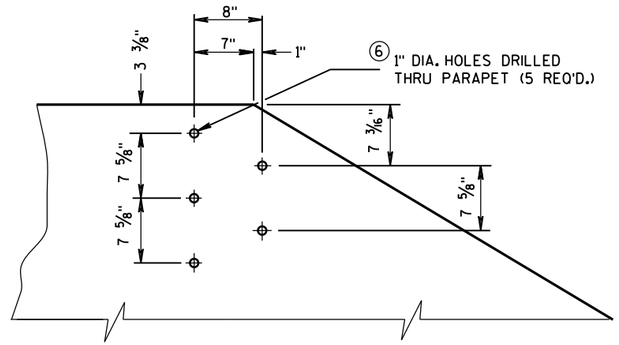
GENERAL NOTES

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

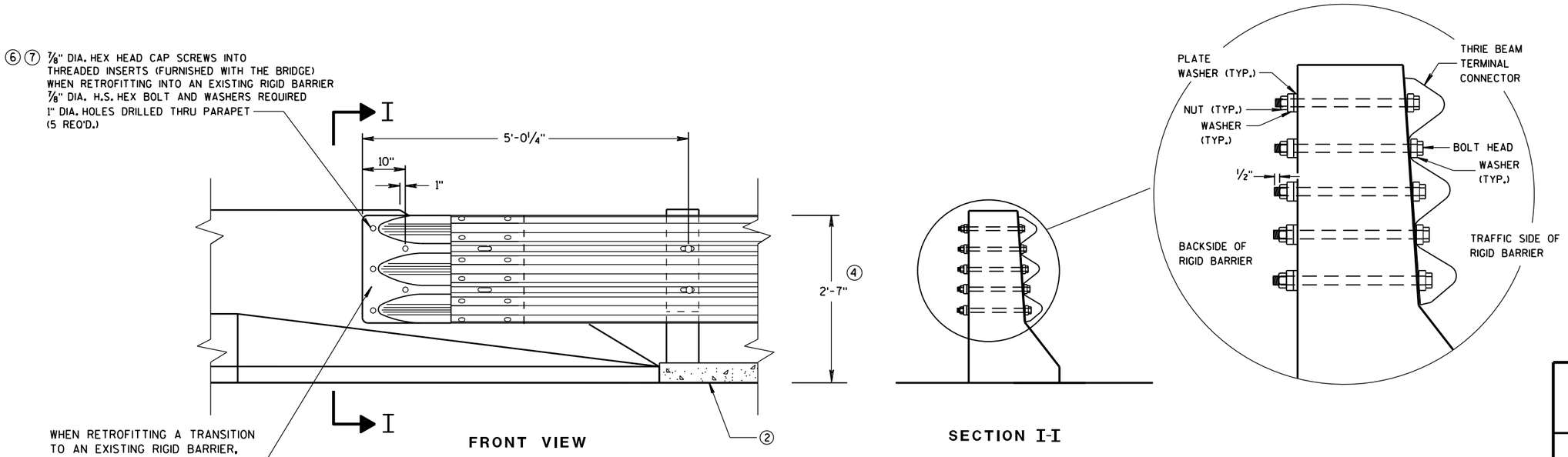
④ TOLERANCE FOR TOP OF BEAM IS ± 1".

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

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



DRILL HOLE LOCATION AND PATTERN
FOR THRIE BEAM CONNECTION



FRONT VIEW

SECTION I-I

THRIE BEAM CONNECTION TO BRIDGE PARAPETS WITH SLOPED ENDS

MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

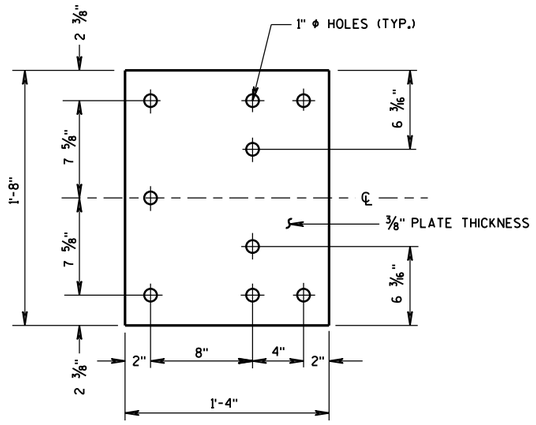
APPROVED
June, 2015 — DATE
/S/ Jerry H. Zogg — ROADWAY STANDARDS DEVELOPMENT ENGINEER
FHWA

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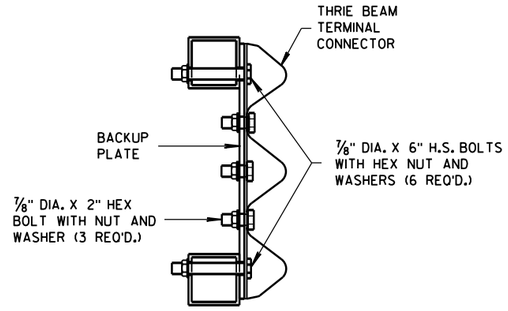
S.D.D. 14 B 45-4f

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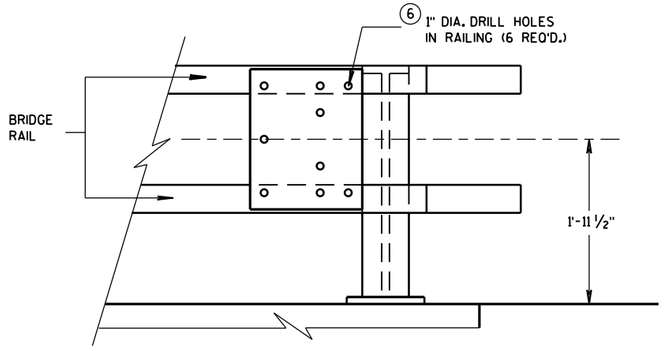
S.D.D. 14 B 45-4f



BACK-UP PLATE DETAIL



SECTION J-J

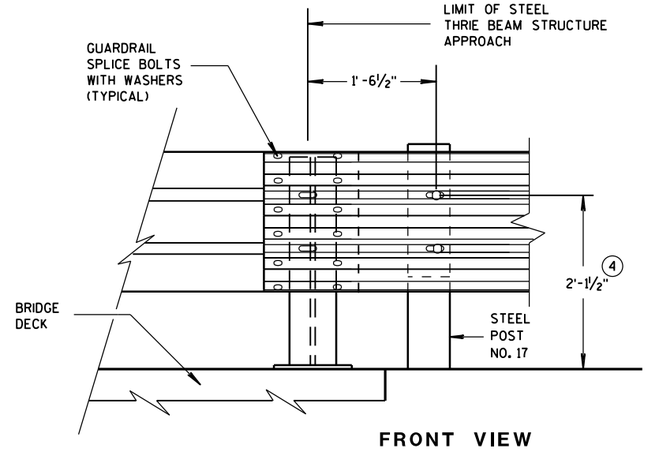


BACK-UP PLATE MOUNTING ONTO BRIDGE RAILING

GENERAL NOTES

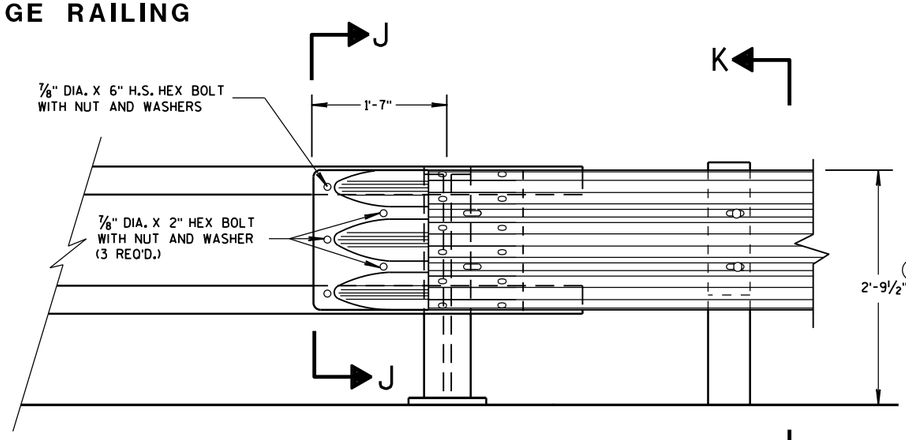
4 TOLERANCE FOR TOP OF BEAM IS ± 1".

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

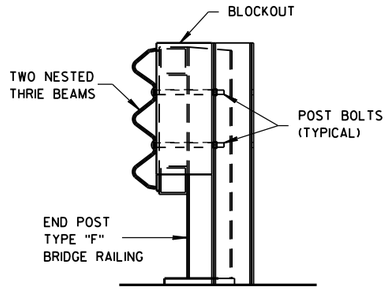


FRONT VIEW

THRIE BEAM CONNECTION TO STEEL RAILING TYPE "W"



FRONT VIEW



SECTION K-K

THRIE BEAM CONNECTION TO TUBULAR RAILING TYPE "F"

MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

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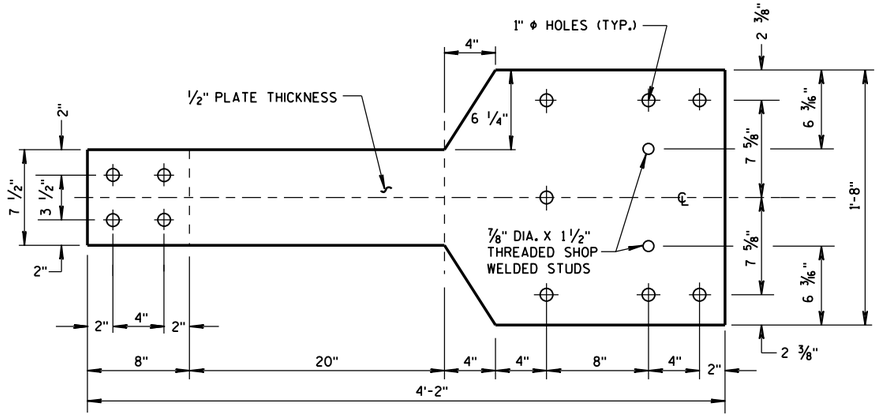
S.D.D. 14 B 45-4g

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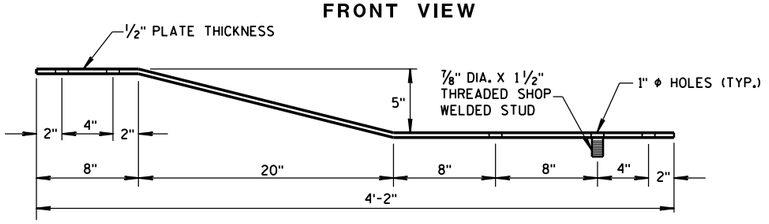
S.D.D. 14 B 45-4g

GENERAL NOTES

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

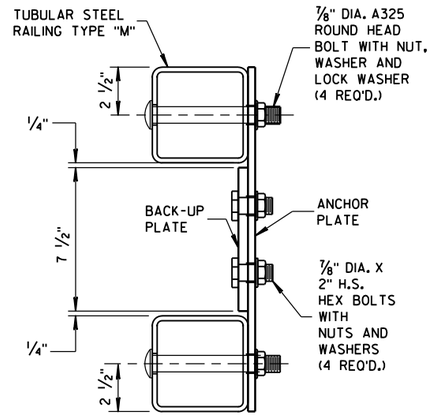


FRONT VIEW

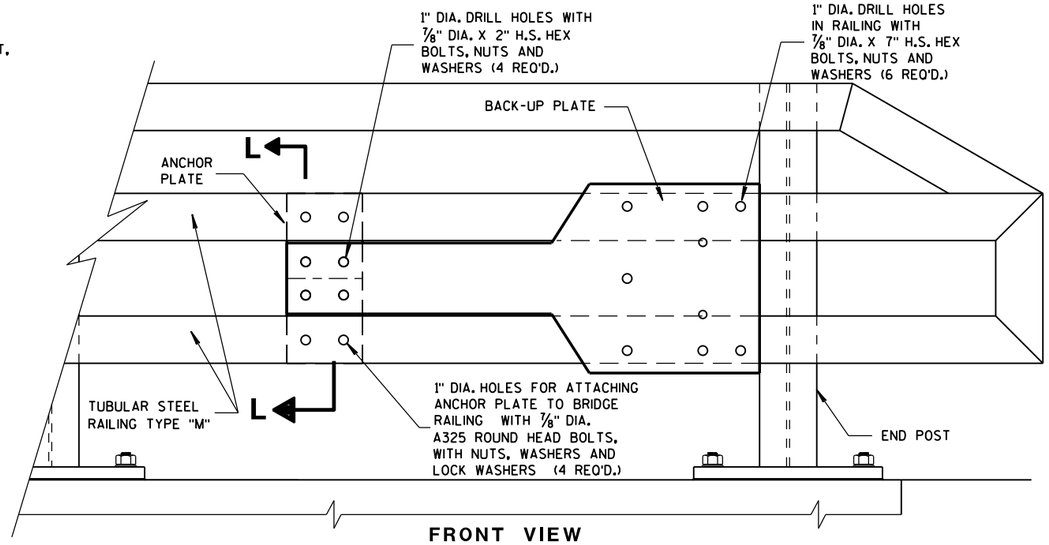


PLAN VIEW

BACK-UP PLATE DETAIL, TYPE "M"

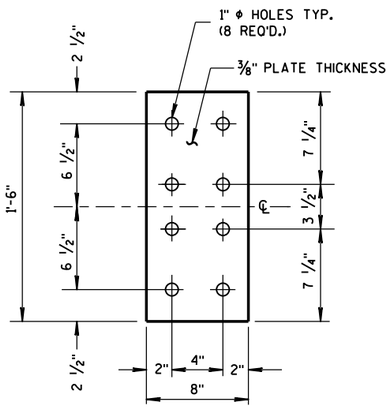


SECTION L-L



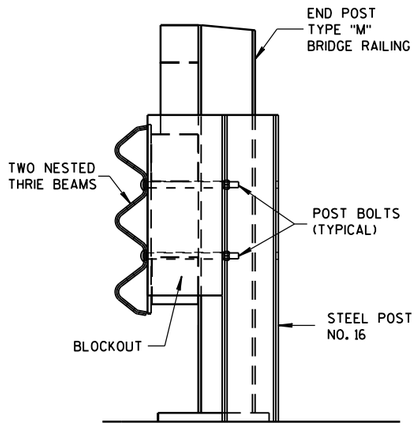
FRONT VIEW

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

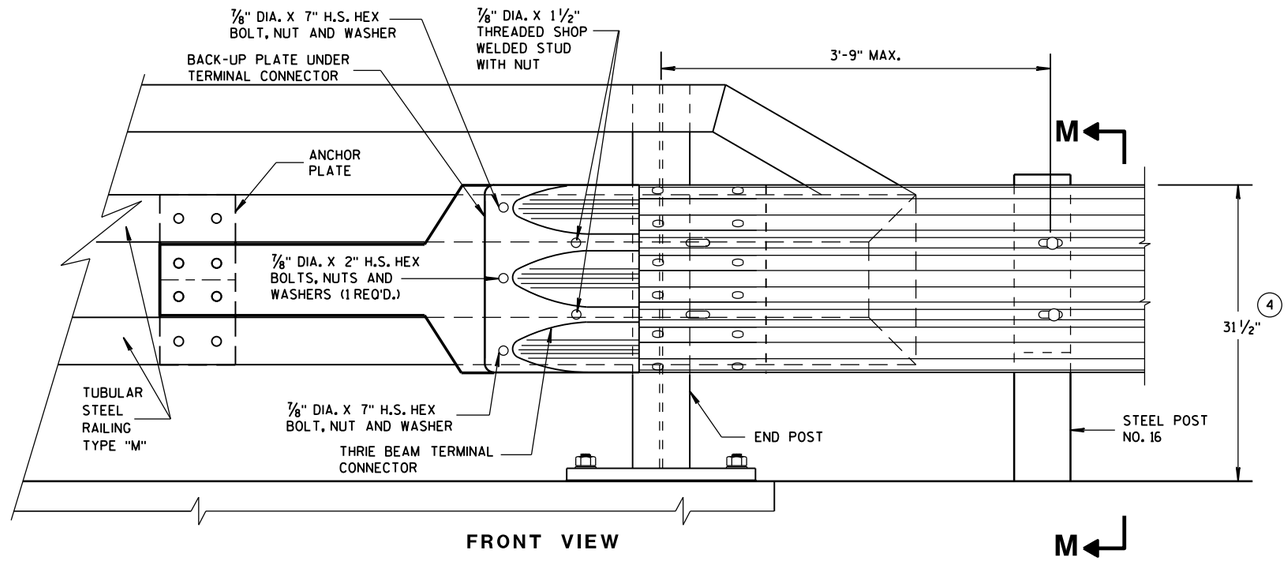


FRONT VIEW

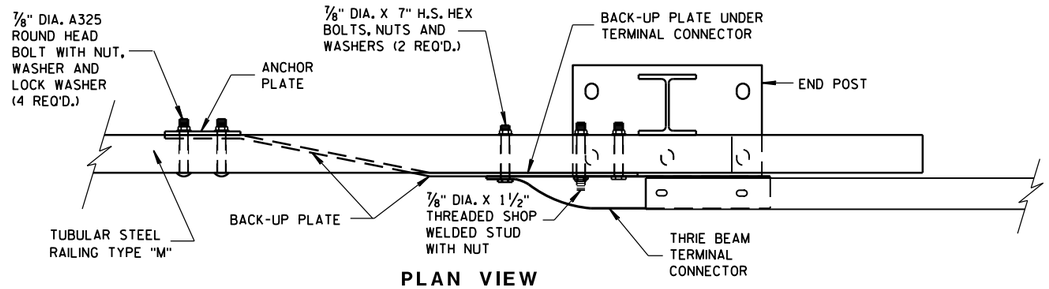
ANCHOR PLATE DETAIL, TYPE "M"



SECTION M-M



FRONT VIEW



PLAN VIEW

THRIE BEAM CONNECTION TO TUBULAR RAILING, TYPE "M"

MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

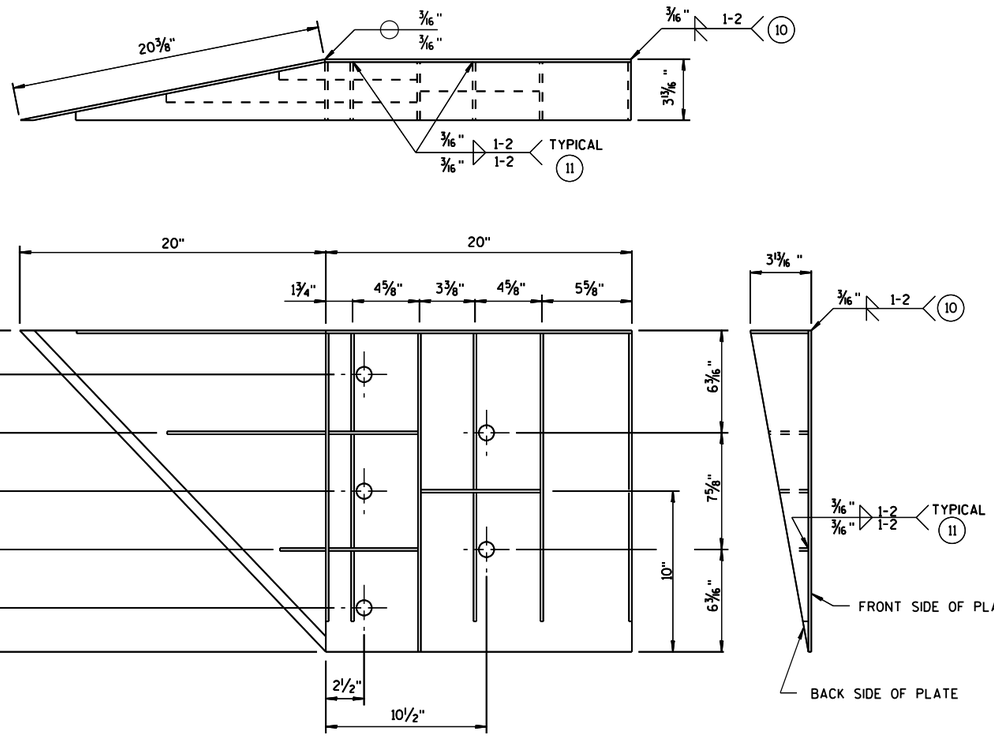
APPROVED
June, 2015 — DATE
/S/ Jerry H. Zogg — ROADWAY STANDARDS DEVELOPMENT ENGINEER
FHWA

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

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



WELDING INSTRUCTION

(VIEWED FROM BACK SIDE OF PLATE)

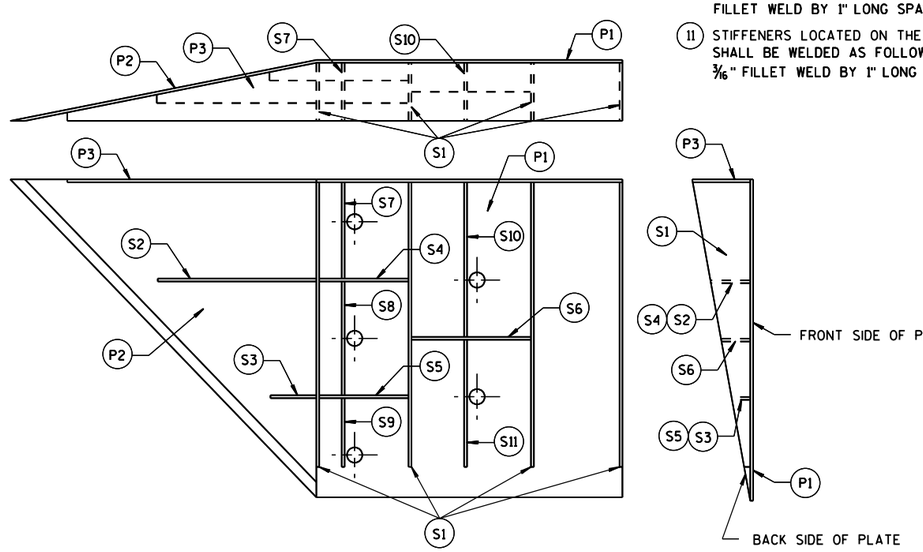


PLATE AND STIFFENER IDENTIFICATION

(VIEWED FROM BACK SIDE OF PLATE)

GENERAL NOTES

COVER PLATE PANELS ARE 3/16" THICK.

ALL STIFFENERS ARE 1/4" THICK.

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

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

ALL HOLE DIAMETERS SHALL BE 1".

FOR OPPOSITE SIDE INSTALLATION MIRROR DRAWINGS.

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

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

CONNECTOR PLATE DIMENSION (PER ASSEMBLY)

PLATE	QUANTITY	SHAPE	SIZE (A x B x C x D)	THICKNESS
P1	1		20" x 20"	3/16"
P2	1		20" x 20" x 28 9/16"	3/16"
P3	1		39" x 3 5/8" x 20" x 19 5/16"	3/16"
S1	4		18 7/16" x 3 3/8" x 18 3/4"	1/4"
S2	1		10 1/4" x 2 7/16" x 10 3/8" x 1/2"	1/4"
S3	1		3" x 1 1/16" x 3 1/8" x 1/2"	1/4"
S4	1		6 1/8" x 2 7/16"	1/4"
S5	1		6 1/8" x 1 1/16"	1/4"
S6	1		7 3/4" x 1 3/4"	1/4"
S7	1		2 9/16" x 6" x 3 5/8" x 5 7/8"	1/4"
S8	1		1 5/32" x 7 1/2" x 2 1/2" x 7 3/8"	1/4"
S9	1		6 1/16" x 6 3/16" x 1 1/32"	1/4"
S10	1		1 7/8" x 9 7/8" x 3 5/8" x 9 11/16"	1/4"
S11	1		8 1/2" x 8 3/4" x 1 13/16"	1/4"

SINGLE SLOPE CONNECTION PLATE

MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

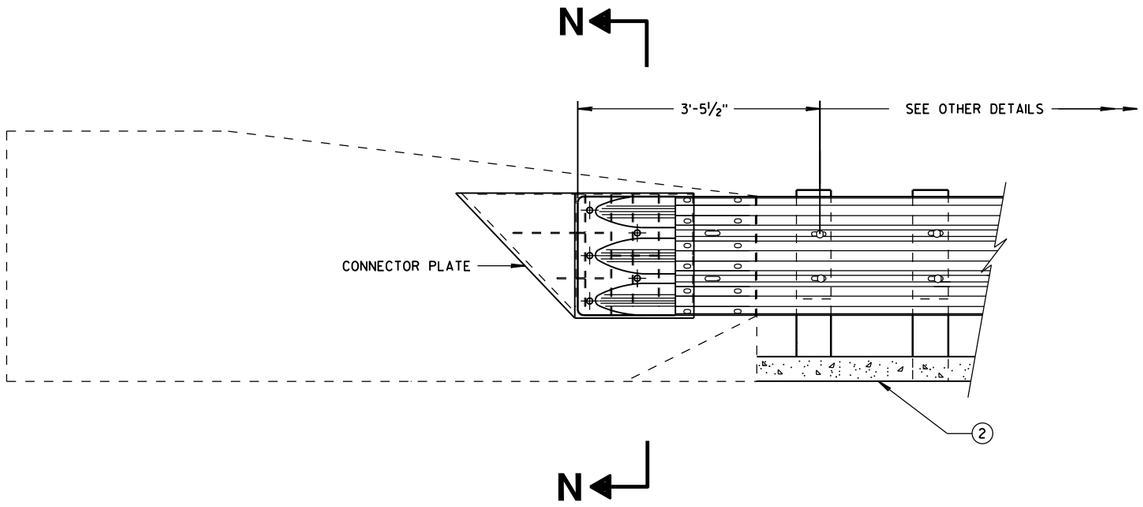
APPROVED
June, 2015 — DATE
/S/ Jerry H. Zogg — ROADWAY STANDARDS ENGINEER
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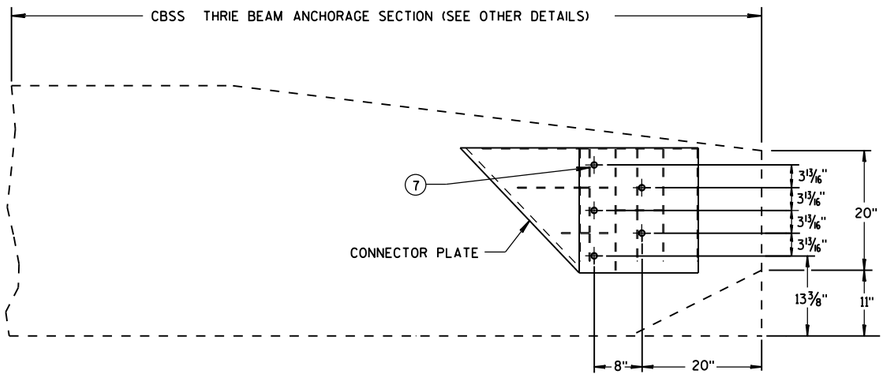
S.D.D. 14 B 45-4i

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



THRIE BEAM CONNECTION TO SINGLE SLOPE BARRIER



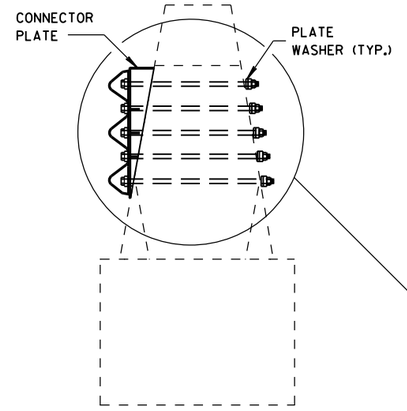
SINGLE SLOPE CONNECTION PLATE PLACEMENT

GENERAL NOTES

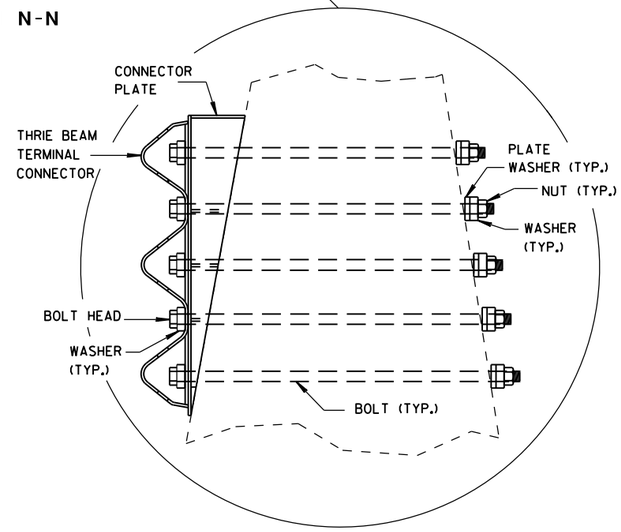
CONNECTOR PLATE, DRILLING BOLT HOLES THROUGH THE PARAPET, BOLTS, NUTS, WASHERS AND REPAIRING DAMAGED CONCRETE ARE INCIDENTAL TO THE CONTRACT.

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

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



SECTION N-N



MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

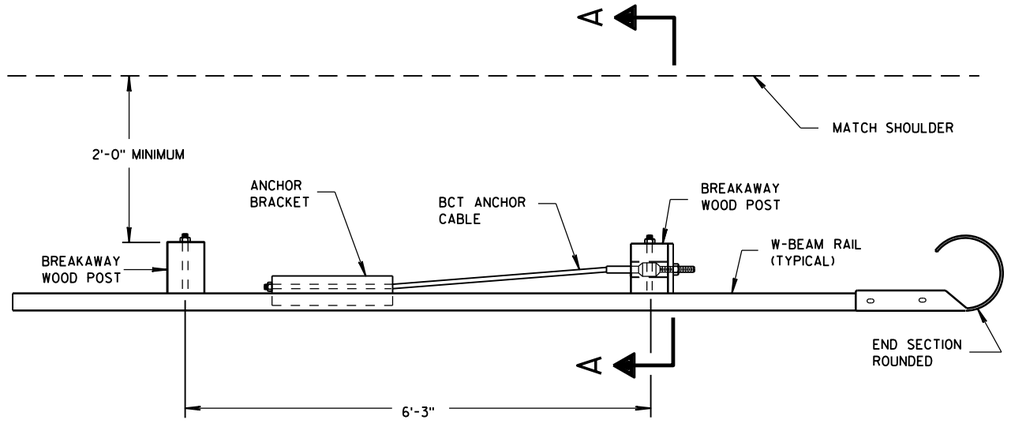
APPROVED
June, 2015 — DATE
/S/ Jerry H. Zoga — ROADWAY STANDARDS DEVELOPMENT ENGINEER
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FHWA

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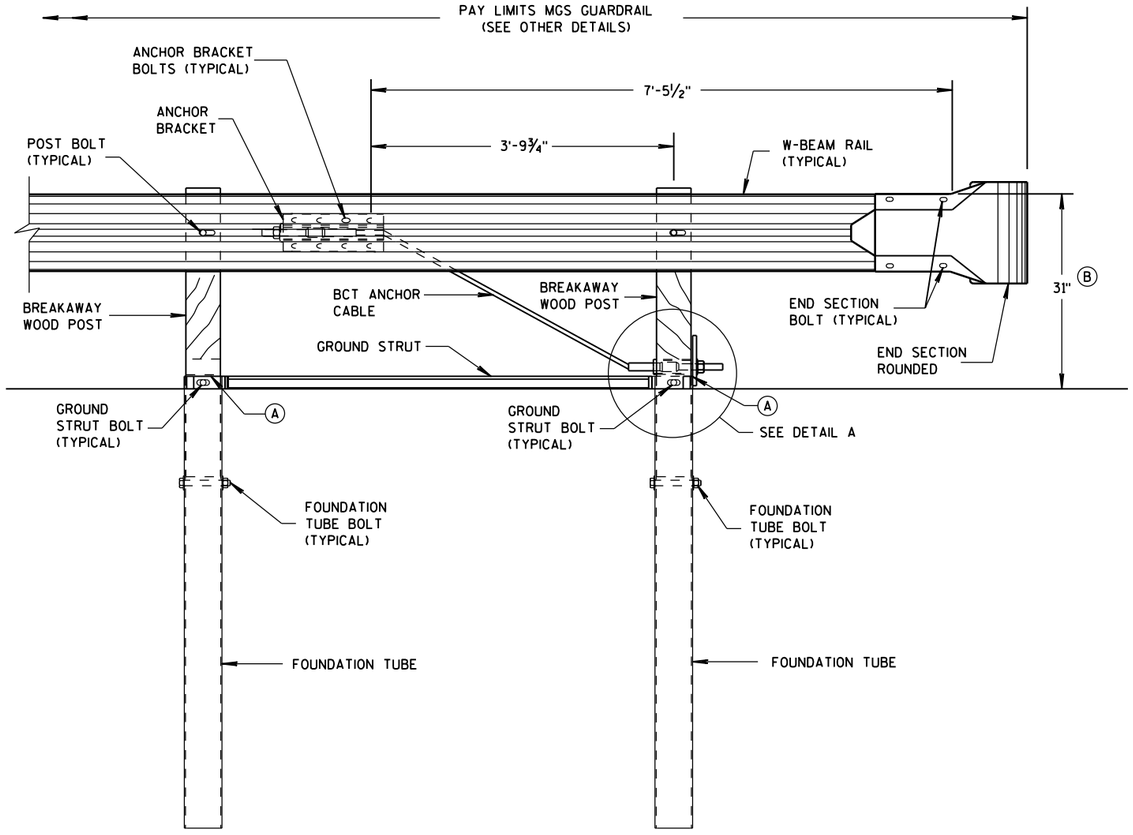
S.D.D. 14 B 45-4j

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

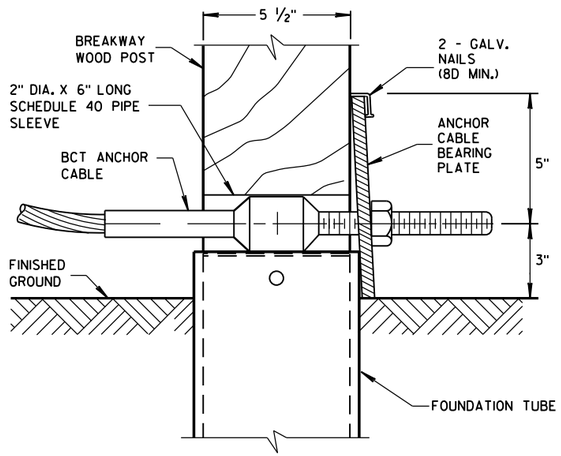


PLAN VIEW



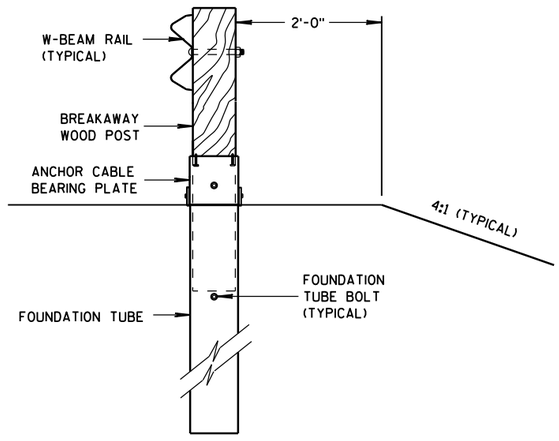
FRONT VIEW

END RAIL DETAIL



DETAIL A

POST NO. 1
GROUNG STRUT NOT SHOWN FOR CLARITY.



SECTION A-A

GENERAL NOTES

SEE SDD 14 B 42 FOR MORE INFORMATION.

END SECTION BOLTS AND NUTS HAVE THE SAME MATERIAL REQUIREMENTS AS SPLICE BOLTS.

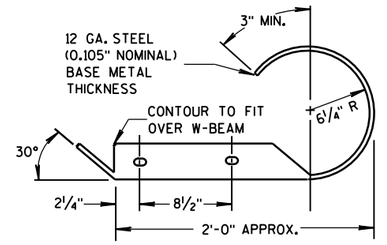
FOUNDATION TUBE BOLTS ARE ⅞" DIAMETER ASTM A307 HEX HEAD BOLT. FOUNDATION TUBE BOLTS REQUIRE ASTM A563 A NUT AND TWO ASTM F844 ⅞" DIAMETER FLAT WASHERS. INSTALL ONE WASHER UNDER BOLT HEAD AND ONE WASHER UNDER NUT.

ANCHOR BRACKET AND GROUND STRUT BOLTS ARE A ⅝" DIAMETER ASTM A307 HEX HEAD BOLT. ANCHOR BRACKET BOLTS REQUIRE ASTM A563 A NUT AND TWO ASTM F844 ⅝" DIAMETER FLAT WASHERS. INSTALL ONE WASHER UNDER BOLT HEAD AND ONE WASHER UNDER NUT.

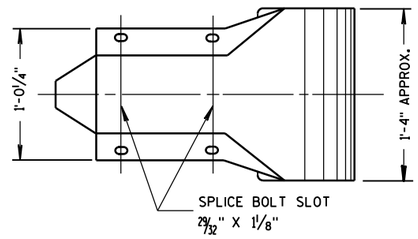
W-BEAM END SECTION ROUNDED HAS THE SAME MATERIAL PROPERTIES AS STANDARD STEEL RAIL.

(A) TOP OF FOUNDATION TUBE SHALL BE NO MORE THAN 3" ABOVE FINISHED GROUND.

(B) FOR NEW CONSTRUCTION TOP OF RAIL IS 31" ± 1".
FOR EXISTING INSTALLATIONS TOP OF RAIL IS BETWEEN 27¾" TO 32" ± 1".



PLAN VIEW



FRONT VIEW

W BEAM END SECTION ROUNDED

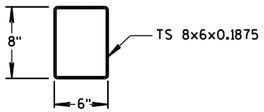
MIDWEST GUARDRAIL SYSTEM (MGS) TYPE 2 TERMINAL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPO

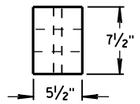
6
S.D.D. 14 B 47-2a

GENERAL NOTES

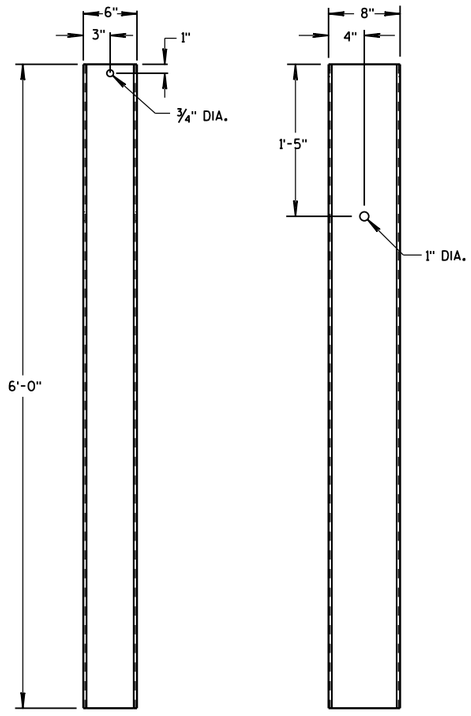
BCT ANCHOR CABLE IS A ¾" DIAMETER 6X19 IWRC IPS GALVANIZED WIRE ROPE. THE SWAGED FITTINGS AND STUD ARE REQUIRED. END FITTING SHALL BE MACHINED FROM HOT-ROLLED CARBON STEEL CONFORMING TO ASTM A576 GRADE 1035 AND GALVANIZED ACCORDING TO ASTM A123. TREADED STUD SHALL CONFORM TO ASTM A325 OR SAE GRADE 5. MINIMUM BREAKING STRENGTH OF WIRE ROPE IS 43,000 LB. WIRE ROPE IS TO BE TAUT.



PLAN VIEW

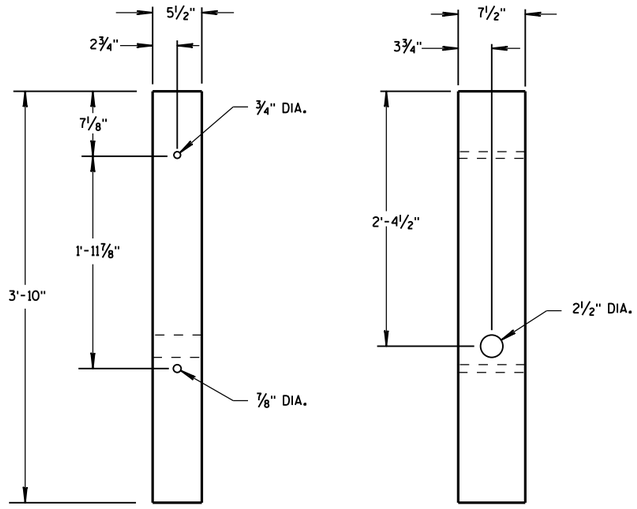


PLAN VIEW



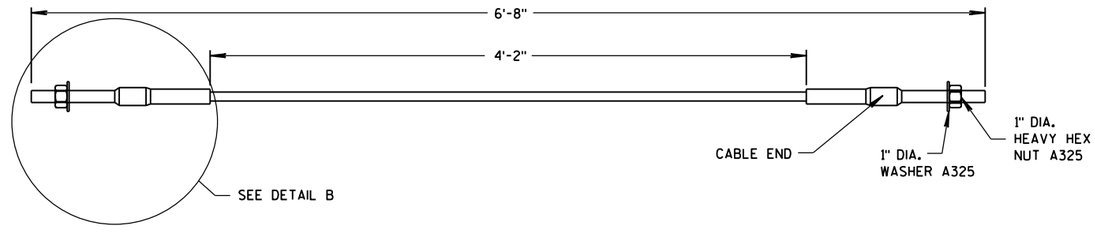
FRONT VIEW SIDE VIEW

FOUNDATION TUBE

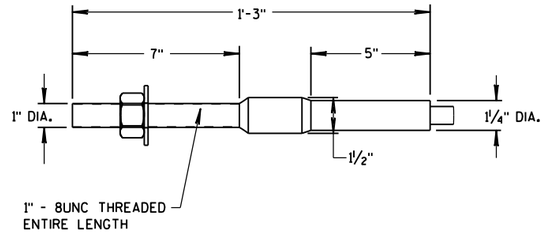


FRONT VIEW SIDE VIEW

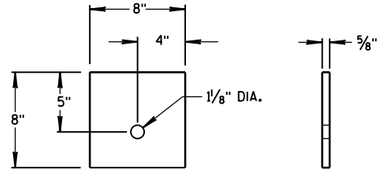
BREAKAWAY WOOD POST



BCT ANCHOR CABLE



DETAIL B



SIDE VIEW FRONT VIEW

ANCHOR CABLE
BEARING PLATE

MIDWEST GUARDRAIL
SYSTEM (MGS) TYPE 2 TERMINAL

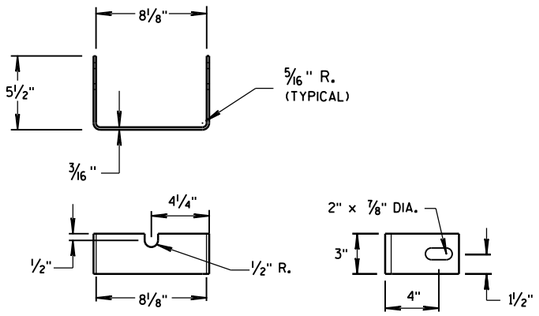
STATE OF WISCONSIN
DEPARTMENT OF TRANSPOI

6

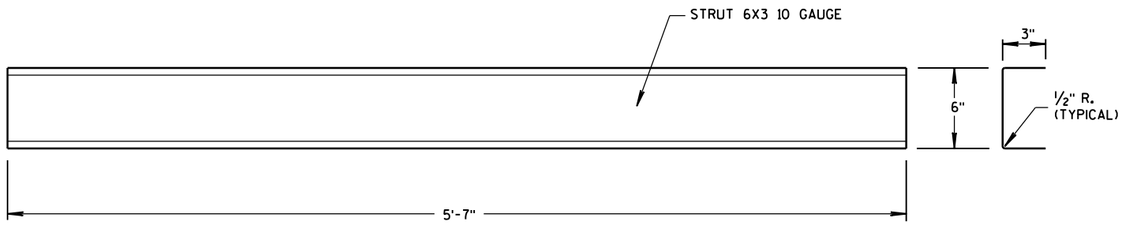
S.D.D. 14 B 47-2b

6

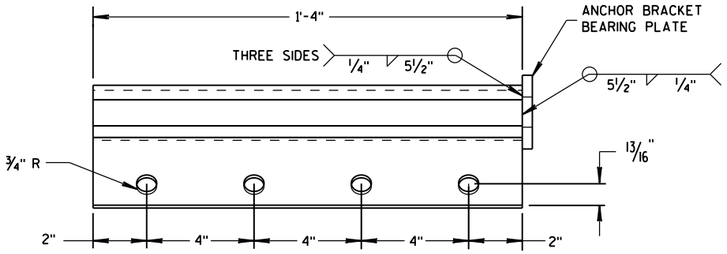
S.D.D. 14 B 47-2b

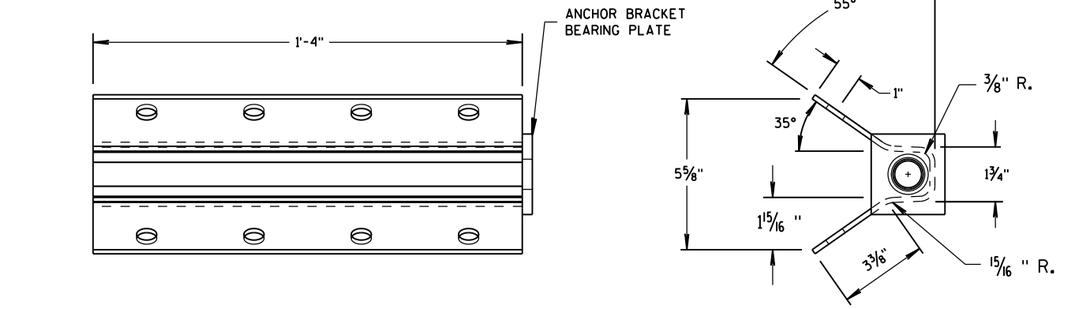


YOKE DETAIL

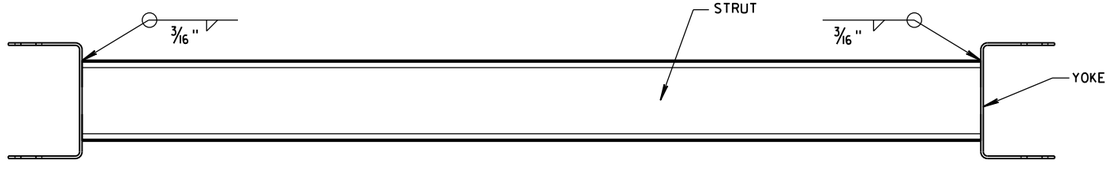


STRUT DETAIL

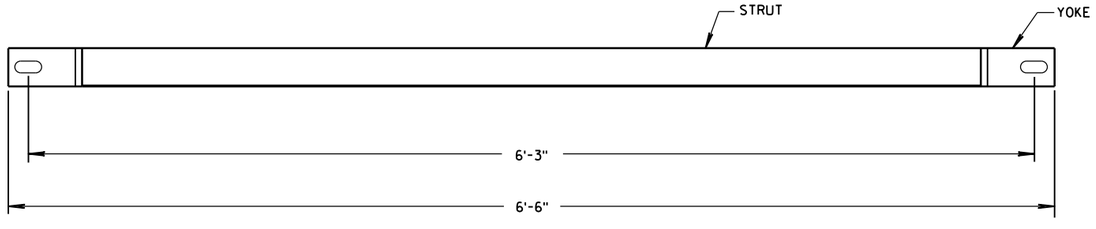




ANCHOR BRACKET

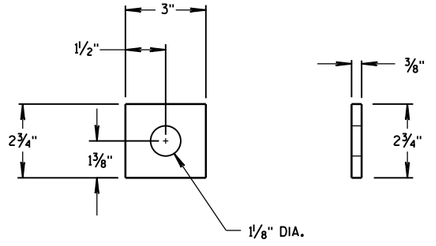


PLAN VIEW



FRONT VIEW

GROUND STRUT DETAIL



ANCHOR BRACKET BEARING PLATE

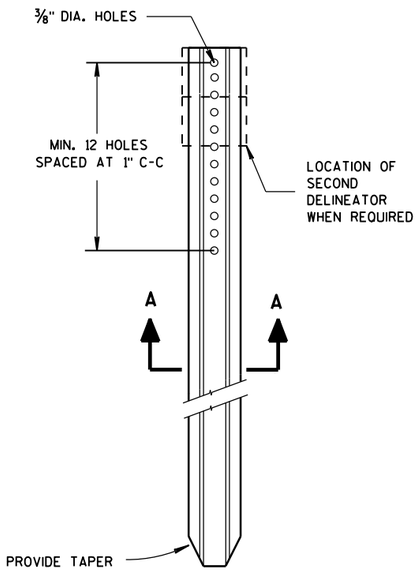
MIDWEST GUARDRAIL SYSTEM (MGS) TYPE 2 TERMINAL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

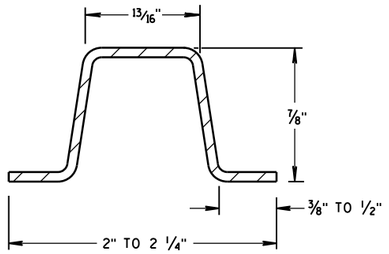
APPROVED
June 2014
DATE
/S/ Jerry H. Zogg
ROADWAY STANDARDS ENGINEER
FHWA

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S.D.D. 14 B 47-2c

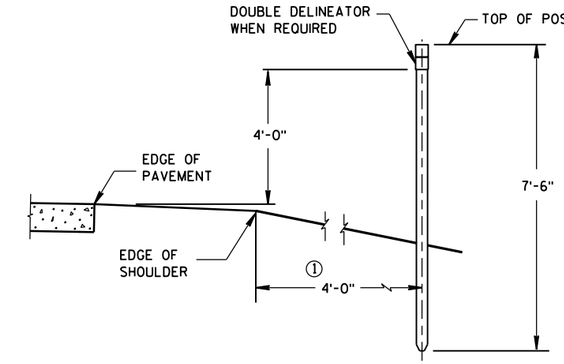


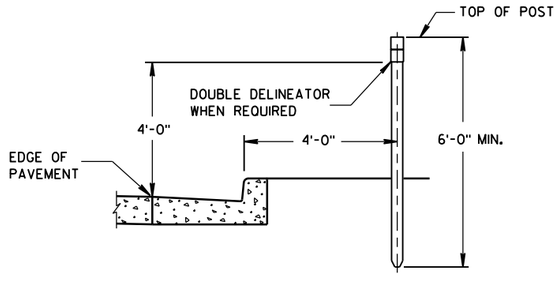
DELINEATOR POST



SECTION A-A

WEIGHT 1.12 LBS PER FT. ± 0.1 LB.



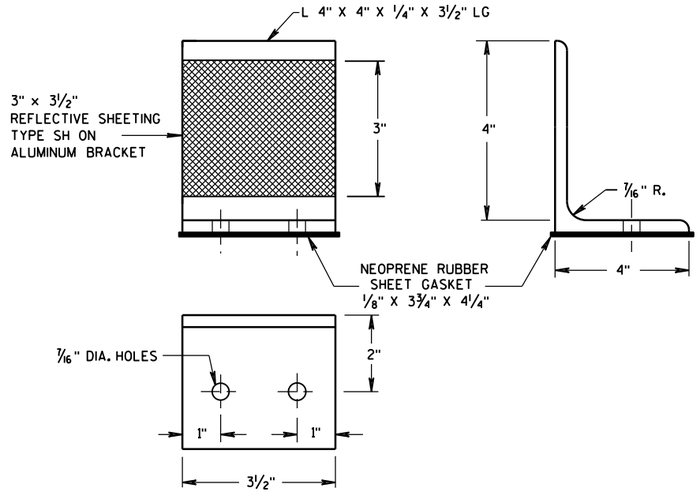


TYPICAL INSTALLATIONS OF DELINEATOR POSTS

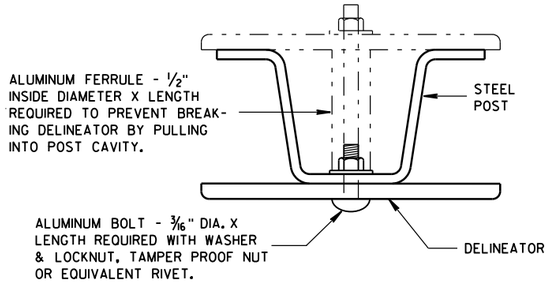
GENERAL NOTES

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

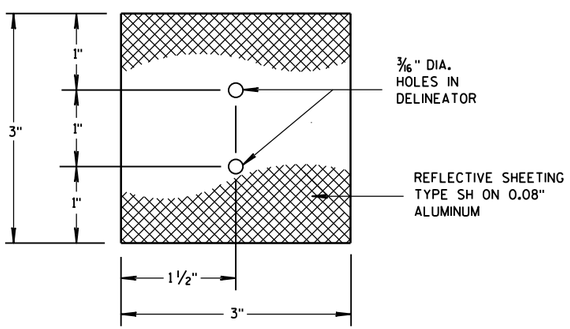
① DELINEATORS SHALL BE PLACED AT A CONSTANT DISTANCE FROM THE EDGE OF THE SHOULDER FOR THE LENGTH OF THE INSTALLATION.



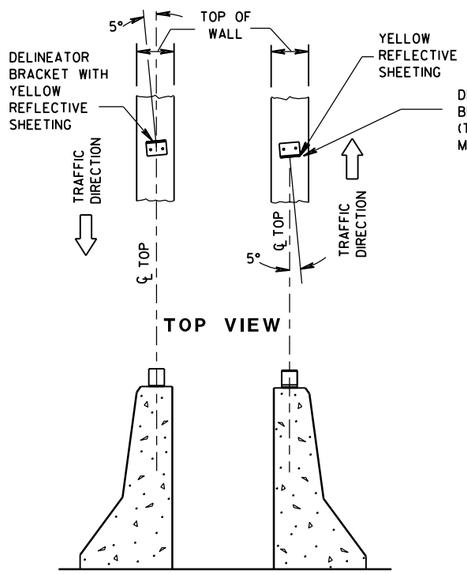
DELINEATOR BRACKET



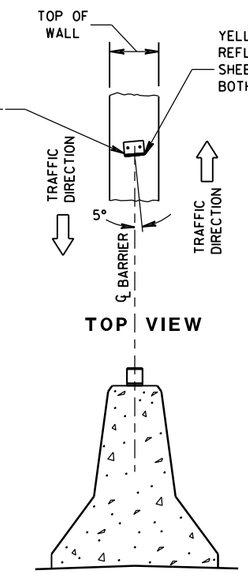
MOUNTING DETAIL FOR DELINEATOR



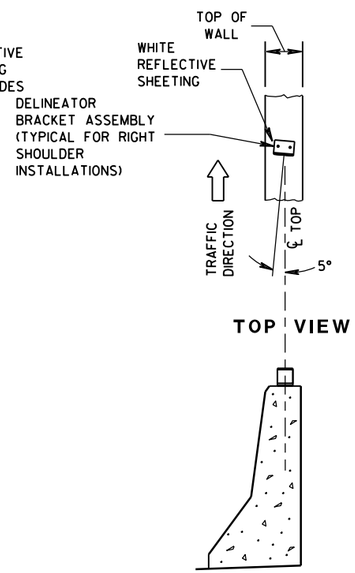
3"x 3" DELINEATOR



DOUBLE BARRIERS IN MEDIAN

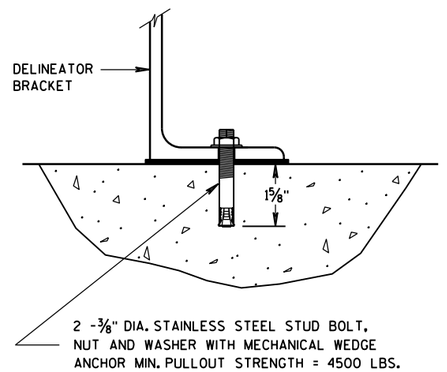


MEDIAN BARRIER



BARRIER LOCATED TO RT. OF TRAFFIC FLOW

LOCATION AND AIMING DETAILS FOR DELINEATOR BRACKETS MOUNTED ON CONCRETE BARRIERS



DELINEATOR BRACKET MOUNTING DETAIL

DELINEATOR POST, DELINEATOR, AND DELINEATOR BRACKET WITH REFLECTIVE SHEETING

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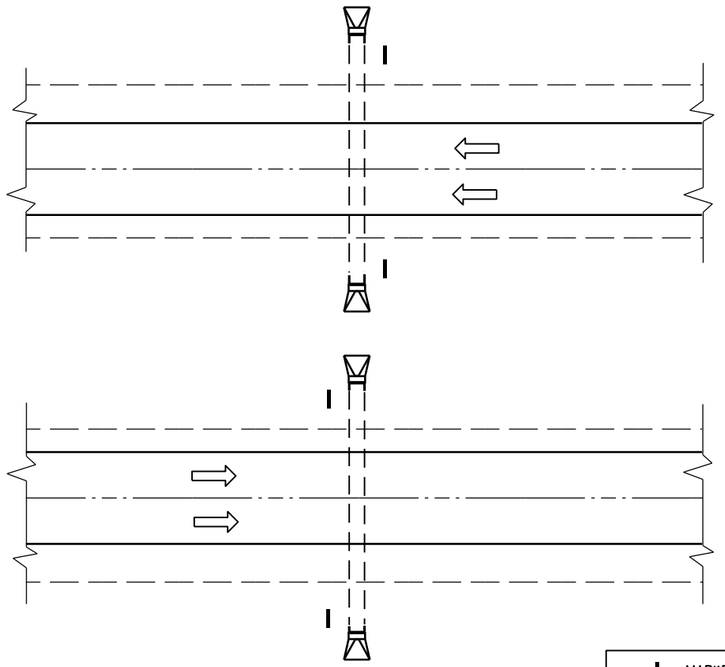
APPROVED
7/2013 — DATE
/S/ Travis Feltes — STATE TRAFFIC E
FHWA

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S.D.D. 15 A 2-8

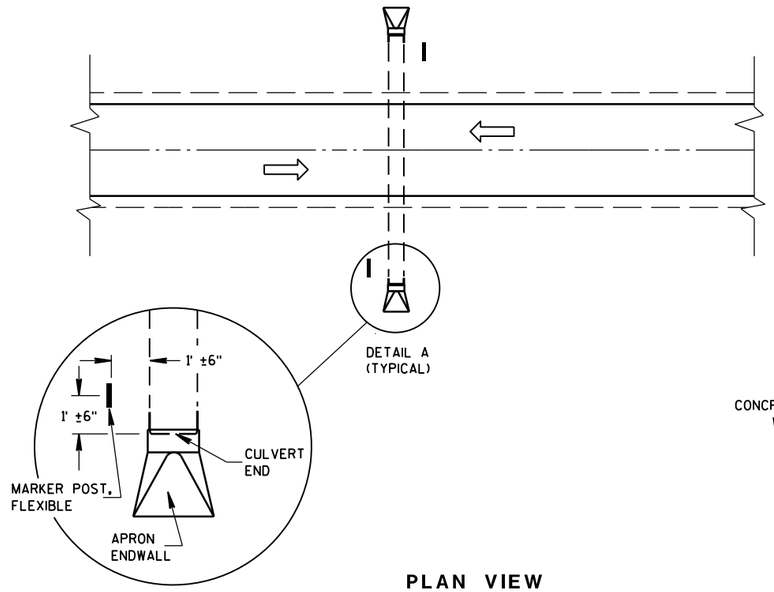
6

S.D.D. 15 A 2-8



PLAN VIEW

DIVIDED HIGHWAY



DETAIL A
(TYPICAL)

PLAN VIEW

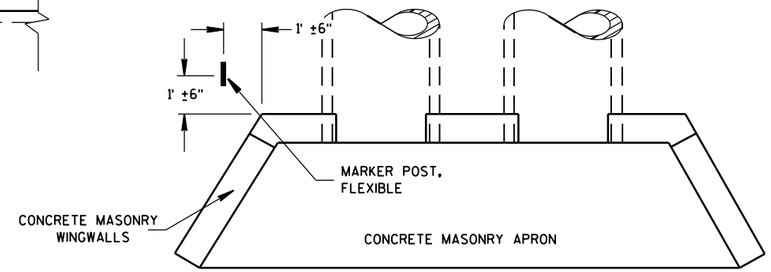
UNDIVIDED HIGHWAY

MARKER POST, FLEXIBLE

DIRECTION OF TRAFFIC FLOW

GENERAL NOTES

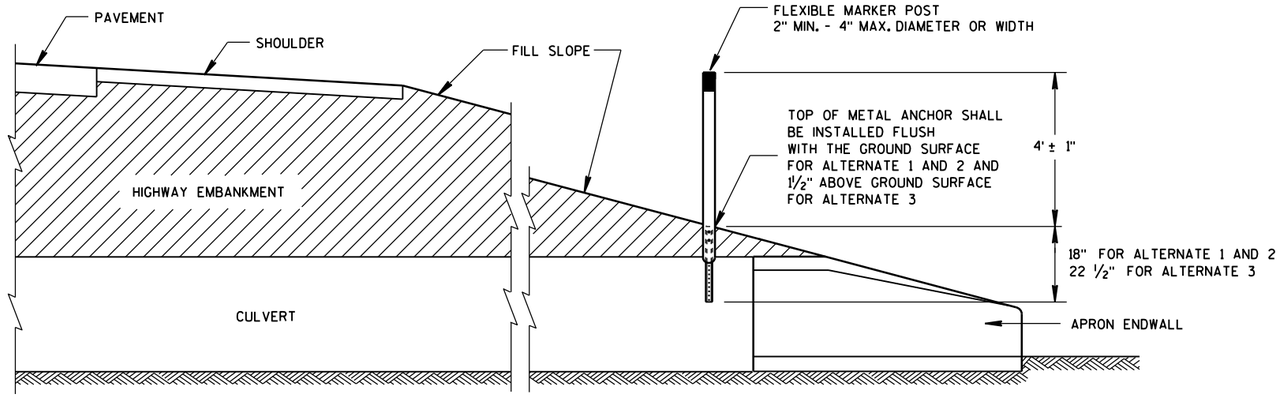
DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.



PLAN VIEW

CONCRETE MASONRY ENDWALLS FOR CULVERT PIPE AND PIPE ARCH

FLEXIBLE MARKER POST LOCATION



CROSS SECTION

FLEXIBLE MARKER POST

FLEXIBLE MARKER POST FOR CULVERT END

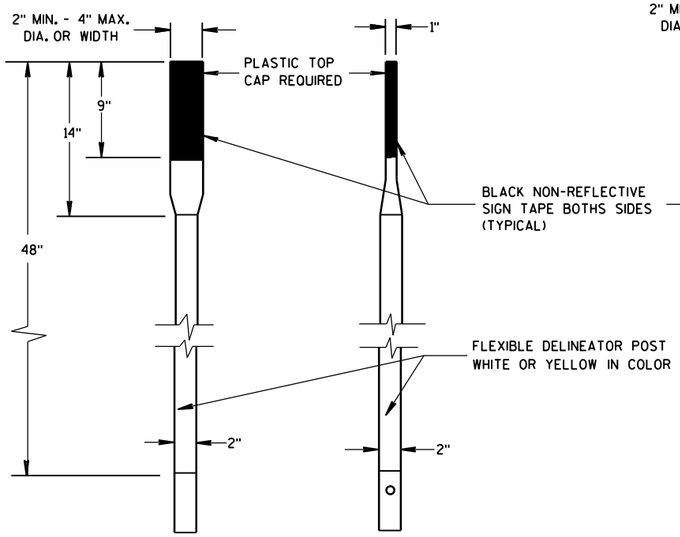
STATE OF WISCONSIN
DEPARTMENT OF TRANSPOI

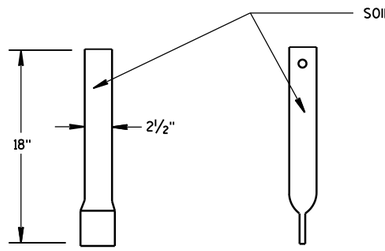
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S.D.D. 15 A 3-2a

6

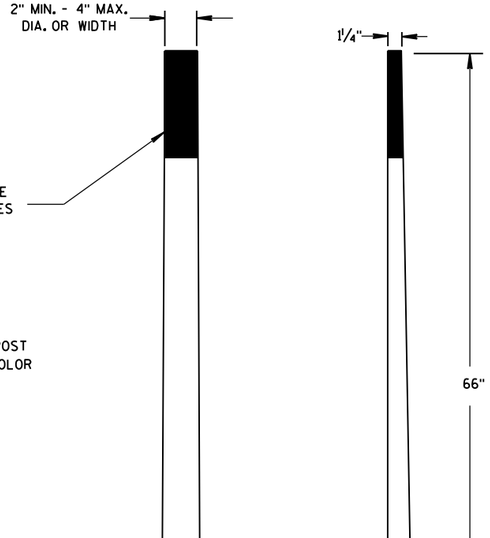
S.D.D. 15 A 3-2a





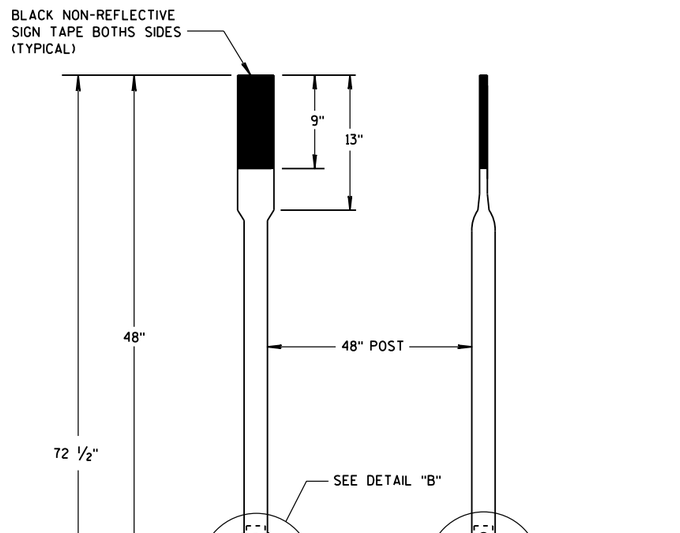
FRONT VIEW SIDE VIEW

ALTERNATE 1



FRONT VIEW SIDE VIEW

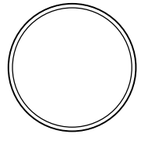
ALTERNATE 2



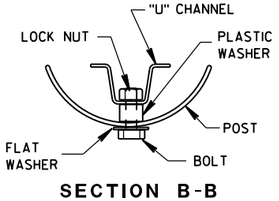
FRONT VIEW SIDE VIEW

ALTERNATE 3

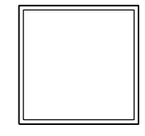
FLEXIBLE MARKER POSTS



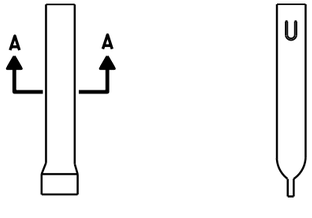
SECTION A-A



SECTION B-B

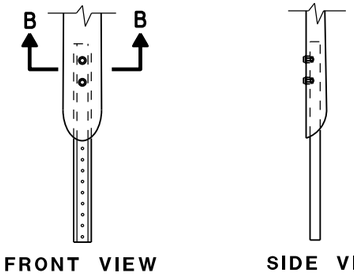


SECTION C-C



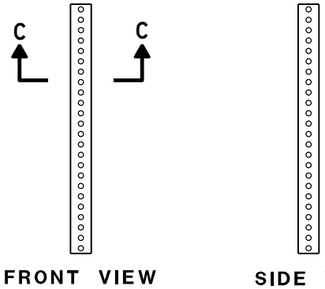
FRONT VIEW SIDE VIEW

ALTERNATE 1



FRONT VIEW SIDE VIEW

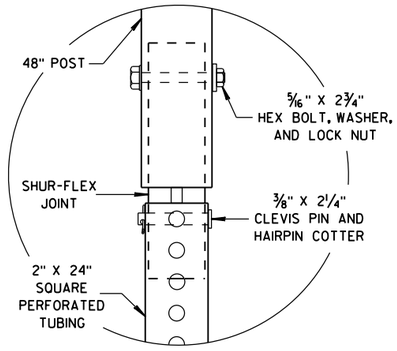
ALTERNATE 2



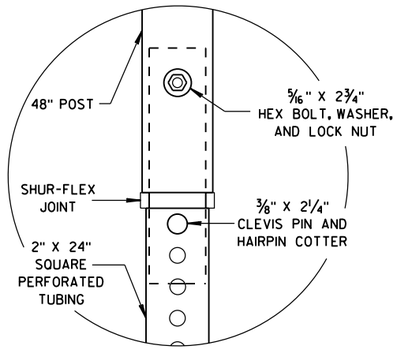
FRONT VIEW SIDE VIEW

ALTERNATE 3

FLEXIBLE MARKER POST ANCHORS



DETAIL B



DETAIL C

FLEXIBLE MARKER POST
FOR CULVERT END

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10/1/2012 — DATE
/S/ Travis Feltes — STATE TRAFFIC ENGINEER
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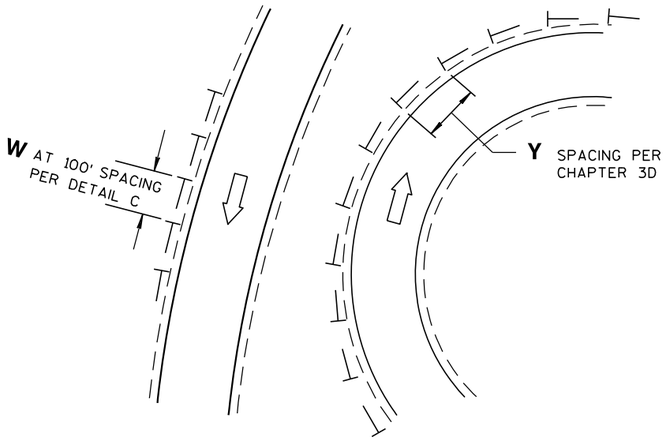
S.D.D. 15 A 3-2b

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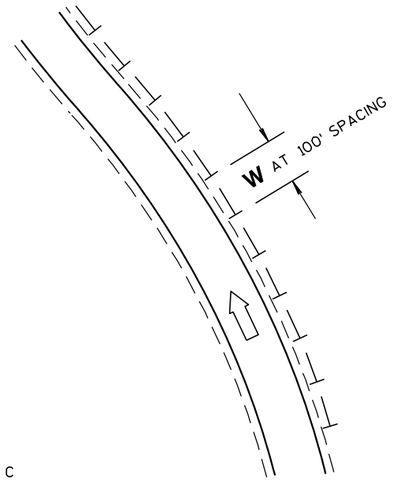
S.D.D. 15 A 3-2b

GENERAL NOTES

* USE DOUBLE DELINEATOR ALONG ACCELERATION-DECELERATION LANES AND TAPERS. USE SINGLE DELINEATOR WHEN RAMP PAVEMENT IS FULL WIDTH.



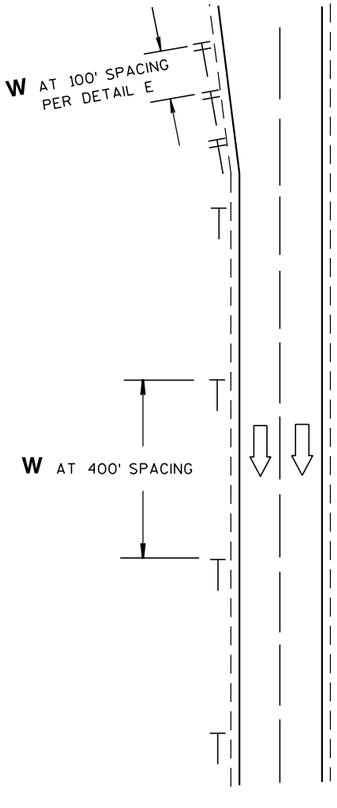
DETAIL A
DELINEATOR LAYOUT AT CURVED RAMP



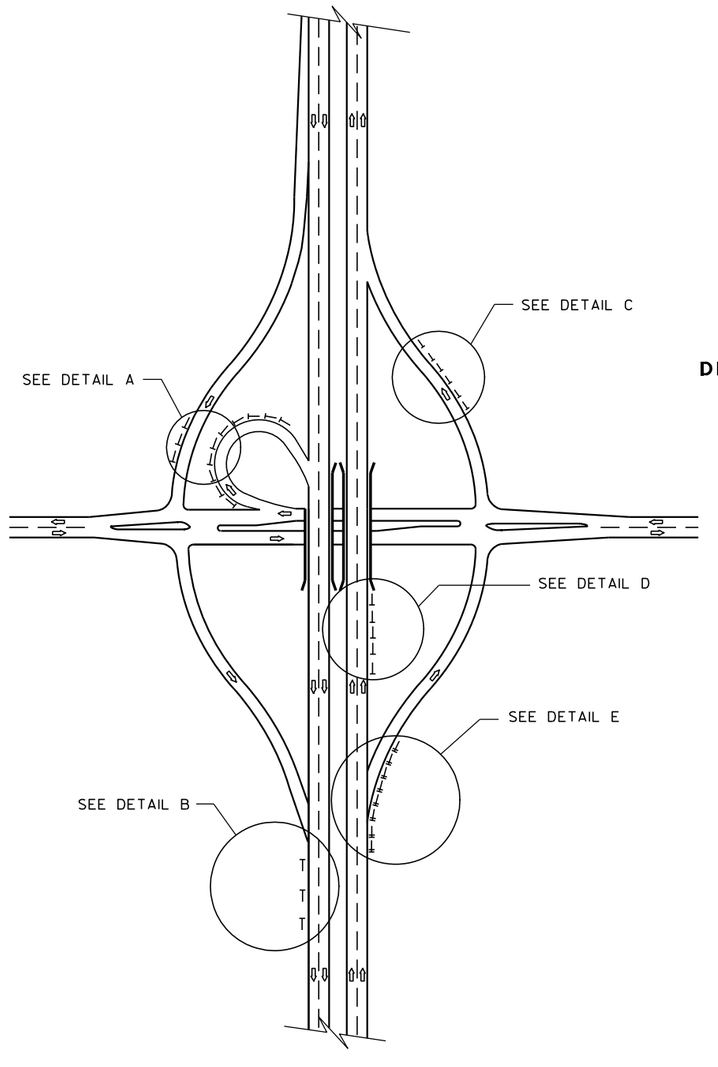
DETAIL C
DELINEATOR LAYOUT ALONG RAMP

LEGEND

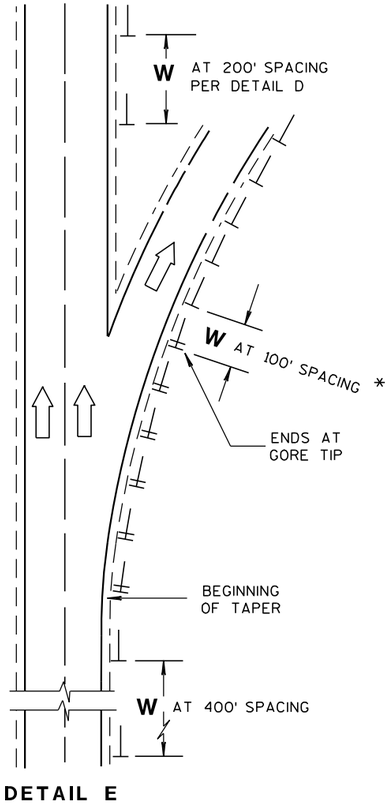
- DIRECTION OF TRAFFIC FLOW
- SINGLE DELINEATOR
- DOUBLE DELINEATOR
- W — WHITE
- Y — YELLOW



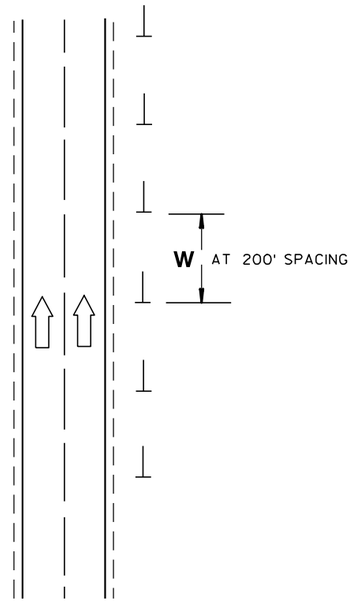
DETAIL B
DELINEATOR LAYOUT ALONG MAINLINE



DELINEATOR LAYOUT



DETAIL E
DELINEATOR LAYOUT FOR ACCELERATION - DECELERATION LANES AND TAPERS AT RAMPS



DETAIL D
DELINEATOR LAYOUT BETWEEN INTERCHANGE RAMPS

DELINEATOR LAYOUT

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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2/5/09 DATE
/S/ Thomas N. Nothdurft
STATE TRAFFIC ENGINEER
FHWA

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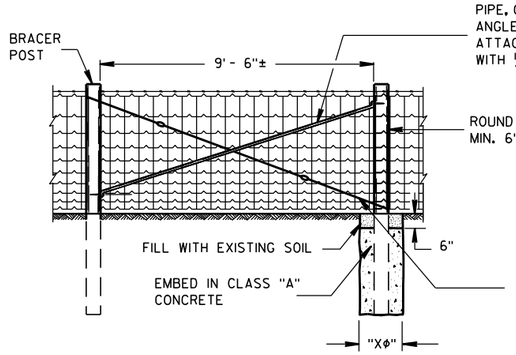
S.D.D. 15 A 6-2

6

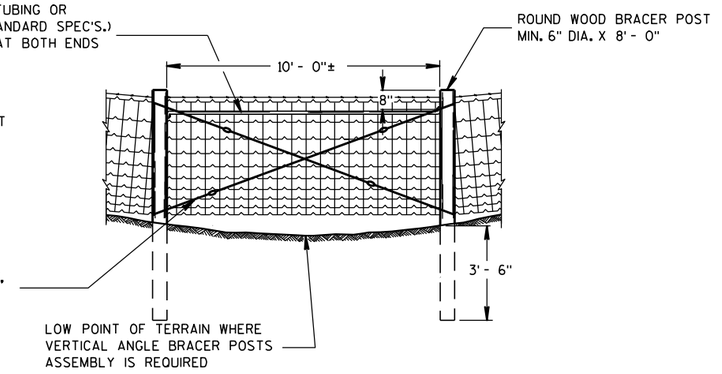
S.D.D. 15 A 6-2

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

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



PULL OR STRETCHER POSTS ASSEMBLY



VERTICAL ANGLE BRACER POSTS ASSEMBLY

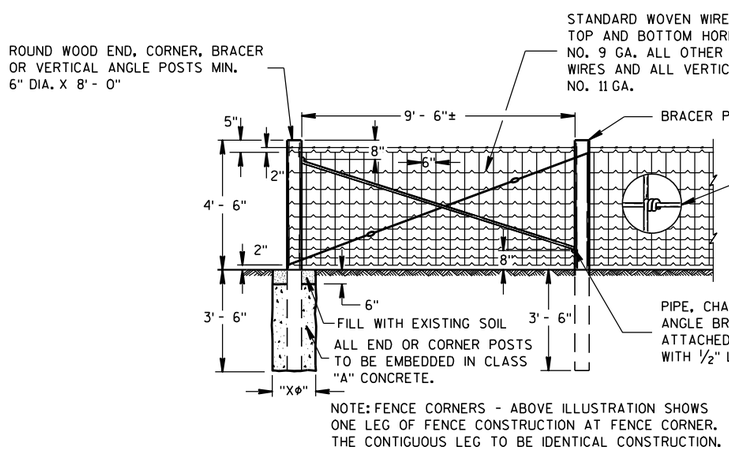
GENERAL NOTES

"XΦ" = DIAMETER OF THE POST PLUS 12".

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

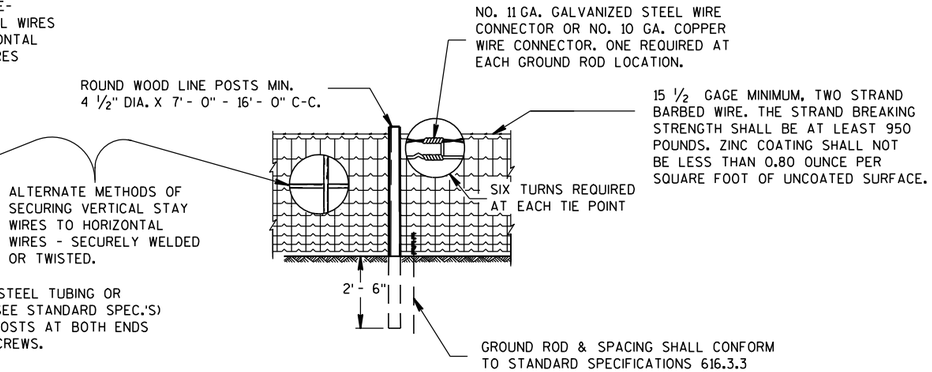
DO NOT STAPLE WIRE TIGHT TO THE LINE POSTS. ALLOW MOVEMENT OF WIRE FOR EXPANSION AND CONTRACTION. STAPLE ARRANGEMENT SHALL BE THE SAME FOR ALL OTHER POSTS EXCEPT THAT THEY SHALL BE DRIVEN TIGHT TO POSTS. ALL STAPLES SHALL BE 2" X 9 GAGE AND SHALL BE MANUFACTURED FROM GALVANIZED WIRE OR HOT DIP GALVANIZED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

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



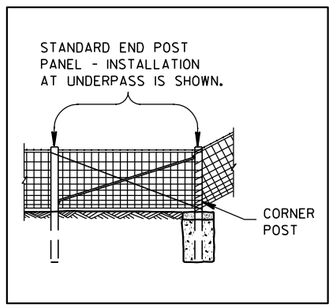
NOTE: FENCE CORNERS - ABOVE ILLUSTRATION SHOWS ONE LEG OF FENCE CONSTRUCTION AT FENCE CORNER. THE CONTIGUOUS LEG TO BE IDENTICAL CONSTRUCTION.

END OR CORNER POSTS ASSEMBLY

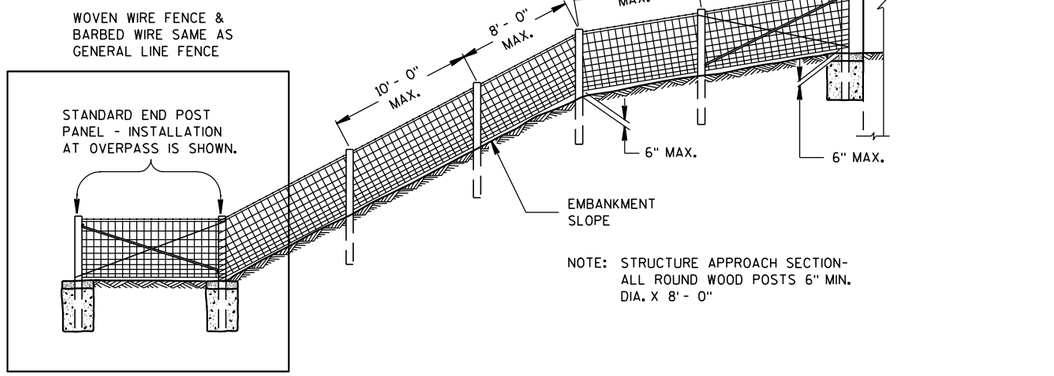


LINE FENCE CONSTRUCTION

GENERAL ROADSIDE VIEW OF WOVEN WIRE FENCE



ALTERNATE FENCE DESIGN AT STRUCTURE



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

FENCE DESIGN AT STRUCTURE APPROACH

FENCE WOVEN WIRE

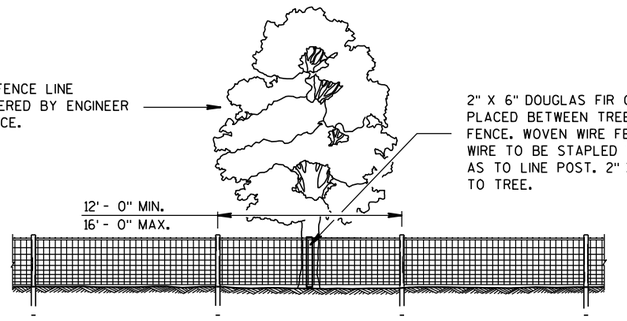
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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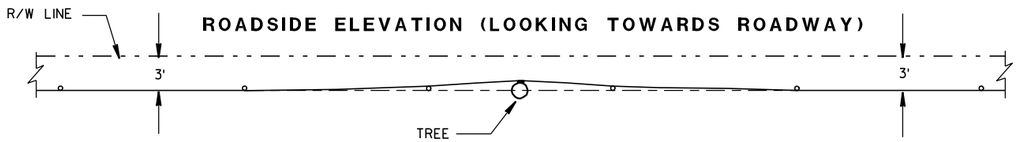
S.D.D. 15 B 1-8a

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

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

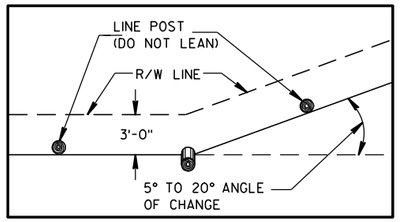


ROADSIDE ELEVATION (LOOKING TOWARDS ROADWAY)

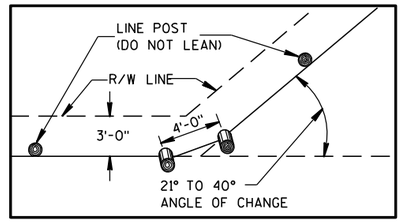


PLAN VIEW

FENCE DESIGN AT TREES REMAINING IN NORMAL FENCE LINE



PLAN VIEW
SINGLE POST CORNER

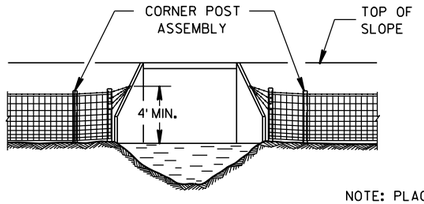


PLAN VIEW
DOUBLE POST CORNER

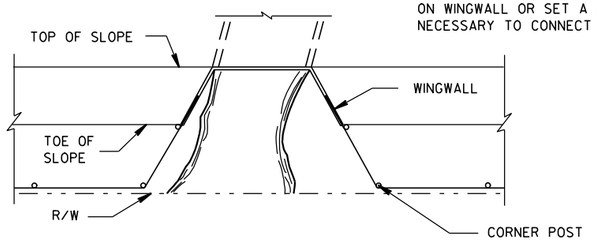
RIGHT OF WAY LINE CHANGE 40° AND LESS

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

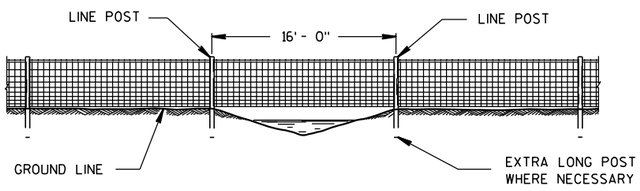
WHEN THE RIGHT OF WAY LINE CHANGE IS MORE THAN 40° USE THE CORNER OR STRETCHER POSTS ASSEMBLY.



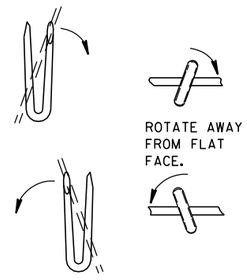
NOTE: PLACE A MINIMUM OF 4 STRANDS OF BARBED WIRE, 6" MAXIMUM CENTERS IN FAN SHAPE CONNECTED TO AN EYE BOLT ON WINGWALL OR SET A LONE POST WHEN NECESSARY TO CONNECT BARBED WIRE.



FENCE INSTALLATION TO WINGWALLS

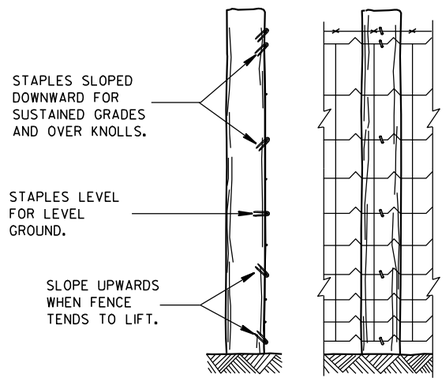


FENCE CONSTRUCTION OVER STREAM COURSES OF 15 FT. OR LESS IN WIDTH



LINE POST

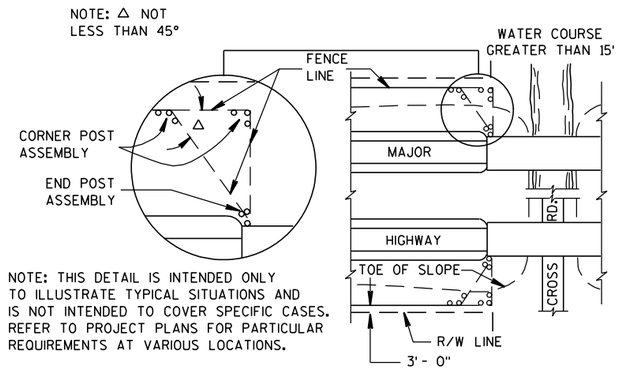
NOTE: WHEN POSTS ARE DRIVEN THE SMALL END SHALL BE DOWN.



END ELEVATION — FARM SIDE ELEVATION

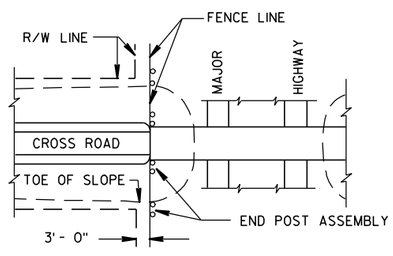
FENCE MOUNTING DETAIL

NOTE: △ NOT LESS THAN 45°



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

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



PLAN VIEW
MAJOR HIGHWAY UNDERPASS

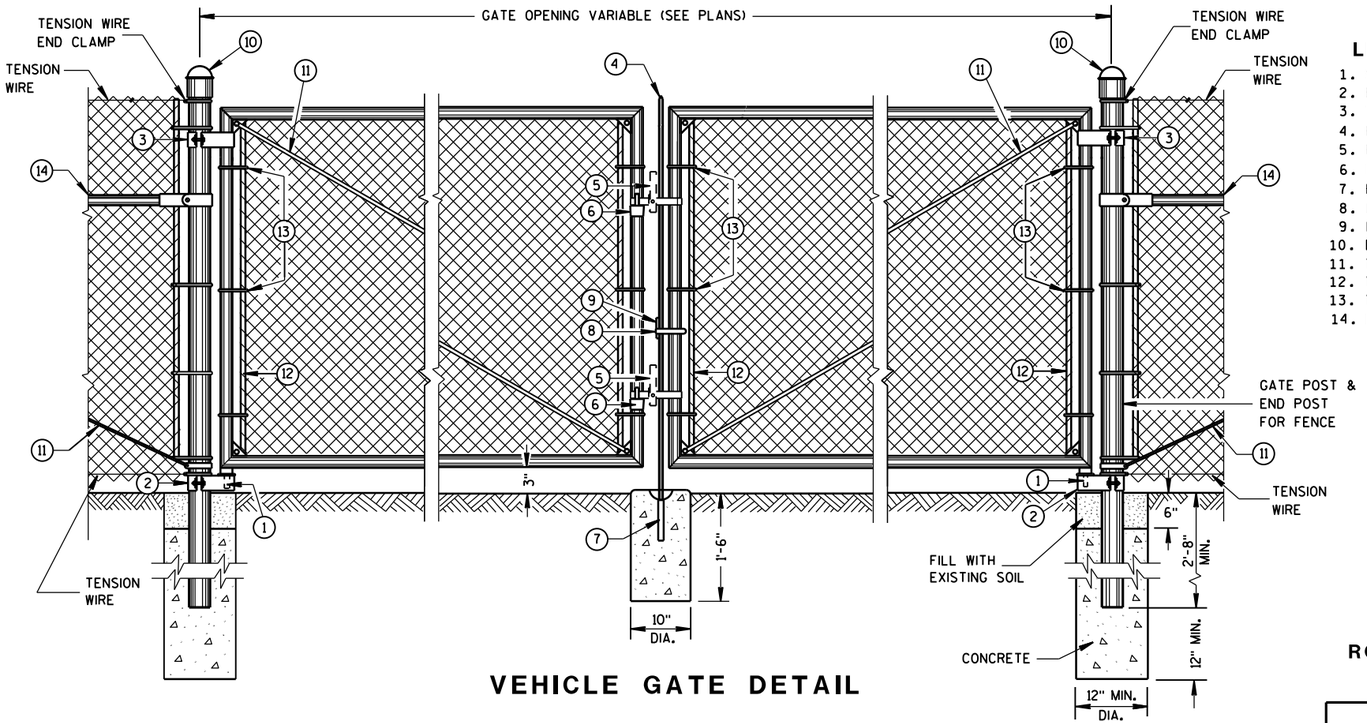
FENCE LOCATION AT STRUCTURES

FENCE WOVEN WIRE

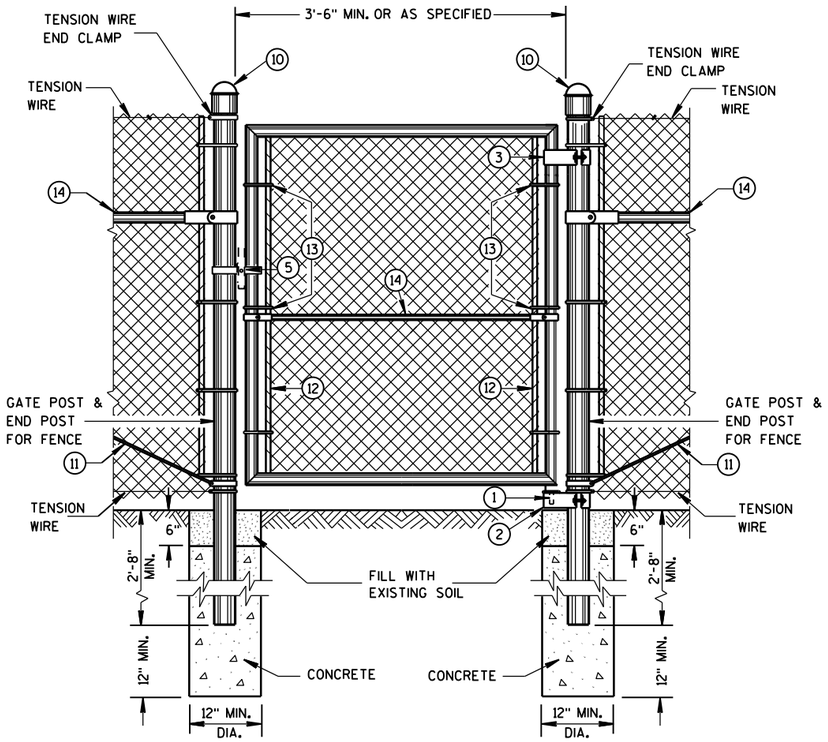
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

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



VEHICLE GATE DETAIL



PEDESTRIAN GATE DETAIL

LEGEND

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

*NOT REQUIRED ON SINGLE SWING PEDESTRIAN GATE

GENERAL NOTES

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

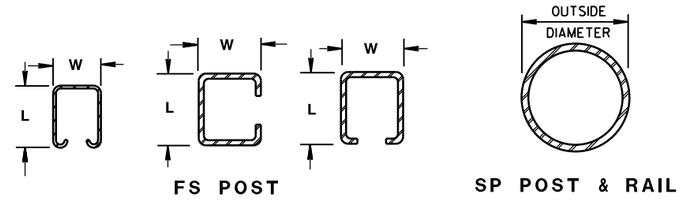
USE FENCE FABRIC KNUCKLED AT BOTH SELVAGES.

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

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

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

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



FS POST

SP POST & RAIL

CROSS SECTIONS OF POSTS AND RAILS

REQUIRED FENCE POST SIZES

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

BRACE RAIL TYPES

USE		TYPE
BRACE RAIL		SP1 OR FS1

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

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

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

REQUIRED POST SIZE FOR GATES

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

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

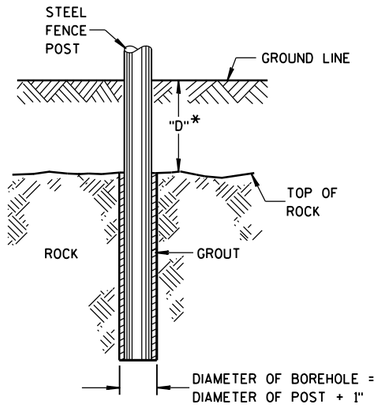
POST TYPE	OUTSIDE DIMENSION INCH	WALL THICKNESS INCH	WEIGHT LBS/FT
SP1	1.660	0.140	2.270
SP2	1.900	0.145	2.720
SP3	2.375	0.154	3.650
SP4	2.875	0.203	5.800
SP5	4.000	0.226	9.120
SP6	6.625	0.280	18.990
SP7	8.625	0.322	28.580

FENCE CHAIN LINK

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOR

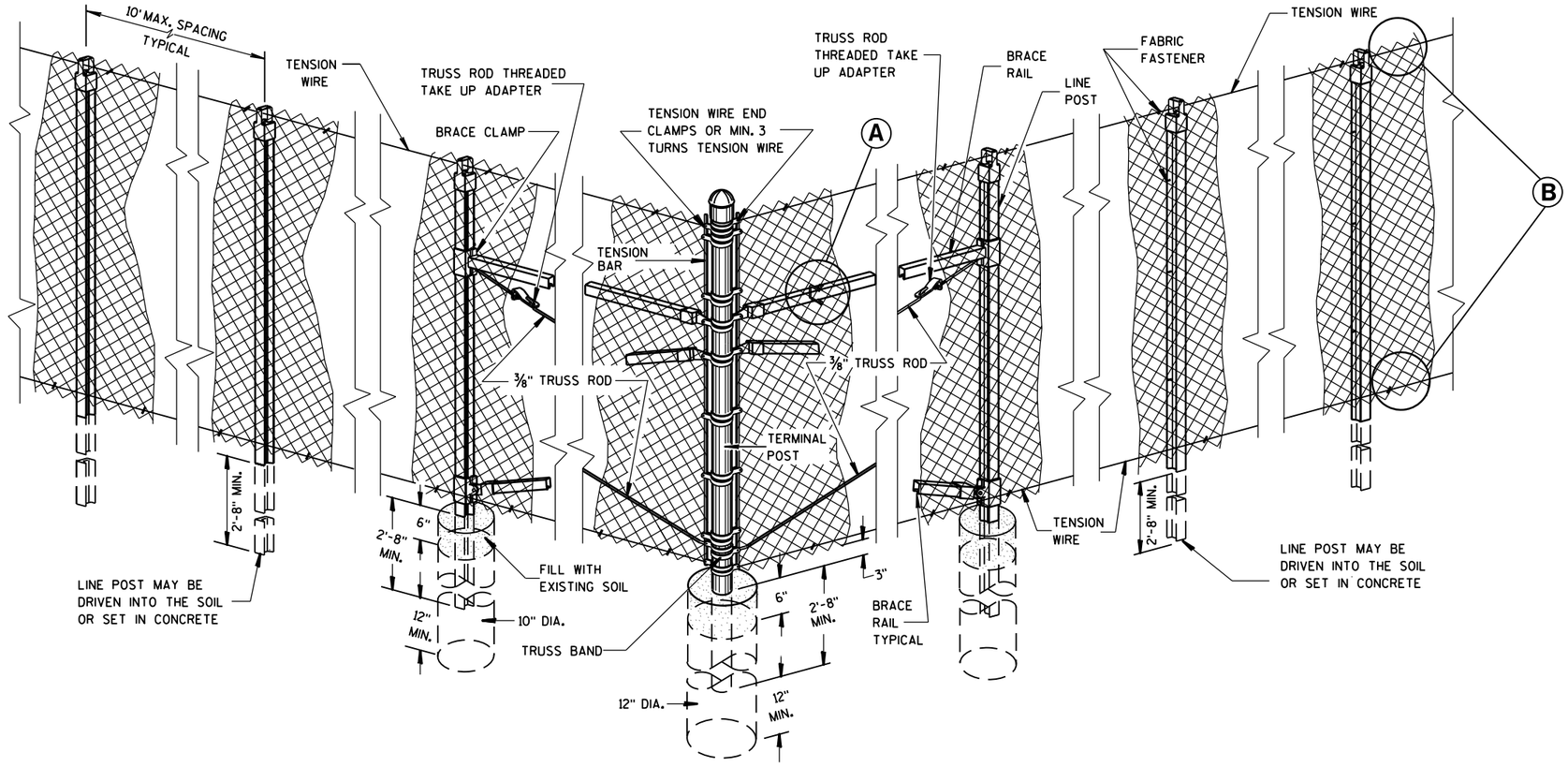
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S.D.D. 15 B 3-15a

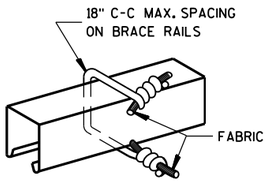


*IF "D" IS LESS THAN 2'-6", DRILL ROCK AND INSTALL GROUT

ROCK INSTALLATION OF LINE POST



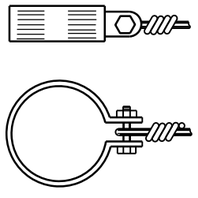
END, CORNER, ANGLE INTERSECTION & INTERMEDIATE BRACED POSTS



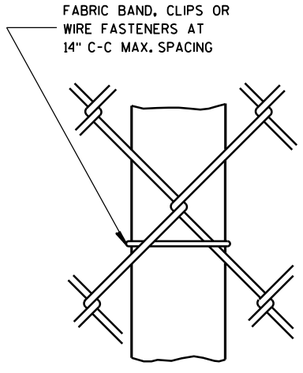
BRACE RAIL

FABRIC FASTENER

Ⓐ



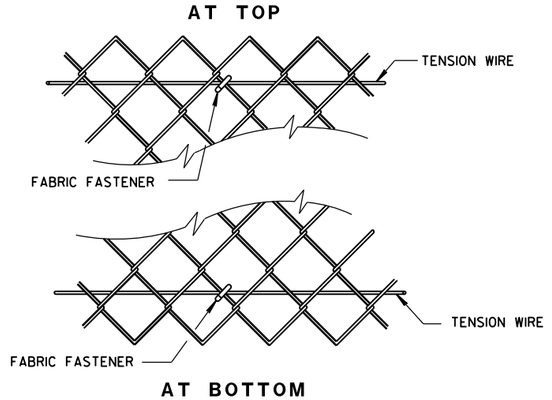
TENSION WIRE END CLAMP



LINE POST

FABRIC FASTENER

AT TOP



AT BOTTOM

SELVAGES

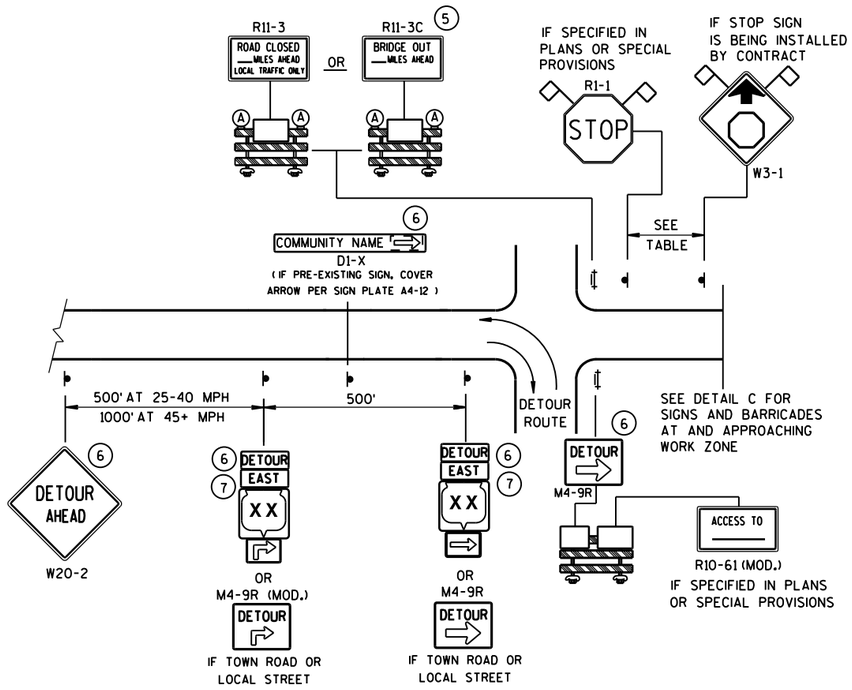
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FENCE CHAIN LINK

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

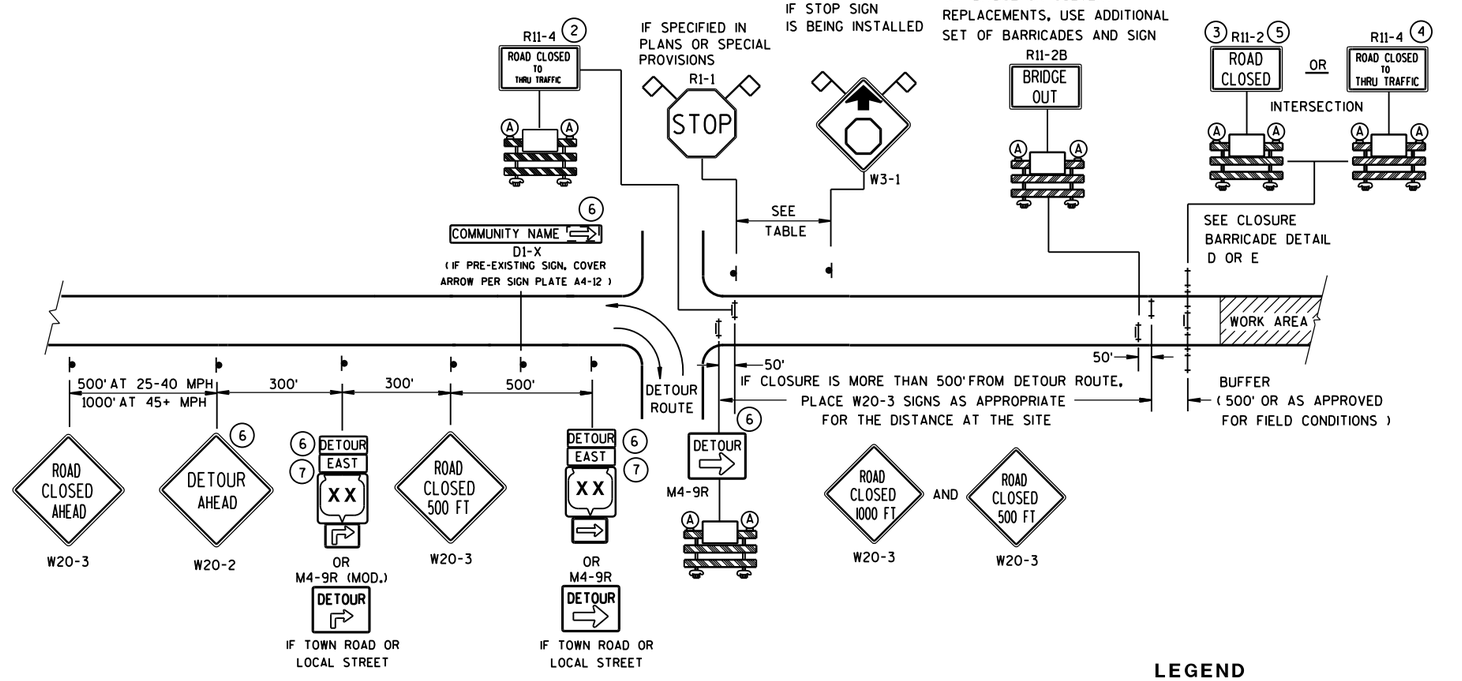
APPROVED
FEB. 2015 DATE
/S/ Jerry H. Zogg
ROADWAY STANDARDS DEVELOPMENT ENGINEER
FHWA

6
S.D.D. 15 B 3-15b



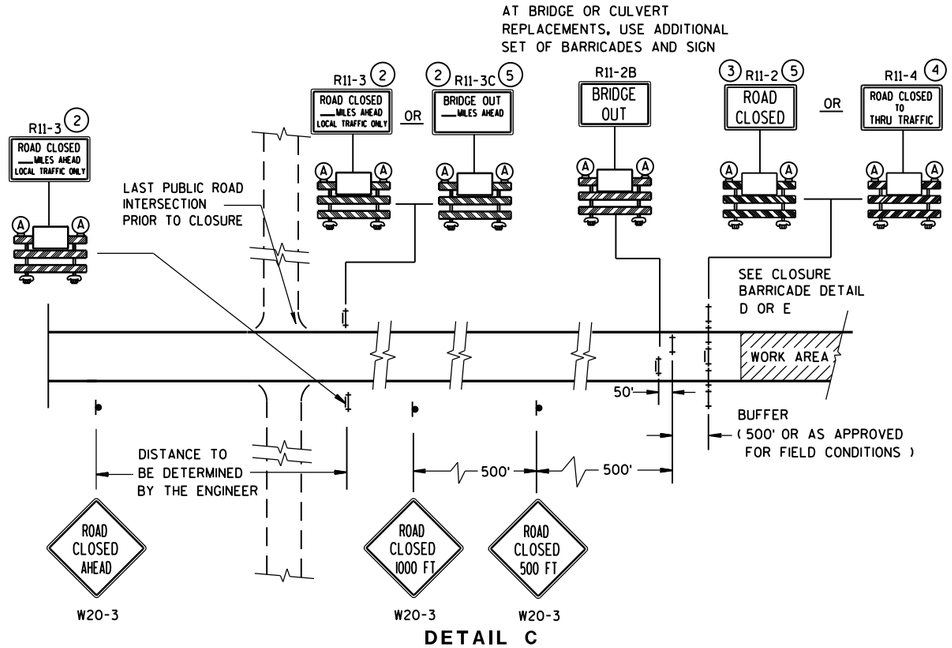
DETAIL A
MAINLINE CLOSURE WITH POSTED DETOUR

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

231

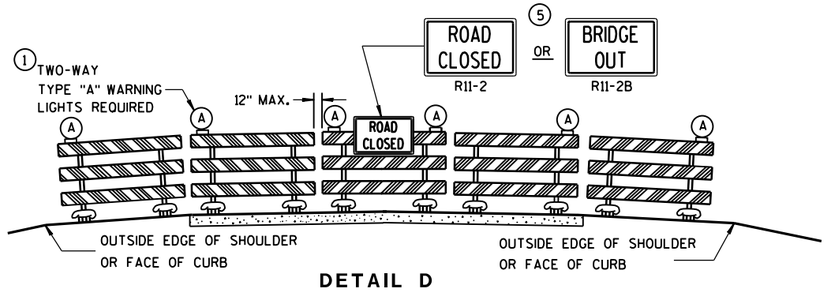
FHWA

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

6

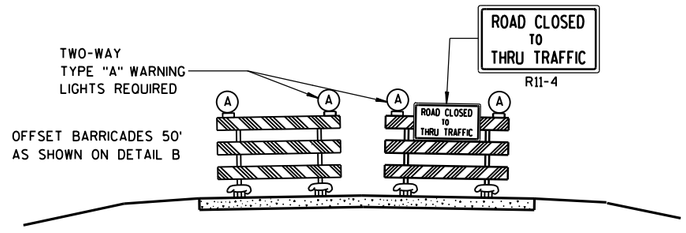
S.D.D. 15 C 2-5a



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.

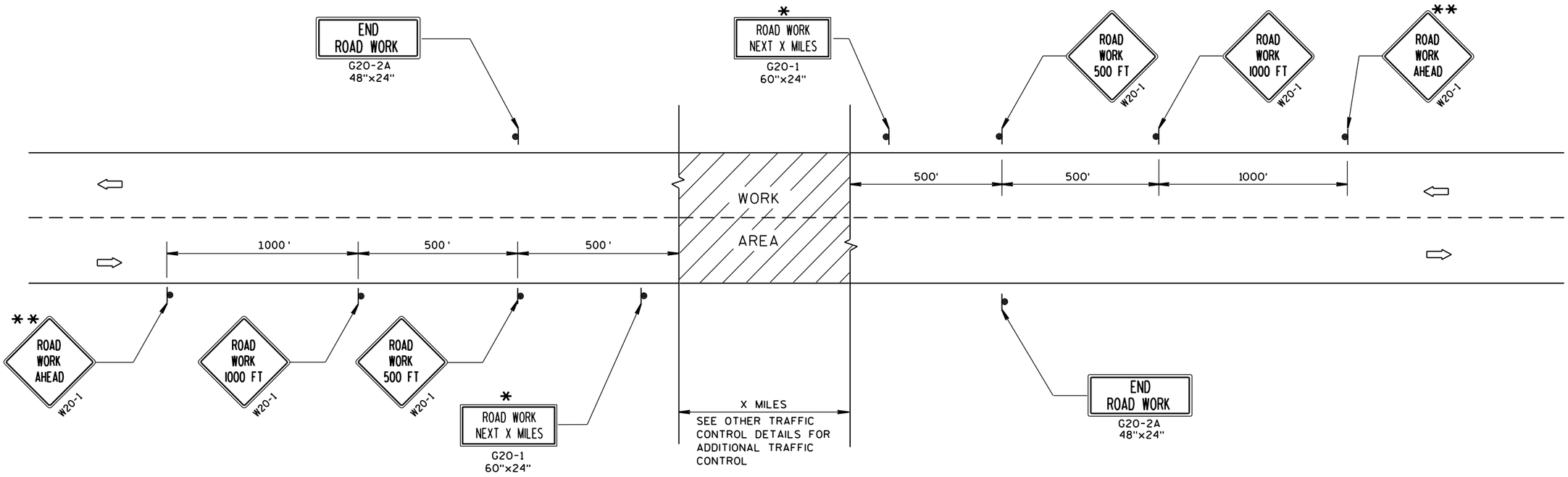
BARRICADES AND SIGNS FOR MAINLINE CLOSURES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

6

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



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.

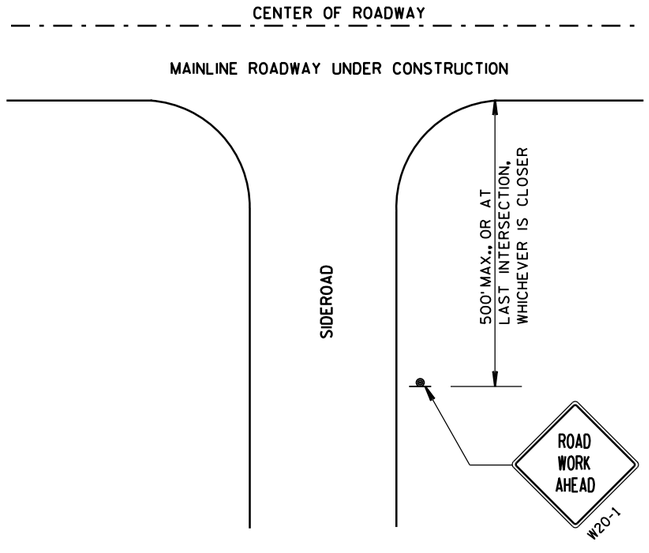
ALL SIGNS ARE 48"x48" UNLESS OTHERWISE NOTED.

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

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SIGN

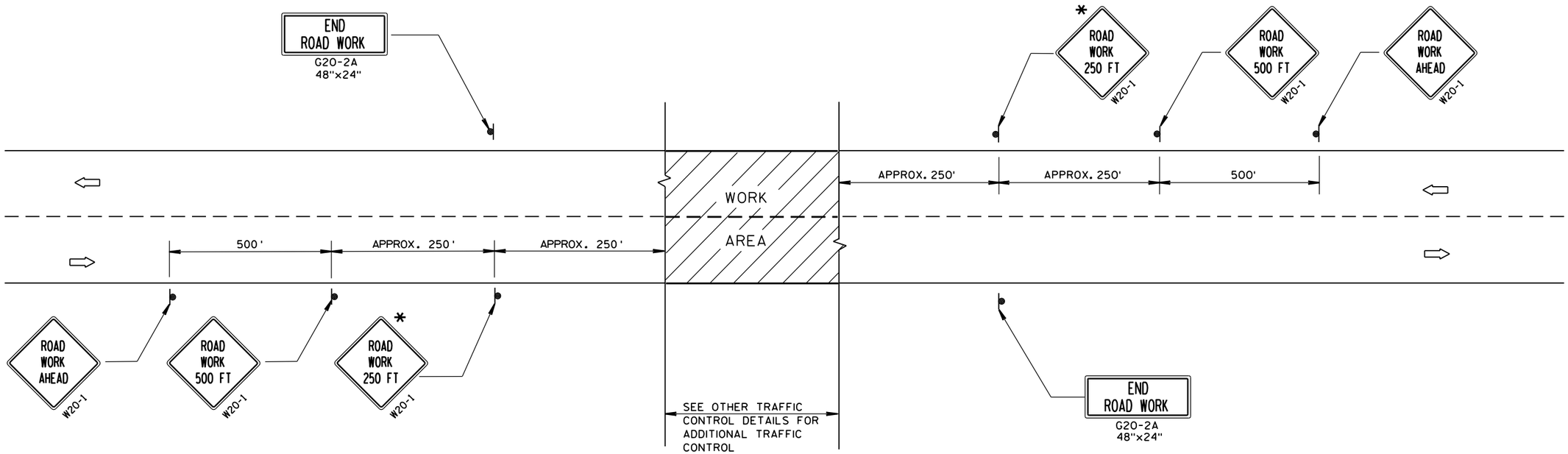
FHWA

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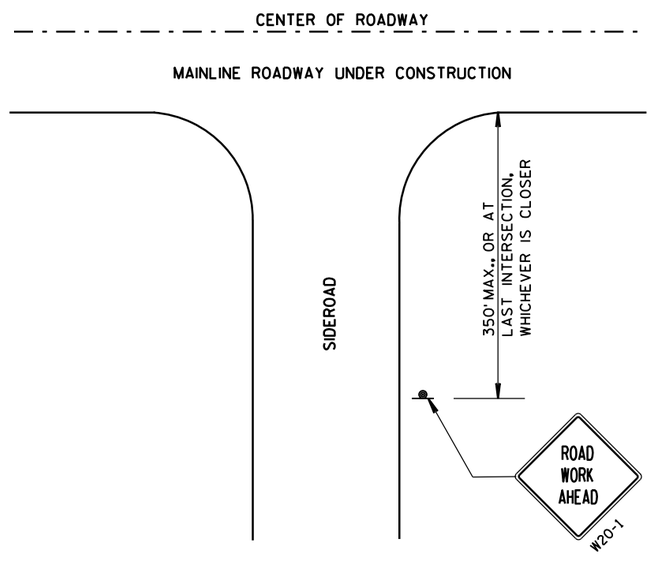
S.D.D. 15 C 4-2

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 — SIGN

FHWA

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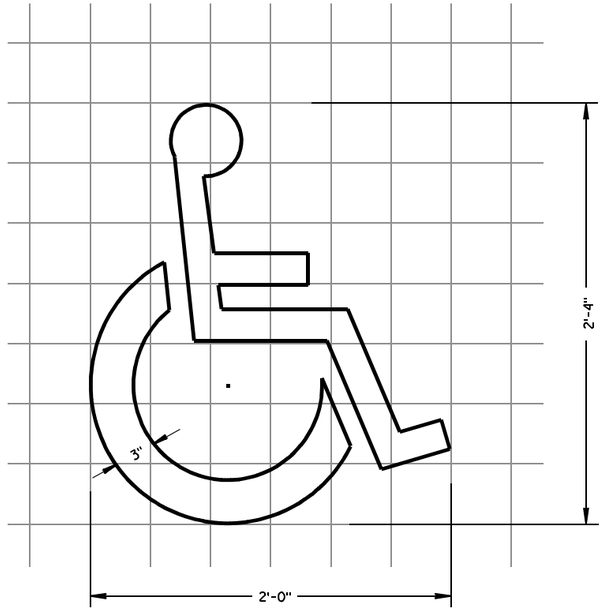
S.D.D. 15 C 5-2

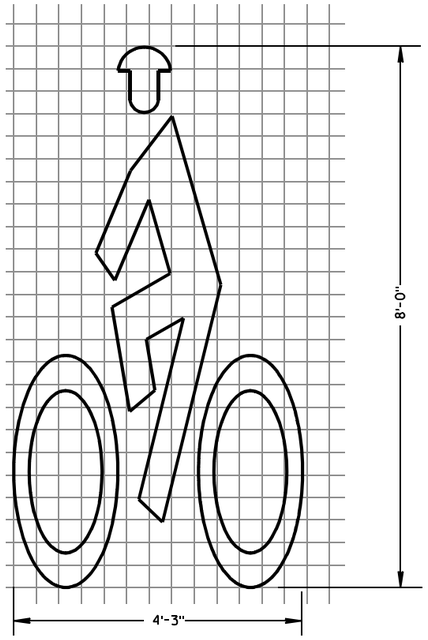
GENERAL NOTES

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.

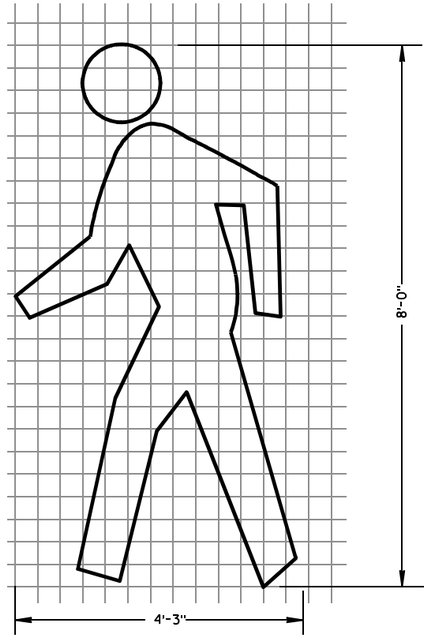
ALL LETTERS, ARROWS AND SYMBOLS SHALL BE IN CONFORMANCE WITH REQUIREMENTS INCLUDED IN "STANDARD ALPHABETS FOR HIGHWAY SIGNS AND PAVEMENT MARKING" BOOK BY THE FEDERAL HIGHWAY ADMINISTRATION. ALL LETTERS, ARROWS AND SYMBOLS SHALL BE WHITE AND REFLECTORIZED. SMALL DIFFERENCES IN DIMENSIONS WITHIN THE TOLERANCES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

A DETAILED DRAWING OF THE HANDICAPPED PARKING SYMBOL IS ILLUSTRATED IN THE "STANDARD HIGHWAY SIGNS MANUAL" BY THE FEDERAL HIGHWAY ADMINISTRATION.

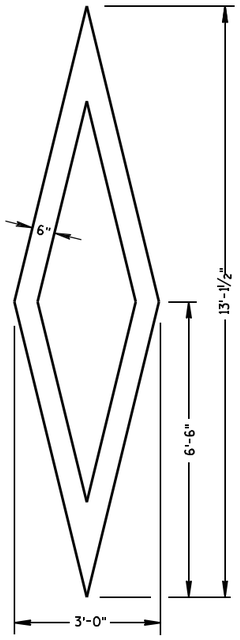




BIKE CROSSING SYMBOL



PEDESTRIAN SYMBOL



PREFERENTIAL LANE SYMBOL

6

6

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

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

PAVEMENT MARKING SYMBOLS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

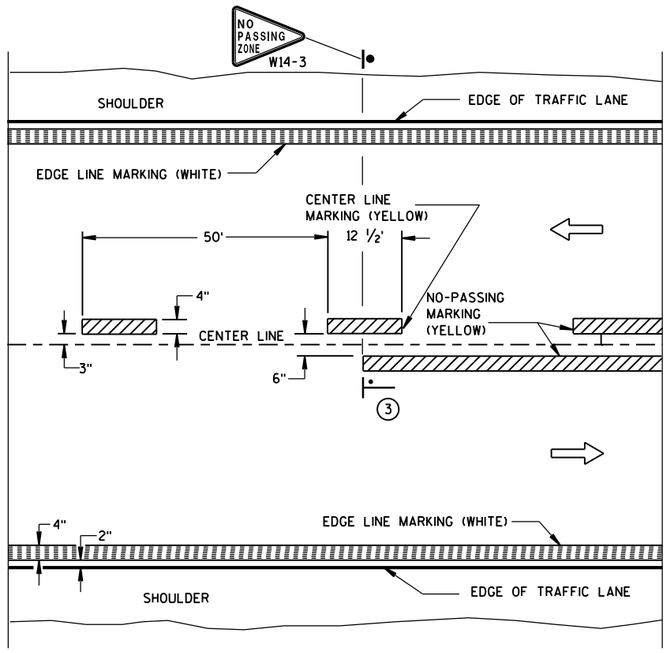
7/1/11
DATE

/S/ Thomas N Nathan
STATE TRAFFIC ENGINEER

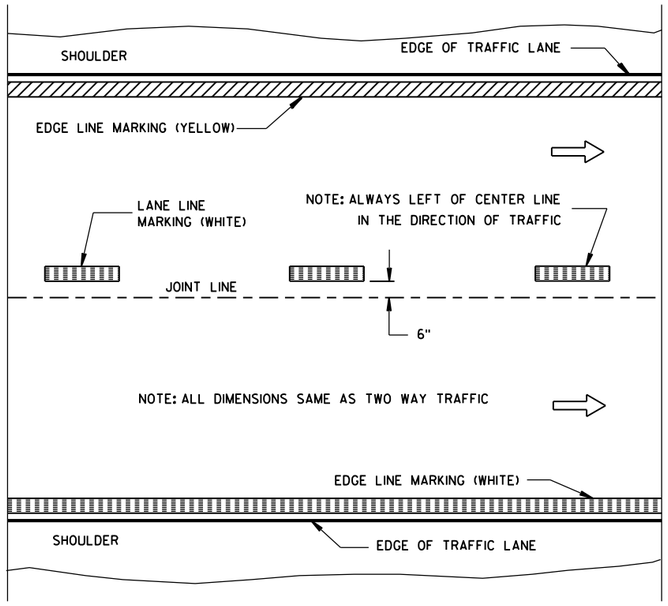
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FHWA

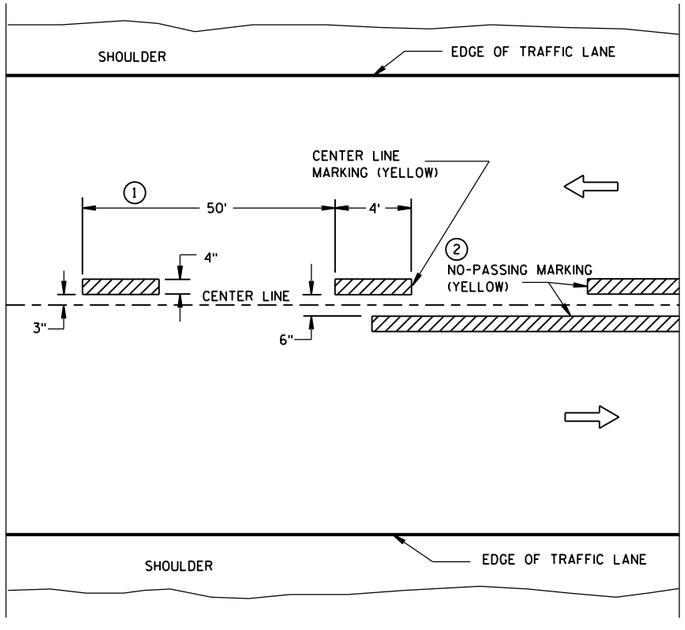


TWO WAY TRAFFIC

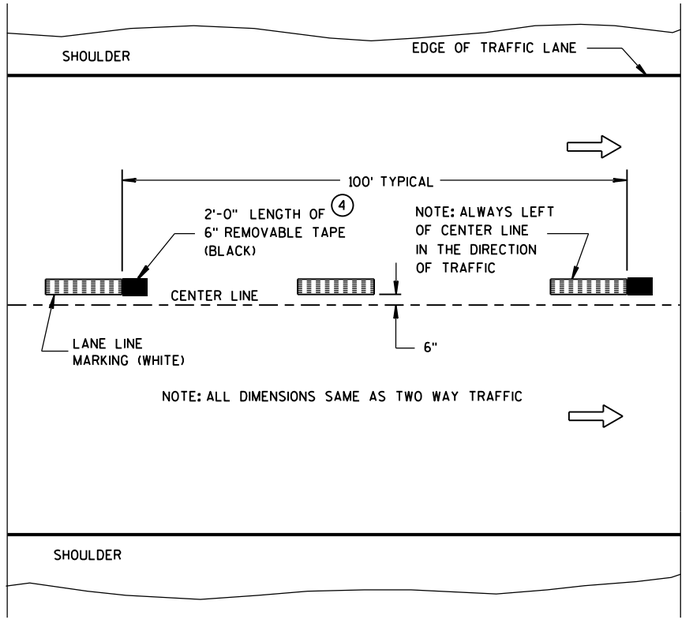


ONE WAY TRAFFIC

PERMANENT PAVEMENT MARKING



TWO WAY TRAFFIC



ONE WAY TRAFFIC

TEMPORARY (INTERMEDIATE) PAVEMENT MARKING

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

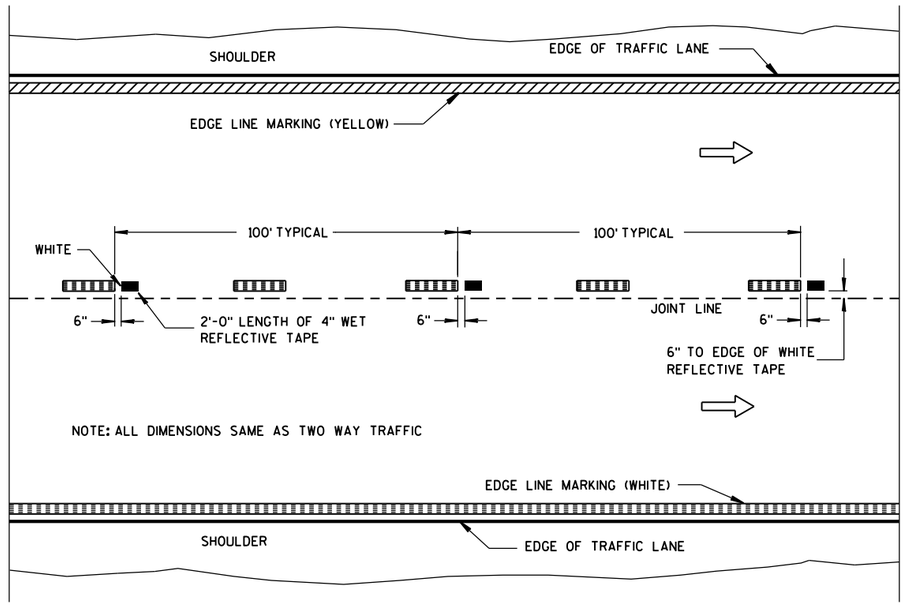
GENERAL NOTES

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

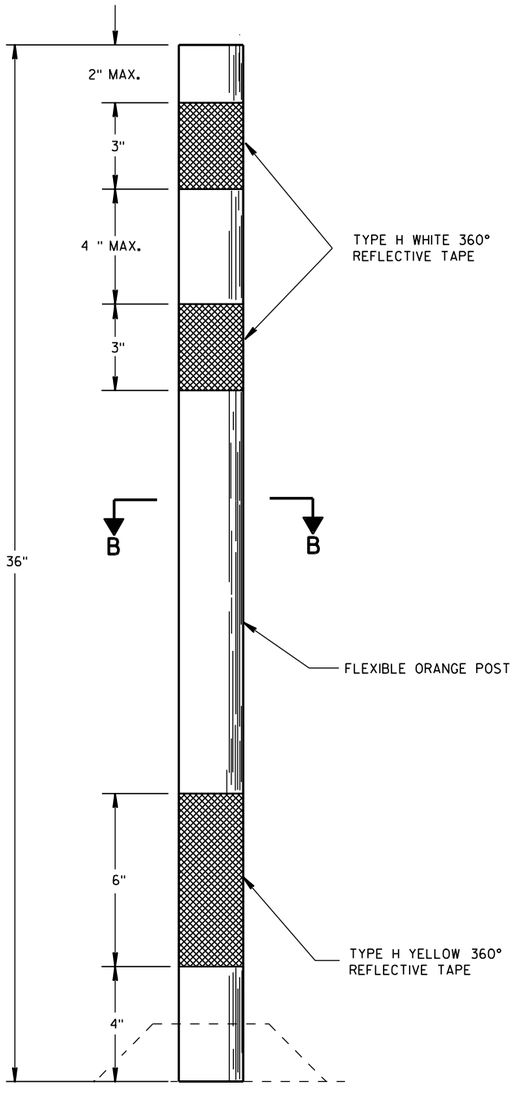
APPROVED
5-13-2013 DATE
/S/ Travis Feltes STATE TRAFFIC E
FHWA

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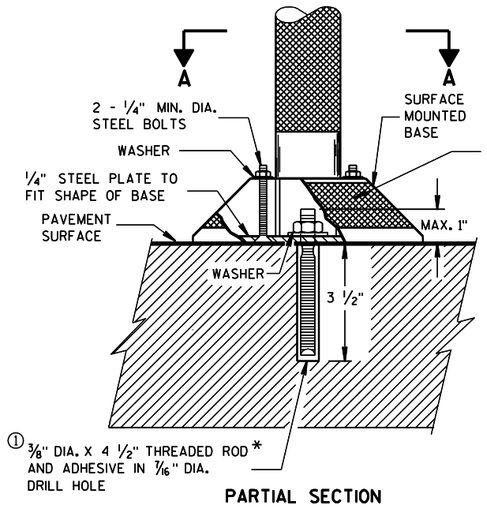
S.D.D. 15 C 8-16a

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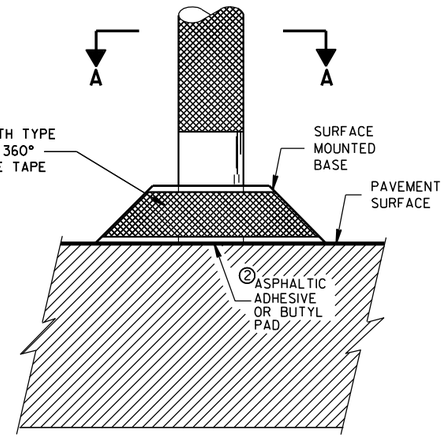
S.D.D. 15 C 8-16a



FLEXIBLE TUBULAR MARKER POST



PARTIAL SECTION TO SHOW BOLTS



POST BASES ON NEW OR EXISTING PAVEMENT

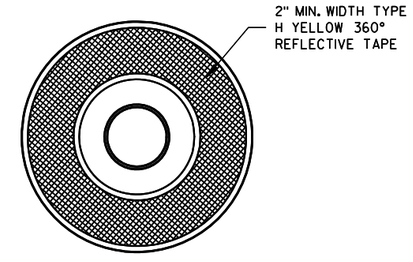
GENERAL NOTES

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

SURFACE MOUNTED BASES SHALL BE FURNISHED IN ACCORDANCE WITH MANUFACTURERS RECOMMENDATIONS TO BE COMPATIBLE WITH FLEXIBLE TUBULAR MARKER POSTS TO A SIZE AND SHAPE THAT WILL PROVIDE A STABLE POST FOUNDATION WHEN SECURED TO THE PAVEMENT.

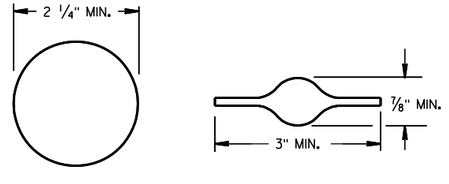
① THREADED ROD SHALL BE MACHINED DOWN TO 0.280 INCH DIA. 1 1/4 INCHES FROM THE TOP.

② THE ASPHALTIC ADHESIVE OR BUTYL PAD FURNISHED SHALL BE IN ACCORDANCE WITH MANUFACTURERS RECOMMENDATIONS.



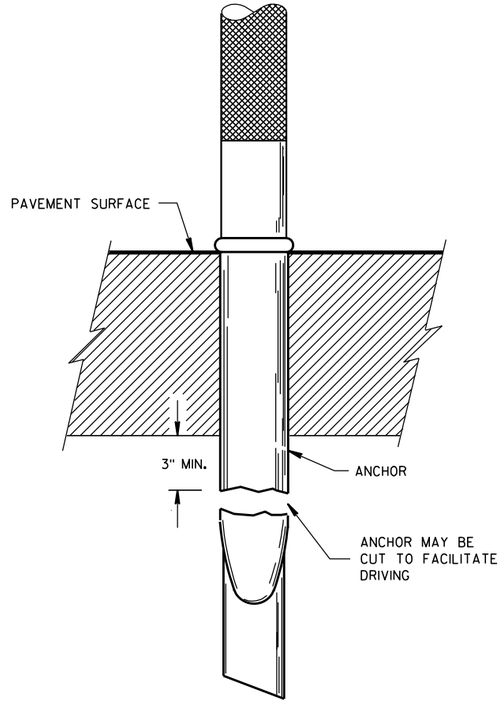
SECTION A-A

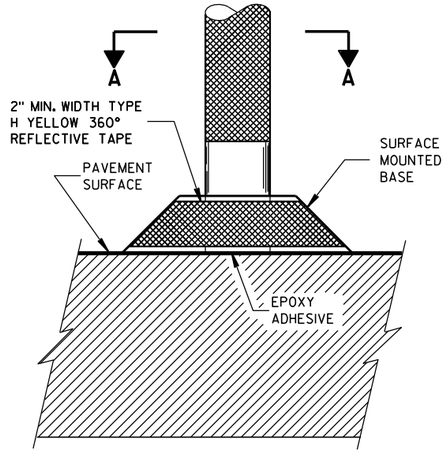
SURFACE MOUNTED BASE



SECTION B-B

ALTERNATIVE SHAPES





POST ANCHOR AND BASE ON PAVEMENT WHICH WILL BE REMOVED

FLEXIBLE TUBULAR MARKER POST, ANCHOR & BASES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

2/17/94 DATE

/S/ Chester J. [illegible] DIRECTOR, OFFICE O

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S.D.D. 15 C 11-5

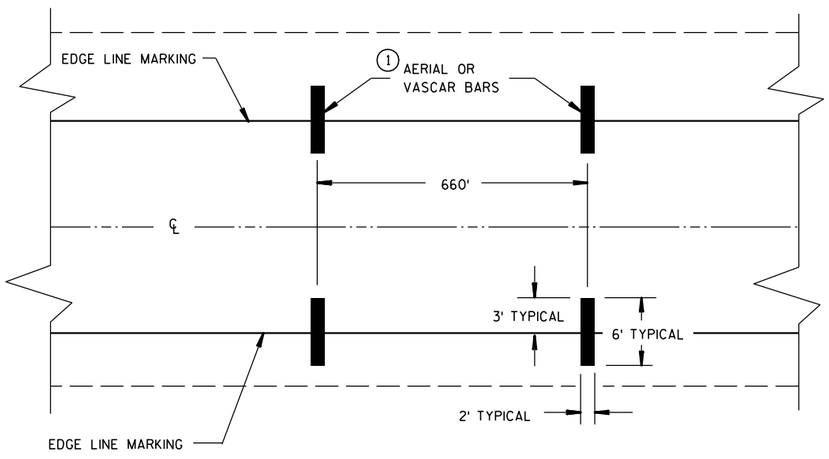
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S.D.D. 15 C 11-5

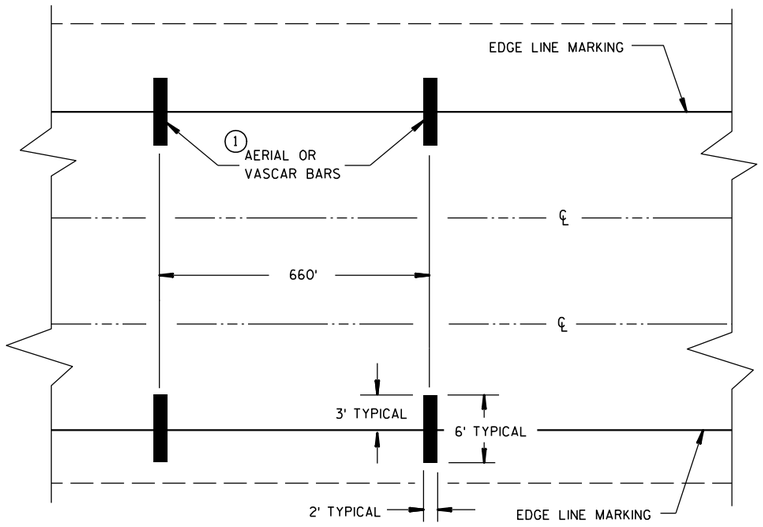
GENERAL NOTES

(1) NUMBER OF VASCAR OR AERIAL BARS SHALL BE A MINIMUM OF 2 OR A MAXIMUM OF 5 AT 660' SPACING.

A CAR CAN BE PROVIDED BY THE WISCONSIN STATE PATROL FOR TRAFFIC CONTROL.



TYPICAL FOR TWO WAY OR ONE WAY TRAFFIC

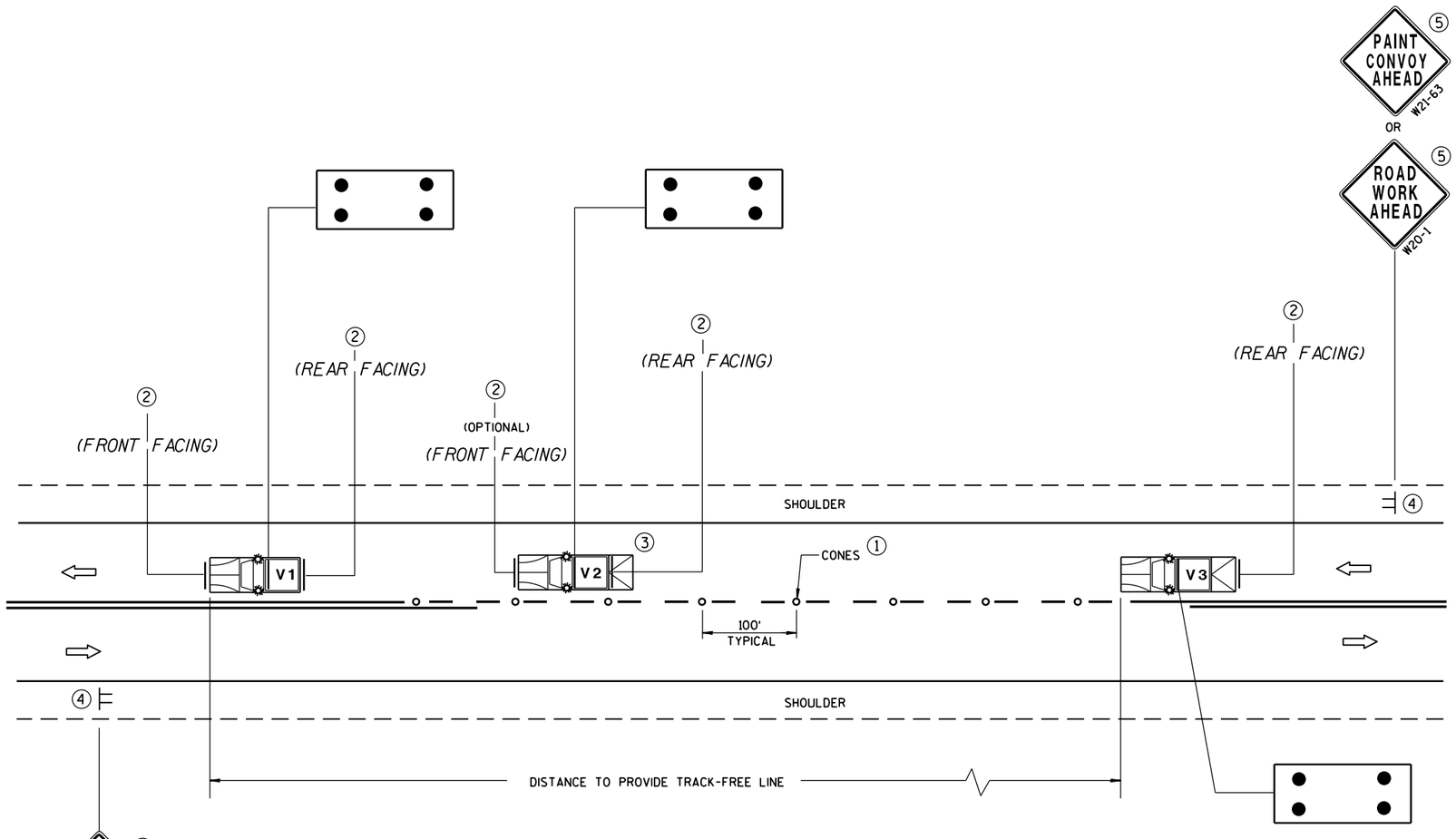


TYPICAL FOR MULTILANE TRAFFIC

SPEED ENFORCEMENT ZONE WITH AERIAL OR VASCAR BARS

AERIAL ENFORCEMENT BARS PAVEMENT MARKING DETAILS	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED	
4/23/01 DATE	/S/ Chester L Spong CHIEF SIGNS AND MARKINGS ENGINEER
FHWA	

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S.D.D. 15 C 14-1



GENERAL NOTES

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

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

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

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

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

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

THE WORK AND SHADOW VEHICLES SHOULD PULL OVER PERIODICALLY TO ALLOW TRAFFIC TO PASS.

THIS DRAWING SHALL BE USED FOR CENTERLINE OR EDGELINE MARKING.

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

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

(2) USE STANDARD SIGN W21-64 WITH APPROPRIATE ARROW.

WET PAINT W21-64 OR WET PAINT W21-64

(3) OPTIONAL TRUCK-MOUNTED ATTENUATOR.

(4) SIGNS SHALL BE REPEATED APPROXIMATELY EVERY THREE MILES.

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

LEGEND

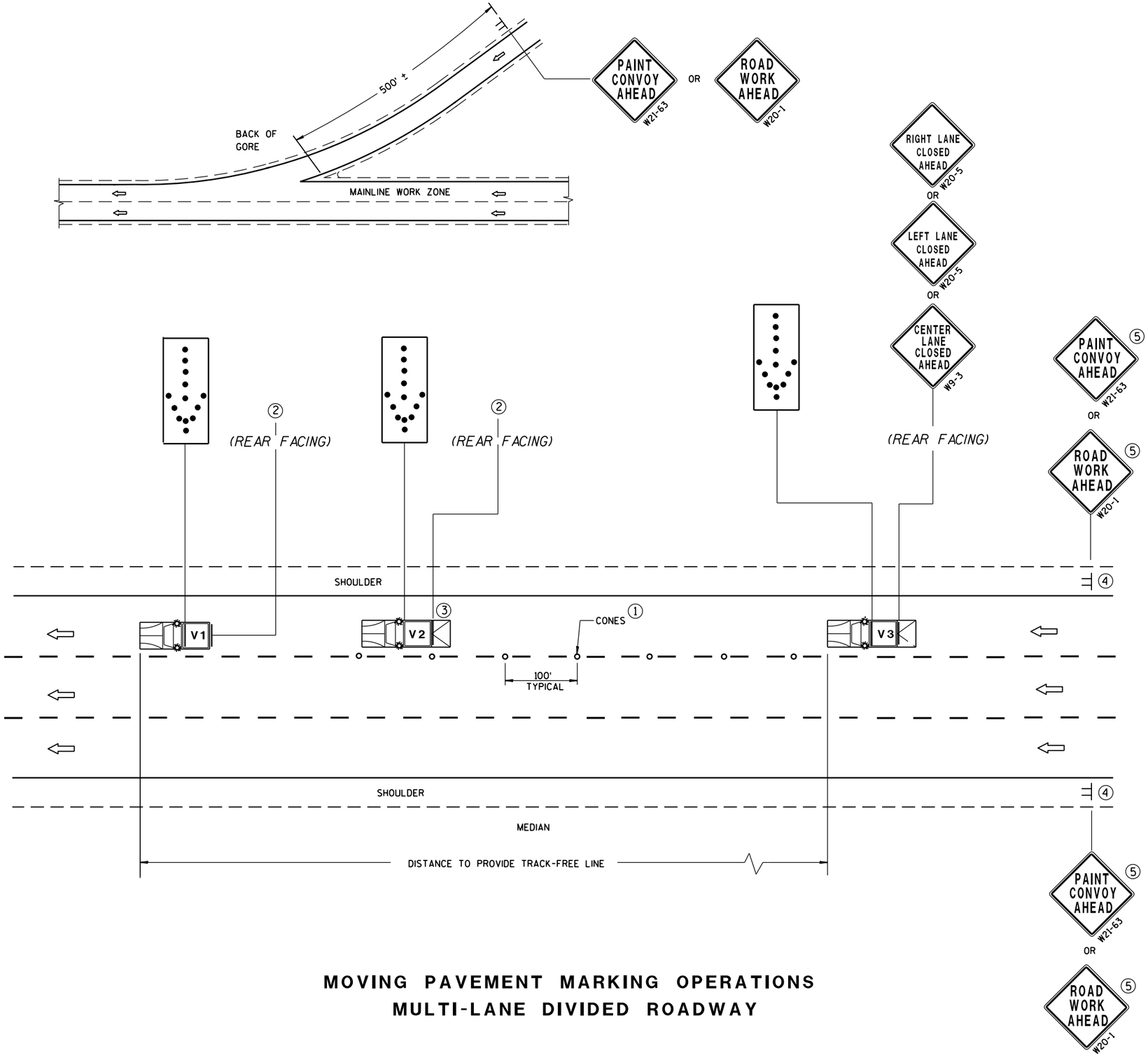
- **V1** LEAD VEHICLE
- **V2** SHADOW VEHICLE
- **V3** TRAIL VEHICLE WITH TMA
- **TMA** TRUCK-MOUNTED ATTENUATOR
- SIGN ON TEMPORARY SUPPORT
- DIRECTION OF TRAFFIC
- CONES
- FLASHING ARROW PANEL (CAUTION)

MOVING PAVEMENT MARKING OPERATIONS
TWO-LANE TWO-WAY ROADWAY

MOVING PAVEMENT MARKING OPERATION TWO-LANE TWO-WAY ROADWAY	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED	
5/3/2013 DATE	/S/ Travis Feltes STATE TRAFFIC E
FHWA	

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S.D.D. 15 C 19-2a



MOVING PAVEMENT MARKING OPERATIONS
MULTI-LANE DIVIDED ROADWAY

GENERAL NOTES

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

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

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

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

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

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

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

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

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

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

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

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

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

② USE STANDARD SIGN W21-64 WITH APPROPRIATE ARROW.

WET PAINT W21-64 OR WET PAINT W21-64

③ OPTIONAL TRUCK-MOUNTED ATTENUATOR.

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

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

LEGEND

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

MOVING PAVEMENT MARKING OPERATION MULTI-LANE DIVIDED ROADWAY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

5/3/2013 DATE

/S/ Travis Feltes
STATE TRAFFIC EN

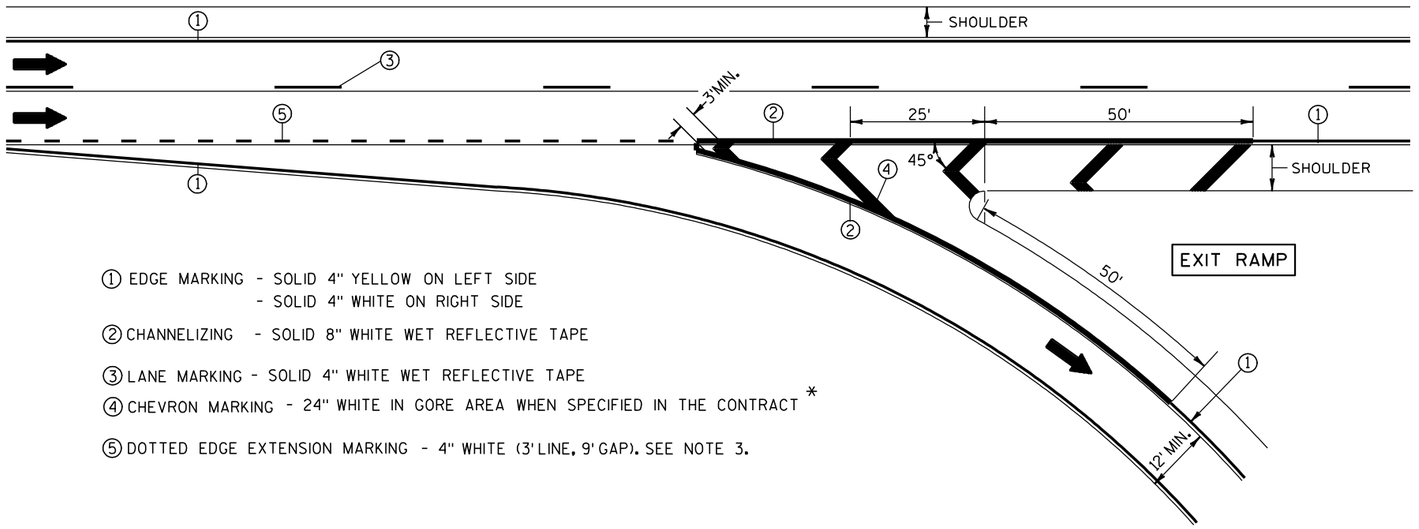
FHWA

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S.D.D. 15 C 19-2c

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S.D.D. 15 C 19-2c



① EDGE MARKING - SOLID 4" YELLOW ON LEFT SIDE
- SOLID 4" WHITE ON RIGHT SIDE

② CHANNELIZING - SOLID 8" WHITE WET REFLECTIVE TAPE

③ LANE MARKING - SOLID 4" WHITE WET REFLECTIVE TAPE

④ CHEVRON MARKING - 24" WHITE IN GORE AREA WHEN SPECIFIED IN THE CONTRACT *

⑤ DOTTED EDGE EXTENSION MARKING - 4" WHITE (3' LINE, 9' GAP). SEE NOTE 3.

NOTES:

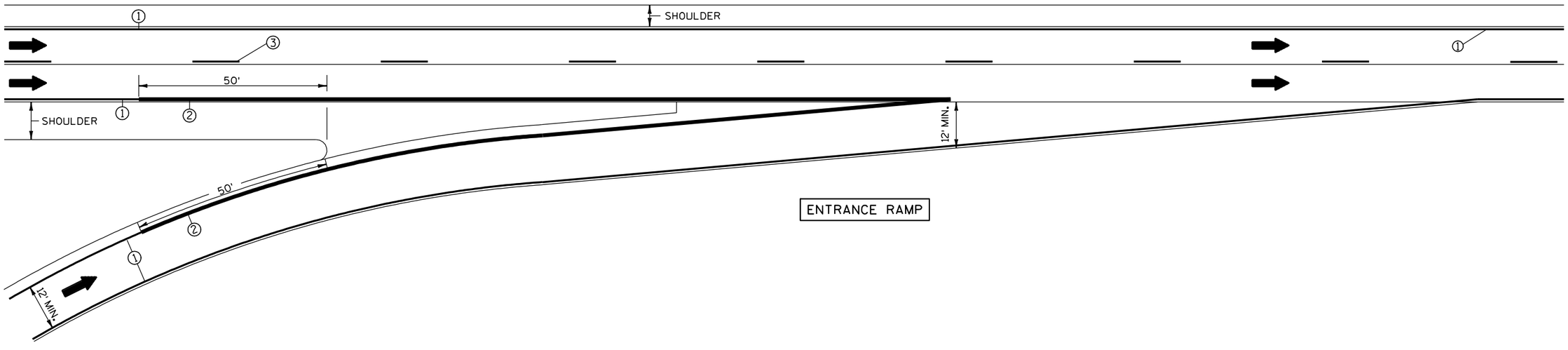
1. ARROWS SHOWN ON THIS MARKING PLAN DESIGNATE TRAFFIC FLOW, AND SHALL NOT BE TAKEN AS PROPOSED PAVEMENT MARKINGS.

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

3. 3' LINE 9' GAP, EXCEPT RETRACE THE EXISTING LINE-GAP PATTERN WHERE EXISTING MARKINGS ARE IN PLACE.

4. RETRACE EXISTING DIAGONAL MARKINGS.

* REFER TO DESIGN NOTES.



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

PAVEMENT MARKING (RAMPS AND GORES)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

6

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

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.

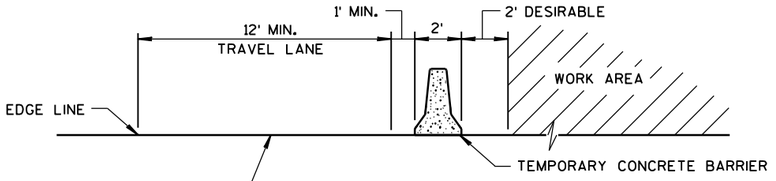
(1) CONSIDER ROADWAY GEOMETRICS WHEN LOCATING SIGNS AND ARROW BOARD SO THE DRIVER HAS A CLEAR VIEW OF THE ARROW BOARD AND LANE CLOSURE DRUMS FOR A MINIMUM 1500 FEET IN FRONT OF DRUM TAPER.

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.

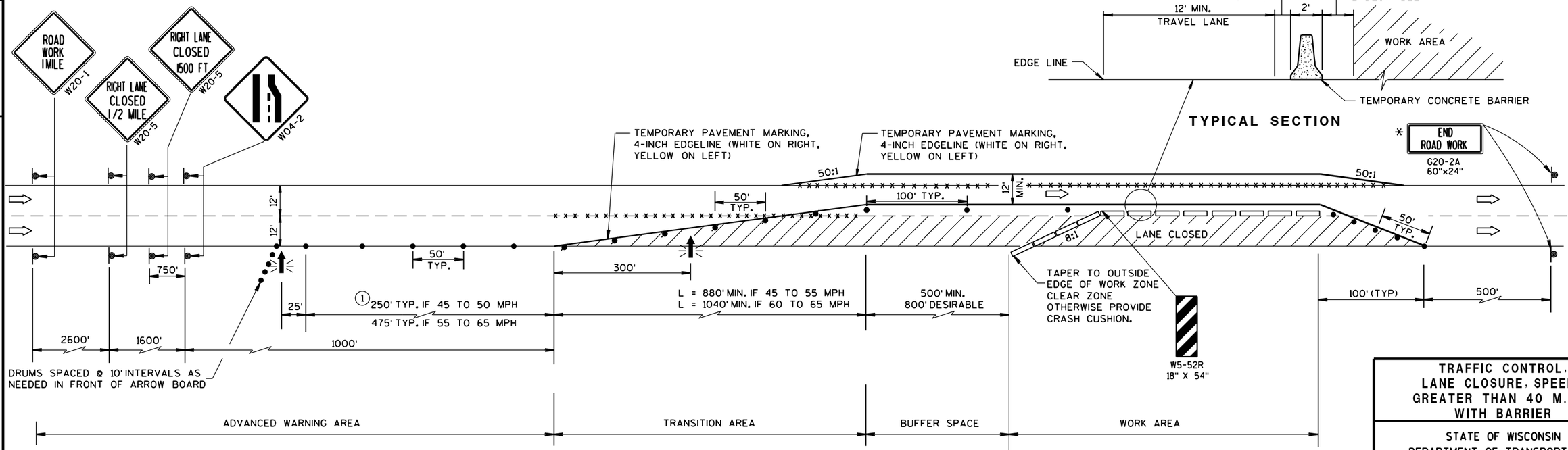
REMOVE PAVEMENT MARKINGS IF LANE CLOSURE IS TO BE IN PLACE FOR 4 OR MORE CONTINUOUS DAYS AND NIGHTS.

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

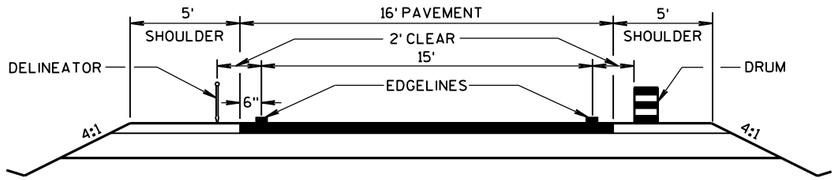
APPROVED
8/2013 — DATE
/S/ Travis Feltes — STATE TRAFFIC ENGINEER — SIGN
FHWA

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S.D.D. 15 D 3-2

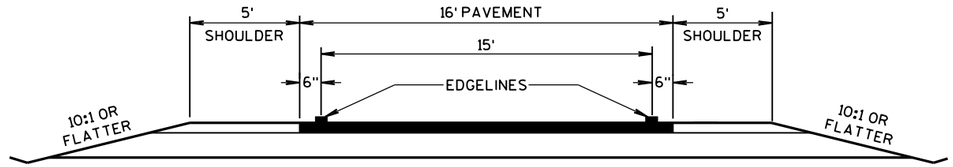
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S.D.D. 15 D 3-2



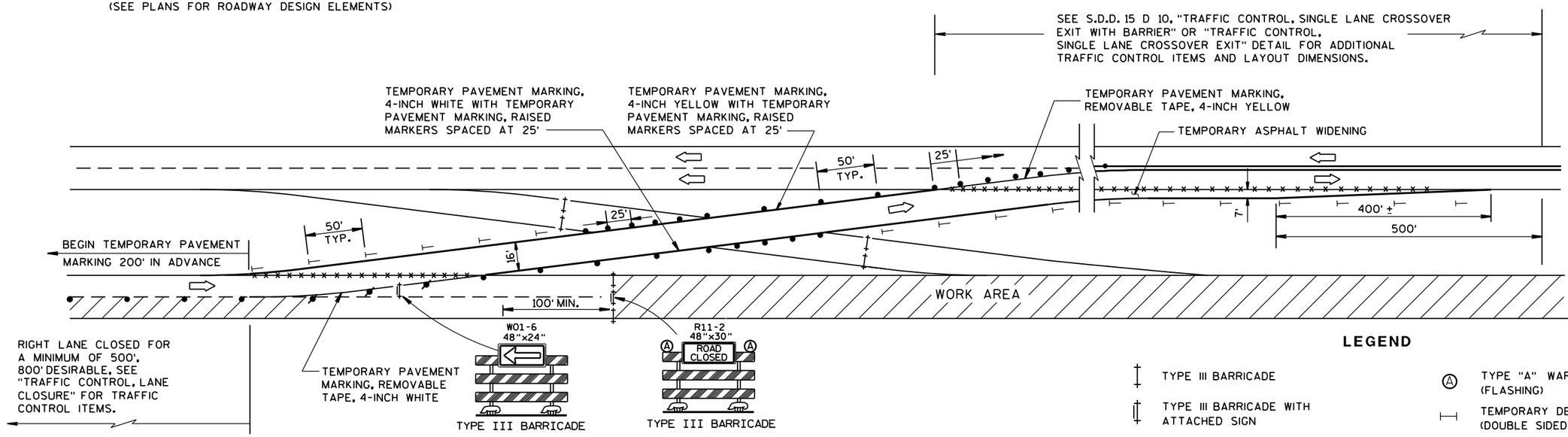
TYPICAL TEMPORARY CROSSOVER ROADWAY DIMENSIONS

(SEE PLANS FOR ROADWAY DESIGN ELEMENTS)



TYPICAL CROSSOVER TO REMAIN IN PLACE ROADWAY DIMENSIONS

(SEE PLANS FOR ROADWAY DESIGN ELEMENTS)



LEGEND

- TYPE III BARRICADE
- TYPE III BARRICADE WITH ATTACHED SIGN
- TRAFFIC CONTROL DRUM WITH TYPE "C" STEADY BURN LIGHT
- TRAFFIC CONTROL DRUM
- TEMPORARY DELINEATOR (STEEL POST W/SINGLE DELINEATOR) COLOR OF DELINEATOR SHALL MATCH THE COLOR OF THE RESPECTIVE EDGELINE MARKING
- TYPE "A" WARNING LIGHT (FLASHING)
- TEMPORARY DELINEATOR (DOUBLE SIDED)
- REMOVING PAVEMENT MARKINGS
- DELINEATOR FLEXIBLE/ TUBULAR MARKER
- 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 PROPOSED SIGNS SHOULD BE ADJUSTED TO NOT CONFLICT WITH AND TO PROVIDE A MINIMUM OF 200 FEET (500 FEET DESIRABLE) DISTANCE TO EXISTING SIGNS.

TEMPORARY PAVEMENT MARKING REMOVABLE TAPE SHALL BE USED WHEN CROSSING PERMANENT ROADWAY SURFACES THAT WILL REMAIN AFTER USE OF CROSSOVER AND TEMPORARY PAVEMENT MARKING WHERE USED.

ALL SIGNS ARE 48"x48" UNLESS OTHERWISE NOTED.

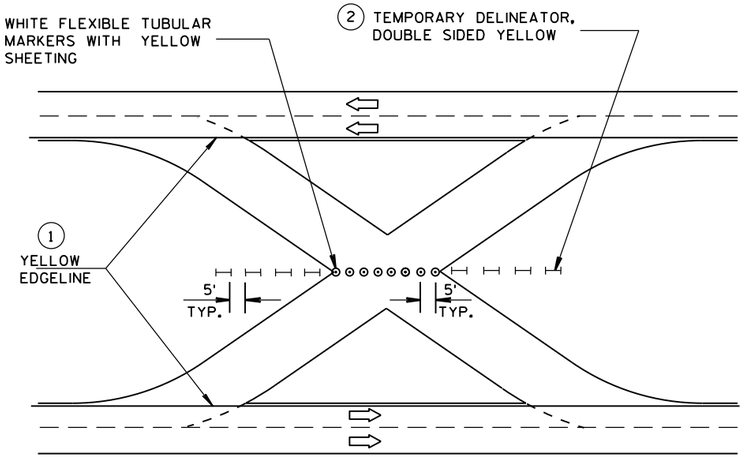
"WO" IS THE SAME AS "W" EXCEPT THE BACKGROUND IS ORANGE.

ANY SIGNS TEMPORARY OR EXISTING, WHICH CONFLICT WITH THE 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.

REVERSE DEVICES WHEN OTHER LEG OF CROSSOVER IS IN USE.

(1) FOR PERMANENT CROSSOVER, PAVEMENT MARKING SHOULD CONFORM TO SECTION 646 OF THE STANDARD SPECIFICATIONS.

(2) FOR PERMANENT CROSSOVER, INSTALL PERMANENT DELINEATORS ACCORDING TO SECTION 633 OF THE STANDARD SPECIFICATIONS.



TRAFFIC CONTROL FOR CROSSOVER THAT IS NOT IN USE

TRAFFIC CONTROL, SINGLE LANE CROSSOVER

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

9/2014 DATE — /S/ Travis Feltes STATE TRAFFIC ENGINEER — SIGN

FHWA

6

S.D.D. 15 D 11-5

6

S.D.D. 15 D 11-5

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.

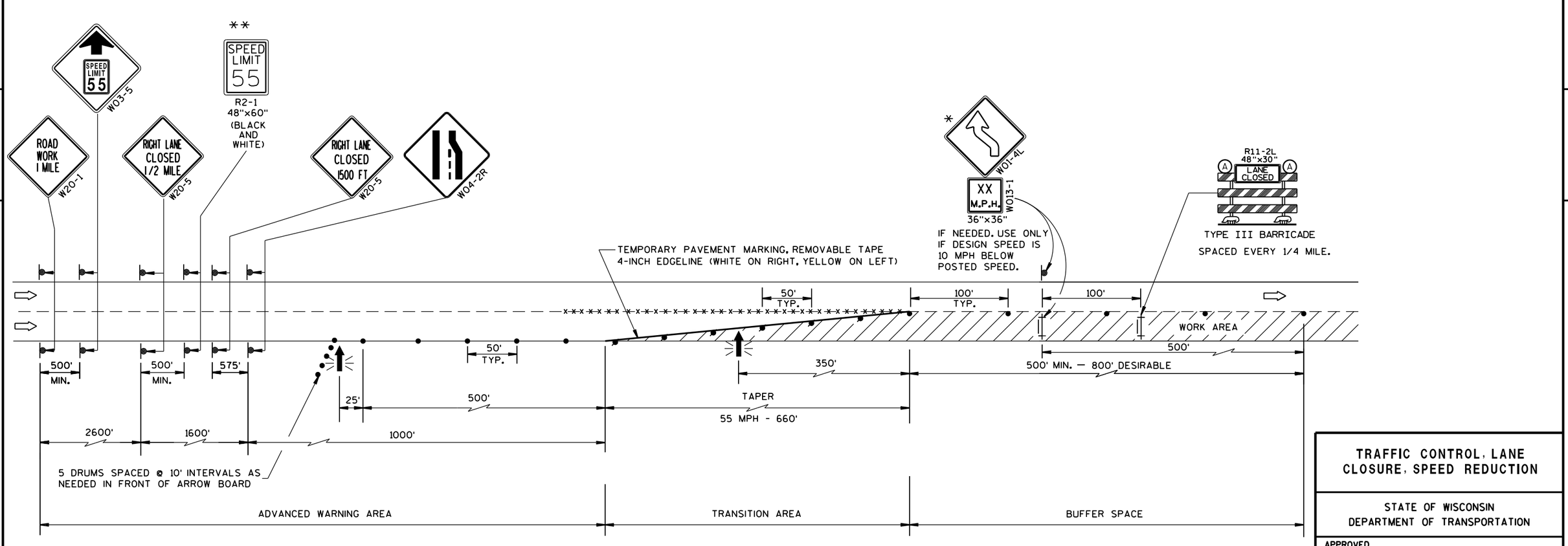
WARNING LIGHTS ARE NOT REQUIRED IF THE LANE CLOSURE IS A DAYTIME ONLY OPERATION.

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 (WO1-4L) 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.



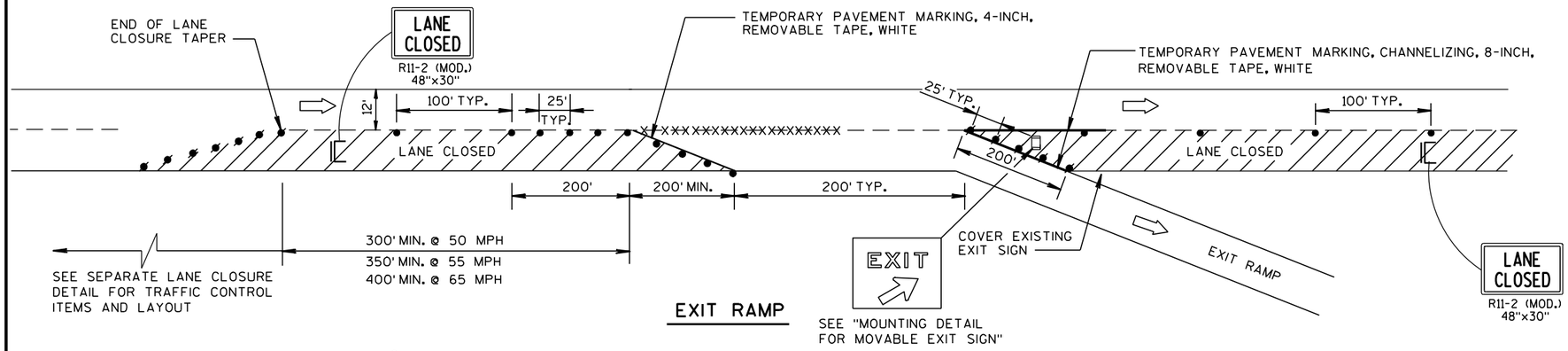
TRAFFIC CONTROL, LANE CLOSURE, SPEED REDUCTION

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

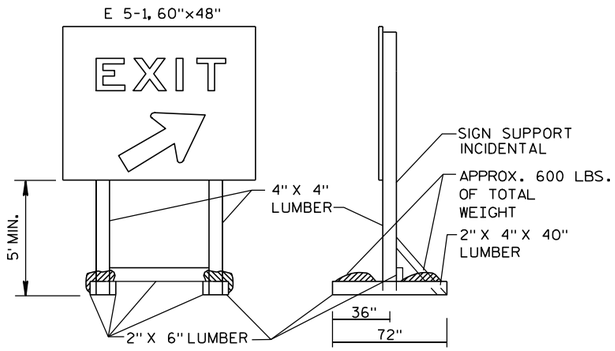
APPROVED
Feb. 2015 — DATE
/S/ Travis Feltes — STATE TRAFFIC ENGINEER
FHWA

S.D.D. 15 D 12-5b

S.D.D. 15 D 12-5b

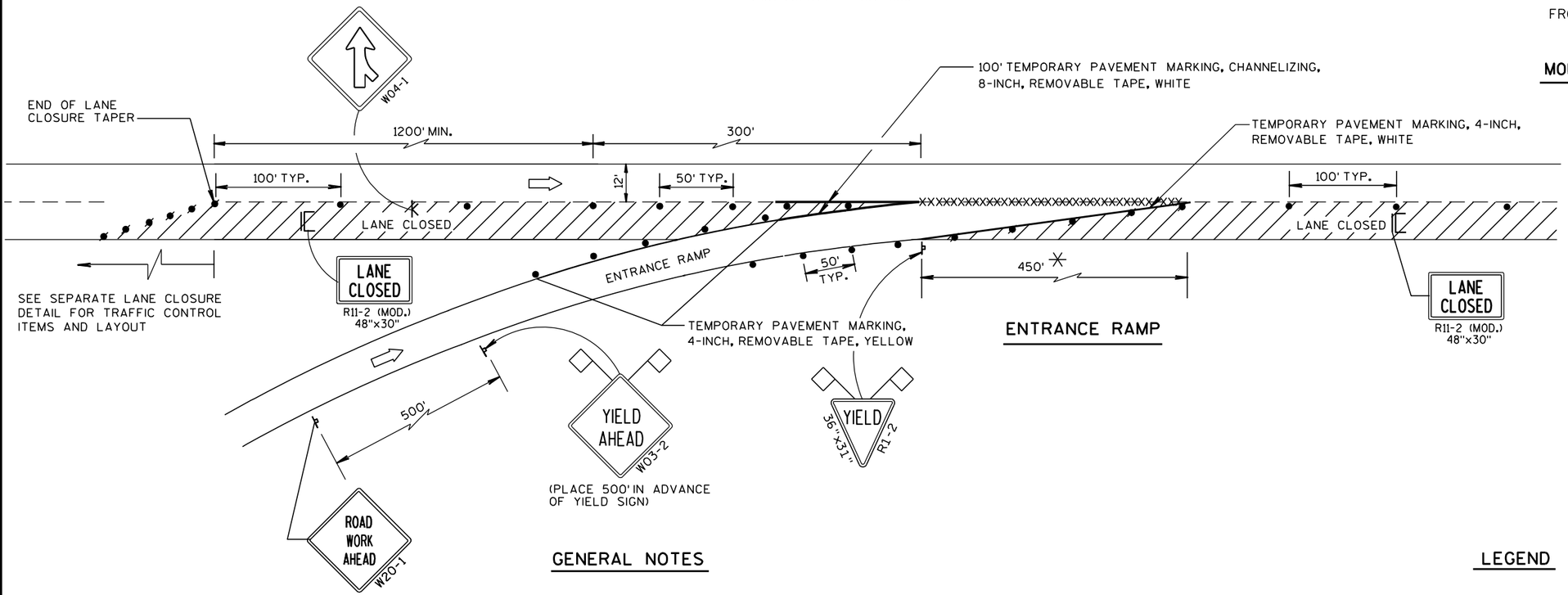


EXIT RAMP



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.

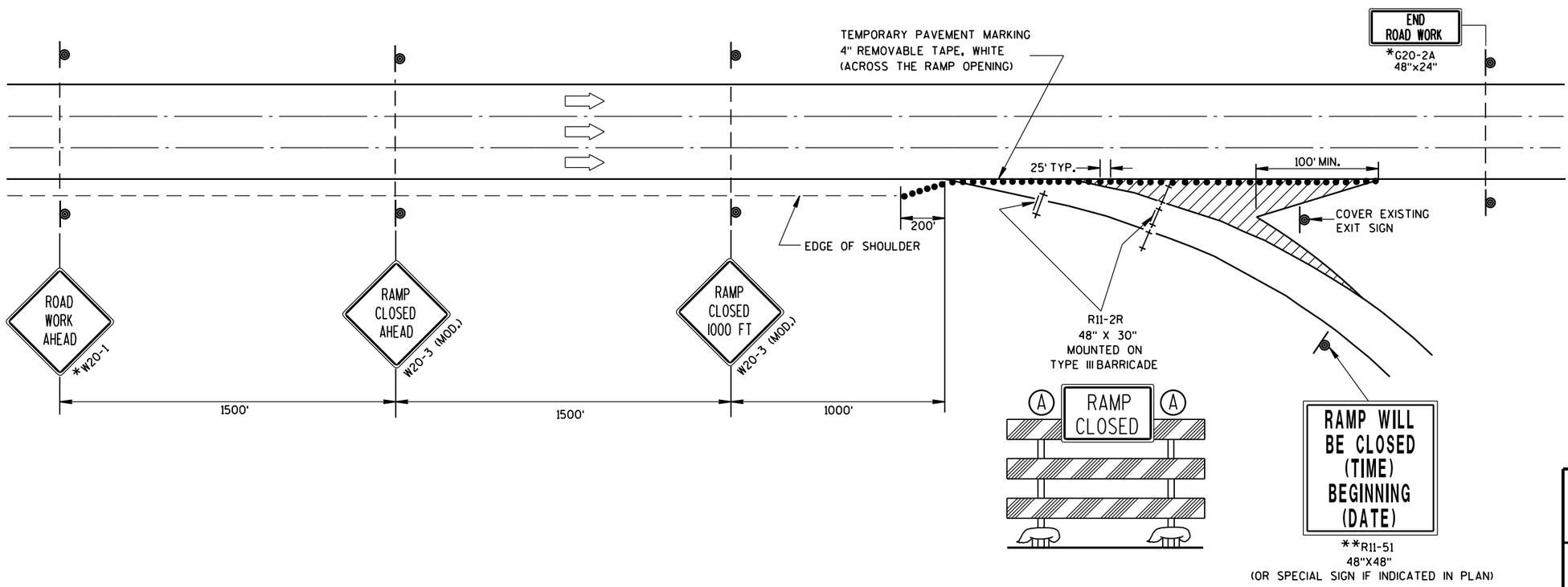
PLACE TEMPORARY PAVEMENT MARKING, REMOVABLE TAPE IF RAMP CLOSURE IS TO BE IN PLACE FOR 4 OR MORE CONTINUOUS DAYS AND NIGHTS.

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

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.

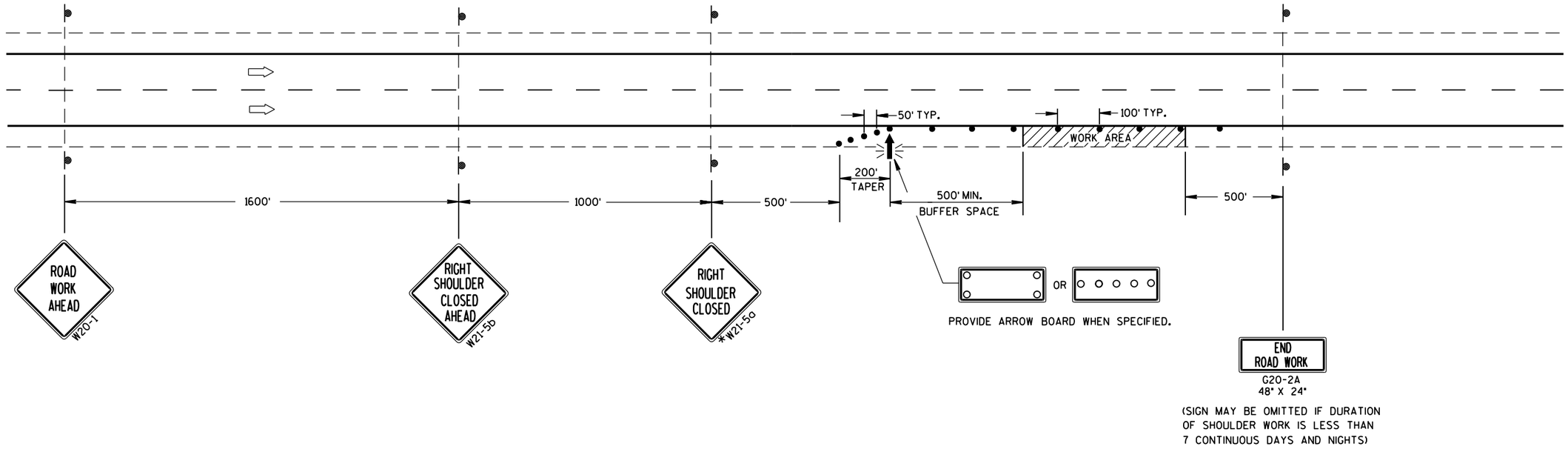
SIGNS THAT WILL BE IN PLACE LESS THAN 7 CONTINUOUS DAYS AND NIGHTS MAY BE MOUNTED ON PORTABLE SUPPORTS.

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

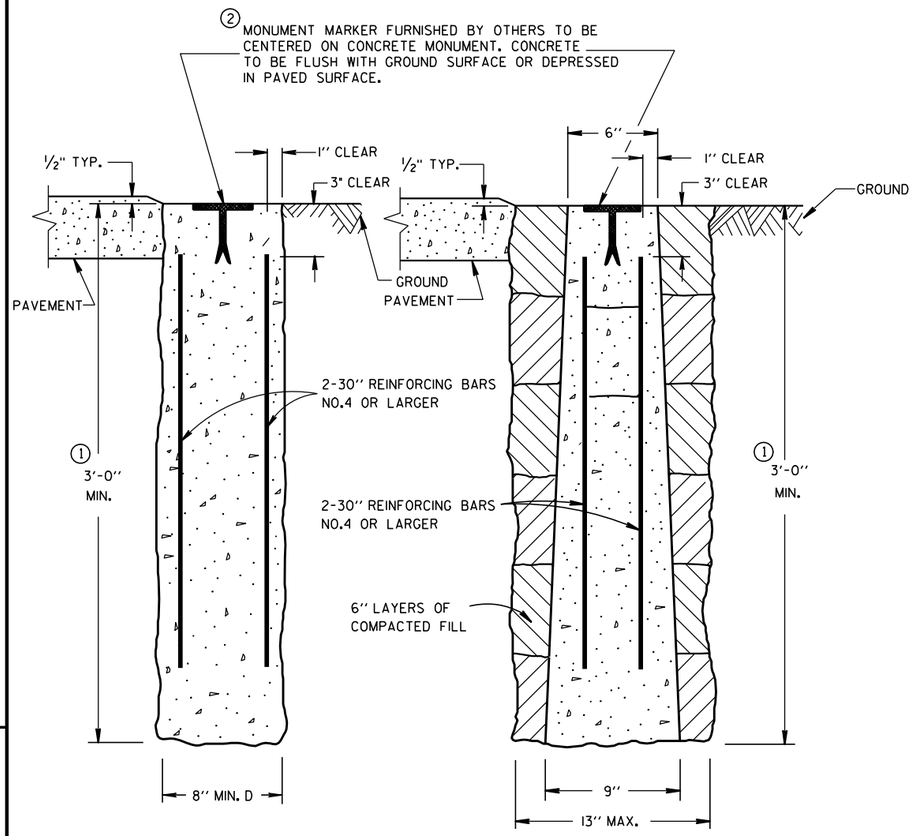
8/2013 — DATE

/S/ Travis Feltes — STATE TRAFFIC ENGINEER

FHWA

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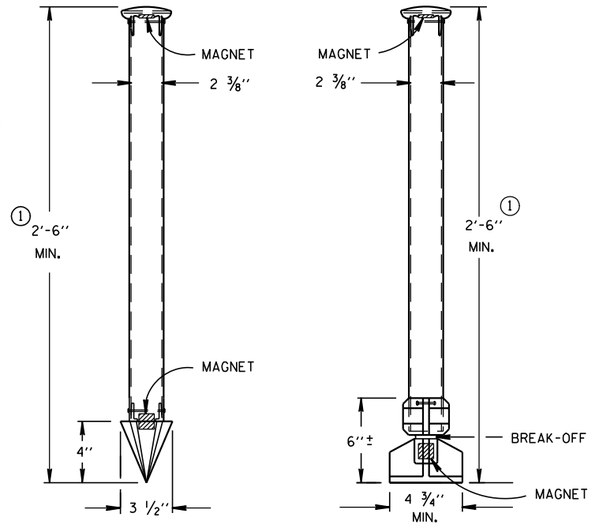
S.D.D. 15 D 27-2



CAST-IN-PLACE PRECAST

CONCRETE MONUMENTS

TYPE A



TYPE C DRIVE-IN MONUMENT

TYPE D BREAK-OFF MONUMENT

ALUMINUM MONUMENTS

(INCLUDES MARKER)

GENERAL NOTES

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

DETAILED DRAWINGS OF PROPOSED ALTERNATE DESIGNS FOR METAL MONUMENTS OR MONUMENT COVERS SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL.

INSTALLED METAL MONUMENTS MUST BE EASILY DETECTED WITH A DIP NEEDLE. INSERT PERMANENT MAGNETS SHALL BE ATTACHED NEAR THE TOP AND BOTTOM OF THOSE MONUMENTS CONSTRUCTED OF A METAL ALLOY WHICH IS NOT ATTRACTIVE TO A DIP NEEDLE.

THE CAST IRON MONUMENT COVER SHALL BE A "NON-ROCKING" TYPE. ADJUSTMENT OF THE COVER TO GRADE MAY BE ACCOMPLISHED BY THE USE OF MORTAR AND BRICK, OR BY EITHER PRECAST OR CAST-IN-PLACE REINFORCED CONCRETE GRADE RINGS.

MONUMENTS SHALL BE LOCATED AND PLACED AT THE DIRECTION OF THE ENGINEER.

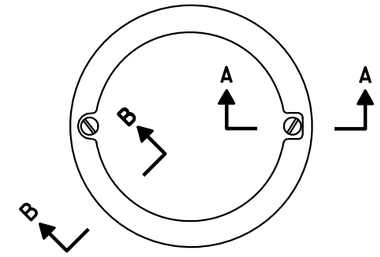
ALUMINUM MONUMENTS AND MONUMENT COVERS SHALL BE MADE FROM AN ALUMINUM AND MAGNESIUM ALLOY AS DETERMINED BY THE MANUFACTURER.

THE MONUMENT COVERS DETAILED ON THIS DRAWING ARE NOT EQUAL ALTERNATES. MONUMENT COVERS SHALL BE CAST IRON UNLESS ALUMINUM IS SPECIFIED ELSEWHERE IN THE CONTRACT.

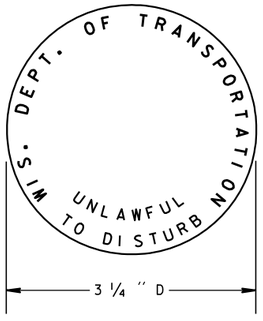
MONUMENT SHALL BE CAST-IN-PLACE CONCRETE UNLESS PRECAST CONCRETE OR ALUMINUM MONUMENTS ARE SPECIFIED IN THE CONTRACT OR PERMITTED BY THE ENGINEER.

① MINIMUM LENGTH SHALL BE 4'-0" FOR MONUMENTS INSTALLED IN PAVED AREAS.

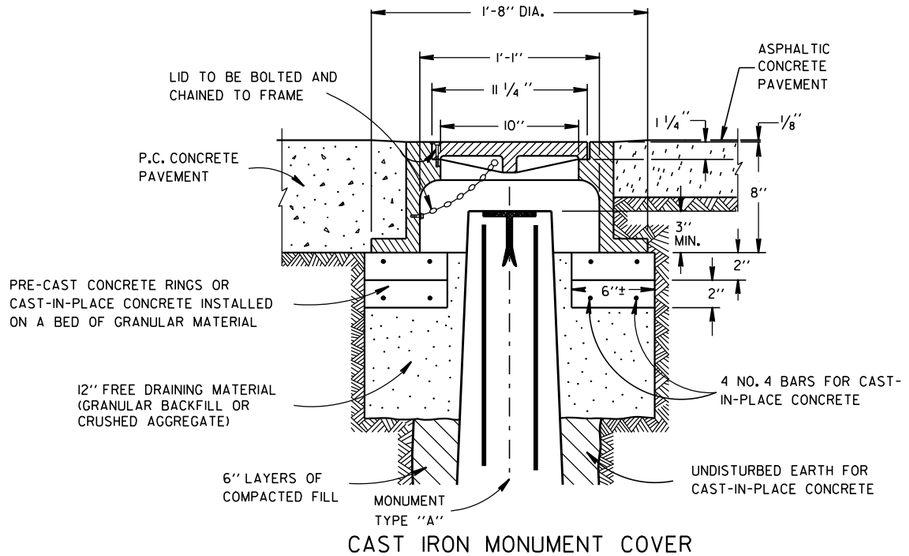
② AN OFFICIAL COUNTY MONUMENT MARKER SUPPLIED BY A COUNTY MAY BE REQUIRED FOR SOME SECTION CORNERS AND WITNESS MONUMENTS INSTEAD OF THIS WIS DOT MARKER.



TOP VIEW

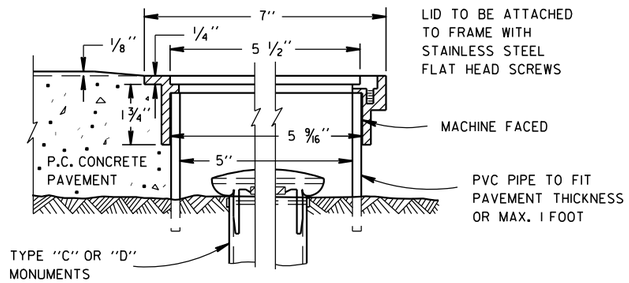


② WIS DOT MONUMENT MARKER LOGO FOR TYPES "A", "C" & "D"



CAST IRON MONUMENT COVER

(APPROXIMATE WEIGHT - 95 LBS.)



SECTION B-B SECTION A-A

ALUMINUM MONUMENT COVER

(APPROXIMATE WEIGHT 2 LBS)

(FOR CONCRETE PAVEMENT ONLY)

LANDMARK REFERENCE MOUNMENTS AND COVERS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

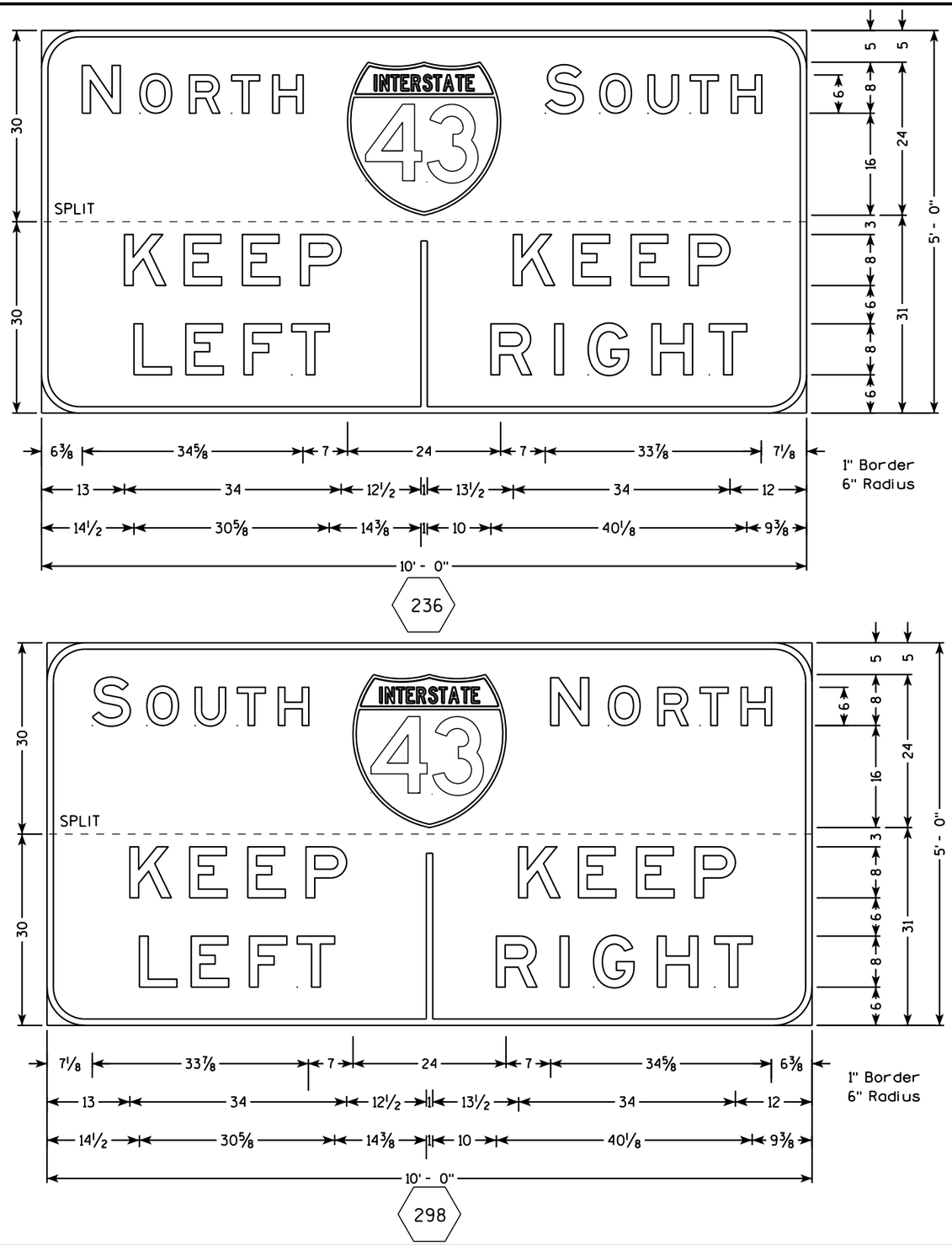
9/22/1999 DATE

/S/ Rory L. Rhinesmith
CHIEF ROADWAY DEVELOPMENT ENGINEER

FHWA

6

S.D.D. 16 A 1-6



NOTES

1. All Signs Type II - Type H Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - GREEN
   Message - WHITE
3. Message Series - E except as NOTED

PLAN SHEET PRODUCED
BY WisDOT-NE REGION

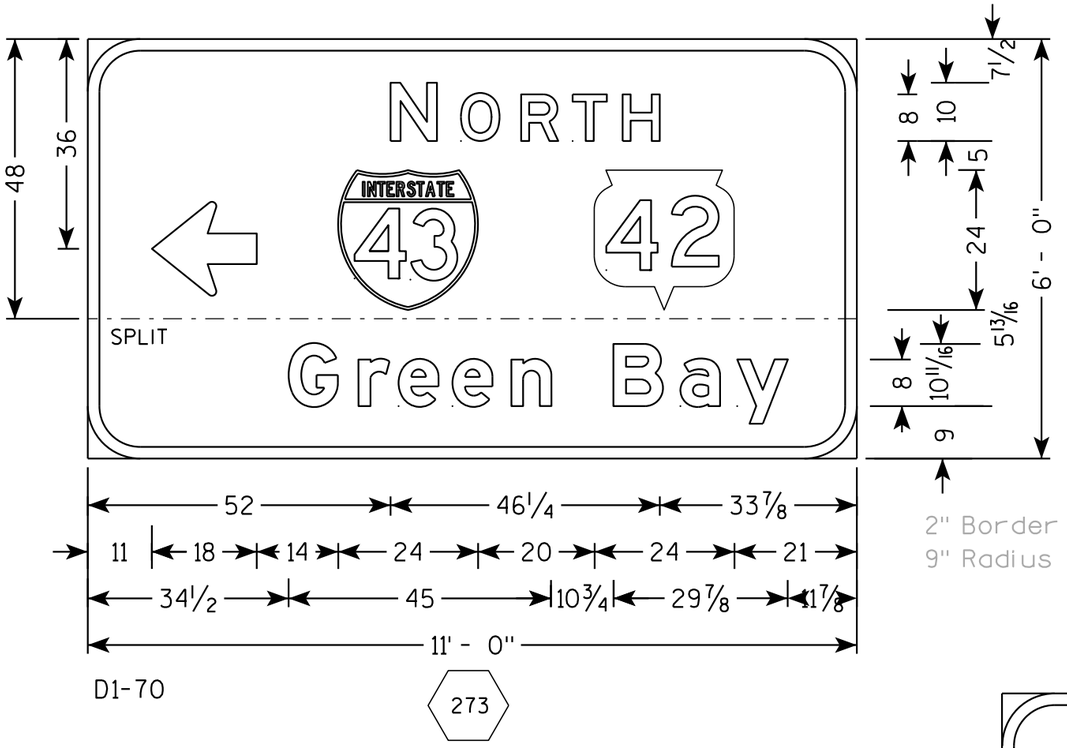
PROJECT NO: 1224-21-71	HWY: IH 43	COUNTY: MANITOWOC	SIGN DETAILS	SHEET NO: 249	E

FILE NAME : N:\spo\traffic\SIGNING\Projects\1224-21-71 I43 Manitowoc Co\070101_sd.dgn PLOT DATE : 23-JUN-2015 14:30 PLOT BY : dotj1f PLOT NAME : PLOT SCALE : 20:1

WISDOT/CADDS SHEET 42

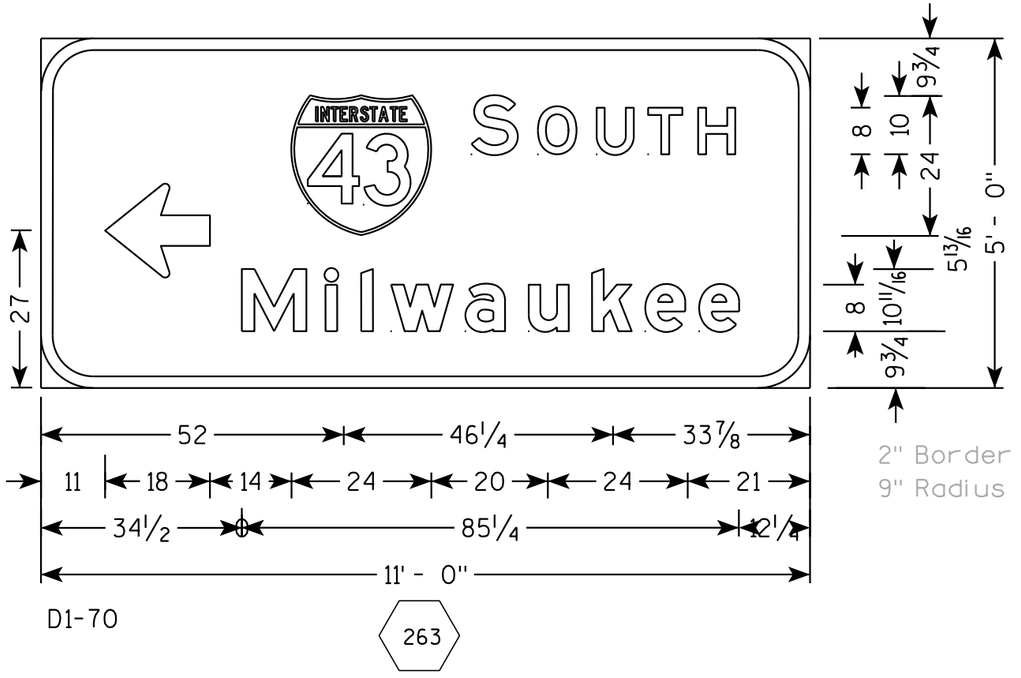
7

7



NOTES

1. All Signs areType I - Type SH Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - Green
   Message - White
3. Message Series - E Modified except Cardinals are Series E



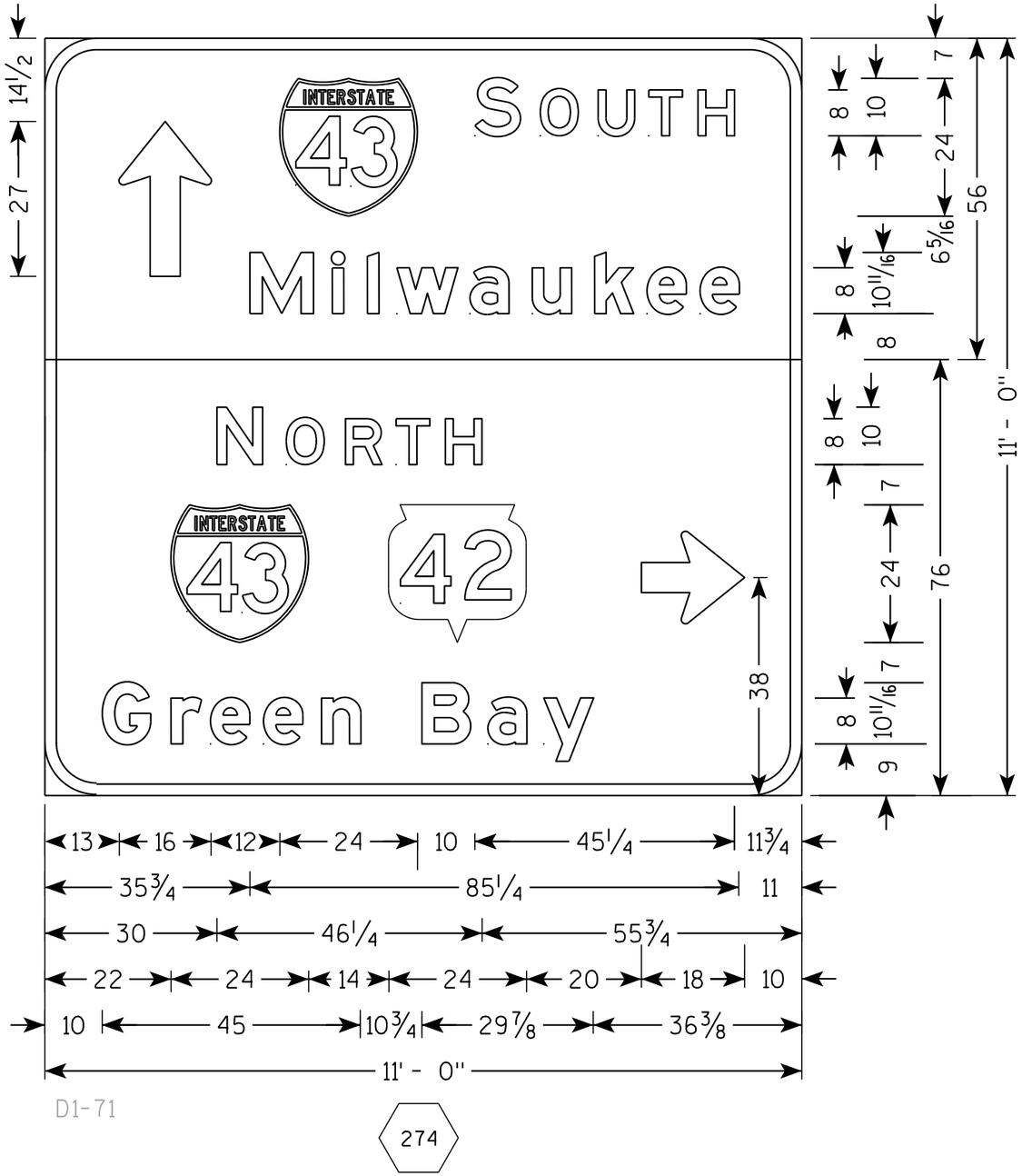
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PROJECT NO: 1224-21-71	HWY: IH 43	COUNTY: MANITOWOC	PERMANENT SIGNING	SHEET NO:	E

FILE NAME : N:\spo\traffic\SIGNING\Projects\1224-21-71 I43 Manitowoc Co\070102_sd.dgn PLOT DATE : 23-JUN-2015 14:30 PLOT BY : dotj1f PLOT NAME : PLOT SCALE : 26:1

WISDOT/CADDS SHEET 42



D1-71

274

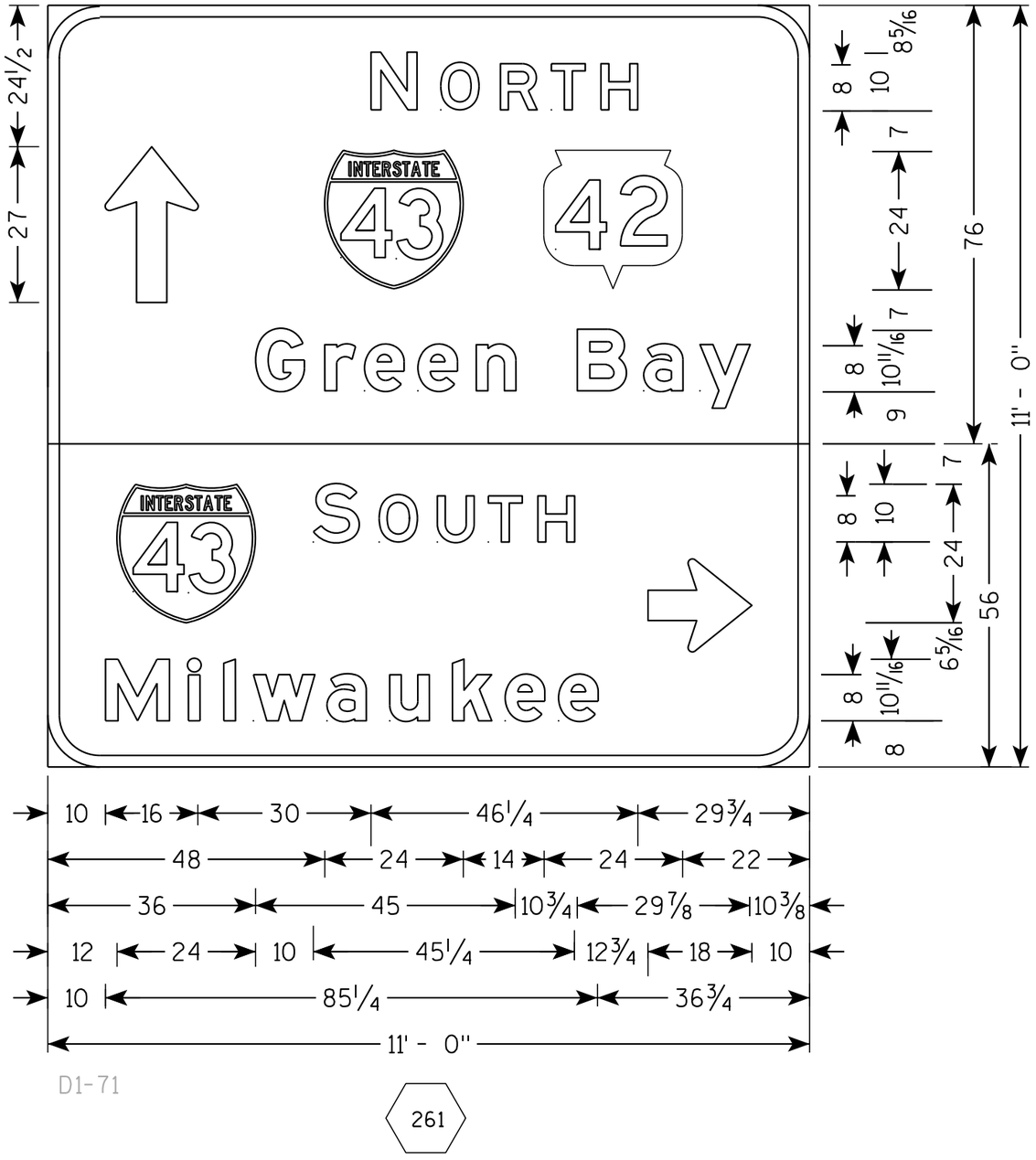
NOTES

1. All SignsType I - Type SH Reflective
2. Color:
   Background - GREEN
   Message - WHITE
3. Message Series - E Modified except cardinals are Series E

7

7

PROJECT NO: 1224-21-71	HWY: IH 43	COUNTY: MANITOWOC	PERMANENT SIGNING	SHEET NO: 251	E



D1-71

261

NOTES

1. All SignsType I - Type SH Reflective
2. Color:
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   Message - WHITE
3. Message Series - E Modified except cardinals are Series E

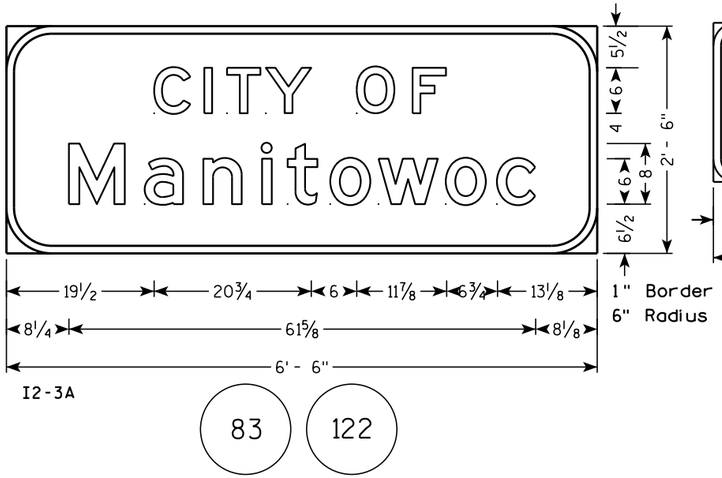
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PROJECT NO: 1224-21-71	HWY: IH 43	COUNTY: MANITOWOC	PERMANENT SIGNING	SHEET NO: 252	E

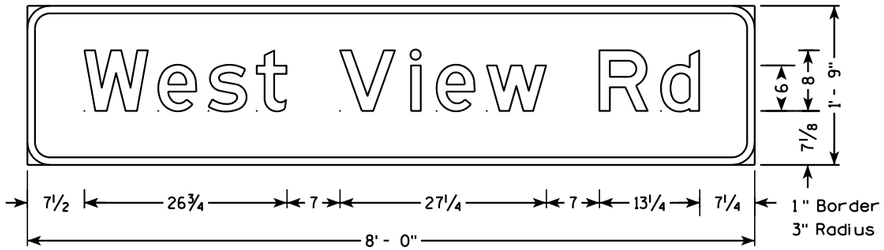
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WISDOT/CADDS SHEET 42



I2-3A

83 122

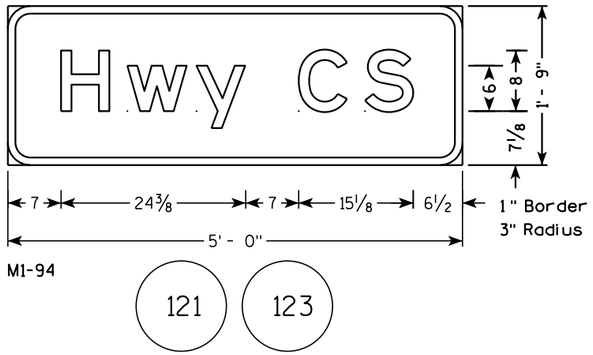


M1-94

37 38

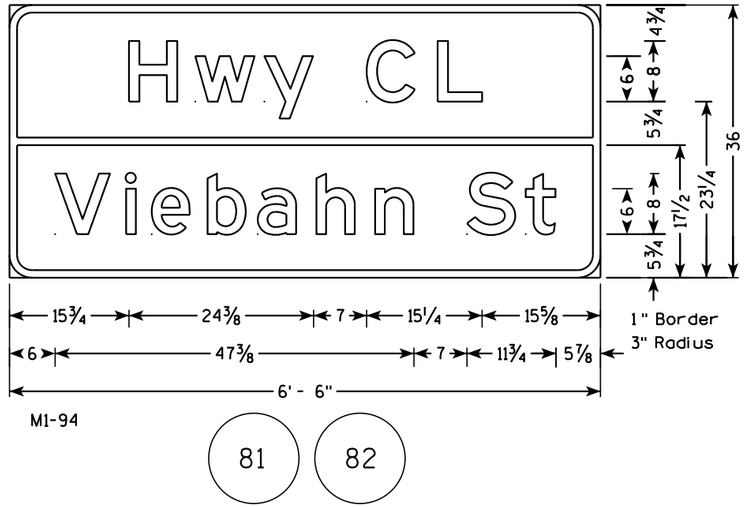
NOTES

1. All Sign Type II - Type H Reflective
2. Color:
   Background - GREEN
   Message - WHITE
3. Message Series - E



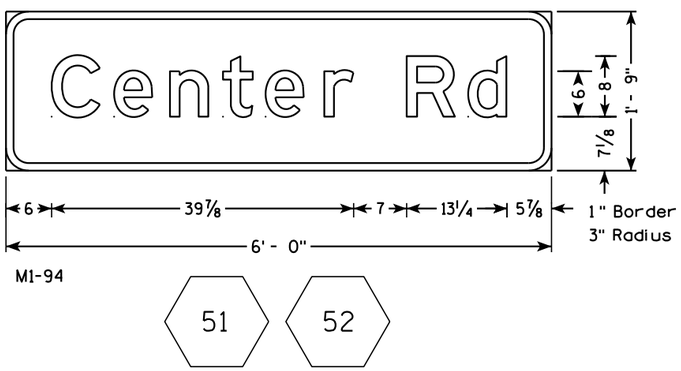
M1-94

121 123



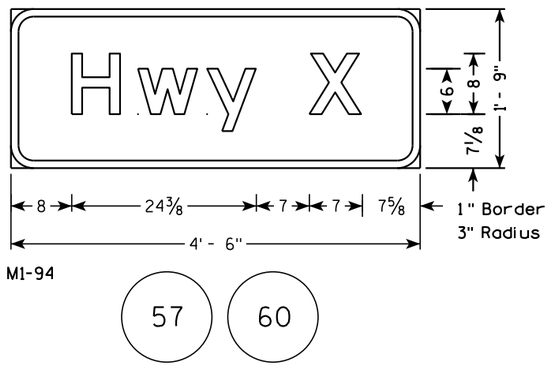
M1-94

81 82



M1-94

51 52



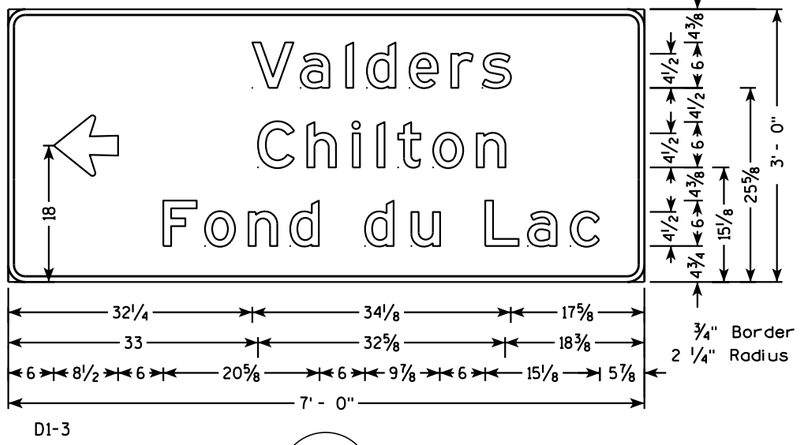
M1-94

57 60

7

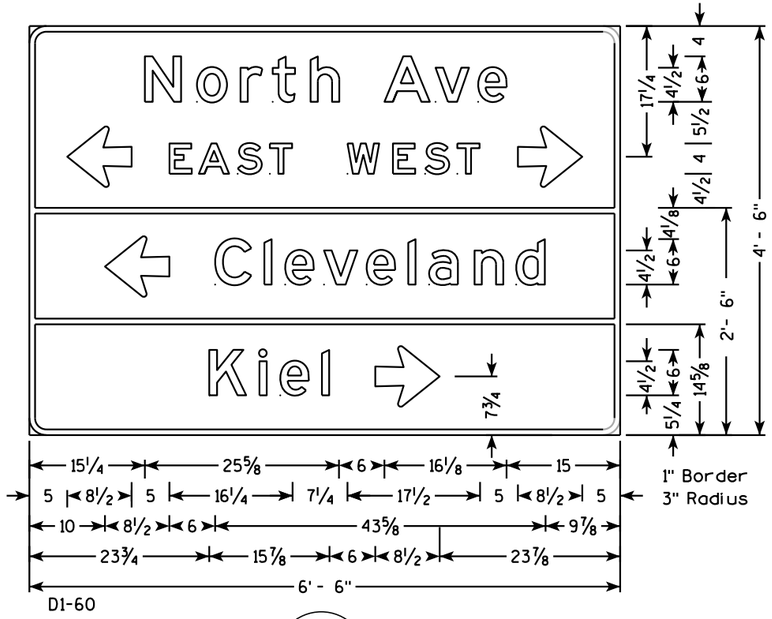
7

PROJECT NO: 1224-21-71	HWY: IH 43	COUNTY: MANITOWOC	PERMANENT SIGNING	SHEET NO: 253	E



D1-3

90

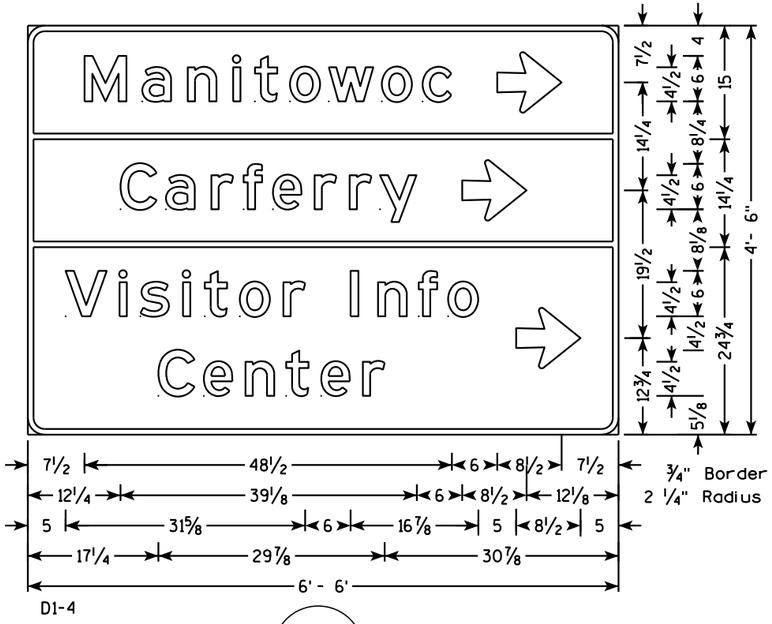


D1-60

31

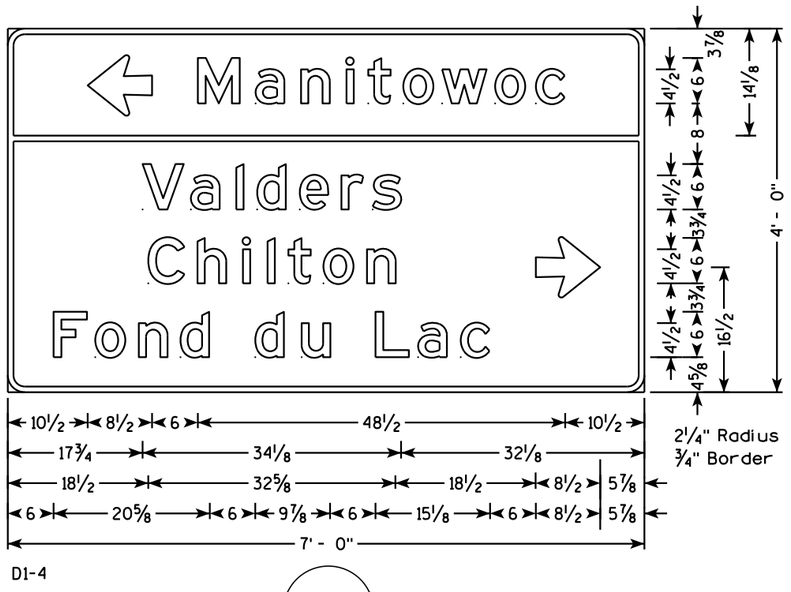
NOTES

1. All Sign Type II - Type H Reflective - reference
2. Color:
   Background - GREEN
   Message - WHITE
3. Message Series - E



D1-4

91



D1-4

112

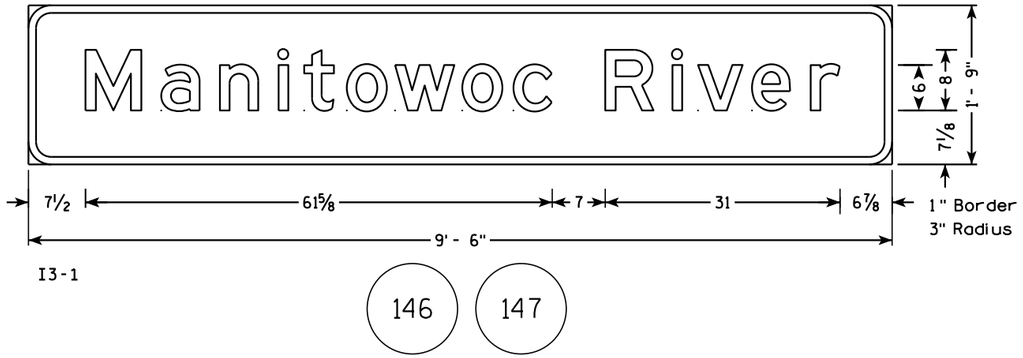
7

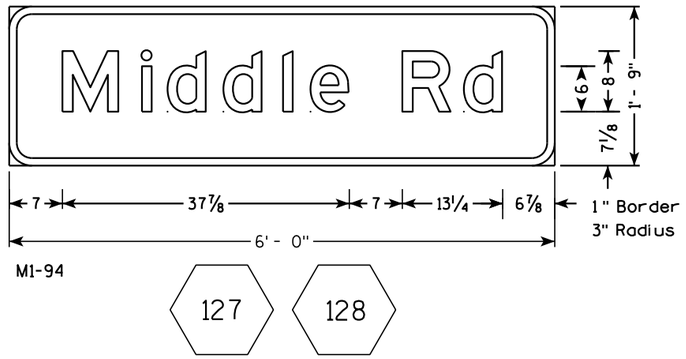
7

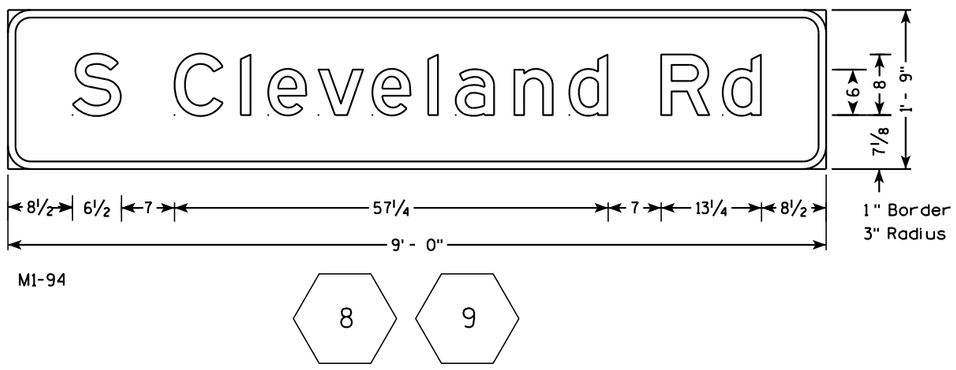
PROJECT NO: 1224-21-71	HWY: IH 43	COUNTY: MANITOWOC	PERMANENT SIGNING	SHEET NO: 254	E

FILE NAME : N:\spo\traffic\SIGNING\Projects\1224-21-71 I43 Manitowoc Co\070107_sd.dgn PLOT DATE : 16-JAN-2014 09:37 PLOT BY : dotj1f PLOT NAME : PLOT SCALE : 20:1

WISDOT/CADDS SHEET 42

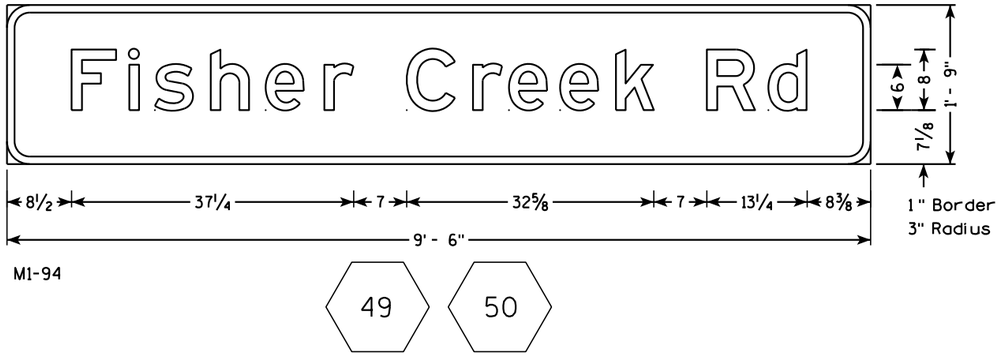


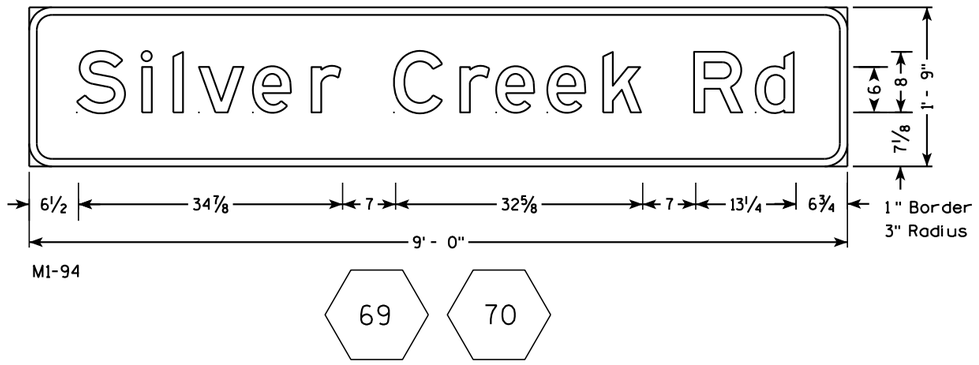




NOTES

1. All Sign Type II - Type H Reflective
2. Color:
   Background - GREEN
   Message - WHITE
3. Message Series - E





7

7

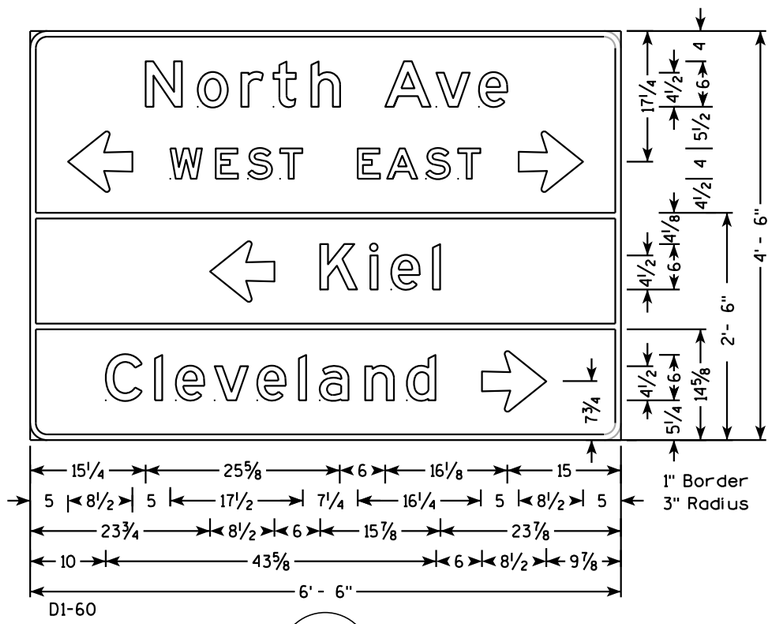
PROJECT NO: 1224-21-71	HWY: IH 43	COUNTY: MANITOWOC	PERMANENT SIGNING	SHEET NO: 255	E

FILE NAME : N:\spo\traffic\SIGNING\Projects\1224-21-71 I43 Manitowoc Co\070108_sd.dgn PLOT DATE : 16-JAN-2014 09:37 PLOT BY : dotj1f PLOT NAME : PLOT SCALE : 20:1

WISDOT/CADDS SHEET 42

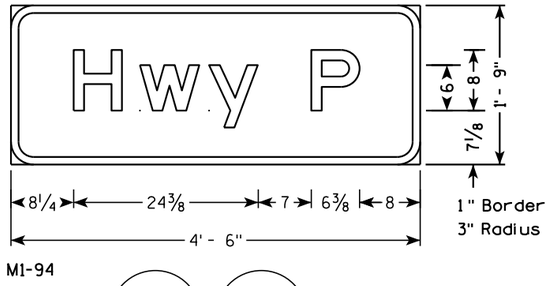
NOTES

1. All Sign Type II - Type H Reflective
2. Color:
   Background - GREEN
   Message - WHITE
3. Message Series - E



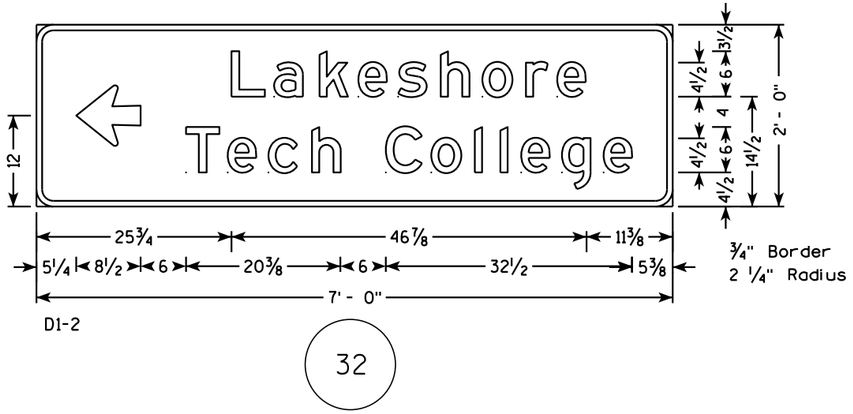
D1-60

22



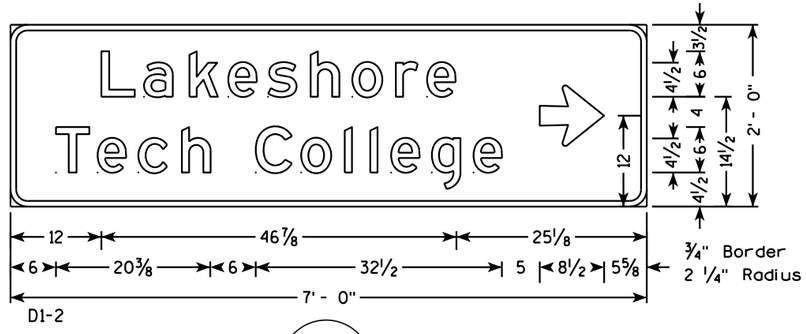
M1-94

149 150



D1-2

32



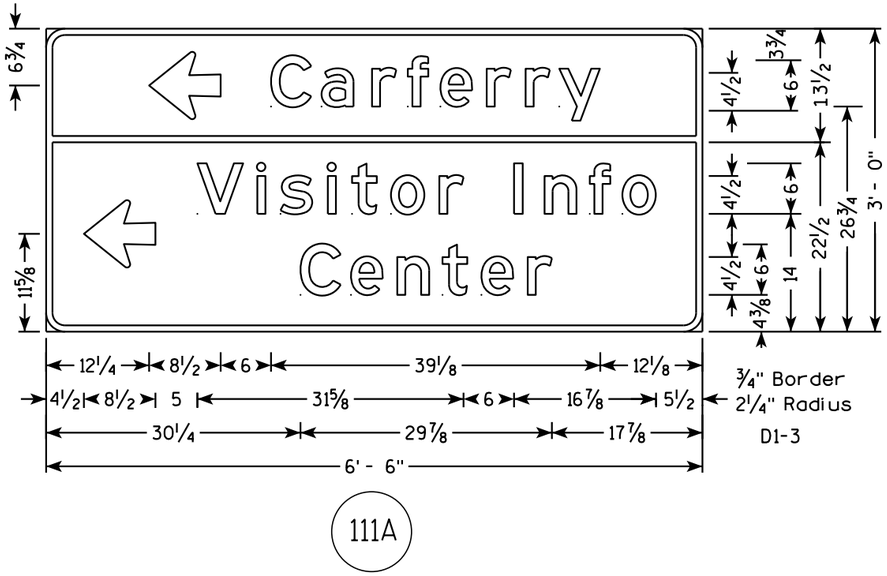
D1-2

21

7

7

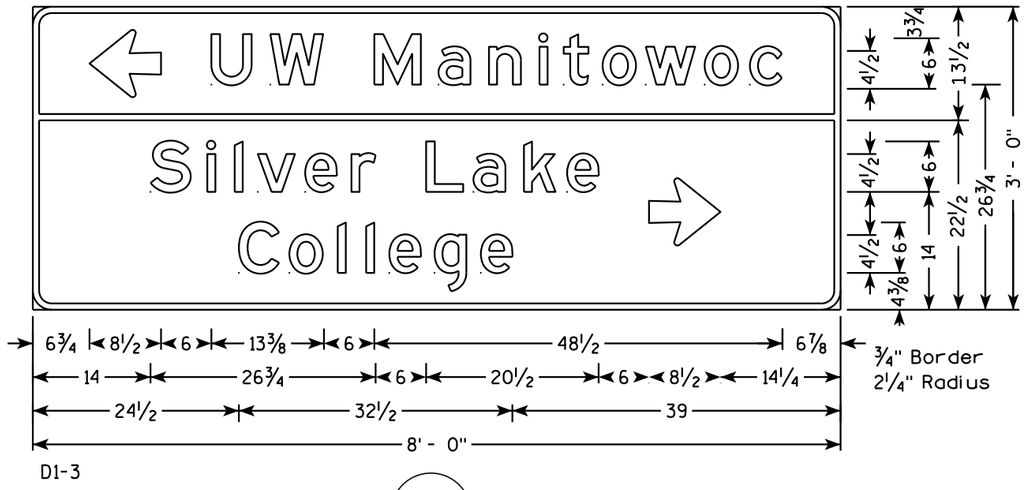
PROJECT NO: 1224-21-71	HWY: IH 43	COUNTY: MANITOWOC	PERMANENT SIGNING	SHEET NO: 256	E



111A

NOTES

1. All Signs Type II - Type H Reflective - reference
2. Color:
   Background - GREEN
   Message - WHITE
3. Message Series - E

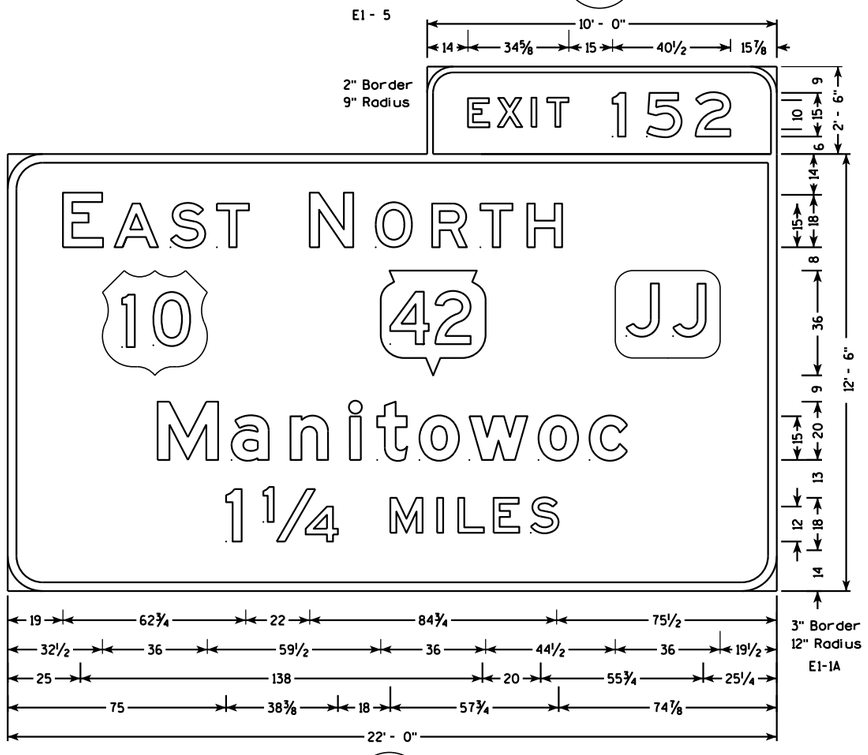


111

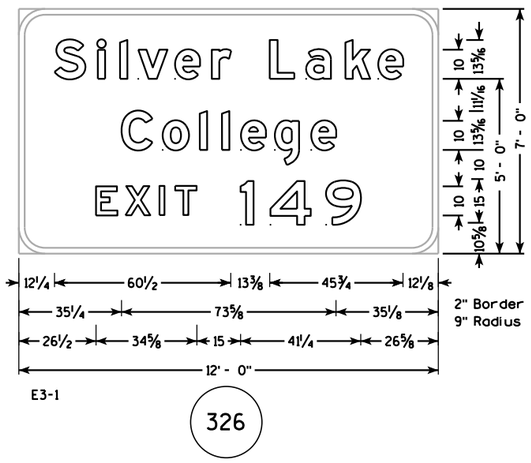
7

7

345



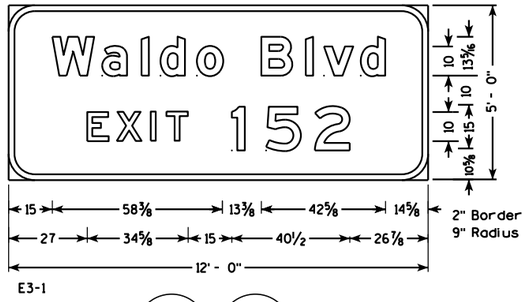
344



326

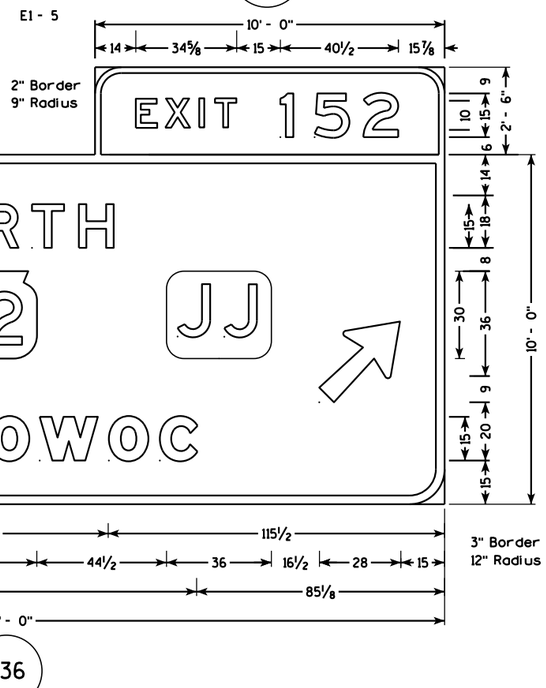
NOTES

1. All Signs are Type I - Type SH Reflective
2. Color:
   Background - Green
   Message - White
3. Message Series - E Modified except all cap Words are Series E



332 340

337



336

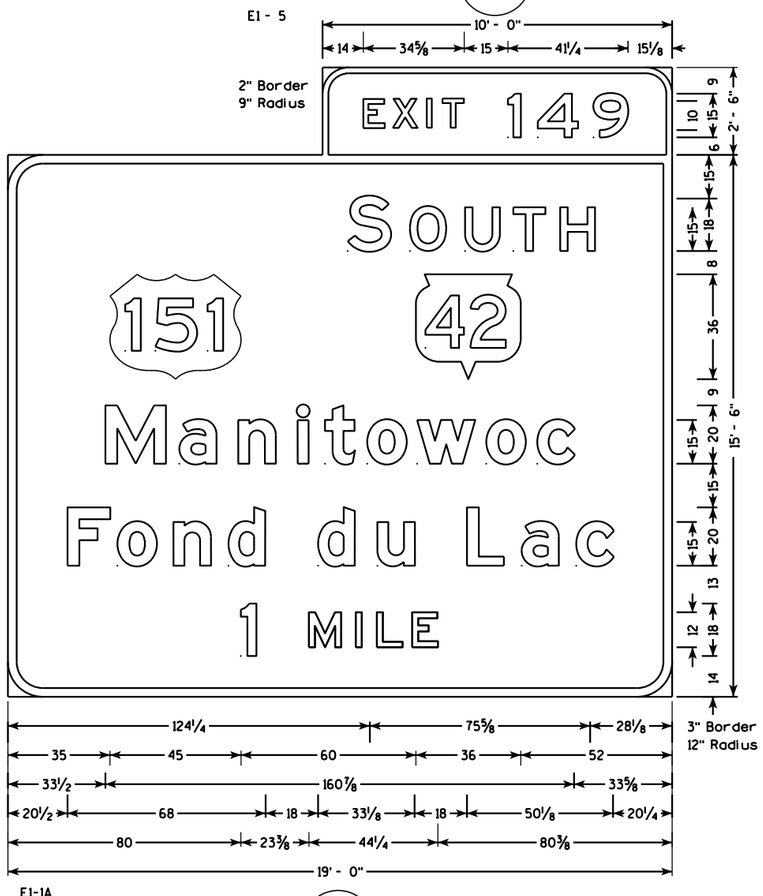
7

7

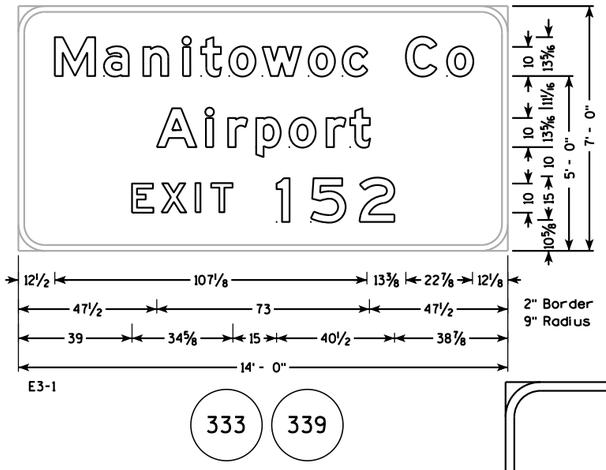
NOTES

1. All Signs are Type I - Type SH Reflective
2. Color:
   Background - Green
   Message - White
3. Message Series - E Modified except all cap Words are Series E

330



329



333 339

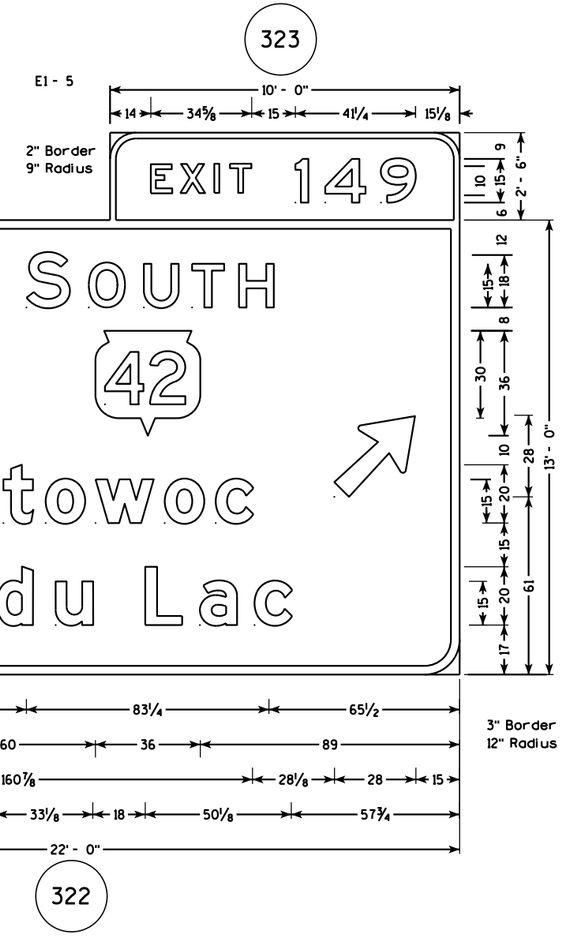


312



316

323



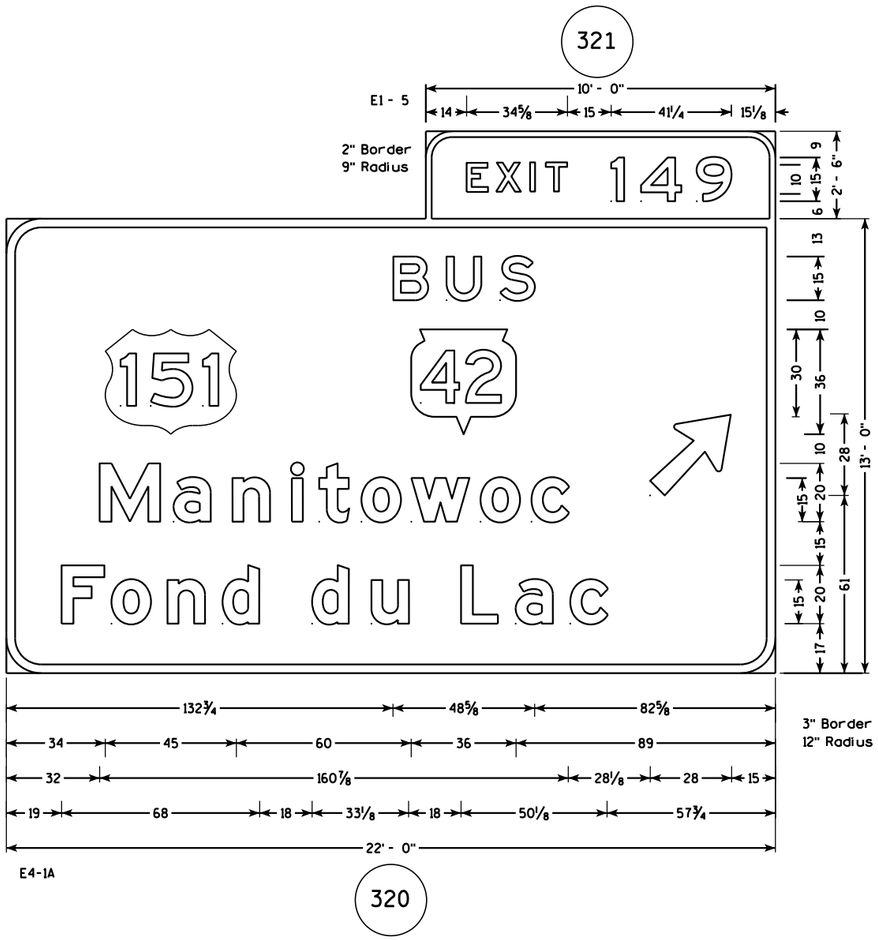
322

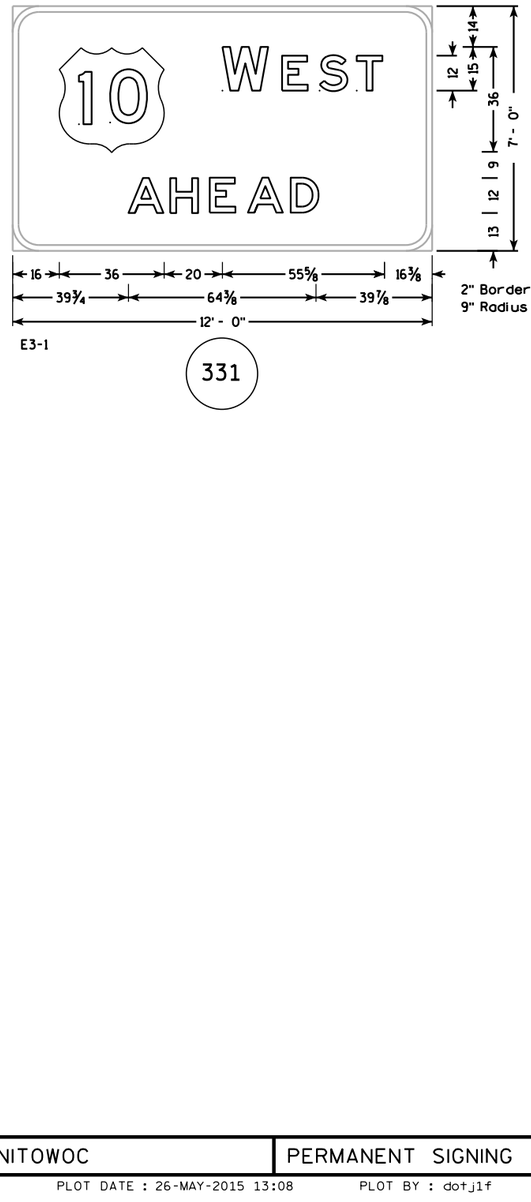
7

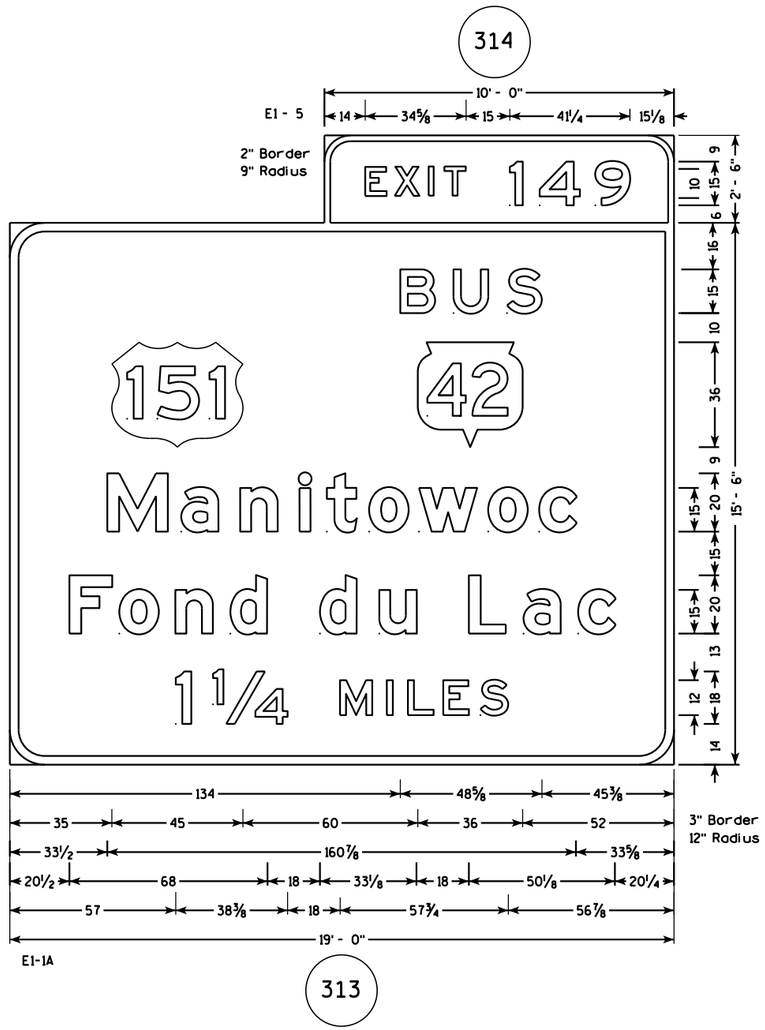
7

NOTES

1. All Signs are Type I - Type SH Reflective
2. Color:
   Background - Green
   Message - White
3. Message Series - E Modified except all cap Words are Series E







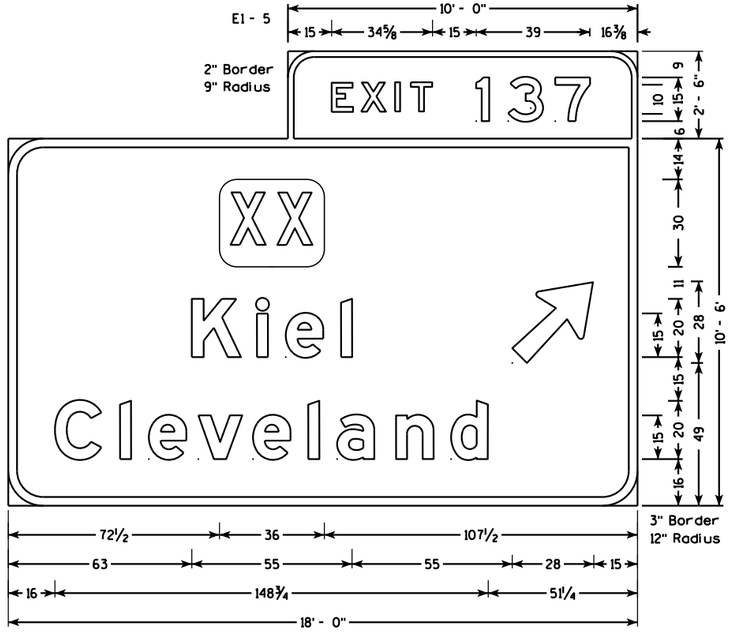
7

7

PROJECT NO: 1224-21-71	HWY: IH 43	COUNTY: MANITOWOC	PERMANENT SIGNING	SHEET NO: 260	E

305 307

E1 - 5

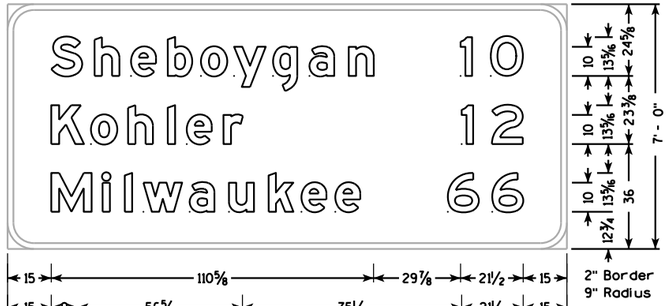


E4-1A

304 306

NOTES

1. All Signs are Type I - Type SH Reflective
2. Color:
   Background - Green
   Message - White
3. Message Series - E Modified except all cap Words are Series E

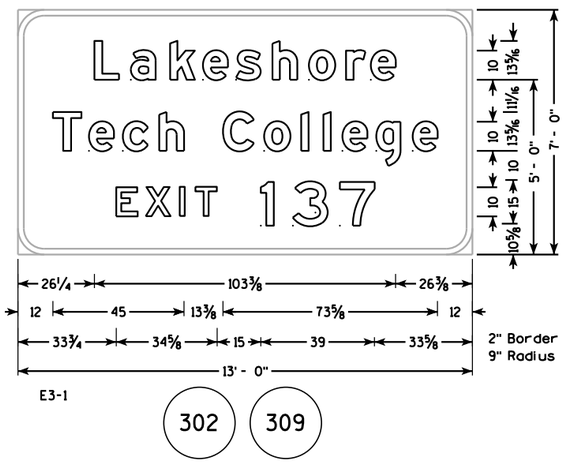


D2-3

303

E8-1

311

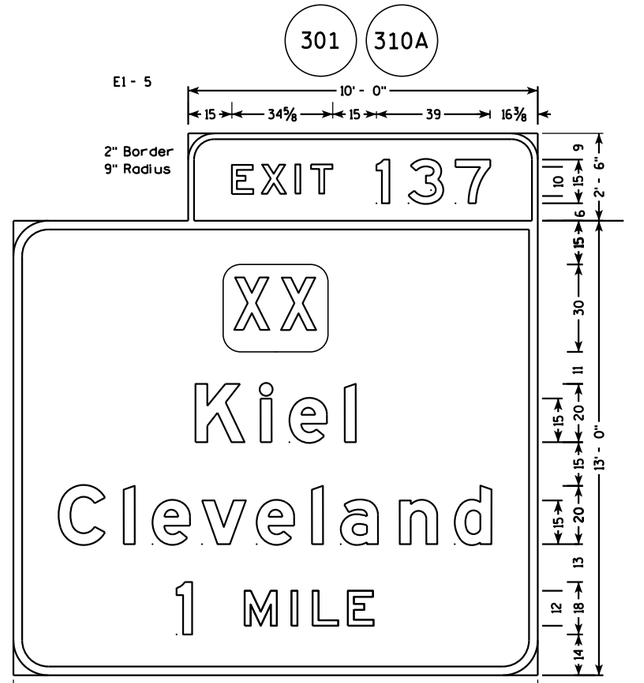


E3-1

302 309

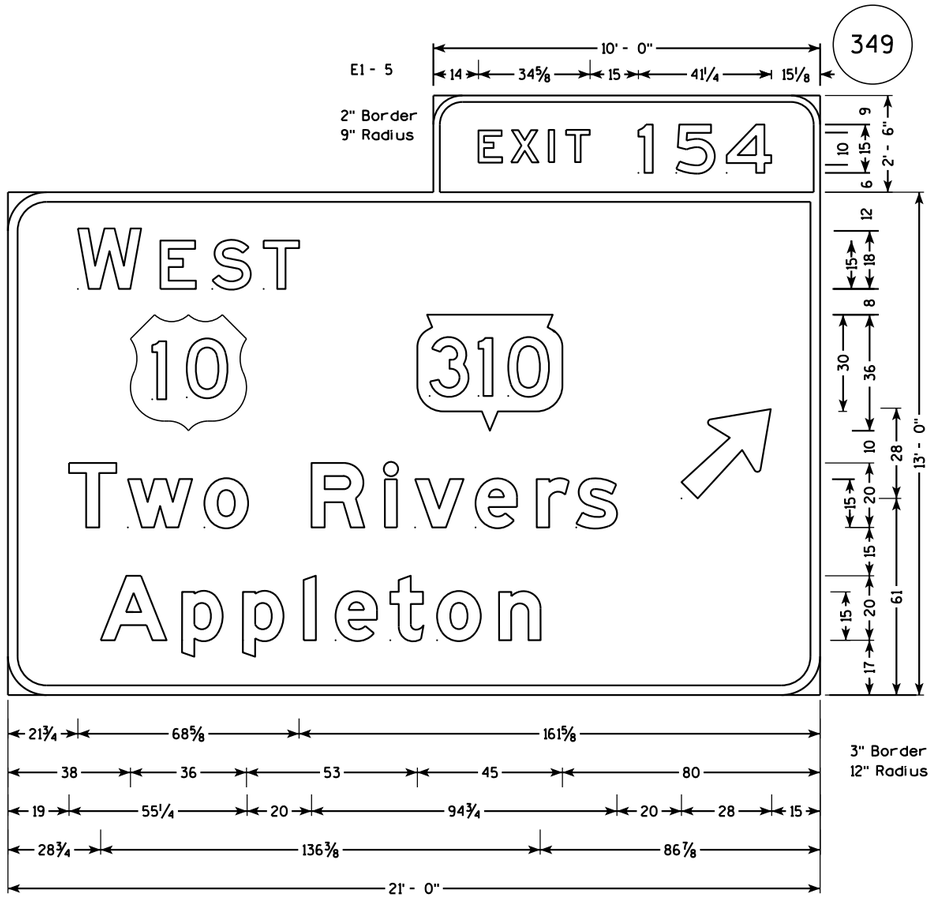
301 310A

E1 - 5

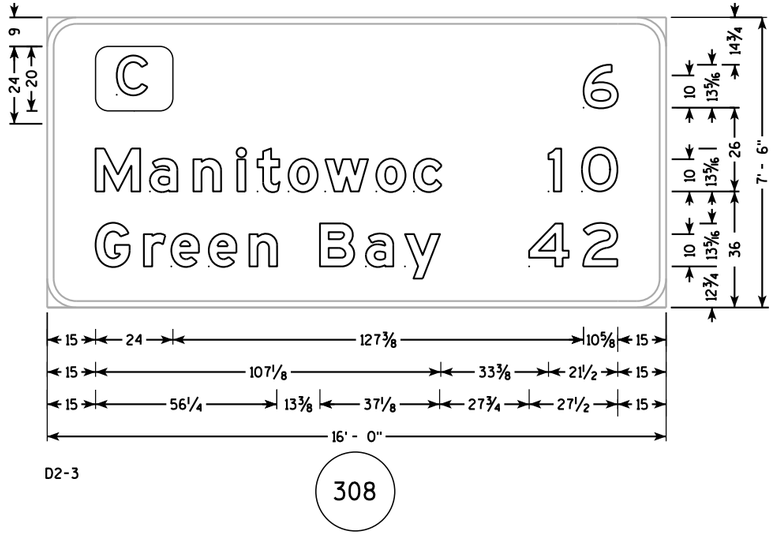


E1-1A

300 310



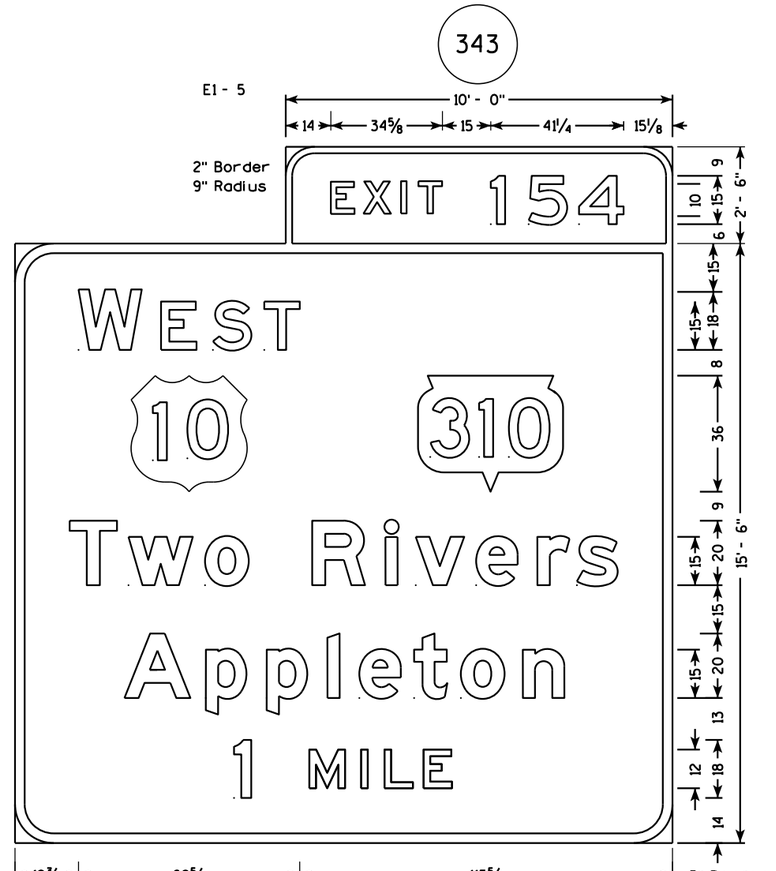
348



308

NOTES

1. All Signs are Type I - Type SH Reflective
2. Color:
   Background - Green
   Message - White
3. Message Series - E Modified except all cap Words are Series E



342

7

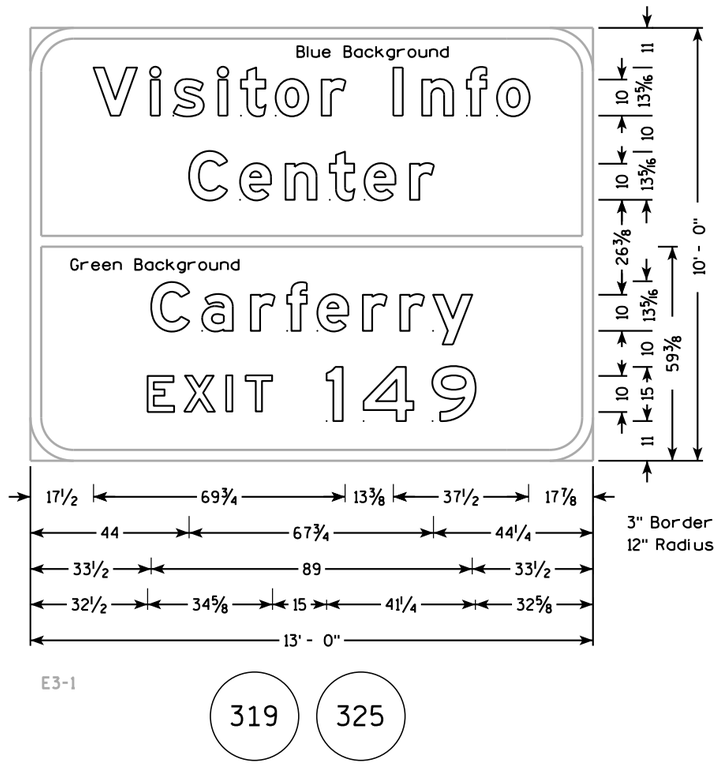
7

PROJECT NO: 1224-21-71	HWY: IH 43	COUNTY: MANITOWOC	PERMANENT SIGNING	SHEET NO:	E

FILE NAME : N:\spo\traffic\SIGNING\Projects\1224-21-71 I43 Manitowoc Co\070116_sd.dgn PLOT DATE : 26-MAY-2015 13:08 PLOT BY : dotjlf PLOT NAME : PLOT SCALE : 47:1
WISDOT/CADDS SHEET 42

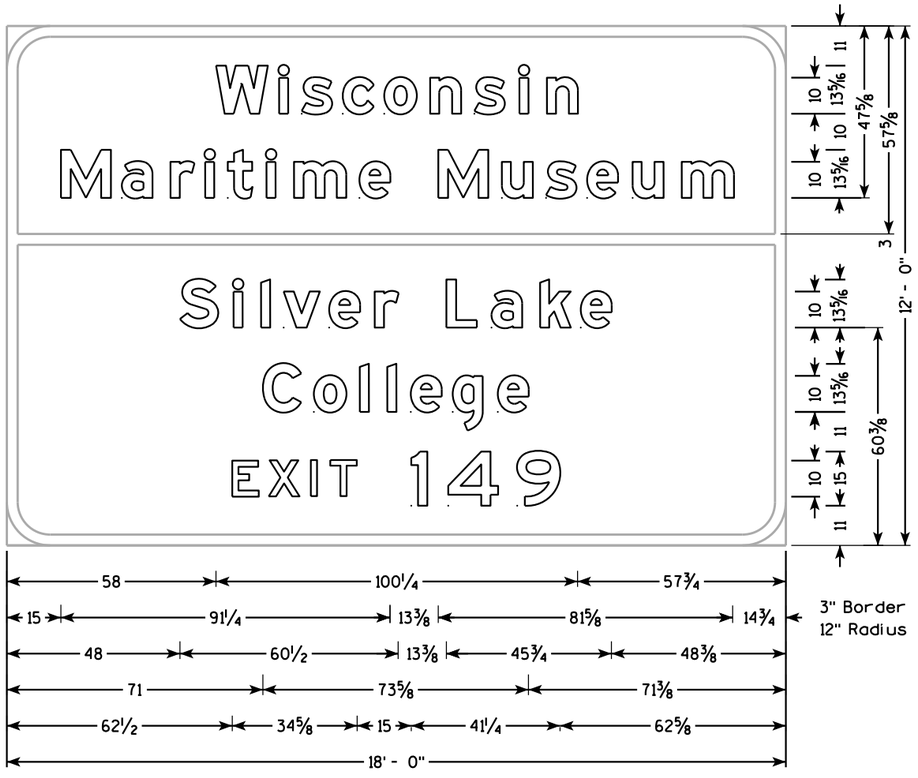
NOTES

1. All Signs are Type I - Type SH Reflective
2. Color:
   Background - Green except as Shown
   Message - White
3. Message Series - E Modified except all cap Words are Series E



E3-1

319 325



E3-1

315

7

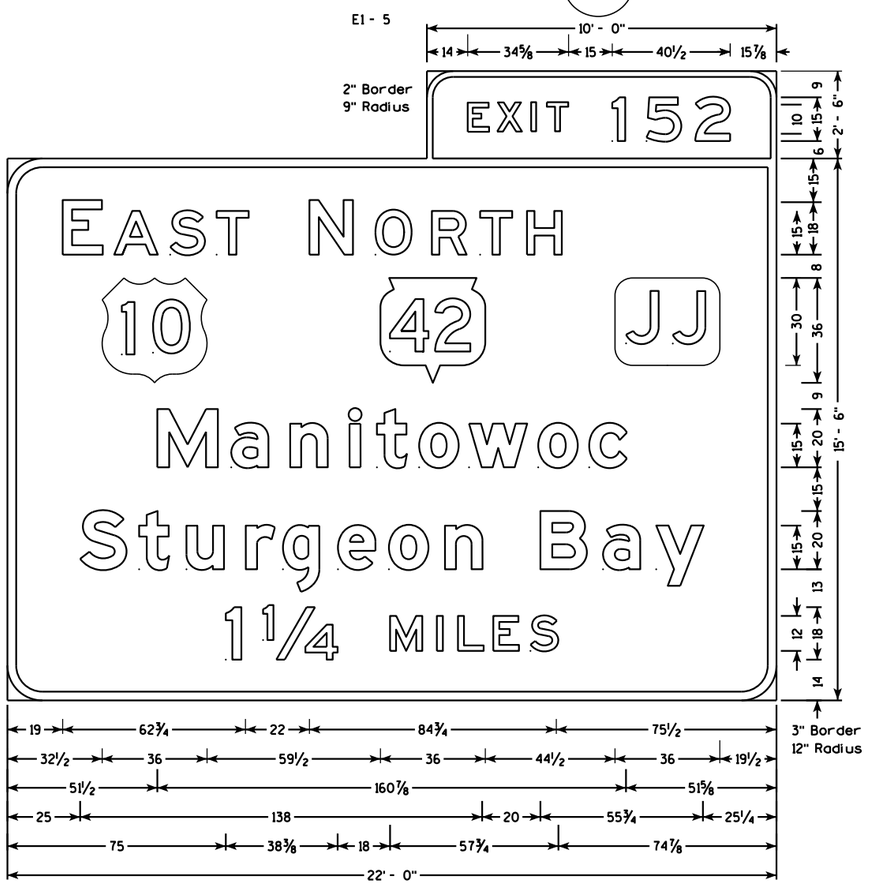
7

PROJECT NO: 1224-21-71	HWY: IH 43	COUNTY: MANITOWOC	PERMANENT SIGNING	SHEET NO:	E

FILE NAME : N:\spo\traffic\SIGNING\Projects\1224-21-71 I43 Manitowoc Co\070118_sd.dgn PLOT DATE : 26-MAY-2015 13:08 PLOT BY : dotjlf PLOT NAME : PLOT SCALE : 42:1

328

E1 - 5

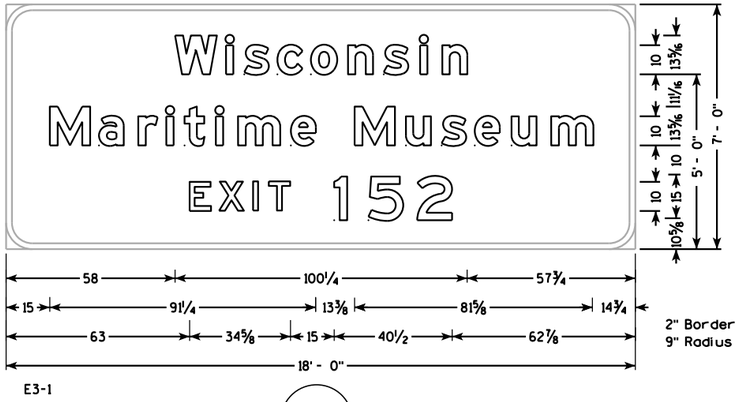


E1-1A

327

NOTES

1. All Signs are Type I - Type SH Reflective
2. Color:
   Background - Green
   Message - White
3. Message Series - E Modified except all cap Words are Series E

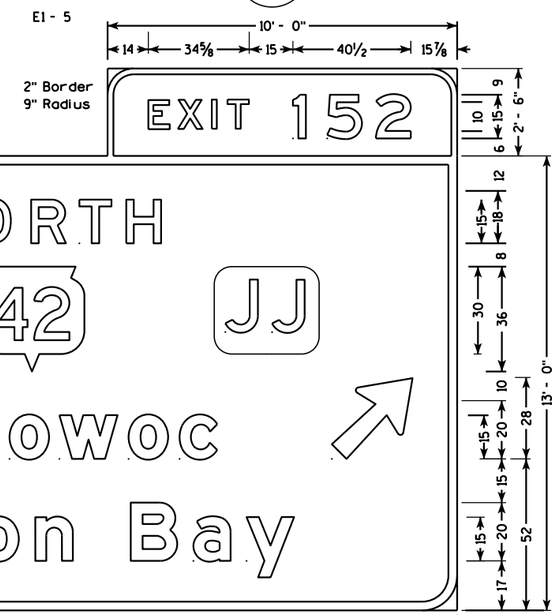


E3-1

347

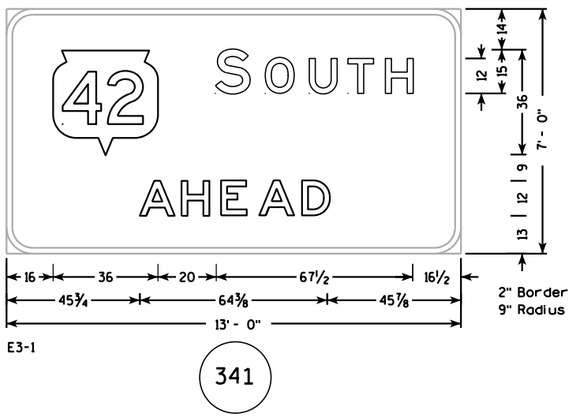
335

E1 - 5



E4-1A

334



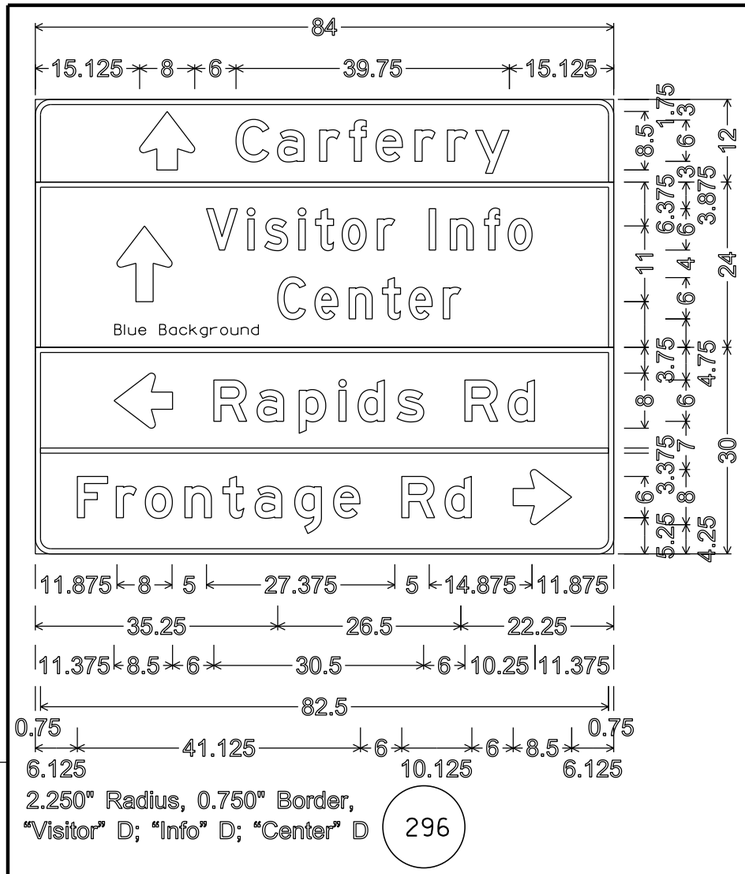
E3-1

341

7

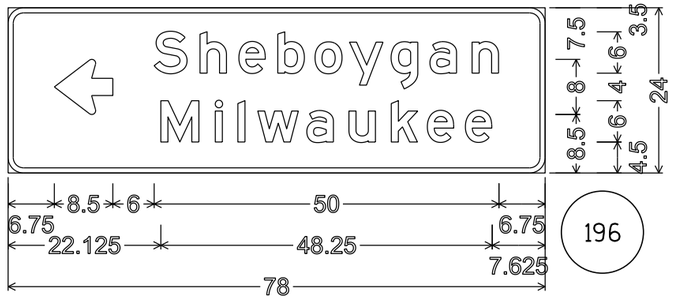
7

PROJECT NO: 1224-21-71	HWY: IH 43	COUNTY: MANITOWOC	PERMANENT SIGNING	SHEET NO: 264	E



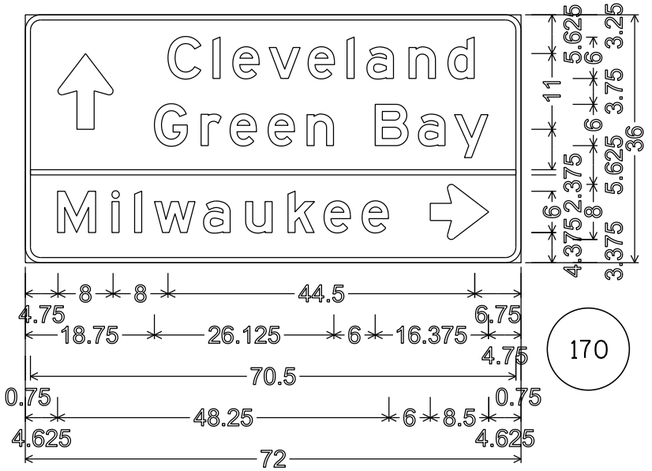
2.250" Radius, 0.750" Border,
"Visitor" D; "Info" D; "Center" D

296



196

D1-2; 2.250" Radius, 0.750" Border

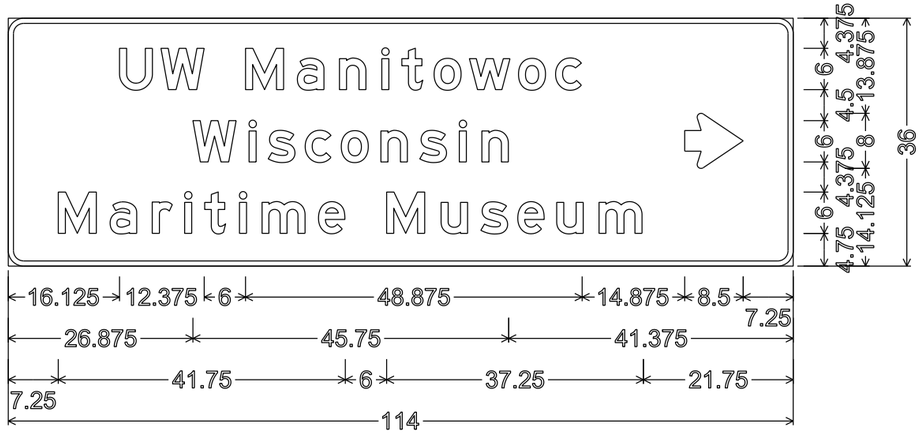


170

D1-3; 2.250" Radius, 0.750" Border

D1-3; 2.250" Radius, 0.750" Border

226



D1-3; 2.250" Radius, 0.750" Border

92

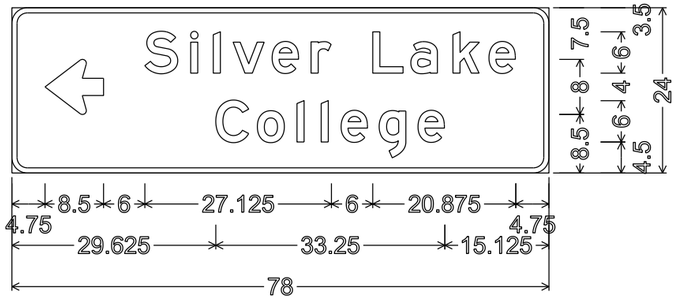
NOTES

1. All Signs Type II - Type H Reflective
2. Color:
   Background - GREEN except as noted
   Message - WHITE
3. Message Series - E except as noted



D1-2; 2.250" Radius, 0.750" Border

199



D1-2; 2.250" Radius, 0.750" Border

96

7

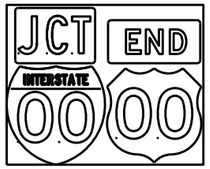
7

PROJECT NO: 1224-21-71	HWY: IH 43	COUNTY: MANITOWOC	PERMANENT SIGNING	SHEET NO: 265	E

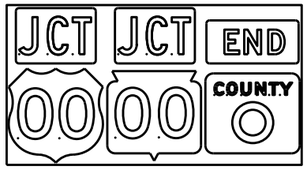
TYPICAL ASSEMBLIES



J1-1



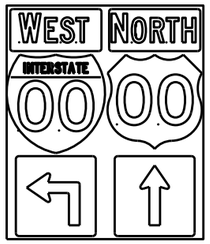
J1-2



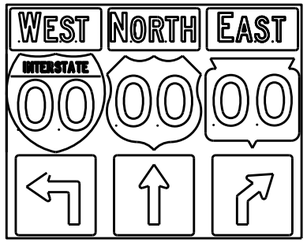
J1-3



J2-1



J2-2

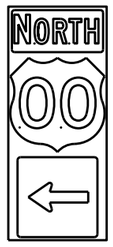


J2-3

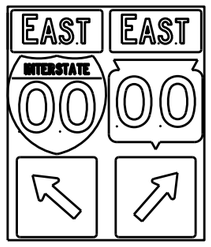


JV

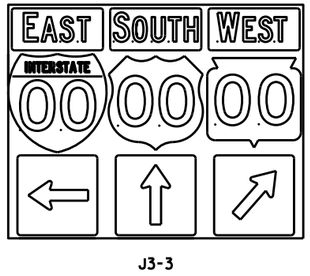
(Typical Vertical J-Assembly
See Note 10 and 11)



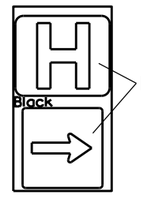
J3-1



J3-2



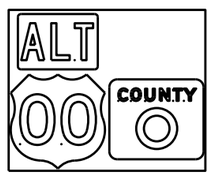
J3-3



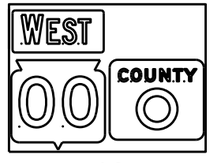
JH-1



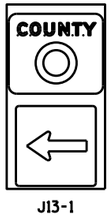
J4-1



J4-2



J4-2



J13-1



J12-1



J32-1



J33-1

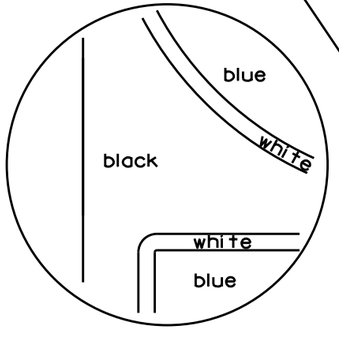


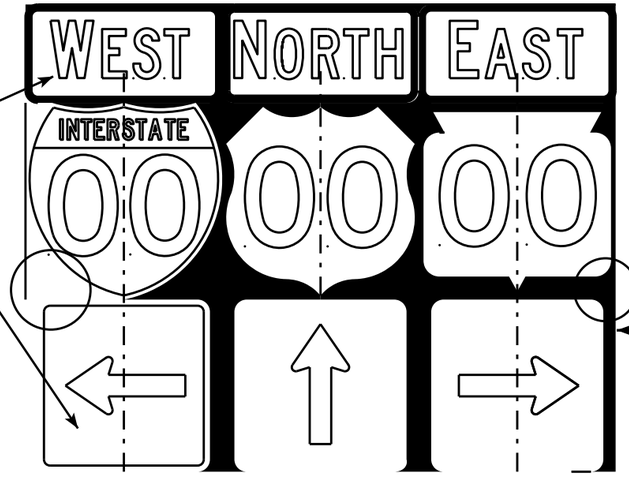
J23-1

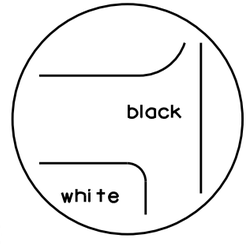


J22-1

blue background
with interstate







black background

NOTES

1. Signs are Type II - Type H Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - Black Non-reflective
   Message - see Note 5
3. Message Series - See Note 5
4. Corners shall be square or rounded if base material is plywood. If base material is metal the corners shall be rounded.
5. The colors and message spacing on each marker shall be according to the applicable route marker panel specifications.
6. Certain marker heads require the component pieces to be the same color. As an example, all the components used with an M1-1 Interstate marker shall be blue.
7. Single panel j-assemblies shall only be used with route marker shields that are same size. If the route marker shields are different size use multiple piece component.
8. Route assemblies that have 24 inch route shields and have dimensions greater than 48 inches (both vertical and horizontal) shall have one horizontal splice between the arrows and route shields. Vertical splices shall not be used on route assemblies with a horizontal dimension of 144 inches or less. The contractor shall not use more than one vertical joint per sign and the joint shall be between route shields.
9. Route assemblies that have 36 inch shields and have dimensions greater than 48 inchs (both vertical and horizontal) shall have two horizontal splices. One horizontal splice shall be between the cardinal direction and route shields and the other horizontal splice shall be between the arrows and route shields. Vertical splices shall not be used on route assemblies with a horizontal dimension of 144 or less. The contractor shall not use more than one vertical joint per sign and the joint shall be between route shields.
10. All Vertical J Assemblies are given a Sign Code of JV
11. For JV Assemblies that have a mixture of Interstate and non Interstate shields, arrows and cardinals shall be white on blue.

ROUTE MARKERS & COMPONENTS
IN TYPICAL ASSEMBLIES

WISCONSIN DEPT OF TRANSPORTATION

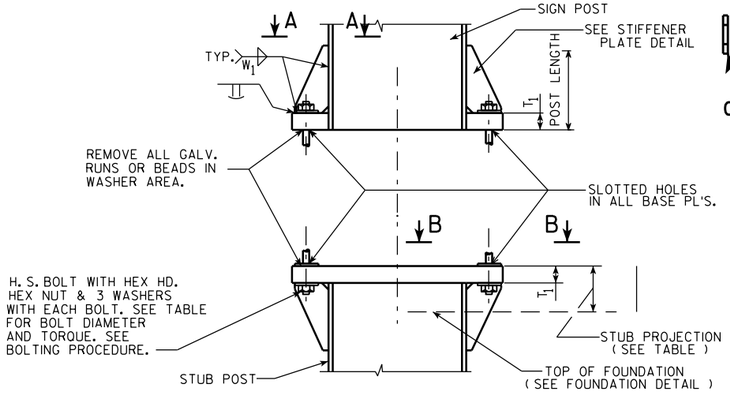
APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 2/06/14 PL... A2-1S.8

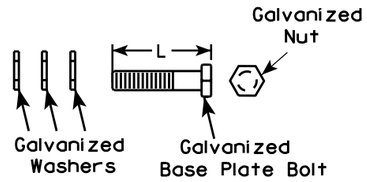
PROJECT NO: | SHEET NO: E

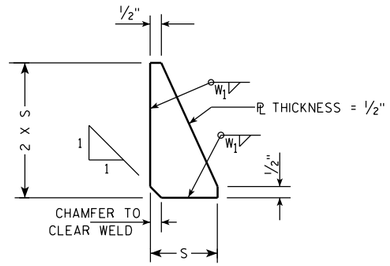
FILE NAME : C:\CAEFiles\Projects\tr_stdplate\A21S.DGN PLOT DATE : 06-FEB-2014 14:10 PLOT BY : mscsja PLOT NAME :

WISDOT/CADDS SHEET 42



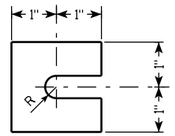
SIGN POST AND STUB POST ELEVATION





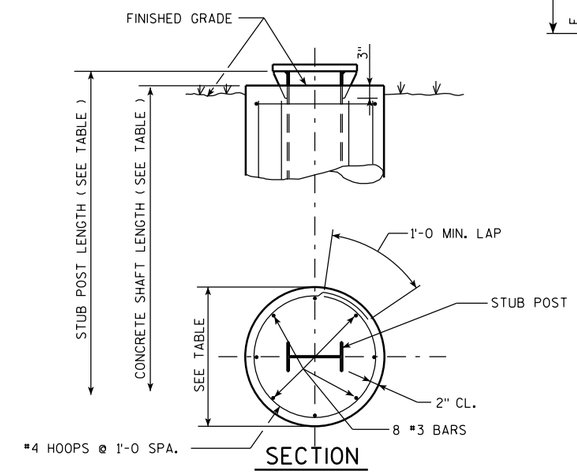
STIFFENER PLATE DETAIL

(SEE TABLE FOR DIMENSIONS)

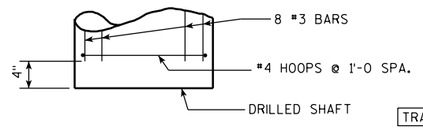


FURNISH 2 @ .012" ± THICK AND 2 @ .032" ± THICK SHIMS PER POST. SHIMS SHALL BE FABRICATED FROM BRASS SHIM STOCK OR STRIP CONFORMING TO A.S.T.M.- B36.

SHIM DETAIL



SECTION



FOUNDATION DETAIL

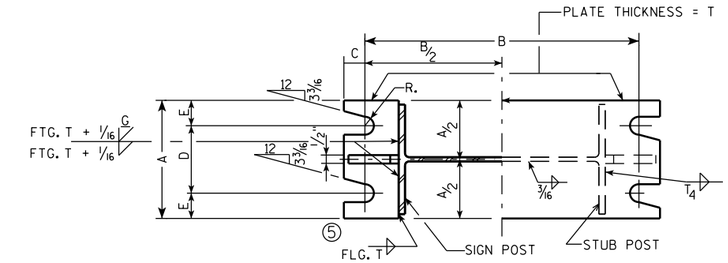
POST DETAIL

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

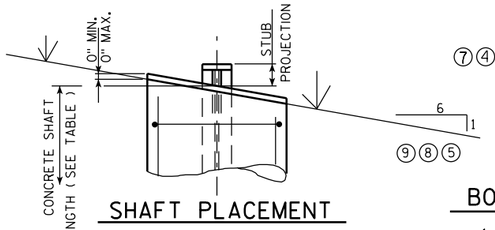
⑦

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

⑦



SECTION A-A SECTION B-B



SHAFT PLACEMENT

DESIGN DATA

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

GROUP LOADS	PERCENT OF ALLOWABLE STRESS
1. DEAD	100
2. DEAD & WIND	140
3. DEAD, ICE & ½ WIND[4]	140 [4]25 P.S.F. MIN.

ALLOWABLE SOIL PRESSURE = 1½T / SQ. FT.
WIND LOAD WAS APPLIED TO THE AREA OF THE SIGN AND TO THE SUPPORTING MEMBERS.
ICE LOAD WAS APPLIED TO ONE FACE OF THE SIGN AND AROUND THE SURFACE OF THE SUPPORTING MEMBERS.

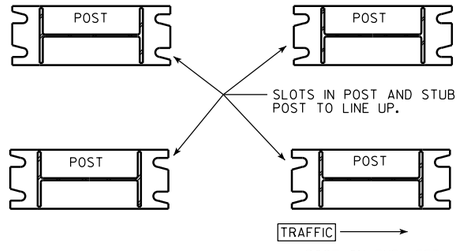
GENERAL NOTES

DRAWINGS SHALL NOT BE SCALED.
DESIGN CONFORMS WITH A.A.S.H.T.O. SPECIFICATIONS 1985.
ALL POSTS, POST STUBS & ATTACHMENTS SHALL BE A.S.T.M. A709 GRADE 50.
⑨ THE POST, BASE PLATES, UPPER SIX INCHES OF STUB POST FLANGE SPLICE PLATE AND FUSE PLATE SHALL BE GALVANIZED AFTER FABRICATION.
H.S. BOLTS, WASHERS & NUTS SHALL BE A325 GALVANIZED WHEN POSTS, POST STUBS AND ATTACHMENTS ARE A709 GRADE 50 AND GALVANIZED.

BOLTING PROCEDURE - BASE CONNECTION

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

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



POST SLOT ORIENTATION ⑦

L	X	TYPE	DIMENSION / POST SIZE	BASE CONNECTION DATA TABLE: BOLT SIZE & TORQUE	A	B	C	D	E	T_1	T_4	W_1	R	S	FOUNDATION DATA: STUB LENGTH	STUB PROJECTION	SHAFT DIAMETER	SHAFT LENGTH	② K
3 ¾	④	A	W10"X12.0 #/FT.	¾" Φ @ 75#-FT.	5¼"	1'-0⅜	⅞"	3½"	⅞"	1"	3/16"	5/16"	13/32"	2⅛"	3'-6	3"	2'-0 Φ	5'-0	76.0# ④
4 ¾	④	B	W12"X16.0 #/FT.	⅞" Φ @ 85#-FT.	5½"	1'-4¼	1"	3½"	1"	1¼"	¼"	5/16"	15/32"	3"	5'-6	3"	2'-0 Φ	7'-0	146.5# ④
5		C	W12"X19.0 #/FT.	⅞" Φ @ 85#-FT.	5½"	1'-4¼	1"	3½"	1"	1½"	5/16"	5/16"	15/32"	3"	6'-0	3"	2'-0 Φ	7'-6	182.1#
5		D	W12"X22.0 #/FT.	⅞" Φ @ 85#-FT.	5½"	1'-4¼	1"	3½"	1"	1½"	⅜"	5/16"	15/32"	3"	6'-6	3"	2'-0 Φ	8'-0	210.5#
5	③	E	W12"X26.0 #/FT.	1" Φ @ 90#-FT.	7"	1'-4¼	1¼"	4"	1½"	1½"	⅜"	5/16"	11/32"	3"	7'-0	3"	2'-0 Φ	8'-6	293.0# ③

① ⑥ ①

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

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch for State Traffic Engineer

DATE 6/30/14 PLATE NO. A3-1.15

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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

TYPE A, B, C, D, & E

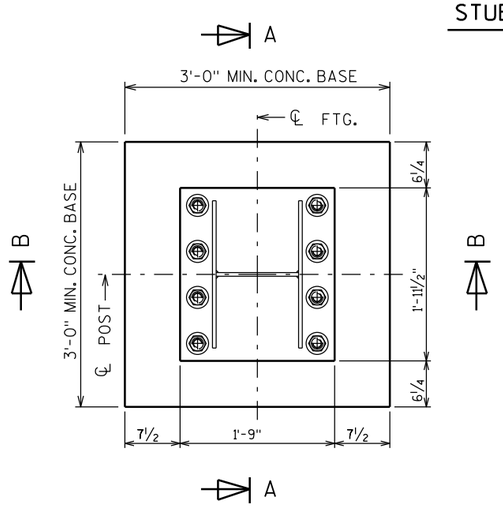
CONST. SPEC. 2011	DRAWN BY JPH	PLANS CK'D.

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

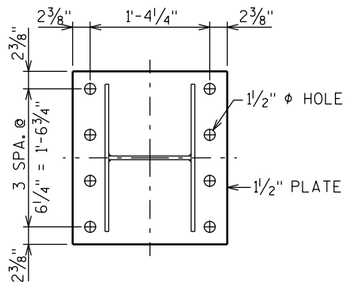
SHEET 267

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

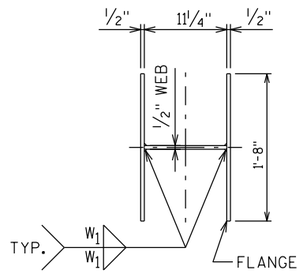
STUB AND MASONRY ANCHOR DETAILS



STUB SECTION



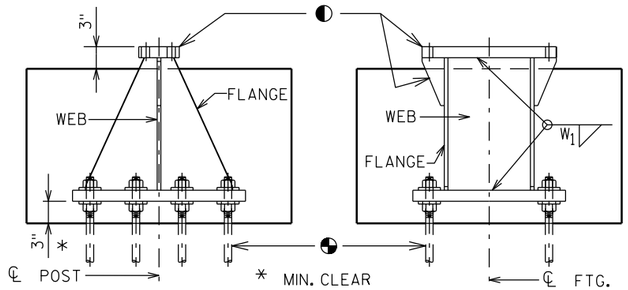
BASE PLATE



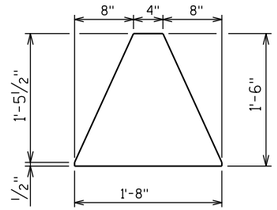
STUB

◐ SEE PLATE NO. A3-1 FOR DETAILS

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



SECTION A SECTION B



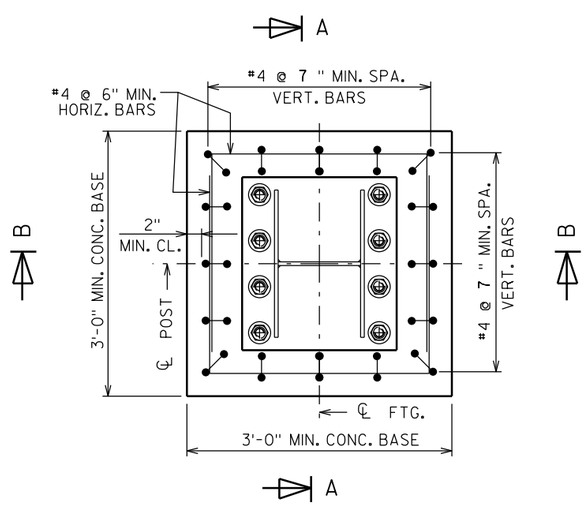
FLANGE

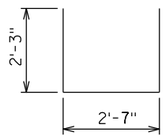
GENERAL NOTES

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

CONCRETE BASE AND REINFORCING STEEL DETAILS

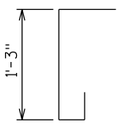
CONCRETE BASE SECTION





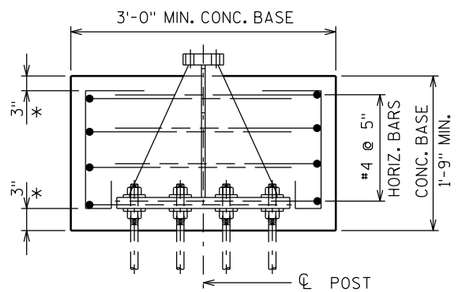
HORIZONTAL BAR

8 BARS @ 6'-11" LENGTH



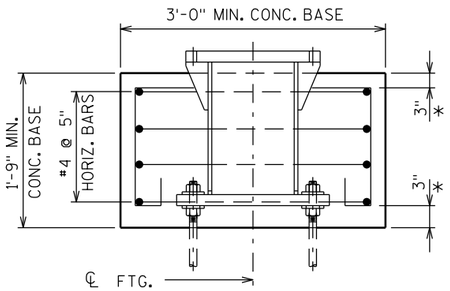
VERTICAL BARS

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



SECTION A

* MIN. CLEAR



SECTION B

ALTERNATE BREAK-AWAY BASE ON ROCK
A3-1M

WISCONSIN DEPT OF TRANSPORTATION

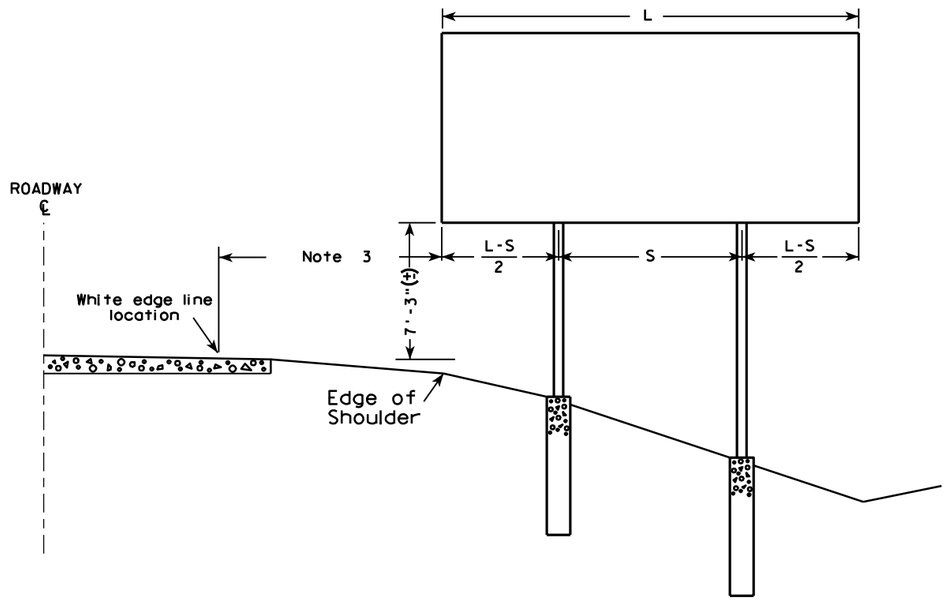
APPROVED Matthew R Rauch for State Traffic Engineer

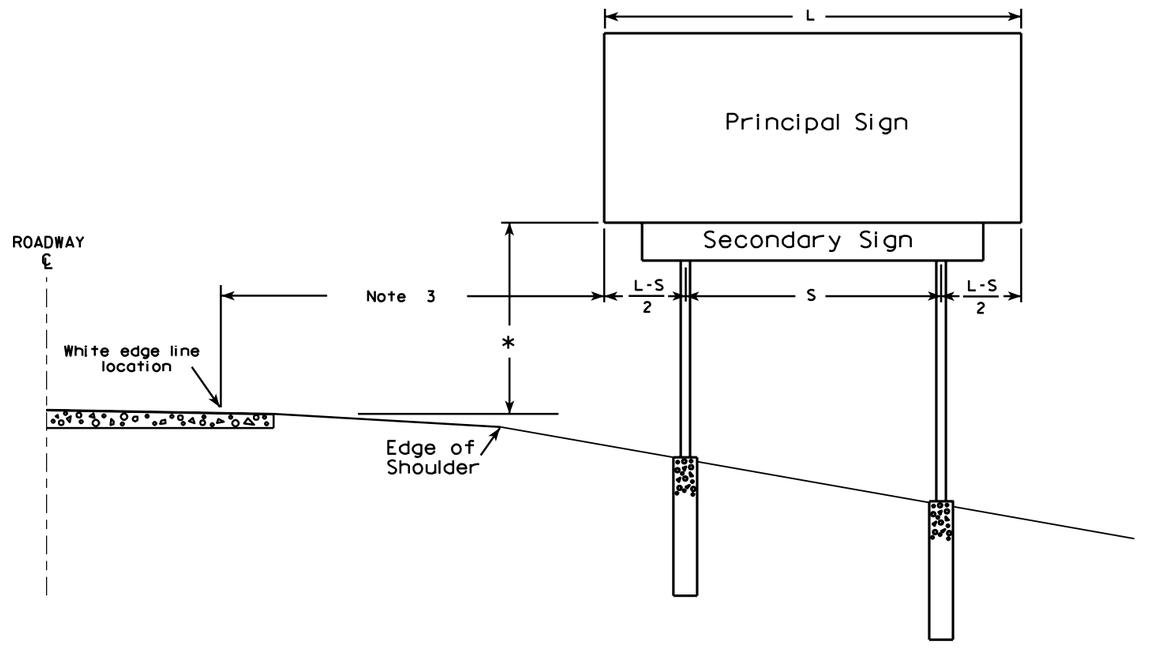
DATE 2/06/2014 PLATE A3-1M.1

PROJECT NO:	HWY:	COUNTY:		SHEET NO:	E

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

WISDOT/CADDS SHEET 42





GENERAL NOTES

1. For a 2 post installation, S equals 3L/5, but shall not be less than 9 ft.
2. For a 3 post installation, S equals 5L/7, but shall not be less than 18 ft., and the space between any two posts shall not be less than 9 ft.
3. Unless noted in the plan, the sign offset distance shall be a minimum of 17'-6", desirable 30'-0".
4. The (±) tolerance shown on this sheet is 3 in.
5. The vertical sign height clearance detailed is measured from the bottom of the sign to the near edge of pavement.
6. Post lengths shown in the miscellaneous quantities are estimated lengths. The contractor shall verify post lengths at the time of final grading.
7. Refer to the Traffic Guidelines Manual for further guidance on minimum vertical clearance requirements.

* Clearance is 8'-3"(±) when the secondary sign is 3 ft. or less in height. For secondary signs larger than 3 ft., the clearance to the bottom of the secondary sign shall be 5'-3"(±).

7

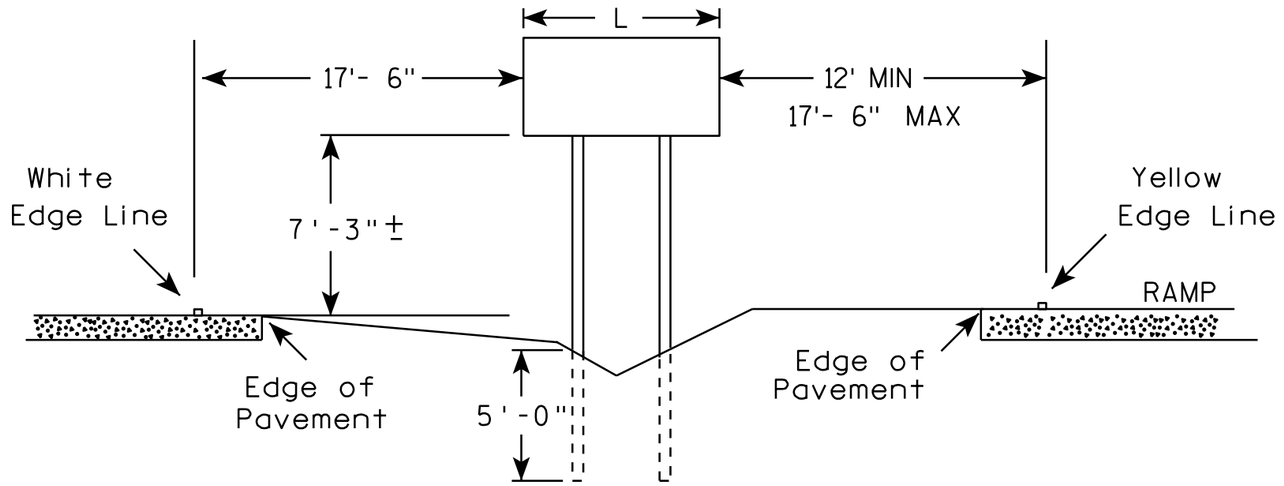
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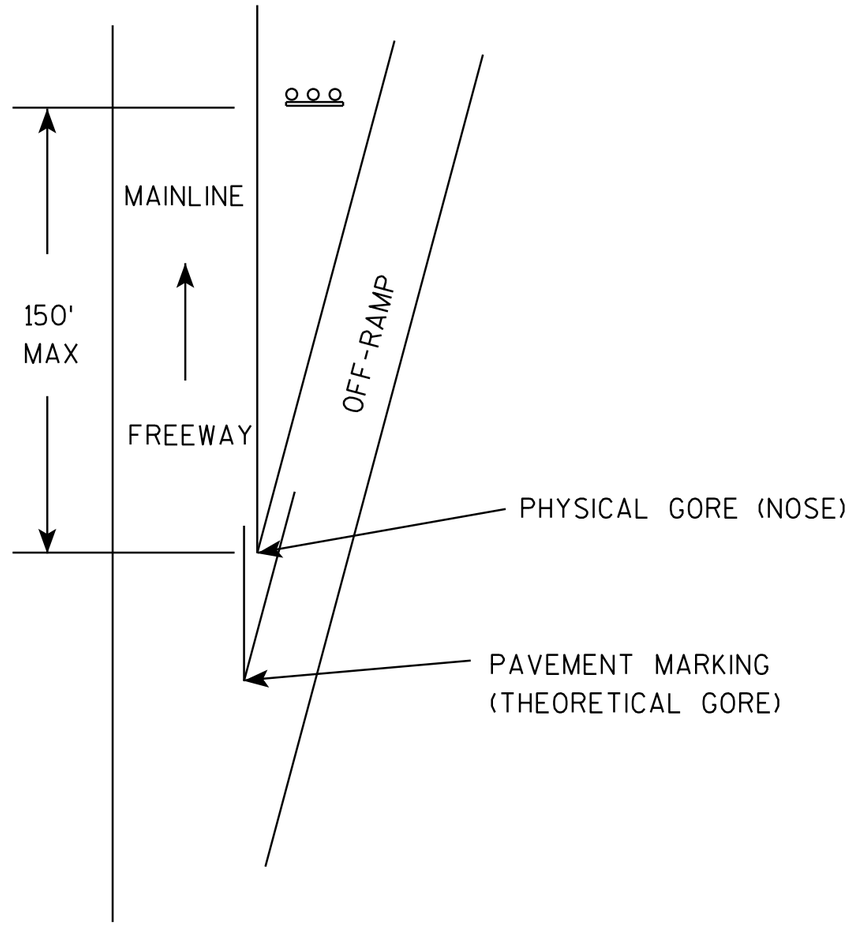
TYPICAL INSTALLATION
OF TYPE I SIGNS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 4/02/08 PLATE NO. A4-1.9





GENERAL NOTES

1. The 150 foot distance from the physical gore (where pavement ends) will normally provide the offsets as shown.
2. If roadway geometrics permit, the sign may be closer than the 150 foot distance as long as the offsets are maintained.
3. At no time shall the location be greater than 150 feet. If the normal offsets cannot be maintained, they can be reduced to 6 feet from the edge of the paved shoulder (both freeway and ramp).
4. The offset from edge of sign to the yellow edge line on the ramp is shown as a minimum of 12 feet and a maximum of 17 feet, 6 inches. Preference is adhering to the maximum rather than the minimum dimension.
5. When L is equal to or exceeds 10 feet, use 3 posts as per A4-4.
6. The (∓) tolerance for the mounting height is 3 inches.

7

7

TYPICAL INSTALLATION
OF TYPE II SIGNS ON
WOOD POSTS IN GORE

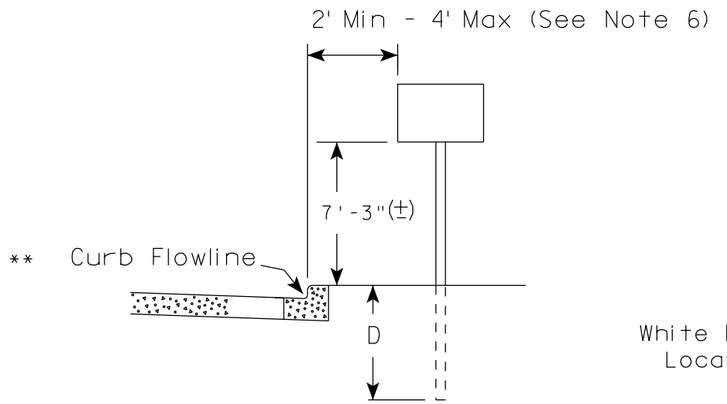
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

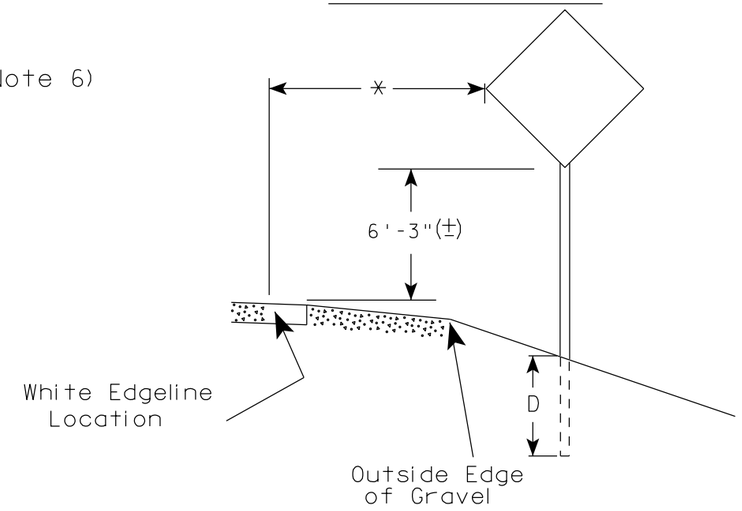
DATE 2/06/14 PLA 270 A4-2.3

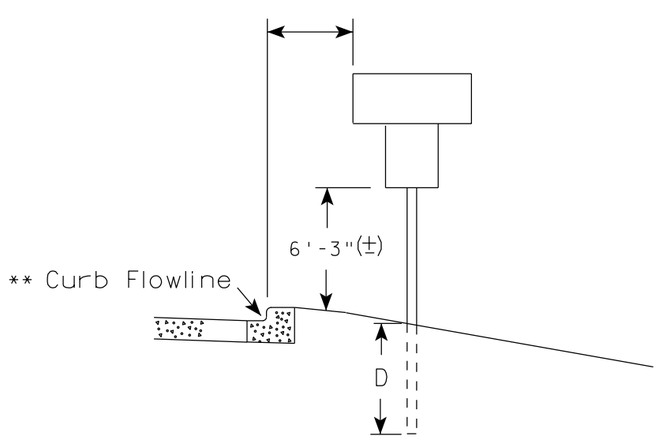
PROJECT NO: | SHEET NO: E

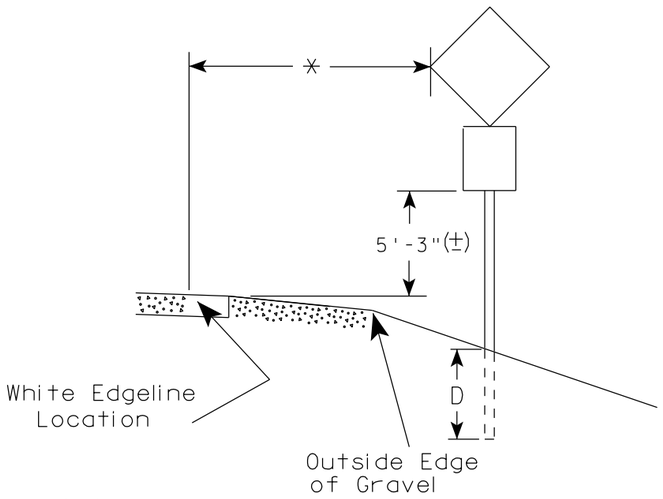
URBAN AREA



RURAL AREA (See Note 2)







GENERAL NOTES

1. Signs wider than 4 feet or 20 sq.ft or larger, shall be mounted on multiple posts. Refer to plate A4-4.
2. If signs are mounted on barrier wall, see A4-10 sign plate.
3. For expressways and freeways, mounting height is 7'- 3" (±) or 6'-3" (±) depending upon existence of a sub-sign.
4. Minimum mounting height for J assemblies (A2-1S) is 7'-3" (±) or 6'-3" (±) per urban or rural detail respectively.
5. Minimum mounting height for signs mounted on traffic signal poles is 5'- 3" (±).
6. Offset distance shall be consistent with existing signs or consistent throughout length of project.
7. The (±) tolerance for mounting height is 3 inches.
8. Folding signs shall be mounted at a height of 5'-3" (±) or as directd by the Engineer.
9. The Double Arrow sign (W12-1) shall be mounted at a height of 2'-3" (±). The Chevron sign (W1-8), Roundabout Chevron panel (R6-4B), Enhanced Reference Markers, Clearance Markers (W5-52), Mile Markers (D10 series), In Road Object Markers (W5-54) & End of Road Markers (W5-56) shall be mounted at a height of 4'-3" (±).

POST EMBEDMENT DEPTH

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

** 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.

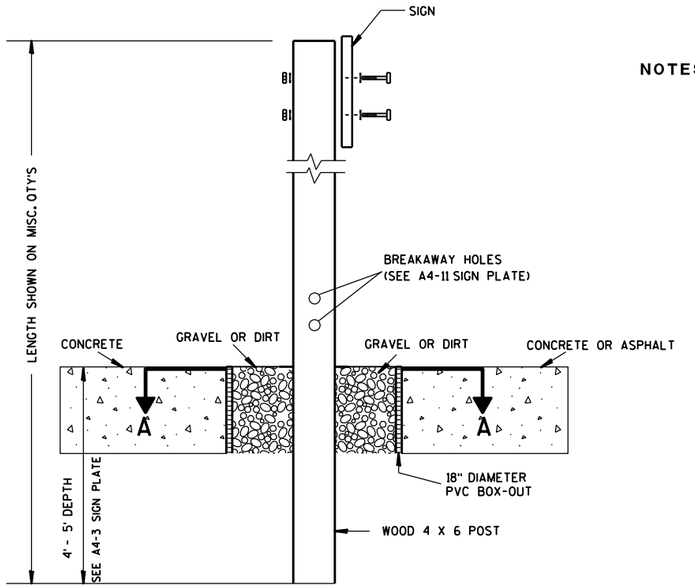
TYPICAL INSTALLATION OF PERMANENT TYPE II SIGNS ON SINGLE POSTS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

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

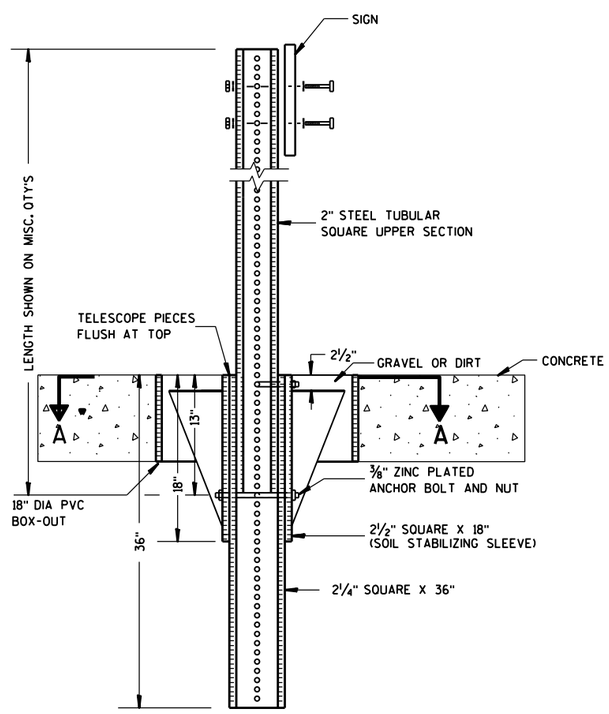
PROJECT NO:	HWY:	COUNTY:		SHEET NO:	E



ELEVATION VIEW

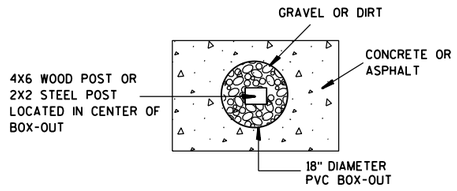
DETAIL OF WOOD 4 X 6 SIGN POST IN BOX-OUT

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



ELEVATION VIEW

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



PLAN VIEW

FOR NEW CONCRETE/ASPHALT INSTALLATIONS

SIGN POST BOX-OUTS A4-3B

WISCONSIN DEPT OF TRANSPORTATION

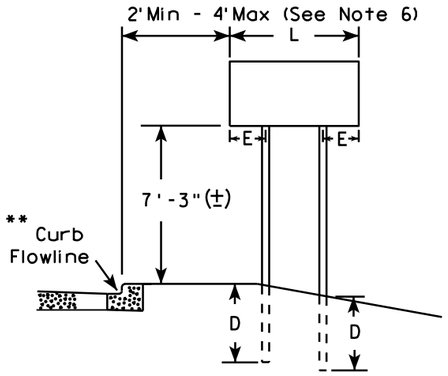
APPROVED Matthew R Rauch
for State Traffic Engineer

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

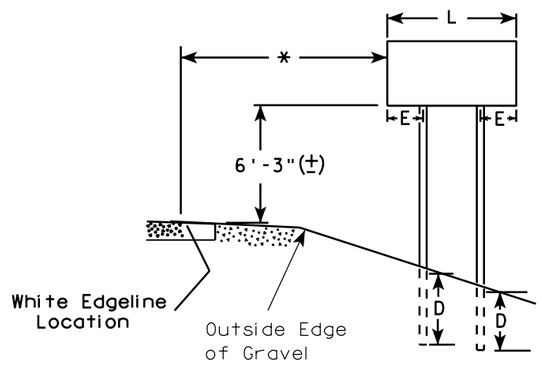
PROJECT NO:	HWY:	COUNTY:		SHEET NO:	E

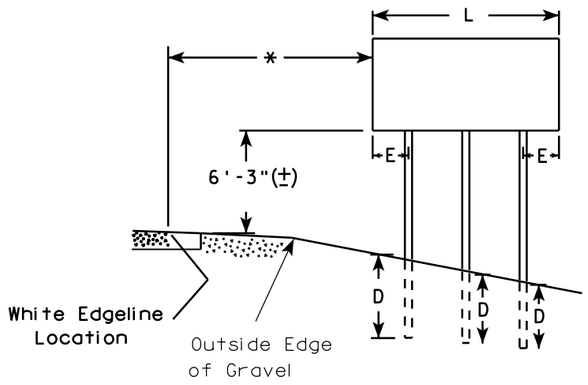
FILE NAME : C:\CAEFiles\Projects\tr_stdplate\A43B.DGN PLOT DATE : 27-JAN-2014 09:48 PLOT BY : mscsja PLOT NAME : PLOT SCALE : 13.659812:1.000000 WISDOT/CADDS SHEET 42

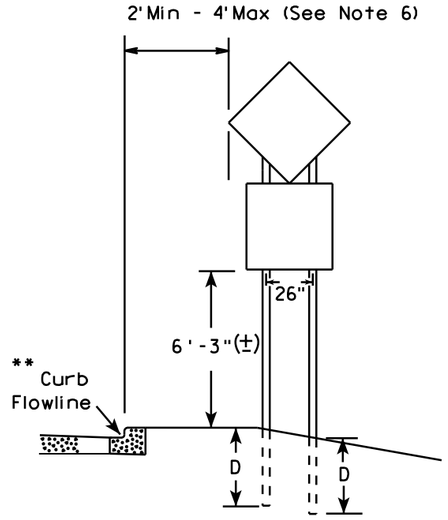
URBAN AREA



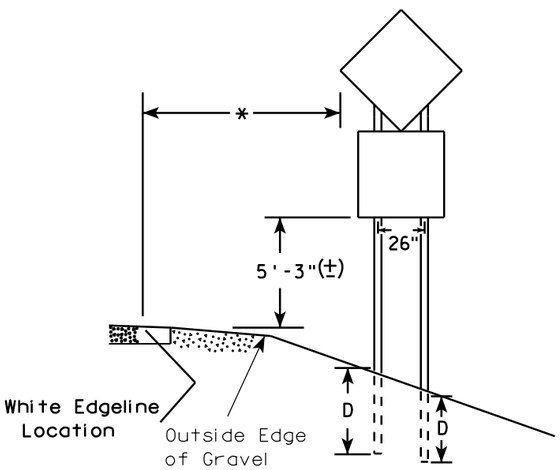
RURAL AREA (See Note 3)







48" DIAMOND WARNING SIGN



48" DIAMOND WARNING SIGN

GENERAL NOTES

1. For 3 or 4 post installations, individual post spacing shall be greater than 3'-6".
2. See tables below for required number of posts.
3. For expressways and freeways, mounting height is 7'-3" (±) or 6'-3" (±) depending upon existence of sub-sign.
4. The (±) tolerance for mounting height is 3 inches.
5. Minimum mounting height for J assemblies (A2-1S) is 7'-3" (±) or 6'-3" (±) per urban or rural detail respectively.
6. Offset distance shall be consistent with existing signs or consistent throughout length of project.
7. Folding signs shall be mounted at a height of 5'-3" (±) or as directed by the engineer.
8. The Double Arrow sign (W12-1) shall be mounted at a height of 2'-3" (±). The Chevron sign (W1-8), Roundabout Chevron panel (R6-4B), Clearance Markers (W5-52), Mile Markers (D10 series), In Road Object Markers (W5-54) & End of Road Markers (W5-56) shall be mounted at a height of 4"-3" (±).

* 6 feet from edge of a paved shoulder or 12 feet from the edge of pavement (edge line location) or 2 feet from outside edge of gravel, whichever is greater unless directed by project engineer.

** The existence of curb and gutter does not in itself mandate the vertical clearance illustrated. That height is typically measured where there is sidewalk adjacent to the roadway or parking is permitted. In the absence of sidewalk vertical clearance is measured from the top of the curb. Offset of signs is measured from the flow line.

*** See A4-3 sign plate for signs 4' or less in width and less than 20 S.F. in area.

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

***

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

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

POST EMBEDMENT DEPTH

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

TYPICAL INSTALLATION OF TYPE II SIGNS ON MULTIPLE POSTS

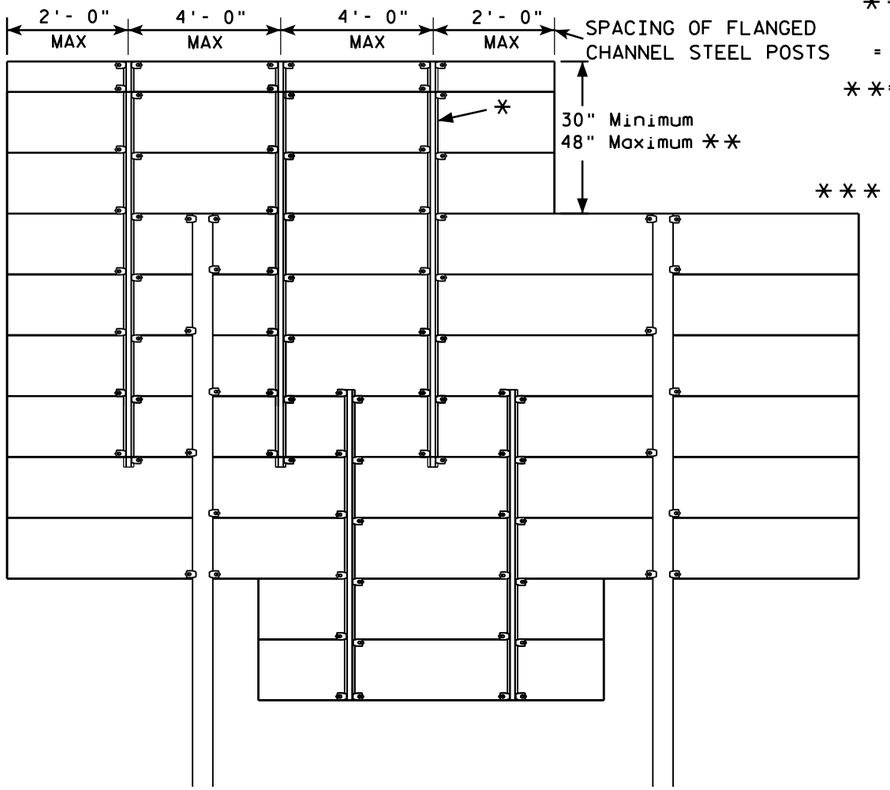
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 7/23/15 PLATE NO. A4-4 273 14

PROJECT NO:	HWY:	COUNTY:		SHEET NO:	E

GROUND MOUNTED SIGN

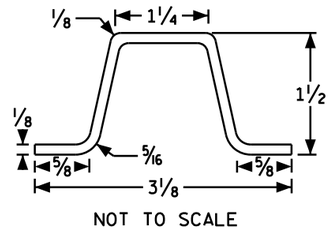


* =2.00 lb/ft FLANGED CHANNEL, MIN. YIELD STRENGTH = 60,000 PSI (GRADE 60) GALVANIZED

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

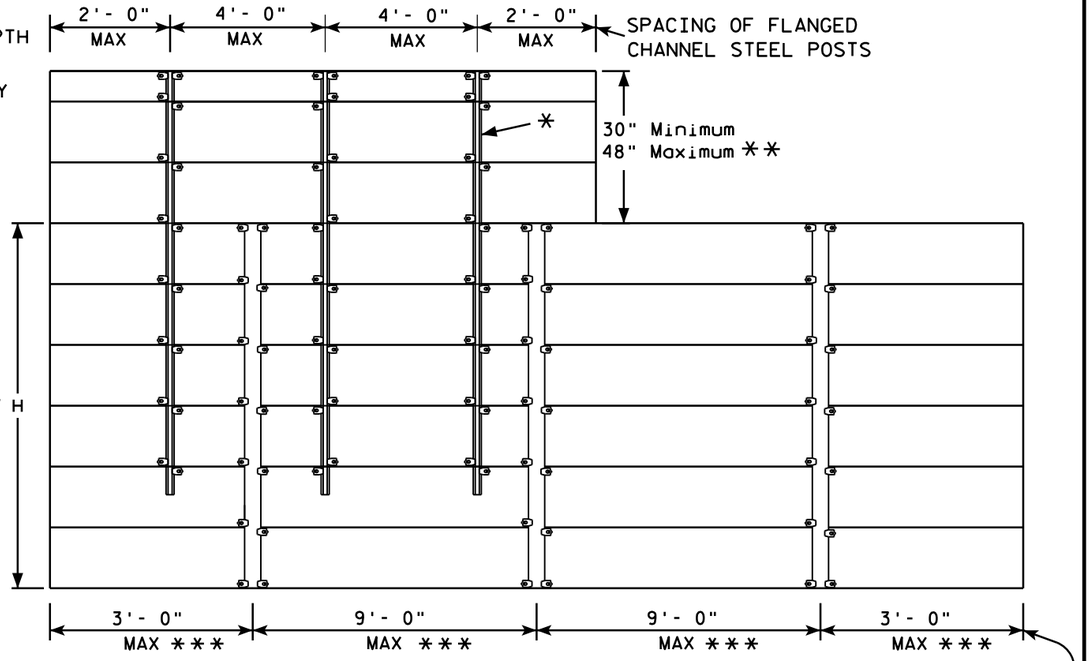
*** THESE SPACING DISTANCES SHALL ONLY BE USED WHEN THE MAIN SIGN HAS A MAXIMUM HEIGHT (DIMENSION H) OF 16 FT OR LESS. FOR SIGNS WITH A HEIGHT OF GREATER THAN 16 FT, STRUCTURAL CALCULATIONS SHALL BE PERFORMED.

FLANGE CHANNEL DETAIL



NOT TO SCALE

SIGN BRIDGE MOUNTED SIGN



SPACING OF ALUMINUM SIGN SUPPORTS
5" X 3.5" X 3.7 LBS./ft.

GENERAL NOTES

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

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

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

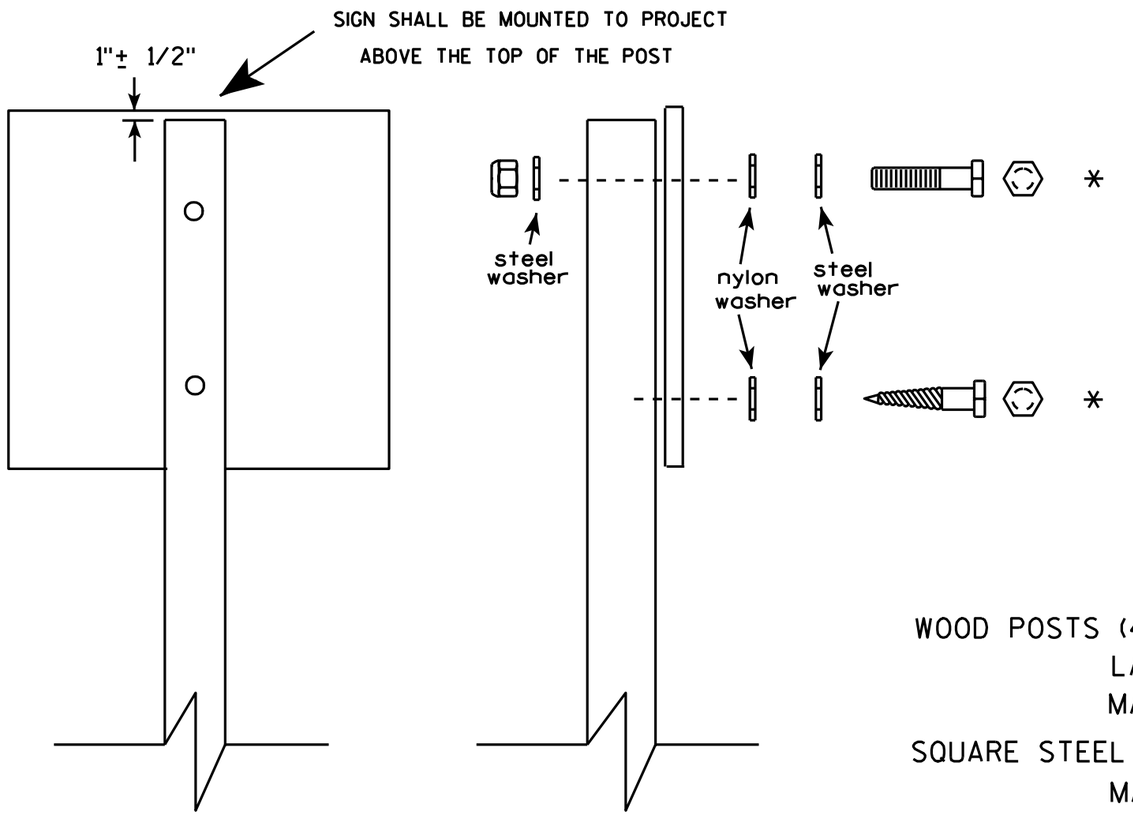
ATTACHMENT OF GUIDE SIGNS TO SUPPORTS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 12/05/13 PLAT 274 A4-6.12

PROJECT NO:				SHEET NO:	E



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

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

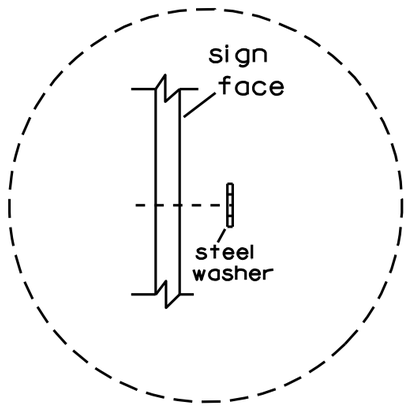
b. Electro-galvanized in accordance with ASTM Designation : B 633, TYPE III, SC 3.

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

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

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

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



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

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

ATTACHMENT OF SIGNS TO POSTS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

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

7

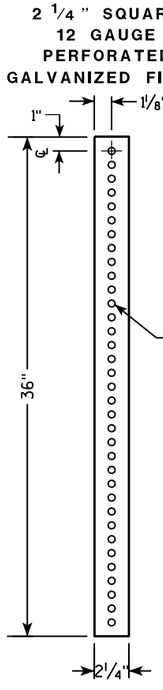
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PROJECT NO:

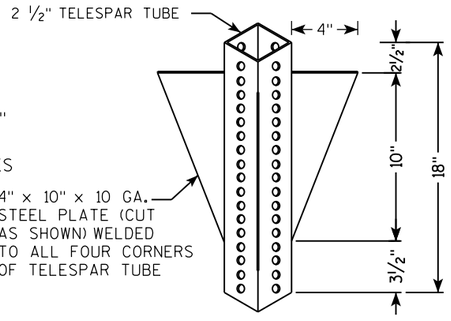
SHEET NO: 275 E

TELESCOPIC TUBING ANCHORS
TWO PIECE SYSTEM

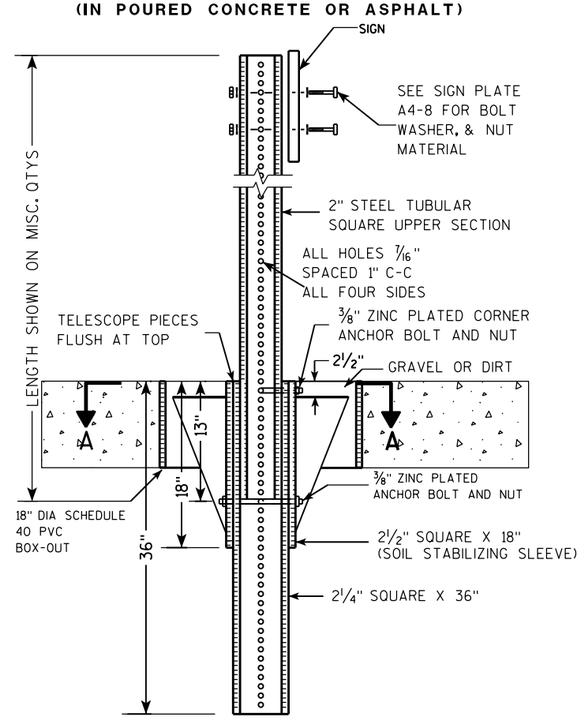
2 1/4 " SQUARE
12 GAUGE
PERFORATED
GALVANIZED FINISH



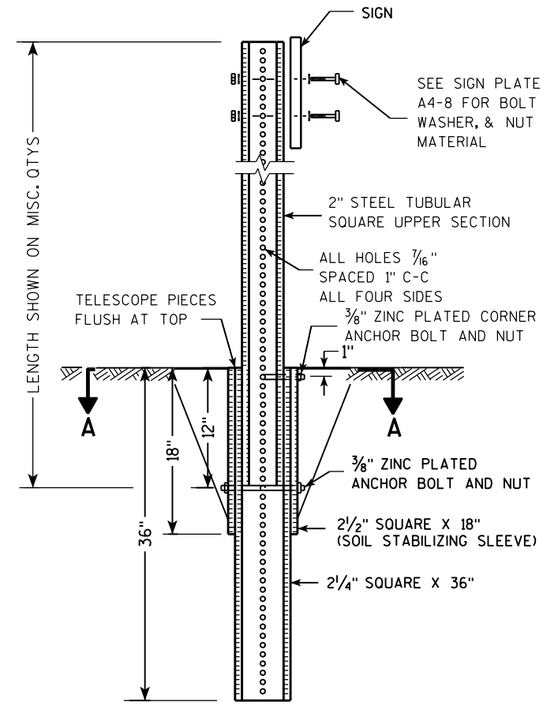
2 1/2 " SQUARE
12 GAUGE
OMNI-DIRECTIONAL
PERFORATED
SOIL STABILIZING SLEEVE
GALVANIZED FINISH

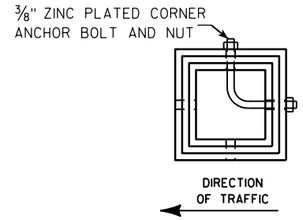


DETAIL OF TUBULAR STEEL SIGN POST
(IN POURED CONCRETE OR ASPHALT)



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





SECTION A-A

Area of Sign Installation (Sq. Ft.)	Number of Required Posts
9 or less	1
Greater than 9 less than or equal to 18	2
Greater than 18 less than or equal to 27	3

Signs wider than 3 feet or larger than 9 sq. ft shall be mounted on multiple posts (see above table).

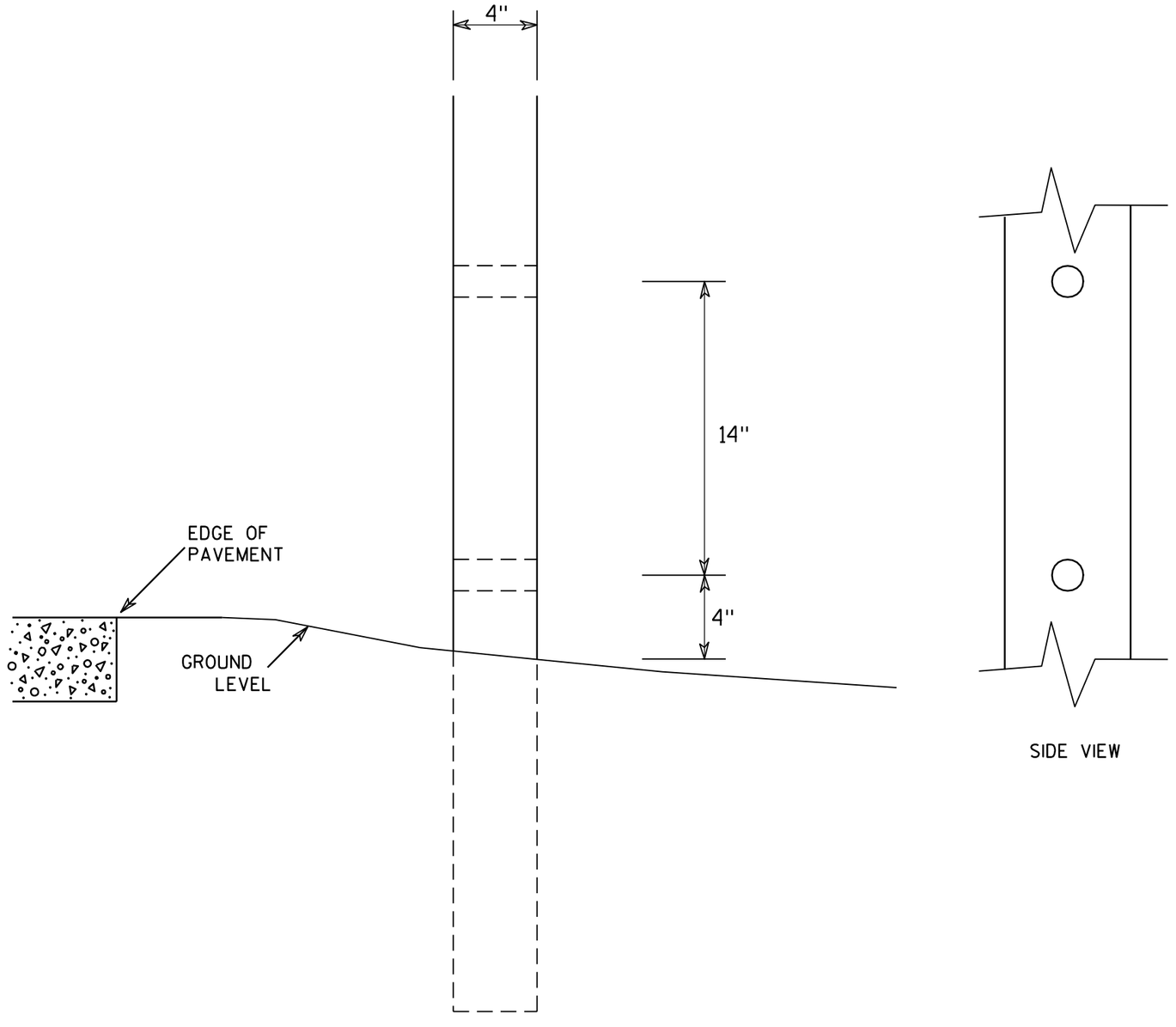
TUBULAR STEEL
SIGN POST
A4-9

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 2/05/15 PLATE 276 A4-9.9

PROJECT NO:	HWY:	COUNTY:		SHEET NO:	E



SIDE VIEW

GENERAL NOTES

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

4 X 6 WOOD POST MODIFICATIONS

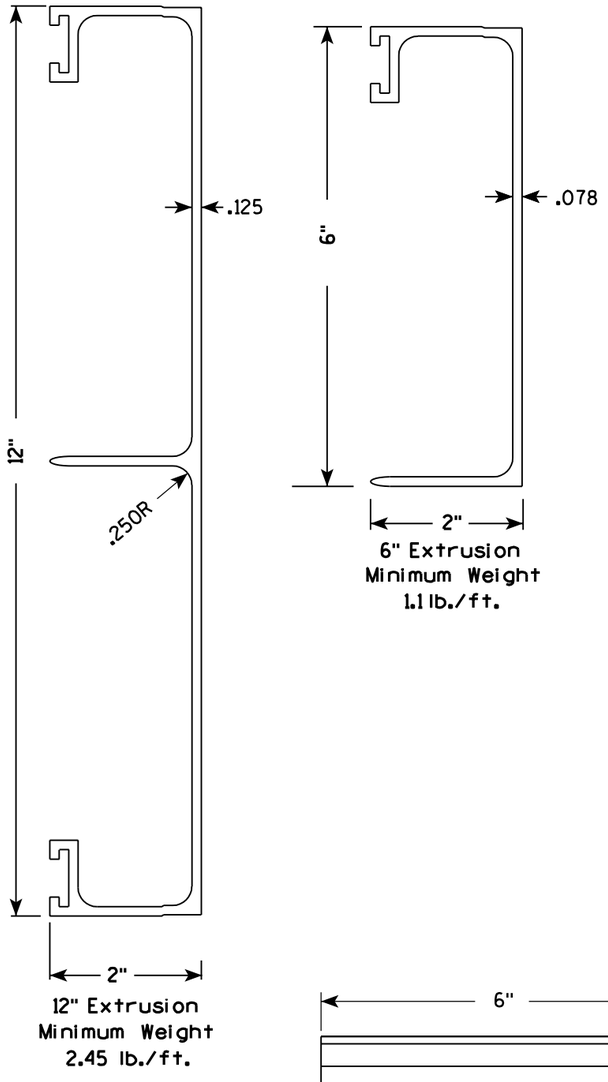
WISCONSIN DEPT OF TRANSPORTATION

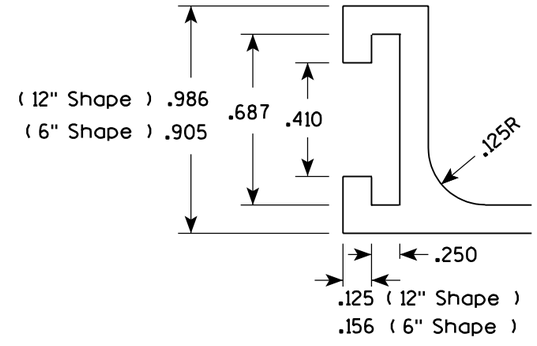
APPROVED Chester J Spang for State Traffic Engineer

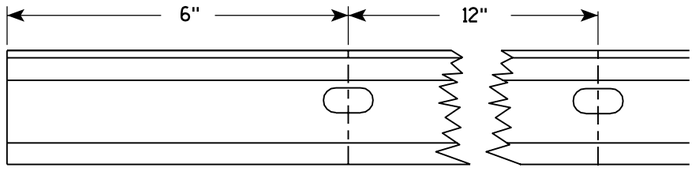
DATE 3/27/97 PLATE NO. A4-11.2

PROJECT NO:	HWY:	COUNTY:		SHEET NO: 277	E

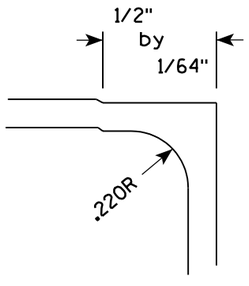
Extruded Shape







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

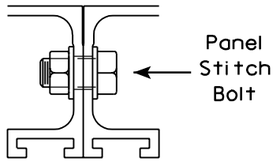


Hardware

STITCH BOLT, WASHER & NUT

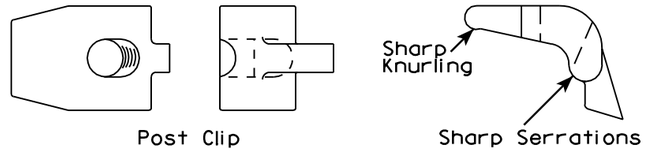
The hardware includes:

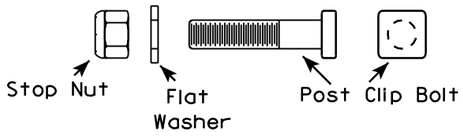
3/8 " - 16 X 3/4 " Economy Bolt 2024-T4 alloy
3/8 " - Stainless steel stop nut
3/8" X .064 Flat Washers, Alclad 2024-T4 alloy



POST CLIP, POST CLIP BOLT, WASHER & NUT

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





NOTES

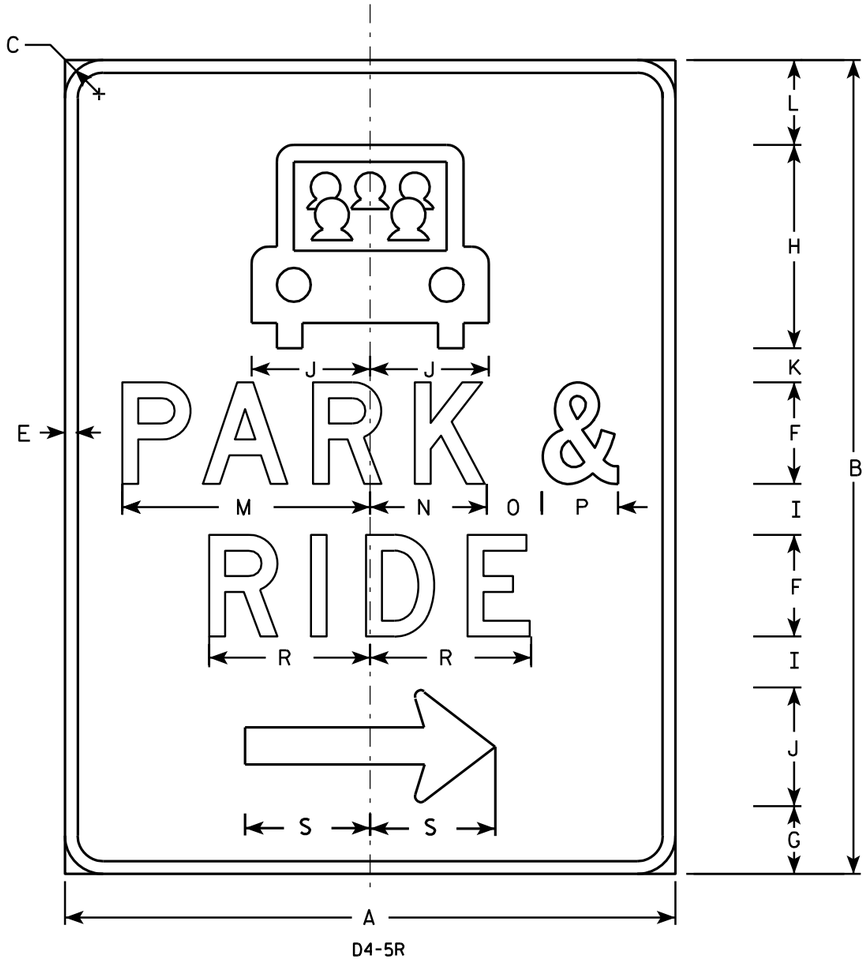
1. The contractor may select any brand of extrusion that conforms to the illustrations or meets with the approval of the engineer, but all extrusions used on this contract shall be of the same brand.
2. Panel Stitch Bolts shall be used to assemble adjacent panels. Maximum stitch bolt spacing shall be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

ALUMINUM EXTRUSIONS FOR TYPE I SIGNS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Chester J Spang
for State Traffic Engineer

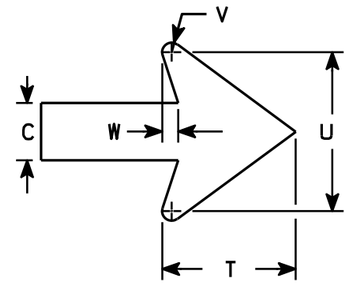
DATE 11/18/99 PLATE NO. A5-2.9



D4-5R

NOTES

1. Sign is Type II - Type H Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - Green
   Message - White - Type H Reflective
3. Message Series - D
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
5. The D4-5L is the same as a D4-5R except the arrow is reversed.



Arrow Detail

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2	30	36	1 3/8		5/8	5	1 3/8	9	2	5	1 5/8	5	11 3/4	5 1/2	2 3/4	3 3/4		8	6 1/8	4	4 3/8	3/8	1/2				7.50
3	36	48	2 1/4		3/4	6	4	12	3	7	2	5	14 5/8	6 7/8	3 1/4	4 1/2		9 1/2	7 1/2	5 1/4	6 1/4	3/8	5/8				12.0
4																											
5																											

STANDARD SIGN
D4-5 L&R

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 11/15/10 PLATE NO. D4-5.2

PROJECT NO:

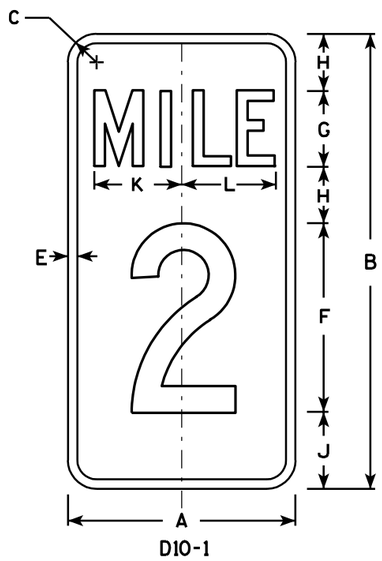
SHEET NO: 279 E

FILE NAME : C:\Users\PROJECTS\tr_stdplate\D45.DGN PLOT DATE : 15-NOV-2010 14:08 PLOT BY : dotsja

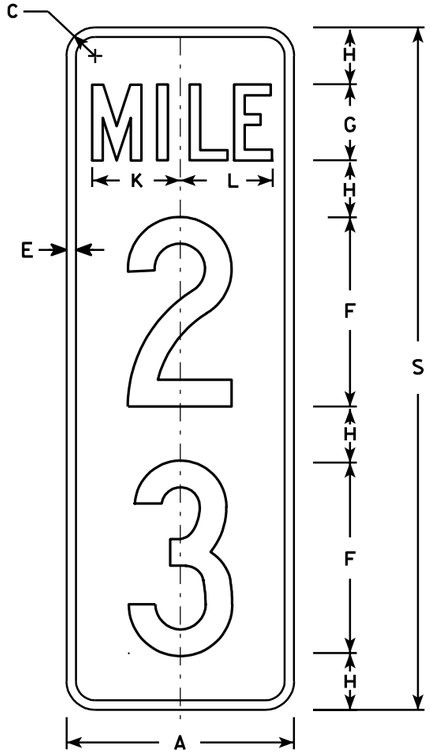
WISDOT/CADDS SHEET 42

7

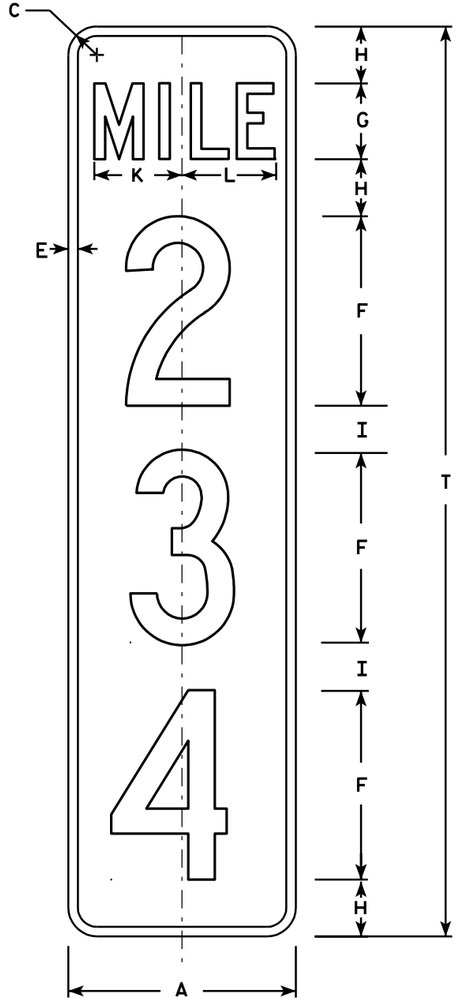
7



D10-1



D10-2



D10-3

NOTES

1. Sign is Type II - Type H Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - Green
   Message - White - Type H Reflective
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. Optically adjust numerals about the centerline of the sign to achieve proper balance.

Metric equivalent for this sign is:

PHY. SIZE	
12 X 24	300 mm X 600 mm
12 X 36	300 mm X 900 mm
12 X 48	300 mm X 1200 mm

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z
1																										
2																										
3																										
4	12	24	1 ½		½	10	4	3	2 ½	4	4 ⅝	4 ⅞							36	48						
5	12	24	1 ½		½	10	4	3	2 ½	4	4 ⅝	4 ⅞							36	48						

D10-1	D10-2	D10-3
Area sq. ft.	Area sq. ft.	Area sq. ft.
2.0	3.0	4.0
Area m2	Area m2	Area m2
.19	.28	.38

STANDARD SIGN
D10-1 , D10-2 & D10-3

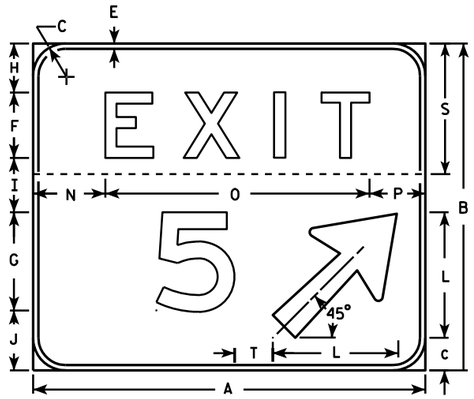
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Chester J Spang for Director, Office of Traffic

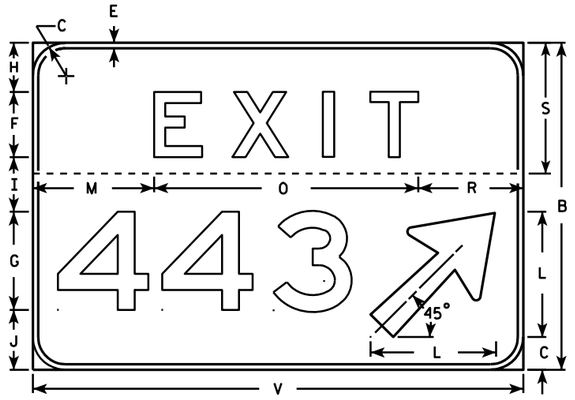
DATE 1/16/02 PLATE NO. D10-3.2

PROJECT NO:

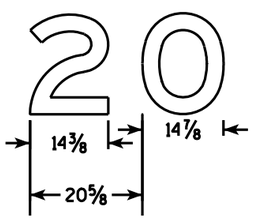
SHEET NO: 280 E



NOTE: T diminision shall be measured from the back of the number to the front of the arrow



EXAMPLE FOR USING SPACING CHART



NOTES

1. Sign is Type II - Type H reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - Green
   Message - White (Type H reflective)
3. Message Series - E
4. Corners may be square or rounded but the border shall be rounded as shown.
5. Base material for this sign shall be plywood and shall be split into two seperate pieces as shown on each detail by the dashed line (----------).
6. Arrow is Type "A" from sign plate A1-1.
7. Substitute appropriate message, space per the table and adjust placement on sign to achieve proper balance.
8. As per the Standard Spec's, these signs shall not have a vertical joint.

SPACING CHART FOR 18" NUMERALS

NUMBERS	WIDTH	0	1	2	3	4	5	6	7	8	9	A	B	C
0	14 7/8	21 5/8	21 5/8	21 1/4	20 3/8	21 1/4	21 1/4	21 5/8	19 7/8	22 1/8	21 5/8			
1	5 7/8	14	14	14	13 1/8	12 1/8	14	14	12 1/4	14	14			
2	14 3/8	20 5/8	21 1/8	20 5/8	19 3/4	20 1/4	20 5/8	20 5/8	18 7/8	21 1/8	20 5/8			
3	14 3/8	20 3/4	21 1/8	20 3/4	20 1/4	19 3/4	20 3/4	20 3/4	19 3/8	21 1/8	20 3/4			
4	16 5/8	22 7/8	22	22 1/2	21 5/8	21 5/8	22 7/8	22 7/8	20 5/8	23 3/8	22 7/8			
5	14 1/4	20 5/8	20 5/8	20 1/8	18 3/4	18 3/4	20 5/8	20 5/8	18 3/8	20 5/8	20 5/8			
6	14 1/2	21 1/4	20 3/4	20 3/4	19 7/8	19 1/2	20 3/8	20 3/4	19	20 3/4	20 3/8			
7	14 3/8	19 3/4	19 3/4	20 1/4	19 3/4	17	19 3/4	20 5/8	18 7/8	20 5/8	19 3/4			
8	14 1/4	21 1/2	21 1/2	20 5/8	19 1/4	19 3/4	20 5/8	21 1/2	19 5/8	21 1/2	20 5/8			
9	14 1/2	21 1/4	21 1/4	20 7/8	20	20 7/8	20 7/8	21 1/4	19 1/2	21 3/4	21 1/4			
A	18	19 3/4	19 3/4	20 1/4	19 3/4	17	19 3/4	20 5/8	18 7/8	20 5/8	19 3/4	21 5/8	23 7/8	23
B	14 1/4	21 1/2	21 1/2	20 5/8	19 1/4	19 3/4	20 5/8	21 1/2	19 5/8	21 1/2	20 5/8	19 1/2	22 3/8	21 1/2
C	14 1/4	21 1/4	21 1/4	20 7/8	20	20 7/8	20 7/8	21 1/4	19 1/2	21 3/4	21 1/4	18 3/8	21	19 3/4

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
2																										
3																										
4																										
5	72	60	6		1	12	18	9	10	11	8 7/8	23	22 1/4	13 1/4	48 1/2	10 1/4		19 1/4	24	7		90		96	7 1/2	

1-2 Digit Bid Area	3 Digit Bid Area
Sq. Ft.	
30	37.5

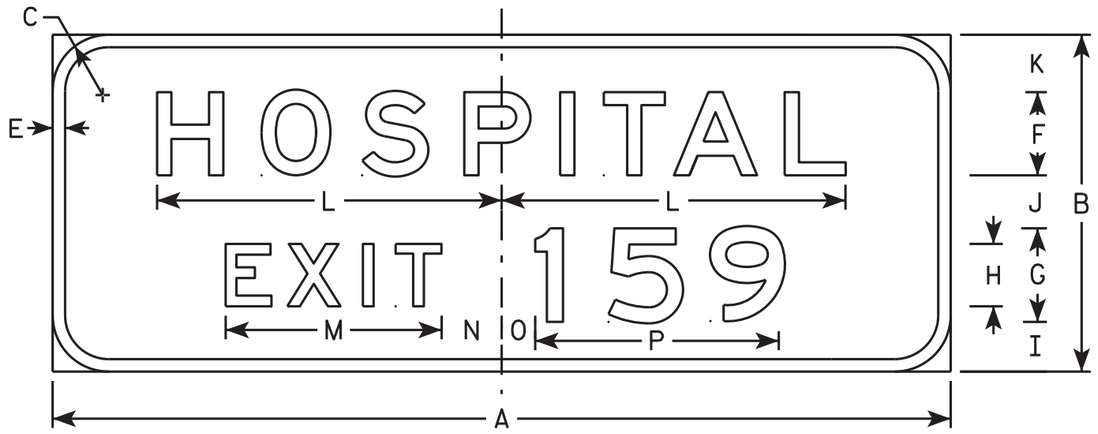
STANDARD SIGN
E5-1A

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 5/11/10 PLATE NO. E5-1A.12

PROJECT NO: | HWY: | COUNTY: | SHEET NO: 281 | E



E10-61

NOTES

1. Sign is Type I - Type SH Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - Blue
   Message - White
3. Message Series - E
4. Apply proper Exit Numbers and letters, 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																											
2																											
3																											
4	144	54	9		2	13 3/8	15	10	8	8 1/2	9 1/4	55 1/4	34 5/8	9 5/8	5 3/8	39											54
5	144	54	9		2	13 3/8	15	10	8	8 1/2	9 1/4	55 1/4	34 5/8	9 5/8	5 3/8	39											54

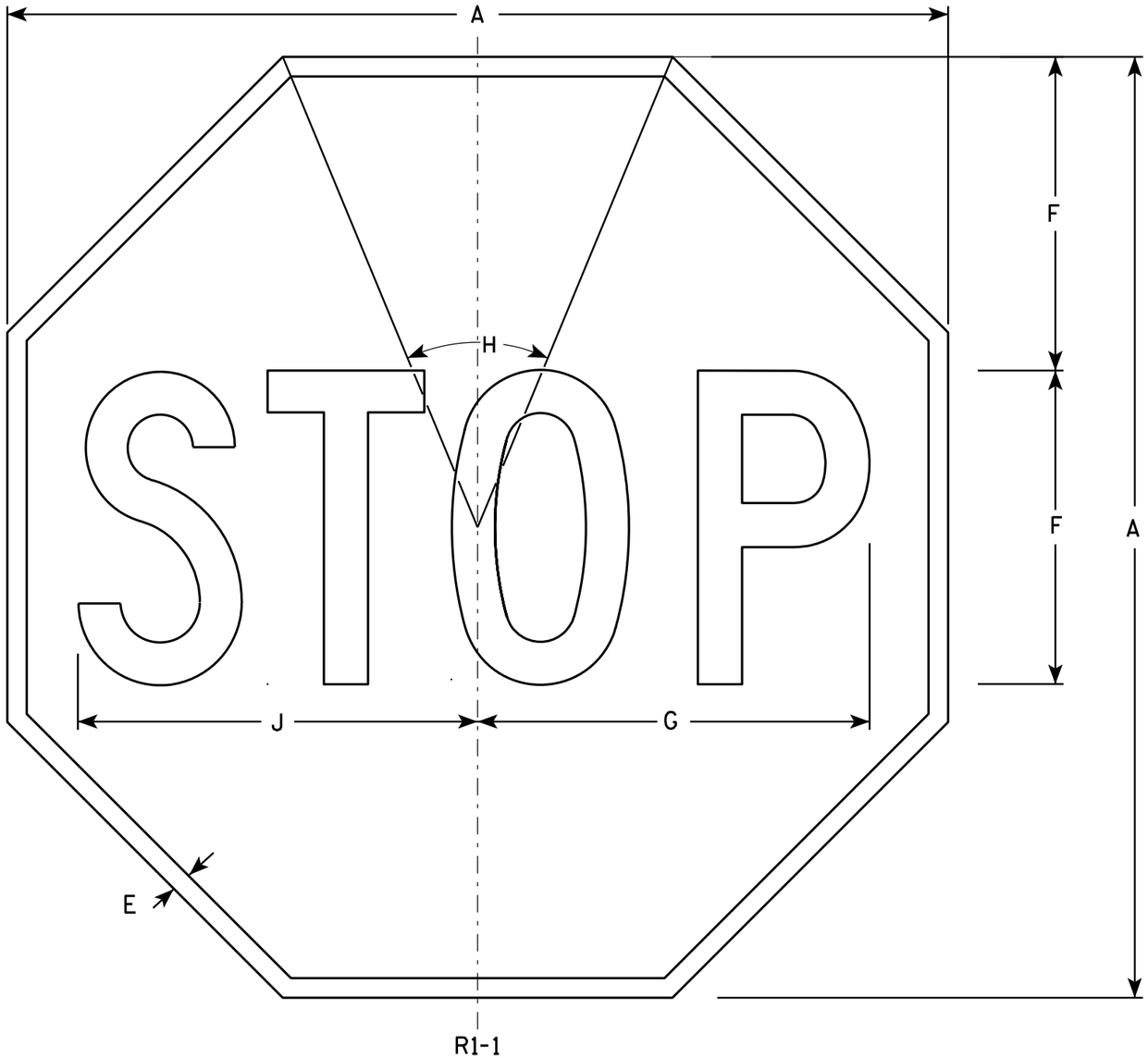
TYPICAL SIGNS
E10-61

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 9/24/15 PLATE NO. E10-61.3

PROJECT NO:	HWY:	COUNTY:		SHEET NO:	E



NOTES

1. Sign is Type II - Type H Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - Red
   Message - White
3. Message Series - C

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	24				3/8	8	10	45°		10 1/4																	3.31
2S	30				5/8	10	12 1/2	45°		12 3/4																	5.18
2M	36				3/4	12	15	45°		15 3/8																	7.46
3	36				3/4	12	15	45°		15 3/8																	7.46
4	48				1	16	20	45°		20 1/2																	13.25
5	48				1	16	20	45°		20 1/2																	13.25
6	18				3/8	6	7 3/4	45°		7 3/4																	1.86
7	12				1/4	4	5	45°		5 1/8																	0.78

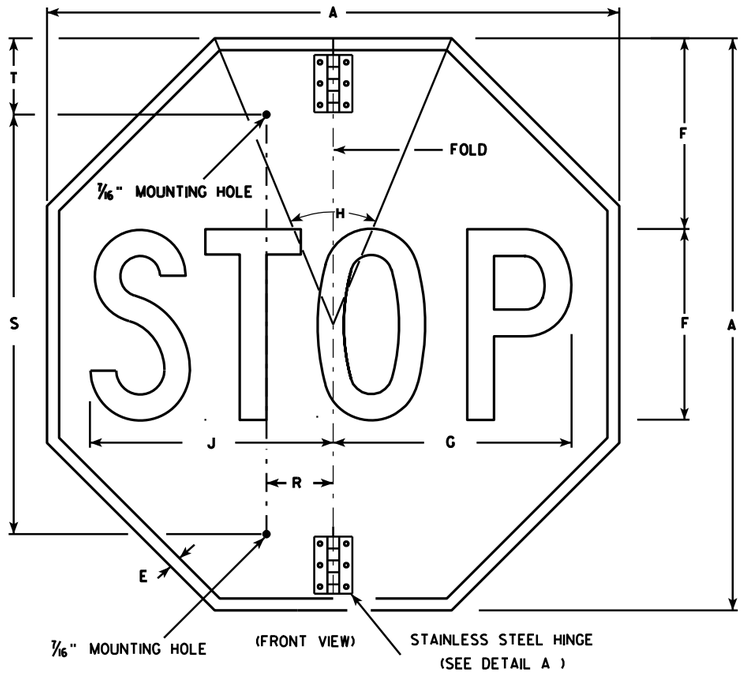
STANDARD SIGN
R1-1

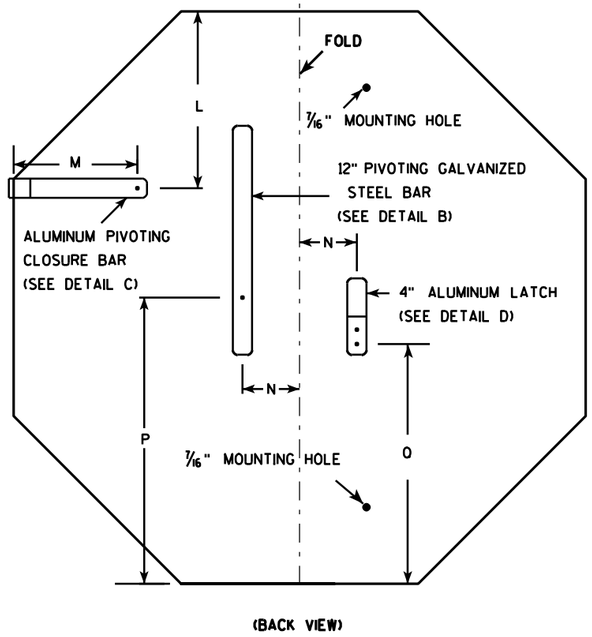
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 12/03/10 PLATE NO. R1-1.12

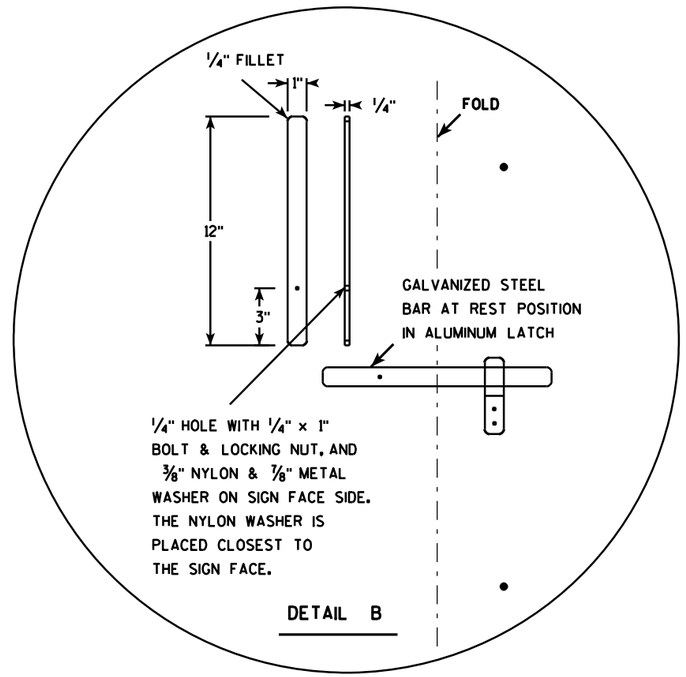
PROJECT NO:	HWY:	COUNTY:		SHEET NO: 283	E



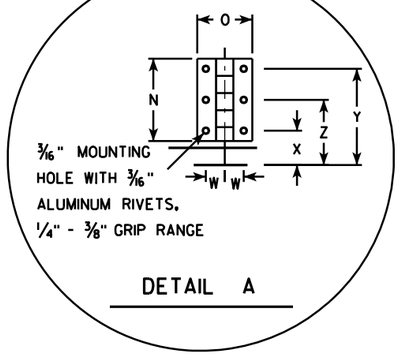


NOTES

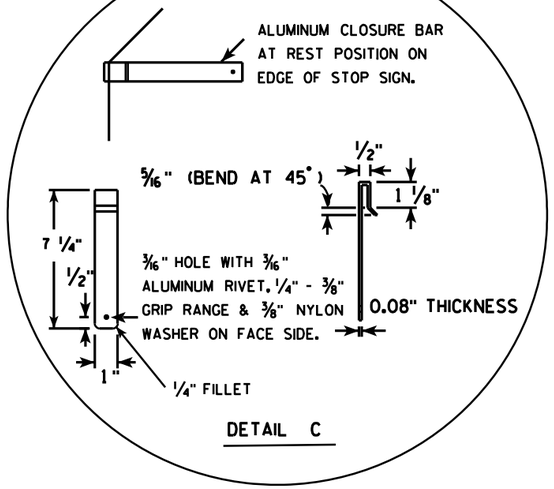
1. Sign is Type II - Type H Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - Red
   Message - White
3. Message Series - C
4. All hardware used on the folding STOP sign installation shall conform to 637.2.4 of the WIS DOT Standard Specification.



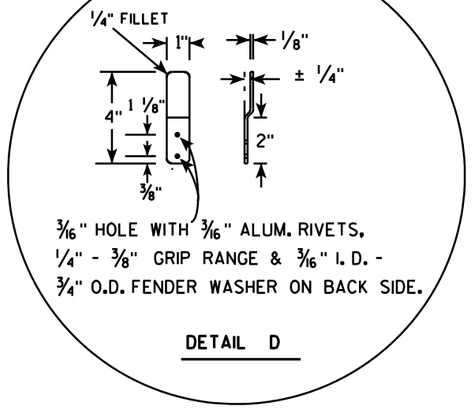
DETAIL B



DETAIL A



DETAIL C



DETAIL D

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				5/8	10	12 1/2	45		12 3/4		9 1/4	6 1/2	3	2	15	12 3/8	2 1/2	22	5			11/16	1 1/4	3 1/2	2 3/8	5.18
2M	36				3/4	12	15	45		15 3/8		11	6 1/2	3	2	18	15 3/8	2 1/2	26	5			11/16	1 1/4	3 1/2	2 3/8	7.46
3	36				3/4	12	15	45		15 3/8		11	6 1/2	3	2	18	15 3/8	2 1/2	26	5			11/16	1 1/4	3 1/2	2 3/8	7.46
4																											
5																											

STANDARD SIGN
R1-1F

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 12/03/10 PLATE NO. R1-1F.3

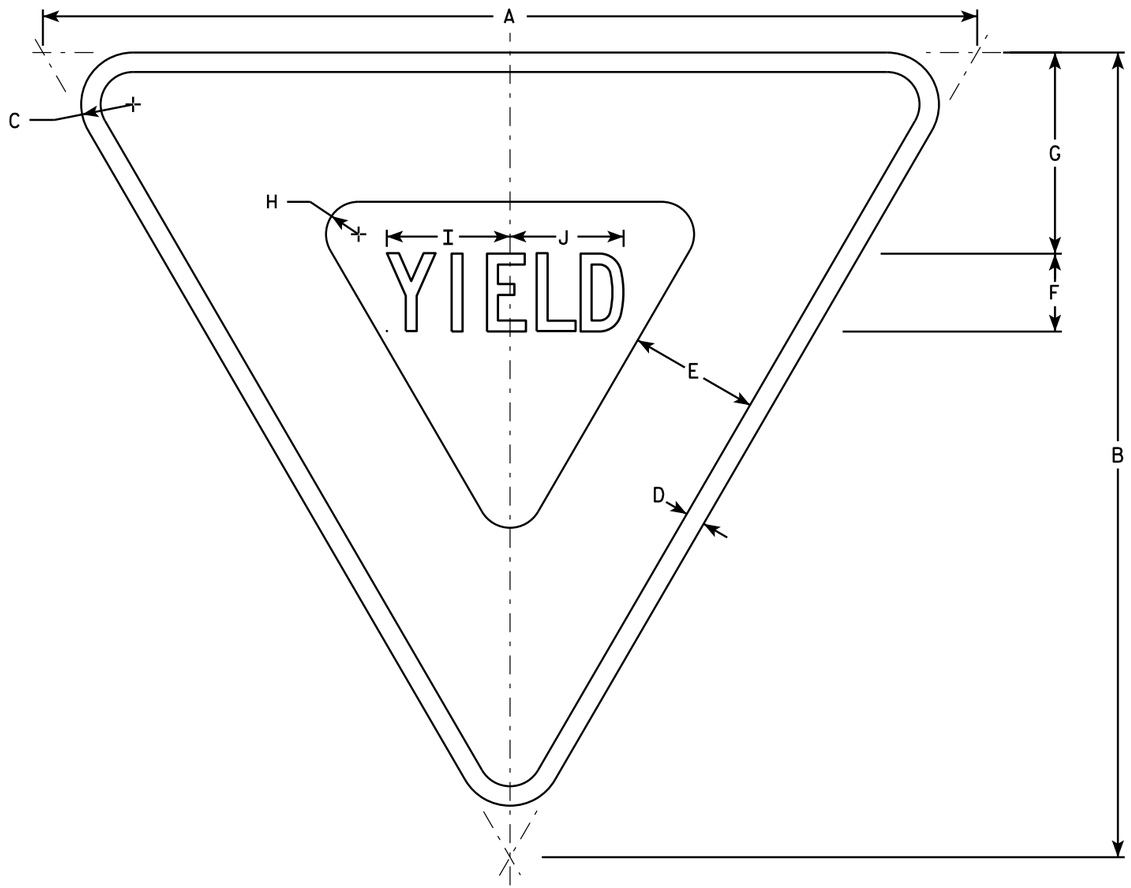
PROJECT NO: | HWY: | COUNTY: | SHEET NO: 284 | E

FILE NAME : C:\Users\PROJECTS\tr_stdplate\R11F.DGN PLOT DATE : 02-DEC-2010 15:26 PLOT BY : dotsja PLOT NAME : PLOT SCALE : 7.945391:1.000000

WISDOT/CADDS SHEET 42

7

7



R1-2

NOTES

1. Sign is Type II - Type H Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - White
   Message - See note 5
3. Message Series - C
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
5. The border strip and word message are reflectorized red.

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	30	26	1 1/2	5/8	4	2 1/2	6 3/8	7/8	4	3 5/8																	2.71
2S	36	31	2	3/4	5	3	7 3/4	1 1/4	4 3/4	4 3/8																	3.88
2M	48	42	3	1	6	4	9 3/4	2	6 1/4	5 7/8																	7.00
3	48	42	3	1	6	4	9 3/4	2	6 1/4	5 7/8																	7.00
4	48	42	3	1	6	4	9 3/4	2	6 1/4	5 7/8																	7.00
5	60	52	3	1 1/2	8	5	13	2 1/2	7 7/8	7 1/4																	10.83
6																											
7	18	15 1/2	1	3/8	2 1/2	1 1/2	3 7/8	5/8	2 3/8	2 1/4																	0.97

STANDARD SIGN
R1-2

WISCONSIN DEPT OF TRANSPORTATION

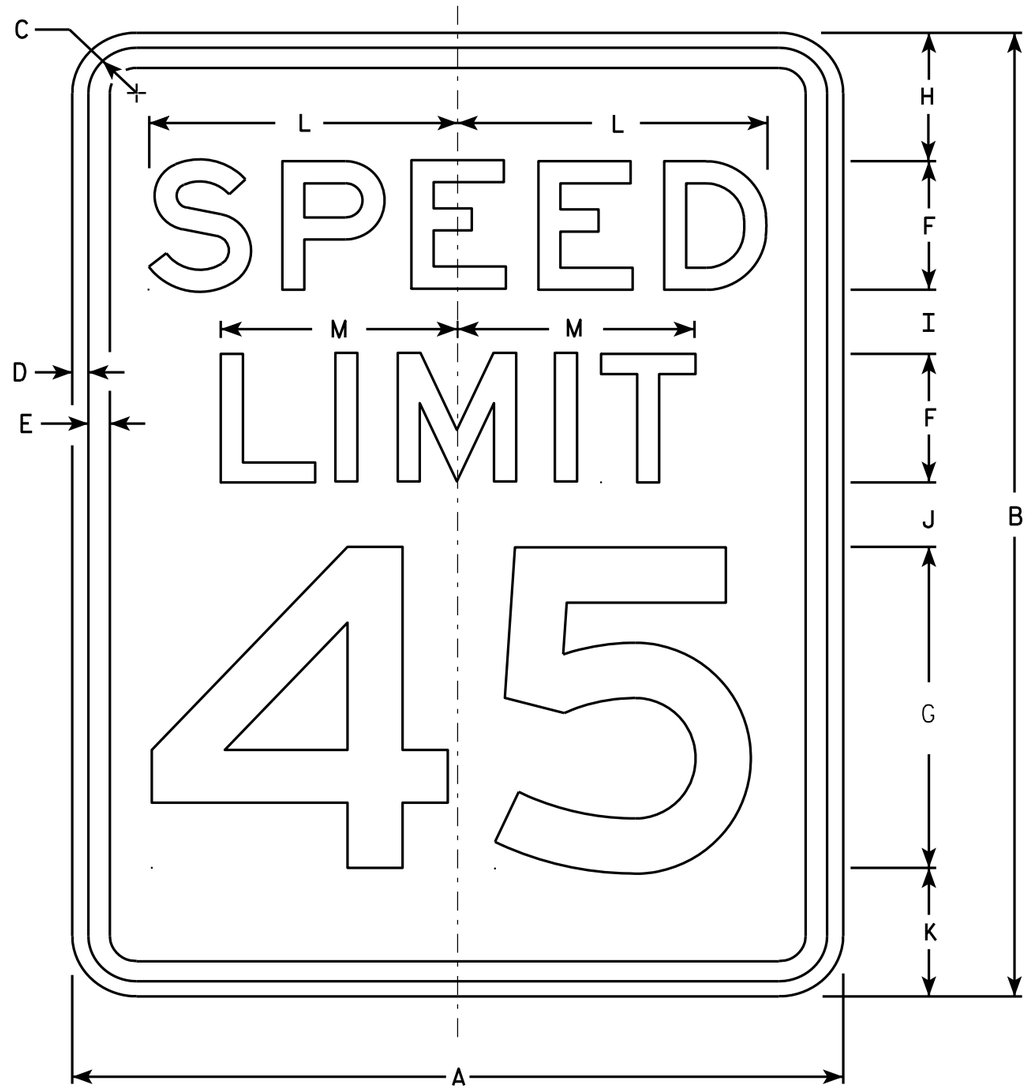
APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 10/13/14 PLATE R1-2.12

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

FILE NAME : C:\CAEFiles\Projects\tr_stdplate\R12.DGN PLOT DATE : 13-OCT-2014 15:12 PLOT BY : mscsja PLOT NAME : PLOT SCALE : 5.837526:1.000000

WISDOT/CADDS SHEET 42



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

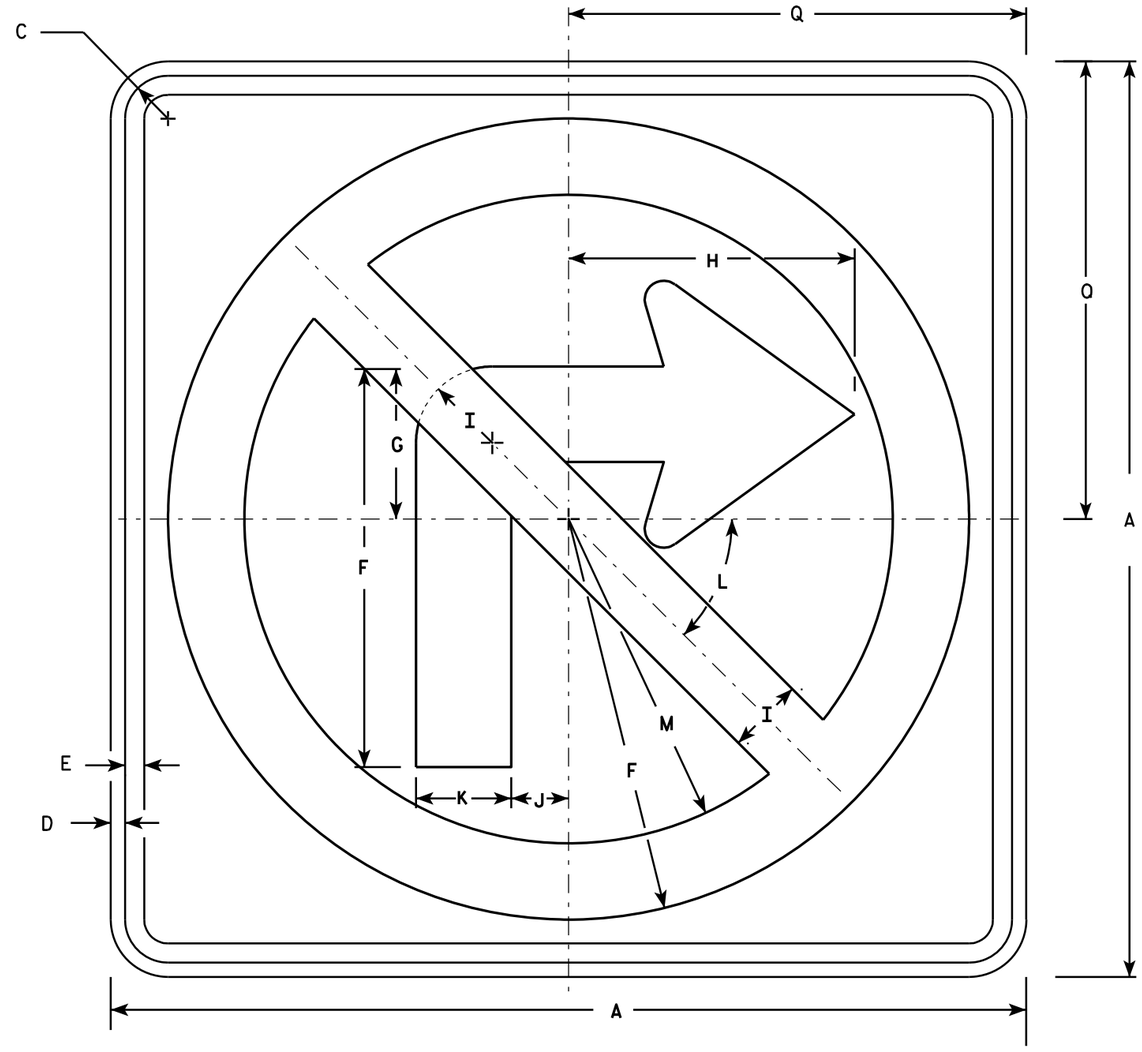
STANDARD SIGN
R2-1

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

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

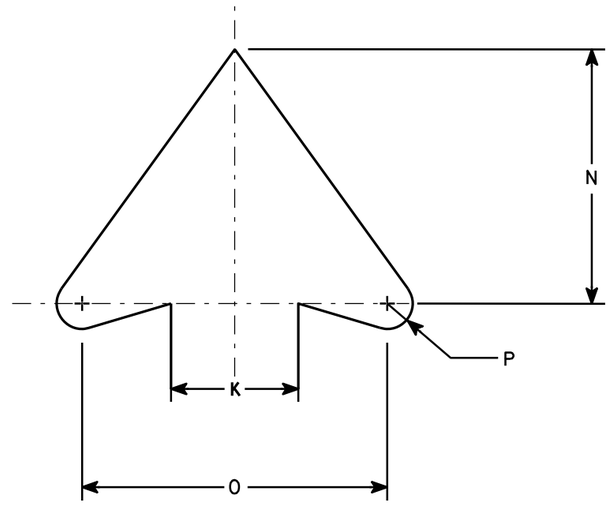
PROJECT NO:	HWY:	COUNTY:		SHEET NO: 286	E



R3-1

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 - 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	12										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	12										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	18										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	18										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	18										9.0
5	48		2 1/4	3/4	1	21	8	15	4	3	5	45°	17	10	12	1	24										16.0

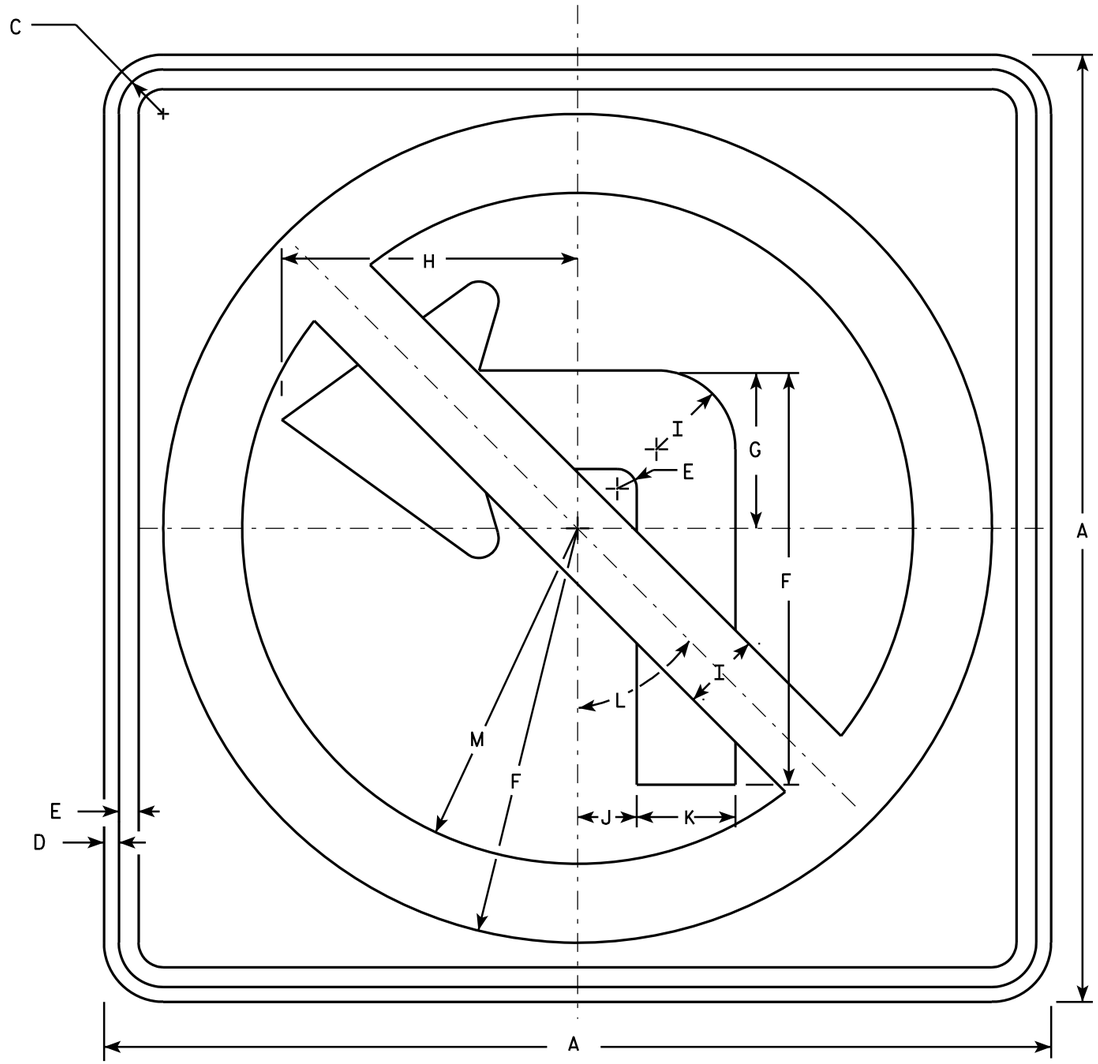
STANDARD SIGN
R3-1

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 12/08/10 PLATE NO. R3-1.5

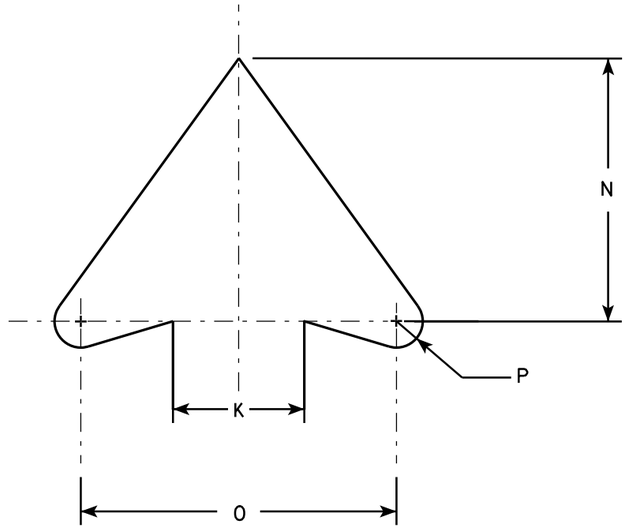
PROJECT NO:	HWY:	COUNTY:		SHEET NO: 287	E



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

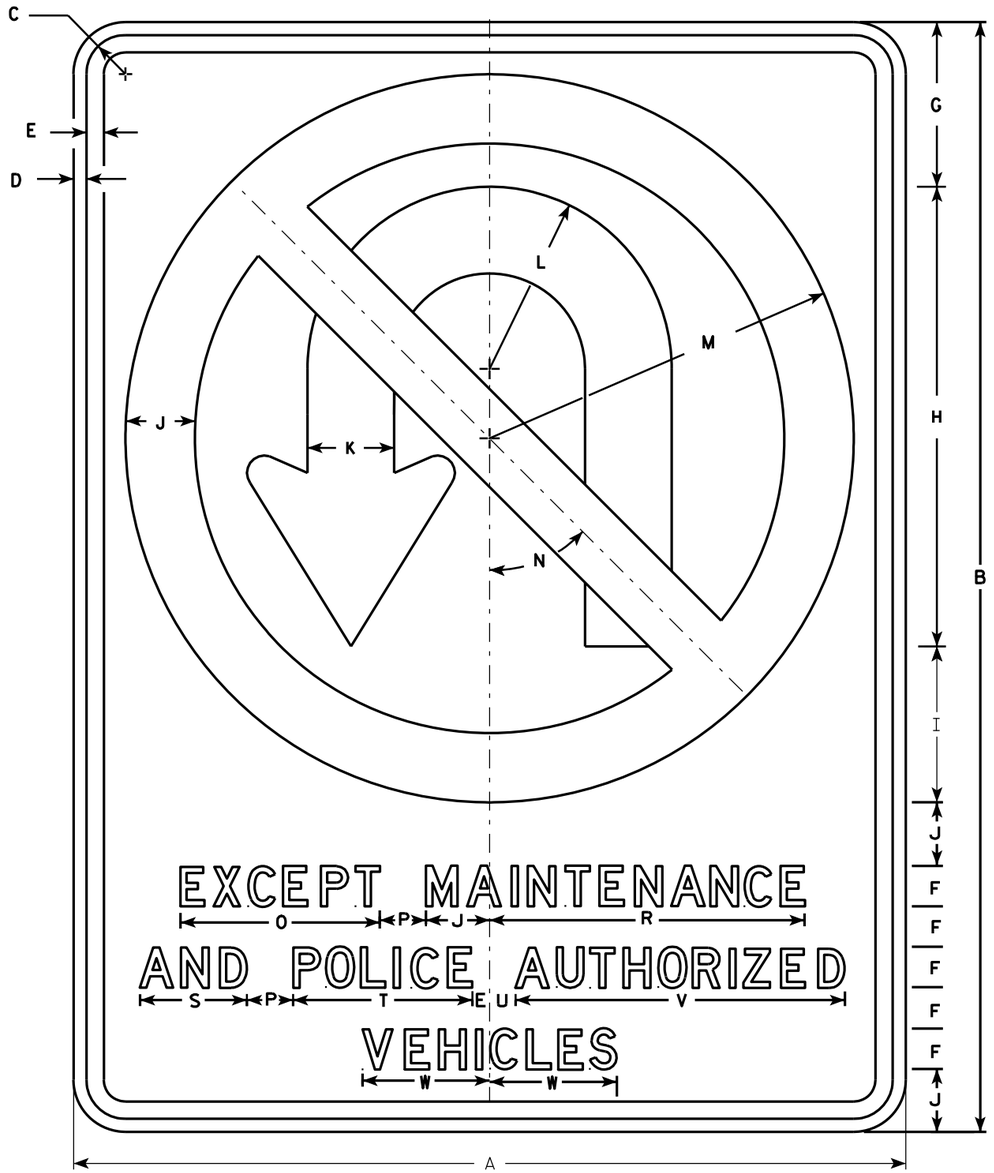
STANDARD SIGN
R3-2

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

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

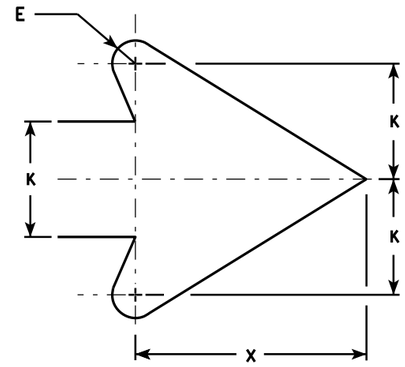
PROJECT NO:	HWY:	COUNTY:		SHEET NO: 288	E



R3-4B

NOTES

1. Sign is Type II - Type H Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - White
   Message - See note 4
3. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
4. Border & Arrow are non reflective black, the circle with diagonal bar is reflective red.



ARROW DETAIL

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2S																											
2M																											
3																											
4	36	48	1 5/8	5/8	3/4	1 3/4	7 1/8	19 7/8	6 3/4	2 3/4	3 3/4	7 7/8	15 3/4	45°	8 5/8	2		13 5/8	4 5/8	7 3/4	1 1/8	14 1/4	5 1/2	7 5/8			12.0
5	36	48	1 5/8	5/8	3/4	1 3/4	7 1/8	19 7/8	6 3/4	2 3/4	3 3/4	7 7/8	15 3/4	45°	8 5/8	2		13 5/8	4 5/8	7 3/4	1 1/8	14 1/4	5 1/2	7 5/8			12.0

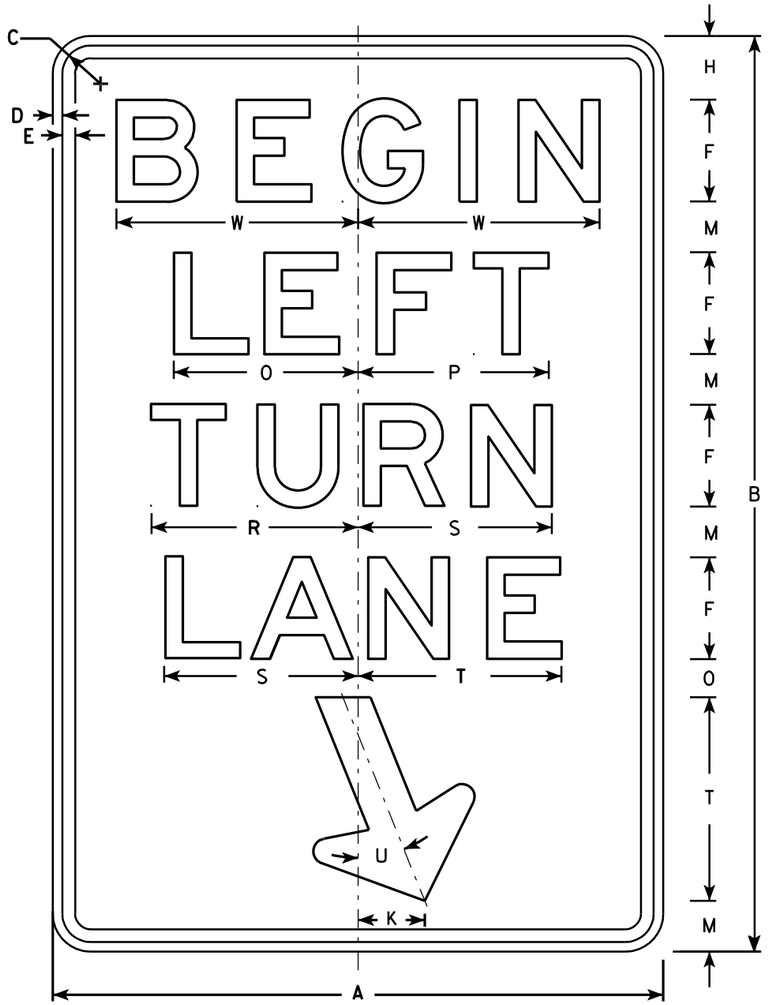
STANDARD SIGN
R3-4B

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 3/17/2011 PLATE NO. R3-4B.2

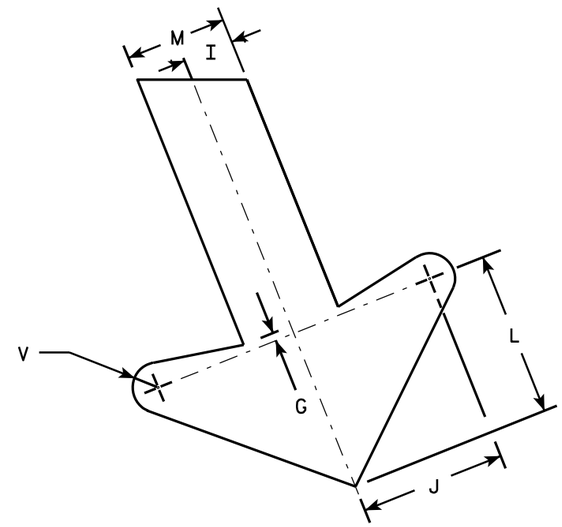
PROJECT NO:	HWY:	COUNTY:		SHEET NO: 289	E



R3-20L

NOTES

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



ARROW DETAIL

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2S	24	36	1 1/8	3/8	1/2	4	1/4	2 1/2	1	2 7/8	2 5/8	3 1/4	2	1 1/2	7 1/4	7 1/2		8 1/8	7 5/8	8	22°	1/2	9 1/2				6.0
2M	24	36	1 1/8	3/8	1/2	4	1/4	2 1/2	1	2 7/8	2 5/8	3 1/4	2	1 1/2	7 1/4	7 1/2		8 1/8	7 5/8	8	22°	1/2	9 1/2				6.0
3	36	54	1 3/4	1/2	5/8	6	3/8	3 3/4	1 1/2	4 1/4	4	4 7/8	3	2 1/4	10 7/8	11 1/4		12 1/4	11 1/2	12	22°	3/4	13 1/4				13.5
4																											
5																											

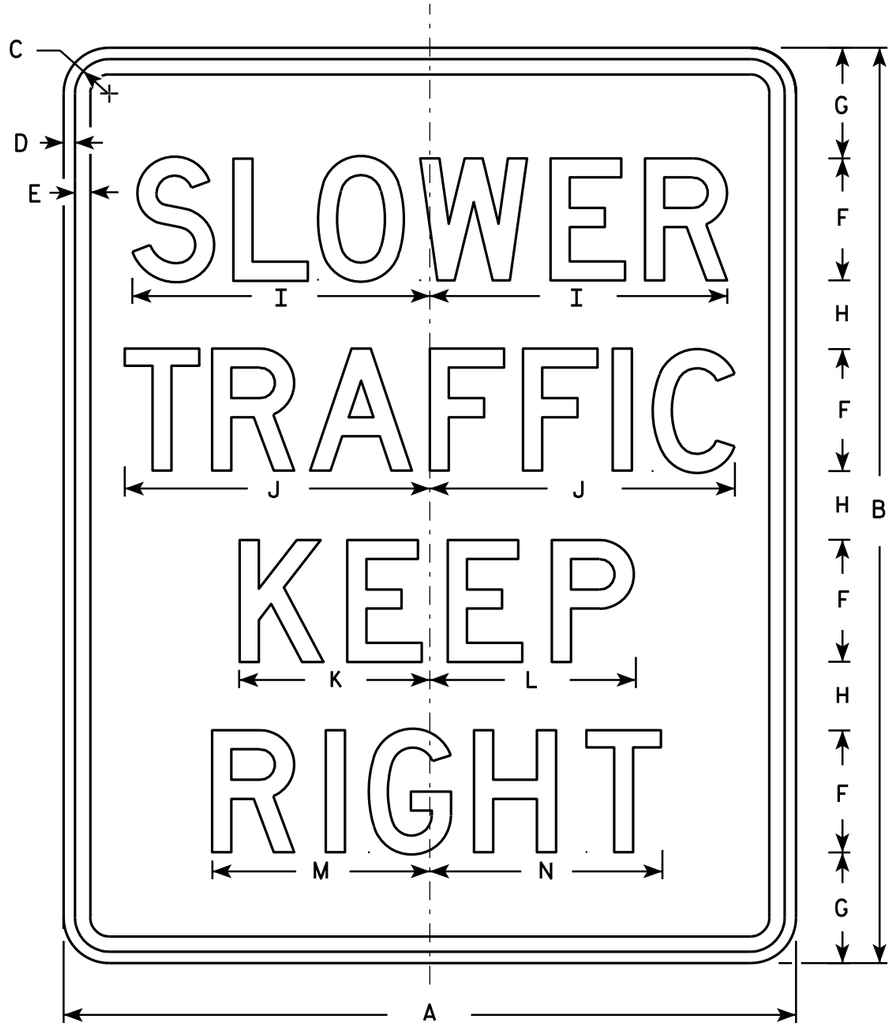
STANDARD SIGN
R3-20L

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 10/18/10 PLATE NO. R3-20L.7

PROJECT NO: | HWY: | COUNTY: | SHEET NO: 290 | E



R4-3

NOTES

1. Sign is Type II - Type H Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - White
   Message - Black
3. Message Series - 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	24	30	1 1/8	3/8	1/2	4	3 5/8	2 1/4	9 3/4	10	6 1/4	6 3/4	7 1/8	7 5/8													5.0
2M	24	30	1 1/8	3/8	1/2	4	3 5/8	2 1/4	9 3/4	10	6 1/4	6 3/4	7 1/8	7 5/8													5.0
3	36	48	1 5/8	5/8	3/4	6	6	4	14 5/8	15	9 3/8	10	10 3/4	11 3/8													12.0
4	36	48	1 5/8	5/8	3/4	6	6	4	14 5/8	15	9 3/8	10	10 3/4	11 3/8													12.0
5	48	60	2 1/4	3/4	1	8	7 1/4	4 1/2	19 1/2	20	12 1/2	13 1/2	14 1/4	15 1/4													20.0

STANDARD SIGN
R4-3

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 3/25/2011 PLATE NO. R4-3.8

PROJECT NO:

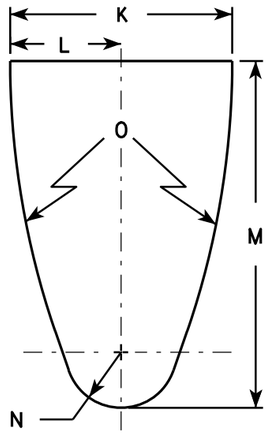
SHEET NO: 291 E

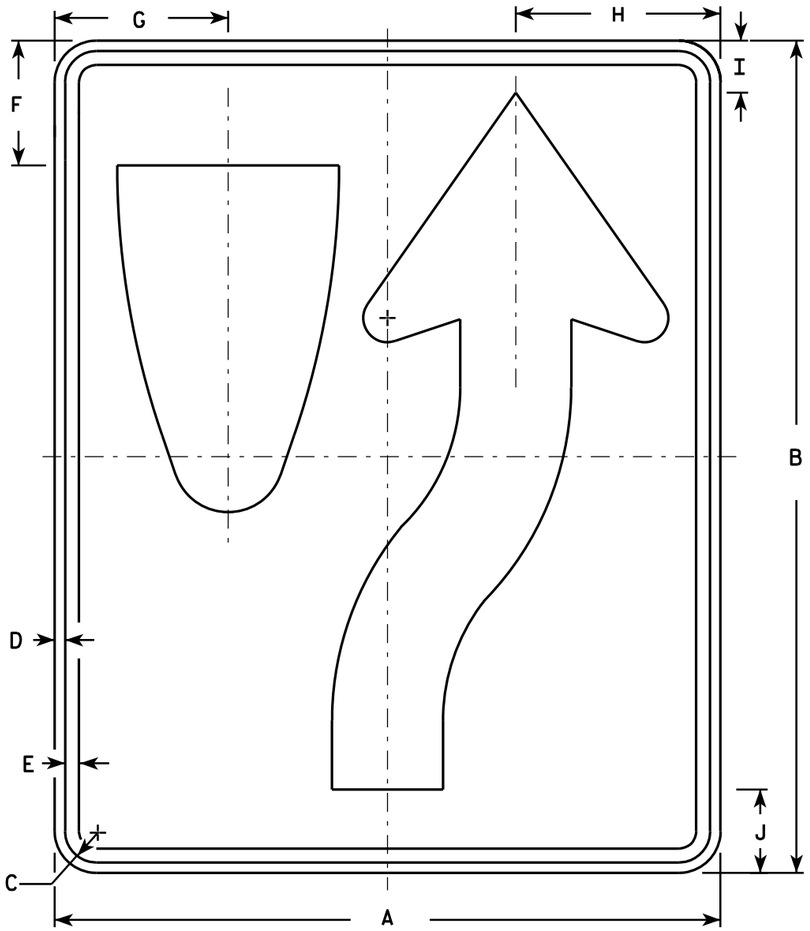
FILE NAME : C:\Users\PROJECTS\tr_stdplate\R43.DGN PLOT DATE : 25-MAR-2011 13:40 PLOT BY : mscsja

WISDOT/CADDS SHEET 42

7

7

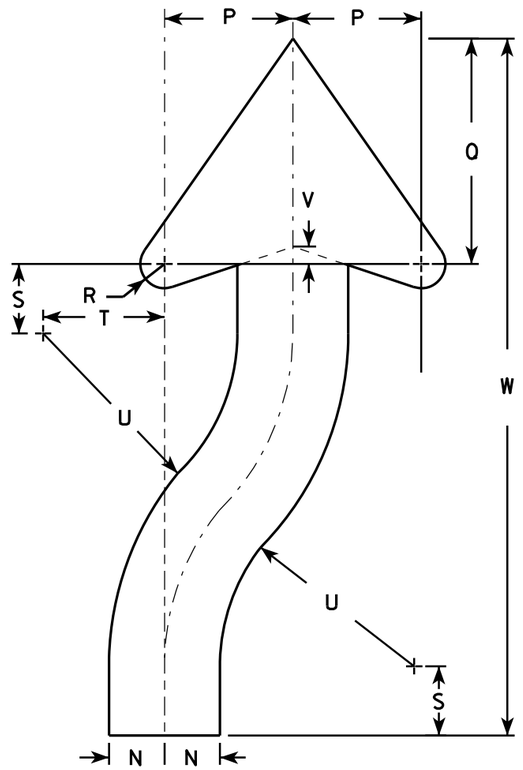




R4-7

NOTES

1. Sign is Type II - Type H Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition. material is plywood but borders shall be rounded
2. Color:
   Background - White
   Message - Black
3. Corners may be square or rounded when base as shown. When base material is metal, the corners and borders shall be rounded.
4. R4-8 is the same as R4-7 except Legend is reversed.



ARROW DETAIL

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	18	24	1 1/8	3/8	1/2	3 3/8	4 3/4	5 1/2	1 3/8	2 1/4	6	3	9 3/8	1 1/2	22 1/2	3 1/2	6 1/8	5/8	1 7/8	3 1/4	6 3/4	1/2	20 3/8				3.0
2S	24	30	1 1/8	3/8	1/2	4 1/2	6 1/4	7 3/8	1 7/8	3	8	4	12 1/2	2	30	4 5/8	8 1/8	7/8	2 1/2	4 3/8	9	5/8	25 1/8				5.0
2M	24	30	1 1/8	3/8	1/2	4 1/2	6 1/4	7 3/8	1 7/8	3	8	4	12 1/2	2	30	4 5/8	8 1/8	7/8	2 1/2	4 3/8	9	5/8	25 1/8				5.0
3	36	48	1 3/4	1/2	5/8	6 3/4	9 3/8	11 1/8	2 7/8	4 1/2	12	6	18 3/4	3	45	6 7/8	12 1/4	1 1/4	3 3/4	6 5/8	13 1/2	1	40 3/4				12.0
4	36	48	1 3/4	1/2	5/8	6 3/4	9 3/8	11 1/8	2 7/8	4 1/2	12	6	18 3/4	3	45	6 7/8	12 1/4	1 1/4	3 3/4	6 5/8	13 1/2	1	40 3/4				12.0
5	48	60	2 1/4	3/4	1	9	12 1/2	14 3/4	3 3/4	6	16	8	25	4	60	9 1/4	16 1/4	1 5/8	5	8 3/4	18	1 1/4	50 1/4				20.0

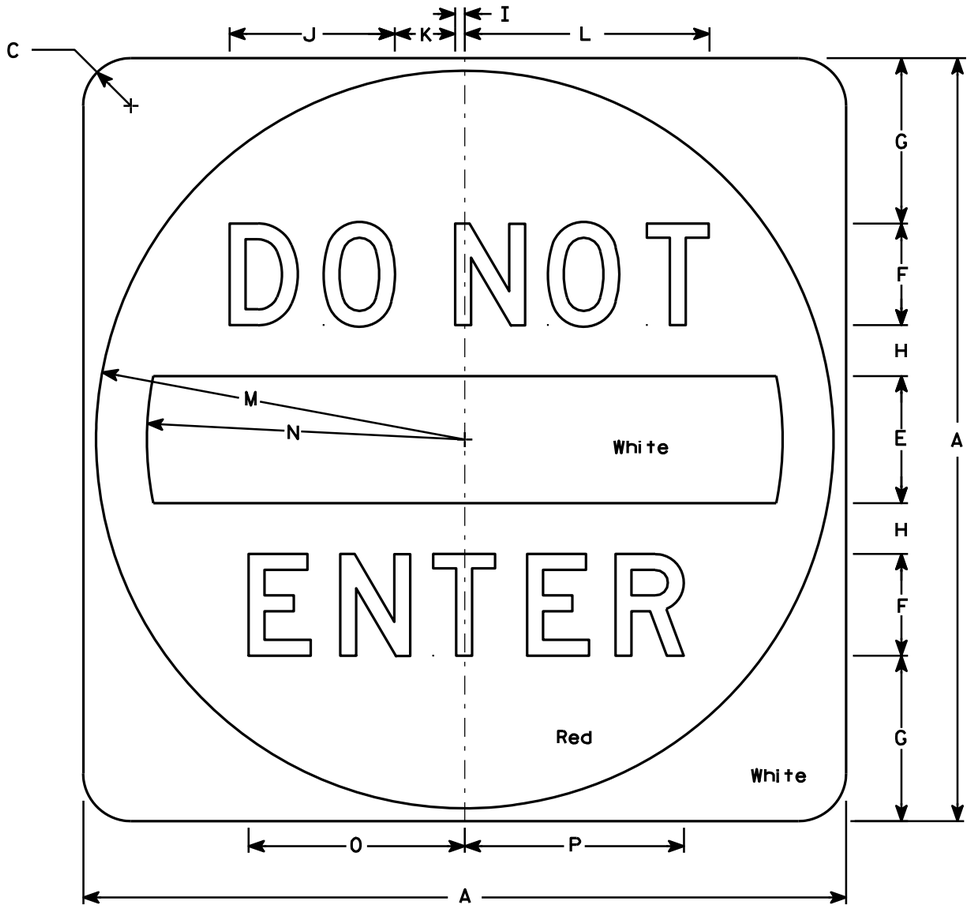
STANDARD SIGN
R4-7 & R4-8

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch for State Traffic Engineer

DATE 3/25/2011 PLATE NO. R4-7.8

PROJECT NO:	HWY:	COUNTY:		SHEET NO: 292	E



R5-1

NOTES

1. Sign is Type II - Type H Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - See detail
   Message - White - Type H Reflective
3. Message Series - D
4. Corners may be square or rounded when base material is plywood but when base material is metal, the cornors shall be rounded.

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2S	30		1 7/8		5	4	6 1/2	2	3/8	6 1/2	2 3/8	9 5/8	14 1/2	12 1/2	8 1/2	8 5/8											6.26
2M	36		2 1/4		6	5	7 1/2	2 1/2	1/2	8 1/8	3	12 1/8	17 1/2	15	10 5/8	10 3/4											9.0
3	36		2 1/4		6	5	7 1/2	2 1/2	1/2	8 1/8	3	12 1/8	17 1/2	15	10 5/8	10 3/4											9.0
4	36		2 1/4		6	5	7 1/2	2 1/2	1/2	8 1/8	3	12 1/8	17 1/2	15	10 5/8	10 3/4											9.0
5	48		3		8	6	11	3	5/8	9 3/4	3 5/8	14 1/2	23 1/2	20	12 3/4	12 7/8											16.0

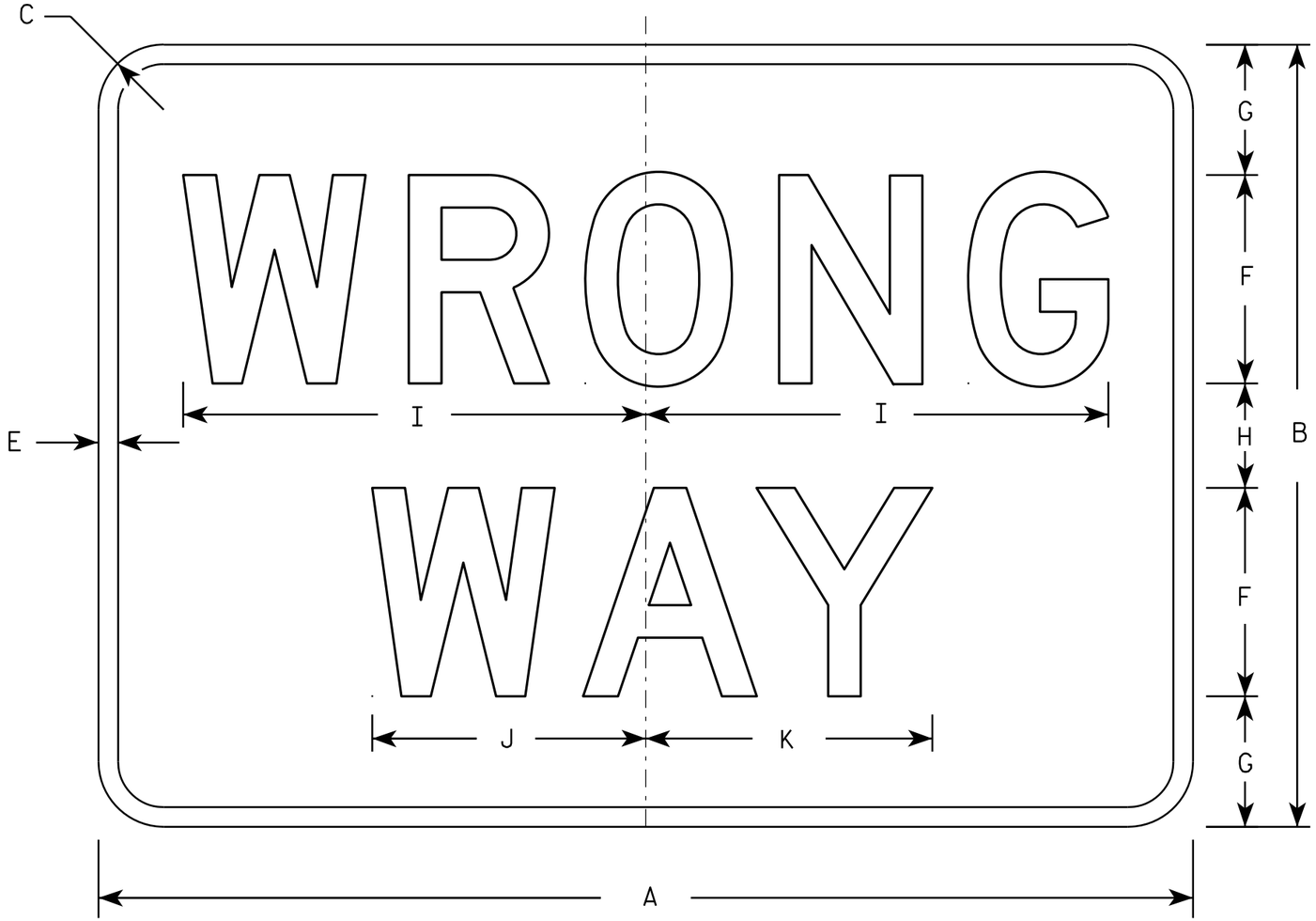
STANDARD SIGN
R5-1

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 12/17/10 PLATE NO. R5-1.15

PROJECT NO: | HWY: | COUNTY: | SHEET NO: 293 E



R5-1A

NOTES

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

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	30	18	1 1/2		1/2	5	3	2	11	6 1/2	6 7/8																3.75
2S	36	24	2		5/8	6	4 1/2	3	13 1/4	7 7/8	8 1/4																6.00
2M	42	30	2 1/2		3/4	8	5	4	17 3/4	10 1/2	11																8.75
3	42	30	2 1/2		3/4	8	5	4	17 3/4	10 1/2	11																8.75
4	42	30	2 1/2		3/4	8	5	4	17 3/4	10 1/2	11																8.75
5	42	30	2 1/2		3/4	8	5	4	17 3/4	10 1/2	11																8.75

STANDARD SIGN
R5-1A

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 12/17/10 PLATE NO. R5-1A.2

PROJECT NO:	HWY:	COUNTY:		SHEET NO: 294	E

FILE NAME : C:\Users\PROJECTS\tr_stdplate\R51A.DGN PLOT DATE : 17-DEC-2010 12:42 PLOT BY : dotsja PLOT NAME : PLOT SCALE : 5.462457:1.000000

WISDOT/CADDS SHEET 42

7

7



R5-57

NOTES

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

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

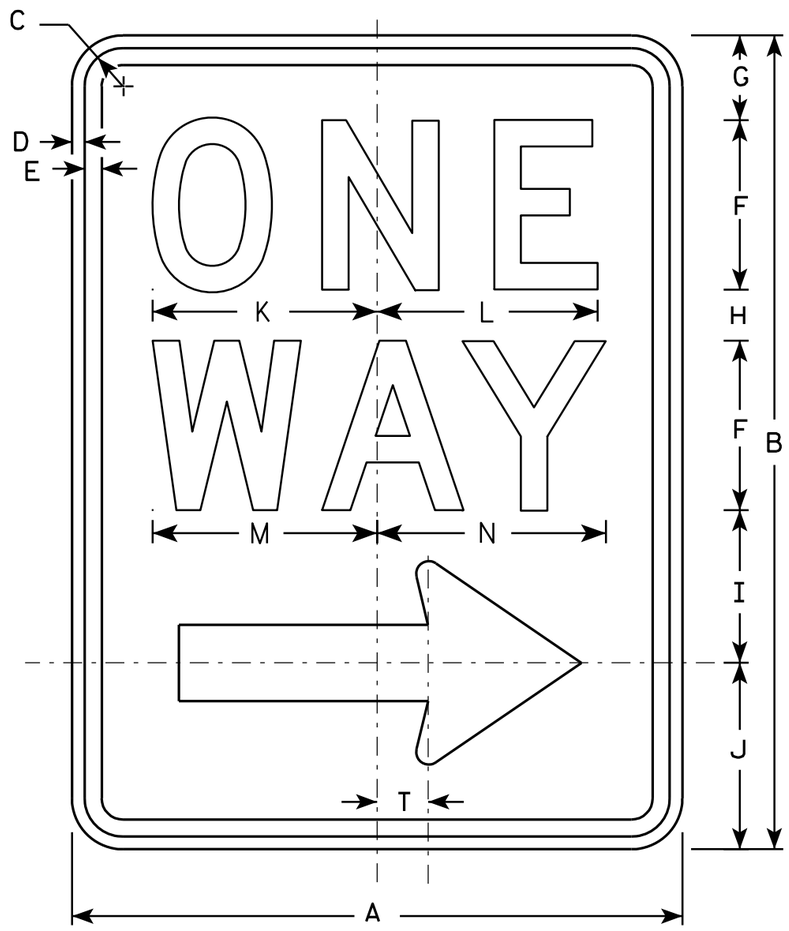
STANDARD SIGN
R5-57

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 3/29/2011 PLATE NO. R5-57.10

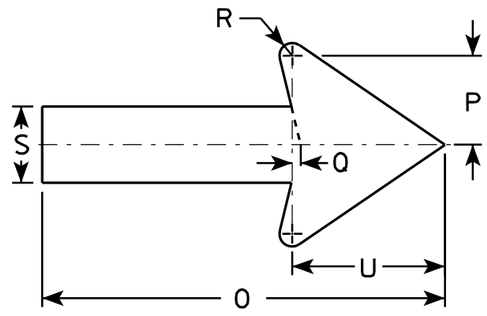
PROJECT NO: | HWY: | COUNTY: | SHEET NO: 295 | E



R6-2R

NOTES

1. Sign is Type II - Type H Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - White
   Message - Black
3. Message Series - D
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
5. R6-2L same as R6-2R except arrow points to the left.



SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z
1	18	24	1 1/8	3/8	1/2	5	2 1/2	1 1/2	4 1/2	5 1/2	6 5/8	6 1/2	6 5/8	6 3/4	11 7/8	2 5/8	1/4	3/8	2 1/4	1 1/2	4 1/2					
2S	24	30	1 1/8	3/8	1/2	6	3	2 1/2	5 1/2	7	8 1/8	8 1/8	8 1/2	8 5/8	16	3 1/2	3/8	1/2	3	2	6					
2M	30	36	1 3/8	1/2	5/8	8	2 1/2	2 5/8	6 7/8	8	10 1/2	10 1/2	11 1/4	11 1/4	20	4 3/8	1/2	5/8	3 3/4	2 1/2	7 1/2					
3	36	48	1 7/8	1/2	5/8	10	5 1/4	3 1/4	9	10 1/2	12 3/4	12 3/4	13 1/4	13 1/2	24	5 5/8	1/2	3/4	4 3/4	3	9					
4	36	48	1 7/8	1/2	5/8	10	5 1/4	3 1/4	9	10 1/2	12 3/4	12 3/4	13 1/4	13 1/2	24	5 5/8	1/2	3/4	4 3/4	3	9					
5																										

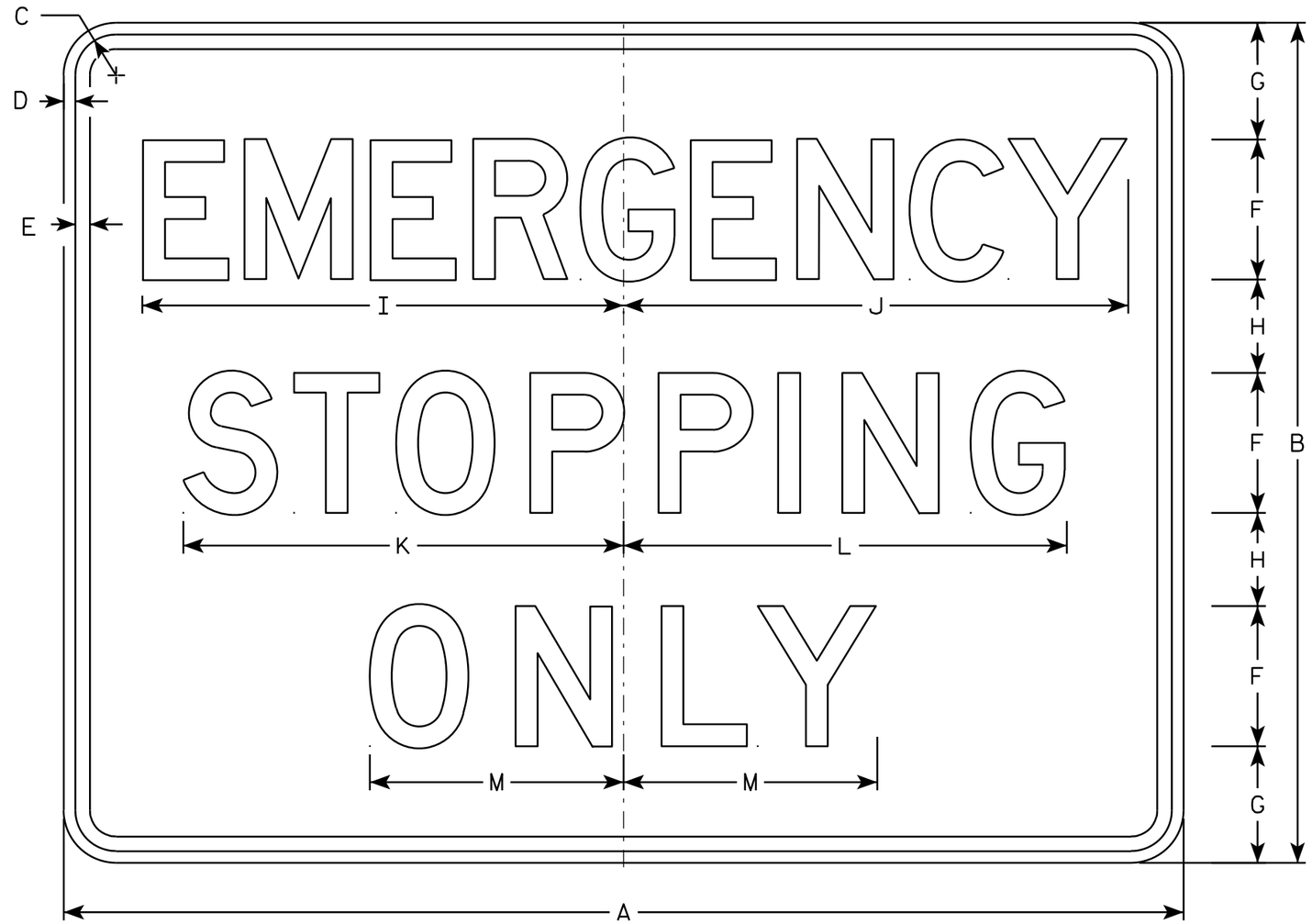
STANDARD SIGN
R6-2 R&L

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 11/2/10 PLATE NO. R6-2.8

PROJECT NO:	HWY:	COUNTY:		SHEET NO: 296	E



R8 - 7

NOTES

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

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2S																											
2M																											
3																											
4	48	36	1 3/4	1/2	5/8	6	5	4	20 5/8	21 5/8	18 7/8	19	10 7/8														12.0
5	48	36	1 3/4	1/2	5/8	6	5	4	20 5/8	21 5/8	18 7/8	19	10 7/8														12.0

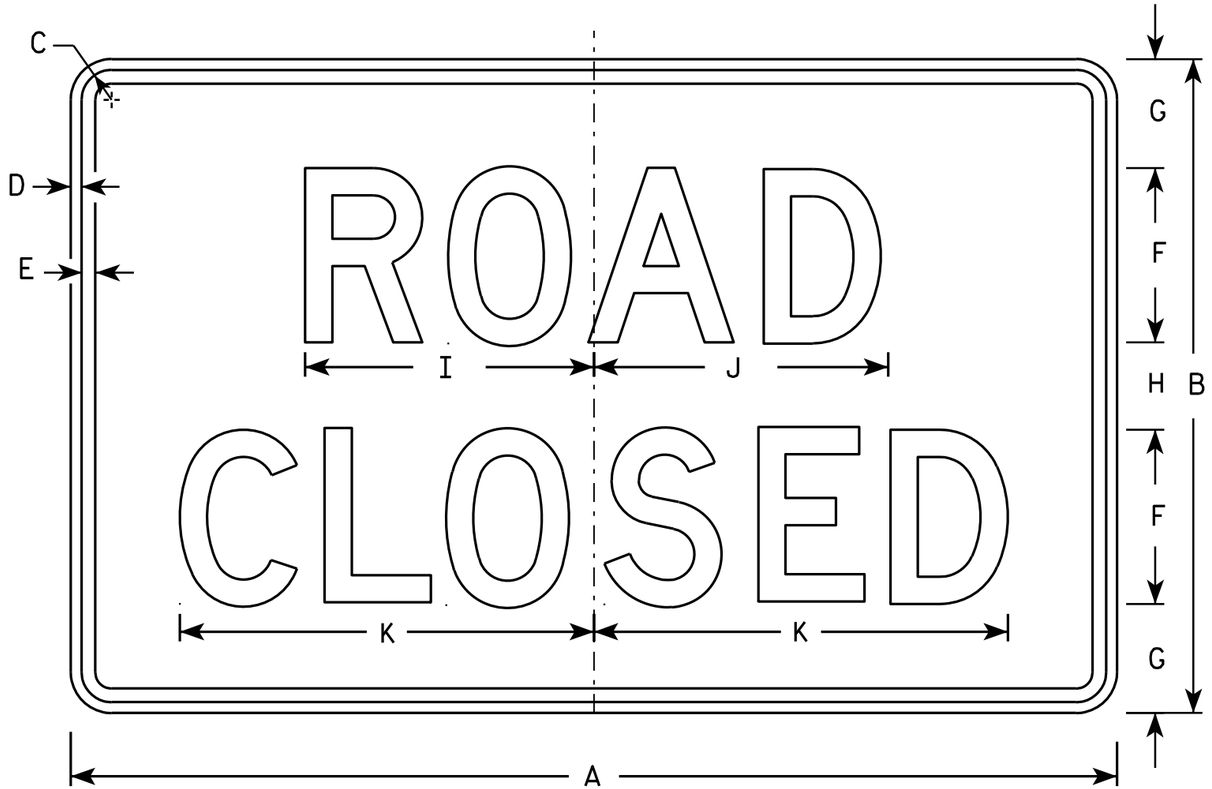
STANDARD SIGN
R8 - 7

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 3/31/2011 PLATE NO. R8-7.6

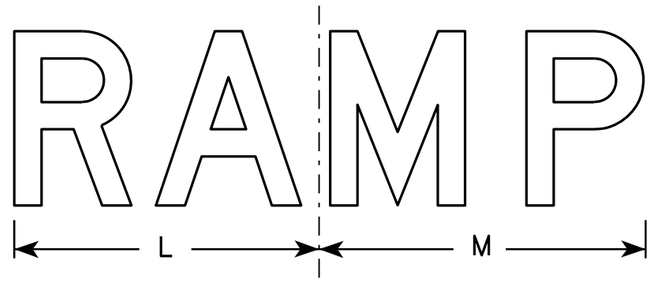
PROJECT NO: | HWY: | COUNTY: | SHEET NO: 297 | E



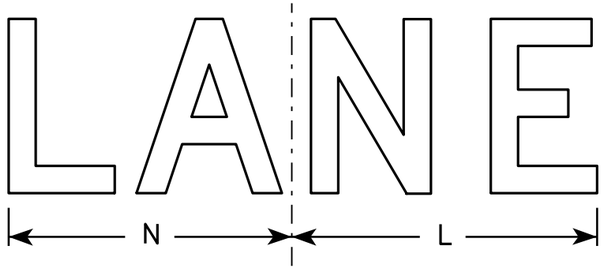
R11-2

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

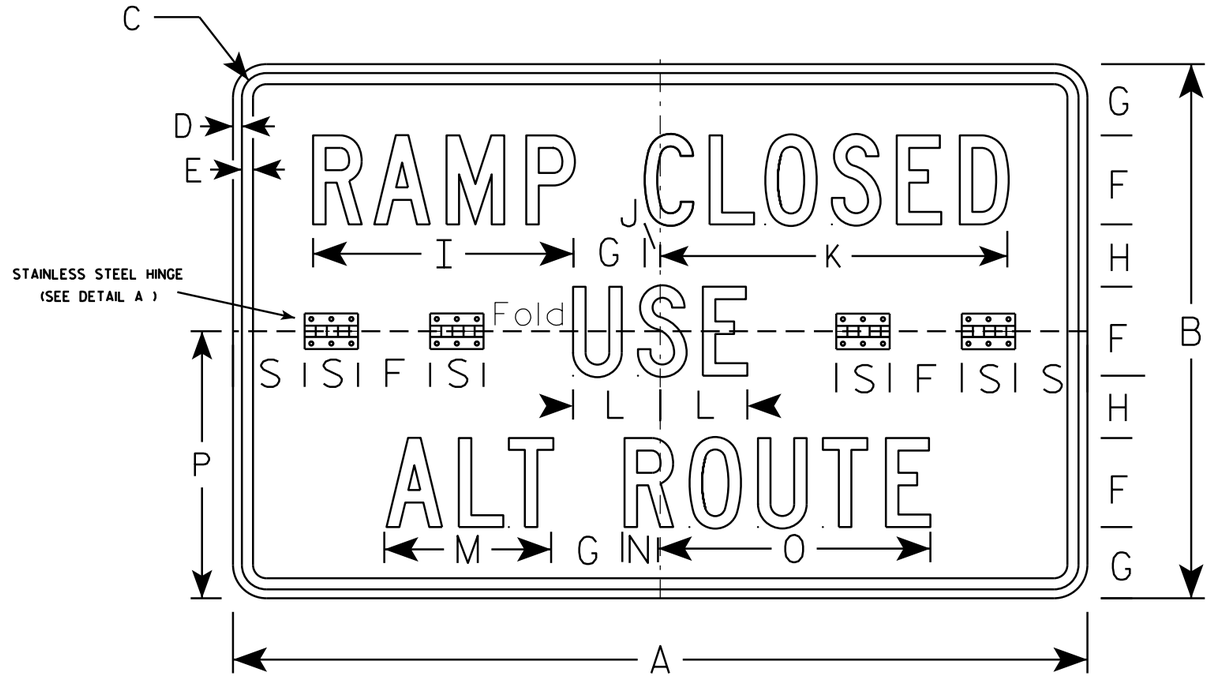
STANDARD SIGN
R11-2

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

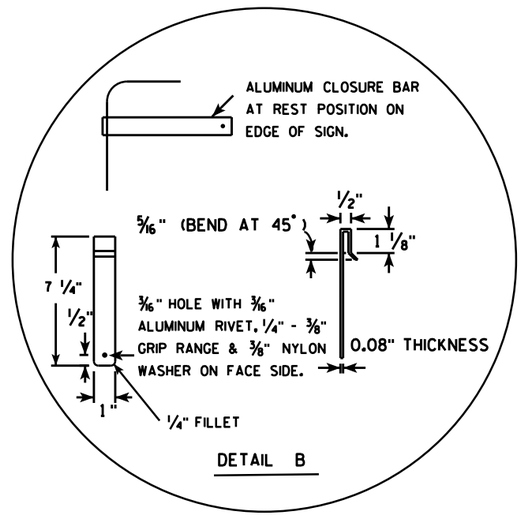
DATE 4/1/11 PLATE NO. R11-2.10

PROJECT NO: | HWY: | COUNTY: | SHEET NO: 298 | E



R11-54F

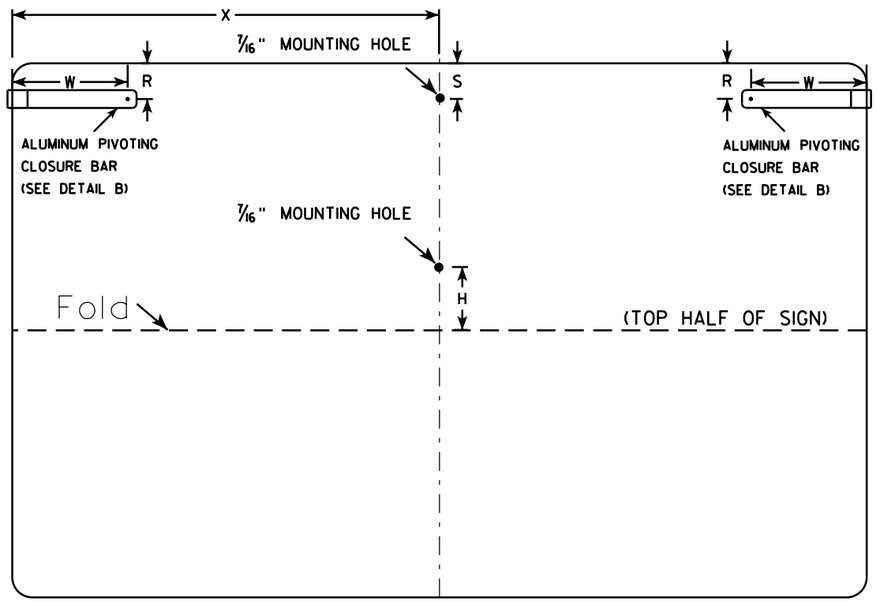
DETAIL A



DETAIL B

NOTES

1. Sign is Type II - Type H Reflective
2. Color:
   Background - WHITE
   Message - BLACK
3. Message Series - C
4. Sign Base Material shall be aluminum, corners and borders shall be rounded.
5. All hardware used on the folding sign installation shall conform to 637.2.4 of the WIS DOT Standard Specification.
6. Refer to plate A5-3A for sign blank layout.



(BACK VIEW)

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	4	3 1/2	14 5/8	7/8	19 1/2	4 7/8	9 3/8	2	15 1/4	15		2	3	2 5/8	1 1/4	11/16	6 1/2	24			10.0
2M	48	30	1 3/8	1/2	5/8	5	4	3 1/2	14 5/8	7/8	19 1/2	4 7/8	9 3/8	2	15 1/4	15		2	3	2 5/8	1 1/4	11/16	6 1/2	24			10.0
3																											
4																											
5																											

STANDARD SIGN
R11-54F

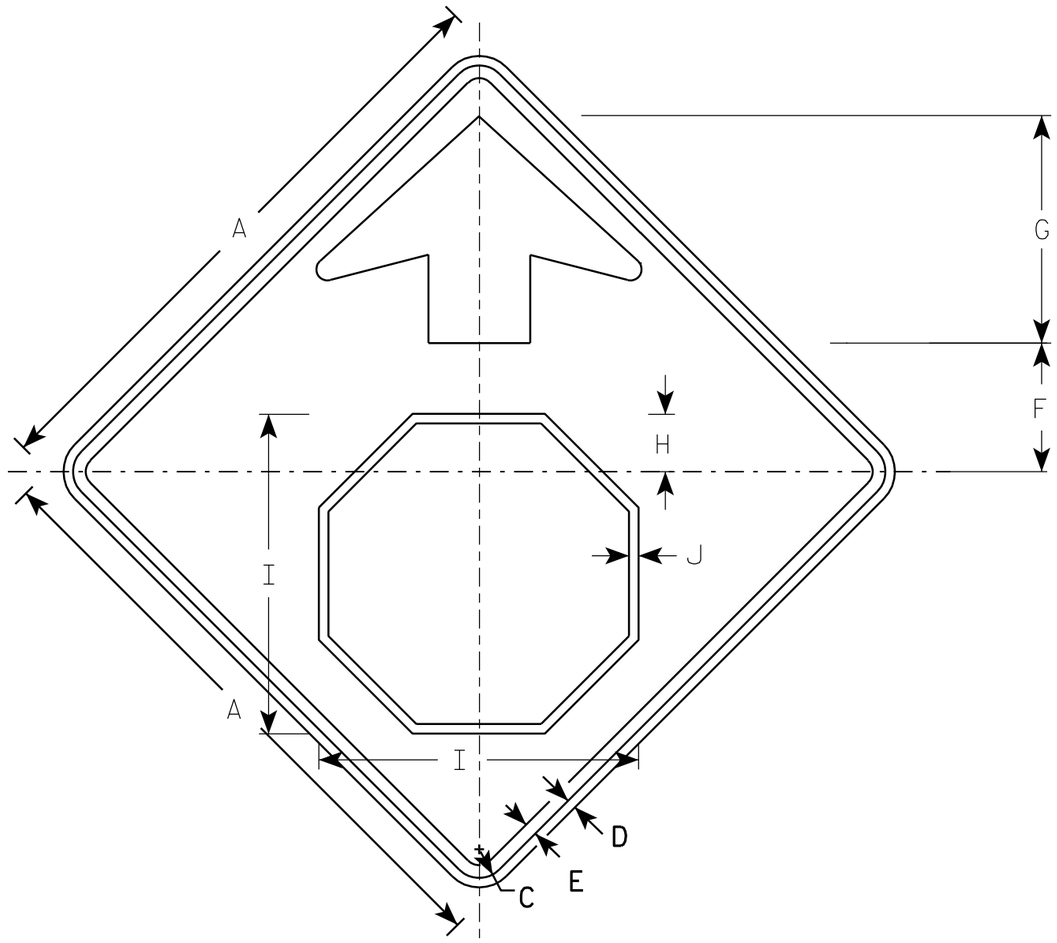
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 5/28/14 PLATE NO. R11-54F.3

PROJECT NO:	HWY:	COUNTY:		SHEET NO:	E

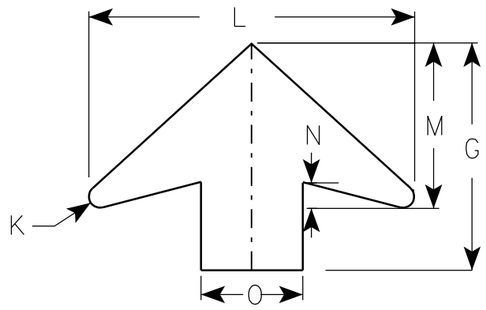
FILE NAME : C:\CAEFiles\Projects\tr_stdplate\R1154F.DGN PLOT DATE : 28-MAY-2014 14:15 PLOT BY : mscsja PLOT NAME : PLOT SCALE : 8.511110:1.000000
WISDOT/CADDS SHEET 42



W3-1

NOTES

1. All Signs Type II - Type F Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - YELLOW
   Arrow & Border - BLACK
   Stop Symbol - WHITE BORDER ON RED BACKGROUND



ARROW DETAIL

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	30		1 3/8	1/2	5/8	6 1/4	11 1/4	2 7/8	15 3/4	1/2	1/2	16	8	1 1/4	5												6.25
2S	36		1 5/8	5/8	3/4	7 1/2	13 1/2	3 1/2	19	5/8	5/8	19 1/4	9 3/4	1 5/8	6												9.0
2M	36		1 5/8	5/8	3/4	7 1/2	13 1/2	3 1/2	19	5/8	5/8	19 1/4	9 3/4	1 5/8	6												9.0
3	36		1 5/8	5/8	3/4	7 1/2	13 1/2	3 1/2	19	5/8	5/8	19 1/4	9 3/4	1 5/8	6												9.0
4	48		2 1/4	3/4	1	10	17 7/8	4 1/2	25 1/8	3/4	7/8	25 5/8	13	2	8												16.0
5	48		2 1/4	3/4	1	10	17 7/8	4 1/2	25 1/8	3/4	7/8	25 5/8	13	2	8												16.0

STANDARD SIGN
W3-1

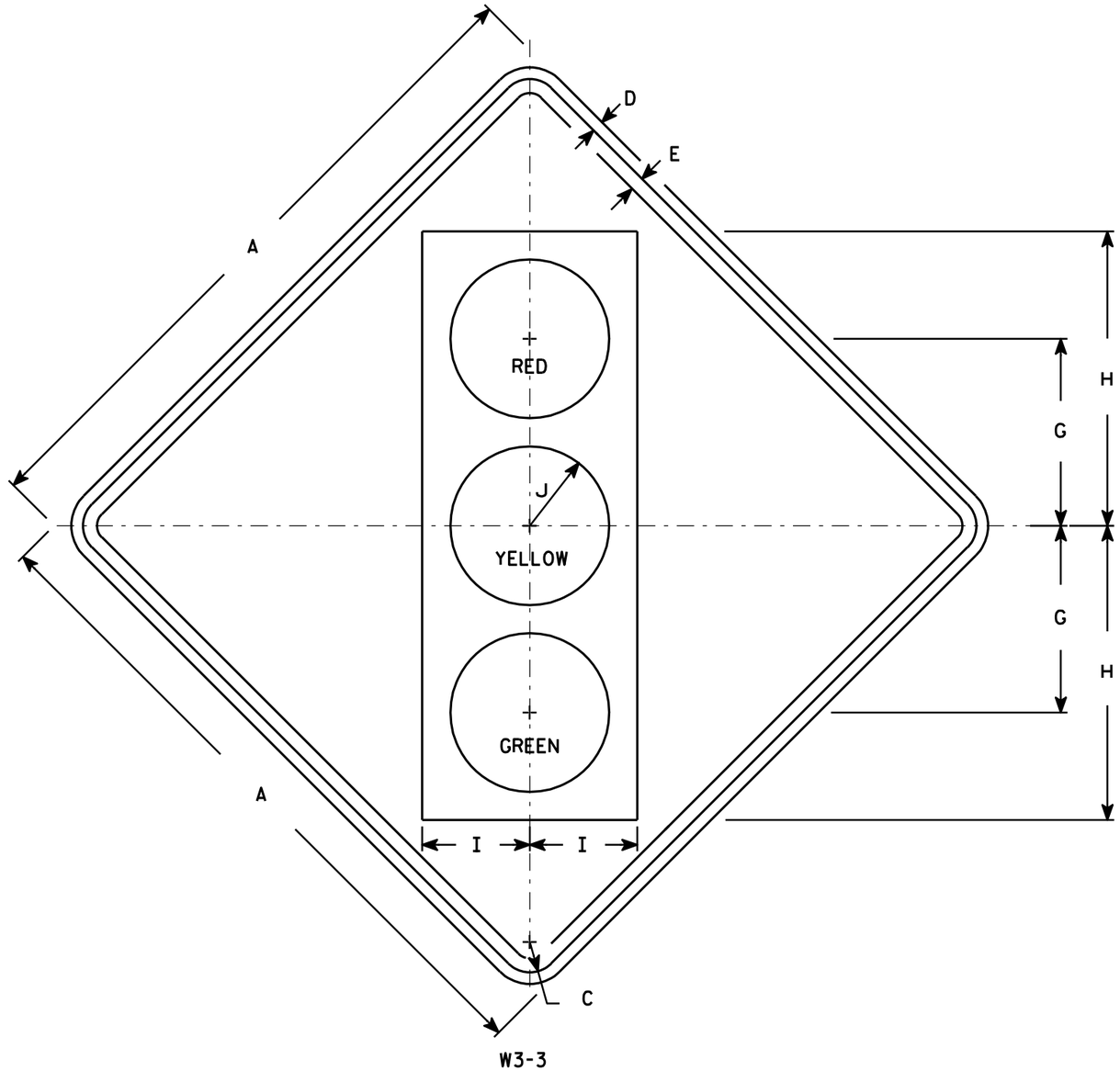
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 6/7/10 PLATE NO. W3-1.12

PROJECT NO:

SHEET NO: 300 E



NOTES

1. Sign is Type II - Type F Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - Yellow
   Message - See Note 4
3. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
4. Symbol and border are non-reflective black.
   Top circle - Type H Reflectorized Red
   Center circle - Same as background
   Bottom circle - Type H Reflectorized Green

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	30		1 3/8	1/2	5/8		8 3/4	13 3/4	5	3 3/4																	6.25
2S	36		1 5/8	5/8	3/4		10	15 3/4	5 3/4	4 1/4																	9.0
2M	36		1 5/8	5/8	3/4		10	15 3/4	5 3/4	4 1/4																	9.0
3	36		1 5/8	5/8	3/4		10	15 3/4	5 3/4	4 1/4																	9.0
4	48		2 1/4	3/4	1		12 1/2	20	7 1/2	5																	16.0
5	48		2 1/4	3/4	1		12 1/2	20	7 1/2	5																	16.0

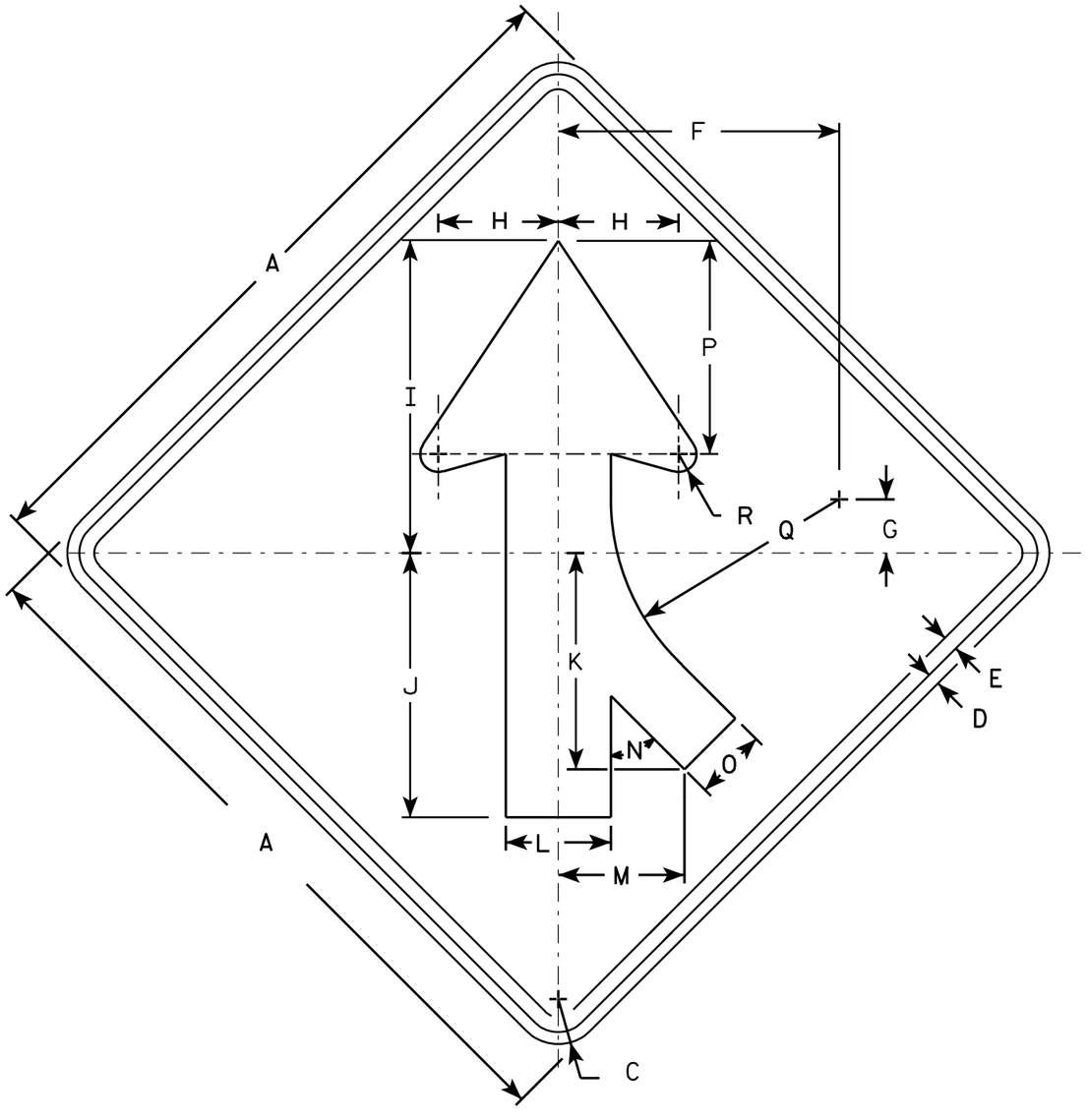
STANDARD SIGN
W3-3

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 6/7/10 PLATE NO. W3-3.11

PROJECT NO: | HWY: | COUNTY: | SHEET NO: 301 | E



W4-1 R

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. W4-1L is the same as W4-1R except the arrow is reversed along the vertical centerline.

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	30		1 3/8	1/2	5/8	11 5/8	2 1/2	5	13	11	9	4 3/8	5 1/4	45°	3	8 7/8	9 1/2	3/4									6.25
2S	36		1 5/8	5/8	3/4	14	2 3/4	6	15 3/4	13 1/4	10 1/4	5 1/4	6 3/8	45°	3 5/8	10 5/8	11 3/8	7/8									9.0
2M	36		1 5/8	5/8	3/4	14	2 3/4	6	15 3/4	13 1/4	10 1/4	5 1/4	6 3/8	45°	3 5/8	10 5/8	11 3/8	7/8									9.0
3	36		1 5/8	5/8	3/4	14	2 3/4	6	15 3/4	13 1/4	10 1/4	5 1/4	6 3/8	45°	3 5/8	10 5/8	11 3/8	7/8									9.0
4	48		2 1/4	3/4	1	18 3/4	3 5/8	8	20 1/2	17 1/2	14 3/8	7	8 3/8	45°	4 3/4	14 1/4	15 1/4	1 1/4									16.0
5	48		2 1/4	3/4	1	18 3/4	3 5/8	8	20 1/2	17 1/2	14 3/8	7	8 3/8	45°	4 3/4	14 1/4	15 1/4	1 1/4									16.0

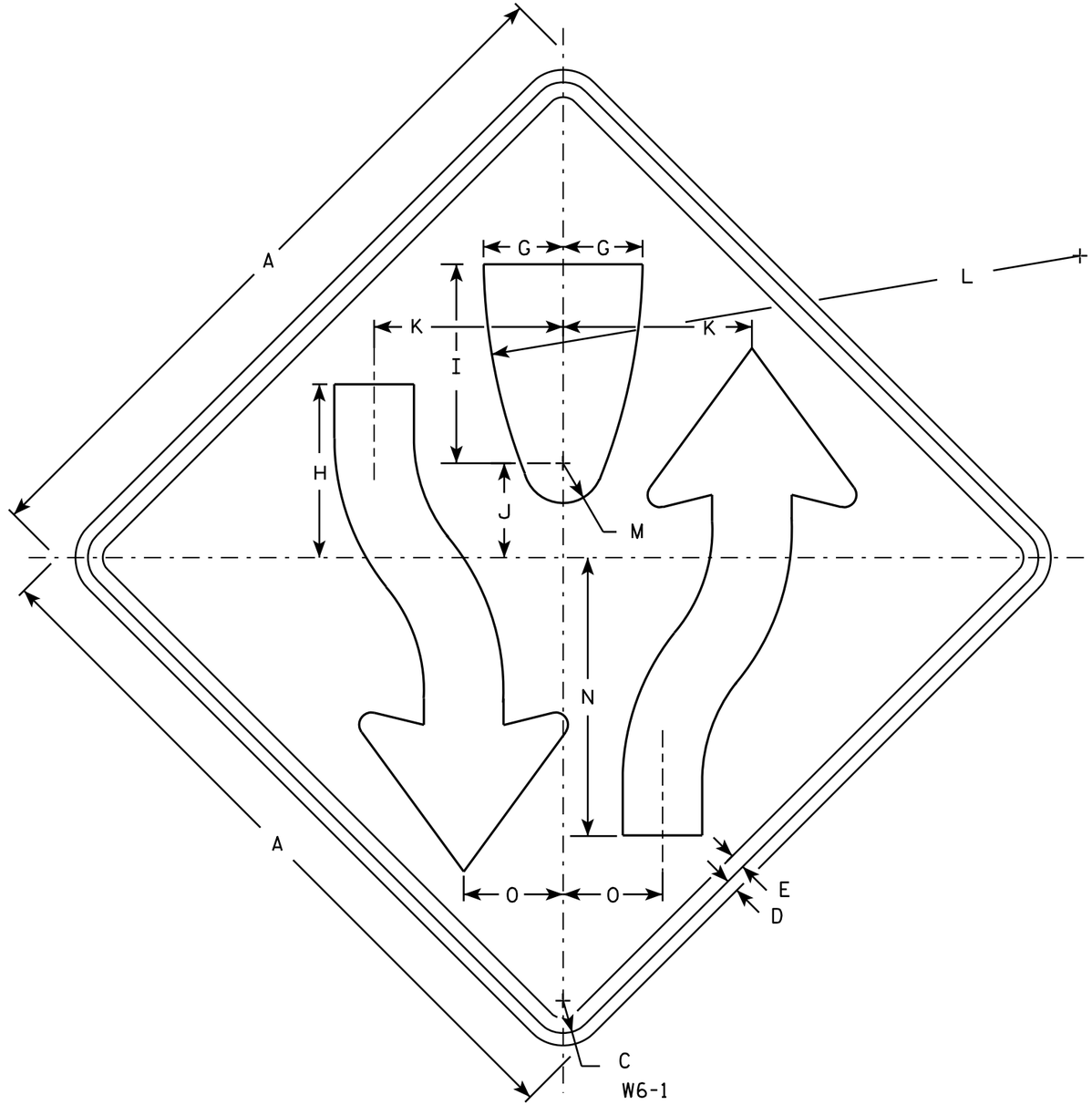
STANDARD SIGN
W4-1

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

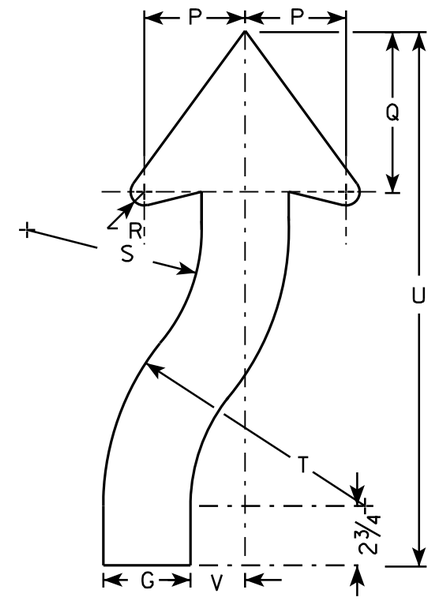
DATE 03/12/13 PLATE NO. W4-1.14

PROJECT NO:	HWY:	COUNTY:		SHEET NO: 302	E



NOTES

1. Sign is Type II - Type F Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - Yellow
   Message - Black
3. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
4. W6-2 same as W6-1 but is rotated 180° when mounted.



ARROW DETAIL

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	30		1 3/8	1/2	5/8		3 1/4	8	8 1/4	4 1/8	7 7/8	25	1 3/4	11 5/8	4 1/8	3 7/8	6 3/4	5/8	6 5/8	9 7/8	21 5/8	2					6.25
2S	36		1 5/8	5/8	3/4		4	8 3/4	10	4 3/4	9 1/2	30	2	14	5	4 5/8	7 3/8	7/8	8	12	24 1/2	2 1/2					9.0
2M	36		1 5/8	5/8	3/4		4	8 3/4	10	4 3/4	9 1/2	30	2	14	5	4 5/8	7 3/8	7/8	8	12	24 1/2	2 1/2					9.0
3																											
4	48		2 1/4	3/4	1		5 3/8	11 5/8	13 3/8	6 3/8	12 5/8	40	2 5/8	18 5/8	6 5/8	6 1/4	9 7/8	1 1/4	10 5/8	16	32 5/8	3 3/8					16.0
5	48		2 1/4	3/4	1		5 3/8	11 5/8	13 3/8	6 3/8	12 5/8	40	2 5/8	18 5/8	6 5/8	6 1/4	9 7/8	1 1/4	10 5/8	16	32 5/8	3 3/8					16.0

STANDARD SIGN
W6-1 & W6-2

WISCONSIN DEPT OF TRANSPORTATION

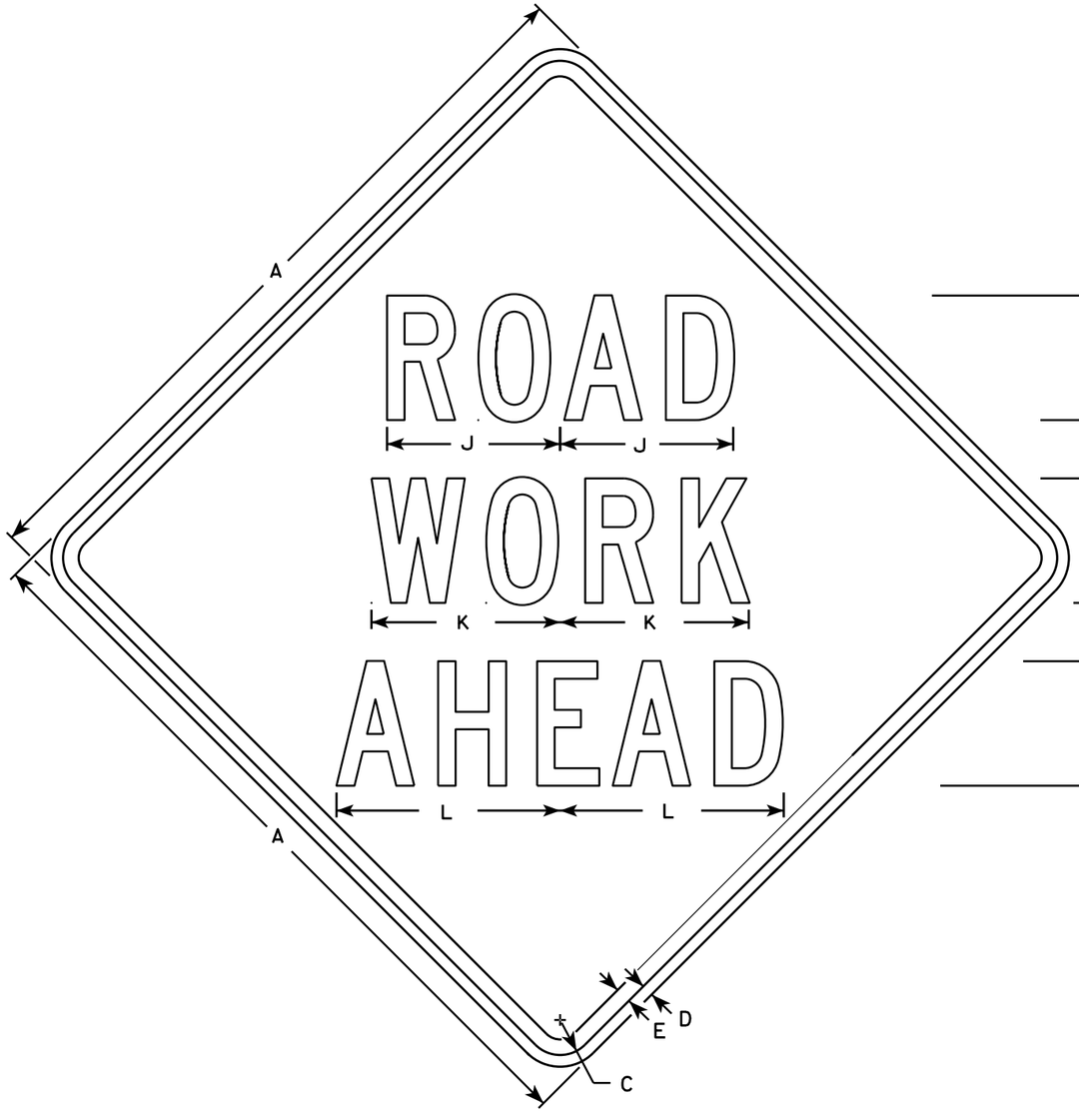
APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 03/12/13 PLATE NO. W6-1.14

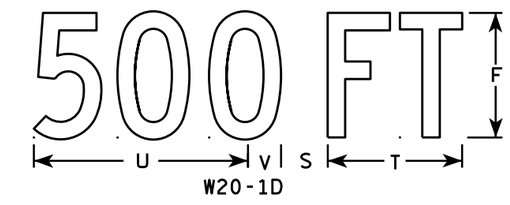
PROJECT NO:	HWY:	COUNTY:		SHEET NO: 303	E

7

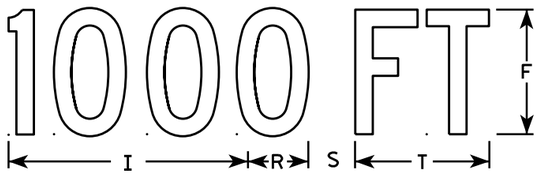
FILE NAME : C:\CAEFiles\Projects\tr_stdplate\W61.DGN PLOT DATE : 12-MAR-2013 14:02 PLOT BY : mscsja PLOT NAME : PLOT SCALE : 6.946657:1.000000
WISDOT/CADDS SHEET 42



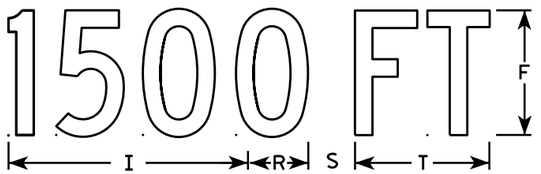
W20-1A



W20-1D



W20-1C



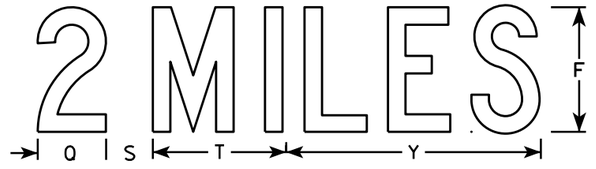
W20-1B



W20-1G



W20-1F



W20-1E

NOTES

1. Sign is Type II - Type F Reflective
2. Color:
   Background - Orange
   Message - Black
3. Message Series - C
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	36		1 3/8	1/2	5/8	5	2 5/8	3 1/4	10 1/8	7	7 5/8	8 7/8	1 1/8	4 1/2	3 1/2	9		2 1/2	2 1/4	5 5/8	9	1 3/8	8	1 3/4	10 3/4	6	9.0
2S	48		2 1/4	3/4	1	8	3 3/4	5 1/8	15 3/8	11 1/8	12 1/8	14 3/8	1 5/8	6 7/8	5 3/8	13 7/8	4 3/8	3 7/8	3	8 5/8	13 3/4	2 1/8	11 7/8	2 3/4	16 3/8	9	16.0
2M	48		2 1/4	3/4	1	8	3 3/4	5 1/8	15 3/8	11 1/8	12 1/8	14 3/8	1 5/8	6 7/8	5 3/8	13 7/8	4 3/8	3 7/8	3	8 5/8	13 3/4	2 1/8	11 7/8	2 3/4	16 3/8	9	16.0
3	48		2 1/4	3/4	1	8	3 3/4	5 1/8	15 3/8	11 1/8	12 1/8	14 3/8	1 5/8	6 7/8	5 3/8	13 7/8	4 3/8	3 7/8	3	8 5/8	13 3/4	2 1/8	11 7/8	2 3/4	16 3/8	9	16.0
4	48		2 1/4	3/4	1	8	3 3/4	5 1/8	15 3/8	11 1/8	12 1/8	14 3/8	1 5/8	6 7/8	5 3/8	13 7/8	4 3/8	3 7/8	3	8 5/8	13 3/4	2 1/8	11 7/8	2 3/4	16 3/8	9	16.0
5	48		2 1/4	3/4	1	8	3 3/4	5 1/8	15 3/8	11 1/8	12 1/8	14 3/8	1 5/8	6 7/8	5 3/8	13 7/8	4 3/8	3 7/8	3	8 5/8	13 3/4	2 1/8	11 7/8	2 3/4	16 3/8	9	16.0

STANDARD SIGN
W20-1A, B, C, D, F & G

WISCONSIN DEPT OF TRANSPORTATION

APPROVED

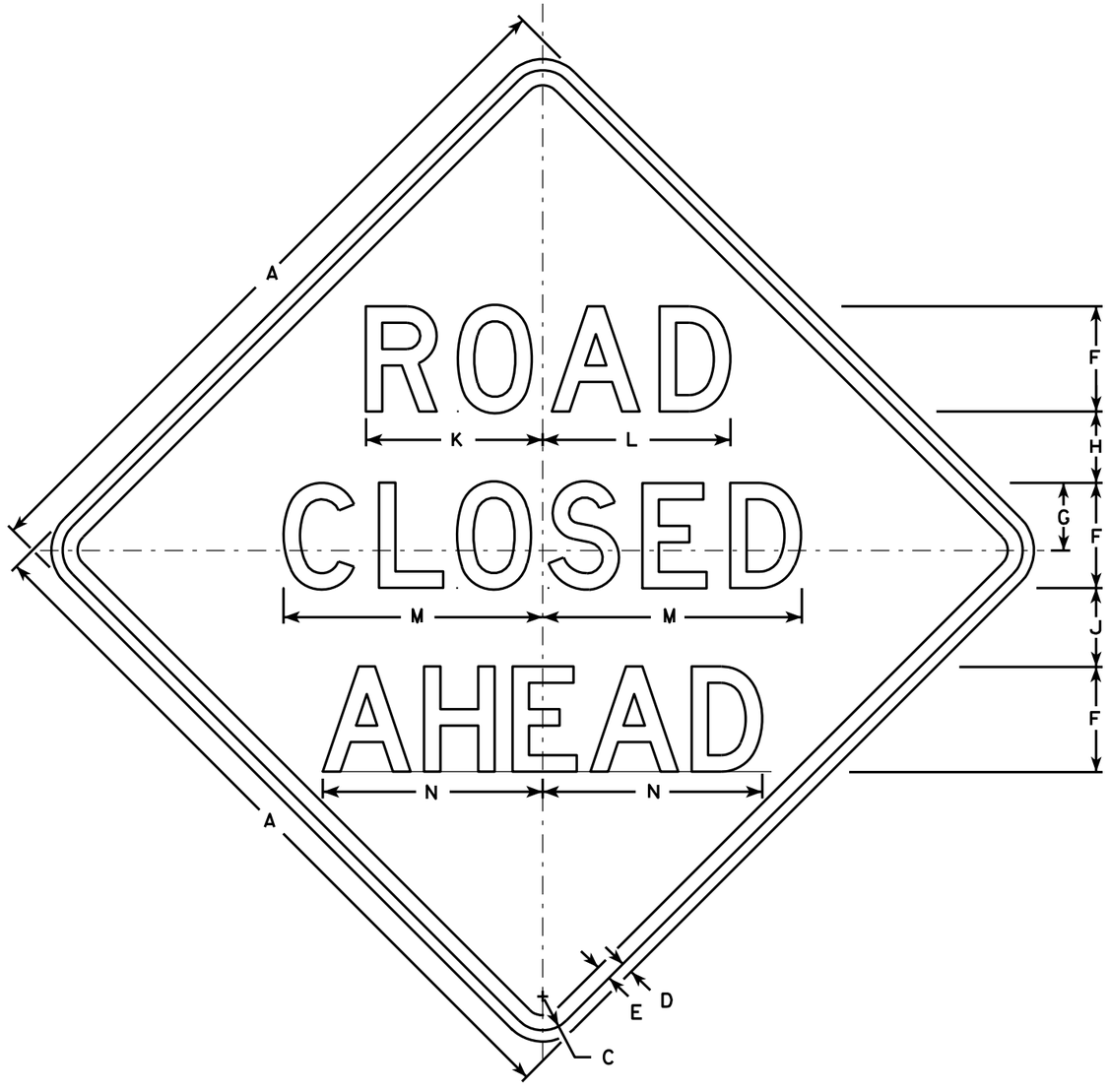
State Traffic Engineer

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

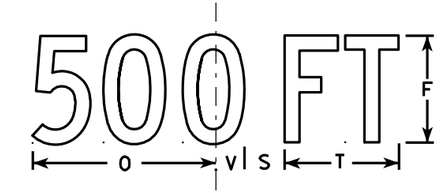
PROJECT NO: | SHEET NO: E

FILE NAME : C:\CAEFiles\Projects\tr_stdplate\W201.dgn PLOT DATE : 27-MAY-2015 15:58 PLOT BY : mscsja

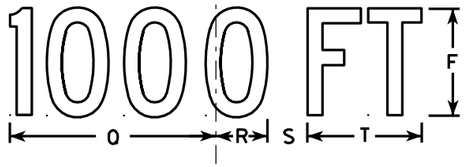
WISDOT/CADDS SHEET 42



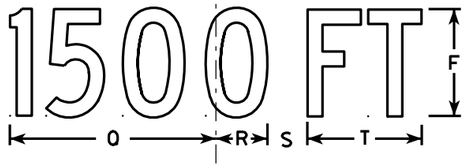
W20-3A



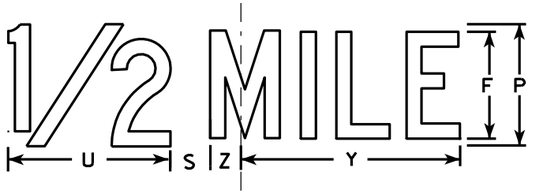
W20-3D



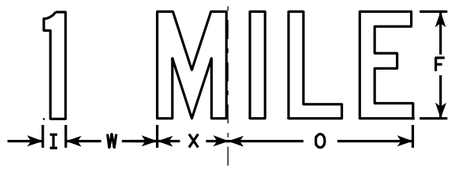
W20-3C



W20-3B



W20-3G



W20-3F

NOTES

1. Sign is Type II - Type F Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - Orange
   Message - Black
3. Message Series - see note 5
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
5. Lines 1 and 2 are Series D.
   Line 3 is Series D for AHEAD and Series C for all other distances.

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

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

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 3/18/11 PLATE NO. W20-3.7

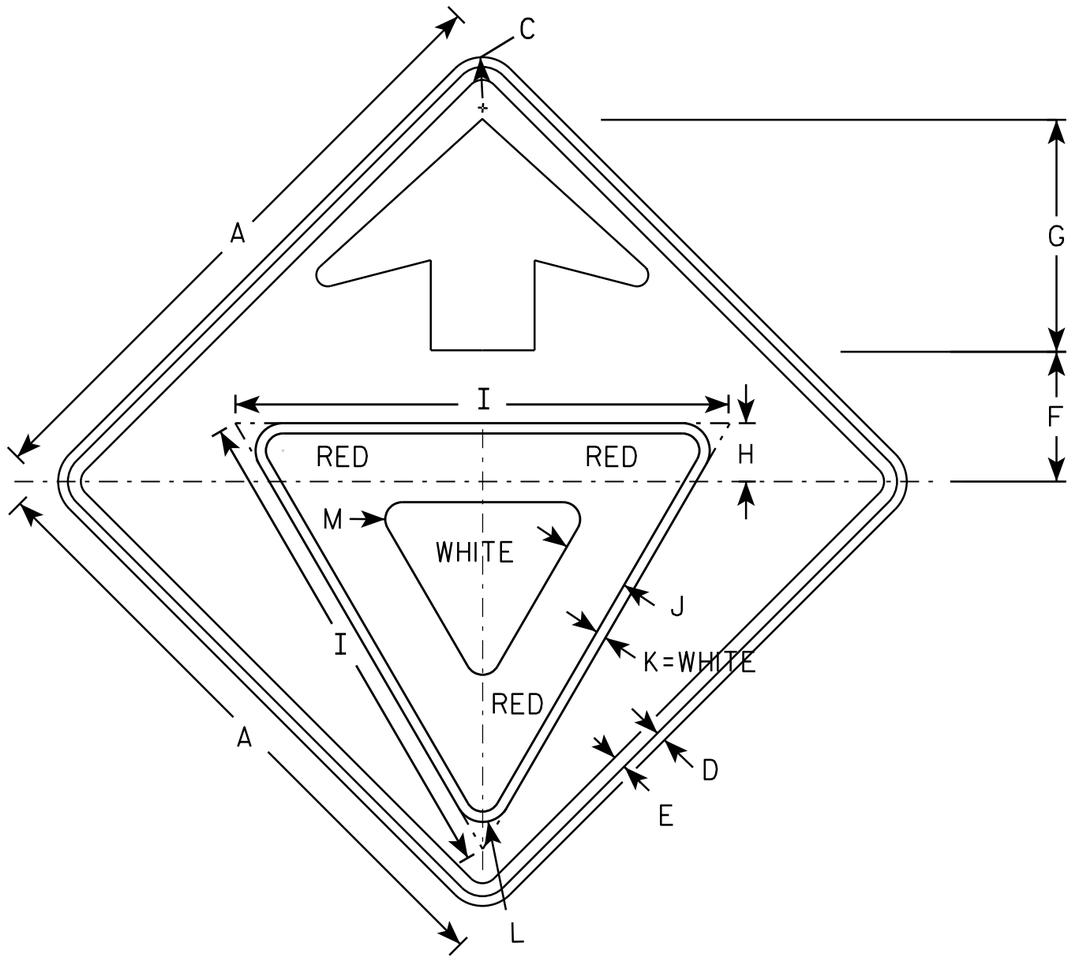
PROJECT NO: | HWY: | COUNTY: | SHEET NO: 305 | E

FILE NAME : C:\Users\PROJECTS\tr_stdplate\W203.DGN PLOT DATE : 18-MAR-2011 12:08 PLOT BY : mscj9h PLOT NAME : PLOT SCALE : 9.931739:1.000000

WISDOT/CADDS SHEET 42

7

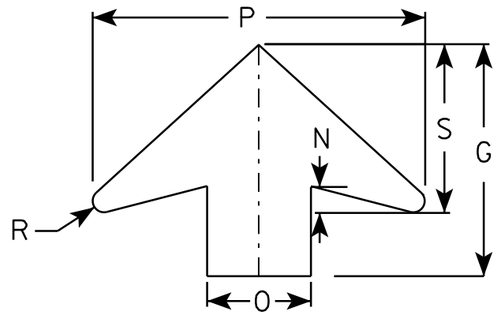
7



W03-2

NOTES

1. All Signs Type II - Type F Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - ORANGE
   Arrow & Border - BLACK
   Yield Symbol - WHITE BORDER ON RED BACKGROUND



ARROW DETAIL

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	36		1 5/8	5/8	3/4	7 1/2	13 1/2	3 3/8	28	3 3/4	5/8	1 1/2	1	1 5/8	6	19 1/4		5/8	9 3/4								9.0
2S	48		2 1/4	3/4	1	10	17 7/8	4 1/2	38	5	3/4	2 1/8	1 3/8	2	8	25 5/8		7/8	13								16.0
2M	48		2 1/4	3/4	1	10	17 7/8	4 1/2	38	5	3/4	2 1/8	1 3/8	2	8	25 5/8		7/8	13								16.0
3	48		2 1/4	3/4	1	10	17 7/8	4 1/2	38	5	3/4	2 1/8	1 3/8	2	8	25 5/8		7/8	13								16.0
4	48		2 1/4	3/4	1	10	17 7/8	4 1/2	38	5	3/4	2 1/8	1 3/8	2	8	25 5/8		7/8	13								16.0
5	48		2 1/4	3/4	1	10	17 7/8	4 1/2	38	5	3/4	2 1/8	1 3/8	2	8	25 5/8		7/8	13								16.0

STANDARD SIGN
W03-2

WISCONSIN DEPT OF TRANSPORTATION

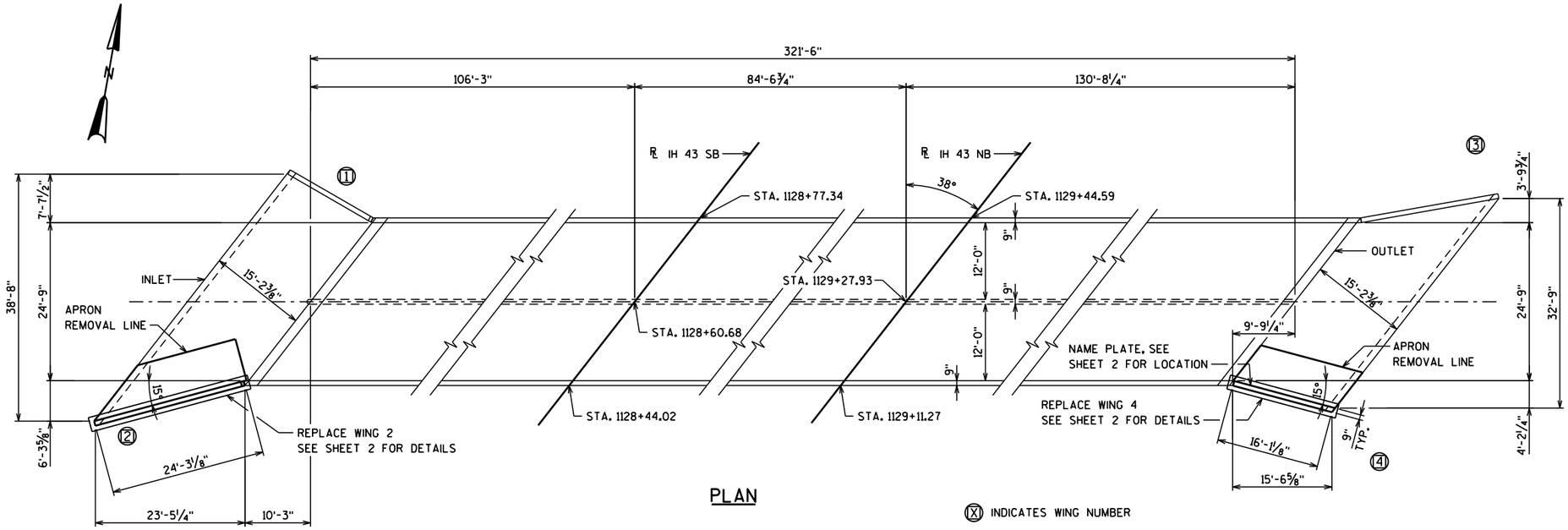
APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 11/20/13 PLATE W03-2.1

PROJECT NO:

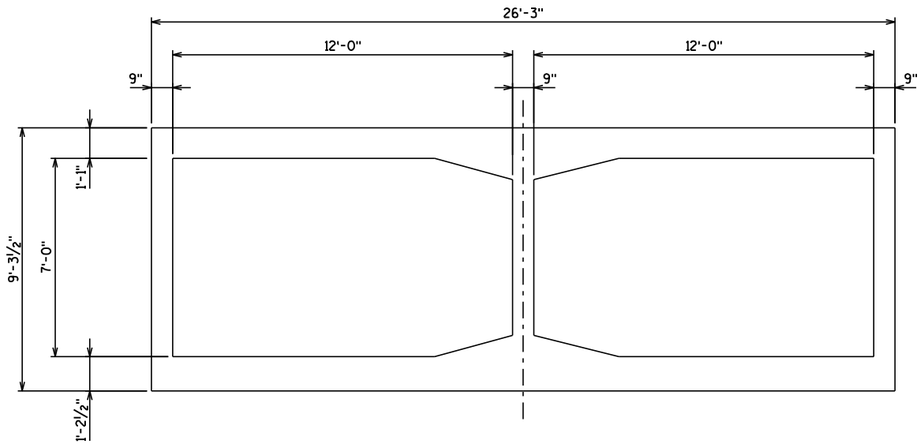
SHEET NO: E

STATE PROJECT NUMBER
1224-21-71



PLAN

(X) INDICATES WING NUMBER



TYPICAL SECTION THRU BOX

TOTAL ESTIMATED QUANTITIES

ITEM NUMBER	BID ITEMS	UNIT	TOTALS
203.0200	REMOVING OLD STRUCTURE (STA. 1129+28)	LS	1
206.2000	EXCAVATION FOR STRUCTURES CULVERTS B-36-36	LS	1
210.0100	BACKFILL STRUCTURE	CY	80
504.0100	CONCRETE MASONRY CULVERTS	CY	14
505.0400	BAR STEEL REINFORCEMENT HS STRUCTURES	LB	950
516.0500	RUBBERIZED MEMBRANE WATERPROOFING	SY	9
	NON-BID ITEMS		
	FILLER	SIZE	½"&¾"

GENERAL NOTES

DRAWINGS SHALL NOT BE SCALED.

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

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

USE EXSTING BAR STEEL REINFORCEMENT WHERE SHOWN AND EXTEND 24 BAR DIAMETERS INTO NEW WORK.

DIMENSIONS SHOWN ARE BASED ON THE EXISTING ORIGINAL STRUCTURE PLANS.

AT WINGS, ALL SPACES EXCAVATED AND NOT OCCUPIED BY THE NEW STRUCTURE SHALL BE BACKFILLED WITH "BACKFILL STRUCTURE".

THE UPPER LIMITS OF "EXCAVATION FOR STRUCTURES CULVERTS B-36-36" SHALL BE THE EXISTING GROUND LINE.

THE CONTRACTOR SHALL SUPPLY A NEW NAME PLATE IN ACCORDANCE WITH SECTION 502.3.11 OF THE STANDARD SPECIFICATIONS AND THE STANDARD DETAIL DRAWINGS. NAME PLATE TO SHOW ORIGINAL CONSTRUCTION YEAR.

ALL CONCRETE REMOVAL SHALL BE DEFINED BY A 1-INCH DEEP SAW CUT.

DESIGN DATA

EARTH LOAD:
DESIGNED FOR SURCHARGE HEIGHT OF ONE FOOT.

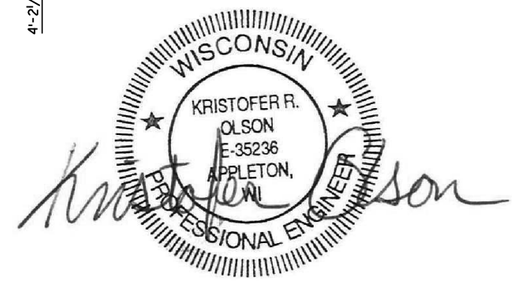
MATERIAL PROPERTIES:
CONCRETE MASONRY: f'c = 3,500 p.s.i.
BAR STEEL REINFORCEMENT
GRADE 60: fy = 60,000 p.s.i.

TRAFFIC DATA

ADT = 28,900 (2036)
RDS = 70 M.P.H.

LIST OF DRAWINGS

1. GENERAL PLAN
2. WING DETAILS



7/21/15

BRIDGE OFFICE CONTACT

WILLIAM DREHER
(608) 266-8489

CONSULTANT CONTACT

KRISTOFER OLSON
OMNNI ASSOCIATES
(920) 735-6900

NO.	DATE	REVISION	BY

ORIGINAL PLANS PREPARED BY
OMNNI ASSOCIATES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

ACCEPTED William C. Dreher SDR 08/17/15
CHIEF STRUCTURES DESIGN ENGINEER DATE

STRUCTURE B-36-36

IH 43 OVER FISCHER CREEK

COUNTY	TOWN
MANITOWOC	CENTERVILLE

DESIGN SPEC.
REHABILITATION N/A

DESIGNED BY	DESIGN CK'D.	DRAWN BY	PLANS CK'D.
BRE	KRO	BRE	KRO

GENERAL PLAN

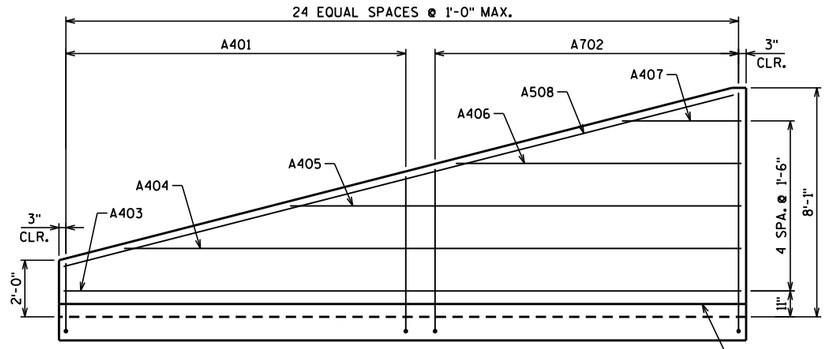
SHEET 1 OF 2

307

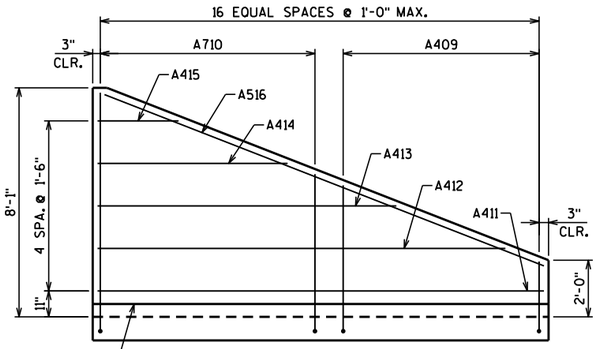
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8

STATE PROJECT NUMBER
1224-21-71

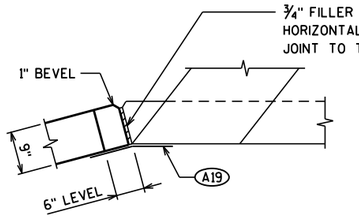


WING 2

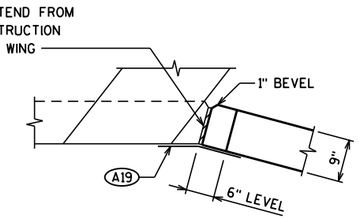


WING 4

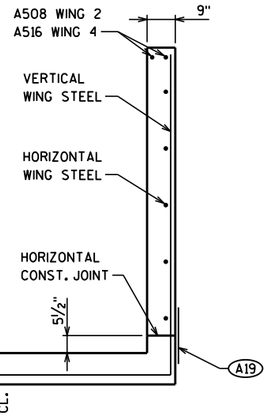
HORIZONTAL CONST. JOINT



WING 2 CORNER DETAIL



WING 4 CORNER DETAIL



TYPICAL SECTION THRU WING

NOTES

(A19) 18" RUBBERIZED MEMBRANE WATERPROOFING (RMW). SEAL ALL HORIZ. & VERT. JOINTS AT BACKFACE.

(A25) SALVAGE EXIST. REINF. & EXTEND FULL LENGTH INTO NEW WORK. APRON REMOVAL AREA TO BE DETERMINED IN FIELD. SALVAGE STEEL IN APRON FLOOR.

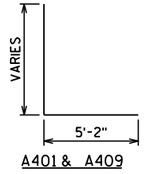
(A27) LINE OF APRON REMOVAL. EXISTING CUTOFF WALL TO REMAIN.

BILL OF BARS

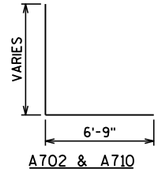
BAR MARK	COAT	NO. REQ'D.	LENGTH	SERIES	BENT	LOCATION
A401		13	9'-0"	△	X	WING 2 - VERTICAL
A702		12	13'-8"	△	X	WING 2 - VERTICAL
A403		1	23'-9"			WING 2 - HORIZONTAL
A404		1	21'-8"			WING 2 - HORIZONTAL
A405		1	15'-10"			WING 2 - HORIZONTAL
A406		1	10'-0"			WING 2 - HORIZONTAL
A407		1	4'-2"			WING 2 - HORIZONTAL
A508		2	24'-6"			WING 2 - TOP
A409		8	8'-11"	△	X	WING 4 - VERTICAL
A710		9	13'-7"	△	X	WING 4 - VERTICAL
A411		1	15'-7"			WING 4 - HORIZONTAL
A412		1	14'-3"			WING 4 - HORIZONTAL
A413		1	10'-5"			WING 4 - HORIZONTAL
A414		1	6'-7"			WING 4 - HORIZONTAL
A415		1	2'-9"			WING 4 - HORIZONTAL
A516		2	16'-8"			WING 4 - TOP
A417		2	11'-0"			WING 2 - HORIZONTAL
A418		2	7'-0"			WING 4 - HORIZONTAL
A419		19	3'-4"		X	WINGS - APRON

BAR SERIES

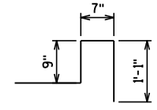
BAR NO.	NO. REQ'D.	LENGTH
A401	1 SERIES OF 13	7'-6" TO 10'-6"
A702	1 SERIES OF 12	12'-4" TO 15'-0"
A409	1 SERIES OF 8	7'-7" TO 10'-3"
A710	1 SERIES OF 9	12'-1" TO 15'-1"



A401 & A409



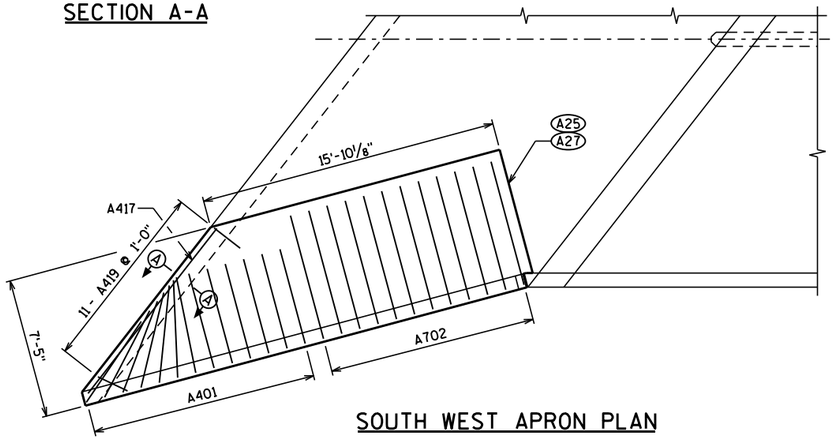
A702 & A710



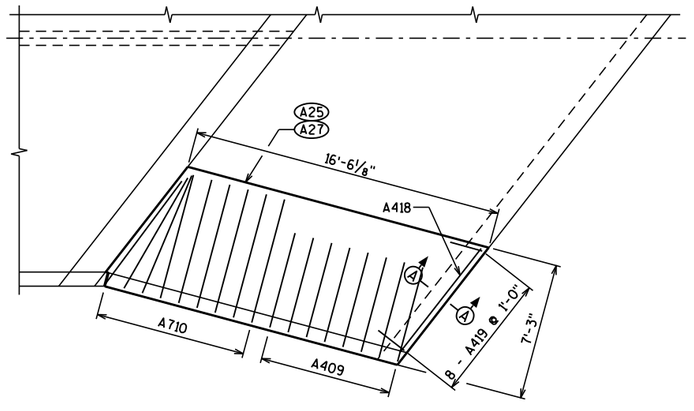
A419

BAR BENDING DIAGRAMS

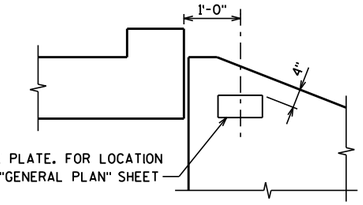
SECTION A-A



SOUTH WEST APRON PLAN



SOUTH EAST APRON PLAN



NAME PLATE

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-36-36

DRAWN BY BRE | PLANS CK'D. KRO

WING DETAILS

SHEET 2 OF 2

308

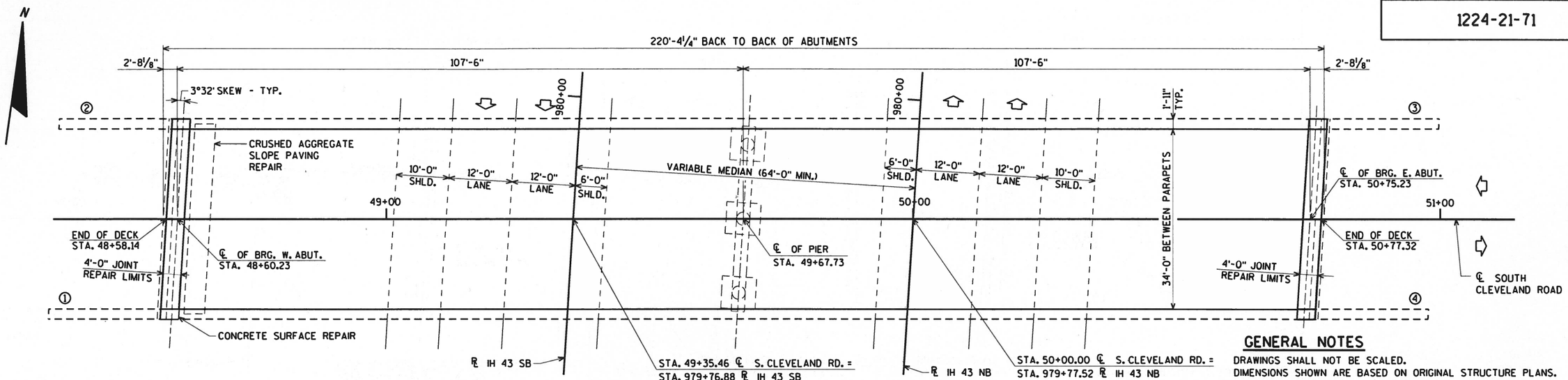
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8

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DATE:
DATE:
DATE:
CHECKED BY:
BACK CHECKED BY:
CORRECTED BY:

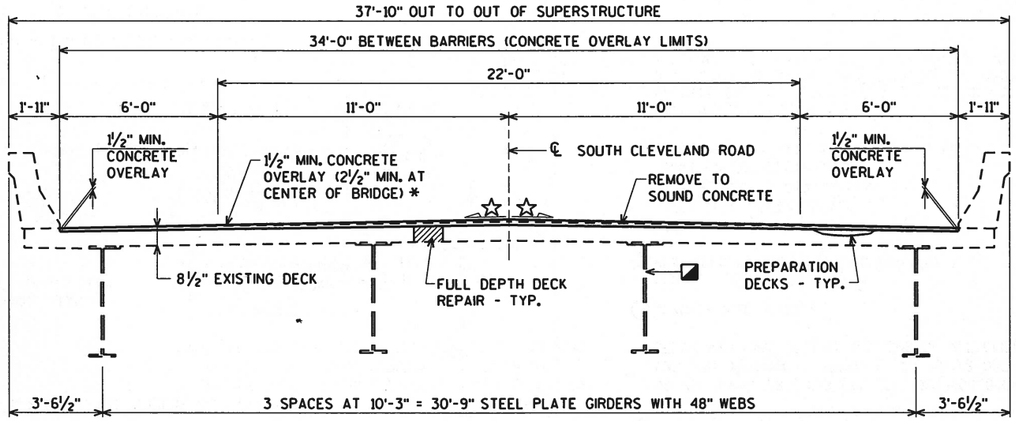
STATE PROJECT NUMBER

1224-21-71



PLAN

2-SPAN STEEL GIRDER BRIDGE CONCRETE OVERLAY



CROSS SECTION THRU BRIDGE

(LOOKING EAST)

TOTAL ESTIMATED QUANTITIES

	BID ITEM NUMBER	BID ITEMS	UNIT	TOTAL
	502.0100	CONCRETE MASONRY BRIDGES	CY	2
	502.3100	EXPANSION DEVICE B-36-37	LS	1
	502.3200	PROTECTIVE SURFACE TREATMENT	SY	835
	502.3210	PIGMENTED SURFACE SEALER	SY	225
	502.5005	MASONRY ANCHOR TYPE L NO. 5 BARS	EACH	66
	505.0600	BAR STEEL REINFORCEMENT HS COATED STRUCTURES	LB	2680
	509.0301	PREPARATION DECKS TYPE 1	SY	8
	509.0302	PREPARATION DECKS TYPE 2	SY	3
	509.0500	CLEANING DECKS	SY	805
	509.1000	JOINT REPAIR	SY	34
	509.1500	CONCRETE SURFACE REPAIR	SF	20
	509.2000	FULL-DEPTH DECK REPAIR	SY	2
△	509.2500	CONCRETE MASONRY OVERLAY DECKS	CY	70
	509.9050.S	CLEANING PARAPETS	LF	525
◪	517.3000.S	STRUCTURE OVERCOATING CLEANING AND PRIMING B-36-37	LS	1
◪	517.4000.S	CONTAINMENT AND COLLECTION OF WASTE MATERIALS B-36-37	LS	1
	604.9010.S	SLOPE PAVING REPAIR CRUSHED AGGREGATE	CY	3

LEGEND

* THE PROPOSED OVERLAY THICKNESS VARIES FROM A MINIMUM OF 1½" AT THE PARAPETS TO 2½" AT THE CROWN. THE MINIMUM AVERAGE OVERLAY THICKNESS IS 2". THE EXPECTED AVERAGE OVERLAY THICKNESS IS 2½".

△ BID ITEM ALSO INCLUDES CONCRETE FOR:
"PREPARATION DECKS TYPE 1"
"PREPARATION DECKS TYPE 2"
"FULL-DEPTH DECK REPAIR"
"JOINT REPAIR"

☆ NEW CONCRETE OVERLAY SLOPE = 0.02 ⅋
CURRENT DECK SLOPE = 0.015 ⅋

◯ DENOTES WING NUMBER.

◪ CLEAN AND PAINT 6' END SECTIONS OF ALL GIRDERS AND END DIAPHRAGMS ADJACENT TO JOINTS ONLY. DO NOT PAINT EXTERIOR FACE OF EXTERIOR GIRDERS.

LIST OF DRAWINGS

1. GENERAL PLAN
2. EXPANSION JOINT DETAILS AT ABUTMENTS
3. EXPANSION JOINT DETAILS AT ABUTMENTS
4. EXPANSION JOINT DETAILS AT ABUTMENTS
5. PARAPET AND SLOPE PAVING DETAILS

DESIGN DATA

LIVE LOAD:

DESIGN LOADING: HS-20
INVENTORY RATING: HS-20
OPERATING RATING: HS-33
WISCONSIN STANDARD PERMIT VEHICLE (WIS-SPV) = 210 KIPS

MATERIAL PROPERTIES:

CONCRETE MASONRY _____ f'_c = 4,000 p.s.i.
HIGH STRENGTH BAR STEEL REINFORCEMENT (GRADE 60) __ f_y = 60,000 p.s.i.

TRAFFIC DATA:

IH 43	S. CLEVELAND RD.
A.D.T. = 25,000 (2016)	A.D.T. = 250 (1980)
A.D.T. = 29,500 (2036)	A.D.T. = 275 (2036)
R.D.S. = 70 M.P.H.	R.D.S. = 50 M.P.H.

GENERAL NOTES

DRAWINGS SHALL NOT BE SCALED.

DIMENSIONS SHOWN ARE BASED ON ORIGINAL STRUCTURE PLANS.

A MINIMUM OF 1-INCH OF CONCRETE SHALL BE REMOVED FROM THE ENTIRE BRIDGE DECK UNDER THE BID ITEM "CLEANING DECKS".

ANY EXCAVATION NECESSARY TO COMPLETE THE OVERLAY OR JOINT REPAIR AT THE ABUTMENTS IS CONSIDERED INCIDENTAL TO THE BID ITEM "CONCRETE MASONRY OVERLAY DECKS".

REMOVAL LINES NOT COVERED WITH A CONCRETE OVERLAY SHALL BE DEFINED BY A 1" DEEP SAW CUT AT THE CONCRETE SURFACES.

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

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

PREPARATION DECKS TYPE 1, PREPARATION DECKS TYPE 2, CONCRETE SURFACE REPAIR AND FULL DEPTH DECK REPAIR AREAS SHALL BE DETERMINED BY THE FIELD ENGINEER.

APPLY BRIDGE SEAT PROTECTION, AS PER SECTION 502.3.12 OF THE STANDARD SPECIFICATIONS, TO THE TOP SURFACES OF BOTH ABUTMENTS BELOW EXPANSION DEVICES, POWER WASH AND ADEQUATELY DRY SURFACES BEFORE APPLICATION. WORK TO BE INCIDENTAL TO "JOINT REPAIR".

PROFILE GRADE LINE SHALL BE DETERMINED IN THE FIELD BASED ON A MINIMUM OVERLAY THICKNESS OF 1½" PLACED ABOVE THE DECK SURFACE AFTER "CLEANING DECKS". EXPECTED AVERAGE OVERLAY THICKNESS IS 2½". IF EXPECTED AVERAGE OVERLAY THICKNESS IS EXCEEDED BY MORE THAN ½", CONTACT THE STRUCTURES DESIGN SECTION.

PARAPET JOINTS TO BE RE-SEALED WITH NON-STAINING GRAY NON-BITUMINOUS JOINT SEALER (1" DEEP AND HOLD ⅛" BELOW SURFACE OF CONCRETE). WORK CONSIDERED INCIDENTAL TO "JOINT REPAIR".

PAINT COLOR TO BE BROWN (FEDERAL STANDARD COLOR NO. 20059).

CLEAN FULL LENGTH OF PARAPETS ACCORDING TO STSP ITEM 509.9050.S "CLEANING PARAPETS".

PROTECTIVE SURFACE TREATMENT IS TO BE APPLIED TO THE TOP OF THE OVERLAY AND PIGMENTED SURFACE SEALER IS TO BE APPLIED TO THE TOP AND INSIDE FACE OF PARAPETS.

WISCONSIN DANIEL N. SYDOW E-38363 WI PROFESSIONAL ENGINEER
5/21/2015

BRIDGE OFFICE CONTACT:
WILLIAM DREHER
(608)-266-8489

CONSULTANT CONTACT:
DAN SYDOW
(715)-834-3161

NO.	DATE	REVISION	BY

ORIGINAL PLANS PREPARED BY
AYRES ASSOCIATES
3433 Oakwood Hills Parkway
Eau Claire, WI 54701
www.AyresAssociates.com

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

ACCEPTED William C. Dreher SDR 08/17/15
CHIEF STRUCTURES DESIGN ENGINEER DATE

STRUCTURE B-36-37

SOUTH CLEVELAND ROAD OVER IH 43

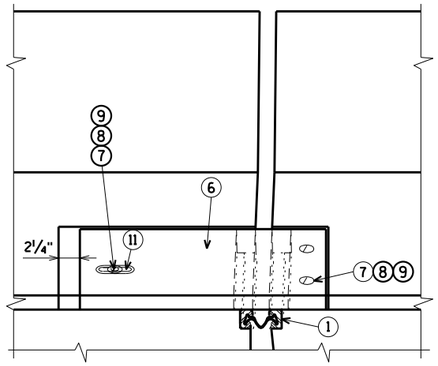
COUNTY MANITOWOC
TOWN/~~CITY/VILLAGE~~ CENTERVILLE
DESIGN SPEC. REHABILITATION N/A

DESIGNED BY	DESIGN CK'D.	DRAWN BY	PLANS CK'D.
JWZ	JCK	CJM/CLS	DWS

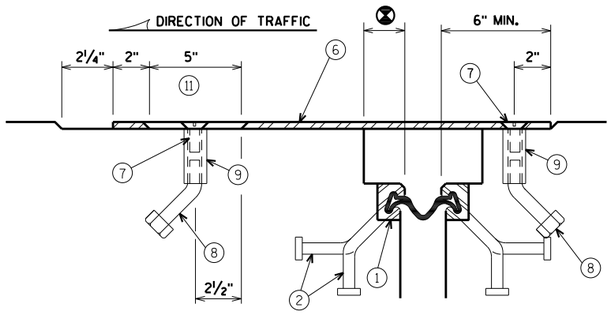
GENERAL PLAN

SHEET 309 OF 5

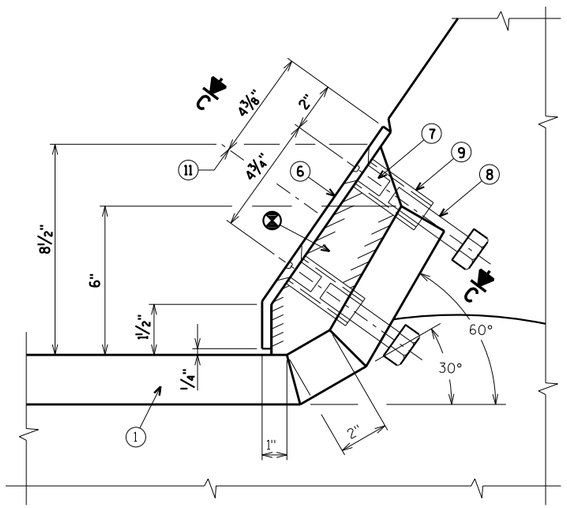
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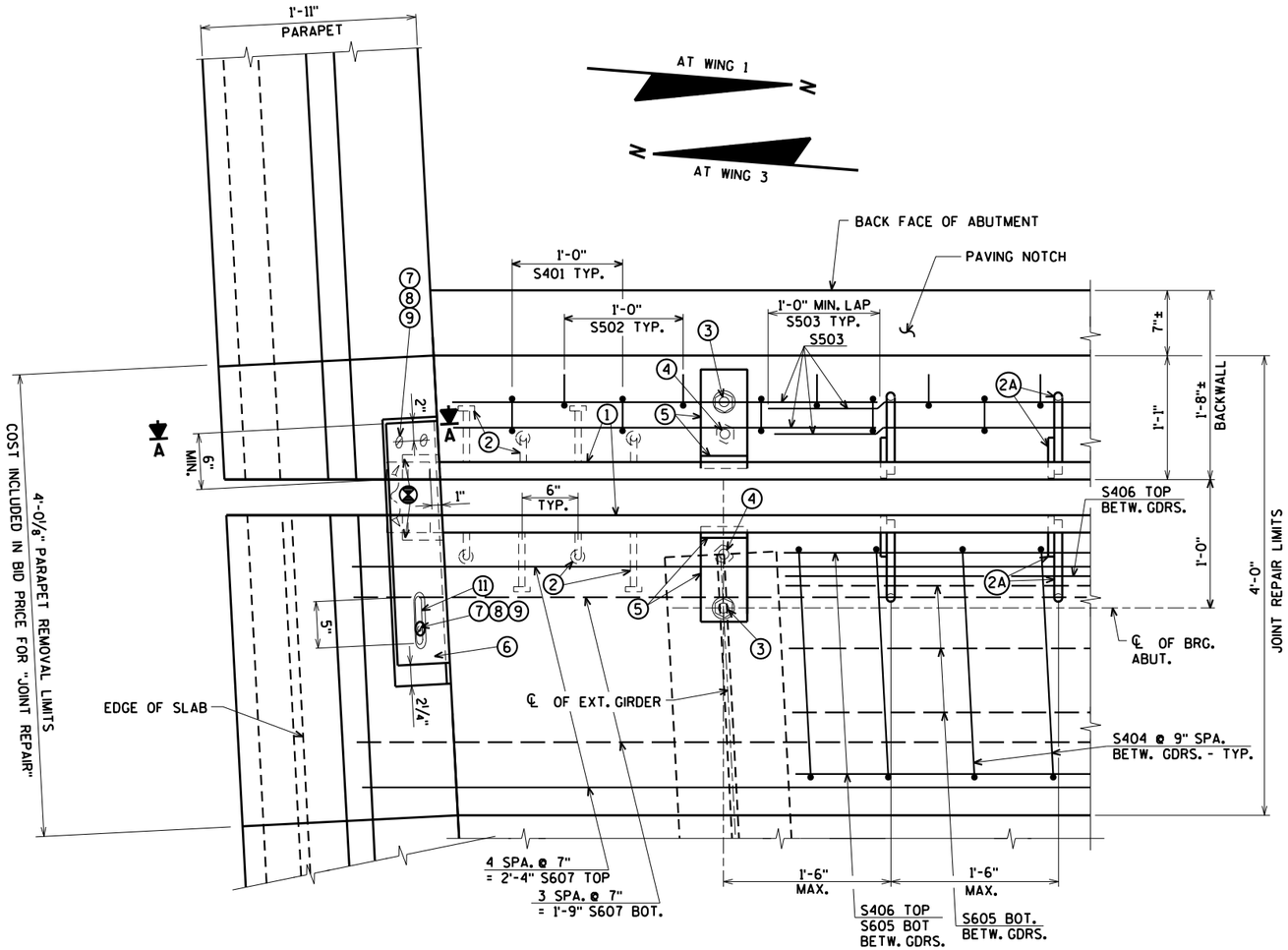
VIEW OF PARAPET PLATES FROM ROADWAY



SECTION C



SECTION A



PART PLAN
AT WINGS 1 & 3

⊗ BLOCK OUT CONCRETE 2" EACH SIDE OF JOINT OPENING.

WORK THIS SHEET WITH SHEETS 3, 4 & 5

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-36-37

DRAWN BY	CLS	PLANS CK'D.	JCK

EXPANSION JOINT DETAILS AT ABUTMENTS

SHEET 2 OF 5
310

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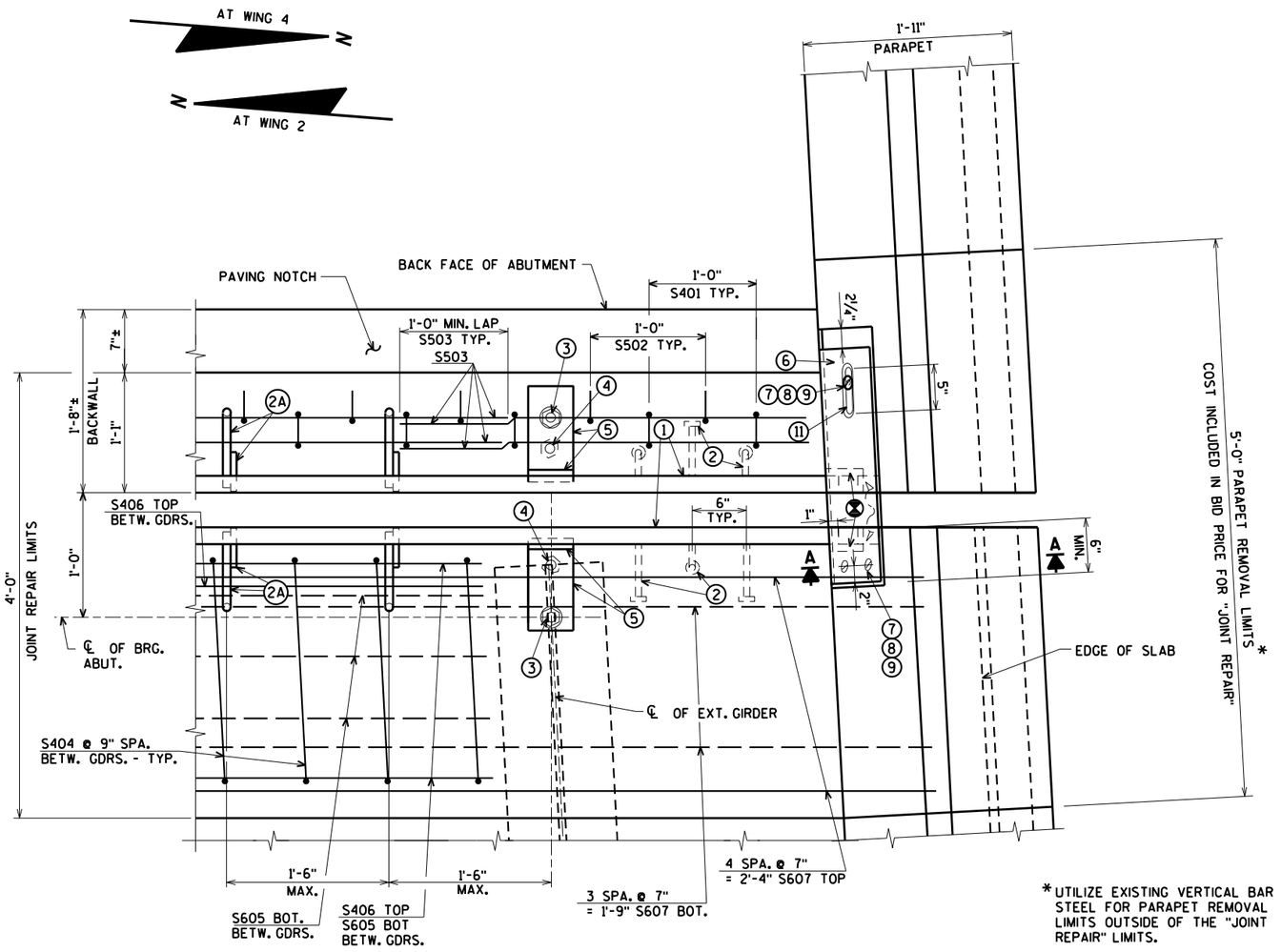
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5/21/2015
PENTABLE:BReau_shd_util.tbl

STATE PROJECT NUMBER

1224-21-71

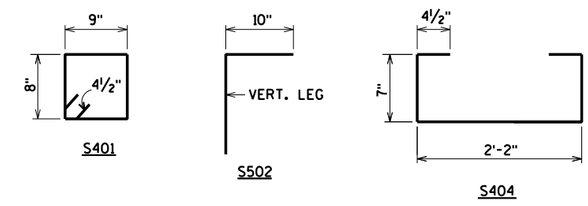
BILL OF BARS

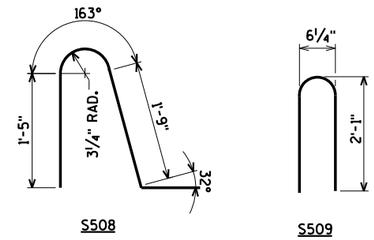
BAR. NO.	COATED BAR	NO. REQ'D.	LENGTH	BENT BAR	BUNDLED BAR SERIES	2,680# COATED LOCATION
S401	X	68	3-4	X		PAVING BLOCK VERT.
S502	X	66	2-11	X		PAVING BLOCK VERT. ANCHOR
S503	X	12	17-5			PAVING BLOCK HORIZ.
S404	X	78	3-9	X		DIAPH. VERT.
S605	X	30	8-11			DIAPH. HORIZ.
S406	X	24	8-11			DIAPH. HORIZ.
S607	X	36	20-0			DECK TRANSVERSE
S508	X	16	4-10	X		PARAPET VERT.
S509	X	26	5-0	X		PARAPET VERT.
S510	X	10	0-7			PARAPET HORIZ. WINGS 1 & 3 APPROACH
S511	X	10	2-5			PARAPET HORIZ. WINGS 1 & 3 STRUCTURE
S512	X	10	1-8			PARAPET HORIZ. WINGS 2 & 4 APPROACH
S513	X	10	2-3			PARAPET HORIZ. WINGS 2 & 4 STRUCTURE



*UTILIZE EXISTING VERTICAL BAR STEEL FOR PARAPET REMOVAL LIMITS OUTSIDE OF THE "JOINT REPAIR" LIMITS.

PART PLAN
AT WINGS 2 & 4





⊗ BLOCK OUT CONCRETE 2" EACH SIDE OF JOINT OPENING.

FOR SECTION A, SEE SHEET 2.

WORK THIS SHEET WITH SHEETS 2, 4 & 5

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-36-37

DRAWN BY CLS | PLANS CK'D. JCK

EXPANSION JOINT DETAILS AT ABUTMENTS

SHEET 3 OF 5
311

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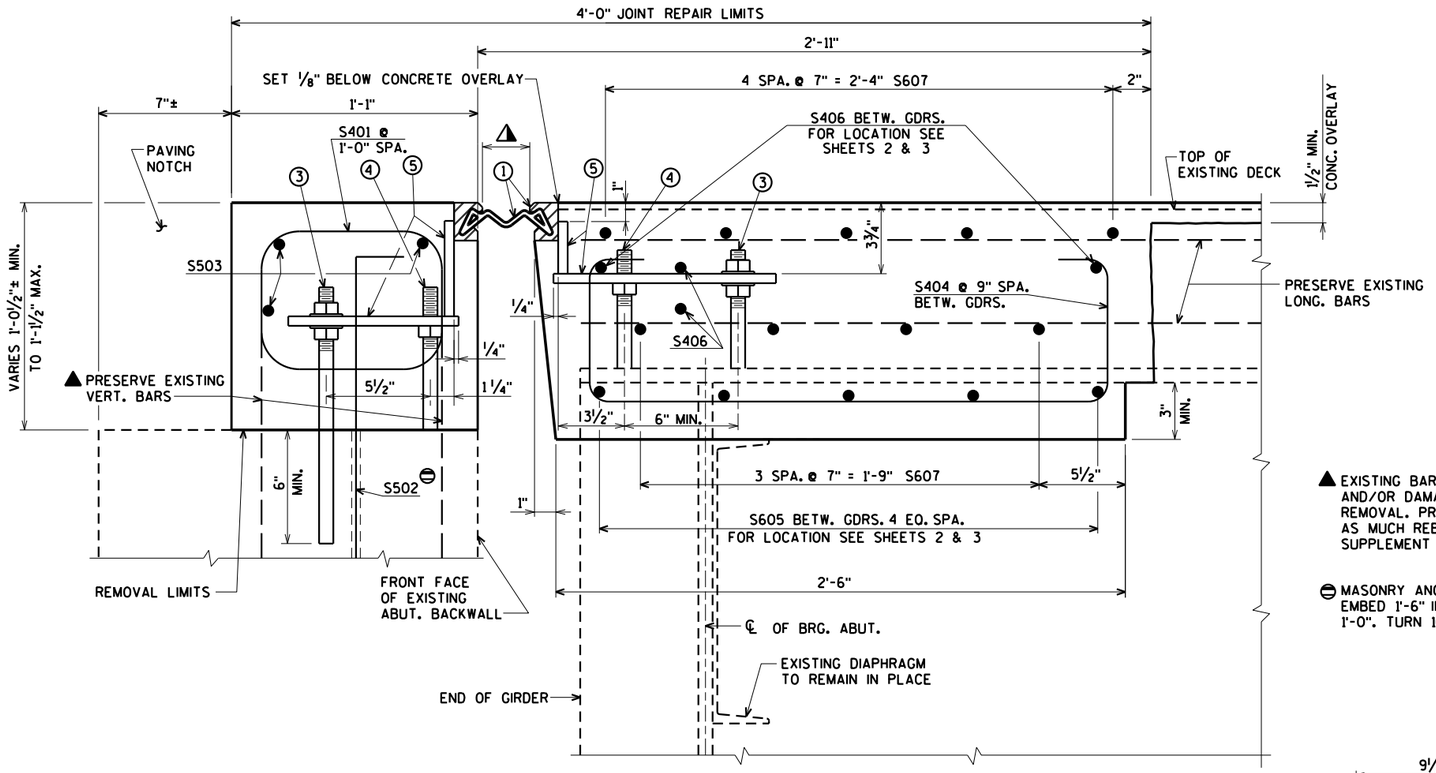
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U:±42-0888.00 - Manitowoc County, IH43 Rehabs±B-36-37±BRIDGE±B-36-37 exp.DGN

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5/21/2015

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TYPICAL SECTION THRU JOINT
NORMAL TO ℄ SUBSTRUCTURE

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

⊖ MASONRY ANCHORS TYPE L NO. 5 BARS. EMBED 1'-6" INTO CONCRETE. SPACE AT 1'-0". TURN 10" LEG AS NECESSARY TO FIT.

LEGEND

▲1. NEOPRENE STRIP SEAL (4 - INCH) & STEEL EXTRUSIONS. SET JOINT OPENING AT 1 3/4".

2. STUDS 5/8" ϕ X 6 3/8" LONG AT 6" ALTERNATE CENTERS. WELD TO EXTRUSIONS & BEND AS SHOWN AFTER WELDING.

2A. 1/2" THICK ANCHOR PLATE WITH 5/8"ϕ ROD (OR ALTERNATE STRIP SEAL ANCHOR). WELD ROD TO ANCHOR PLATE, WELD ANCHOR PLATE TO #1 AT 1'-6" CTRS. BETWEEN GIRDERS.

3. 3/4" ϕ THREADED ROD WITH 2 NUTS AND PLATE WASHERS. WELD THREADED ROD TO TOP FLANGE OR ATTACH BY BOLTING THRU FLANGE. ON ABUTMENT SIDE, GROUT THREADED ROD INTO FIELD DRILLED HOLES IN ABUTMENT BACKWALL AS SHOWN.

4. 3/4"ϕ THREADED ROD WITH NUT. TACK WELD NUT TO NO. 5.

5. FABRICATE SUPPORT FROM 3" X 1/2" BAR AS SHOWN OR EQUIVALENT, ONE PER GIRDER PER SIDE. FIELD OR SHOP WELD TO NO. 1. IF FIELD WELDED, COVER WELDED AREAS WITH EPOXY-COATING MATERIAL. PROVIDE 1 1/2" ϕ HOLE FOR NO. 3 & 1" ϕ HOLE FOR NO. 4.

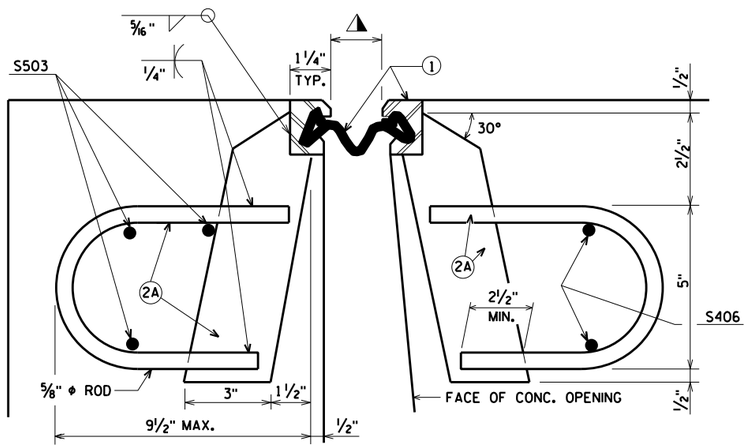
6. GALVANIZED PLATE 3/8" x 10 1/2" x 2'-2" LONG WITH HOLES FOR #7. BEND AS SHOWN.

7. 3/4" ϕ x 1 1/2" STAINLESS STEEL SOCKET FLAT HEAD SCREWS WITH ANTI-SEIZE LUBRICANT. PLACE IN COUNTERSUNK HOLES. RECESS 1/16" BELOW PLATE SURFACE.

8. 3/4" ϕ x 4" GALV. HEX HEAD BOLT. BEND 45°.

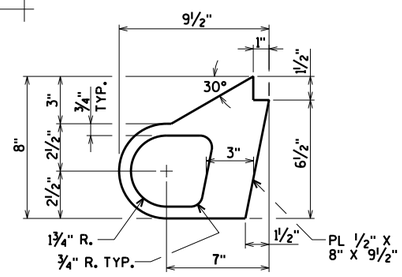
9. 3/4" ϕ x 2 1/4" GALV. THREADED COUPLING.

11. 1" x 5" SLOTTED CSK. HOLE FOR #7. PLACE SLOT PARALLEL TO DIRECTION OF MOVEMENT.

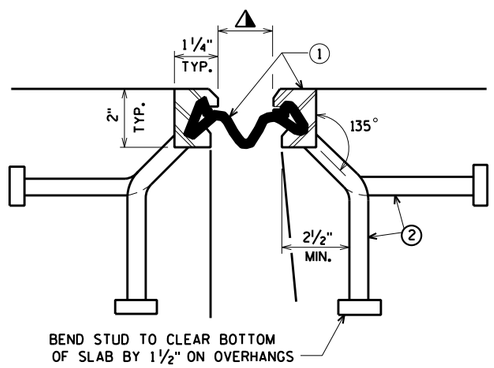


SECTION THRU JOINT
ROADWAY TRAFFIC AREA BETWEEN EXTERIOR GIRDERS.

SYM. ABOUT ℄ JOINT UNLESS OTHERWISE SHOWN OR NOTED.



ALTERNATE STRIP SEAL ANCHOR



SECTION THRU JOINT
EXTERIOR GIRDER TO EDGE OF SLAB & AT PARAPETS.

NOTES

ONE FIELD SPLICE PERMITTED IN STEEL EXTRUSIONS. IF USED, DETAILS SHALL BE SUBMITTED FOR APPROVAL. NO SPLICING PERMITTED IN NEOPRENE STRIP SEAL.

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

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

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

ANCHOR SYSTEM #8 & #9 SHALL CONFORM TO ASTM A307 & SHALL BE GALVANIZED IN ACCORDANCE WITH ASTM A153 CLASS C & D.

STRIP SEAL EXPANSION JOINT ASSEMBLY, INCLUDING ANCHOR STUDS & HARDWARE WILL BE PAID FOR AT THE LUMP SUM PRICE BID FOR "EXPANSION DEVICE B-36-37".

WORK THIS SHEET WITH SHEETS 2 & 3

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-36-37

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EXPANSION JOINT DETAILS AT ABUTMENTS

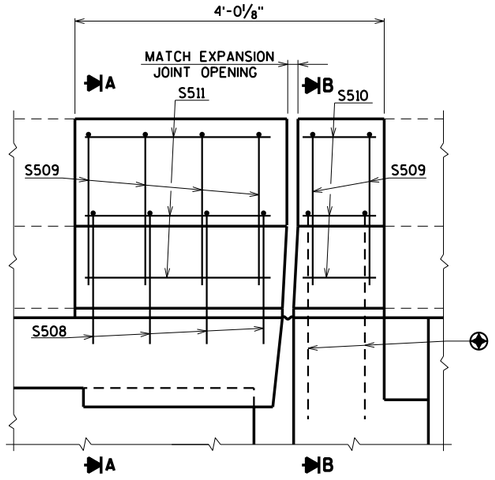
SHEET 4 OF 5
312

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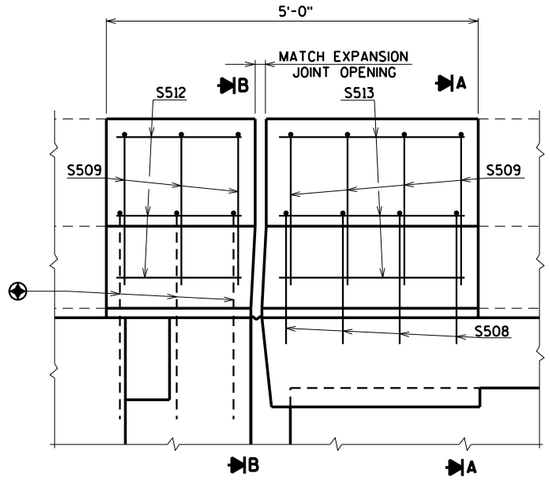
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STATE PROJECT NUMBER

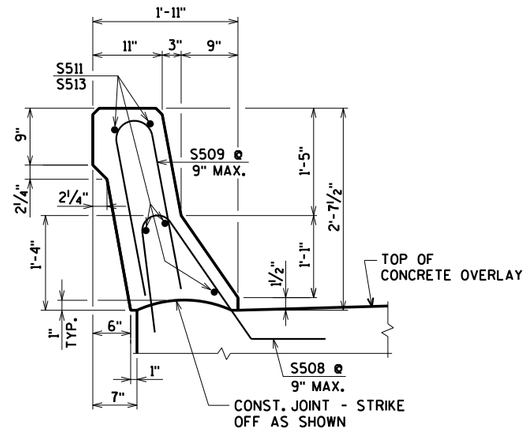
1224-21-71



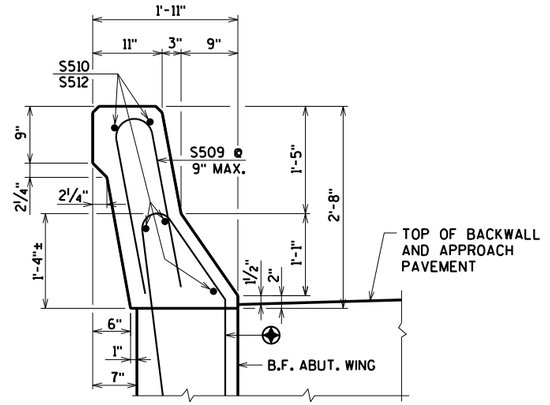
INSIDE ELEVATION
AT WINGS 1 & 3



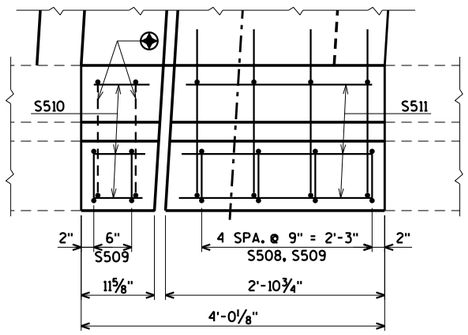
INSIDE ELEVATION
AT WINGS 2 & 4



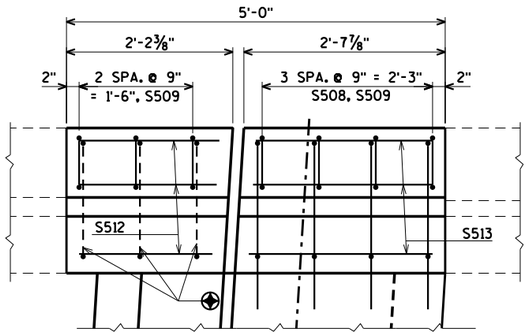
SECTION A



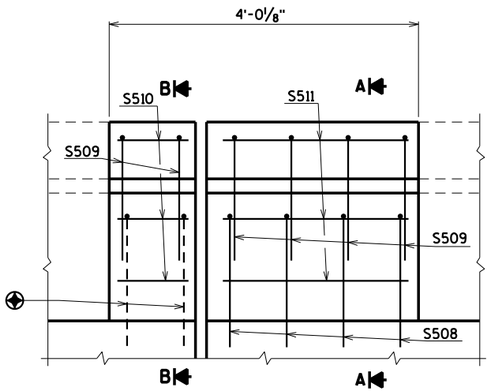
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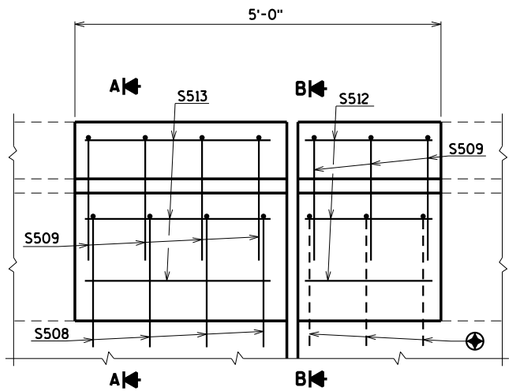
PLAN
AT WINGS 1 & 3



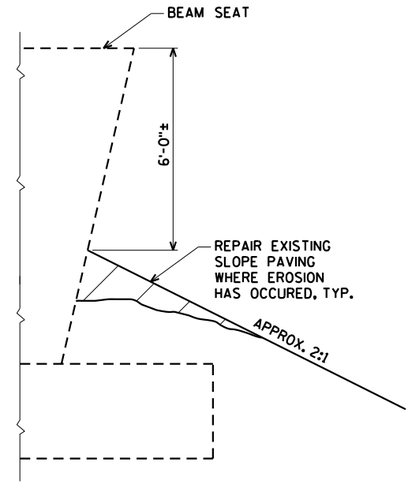
PLAN
AT WINGS 2 & 4



OUTSIDE ELEVATION
AT WINGS 1 & 3



OUTSIDE ELEVATION
AT WINGS 2 & 4



SLOPE PAVING AT WEST ABUTMENT

UTILIZE EXISTING VERTICAL BAR STEEL

WORK THIS SHEET WITH SHEETS 2 & 3

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-36-37

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PARAPET AND SLOPE PAVING DETAILS

SHEET 5 OF 5
313

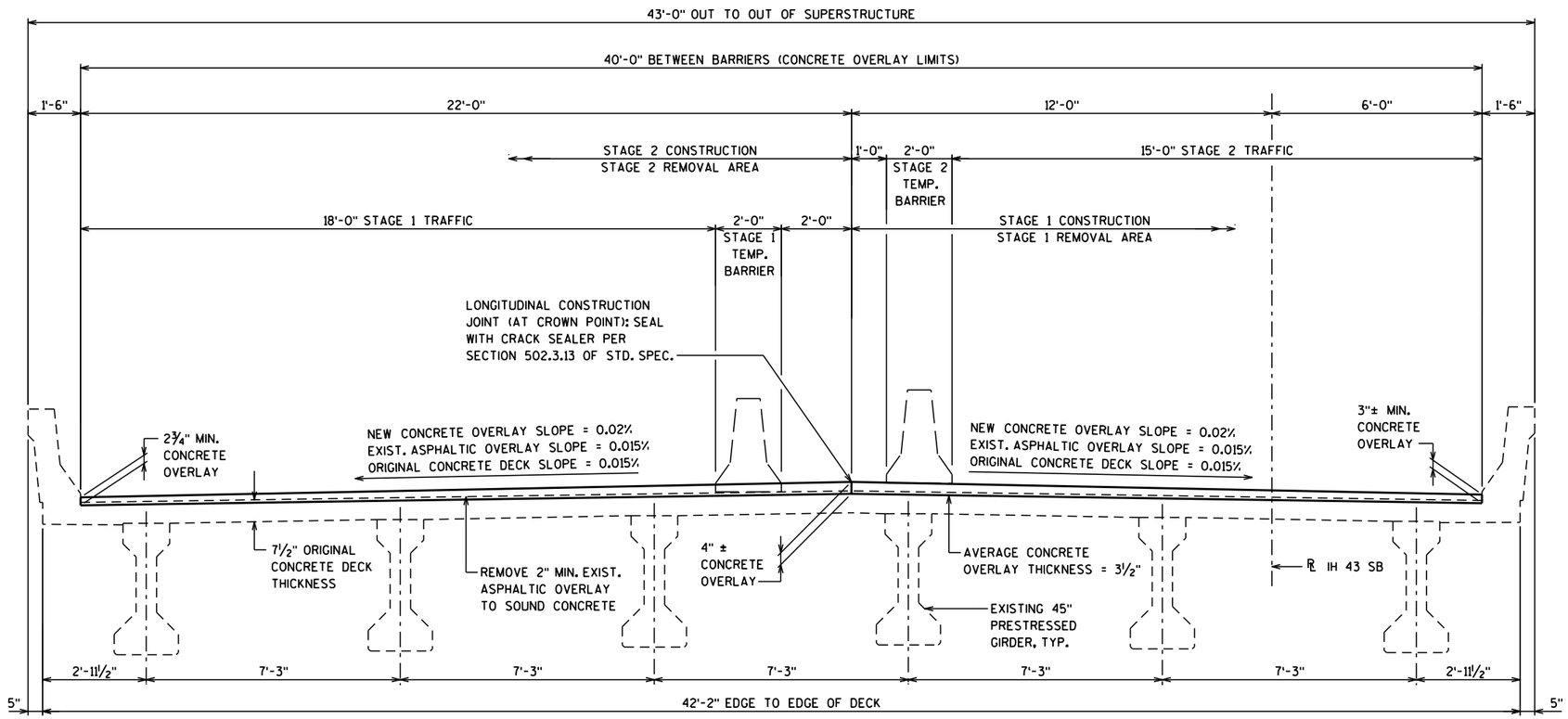
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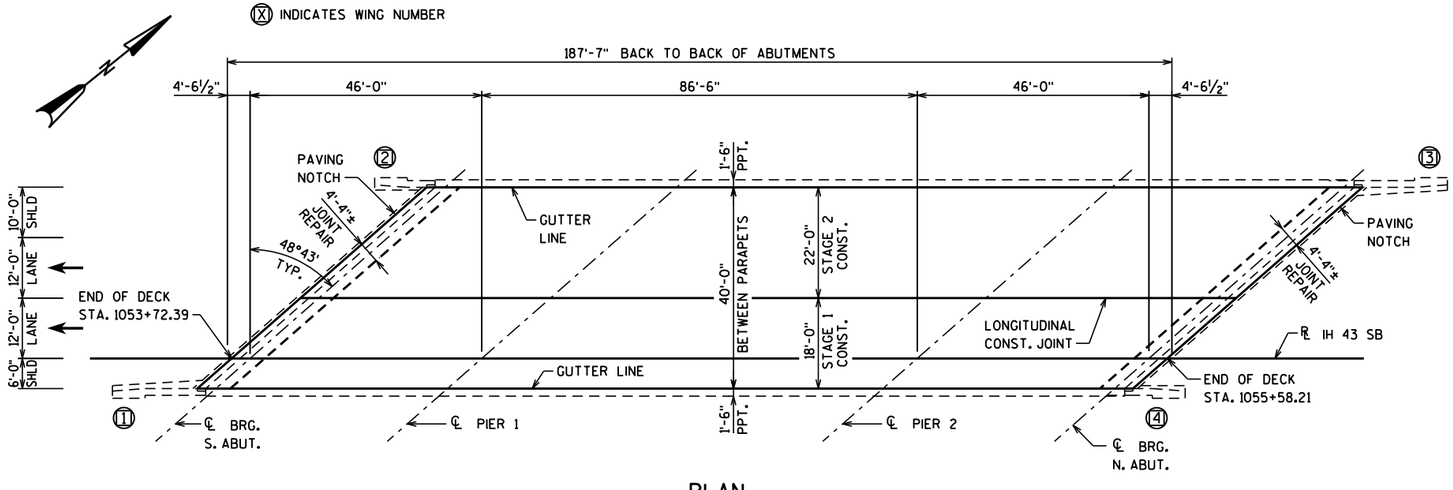
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STATE PROJECT NUMBER
1224-21-71



CROSS SECTION THRU EXISTING ROADWAY

(LOOKING NORTH)



PLAN

TRAFFIC DATA

ADT = 11,800 (2036)
RDS = 70 M.P.H.

DESIGN DATA

LIVE LOAD;

INVENTORY RATING: HS-19
OPERATING RATING: HS-29
WISCONSIN STANDARD PERMIT VEHICLE (Wis-SPV): 250 KIPS

MATERIAL PROPERTIES;

CONCRETE MASONRY OVERLAY DECKS & PARAPETS: ———— f'c = 4,000 p.s.i.
BAR STEEL REINFORCEMENT GRADE 60: ———— fy = 60,000 p.s.i.

LIST OF DRAWINGS

1. GENERAL PLAN
2. GENERAL NOTES, QUANTITIES, & DETAILS
3. JOINT REPAIR
4. EXPANSION DEVICE
5. COVER PLATE DETAILS
6. DECK REPAIR



7/21/15

NO.	DATE	REVISION	BY

ORIGINAL PLANS PREPARED BY
OMNNI ASSOCIATES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
ACCEPTED William C. Dreher SOR 08/17/15
CHIEF STRUCTURES DESIGN ENGINEER DATE

STRUCTURE B-36-42

IH 43 SB OVER WESTVIEW ROAD

COUNTY	TOWN
MANITOWOC	CENTERVILLE

DESIGN SPEC. REHABILITATION N/A

DESIGNED BY	DESIGN CK'D.	DRAWN BY	PLANS CK'D.
BRE	KRO	BRE	KRO

GENERAL PLAN

SHEET 1 OF 6

314

BRIDGE OFFICE CONTACT
WILLIAM DREHER
(608) 266-8489

CONSULTANT CONTACT
KRISTOFER OLSON
OMNNI ASSOCIATES
(920) 735-6900

FILE NAME : F:±TR±JOBS±E2041A12±Sheets±Bridges±B-36-42±B-36-42 01 gp.dgn PLOT BY : epleyb PLOT DATE: 7/21/2015 2:33:32 PM

STATE PROJECT NUMBER
1224-21-71

GENERAL NOTES

DRAWINGS SHALL NOT BE SCALED.

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

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

USE EXISTING BAR STEEL REINFORCEMENT WHERE SHOWN AND EXTEND 24 BAR DIAMETERS INTO NEW WORK.

DIMENSIONS SHOWN ARE BASED ON THE EXISTING ORIGINAL STRUCTURE PLANS.

ANY EXCAVATION NECESSARY TO COMPLETE THE OVERLAY OR JOINT REPAIR AT THE ABUTMENTS IS TO BE CONSIDERED INCIDENTAL TO THE BID ITEM "CONCRETE MASONRY OVERLAY DECKS".

PROFILE GRADE LINE SHALL BE DETERMINED IN THE FIELD BASED ON A MINIMUM OVERLAY THICKNESS OF 4" AT THE CROWN POINT AND 2¾" AT THE TOE OF THE OUTSIDE PARAPET PLACED ABOVE THE DECK SURFACE AFTER "CLEANING DECKS". EXPECTED AVERAGE OVERLAY THICKNESS IS 3½" (OR AS GIVEN ON THE PLANS). IF EXPECTED AVERAGE OVERLAY THICKNESS IS EXCEEDED BY MORE THAN ½", CONTACT THE STRUCTURES DESIGN SECTION.

THE EXISTING BITUMINOUS ASPHALTIC OVERLAY SHALL BE REMOVED FROM THE BRIDGE DECK UNDER BID ITEM "REMOVING ASPHALTIC CONCRETE DECK OVERLAY".

PREPARATION DECKS TYPE 1, PREPARATION DECKS TYPE 2, CONCRETE SURFACE REPAIR AND FULL-DEPTH DECK REPAIR AREAS SHALL BE DETERMINED BY THE FIELD ENGINEER. "CONCRETE SURFACE REPAIR" TO INCLUDE BUT NOT LIMITED TO EAST & WEST PARAPETS, ABUTMENT BACKWALLS, AND GIRDER ENDS.

REMOVAL LINES NOT COVERED WITH A CONCRETE OVERLAY SHALL BE DEFINED BY A 1" DEEP SAW CUT AT THE CONCRETE SURFACES.

PROTECTIVE SURFACE TREATMENT SHALL BE APPLIED TO THE ENTIRE TOP SURFACE OF THE NEW CONCRETE OVERLAY. PIGMENTED PROTECTIVE SURFACE TREATMENT SHALL BE APPLIED TO THE ENTIRE FRONT FACES AND TOPS OF BOTH WING & DECK PARAPETS.

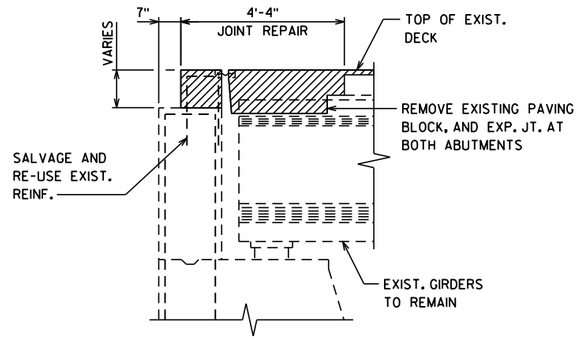
APPLY BRIDGE SEAT PROTECTION, AS PER SECTION 502.3.12 OF THE STANDARD SPECIFICATIONS, TO THE TOP SURFACES OF BOTH ABUTMENTS BELOW EXPANSION DEVICES. POWER WASH AND ADEQUATELY DRY SURFACES BEFORE APPLICATION. WORK TO BE INCIDENTAL TO "JOINT REPAIR".

A MINIMUM OF 1-INCH OF CONCRETE SHALL BE REMOVED FROM THE ENTIRE BRIDGE DECK UNDER THE BID ITEM "CLEANING DECKS".

TOTAL ESTIMATED QUANTITIES

	ITEM NUMBER	BID ITEMS	UNIT	TOTALS
	502.3100	EXPANSION DEVICE (B-36-42)	LS	1
	502.3200	PROTECTIVE SURFACE TREATMENT	SY	826
	502.3210	PIGMENTED SURFACE SEALER	SY	164
	502.5005	MASONRY ANCHORS TYPE L NO.5 BARS	EACH	122
	505.0600	BAR STEEL REINFORCEMENT HS COATED STRUCTURES	LB	4160
	505.0904	BAR COUPLERS NO. 4	EACH	4
	505.0905	BAR COUPLERS NO. 5	EACH	28
	505.0907	BAR COUPLERS NO. 7	EACH	12
	509.0301	PREPARATION DECKS TYPE 1	SY	93
	509.0302	PREPARATION DECKS TYPE 2	SY	47
	509.0500	CLEANING DECKS	SY	826
	509.1000	JOINT REPAIR	SY	59
	509.1500	CONCRETE SURFACE REPAIR	SF	268
	509.2000	FULL-DEPTH DECK REPAIR	SY	1
☆	509.2500	CONCRETE MASONRY OVERLAY DECKS	CY	105
	509.9010.S	REMOVING ASPHALTIC CONCRETE DECK OVERLAY (B-36-42)	SY	826
	509.9050.S	CLEANING PARAPETS	LF	426

☆ BID ITEM ALSO INCLUDES CONCRETE FOR:
"PREPARATION DECKS TYPE 1"
"PREPARATION DECKS TYPE 2"
"FULL-DEPTH DECK REPAIR"
"JOINT REPAIR"



TYPICAL SECTION THRU ABUTMENT

8

8

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-36-42

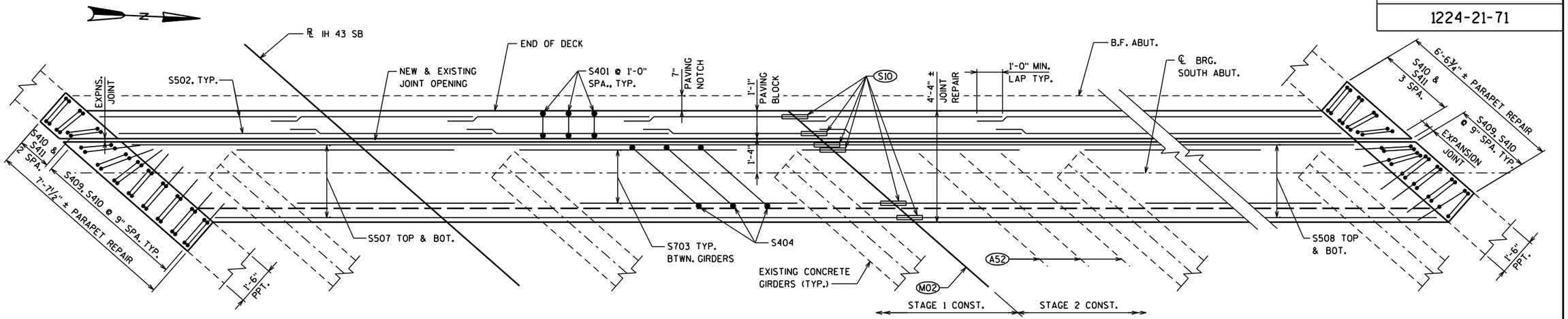
DRAWN BY BRE | PLANS CK'D. KRO

GENERAL NOTES, QUANTITIES, & DETAILS

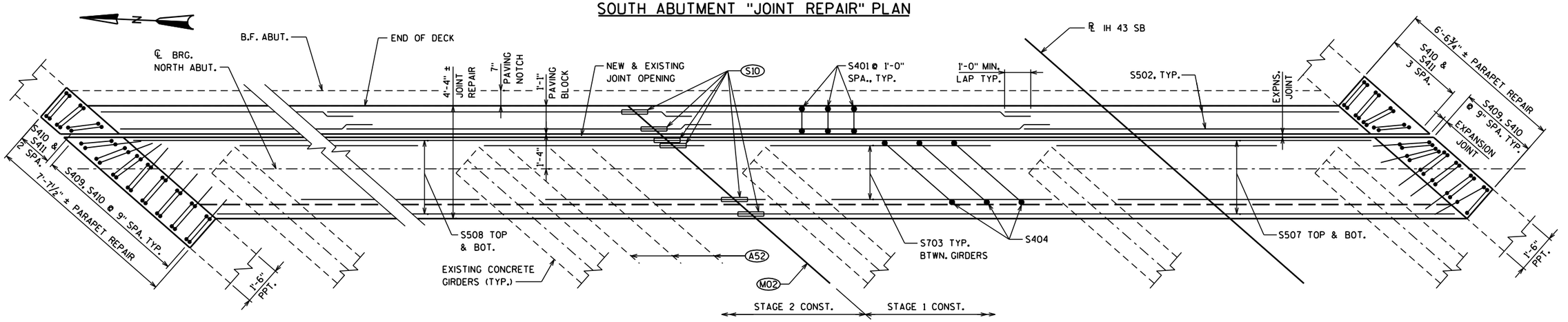
SHEET 2 OF 6

315

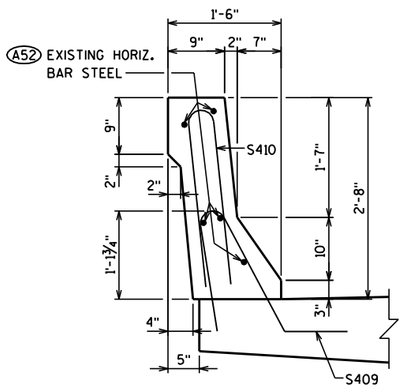
STATE PROJECT NUMBER
1224-21-71



SOUTH ABUTMENT "JOINT REPAIR" PLAN

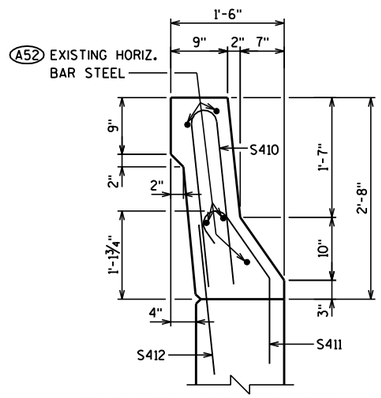


NORTH ABUTMENT "JOINT REPAIR" PLAN



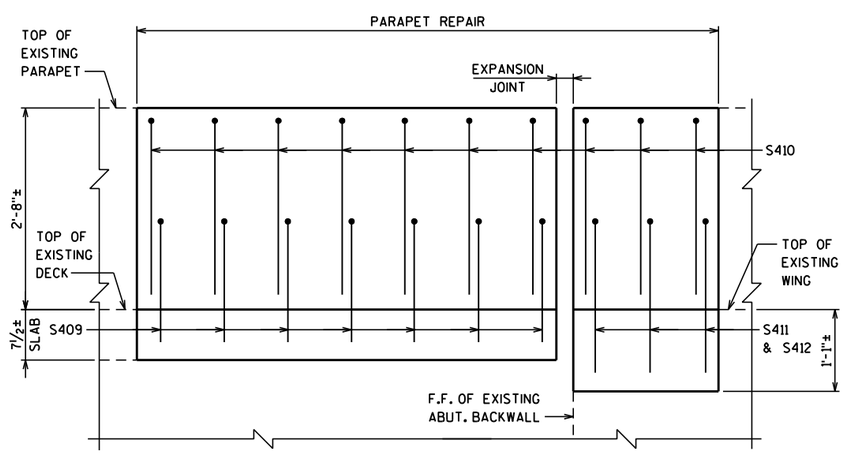
SECTION THRU PARAPET REPLACEMENT ON BRIDGE

DIMENSIONS ARE FOR REFERENCE ONLY MATCH EXISTING PARAPET EDGES.



SECTION THRU PARAPET REPLACEMENT ON WING

DIMENSIONS ARE FOR REFERENCE ONLY MATCH EXISTING PARAPET EDGES.



TYPICAL PARAPET ELEVATION

SEE SHEET 4 FOR SECTION THROUGH JOINT AT ABUTMENT.

(A52) SALVAGE EXIST. LONGITUDINAL REINFORCEMENT AND EXTEND FULL LENGTH INTO NEW WORK.

(S10) BAR COUPLERS USED. BAR LENGTH COMPUTED TO ℄ OF LONGIT. JOINT & SHALL BE MODIFIED TO THE BAR COUPLER MANUFACTURERS RECOMMENDATIONS.

(M02) LONGIT. CONST. JOINT IN JOINT REPAIR. TRAFFIC TO BE MAINTAINED DURING CONSTRUCTION.

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DEPARTMENT OF TRANSPORTATION

STRUCTURE B-36-42

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JOINT REPAIR

SHEET 3 OF 6

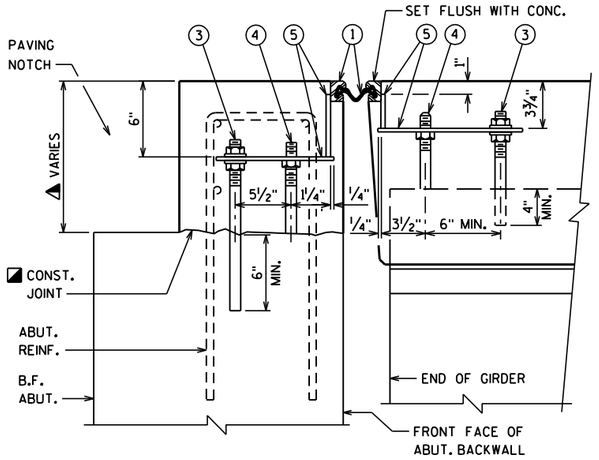
316

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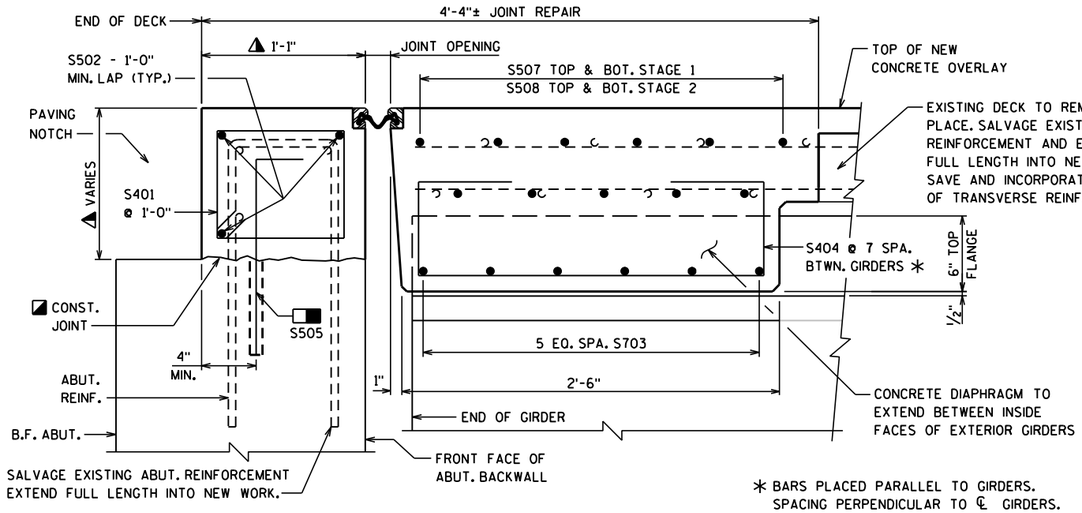
STATE PROJECT NUMBER

1224-21-71



SECTION THRU JOINT AT ABUTMENT

NORMAL TO ℄ SUBSTRUCTURE



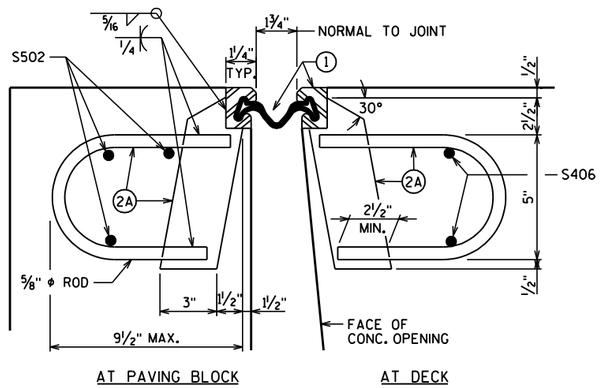
✱ BARS PLACED PARALLEL TO GIRDERS. SPACING PERPENDICULAR TO ℄ GIRDERS.

SECTION THRU JOINT AT ABUTMENT

NORMAL TO ℄ SUBSTRUCTURE

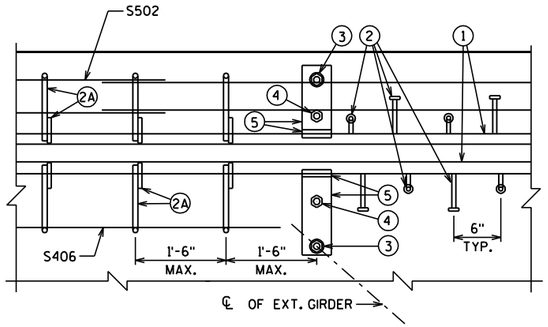
LEGEND

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.
6. GALVANIZED PLATE ⅜" X 1'-2" X 3'-0" LONG WITH HOLES FOR NO. 7. BEND AS SHOWN.
7. ¾"Φ X 1½" STAINLESS STEEL SOCKET FLAT HEAD SCREWS WITH ANTI-SEIZE LUBRICANT. PLACE IN COUNTERSUNK HOLE. RECESS 1/16" BELOW PLATE SURFACE.
8. ¾"Φ X 4" GALVANIZED HEX HEAD BOLT. BEND 45°.
9. ¾"Φ X 2¼" GALVANIZED THREADED COUPLING.
10. 1" × 5" SLOTTED COUNTERSUNK HOLE FOR NO. 7. PLACE SLOT PARALLEL TO DIRECTION OF MOVEMENT.

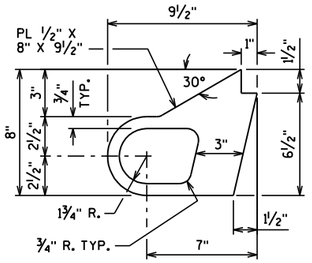


SECTION THRU JOINT

ROADWAY TRAFFIC AREA BETWEEN EXTERIOR GIRDERS



PART PLAN



ALTERNATE STRIP SEAL ANCHOR

NOTES:

ONE FIELD SPLICE PERMITTED IN STEEL EXTRUSIONS. IF USED, DETAILS SHALL BE SUBMITTED FOR APPROVAL. NO SPLICING PERMITTED IN NEOPRENE STRIP SEAL.

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

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

SANDBLAST PLATES & EXTRUSIONS AFTER FABRICATION IN ACCORDANCE WITH SSPC SP. #6 "COMMERCIAL BLAST CLEANING". AFTER BLAST CLEANING THE PLATES & EXTRUSIONS SHALL BE HOT DIPPED GALVANIZED. SLIP-RESISTANT SURFACE IS APPLIED TO SIDEWALK COVER PLATES BY THE MANUFACTURER AND THEN HOT DIPPED GALVANIZED TO THEIR RECOMMENDATIONS TO MAINTAIN THE INTEGRITY OF THIS SURFACE.

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

STRIP SEAL EXPANSION JOINT ASSEMBLY, INCLUDING ANCHOR STUDS & HARDWARE WILL BE PAID FOR AT THE LUMP SUM PRICE BID FOR "EXPANSION DEVICE B-36-42".

REMOVE EXISTING PARAPET AS REQUIRED TO REMOVE EXISTING AND INSTALL NEW EXPANSION DEVICE. (INCORPORATE ALL SLAB REINFORCEMENT INTO NEW WORK). (REUSE ALL PARAPET REINFORCEMENT)

◪ POUR CONCRETE ABOVE THIS JOINT AFTER SUPERSTRUCTURE IS IN PLACE. STRIKE OFF AND LEAVE ROUGH.

⚠ MATCH TOP OF PAVING BLOCK TO ROADWAY CROWN AND GRADE.

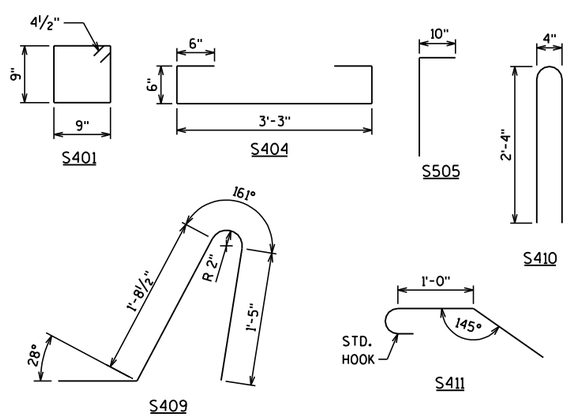
☆ COUPLED BAR LENGTHS ARE GIVEN AS END TO END AND MAKE NO ALLOWANCE FOR GAPS REQUIRED BY THE COUPLER CHOSEN. ADJUST LENGTH AS REQUIRED FOR COUPLER PLACEMENT.

■ MASONRY ANCHORS TYPE L NO. 5 BARS. EMBED MIN. 1'-6" INTO EXISTING CONCRETE. SPACE AT 1'-0". TURN 10" LEG AS NECESSARY TO FIT.

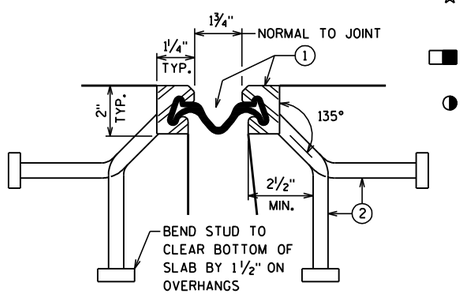
◑ FIELD CUT AT CONSTRUCTION JOINT AND USE BAR COUPLER.

BILL OF BARS

	BAR MARK	COAT	SOUTH ABUT.	NORTH ABUT.	LENGTH	BENT	LOCATION
	S401	X	61	61	3'-6"	X	PAVING BLOCK
◑	S502	X	27	27	7'-8"		PAVING BLOCK
◑	S703	X	30	30	8'-5"		DECK - DIAPHRAGM
	S404	X	40	40	4'-11"	X	DECK - DIAPHRAGM
■	S505	X	61	61	3'-0"	X	PAVING BLOCK ANCHOR
◑	S406	X	10	10	10'-0"		END OF DECK
☆	S507	X	11	11	27'-0"		SLAB TRANSVERSE STAGE 1
☆	S508	X	11	11	33'-1"		SLAB TRANSVERSE STAGE 2
	S409	X	14	14	4'-3"	X	PARAPET VERTICAL
	S410	X	21	21	4'-10"	X	PARAPET VERTICAL
	S411	X	7	7	2'-8"	X	PARAPET VERTICAL
	S412	X	7	7	2'-0"		PARAPET VERTICAL



BAR BENDING DIAGRAMS



SECTION THRU JOINT

EXTERIOR GIRDER TO EDGE OF DECK AND AT PARAPETS, MEDIANS AND SIDEWALKS

NO.	DATE	REVISION	BY

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DEPARTMENT OF TRANSPORTATION

STRUCTURE B-36-42

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EXPANSION DEVICE

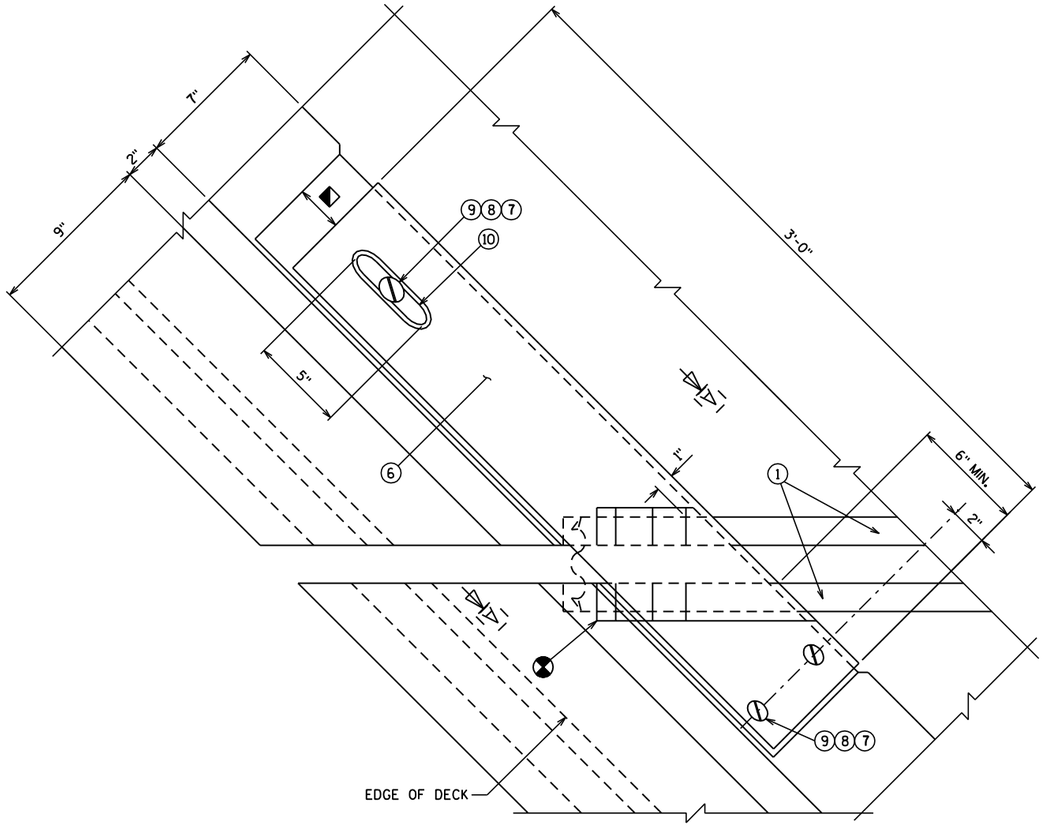
SHEET 4 OF 6

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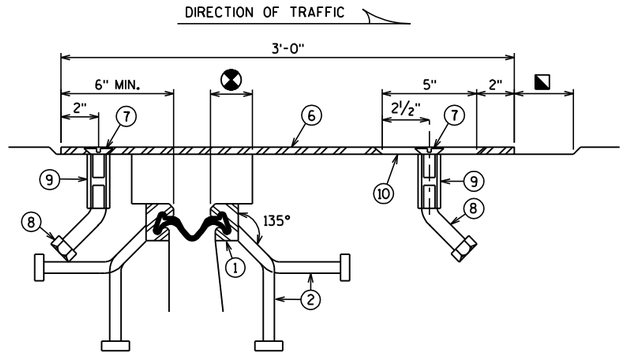


PLAN

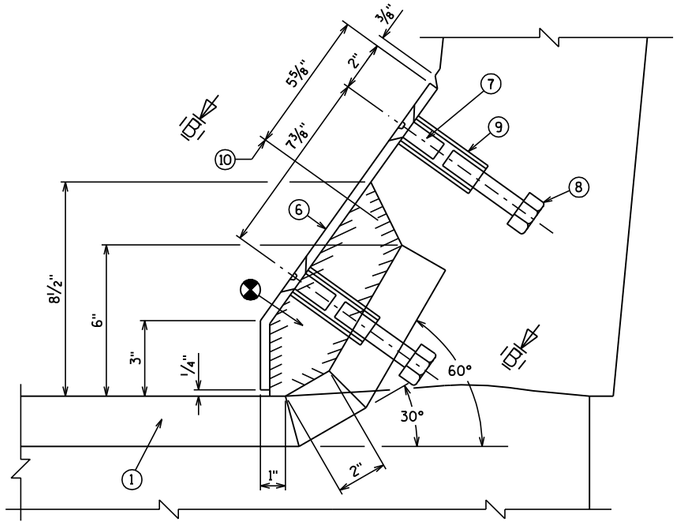
SEE SHEET 4 FOR LEGEND AND NOTES.

BLOCK OUT CONCRETE 2" EACH SIDE OF JOINT OPENING.

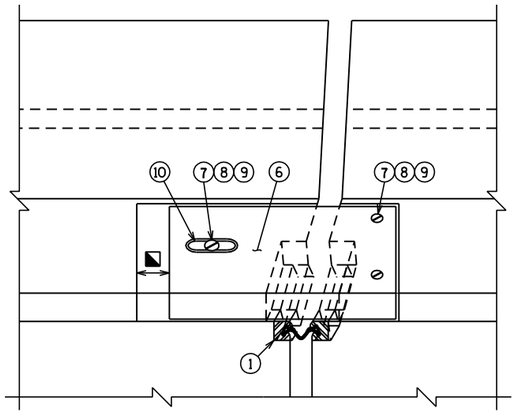
JOINT OPENING DIMENSION ALONG SKEW PLUS ½".



SECTION B-B



SECTION A-A



VIEW OF PARAPET PLATE FROM ROADWAY

8

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NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-36-42

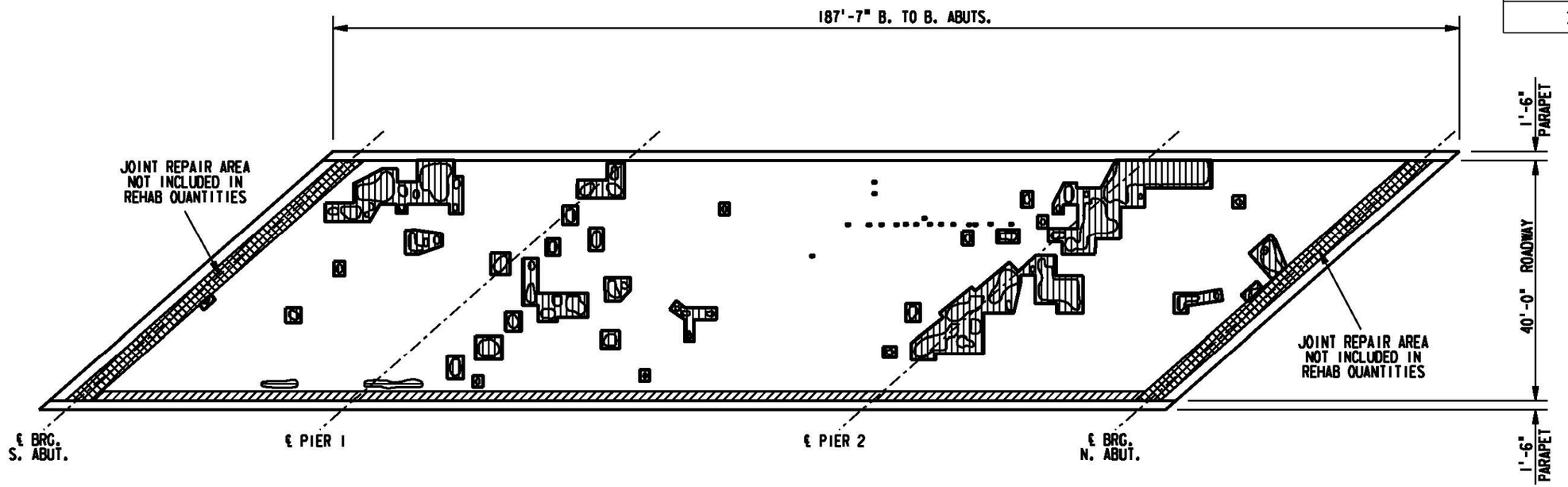
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COVER PLATE DETAILS

SHEET 5 OF 6

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PLAN

PROPOSED REHAB AREAS



SCALE 0' 5' 10' 20'

FIELD OBSERVATIONS SUMMARY		STRUCTURE NO. B-36-42	
ITEM	UNIT	QUANT.	%
TOTAL AREA	yd²	825.8	
SHADE/DEBRIS	yd²	30.9	
PREPARATION, DECKS, TYPE 1	yd²	93.2	11.7
PREPARATION, DECKS, TYPE 2	yd²	46.6	5.9
FULL DEPTH DECK REPAIR	yd²	1.0	0.1

LEGEND	
DECK PREPARATION AREA	DELAMINATION
SHADE/DEBRIS	SPALL
	DEBOND
	ASPHALT PATCH
	CONCRETE PATCH

SURFACE TYPE: BITUMINOUS OVERLAY
INFRARED INSPECTION DATE: 7/17/2014

8

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STRUCTURE B-36-42

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DECK REPAIR

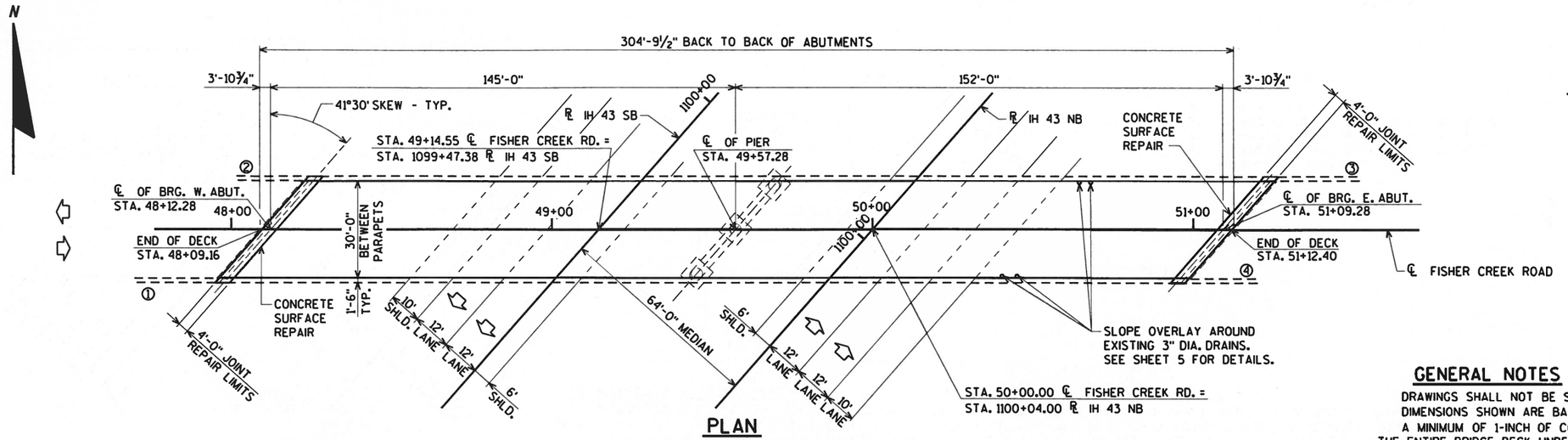
SHEET 6 OF 6

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FILE NAME : F:±TR±JOBS±E2041A12±Sheets±Bridges±B-36-42±B-36-42 06 deck repair.dgn PLOT BY : olsonk PLOT DATE: 5/31/2015 4:56:51 PM

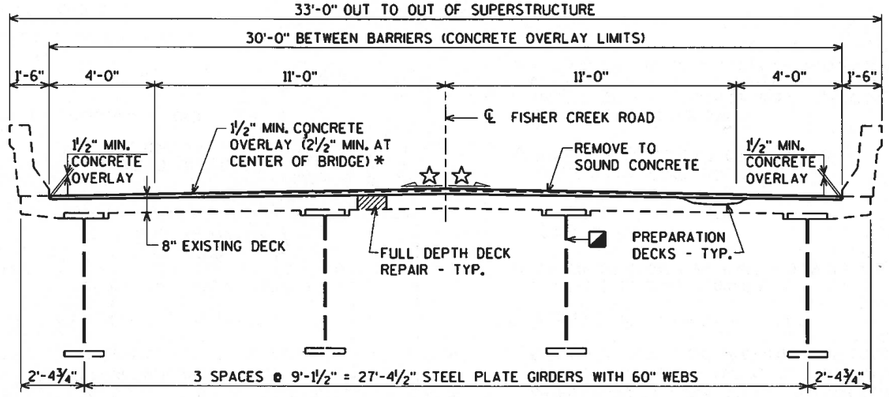
STATE PROJECT NUMBER

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PLAN

2-SPAN STEEL DECK GIRDER BRIDGE CONCRETE OVERLAY



CROSS SECTION THRU BRIDGE

(LOOKING EAST)

LIST OF DRAWINGS

1. GENERAL PLAN
2. EXPANSION JOINT DETAILS AT ABUTMENTS
3. EXPANSION JOINT DETAILS AT ABUTMENTS
4. EXPANSION JOINT DETAILS AT ABUTMENTS
5. PARAPET DETAILS

LEGEND

* THE PROPOSED OVERLAY THICKNESS VARIES FROM A MINIMUM OF 1½" AT THE PARAPETS TO 2½" AT THE CROWN. THE MINIMUM AVERAGE OVERLAY THICKNESS IS 2". THE EXPECTED AVERAGE OVERLAY THICKNESS IS 2½".

△ BID ITEM ALSO INCLUDES CONCRETE FOR:
"PREPARATION DECKS TYPE 1"
"PREPARATION DECKS TYPE 2"
"FULL-DEPTH DECK REPAIR"
"JOINT REPAIR"

☆ NEW CONCRETE OVERLAY SLOPE = 0.02 %
CURRENT DECK SLOPE = 0.015 %

◯ DENOTES WING NUMBER.

◪ CLEAN AND PAINT 6' END SECTIONS OF ALL GIRDERS AND END DIAPHRAGMS ADJACENT TO JOINTS ONLY. DO NOT PAINT EXTERIOR FACE OF EXTERIOR GIRDERS.

GENERAL NOTES

DRAWINGS SHALL NOT BE SCALED.

DIMENSIONS SHOWN ARE BASED ON ORIGINAL STRUCTURE PLANS.

A MINIMUM OF 1-INCH OF CONCRETE SHALL BE REMOVED FROM THE ENTIRE BRIDGE DECK UNDER THE BID ITEM "CLEANING DECKS".

ANY EXCAVATION NECESSARY TO COMPLETE THE OVERLAY OR JOINT REPAIR AT THE ABUTMENTS IS CONSIDERED INCIDENTAL TO THE BID ITEM "CONCRETE MASONRY OVERLAY DECKS".

REMOVAL LINES NOT COVERED WITH A CONCRETE OVERLAY SHALL BE DEFINED BY A 1" DEEP SAW CUT AT THE CONCRETE SURFACES.

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

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

PREPARATION DECKS TYPE 1, PREPARATION DECKS TYPE 2, CONCRETE SURFACE REPAIR AND FULL DEPTH DECK REPAIR AREAS SHALL BE DETERMINED BY THE FIELD ENGINEER.

APPLY BRIDGE SEAT PROTECTION, AS PER SECTION 502.3.12 OF THE STANDARD SPECIFICATIONS, TO THE TOP SURFACES OF BOTH ABUTMENTS BELOW EXPANSION DEVICES, POWER WASH AND ADEQUATELY DRY SURFACES BEFORE APPLICATION. WORK TO BE INCIDENTAL TO "JOINT REPAIR".

PROFILE GRADE LINE SHALL BE DETERMINED IN THE FIELD BASED ON A MINIMUM OVERLAY THICKNESS OF 1½" PLACED ABOVE THE DECK SURFACE AFTER "CLEANING DECKS". EXPECTED AVERAGE OVERLAY THICKNESS IS 2½". IF EXPECTED AVERAGE OVERLAY THICKNESS IS EXCEEDED BY MORE THAN ½", CONTACT THE STRUCTURES DESIGN SECTION.

PARAPET JOINTS TO BE RE-SEALED WITH NON-STAINING GRAY NON-BITUMINOUS JOINT SEALER (1" DEEP AND HOLD ⅛" BELOW SURFACE OF CONCRETE). WORK CONSIDERED INCIDENTAL TO "JOINT REPAIR".

PAINT COLOR TO BE BROWN (FEDERAL STANDARD COLOR NO. 20059).

CLEAN FULL LENGTH OF PARAPETS ACCORDING TO STSP ITEM 509.9050.S "CLEANING PARAPETS".

PROTECTIVE SURFACE TREATMENT IS TO BE APPLIED TO THE TOP OF THE OVERLAY AND PIGMENTED SURFACE SEALER IS TO BE APPLIED TO THE TOP AND INSIDE FACE OF PARAPETS.

TOTAL ESTIMATED QUANTITIES

	BID ITEM NUMBER	BID ITEMS	UNIT	TOTAL
	502.0100	CONCRETE MASONRY BRIDGES	CY	2
	502.3100	EXPANSION DEVICE B-36-43	LS	1
	502.3200	PROTECTIVE SURFACE TREATMENT	SY	1,020
	502.3210	PIGMENTED SURFACE SEALER	SY	275
	502.5005	MASONRY ANCHOR TYPE L NO. 5 BARS	EACH	78
	505.0600	BAR STEEL REINFORCEMENT HS COATED STRUCTURES	LB	3,080
	509.0301	PREPARATION DECKS TYPE 1	SY	10
	509.0302	PREPARATION DECKS TYPE 2	SY	4
	509.0500	CLEANING DECKS	SY	985
	509.1000	JOINT REPAIR	SY	40
	509.1500	CONCRETE SURFACE REPAIR	SF	120
	509.2000	FULL-DEPTH DECK REPAIR	SY	2
△	509.2500	CONCRETE MASONRY OVERLAY DECKS	CY	84
	509.9050.S	CLEANING PARAPETS	LF	695
◪	517.3000.S	STRUCTURE OVERCOATING CLEANING AND PRIMING B-36-43	LS	1
◪	517.4000.S	CONTAINMENT AND COLLECTION OF WASTE MATERIALS B-36-43	LS	1

DESIGN DATA

LIVE LOAD:

DESIGN LOADING: HS-20
INVENTORY RATING: HS-23
OPERATING RATING: HS-38
WISCONSIN STANDARD PERMIT VEHICLE (WIS-SPV) = 220 KIPS

MATERIAL PROPERTIES:

CONCRETE MASONRY _____ f'_c = 4,000 p.s.i.
HIGH STRENGTH BAR STEEL REINFORCEMENT (GRADE 60) __ f_y = 60,000 p.s.i.

TRAFFIC DATA:

IH 43		FISHER CREEK RD.	
A.D.T. =	25,000 (2016)	A.D.T. =	125 (2016)
A.D.T. =	29,500 (2036)	A.D.T. =	175 (2036)
R.D.S. =	70 M.P.H.	R.D.S. =	50 M.P.H.

WISCONSIN
DANIEL N. SYDOW
E-38363
WI
PROFESSIONAL ENGINEER
5/21/2015

BRIDGE OFFICE CONTACT:
WILLIAM DREHER
(608)-266-8489

CONSULTANT CONTACT:
DAN SYDOW
(715)-834-3161

NO.	DATE	REVISION	BY

ORIGINAL PLANS PREPARED BY
AYRES ASSOCIATES
3433 Oakwood Hills Parkway
Eau Claire, WI 54701
www.AyresAssociates.com

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

ACCEPTED William C. Dreher SDR 08/17/15
CHIEF STRUCTURES DESIGN ENGINEER DATE

STRUCTURE B-36-43

FISHER CREEK ROAD OVER IH 43

COUNTY MANITOWOC | TOWN/~~CITY/VILLAGE~~ CENTERVILLE

DESIGN SPEC. REHABILITATION N/A

DESIGNED BY	DESIGN CK'D.	DRAWN BY	PLANS CK'D.
JWZ	JCK	CJM/CLS	BVS

GENERAL PLAN

SHEET 320 OF 5

DATE: DATE: DATE:
CHECKED BY: BACK CHECKED BY: CORRECTED BY:

$PRFNAME$
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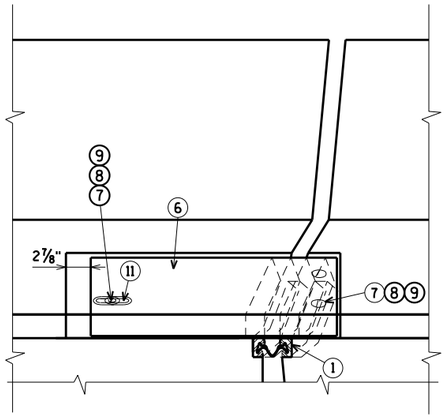
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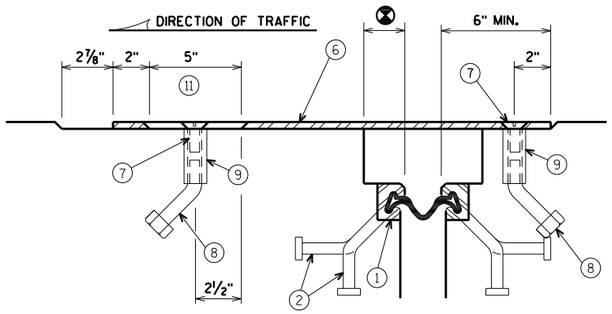
5/21/2015

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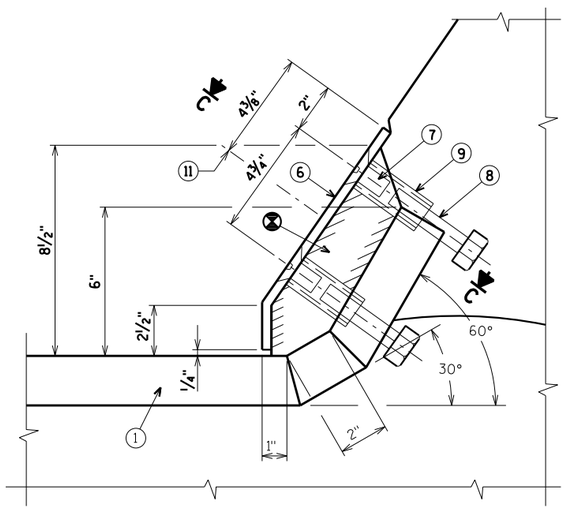
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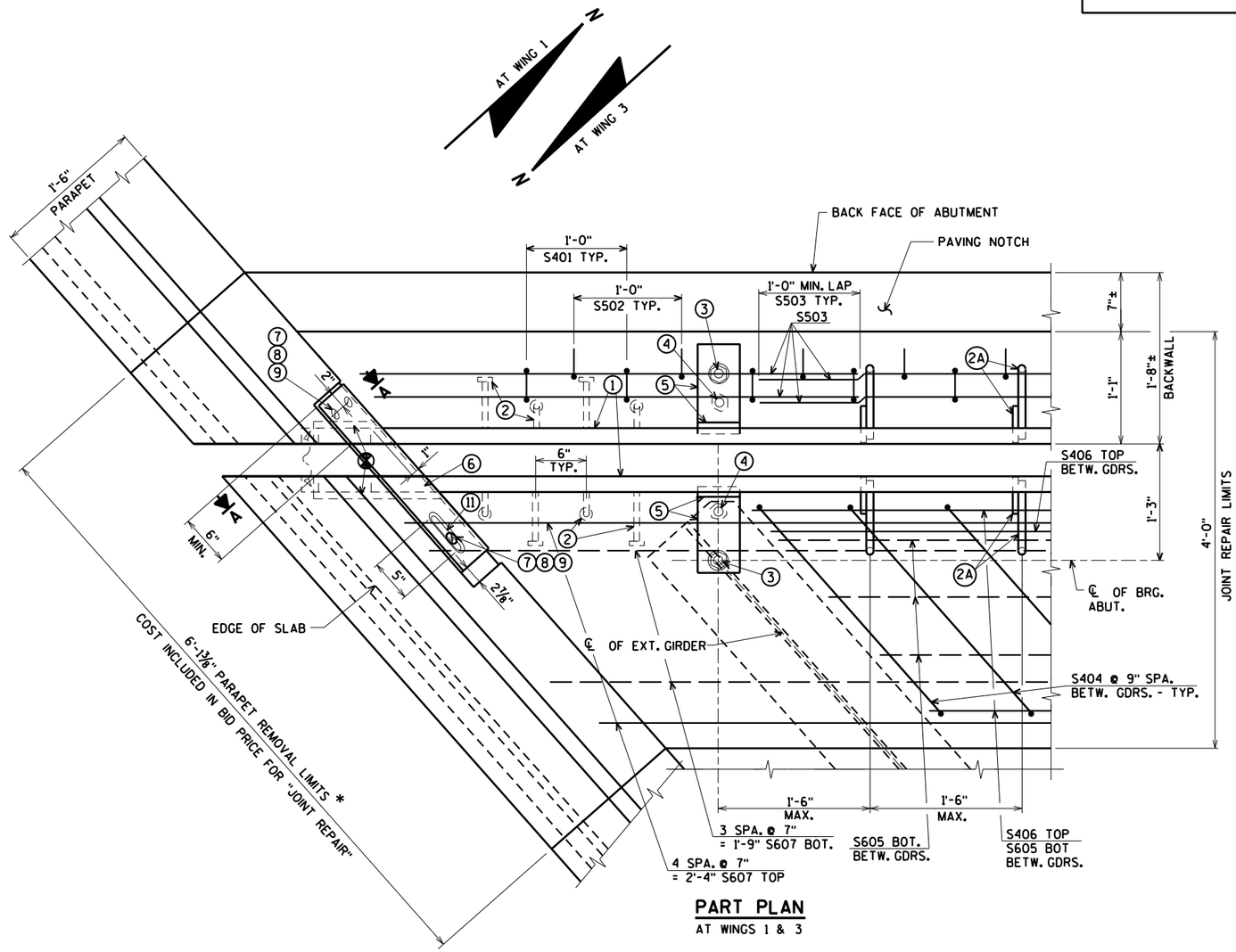
VIEW OF PARAPET PLATES FROM ROADWAY



SECTION C



SECTION A



PART PLAN
AT WINGS 1 & 3

*UTILIZE EXISTING VERTICAL BAR STEEL FOR PARAPET REMOVAL LIMITS OUTSIDE OF THE "JOINT REPAIR" LIMITS.

⊠ BLOCK OUT CONCRETE 2" EACH SIDE OF JOINT OPENING.

WORK THIS SHEET WITH SHEETS 3, 4 & 5

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-36-43

DRAWN BY CLS | PLANS CK'D. JCK

EXPANSION JOINT DETAILS AT ABUTMENTS

SHEET 2 OF 5
321

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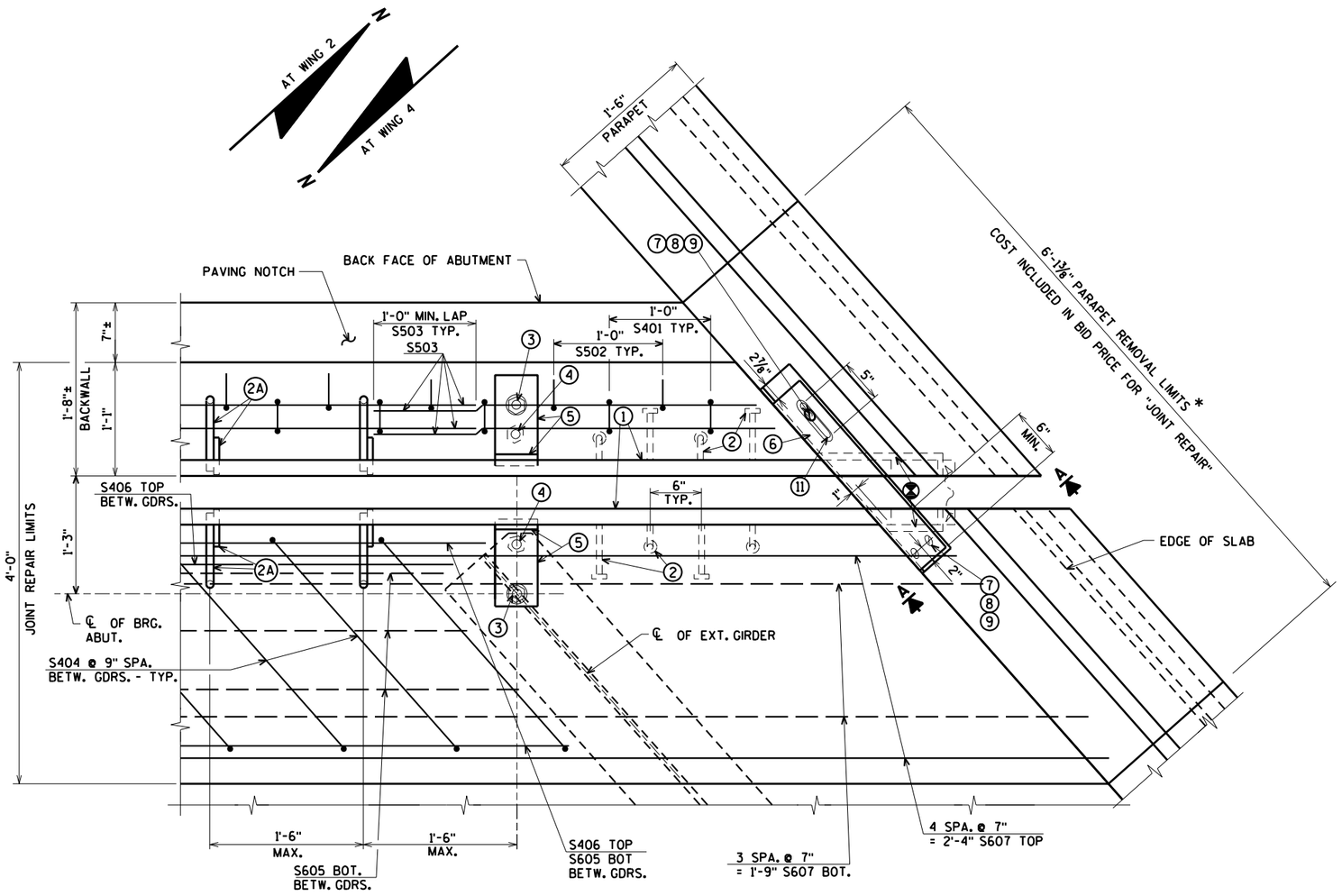
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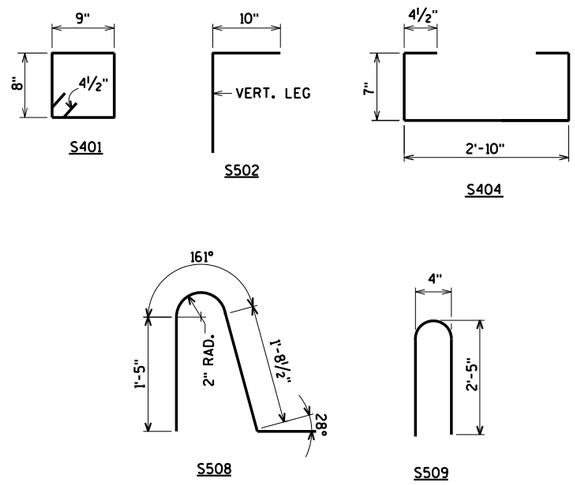
1224-21-71

BILL OF BARS

BAR. NO.	COATED BAR	NO. REQ'D.	LENGTH	BENT BAR	BUNDLED BAR SERIES	3,080# COATED LOCATION
S401	X	80	3-4	X		PAVING BLOCK VERT.
S502	X	78	2-11	X		PAVING BLOCK VERT. ANCHOR
S503	X	12	20-5			PAVING BLOCK HORIZ.
S404	X	66	4-5	X		DIAPH. VERT.
S605	X	30	10-6			DIAPH. HORIZ.
S406	X	24	10-6			DIAPH. HORIZ.
S607	X	36	22-11			DECK TRANSVERSE
S508	X	14	4-3	X		PARAPET VERT.
S509	X	32	5-0	X		PARAPET VERT.
S510	X	4	0-8			PARAPET HORIZ. APPROACH WINGS 1 & 3
S511	X	4	0-11			PARAPET HORIZ. APPROACH WINGS 1 & 3
S512	X	2	1-6			PARAPET HORIZ. APPROACH WINGS 1 & 3
S513	X	4	4-4			PARAPET STRUCTURE APPROACH WINGS 1 & 3
S514	X	4	4-2			PARAPET STRUCTURE APPROACH WINGS 1 & 3
S515	X	2	3-7			PARAPET STRUCTURE APPROACH WINGS 1 & 3
S516	X	4	2-11			PARAPET HORIZ. APPROACH WINGS 2 & 4
S517	X	4	2-8			PARAPET HORIZ. APPROACH WINGS 2 & 4
S518	X	2	2-2			PARAPET HORIZ. APPROACH WINGS 2 & 4
S519	X	4	2-2			PARAPET STRUCTURE APPROACH WINGS 2 & 4
S520	X	4	2-4			PARAPET STRUCTURE APPROACH WINGS 2 & 4
S521	X	2	2-11			PARAPET STRUCTURE APPROACH WINGS 2 & 4



PART PLAN
AT WINGS 2 & 4



*UTILIZE EXISTING VERTICAL BAR STEEL FOR PARAPET REMOVAL LIMITS OUTSIDE OF THE "JOINT REPAIR" LIMITS.

FOR SECTION A, SEE SHEET 2.

⊗ BLOCK OUT CONCRETE 2" EACH SIDE OF JOINT OPENING.

WORK THIS SHEET WITH SHEETS 2, 4 & 5

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-36-43

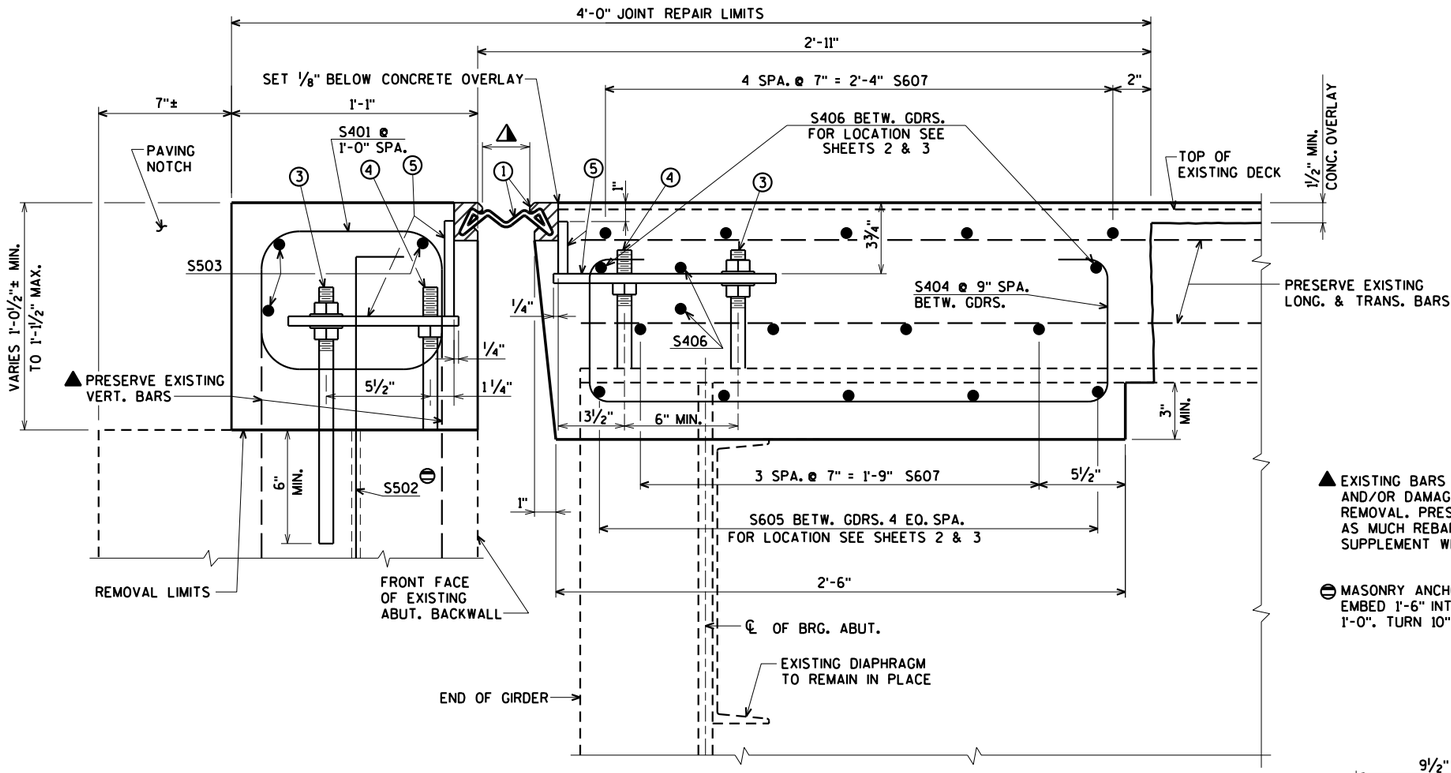
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EXPANSION JOINT DETAILS AT ABUTMENTS

SHEET 3 OF 5
322

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TYPICAL SECTION THRU JOINT
NORMAL TO ℄ SUBSTRUCTURE

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

⊖ MASONRY ANCHORS TYPE L NO. 5 BARS. EMBED 1'-6" INTO CONCRETE. SPACE AT 1'-0". TURN 10" LEG AS NECESSARY TO FIT.

LEGEND

▲1. NEOPRENE STRIP SEAL (5 - INCH) & STEEL EXTRUSIONS. SET JOINT OPENING AT 1 3/4".

2. STUDS 5/8" ϕ X 6 3/8" LONG AT 6" ALTERNATE CENTERS. WELD TO EXTRUSIONS & BEND AS SHOWN AFTER WELDING.

2A. 1/2" THICK ANCHOR PLATE WITH 5/8"ϕ ROD (OR ALTERNATE STRIP SEAL ANCHOR). WELD ROD TO ANCHOR PLATE, WELD ANCHOR PLATE TO #1 AT 1'-6" CTRS. BETWEEN GIRDERS.

3. 3/4" ϕ THREADED ROD WITH 2 NUTS AND PLATE WASHERS. WELD THREADED ROD TO TOP FLANGE OR ATTACH BY BOLTING THRU FLANGE. ON ABUTMENT SIDE, GROUT THREADED ROD INTO FIELD DRILLED HOLES IN ABUTMENT BACKWALL AS SHOWN.

4. 3/4"ϕ THREADED ROD WITH NUT. TACK WELD NUT TO NO. 5.

5. FABRICATE SUPPORT FROM 3" X 1/2" BAR AS SHOWN OR EQUIVALENT, ONE PER GIRDER PER SIDE. FIELD OR SHOP WELD TO NO. 1. IF FIELD WELDED, COVER WELDED AREAS WITH EPOXY-COATING MATERIAL. PROVIDE 1 1/2" ϕ HOLE FOR NO. 3 & 1" ϕ HOLE FOR NO. 4.

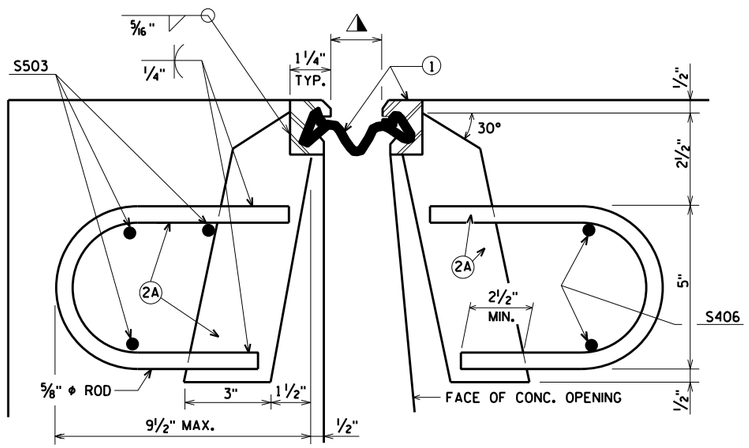
6. GALVANIZED PLATE 3/8" x 10 1/2" x 2'-2" LONG WITH HOLES FOR #7. BEND AS SHOWN.

7. 3/4" ϕ x 1 1/2" STAINLESS STEEL SOCKET FLAT HEAD SCREWS WITH ANTI-SEIZE LUBRICANT. PLACE IN COUNTERSUNK HOLES. RECESS 1/16" BELOW PLATE SURFACE.

8. 3/4" ϕ x 4" GALV. HEX HEAD BOLT. BEND 45°.

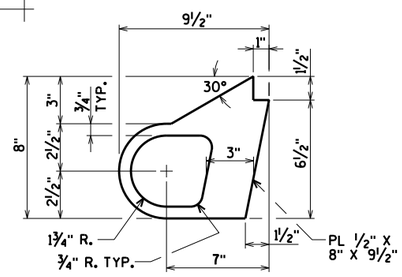
9. 3/4" ϕ x 2 1/4" GALV. THREADED COUPLING.

11. 1" x 5" SLOTTED CSK. HOLE FOR #7. PLACE SLOT PARALLEL TO DIRECTION OF MOVEMENT.

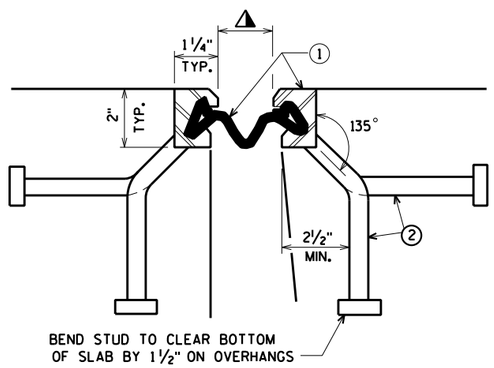


SECTION THRU JOINT
ROADWAY TRAFFIC AREA BETWEEN EXTERIOR GIRDERS.

SYM. ABOUT ℄ JOINT UNLESS OTHERWISE SHOWN OR NOTED.



ALTERNATE STRIP SEAL ANCHOR



SECTION THRU JOINT
EXTERIOR GIRDER TO EDGE OF SLAB & AT PARAPETS.

NOTES

ONE FIELD SPLICE PERMITTED IN STEEL EXTRUSIONS. IF USED, DETAILS SHALL BE SUBMITTED FOR APPROVAL. NO SPLICING PERMITTED IN NEOPRENE STRIP SEAL.

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

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

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

ANCHOR SYSTEM #8 & #9 SHALL CONFORM TO ASTM A307 & SHALL BE GALVANIZED IN ACCORDANCE WITH ASTM A153 CLASS C & D.

STRIP SEAL EXPANSION JOINT ASSEMBLY, INCLUDING ANCHOR STUDS & HARDWARE WILL BE PAID FOR AT THE LUMP SUM PRICE BID FOR "EXPANSION DEVICE B-36-43".

WORK THIS SHEET WITH SHEETS 2 & 3

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-36-43

DRAWN BY CLS | PLANS CK'D. JCK

EXPANSION JOINT DETAILS AT ABUTMENTS

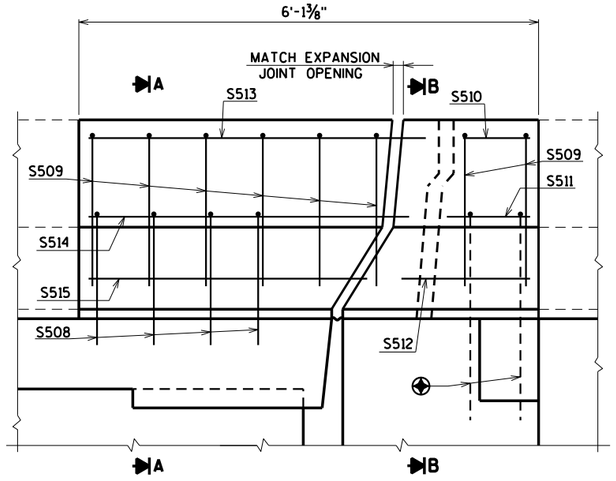
SHEET 4 OF 5
323

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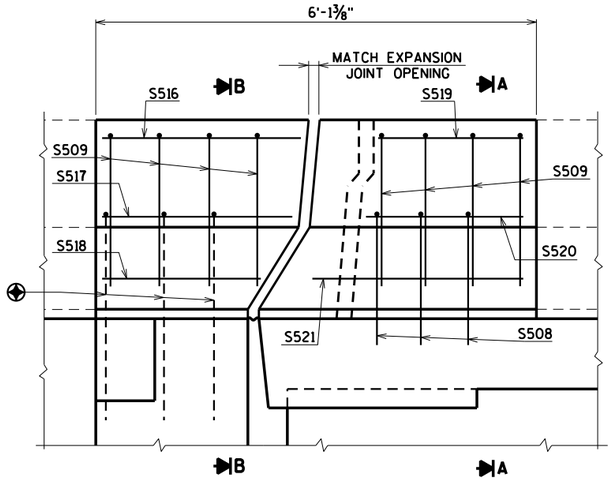
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STATE PROJECT NUMBER

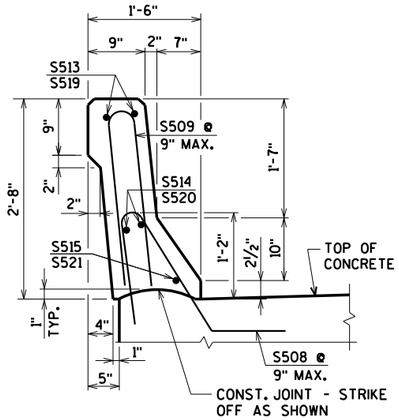
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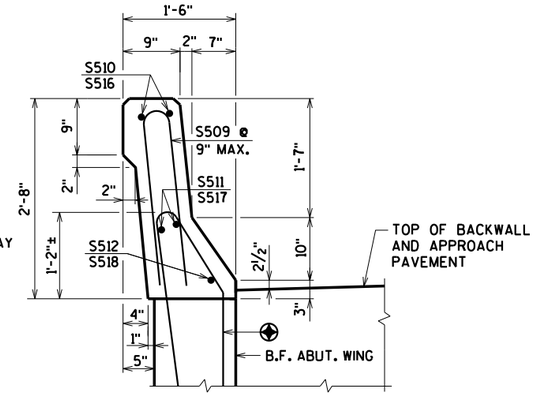
INSIDE ELEVATION
AT WINGS 1 & 3



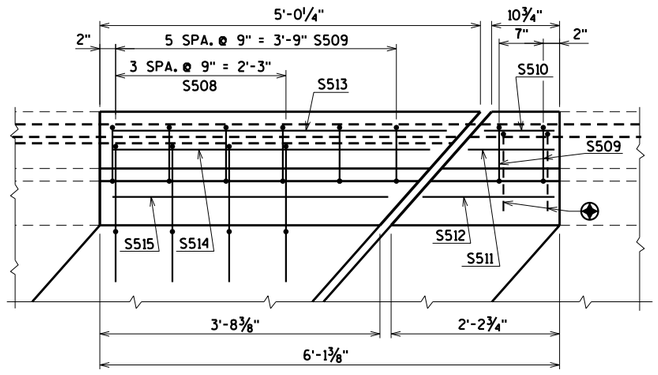
INSIDE ELEVATION
AT WINGS 2 & 4



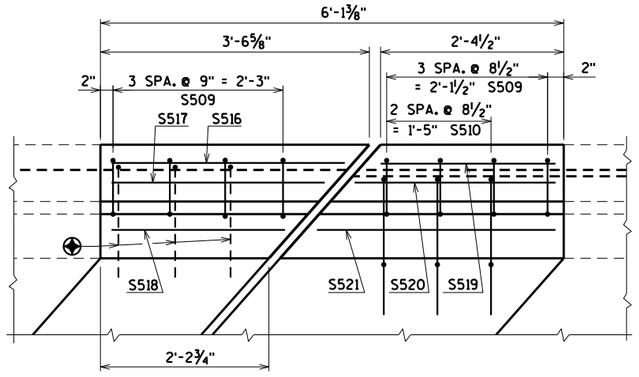
SECTION A



SECTION B



PLAN
AT WINGS 1 & 3



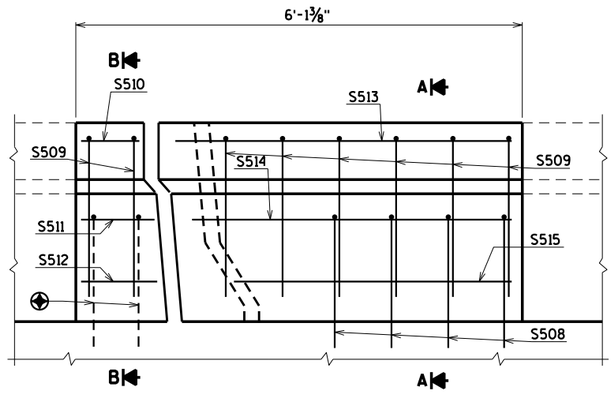
PLAN
AT WINGS 2 & 4

SECTION THRU DRAIN

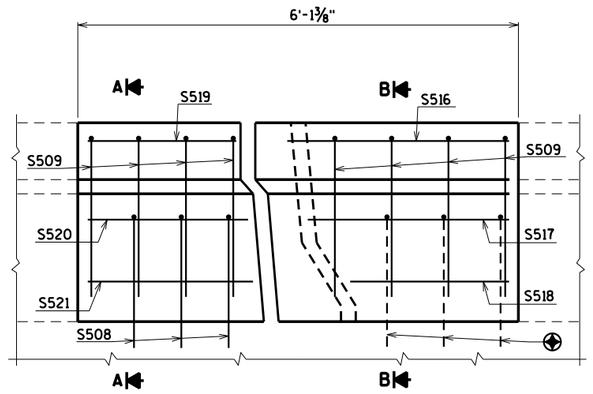
SECTION C

SLOPE OVERLAY AROUND EXISTING DRAIN DETAIL

COST TO SLOPE OVERLAY AROUND THE EXISTING DRAINS IS INCLUDED IN THE BID ITEM "CONCRETE MASONRY OVERLAY DECKS".



OUTSIDE ELEVATION
AT WINGS 1 & 3



OUTSIDE ELEVATION
AT WINGS 2 & 4

UTILIZE EXISTING VERTICAL BAR STEEL

WORK THIS SHEET WITH SHEETS 2 & 3

NO.	DATE	REVISION	BY

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DEPARTMENT OF TRANSPORTATION

STRUCTURE B-36-43

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PARAPET DETAILS

SHEET 5 OF 5
324

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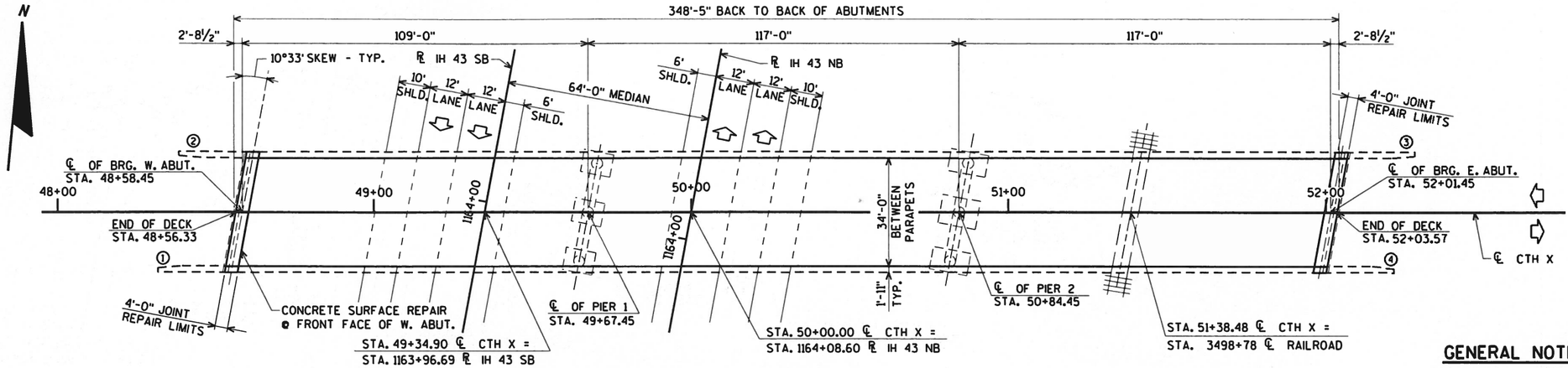
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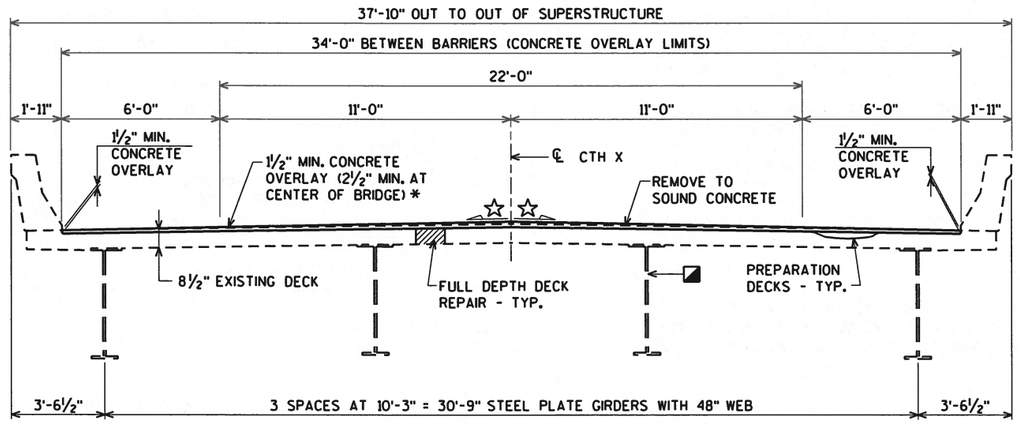
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PLAN

3-SPAN STEEL DECK GIRDER BRIDGE CONCRETE OVERLAY



CROSS SECTION THRU BRIDGE

(LOOKING EAST)

TOTAL ESTIMATED QUANTITIES

	BID ITEM NUMBER	BID ITEMS	UNIT	TOTAL
	502.0100	CONCRETE MASONRY BRIDGES	CY	2
	502.3100	EXPANSION DEVICE B-36-45	LS	1
	502.3200	PROTECTIVE SURFACE TREATMENT	SY	1,325
	502.3210	PIGMENTED SURFACE SEALER	SY	330
	502.5005	MASONRY ANCHOR TYPE L NO. 5 BARS	EACH	66
	505.0600	BAR STEEL REINFORCEMENT HS COATED STRUCTURES	LB	2,700
	509.0301	PREPARATION DECKS TYPE 1	SY	26
	509.0302	PREPARATION DECKS TYPE 2	SY	10
	509.0500	CLEANING DECKS	SY	1,290
	509.1000	JOINT REPAIR	SY	34
	509.1500	CONCRETE SURFACE REPAIR	SF	60
	509.2000	FULL-DEPTH DECK REPAIR	SY	2
△	509.2500	CONCRETE MASONRY OVERLAY DECKS	CY	105
	509.9050.S	CLEANING PARAPETS	LF	778
◪	517.3000.S	STRUCTURE OVERCOATING CLEANING AND PRIMING B-36-45	LS	1
◪	517.4000.S	CONTAINMENT AND COLLECTION OF WASTE MATERIALS B-36-45	LS	1

LEGEND

* THE PROPOSED OVERLAY THICKNESS VARIES FROM A MINIMUM OF ½" AT THE PARAPETS TO 2½" AT THE CROWN. THE MINIMUM AVERAGE OVERLAY THICKNESS IS 2". THE EXPECTED AVERAGE OVERLAY THICKNESS IS 2½".

△ BID ITEM ALSO INCLUDES CONCRETE FOR:
"PREPARATION DECKS TYPE 1"
"PREPARATION DECKS TYPE 2"
"FULL-DEPTH DECK REPAIR"
"JOINT REPAIR"

☆ NEW CONCRETE OVERLAY SLOPE = 0.02 ⅋
CURRENT DECK SLOPE = 0.015 ⅋

◯ DENOTES WING NUMBER.

◪ CLEAN AND PAINT 6' END SECTIONS OF ALL GIRDERS AND END DIAPHRAGMS ADJACENT TO JOINTS ONLY. DO NOT PAINT EXTERIOR FACE OF EXTERIOR GIRDERS.

LIST OF DRAWINGS

1. GENERAL PLAN
2. EXPANSION JOINT DETAILS AT ABUTMENTS
3. EXPANSION JOINT DETAILS AT ABUTMENTS
4. EXPANSION JOINT DETAILS AT ABUTMENTS
5. PARAPET DETAILS

DESIGN DATA

LIVE LOAD:

DESIGN LOADING: HS-20
INVENTORY RATING: HS-22
OPERATING RATING: HS-36
WISCONSIN STANDARD PERMIT VEHICLE (WIS-SPV) = 230 KIPS

MATERIAL PROPERTIES:

CONCRETE MASONRY _____ f'_c = 4,000 p.s.i.
HIGH STRENGTH BAR STEEL REINFORCEMENT (GRADE 60) __ f_y = 60,000 p.s.i.

TRAFFIC DATA:

IH 43	CTH X
A.D.T. = 25,000 (2016)	A.D.T. = 150 (1980)
A.D.T. = 29,500 (2036)	A.D.T. = 280 (2036)
R.D.S. = 70 M.P.H.	R.D.S. = 50 M.P.H.

GENERAL NOTES

DRAWINGS SHALL NOT BE SCALED.

DIMENSIONS SHOWN ARE BASED ON ORIGINAL STRUCTURE PLANS.

A MINIMUM OF 1-INCH OF CONCRETE SHALL BE REMOVED FROM THE ENTIRE BRIDGE DECK UNDER THE BID ITEM "CLEANING DECKS".

ANY EXCAVATION NECESSARY TO COMPLETE THE OVERLAY OR JOINT REPAIR AT THE ABUTMENTS IS CONSIDERED INCIDENTAL TO THE BID ITEM "CONCRETE MASONRY OVERLAY DECKS".

REMOVAL LINES NOT COVERED WITH A CONCRETE OVERLAY SHALL BE DEFINED BY A 1" DEEP SAW CUT AT THE CONCRETE SURFACES.

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

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

PREPARATION DECKS TYPE 1, PREPARATION DECKS TYPE 2, CONCRETE SURFACE REPAIR AND FULL DEPTH DECK REPAIR AREAS SHALL BE DETERMINED BY THE FIELD ENGINEER.

APPLY BRIDGE SEAT PROTECTION, AS PER SECTION 502.3.12 OF THE STANDARD SPECIFICATIONS, TO THE TOP SURFACES OF BOTH ABUTMENTS BELOW EXPANSION DEVICES, POWER WASH AND ADEQUATELY DRY SURFACES BEFORE APPLICATION. WORK TO BE INCIDENTAL TO "JOINT REPAIR".

PROFILE GRADE LINE SHALL BE DETERMINED IN THE FIELD BASED ON A MINIMUM OVERLAY THICKNESS OF 1½". PLACED ABOVE THE DECK SURFACE AFTER "CLEANING DECKS". EXPECTED AVERAGE OVERLAY THICKNESS IS 2½". IF EXPECTED AVERAGE OVERLAY THICKNESS IS EXCEEDED BY MORE THAN ½", CONTACT THE STRUCTURES DESIGN SECTION.

PARAPET JOINTS TO BE RE-SEALED WITH NON-STAINING GRAY NON-BITUMINOUS JOINT SEALER (1" DEEP AND HOLD ⅛" BELOW SURFACE OF CONCRETE). WORK CONSIDERED INCIDENTAL TO "JOINT REPAIR".

PAINT COLOR TO BE BROWN (FEDERAL STANDARD COLOR NO. 20059).

CLEAN FULL LENGTH OF PARAPETS ACCORDING TO STSP ITEM 509.9050.S "CLEANING PARAPETS".

PROTECTIVE SURFACE TREATMENT IS TO BE APPLIED TO THE TOP OF THE OVERLAY AND PIGMENTED SURFACE SEALER IS TO BE APPLIED TO THE TOP AND INSIDE FACE OF PARAPETS.



BRIDGE OFFICE CONTACT:
WILLIAM DREHER
(608)-266-8489

CONSULTANT CONTACT:
DAN SYDOW
(715)-834-3161

NO.	DATE	REVISION	BY

ORIGINAL PLANS PREPARED BY
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STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

ACCEPTED William C. Dreher SDR 08/17/15
CHIEF STRUCTURES DESIGN ENGINEER DATE

STRUCTURE B-36-45

CTH X OVER IH 43 AND CNW RAILROAD

COUNTY	TOWN/~~CITY/VILLAGE~~
MANITOWOC	CENTERVILLE

DESIGN SPEC. REHABILITATION N/A

DESIGNED BY	DESIGN CK'D.	DRAWN BY	PLANS CK'D.
JWZ	JCK	CJM/CLS	DNS

GENERAL PLAN

SHEET 325 OF 5

8

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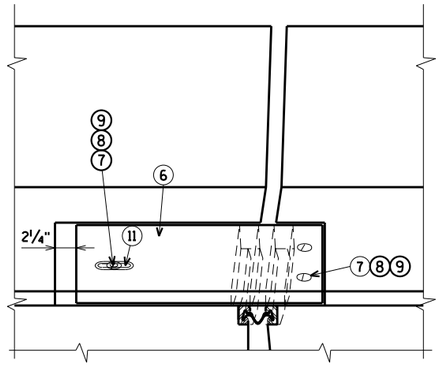
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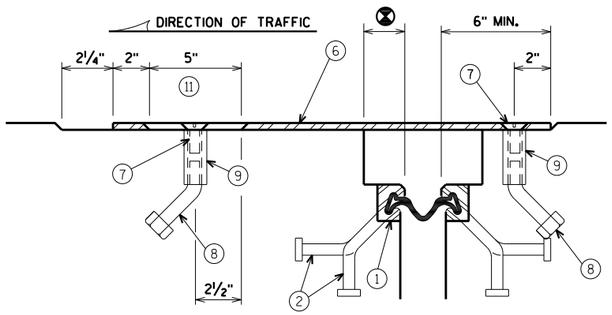
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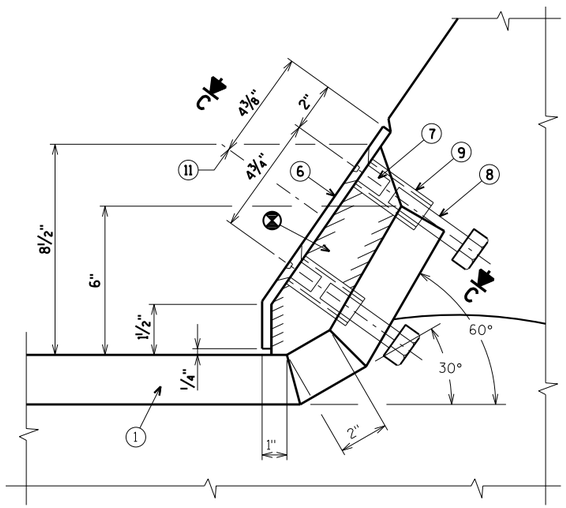
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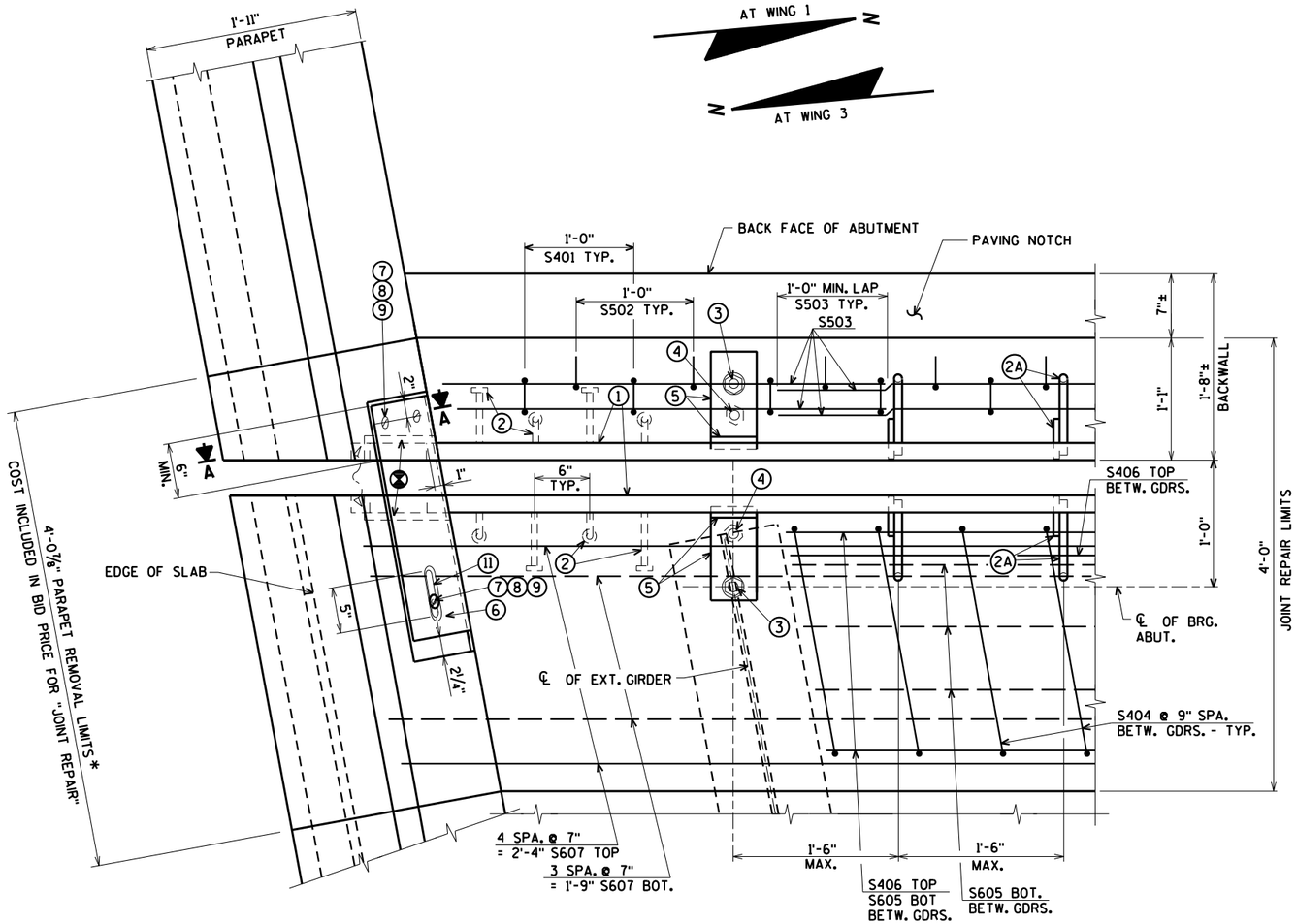
VIEW OF PARAPET PLATES FROM ROADWAY



SECTION C



SECTION A



PART PLAN
AT WINGS 1 & 3

*UTILIZE EXISTING VERTICAL BAR STEEL FOR PARAPET REMOVAL LIMITS OUTSIDE OF THE "JOINT REPAIR" LIMITS.

⊠ BLOCK OUT CONCRETE 2" EACH SIDE OF JOINT OPENING.

WORK THIS SHEET WITH SHEETS 3, 4 & 5

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-36-45

DRAWN BY CLS | PLANS CK'D. JCK

EXPANSION JOINT DETAILS AT ABUTMENTS

SHEET 2 OF 5
326

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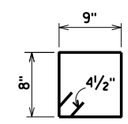
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STATE PROJECT NUMBER

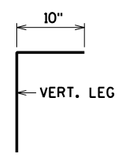
1224-21-71

BILL OF BARS

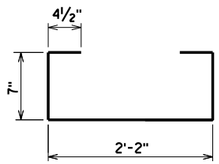
BAR. NO.	COATED BAR	NO. REQ'D.	LENGTH	BENT BAR	BUNDLED BAR SERIES	2,700# COATED LOCATION
S401	X	68	3-4	X		PAVING BLOCK VERT.
S502	X	66	2-11	X		PAVING BLOCK VERT. ANCHOR
S503	X	12	17-8			PAVING BLOCK HORIZ.
S404	X	78	3-9	X		DIAPH. VERT.
S605	X	30	9-0			DIAPH. HORIZ.
S406	X	24	9-0			DIAPH. HORIZ.
S607	X	36	20-3			DECK TRANSVERSE
S508	X	16	4-9	X		PARAPET VERT.
S509	X	26	5-0	X		PARAPET VERT.
S510	X	10	0-5			PARAPET HORIZ. WINGS 1 & 3 APPROACH
S511	X	10	2-5			PARAPET HORIZ. WINGS 1 & 3 STRUCTURE
S512	X	10	1-8			PARAPET HORIZ. WINGS 2 & 4 APPROACH
S513	X	10	2-1			PARAPET HORIZ. WINGS 2 & 4 STRUCTURE



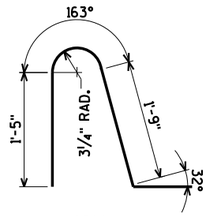
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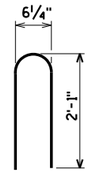
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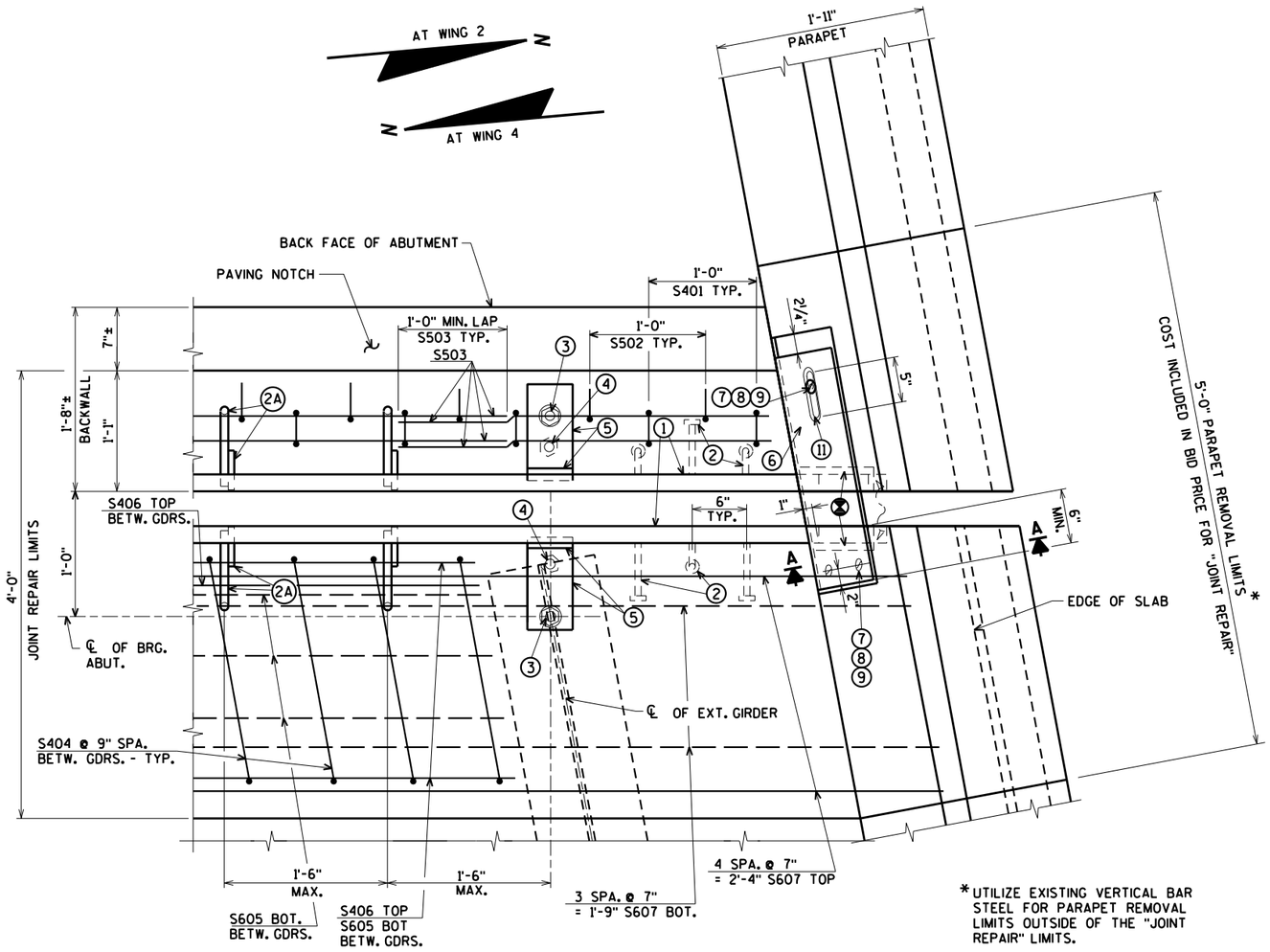
S404



S508



S509



PART PLAN
AT WINGS 2 & 4

*UTILIZE EXISTING VERTICAL BAR STEEL FOR PARAPET REMOVAL LIMITS OUTSIDE OF THE "JOINT REPAIR" LIMITS.

FOR SECTION A, SEE SHEET 2.

⊗ BLOCK OUT CONCRETE 2" EACH SIDE OF JOINT OPENING.

WORK THIS SHEET WITH SHEETS 2, 4 & 5

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-36-45

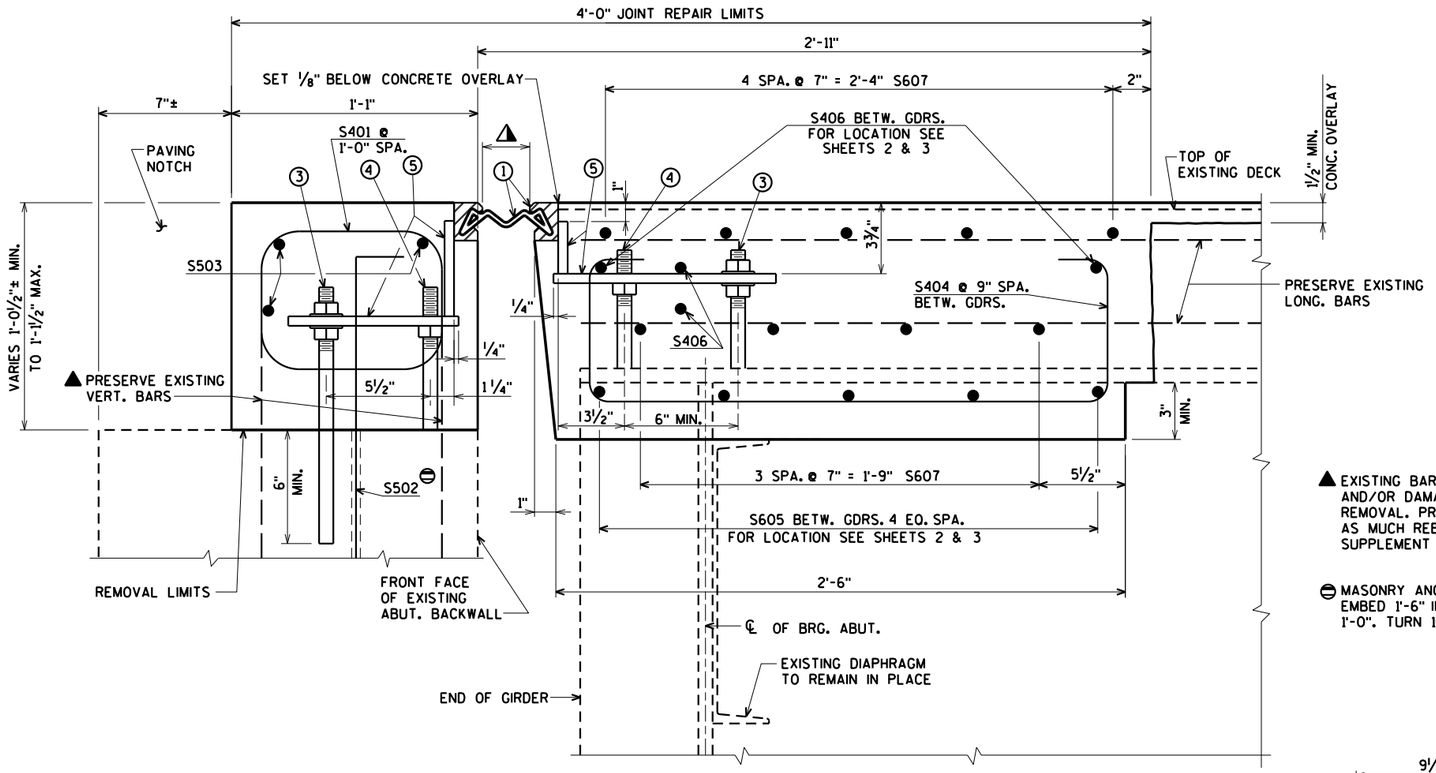
DRAWN BY CLS | PLANS CK'D. JCK

EXPANSION JOINT DETAILS AT ABUTMENTS

SHEET 3 OF 5
327

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TYPICAL SECTION THRU JOINT
NORMAL TO ℄ SUBSTRUCTURE

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

⊖ MASONRY ANCHORS TYPE L NO. 5 BARS. EMBED 1'-6" INTO CONCRETE. SPACE AT 1'-0". TURN 10" LEG AS NECESSARY TO FIT.

LEGEND

▲1. NEOPRENE STRIP SEAL (5 - INCH) & STEEL EXTRUSIONS. SET JOINT OPENING AT 1 3/4".

2. STUDS 5/8" ϕ X 6 3/8" LONG AT 6" ALTERNATE CENTERS. WELD TO EXTRUSIONS & BEND AS SHOWN AFTER WELDING.

2A. 1/2" THICK ANCHOR PLATE WITH 5/8"ϕ ROD (OR ALTERNATE STRIP SEAL ANCHOR). WELD ROD TO ANCHOR PLATE, WELD ANCHOR PLATE TO #1 AT 1'-6" CTRS. BETWEEN GIRDERS.

3. 3/4" ϕ THREADED ROD WITH 2 NUTS AND PLATE WASHERS. WELD THREADED ROD TO TOP FLANGE OR ATTACH BY BOLTING THRU FLANGE. ON ABUTMENT SIDE, GROUT THREADED ROD INTO FIELD DRILLED HOLES IN ABUTMENT BACKWALL AS SHOWN.

4. 3/4"ϕ THREADED ROD WITH NUT. TACK WELD NUT TO NO. 5.

5. FABRICATE SUPPORT FROM 3" X 1/2" BAR AS SHOWN OR EQUIVALENT, ONE PER GIRDER PER SIDE. FIELD OR SHOP WELD TO NO. 1. IF FIELD WELDED, COVER WELDED AREAS WITH EPOXY-COATING MATERIAL. PROVIDE 1 1/2" ϕ HOLE FOR NO. 3 & 1" ϕ HOLE FOR NO. 4.

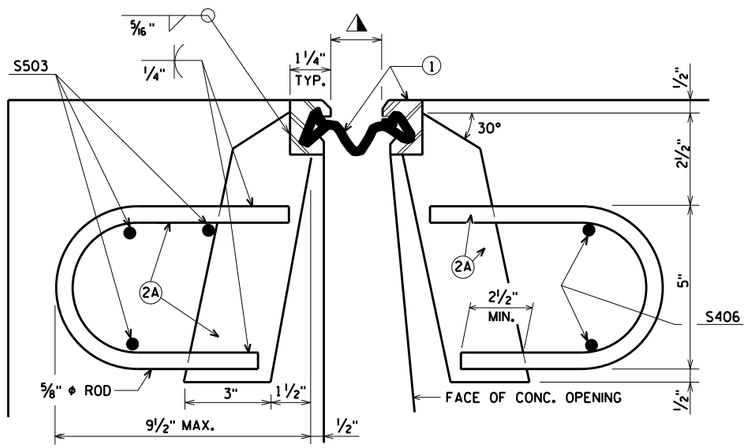
6. GALVANIZED PLATE 3/8" x 10 1/2" x 2'-2" LONG WITH HOLES FOR #7. BEND AS SHOWN.

7. 3/4" ϕ x 1 1/2" STAINLESS STEEL SOCKET FLAT HEAD SCREWS WITH ANTI-SEIZE LUBRICANT. PLACE IN COUNTERSUNK HOLES. RECESS 1/16" BELOW PLATE SURFACE.

8. 3/4" ϕ x 4" GALV. HEX HEAD BOLT. BEND 45°.

9. 3/4" ϕ x 2 1/4" GALV. THREADED COUPLING.

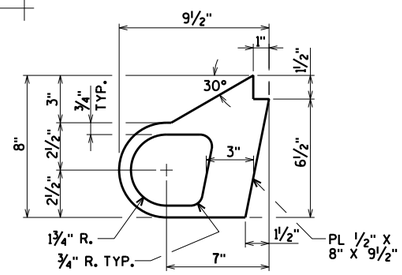
11. 1" x 5" SLOTTED CSK. HOLE FOR #7. PLACE SLOT PARALLEL TO DIRECTION OF MOVEMENT.



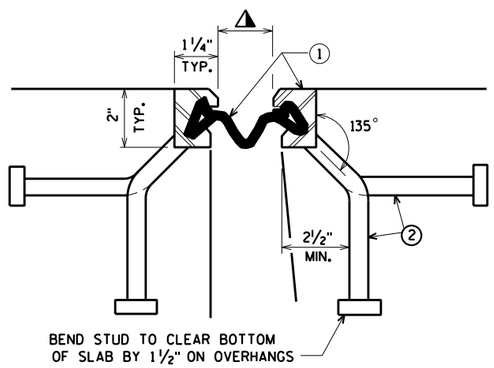
AT PAVING BLOCK AT SLAB

SECTION THRU JOINT
ROADWAY TRAFFIC AREA BETWEEN EXTERIOR GIRDERS.

SYM. ABOUT ℄ JOINT UNLESS OTHERWISE SHOWN OR NOTED.



ALTERNATE STRIP SEAL ANCHOR



SECTION THRU JOINT
EXTERIOR GIRDER TO EDGE OF SLAB & AT PARAPETS.

NOTES

ONE FIELD SPLICE PERMITTED IN STEEL EXTRUSIONS. IF USED, DETAILS SHALL BE SUBMITTED FOR APPROVAL. NO SPLICING PERMITTED IN NEOPRENE STRIP SEAL.

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

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

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

ANCHOR SYSTEM #8 & #9 SHALL CONFORM TO ASTM A307 & SHALL BE GALVANIZED IN ACCORDANCE WITH ASTM A153 CLASS C & D.

STRIP SEAL EXPANSION JOINT ASSEMBLY, INCLUDING ANCHOR STUDS & HARDWARE WILL BE PAID FOR AT THE LUMP SUM PRICE BID FOR "EXPANSION DEVICE B-36-45".

WORK THIS SHEET WITH SHEETS 2 & 3

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-36-45

DRAWN BY CLS | PLANS CK'D. JCK

EXPANSION JOINT DETAILS AT ABUTMENTS

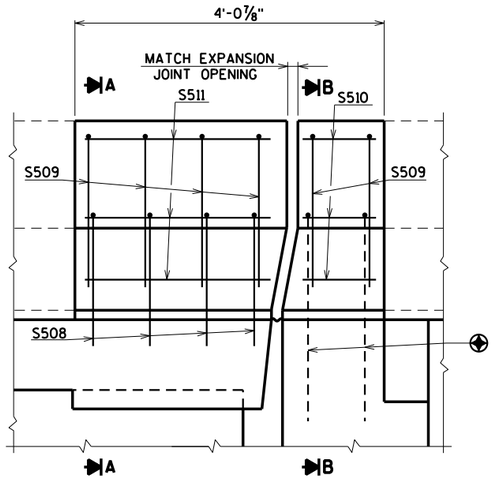
SHEET 4 OF 5
328

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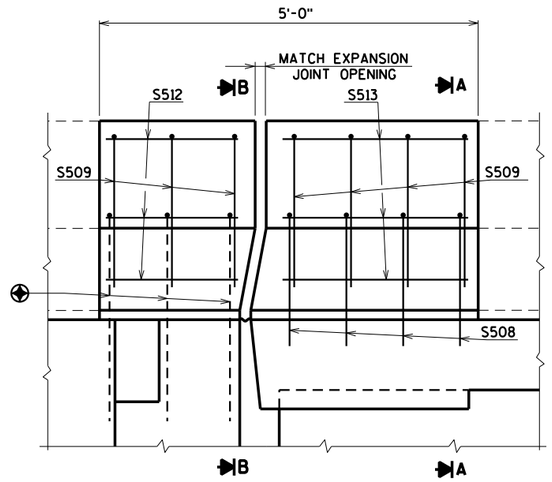
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STATE PROJECT NUMBER

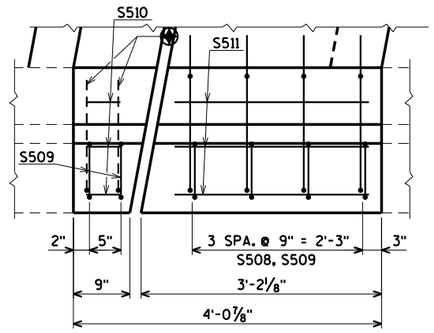
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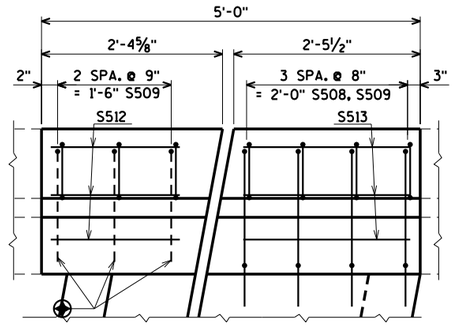
INSIDE ELEVATION
AT WINGS 1 & 3



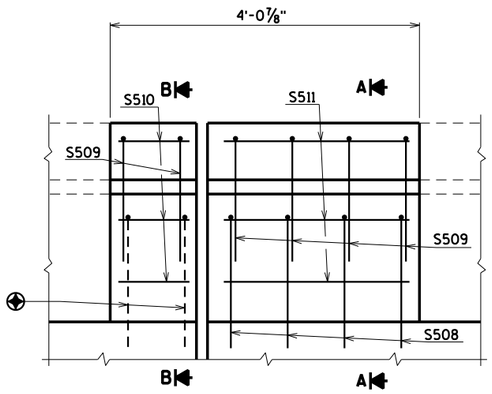
INSIDE ELEVATION
AT WINGS 2 & 4



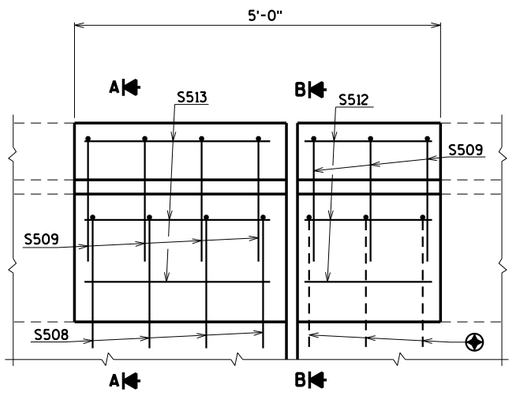
PLAN
AT WINGS 1 & 3



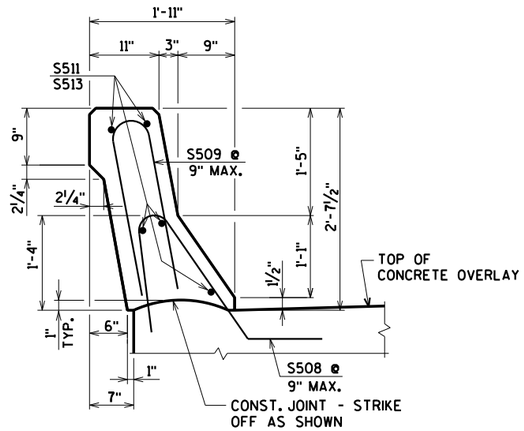
PLAN
AT WINGS 2 & 4



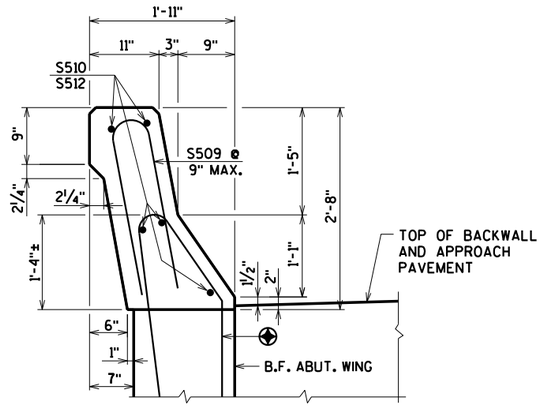
OUTSIDE ELEVATION
AT WINGS 1 & 3



OUTSIDE ELEVATION
AT WINGS 2 & 4



SECTION A



SECTION B

UTILIZE EXISTING VERTICAL BAR STEEL

WORK THIS SHEET WITH SHEETS 2 & 3

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-36-45

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PARAPET DETAILS

SHEET 5 OF 5
329

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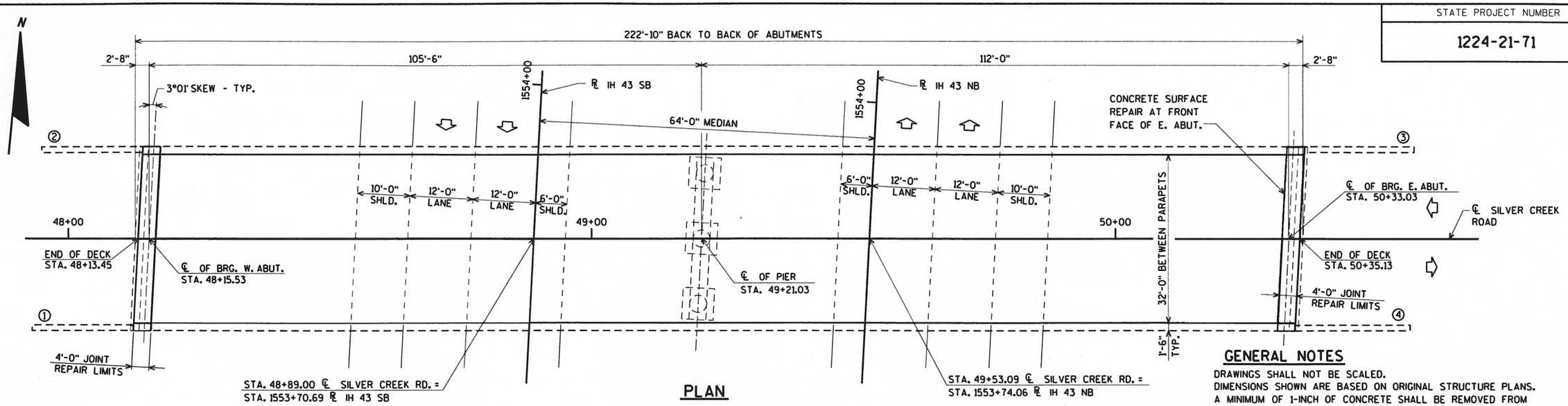
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5/21/2015

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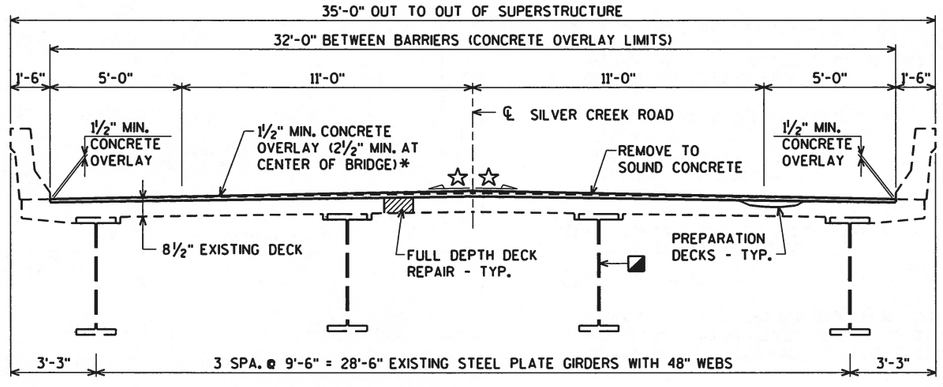
STATE PROJECT NUMBER

1224-21-71



PLAN

2-SPAN STEEL DECK GIRDER BRIDGE CONCRETE OVERLAY



CROSS SECTION THRU BRIDGE

(LOOKING EAST)

LEGEND

* THE PROPOSED OVERLAY THICKNESS VARIES FROM A MINIMUM OF 1½" AT THE PARAPETS TO 2½" AT THE CROWN. THE MINIMUM AVERAGE OVERLAY THICKNESS IS 2". THE EXPECTED AVERAGE OVERLAY THICKNESS IS 2½".

△ BID ITEM ALSO INCLUDES CONCRETE FOR:
"PREPARATION DECKS TYPE 1"
"PREPARATION DECKS TYPE 2"
"FULL-DEPTH DECK REPAIR"
"JOINT REPAIR"

☆ NEW CONCRETE OVERLAY SLOPE = 0.02 %
CURRENT DECK SLOPE = 0.015 %

◯ DENOTES WING NUMBER.

◪ CLEAN AND PAINT 6' END SECTIONS OF ALL GIRDERS AND END DIAPHRAGMS ADJACENT TO JOINTS ONLY. DO NOT PAINT EXTERIOR FACE OF EXTERIOR GIRDERS.

LIST OF DRAWINGS

1. GENERAL PLAN
2. EXPANSION JOINT DETAILS AT ABUTMENTS
3. EXPANSION JOINT DETAILS AT ABUTMENTS
4. EXPANSION JOINT DETAILS AT ABUTMENTS
5. PARAPET DETAILS

GENERAL NOTES

DRAWINGS SHALL NOT BE SCALED.

DIMENSIONS SHOWN ARE BASED ON ORIGINAL STRUCTURE PLANS.

A MINIMUM OF 1-INCH OF CONCRETE SHALL BE REMOVED FROM THE ENTIRE BRIDGE DECK UNDER THE BID ITEM "CLEANING DECKS".

ANY EXCAVATION NECESSARY TO COMPLETE THE OVERLAY OR JOINT REPAIR AT THE ABUTMENTS IS CONSIDERED INCIDENTAL TO THE BID ITEM "CONCRETE MASONRY OVERLAY DECKS".

REMOVAL LINES NOT COVERED WITH A CONCRETE OVERLAY SHALL BE DEFINED BY A 1" DEEP SAW CUT AT THE CONCRETE SURFACES.

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

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

PREPARATION DECKS TYPE 1, PREPARATION DECKS TYPE 2, CONCRETE SURFACE REPAIR AND FULL DEPTH DECK REPAIR AREAS SHALL BE DETERMINED BY THE FIELD ENGINEER.

APPLY BRIDGE SEAT PROTECTION, AS PER SECTION 502.3.12 OF THE STANDARD SPECIFICATIONS, TO THE TOP SURFACES OF BOTH ABUTMENTS BELOW EXPANSION DEVICES. POWER WASH AND ADEQUATELY DRY SURFACES BEFORE APPLICATION. WORK TO BE INCIDENTAL TO "JOINT REPAIR".

PROFILE GRADE LINE SHALL BE DETERMINED IN THE FIELD BASED ON A MINIMUM OVERLAY THICKNESS OF 1½". PLACED ABOVE THE DECK SURFACE AFTER "CLEANING DECKS". EXPECTED AVERAGE OVERLAY THICKNESS IS 2½". IF EXPECTED AVERAGE OVERLAY THICKNESS IS EXCEEDED BY MORE THAN ½", CONTACT THE STRUCTURES DESIGN SECTION.

PARAPET JOINTS TO BE RE-SEALED WITH NON-STAINING GRAY NON-BITUMINOUS JOINT SEALER (1" DEEP AND HOLD ⅛" BELOW SURFACE OF CONCRETE). WORK CONSIDERED INCIDENTAL TO "JOINT REPAIR".

PAINT COLOR TO BE BROWN (FEDERAL STANDARD COLOR NO. 20059).

CLEAN FULL LENGTH OF PARAPETS ACCORDING TO STSP ITEM 509.9050.S "CLEANING PARAPETS".

PROTECTIVE SURFACE TREATMENT IS TO BE APPLIED TO THE TOP OF THE OVERLAY AND PIGMENTED SURFACE SEALER IS TO BE APPLIED TO THE TOP AND INSIDE FACE OF PARAPETS.

TOTAL ESTIMATED QUANTITIES

	BID ITEM NUMBER	BID ITEMS	UNIT	TOTAL
	203.0210.S	ABATEMENT OF ASBESTOS CONTAINING MATERIAL STRUCTURE B-36-59	LS	1
	502.0100	CONCRETE MASONRY BRIDGES	CY	2
	502.3100	EXPANSION DEVICE B-36-59	LS	1
	502.3200	PROTECTIVE SURFACE TREATMENT	SY	795
	502.3210	PIGMENTED SURFACE SEALER	SY	210
	502.5005	MASONRY ANCHOR TYPE L NO. 5 BARS	EACH	60
	505.0600	BAR STEEL REINFORCEMENT HS COATED STRUCTURES	LB	2,430
	509.0301	PREPARATION DECKS TYPE 1	SY	8
	509.0302	PREPARATION DECKS TYPE 2	SY	3
	509.0500	CLEANING DECKS	SY	765
	509.1000	JOINT REPAIR	SY	32
	509.1500	CONCRETE SURFACE REPAIR	SF	48
△	509.2000	FULL-DEPTH DECK REPAIR	SY	2
	509.2500	CONCRETE MASONRY OVERLAY DECKS	CY	66
◪	509.9050.S	CLEANING PARAPETS	LF	525
◪	517.3000.S	STRUCTURE OVERCOATING CLEANING AND PRIMING B-36-59	LS	1
	517.4000.S	CONTAINMENT AND COLLECTION OF WASTE MATERIALS B-36-59	LS	1

DESIGN DATA

LIVE LOAD:

DESIGN LOADING: HS-20
INVENTORY RATING: HS-20
OPERATING RATING: HS-34
WISCONSIN STANDARD PERMIT VEHICLE (WIS-SPV) = 220 KIPS

MATERIAL PROPERTIES:

CONCRETE MASONRY _____ f'_c = 4,000 p.s.i.
HIGH STRENGTH BAR STEEL REINFORCEMENT (GRADE 60) __ f_y = 60,000 p.s.i.

TRAFFIC DATA:

IH 43	SILVER CREEK RD.
A.D.T. = 25,000 (2016)	A.D.T. = 250 (2016)
A.D.T. = 29,500 (2036)	A.D.T. = 275 (2036)
R.D.S. = 70 M.P.H.	R.D.S. = 50 M.P.H.

WISCONSIN
DANIEL N. SYDOW
E-38363
WI
PROFESSIONAL ENGINEER
5/21/2015

BRIDGE OFFICE CONTACT:
WILLIAM DREHER
(608)-266-8489

CONSULTANT CONTACT:
DAN SYDOW
(715)-834-3161

NO.	DATE	REVISION	BY

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3433 Oakwood Hills Parkway
Eau Claire, WI 54701
www.AyresAssociates.com

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

ACCEPTED William C. Dreher SDR 08/17/15
CHIEF STRUCTURES DESIGN ENGINEER — DATE

STRUCTURE B-36-59

SILVER CREEK ROAD OVER IH 43

COUNTY MANITOWOC | TOWN/~~CITY/VILLAGE~~ NEWTON

DESIGN SPEC. REHABILITATION N/A

DESIGNED BY	DESIGN CK'D.	DRAWN BY	PLANS CK'D.
JWZ	JCK	CJM/CLS	DWS

GENERAL PLAN

SHEET 330 OF 5

DATE:
DATE:
DATE:

CHECKED BY:
BACK CHECKED BY:
CORRECTED BY:

$PRFNAME$
U:\42-0888.00 - Manitowoc County, IH43 Rehabs\B-36-59\BRIDGE\B-36-59 gp FINAL.dgn

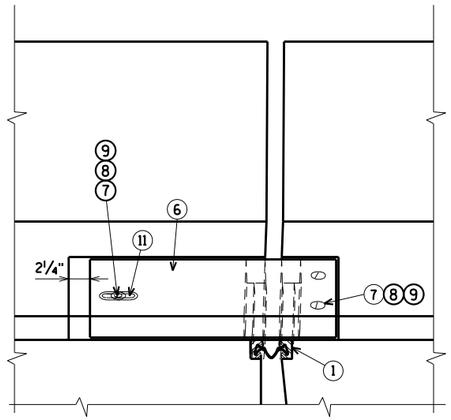
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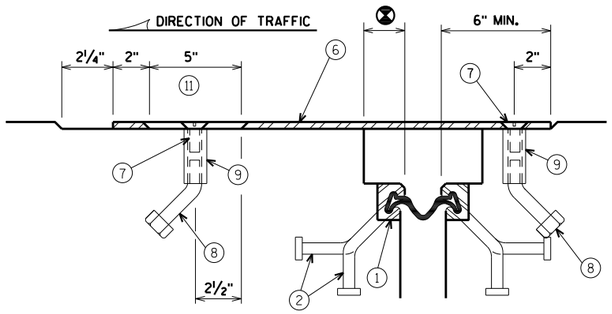
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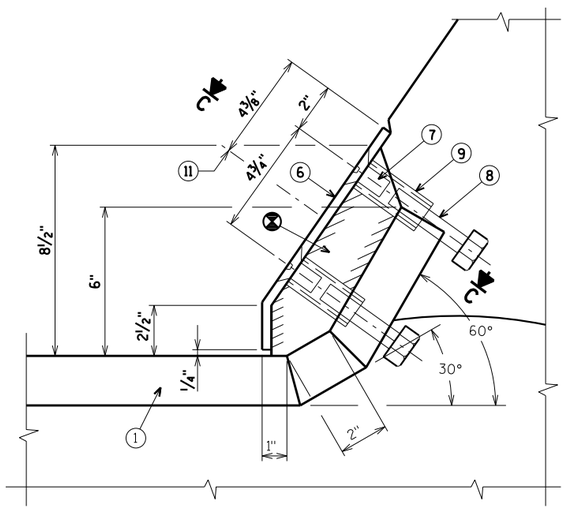
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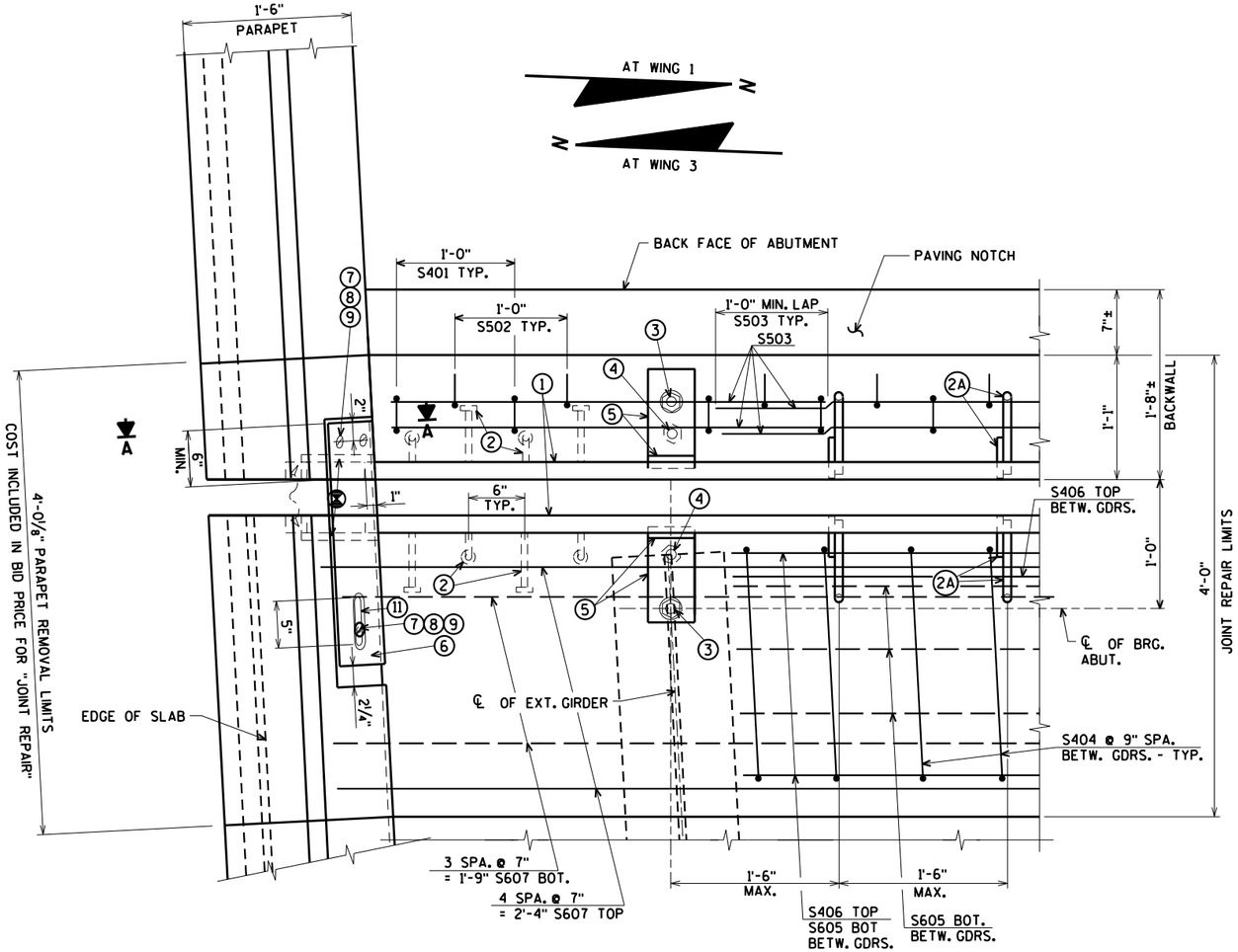
VIEW OF PARAPET PLATES FROM ROADWAY



SECTION C



SECTION A



PART PLAN
AT WINGS 1 & 3

BLOCK OUT CONCRETE 2" EACH SIDE OF JOINT OPENING.

WORK THIS SHEET WITH SHEETS 3, 4 & 5

NO.	DATE	REVISION	BY

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DEPARTMENT OF TRANSPORTATION

STRUCTURE B-36-59

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EXPANSION JOINT DETAILS AT ABUTMENTS

SHEET 2 OF 5
331

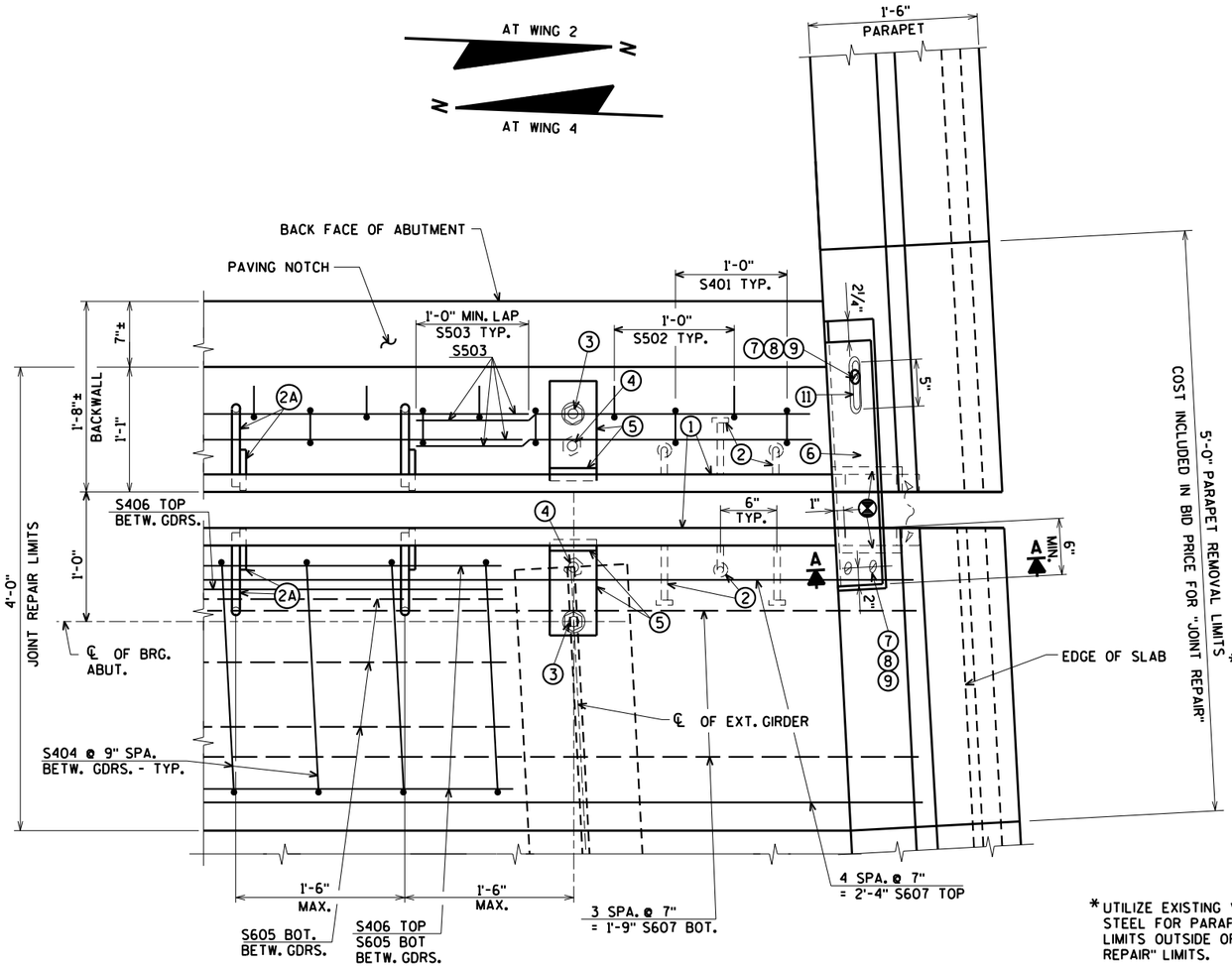
ORIGINAL PLANS PREPARED BY
AYRES ASSOCIATES
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Eau Claire, WI 54701
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STATE PROJECT NUMBER
1224-21-71

BILL OF BARS

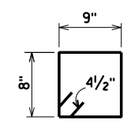
BAR. NO.	COATED BAR	NO. REQ'D.	LENGTH	BENT BAR	BUNDLED BAR SERIES	2.430" COATED LOCATION
S401	X	62	3-4	X		PAVING BLOCK VERT.
S502	X	60	2-11	X		PAVING BLOCK VERT. ANCHOR
S503	X	12	16-5			PAVING BLOCK HORIZ.
S404	X	72	3-9	X		DIAPH. VERT.
S605	X	30	8-2			DIAPH. HORIZ.
S406	X	24	8-2			DIAPH. HORIZ.
S607	X	36	17-6			DECK TRANSVERSE
S508	X	16	4-3	X		PARAPET VERT.
S509	X	26	5-0	X		PARAPET VERT.
S510	X	10	0-5			PARAPET HORIZ. WINGS 1 & 3 APPROACH
S511	X	10	2-9			PARAPET HORIZ. WINGS 1 & 3 STRUCTURE
S512	X	10	1-11			PARAPET HORIZ. WINGS 2 & 4 APPROACH
S513	X	10	2-1			PARAPET HORIZ. WINGS 2 & 4 STRUCTURE



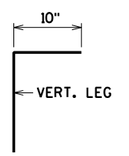
PART PLAN
AT WINGS 2 & 4

*UTILIZE EXISTING VERTICAL BAR STEEL FOR PARAPET REMOVAL LIMITS OUTSIDE OF THE "JOINT REPAIR" LIMITS.

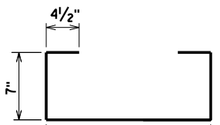
FOR SECTION A, SEE SHEET 2.



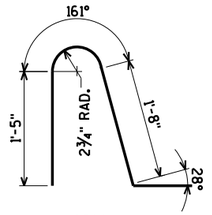
S401



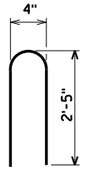
S502



S404



S508



S509

⊗ BLOCK OUT CONCRETE 2" EACH SIDE OF JOINT OPENING.

WORK THIS SHEET WITH SHEETS 2, 4 & 5

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STRUCTURE B-36-59

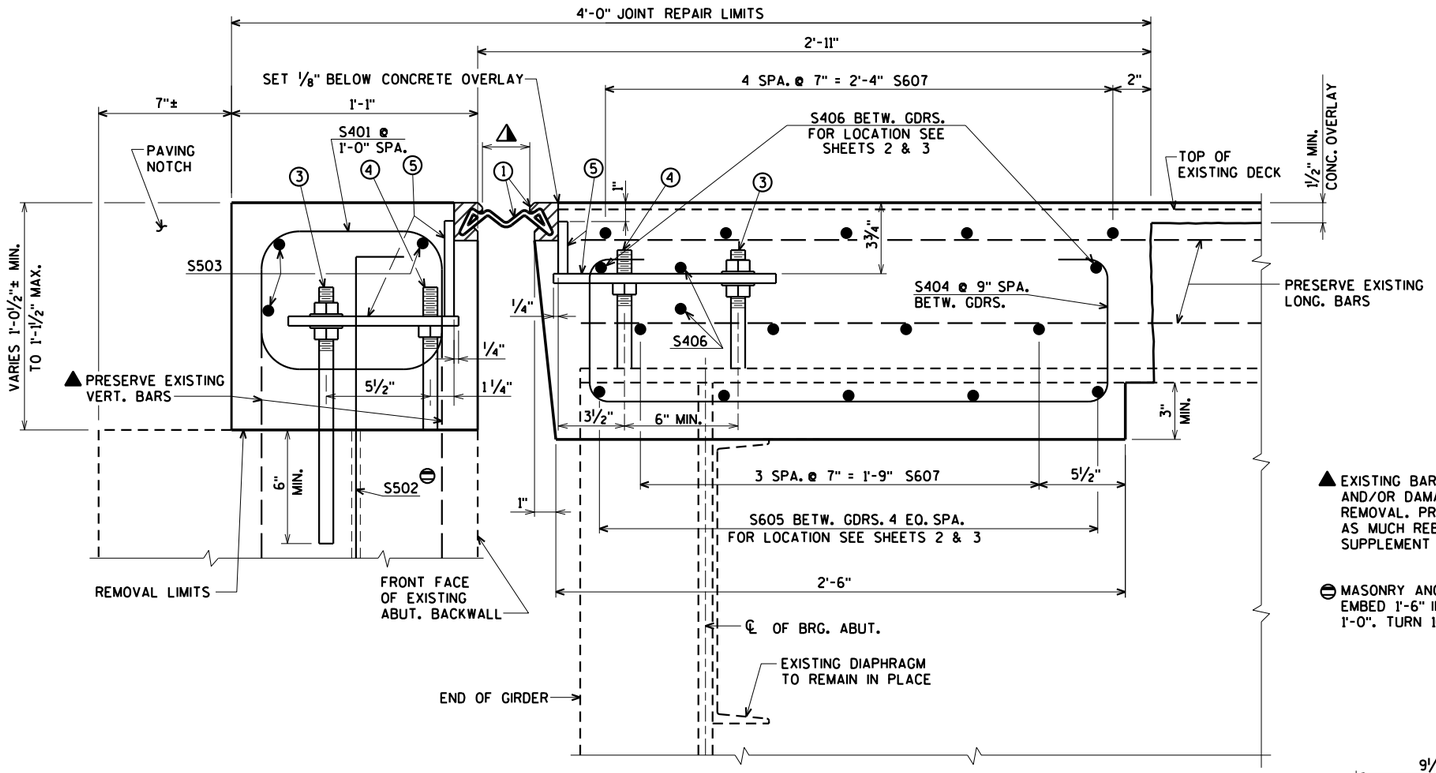
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EXPANSION JOINT DETAILS AT ABUTMENTS

SHEET 3 OF 5
332

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TYPICAL SECTION THRU JOINT
NORMAL TO ℄ SUBSTRUCTURE

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

⊖ MASONRY ANCHORS TYPE L NO. 5 BARS. EMBED 1'-6" INTO CONCRETE. SPACE AT 1'-0". TURN 10" LEG AS NECESSARY TO FIT.

LEGEND

▲1. NEOPRENE STRIP SEAL (4 - INCH) & STEEL EXTRUSIONS. SET JOINT OPENING AT 1 3/4".

2. STUDS 5/8" ϕ X 6 3/8" LONG AT 6" ALTERNATE CENTERS. WELD TO EXTRUSIONS & BEND AS SHOWN AFTER WELDING.

2A. 1/2" THICK ANCHOR PLATE WITH 5/8"ϕ ROD (OR ALTERNATE STRIP SEAL ANCHOR). WELD ROD TO ANCHOR PLATE, WELD ANCHOR PLATE TO #1 AT 1'-6" CTRS. BETWEEN GIRDERS.

3. 3/4" ϕ THREADED ROD WITH 2 NUTS AND PLATE WASHERS. WELD THREADED ROD TO TOP FLANGE OR ATTACH BY BOLTING THRU FLANGE. ON ABUTMENT SIDE, GROUT THREADED ROD INTO FIELD DRILLED HOLES IN ABUTMENT BACKWALL AS SHOWN.

4. 3/4"ϕ THREADED ROD WITH NUT. TACK WELD NUT TO NO. 5.

5. FABRICATE SUPPORT FROM 3" X 1/2" BAR AS SHOWN OR EQUIVALENT, ONE PER GIRDER PER SIDE. FIELD OR SHOP WELD TO NO. 1. IF FIELD WELDED, COVER WELDED AREAS WITH EPOXY-COATING MATERIAL. PROVIDE 1 1/2" ϕ HOLE FOR NO. 3 & 1" ϕ HOLE FOR NO. 4.

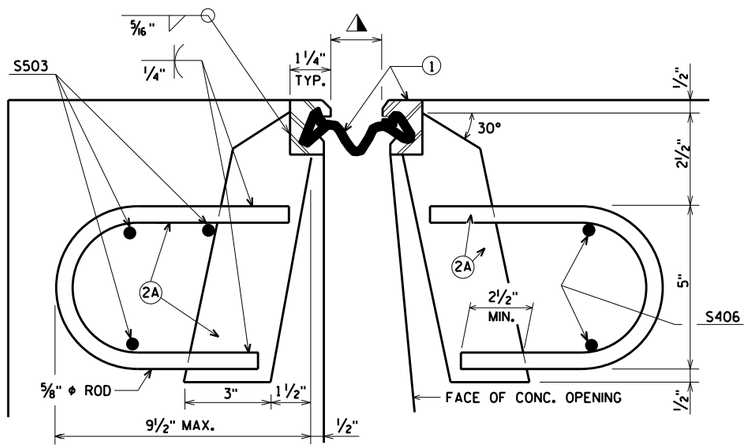
6. GALVANIZED PLATE 3/8" x 10 1/2" x 2'-2" LONG WITH HOLES FOR #7. BEND AS SHOWN.

7. 3/4" ϕ x 1 1/2" STAINLESS STEEL SOCKET FLAT HEAD SCREWS WITH ANTI-SEIZE LUBRICANT. PLACE IN COUNTERSUNK HOLES. RECESS 1/16" BELOW PLATE SURFACE.

8. 3/4" ϕ x 4" GALV. HEX HEAD BOLT. BEND 45°.

9. 3/4" ϕ x 2 1/4" GALV. THREADED COUPLING.

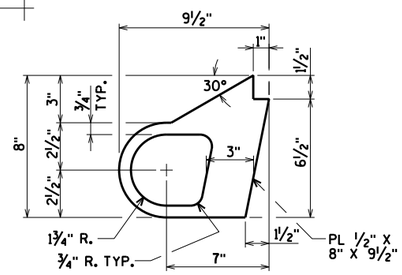
11. 1" x 5" SLOTTED CSK. HOLE FOR #7. PLACE SLOT PARALLEL TO DIRECTION OF MOVEMENT.



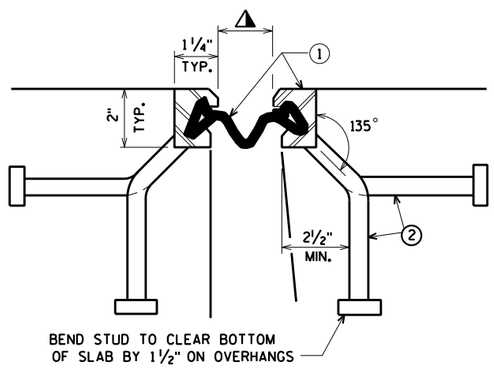
AT PAVING BLOCK AT SLAB

SECTION THRU JOINT
ROADWAY TRAFFIC AREA BETWEEN EXTERIOR GIRDERS.

SYM. ABOUT ℄ JOINT UNLESS OTHERWISE SHOWN OR NOTED.



ALTERNATE STRIP SEAL ANCHOR



SECTION THRU JOINT
EXTERIOR GIRDER TO EDGE OF SLAB & AT PARAPETS.

NOTES

ONE FIELD SPLICE PERMITTED IN STEEL EXTRUSIONS. IF USED, DETAILS SHALL BE SUBMITTED FOR APPROVAL. NO SPLICING PERMITTED IN NEOPRENE STRIP SEAL.

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

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

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

ANCHOR SYSTEM #8 & #9 SHALL CONFORM TO ASTM A307 & SHALL BE GALVANIZED IN ACCORDANCE WITH ASTM A153 CLASS C & D.

STRIP SEAL EXPANSION JOINT ASSEMBLY, INCLUDING ANCHOR STUDS & HARDWARE WILL BE PAID FOR AT THE LUMP SUM PRICE BID FOR "EXPANSION DEVICE B-36-59".

WORK THIS SHEET WITH SHEETS 2 & 3

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-36-59

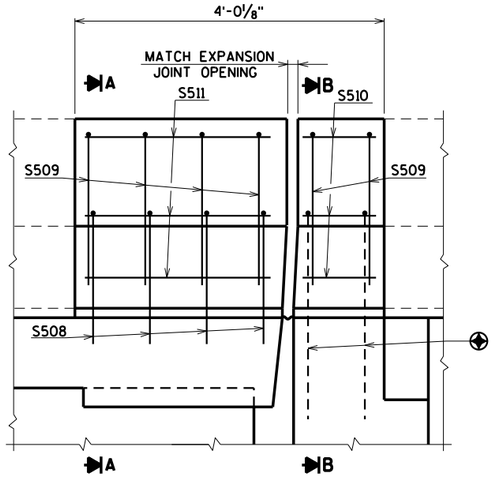
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EXPANSION JOINT DETAILS AT ABUTMENTS

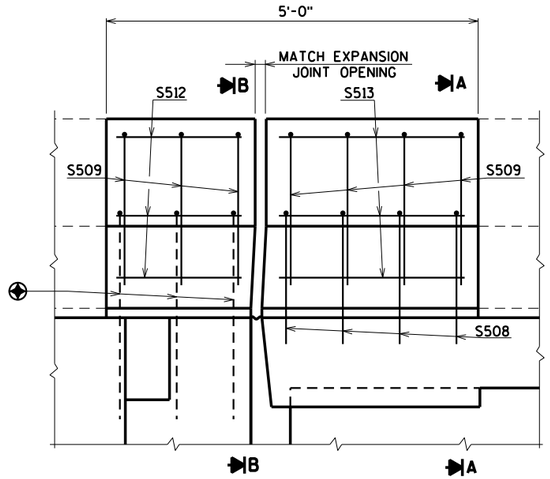
SHEET 4 OF 5
333

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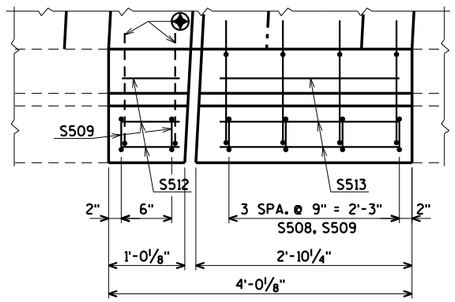
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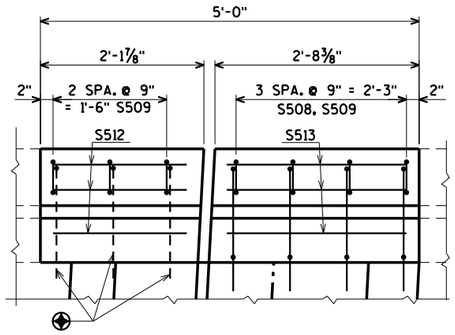
INSIDE ELEVATION
AT WINGS 1 & 3



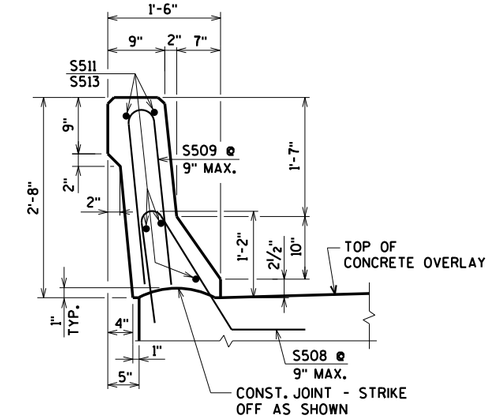
INSIDE ELEVATION
AT WINGS 2 & 4



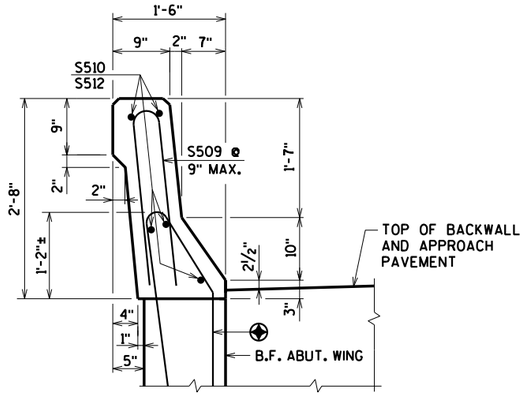
PLAN
AT WINGS 1 & 3



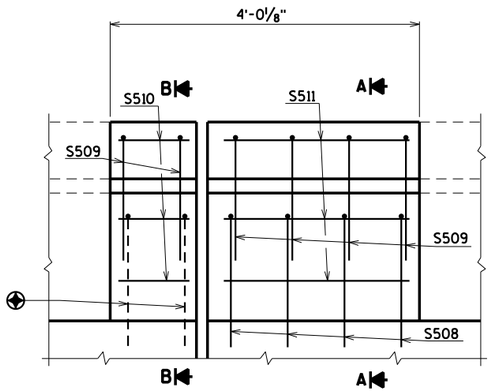
PLAN
AT WINGS 2 & 4



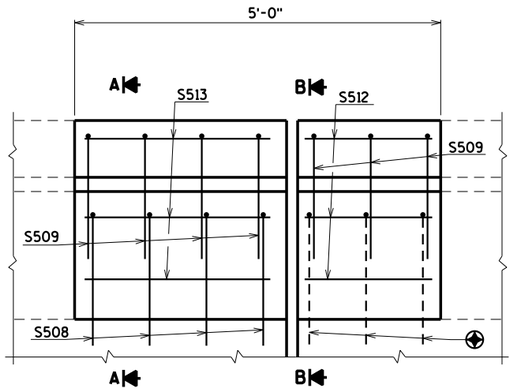
SECTION A



SECTION B



OUTSIDE ELEVATION
AT WINGS 1 & 3



OUTSIDE ELEVATION
AT WINGS 2 & 4

UTILIZE EXISTING VERTICAL BAR STEEL

WORK THIS SHEET WITH SHEETS 2 & 3

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DEPARTMENT OF TRANSPORTATION

STRUCTURE B-36-59

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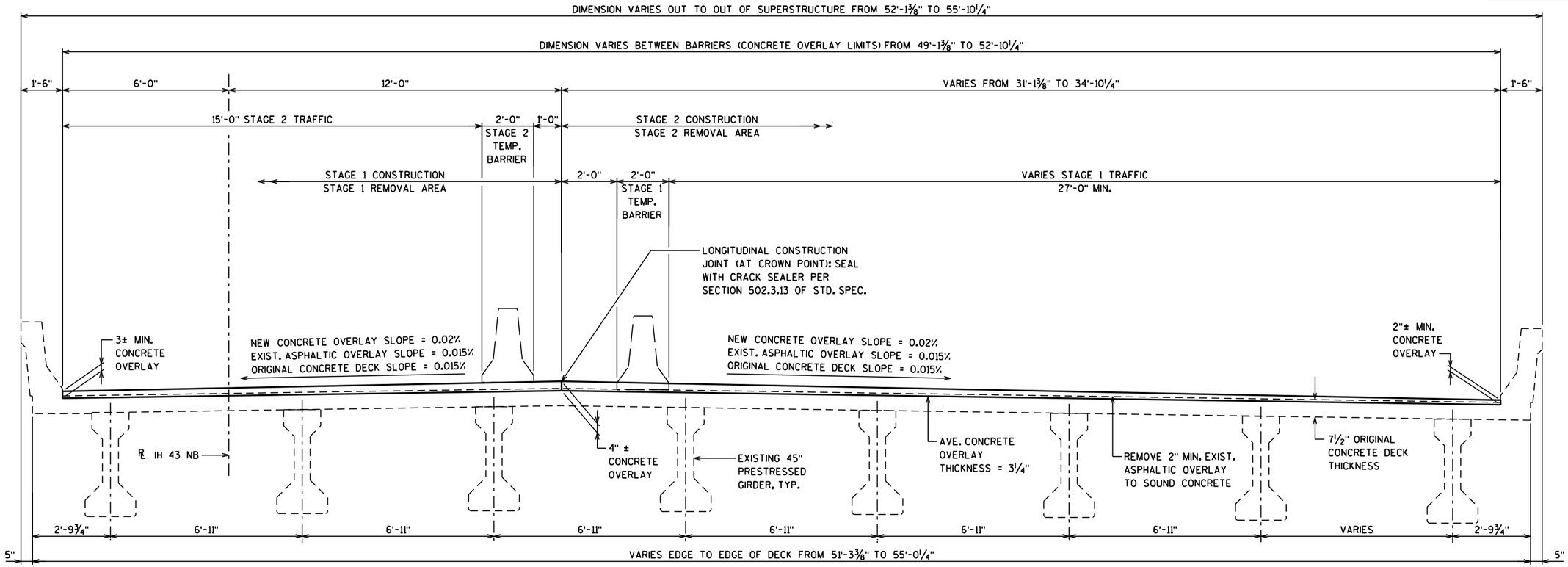
PARAPET DETAILS

SHEET 5 OF 5
334

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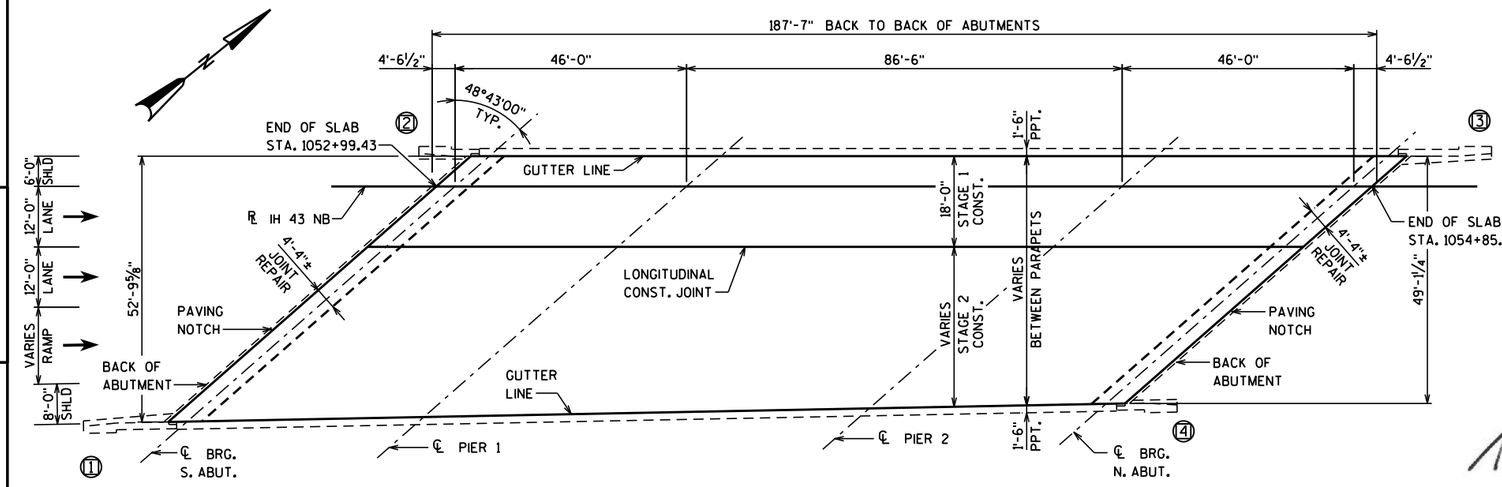


CROSS SECTION THRU EXISTING ROADWAY

(LOOKING NORTH)

TRAFFIC DATA

ADT = 11,800 (2036)
RDS = 70 M.P.H.



PLAN

Ⓧ INDICATES WING NUMBER

DESIGN DATA

LIVE LOAD:
- INVENTORY RATING: HS-18
- OPERATING RATING: HS-30
- WISCONSIN STANDARD PERMIT VEHICLE (Wis-SPV): 250 KIPS

MATERIAL PROPERTIES:
- CONCRETE MASONRY
- OVERLAY DECKS: f'c = 4,000 p.s.i.
- BAR STEEL REINFORCEMENT
- GRADE 60: fy = 60,000 p.s.i.

LIST OF DRAWINGS

1. GENERAL PLAN
2. GENERAL NOTES & QUANTITIES
3. JOINT REPAIR
4. EXPANSION DEVICE
5. COVER PLATE DETAILS
6. DECK REPAIR

CONSULTANT CONTACT
KRISTOFER OLSON
OMNNI ASSOCIATES
(920) 735-6900

BRIDGE OFFICE CONTACT
WILLIAM DREHER
(608) 266-8489

WISCONSIN KRISTOFER R. OLSON E-35236 APPLETON, WI PROFESSIONAL ENGINEER

7/21/15

NO.	DATE	REVISION	BY

ORIGINAL PLANS PREPARED BY
OMNNI ASSOCIATES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

ACCEPTED William C. Dreher SDR 08/17/15
CHIEF STRUCTURES DESIGN ENGINEER DATE

STRUCTURE B-36-61

IH 43 NB OVER WESTVIEW ROAD

COUNTY	TOWN
MANITOWOC	CENTERVILLE

DESIGN SPEC. REHABILITATION N/A

DESIGNED BY	BRE	DESIGN CK'D.	KRO	DRAWN BY	BRE	PLANS CK'D.	KRO

GENERAL PLAN

SHEET 1 OF 6

335

8

8

STATE PROJECT NUMBER
1224-21-71

GENERAL NOTES

DRAWINGS SHALL NOT BE SCALED.

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

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

USE EXISTING BAR STEEL REINFORCEMENT WHERE SHOWN AND EXTEND 24 BAR DIAMETERS INTO NEW WORK.

DIMENSIONS SHOWN ARE BASED ON THE EXISTING ORIGINAL STRUCTURE PLANS.

ANY EXCAVATION NECESSARY TO COMPLETE THE OVERLAY OR JOINT REPAIR AT THE ABUTMENTS IS TO BE CONSIDERED INCIDENTAL TO THE BID ITEM "CONCRETE MASONRY OVERLAY DECKS".

PROFILE GRADE LINE SHALL BE DETERMINED IN THE FIELD BASED ON A MINIMUM OVERLAY THICKNESS OF 4" AT THE CROWN POINT AND 2" AT THE TOE OF THE OUTSIDE PARAPET PLACED ABOVE THE DECK SURFACE AFTER "CLEANING DECKS". EXPECTED AVERAGE OVERLAY THICKNESS IS 3¼" (OR AS GIVEN ON THE PLANS). IF EXPECTED AVERAGE OVERLAY THICKNESS IS EXCEEDED BY MORE THAN ½", CONTACT THE STRUCTURES DESIGN SECTION.

THE EXISTING BITUMINOUS ASPHALTIC OVERLAY SHALL BE REMOVED FROM THE BRIDGE DECK UNDER BID ITEM "REMOVING ASPHALTIC CONCRETE DECK OVERLAY".

PREPARATION DECKS TYPE 1, PREPARATION DECKS TYPE 2, CONCRETE SURFACE REPAIR AND FULL-DEPTH DECK REPAIR AREAS SHALL BE DETERMINED BY THE FIELD ENGINEER. "CONCRETE SURFACE REPAIR" TO INCLUDE BUT NOT LIMITED TO NORTH & SOUTH ABUTMENTS, AND GIRDER ENDS.

REMOVAL LINES NOT COVERED WITH A CONCRETE OVERLAY SHALL BE DEFINED BY A 1" DEEP SAW CUT AT THE CONCRETE SURFACES.

APPLY BRIDGE SEAT PROTECTION, AS PER SECTION 502.3.12 OF THE STANDARD SPECIFICATIONS, TO THE TOP SURFACES OF BOTH ABUTMENTS BELOW EXPANSION DEVICES. POWER WASH AND ADEQUATELY DRY SURFACES BEFORE APPLICATION. WORK TO BE INCIDENTAL TO "JOINT REPAIR".

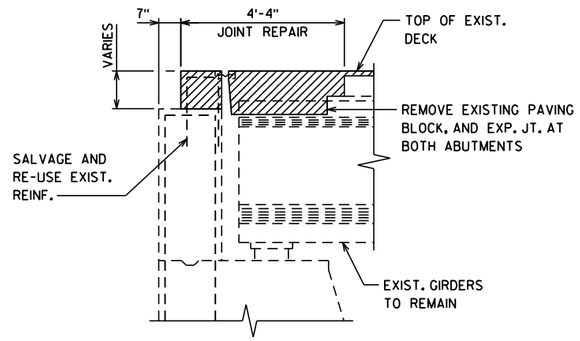
PROTECTIVE SURFACE TREATMENT SHALL BE APPLIED TO THE ENTIRE TOP SURFACE OF THE NEW CONCRETE OVERLAY. PIGMENTED PROTECTIVE SURFACE TREATMENT SHALLBE APPLIED TO THE ENTIRE FRONT FACES AND TOPS OF BOTH WING & DECK PARAPETS.

A MINIMUM OF 1-INCH OF CONCRETE SHALL BE REMOVED FROM THE ENTIRE BRIDGE DECK UNDER THE BID ITEM "CLEANING DECKS".

TOTAL ESTIMATED QUANTITIES

	ITEM NUMBER	BID ITEMS	UNIT	TOTALS
	502.3100	EXPANSION DEVICE (B-36-61)	LS	1
	502.3200	PROTECTIVE SURFACE TREATMENT	SY	1053
	502.3210	PIGMENTED SURFACE SEALER	SY	164
	502.5005	MASONRY ANCHORS TYPE L NO.5 BARS	EACH	156
	505.0600	BAR STEEL REINFORCEMENT HS COATED STRUCTURES	LB	4870
	505.0904	BAR COUPLERS NO. 4	EACH	4
	505.0905	BAR COUPLERS NO. 5	EACH	28
	505.0907	BAR COUPLERS NO. 7	EACH	12
	509.0301	PREPARATION DECKS TYPE 1	SY	89
	509.0302	PREPARATION DECKS TYPE 2	SY	67
	509.0500	CLEANING DECKS	SY	1053
	509.1000	JOINT REPAIR	SY	75
	509.1500	CONCRETE SURFACE REPAIR	SF	310
	509.2000	FULL-DEPTH DECK REPAIR	SY	1
☆	509.2500	CONCRETE MASONRY OVERLAY DECKS	CY	132
	509.9010.S	REMOVING ASPHALTIC CONCRETE DECK OVERLAY (B-36-61)	SY	1053
	509.9050.S	CLEANING PARAPETS	LF	430

☆ BID ITEM ALSO INCLUDES CONCRETE FOR:
"PREPARATION DECKS TYPE 1"
"PREPARATION DECKS TYPE 2"
"FULL-DEPTH DECK REPAIR"
"JOINT REPAIR"



TYPICAL SECTION THRU ABUTMENT

8

8

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
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STRUCTURE B-36-61

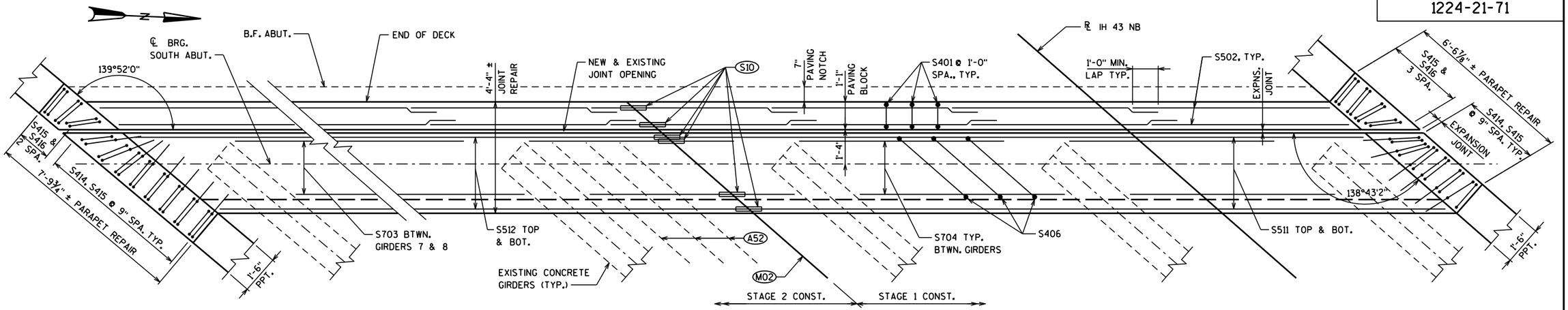
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GENERAL NOTES & QUANTITIES

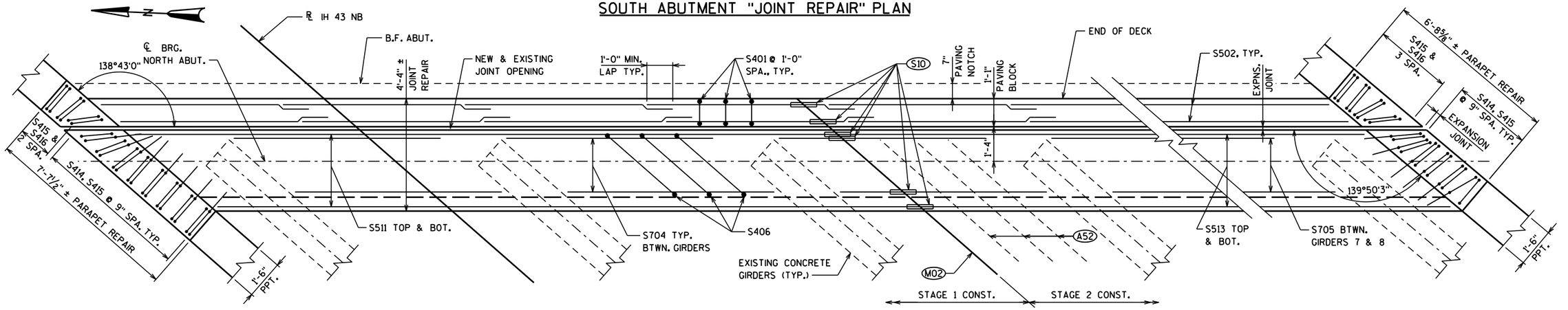
SHEET 2 OF 6

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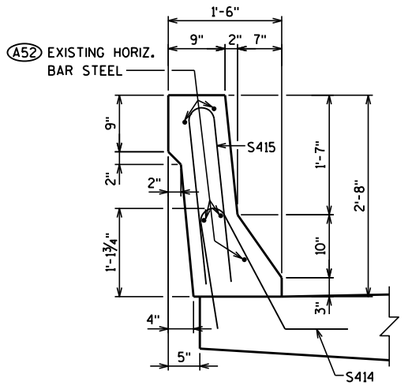
STATE PROJECT NUMBER
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SOUTH ABUTMENT "JOINT REPAIR" PLAN

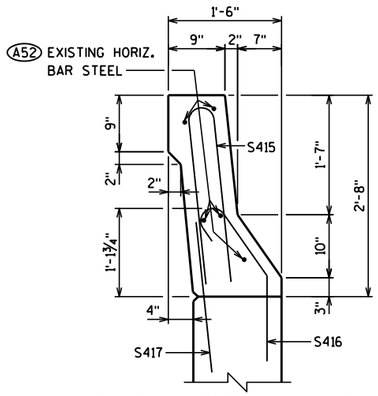


NORTH ABUTMENT "JOINT REPAIR" PLAN



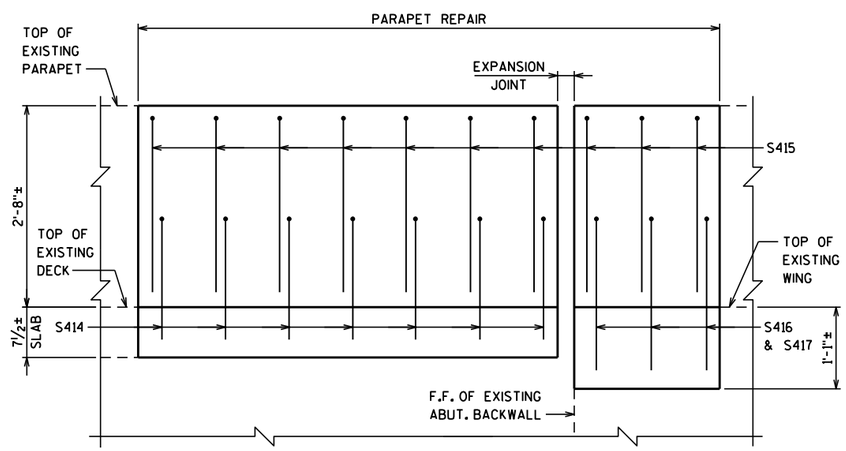
SECTION THRU PARAPET REPLACEMENT ON BRIDGE

DIMENSIONS ARE FOR REFERENCE ONLY
MATCH EXISTING PARAPET EDGES.



SECTION THRU PARAPET REPLACEMENT ON WING

DIMENSIONS ARE FOR REFERENCE ONLY
MATCH EXISTING PARAPET EDGES.



TYPICAL PARAPET ELEVATION

SEE SHEET 4 FOR SECTION THROUGH JOINT AT ABUTMENT.

(A52) SALVAGE EXIST. LONGITUDINAL REINFORCEMENT AND EXTEND FULL LENGTH INTO NEW WORK.

(S10) BAR COUPLERS USED. BAR LENGTH COMPUTED TO ℄ OF LONGIT. JOINT & SHALL BE MODIFIED TO THE BAR COUPLER MANUFACTURERS RECOMMENDATIONS.

(M02) LONGIT. CONST. JOINT IN JOINT REPAIR. TRAFFIC TO BE MAINTAINED DURING CONSTRUCTION.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-36-61

DRAWN BY BRE | PLANS CK'D. KRO

JOINT REPAIR

SHEET 3 OF 6

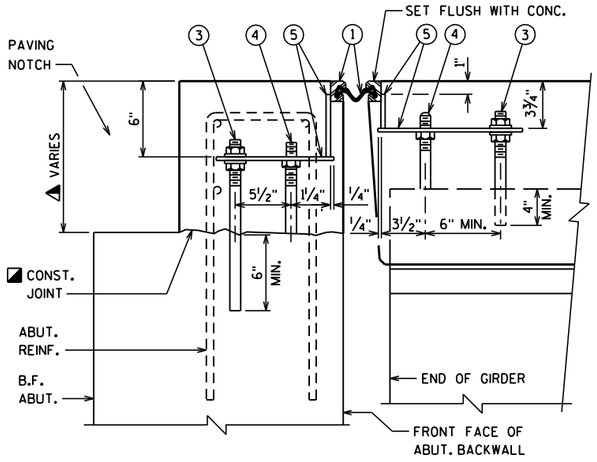
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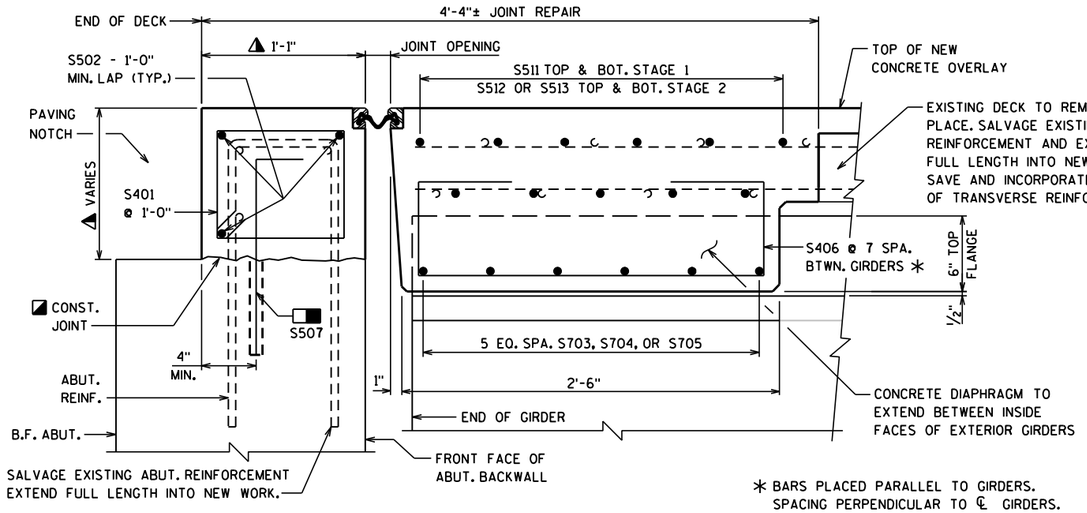
STATE PROJECT NUMBER

1224-21-71



SECTION THRU JOINT AT ABUTMENT

NORMAL TO ℄ SUBSTRUCTURE



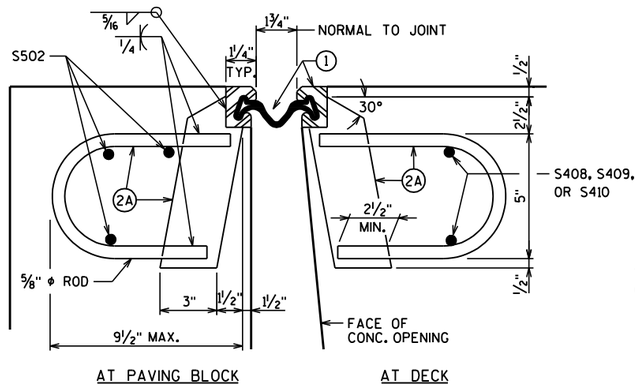
✳ BARS PLACED PARALLEL TO GIRDERS. SPACING PERPENDICULAR TO ℄ GIRDERS. 3 SPA. BTWN. GIRDERS 7 & 8 AT N. ABUT.

SECTION THRU JOINT AT ABUTMENT

NORMAL TO ℄ SUBSTRUCTURE

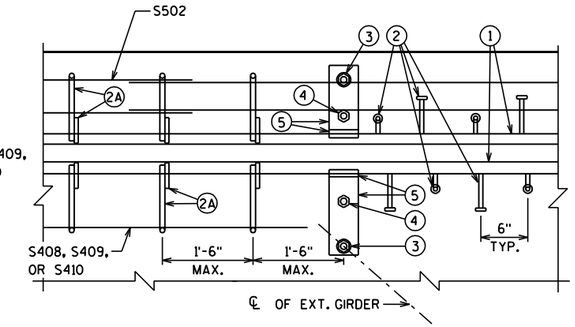
LEGEND

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.
6. GALVANIZED PLATE ⅜" X 1'-2" X 3'-0" LONG WITH HOLES FOR NO. 7. BEND AS SHOWN.
7. ¾"Φ X 1½" STAINLESS STEEL SOCKET FLAT HEAD SCREWS WITH ANTI-SEIZE LUBRICANT. PLACE IN COUNTERSUNK HOLE. RECESS 1/16" BELOW PLATE SURFACE.
8. ¾"Φ X 4" GALVANIZED HEX HEAD BOLT. BEND 45°.
9. ¾"Φ X 2¼" GALVANIZED THREADED COUPLING.
10. 1" × 5" SLOTTED COUNTERSUNK HOLE FOR NO. 7. PLACE SLOT PARALLEL TO DIRECTION OF MOVEMENT.

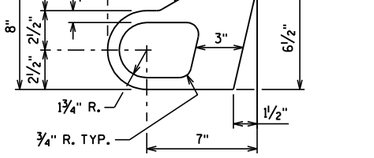


SECTION THRU JOINT

ROADWAY TRAFFIC AREA BETWEEN EXTERIOR GIRDERS



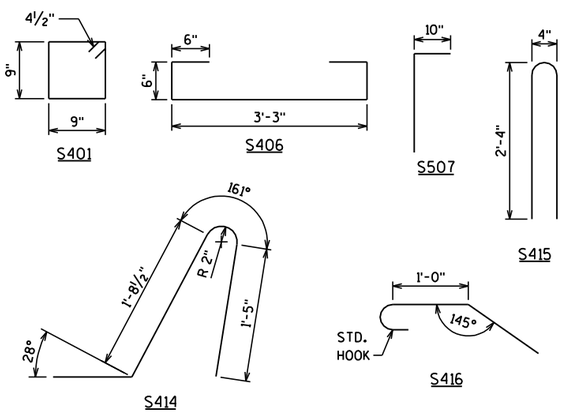
PART PLAN



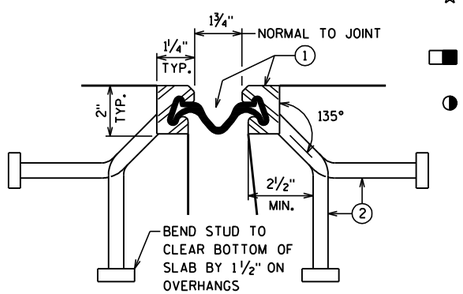
ALTERNATE STRIP SEAL ANCHOR

BILL OF BARS

	BAR MARK	COAT	SOUTH ABUT.	NORTH ABUT.	LENGTH	BENT	LOCATION
	S401	X	81	75	3'-6"	X	PAVING BLOCK
◑	S502	X	36	33	7'-8"		PAVING BLOCK
	S703	X	6	0	9'-1"		DECK - DIAPHRAGM
◑	S704	X	36	36	7'-11"		DECK - DIAPHRAGM
	S705	X	0	6	3'-9"		DECK - DIAPHRAGM
	S406	X	56	52	4'-11"	X	DECK - DIAPHRAGM
■	S507	X	81	75	3'-0"	X	PAVING BLOCK ANCHOR
	S408	X	12	12	9'-8"		END OF DECK
◑	S409	X	2	0	10'-11"		END OF DECK BTWN GIRDERS 7 & 8
	S410	X	0	2	5'-6"		END OF DECK BTWN GIRDERS 7 & 8
☆	S511	X	11	11	27'-0"		SLAB TRANSVERSE, STAGE 1
☆	S512	X	11	0	52'-3"		SLAB TRANSVERSE, STAGE 2
☆	S513	X	0	11	46'-11"		SLAB TRANSVERSE, STAGE 2
	S414	X	14	14	4'-3"	X	PARAPET VERTICAL
	S415	X	21	21	4'-10"	X	PARAPET VERTICAL
	S416	X	7	7	2'-8"	X	PARAPET VERTICAL
	S417	X	7	7	2'-0"		PARAPET VERTICAL



BAR BENDING DIAGRAMS



SECTION THRU JOINT

EXTERIOR GIRDER TO EDGE OF DECK AND AT PARAPETS, MEDIANS AND SIDEWALKS

NOTES:

ONE FIELD SPLICE PERMITTED IN STEEL EXTRUSIONS. IF USED, DETAILS SHALL BE SUBMITTED FOR APPROVAL. NO SPLICING PERMITTED IN NEOPRENE STRIP SEAL.

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

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

SANDBLAST PLATES & EXTRUSIONS AFTER FABRICATION IN ACCORDANCE WITH SSPC SP. #6 "COMMERCIAL BLAST CLEANING". AFTER BLAST CLEANING THE PLATES & EXTRUSIONS SHALL BE HOT DIPPED GALVANIZED. SLIP-RESISTANT SURFACE IS APPLIED TO SIDEWALK COVER PLATES BY THE MANUFACTURER AND THEN HOT DIPPED GALVANIZED TO THEIR RECOMMENDATIONS TO MAINTAIN THE INTEGRITY OF THIS SURFACE.

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

STRIP SEAL EXPANSION JOINT ASSEMBLY, INCLUDING ANCHOR STUDS & HARDWARE WILL BE PAID FOR AT THE LUMP SUM PRICE BID FOR "EXPANSION DEVICE B-36-61".

REMOVE EXISTING PARAPET AS REQUIRED TO REMOVE EXISTING AND INSTALL NEW EXPANSION DEVICE. (INCORPORATE ALL SLAB REINFORCEMENT INTO NEW WORK). (REUSE ALL PARAPET REINFORCEMENT)

◪ POUR CONCRETE ABOVE THIS JOINT AFTER SUPERSTRUCTURE IS IN PLACE. STRIKE OFF AND LEAVE ROUGH.

⚠ MATCH TOP OF PAVING BLOCK TO ROADWAY CROWN AND GRADE.

☆ COUPLED BAR LENGTHS ARE GIVEN AS END TO END AND MAKE NO ALLOWANCE FOR GAPS REQUIRED BY THE COUPLER CHOSEN. ADJUST LENGTH AS REQUIRED FOR COUPLER PLACEMENT.

■ MASONRY ANCHORS TYPE L NO. 5 BARS. EMBED MIN. 1'-6" INTO EXISTING CONCRETE. SPACE AT 1'-0". TURN 10" LEG AS NECESSARY TO FIT.

◑ FIELD CUT AT CONSTRUCTION JOINT AND USE BAR COUPLER.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-36-61

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EXPANSION DEVICE

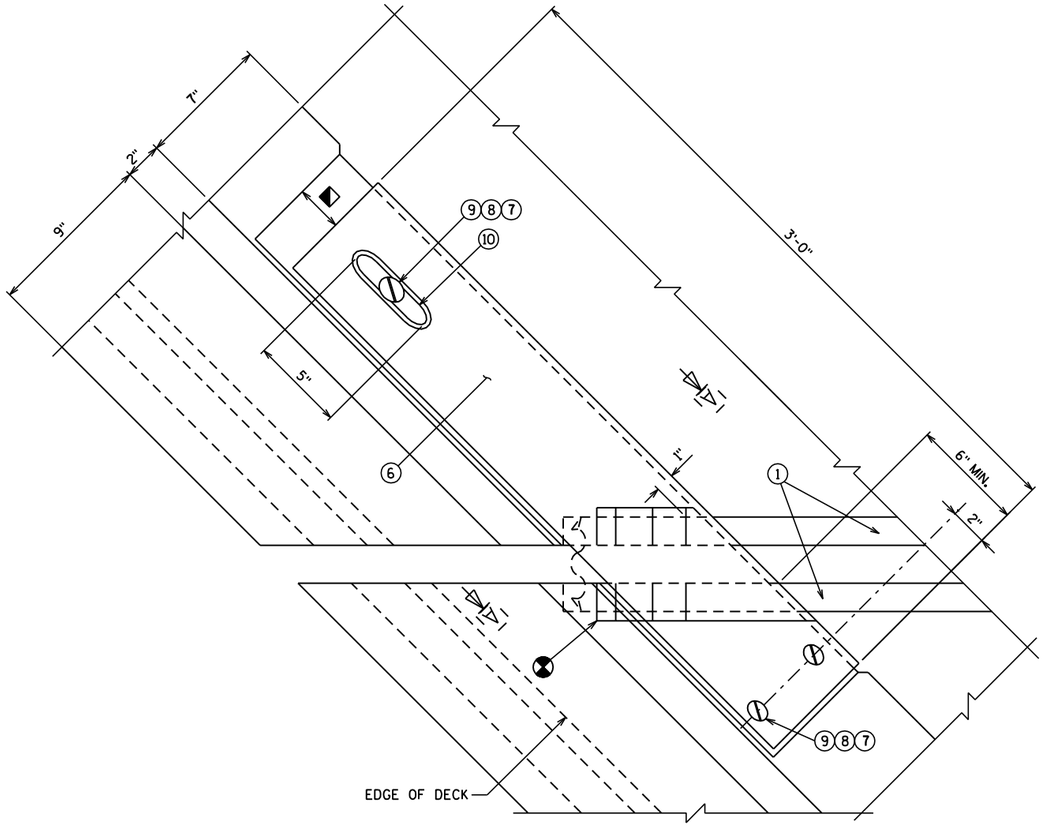
SHEET 4 OF 6

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STATE PROJECT NUMBER
1224-21-71

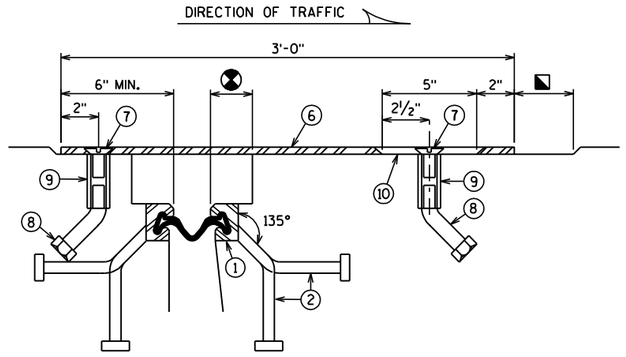


PLAN

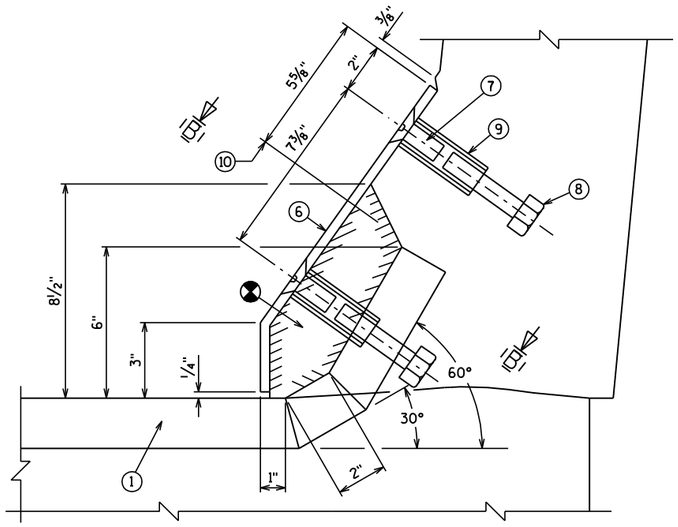
SEE SHEET 4 FOR LEGEND AND NOTES.

BLOCK OUT CONCRETE 2" EACH SIDE OF JOINT OPENING.

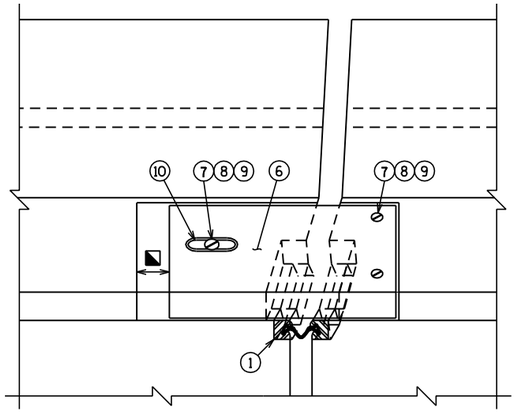
JOINT OPENING DIMENSION ALONG SKEW PLUS ½".



SECTION B-B



SECTION A-A



VIEW OF PARAPET PLATE FROM ROADWAY

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-36-61

DRAWN BY BRE | PLANS CK'D. KRO

COVER PLATE DETAILS

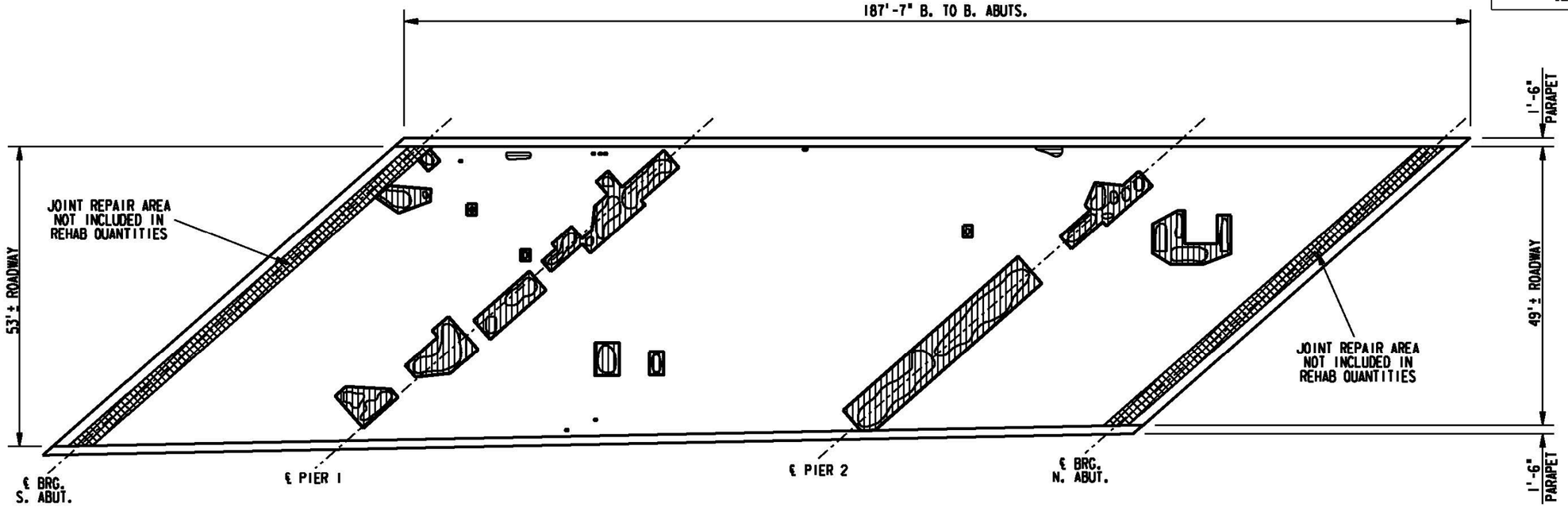
SHEET 5 OF 6

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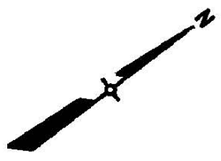
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STATE PROJECT NUMBER
1224-21-71



PLAN

PROPOSED REHAB AREAS



SCALE 0' 5' 10' 20'

FIELD OBSERVATIONS SUMMARY		STRUCTURE NO. B-36-61	
ITEM	UNIT	QUANT.	%
TOTAL AREA	yd^2	1052.9	
SHADE/DEBRIS	yd^2	0	
PREPARATION, DECKS, TYPE 1	yd^2	88.7	8.4
PREPARATION, DECKS, TYPE 2	yd^2	66.5	6.3
FULL DEPTH DECK REPAIR	yd^2	1.0	<0.1

LEGEND

DECK PREPARATION AREA

SHADE/DEBRIS

DELAMINATION

SPALL

DEBOND

ASPHALT PATCH

CONCRETE PATCH

SURFACE TYPE: BITUMINOUS OVERLAY
INFRARED INSPECTION DATE: 7/17/2014

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8

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-36-61

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DECK REPAIR

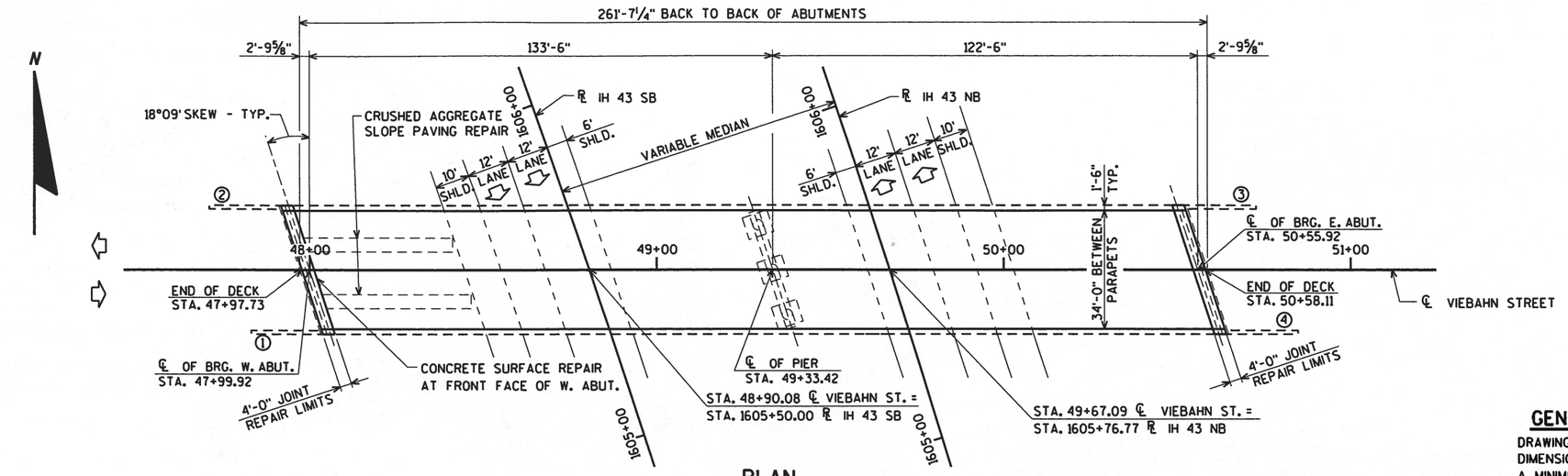
SHEET 6 OF 6

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FILE NAME : F:±TR±JOBS±E2041A12±Sheets±Bridges±B-36-61±B-36-61 06 deck repair.dgn PLOT BY : olsonk PLOT DATE: 5/31/2015 11:48:05 PM

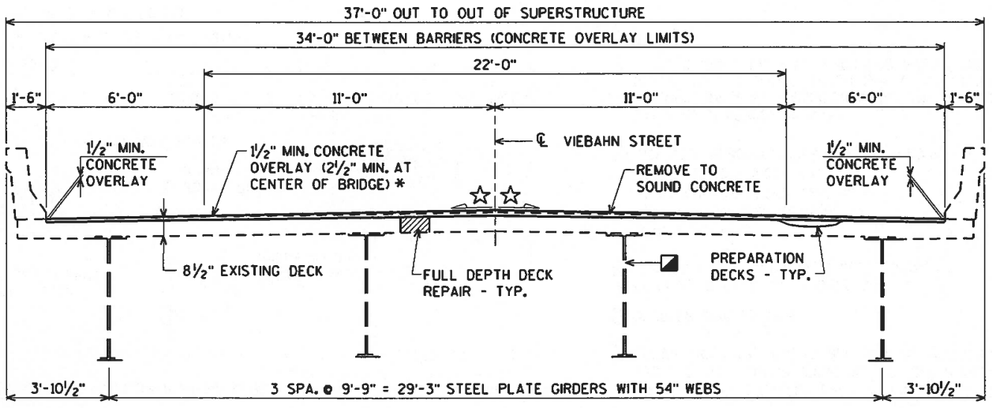
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CHECKED BY:
BACK CHECKED BY:
CORRECTED BY:

STATE PROJECT NUMBER
1224-21-71



PLAN

2-SPAN STEEL DECK GIRDER BRIDGE CONCRETE OVERLAY



CROSS SECTION THRU BRIDGE

(LOOKING EAST)

TOTAL ESTIMATED QUANTITIES

	BID ITEM NUMBER	BID ITEMS	UNIT	TOTAL
	502.0100	CONCRETE MASONRY BRIDGES	CY	2
	502.3100	EXPANSION DEVICE B-36-62	LS	1
	502.3200	PROTECTIVE SURFACE TREATMENT	SY	990
	502.3210	PIGMENTED SURFACE SEALER	SY	240
	502.5005	MASONRY ANCHOR TYPE L NO. 5 BARS	EACH	70
	505.0600	BAR STEEL REINFORCEMENT HS COATED STRUCTURES	LB	2,710
	509.0301	PREPARATION DECKS TYPE 1	SY	490
	509.0302	PREPARATION DECKS TYPE 2	SY	200
	509.0500	CLEANING DECKS	SY	960
	509.1000	JOINT REPAIR	SY	35
	509.1500	CONCRETE SURFACE REPAIR	SF	21
	509.2000	FULL-DEPTH DECK REPAIR	SY	20
△	509.2500	CONCRETE MASONRY OVERLAY DECKS	CY	122
	509.9050.S	CLEANING PARAPETS	LF	600
◪	517.3000.S	STRUCTURE OVERCOATING CLEANING AND PRIMING B-36-62	LS	1
◪	517.4000.S	CONTAINMENT AND COLLECTION OF WASTE MATERIALS B-36-62	LS	1
	604.9010.S	SLOPE PAVING REPAIR CRUSHED AGGREGATE	CY	16

LEGEND

* THE PROPOSED OVERLAY THICKNESS VARIES FROM A MINIMUM OF 1½" AT THE PARAPETS TO 2½" AT THE CROWN. THE MINIMUM AVERAGE OVERLAY THICKNESS IS 2". THE EXPECTED AVERAGE OVERLAY THICKNESS IS 2½".

△ BID ITEM ALSO INCLUDES CONCRETE FOR:
"PREPARATION DECKS TYPE 1"
"PREPARATION DECKS TYPE 2"
"FULL-DEPTH DECK REPAIR"
"JOINT REPAIR"

☆ NEW CONCRETE OVERLAY SLOPE = 0.02 ↗
CURRENT DECK SLOPE = 0.015 ↗

◯ DENOTES WING NUMBER.

◪ CLEAN AND PAINT 6' END SECTIONS OF ALL GIRDERS AND END DIAPHRAGMS ADJACENT TO JOINTS ONLY. DO NOT PAINT EXTERIOR FACE OF EXTERIOR GIRDERS.

DESIGN DATA

LIVE LOAD:

DESIGN LOADING: HS-20
INVENTORY RATING: HS-22
OPERATING RATING: HS-37
WISCONSIN STANDARD PERMIT VEHICLE (WIS-SPV) = 220 KIPS

MATERIAL PROPERTIES:

CONCRETE MASONRY _____ f'_c = 4,000 p.s.i.
HIGH STRENGTH BAR STEEL REINFORCEMENT (GRADE 60) __ f_y = 60,000 p.s.i.

TRAFFIC DATA:

IH 43	VIEBAHN STREET
A.D.T. = 25,000 (2016)	A.D.T. = 250 (2016)
A.D.T. = 29,500 (2036)	A.D.T. = 350 (2036)
R.D.S. = 70 M.P.H.	R.D.S. = 50 M.P.H.

LIST OF DRAWINGS

1. GENERAL PLAN
2. EXPANSION JOINT DETAILS AT ABUTMENTS
3. EXPANSION JOINT DETAILS AT ABUTMENTS
4. EXPANSION JOINT DETAILS AT ABUTMENTS
5. PARAPET AND SLOPE PAVING DETAILS

GENERAL NOTES

DRAWINGS SHALL NOT BE SCALED.

DIMENSIONS SHOWN ARE BASED ON ORIGINAL STRUCTURE PLANS.

A MINIMUM OF 1-INCH OF CONCRETE SHALL BE REMOVED FROM THE ENTIRE BRIDGE DECK UNDER THE BID ITEM "CLEANING DECKS".

ANY EXCAVATION NECESSARY TO COMPLETE THE OVERLAY OR JOINT REPAIR AT THE ABUTMENTS IS CONSIDERED INCIDENTAL TO THE BID ITEM "CONCRETE MASONRY OVERLAY DECKS".

REMOVAL LINES NOT COVERED WITH A CONCRETE OVERLAY SHALL BE DEFINED BY A 1" DEEP SAW CUT AT THE CONCRETE SURFACES.

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

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

PREPARATION DECKS TYPE 1, PREPARATION DECKS TYPE 2, CONCRETE SURFACE REPAIR AND FULL DEPTH DECK REPAIR AREAS SHALL BE DETERMINED BY THE FIELD ENGINEER.

APPLY BRIDGE SEAT PROTECTION, AS PER SECTION 502.3.12 OF THE STANDARD SPECIFICATIONS, TO THE TOP SURFACES OF BOTH ABUTMENTS BELOW EXPANSION DEVICES, POWER WASH AND ADEQUATELY DRY SURFACES BEFORE APPLICATION. WORK TO BE INCIDENTAL TO "JOINT REPAIR".

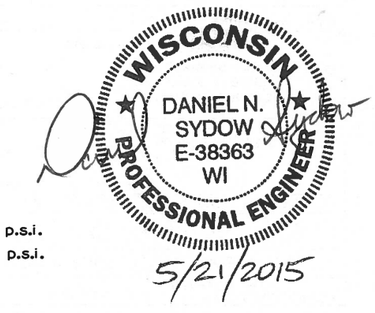
PROFILE GRADE LINE SHALL BE DETERMINED IN THE FIELD BASED ON A MINIMUM OVERLAY THICKNESS OF 1½". PLACED ABOVE THE DECK SURFACE AFTER "CLEANING DECKS". EXPECTED AVERAGE OVERLAY THICKNESS IS 2½". IF EXPECTED AVERAGE OVERLAY THICKNESS IS EXCEEDED BY MORE THAN ½", CONTACT THE STRUCTURES DESIGN SECTION.

PARAPET JOINTS TO BE RE-SEALED WITH NON-STAINING GRAY NON-BITUMINOUS JOINT SEALER (1" DEEP AND HOLD ⅛" BELOW SURFACE OF CONCRETE). WORK CONSIDERED INCIDENTAL TO "JOINT REPAIR".

PAINT COLOR TO BE BROWN (FEDERAL STANDARD COLOR NO. 20059).

CLEAN FULL LENGTH OF PARAPETS ACCORDING TO STSP ITEM 509.9050.S "CLEANING PARAPETS".

PROTECTIVE SURFACE TREATMENT IS TO BE APPLIED TO THE TOP OF THE OVERLAY AND PIGMENTED SURFACE SEALER IS TO BE APPLIED TO THE TOP AND INSIDE FACE OF PARAPETS.



BRIDGE OFFICE CONTACT:
WILLIAM DREHER
(608)-266-8489

CONSULTANT CONTACT:
DAN SYDOW
(715)-834-3161

NO.	DATE	REVISION	BY

ORIGINAL PLANS PREPARED BY
AYRES ASSOCIATES
3433 Oakwood Hills Parkway
Eau Claire, WI 54701
www.AyresAssociates.com

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

ACCEPTED William C. Dreher SDR 08/17/15
CHIEF STRUCTURES DESIGN ENGINEER — DATE

STRUCTURE B-36-62

VIEBAHN STREET (CTH CL) OVER IH 43

COUNTY	TOWN/~~CITY/VILLAGE~~
MANITOWOC	MANITOWOC RAPIDS

DESIGN SPEC. REHABILITATION N/A

DESIGNED BY	DESIGN CK'D.	DRAWN BY	PLANS CK'D.
JWZ	JCK	CJM/CLS	DWS

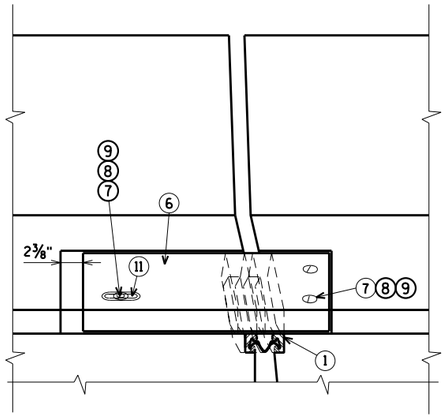
GENERAL PLAN

SHEET 341 OF 5

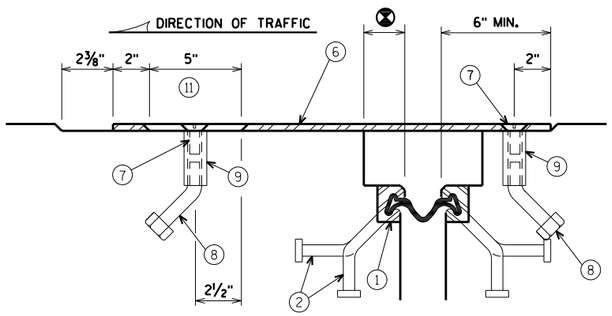
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STATE PROJECT NUMBER

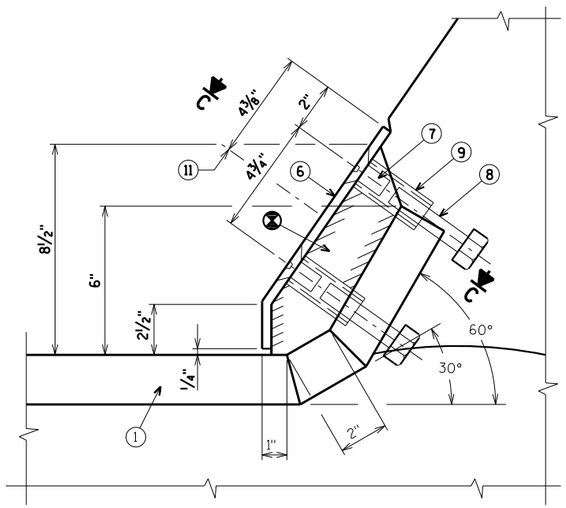
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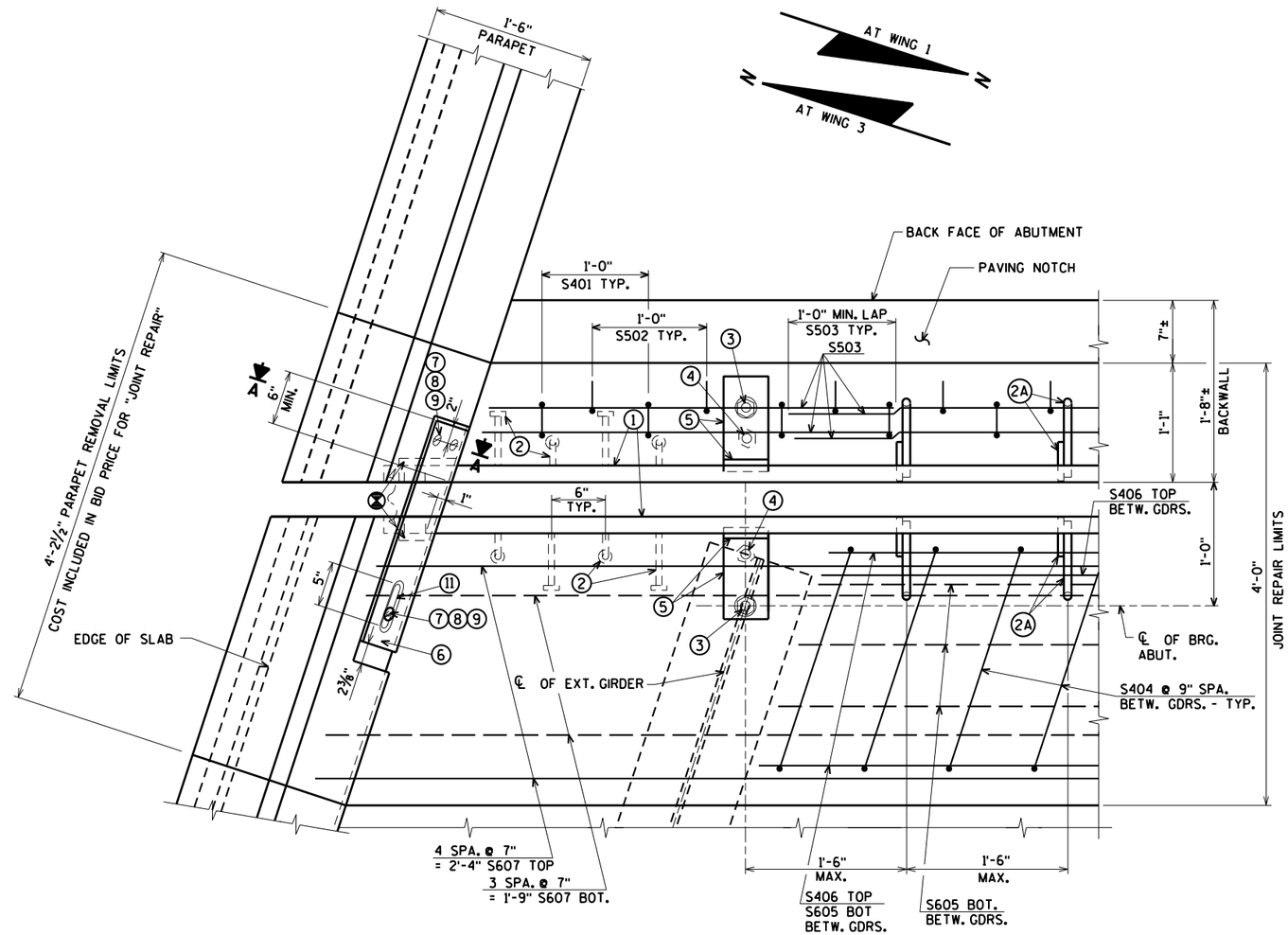
VIEW OF PARAPET PLATES FROM ROADWAY



SECTION C



SECTION A



PART PLAN
AT WINGS 1 & 3

⊠ BLOCK OUT CONCRETE 2" EACH SIDE OF JOINT OPENING.

WORK THIS SHEET WITH SHEETS 3, 4 & 5

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-36-62

DRAWN BY CLS | PLANS CK'D. JCK

EXPANSION JOINT DETAILS AT ABUTMENTS

SHEET 2 OF 5
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ORIGINAL PLANS PREPARED BY
AYRES ASSOCIATES
3433 Oakwood Hills Parkway
Eau Claire, WI 54701
www.AyresAssociates.com

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5/21/2015

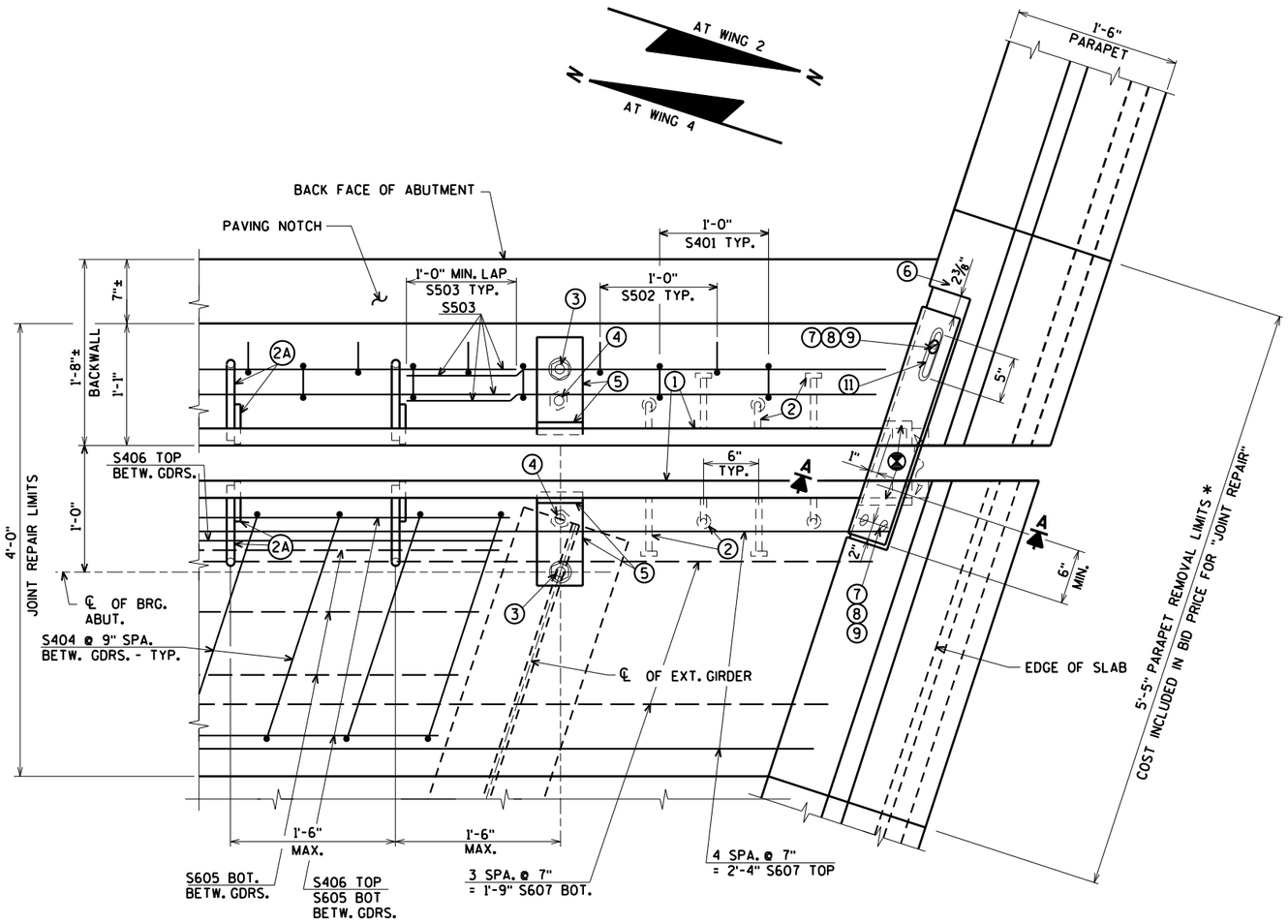
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STATE PROJECT NUMBER

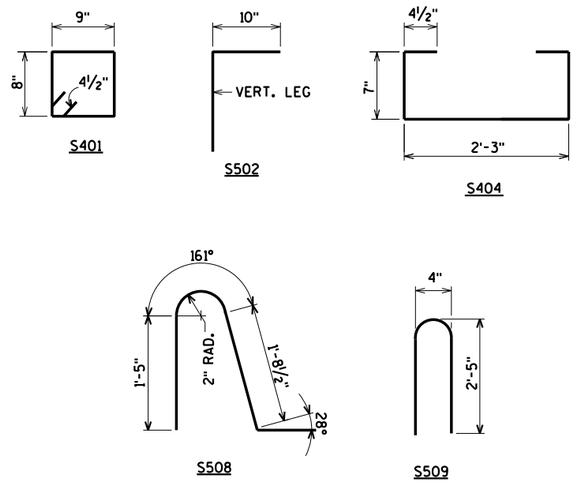
1224-21-71

BILL OF BARS

BAR. NO.	COATED BAR	NO. REQ'D.	LENGTH	BENT BAR	BUNDLED BAR SERIES	2.710# COATED LOCATION
S401	X	72	3-4	X		PAVING BLOCK VERT.
S502	X	70	2-11	X		PAVING BLOCK VERT. ANCHOR
S503	X	12	18-3			PAVING BLOCK HORIZ.
S404	X	72	3-10	X		DIAPH. VERT.
S605	X	30	8-10			DIAPH. HORIZ.
S406	X	24	8-10			DIAPH. HORIZ.
S607	X	36	20-6			DECK TRANSVERSE
S508	X	14	4-3	X		PARAPET VERT.
S509	X	26	5-0	X		PARAPET VERT.
S510	X	4	1-2			PARAPET HORIZ. APPROACH WINGS 1 & 3
S511	X	4	1-1			PARAPET HORIZ. APPROACH WINGS 1 & 3
S512	X	2	0-10			PARAPET HORIZ. APPROACH WINGS 1 & 3
S513	X	4	2-1			PARAPET STRUCTURE APPROACH WINGS 1 & 3
S514	X	4	2-2			PARAPET STRUCTURE APPROACH WINGS 1 & 3
S515	X	2	2-5			PARAPET STRUCTURE APPROACH WINGS 1 & 3
S516	X	4	1-6			PARAPET HORIZ. APPROACH WINGS 2 & 4
S517	X	4	1-7			PARAPET HORIZ. APPROACH WINGS 2 & 4
S518	X	2	1-10			PARAPET HORIZ. APPROACH WINGS 2 & 4
S519	X	4	2-11			PARAPET STRUCTURE APPROACH WINGS 2 & 4
S520	X	4	2-10			PARAPET STRUCTURE APPROACH WINGS 2 & 4
S521	X	2	2-8			PARAPET STRUCTURE APPROACH WINGS 2 & 4



PART PLAN
AT WINGS 2 & 4



*UTILIZE EXISTING VERTICAL BAR STEEL FOR PARAPET REMOVAL LIMITS OUTSIDE OF THE "JOINT REPAIR" LIMITS.

FOR SECTION A, SEE SHEET 2.

⊗ BLOCK OUT CONCRETE 2" EACH SIDE OF JOINT OPENING.

WORK THIS SHEET WITH SHEETS 2, 4 & 5

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-36-62

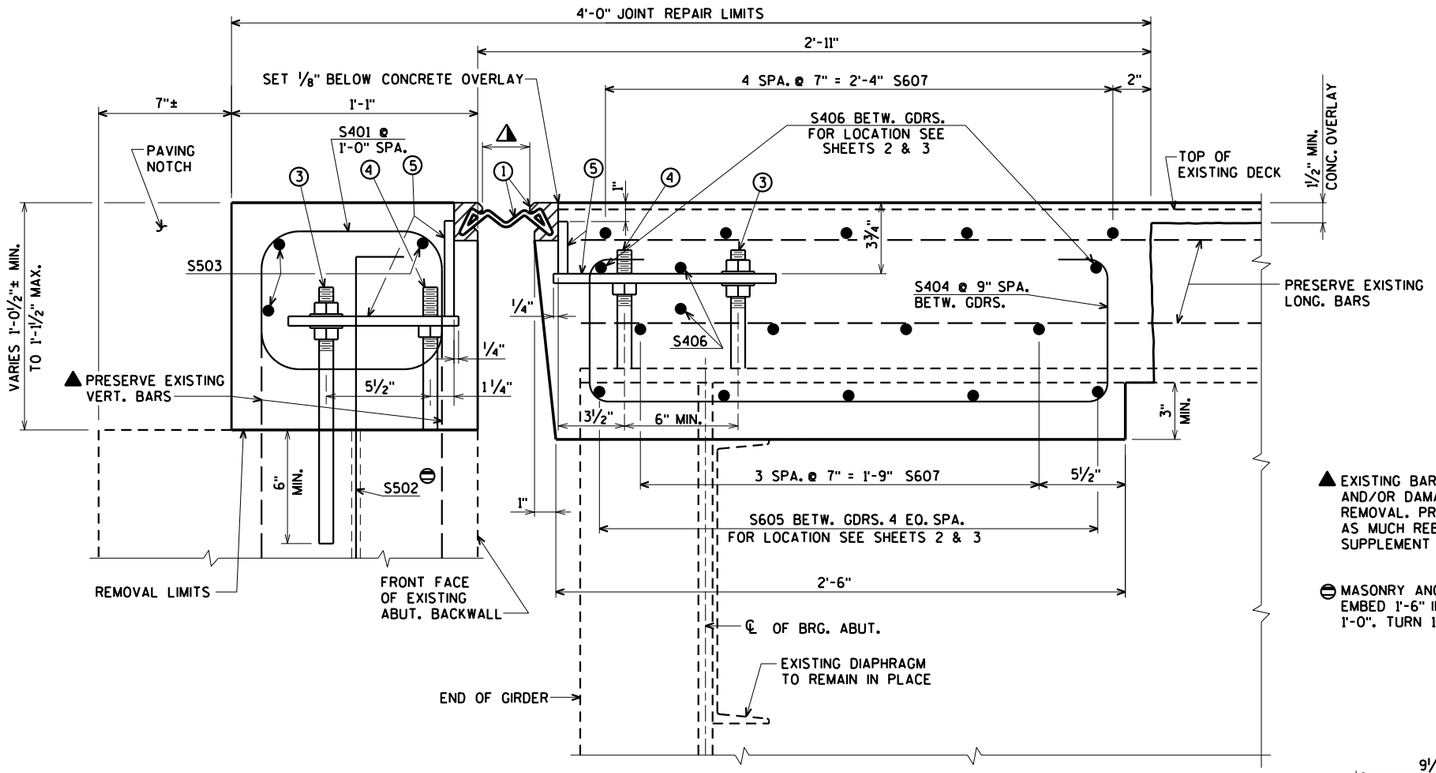
DRAWN BY CLS | PLANS CK'D. JCK

EXPANSION JOINT DETAILS AT ABUTMENTS

SHEET 3 OF 5
343

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TYPICAL SECTION THRU JOINT
NORMAL TO ℄ SUBSTRUCTURE

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

⊖ MASONRY ANCHORS TYPE L NO. 5 BARS. EMBED 1'-6" INTO CONCRETE. SPACE AT 1'-0". TURN 10" LEG AS NECESSARY TO FIT.

LEGEND

▲1. NEOPRENE STRIP SEAL (4 - INCH) & STEEL EXTRUSIONS. SET JOINT OPENING AT 1 3/4".

2. STUDS 5/8" ϕ X 6 3/8" LONG AT 6" ALTERNATE CENTERS. WELD TO EXTRUSIONS & BEND AS SHOWN AFTER WELDING.

2A. 1/2" THICK ANCHOR PLATE WITH 5/8"ϕ ROD (OR ALTERNATE STRIP SEAL ANCHOR). WELD ROD TO ANCHOR PLATE, WELD ANCHOR PLATE TO #1 AT 1'-6" CTRS. BETWEEN GIRDERS.

3. 3/4" ϕ THREADED ROD WITH 2 NUTS AND PLATE WASHERS. WELD THREADED ROD TO TOP FLANGE OR ATTACH BY BOLTING THRU FLANGE. ON ABUTMENT SIDE, GROUT THREADED ROD INTO FIELD DRILLED HOLES IN ABUTMENT BACKWALL AS SHOWN.

4. 3/4"ϕ THREADED ROD WITH NUT. TACK WELD NUT TO NO. 5.

5. FABRICATE SUPPORT FROM 3" X 1/2" BAR AS SHOWN OR EQUIVALENT, ONE PER GIRDER PER SIDE. FIELD OR SHOP WELD TO NO. 1. IF FIELD WELDED, COVER WELDED AREAS WITH EPOXY-COATING MATERIAL. PROVIDE 1 1/2" ϕ HOLE FOR NO. 3 & 1" ϕ HOLE FOR NO. 4.

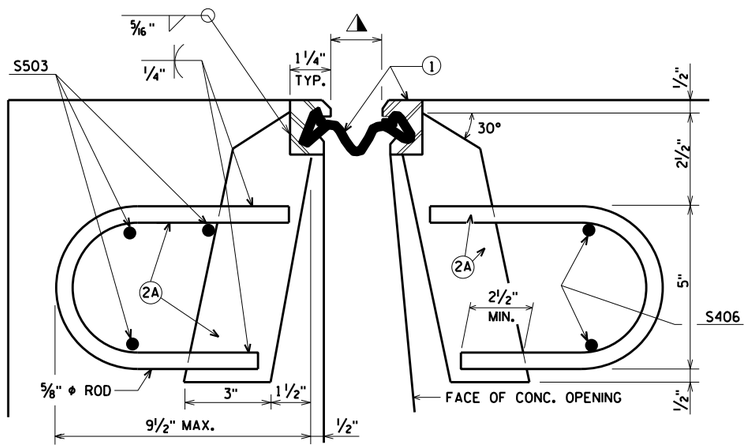
6. GALVANIZED PLATE 3/8" x 10 1/2" x 2'-2" LONG WITH HOLES FOR #7. BEND AS SHOWN.

7. 3/4" ϕ x 1 1/2" STAINLESS STEEL SOCKET FLAT HEAD SCREWS WITH ANTI-SEIZE LUBRICANT. PLACE IN COUNTERSUNK HOLES. RECESS 1/16" BELOW PLATE SURFACE.

8. 3/4" ϕ x 4" GALV. HEX HEAD BOLT. BEND 45°.

9. 3/4" ϕ x 2 1/4" GALV. THREADED COUPLING.

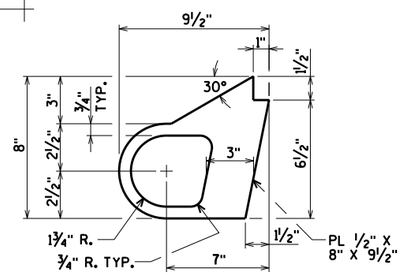
11. 1" x 5" SLOTTED CSK. HOLE FOR #7. PLACE SLOT PARALLEL TO DIRECTION OF MOVEMENT.



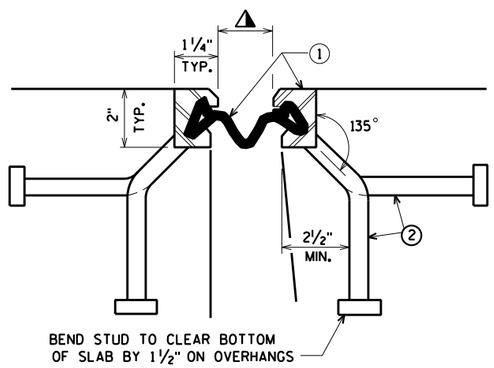
AT PAVING BLOCK AT SLAB

SECTION THRU JOINT
ROADWAY TRAFFIC AREA BETWEEN EXTERIOR GIRDERS.

SYM. ABOUT ℄ JOINT UNLESS OTHERWISE SHOWN OR NOTED.



ALTERNATE STRIP SEAL ANCHOR



SECTION THRU JOINT
EXTERIOR GIRDER TO EDGE OF SLAB & AT PARAPETS.

NOTES

ONE FIELD SPLICE PERMITTED IN STEEL EXTRUSIONS. IF USED, DETAILS SHALL BE SUBMITTED FOR APPROVAL. NO SPLICING PERMITTED IN NEOPRENE STRIP SEAL.

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

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

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

ANCHOR SYSTEM #8 & #9 SHALL CONFORM TO ASTM A307 & SHALL BE GALVANIZED IN ACCORDANCE WITH ASTM A153 CLASS C & D.

STRIP SEAL EXPANSION JOINT ASSEMBLY, INCLUDING ANCHOR STUDS & HARDWARE WILL BE PAID FOR AT THE LUMP SUM PRICE BID FOR "EXPANSION DEVICE B-36-62".

WORK THIS SHEET WITH SHEETS 2 & 3

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-36-62

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EXPANSION JOINT DETAILS AT ABUTMENTS

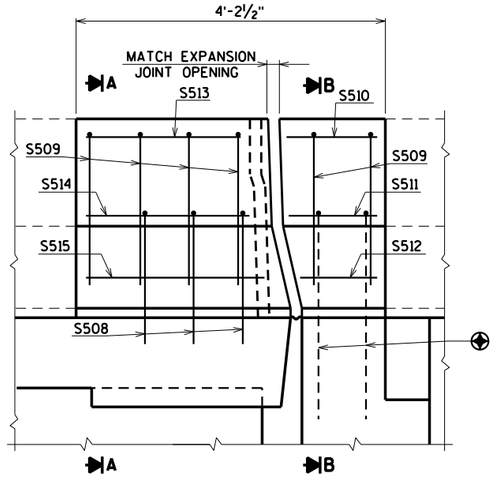
SHEET 4 OF 5
344

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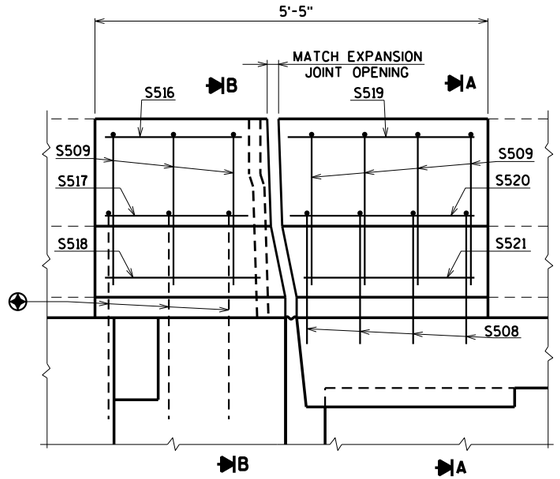
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STATE PROJECT NUMBER

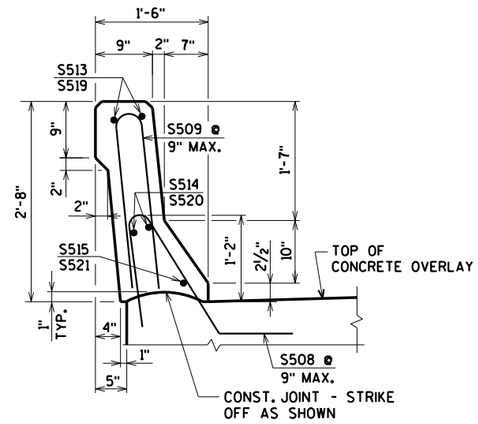
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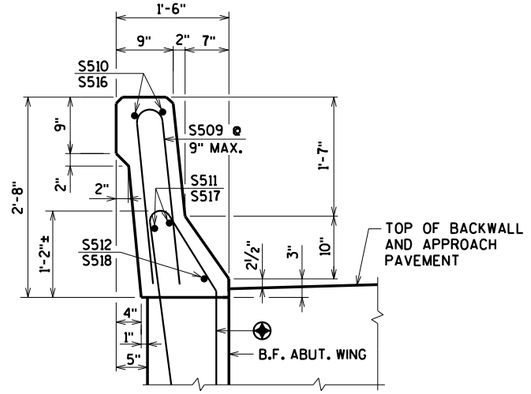
INSIDE ELEVATION
AT WINGS 1 & 3



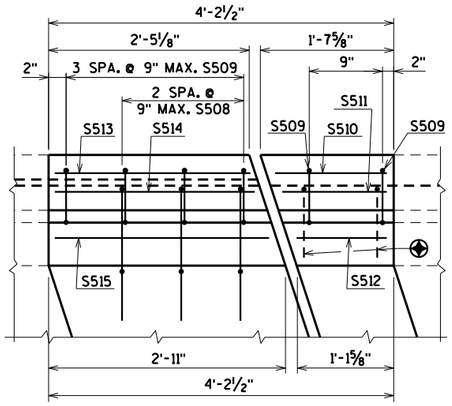
INSIDE ELEVATION
AT WINGS 2 & 4



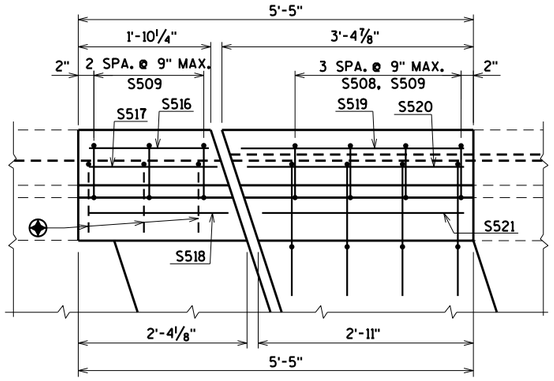
SECTION A



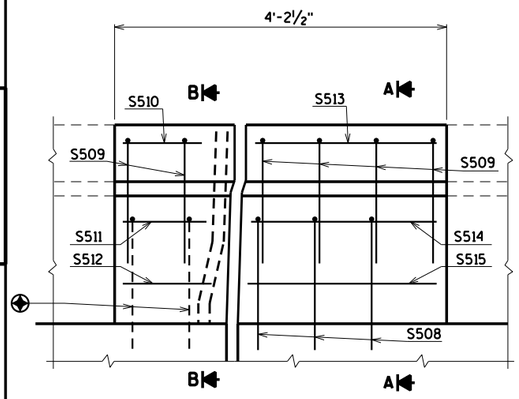
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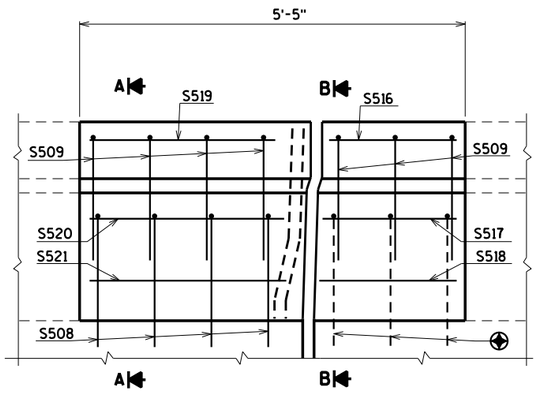
PLAN
AT WINGS 1 & 3



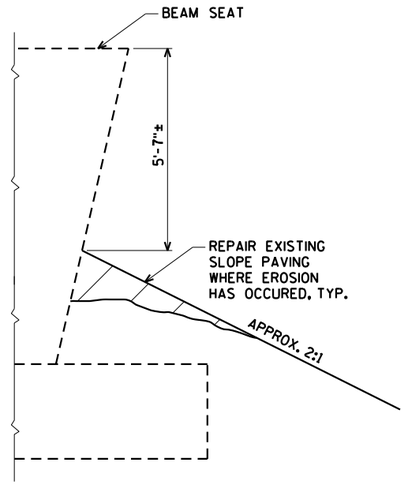
PLAN
AT WINGS 2 & 4



OUTSIDE ELEVATION
AT WINGS 1 & 3



OUTSIDE ELEVATION
AT WINGS 2 & 4



SLOPE PAVING AT WEST ABUTMENT

⊕ UTILIZE EXISTING VERTICAL BAR STEEL

WORK THIS SHEET WITH SHEETS 2 & 3

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-36-62

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PARAPET AND SLOPE PAVING DETAILS

SHEET 5 OF 5

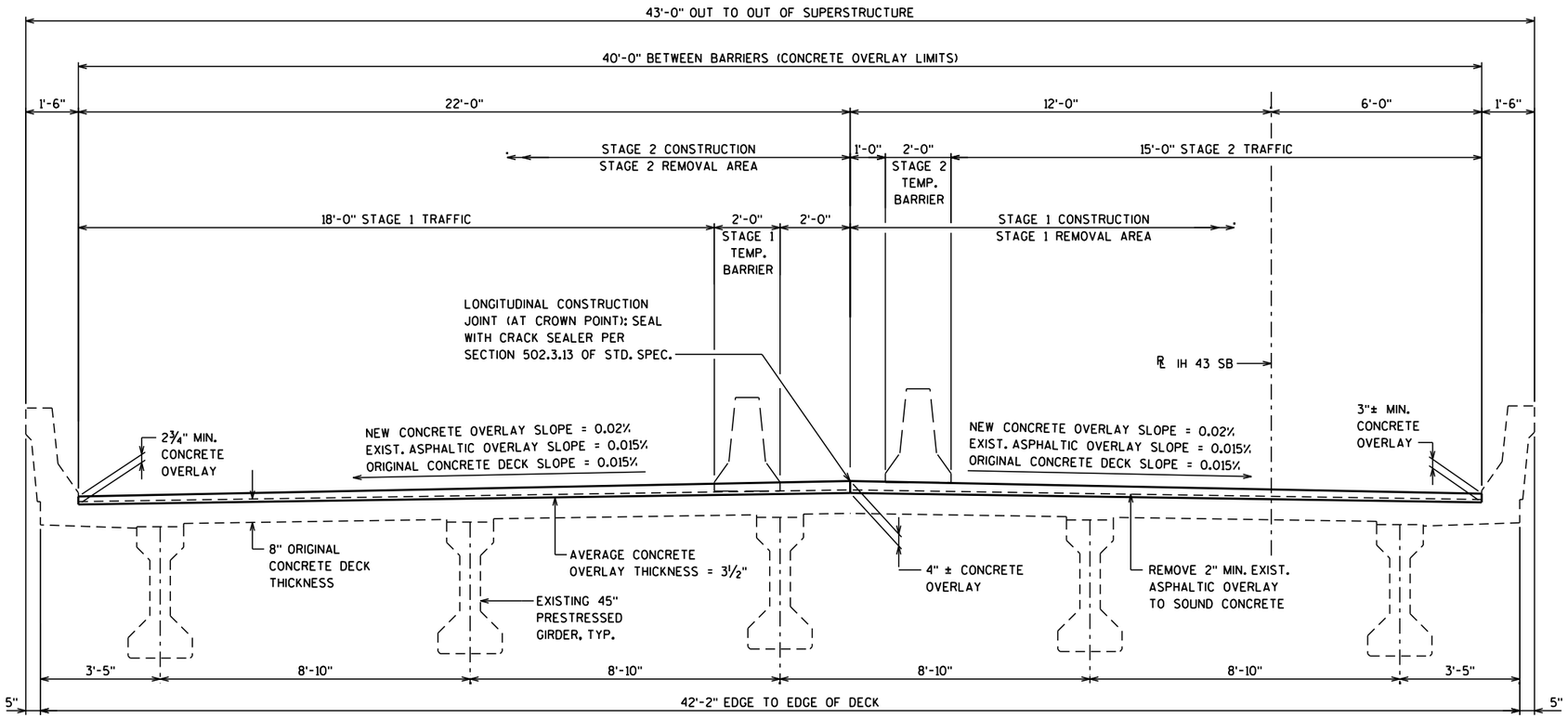
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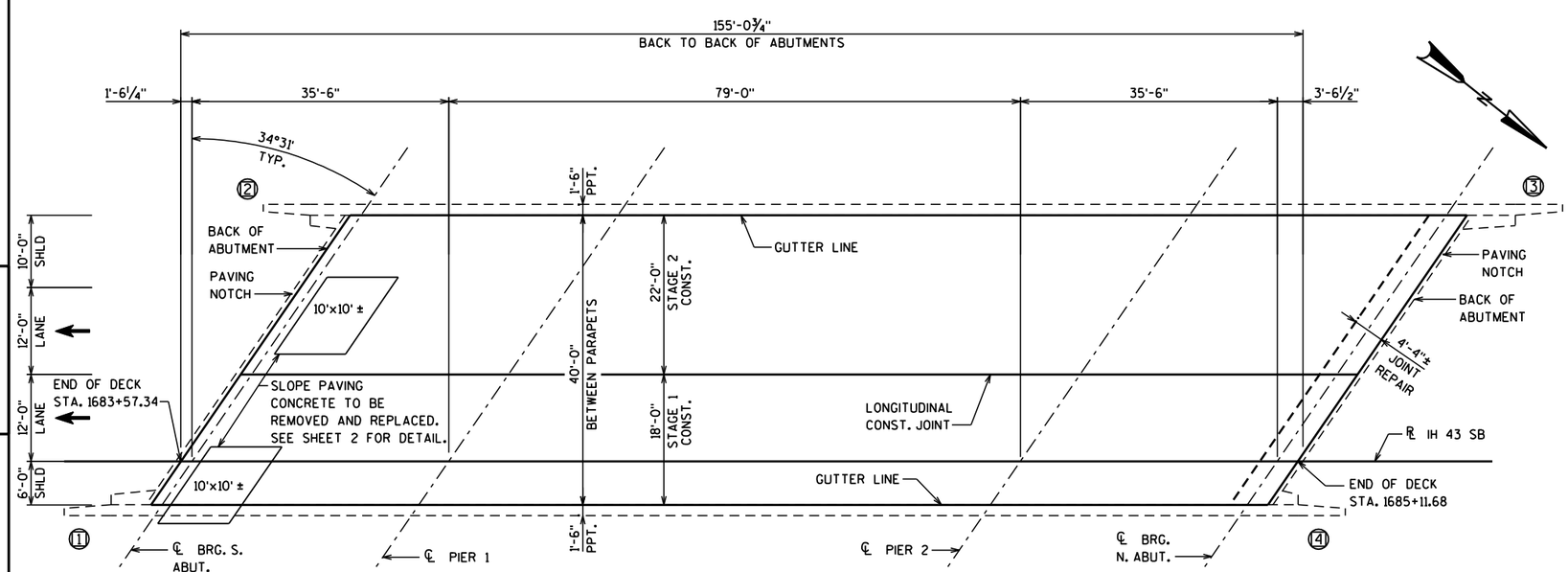
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CROSS SECTION THRU EXISTING ROADWAY

(LOOKING NORTH)



PLAN

Ⓧ INDICATES WING NUMBER

STATE PROJECT NUMBER
1224-21-71

TRAFFIC DATA

ADT = 11,800 (2036)
RDS = 70 M.P.H.

DESIGN DATA

LIVE LOAD:

INVENTORY RATING: HS-16
OPERATING RATING: HS-26
WISCONSIN STANDARD PERMIT VEHICLE (Wis-SPV): 250 KIPS

MATERIAL PROPERTIES:

CONCRETE MASONRY OVERLAY DECKS & PARAPETS: ——— f'c = 4,000 p.s.i.
BAR STEEL REINFORCEMENT GRADE 60: ——— fy = 60,000 p.s.i.

LIST OF DRAWINGS

1. GENERAL PLAN
2. GENERAL NOTES, QUANTITIES, & DETAILS
3. JOINT REPAIR
4. EXPANSION DEVICE
5. COVER PLATE DETAILS
6. DECK REPAIR

WISCONSIN
KRISTOFER R. OLSON
E-35236
APPLETON, WI
PROFESSIONAL ENGINEER

7/21/15

NO.	DATE	REVISION	BY

ORIGINAL PLANS PREPARED BY
OMNNI ASSOCIATES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
ACCEPTED William C. Dreher SDR — CHIEF STRUCTURES DESIGN ENGINEER — DATE 08/17/15

STRUCTURE B-36-65

IH 43 SB OVER WEST CUSTER ST

COUNTY	TOWN
MANITOWOC	MANITOWOC RAPIDS

DESIGN SPEC. REHABILITATION N/A

DESIGNED BY	DESIGN CK'D.	DRAWN BY	PLANS CK'D.
BRE	KRO	BRE	KRO

GENERAL PLAN

SHEET 1 OF 6

346

BRIDGE OFFICE CONTACT
WILLIAM DREHER
(608) 266-8489

CONSULTANT CONTACT
KRISTOFER OLSON
OMNNI ASSOCIATES
(920) 735-6900

8

FILE NAME : F:±TR±JOBS±E2041A12±Sheets±Bridges±B-36-65±B-36-65 01 gp.dgn
PLOT BY : olsonk PLOT DATE: 7/23/2015 2:13:32 PM

STATE PROJECT NUMBER
1224-21-71

GENERAL NOTES

DRAWINGS SHALL NOT BE SCALED.

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

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

USE EXISTING BAR STEEL REINFORCEMENT WHERE SHOWN AND EXTEND 24 BAR DIAMETERS INTO NEW WORK.

DIMENSIONS SHOWN ARE BASED ON THE EXISTING ORIGINAL STRUCTURE PLANS.

ANY EXCAVATION NECESSARY TO COMPLETE THE OVERLAY OR JOINT REPAIR AT THE ABUTMENTS IS TO BE CONSIDERED INCIDENTAL TO THE BID ITEM "CONCRETE MASONRY OVERLAY DECKS".

PROFILE GRADE LINE SHALL BE DETERMINED IN THE FIELD BASED ON A MINIMUM OVERLAY THICKNESS OF 4" AT THE CROWN POINT AND 2¾" AT THE TOE OF THE OUTSIDE PARAPET PLACED ABOVE THE DECK SURFACE AFTER "CLEANING DECKS". EXPECTED AVERAGE OVERLAY THICKNESS IS 3½" (OR AS GIVEN ON THE PLANS). IF EXPECTED AVERAGE OVERLAY THICKNESS IS EXCEEDED BY MORE THAN ½", CONTACT THE STRUCTURES DESIGN SECTION.

THE EXISTING BITUMINOUS ASPHALTIC OVERLAY SHALL BE REMOVED FROM THE BRIDGE DECK UNDER BID ITEM "REMOVING ASPHALTIC CONCRETE DECK OVERLAY".

PREPARATION DECKS TYPE 1, PREPARATION DECKS TYPE 2, CONCRETE SURFACE REPAIR AND FULL-DEPTH DECK REPAIR AREAS SHALL BE DETERMINED BY THE FIELD ENGINEER. "CONCRETE SURFACE REPAIR" TO INCLUDE BUT NOT LIMITED TO NORTH & SOUTH ABUTMENTS, AND GIRDER ENDS.

REMOVAL LINES NOT COVERED WITH A CONCRETE OVERLAY SHALL BE DEFINED BY A 1" DEEP SAW CUT AT THE CONCRETE SURFACES.

APPLY BRIDGE SEAT PROTECTION, AS PER SECTION 502.3.12 OF THE STANDARD SPECIFICATIONS, TO THE TOP SURFACES OF THE NORTH ABUTMENT BELOW EXPANSION DEVICE. POWER WASH AND ADEQUATELY DRY SURFACES BEFORE APPLICATION. WORK TO BE INCIDENTAL TO "JOINT REPAIR".

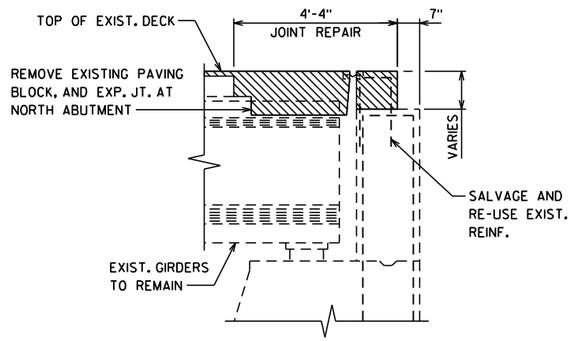
PROTECTIVE SURFACE TREATMENT SHALL BE APPLIED TO THE ENTIRE TOP SURFACE OF THE NEW CONCRETE OVERLAY. PIGMENTED PROTECTIVE SURFACE TREATMENT SHALL BE APPLIED TO THE ENTIRE FRONT FACES AND TOPS OF BOTH WING & DECK PARAPETS.

A MINIMUM OF 1-INCH OF CONCRETE SHALL BE REMOVED FROM THE ENTIRE BRIDGE DECK UNDER THE BID ITEM "CLEANING DECKS".

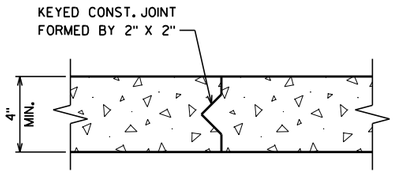
TOTAL ESTIMATED QUANTITIES

	ITEM NUMBER	BID ITEMS	UNIT	TOTALS
	204.0175	REMOVING CONCRETE SLOPE PAVING	SY	22
	502.3100	EXPANSION DEVICE (B-36-65)	LS	1
	502.3200	PROTECTIVE SURFACE TREATMENT	SY	689
	502.3210	PIGMENTED SURFACE SEALER	SY	138
	502.5005	MASONRY ANCHORS TYPE L NO.5 BARS	EACH	49
	505.0600	BAR STEEL REINFORCEMENT HS COATED STRUCTURES	LB	1,690
	505.0904	BAR COUPLERS NO. 4	EACH	2
	505.0905	BAR COUPLERS NO. 5	EACH	14
	505.0907	BAR COUPLERS NO. 7	EACH	6
	509.0301	PREPARATION DECKS TYPE 1	SY	12
	509.0302	PREPARATION DECKS TYPE 2	SY	2
	509.0500	CLEANING DECKS	SY	689
	509.1000	JOINT REPAIR	SY	23
	509.1500	CONCRETE SURFACE REPAIR	SF	9
	509.2000	FULL-DEPTH DECK REPAIR	SY	1
☆	509.2500	CONCRETE MASONRY OVERLAY DECKS	CY	81
	509.9010.S	REMOVING ASPHALTIC CONCRETE DECK OVERLAY (B-36-65)	SY	689
	509.9050.S	CLEANING PARAPETS	LF	357
	604.0400	SLOPE PAVING CONCRETE	SY	22

☆ BID ITEM ALSO INCLUDES CONCRETE FOR:
"PREPARATION DECKS TYPE 1"
"PREPARATION DECKS TYPE 2"
"FULL-DEPTH DECK REPAIR"
"JOINT REPAIR"



SECTION THRU NORTH ABUTMENT



SLOPE PAVING
CONSTRUCTION JOINT DETAIL

8

8

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-36-65

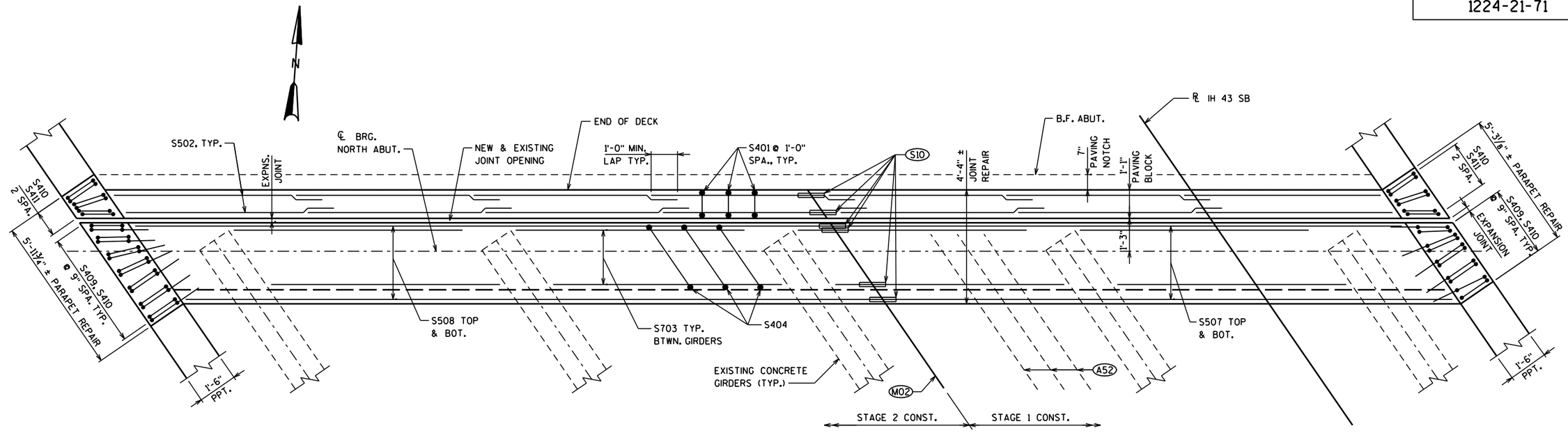
DRAWN BY BRE | PLANS CK'D. KRO

GENERAL NOTES, QUANTITIES, & DETAILS

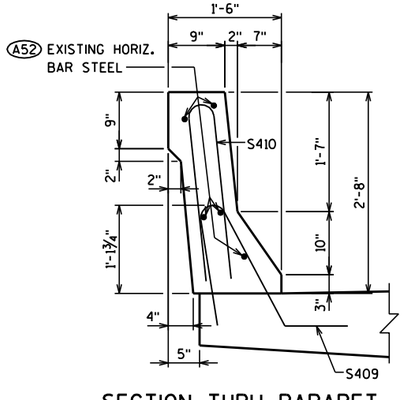
SHEET 2 OF 6

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STATE PROJECT NUMBER
1224-21-71

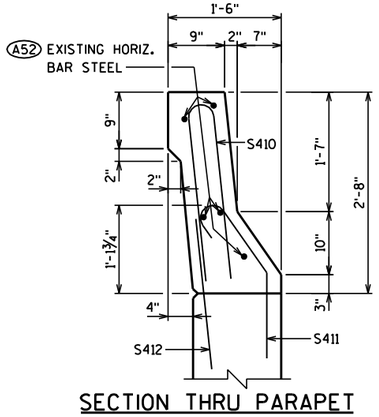


NORTH ABUTMENT "JOINT REPAIR" PLAN



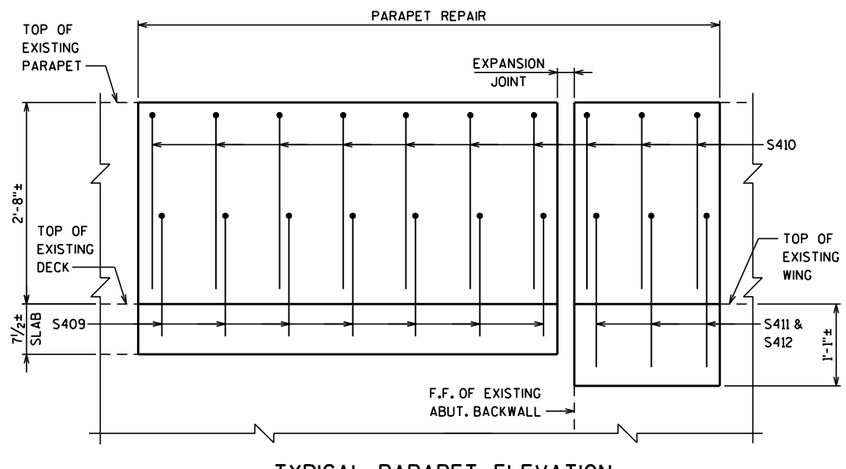
SECTION THRU PARAPET REPLACEMENT ON BRIDGE

DIMENSIONS ARE FOR REFERENCE ONLY
MATCH EXISTING PARAPET EDGES.



SECTION THRU PARAPET REPLACEMENT ON WING

DIMENSIONS ARE FOR REFERENCE ONLY
MATCH EXISTING PARAPET EDGES.



TYPICAL PARAPET ELEVATION

SEE SHEET 4 FOR SECTION THROUGH JOINT AT ABUTMENT.

(A52) SALVAGE EXIST. LONGITUDINAL REINFORCEMENT AND EXTEND FULL LENGTH INTO NEW WORK.

(S10) BAR COUPLERS USED. BAR LENGTH COMPUTED TO ℄ OF LONGIT. JOINT & SHALL BE MODIFIED TO THE BAR COUPLER MANUFACTURERS RECOMMENDATIONS.

(M02) LONGIT. CONST. JOINT IN JOINT REPAIR. TRAFFIC TO BE MAINTAINED DURING CONSTRUCTION.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-36-65

DRAWN BY BRE | PLANS CK'D. KRO

JOINT REPAIR

SHEET 3 OF 6

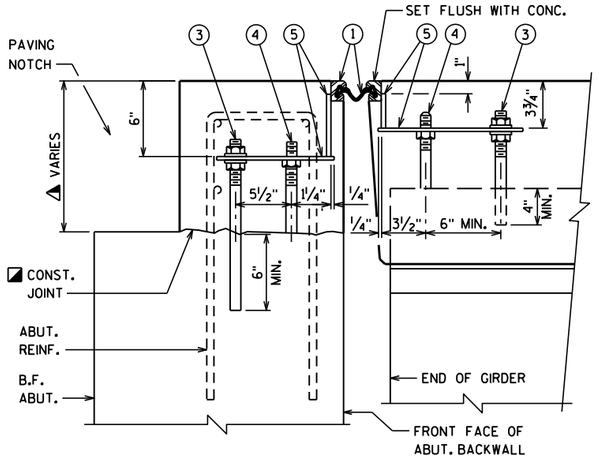
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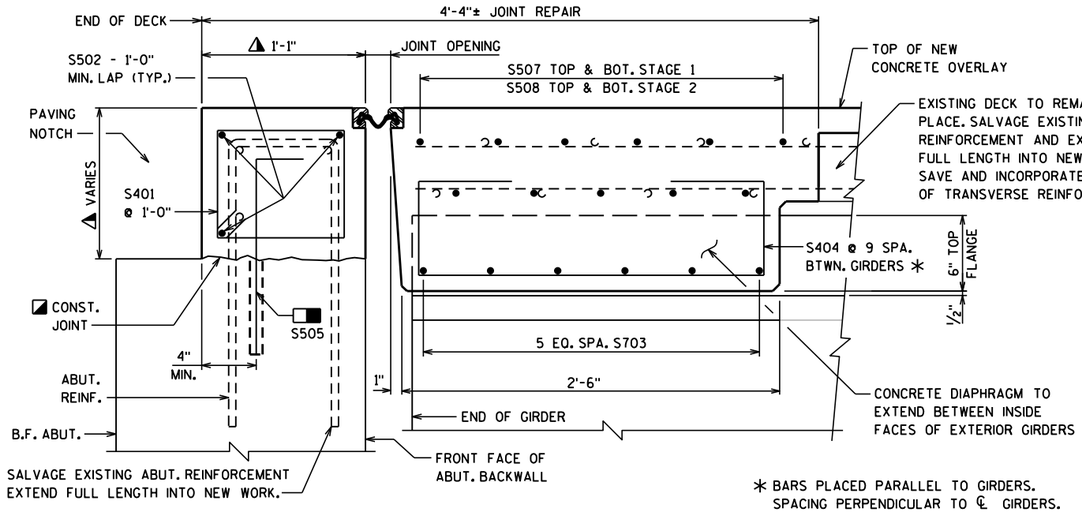
STATE PROJECT NUMBER

1224-21-71



SECTION THRU JOINT AT ABUTMENT

NORMAL TO ℄ SUBSTRUCTURE



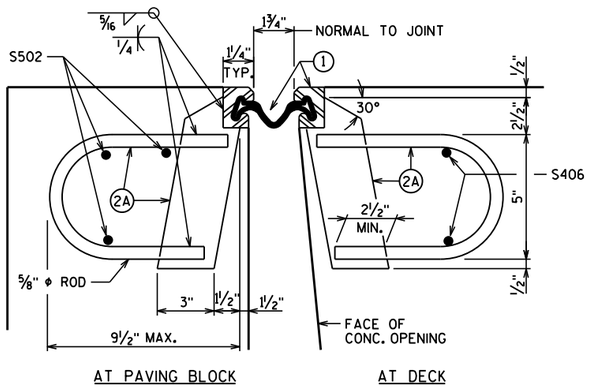
* BARS PLACED PARALLEL TO GIRDERS. SPACING PERPENDICULAR TO ℄ GIRDERS.

SECTION THRU JOINT AT ABUTMENT

NORMAL TO ℄ SUBSTRUCTURE

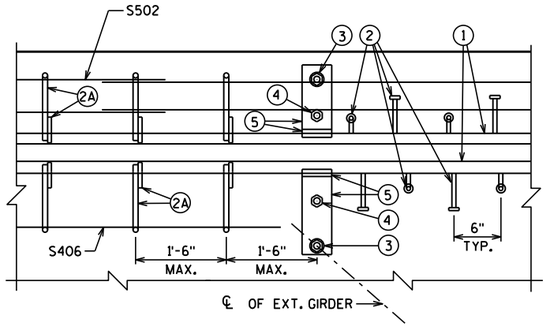
LEGEND

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.
6. GALVANIZED PLATE ⅜" X 1'-2" X 2'-0" LONG WITH HOLES FOR NO. 7. BEND AS SHOWN.
7. ¾"Φ X 1½" STAINLESS STEEL SOCKET FLAT HEAD SCREWS WITH ANTI-SEIZE LUBRICANT. PLACE IN COUNTERSUNK HOLE. RECESS 1/16" BELOW PLATE SURFACE.
8. ¾"Φ X 4" GALVANIZED HEX HEAD BOLT. BEND 45°.
9. ¾"Φ X 2¼" GALVANIZED THREADED COUPLING.
10. 1" x 5" SLOTTED COUNTERSUNK HOLE FOR NO. 7. PLACE SLOT PARALLEL TO DIRECTION OF MOVEMENT.

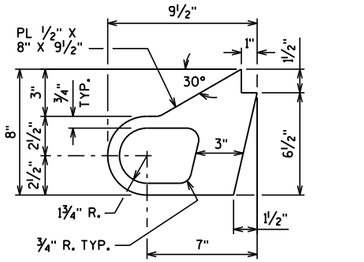


SECTION THRU JOINT

ROADWAY TRAFFIC AREA BETWEEN EXTERIOR GIRDERS



PART PLAN



ALTERNATE STRIP SEAL ANCHOR

NOTES:

ONE FIELD SPLICE PERMITTED IN STEEL EXTRUSIONS. IF USED, DETAILS SHALL BE SUBMITTED FOR APPROVAL. NO SPLICING PERMITTED IN NEOPRENE STRIP SEAL.

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

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

SANDBLAST PLATES & EXTRUSIONS AFTER FABRICATION IN ACCORDANCE WITH SSPC SP. #6 "COMMERCIAL BLAST CLEANING". AFTER BLAST CLEANING THE PLATES & EXTRUSIONS SHALL BE HOT DIPPED GALVANIZED. SLIP-RESISTANT SURFACE IS APPLIED TO SIDEWALK COVER PLATES BY THE MANUFACTURER AND THEN HOT DIPPED GALVANIZED TO THEIR RECOMMENDATIONS TO MAINTAIN THE INTEGRITY OF THIS SURFACE.

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

STRIP SEAL EXPANSION JOINT ASSEMBLY, INCLUDING ANCHOR STUDS & HARDWARE WILL BE PAID FOR AT THE LUMP SUM PRICE BID FOR "EXPANSION DEVICE B-36-65".

REMOVE EXISTING PARAPET AS REQUIRED TO REMOVE EXISTING AND INSTALL NEW EXPANSION DEVICE. (INCORPORATE ALL SLAB REINFORCEMENT INTO NEW WORK). (REUSE ALL PARAPET REINFORCEMENT)

◪ POUR CONCRETE ABOVE THIS JOINT AFTER SUPERSTRUCTURE IS IN PLACE. STRIKE OFF AND LEAVE ROUGH.

⚠ MATCH TOP OF PAVING BLOCK TO ROADWAY CROWN AND GRADE.

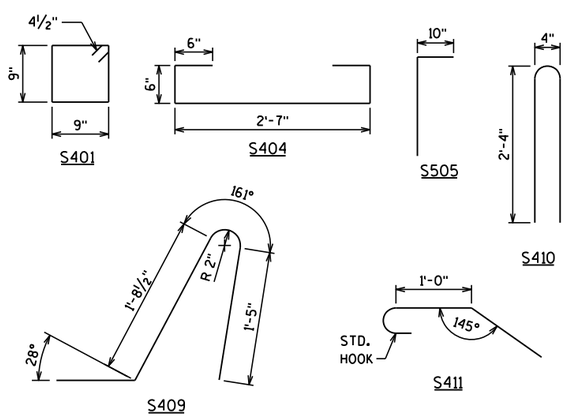
☆ COUPLED BAR LENGTHS ARE GIVEN AS END TO END AND MAKE NO ALLOWANCE FOR GAPS REQUIRED BY THE COUPLER CHOSEN. ADJUST LENGTH AS REQUIRED FOR COUPLER PLACEMENT.

■ MASONRY ANCHORS TYPE L NO. 5 BARS. EMBED MIN. 1'-6" INTO EXISTING CONCRETE. SPACE AT 1'-0". TURN 10" LEG AS NECESSARY TO FIT.

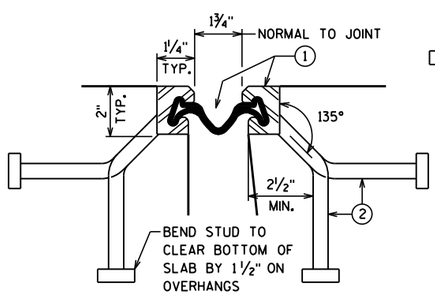
◑ FIELD CUT AT CONSTRUCTION JOINT AND USE BAR COUPLER.

BILL OF BARS

	BAR MARK	COAT	NORTH ABUT.	LENGTH	BENT	LOCATION
	S401	X	49	3'-4"	X	PAVING BLOCK
◑	S502	X	21	7'-9"		PAVING BLOCK
◑	S703	X	24	8'-8"		DECK - DIAPHRAGM
	S404	X	40	4'-3"	X	DECK - DIAPHRAGM
■	S505	X	49	3'-0"	X	PAVING BLOCK ANCHOR
◑	S406	X	8	10'-1"		END OF DECK
☆	S507	X	11	21'-7"		SLAB TRANSVERSE STAGE 1
☆	S508	X	11	26'-6"		SLAB TRANSVERSE STAGE 2
	S409	X	12	4'-3"	X	PARAPET VERTICAL
	S410	X	18	4'-10"	X	PARAPET VERTICAL
	S411	X	6	2'-8"	X	PARAPET VERTICAL
	S412	X	6	2'-0"		PARAPET VERTICAL



BAR BENDING DIAGRAMS



SECTION THRU JOINT

EXTERIOR GIRDER TO EDGE OF DECK AND AT PARAPETS, MEDIANS AND SIDEWALKS

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-36-65

DRAWN BY BRE | PLANS CK'D. KRO

EXPANSION DEVICE

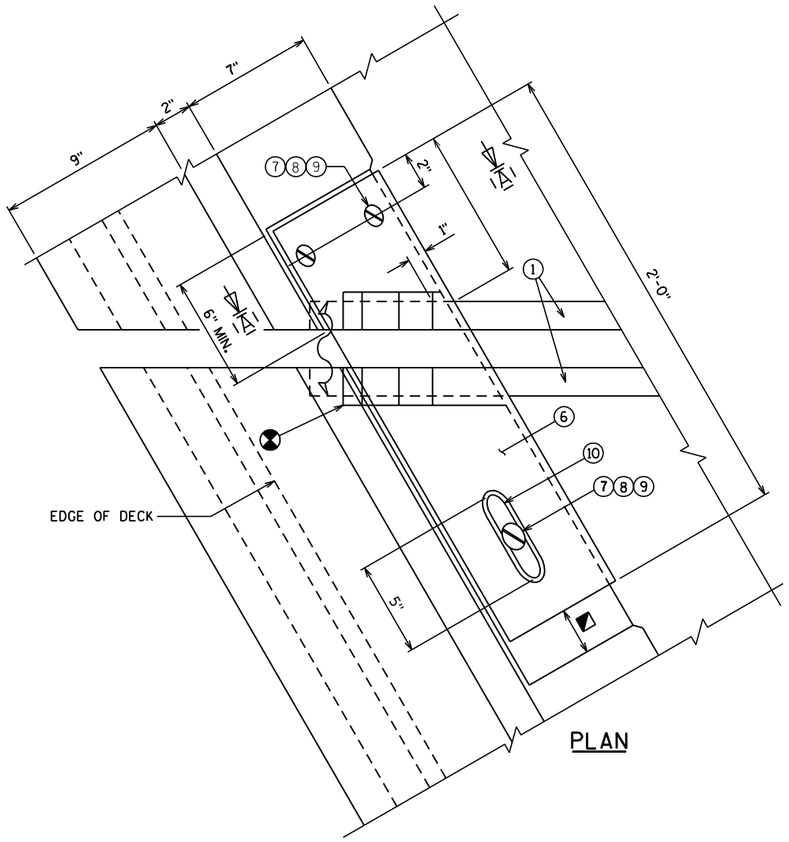
SHEET 4 OF 6

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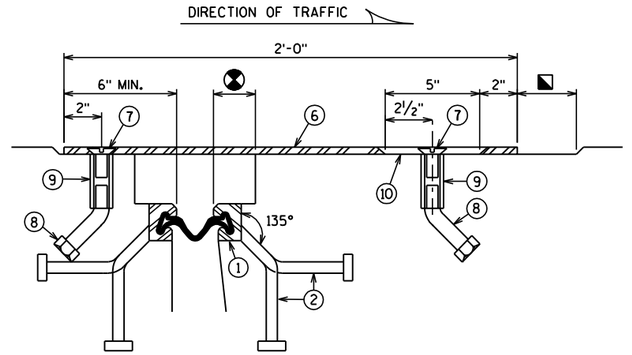


PLAN

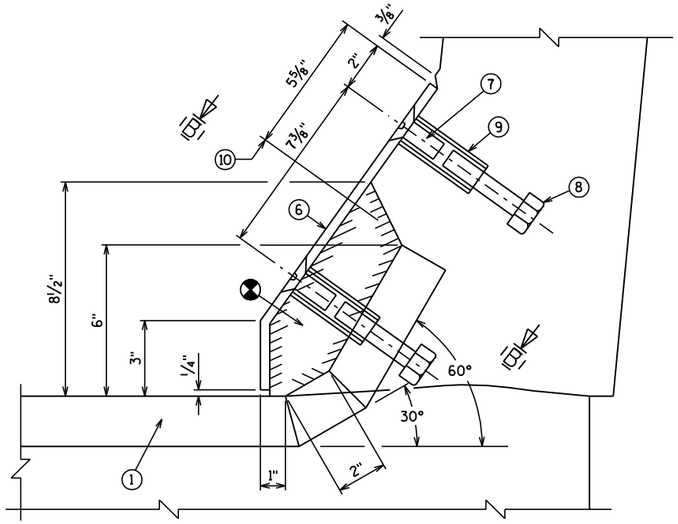
SEE SHEET 4 FOR LEGEND AND NOTES.

⊗ BLOCK OUT CONCRETE 2" EACH SIDE OF JOINT OPENING.

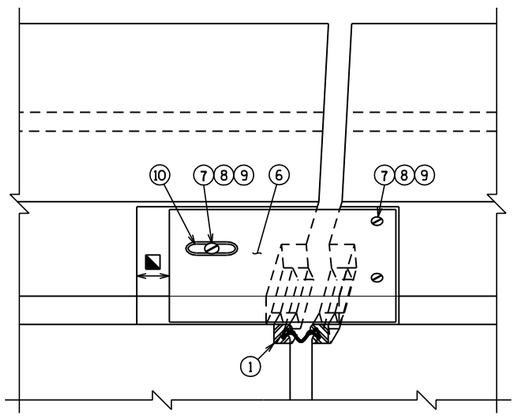
◪ JOINT OPENING DIMENSION ALONG SKEW PLUS ½".



SECTION B-B



SECTION A-A



VIEW OF PARAPET PLATE FROM ROADWAY

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-36-65

DRAWN BY BRE | PLANS CK'D. KRO

COVER PLATE DETAILS

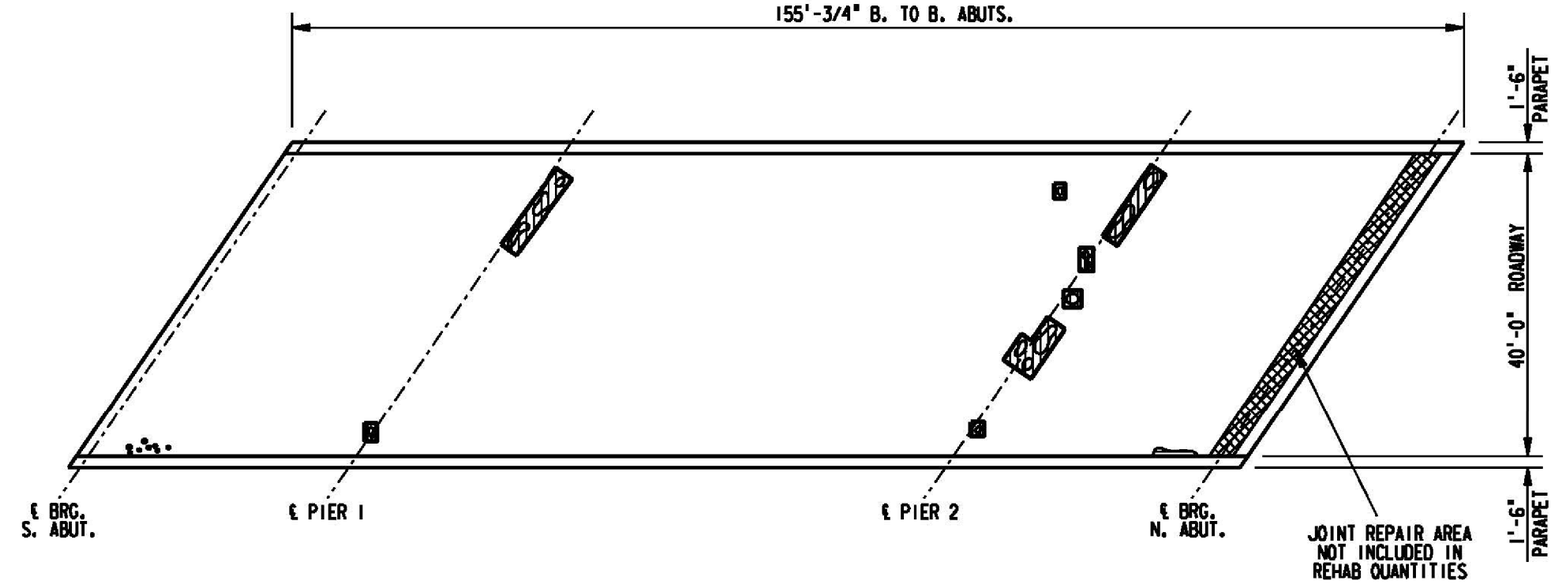
SHEET 5 OF 6

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STATE PROJECT NUMBER
1224-21-71



PLAN

PROPOSED REHAB AREAS



FIELD OBSERVATIONS SUMMARY		STRUCTURE NO. B-36-65	
ITEM	UNIT	QUANT.	%
TOTAL AREA	yd^2	685.8	
SHADE/DEBRIS	yd^2	0	
PREPARATION, DECKS, TYPE 1	yd^2	12.1	1.8
PREPARATION, DECKS, TYPE 2	yd^2	1.8	0.3
FULL DEPTH DECK REPAIR	yd^2	1.0	0.1

LEGEND

DECK PREPARATION AREA

SHADE/DEBRIS

DELAMINATION

SPALL

DEBOND

ASPHALT PATCH

CONCRETE PATCH

SCALE 0' 5' 10' 20'

SURFACE TYPE: BITUMINOUS OVERLAY
INFRARED INSPECTION DATE: 7/1/2014

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-36-65

DRAWN BY BRE | PLANS CK'D. KRO

DECK REPAIR

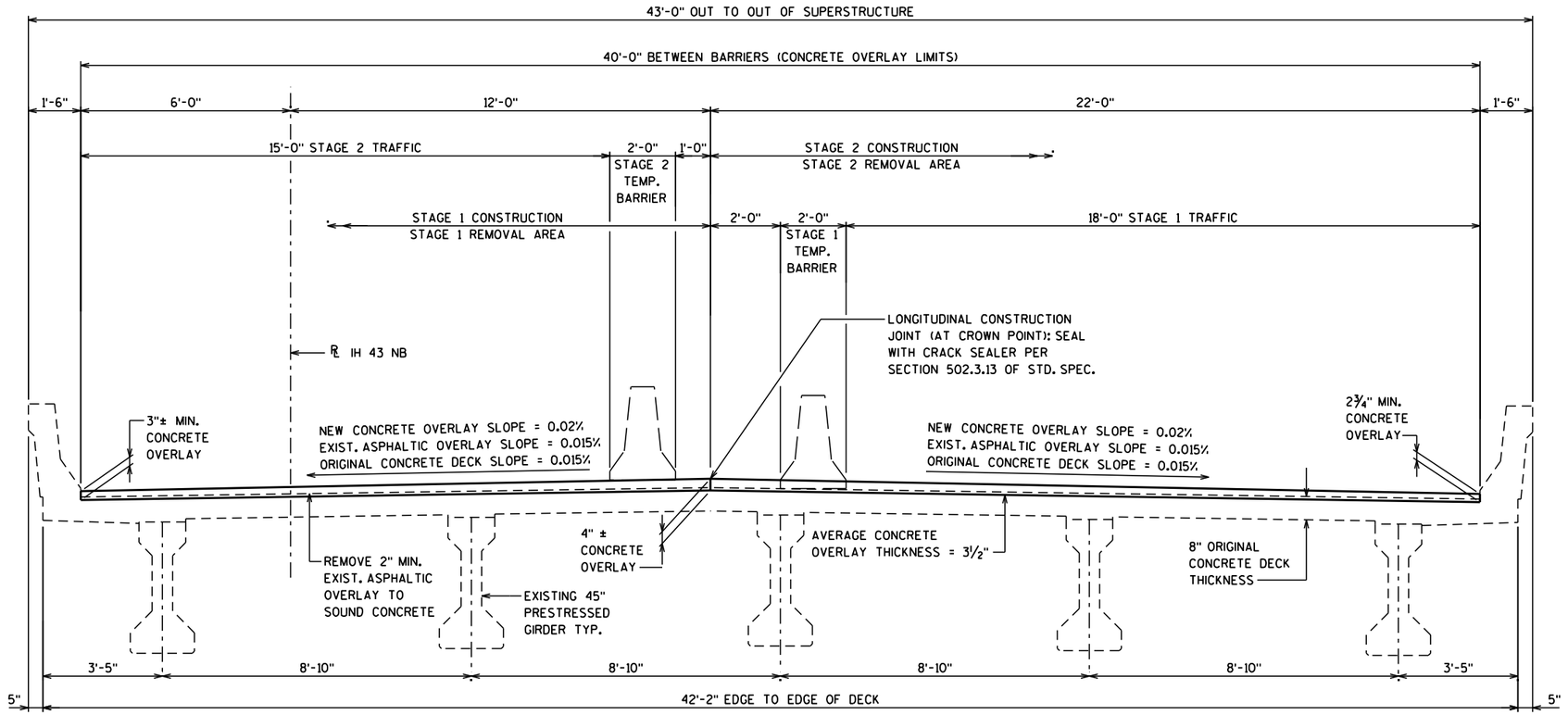
SHEET 6 OF 6

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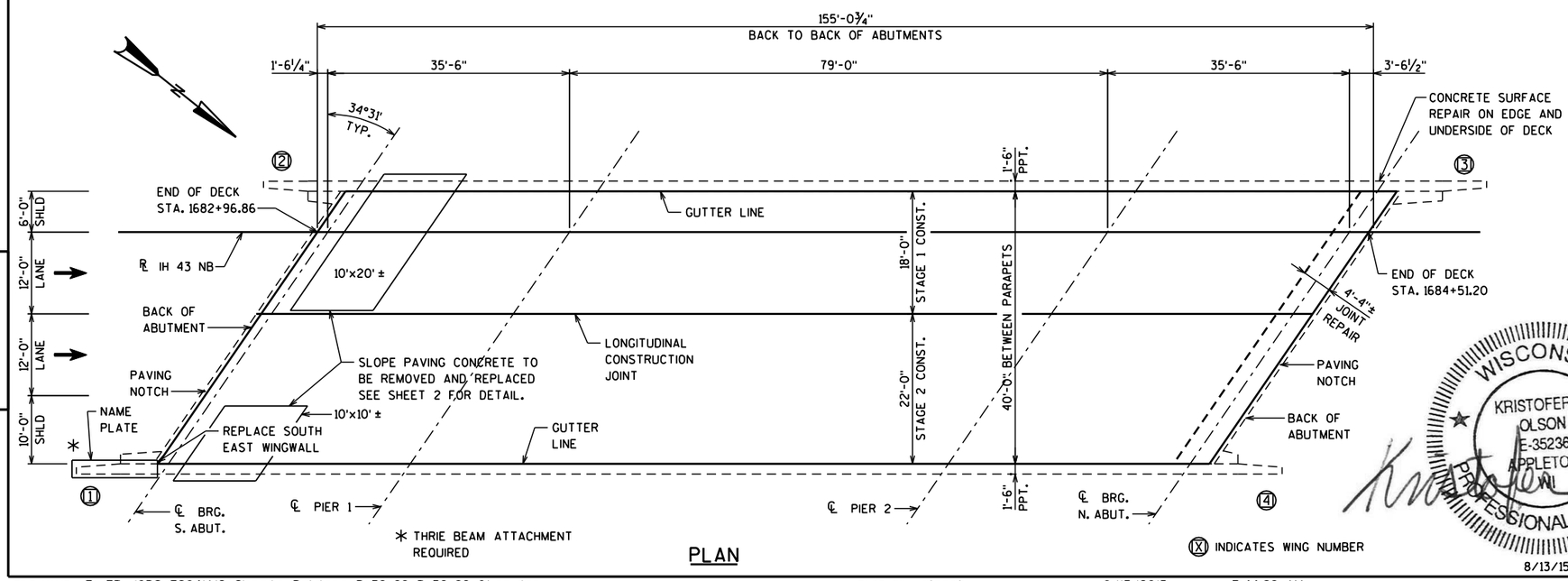
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STATE PROJECT NUMBER
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CROSS SECTION THRU EXISTING ROADWAY

(LOOKING NORTH)



PLAN

TRAFFIC DATA

ADT = 11,800 (2036)
RDS = 70 M.P.H.

DESIGN DATA

LIVE LOAD:

INVENTORY RATING:	HS-12
OPERATING RATING:	HS-25
WISCONSIN STANDARD PERMIT VEHICLE (Wis-SPV):	250 KIPS

MATERIAL PROPERTIES:

CONCRETE MASONRY OTHER: —— f'c = 3,500 p.s.i.
CONCRETE MASONRY OVERLAY
DECKS & PARAPETS: ———— f'c = 4,000 p.s.i.
BAR STEEL REINFORCEMENT
GRADE 60: ———————— fy = 60,000 p.s.i.

LIST OF DRAWINGS

1. GENERAL PLAN
2. GENERAL NOTES, QUANTITIES, & DETAILS
3. JOINT REPAIR
4. EXPANSION DEVICE
5. COVER PLATE DETAILS
6. SOUTH EAST WING REPLACEMENT
7. SLOPED FACE PARAPET "B"
8. DECK REPAIR

BRIDGE OFFICE CONTACT

WILLIAM DREHER
(608) 266-8489

CONSULTANT CONTACT

KRISTOFER OLSON
OMNNI ASSOCIATES
(920) 735-6900

NO.	DATE	REVISION	BY

ORIGINAL PLANS PREPARED BY
OMNNI ASSOCIATES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
ACCEPTED William C. Dreher SDR 08/19/15
CHIEF STRUCTURES DESIGN ENGINEER DATE

WISCONSIN
KRISTOFER R. OLSON
E-35236
APPLETON, WI
PROFESSIONAL ENGINEER
8/13/15

STRUCTURE B-36-66

IH 43 NB OVER WEST CUSTER ST

COUNTY	TOWN
MANITOWOC	MANITOWOC RAPIDS

DESIGN SPEC. REHABILITATION N/A

DESIGNED BY	DESIGN CK'D.	DRAWN BY	PLANS CK'D.
BRE	KRO	BRE	KRO

GENERAL PLAN

SHEET 1 OF 8

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STATE PROJECT NUMBER
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GENERAL NOTES

DRAWINGS SHALL NOT BE SCALED.

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

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

USE EXSTING BAR STEEL REINFORCEMENT WHERE SHOWN AND EXTEND 24 BAR DIAMETERS INTO NEW WORK.

DIMENSIONS SHOWN ARE BASED ON THE EXISTING ORIGINAL STRUCTURE PLANS.

ANY EXCAVATION NECESSARY TO COMPLETE THE OVERLAY OR JOINT REPAIR AT THE ABUTMENTS IS TO BE CONSIDERED INCIDENTAL TO THE BID ITEM "CONCRETE MASONRY OVERLAY DECKS".

AT ABUTMENTS, ALL SPACES EXCAVATED AND NOT OCCUPIED BY THE NEW STRUCTURE SHALL BE BACKFILLED WITH "BACKFILL STRUCTURE".

PROFILE GRADE LINE SHALL BE DETERMINED IN THE FIELD BASED ON A MINIMUM OVERLAY THICKNESS OF 4" AT THE CROWN POINT AND 2¾" AT THE TOE OF THE OUTSIDE PARAPET PLACED ABOVE THE DECK SURFACE AFTER "CLEANING DECKS". EXPECTED AVERAGE OVERLAY THICKNESS IS 3½" (OR AS GIVEN ON THE PLANS). IF EXPECTED AVERAGE OVERLAY THICKNESS IS EXCEEDED BY MORE THAN ½", CONTACT THE STRUCTURES DESIGN SECTION.

THE EXISTING BITUMINOUS ASPHALTIC OVERLAY SHALL BE REMOVED FROM THE BRIDGE DECK UNDER BID ITEM "REMOVING ASPHALTIC CONCRETE DECK OVERLAY".

PREPARATION DECKS TYPE 1, PREPARATION DECKS TYPE 2, CONCRETE SURFACE REPAIR AND FULL-DEPTH DECK REPAIR AREAS SHALL BE DETERMINED BY THE FIELD ENGINEER. "CONCRETE SURFACE REPAIR" TO INCLUDE BUT NOT LIMITED TO THE NORTH WEST CORNER OF THE DECK.

REMOVAL LINES NOT COVERED WITH A CONCRETE OVERLAY SHALL BE DEFINED BY A 1" DEEP SAW CUT AT THE CONCRETE SURFACES.

APPLY BRIDGE SEAT PROTECTION, AS PER SECTION 502.3.12 OF THE STANDARD SPECIFICATIONS, TO THE TOP SURFACES OF THE NORTH ABUTMENT BELOW EXPANSION DEVICE. POWER WASH AND ADEQUATELY DRY SURFACES BEFORE APPLICATION. WORK TO BE INCIDENTAL TO "JOINT REPAIR".

THE CONTRACTOR SHALL SUBMIT A REMOVAL PLAN TO THE ENGINEER FOR APPROVAL PER SPECIAL PROVISIONS.

PROTECTIVE SURFACE TREATMENT SHALL BE APPLIED TO THE ENTIRE TOP SURFACE OF THE NEW CONCRETE OVERLAY. PIGMENTED PROTECTIVE SURFACE TREATMENT SHALL BE APPLIED TO THE ENTIRE FRONT FACES AND TOPS OF BOTH WING & DECK PARAPETS.

A MINIMUM OF 1-INCH OF CONCRETE SHALL BE REMOVED FROM THE ENTIRE BRIDGE DECK UNDER THE BID ITEM "CLEANING DECKS".

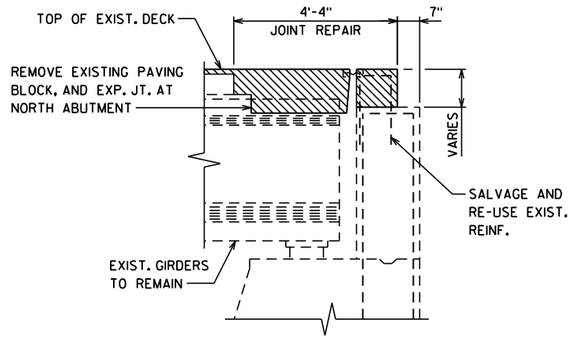
THE CONTRACTOR SHALL SUPPLY A NEW NAME PLATE IN ACCORDANCE WITH SECTION 502.3.11 OF THE STANDARD SPECIFICATIONS AND THE STANDARD DETAIL DRAWINGS. NAME PLATE TO SHOW ORIGINAL CONSTRUCTION YEAR OF 1979.

THE UPPER LIMITS OF EXCAVATION SHALL BE THE EXISTING GROUND LINE.

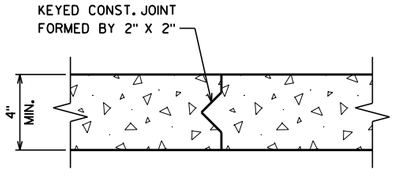
TOTAL ESTIMATED QUANTITIES

	ITEM NUMBER	BID ITEMS	UNIT	TOTALS
	203.0200	REMOVING OLD STRUCTURE (STA 1683+75)	LS	1
	204.0175	REMOVING CONCRETE SLOPE PAVING	SY	34
	206.1000	EXCAVATION FOR STRUCTURES BRIDGES (B-36-66)	LS	1
	210.0100	BACKFILL STRUCTURE	CY	20
	502.0100	CONCRETE MASONRY BRIDGES	CY	5
	502.3100	EXPANSION DEVICE (B-36-66)	LS	1
	502.3200	PROTECTIVE SURFACE TREATMENT	SY	689
	502.3210	PIGMENTED SURFACE SEALER	SY	138
	502.5002	MASONRY ANCHORS TYPE L NO.4 BARS	EACH	4
	502.5005	MASONRY ANCHORS TYPE L NO.5 BARS	EACH	65
	505.0600	BAR STEEL REINFORCEMENT HS COATED STRUCTURES	LB	2,400
	505.0904	BAR COUPLERS NO. 4	EACH	2
	505.0905	BAR COUPLERS NO. 5	EACH	14
	505.0907	BAR COUPLERS NO. 7	EACH	6
	509.0301	PREPARATION DECKS TYPE 1	SY	42
	509.0302	PREPARATION DECKS TYPE 2	SY	21
	509.0500	CLEANING DECKS	SY	689
	509.1000	JOINT REPAIR	SY	23
	509.1500	CONCRETE SURFACE REPAIR	SF	4
	509.2000	FULL-DEPTH DECK REPAIR	SY	1
☆	509.2500	CONCRETE MASONRY OVERLAY DECKS	CY	84
	509.9010.S	REMOVING ASPHALTIC CONCRETE DECK OVERLAY (B-36-66)	SY	689
	509.9050.S	CLEANING PARAPETS	LF	357
	516.0500	RUBBERIZED MEMBRANE WATERPROOFING	SY	3
	604.0400	SLOPE PAVING CONCRETE	SY	34
	614.0150	ANCHOR ASSEMBLIES FOR STEEL PLATE BEAM GUARD	EACH	1

☆ BID ITEM ALSO INCLUDES CONCRETE FOR:
"PREPARATION DECKS TYPE 1"
"PREPARATION DECKS TYPE 2"
"FULL-DEPTH DECK REPAIR"
"JOINT REPAIR"



SECTION THRU NORTH ABUTMENT



SLOPE PAVING
CONSTRUCTION JOINT DETAIL

8

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NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-36-66

DRAWN BY BRE | PLANS CK'D. KRO

GENERAL NOTES, QUANTITIES, & DETAILS

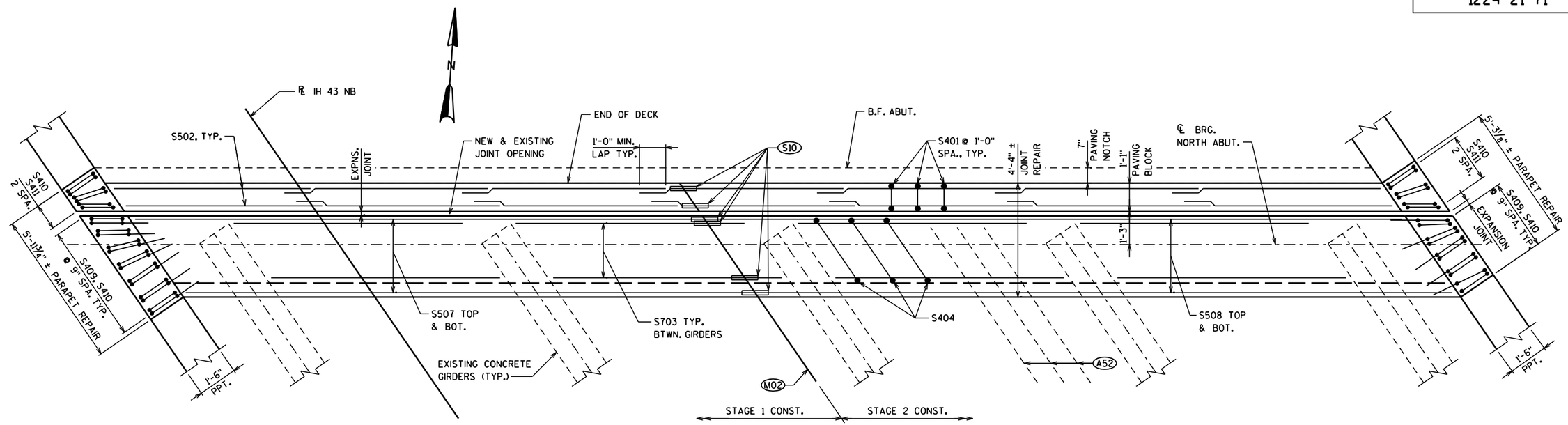
SHEET 2 OF 8

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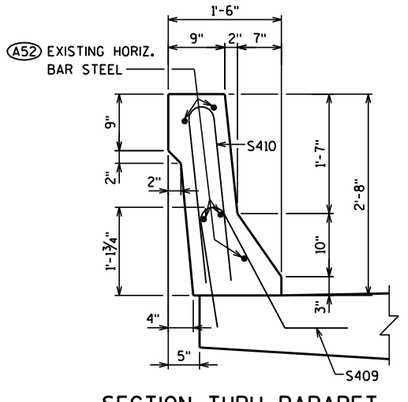
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PLOT BY : olsonk PLOT DATE: 7/23/2015 2:21:08 PM

STATE PROJECT NUMBER
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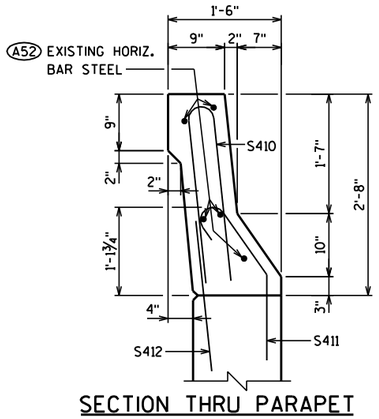


NORTH ABUTMENT "JOINT REPAIR" PLAN



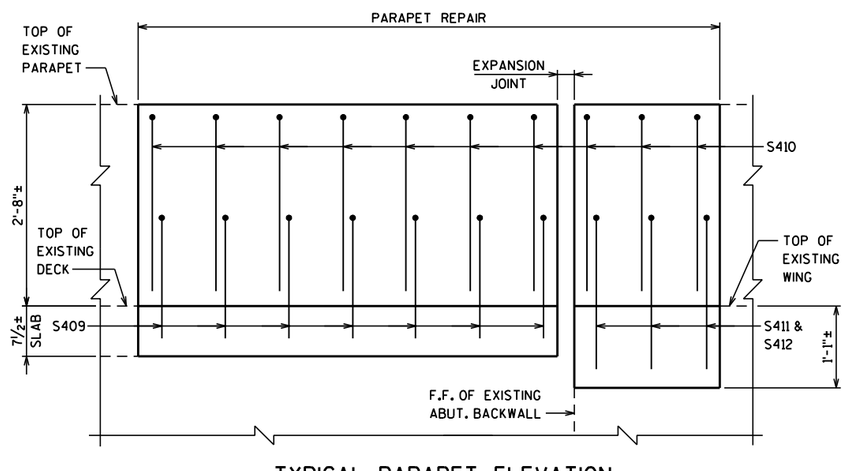
SECTION THRU PARAPET REPLACEMENT ON BRIDGE

DIMENSIONS ARE FOR REFERENCE ONLY
MATCH EXISTING PARAPET EDGES.



SECTION THRU PARAPET REPLACEMENT ON WING

DIMENSIONS ARE FOR REFERENCE ONLY
MATCH EXISTING PARAPET EDGES.



TYPICAL PARAPET ELEVATION

SEE SHEET 4 FOR SECTION THROUGH JOINT AT ABUTMENT.

(A52) SALVAGE EXIST. LONGITUDINAL REINFORCEMENT AND EXTEND FULL LENGTH INTO NEW WORK.

(S10) BAR COUPLERS USED. BAR LENGTH COMPUTED TO ℄ OF LONGIT. JOINT & SHALL BE MODIFIED TO THE BAR COUPLER MANUFACTURERS RECOMMENDATIONS.

(M02) LONGIT. CONST. JOINT IN JOINT REPAIR. TRAFFIC TO BE MAINTAINED DURING CONSTRUCTION.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-36-66

DRAWN BY BRE | PLANS CK'D. KRO

JOINT REPAIR

SHEET 3 OF 8

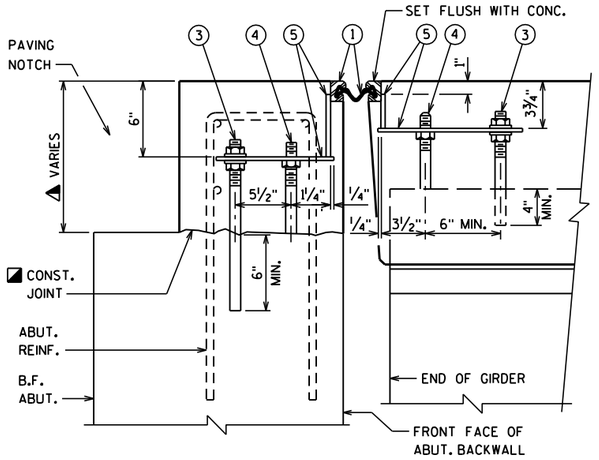
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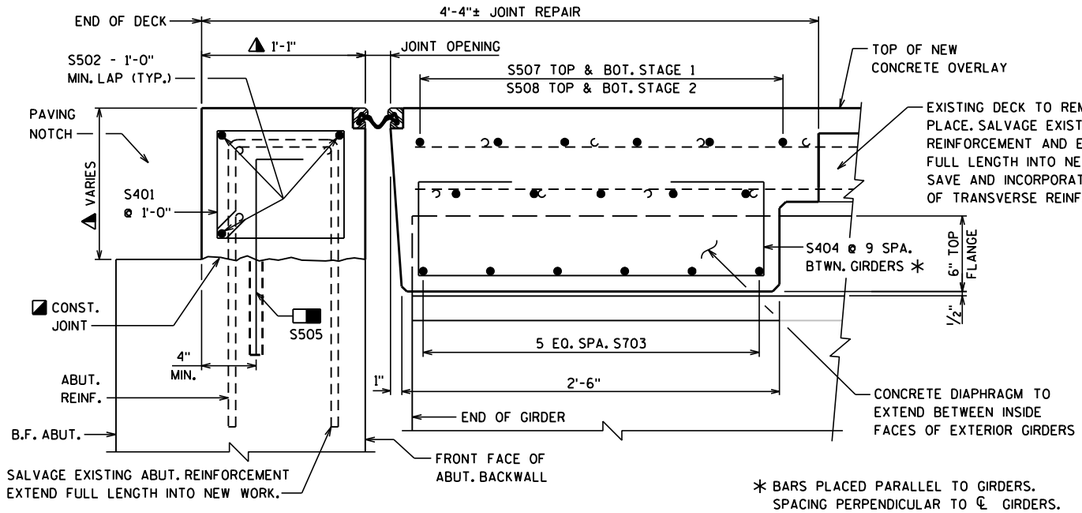
STATE PROJECT NUMBER

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SECTION THRU JOINT AT ABUTMENT

NORMAL TO ℄ SUBSTRUCTURE



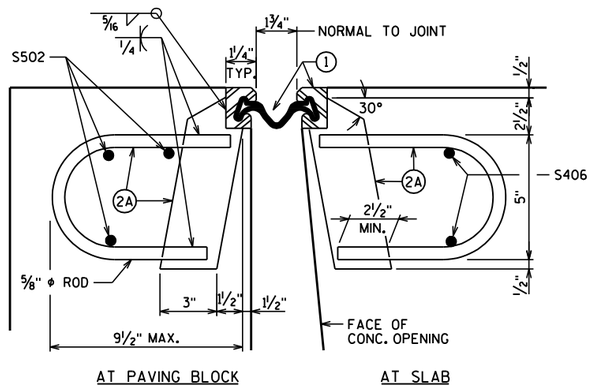
✱ BARS PLACED PARALLEL TO GIRDERS. SPACING PERPENDICULAR TO ℄ GIRDERS.

SECTION THRU JOINT AT ABUTMENT

NORMAL TO ℄ SUBSTRUCTURE

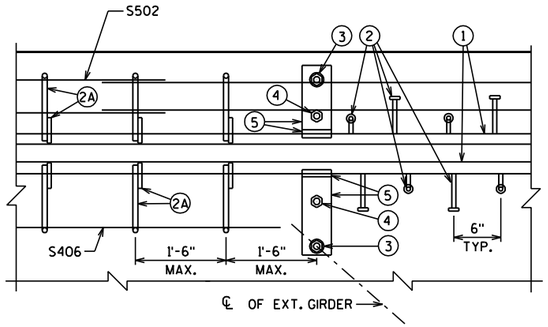
LEGEND

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.
6. GALVANIZED PLATE ⅜" X 1'-2" X 2'-0" LONG WITH HOLES FOR NO. 7. BEND AS SHOWN.
7. ¾"Φ X 1½" STAINLESS STEEL SOCKET FLAT HEAD SCREWS WITH ANTI-SEIZE LUBRICANT. PLACE IN COUNTERSUNK HOLE. RECESS 1/16" BELOW PLATE SURFACE.
8. ¾"Φ X 4" GALVANIZED HEX HEAD BOLT. BEND 45°.
9. ¾"Φ X 2¼" GALVANIZED THREADED COUPLING.
10. 1" × 5" SLOTTED COUNTERSUNK HOLE FOR NO. 7. PLACE SLOT PARALLEL TO DIRECTION OF MOVEMENT.

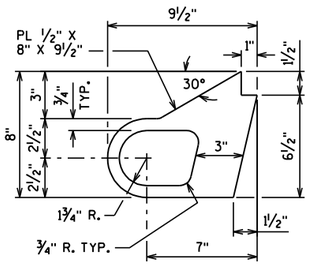


SECTION THRU JOINT

ROADWAY TRAFFIC AREA BETWEEN EXTERIOR GIRDERS



PART PLAN



ALTERNATE STRIP SEAL ANCHOR

NOTES:

ONE FIELD SPLICE PERMITTED IN STEEL EXTRUSIONS. IF USED, DETAILS SHALL BE SUBMITTED FOR APPROVAL. NO SPLICING PERMITTED IN NEOPRENE STRIP SEAL.

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

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

SANDBLAST PLATES & EXTRUSIONS AFTER FABRICATION IN ACCORDANCE WITH SSPC SP. #6 "COMMERCIAL BLAST CLEANING". AFTER BLAST CLEANING THE PLATES & EXTRUSIONS SHALL BE HOT DIPPED GALVANIZED. SLIP-RESISTANT SURFACE IS APPLIED TO SIDEWALK COVER PLATES BY THE MANUFACTURER AND THEN HOT DIPPED GALVANIZED TO THEIR RECOMMENDATIONS TO MAINTAIN THE INTEGRITY OF THIS SURFACE.

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

STRIP SEAL EXPANSION JOINT ASSEMBLY, INCLUDING ANCHOR STUDS & HARDWARE WILL BE PAID FOR AT THE LUMP SUM PRICE BID FOR "EXPANSION DEVICE B-36-66".

REMOVE EXISTING PARAPET AS REQUIRED TO REMOVE EXISTING AND INSTALL NEW EXPANSION DEVICE. (INCORPORATE ALL SLAB REINFORCEMENT INTO NEW WORK). (REUSE ALL PARAPET REINFORCEMENT)

◪ POUR CONCRETE ABOVE THIS JOINT AFTER SUPERSTRUCTURE IS IN PLACE. STRIKE OFF AND LEAVE ROUGH.

⚠ MATCH TOP OF PAVING BLOCK TO ROADWAY CROWN AND GRADE.

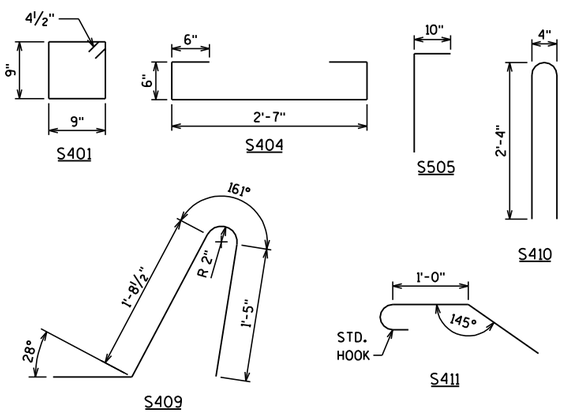
☆ COUPLED BAR LENGTHS ARE GIVEN AS END TO END AND MAKE NO ALLOWANCE FOR GAPS REQUIRED BY THE COUPLER CHOSEN. ADJUST LENGTH AS REQUIRED FOR COUPLER PLACEMENT.

■ MASONRY ANCHORS TYPE L NO. 5 BARS. EMBED MIN. 1'-6" INTO EXISTING CONCRETE. SPACE AT 1'-0". TURN 10" LEG AS NECESSARY TO FIT.

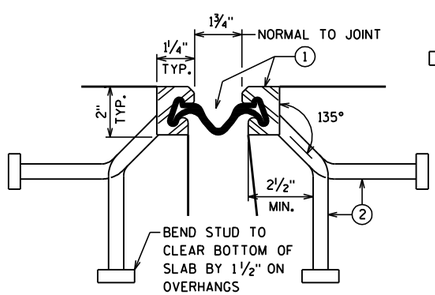
◑ FIELD CUT AT CONSTRUCTION JOINT AND USE BAR COUPLER.

BILL OF BARS

	BAR MARK	COAT	NORTH ABUT.	LENGTH	BENT	LOCATION
	S401	X	49	3'-4"	X	PAVING BLOCK
◑	S502	X	21	7'-9"		PAVING BLOCK
◑	S703	X	24	8'-8"		DECK - DIAPHRAGM
	S404	X	40	4'-3"	X	DECK - DIAPHRAGM
■	S505	X	49	3'-0"	X	PAVING BLOCK ANCHOR
◑	S406	X	8	10'-1"		END OF DECK
☆	S507	X	11	21'-7"		SLAB TRANSVERSE STAGE 1
☆	S508	X	11	26'-6"		SLAB TRANSVERSE STAGE 2
	S409	X	12	4'-3"	X	PARAPET VERTICAL
	S410	X	18	4'-10"	X	PARAPET VERTICAL
	S411	X	6	2'-8"	X	PARAPET VERTICAL
	S412	X	6	2'-0"		PARAPET VERTICAL



BAR BENDING DIAGRAMS



SECTION THRU JOINT

EXTERIOR GIRDER TO EDGE OF DECK AND AT PARAPETS, MEDIANS AND SIDEWALKS

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-36-66

DRAWN BY BRE | PLANS CK'D. KRO

EXPANSION DEVICE

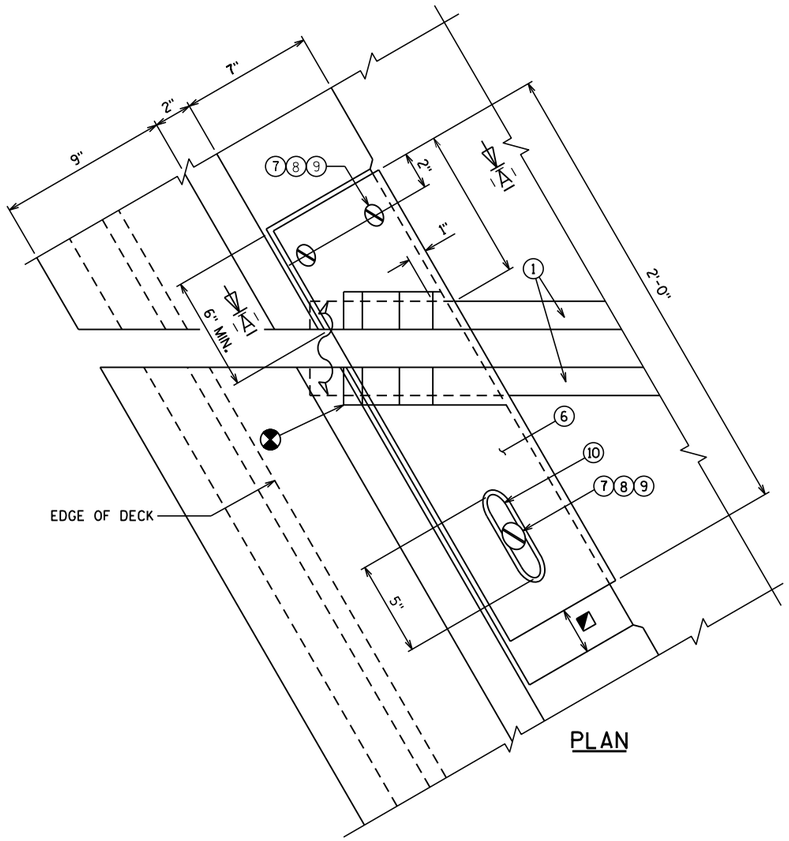
SHEET 4 OF 8

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8

8

STATE PROJECT NUMBER
1224-21-71

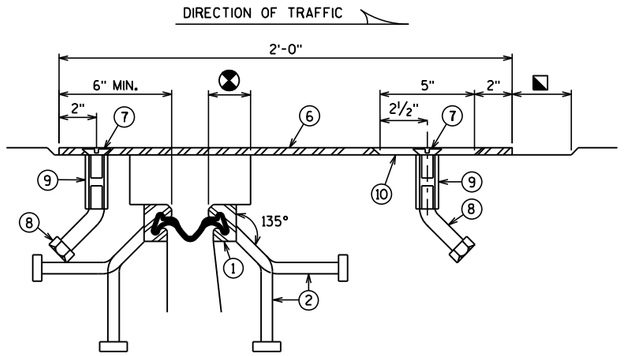


PLAN

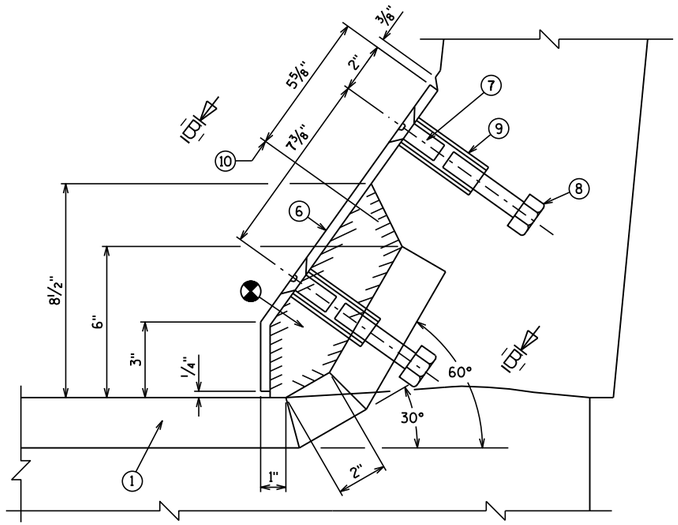
SEE SHEET 4 FOR LEGEND AND NOTES.

⊗ BLOCK OUT CONCRETE 2" EACH SIDE OF JOINT OPENING.

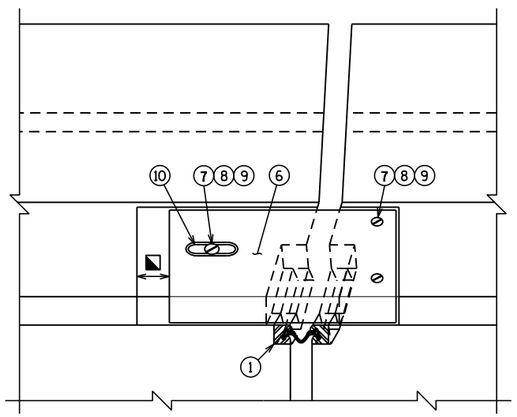
◪ JOINT OPENING DIMENSION ALONG SKEW PLUS ½".



SECTION B-B



SECTION A-A



VIEW OF PARAPET PLATE FROM ROADWAY

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-36-66

DRAWN BY BRE | PLANS CK'D. KRO

COVER PLATE DETAILS

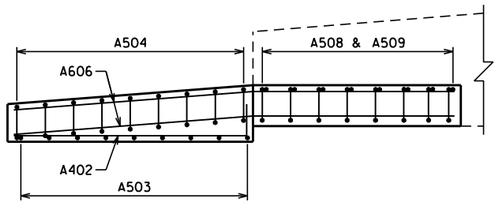
SHEET 5 OF 8

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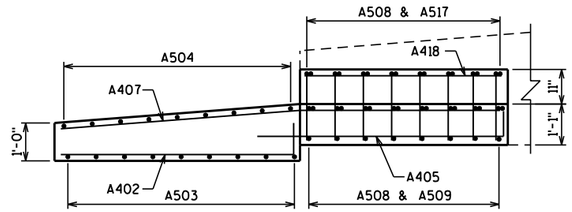
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8

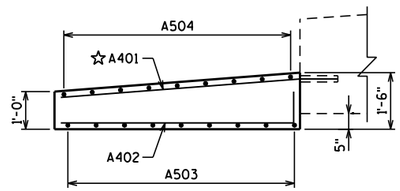
STATE PROJECT NUMBER
1224-21-71



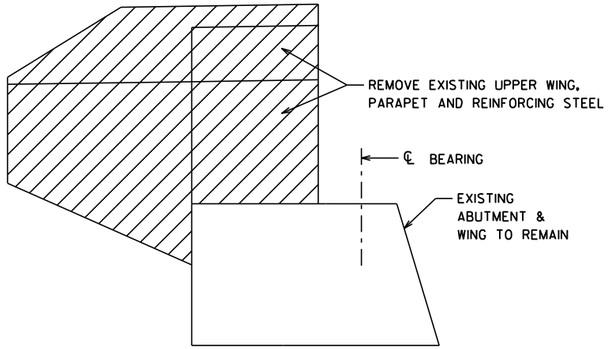
SECTION C-C



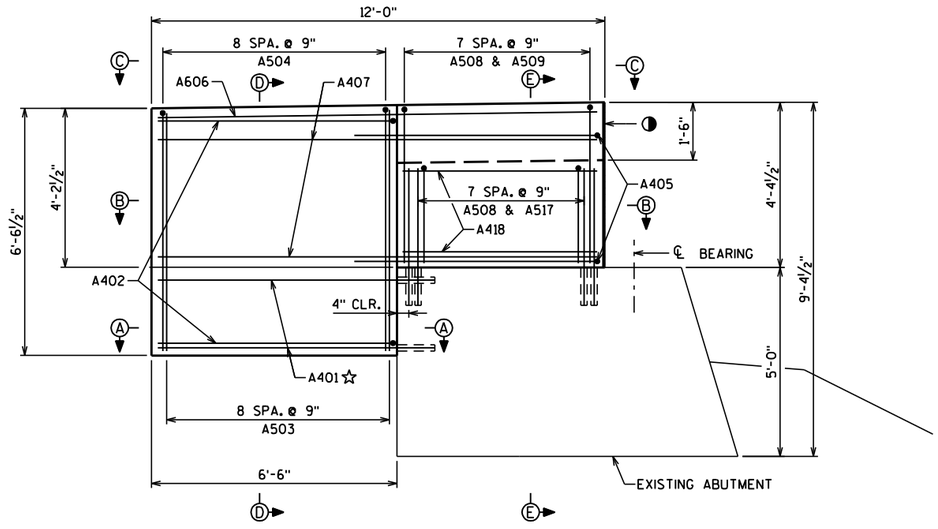
SECTION B-B



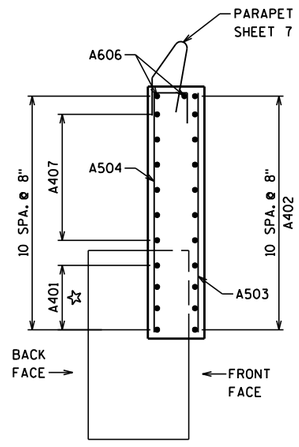
SECTION A-A



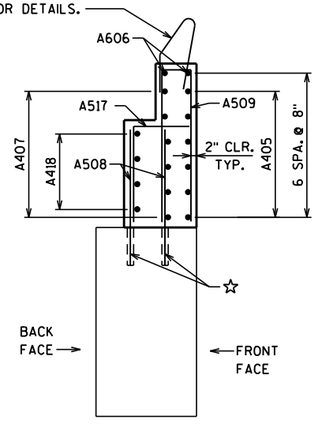
EXISTING WING REMOVAL



WING ELEVATION



SECTION D-D



SECTION E-E

NOTES

☆ MASONRY ANCHORS TYPE L NO. 4 OR NO. 5 BARS. EMBED 12" INTO CONCRETE.

◑ ½" FILLER INCLUDED IN WING LENGTH, SEAL ALL HORIZONTAL AND VERTICAL SURFACES OF ½" FILLER WITH NON-STAINING GRAY NON-BITUMINOUS JOINT SEALER. (1" DEEP AND HOLD ⅛" BELOW SURFACE OF CONCRETE.)

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-36-66

DRAWN BY BRE | PLANS CK'D. KRO

SOUTH EAST
WING REPLACEMENT

SHEET 6 OF 8

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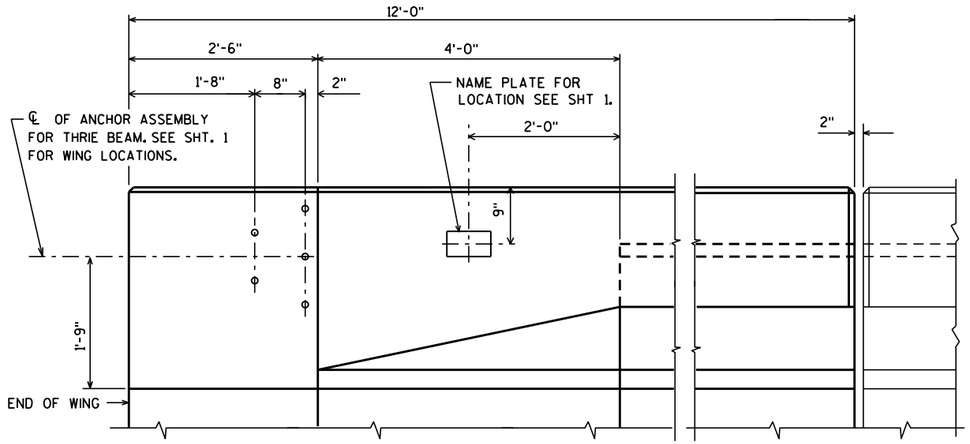
8

8

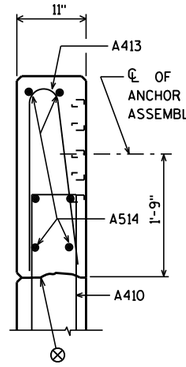
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STATE PROJECT NUMBER

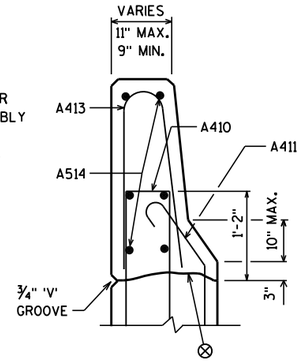
1224-21-71



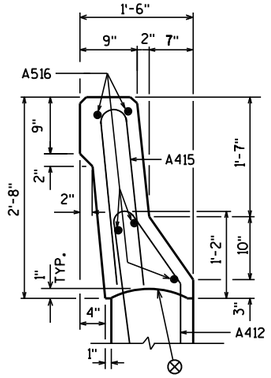
INSIDE ELEVATION



SECTION A



SECTION B



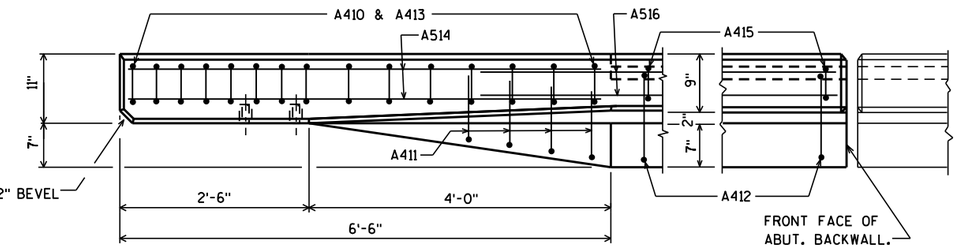
SECTION C

⊗ CONST. JOINT - STRIKE OFF AS SHOWN.

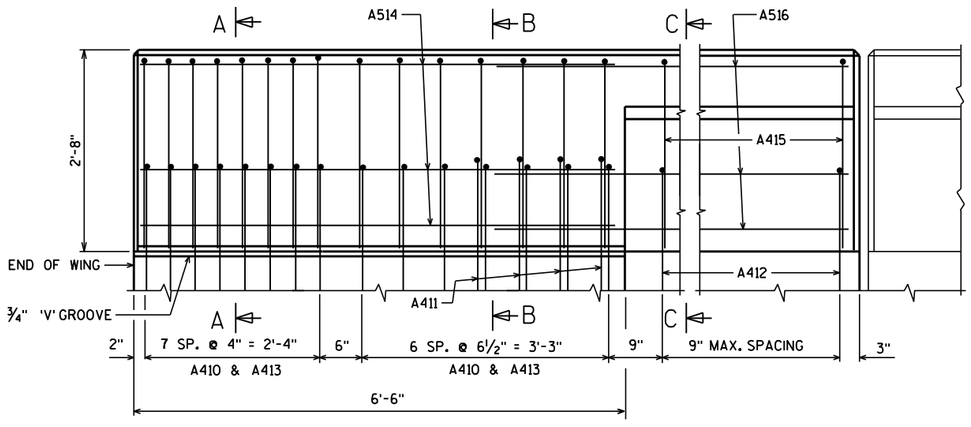
BILL OF BARS

	BAR MARK	COAT	NO. REQ'D.	LENGTH	BENT	LOCATION
☆	A401	X	4	7'-4"	X	WING - HORIZONTAL, B.F.
	A402	X	11	6'-11"	X	WING - HORIZONTAL, F.F.
	A503	X	9	6'-2"		WING - VERTICAL, F.F.
	A504	X	9	7'-5"	X	WING - VERTICAL, B.F.
	A405	X	6	6'-6"	X	WING - HORIZONTAL, F.F.
	A606	X	2	11'-7"	X	WING - HORIZONTAL, TOP
	A407	X	6	11'-7"	X	WING - HORIZONTAL, B.F.
☆	A508	X	16	3'-7"		WING - VERTICAL, ANCHORS
	A509	X	8	8'-3"	X	WING - VERTICAL
	A410	X	15	4'-9"	X	PARAPET STIRRUPS
	A411	X	4	3'-1"	X	PARAPET - VERTICAL
	A412	X	8	4'-9"	X	PARAPET STIRRUPS
	A413	X	15	4'-9"	X	PARAPET - VERTICAL
	A514	X	6	6'-2"		PARAPET - HORIZONTAL
	A415	X	8	4'-10"	X	PARAPET - VERTICAL
	A516	X	5	7'-1"		PARAPET - HORIZONTAL
	A517	X	8	4'-1"	X	WING - VERTICAL, B.F.
	A418	X	4	5'-0"		WING - HORIZONTAL, B.F.

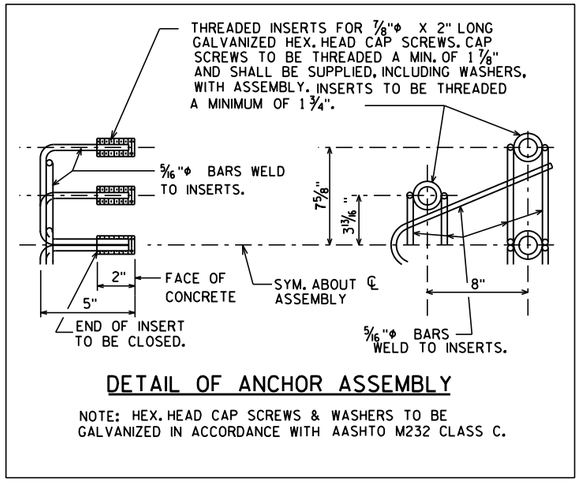
☆ MASONRY ANCHORS TYPE L NO. 4 OR NO. 5 BARS. EMBED 12" INTO CONCRETE.



PLAN

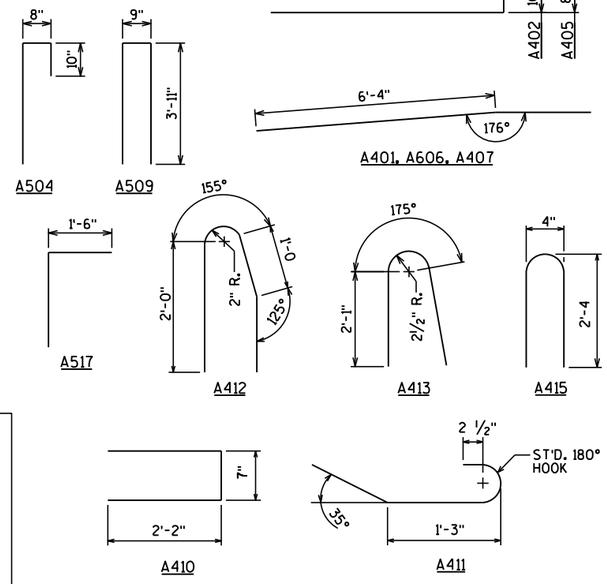


OUTSIDE ELEVATION



DETAIL OF ANCHOR ASSEMBLY

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



BAR BEND DIAGRAMS

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-36-66

DRAWN BY BRE | PLANS CK'D. KRO

SLOPED FACE PARAPET "B"

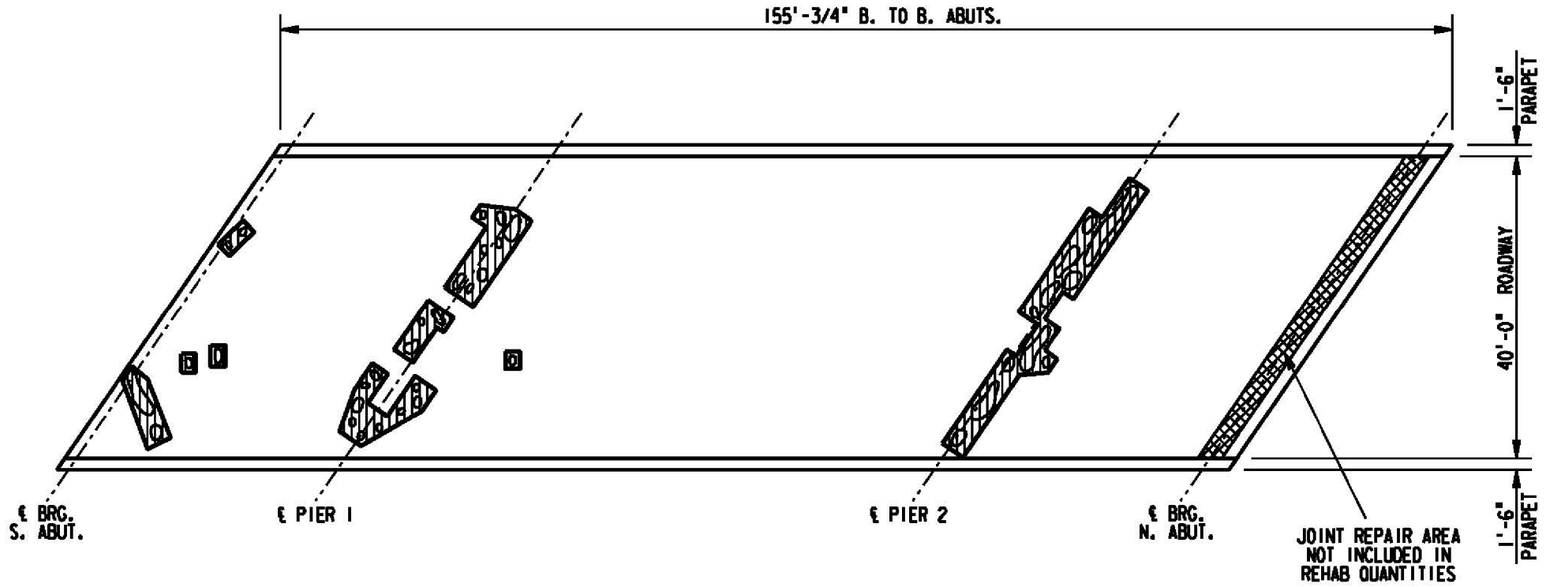
SHEET 7 OF 8

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8

STATE PROJECT NUMBER
1224-21-71



PLAN

PROPOSED REHAB AREAS





FIELD OBSERVATIONS SUMMARY		STRUCTURE NO. B-36-66	
ITEM	UNIT	QUANT.	%
TOTAL AREA	yd^2	685.8	
SHADE/DEBRIS	yd^2	0	
PREPARATION, DECKS, TYPE 1	yd^2	41.7	6.1
PREPARATION, DECKS, TYPE 2	yd^2	20.9	3.0
FULL DEPTH DECK REPAIR	yd^2	1.0	0.1

LEGEND

DECK PREPARATION AREA

SHADE/DEBRIS

DELAMINATION

SPALL

DEBOND

ASPHALT PATCH

CONCRETE PATCH

SURFACE TYPE: BITUMINOUS OVERLAY
INFRARED INSPECTION DATE: 7/1/2014

8

8

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-36-66

DRAWN BY BRE | PLANS CK'D. KRO

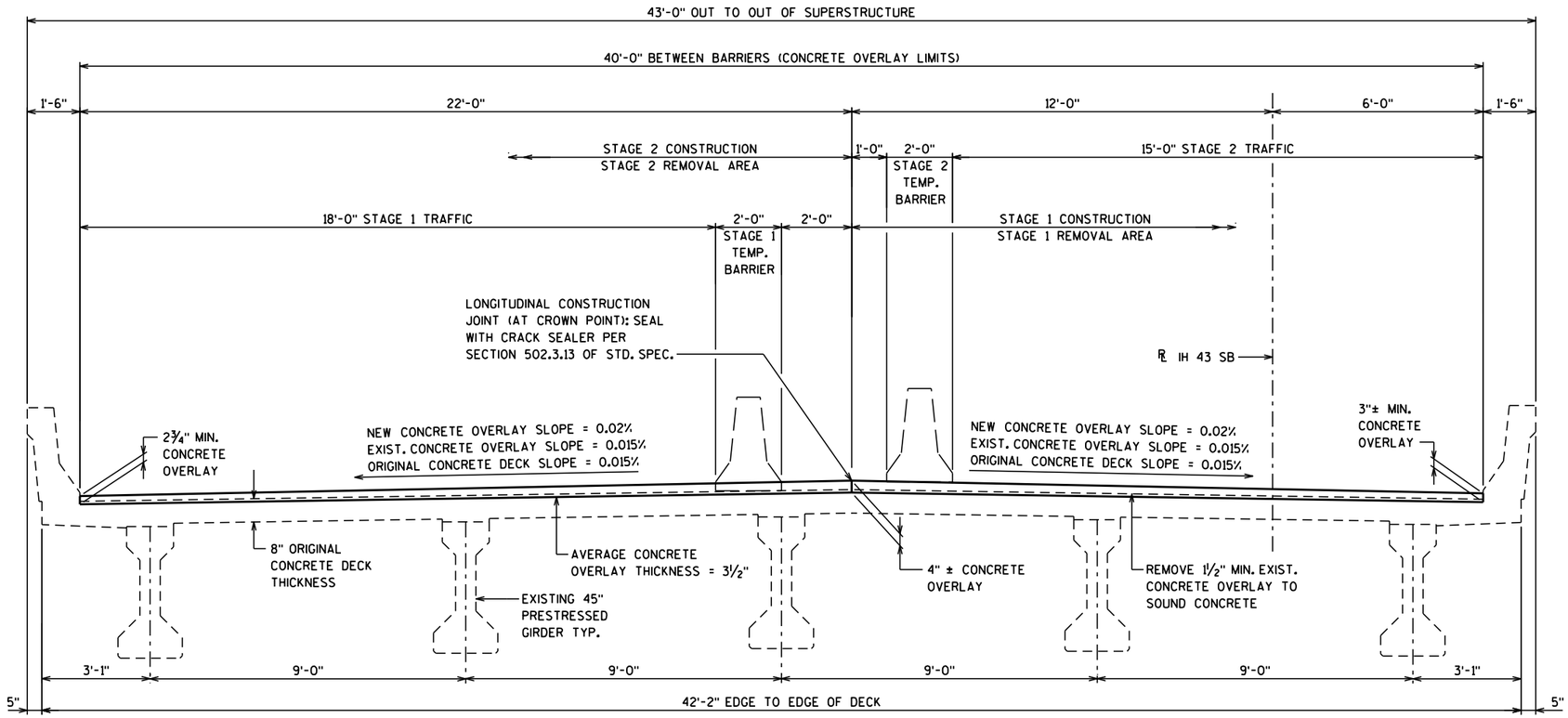
DECK REPAIR

SHEET 8 OF 8

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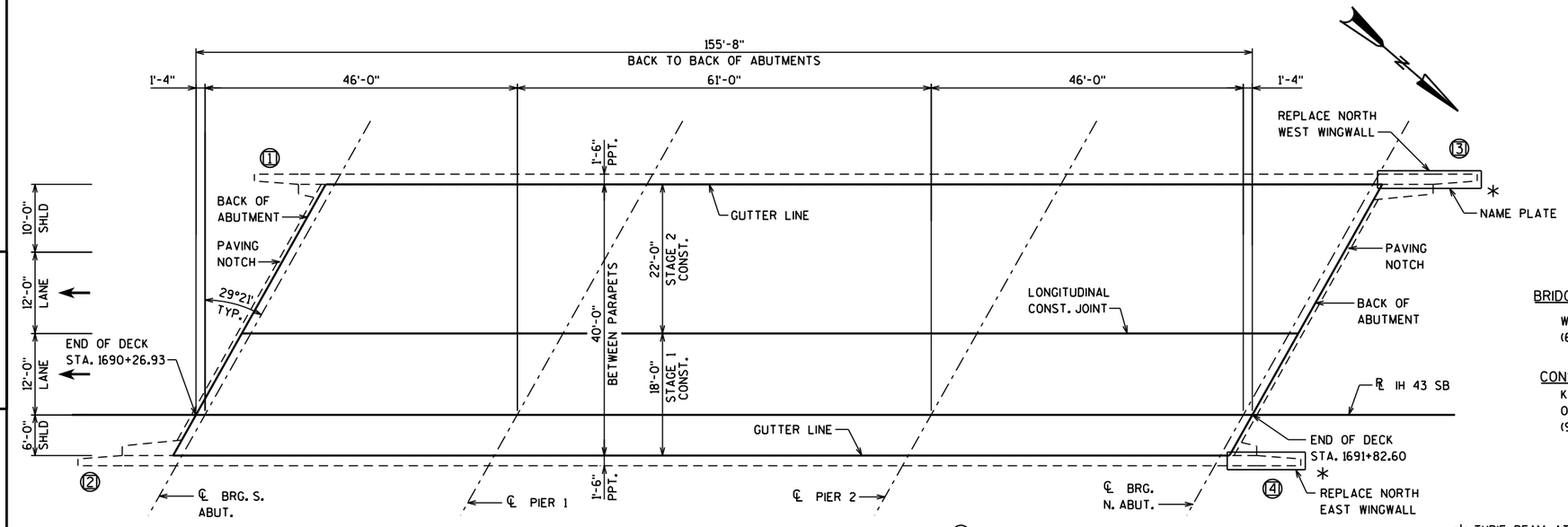
FILE NAME : F:±TR±JOBS±E2041A12±Sheets±Bridges±B-36-66±B-36-66 08 deck repair.dgn PLOT BY : epleyb PLOT DATE: 1/15/2015 10:03:17 AM

STATE PROJECT NUMBER
1224-21-71



CROSS SECTION THRU EXISTING ROADWAY

(LOOKING NORTH)



PLAN

Ⓧ INDICATES WING NUMBER

* THRIE BEAM ATTACHMENT REQUIRED

TRAFFIC DATA

ADT = 11,800 (2036)
RDS = 70 M.P.H.

DESIGN DATA

LIVE LOAD:

INVENTORY RATING:	HS-23
OPERATING RATING:	HS-28
WISCONSIN STANDARD PERMIT VEHICLE (Wis-SPV):	250 KIPS

MATERIAL PROPERTIES:

CONCRETE MASONRY OTHER: —— f'c = 3,500 p.s.i.
CONCRETE MASONRY OVERLAY DECKS & PARAPETS: —— f'c = 4,000 p.s.i.
BAR STEEL REINFORCEMENT GRADE 60: —— fy = 60,000 p.s.i.

LIST OF DRAWINGS

1. GENERAL PLAN
2. GENERAL NOTES & QUANTITIES
3. NORTH WEST WING REPLACEMENT
4. NW SLOPED FACE PARAPET "B"
5. NORTH EAST WING REPLACEMENT
6. NE SLOPED FACE PARAPET "B"
7. DECK REPAIR



7/21/15

NO.	DATE	REVISION	BY

ORIGINAL PLANS PREPARED BY
OMNNI ASSOCIATES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
ACCEPTED William C. Dreher SOR 08/18/15
CHIEF STRUCTURES DESIGN ENGINEER DATE

STRUCTURE B-36-67

IH 43 SB OVER WCL RAILROAD

COUNTY	TOWN
MANITOWOC	MANITOWOC RAPIDS

DESIGN SPEC. REHABILITATION N/A

DESIGNED BY	DESIGN CK'D.	DRAWN BY	PLANS CK'D.
BRE	KRO	BRE	KRO

GENERAL PLAN

SHEET 1 OF 7

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BRIDGE OFFICE CONTACT
WILLIAM DREHER
(608) 266-8489

CONSULTANT CONTACT
KRISTOFER OLSON
OMNNI ASSOCIATES
(920) 735-6900

8

8

FILE NAME : F:±TR±JOBS±E2041A12±Sheets±Bridges±B-36-67±B-36-67 01 gp.dgn PLOT BY : epleyb PLOT DATE: 7/21/2015 4:00:52 PM

STATE PROJECT NUMBER
1224-21-71

GENERAL NOTES

DRAWINGS SHALL NOT BE SCALED.

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

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

USE EXSTING BAR STEEL REINFORCEMENT WHERE SHOWN AND EXTEND 24 BAR DIAMETERS INTO NEW WORK.

DIMENSIONS SHOWN ARE BASED ON THE EXISTING ORIGINAL STRUCTURE PLANS.

AT ABUTMENTS, ALL SPACES EXCAVATED AND NOT OCCUPIED BY THE NEW STRUCTURE SHALL BE BACKFILLED WITH "BACKFILL STRUCTURE".

PROFILE GRADE LINE SHALL BE DETERMINED IN THE FIELD BASED ON A MINIMUM OVERLAY THICKNESS OF 4" AT THE CROWN POINT AND 2¾" AT THE TOE OF THE OUTSIDE PARAPET PLACED ABOVE THE DECK SURFACE AFTER "CLEANING DECKS". EXPECTED AVERAGE OVERLAY THICKNESS IS 3½" (OR AS GIVEN ON THE PLANS). IF EXPECTED AVERAGE OVERLAY THICKNESS IS EXCEEDED BY MORE THAN ½", CONTACT THE STRUCTURES DESIGN SECTION.

REMOVAL OF THE EXISTING CONCRETE OVERLAY SHALL BE INCLUDED IN THE BID ITEM "REMOVING CONCRETE MASONRY DECK OVERLAY".

PREPARATION DECKS TYPE 1, PREPARATION DECKS TYPE 2, CONCRETE SURFACE REPAIR AND FULL-DEPTH DECK REPAIR AREAS SHALL BE DETERMINED BY THE FIELD ENGINEER. "CONCRETE SURFACE REPAIR" TO INCLUDE BUT NOT LIMITED TO THE NORTH & SOUTH ABUTMENTS AND WEST PARAPET.

REMOVAL LINES NOT COVERED WITH A CONCRETE OVERLAY SHALL BE DEFINED BY A 1" DEEP SAW CUT AT THE CONCRETE SURFACES.

THE CONTRACTOR SHALL SUBMIT A REMOVAL PLAN TO THE ENGINEER FOR APPROVAL PER SPECIAL PROVISIONS.

PROTECTIVE SURFACE TREATMENT SHALL BE APPLIED TO THE ENTIRE TOP SURFACE OF THE NEW CONCRETE OVERLAY, THE ENTIRE FRONT FACES AND TOPS OF BOTH WING & DECK PARAPETS.

THE CONTRACTOR SHALL SUPPLY A NEW NAME PLATE IN ACCORDANCE WITH SECTION 502.3.11 OF THE STANDARD SPECIFICATIONS AND THE STANDARD DETAIL DRAWINGS. NAME PLATE TO SHOW ORIGINAL CONSTRUCTION YEAR OF 1979.

THE UPPER LIMITS OF EXCAVATION SHALL BE THE EXISTING GROUND LINE.

TOTAL ESTIMATED QUANTITIES

	ITEM NUMBER	BID ITEMS	UNIT	TOTALS
	203.0200	REMOVING OLD STRUCTURE (STA 1691+90)	LS	1
	206.1000	EXCAVATION FOR STRUCTURES BRIDGES (B-36-67)	LS	1
	210.0100	BACKFILL STRUCTURE	CY	40
	502.0100	CONCRETE MASONRY BRIDGES	CY	9
	502.3200	PROTECTIVE SURFACE TREATMENT	SY	692
	502.3210	PIGMENTED SURFACE SEALER	SY	139
	502.5002	MASONRY ANCHORS TYPE L NO.4 BARS	EACH	7
	502.5005	MASONRY ANCHORS TYPE L NO.5 BARS	EACH	32
	505.0600	BAR STEEL REINFORCEMENT HS COATED STRUCTURES	LB	1430
	509.0301	PREPARATION DECKS TYPE 1	SY	258
	509.0302	PREPARATION DECKS TYPE 2	SY	194
	509.0500	CLEANING DECKS	SY	692
	509.1500	CONCRETE SURFACE REPAIR	SF	47
	509.2000	FULL-DEPTH DECK REPAIR	SY	1
☆	509.2500	CONCRETE MASONRY OVERLAY DECKS	CY	92
	509.9005.S	REMOVING CONCRETE MASONRY DECK OVERLAY (B-36-67)	SY	692
	509.9050.S	CLEANING PARAPETS	LF	360
	516.0500	RUBBERIZED MEMBRANE WATERPROOFING	SY	6
	614.0150	ANCHOR ASSEMBLIES FOR STEEL PLATE BEAM GUARD	EACH	2

☆ BID ITEM ALSO INCLUDES CONCRETE FOR:
"PREPARATION DECKS TYPE 1"
"PREPARATION DECKS TYPE 2"
"FULL-DEPTH DECK REPAIR"

8

8

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-36-67

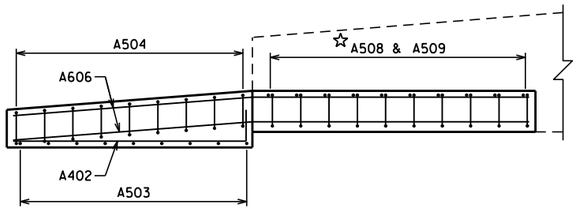
DRAWN BY BRE | PLANS CK'D. KRO

GENERAL NOTES & QUANTITIES

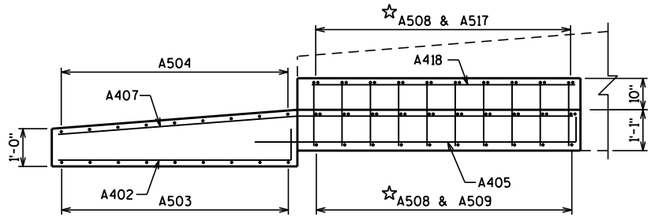
SHEET 2 OF 7

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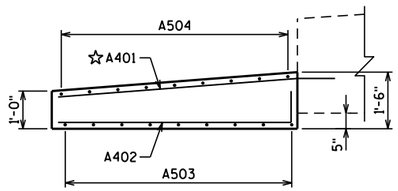
STATE PROJECT NUMBER
1224-21-71



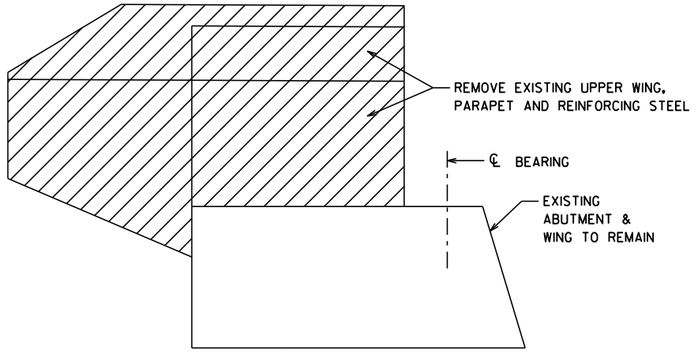
SECTION C-C



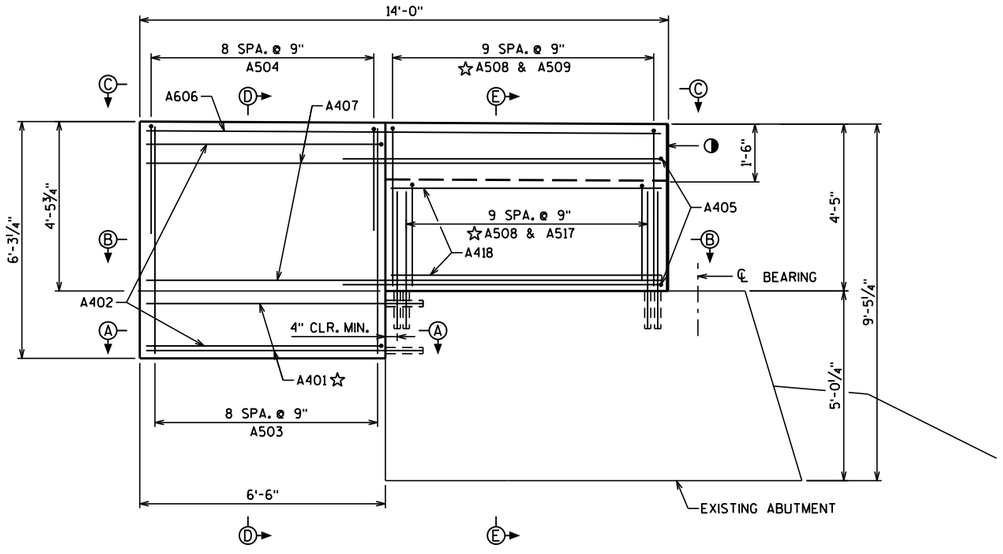
SECTION B-B



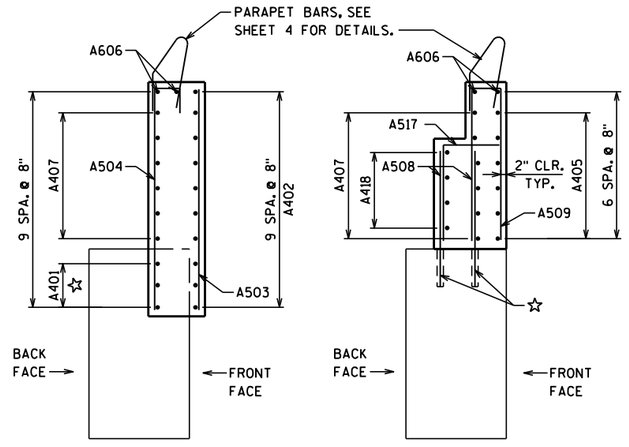
SECTION A-A



EXISTING WING REMOVAL



WING ELEVATION



SECTION D-D

SECTION E-E

NOTES

☆ MASONRY ANCHORS TYPE L NO. 4 OR NO. 5 BARS. EMBED 12" INTO CONCRETE.

◑ ½" FILLER (INCLUDED IN WING LENGTH): SEAL ALL EXPOSED HORIZONTAL AND VERTICAL SURFACES OF ½" FILLER WITH NON-STAINING GRAY NON-BITUMINOUS JOINT SEALER. (1" DEEP AND HOLD ⅛" BELOW SURFACE OF CONCRETE.) EXTEND SEALER 3" BELOW GUTTER LINE AT INSIDE FACE.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-36-67

DRAWN BY BRE | PLANS CK'D. KRO

NORTH WEST WING REPLACEMENT

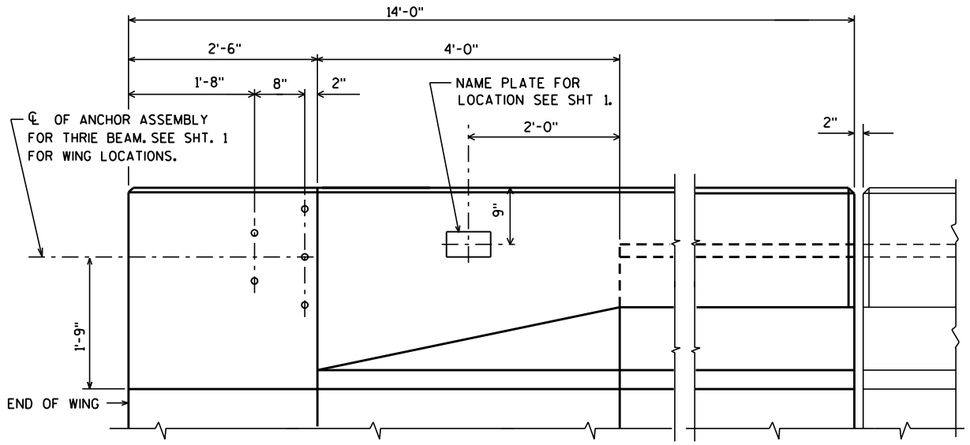
SHEET 3 OF 7

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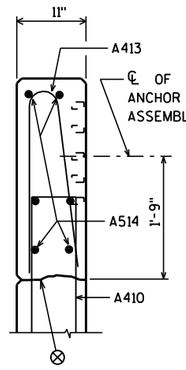
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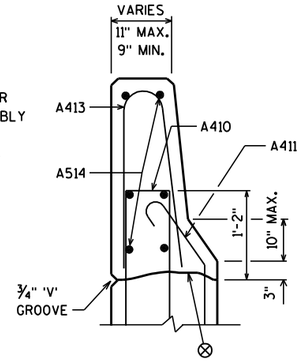
STATE PROJECT NUMBER
1224-21-71



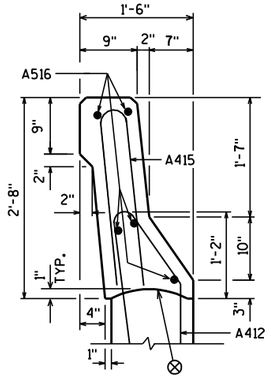
INSIDE ELEVATION



SECTION A



SECTION B



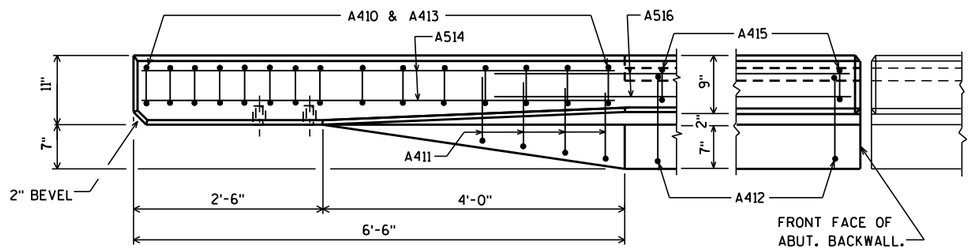
SECTION C

⊗ CONST. JOINT - STRIKE OFF AS SHOWN.

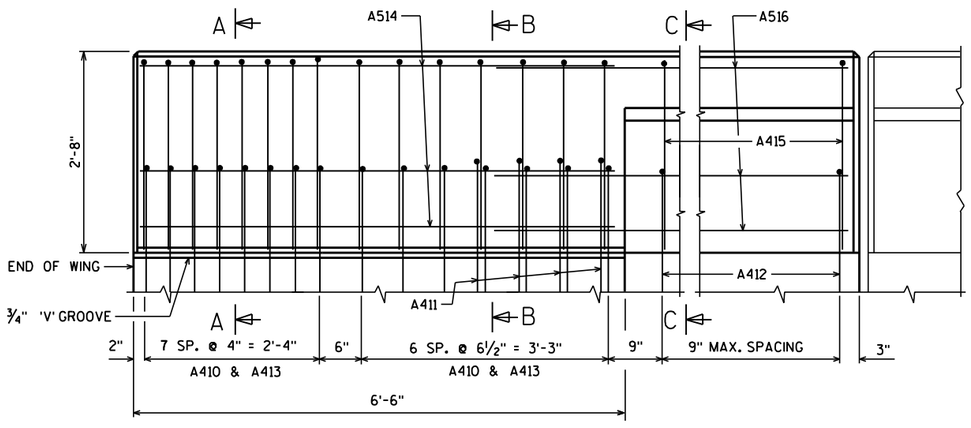
BILL OF BARS

	BAR MARK	COAT	NO. REQ'D.	LENGTH	BENT	LOCATION
☆	A401	X	3	7'-4"	X	WING - HORIZONTAL, B.F.
	A402	X	10	6'-11"	X	WING - HORIZONTAL, F.F.
	A503	X	9	5'-11"		WING - VERTICAL, F.F.
	A504	X	9	7'-2"	X	WING - VERTICAL, B.F.
	A405	X	6	8'-6"	X	WING - HORIZONTAL, F.F.
	A606	X	2	13'-7"	X	WING - HORIZONTAL, TOP
	A407	X	6	13'-7"	X	WING - HORIZONTAL, B.F.
☆	A508	X	20	3'-7"	X	WING - VERTICAL, ANCHORS
	A509	X	10	8'-8"		WING - VERTICAL
	A410	X	15	4'-9"	X	PARAPET STIRRUPS
	A411	X	4	3'-1"	X	PARAPET - VERTICAL
	A412	X	11	4'-9"	X	PARAPET STIRRUPS
	A413	X	15	4'-9"	X	PARAPET - VERTICAL
	A514	X	6	6'-2"		PARAPET - HORIZONTAL
	A415	X	11	4'-10"	X	PARAPET - VERTICAL
	A516	X	5	9'-0"		PARAPET - HORIZONTAL
	A517	X	10	4'-3"	X	WING - VERTICAL, B.F.
	A418	X	4	7'-0"		WING - HORIZONTAL, B.F.

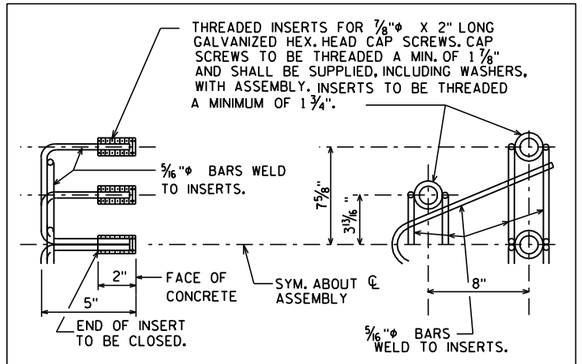
☆ MASONRY ANCHORS TYPE L NO. 4 OR NO. 5 BARS. EMBED 12" INTO CONCRETE.



PLAN

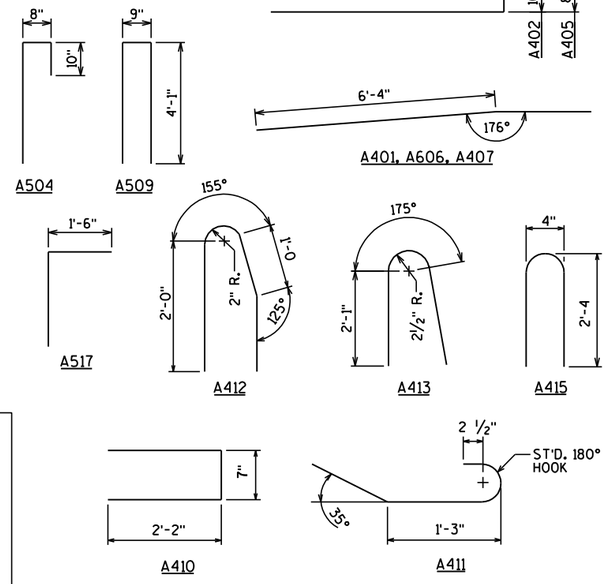


OUTSIDE ELEVATION



DETAIL OF ANCHOR ASSEMBLY

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



BAR BEND DIAGRAMS

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-36-67

DRAWN BY BRE | PLANS CK'D. KRO

NW SLOPED FACE PARAPET "B"

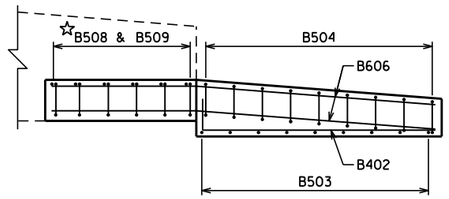
SHEET 4 OF 7

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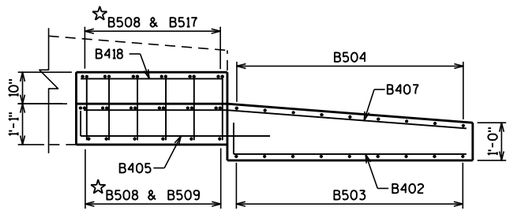
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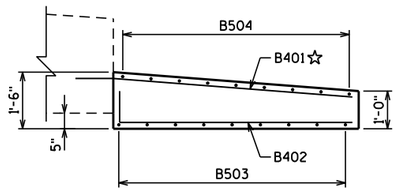
STATE PROJECT NUMBER
1224-21-71



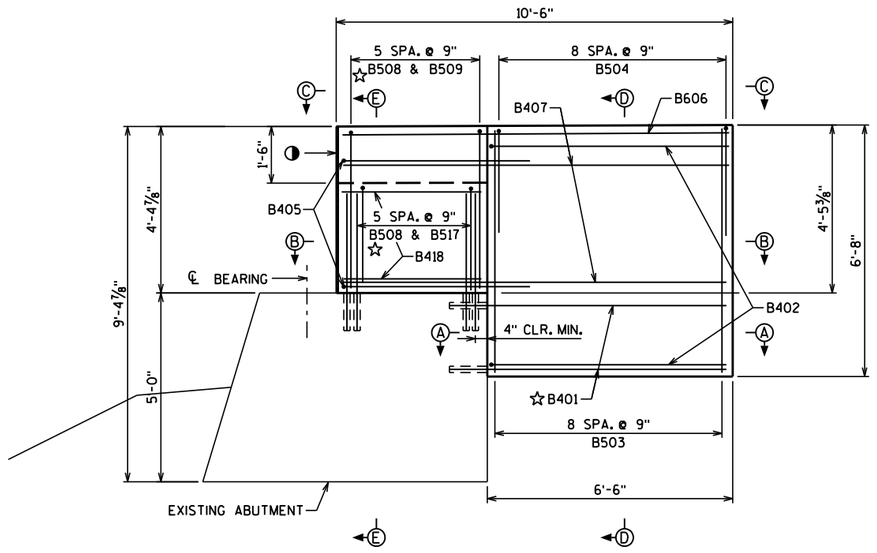
SECTION C-C



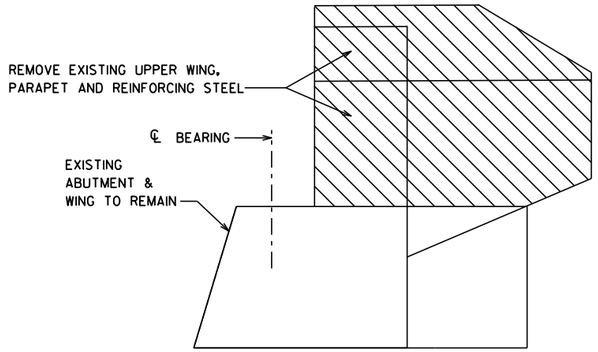
SECTION B-B



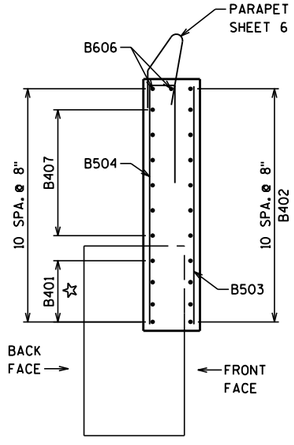
SECTION A-A



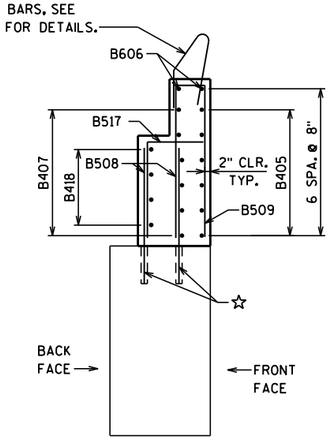
WING ELEVATION



EXISTING WING REMOVAL



SECTION D-D



SECTION E-E

NOTES

☆ MASONRY ANCHORS TYPE L NO. 4 OR NO. 5 BARS. EMBED 12" INTO CONCRETE.

◑ ½" FILLER (INCLUDED IN WING LENGTH): SEAL ALL EXPOSED HORIZONTAL AND VERTICAL SURFACES OF ½" FILLER WITH NON-STAINING GRAY NON-BITUMINOUS JOINT SEALER. (1" DEEP AND HOLD ⅛" BELOW SURFACE OF CONCRETE.) EXTEND SEALER 3" BELOW GUTTER LINE AT INSIDE FACE.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-36-67

DRAWN BY BRE | PLANS CK'D. KRO

NORTH EAST WING REPLACEMENT

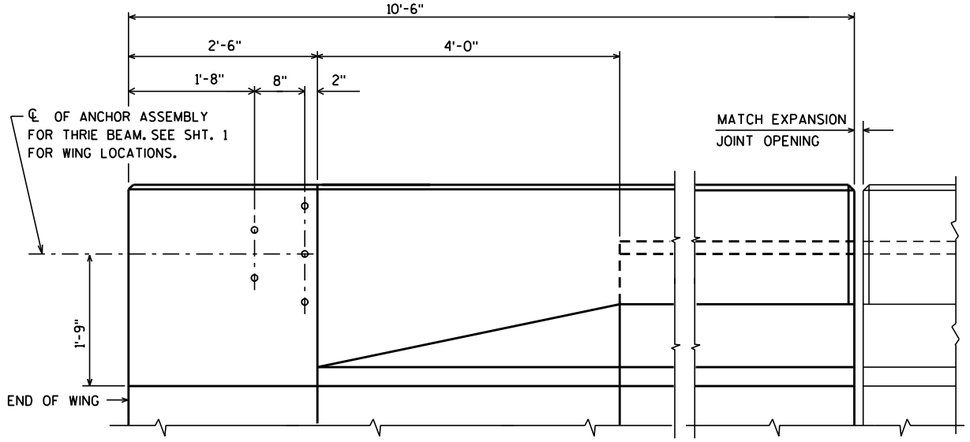
SHEET 5 OF 7

364

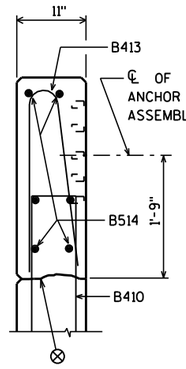
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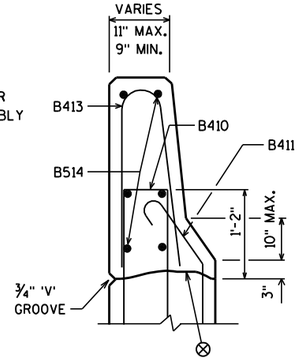
STATE PROJECT NUMBER
1224-21-71



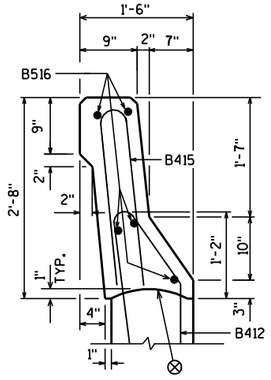
INSIDE ELEVATION



SECTION A



SECTION B



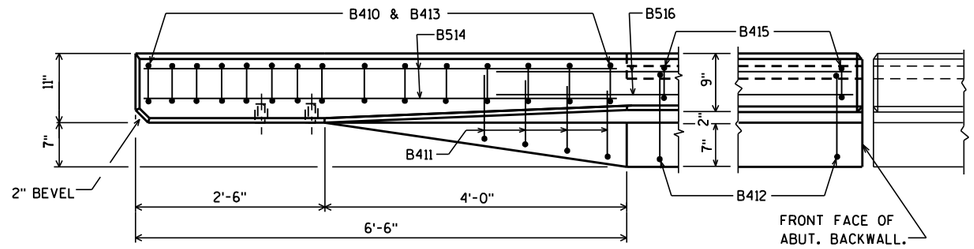
SECTION C

⊗ CONST. JOINT - STRIKE OFF AS SHOWN.

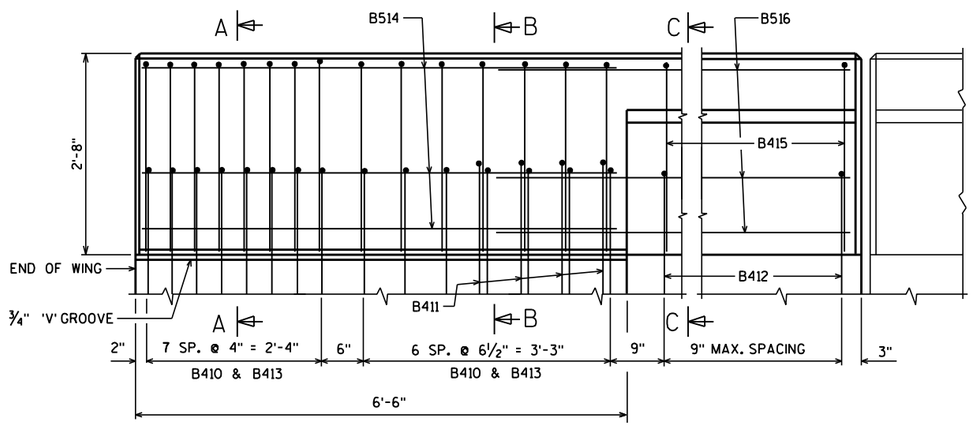
BILL OF BARS

	BAR MARK	COAT	NO. REQ'D.	LENGTH	BENT	LOCATION
☆	B401	X	4	7'-4"	X	WING - HORIZONTAL, B.F.
	B402	X	11	6'-11"	X	WING - HORIZONTAL, F.F.
	B503	X	9	6'-3"		WING - VERTICAL, F.F.
	B504	X	9	7'-5"	X	WING - VERTICAL, B.F.
	B405	X	6	5'-0"	X	WING - HORIZONTAL, F.F.
	B606	X	2	10'-1"	X	WING - HORIZONTAL, TOP
	B407	X	6	10'-1"	X	WING - HORIZONTAL, B.F.
☆	B508	X	12	3'-7"	X	WING - VERTICAL, B.F.
	B509	X	6	8'-8"		WING - VERTICAL, F.F.
	B410	X	15	4'-9"	X	PARAPET STIRRUPS
	B411	X	4	3'-1"	X	PARAPET - VERTICAL
	B412	X	6	4'-9"	X	PARAPET STIRRUPS
	B413	X	15	4'-9"	X	PARAPET - VERTICAL
	B514	X	6	6'-2"		PARAPET - HORIZONTAL
	B415	X	6	4'-10"	X	PARAPET - VERTICAL
	B516	X	5	5'-6"		PARAPET - HORIZONTAL
	B517	X	6	4'-3"	X	WING - VERTICAL, B.F.
	B418	X	4	3'-6"		WING - HORIZONTAL, B.F.

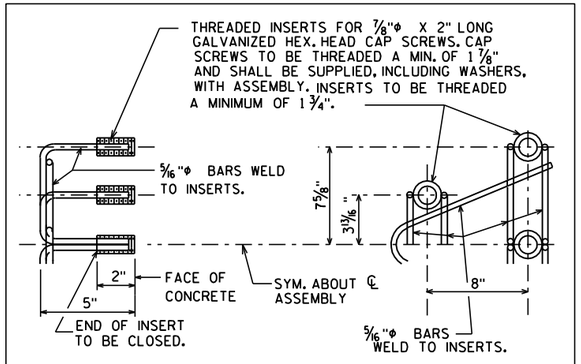
☆ MASONRY ANCHORS TYPE L NO. 4 OR NO. 5 BARS. EMBED 12" INTO CONCRETE.



PLAN

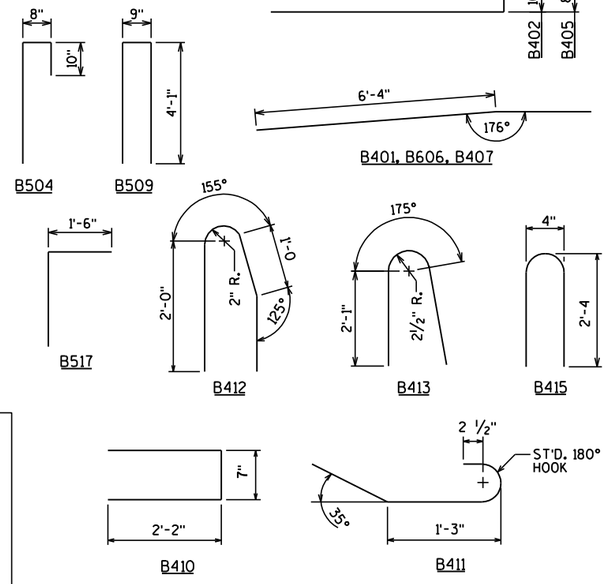


OUTSIDE ELEVATION



DETAIL OF ANCHOR ASSEMBLY

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



BAR BEND DIAGRAMS

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-36-67

DRAWN BY BRE | PLANS CK'D. KRO

NE SLOPED FACE PARAPET "B"

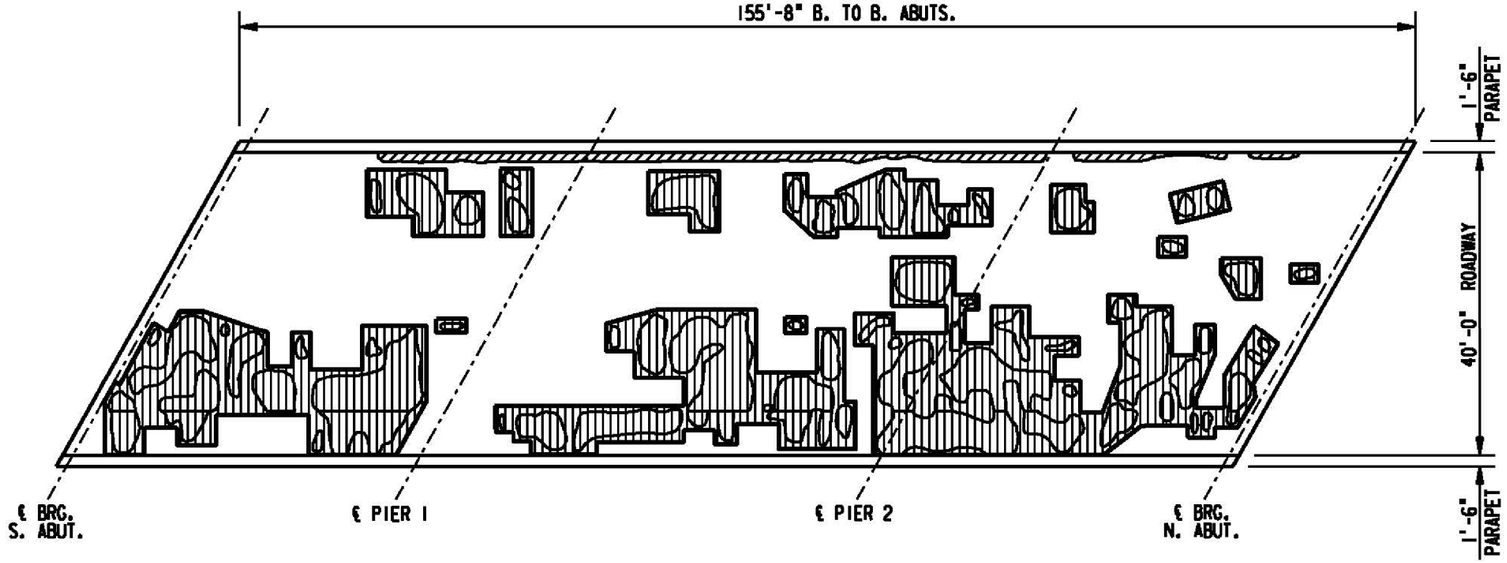
SHEET 6 OF 7

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8

8

STATE PROJECT NUMBER
1224-21-71



PLAN

PROPOSED REHAB AREAS



SCALE 0' 5' 10' 20'

FIELD OBSERVATIONS SUMMARY		STRUCTURE NO. B-36-67	
ITEM	UNIT	QUANT.	%
TOTAL AREA	yd^2	691.6	
SHADE/DEBRIS	yd^2	13.1	
PREPARATION, DECKS, TYPE 1	yd^2	258.1	38.0
PREPARATION, DECKS, TYPE 2	yd^2	193.6	28.5
FULL DEPTH DECK REPAIR	yd^2	1.0	0.1

LEGEND

DECK PREPARATION AREA

SHADE/DEBRIS

DELAMINATION

SPALL

DEBOND

ASPHALT PATCH

CONCRETE PATCH

SURFACE TYPE: CONCRETE OVERLAY
INFRARED INSPECTION DATE: 7/1/2014

8

8

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-36-67

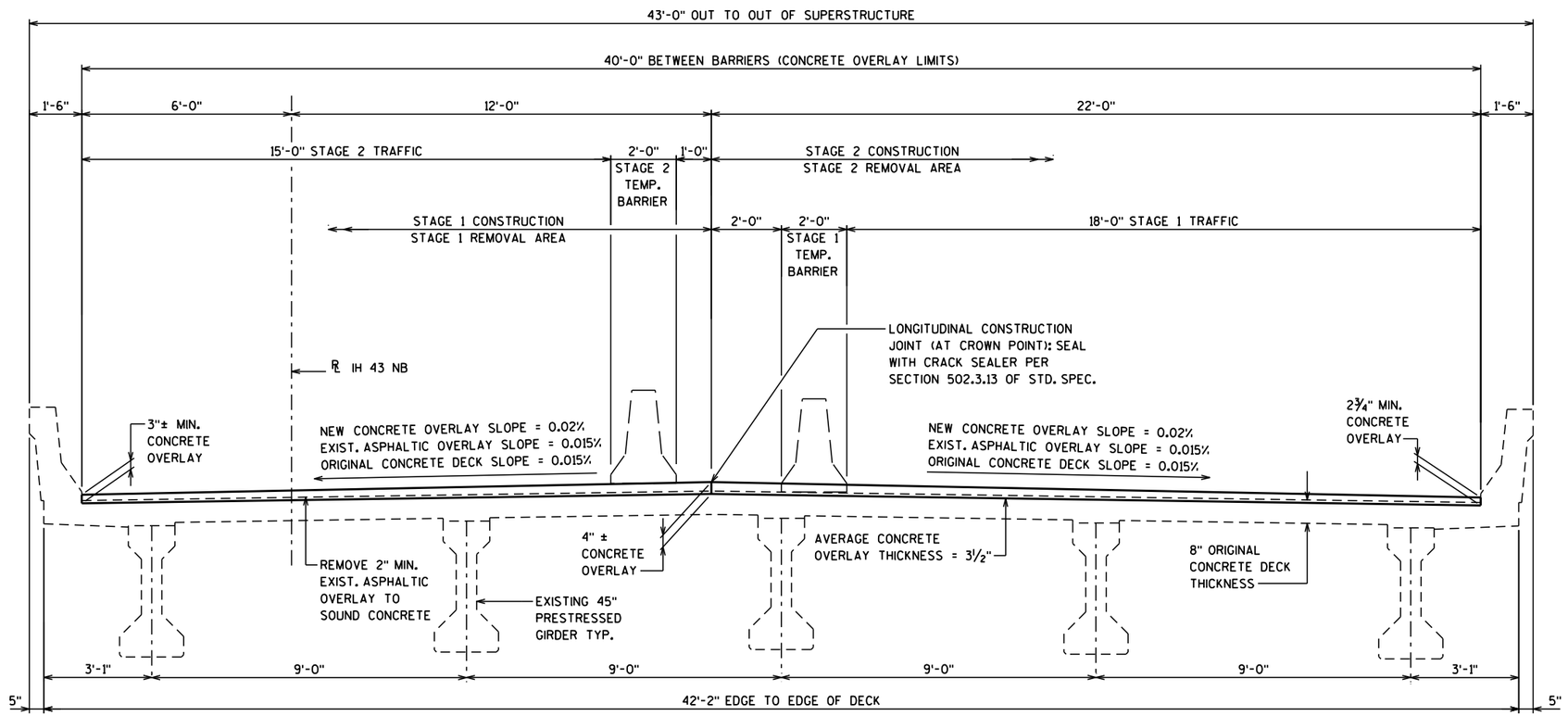
DRAWN BY BRE | PLANS CK'D. KRO

DECK REPAIR

SHEET 7 OF 7

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FILE NAME : F:±TR±JOBS±E2041A12±Sheets±Bridges±B-36-67±B-36-67 07 deck repair.dgn PLOT BY : epleyb PLOT DATE: 12/4/2014 9:44:46 AM



CROSS SECTION THRU EXISTING ROADWAY

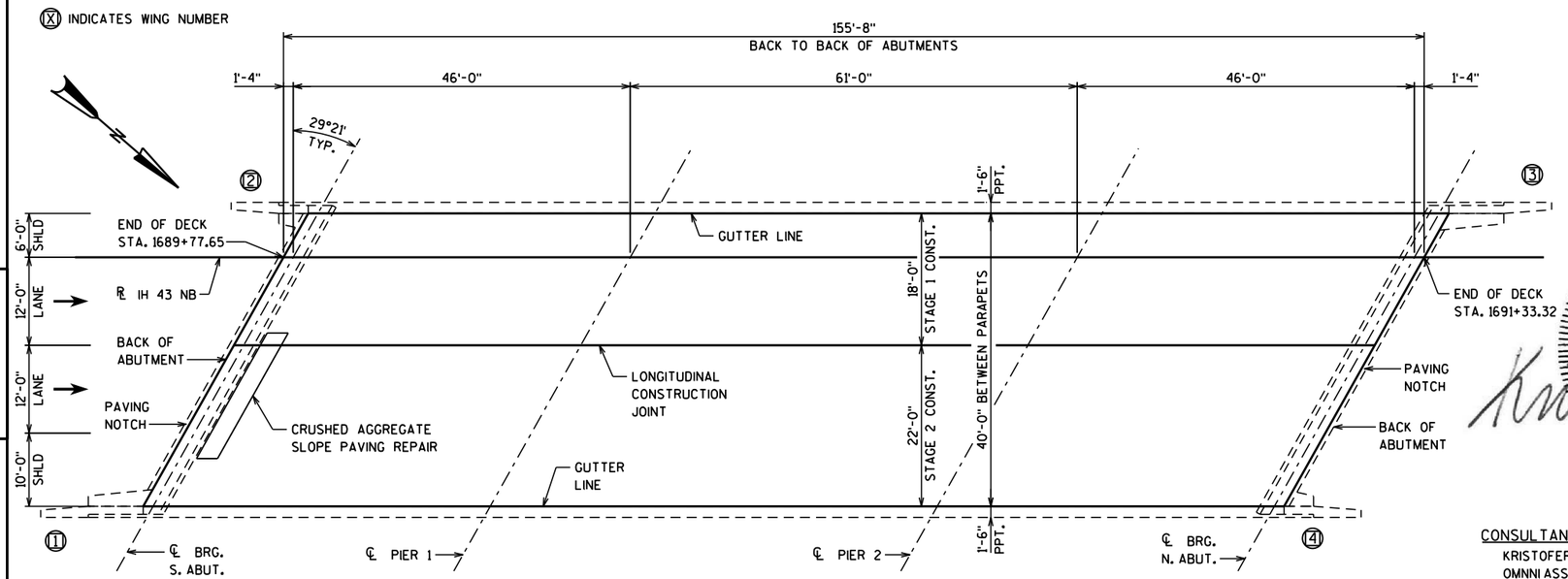
(LOOKING NORTH)

TRAFFIC DATA

ADT = 11,800 (2036)
RDS = 70 M.P.H.

LIST OF DRAWINGS

1. GENERAL PLAN
2. DECK REPAIR



PLAN

GENERAL NOTES

DRAWINGS SHALL NOT BE SCALED.

DIMENSIONS SHOWN ARE BASED ON THE EXISTING ORIGINAL STRUCTURE PLANS.

ANY EXCAVATION NECESSARY TO COMPLETE THE OVERLAY AT THE ABUTMENTS IS TO BE CONSIDERED INCIDENTAL TO THE BID ITEM "CONCRETE MASONRY OVERLAY DECKS".

PROFILE GRADE LINE SHALL BE DETERMINED IN THE FIELD BASED ON A MINIMUM OVERLAY THICKNESS OF 4" AT THE CROWN POINT AND 2¾" AT THE TOE OF THE OUTSIDE PARAPET PLACED ABOVE THE DECK SURFACE AFTER "CLEANING DECKS". EXPECTED AVERAGE OVERLAY THICKNESS IS 3½" (OR AS GIVEN ON THE PLANS). IF EXPECTED AVERAGE OVERLAY THICKNESS IS EXCEEDED BY MORE THAN ½", CONTACT THE STRUCTURES DESIGN SECTION.

THE EXISTING BITUMINOUS ASPHALTIC OVERLAY SHALL BE REMOVED FROM THE BRIDGE DECK UNDER BID ITEM "REMOVING ASPHALTIC CONCRETE DECK OVERLAY".

PREPARATION DECKS TYPE 1, PREPARATION DECKS TYPE 2, CONCRETE SURFACE REPAIR AND FULL-DEPTH DECK REPAIR AREAS SHALL BE DETERMINED BY THE FIELD ENGINEER. "CONCRETE SURFACE REPAIR" TO INCLUDE BUT NOT LIMITED TO THE ABUTMENTS AND PARAPETS.

REMOVAL LINES NOT COVERED WITH A CONCRETE OVERLAY SHALL BE DEFINED BY A 1" DEEP SAW CUT AT THE CONCRETE SURFACES.

PROTECTIVE SURFACE TREATMENT SHALL BE APPLIED TO THE ENTIRE TOP SURFACE OF THE NEW CONCRETE OVERLAY. PIGMENTED PROTECTIVE SURFACE TREATMENT SHALL BE APPLIED TO THE ENTIRE FRONT FACES AND TOPS OF BOTH WING & DECK PARAPETS.

A MINIMUM OF 1-INCH OF CONCRETE SHALL BE REMOVED FROM THE ENTIRE BRIDGE DECK UNDER THE BID ITEM "CLEANING DECKS".

TOTAL ESTIMATED QUANTITIES

ITEM NUMBER	BID ITEMS	UNIT	TOTALS
502.3200	PROTECTIVE SURFACE TREATMENT	SY	692
502.3210	PIGMENTED SURFACE SEALER	SY	139
509.0301	PREPARATION DECKS TYPE 1	SY	144
509.0302	PREPARATION DECKS TYPE 2	SY	108
509.0500	CLEANING DECKS	SY	692
509.1500	CONCRETE SURFACE REPAIR	SF	34
509.2000	FULL-DEPTH DECK REPAIR	SY	1
☆ 509.2500	CONCRETE MASONRY OVERLAY DECKS	CY	81
509.9010.S	REMOVING ASPHALTIC CONCRETE DECK OVERLAY (B-36-68)	SY	692
509.9050.S	CLEANING PARAPETS	LF	360
604.9010.S	SLOPE PAVING REPAIR CRUSHED AGGREGATE	CY	2

DESIGN DATA

LIVE LOAD:
INVENTORY RATING: HS-23
OPERATING RATING: HS-28
WISCONSIN STANDARD PERMIT VEHICLE (Wis-SPV): 250 KIPS

MATERIAL PROPERTIES:
CONCRETE MASONRY OVERLAY DECKS: f'c = 4,000 p.s.i.

☆ BID ITEM ALSO INCLUDES CONCRETE FOR:
"PREPARATION DECKS TYPE 1"
"PREPARATION DECKS TYPE 2"
"FULL-DEPTH DECK REPAIR"

WISCONSIN
KRISTOFER R. OLSON
E-35236
APPLETON, WI
PROFESSIONAL ENGINEER
7/22/15

CONSULTANT CONTACT
KRISTOFER OLSON
OMNNI ASSOCIATES
(920) 735-6900

BRIDGE OFFICE CONTACT
WILLIAM DREHER
(608) 266-8489

NO.	DATE	REVISION	BY

ORIGINAL PLANS PREPARED BY
OMNNI ASSOCIATES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
ACCEPTED William C. Dreher SDR 08/18/15
CHIEF STRUCTURES DESIGN ENGINEER DATE

STRUCTURE B-36-68
IH 43 NB OVER WCL RAILROAD

COUNTY	TOWN
MANITOWOC	MANITOWOC RAPIDS

DESIGN SPEC. REHABILITATION N/A

DESIGNED BY	DESIGN CK'D.	DRAWN BY	PLANS CK'D.
BRE	KRO	BRE	KRO

GENERAL PLAN

SHEET 1 OF 2

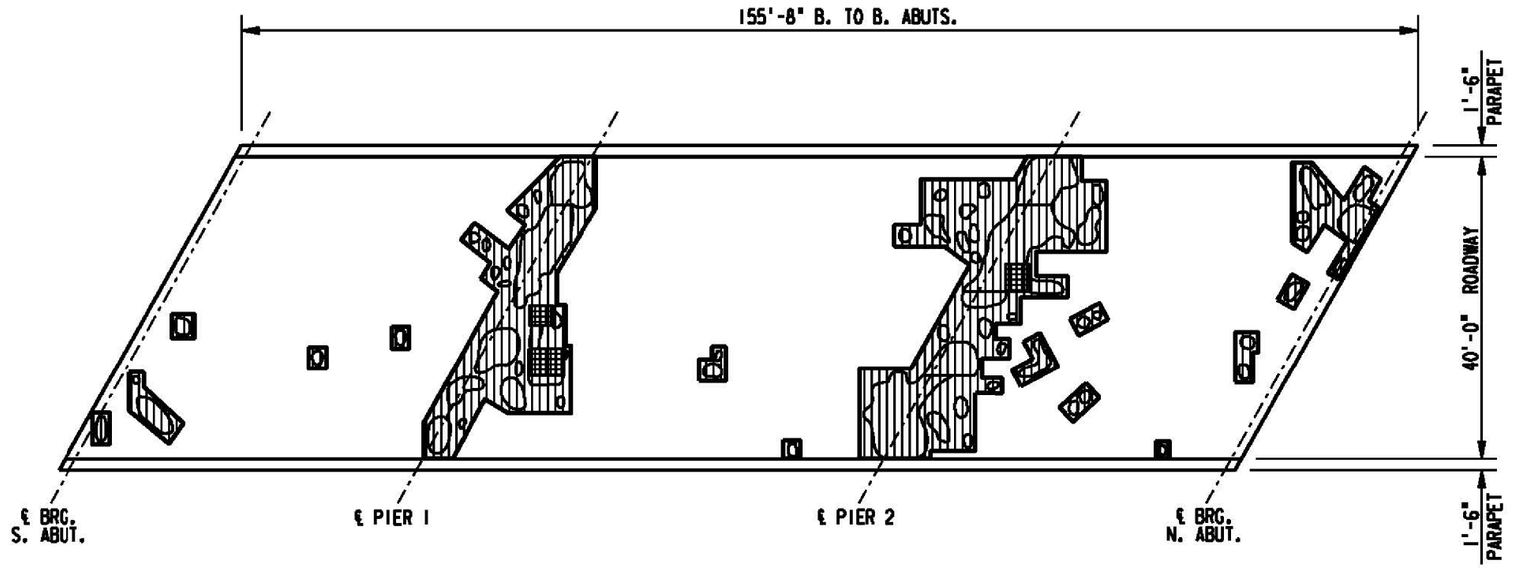
367

STATE PROJECT NUMBER
1224-21-71

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STATE PROJECT NUMBER
1224-21-71



PLAN

PROPOSED REHAB AREAS



FIELD OBSERVATIONS SUMMARY		STRUCTURE NO. B-36-68	
ITEM	UNIT	QUANT.	%
TOTAL AREA	yd^2	691.6	
SHADE/DEBRIS	yd^2	0	
PREPARATION, DECKS, TYPE 1	yd^2	143.9	20.8
PREPARATION, DECKS, TYPE 2	yd^2	107.9	15.6
FULL DEPTH DECK REPAIR	yd^2	1.0	0.1

LEGEND

DECK PREPARATION AREA

SHADE/DEBRIS

DELAMINATION
SPALL
DEBOND
ASPHALT PATCH
CONCRETE PATCH

SCALE 0' 5' 10' 20'

SURFACE TYPE: BITUMINOUS OVERLAY
INFRARED INSPECTION DATE: 7/1/2014

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-36-68

DRAWN BY BRE | PLANS CK'D. KRO

DECK REPAIR

SHEET 2 OF 2

368

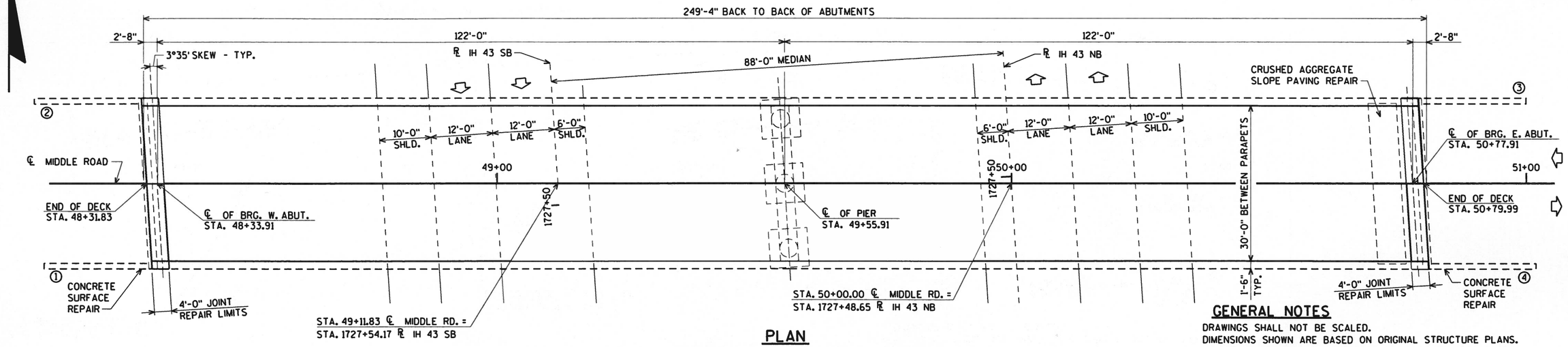
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FILE NAME : F:±TR±JOBS±E2041A12±Sheets±Bridges±B-36-68±B-36-68 02 deck repair.dgn PLOT BY : epleyb PLOT DATE: 12/1/2014 3:26:00 PM

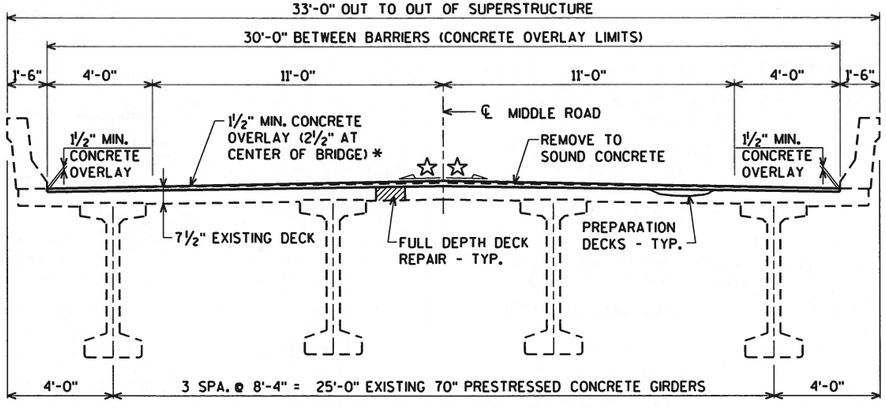
STATE PROJECT NUMBER

1224-21-71



PLAN

2-SPAN 70" PRESTRESSED CONCRETE GIRDER BRIDGE CONCRETE OVERLAY



CROSS SECTION THRU BRIDGE

(LOOKING EAST)

LEGEND

* THE PROPOSED OVERLAY THICKNESS VARIES FROM A MINIMUM OF 1½" AT THE PARAPETS TO 2½" AT THE CROWN. THE MINIMUM AVERAGE OVERLAY THICKNESS IS 2". THE EXPECTED AVERAGE OVERLAY THICKNESS IS 2½".

△ BID ITEM ALSO INCLUDES CONCRETE FOR:
"PREPARATION DECKS TYPE 1"
"PREPARATION DECKS TYPE 2"
"FULL-DEPTH DECK REPAIR"
"JOINT REPAIR"

☆ NEW CONCRETE OVERLAY SLOPE = 0.02 %
CURRENT DECK SLOPE = 0.015 %

◯ DENOTES WING NUMBER.

LIST OF DRAWINGS

1. GENERAL PLAN
2. EXPANSION JOINT DETAILS AT ABUTMENTS
3. EXPANSION JOINT DETAILS AT ABUTMENTS
4. EXPANSION JOINT DETAILS AT ABUTMENTS
5. PARAPET AND SLOPE PAVING DETAILS

GENERAL NOTES

DRAWINGS SHALL NOT BE SCALED.

DIMENSIONS SHOWN ARE BASED ON ORIGINAL STRUCTURE PLANS.

A MINIMUM OF 1-INCH OF CONCRETE SHALL BE REMOVED FROM THE ENTIRE BRIDGE DECK UNDER THE BID ITEM "CLEANING DECKS".

ANY EXCAVATION NECESSARY TO COMPLETE THE OVERLAY OR JOINT REPAIR AT THE ABUTMENTS IS CONSIDERED INCIDENTAL TO THE BID ITEM "CONCRETE MASONRY OVERLAY DECKS".

REMOVAL LINES NOT COVERED WITH A CONCRETE OVERLAY SHALL BE DEFINED BY A 1" DEEP SAW CUT AT THE CONCRETE SURFACES.

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

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

PREPARATION DECKS TYPE 1, PREPARATION DECKS TYPE 2, CONCRETE SURFACE REPAIR AND FULL DEPTH DECK REPAIR AREAS SHALL BE DETERMINED BY THE FIELD ENGINEER.

APPLY BRIDGE SEAT PROTECTION, AS PER SECTION 502.3.12 OF THE STANDARD SPECIFICATIONS, TO THE TOP SURFACES OF BOTH ABUTMENTS BELOW EXPANSION DEVICES. POWER WASH AND ADEQUATELY DRY SURFACES BEFORE APPLICATION. WORK TO BE INCIDENTAL TO "JOINT REPAIR".

PROFILE GRADE LINE SHALL BE DETERMINED IN THE FIELD BASED ON A MINIMUM OVERLAY THICKNESS OF 1½" PLACED ABOVE THE DECK SURFACE AFTER "CLEANING DECKS". EXPECTED AVERAGE OVERLAY THICKNESS IS 2½". IF EXPECTED AVERAGE OVERLAY THICKNESS IS EXCEEDED BY MORE THAN ½", CONTACT THE STRUCTURES DESIGN SECTION.

PARAPET JOINTS TO BE RE-SEALED WITH NON-STAINING GRAY NON-BITUMINOUS JOINT SEALER (1" DEEP AND HOLD ⅛" BELOW SURFACE OF CONCRETE). WORK CONSIDERED INCIDENTAL TO "JOINT REPAIR".

CLEAN FULL LENGTH OF PARAPETS ACCORDING TO STSP ITEM 509.9050.S "CLEANING PARAPETS".

PROTECTIVE SURFACE TREATMENT IS TO BE APPLIED TO THE TOP OF THE OVERLAY AND PIGMENTED SURFACE SEALER IS TO BE APPLIED TO THE TOP AND INSIDE FACE OF PARAPETS.

TOTAL ESTIMATED QUANTITIES

	BID ITEM NUMBER	BID ITEMS	UNIT	TOTAL
	502.0100	CONCRETE MASONRY BRIDGES	CY	2
	502.3100	EXPANSION DEVICE B-36-69	LS	1
	502.3200	PROTECTIVE SURFACE TREATMENT	SY	835
	502.3210	PIGMENTED SURFACE SEALER	SY	230
	502.5005	MASONRY ANCHOR TYPE L NO. 5 BARS	EACH	58
	505.0600	BAR STEEL REINFORCEMENT HS COATED STRUCTURES	LB	2180
	509.0301	PREPARATION DECKS TYPE 1	SY	8
	509.0302	PREPARATION DECKS TYPE 2	SY	3
	509.0500	CLEANING DECKS	SY	805
	509.1000	JOINT REPAIR	SY	30
	509.1500	CONCRETE SURFACE REPAIR	SF	39
	509.2000	FULL-DEPTH DECK REPAIR	SY	2
△	509.2500	CONCRETE MASONRY OVERLAY DECKS	CY	69
	509.9050.S	CLEANING PARAPETS	LF	580
	604.9010.S	SLOPE PAVING REPAIR CRUSHED AGGREGATE	CY	2

DESIGN DATA

LIVE LOAD:

DESIGN LOADING: HS-20
INVENTORY RATING: HS-18
OPERATING RATING: HS-30
WISCONSIN STANDARD PERMIT VEHICLE (WIS-SPV) = 220 KIPS

MATERIAL PROPERTIES:

CONCRETE MASONRY _____ f'_c = 4,000 p.s.i.
HIGH STRENGTH BAR STEEL REINFORCEMENT (GRADE 60) __ f_y = 60,000 p.s.i.

TRAFFIC DATA:

IH 43	MIDDLE ROAD
A.D.T. = 25,000 (2016)	A.D.T. = 100 (2016)
A.D.T. = 29,500 (2036)	A.D.T. = 135 (2036)
R.D.S. = 70 M.P.H.	R.D.S. = 50 M.P.H.

WISCONSIN
DANIEL N. SYDOW
E-38363
WI
PROFESSIONAL ENGINEER
5/21/2015

BRIDGE OFFICE CONTACT:
WILLIAM DREHER
(608)-266-8489

CONSULTANT CONTACT:
DAN SYDOW
(715)-834-3161

NO.	DATE	REVISION	BY

ORIGINAL PLANS PREPARED BY
AYRES ASSOCIATES
3433 Oakwood Hills Parkway
Eau Claire, WI 54701
www.AyresAssociates.com

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

ACCEPTED William C. Dreher SDR 08/18/15
CHIEF STRUCTURES DESIGN ENGINEER DATE

STRUCTURE B-36-69

MIDDLE ROAD OVER IH 43

COUNTY	TOWN/~~CITY/VILLAGE~~
MANITOWOC	MANITOWOC RAPIDS

DESIGN SPEC. REHABILITATION N/A

DESIGNED BY JWZ/JCK	DESIGN CK'D. CJM	DRAWN BY CJM/CLS	PLANS CK'D. DNS

GENERAL PLAN

SHEET 369 OF 5

$PRFNAME$
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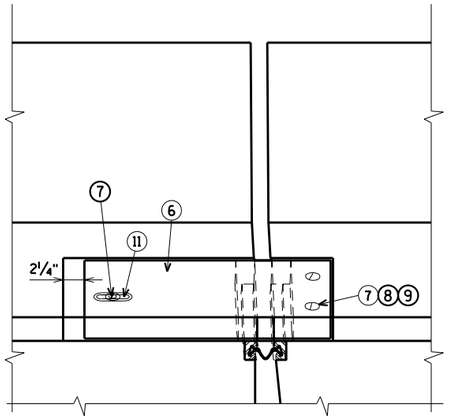
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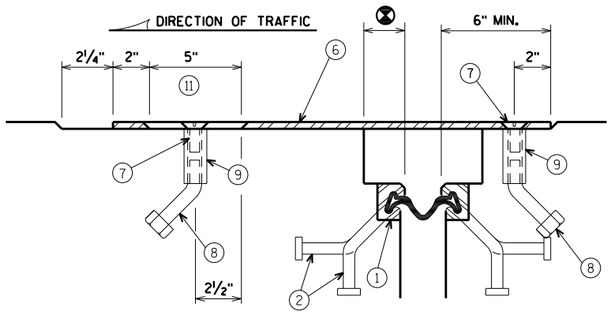
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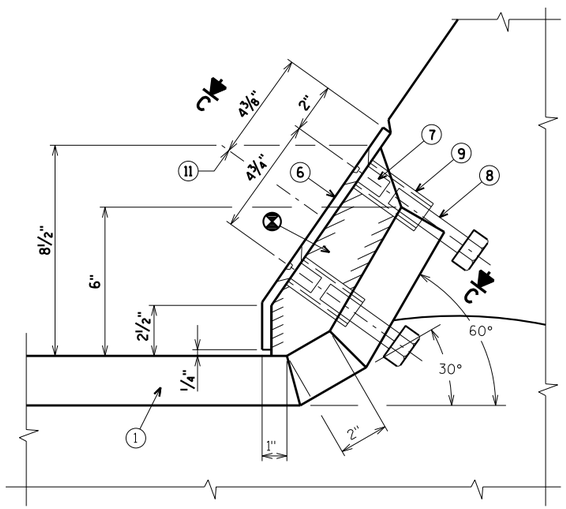
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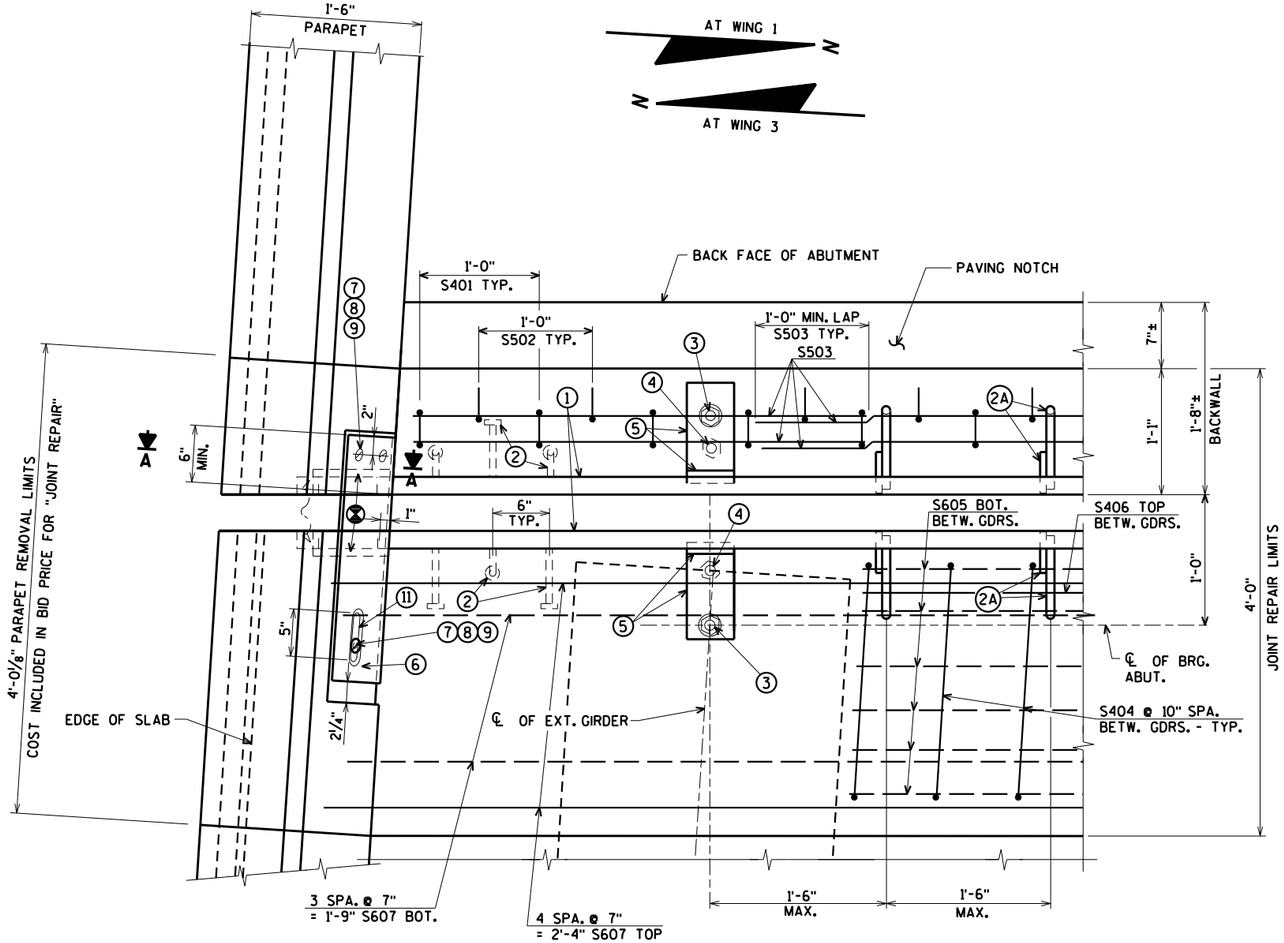
VIEW OF PARAPET PLATES FROM ROADWAY



SECTION C



SECTION A



PART PLAN
AT WINGS 1 & 4

BLOCK OUT CONCRETE 2" EACH SIDE OF JOINT OPENING.

WORK THIS SHEET WITH SHEETS 3, 4 & 5

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-36-69

DRAWN BY CLS | PLANS CK'D. JCK

EXPANSION JOINT DETAILS AT ABUTMENTS

SHEET 2 OF 5
370

ORIGINAL PLANS PREPARED BY
AYRES ASSOCIATES
3433 Oakwood Hills Parkway
Eau Claire, WI 54701
www.AyresAssociates.com

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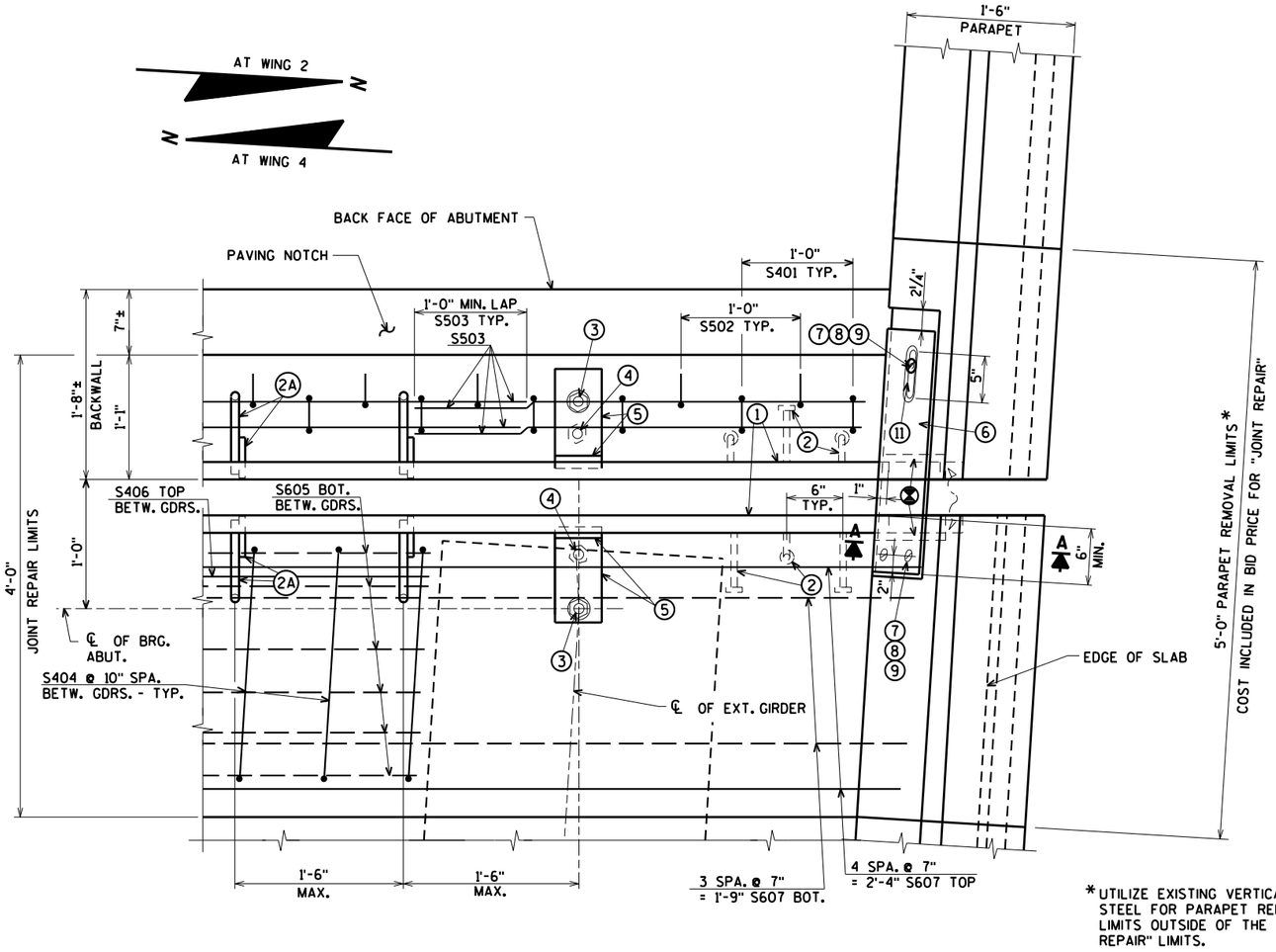
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STATE PROJECT NUMBER

1224-21-71

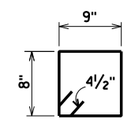
BILL OF BARS

BAR. NO.	COATED BAR	NO. REQ'D.	LENGTH	BENT BAR	BUNDLED BAR SERIES	2,180* COATED LOCATION
S401	X	60	3-4	X		PAVING BLOCK VERT.
S502	X	58	2-11	X		PAVING BLOCK VERT. ANCHOR
S503	X	12	15-5			PAVING BLOCK HORIZ.
S404	X	42	3-9	X		DIAPH. VERT.
S605	X	36	5-6			DIAPH. HORIZ.
S406	X	12	5-6			DIAPH. HORIZ.
S607	X	36	17-7			DECK TRANSVERSE
S508	X	16	4-3	X		PARAPET VERT.
S509	X	26	5-0	X		PARAPET VERT.
S510	X	10	0-9			PARAPET HORIZ. WINGS 1 & 3 APPROACH
S511	X	10	2-4			PARAPET HORIZ. WINGS 1 & 3 STRUCTURE
S512	X	10	1-7			PARAPET HORIZ. WINGS 2 & 4 APPROACH
S513	X	10	2-5			PARAPET HORIZ. WINGS 2 & 4 STRUCTURE

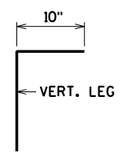


*UTILIZE EXISTING VERTICAL BAR STEEL FOR PARAPET REMOVAL LIMITS OUTSIDE OF THE "JOINT REPAIR" LIMITS.

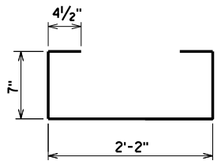
PART PLAN
AT WINGS 2 & 4



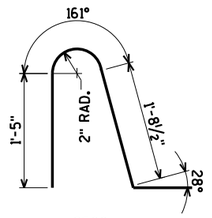
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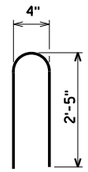
S502



S404



S508



S509

⊗ BLOCK OUT CONCRETE 2" EACH SIDE OF JOINT OPENING.

FOR SECTION A, SEE SHEET 2

WORK THIS SHEET WITH SHEETS 2, 4 & 5

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-36-69

DRAWN BY CLS | PLANS CK'D. JCK

EXPANSION JOINT DETAILS AT ABUTMENTS

SHEET 3 OF 5
371

ORIGINAL PLANS PREPARED BY
AYRES ASSOCIATES
3433 Oakwood Hills Parkway
Eau Claire, WI 54701
www.AyresAssociates.com

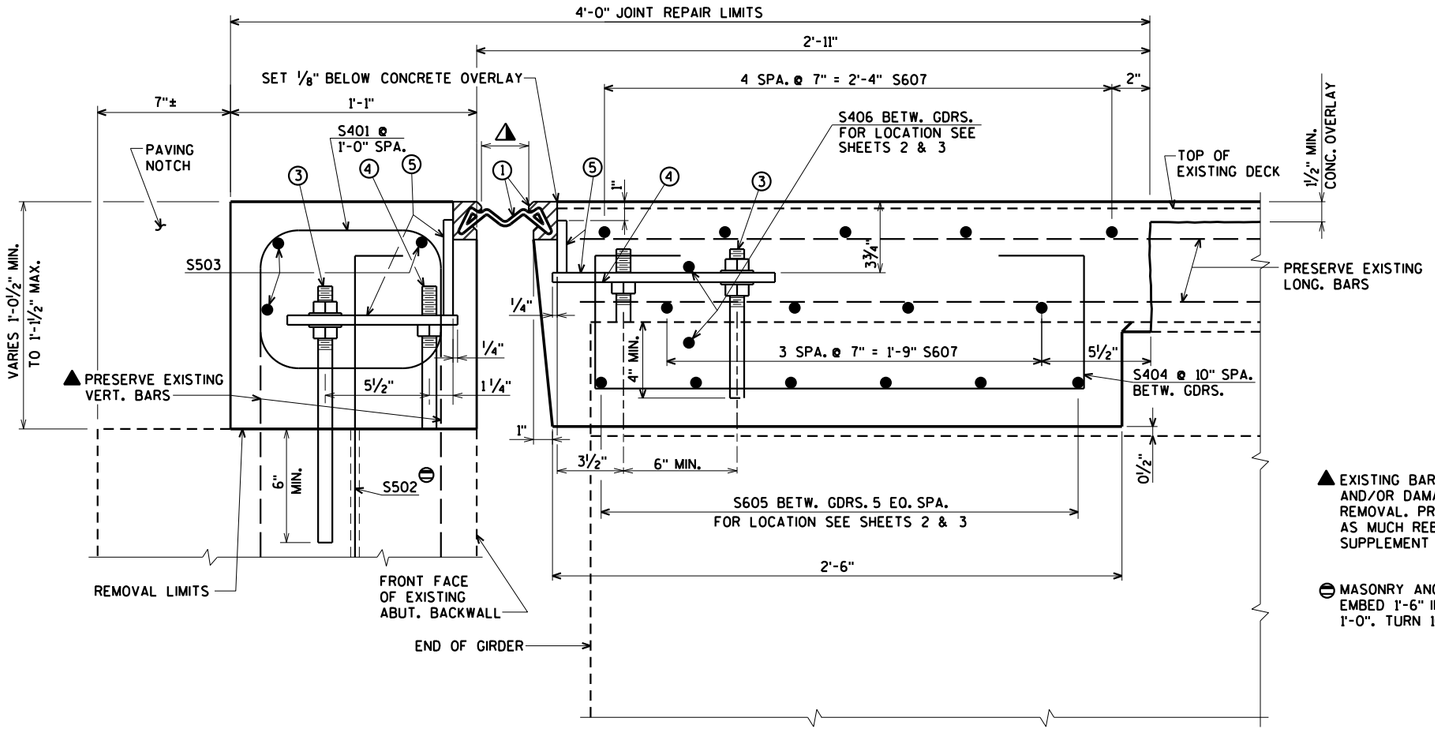
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5/21/2015

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STATE PROJECT NUMBER

1224-21-71



TYPICAL SECTION THRU JOINT

NORMAL TO ℄ SUBSTRUCTURE

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

⊖ MASONRY ANCHORS TYPE L NO. 5 BARS. EMBED 1'-6" INTO CONCRETE. SPACE AT 1'-0". TURN 10" LEG AS NECESSARY TO FIT.

LEGEND

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

2. STUDS ⅝" ϕ X 6⅜" LONG AT 6" ALTERNATE CENTERS. WELD TO EXTRUSIONS & BEND AS SHOWN AFTER WELDING.

2A. ½" THICK ANCHOR PLATE WITH ⅝"ϕ ROD (OR ALTERNATE STRIP SEAL ANCHOR). WELD ROD TO ANCHOR PLATE, WELD ANCHOR PLATE TO #1 AT 1'-6" CTRS. 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. FIELD OR SHOP WELD TO NO. 1. IF FIELD WELDED, COVER WELDED AREAS WITH EPOXY-COATING MATERIAL. PROVIDE 1½" ϕ HOLE FOR NO. 3 & 1" ϕ HOLE FOR NO. 4.

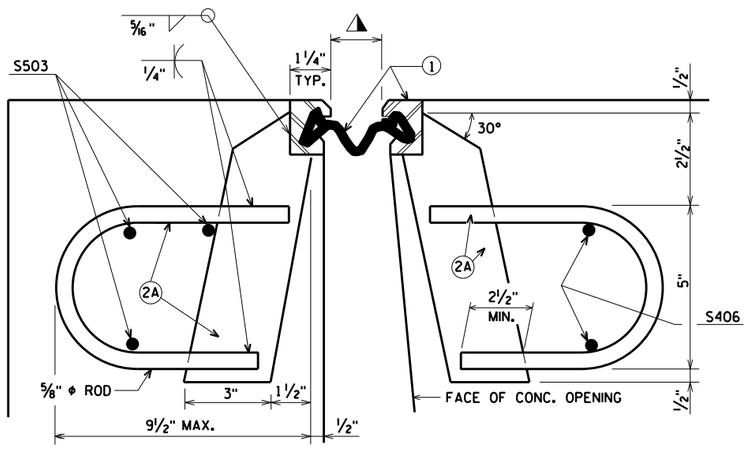
6. GALVANIZED PLATE ⅜" x 10½" x 2'-2" LONG WITH HOLES FOR #7. BEND AS SHOWN.

7. ¾" ϕ x 1½" STAINLESS STEEL SOCKET FLAT HEAD SCREWS WITH ANTI-SEIZE LUBRICANT. PLACE IN COUNTERSUNK HOLES. RECESS 1/16" BELOW PLATE SURFACE.

8. ¾" ϕ x 4" GALV. HEX HEAD BOLT. BEND 45°.

9. ¾" ϕ x 2¼" GALV. THREADED COUPLING.

11. 1" x 5" SLOTTED CSK. HOLE FOR #7. PLACE SLOT PARALLEL TO DIRECTION OF MOVEMENT.

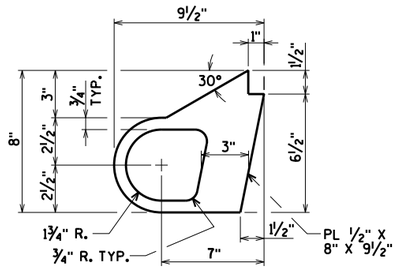


AT PAVING BLOCK AT SLAB

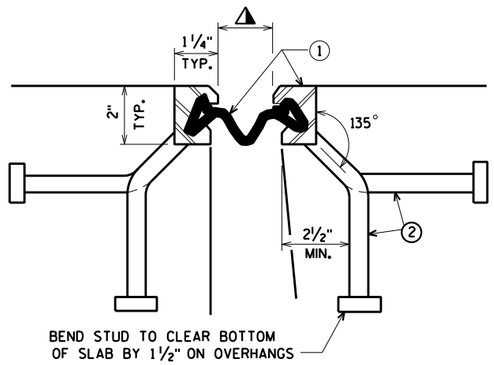
SECTION THRU JOINT

ROADWAY TRAFFIC AREA BETWEEN EXTERIOR GIRDERS.

SYM. ABOUT ℄ JOINT UNLESS OTHERWISE SHOWN OR NOTED.



ALTERNATE STRIP SEAL ANCHOR



SECTION THRU JOINT

EXTERIOR GIRDER TO EDGE OF SLAB & AT PARAPETS.

NOTES

ONE FIELD SPLICE PERMITTED IN STEEL EXTRUSIONS. IF USED, DETAILS SHALL BE SUBMITTED FOR APPROVAL. NO SPLICING PERMITTED IN NEOPRENE STRIP SEAL.

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

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

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

ANCHOR SYSTEM #8 & #9 SHALL CONFORM TO ASTM A307 & SHALL BE GALVANIZED IN ACCORDANCE WITH ASTM A153 CLASS C & D.

STRIP SEAL EXPANSION JOINT ASSEMBLY, INCLUDING ANCHOR STUDS & HARDWARE WILL BE PAID FOR AT THE LUMP SUM PRICE BID FOR "EXPANSION DEVICE B-36-69".

WORK THIS SHEET WITH SHEETS 2 & 3

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-36-69

DRAWN BY CLS | PLANS CK'D. JCK

EXPANSION JOINT DETAILS AT ABUTMENTS

SHEET 4 OF 5
372

ORIGINAL PLANS PREPARED BY
AYRES ASSOCIATES
3433 Oakwood Hills Parkway
Eau Claire, WI 54701
www.AyresAssociates.com

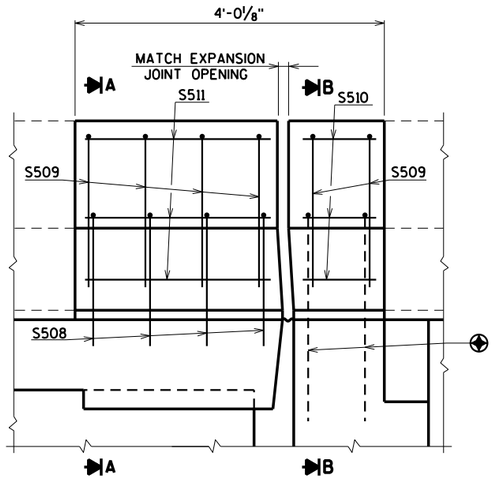
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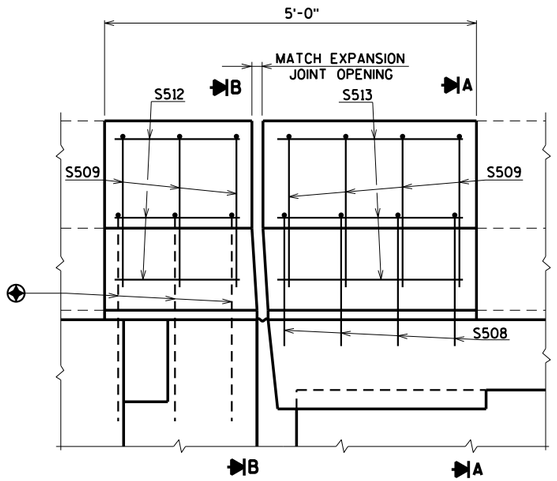
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STATE PROJECT NUMBER

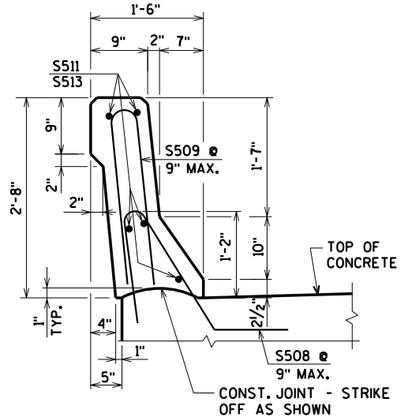
1224-21-71



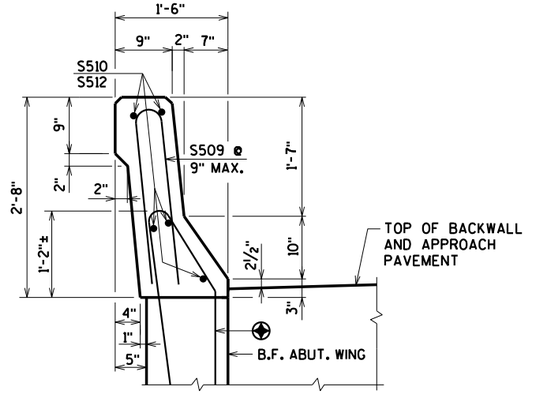
INSIDE ELEVATION
AT WINGS 1 & 3



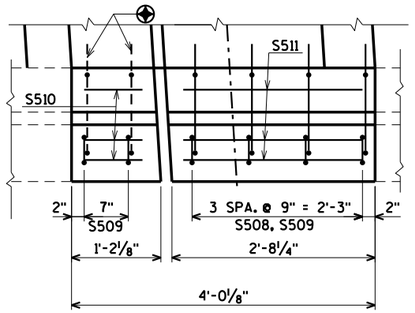
INSIDE ELEVATION
AT WINGS 2 & 4



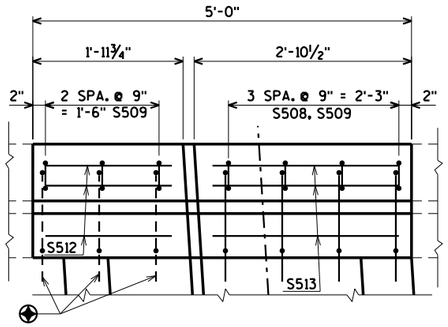
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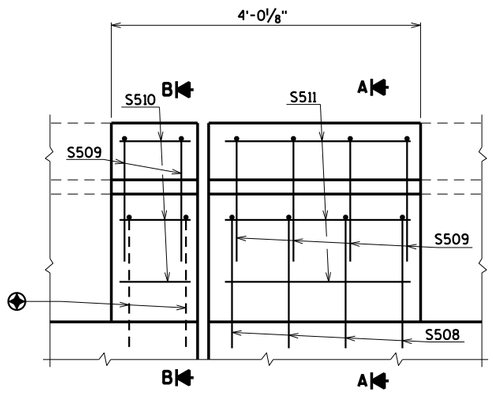
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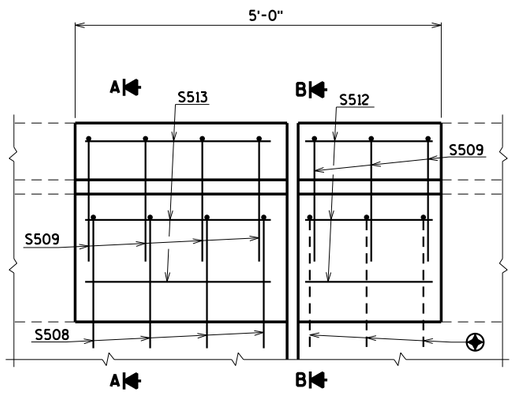
PLAN
AT WINGS 1 & 3



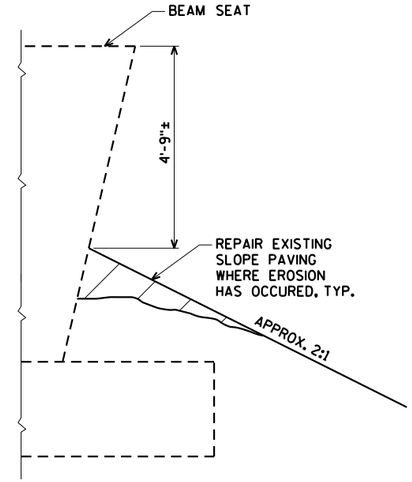
PLAN
AT WINGS 2 & 4



OUTSIDE ELEVATION
AT WINGS 1 & 3



OUTSIDE ELEVATION
AT WINGS 2 & 4



SLOPE PAVING AT EAST ABUTMENT

UTILIZE EXISTING VERTICAL BAR STEEL

WORK THIS SHEET WITH SHEETS 2 & 3

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-36-69

DRAWN BY CLS | PLANS CK'D. JCK

PARAPET AND SLOPE PAVING DETAILS

SHEET 5 OF 5
373

ORIGINAL PLANS PREPARED BY
AYRES ASSOCIATES
3433 Oakwood Hills Parkway
Eau Claire, WI 54701
www.AyresAssociates.com

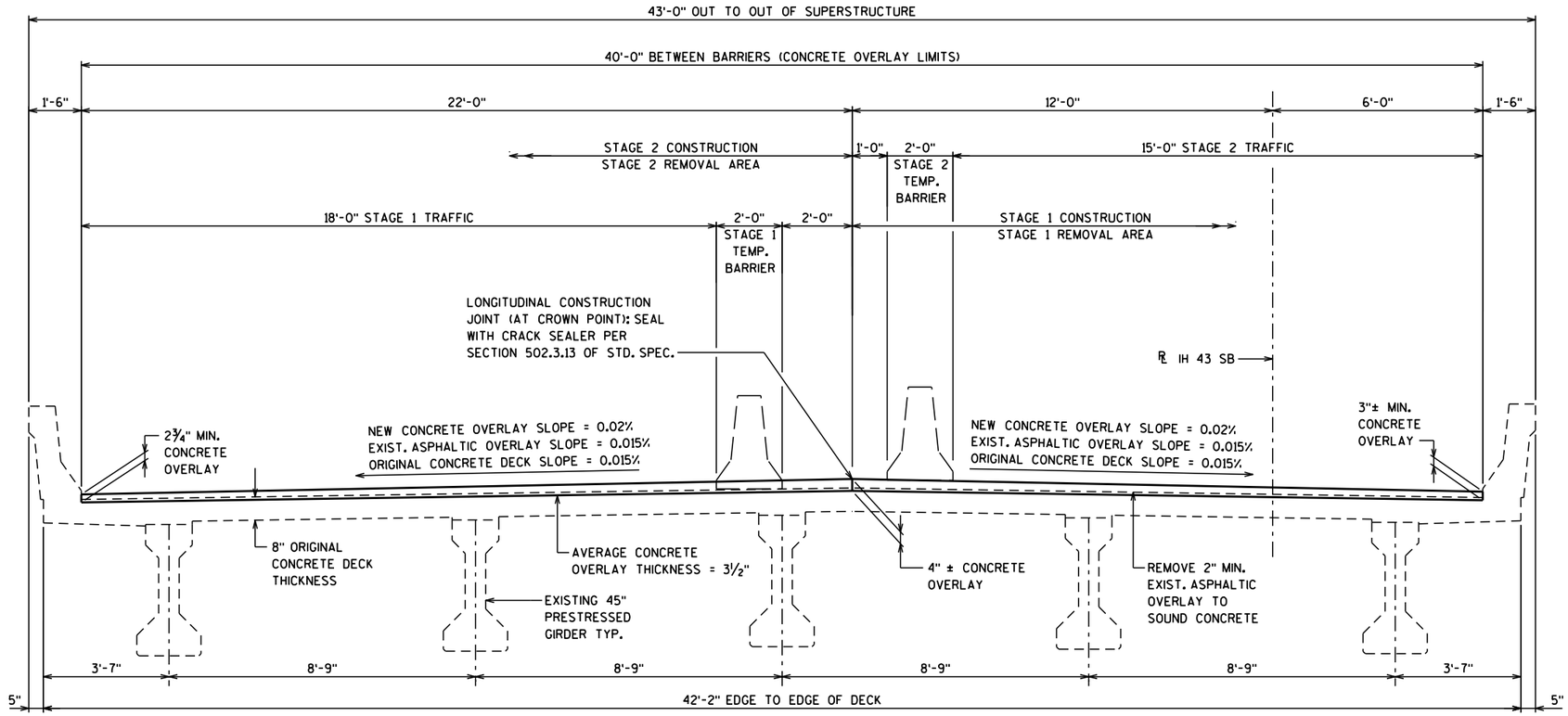
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$PRFNAME$
U:\42-0888.00 - Manitowoc County, IH43 Rehabs\B-36-69\BRIDGE\B-36-69 para.dgn

5/21/2015

PENTABLE:BReau_shd_util.tbl



CROSS SECTION THRU EXISTING ROADWAY

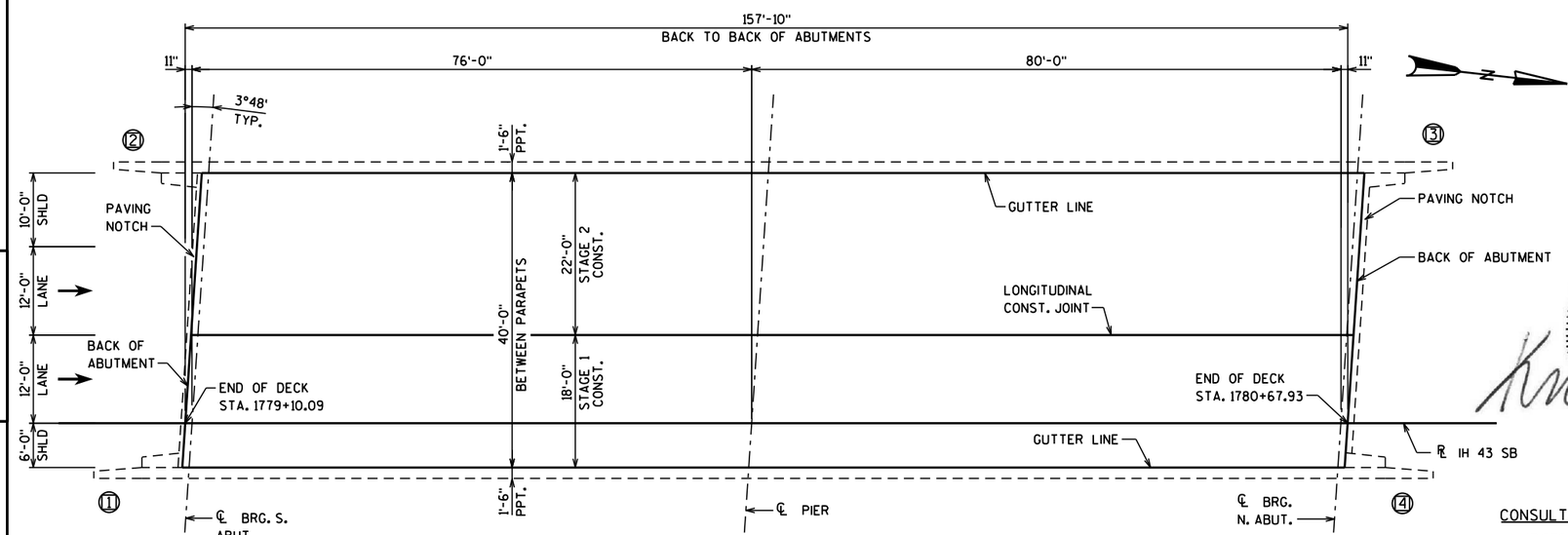
(LOOKING NORTH)

TRAFFIC DATA

ADT = 11,800 (2036)
RDS = 70 M.P.H.

LIST OF DRAWINGS

1. GENERAL PLAN
2. DECK REPAIR



PLAN

GENERAL NOTES

DRAWINGS SHALL NOT BE SCALED.

DIMENSIONS SHOWN ARE BASED ON THE EXISTING ORIGINAL STRUCTURE PLANS.

ANY EXCAVATION NECESSARY TO COMPLETE THE OVERLAY AT THE ABUTMENTS IS TO BE CONSIDERED INCIDENTAL TO THE BID ITEM "CONCRETE MASONRY OVERLAY DECKS".

PROFILE GRADE LINE SHALL BE DETERMINED IN THE FIELD BASED ON A MINIMUM OVERLAY THICKNESS OF 4" AT THE CROWN POINT AND 2¾" AT THE TOE OF THE OUTSIDE PARAPET PLACED ABOVE THE DECK SURFACE AFTER "CLEANING DECKS". EXPECTED AVERAGE OVERLAY THICKNESS IS 3½" (OR AS GIVEN ON THE PLANS). IF EXPECTED AVERAGE OVERLAY THICKNESS IS EXCEEDED BY MORE THAN ½", CONTACT THE STRUCTURES DESIGN SECTION.

THE EXISTING BITUMINOUS ASPHALTIC OVERLAY SHALL BE REMOVED FROM THE BRIDGE DECK UNDER BID ITEM "REMOVING ASPHALTIC CONCRETE DECK OVERLAY".

PREPARATION DECKS TYPE 1, PREPARATION DECKS TYPE 2, CONCRETE SURFACE REPAIR AND FULL-DEPTH DECK REPAIR AREAS SHALL BE DETERMINED BY THE FIELD ENGINEER. "CONCRETE SURFACE REPAIR" TO INCLUDE BUT NOT LIMITED TO THE NORTH ABUTMENT AND EAST PARAPET.

REMOVAL LINES NOT COVERED WITH A CONCRETE OVERLAY SHALL BE DEFINED BY A 1" DEEP SAW CUT AT THE CONCRETE SURFACES.

PROTECTIVE SURFACE TREATMENT SHALL BE APPLIED TO THE ENTIRE TOP SURFACE OF THE NEW CONCRETE OVERLAY. PIGMENTED PROTECTIVE SURFACE TREATMENT SHALL BE APPLIED TO THE ENTIRE FRONT FACES AND TOPS OF BOTH WING & DECK PARAPETS.

A MINIMUM OF 1-INCH OF CONCRETE SHALL BE REMOVED FROM THE ENTIRE BRIDGE DECK UNDER THE BID ITEM "CLEANING DECKS".

TOTAL ESTIMATED QUANTITIES

ITEM NUMBER	BID ITEMS	UNIT	TOTALS
502.3200	PROTECTIVE SURFACE TREATMENT	SY	701
502.3210	PIGMENTED SURFACE SEALER	SY	139
509.0301	PREPARATION DECKS TYPE 1	SY	107
509.0302	PREPARATION DECKS TYPE 2	SY	54
509.0500	CLEANING DECKS	SY	701
509.1500	CONCRETE SURFACE REPAIR	SF	74
509.2000	FULL-DEPTH DECK REPAIR	SY	1
☆ 509.2500	CONCRETE MASONRY OVERLAY DECKS	CY	77
509.9010.S	REMOVING ASPHALTIC CONCRETE DECK OVERLAY (B-36-70)	SY	701
509.9050.S	CLEANING PARAPETS	LF	364

☆ BID ITEM ALSO INCLUDES CONCRETE FOR:
"PREPARATION DECKS TYPE 1"
"PREPARATION DECKS TYPE 2"
"FULL-DEPTH DECK REPAIR"

DESIGN DATA

LIVE LOAD:
INVENTORY RATING: HS-14
OPERATING RATING: HS-21
WISCONSIN STANDARD PERMIT VEHICLE (Wis-SPV): 250 KIPS

MATERIAL PROPERTIES:
CONCRETE MASONRY
OVERLAY DECKS: f'c = 4,000 p.s.i.

WISCONSIN KRISTOFER R. OLSON E-35236 APPLETON, WI PROFESSIONAL ENGINEER
7/22/15

CONSULTANT CONTACT
KRISTOFER OLSON
OMNNI ASSOCIATES
(920) 735-6900

BRIDGE OFFICE CONTACT
WILLIAM DREHER
(608) 266-8489

STATE PROJECT NUMBER
1224-21-71

NO.	DATE	REVISION	BY

ORIGINAL PLANS PREPARED BY
OMNNI ASSOCIATES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
ACCEPTED William C. Dreher SDR 08/18/15
CHIEF STRUCTURES DESIGN ENGINEER DATE

STRUCTURE B-36-70

IH 43 SB OVER USH 10/STH 42/CTH JJ

COUNTY MANITOWOC | TOWN MANITOWOC RAPIDS

DESIGN SPEC.
REHABILITATION N/A

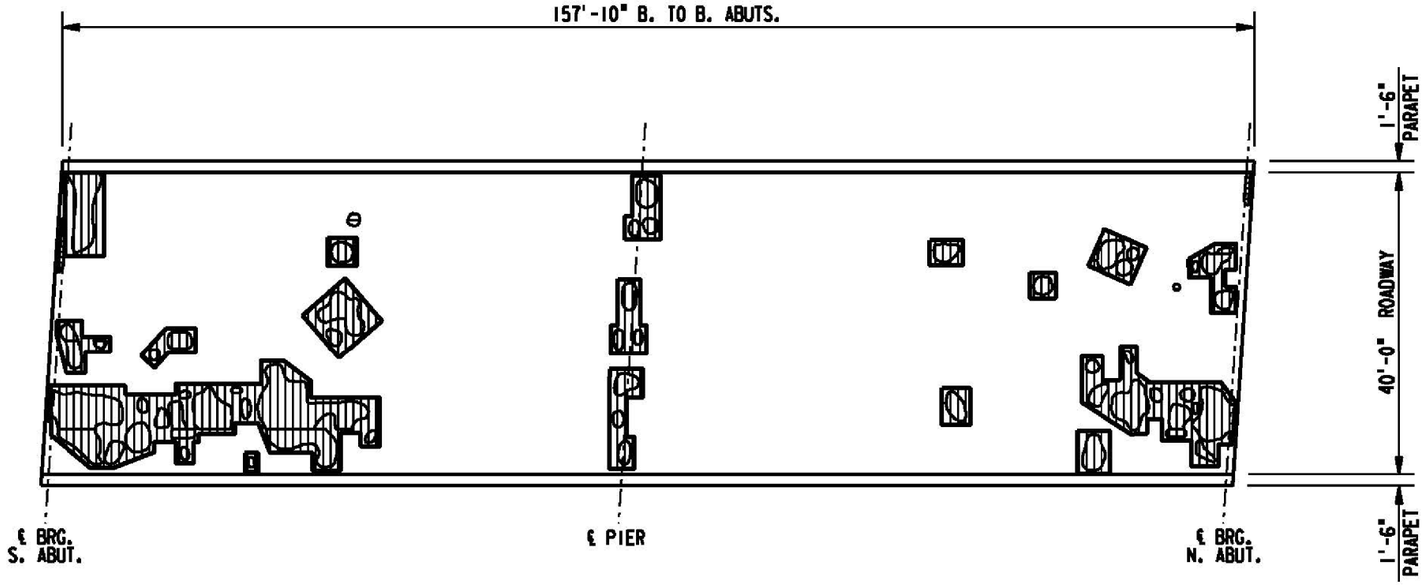
DESIGNED BY	BRE	DESIGN CK'D.	KRO	DRAWN BY	BRE	PLANS CK'D.	KRO

GENERAL PLAN

SHEET 1 OF 2

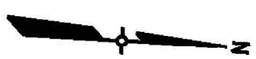
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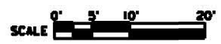
STATE PROJECT NUMBER
1224-21-71



PLAN

PROPOSED REHAB AREAS





FIELD OBSERVATIONS SUMMARY		STRUCTURE NO. B-36-70	
ITEM	UNIT	QUANT.	%
TOTAL AREA	yd^2	701.3	
SHADE/DEBRIS	yd^2	0	
PREPARATION, DECKS, TYPE 1	yd^2	107.2	15.3
PREPARATION, DECKS, TYPE 2	yd^2	53.6	7.6
FULL DEPTH DECK REPAIR	yd^2	1.0	0.1

LEGEND	
DECK PREPARATION AREA	DELAMINATION
SHADE/DEBRIS	SPALL
	DEBOND
	ASPHALT PATCH
	CONCRETE PATCH

SURFACE TYPE: BITUMINOUS OVERLAY
INFRARED INSPECTION DATE: 7/10/2014

8

8

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-36-70

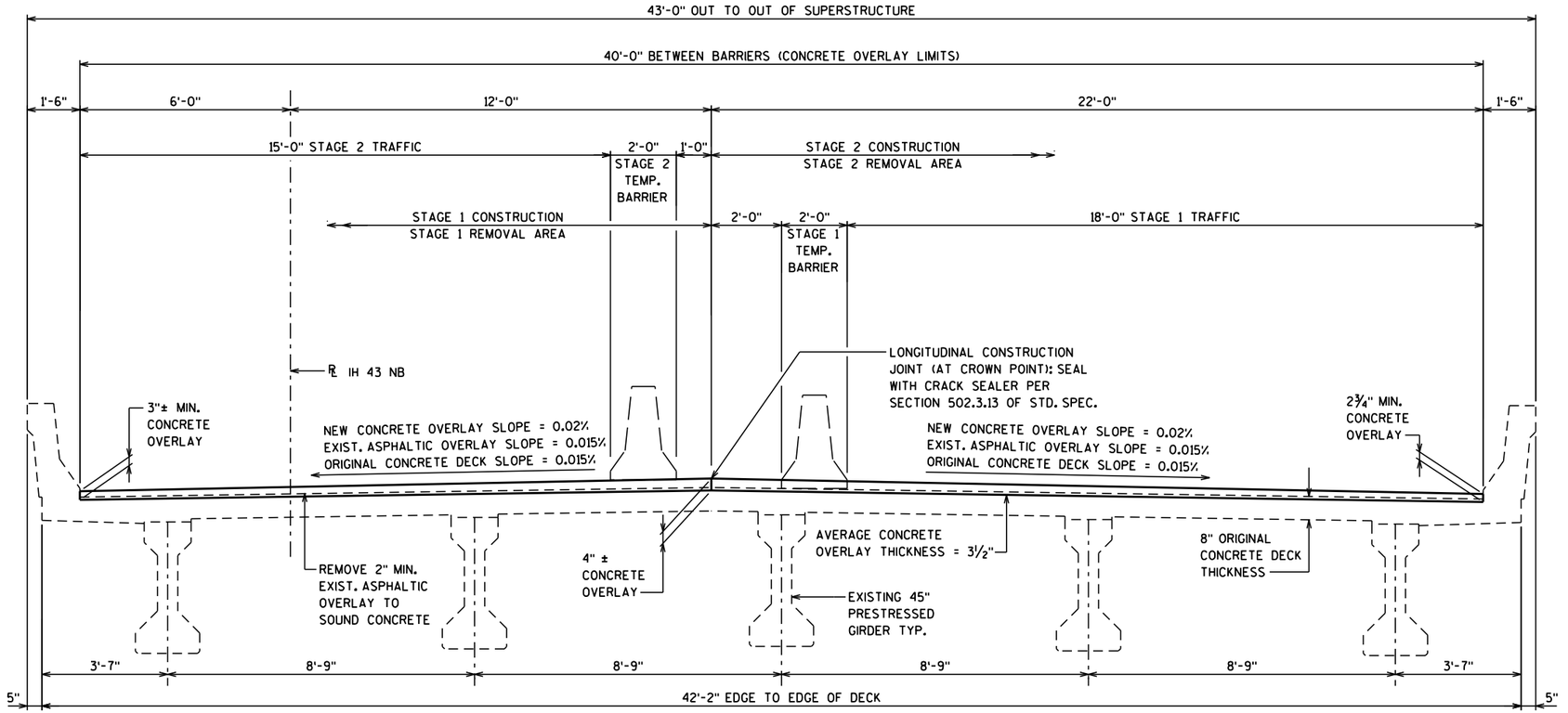
DRAWN BY BRE | PLANS CK'D. KRO

DECK REPAIR

SHEET 2 OF 2

375

FILE NAME : F:±TR±JOBS±E2041A12±Sheets±Bridges±B-36-70±B-36-70 02 deck repair.dgn PLOT BY : epleyb PLOT DATE: 12/2/2014 9:07:32 AM



CROSS SECTION THRU EXISTING ROADWAY

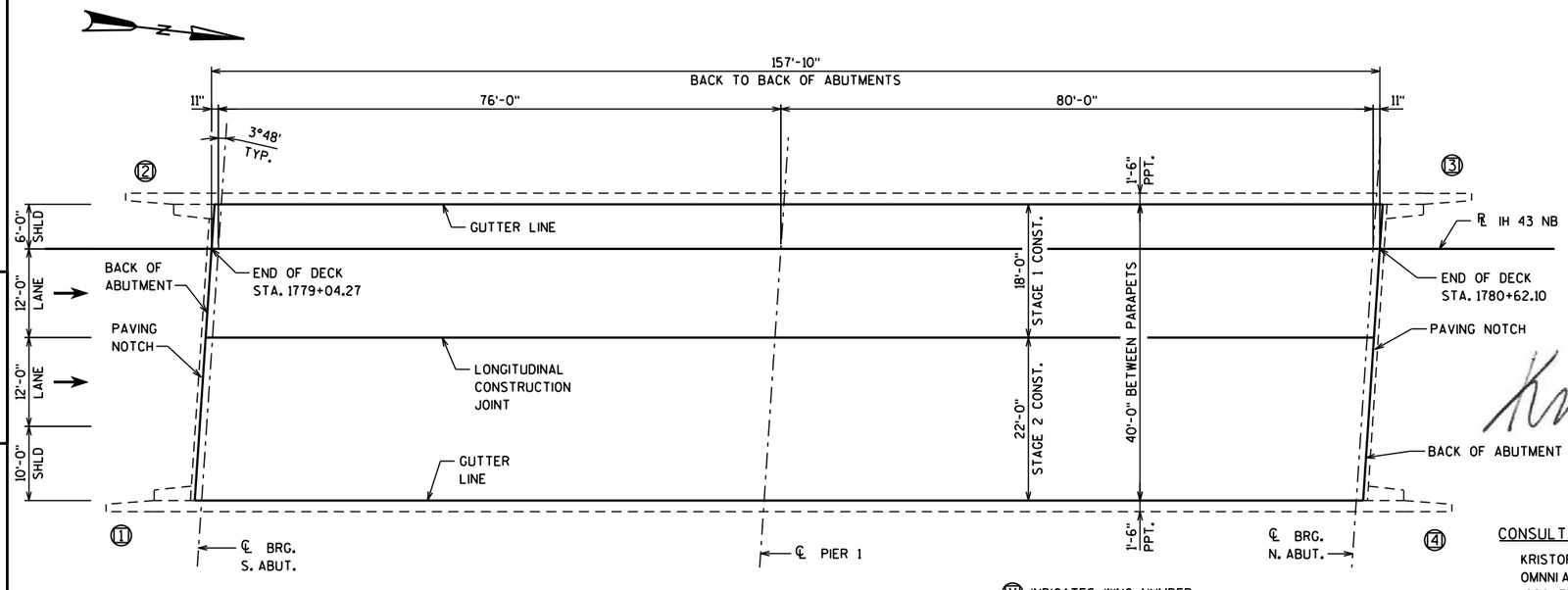
(LOOKING NORTH)

TRAFFIC DATA

ADT = 11,800 (2036)
RDS = 70 M.P.H.

LIST OF DRAWINGS

1. GENERAL PLAN
2. DECK REPAIR



PLAN

(X) INDICATES WING NUMBER

GENERAL NOTES

DRAWINGS SHALL NOT BE SCALED.

DIMENSIONS SHOWN ARE BASED ON THE EXISTING ORIGINAL STRUCTURE PLANS.

ANY EXCAVATION NECESSARY TO COMPLETE THE OVERLAY AT THE ABUTMENTS IS TO BE CONSIDERED INCIDENTAL TO THE BID ITEM "CONCRETE MASONRY OVERLAY DECKS".

PROFILE GRADE LINE SHALL BE DETERMINED IN THE FIELD BASED ON A MINIMUM OVERLAY THICKNESS OF 4" AT THE CROWN POINT AND 2¾" AT THE TOE OF THE OUTSIDE PARAPET PLACED ABOVE THE DECK SURFACE AFTER "CLEANING DECKS". EXPECTED AVERAGE OVERLAY THICKNESS IS 3½" (OR AS GIVEN ON THE PLANS). IF EXPECTED AVERAGE OVERLAY THICKNESS IS EXCEEDED BY MORE THAN ½", CONTACT THE STRUCTURES DESIGN SECTION.

THE EXISTING BITUMINOUS ASPHALTIC OVERLAY SHALL BE REMOVED FROM THE BRIDGE DECK UNDER BID ITEM "REMOVING ASPHALTIC CONCRETE DECK OVERLAY".

PREPARATION DECKS TYPE 1, PREPARATION DECKS TYPE 2, CONCRETE SURFACE REPAIR AND FULL-DEPTH DECK REPAIR AREAS SHALL BE DETERMINED BY THE FIELD ENGINEER. "CONCRETE SURFACE REPAIR" TO INCLUDE BUT NOT LIMITED TO THE NORTH & SOUTH ABUTMENT, AND WEST & EAST PARAPETS.

REMOVAL LINES NOT COVERED WITH A CONCRETE OVERLAY SHALL BE DEFINED BY A 1" DEEP SAW CUT AT THE CONCRETE SURFACES.

PROTECTIVE SURFACE TREATMENT SHALL BE APPLIED TO THE ENTIRE TOP SURFACE OF THE NEW CONCRETE OVERLAY. PIGMENTED PROTECTIVE SURFACE TREATMENT SHALL BE APPLIED TO THE ENTIRE FRONT FACES AND TOPS OF BOTH WING & DECK PARAPETS.

A MINIMUM OF 1-INCH OF CONCRETE SHALL BE REMOVED FROM THE ENTIRE BRIDGE DECK UNDER THE BID ITEM "CLEANING DECKS".

TOTAL ESTIMATED QUANTITIES

	ITEM NUMBER	BID ITEMS	UNIT	TOTALS
	502.3200	PROTECTIVE SURFACE TREATMENT	SY	701
	502.3210	PIGMENTED SURFACE SEALER	SY	140
	509.0301	PREPARATION DECKS TYPE 1	SY	49
	509.0302	PREPARATION DECKS TYPE 2	SY	12
	509.0500	CLEANING DECKS	SY	701
	509.1500	CONCRETE SURFACE REPAIR	SF	81
	509.2000	FULL-DEPTH DECK REPAIR	SY	1
☆	509.2500	CONCRETE MASONRY OVERLAY DECKS	CY	72
	509.9010.S	REMOVING ASPHALTIC CONCRETE DECK OVERLAY (B-36-71)	SY	701
	509.9050.S	CLEANING PARAPETS	LF	364

☆ BID ITEM ALSO INCLUDES CONCRETE FOR:
"PREPARATION DECKS TYPE 1"
"PREPARATION DECKS TYPE 2"
"FULL-DEPTH DECK REPAIR"

DESIGN DATA

LIVE LOAD:
INVENTORY RATING: HS-14
OPERATING RATING: HS-21
WISCONSIN STANDARD PERMIT VEHICLE (Wis-SPV): 250 KIPS

MATERIAL PROPERTIES:
CONCRETE MASONRY
OVERLAY DECKS: f'c = 4,000 p.s.i.

WISCONSIN
KRISTOFER R. OLSON
E-35236
APPLETON, WI
PROFESSIONAL ENGINEER
7/22/15

CONSULTANT CONTACT
KRISTOFER OLSON
OMNNI ASSOCIATES
(920) 735-6900

BRIDGE OFFICE CONTACT
WILLIAM DREHER
(608) 266-8489

NO.	DATE	REVISION	BY

ORIGINAL PLANS PREPARED BY
OMNNI ASSOCIATES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
ACCEPTED William C. Dreher SDR 08/18/15
CHIEF STRUCTURES DESIGN ENGINEER DATE

STATE PROJECT NUMBER
1224-21-71

STRUCTURE B-36-71

IH 43 NB OVER USH 10/STH 42/CTH JJ

COUNTY MANITOWOC | TOWN MANITOWOC RAPIDS

DESIGN SPEC. REHABILITATION N/A

DESIGNED BY	DESIGN CK'D.	DRAWN BY	PLANS CK'D.
BRE	KRO	BRE	KRO

GENERAL PLAN

SHEET 1 OF 2

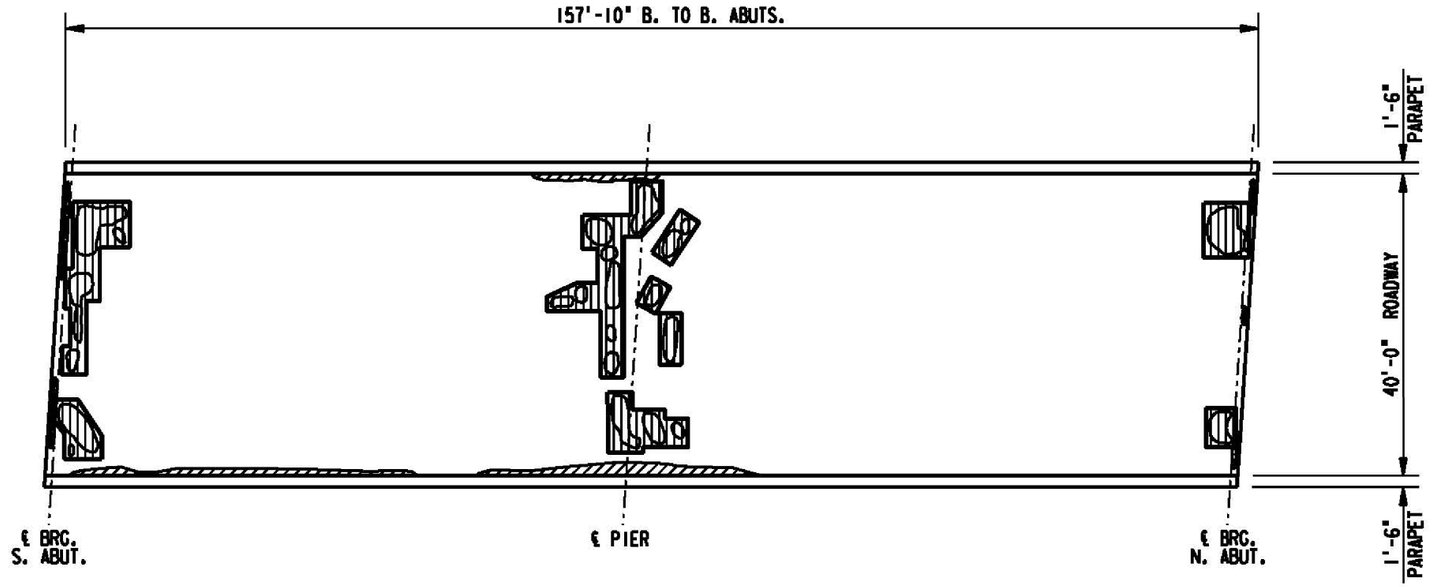
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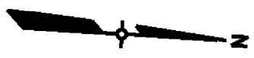
FILE NAME : F:±TR±JOBS±E2041A12±Sheets±Bridges±B-36-71±B-36-71 01 gp.dgn PLOT BY : epleyb PLOT DATE: 7/22/2015 10:14:13 AM

STATE PROJECT NUMBER
1224-21-71



PLAN

PROPOSED REHAB AREAS





FIELD OBSERVATIONS SUMMARY		STRUCTURE NO. B-36-71	
ITEM	UNIT	QUANT.	%
TOTAL AREA	yd^2	701.3	
SHADE/DEBRIS	yd^2	10.4	
PREPARATION, DECKS, TYPE 1	yd^2	49.1	7.1
PREPARATION, DECKS, TYPE 2	yd^2	12.3	1.8
FULL DEPTH DECK REPAIR	yd^2	1.0	0.1

LEGEND

DECK PREPARATION AREA

SHADE/DEBRIS

DELAMINATION
SPALL
DEBOND
ASPHALT PATCH
CONCRETE PATCH

SURFACE TYPE: BITUMINOUS OVERLAY
INFRARED INSPECTION DATE: 7/10/2014

8

8

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-36-71

DRAWN BY BRE | PLANS CK'D. KRO

DECK REPAIR

SHEET 2 OF 2

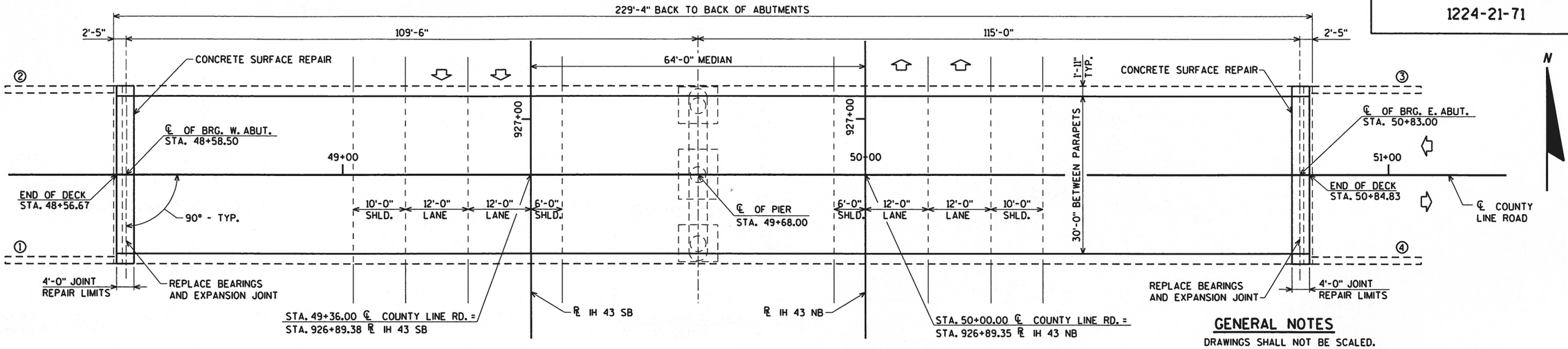
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FILE NAME : F:±TR±JOBS±E2041A12±Sheets±Bridges±B-36-71±B-36-71 02 deck repair.dgn PLOT BY : epleyb PLOT DATE: 12/2/2014 10:07:09 AM

$PRFNAME$
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DATE:
DATE:
DATE:
CHECKED BY:
BACK CHECKED BY:
CORRECTED BY:

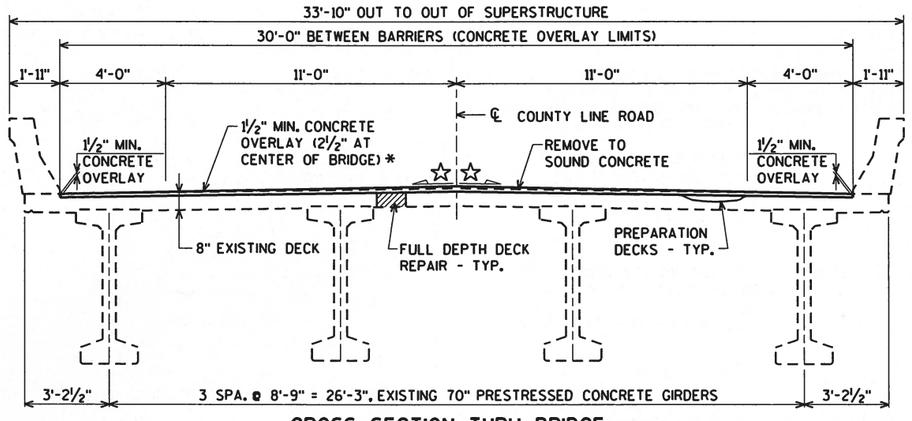
STATE PROJECT NUMBER

1224-21-71



PLAN

2-SPAN 70" PRESTRESSED CONCRETE GIRDER BRIDGE CONCRETE OVERLAY



CROSS SECTION THRU BRIDGE

(LOOKING EAST)

LEGEND

* THE PROPOSED OVERLAY THICKNESS VARIES FROM A MINIMUM OF 1½" AT THE PARAPETS TO 2½" AT THE CROWN. THE MINIMUM AVERAGE OVERLAY THICKNESS IS 2". THE EXPECTED AVERAGE OVERLAY THICKNESS IS 2½".

△ BID ITEM ALSO INCLUDES CONCRETE FOR:
"PREPARATION DECKS TYPE 1"
"PREPARATION DECKS TYPE 2"
"FULL-DEPTH DECK REPAIR"
"JOINT REPAIR"

☆ NEW CONCRETE OVERLAY SLOPE = 0.02 ⅋
CURRENT DECK SLOPE = 0.015 ⅋

◯ DENOTES WING NUMBER.

LIST OF DRAWINGS

1. GENERAL PLAN
2. EXPANSION JOINT DETAILS AT ABUTMENTS
3. EXPANSION JOINT DETAILS AT ABUTMENTS
4. EXPANSION JOINT DETAILS AT ABUTMENTS
5. EXPANSION BEARING REPLACEMENT DETAILS
6. PARAPET DETAILS

GENERAL NOTES

DRAWINGS SHALL NOT BE SCALED.

DIMENSIONS SHOWN ARE BASED ON ORIGINAL STRUCTURE PLANS.

A MINIMUM OF 1-INCH OF CONCRETE SHALL BE REMOVED FROM THE ENTIRE BRIDGE DECK UNDER THE BID ITEM "CLEANING DECKS".

ANY EXCAVATION NECESSARY TO COMPLETE THE OVERLAY OR JOINT REPAIR AT THE ABUTMENTS IS CONSIDERED INCIDENTAL TO THE BID ITEM "CONCRETE MASONRY OVERLAY DECKS".

REMOVAL LINES NOT COVERED WITH A CONCRETE OVERLAY SHALL BE DEFINED BY A 1" DEEP SAW CUT AT THE CONCRETE SURFACES.

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

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

PREPARATION DECKS TYPE 1, PREPARATION DECKS TYPE 2, CONCRETE SURFACE REPAIR AND FULL DEPTH DECK REPAIR AREAS SHALL BE DETERMINED BY THE FIELD ENGINEER.

APPLY BRIDGE SEAT PROTECTION, AS PER SECTION 502.3.12 OF THE STANDARD SPECIFICATIONS, TO THE TOP SURFACES OF BOTH ABUTMENTS BELOW EXPANSION DEVICES. POWER WASH AND ADEQUATELY DRY SURFACES BEFORE APPLICATION. WORK TO BE INCIDENTAL TO "JOINT REPAIR".

PROFILE GRADE LINE SHALL BE DETERMINED IN THE FIELD BASED ON A MINIMUM OVERLAY THICKNESS OF 1½" PLACED ABOVE THE DECK SURFACE AFTER "CLEANING DECKS". EXPECTED AVERAGE OVERLAY THICKNESS IS 2½". IF EXPECTED AVERAGE OVERLAY THICKNESS IS EXCEEDED BY MORE THAN ½", CONTACT THE STRUCTURES DESIGN SECTION.

CLEAN FULL LENGTH OF PARAPETS ACCORDING TO STSP ITEM 509.9050.S "CLEANING PARAPETS".

PROTECTIVE SURFACE TREATMENT IS TO BE APPLIED TO THE TOP OF THE OVERLAY AND PIGMENTED SURFACE SEALER IS TO BE APPLIED TO THE TOP AND INSIDE FACE OF PARAPETS.

PARAPET JOINTS TO BE RE-SEALED WITH NON-STAINING GRAY NON-BITUMINOUS JOINT SEALER (1" DEEP AND HOLD ⅛" BELOW SURFACE OF CONCRETE). WORK CONSIDERED INCIDENTAL TO "JOINT REPAIR".

TOTAL ESTIMATED QUANTITIES

	BID ITEM NUMBER	BID ITEMS	UNIT	TOTAL
	502.0100	CONCRETE MASONRY BRIDGES	CY	2
	502.3100	EXPANSION DEVICE B-36-74	LS	1
	502.3200	PROTECTIVE SURFACE TREATMENT	SY	765
	502.3210	PIGMENTED SURFACE SEALER	SY	230
	502.5005	MASONRY ANCHOR TYPE L NO. 5 BARS	EACH	58
	505.0600	BAR STEEL REINFORCEMENT HS COATED STRUCTURES	LB	2360
	506.2610	BEARING PADS ELASTOMERIC LAMINATED	EACH	8
	506.7050.S	REMOVING BEARINGS B-36-74	EACH	8
	509.0301	PREPARATION DECKS TYPE 1	SY	8
	509.0302	PREPARATION DECKS TYPE 2	SY	3
	509.0500	CLEANING DECKS	SY	740
	509.1000	JOINT REPAIR	SY	31
	509.1500	CONCRETE SURFACE REPAIR	SF	10
	509.2000	FULL-DEPTH DECK REPAIR	SY	2
△	509.2500	CONCRETE MASONRY OVERLAY DECKS	CY	64
	509.9050.S	CLEANING PARAPETS	LF	540

DESIGN DATA

LIVE LOAD:

DESIGN LOADING: HS-20
INVENTORY RATING: HS-17
OPERATING RATING: HS-29
WISCONSIN STANDARD PERMIT VEHICLE (WIS-SPV) = 190 KIPS

MATERIAL PROPERTIES:

CONCRETE MASONRY _____ f'_c = 4,000 p.s.i.
HIGH STRENGTH BAR STEEL REINFORCEMENT (GRADE 60) f_y = 60,000 p.s.i.

TRAFFIC DATA:

IH 43	COUNTY LINE ROAD
A.D.T. = 25,000 (2016)	A.D.T. = 250 (2016)
A.D.T. = 29,500 (2036)	A.D.T. = 340 (2036)
R.D.S. = 70 M.P.H.	R.D.S. = 50 M.P.H.

WISCONSIN
DANIEL N. SYDOW
E-38363
WI
PROFESSIONAL ENGINEER
5/21/2015

BRIDGE OFFICE CONTACT:
WILLIAM DREHER
(608)-266-8489

CONSULTANT CONTACT:
DAN SYDOW
(715)-834-3161

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STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

ACCEPTED William C. Dreher SDR 08/18/15
CHIEF STRUCTURES DESIGN ENGINEER — DATE

STRUCTURE B-36-74

COUNTY LINE ROAD OVER IH 43

COUNTY	TOWN/~~CITY/VILLAGE~~
MANITOWOC	CENTERVILLE

DESIGN SPEC. REHABILITATION N/A

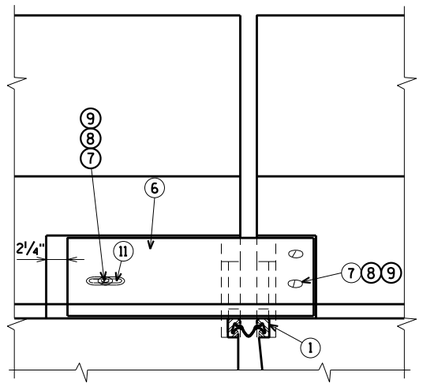
DESIGNED BY JWZ/JCK	DESIGN CK'D. CJM	DRAWN BY CJM/CLS	PLANS CK'D. DNS

GENERAL PLAN

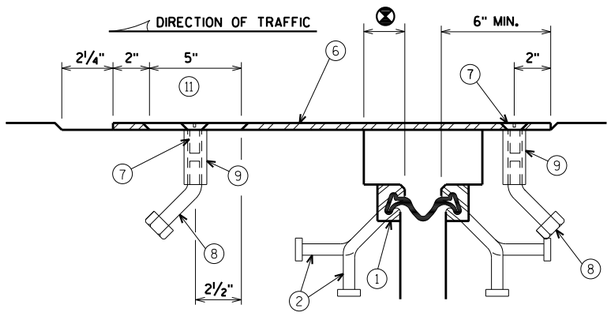
SHEET 378 OF 6

8

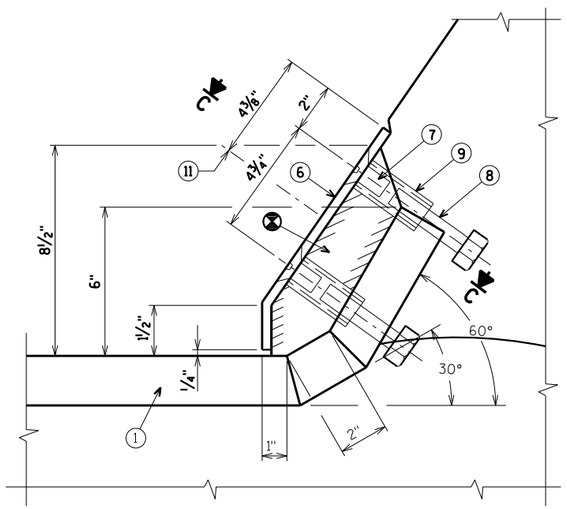
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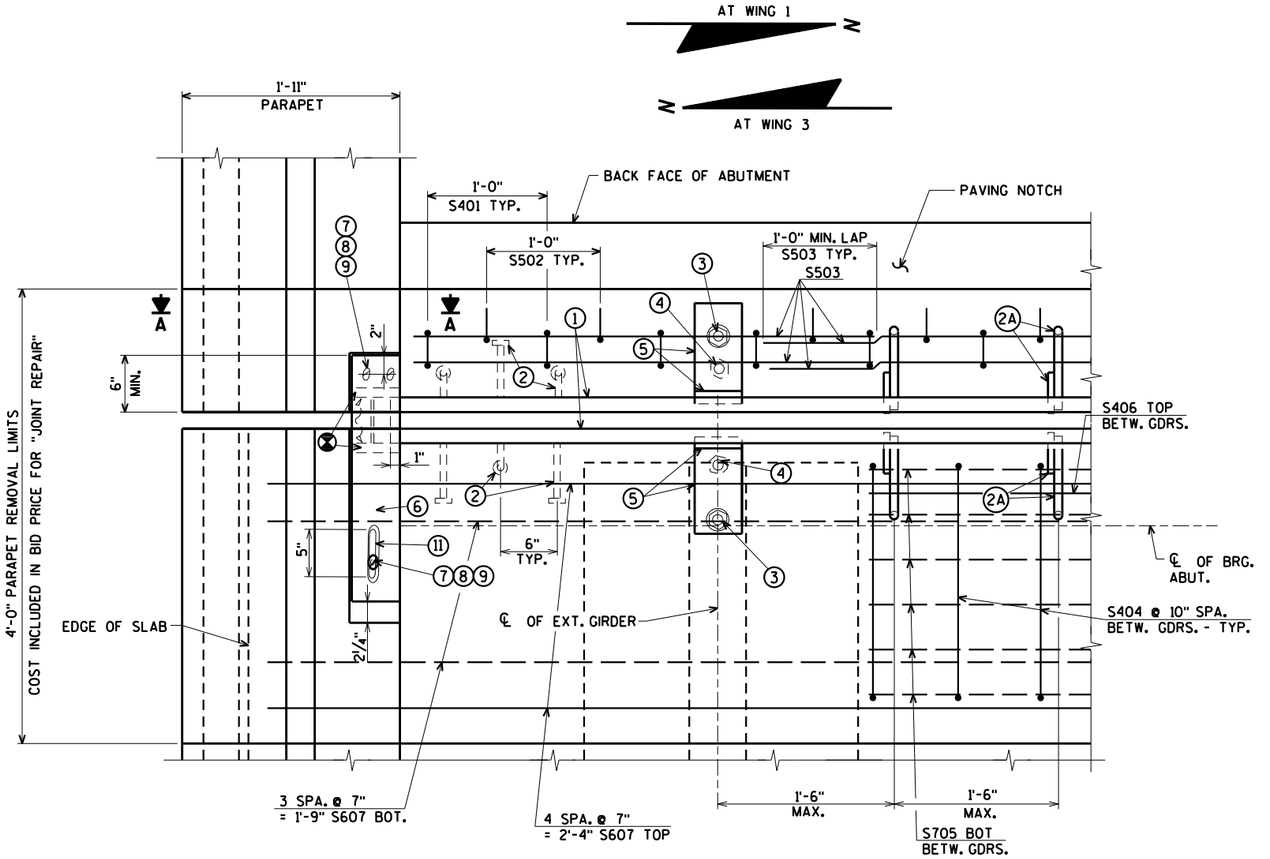
VIEW OF PARAPET PLATES FROM ROADWAY



SECTION C



SECTION A



PART PLAN
AT WINGS 1 & 3

BLOCK OUT CONCRETE 2" EACH SIDE OF JOINT OPENING.

WORK THIS SHEET WITH SHEETS 3, 4 & 5

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STRUCTURE B-36-74

DRAWN BY CLS | PLANS CK'D. JCK

EXPANSION JOINT DETAILS AT ABUTMENTS

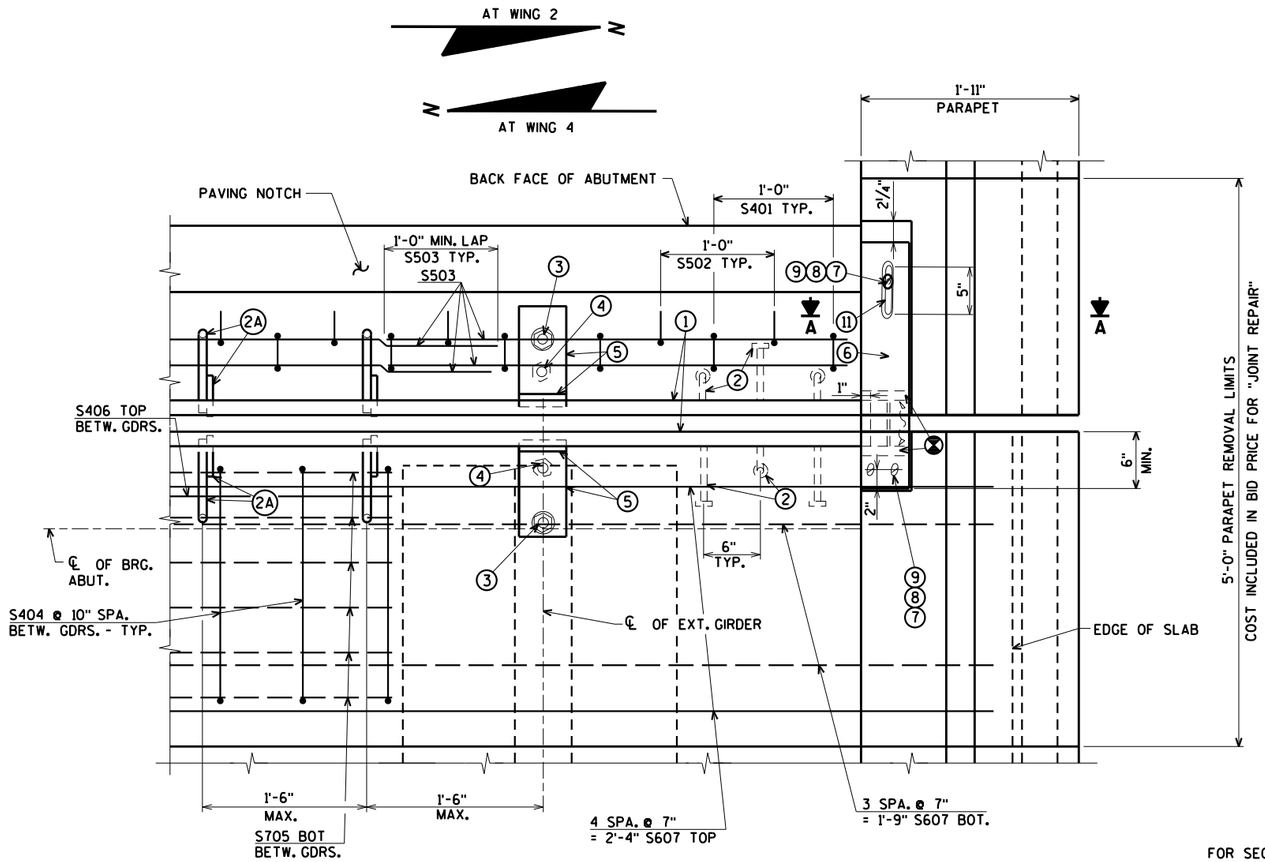
SHEET 2 OF 6
379

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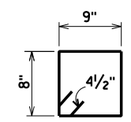


FOR SECTION A, SEE SHEET 2

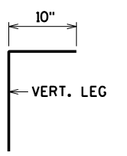
PART PLAN
AT WINGS 1 & 3

BILL OF BARS

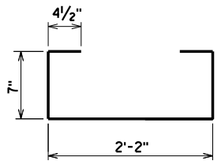
BAR. NO.	COATED BAR	NO. REQ'D.	LENGTH	BENT BAR	BUNDLED BAR SERIES	2,360# COATED LOCATION
S401	X	60	3-4	X		PAVING BLOCK VERT.
S502	X	58	3-1	X		PAVING BLOCK VERT. ANCHOR
S503	X	12	15-4			PAVING BLOCK HORIZ.
S404	X	48	3-9	X		DIAPH. VERT.
S705	X	36	5-11			DIAPH. HORIZ.
S406	X	12	5-11			DIAPH. HORIZ.
S607	X	36	17-11			DECK TRANSVERSE
S508	X	12	4-9	X		PARAPET VERT.
S509	X	26	5-0	X		PARAPET VERT.
S510	X	10	0-9			PARAPET HORIZ. WINGS 1 & 3 APPROACH
S511	X	10	2-5			PARAPET HORIZ. WINGS 1 & 3 STRUCTURE
S512	X	10	1-9			PARAPET HORIZ. WINGS 2 & 4 APPROACH
S513	X	10	2-5			PARAPET HORIZ. WINGS 2 & 4 STRUCTURE



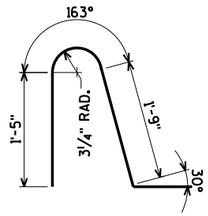
S401



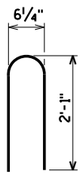
S502



S404



S508



S509

BLOCK OUT CONCRETE 2" EACH SIDE OF JOINT OPENING.

WORK THIS SHEET WITH SHEETS 2, 4 & 5

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-36-74

DRAWN BY CLS | PLANS CK'D. JCK

EXPANSION JOINT DETAILS AT ABUTMENTS

SHEET 3 OF 6
380

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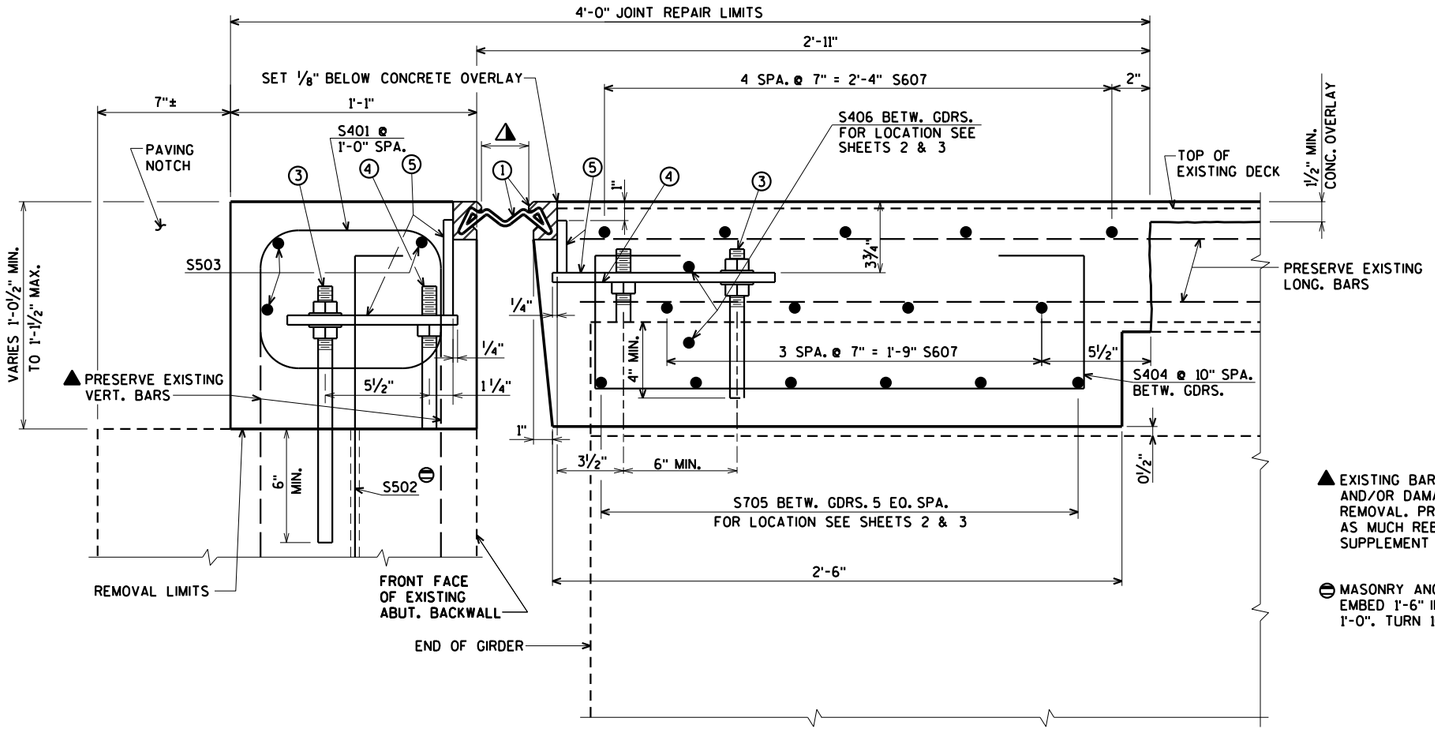
PENTABLE:BReau_shd_util.tbl

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8

STATE PROJECT NUMBER

1224-21-71



TYPICAL SECTION THRU JOINT

NORMAL TO ℄ SUBSTRUCTURE

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

⊖ MASONRY ANCHORS TYPE L NO. 5 BARS. EMBED 1'-6" INTO CONCRETE. SPACE AT 1'-0". TURN 10" LEG AS NECESSARY TO FIT.

LEGEND

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

2. STUDS ⅝" ϕ X 6⅜" LONG AT 6" ALTERNATE CENTERS. WELD TO EXTRUSIONS & BEND AS SHOWN AFTER WELDING.

2A. ½" THICK ANCHOR PLATE WITH ⅝"ϕ ROD (OR ALTERNATE STRIP SEAL ANCHOR). WELD ROD TO ANCHOR PLATE, WELD ANCHOR PLATE TO #1 AT 1'-6" CTRS. 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. FIELD OR SHOP WELD TO NO. 1. IF FIELD WELDED, COVER WELDED AREAS WITH EPOXY-COATING MATERIAL. PROVIDE 1½" ϕ HOLE FOR NO. 3 & 1" ϕ HOLE FOR NO. 4.

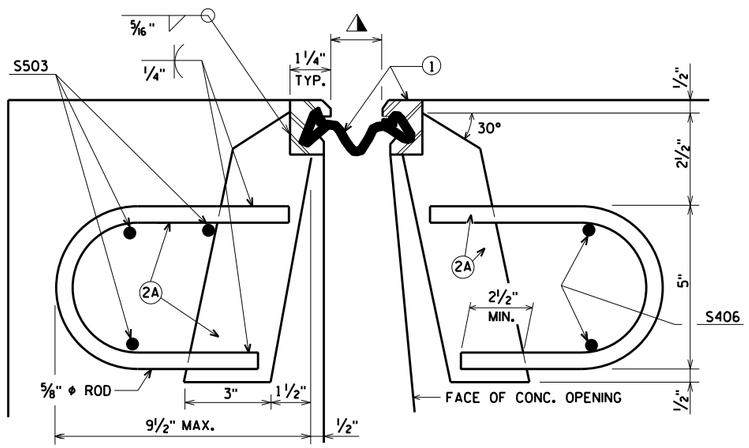
6. GALVANIZED PLATE ⅜" x 10½" x 2'-2" LONG WITH HOLES FOR #7. BEND AS SHOWN.

7. ¾" ϕ x 1½" STAINLESS STEEL SOCKET FLAT HEAD SCREWS WITH ANTI-SEIZE LUBRICANT. PLACE IN COUNTERSUNK HOLES. RECESS 1/16" BELOW PLATE SURFACE.

8. ¾" ϕ x 4" GALV. HEX HEAD BOLT. BEND 45°.

9. ¾" ϕ x 2¼" GALV. THREADED COUPLING.

11. 1" x 5" SLOTTED CSK. HOLE FOR #7. PLACE SLOT PARALLEL TO DIRECTION OF MOVEMENT.

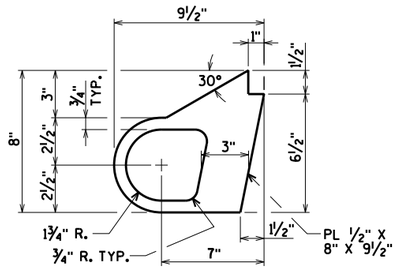


AT PAVING BLOCK AT SLAB

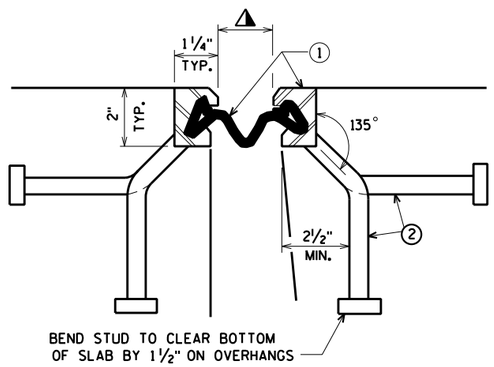
SECTION THRU JOINT

ROADWAY TRAFFIC AREA BETWEEN EXTERIOR GIRDERS.

SYM. ABOUT ℄ JOINT UNLESS OTHERWISE SHOWN OR NOTED.



ALTERNATE STRIP SEAL ANCHOR



SECTION THRU JOINT

EXTERIOR GIRDER TO EDGE OF SLAB & AT PARAPETS.

NOTES

ONE FIELD SPLICE PERMITTED IN STEEL EXTRUSIONS. IF USED, DETAILS SHALL BE SUBMITTED FOR APPROVAL. NO SPLICING PERMITTED IN NEOPRENE STRIP SEAL.

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

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

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

ANCHOR SYSTEM #8 & #9 SHALL CONFORM TO ASTM A307 & SHALL BE GALVANIZED IN ACCORDANCE WITH ASTM A153 CLASS C & D.

STRIP SEAL EXPANSION JOINT ASSEMBLY, INCLUDING ANCHOR STUDS & HARDWARE WILL BE PAID FOR AT THE LUMP SUM PRICE BID FOR "EXPANSION DEVICE B-36-74".

WORK THIS SHEET WITH SHEETS 2 & 3

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-36-74

DRAWN BY CLS | PLANS CK'D. JCK

EXPANSION JOINT DETAILS AT ABUTMENTS

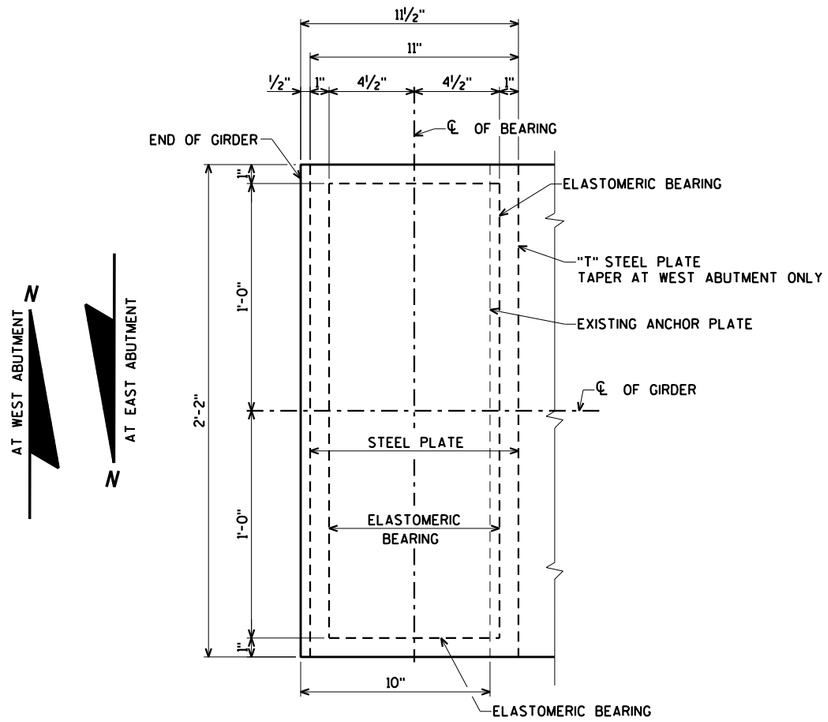
SHEET 4 OF 6
381

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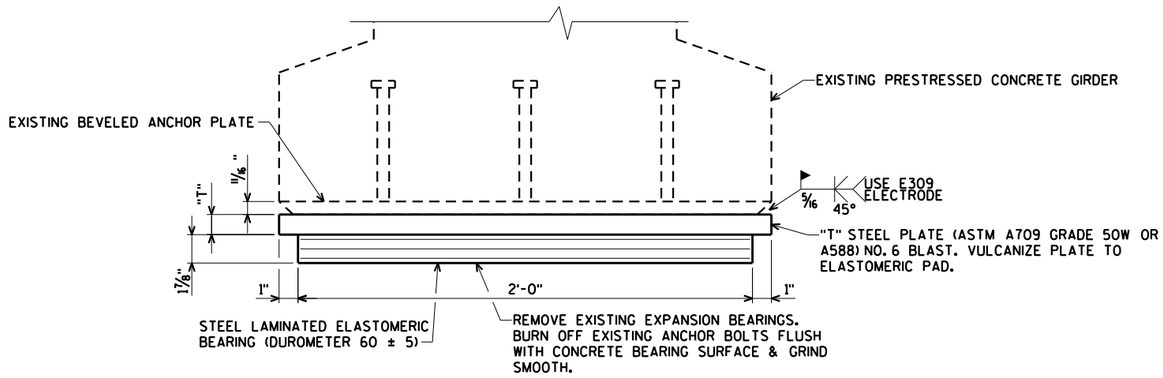
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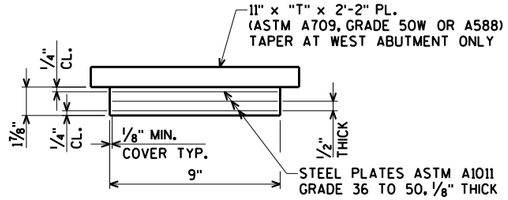
8



PLAN VIEW



FRONT ELEVATION



SECTION THRU ELASTOMERIC BEARING

NOTES

ALL MATERIAL USED FOR BEARINGS SHALL BE PAID AT THE UNIT PRICE BID FOR "BEARING PADS ELASTOMERIC LAMINATED".

GRIND EXISTING WELD THAT ATTACHED EXISTING TOP PLATE TO EXISTING BOTTOM FLANGE. GRIND AFFECTED AREAS SMOOTH.

COMPRESSION LOAD AND ADHESION TESTS ARE WAIVED.

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

ALL PLATE CUTS SHALL BE MACHINE OR MACHINE FLAME CUTS.

PLATE THICKNESS "T" EQUALS 1 11/16 " AT THE EAST ABUTMENT.

PLATE THICKNESS "T" VARIES AT THE WEST ABUTMENT FROM 1 7/8" MAX AT THE EAST EDGE TO 1 11/16 " MIN AT THE WEST EDGE.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-36-74

DRAWN BY JCK | PLANS CK'D. CJM

EXP. BEARING REPLACEMENT DETAILS

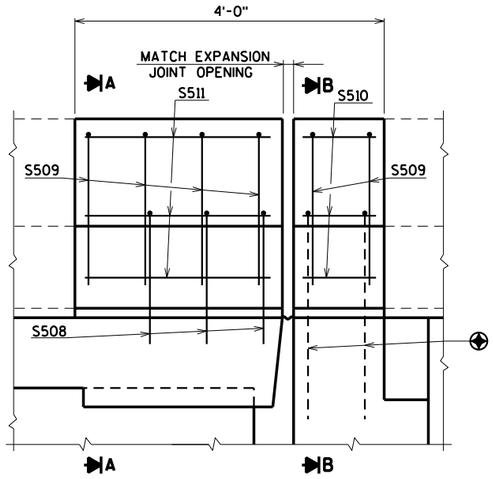
SHEET 5 OF 6
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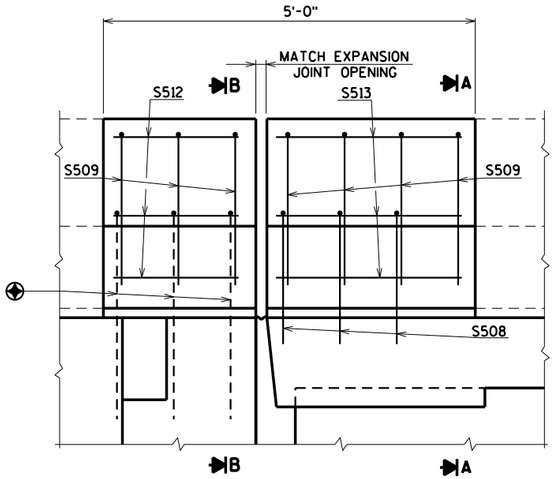
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STATE PROJECT NUMBER

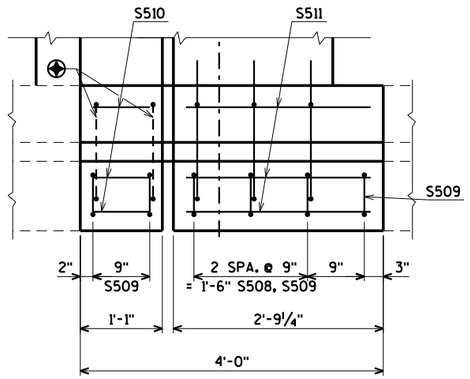
1224-21-71



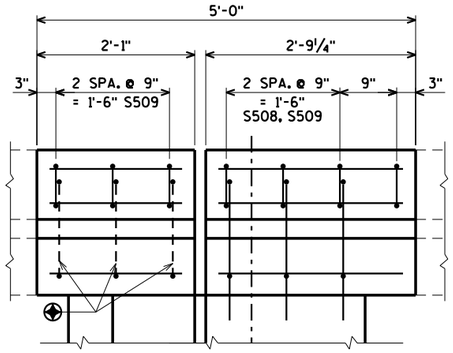
INSIDE ELEVATION
AT WINGS 1 & 3



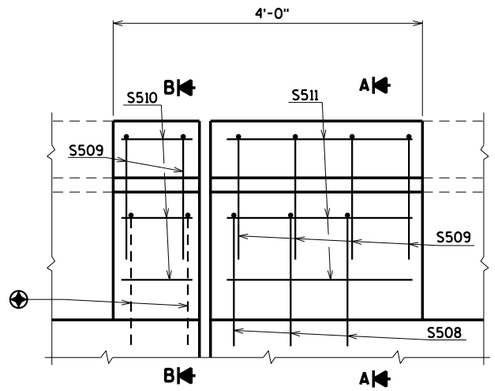
INSIDE ELEVATION
AT WINGS 2 & 4



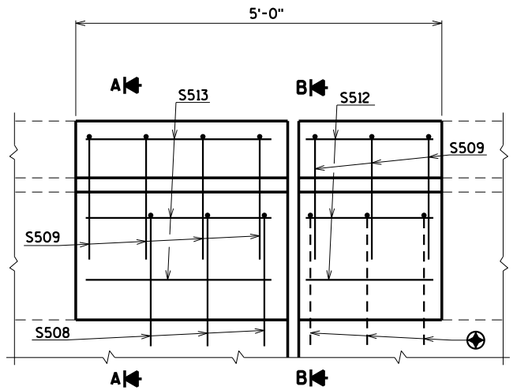
PLAN
AT WINGS 1 & 3



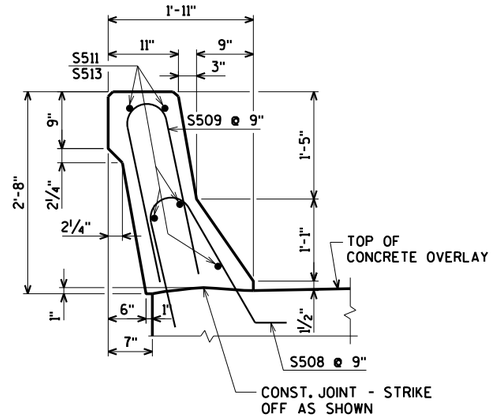
PLAN
AT WINGS 2 & 4



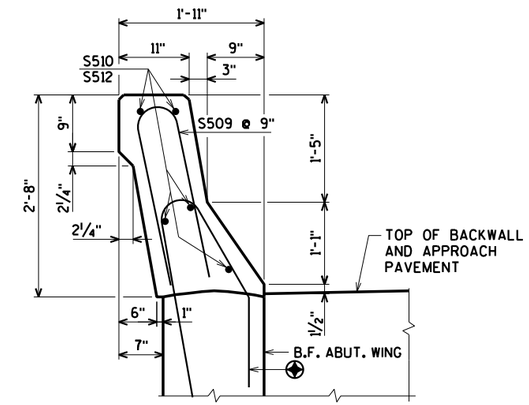
OUTSIDE ELEVATION
AT WINGS 1 & 3



OUTSIDE ELEVATION
AT WINGS 2 & 4



SECTION A



SECTION B

UTILIZE EXISTING VERTICAL BAR STEEL

WORK THIS SHEET WITH SHEETS 2 & 3

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-36-74

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PARAPET DETAILS

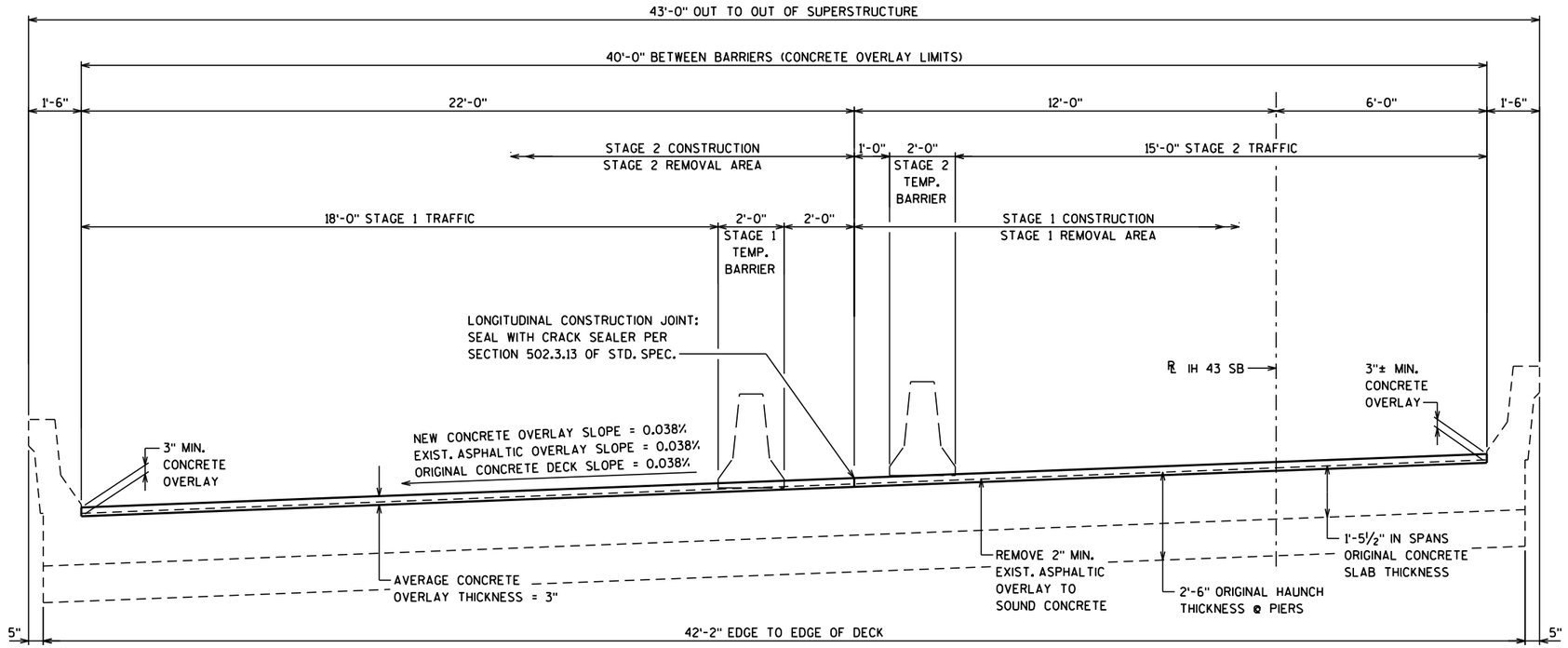
SHEET 6 OF 6
383

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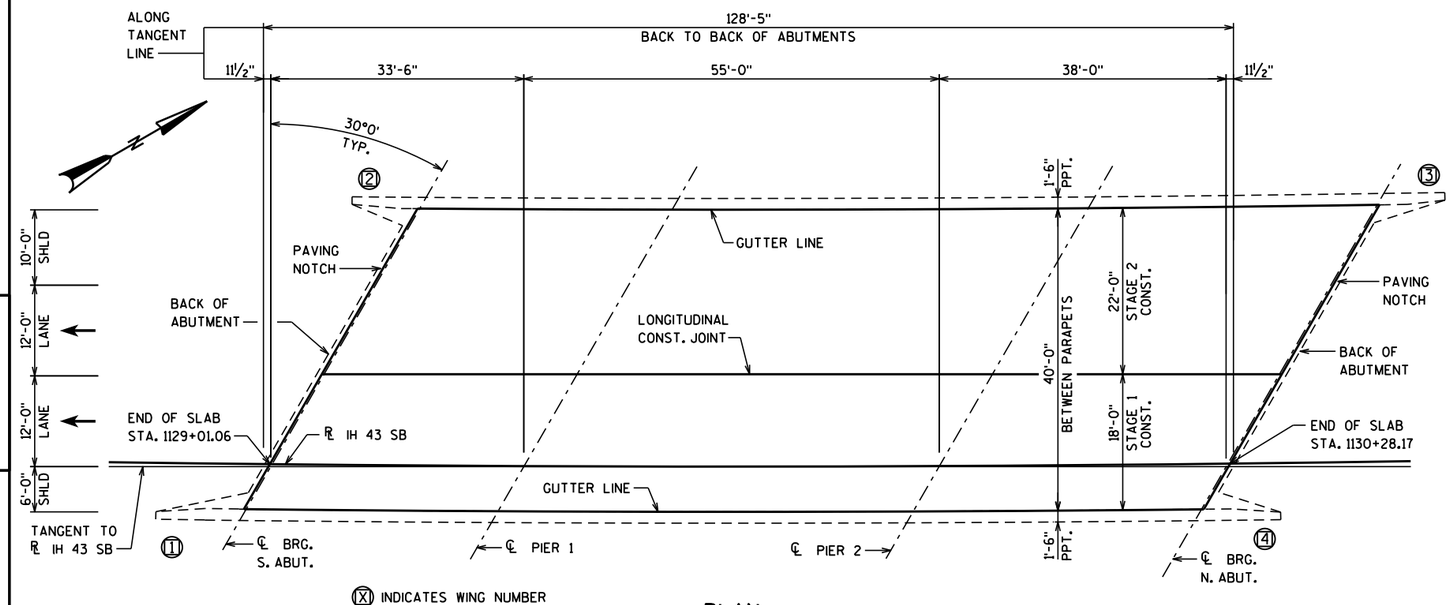
NOTE: ALL WIDTH DIMENSIONS ON CROSS SECTION ARE RADIAL TO THE CURVE.

CROSS SECTION THRU EXISTING ROADWAY

(LOOKING NORTH)

TRAFFIC DATA

ADT = 11,800 (2036)
RDS = 70 M.P.H.



PLAN

CURVE DATA

I-43 SB LANE

P.I. = STA 1133+72.95
△ = 31°20'47"
D = 1°00'00"
T = 1607.62'
L = 3134.64'
R = 5729.58'
S.E. = 0.038%
R.O. = 200'

GENERAL NOTES

STATE PROJECT NUMBER
1224-21-71

DRAWINGS SHALL NOT BE SCALED.

DIMENSIONS SHOWN ARE BASED ON THE EXISTING ORIGINAL STRUCTURE PLANS.

ANY EXCAVATION NECESSARY TO COMPLETE THE OVERLAY AT THE ABUTMENTS IS TO BE CONSIDERED INCIDENTAL TO THE BID ITEM "CONCRETE MASONRY OVERLAY DECKS".

PROFILE GRADE LINE SHALL BE DETERMINED IN THE FIELD BASED ON A MINIMUM OVERLAY THICKNESS OF 3" PLACED ABOVE THE DECK SURFACE AFTER "CLEANING DECKS". EXPECTED AVERAGE OVERLAY THICKNESS IS 3" (OR AS GIVEN ON THE PLANS). IF EXPECTED AVERAGE OVERLAY THICKNESS IS EXCEEDED BY MORE THAN ½", CONTACT THE STRUCTURES DESIGN SECTION.

THE EXISTING BITUMINOUS ASPHALTIC OVERLAY SHALL BE REMOVED FROM THE BRIDGE DECK UNDER BID ITEM "REMOVING ASPHALTIC CONCRETE DECK OVERLAY".

PREPARATION DECKS TYPE 1, PREPARATION DECKS TYPE 2, CONCRETE SURFACE REPAIR AND FULL-DEPTH DECK REPAIR AREAS SHALL BE DETERMINED BY THE FIELD ENGINEER. "CONCRETE SURFACE REPAIR" TO INCLUDE BUT NOT LIMITED TO THE NORTH ABUTMENT AND WEST PARAPET.

REMOVAL LINES NOT COVERED WITH A CONCRETE OVERLAY SHALL BE DEFINED BY A 1" DEEP SAW CUT AT THE CONCRETE SURFACES.

PROTECTIVE SURFACE TREATMENT SHALL BE APPLIED TO THE ENTIRE TOP SURFACE OF THE NEW CONCRETE OVERLAY. PIGMENTED PROTECTIVE SURFACE TREATMENT SHALL BE APPLIED TO THE ENTIRE FRONT FACES AND TOPS OF BOTH WING & DECK PARAPETS.

A MINIMUM OF 1-INCH OF CONCRETE SHALL BE REMOVED FROM THE ENTIRE BRIDGE DECK UNDER THE BID ITEM "CLEANING DECKS".

TOTAL ESTIMATED QUANTITIES

ITEM NUMBER	BID ITEMS	UNIT	TOTALS
502.3200	PROTECTIVE SURFACE TREATMENT	SY	571
502.3210	PIGMENTED SURFACE SEALER	SY	114
509.0301	PREPARATION DECKS TYPE 1	SY	100
509.0302	PREPARATION DECKS TYPE 2	SY	50
509.0500	CLEANING DECKS	SY	571
509.1500	CONCRETE SURFACE REPAIR	SF	35
509.2000	FULL-DEPTH DECK REPAIR	SY	1
☆ 509.2500	CONCRETE MASONRY OVERLAY DECKS	CY	56
509.9010.S	REMOVING ASPHALTIC CONCRETE DECK OVERLAY (B-36-110)	SY	571
509.9050.S	CLEANING PARAPETS	LF	294

☆ BID ITEM ALSO INCLUDES CONCRETE FOR:
"PREPARATION DECKS TYPE 1"
"PREPARATION DECKS TYPE 2"
"FULL-DEPTH DECK REPAIR"

DESIGN DATA

LIVE LOAD:
INVENTORY RATING: HS-20
OPERATING RATING: HS-33
WISCONSIN STANDARD PERMIT VEHICLE (Wis-SPV): 250 KIPS

MATERIAL PROPERTIES:
CONCRETE MASONRY OVERLAY DECKS: f'c = 4,000 p.s.i.

LIST OF DRAWINGS

1. GENERAL PLAN
2. DECK REPAIR

WISCONSIN
KRISTOFER R. OLSON
E-35236
APPLETON, WI
PROFESSIONAL ENGINEER
7/22/15

CONSULTANT CONTACT
KRISTOFER OLSON
OMNNI ASSOCIATES
(920) 735-6900

BRIDGE OFFICE CONTACT
WILLIAM DREHER
(608) 266-8489

NO.	DATE	REVISION	BY

ORIGINAL PLANS PREPARED BY
OMNNI ASSOCIATES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
ACCEPTED William C. Dreher SDR 08/18/15
CHIEF STRUCTURES DESIGN ENGINEER DATE

STRUCTURE B-36-110

IH 43 SB OVER CEDAR VIEW ROAD

COUNTY	TOWN
MANITOWOC	CENTERVILLE

DESIGN SPEC. REHABILITATION N/A

DESIGNED BY	DESIGN CK'D.	DRAWN BY	PLANS CK'D.
BRE	KRO	BRE	KRO

GENERAL PLAN

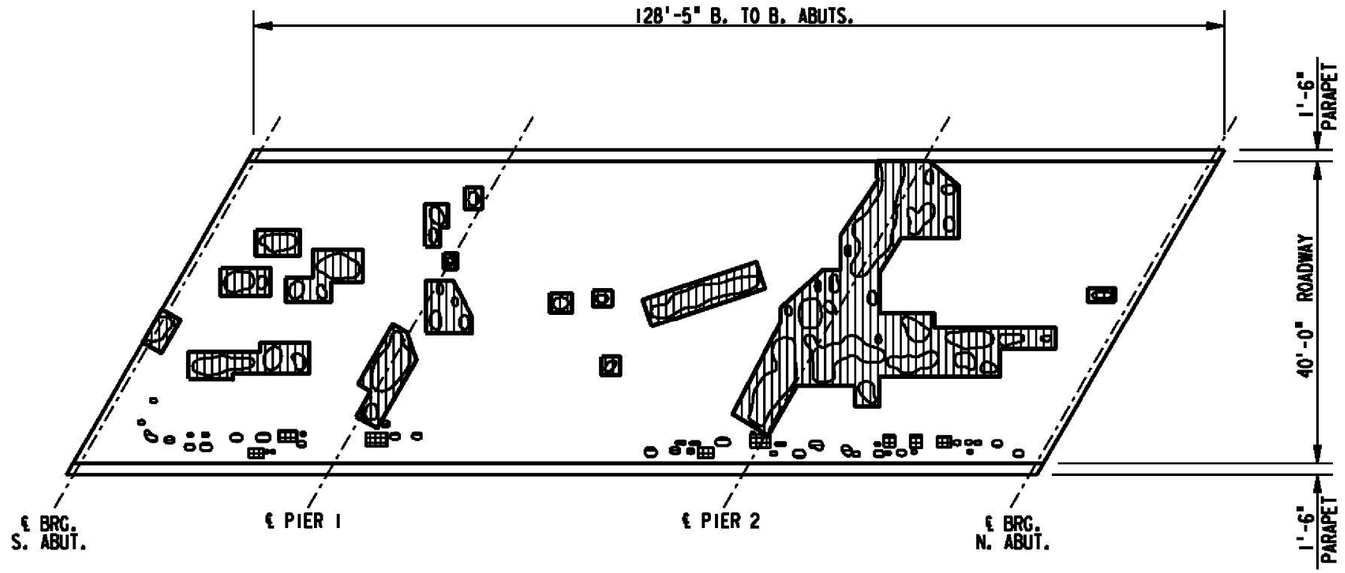
SHEET 1 OF 2

384

8

FILE NAME : F:±TR±JOBS±E2041A12±Sheets±Bridges±B-36-110±B-36-110 01 gp.dgn PLOT BY : epleyb PLOT DATE: 7/22/2015 10:39:31 AM

STATE PROJECT NUMBER
1224-21-71



PLAN

PROPOSED REHAB AREAS





FIELD OBSERVATIONS SUMMARY		STRUCTURE NO. B-36-110	
ITEM	UNIT	QUANT.	%
TOTAL AREA	yd^2	564.9	
SHADE/DEBRIS	yd^2	0	
PREPARATION, DECKS, TYPE 1	yd^2	100.1	17.7
PREPARATION, DECKS, TYPE 2	yd^2	50.1	8.9
FULL DEPTH DECK REPAIR	yd^2	1.0	0.2

LEGEND

DECK PREPARATION AREA

SHADE/DEBRIS

DELAMINATION

SPALL

DEBOND

ASPHALT PATCH

CONCRETE PATCH

SURFACE TYPE: BITUMINOUS OVERLAY
INFRARED INSPECTION DATE: 7/17/2014

8

8

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-36-110

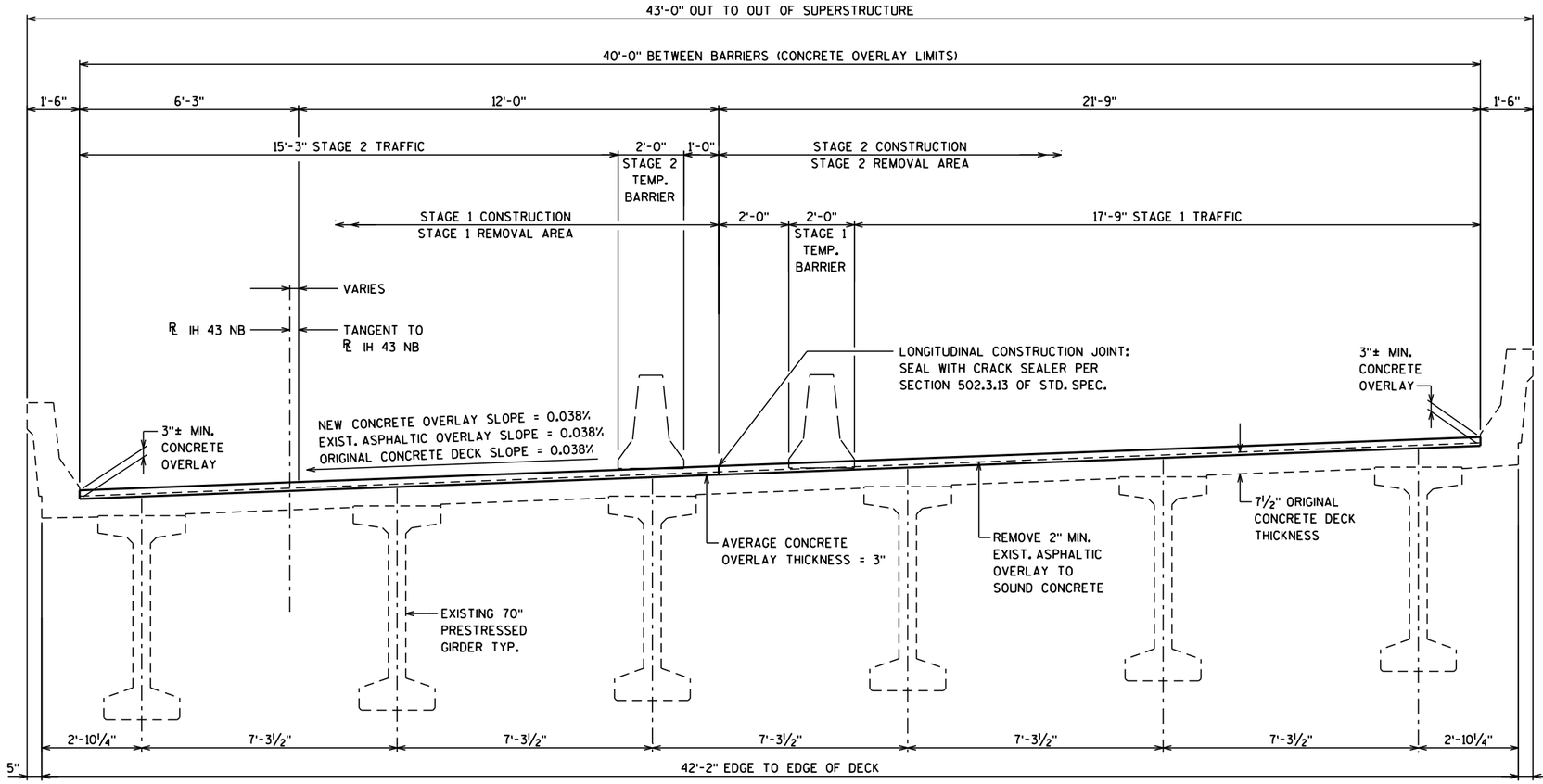
DRAWN BY BRE | PLANS CK'D. KRO

DECK REPAIR

SHEET 2 OF 2

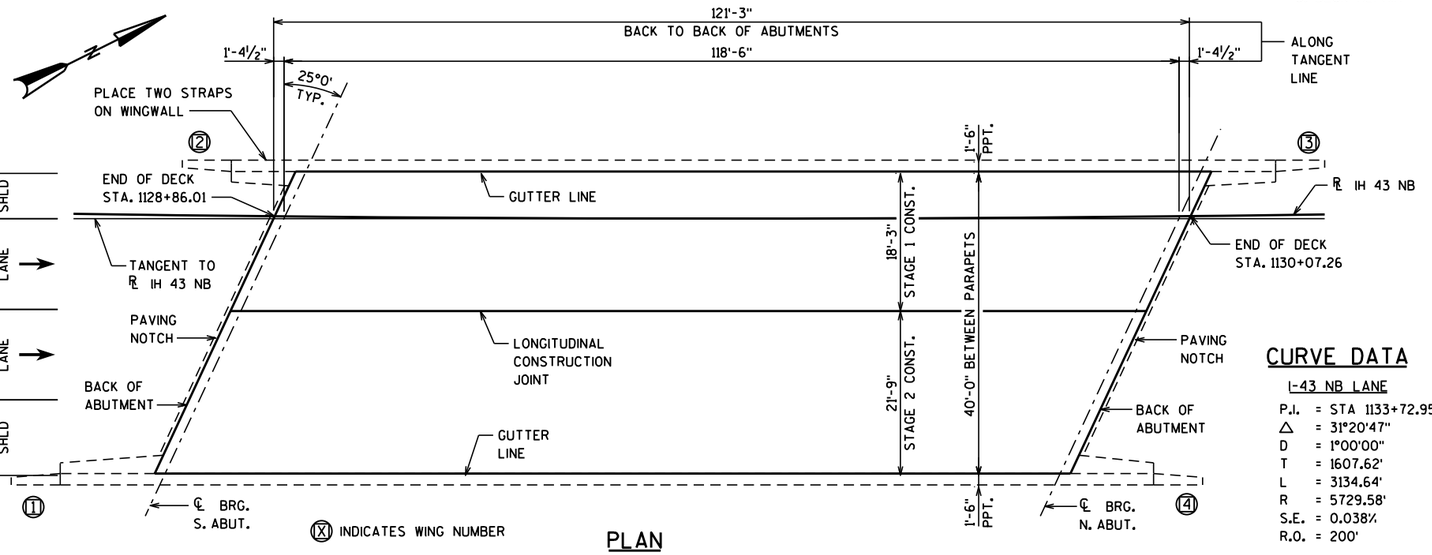
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FILE NAME : F:±TR±JOBS±E2041A12±Sheets±Bridges±B-36-110±B-36-110 02 deck repair.dgn PLOT BY : epleyb PLOT DATE: 12/2/2014 12:28:56 PM



CROSS SECTION THRU EXISTING ROADWAY

(LOOKING NORTH)



PLAN

TRAFFIC DATA

ADT = 11,800 (2036)
RDS = 70 M.P.H.

LIST OF DRAWINGS

1. GENERAL PLAN
2. STRAPPING DETAILS
3. DECK REPAIR

CURVE DATA

I-43 NB LANE

P.I. = STA 1133+72.95
△ = 31°20'47"
D = 1°00'00"
T = 1607.62'
L = 3134.64'
R = 5729.58'
S.E. = 0.038%
R.O. = 200'

GENERAL NOTES

DRAWINGS SHALL NOT BE SCALED.

DIMENSIONS SHOWN ARE BASED ON THE EXISTING ORIGINAL STRUCTURE PLANS.

ANY EXCAVATION NECESSARY TO COMPLETE THE OVERLAY AT THE ABUTMENTS IS TO BE CONSIDERED INCIDENTAL TO THE BID ITEM "CONCRETE MASONRY OVERLAY DECKS".

PROFILE GRADE LINE SHALL BE DETERMINED IN THE FIELD BASED ON A MINIMUM OVERLAY THICKNESS OF 3" PLACED ABOVE THE DECK SURFACE AFTER "CLEANING DECKS". EXPECTED AVERAGE OVERLAY THICKNESS IS 3" (OR AS GIVEN ON THE PLANS). IF EXPECTED AVERAGE OVERLAY THICKNESS IS EXCEEDED BY MORE THAN ½", CONTACT THE STRUCTURES DESIGN SECTION.

THE EXISTING BITUMINOUS ASPHALTIC OVERLAY SHALL BE REMOVED FROM THE BRIDGE DECK UNDER BID ITEM "REMOVING ASPHALTIC CONCRETE DECK OVERLAY".

PREPARATION DECKS TYPE 1, PREPARATION DECKS TYPE 2, CONCRETE SURFACE REPAIR AND FULL-DEPTH DECK REPAIR AREAS SHALL BE DETERMINED BY THE FIELD ENGINEER. "CONCRETE SURFACE REPAIR" TO INCLUDE BUT NOT LIMITED TO THE NORTH & SOUTH ABUTMENT AND EAST & WEST PARAPET.

REMOVAL LINES NOT COVERED WITH A CONCRETE OVERLAY SHALL BE DEFINED BY A 1" DEEP SAW CUT AT THE CONCRETE SURFACES.

PROTECTIVE SURFACE TREATMENT SHALL BE APPLIED TO THE ENTIRE TOP SURFACE OF THE NEW CONCRETE OVERLAY. PIGMENTED PROTECTIVE SURFACE TREATMENT SHALL BE APPLIED TO THE ENTIRE FRONT FACES AND TOPS OF BOTH WING & DECK PARAPETS.

A MINIMUM OF 1-INCH OF CONCRETE SHALL BE REMOVED FROM THE ENTIRE BRIDGE DECK UNDER THE BID ITEM "CLEANING DECKS".

TOTAL ESTIMATED QUANTITIES

	ITEM NUMBER	BID ITEMS	UNIT	TOTALS
	502.3200	PROTECTIVE SURFACE TREATMENT	SY	539
	502.3210	PIGMENTED SURFACE SEALER	SY	119
	509.0301	PREPARATION DECKS TYPE 1	SY	21
	509.0302	PREPARATION DECKS TYPE 2	SY	10
	509.0500	CLEANING DECKS	SY	539
	509.1500	CONCRETE SURFACE REPAIR	SF	50
	509.2000	FULL-DEPTH DECK REPAIR	SY	1
☆	509.2500	CONCRETE MASONRY OVERLAY DECKS	CY	47
	509.9010.S	REMOVING ASPHALTIC CONCRETE DECK OVERLAY (B-36-111)	SY	539
	509.9050.S	CLEANING PARAPETS	LF	309
	SPV.0060.01	STRAPPING (B-36-111)	EA	2

☆ BID ITEM ALSO INCLUDES CONCRETE FOR:
"PREPARATION DECKS TYPE 1"
"PREPARATION DECKS TYPE 2"
"FULL-DEPTH DECK REPAIR"

DESIGN DATA

LIVE LOAD:

INVENTORY RATING: HS-10
OPERATING RATING: HS-24
WISCONSIN STANDARD PERMIT VEHICLE (Wis-SPV): 250 KIPS

MATERIAL PROPERTIES:

CONCRETE MASONRY
OVERLAY DECKS: —— f'c = 4,000 p.s.i.
STRUCTURAL STEEL
ASTM A36, GRADE 36: —— fy = 36,000 p.s.i.

WISCONSIN
KRISTOFER R. OLSON
E-35236
APPLETON, WI
PROFESSIONAL ENGINEER

7/22/15

CONSULTANT CONTACT
KRISTOFER OLSON
OMNNI ASSOCIATES
(920) 735-6900

BRIDGE OFFICE CONTACT
WILLIAM DREHER
(608) 266-8489

NO.	DATE	REVISION	BY

ORIGINAL PLANS PREPARED BY
OMNNI ASSOCIATES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

ACCEPTED William C. Dreher SDR 08/18/15
CHIEF STRUCTURES DESIGN ENGINEER — DATE

STRUCTURE B-36-111

IH 43 NB OVER CEDAR VIEW ROAD

COUNTY: MANITOWOC
TOWN: CENTERVILLE
DESIGN SPEC.
REHABILITATION N/A

DESIGNED BY	DESIGN CK'D.	DRAWN BY	PLANS CK'D.
BRE	KRO	BRE	KRO

GENERAL PLAN

SHEET 1 OF 3

386

STATE PROJECT NUMBER
1224-21-71

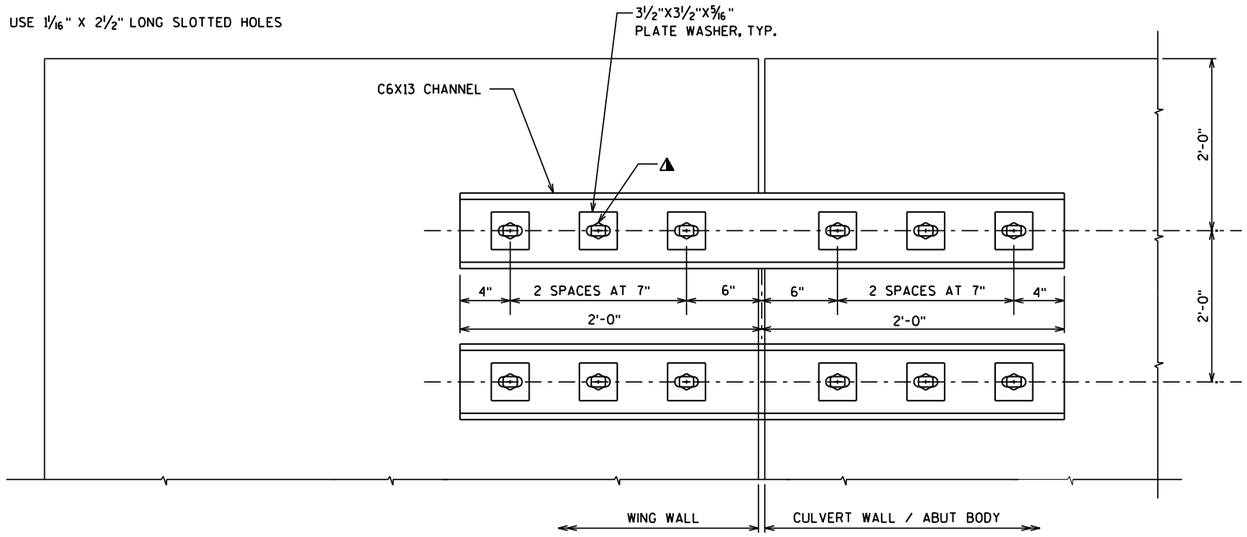
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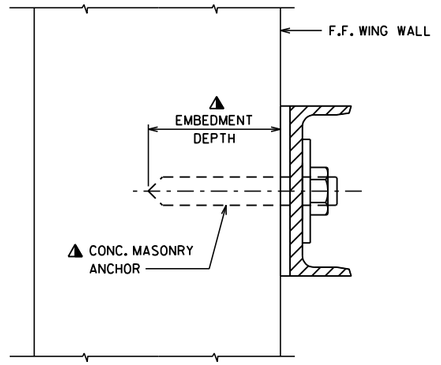
STATE PROJECT NUMBER
1224-21-71

⚠1 1" DIA. CONCRETE MASONRY ANCHOR, TYPE S
10" EMBEDMENT DEPTH SEE DETAIL "A"

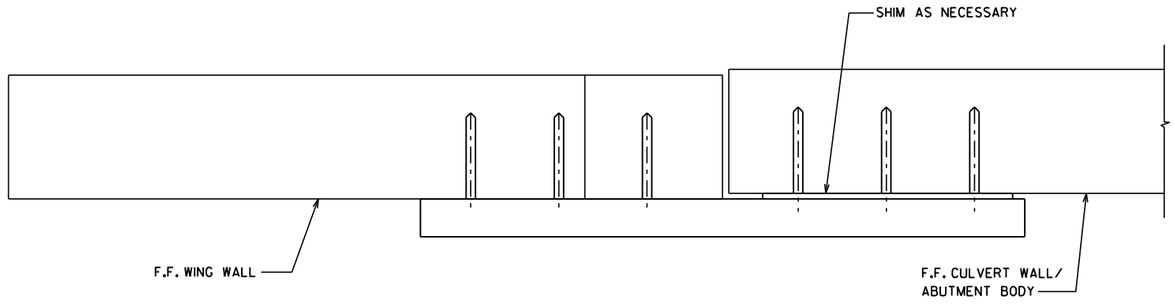
USE 1 1/16" X 2 1/2" LONG SLOTTED HOLES



WING ELEVATION



DETAIL 'A'
SECTION THRU CHANNEL



PLAN

GENERAL NOTES

WING STRAPPING DETAIL FOR THE PURPOSE OF MITIGATING INWARD WING TIPPING, AS AN ALTERNATIVE TO THE PREFERRED METHOD OF WING REPLACEMENT.

BID ITEM SHALL BE "STRAPPING B-36-111" WHICH INCLUDES ALL ITEMS SHOWN.

WISDOT REGIONAL BRIDGE MAINTENANCE ENGINEER TO APPROVE USE OF DETAIL PRIOR TO INSTALLATION.

ALL PROVIDED STEEL MATERIAL SHALL CONFORM TO ASTM A36.

ALL STRUCTURAL STEEL SHOWN SHALL BE GALVANIZED. THREADED RODS, MASONRY ANCHORS, NUTS AND WASHERS SHALL BE GALVANIZED IN ACCORDANCE WITH ASTM A153 CLASS C.

CUTTING AND DRILLING OF CHANNEL SHALL BE DONE IN FABRICATION SHOP, PRIOR TO GALVANIZING.

IF WELDING COVER PLATE IN FIELD, PRIOR TO WELDING, REMOVE GALVANIZING FROM AREA TO BE WELDED. TOUCH UP WITH PAINT ALL AREAS LACKING GALVANIZING WHEN COMPLETE.

CAULK AROUND PERIMETER OF CHANNEL AND FILL PORTION OF HOLE AROUND ANCHOR BOLT AND SHIM WITH NON-STAINING GRAY NON-BITUMINOUS JOINT SEALER.

8

8

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-36-111

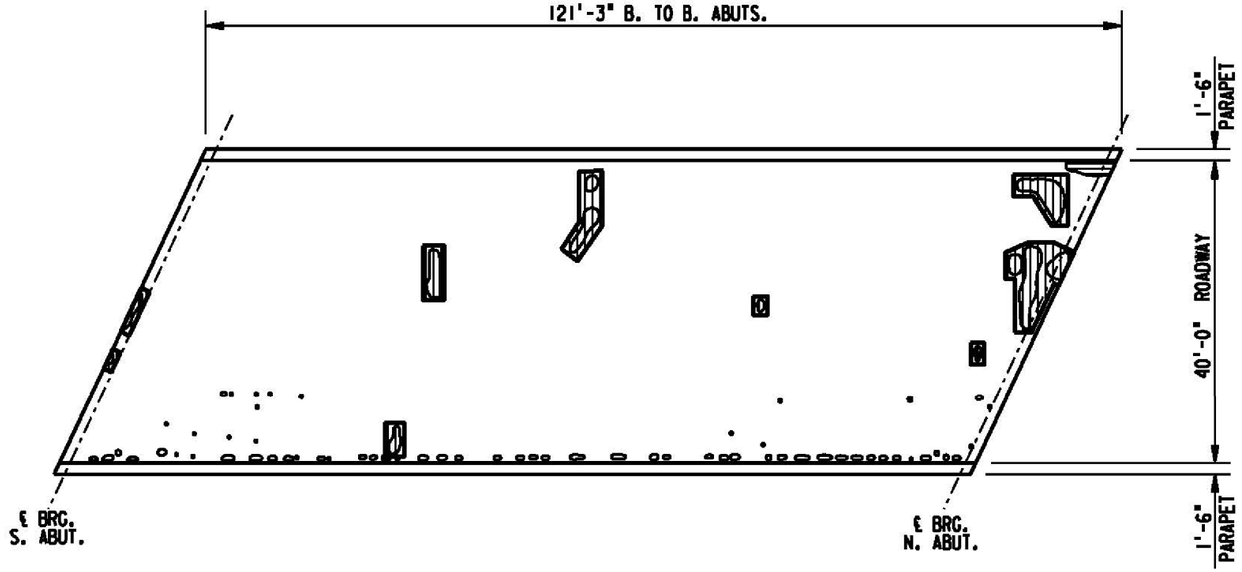
DRAWN BY BRE | PLANS CK'D. KRO

WING STRAPPING

SHEET 2 OF 3

387

STATE PROJECT NUMBER
1224-21-71



PLAN

PROPOSED REHAB AREAS





FIELD OBSERVATIONS SUMMARY		STRUCTURE NO. B-36-111	
ITEM	UNIT	QUANT.	%
TOTAL AREA	yd^2	538.7	
SHADE/DEBRIS	yd^2	0	
PREPARATION, DECKS, TYPE 1	yd^2	20.8	3.9
PREPARATION, DECKS, TYPE 2	yd^2	10.4	1.9
FULL DEPTH DECK REPAIR	yd^2	1.0	0.2

LEGEND

DECK PREPARATION AREA

SHADE/DEBRIS

DELAMINATION

SPALL

DEBOND

ASPHALT PATCH

CONCRETE PATCH

SURFACE TYPE: BITUMINOUS OVERLAY
INFRARED INSPECTION DATE: 7/17/2014

8

8

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-36-111

DRAWN BY BRE | PLANS CK'D. KRO

DECK REPAIR

SHEET 3 OF 3

388

FILE NAME : F:±TR±JOBS±E2041A12±Sheets±Bridges±B-36-111±B-36-111 03 deck repair.dgn PLOT BY : epleyb PLOT DATE: 6/1/2015 9:48:36 AM

STATION	Real Station	Distance	AREA (SF)				Incremental Vol (CY) (Unadjusted)					Cumulative Vol (CY)		
			Cut	Salvaged/Unusable Pavement Material	Fill	EBS	Cut Note 1	Fill Note 3	Marsh Exc	Rock Exc	EBS	Cut 1.00 Note 1	Expanded Fill 1.25	Mass Ordinate Note 8
00+25	25.00	0.00	0.00	0.00	0.00	0.00	0	0	0	0	0	0	0	0.00
00+30	30.00	5.00	0.00	0.00	0.00	0.00	0	0	0	0	0	0	0	0.00
00+35	35.00	5.00	0.00	0.00	0.00	0.00	0	0	0	0	0	0	0	0.00
00+35.26	35.26	0.26	0.00	0.00	6.21	0.00	0	0	0	0	0	0	0	-0.04
00+40	40.00	4.74	0.00	0.00	12.93	0.00	0	2	0	0	0	0	2	-2.14
00+50	50.00	10.00	0.00	0.00	26.69	0.00	0	7	0	0	0	0	11	-11.31
00+60	60.00	10.00	0.00	0.00	42.87	0.00	0	13	0	0	0	0	27	-27.41
00+70	70.00	10.00	0.00	0.00	34.66	0.00	0	14	0	0	0	0	45	-45.36
00+80	80.00	10.00	20.24	0.00	13.07	0.00	4	9	0	0	0	4	56	-52.66
00+90	90.00	10.00	56.12	0.00	8.41	0.00	14	4	0	0	0	18	61	-43.49
01+00	100.00	10.00	55.89	0.00	6.35	0.00	21	3	0	0	0	39	65	-26.17
01+10	110.00	10.00	50.58	0.00	7.32	0.00	20	3	0	0	0	58	68	-9.62
01+20	120.00	10.00	48.02	0.00	7.24	0.00	18	3	0	0	0	77	71	5.27
01+25	125.00	5.00	48.68	0.00	7.18	0.00	9	1	0	0	0	86	73	12.56
							86	58	0	0	0			

9

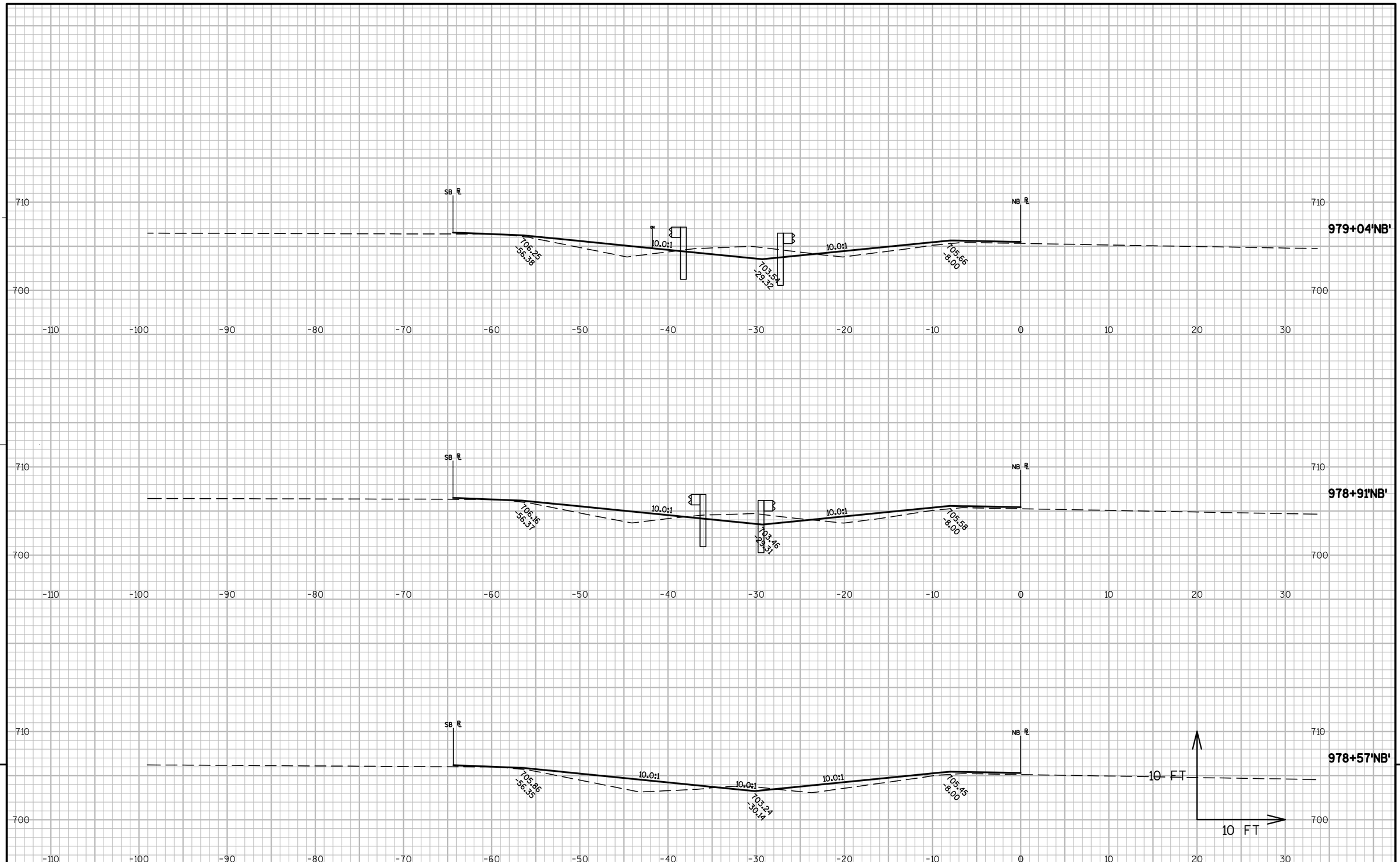
9

PROJECT NO: 1224-21-71	HWY: IH 43	COUNTY: MANITOWOC	EARTHWORK – STH 42 PARK AND RIDE	SHEET: 389	E

FILE NAME : _____ PLOT DATE : _____ PLOT BY : PLOT NAME : _____ PLOT SCALE : 1:1

STATION	Real Station	Distance	AREA (SF)				Incremental Vol (CY) (Unadjusted)					Cumulative Vol (CY)		
			Cut	Salvaged/Unusable Pavement Material	Fill	EBS	Cut Note 1	Fill Note 3	Marsh Exc	Rock Exc	EBS	Cut 1.00 Note 1	Expanded Fill 1.25	Mass Ordinate Note 8
1190+01.19	119001.19	0.00	53.32	0.00	0.93	0.00	0	0	0	0	0	0	0	0.00
1190+50	119050.00	48.81	53.94	0.00	2.14	0.00	97	3	0	0	0	97	3	93.48
1191+00	119100.00	50.00	55.53	0.00	1.40	0.00	101	3	0	0	0	198	8	190.76
1191+50	119150.00	50.00	56.47	0.00	0.65	0.00	104	2	0	0	0	302	10	292.09
1192+00	119200.00	50.00	56.18	0.00	0.21	0.00	104	1	0	0	0	406	11	395.39
1192+50	119250.00	50.00	57.14	0.00	1.31	0.00	105	1	0	0	0	511	13	498.55
1193+00	119300.00	50.00	57.44	0.00	3.32	0.00	106	4	0	0	0	617	18	599.29
1193+50	119350.00	50.00	54.27	0.00	8.92	0.00	103	11	0	0	0	721	32	688.56
1194+00	119400.00	50.00	53.71	0.00	12.11	0.00	100	19	0	0	0	821	57	764.20
1194+50	119450.00	50.00	54.01	0.00	16.65	0.00	100	27	0	0	0	920	90	830.65
1195+00	119500.00	50.00	56.10	0.00	12.71	0.00	102	27	0	0	0	1,022	124	898.62
1195+50	119550.00	50.00	55.91	0.00	11.81	0.00	104	23	0	0	0	1,126	152	973.95
1196+00	119600.00	50.00	54.56	0.00	11.59	0.00	102	22	0	0	0	1,228	179	1,049.15
1196+50	119650.00	50.00	52.79	0.00	13.78	0.00	99	23	0	0	0	1,328	209	1,119.18
1197+00	119700.00	50.00	51.93	0.00	16.57	0.00	97	28	0	0	0	1,425	244	1,181.00
1197+50	119750.00	50.00	56.05	0.00	9.53	0.00	100	24	0	0	0	1,525	274	1,250.77
1198+00	119800.00	50.00	56.84	0.00	15.53	0.00	105	23	0	0	0	1,629	303	1,326.30
1198+50	119850.00	50.00	51.70	0.00	19.46	0.00	101	32	0	0	0	1,730	343	1,386.31
1199+00	119900.00	50.00	51.36	0.00	15.55	0.00	95	32	0	0	0	1,825	384	1,441.22
1199+50	119950.00	50.00	52.09	0.00	8.95	0.00	96	23	0	0	0	1,921	412	1,508.65
1200+00	120000.00	50.00	54.38	0.00	1.40	0.00	99	10	0	0	0	2,020	424	1,595.26
1200+50	120050.00	50.00	63.32	0.00	0.04	0.00	109	1	0	0	0	2,129	426	1,702.58
1201+00	120100.00	50.00	61.52	0.00	1.15	0.00	116	1	0	0	0	2,244	427	1,816.80
1201+50	120150.00	50.00	61.41	0.00	0.21	0.00	114	1	0	0	0	2,358	429	1,929.05
1202+00	120200.00	50.00	58.89	0.00	0.01	0.00	111	0	0	0	0	2,469	429	2,040.19
1202+50	120250.00	50.00	54.36	0.00	0.75	0.00	105	1	0	0	0	2,574	430	2,144.18
1203+00	120300.00	50.00	53.00	0.00	0.00	0.00	99	1	0	0	0	2,674	431	2,242.72
1203+50	120350.00	50.00	54.15	0.00	0.00	0.00	99	0	0	0	0	2,773	431	2,341.93
1203+80.75	120380.75	30.75	56.33	0.00	0.00	0.00	63	0	0	0	0	2,836	431	2,404.84
							2,836	345	0	0	0			

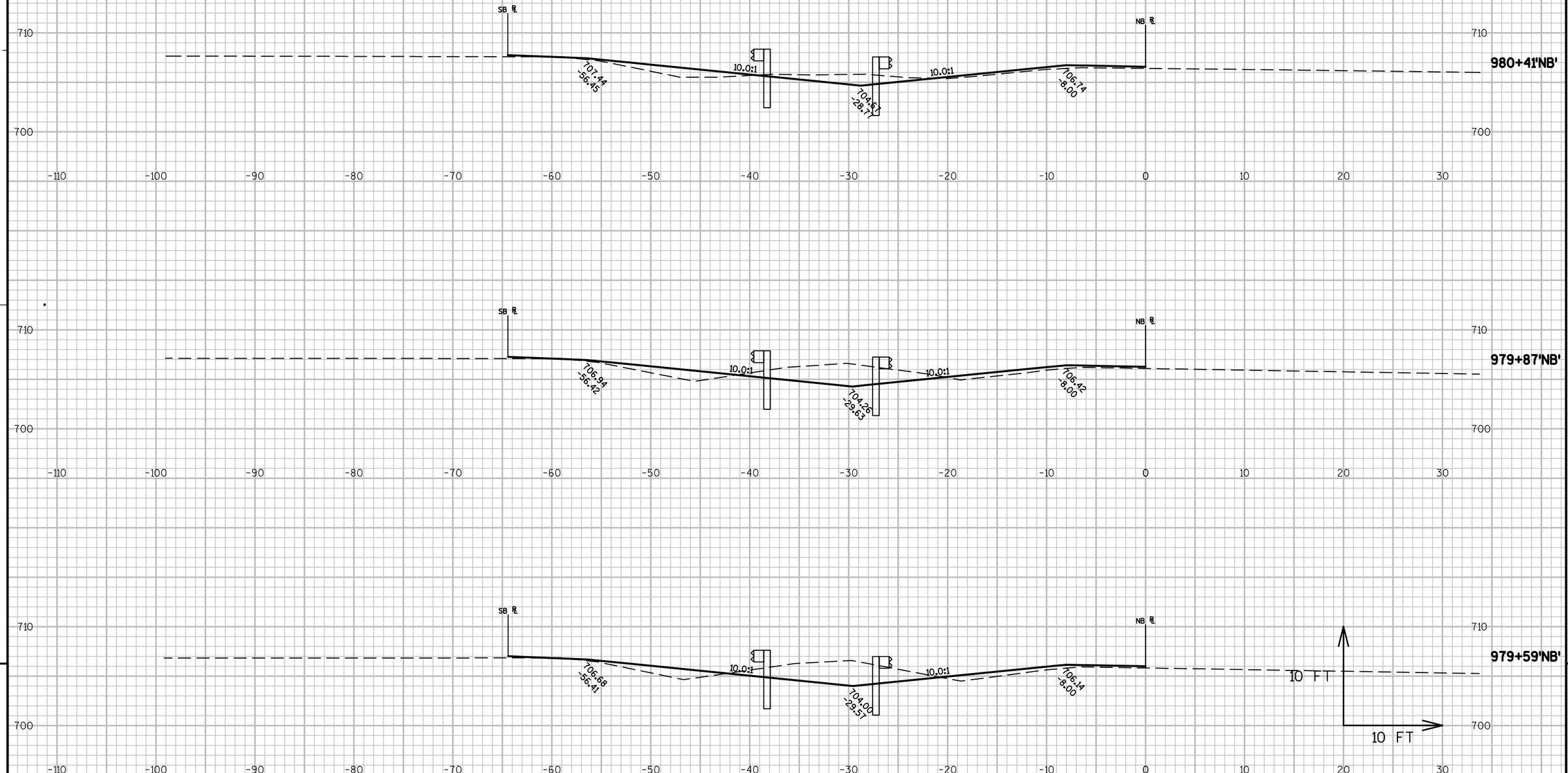
Real Station	Distance	AREA (SF) Cut	Fill	Marsh Exc	Rock Exc	EBS	Incremental Vol (CY) (Unadjusted) Cut Note 1	Salvaged/Unusable Pavement Material Note 2	Fill Note 3	EBS	Cumulative Vol (CY) Cut 1.00 Note 1	Expanded Fill 1.25	Mass Ordinate Note 8
151538.11	0.00	55.93	0.00	0.00	0.00	0.00	0	0	0	0	0	0	0.00
151550.00	11.89	56.42	0.00	0.00	0.00	0.00	25	0	0	0	25	0	24.74
151600.00	50.00	59.36	0.00	0.00	0.00	0.00	107	0	0	0	132	0	131.94
151650.00	50.00	59.02	0.13	0.00	0.00	0.00	110	0	0	0	242	0	241.40
151700.00	50.00	62.61	0.51	0.00	0.00	0.00	113	0	1	0	354	1	353.27
151750.00	50.00	73.68	1.33	0.00	0.00	0.00	126	0	2	0	480	3	477.34
151800.00	50.00	59.10	5.96	0.00	0.00	0.00	123	0	7	0	603	11	591.85
151850.00	50.00	56.22	8.48	0.00	0.00	0.00	107	0	13	0	710	28	681.92
151900.00	50.00	56.63	9.99	0.00	0.00	0.00	104	0	17	0	815	50	765.03
151950.00	50.00	56.75	12.55	0.00	0.00	0.00	105	0	21	0	920	76	843.93
152000.00	50.00	58.15	9.04	0.00	0.00	0.00	106	0	20	0	1,026	101	925.33
152050.00	50.00	59.33	9.34	0.00	0.00	0.00	109	0	17	0	1,135	122	1,012.83
152100.00	50.00	58.82	10.29	0.00	0.00	0.00	109	0	18	0	1,244	145	1,099.51
152150.00	50.00	58.33	11.02	0.00	0.00	0.00	108	0	20	0	1,353	169	1,183.33
152200.00	50.00	55.46	14.79	0.00	0.00	0.00	105	0	24	0	1,458	199	1,258.81
152250.00	50.00	53.60	18.26	0.00	0.00	0.00	101	0	31	0	1,559	237	1,321.53
152300.00	50.00	53.58	20.41	0.00	0.00	0.00	99	0	36	0	1,658	282	1,376.01
152350.00	50.00	54.27	19.84	0.00	0.00	0.00	100	0	37	0	1,758	329	1,429.30
152400.00	50.00	55.98	18.02	0.00	0.00	0.00	102	0	35	0	1,860	373	1,487.57
152450.00	50.00	57.11	18.22	0.00	0.00	0.00	105	0	34	0	1,965	415	1,550.35
152500.00	50.00	57.23	20.09	0.00	0.00	0.00	106	0	35	0	2,071	459	1,611.88
152550.00	50.00	57.16	21.91	0.00	0.00	0.00	106	0	39	0	2,177	507	1,669.19
152600.00	50.00	57.38	14.06	0.00	0.00	0.00	106	0	33	0	2,283	549	1,733.61
152650.00	50.00	55.53	11.96	0.00	0.00	0.00	105	0	24	0	2,387	579	1,808.04
152700.00	50.00	54.34	8.98	0.00	0.00	0.00	102	0	19	0	2,489	603	1,885.54
152750.00	50.00	53.44	6.34	0.00	0.00	0.00	100	0	14	0	2,589	621	1,967.60
152800.00	50.00	53.71	4.00	0.00	0.00	0.00	99	0	10	0	2,688	633	2,054.83
152850.00	50.00	54.66	2.44	0.00	0.00	0.00	100	0	6	0	2,788	641	2,147.72
152900.00	50.00	55.87	2.00	0.00	0.00	0.00	102	0	4	0	2,891	646	2,244.92
152950.00	50.00	56.50	2.19	0.00	0.00	0.00	104	0	4	0	2,995	651	2,344.12
152972.97	22.97	0.00	0.00	0.00	0.00	0.00	24	0	1	0	3,019	652	2,366.99
							3,019	0	521	0			



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PROJECT NO: 1224-21-71	HWY: IH 43	COUNTY: MANITOWOC	CROSS SECTIONS: IH 43 MEDIAN	SHEET 392	E



9

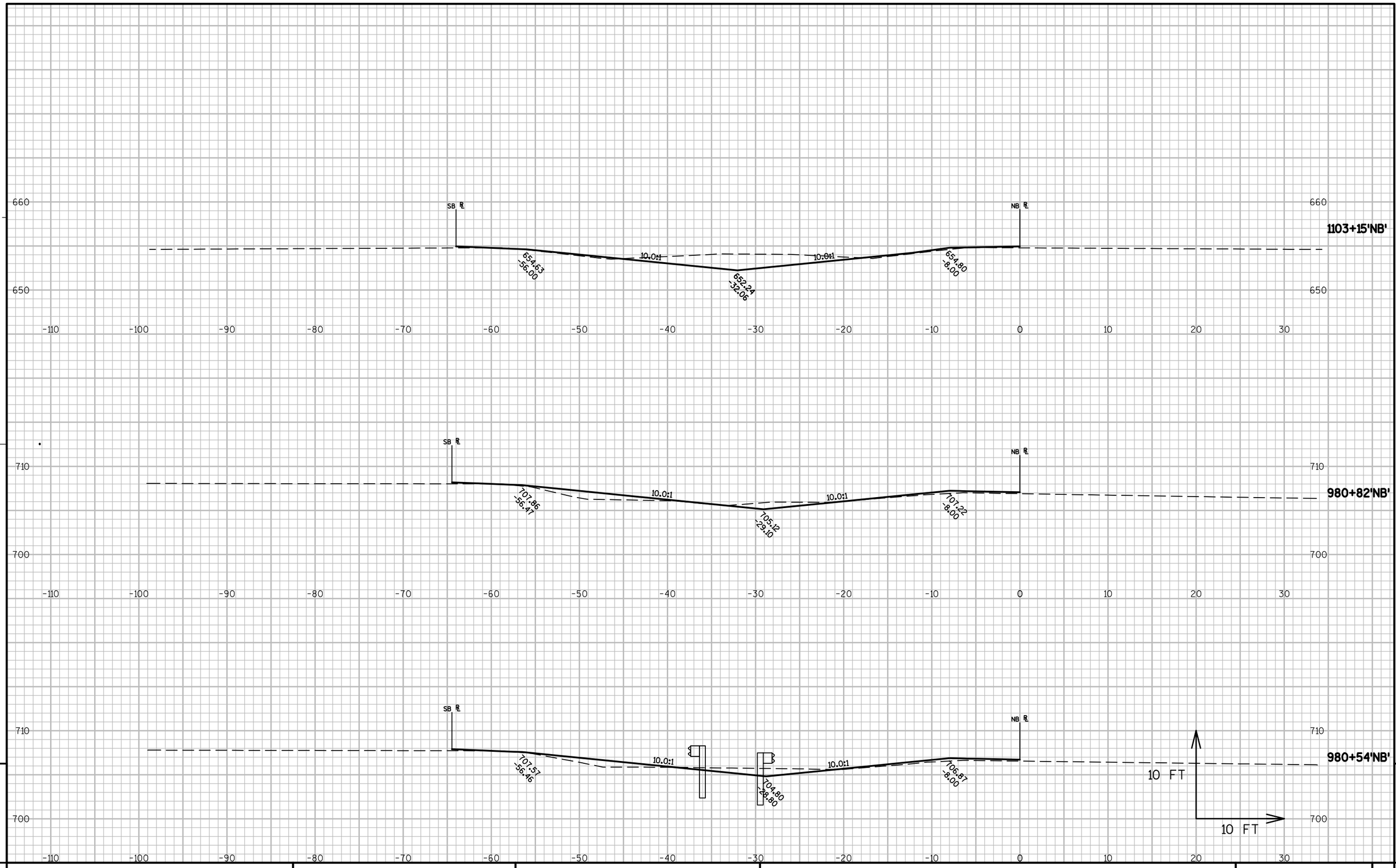
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PROJECT NO: 1224-21-71	HWY: IH 43	COUNTY: MANITOWOC	CROSS SECTIONS: IH 43 MEDIAN	SHEET 393	E

FILE NAME : N:\PDS\C3D\12242100\SHEETSPLAN\C3D 2014\12242171\090202_XS.DWG
LAYOUT NAME - 090202_B

PLOT DATE : 2/25/2015 11:39 AM PLOT BY : PORTER, STEVEN J PLOT NAME : PLOT SCALE : 1" = 10'_XREF

WISDOT/CADDS SHEET 49



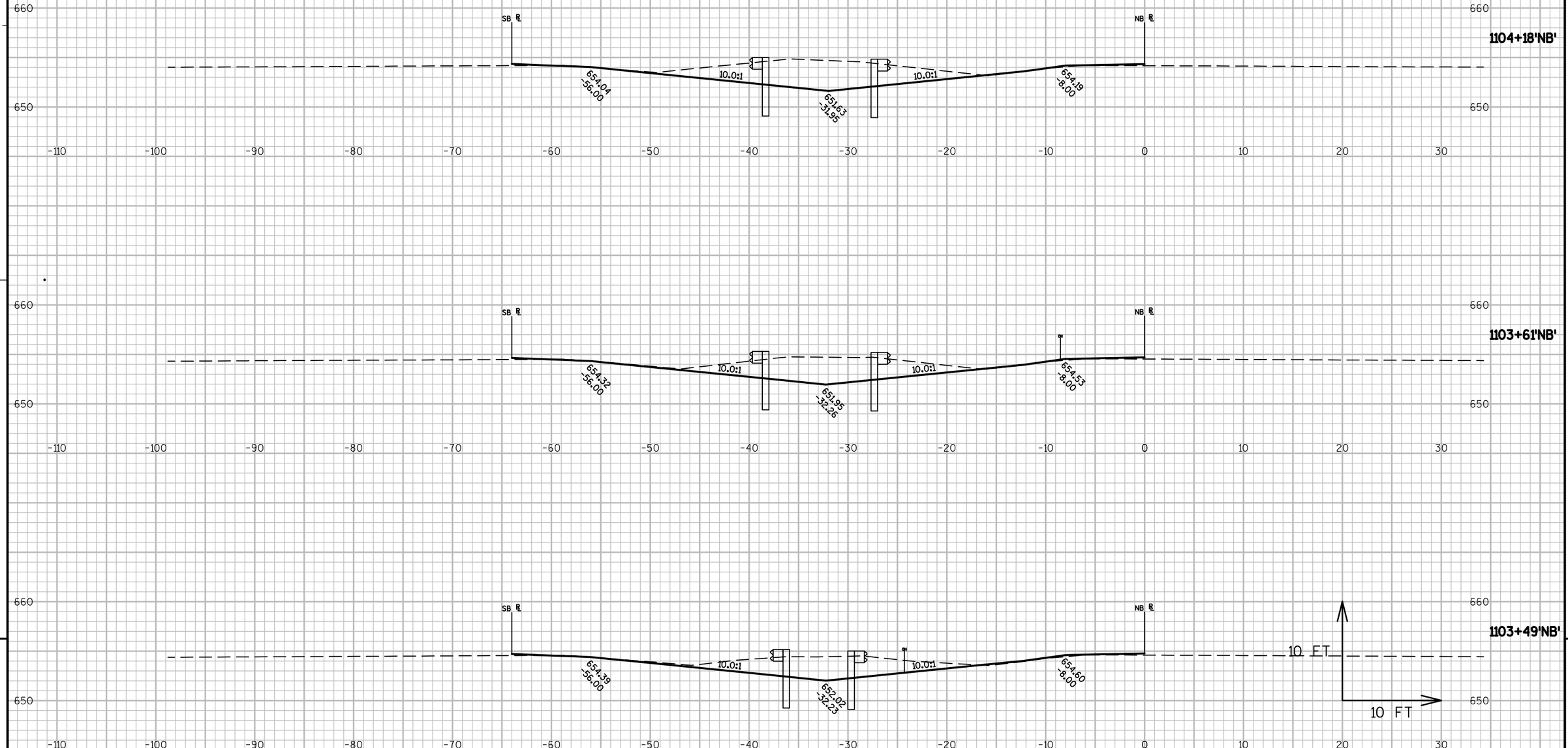
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PROJECT NO: 1224-21-71	HWY: IH 43	COUNTY: MANITOWOC	CROSS SECTIONS: IH 43 MEDIAN	SHEET 394	E

FILE NAME : N:\PDS\C3D\12242100\SHEETSPLAN\C3D 2014\12242171\090202_XS.DWG
LAYOUT NAME - 090202_C

PLOT DATE : 2/25/2015 11:39 AM PLOT BY : PORTER, STEVEN J PLOT NAME : PLOT SCALE : 1" = 10'_XREF

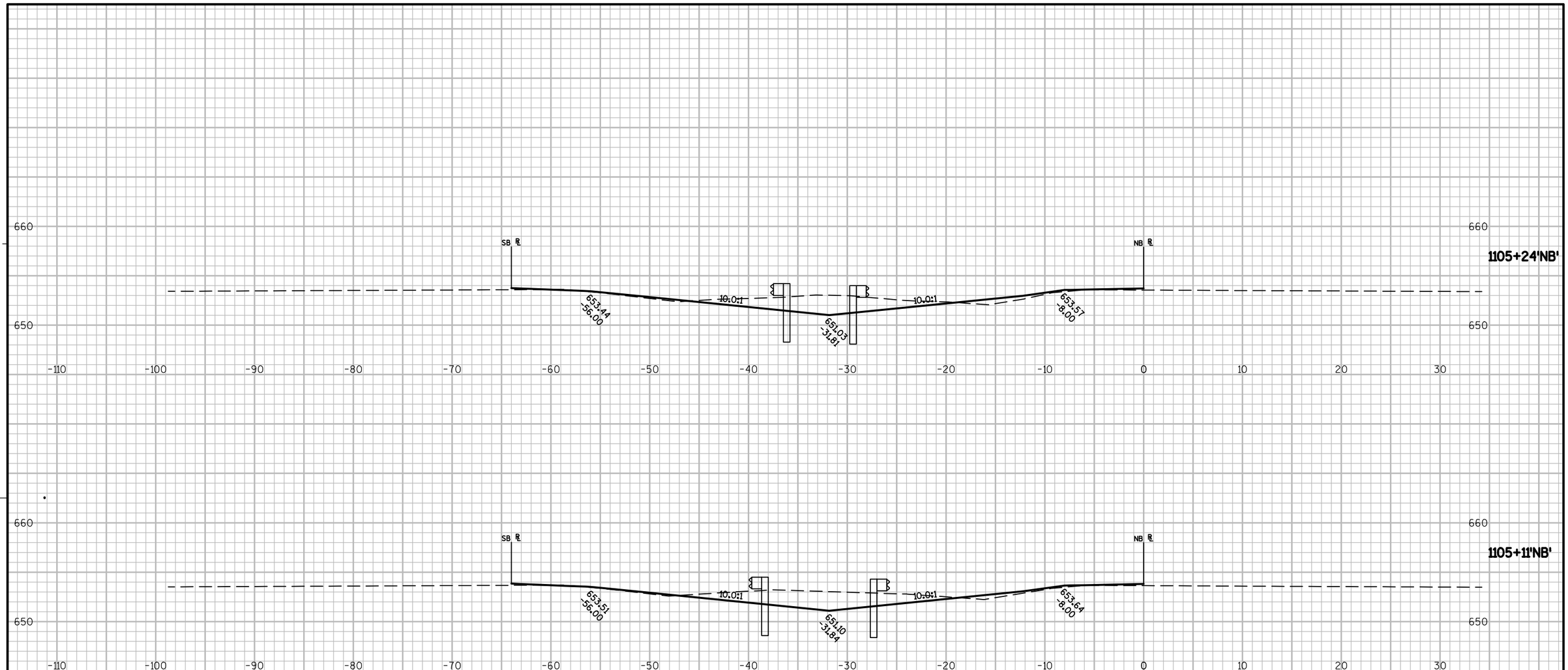


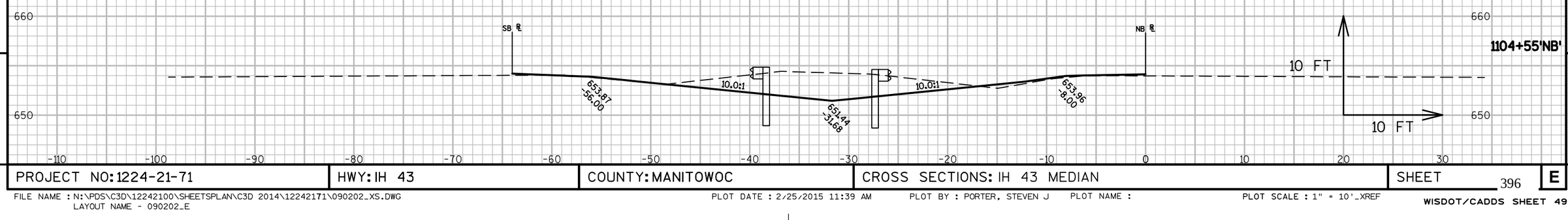
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FILE NAME : N:\PDS\C3D\12242100\SHEETSPLAN\C3D 2014\12242171\090202_XS.DWG
LAYOUT NAME - 090202_D

PLOT DATE : 2/25/2015 11:39 AM PLOT BY : PORTER, STEVEN J PLOT NAME : PLOT SCALE : 1" = 10'_XREF

WISDOT/CADDS SHEET 49



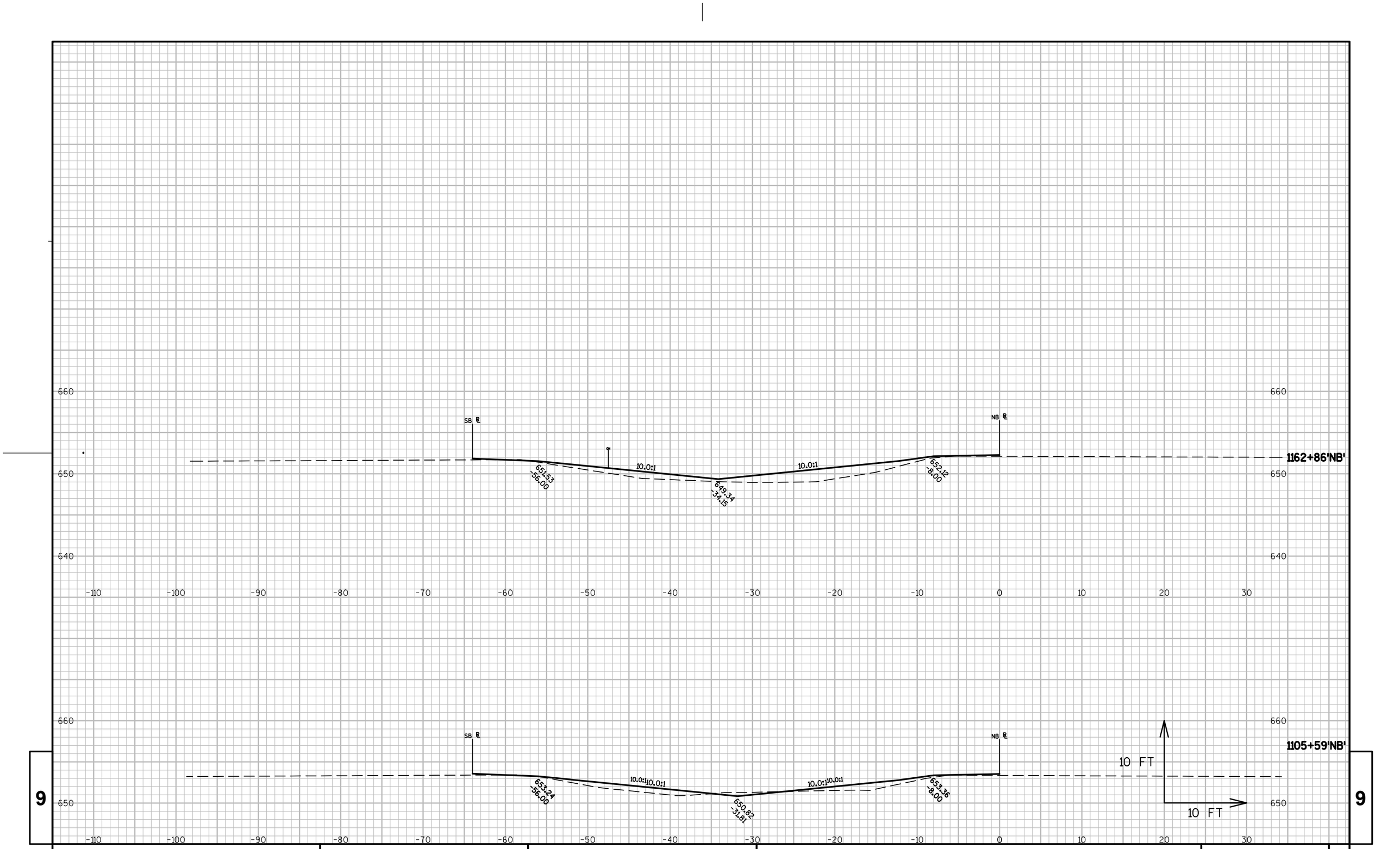


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PROJECT NO: 1224-21-71	HWY: IH 43	COUNTY: MANITOWOC	CROSS SECTIONS: IH 43 MEDIAN	SHEET 396	E

FILE NAME : N:\PDS\C3D\12242100\SHEETSPLAN\C3D 2014\12242171\090202_XS.DWG
LAYOUT NAME - 090202_E
PLOT DATE : 2/25/2015 11:39 AM PLOT BY : PORTER, STEVEN J PLOT NAME : PLOT SCALE : 1" = 10'_XREF
WISDOT/CADDS SHEET 49

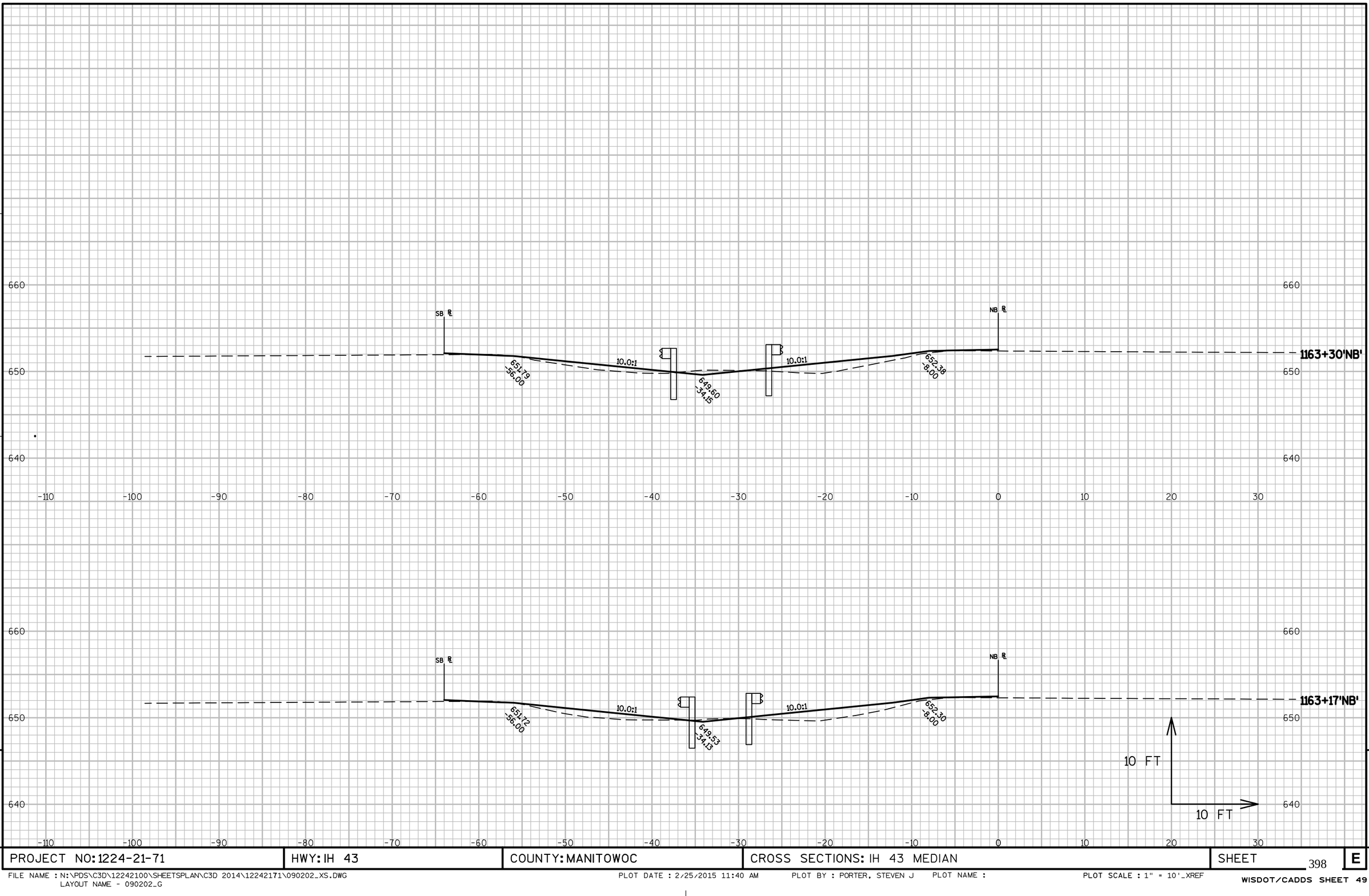


PROJECT NO: 1224-21-71	HWY: IH 43	COUNTY: MANITOWOC	CROSS SECTIONS: IH 43 MEDIAN	SHEET 397	E

FILE NAME : N:\PDS\C3D\12242100\SHEETSPLAN\C3D 2014\12242171\090202_XS.DWG
LAYOUT NAME - 090202_F

PLOT DATE : 2/25/2015 11:40 AM PLOT BY : PORTER, STEVEN J PLOT NAME : PLOT SCALE : 1" = 10'_XREF

WISDOT/CADDS SHEET 49



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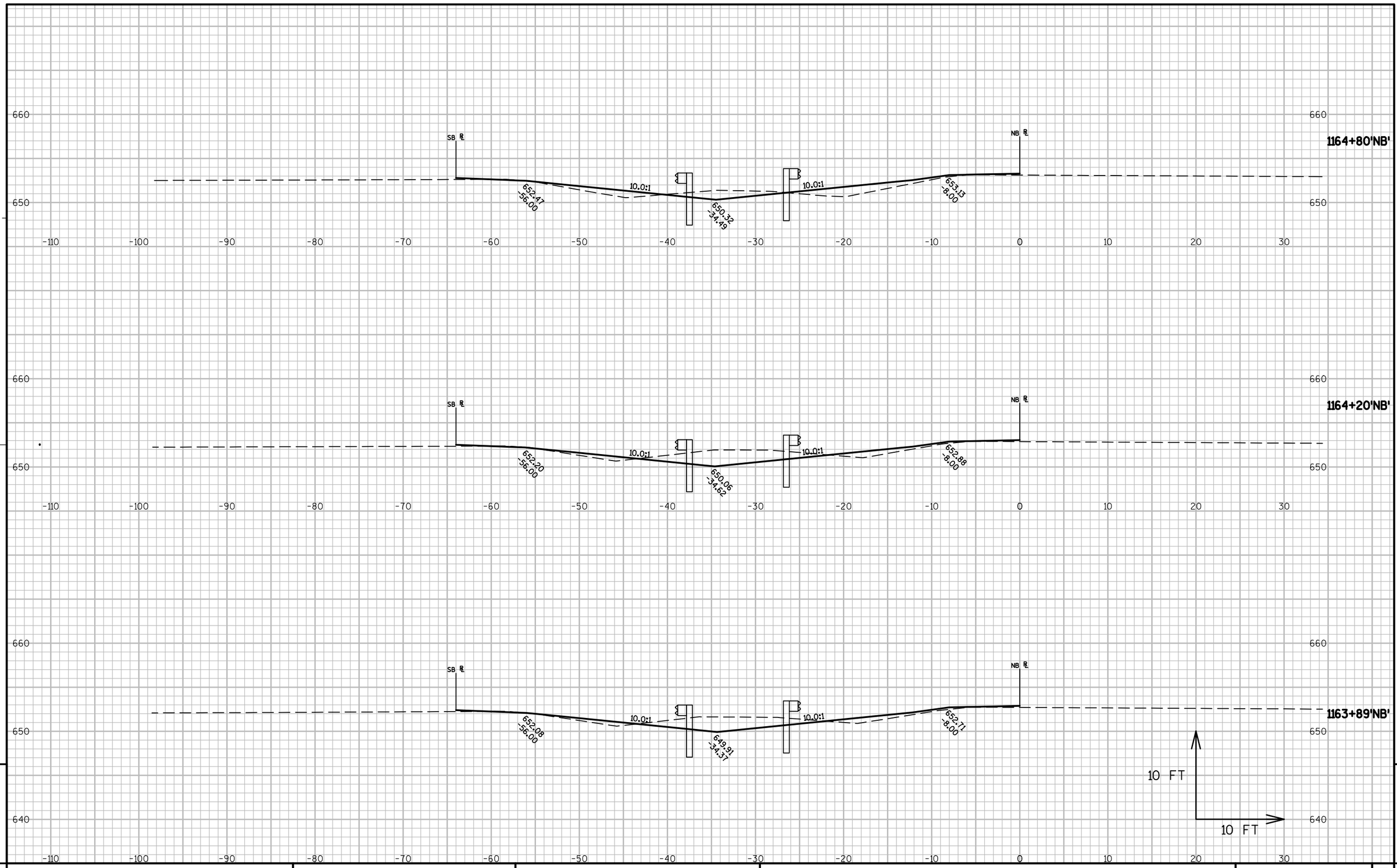
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PROJECT NO: 1224-21-71	HWY: IH 43	COUNTY: MANITOWOC	CROSS SECTIONS: IH 43 MEDIAN	SHEET 398	E

FILE NAME : N:\PDS\C3D\12242100\SHEETSPLAN\C3D 2014\12242171\090202_XS.DWG
LAYOUT NAME - 090202_G

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WISDOT/CADDS SHEET 49

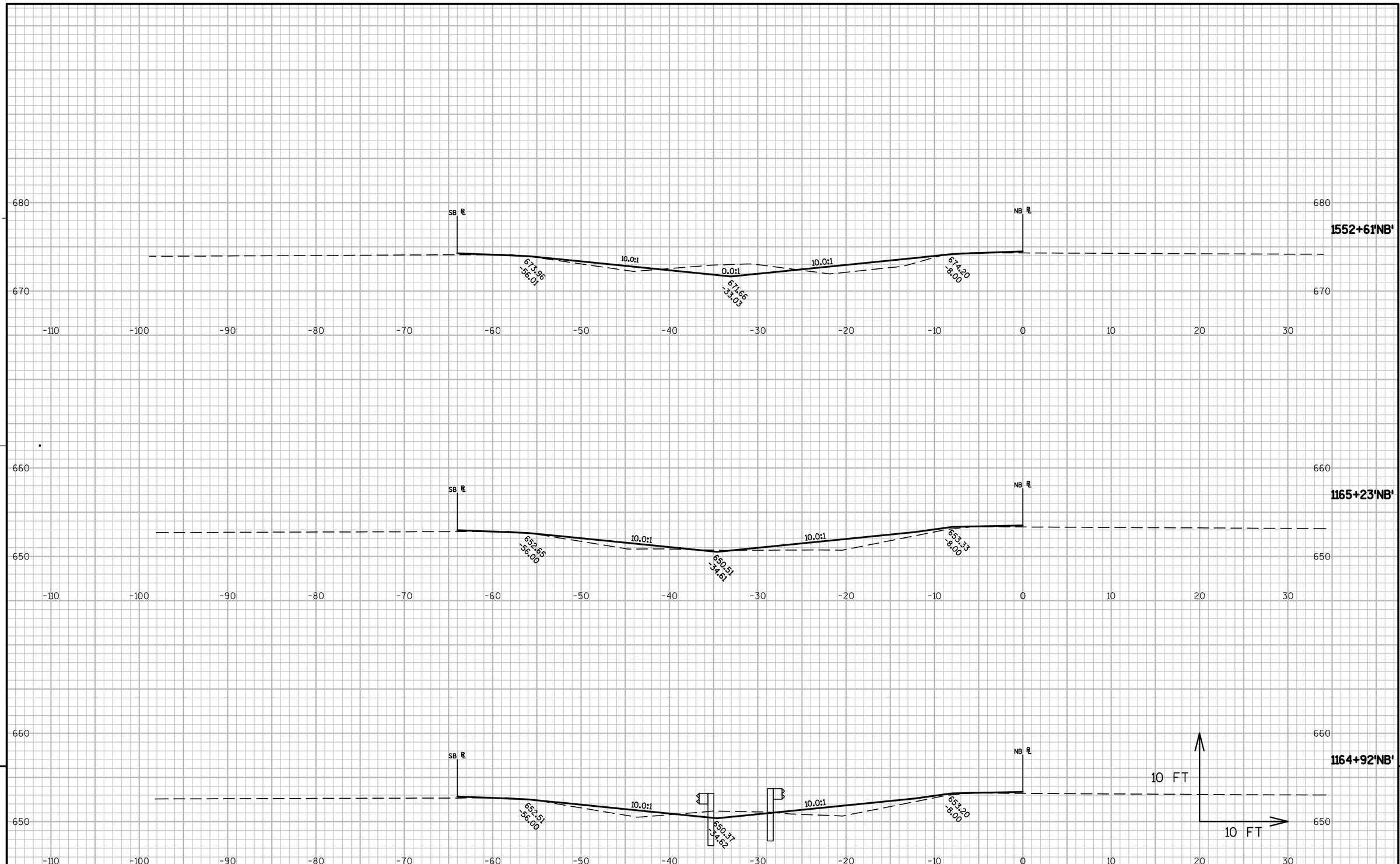


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PROJECT NO: 1224-21-71	HWY: IH 43	COUNTY: MANITOWOC	CROSS SECTIONS: IH 43 MEDIAN	SHEET 399	E

FILE NAME : N:\PDS\C3D\12242100\SHEETSPLAN\C3D 2014\12242171\090202_XS.DWG
LAYOUT NAME - 090202_H
PLOT DATE : 2/25/2015 11:40 AM PLOT BY : PORTER, STEVEN J PLOT NAME : PLOT SCALE : 1" = 10'_XREF
WISDOT/CADDS SHEET 49



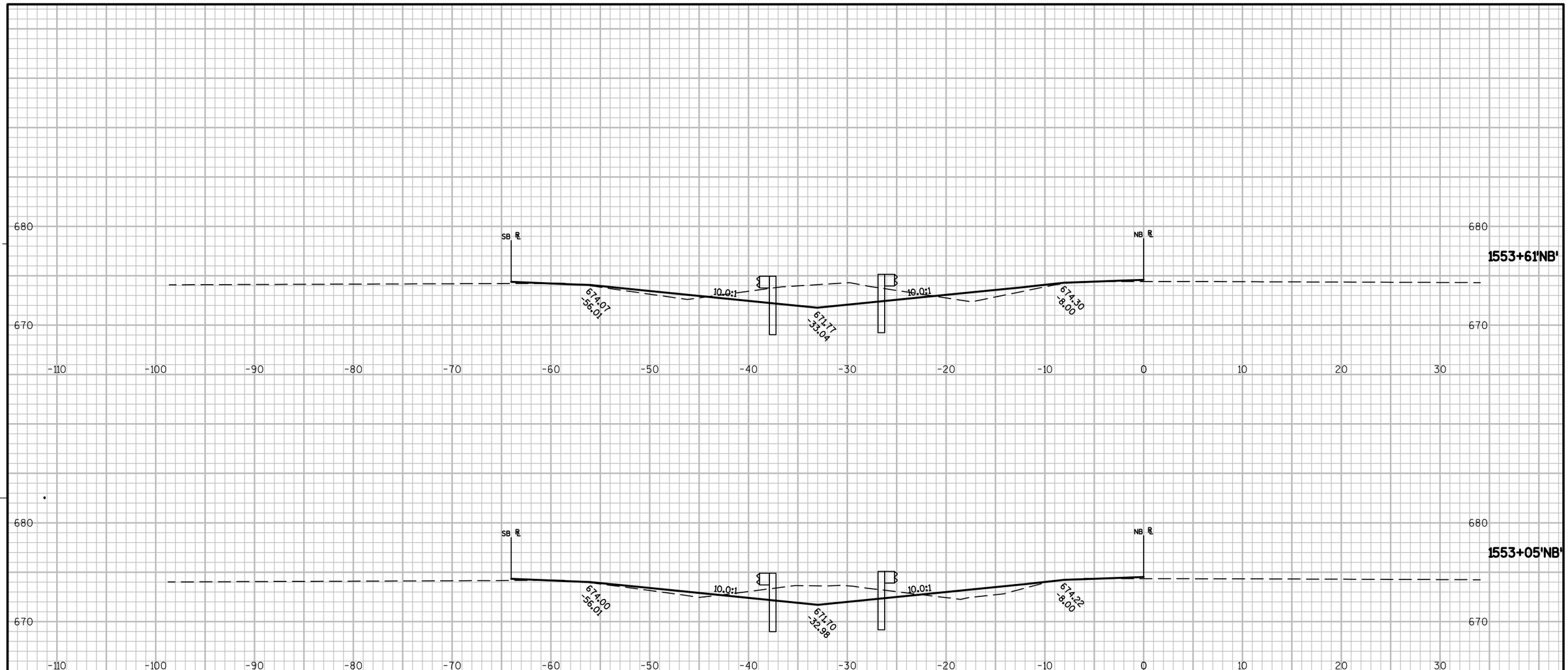
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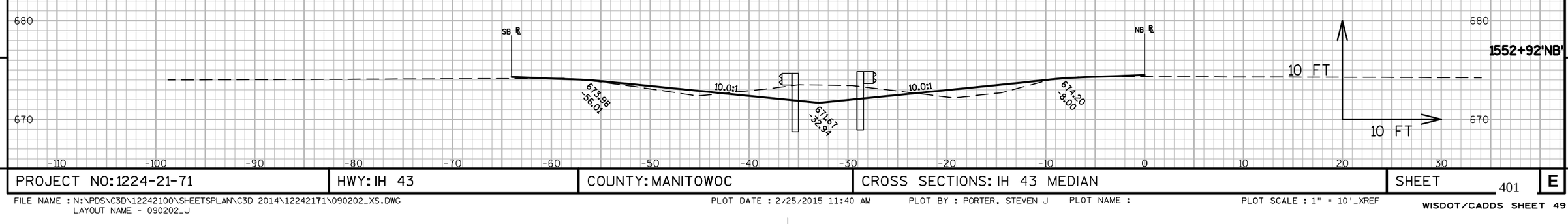
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PROJECT NO: 1224-21-71	HWY: IH 43	COUNTY: MANITOWOC	CROSS SECTIONS: IH 43 MEDIAN	SHEET 400	E

FILE NAME : N:\PDS\C3D\12242100\SHEETSPLAN\C3D 2014\12242171\090202_XS.DWG
LAYOUT NAME - 090202_I

PLOT DATE : 2/25/2015 11:40 AM PLOT BY : PORTER, STEVEN J PLOT NAME : PLOT SCALE : 1" = 10'_XREF





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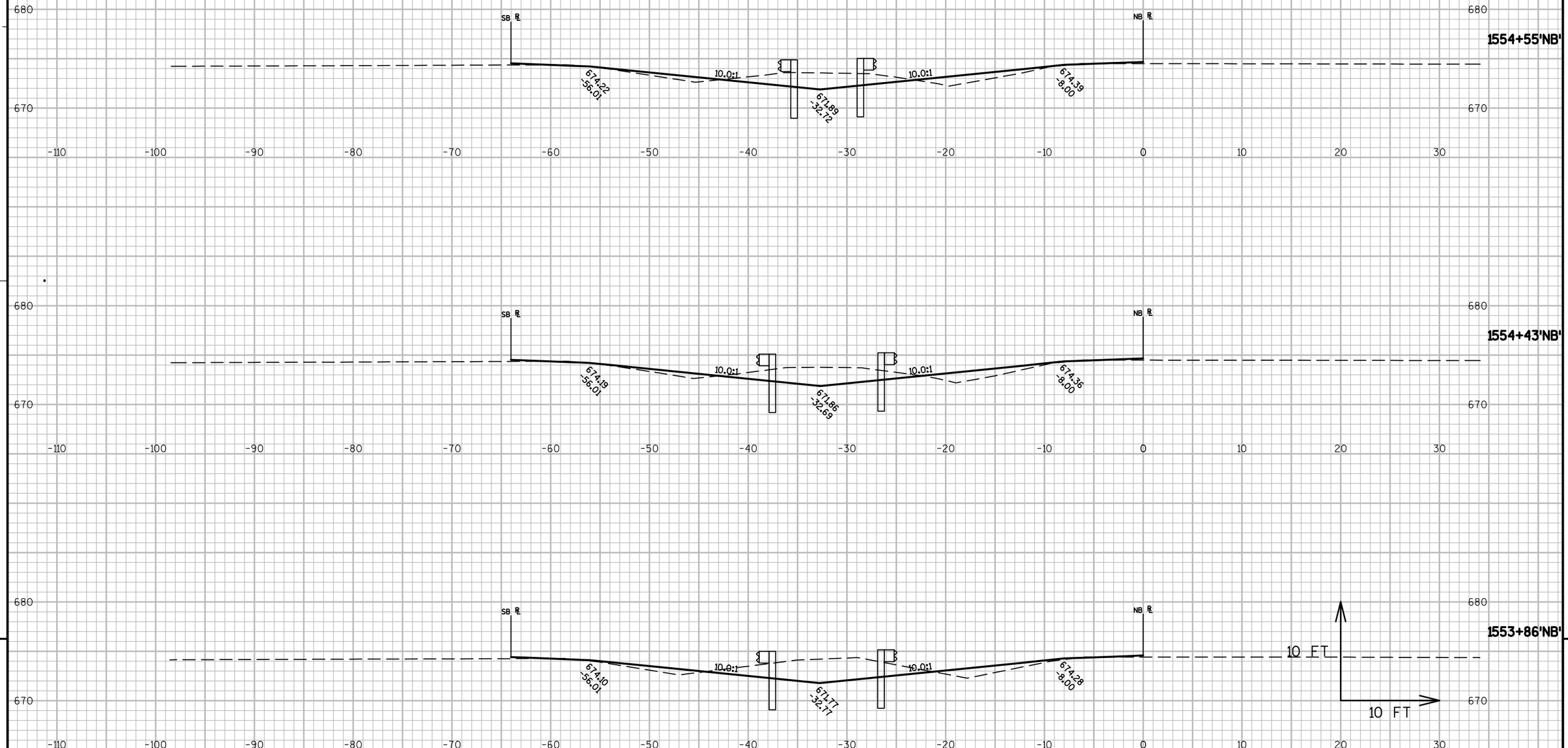
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PROJECT NO: 1224-21-71	HWY: IH 43	COUNTY: MANITOWOC	CROSS SECTIONS: IH 43 MEDIAN	SHEET 401	E

FILE NAME : N:\PDS\C3D\12242100\SHEETSPLAN\C3D 2014\12242171\090202_XS.DWG
LAYOUT NAME - 090202_J

PLOT DATE : 2/25/2015 11:40 AM PLOT BY : PORTER, STEVEN J PLOT NAME : PLOT SCALE : 1" = 10'_XREF

WISDOT/CADDS SHEET 49



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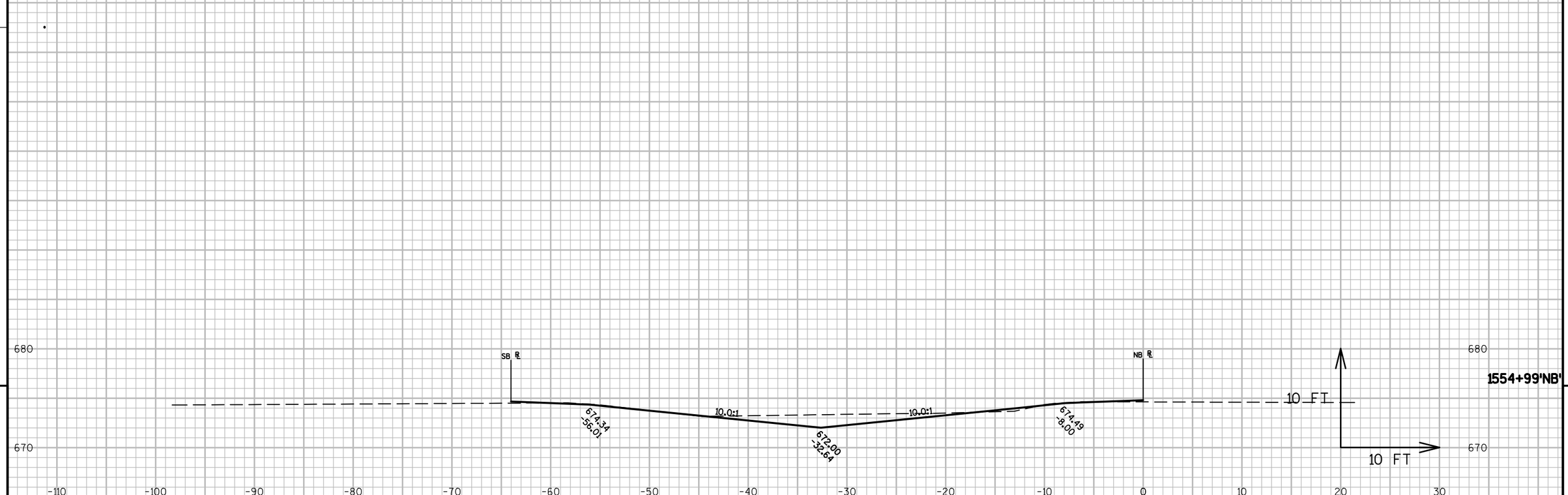
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PROJECT NO: 1224-21-71	HWY: IH 43	COUNTY: MANITOWOC	CROSS SECTIONS: IH 43 MEDIAN	SHEET 402	E

FILE NAME : N:\PDS\C3D\12242100\SHEETSPLAN\C3D 2014\12242171\090202_XS.DWG
LAYOUT NAME - 090202_K

PLOT DATE : 2/25/2015 11:41 AM PLOT BY : PORTER, STEVEN J PLOT NAME : PLOT SCALE : 1" = 10'_XREF

WISDOT/CADDS SHEET 49



9

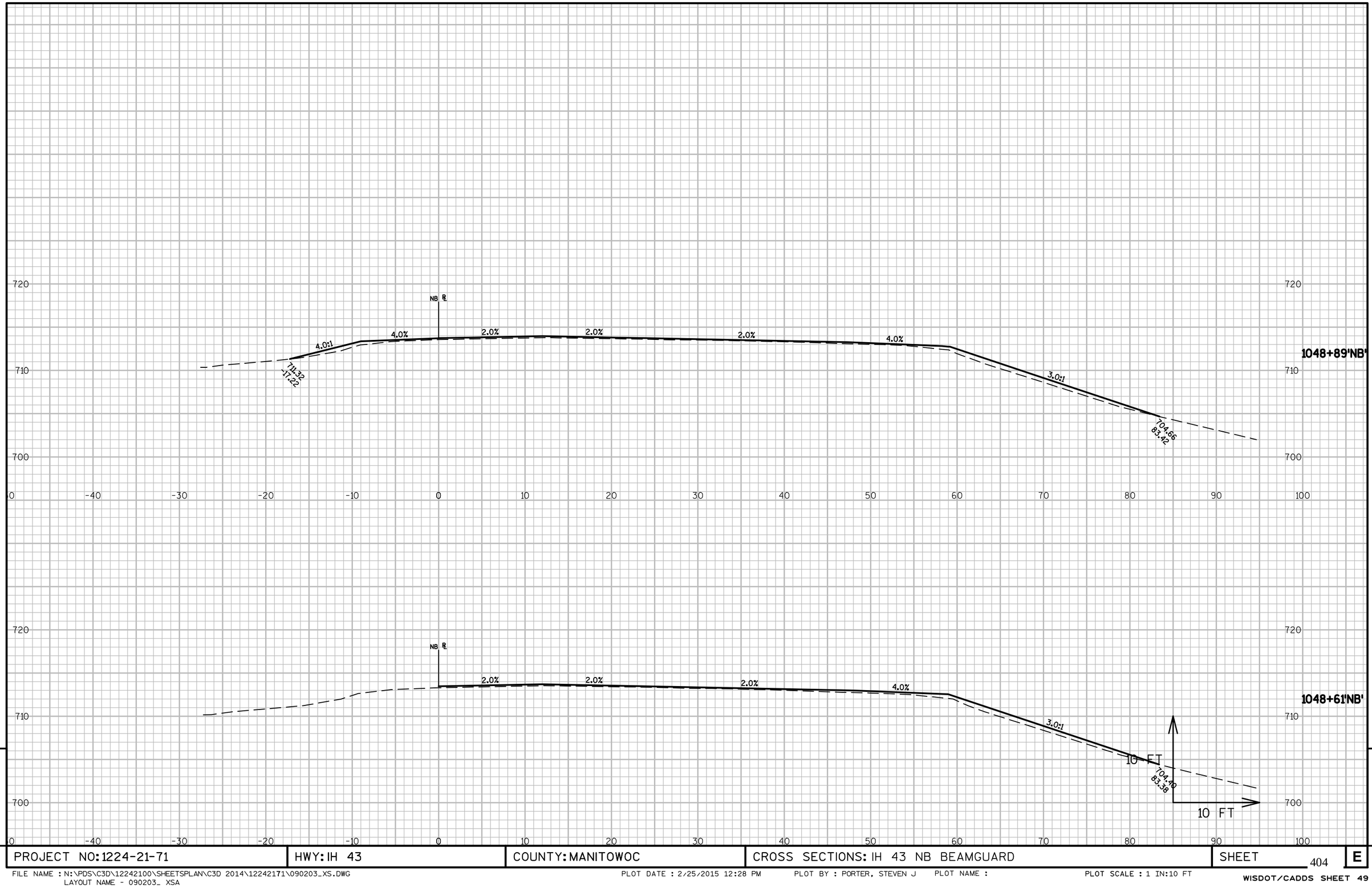
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PROJECT NO: 1224-21-71	HWY: IH 43	COUNTY: MANITOWOC	CROSS SECTIONS: IH 43 MEDIAN	SHEET 403	E

FILE NAME : N:\PDS\C3D\12242100\SHEETSPLAN\C3D 2014\12242171\090202_XS.DWG
LAYOUT NAME - 090202_L

PLOT DATE : 2/25/2015 11:41 AM PLOT BY : PORTER, STEVEN J PLOT NAME : PLOT SCALE : 1" = 10'_XREF

WISDOT/CADDS SHEET 49



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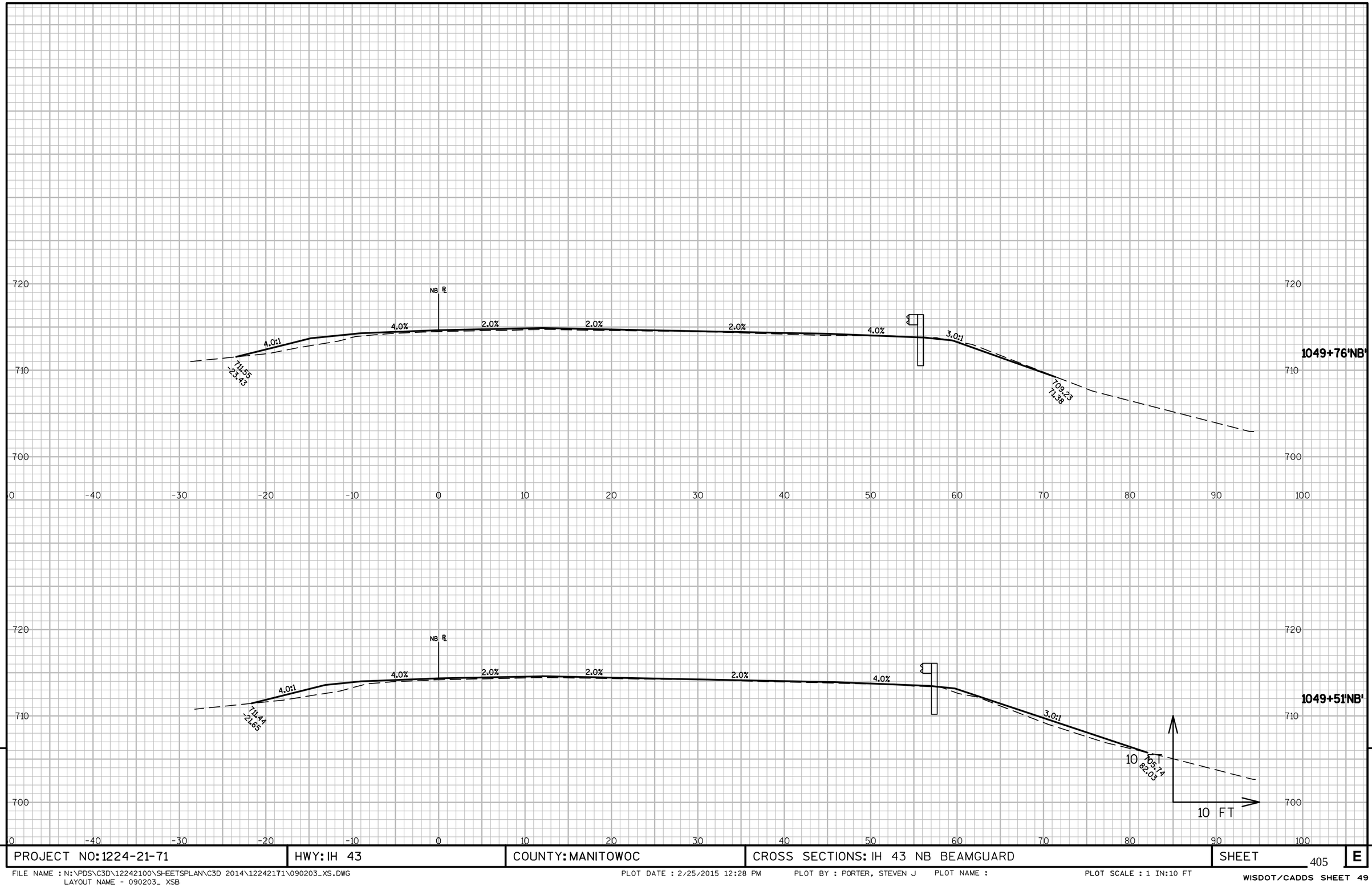
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PROJECT NO: 1224-21-71	HWY: IH 43	COUNTY: MANITOWOC	CROSS SECTIONS: IH 43 NB BEAMGUARD	SHEET 404	E

FILE NAME : N:\PDS\C3D\12242100\SHEETSPLAN\C3D 2014\12242171\090203_XS.DWG
LAYOUT NAME - 090203_ XSA

PLOT DATE : 2/25/2015 12:28 PM PLOT BY : PORTER, STEVEN J PLOT NAME : PLOT SCALE : 1 IN:10 FT

WISDOT/CADDS SHEET 49



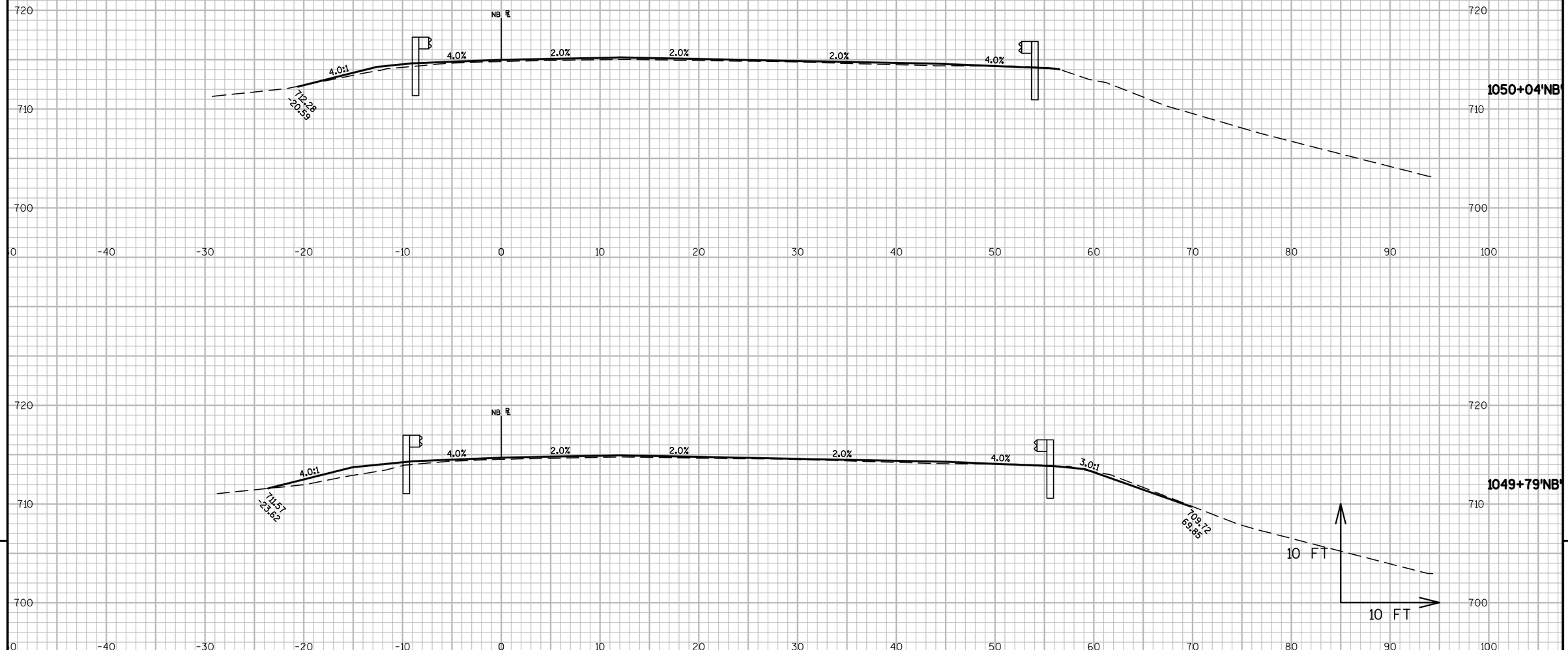
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PROJECT NO: 1224-21-71	HWY: IH 43	COUNTY: MANITOWOC	CROSS SECTIONS: IH 43 NB BEAMGUARD	SHEET 405	E

FILE NAME : N:\PDS\C3D\12242100\SHEETSPLAN\C3D 2014\12242171\090203_XS.DWG
LAYOUT NAME - 090203_ XSB

PLOT DATE : 2/25/2015 12:28 PM PLOT BY : PORTER, STEVEN J PLOT NAME : PLOT SCALE : 1 IN:10 FT



9

9

PROJECT NO: 1224-21-71	HWY: IH 43	COUNTY: MANITOWOC	CROSS SECTIONS: IH 43 NB BEAMGUARD	SHEET 406	E

FILE NAME : N:\PDS\C3D\12242100\SHEETSPLAN\C3D 2014\12242171\090203_XS.DWG
LAYOUT NAME - 090203_ XSC

PLOT DATE : 2/25/2015 12:29 PM PLOT BY : PORTER, STEVEN J PLOT NAME : PLOT SCALE : 1 IN:10 FT

WISDOT/CADDS SHEET 49



9

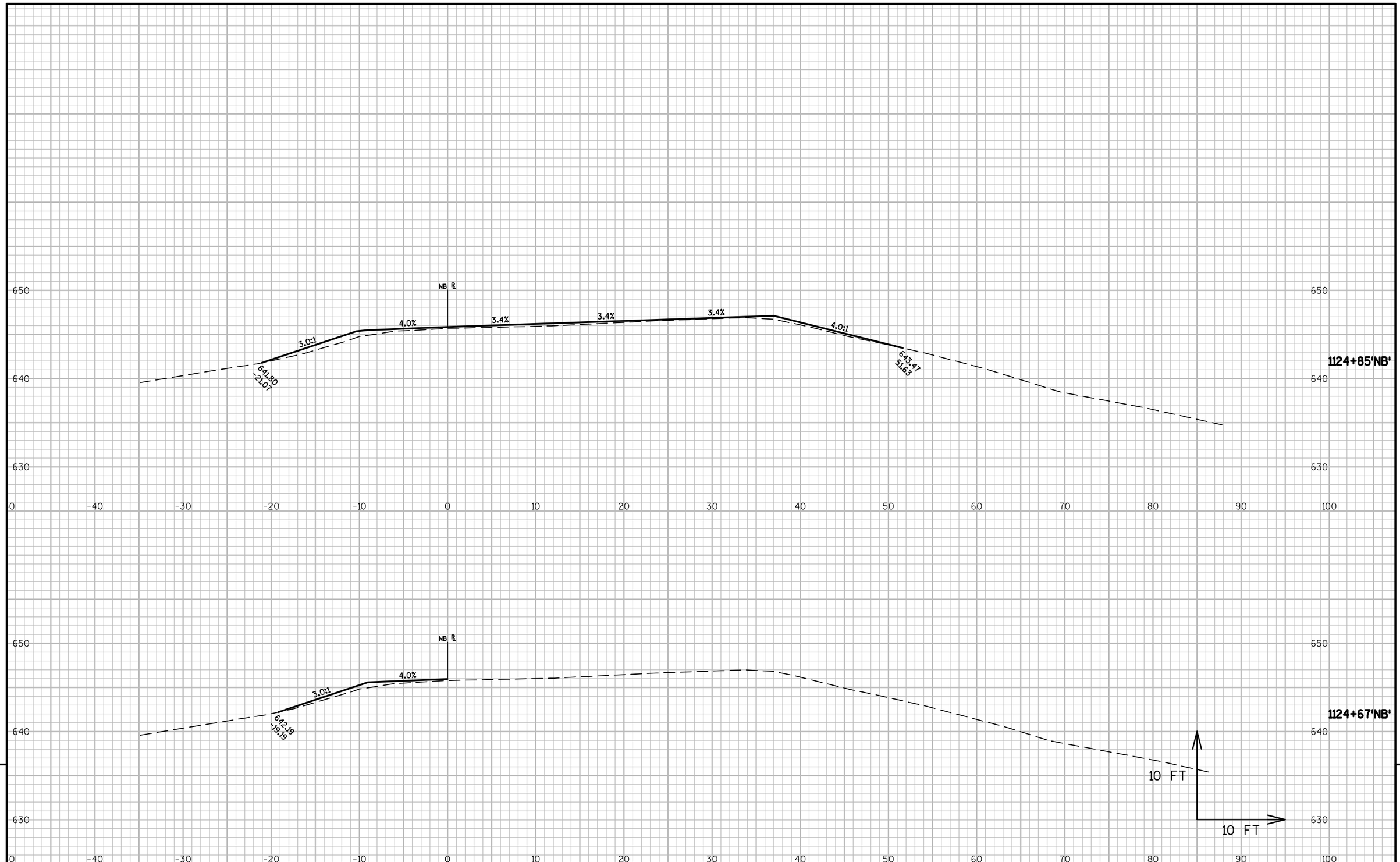
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PROJECT NO: 1224-21-71	HWY: IH 43	COUNTY: MANITOWOC	CROSS SECTIONS: IH 43 NB BEAMGUARD	SHEET 407	E

FILE NAME : N:\PDS\C3D\12242100\SHEETSPLAN\C3D 2014\12242171\090203_XS.DWG
LAYOUT NAME - 090203_ XSD

PLOT DATE : 2/25/2015 12:29 PM PLOT BY : PORTER, STEVEN J PLOT NAME : PLOT SCALE : 1 IN:10 FT

WISDOT/CADDS SHEET 49



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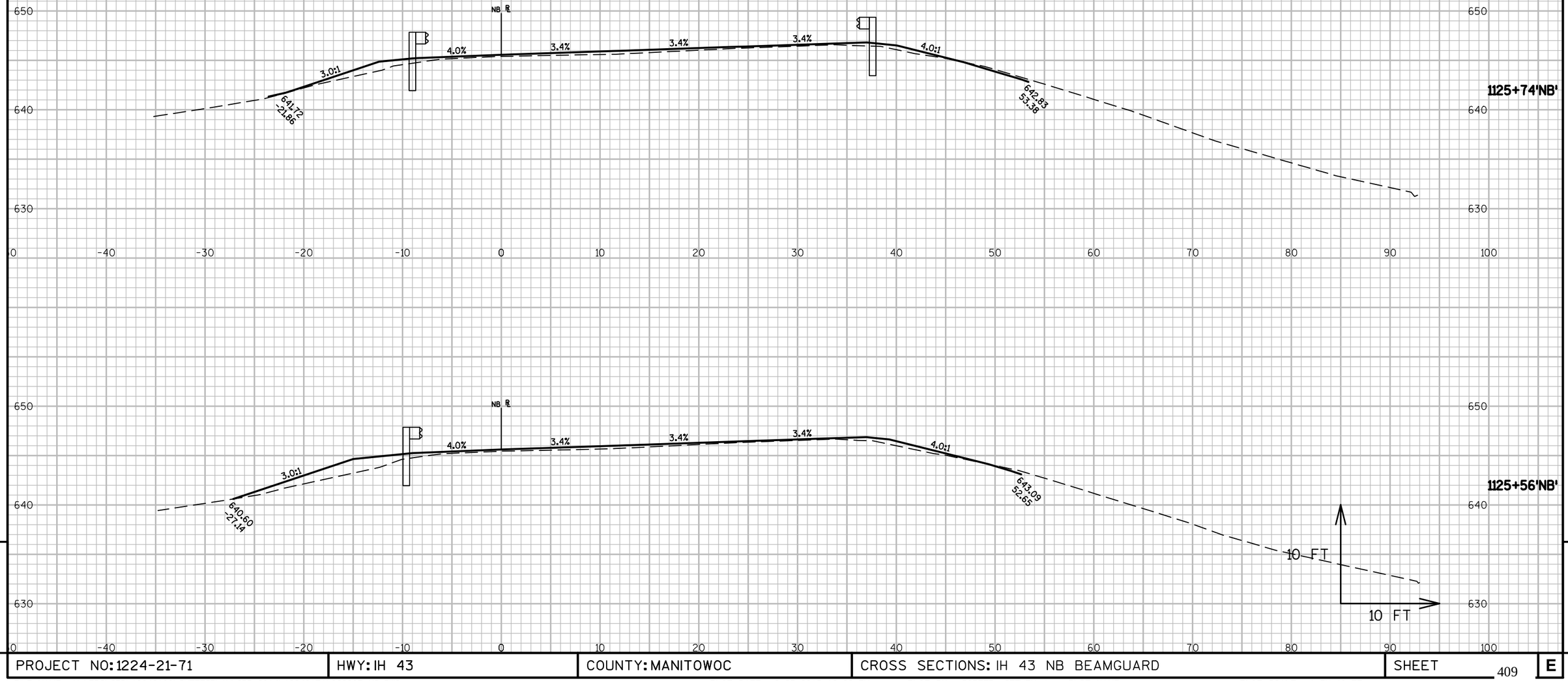
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PROJECT NO: 1224-21-71	HWY: IH 43	COUNTY: MANITOWOC	CROSS SECTIONS: IH 43 NB BEAMGUARD	SHEET 408	E

FILE NAME : N:\PDS\C3D\12242100\SHEETSPLAN\C3D 2014\12242171\090203_XS.DWG
LAYOUT NAME - 090203_ XSE

PLOT DATE : 2/25/2015 12:29 PM PLOT BY : PORTER, STEVEN J PLOT NAME : PLOT SCALE : 1 IN:10 FT

WISDOT/CADDS SHEET 49



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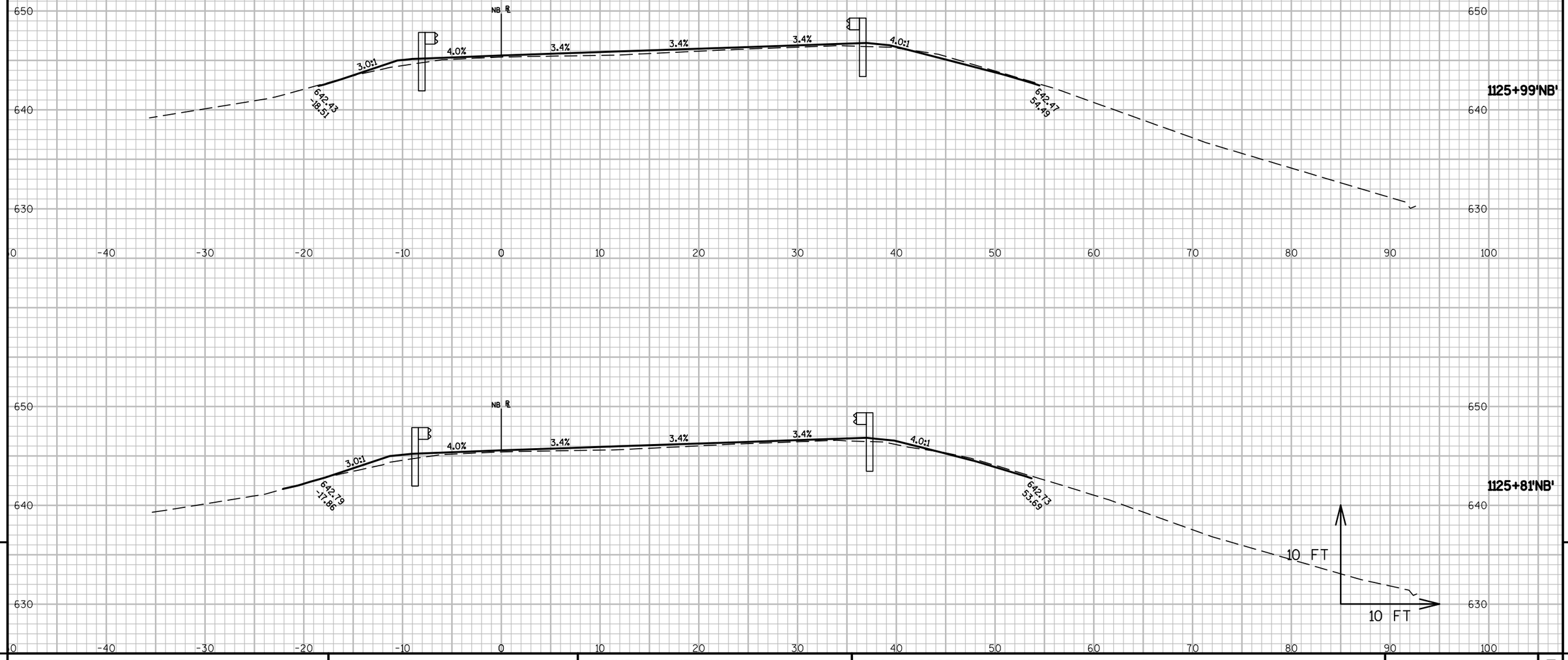
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FILE NAME : N:\PDS\C3D\12242100\SHEETSPLAN\C3D 2014\12242171\090203_XS.DWG
LAYOUT NAME - 090203_ XSF

PLOT DATE : 2/25/2015 12:29 PM PLOT BY : PORTER, STEVEN J PLOT NAME : PLOT SCALE : 1 IN:10 FT

WISDOT/CADDS SHEET 49



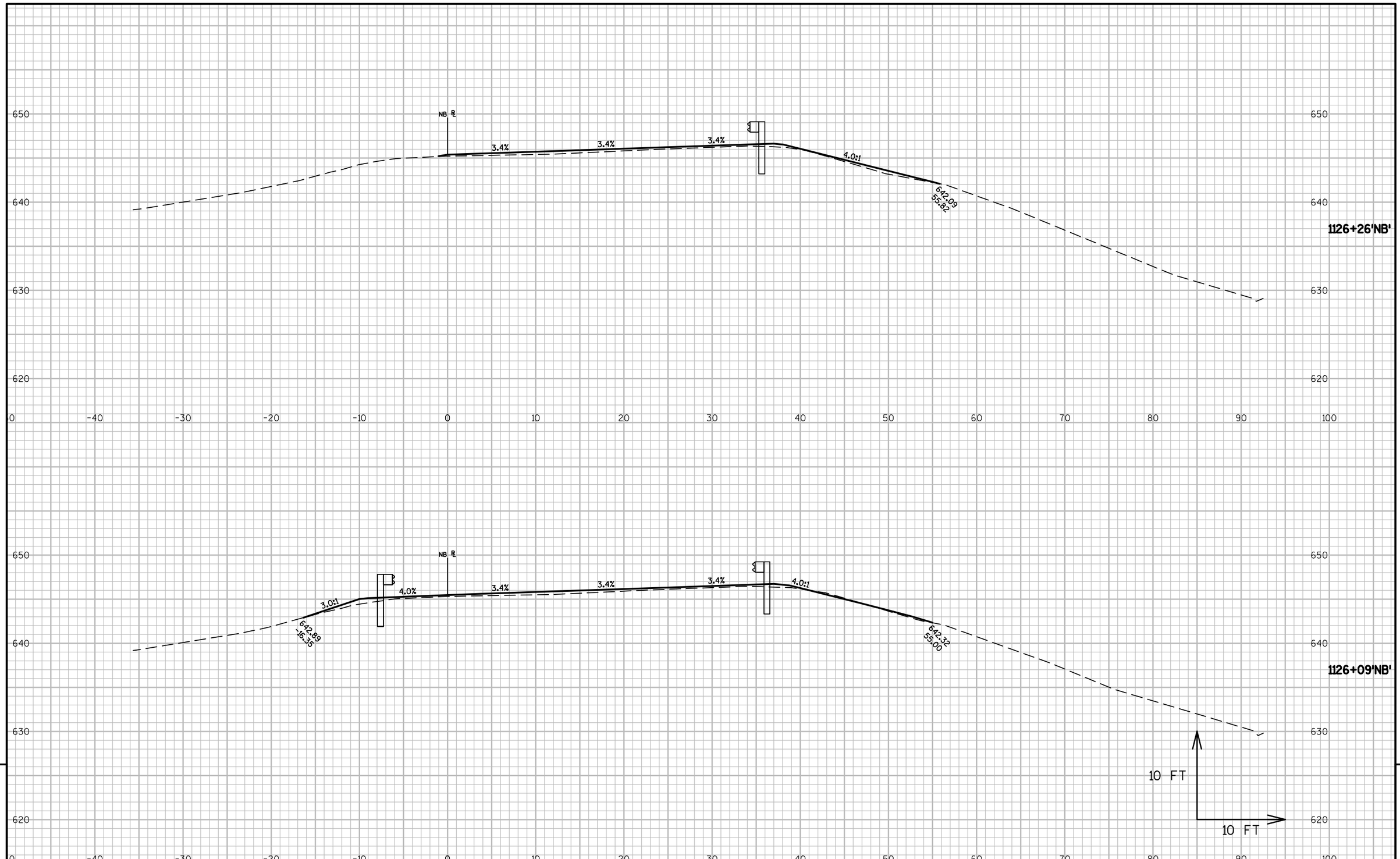
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PROJECT NO: 1224-21-71	HWY: IH 43	COUNTY: MANITOWOC	CROSS SECTIONS: IH 43 NB BEAMGUARD	SHEET 410	E

FILE NAME : N:\PDS\C3D\12242100\SHEETSPLAN\C3D 2014\12242171\090203_XS.DWG
LAYOUT NAME - 090203_ XSG

PLOT DATE : 2/25/2015 12:29 PM PLOT BY : PORTER, STEVEN J PLOT NAME : PLOT SCALE : 1 IN:10 FT



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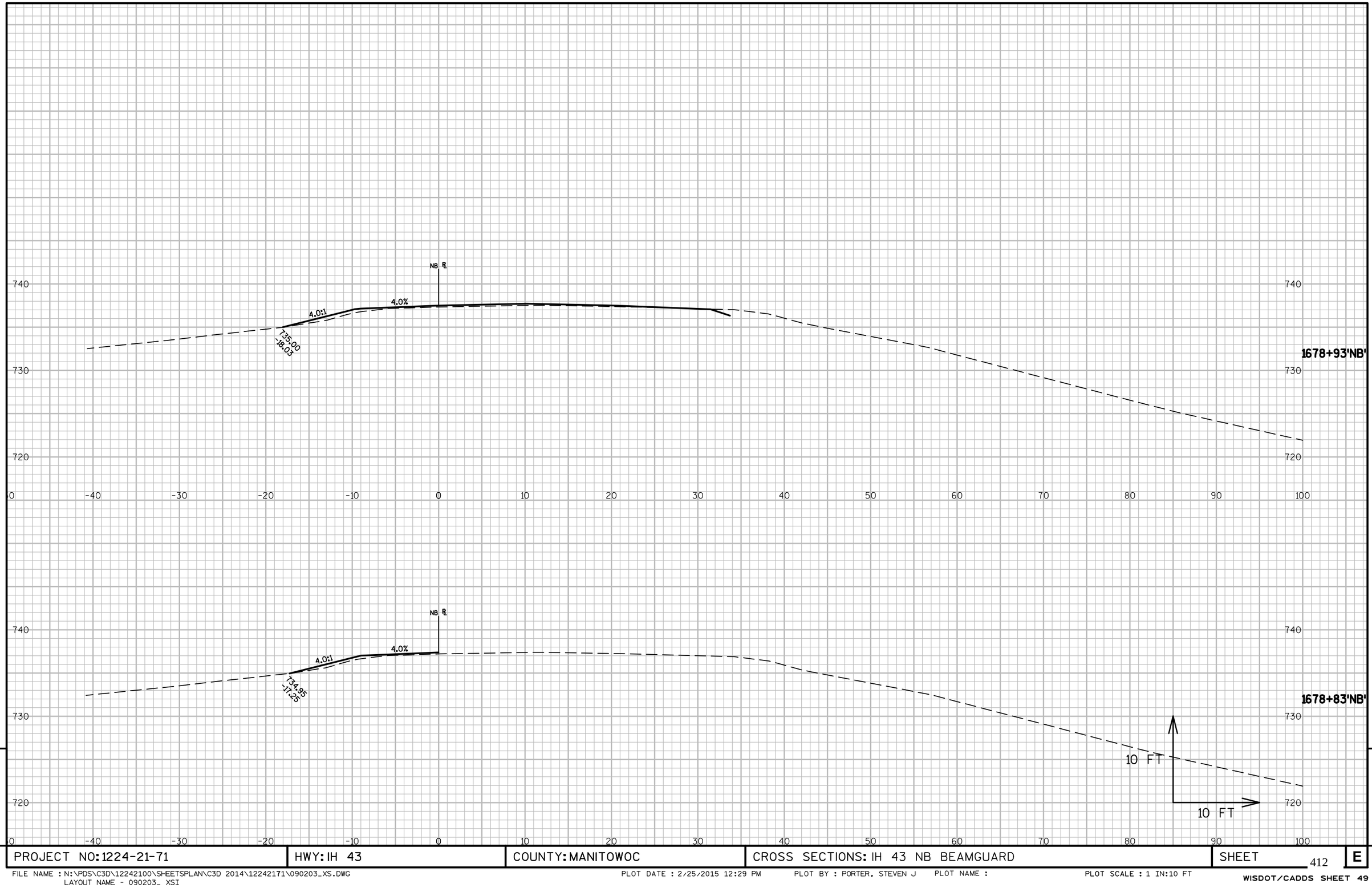
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PROJECT NO: 1224-21-71	HWY: IH 43	COUNTY: MANITOWOC	CROSS SECTIONS: IH 43 NB BEAMGUARD	SHEET 411	E

FILE NAME : N:\PDS\C3D\12242100\SHEETSPLAN\C3D 2014\12242171\090203_XS.DWG
LAYOUT NAME - 090203_ XSH

PLOT DATE : 2/25/2015 12:29 PM PLOT BY : PORTER, STEVEN J PLOT NAME : PLOT SCALE : 1 IN:10 FT

WISDOT/CADDS SHEET 49



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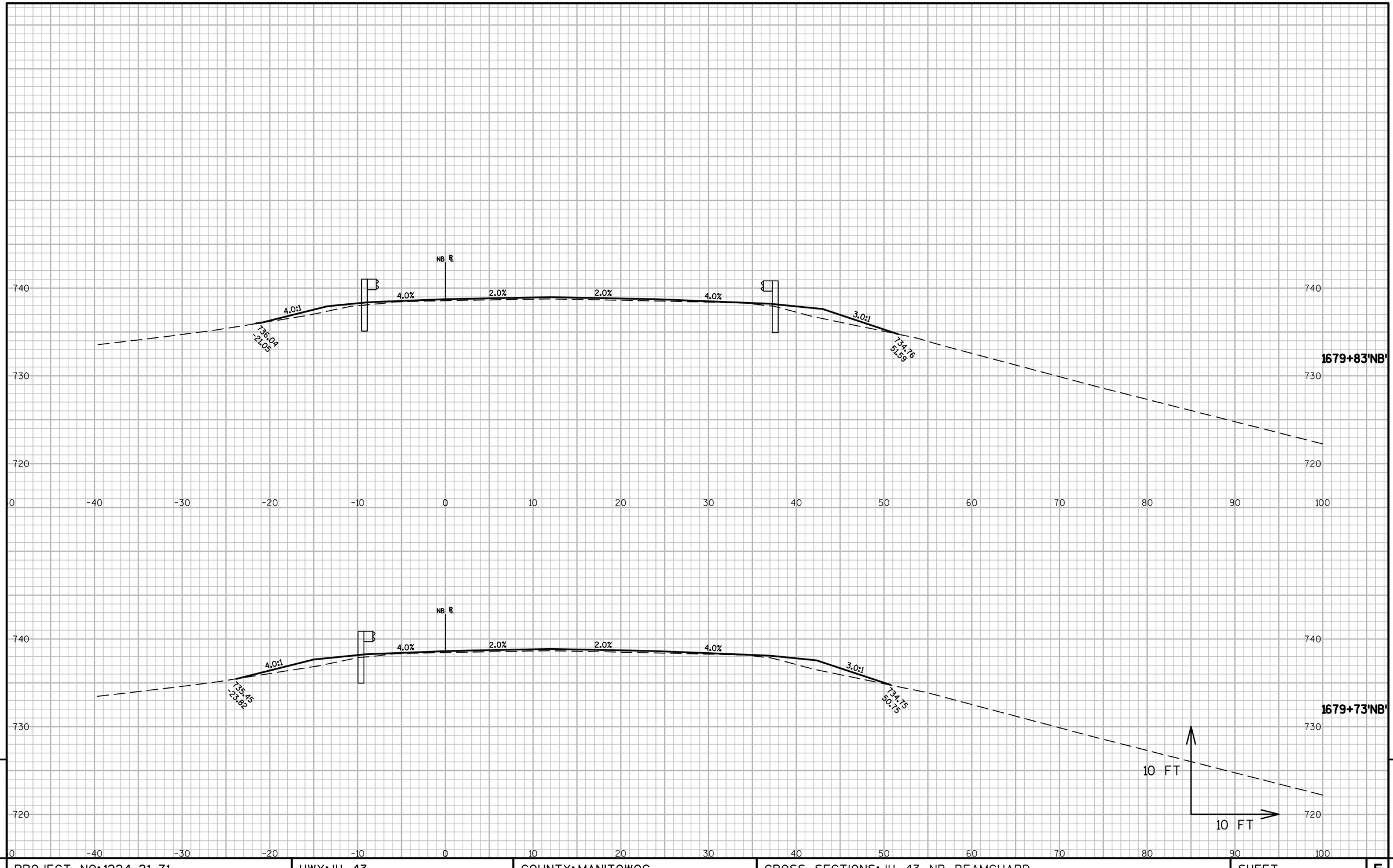
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PROJECT NO: 1224-21-71	HWY: IH 43	COUNTY: MANITOWOC	CROSS SECTIONS: IH 43 NB BEAMGUARD	SHEET 412	E

FILE NAME : N:\PDS\C3D\12242100\SHEETSPLAN\C3D 2014\12242171\090203_XS.DWG
LAYOUT NAME - 090203_ XSI

PLOT DATE : 2/25/2015 12:29 PM PLOT BY : PORTER, STEVEN J PLOT NAME : PLOT SCALE : 1 IN:10 FT

WISDOT/CADDS SHEET 49



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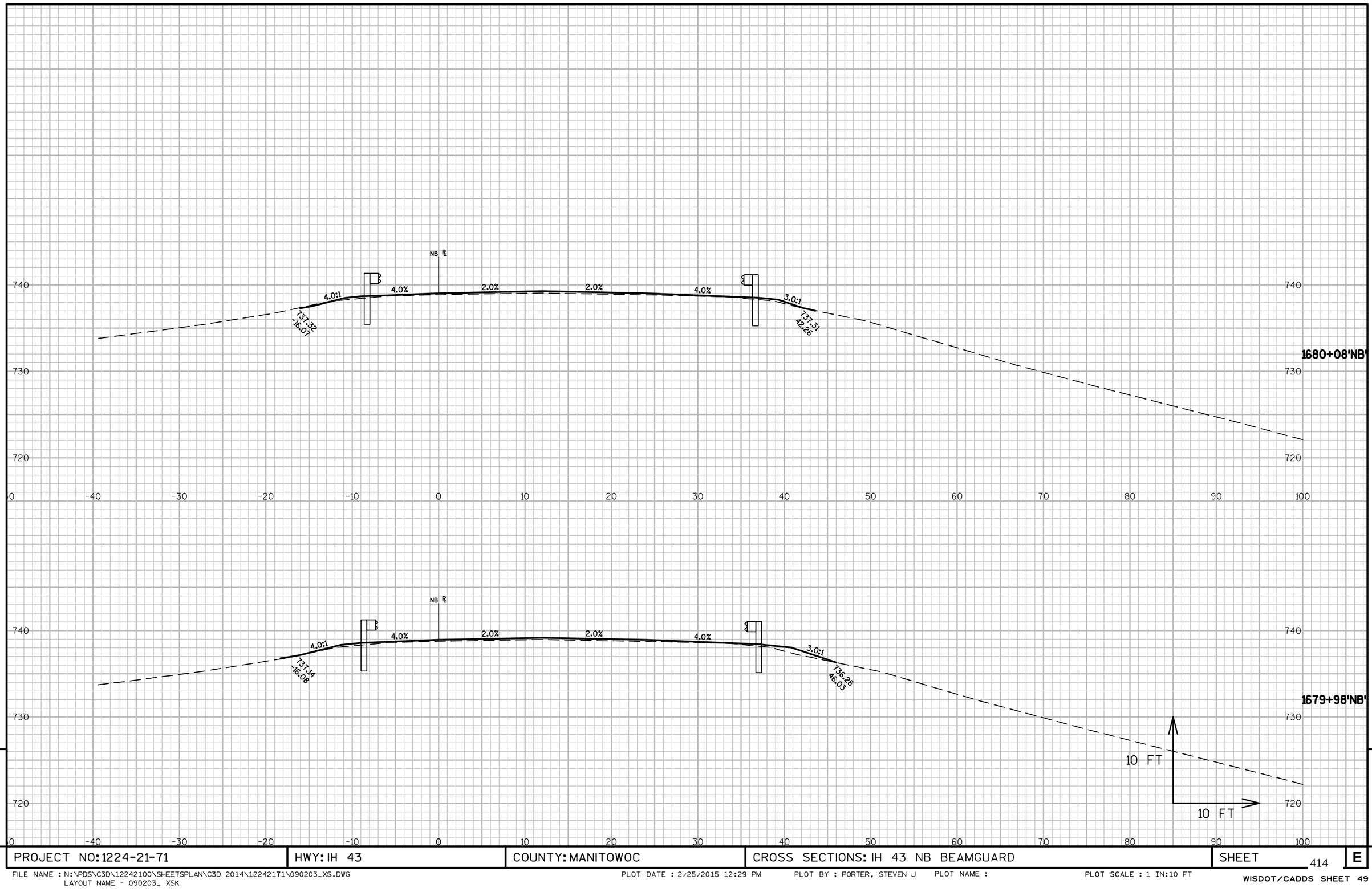
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PROJECT NO: 1224-21-71	HWY: IH 43	COUNTY: MANITOWOC	CROSS SECTIONS: IH 43 NB BEAMGUARD	SHEET 413	E

FILE NAME : N:\PDS\C3D\12242100\SHEETSPLAN\C3D 2014\12242171\090203_XS.DWG
LAYOUT NAME - 090203_ XSJ

PLOT DATE : 2/25/2015 12:29 PM PLOT BY : PORTER, STEVEN J PLOT NAME : PLOT SCALE : 1 IN:10 FT

WISDOT/CADDS SHEET 49



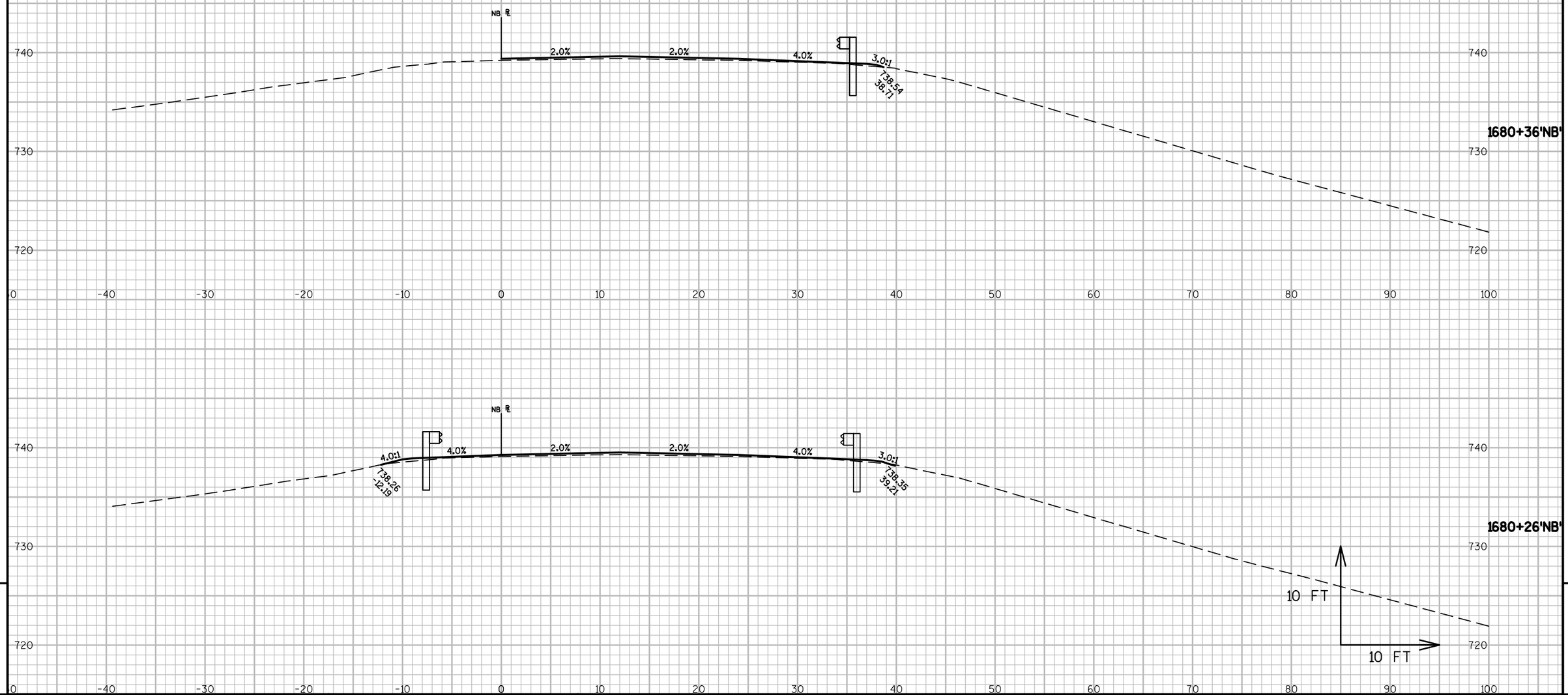
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PROJECT NO: 1224-21-71	HWY: IH 43	COUNTY: MANITOWOC	CROSS SECTIONS: IH 43 NB BEAMGUARD	SHEET 414	E

FILE NAME : N:\PDS\C3D\12242100\SHEETSPLAN\C3D 2014\12242171\090203_XS.DWG
LAYOUT NAME - 090203_ XSK

PLOT DATE : 2/25/2015 12:29 PM PLOT BY : PORTER, STEVEN J PLOT NAME : PLOT SCALE : 1 IN:10 FT



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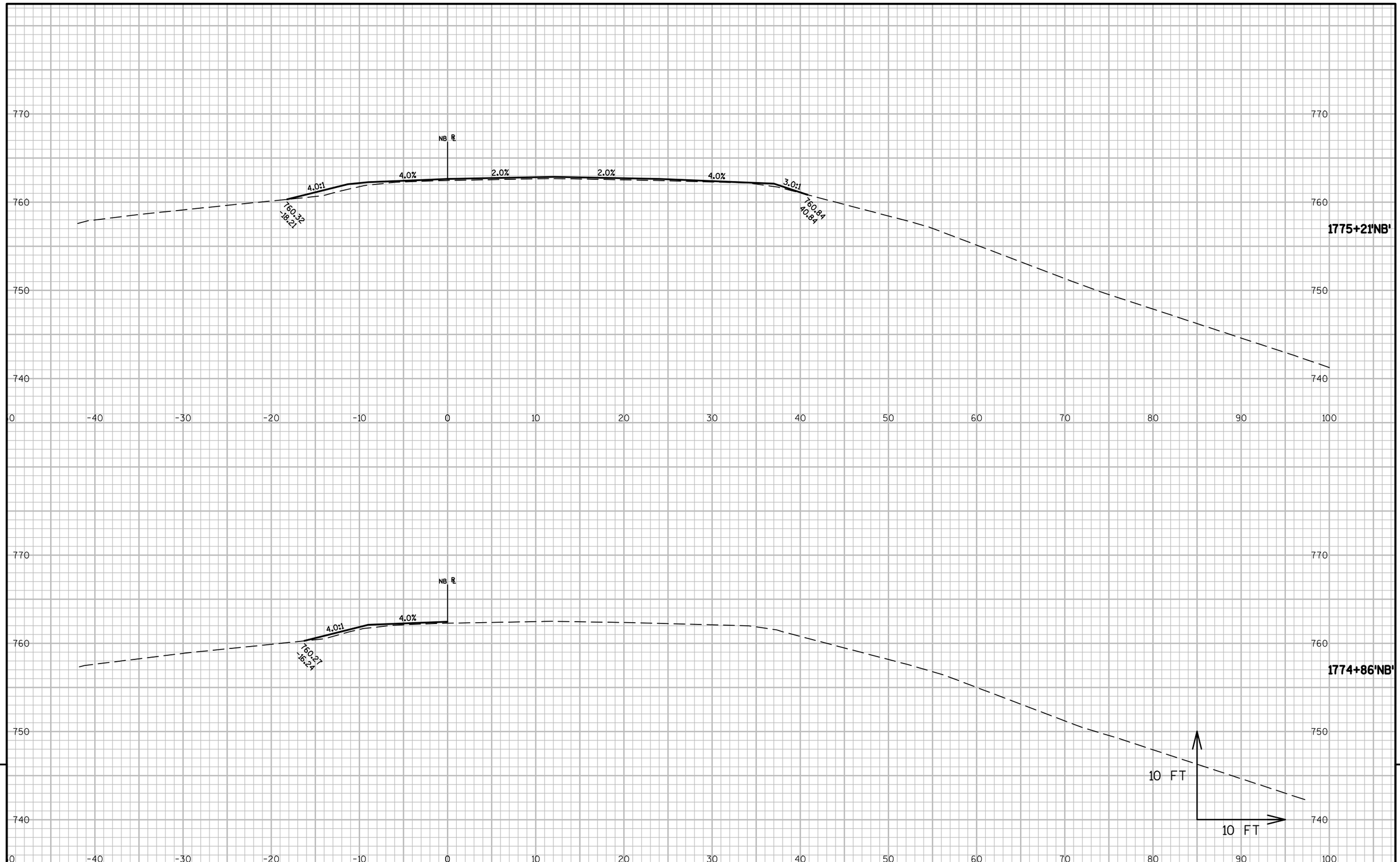
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PROJECT NO: 1224-21-71	HWY: IH 43	COUNTY: MANITOWOC	CROSS SECTIONS: IH 43 NB BEAMGUARD	SHEET 415	E

FILE NAME : N:\PDS\C3D\12242100\SHEETSPLAN\C3D 2014\12242171\090203_XS.DWG
LAYOUT NAME - 090203_ XSL

PLOT DATE : 2/25/2015 12:30 PM PLOT BY : PORTER, STEVEN J PLOT NAME : PLOT SCALE : 1 IN:10 FT

WISDOT/CADDS SHEET 49



9

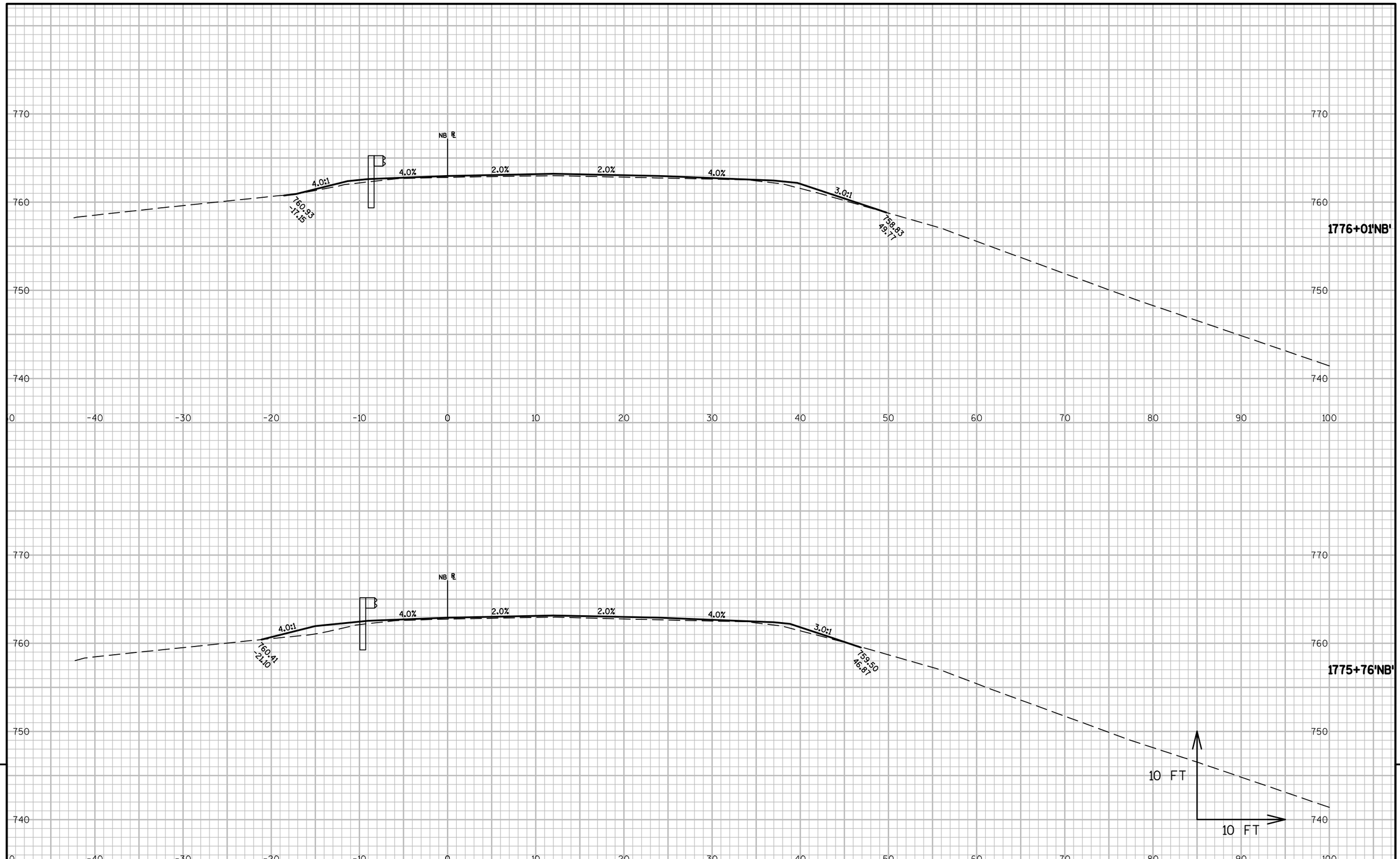
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PROJECT NO: 1224-21-71	HWY: IH 43	COUNTY: MANITOWOC	CROSS SECTIONS: IH 43 NB BEAMGUARD	SHEET 416	E

FILE NAME : N:\PDS\C3D\12242100\SHEETSPLAN\C3D 2014\12242171\090203_XS.DWG
LAYOUT NAME - 090203_ XSM

PLOT DATE : 2/25/2015 12:30 PM PLOT BY : PORTER, STEVEN J PLOT NAME : PLOT SCALE : 1 IN:10 FT

WISDOT/CADDS SHEET 49



9

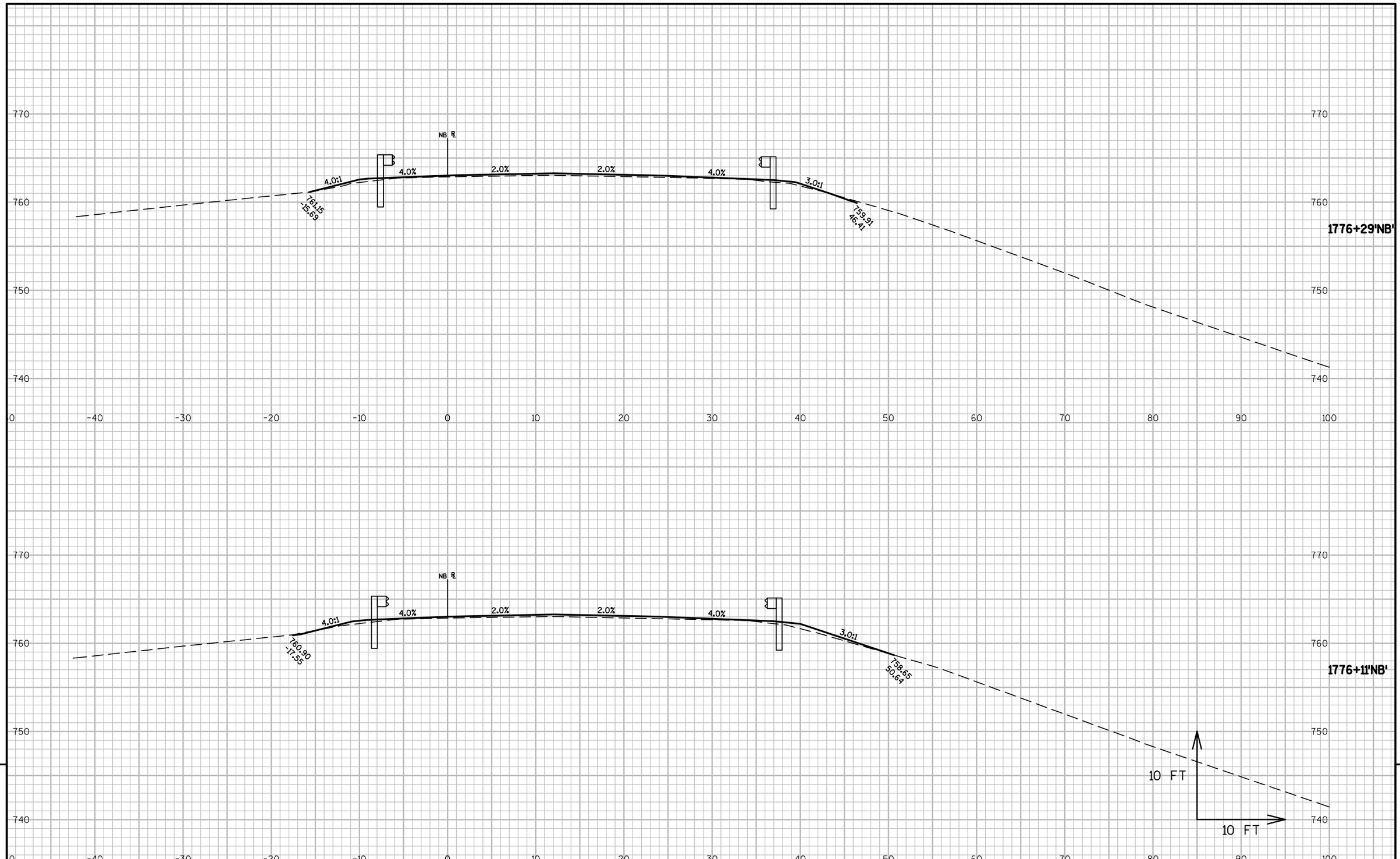
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PROJECT NO: 1224-21-71	HWY: IH 43	COUNTY: MANITOWOC	CROSS SECTIONS: IH 43 NB BEAMGUARD	SHEET 417	E

FILE NAME : N:\PDS\C3D\12242100\SHEETSPLAN\C3D 2014\12242171\090203_XS.DWG
LAYOUT NAME - 090203_ XSN

PLOT DATE : 2/25/2015 12:30 PM PLOT BY : PORTER, STEVEN J PLOT NAME : PLOT SCALE : 1 IN:10 FT

WISDOT/CADDS SHEET 49

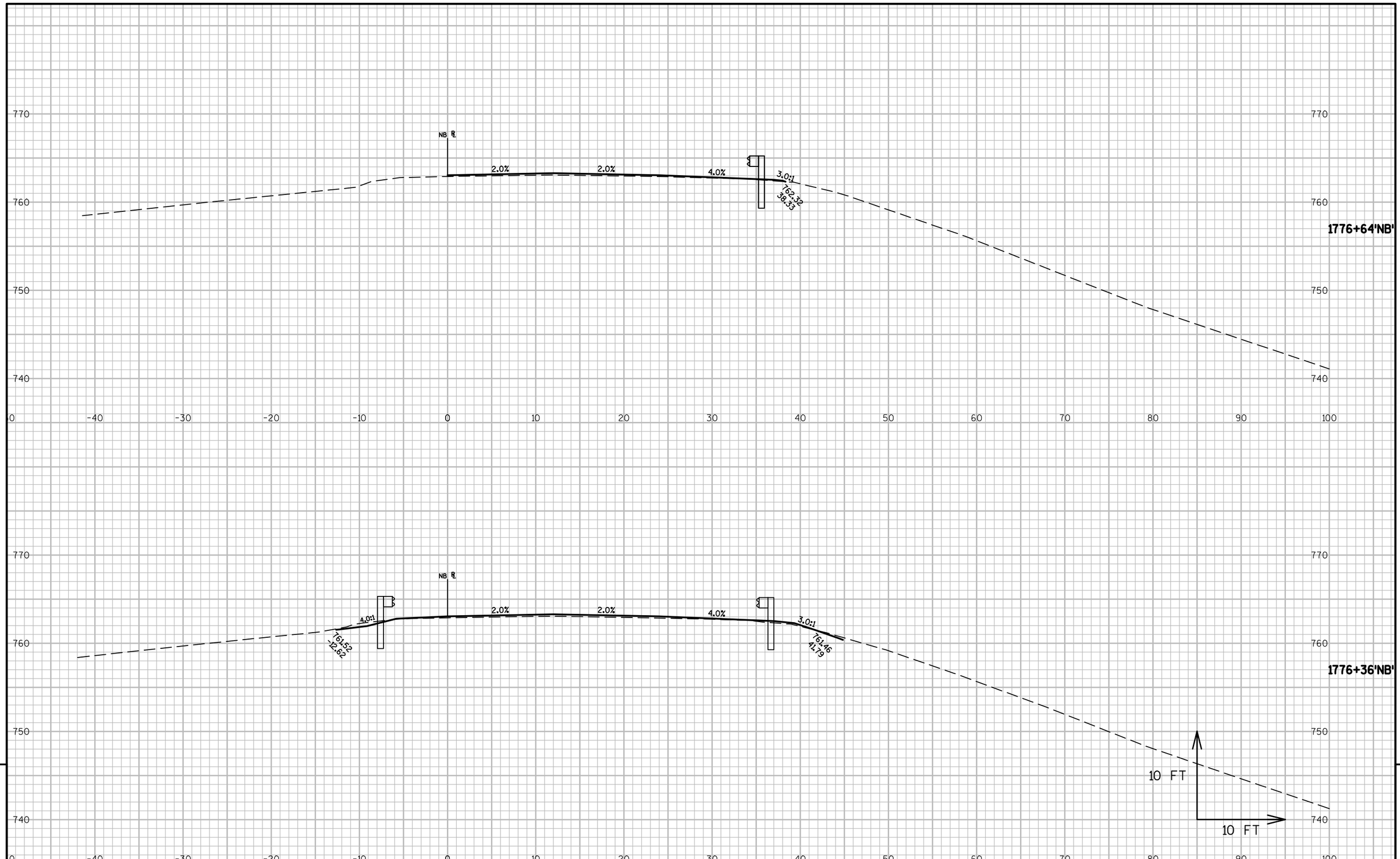


PROJECT NO: 1224-21-71	HWY: IH 43	COUNTY: MANITOWOC	CROSS SECTIONS: IH 43 NB BEAMGUARD	SHEET 418 E

FILE NAME : N:\PDS\C3D\12242100\SHEETSPLAN\C3D 2014\12242171\090203_XS.DWG
LAYOUT NAME - 090203_ XSO

PLOT DATE : 2/25/2015 12:30 PM PLOT BY : PORTER, STEVEN J PLOT NAME : PLOT SCALE : 1 IN:10 FT

WISDOT/CADDS SHEET 49



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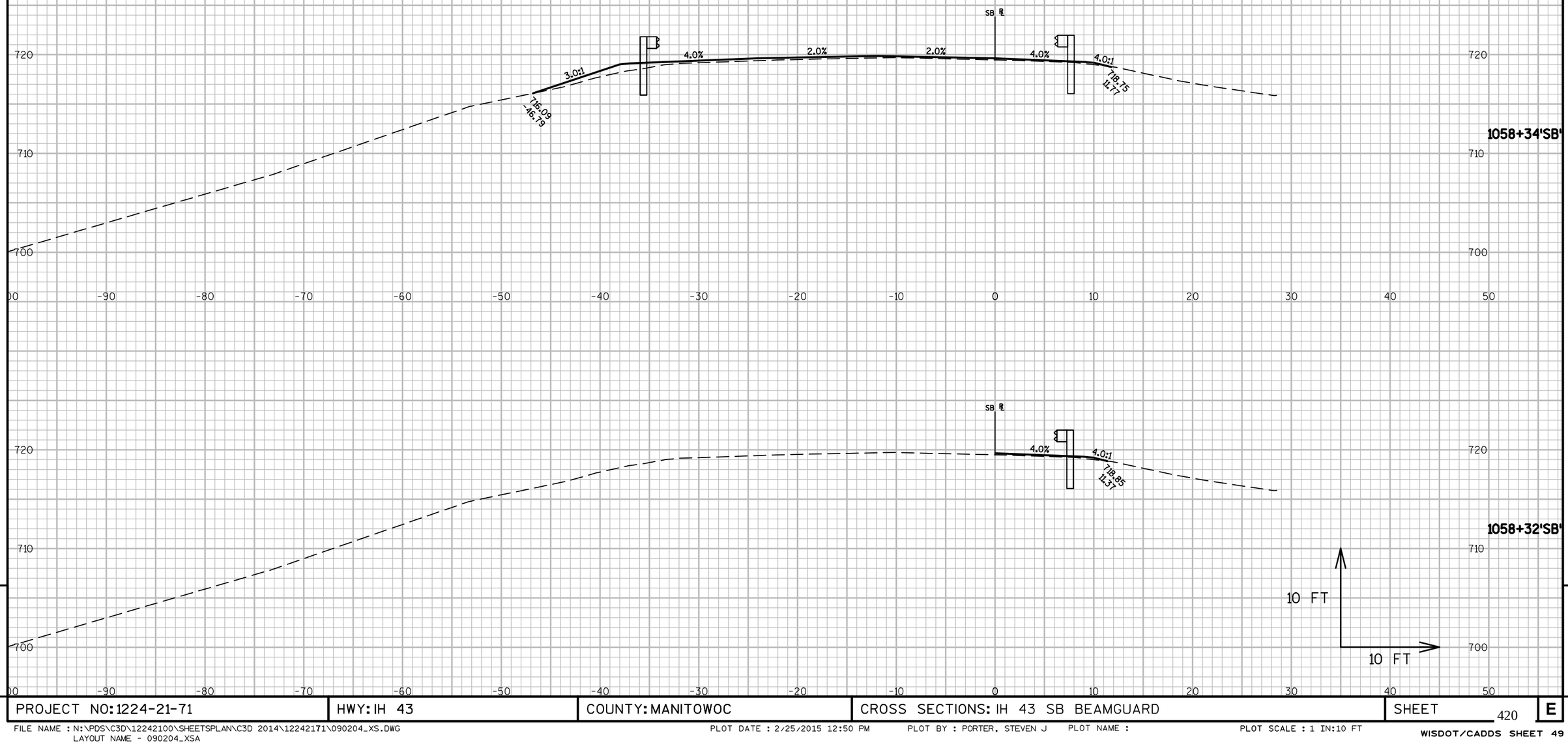
PROJECT NO: 1224-21-71	HWY: IH 43	COUNTY: MANITOWOC	CROSS SECTIONS: IH 43 NB BEAMGUARD	SHEET 419	E

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FILE NAME : N:\PDS\C3D\12242100\SHEETSPLAN\C3D 2014\12242171\090203_XS.DWG
LAYOUT NAME - 090203_ XSP

PLOT DATE : 2/25/2015 12:30 PM PLOT BY : PORTER, STEVEN J PLOT NAME : PLOT SCALE : 1 IN:10 FT

WISDOT/CADDS SHEET 49



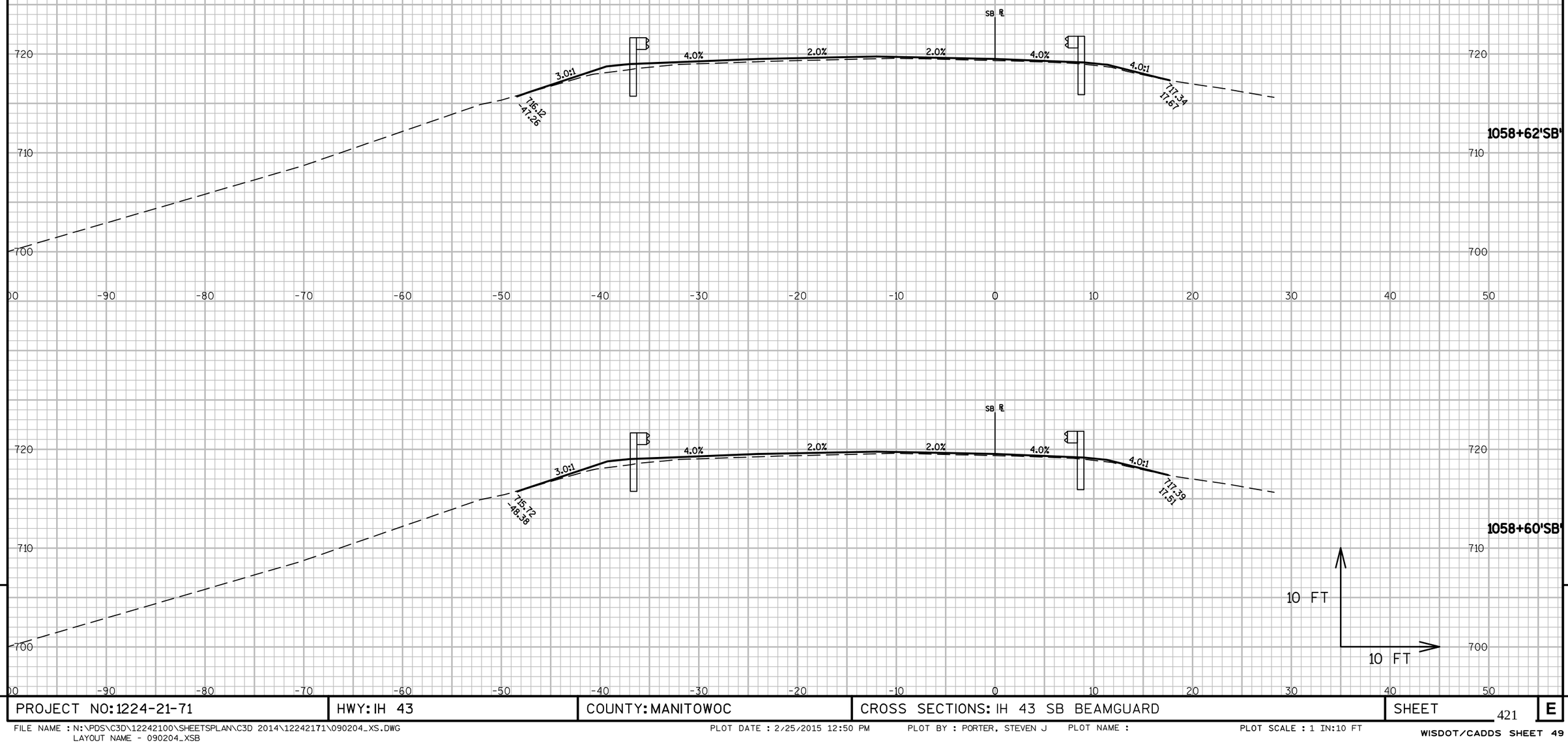
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PROJECT NO: 1224-21-71	HWY: IH 43	COUNTY: MANITOWOC	CROSS SECTIONS: IH 43 SB BEAMGUARD	SHEET 420	E

FILE NAME : N:\PDS\C3D\12242100\SHEETSPLAN\C3D 2014\12242171\090204_XS.DWG
LAYOUT NAME - 090204_XSA

PLOT DATE : 2/25/2015 12:50 PM PLOT BY : PORTER, STEVEN J PLOT NAME : PLOT SCALE : 1 IN:10 FT

WISDOT/CADDS SHEET 49



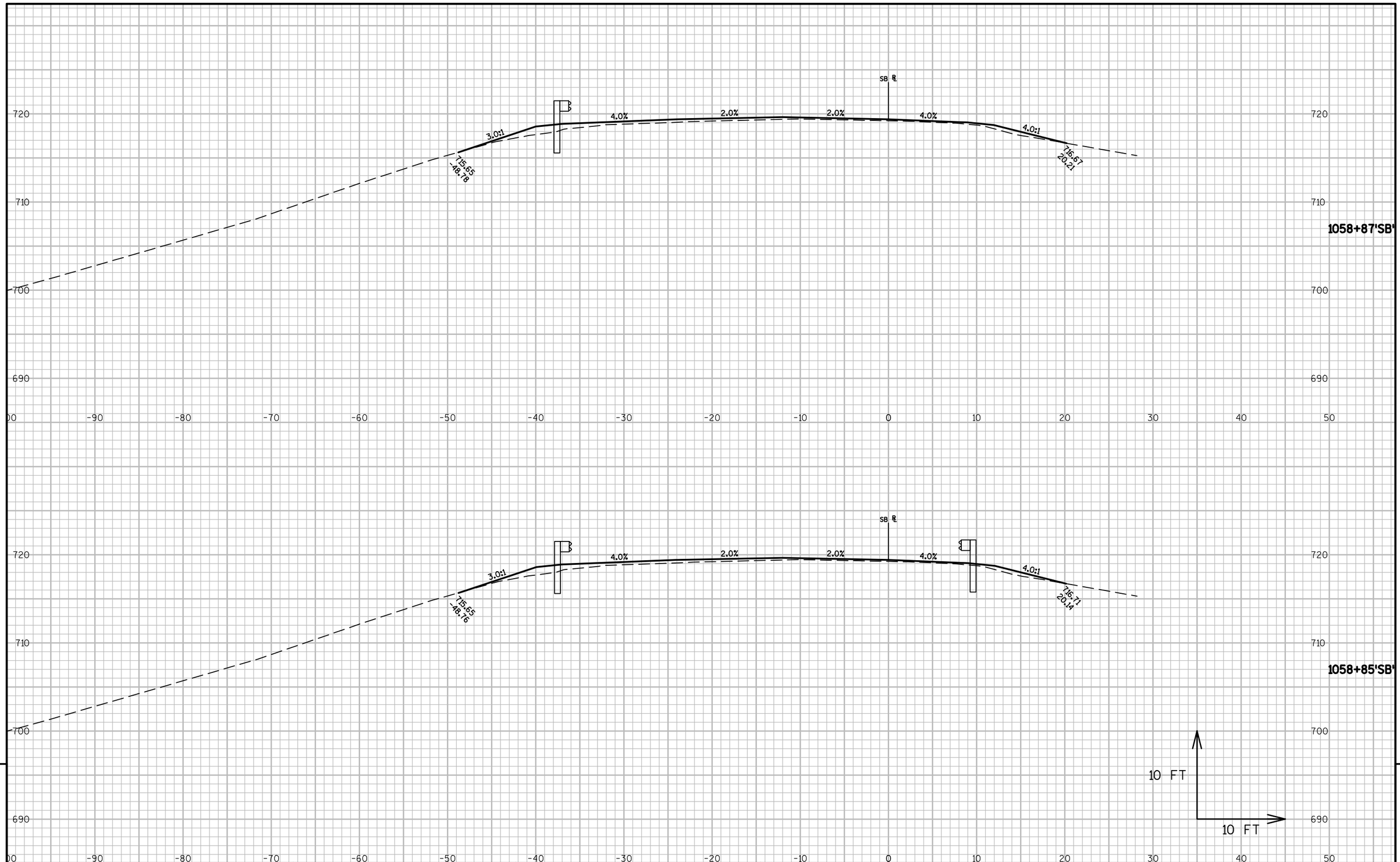
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PROJECT NO: 1224-21-71	HWY: IH 43	COUNTY: MANITOWOC	CROSS SECTIONS: IH 43 SB BEAMGUARD	SHEET 421	E

FILE NAME : N:\PDS\C3D\12242100\SHEETSPLAN\C3D 2014\12242171\090204_XS.DWG
LAYOUT NAME - 090204_XSB

PLOT DATE : 2/25/2015 12:50 PM PLOT BY : PORTER, STEVEN J PLOT NAME : PLOT SCALE : 1 IN:10 FT



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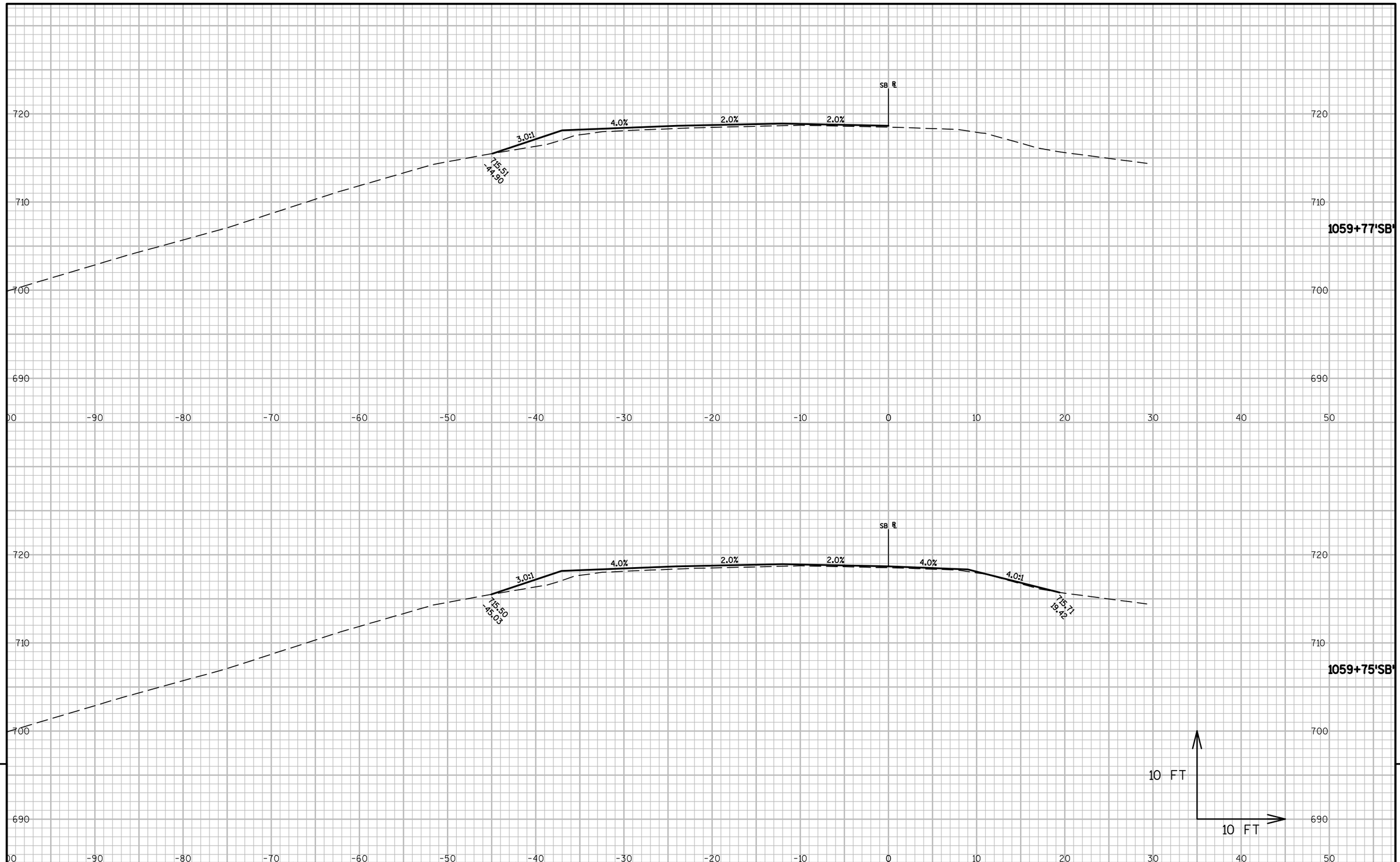
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PROJECT NO: 1224-21-71	HWY: IH 43	COUNTY: MANITOWOC	CROSS SECTIONS: IH 43 SB BEAMGUARD	SHEET 422	E

FILE NAME : N:\PDS\C3D\12242100\SHEETSPLAN\C3D 2014\12242171\090204_XS.DWG
LAYOUT NAME - 090204_XSC

PLOT DATE : 2/25/2015 12:50 PM PLOT BY : PORTER, STEVEN J PLOT NAME : PLOT SCALE : 1 IN:10 FT

WISDOT/CADDS SHEET 49



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9

PROJECT NO: 1224-21-71	HWY: IH 43	COUNTY: MANITOWOC	CROSS SECTIONS: IH 43 SB BEAMGUARD	SHEET 423	E

FILE NAME : N:\PDS\C3D\12242100\SHEETSPLAN\C3D 2014\12242171\090204_XS.DWG
LAYOUT NAME - 090204_XSD

PLOT DATE : 2/25/2015 12:50 PM PLOT BY : PORTER, STEVEN J PLOT NAME : PLOT SCALE : 1 IN:10 FT

WISDOT/CADDS SHEET 49

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PROJECT NO: 1224-21-71	HWY: IH 43	COUNTY: MANITOWOC	CROSS SECTIONS: IH 43 SB BEAMGUARD	SHEET 424	E

FILE NAME : N:\PDS\C3D\12242100\SHEETSPLAN\C3D 2014\12242171\090204_XS.DWG
LAYOUT NAME - 090204_XSE

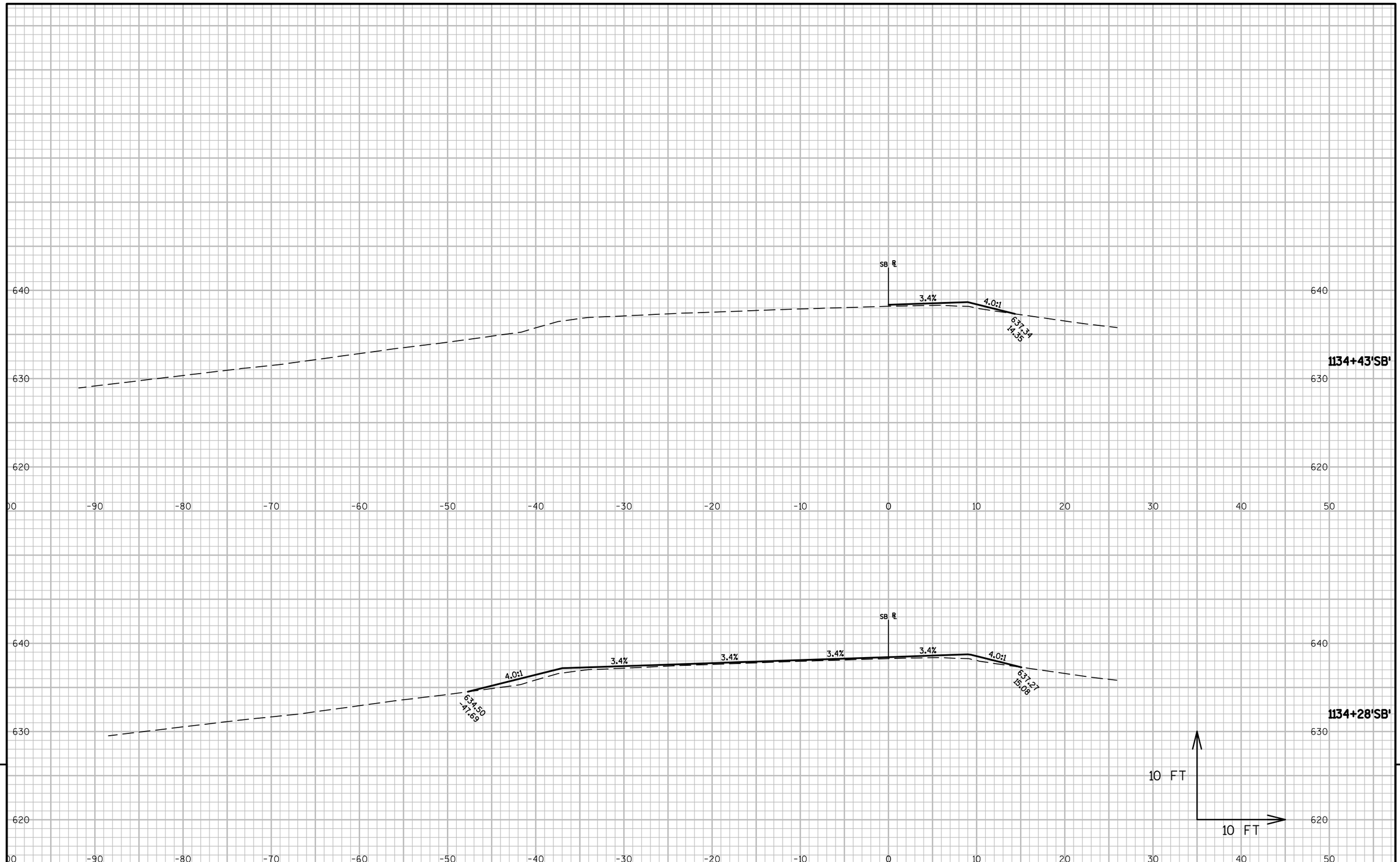
PLOT DATE : 2/25/2015 12:51 PM PLOT BY : PORTER, STEVEN J PLOT NAME : PLOT SCALE : 1 IN:10 FT

PROJECT NO: 1224-21-71	HWY: IH 43	COUNTY: MANITOWOC	CROSS SECTIONS: IH 43 SB BEAMGUARD	SHEET 425	E

FILE NAME : N:\PDS\C3D\12242100\SHEETSPLAN\C3D 2014\12242171\090204_XS.DWG
LAYOUT NAME - 090204_XSF

PLOT DATE : 2/25/2015 12:51 PM PLOT BY : PORTER, STEVEN J PLOT NAME : PLOT SCALE : 1 IN:10 FT

WISDOT/CADDS SHEET 49



9

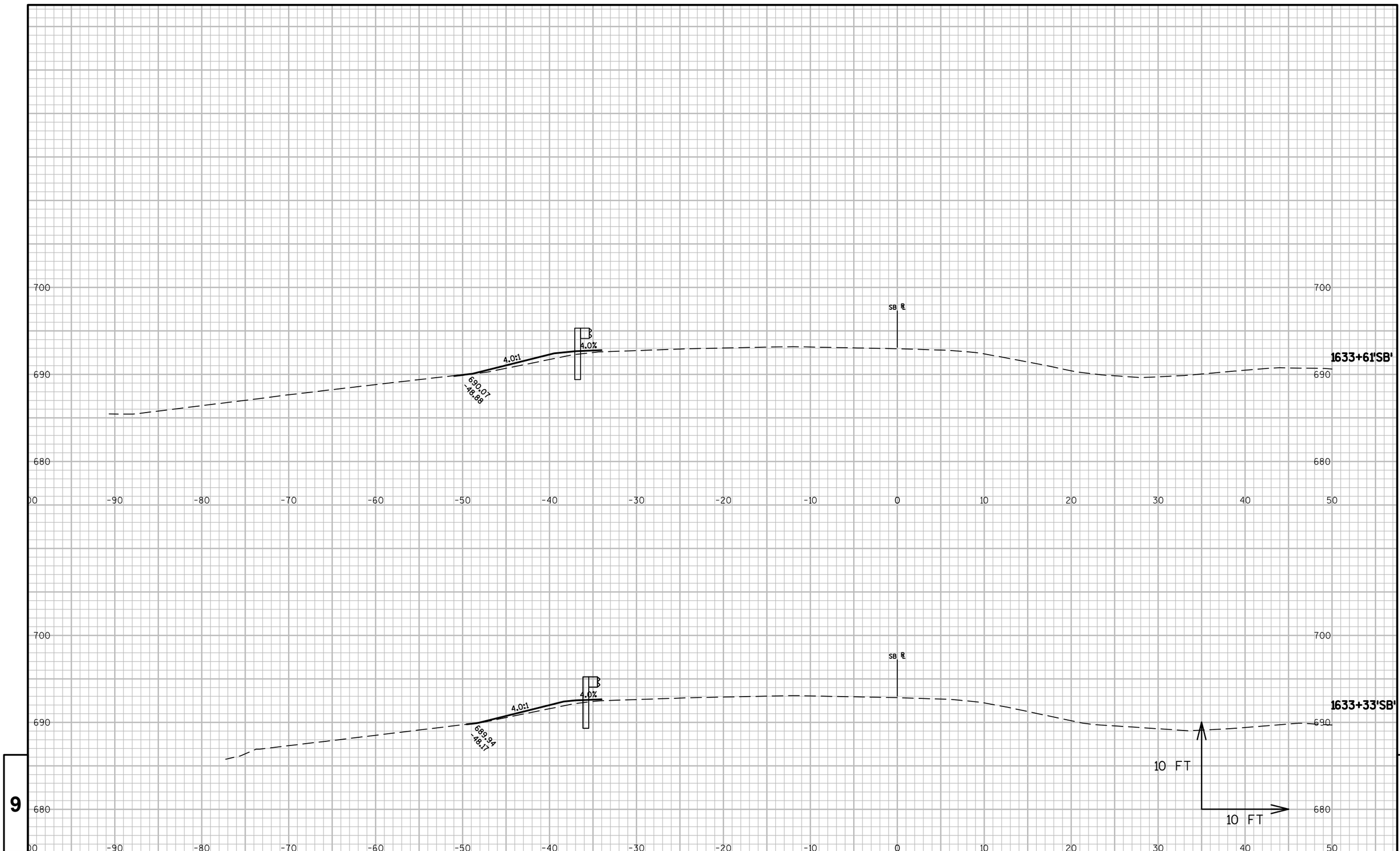
PROJECT NO: 1224-21-71	HWY: IH 43	COUNTY: MANITOWOC	CROSS SECTIONS: IH 43 SB BEAMGUARD	SHEET 426	E

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FILE NAME : N:\PDS\C3D\12242100\SHEETSPLAN\C3D 2014\12242171\090204_XS.DWG
LAYOUT NAME - 090204_XSG

PLOT DATE : 2/25/2015 12:51 PM PLOT BY : PORTER, STEVEN J PLOT NAME : PLOT SCALE : 1 IN:10 FT

WISDOT/CADDS SHEET 49



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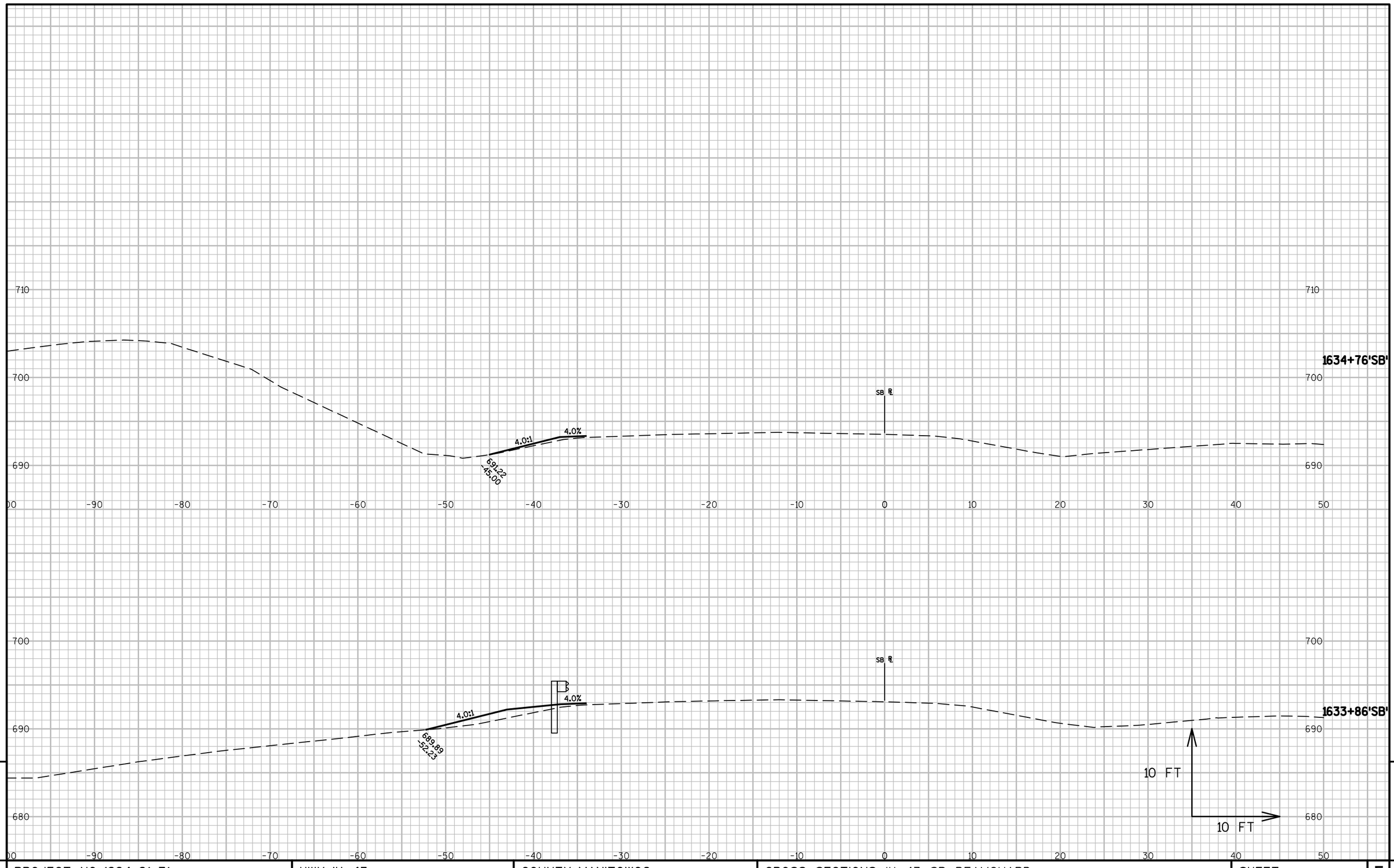
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PROJECT NO: 1224-21-71	HWY: IH 43	COUNTY: MANITOWOC	CROSS SECTIONS: IH 43 SB BEAMGUARD	SHEET 427	E

FILE NAME : N:\PDS\C3D\12242100\SHEETSPLAN\C3D 2014\12242171\090204_XS.DWG
LAYOUT NAME - 090204_XSL

PLOT DATE : 2/25/2015 12:51 PM PLOT BY : PORTER, STEVEN J PLOT NAME : PLOT SCALE : 1 IN:10 FT

WISDOT/CADDS SHEET 49



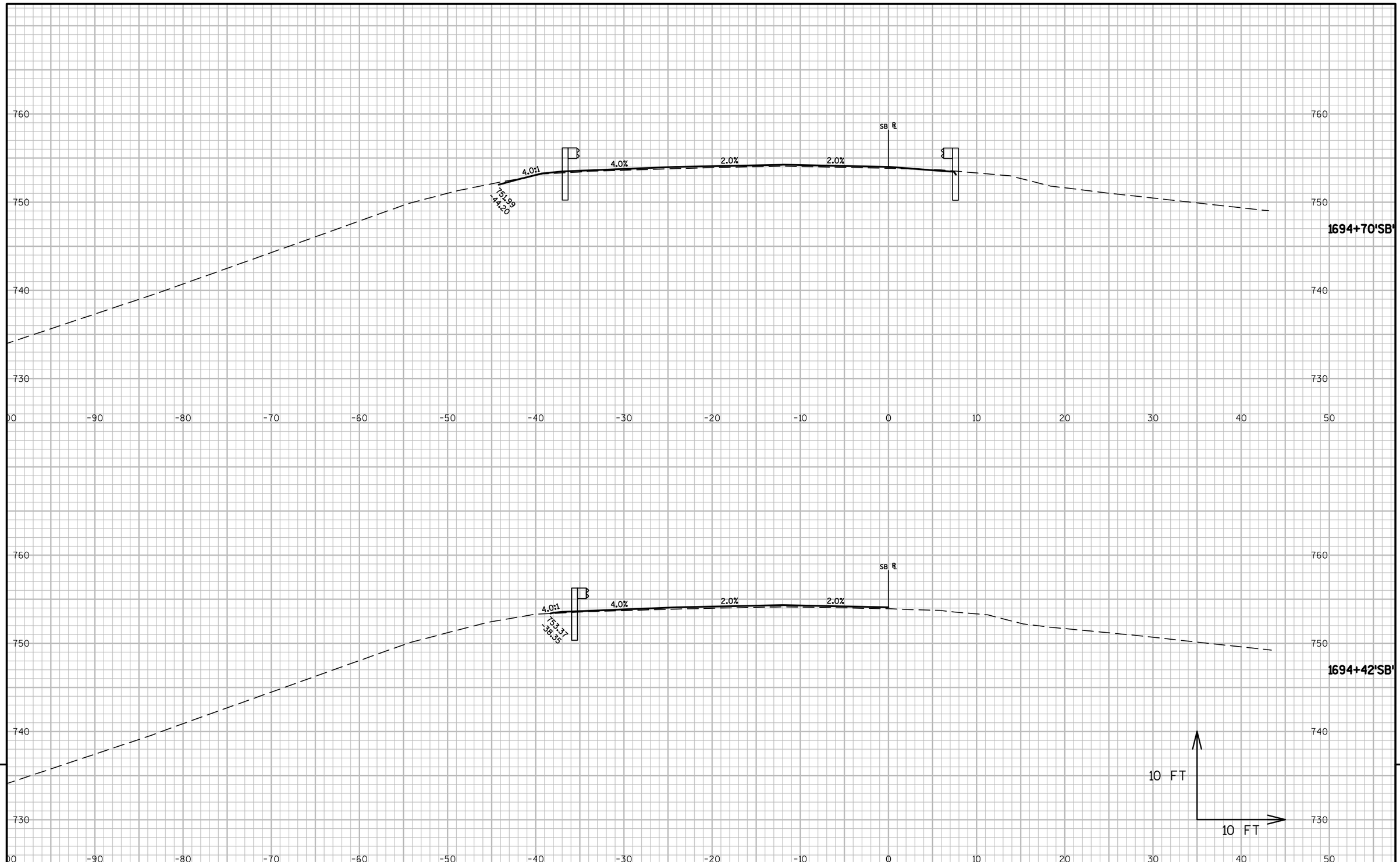
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PROJECT NO: 1224-21-71	HWY: IH 43	COUNTY: MANITOWOC	CROSS SECTIONS: IH 43 SB BEAMGUARD	SHEET 428	E

FILE NAME : N:\PDS\C3D\12242100\SHEETSPLAN\C3D 2014\12242171\090204_XS.DWG
LAYOUT NAME - 090204_XSM

PLOT DATE : 2/25/2015 12:52 PM PLOT BY : PORTER, STEVEN J PLOT NAME : PLOT SCALE : 1 IN:10 FT



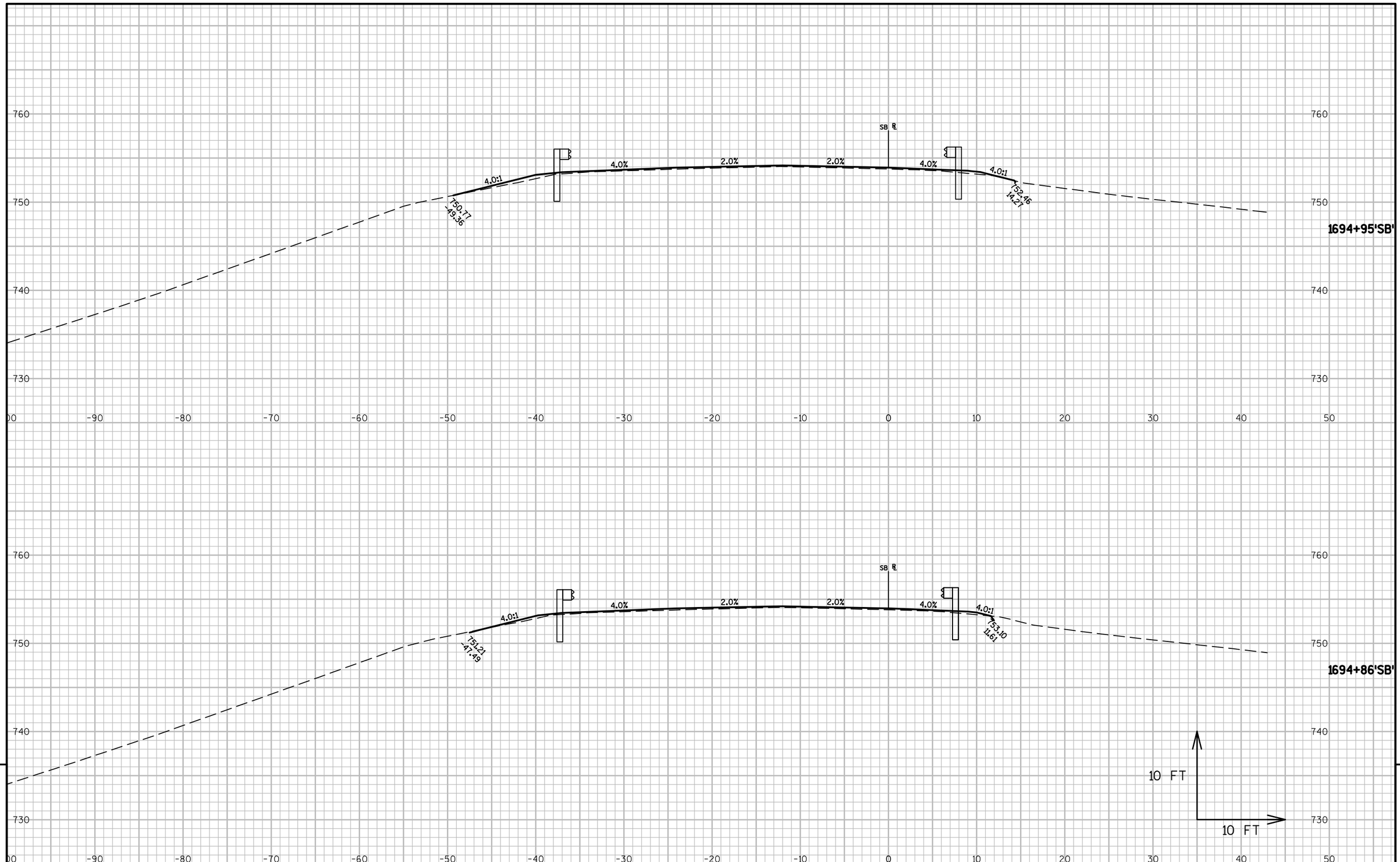
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PROJECT NO: 1224-21-71	HWY: IH 43	COUNTY: MANITOWOC	CROSS SECTIONS: IH 43 SB BEAMGUARD	SHEET 429 E

FILE NAME : N:\PDS\C3D\12242100\SHEETSPLAN\C3D 2014\12242171\090204_XS.DWG
LAYOUT NAME - 090204_XSN

PLOT DATE : 2/25/2015 12:52 PM PLOT BY : PORTER, STEVEN J PLOT NAME : PLOT SCALE : 1 IN:10 FT

WISDOT/CADDS SHEET 49



9

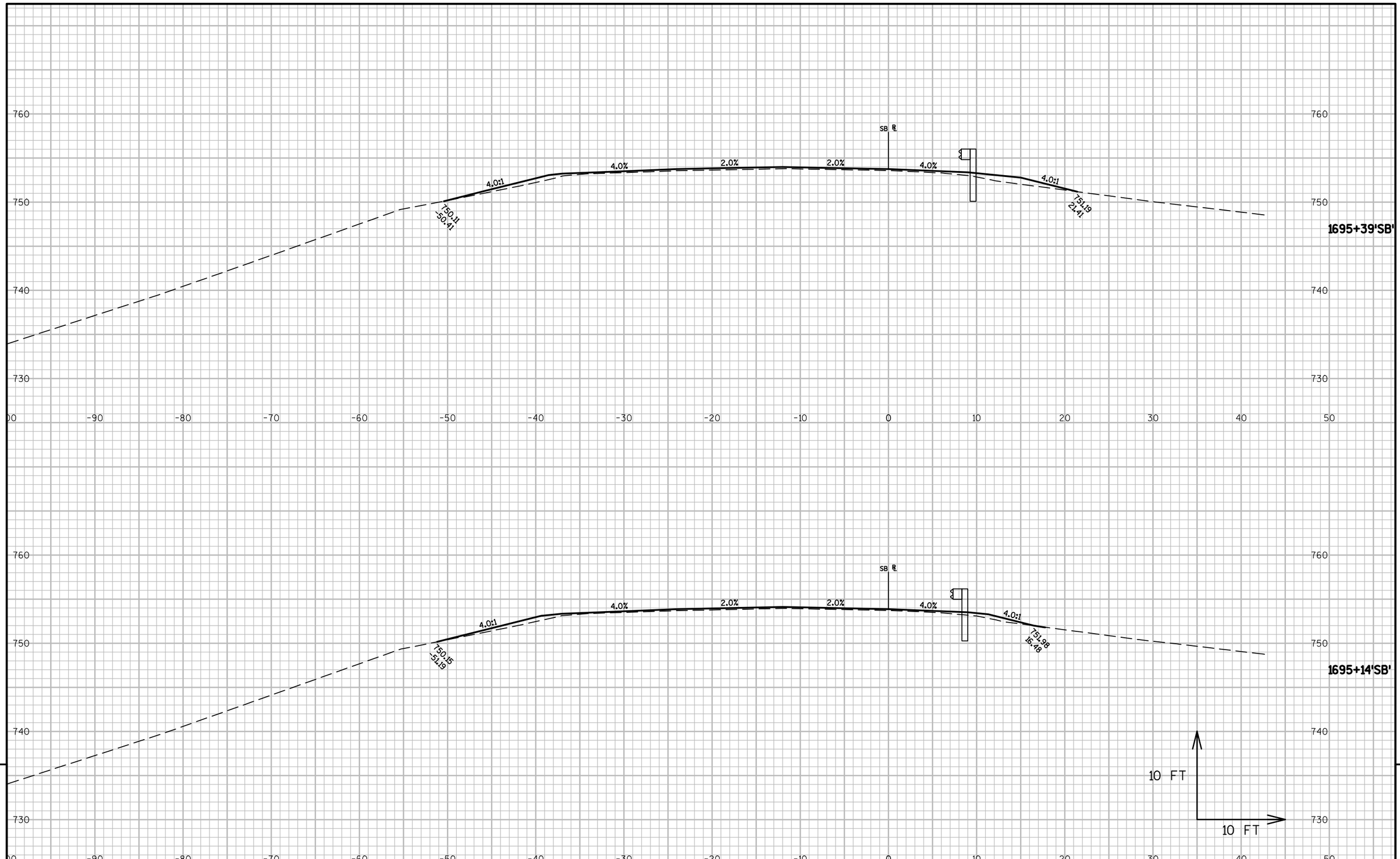
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PROJECT NO: 1224-21-71	HWY: IH 43	COUNTY: MANITOWOC	CROSS SECTIONS: IH 43 SB BEAMGUARD	SHEET 430	E

FILE NAME : N:\PDS\C3D\12242100\SHEETSPLAN\C3D 2014\12242171\090204_XS.DWG
LAYOUT NAME - 090204_XSO

PLOT DATE : 2/25/2015 12:52 PM PLOT BY : PORTER, STEVEN J PLOT NAME : PLOT SCALE : 1 IN:10 FT

WISDOT/CADDS SHEET 49



9

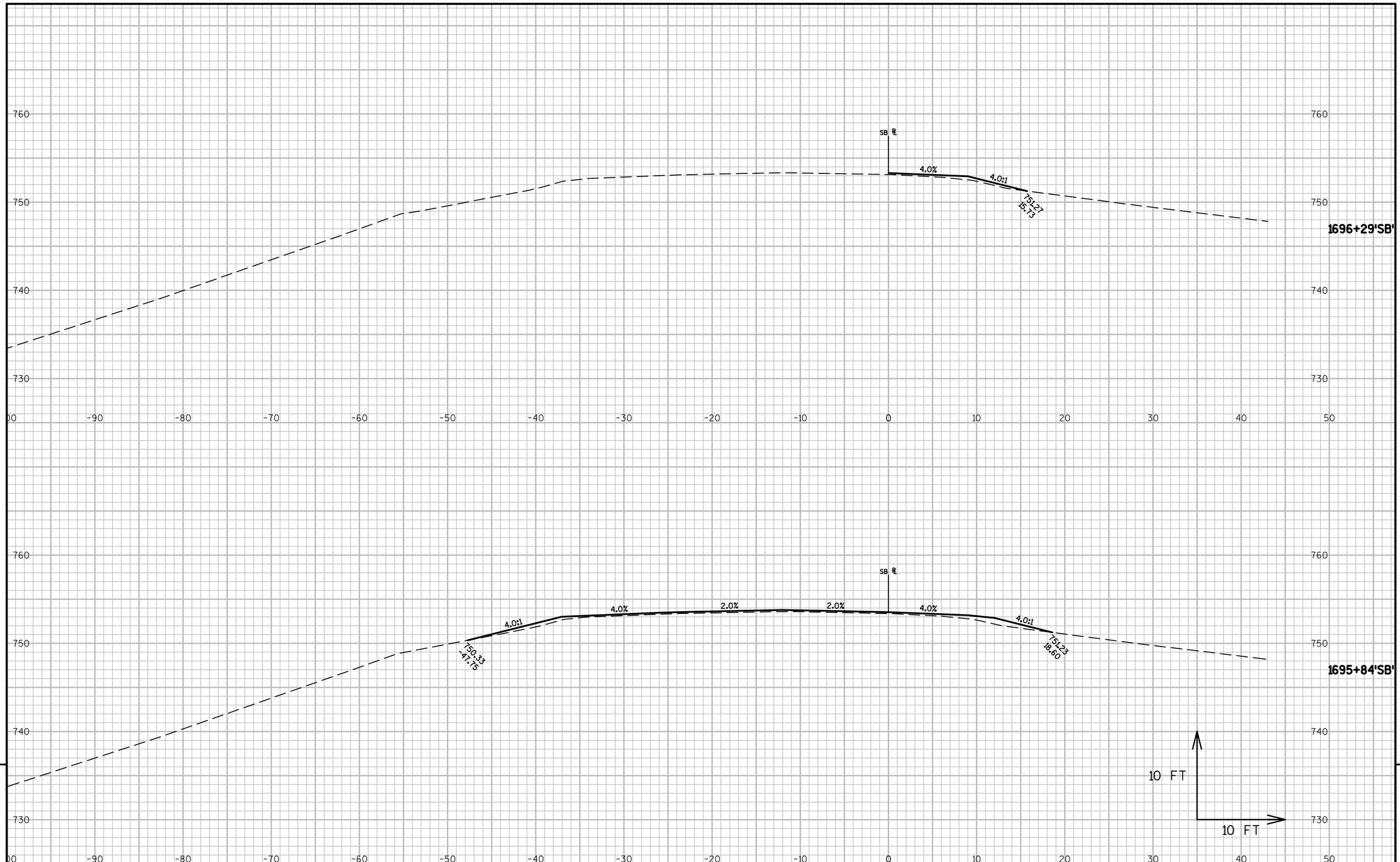
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PROJECT NO: 1224-21-71	HWY: IH 43	COUNTY: MANITOWOC	CROSS SECTIONS: IH 43 SB BEAMGUARD	SHEET 431	E

FILE NAME : N:\PDS\C3D\12242100\SHEETSPLAN\C3D 2014\12242171\090204_XS.DWG
LAYOUT NAME - 090204_XSP

PLOT DATE : 2/25/2015 12:52 PM PLOT BY : PORTER, STEVEN J PLOT NAME : PLOT SCALE : 1 IN:10 FT

WISDOT/CADDS SHEET 49



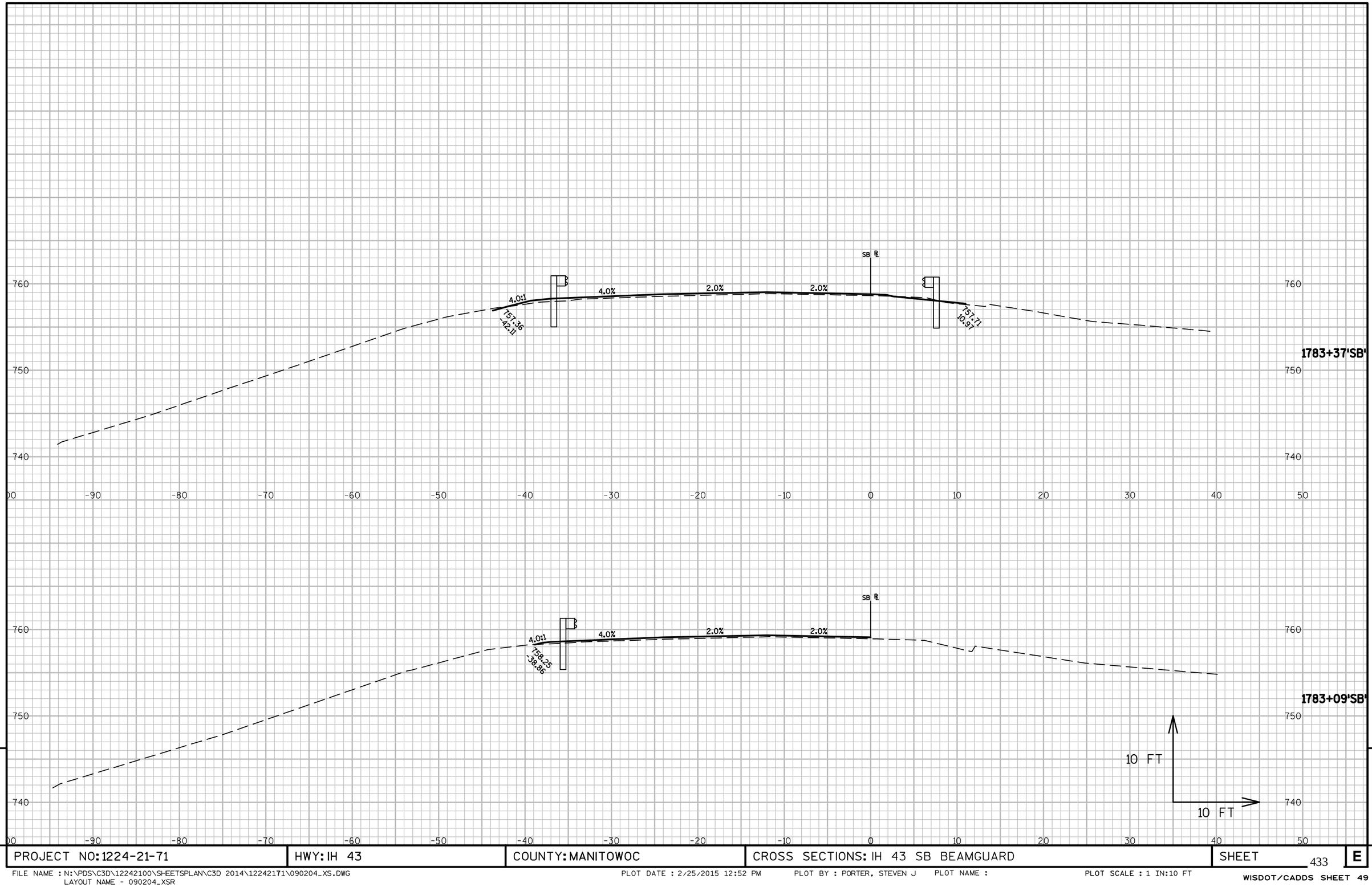
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PROJECT NO: 1224-21-71	HWY: IH 43	COUNTY: MANITOWOC	CROSS SECTIONS: IH 43 SB BEAMGUARD	SHEET 432 E

FILE NAME : N:\PDS\C3D\12242100\SHEETSPLAN\C3D 2014\12242171\090204_XS.DWG
LAYOUT NAME - 090204_XSQ

PLOT DATE : 2/25/2015 12:52 PM PLOT BY : PORTER, STEVEN J PLOT NAME : PLOT SCALE : 1 IN:10 FT



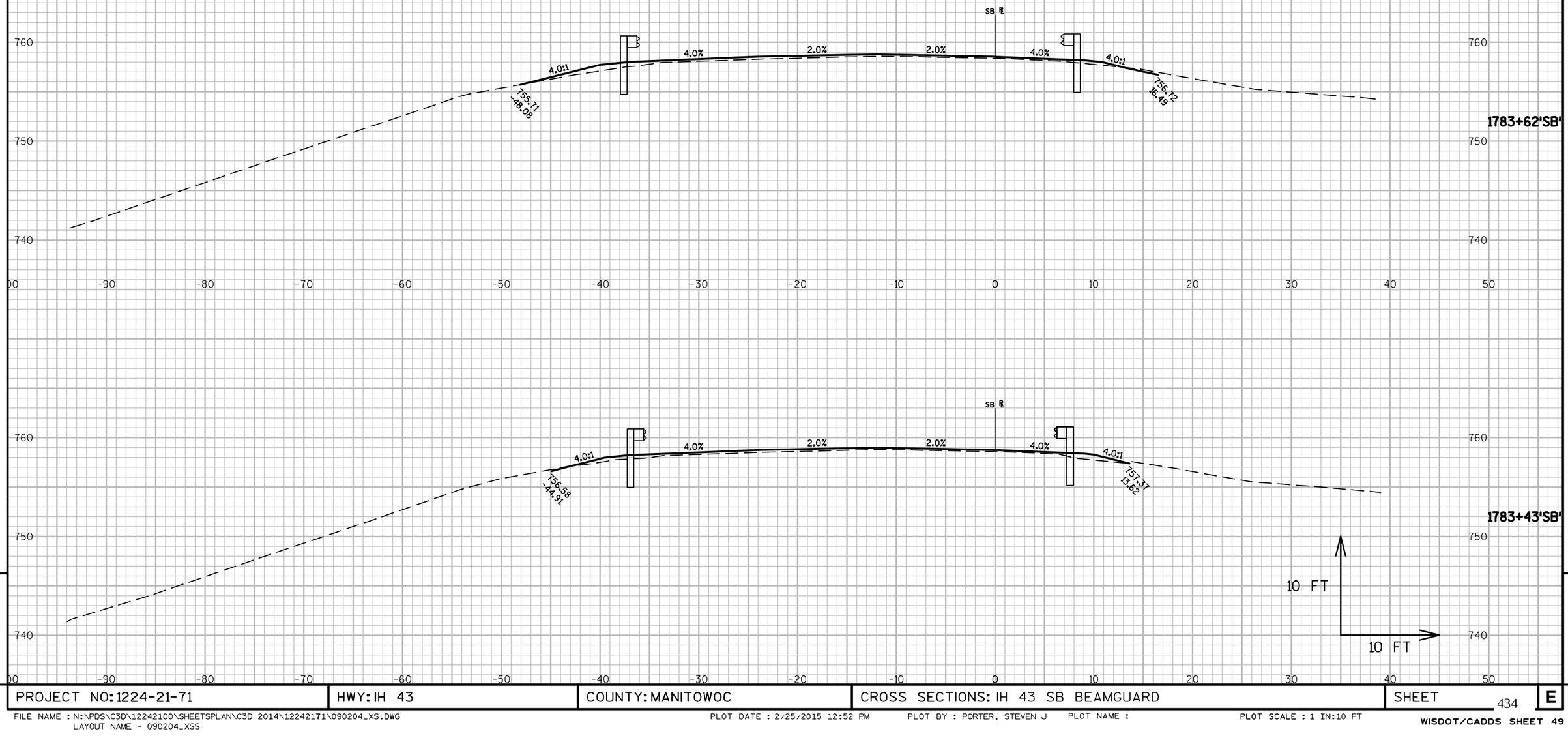
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PROJECT NO: 1224-21-71	HWY: IH 43	COUNTY: MANITOWOC	CROSS SECTIONS: IH 43 SB BEAMGUARD	SHEET 433	E

FILE NAME : N:\PDS\C3D\12242100\SHEETSPLAN\C3D 2014\12242171\090204_XS.DWG
LAYOUT NAME - 090204_XSR

PLOT DATE : 2/25/2015 12:52 PM PLOT BY : PORTER, STEVEN J PLOT NAME : PLOT SCALE : 1 IN:10 FT

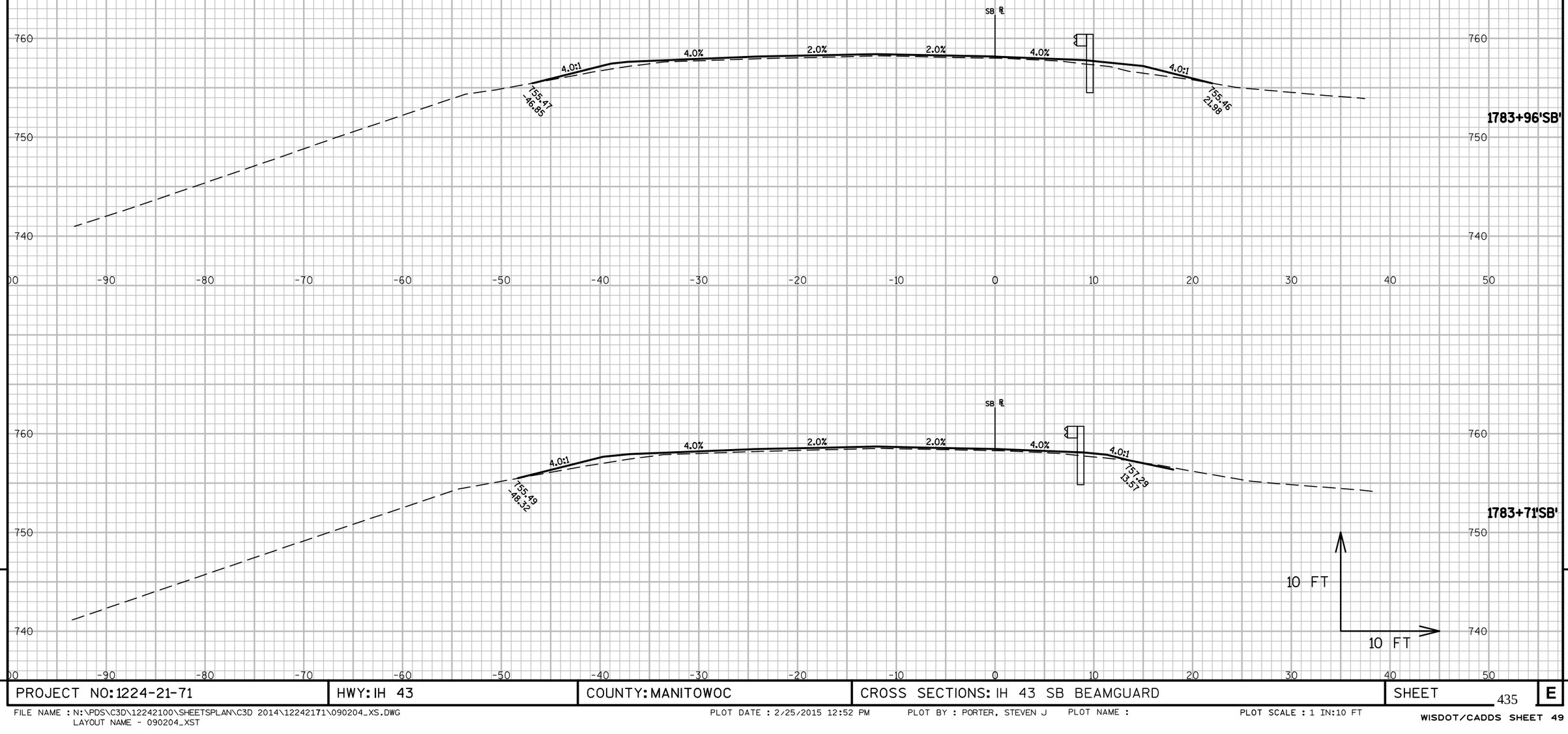


PROJECT NO: 1224-21-71	HWY: IH 43	COUNTY: MANITOWOC	CROSS SECTIONS: IH 43 SB BEAMGUARD	SHEET 434	E

FILE NAME : N:\PDS\C3D\12242100\SHEETSPLAN\C3D 2014\12242171\090204_XS.DWG
LAYOUT NAME - 090204_XSS

PLOT DATE : 2/25/2015 12:52 PM PLOT BY : PORTER, STEVEN J PLOT NAME : PLOT SCALE : 1 IN:10 FT

WISDOT/CADDS SHEET 49

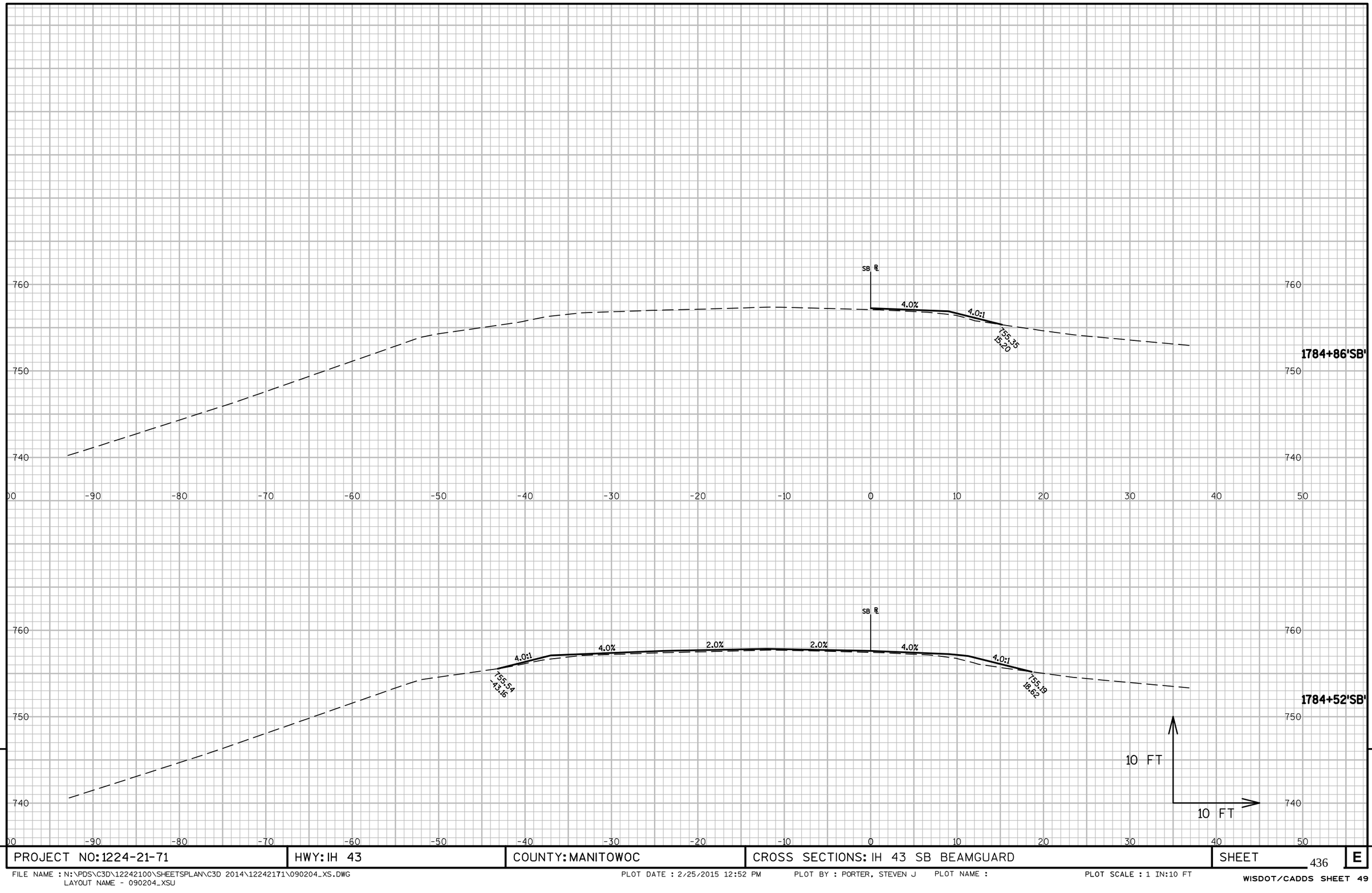


PROJECT NO: 1224-21-71	HWY: IH 43	COUNTY: MANITOWOC	CROSS SECTIONS: IH 43 SB BEAMGUARD	SHEET 435 E

FILE NAME : N:\PDS\C3D\12242100\SHEETSPLAN\C3D 2014\12242171\090204_XS.DWG
LAYOUT NAME - 090204_XST

PLOT DATE : 2/25/2015 12:52 PM PLOT BY : PORTER, STEVEN J PLOT NAME : PLOT SCALE : 1 IN:10 FT

WISDOT/CADDS SHEET 49



9

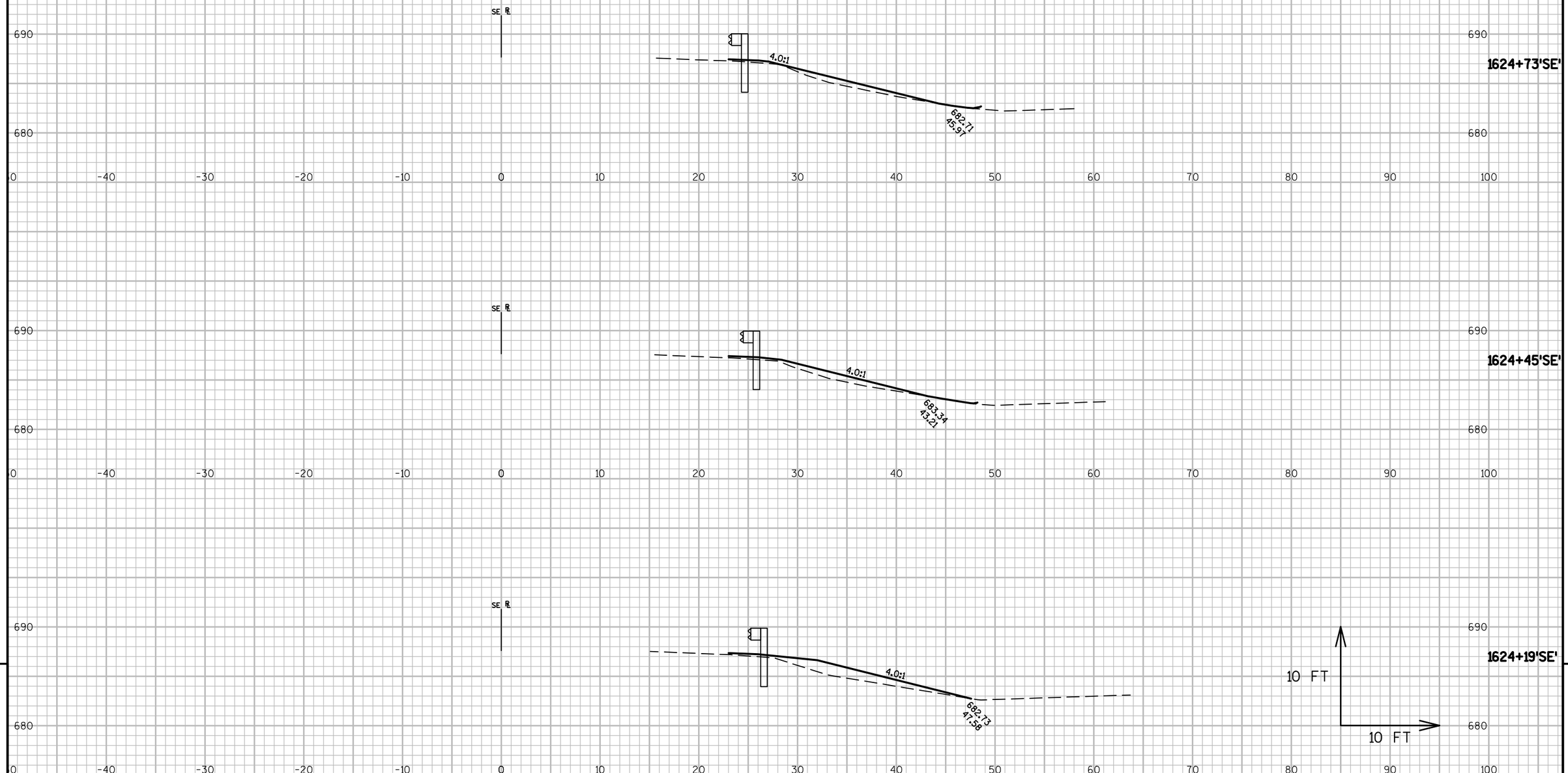
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PROJECT NO: 1224-21-71	HWY: IH 43	COUNTY: MANITOWOC	CROSS SECTIONS: IH 43 SB BEAMGUARD	SHEET 436	E

FILE NAME : N:\PDS\C3D\12242100\SHEETSPLAN\C3D 2014\12242171\090204_XS.DWG
LAYOUT NAME - 090204_XSU

PLOT DATE : 2/25/2015 12:52 PM PLOT BY : PORTER, STEVEN J PLOT NAME : PLOT SCALE : 1 IN:10 FT

WISDOT/CADDS SHEET 49



9

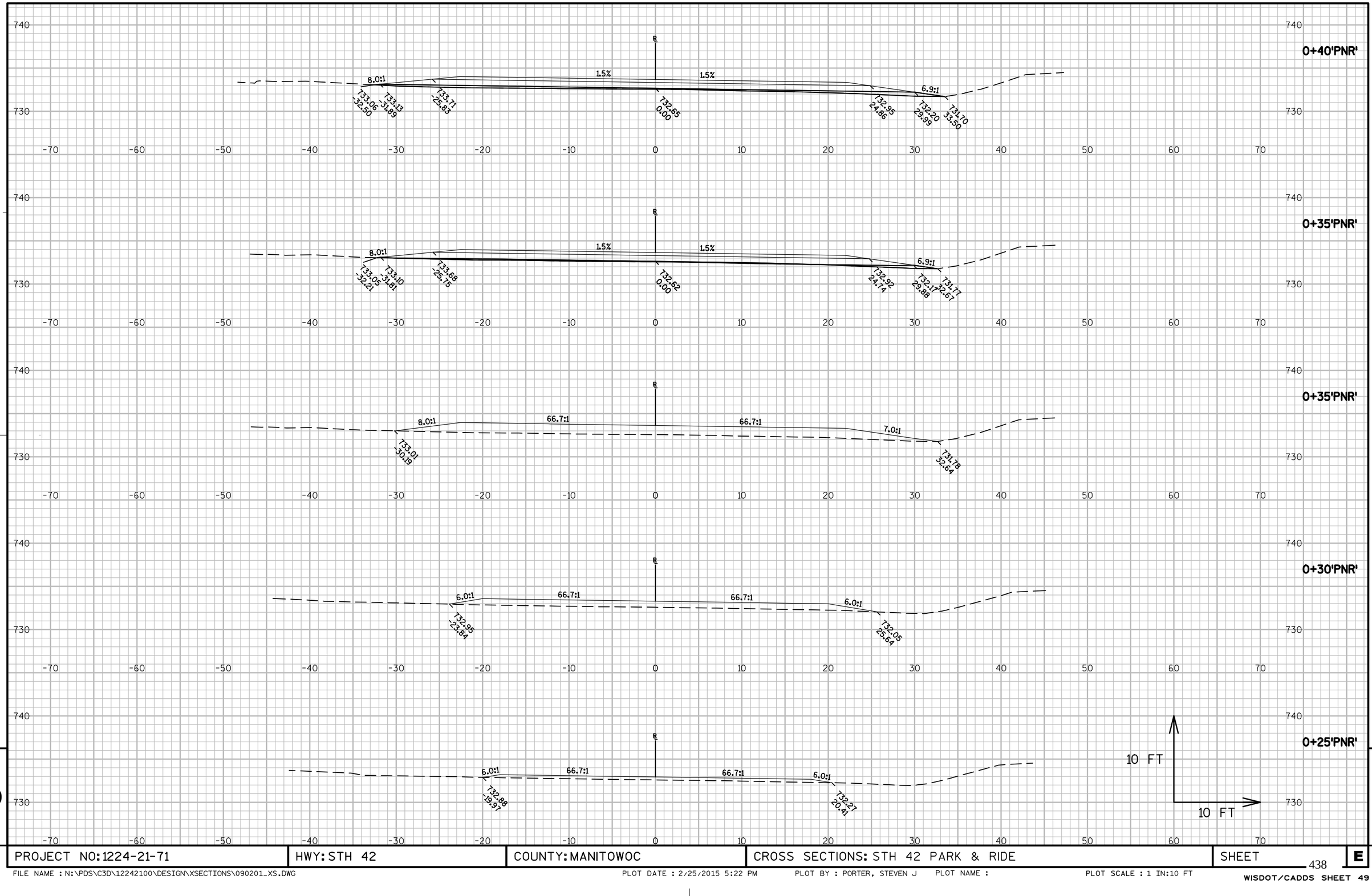
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PROJECT NO: 1224-21-71	HWY: IH 43	COUNTY: MANITOWOC	CROSS SECTIONS: USH 151 SE RAMP BEAMGUARD	SHEET 437	E

FILE NAME : N:\PDS\C3D\12242100\SHEETSPLAN\C3D 2014\12242171\090205_XS.DWG
LAYOUT NAME - 090205_XSA

PLOT DATE : 2/25/2015 1:09 PM PLOT BY : PORTER, STEVEN J PLOT NAME : PLOT SCALE : 1 IN:10 FT

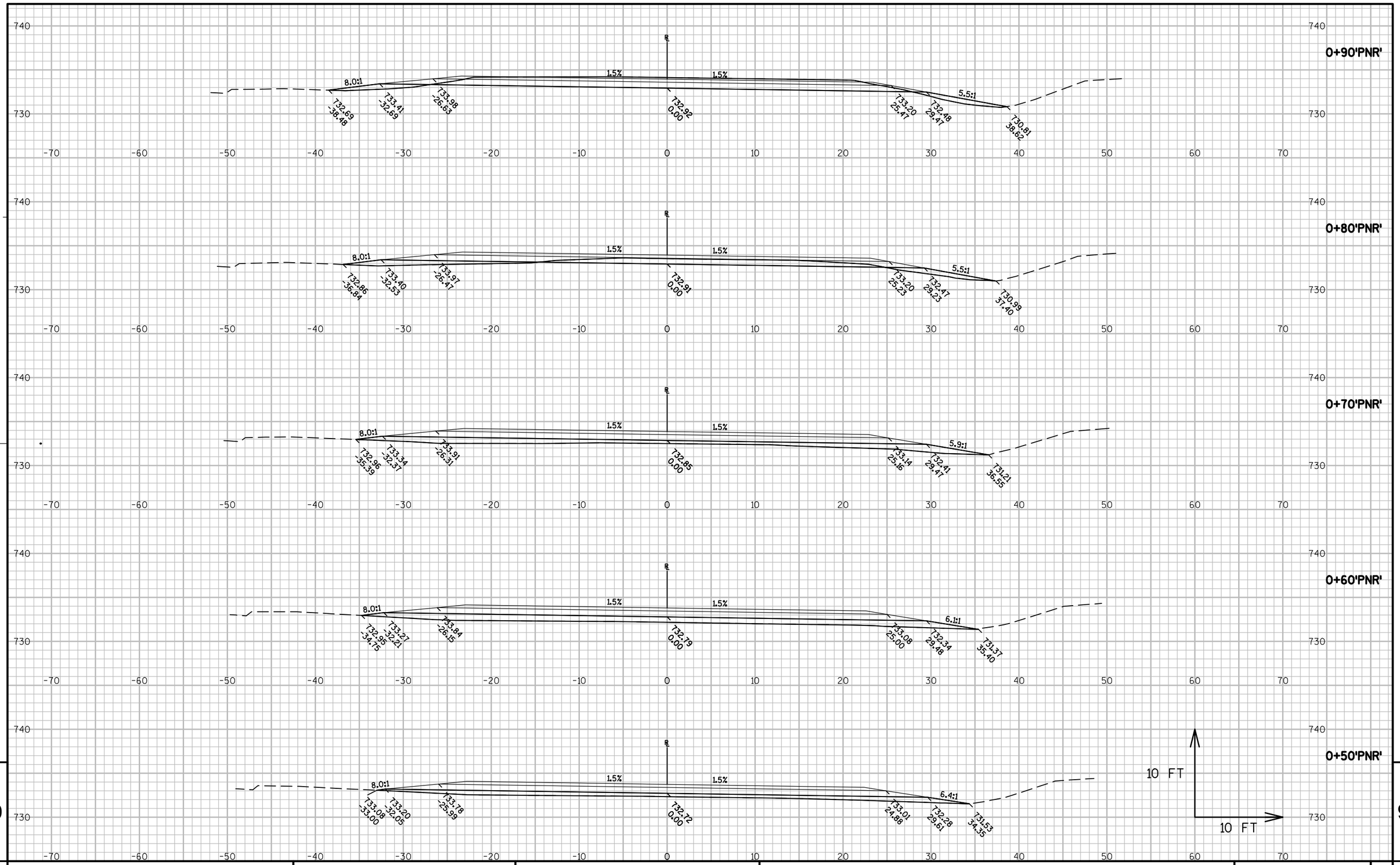
WISDOT/CADDS SHEET 49



PROJECT NO: 1224-21-71	HWY: STH 42	COUNTY: MANITOWOC	CROSS SECTIONS: STH 42 PARK & RIDE	SHEET	E

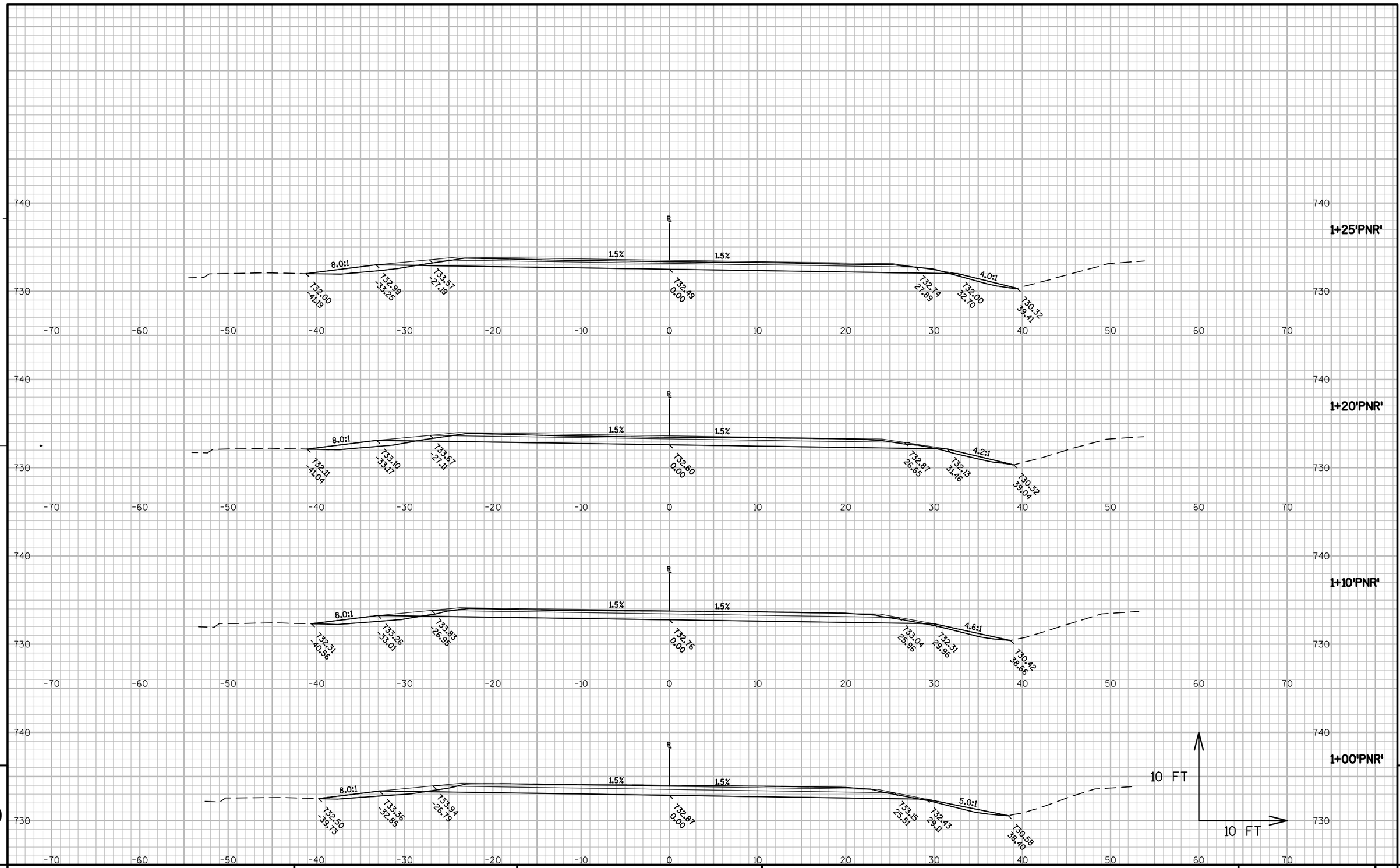
FILE NAME : N:\PDS\C3D\12242100\DESIGN\XSECTIONS\090201_XS.DWG PLOT DATE : 2/25/2015 5:22 PM PLOT BY : PORTER, STEVEN J PLOT NAME : PLOT SCALE : 1 IN:10 FT

WISDOT/CADDS SHEET 49



PROJECT NO: 1224-21-71	HWY: STH 42	COUNTY: MANITOWOC	CROSS SECTIONS: STH 42 PARK & RIDE	SHEET	E

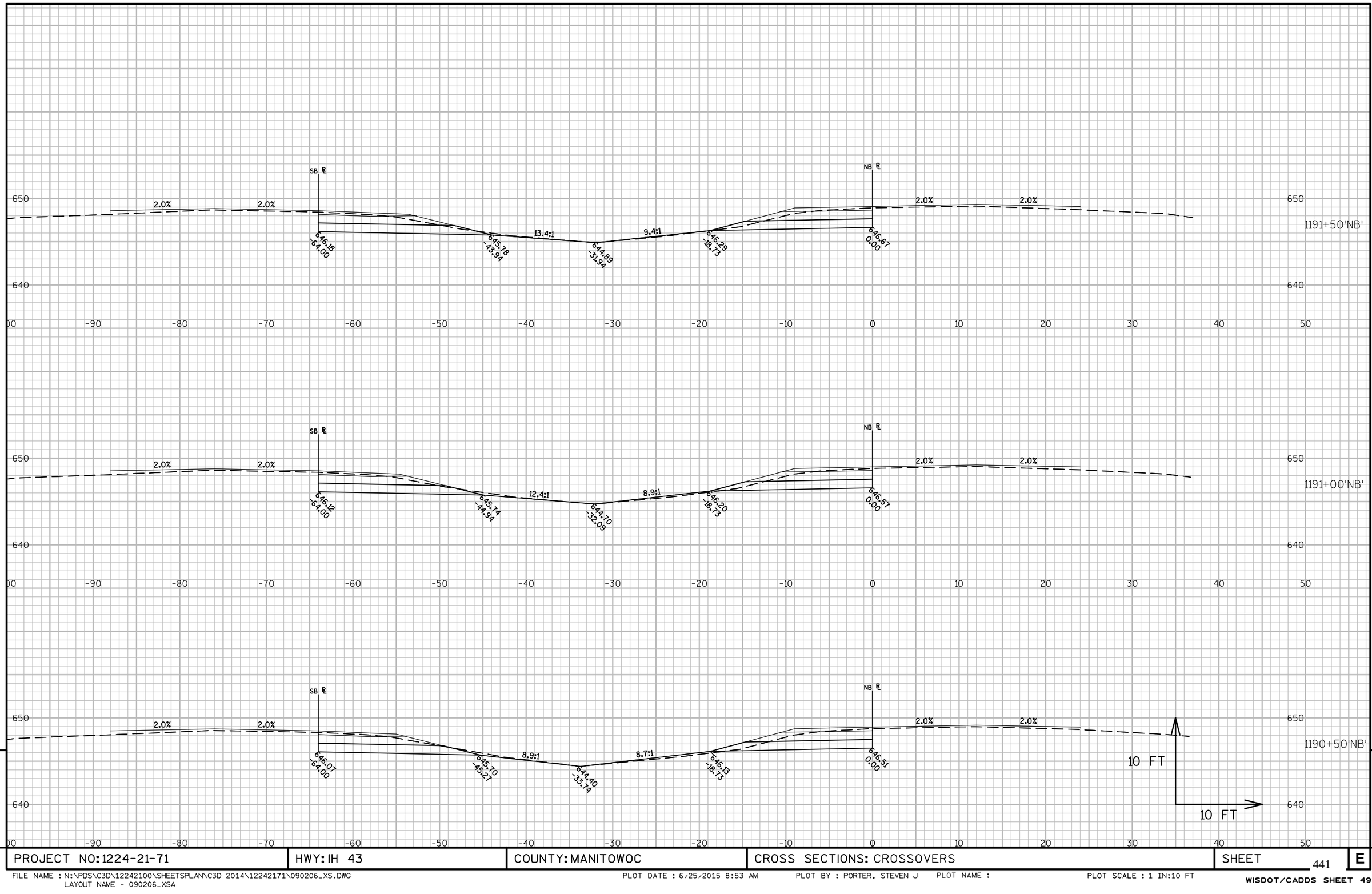
FILE NAME : N:\PDS\C3D\12242100\DESIGN\XSECTIONS\090201_XS.DWG PLOT DATE : 2/25/2015 5:22 PM PLOT BY : PORTER, STEVEN J PLOT NAME : PLOT SCALE : 1 IN:10 FT



PROJECT NO: 1224-21-71	HWY: STH 42	COUNTY: MANITOWOC	CROSS SECTIONS: STH 42 PARK & RIDE	SHEET 440	E

FILE NAME : N:\PDS\C3D\12242100\DESIGN\XSECTIONS\090201_XS.DWG PLOT DATE : 2/25/2015 5:22 PM PLOT BY : PORTER, STEVEN J PLOT NAME : PLOT SCALE : 1 IN:10 FT

WISDOT/CADDS SHEET 49



PROJECT NO: 1224-21-71	HWY: IH 43	COUNTY: MANITOWOC	CROSS SECTIONS: CROSSOVERS	SHEET 441	E

FILE NAME : N:\PDS\C3D\12242100\SHEETSPLAN\C3D 2014\12242171\090206_XS.DWG
LAYOUT NAME - 090206_XSA

PLOT DATE : 6/25/2015 8:53 AM PLOT BY : PORTER, STEVEN J PLOT NAME : PLOT SCALE : 1 IN:10 FT

WISDOT/CADDS SHEET 49

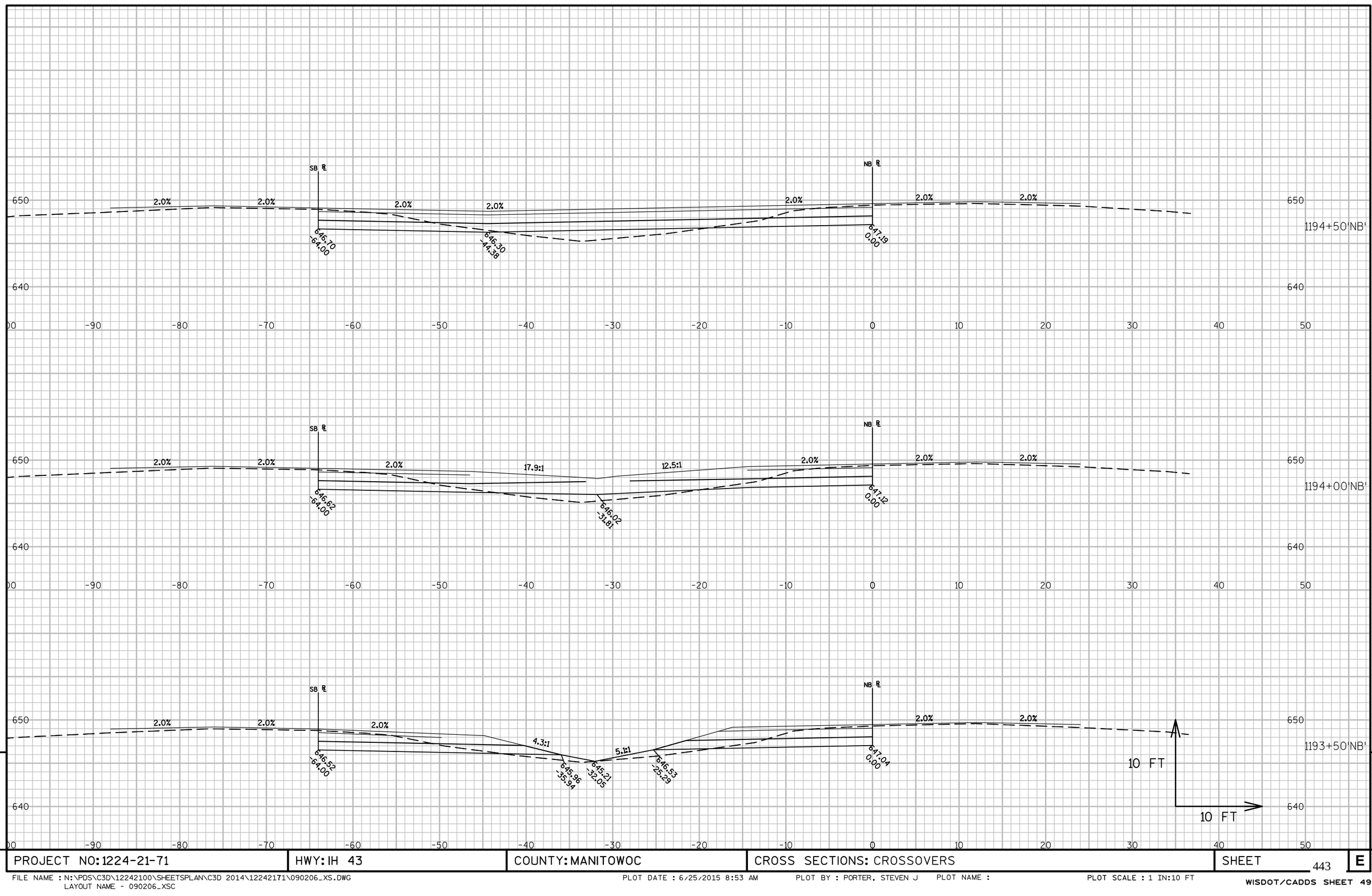
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PROJECT NO: 1224-21-71	HWY: IH 43	COUNTY: MANITOWOC	CROSS SECTIONS: CROSSOVERS	SHEET 442 E

FILE NAME : N:\PDS\C3D\12242100\SHEETSPLAN\C3D 2014\12242171\090206_XS.DWG
LAYOUT NAME - 090206_XSB

PLOT DATE : 6/25/2015 8:53 AM PLOT BY : PORTER, STEVEN J PLOT NAME : PLOT SCALE : 1 IN:10 FT



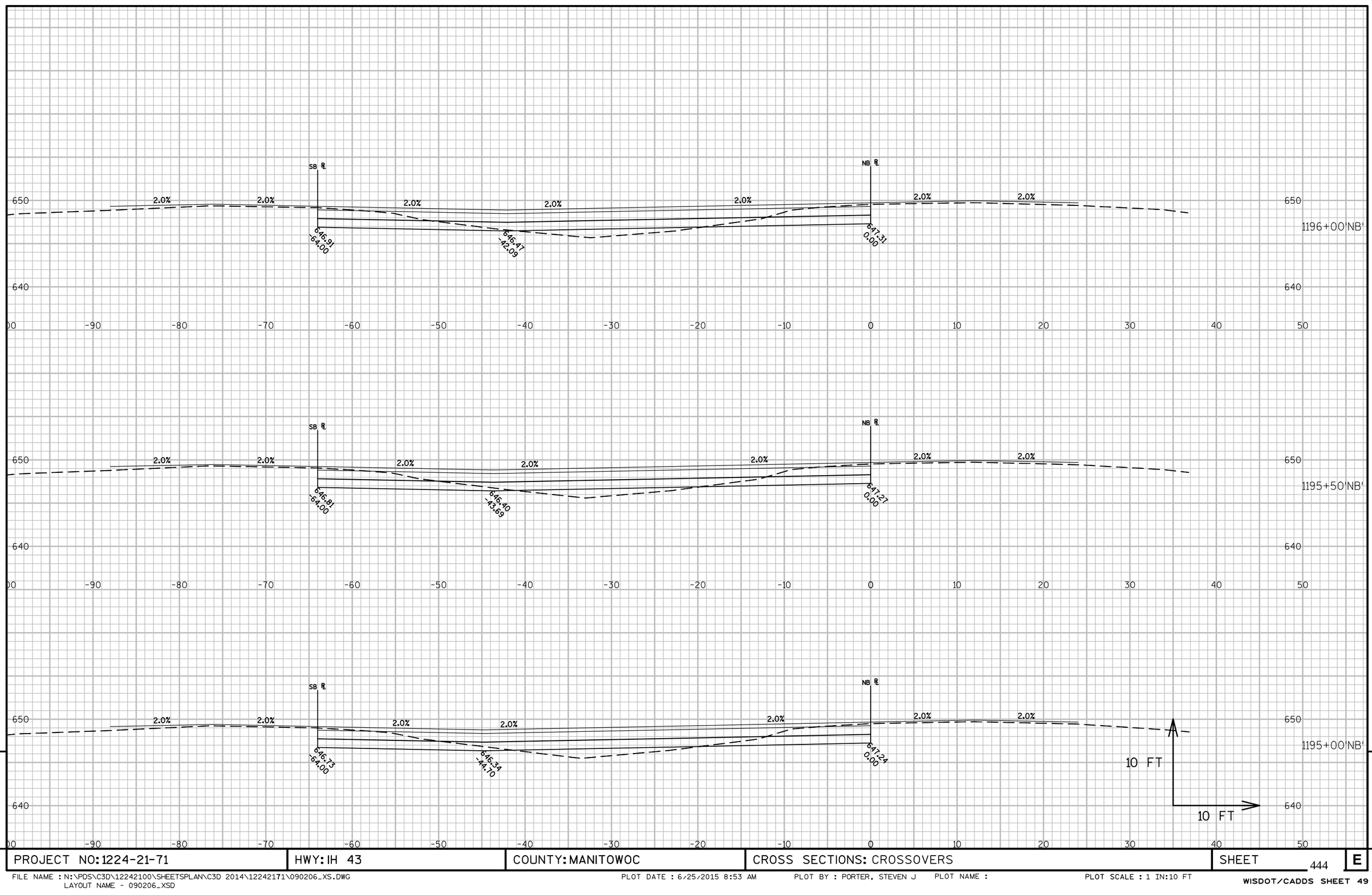
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PROJECT NO: 1224-21-71	HWY: IH 43	COUNTY: MANITOWOC	CROSS SECTIONS: CROSSOVERS	SHEET 443	E

FILE NAME : N:\PDS\C3D\12242100\SHEETSPLAN\C3D 2014\12242171\090206_XS.DWG
LAYOUT NAME - 090206_XSC

PLOT DATE : 6/25/2015 8:53 AM PLOT BY : PORTER, STEVEN J PLOT NAME : PLOT SCALE : 1 IN:10 FT



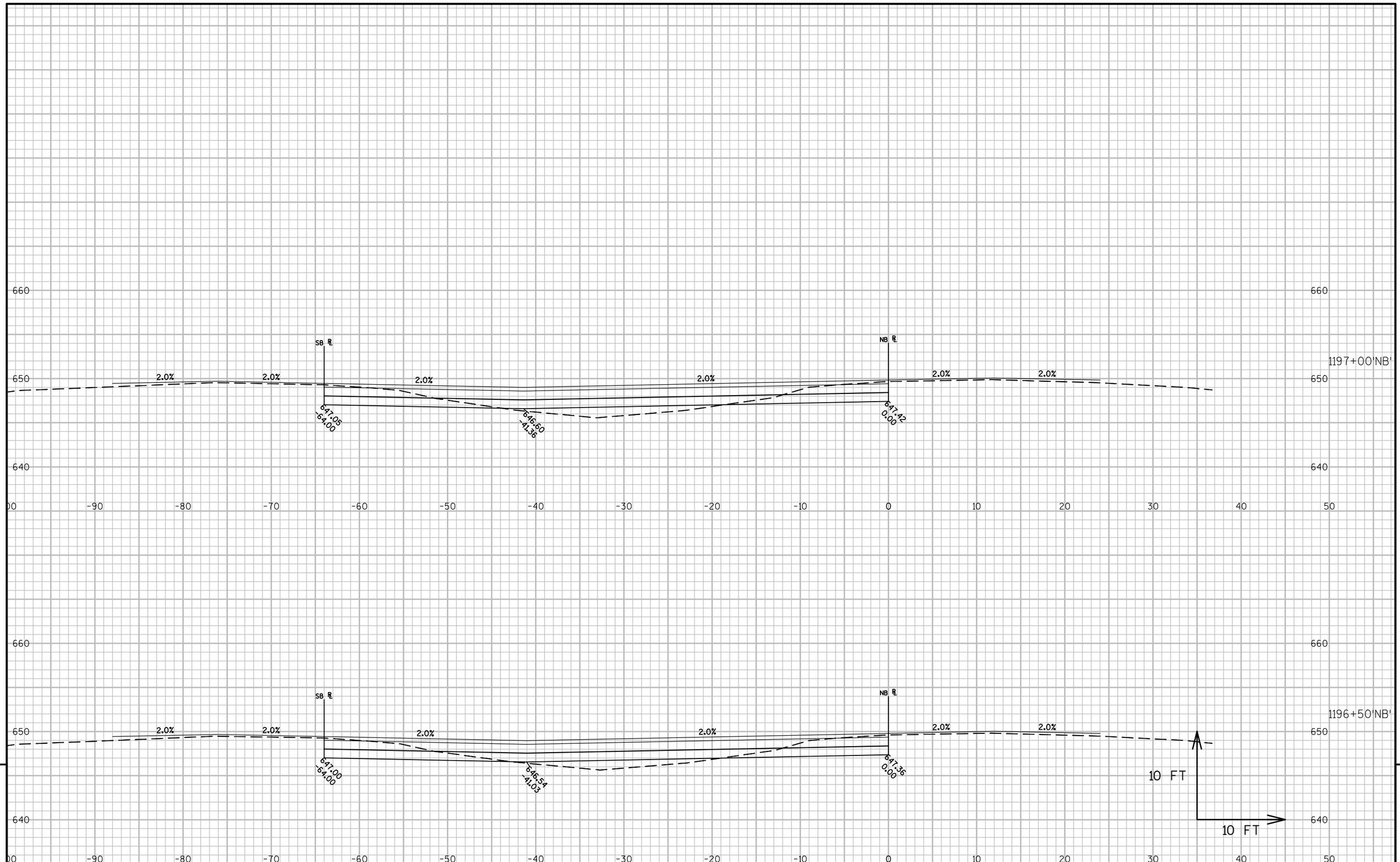
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PROJECT NO: 1224-21-71	HWY: IH 43	COUNTY: MANITOWOC	CROSS SECTIONS: CROSSOVERS	SHEET 444	E

FILE NAME : N:\PDS\C3D\12242100\SHEETSPLAN\C3D 2014\12242171\090206_XS.DWG
LAYOUT NAME - 090206_XSD

PLOT DATE : 6/25/2015 8:53 AM PLOT BY : PORTER, STEVEN J PLOT NAME : PLOT SCALE : 1 IN:10 FT



9

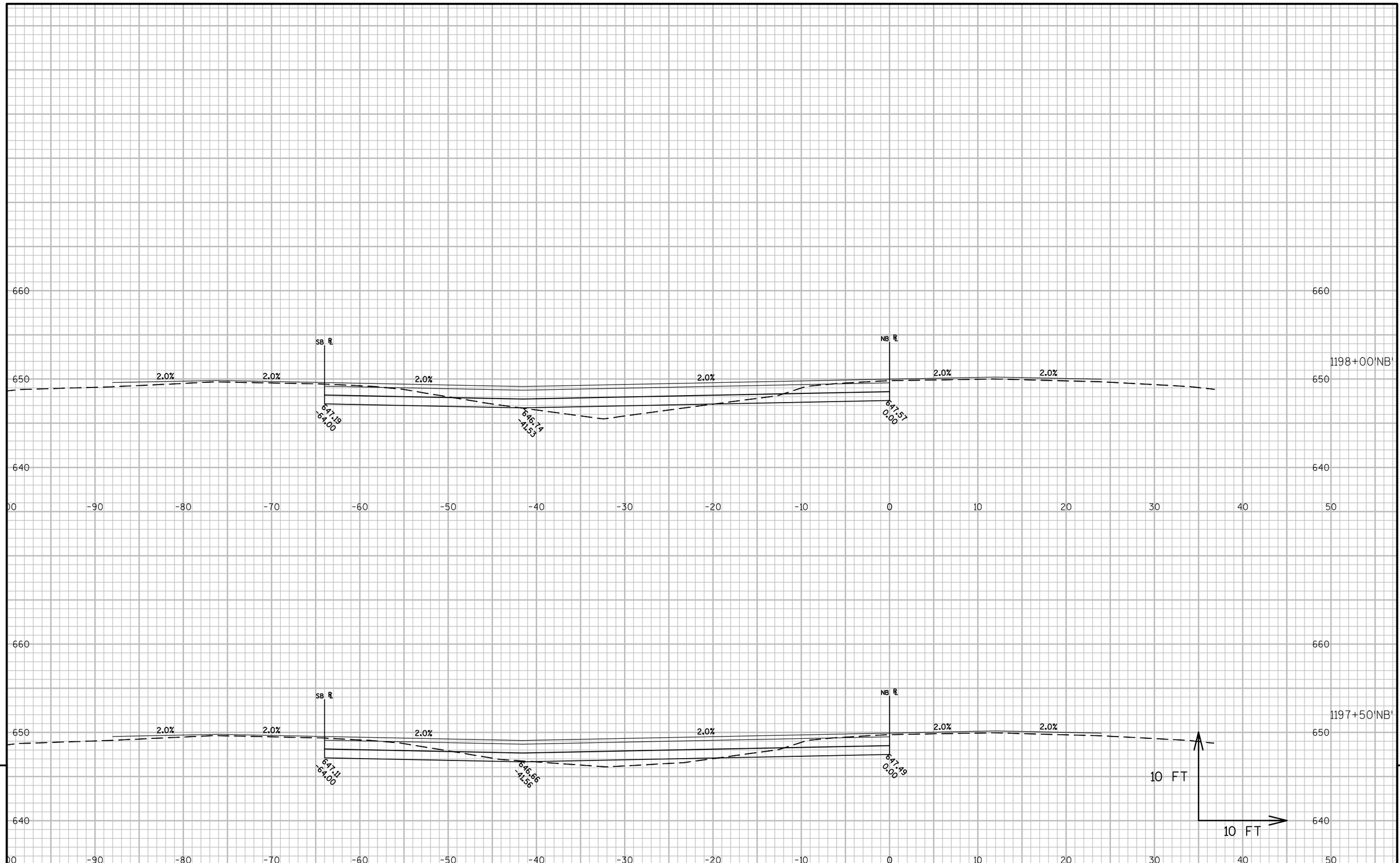
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PROJECT NO: 1224-21-71	HWY: IH 43	COUNTY: MANITOWOC	CROSS SECTIONS: CROSSOVERS	SHEET 445	E

FILE NAME : N:\PDS\C3D\12242100\SHEETSPLAN\C3D 2014\12242171\090206_XS.DWG
LAYOUT NAME - 090206_XSE

PLOT DATE : 6/25/2015 8:53 AM PLOT BY : PORTER, STEVEN J PLOT NAME : PLOT SCALE : 1 IN:10 FT

WISDOT/CADDS SHEET 49



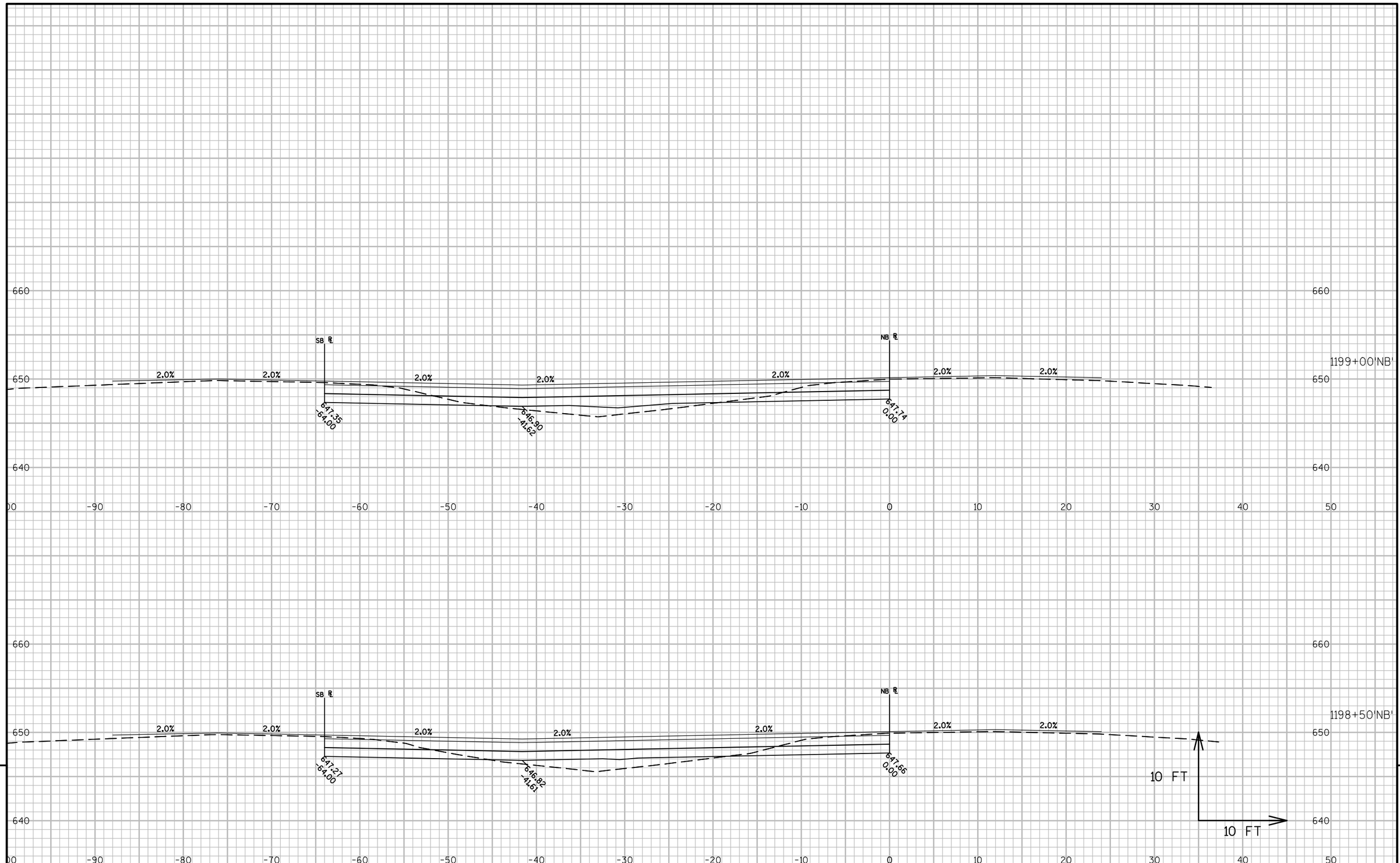
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9

PROJECT NO: 1224-21-71	HWY: IH 43	COUNTY: MANITOWOC	CROSS SECTIONS: CROSSOVERS	SHEET 446	E

FILE NAME : N:\PDS\C3D\12242100\SHEETSPLAN\C3D 2014\12242171\090206_XS.DWG
LAYOUT NAME - 090206_XSF

PLOT DATE : 6/25/2015 8:53 AM PLOT BY : PORTER, STEVEN J PLOT NAME : PLOT SCALE : 1 IN:10 FT



9

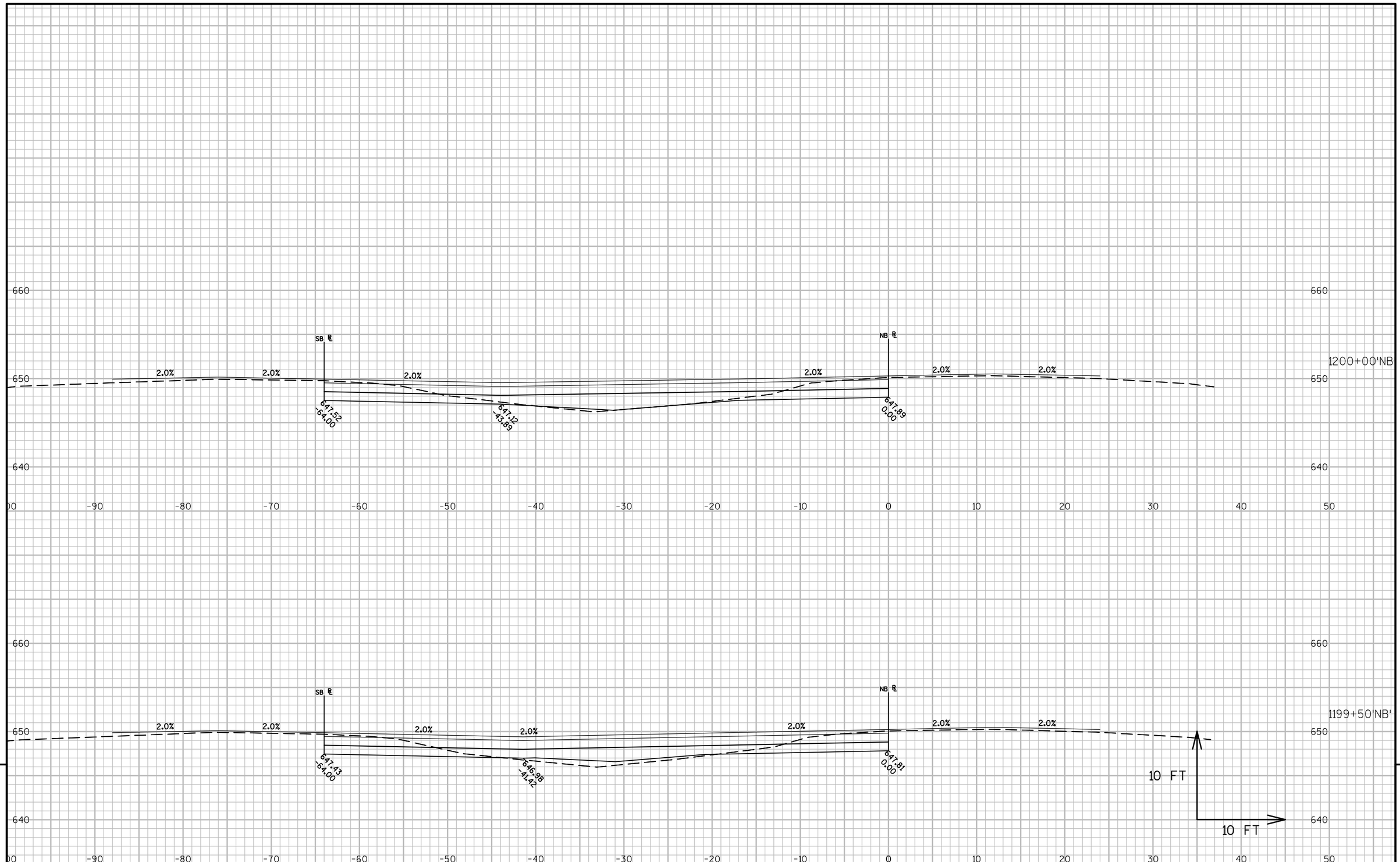
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PROJECT NO: 1224-21-71	HWY: IH 43	COUNTY: MANITOWOC	CROSS SECTIONS: CROSSOVERS	SHEET 447	E

FILE NAME : N:\PDS\C3D\12242100\SHEETSPLAN\C3D 2014\12242171\090206_XS.DWG
LAYOUT NAME - 090206_XSG

PLOT DATE : 6/25/2015 8:53 AM PLOT BY : PORTER, STEVEN J PLOT NAME : PLOT SCALE : 1 IN:10 FT

WISDOT/CADDS SHEET 49



9

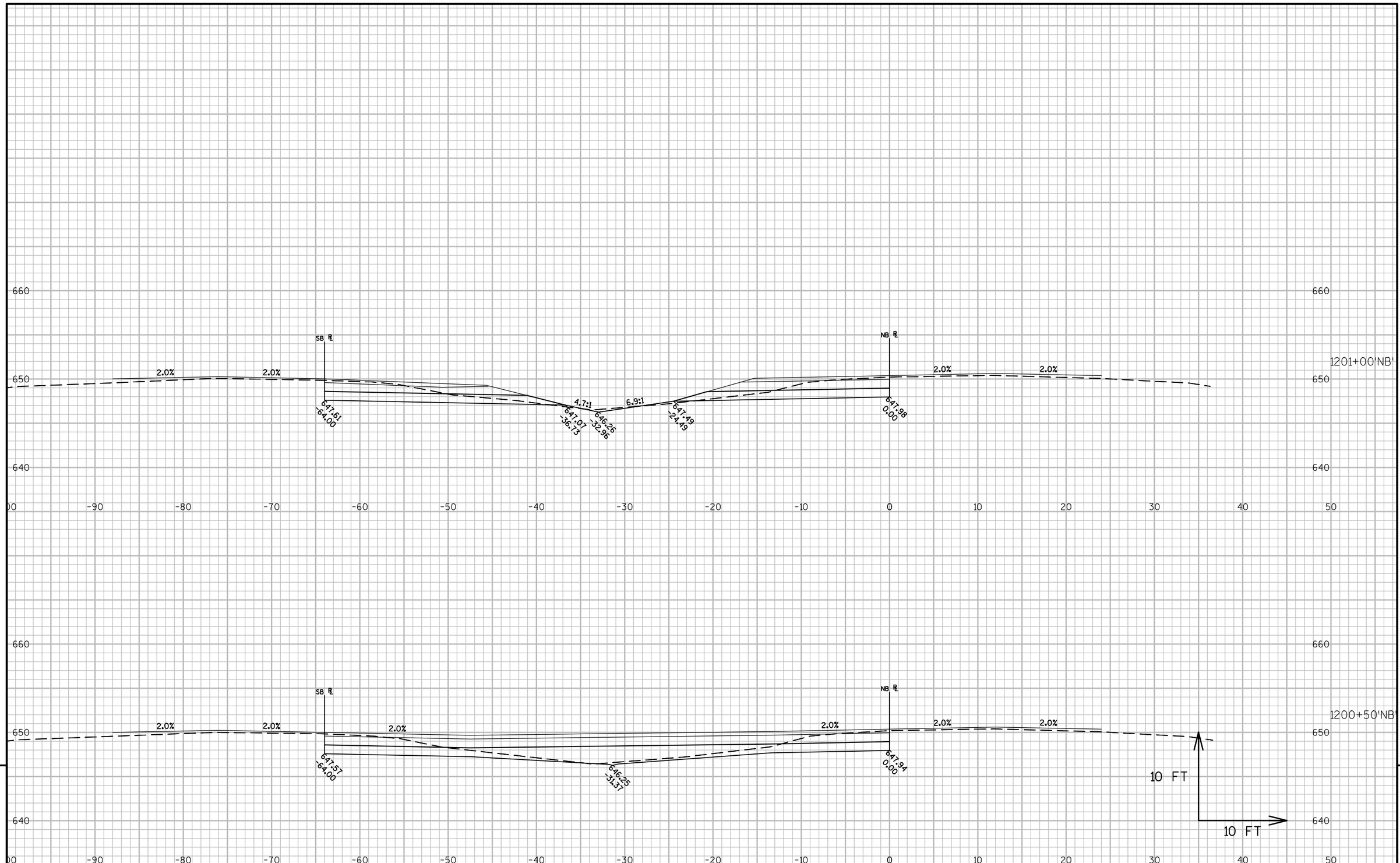
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PROJECT NO: 1224-21-71	HWY: IH 43	COUNTY: MANITOWOC	CROSS SECTIONS: CROSSOVERS	SHEET 448	E

FILE NAME : N:\PDS\C3D\12242100\SHEETSPLAN\C3D 2014\12242171\090206_XS.DWG
LAYOUT NAME - 090206_XSH

PLOT DATE : 6/25/2015 8:54 AM PLOT BY : PORTER, STEVEN J PLOT NAME : PLOT SCALE : 1 IN:10 FT

WISDOT/CADDS SHEET 49



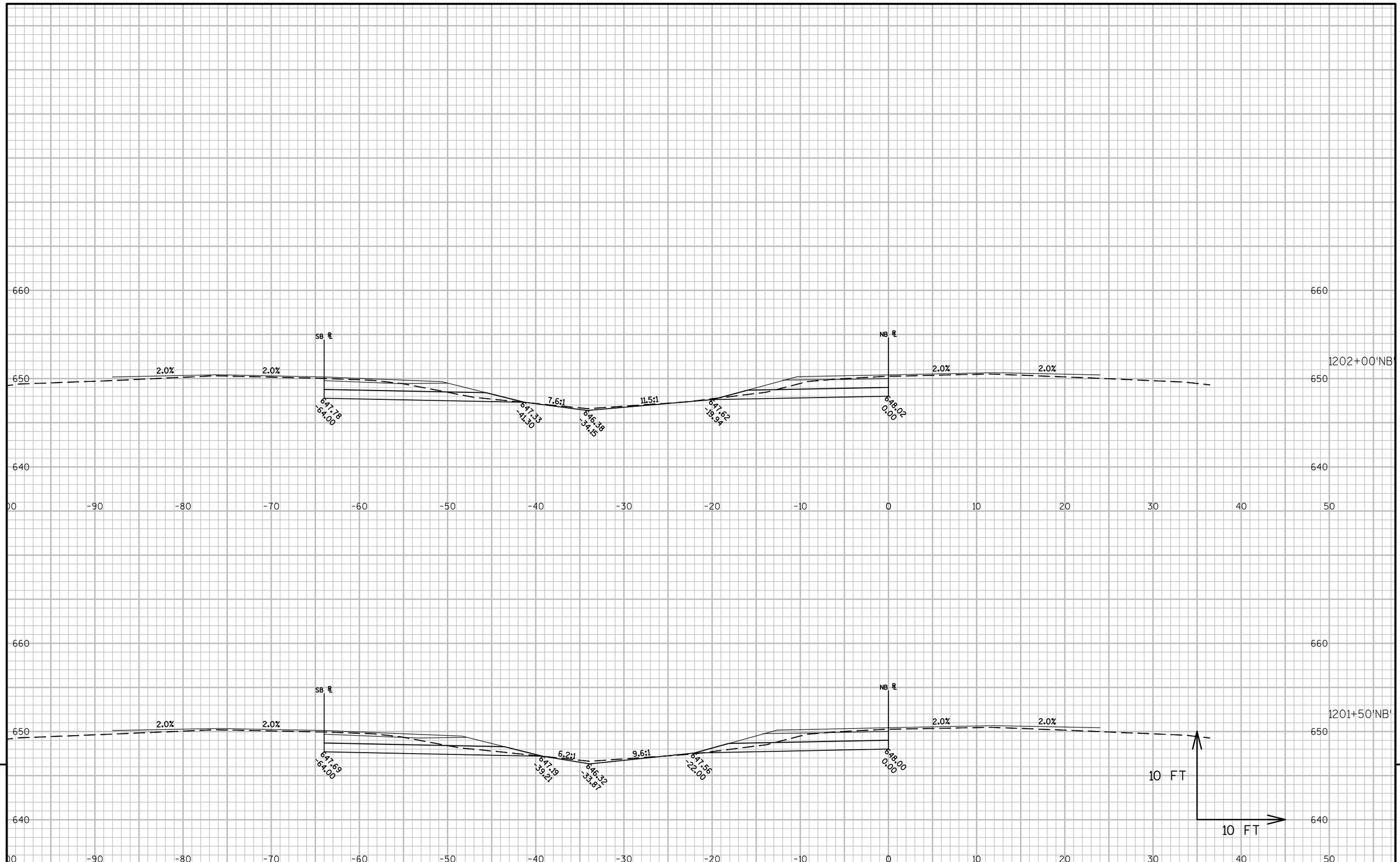
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9

PROJECT NO: 1224-21-71	HWY: IH 43	COUNTY: MANITOWOC	CROSS SECTIONS: CROSSOVERS	SHEET 449	E

FILE NAME : N:\PDS\C3D\12242100\SHEETSPLAN\C3D 2014\12242171\090206_XS.DWG
LAYOUT NAME - 090206_XSI

PLOT DATE : 6/25/2015 8:54 AM PLOT BY : PORTER, STEVEN J PLOT NAME : PLOT SCALE : 1 IN:10 FT

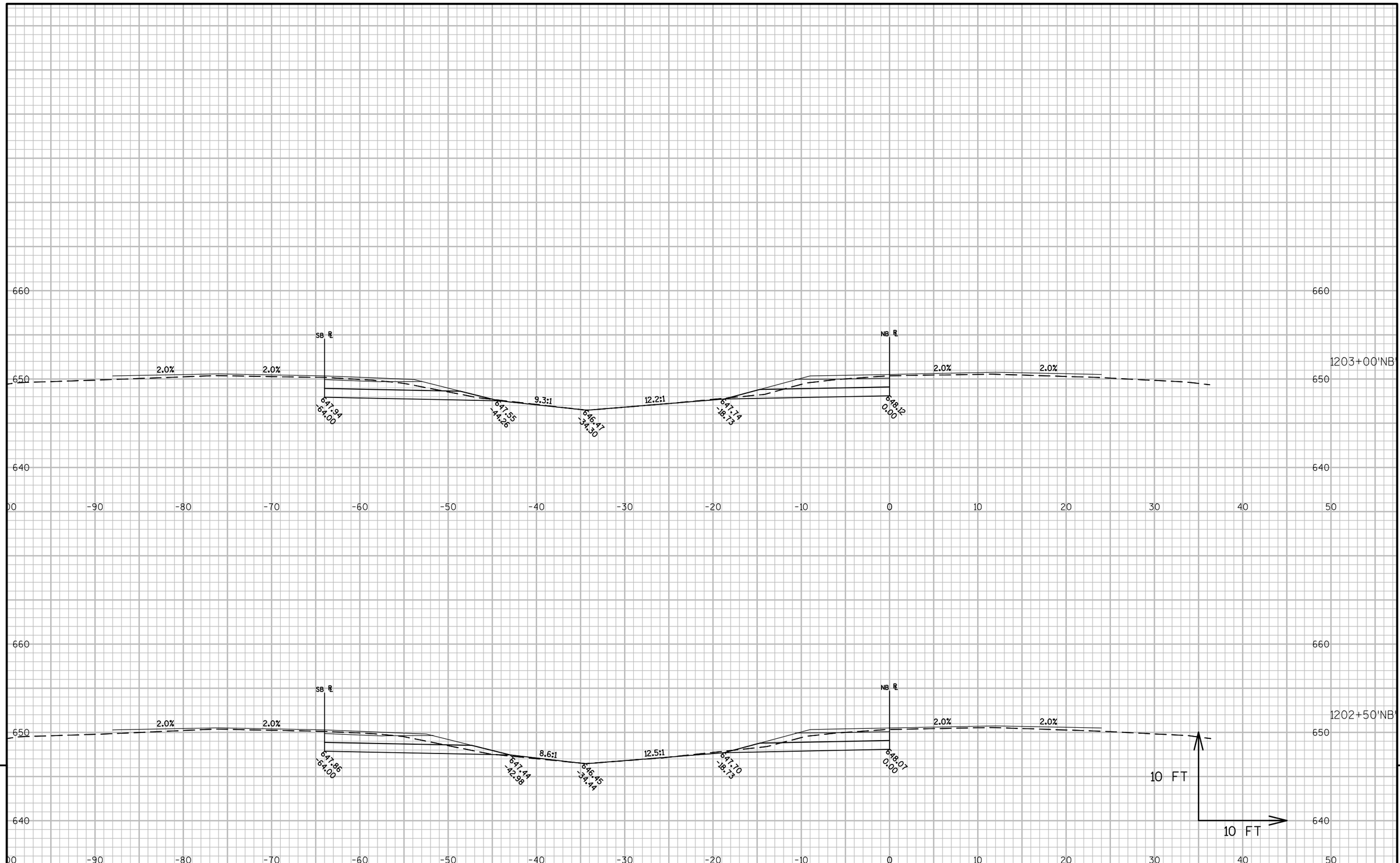


PROJECT NO: 1224-21-71	HWY: IH 43	COUNTY: MANITOWOC	CROSS SECTIONS: CROSSOVERS	SHEET 450	E

FILE NAME : N:\PDS\C3D\12242100\SHEETSPLAN\C3D 2014\12242171\090206_XS.DWG
LAYOUT NAME - 090206_XSJ

PLOT DATE : 6/25/2015 8:54 AM PLOT BY : PORTER, STEVEN J PLOT NAME : PLOT SCALE : 1 IN:10 FT

WISDOT/CADDS SHEET 49

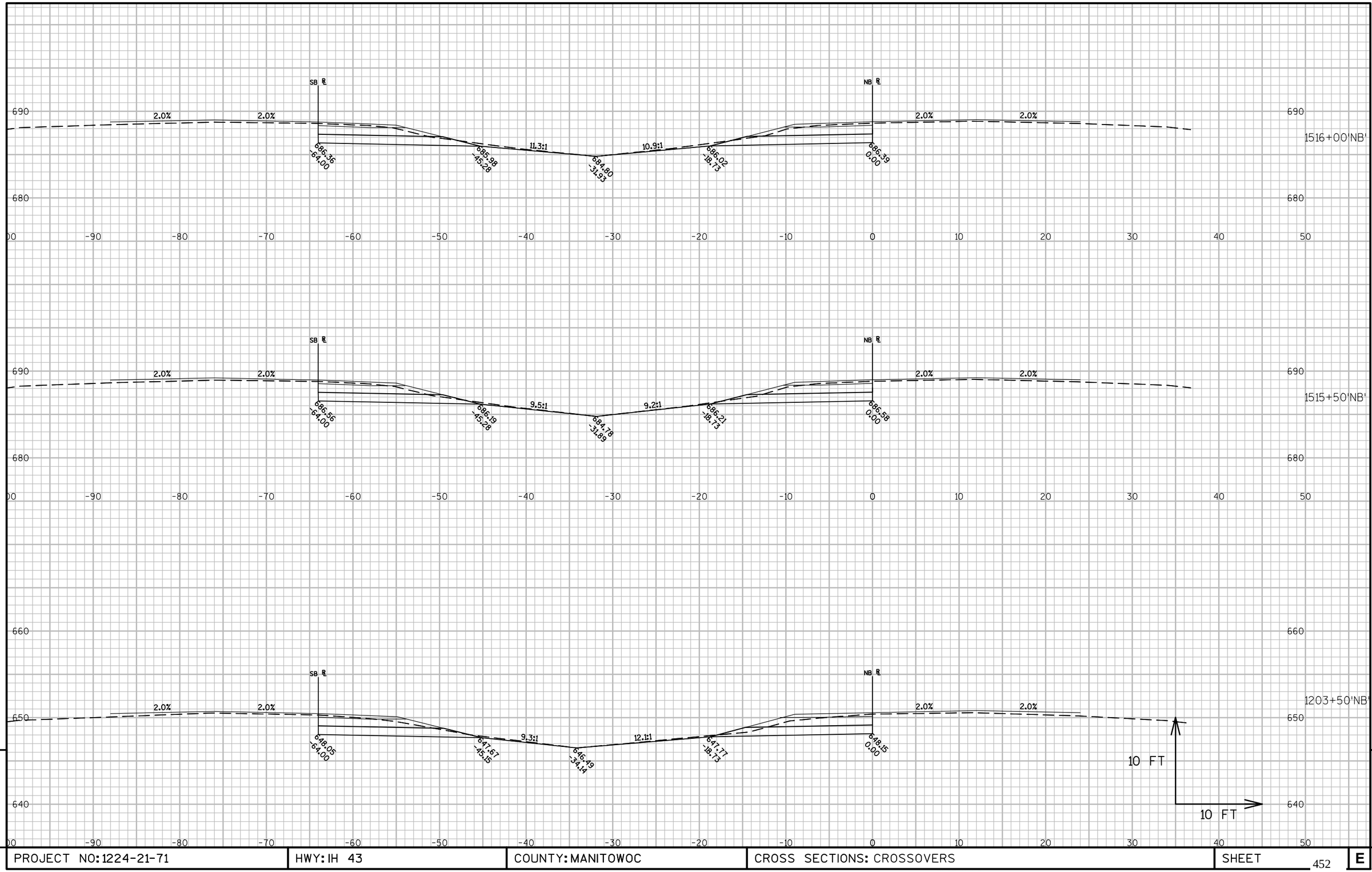


PROJECT NO: 1224-21-71	HWY: IH 43	COUNTY: MANITOWOC	CROSS SECTIONS: CROSSOVERS	SHEET 451	E

FILE NAME : N:\PDS\C3D\12242100\SHEETSPLAN\C3D 2014\12242171\090206_XS.DWG
LAYOUT NAME - 090206_XSK

PLOT DATE : 6/25/2015 8:54 AM PLOT BY : PORTER, STEVEN J PLOT NAME : PLOT SCALE : 1 IN:10 FT

WISDOT/CADDS SHEET 49



9

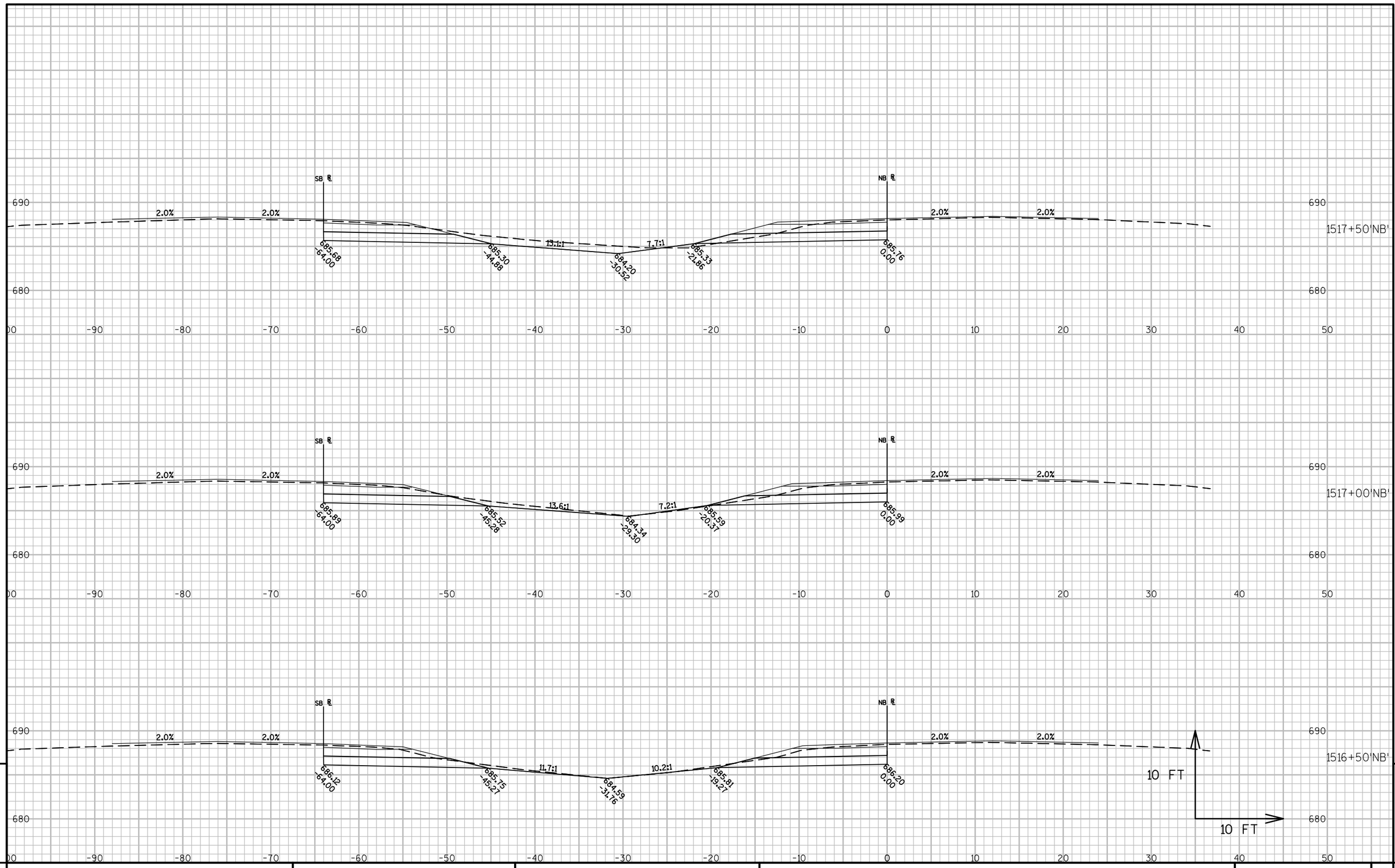
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PROJECT NO: 1224-21-71	HWY: IH 43	COUNTY: MANITOWOC	CROSS SECTIONS: CROSSOVERS	SHEET 452	E

FILE NAME : N:\PDS\C3D\12242100\SHEETSPLAN\C3D 2014\12242171\090206_XS.DWG
LAYOUT NAME - 090206_XSL

PLOT DATE : 6/25/2015 8:54 AM PLOT BY : PORTER, STEVEN J PLOT NAME : PLOT SCALE : 1 IN:10 FT

WISDOT/CADDS SHEET 49



9

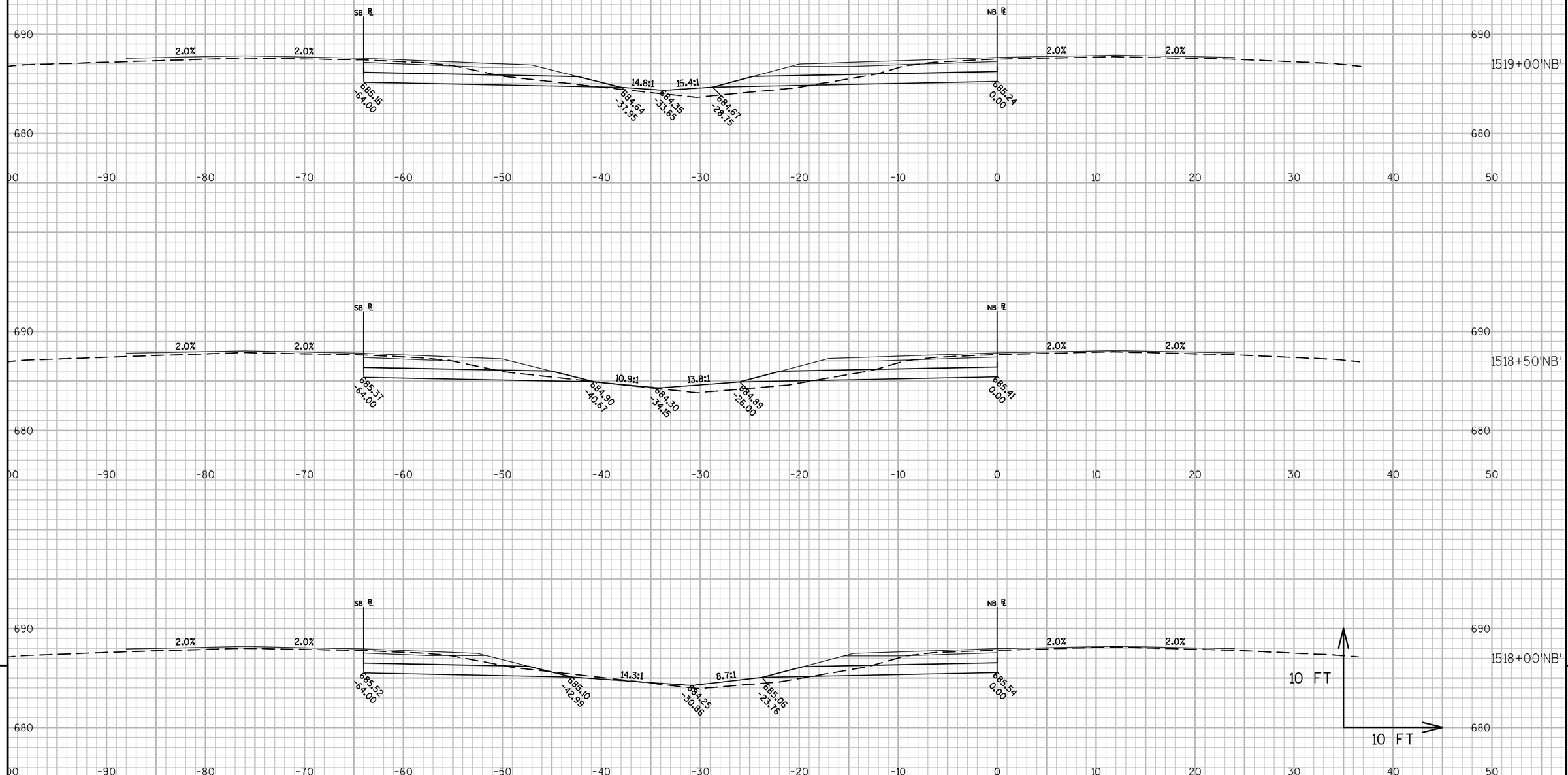
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PROJECT NO: 1224-21-71	HWY: IH 43	COUNTY: MANITOWOC	CROSS SECTIONS: CROSSOVERS	SHEET 453	E

FILE NAME : N:\PDS\C3D\12242100\SHEETSPLAN\C3D 2014\12242171\090206_XS.DWG
LAYOUT NAME - 090206_XSM

PLOT DATE : 6/25/2015 8:54 AM PLOT BY : PORTER, STEVEN J PLOT NAME : PLOT SCALE : 1 IN:10 FT

WISDOT/CADDS SHEET 49

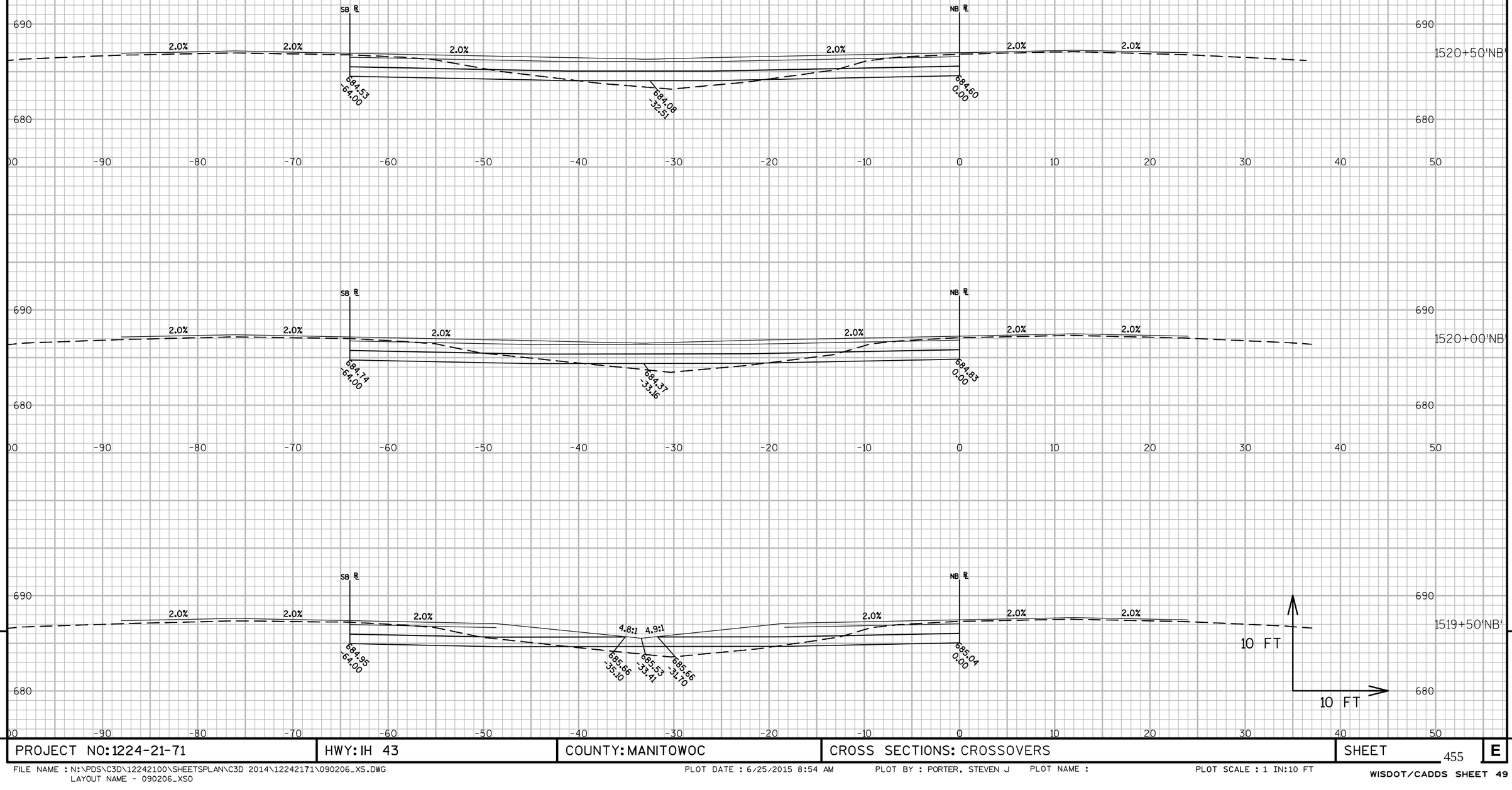


PROJECT NO: 1224-21-71	HWY: IH 43	COUNTY: MANITOWOC	CROSS SECTIONS: CROSSOVERS	SHEET 454 E

FILE NAME : N:\PDS\C3D\12242100\SHEETSPLAN\C3D 2014\12242171\090206_XS.DWG
LAYOUT NAME - 090206_XSN

PLOT DATE : 6/25/2015 8:54 AM PLOT BY : PORTER, STEVEN J PLOT NAME : PLOT SCALE : 1 IN:10 FT

WISDOT/CADDS SHEET 49



PROJECT NO: 1224-21-71	HWY: IH 43	COUNTY: MANITOWOC	CROSS SECTIONS: CROSSOVERS	SHEET 455 E

FILE NAME : N:\PDS\C3D\12242100\SHEETSPLAN\C3D 2014\12242171\090206_XS.DWG
LAYOUT NAME - 090206_XSO

PLOT DATE : 6/25/2015 8:54 AM PLOT BY : PORTER, STEVEN J PLOT NAME : PLOT SCALE : 1 IN:10 FT

WISDOT/CADDS SHEET 49

9

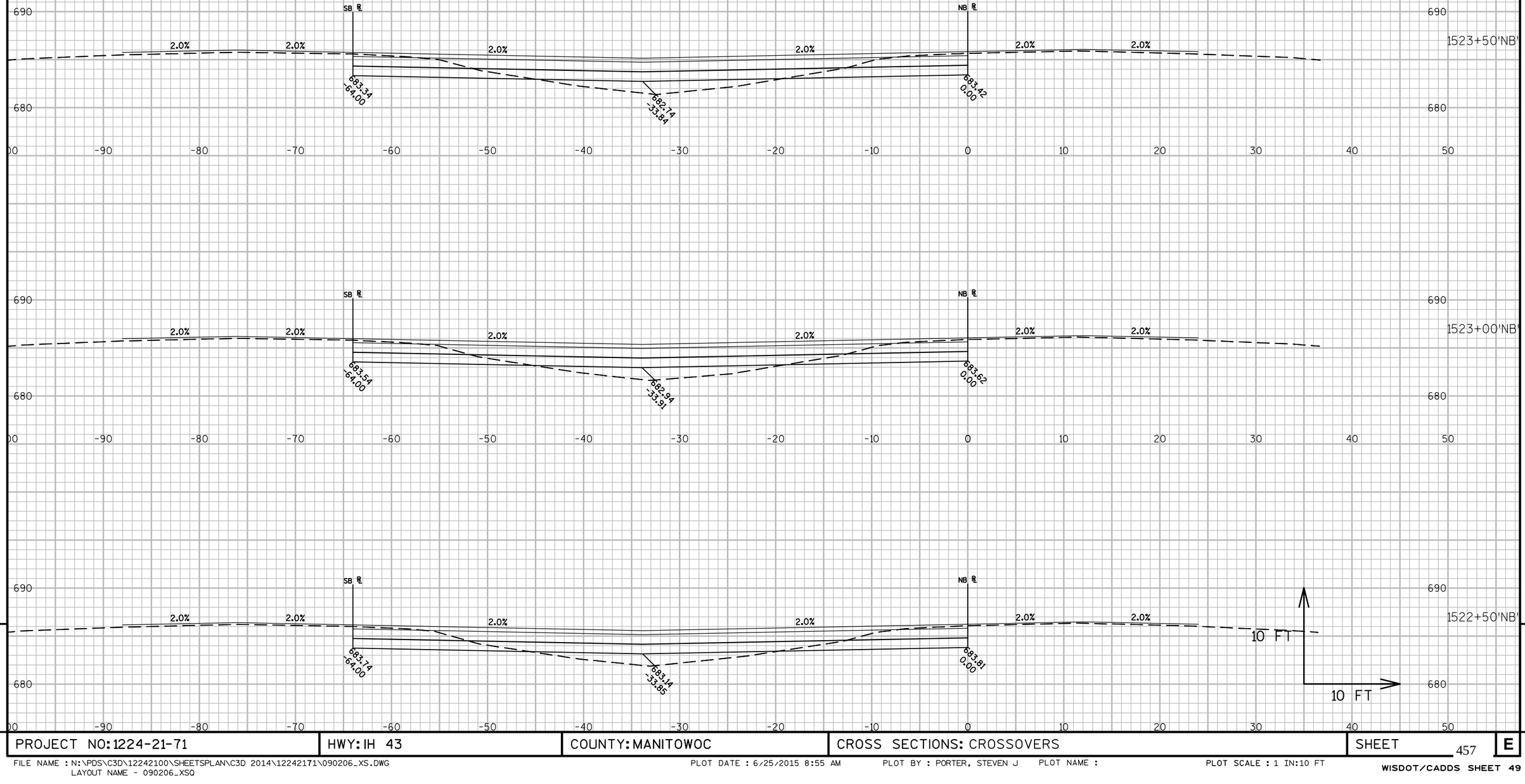
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PROJECT NO: 1224-21-71	HWY: IH 43	COUNTY: MANITOWOC	CROSS SECTIONS: CROSSOVERS	SHEET 456	E

FILE NAME : N:\PDS\C3D\12242100\SHEETSPLAN\C3D 2014\12242171\090206_XS.DWG
LAYOUT NAME - 090206_XSP

PLOT DATE : 6/25/2015 8:55 AM PLOT BY : PORTER, STEVEN J PLOT NAME : PLOT SCALE : 1 IN:10 FT

WISDOT/CADDS SHEET 49

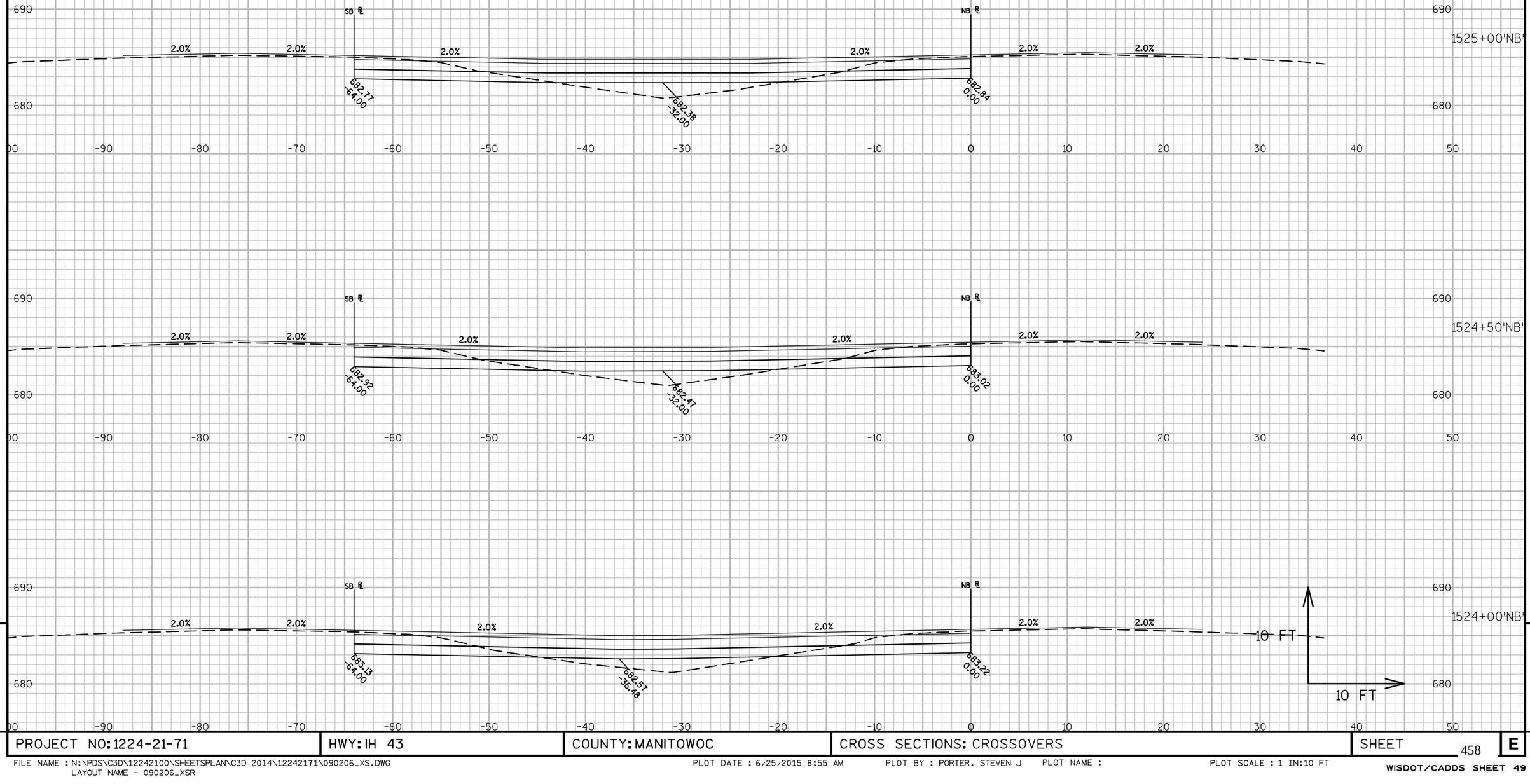


PROJECT NO: 1224-21-71	HWY: IH 43	COUNTY: MANITOWOC	CROSS SECTIONS: CROSSOVERS	SHEET 457	E

FILE NAME : N:\PDS\C3D\12242100\SHEETSPLAN\C3D 2014\12242171\090206_XS.DWG
LAYOUT NAME - 090206_XSQ

PLOT DATE : 6/25/2015 8:55 AM PLOT BY : PORTER, STEVEN J PLOT NAME : PLOT SCALE : 1 IN:10 FT

WISDOT/CADDS SHEET 49

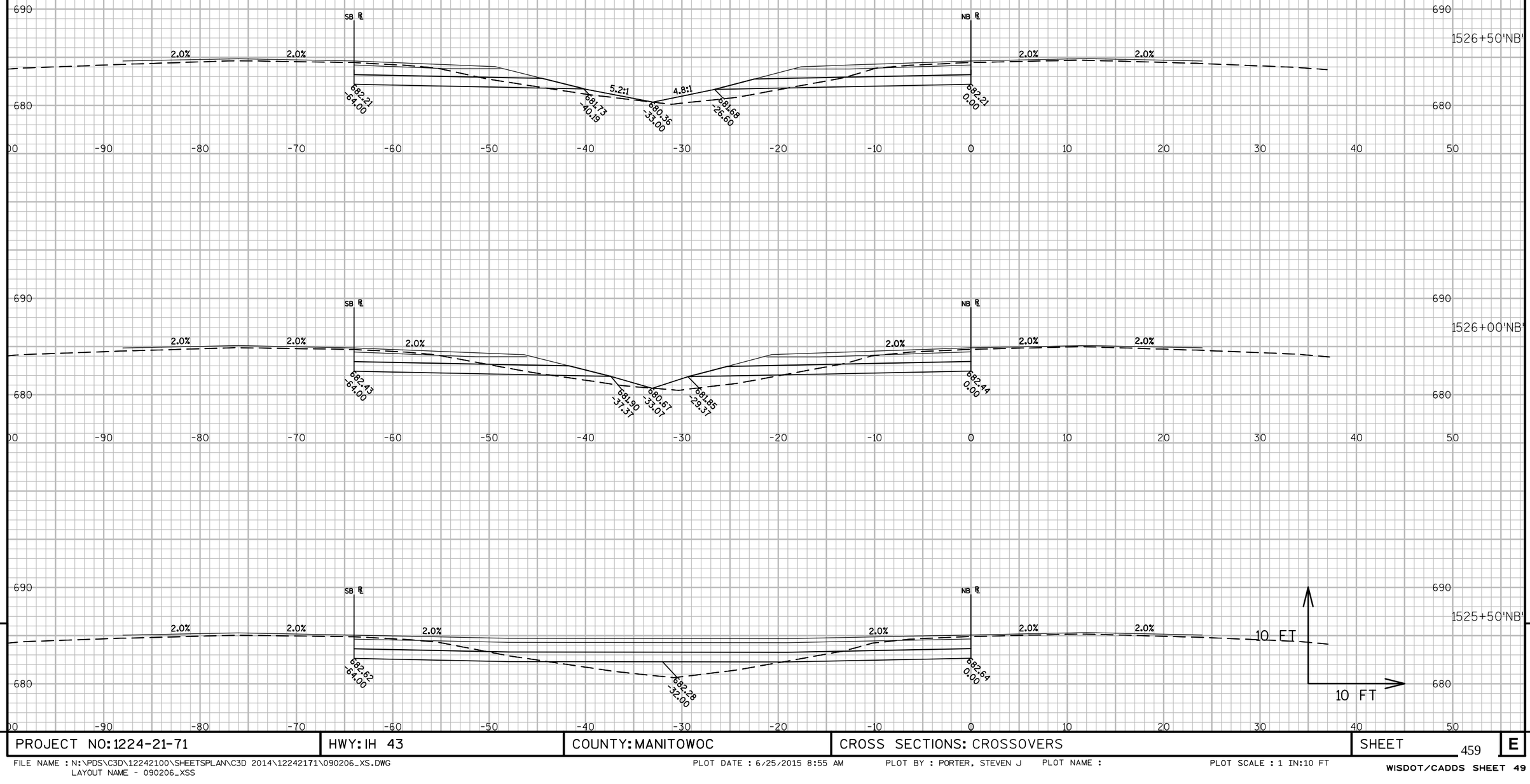


PROJECT NO: 1224-21-71	HWY: IH 43	COUNTY: MANITOWOC	CROSS SECTIONS: CROSSOVERS	SHEET 458	E

FILE NAME : N:\PDS\C3D\12242100\SHEETSPLAN\C3D 2014\12242171\090206_XS.DWG
LAYOUT NAME - 090206_XSR

PLOT DATE : 6/25/2015 8:55 AM PLOT BY : PORTER, STEVEN J PLOT NAME : PLOT SCALE : 1 IN:10 FT

WISDOT/CADDS SHEET 49

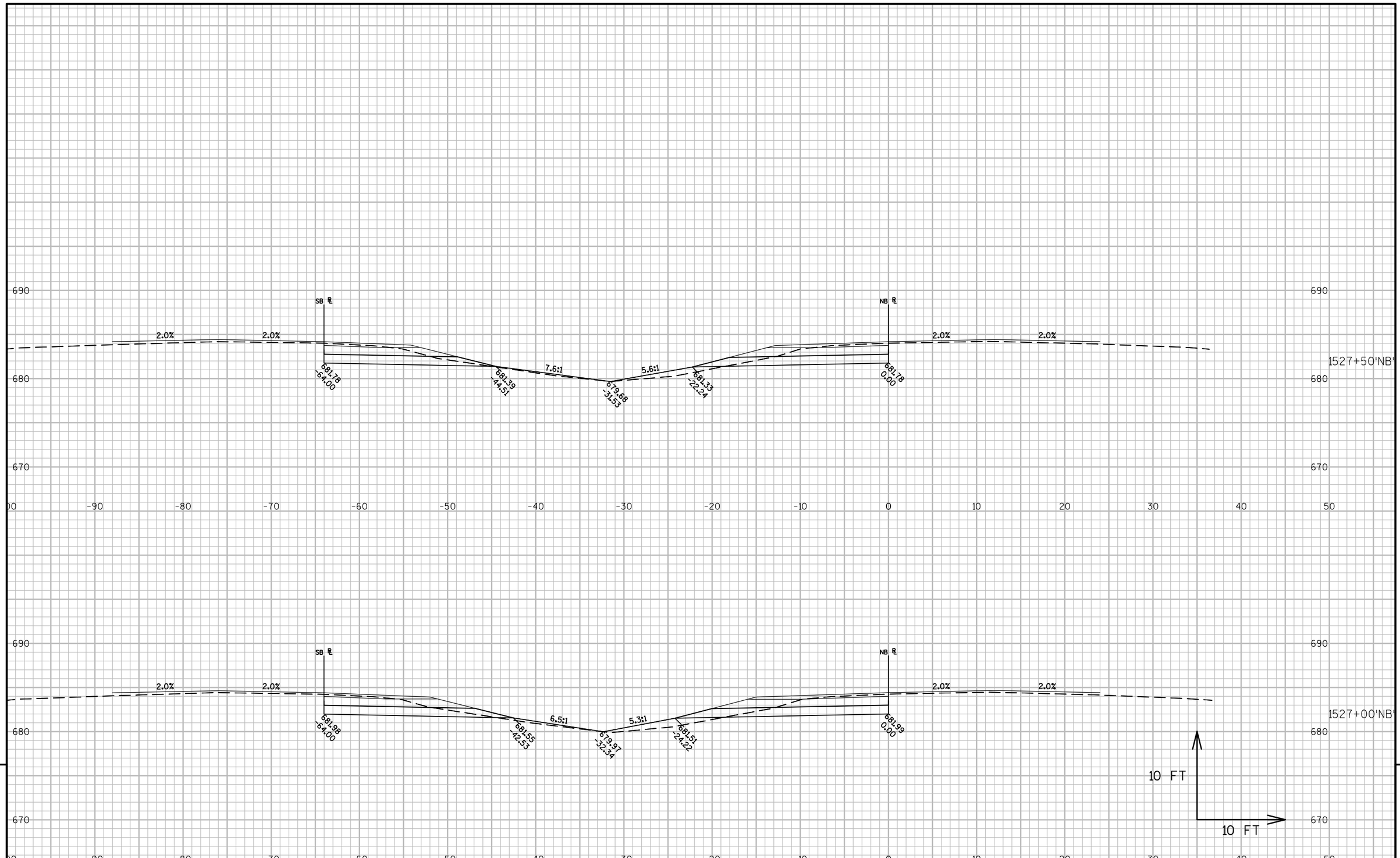


PROJECT NO: 1224-21-71	HWY: IH 43	COUNTY: MANITOWOC	CROSS SECTIONS: CROSSOVERS	SHEET 459	E

FILE NAME : N:\PDS\C3D\12242100\SHEETSPLAN\C3D 2014\12242171\090206_XS.DWG
LAYOUT NAME - 090206_XSS

PLOT DATE : 6/25/2015 8:55 AM PLOT BY : PORTER, STEVEN J PLOT NAME : PLOT SCALE : 1 IN:10 FT

WISDOT/CADDS SHEET 49



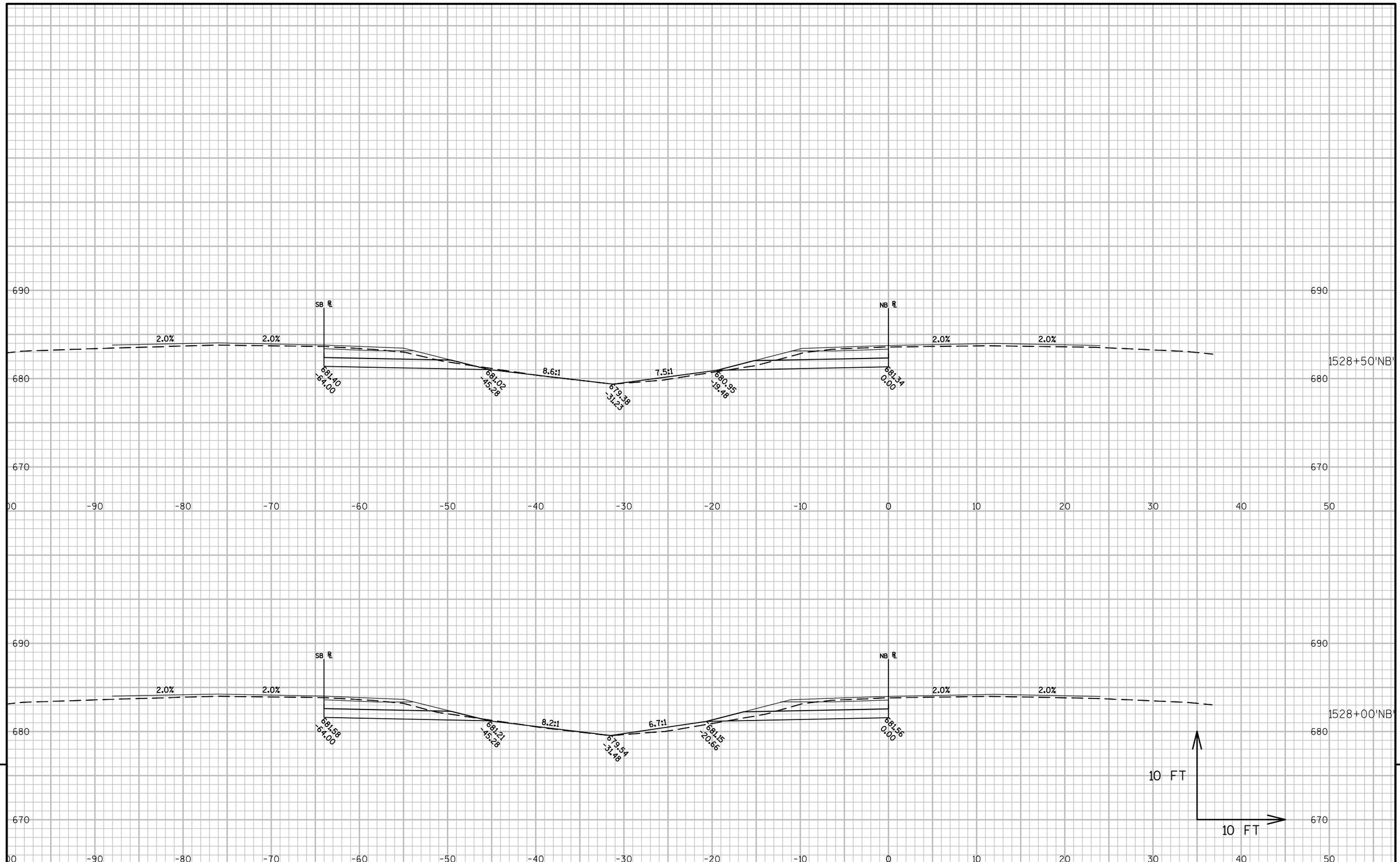
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9

PROJECT NO: 1224-21-71	HWY: IH 43	COUNTY: MANITOWOC	CROSS SECTIONS: CROSSOVERS	SHEET 460	E

FILE NAME : N:\PDS\C3D\12242100\SHEETSPLAN\C3D 2014\12242171\090206_XS.DWG
LAYOUT NAME - 090206_XST

PLOT DATE : 6/25/2015 8:55 AM PLOT BY : PORTER, STEVEN J PLOT NAME : PLOT SCALE : 1 IN:10 FT

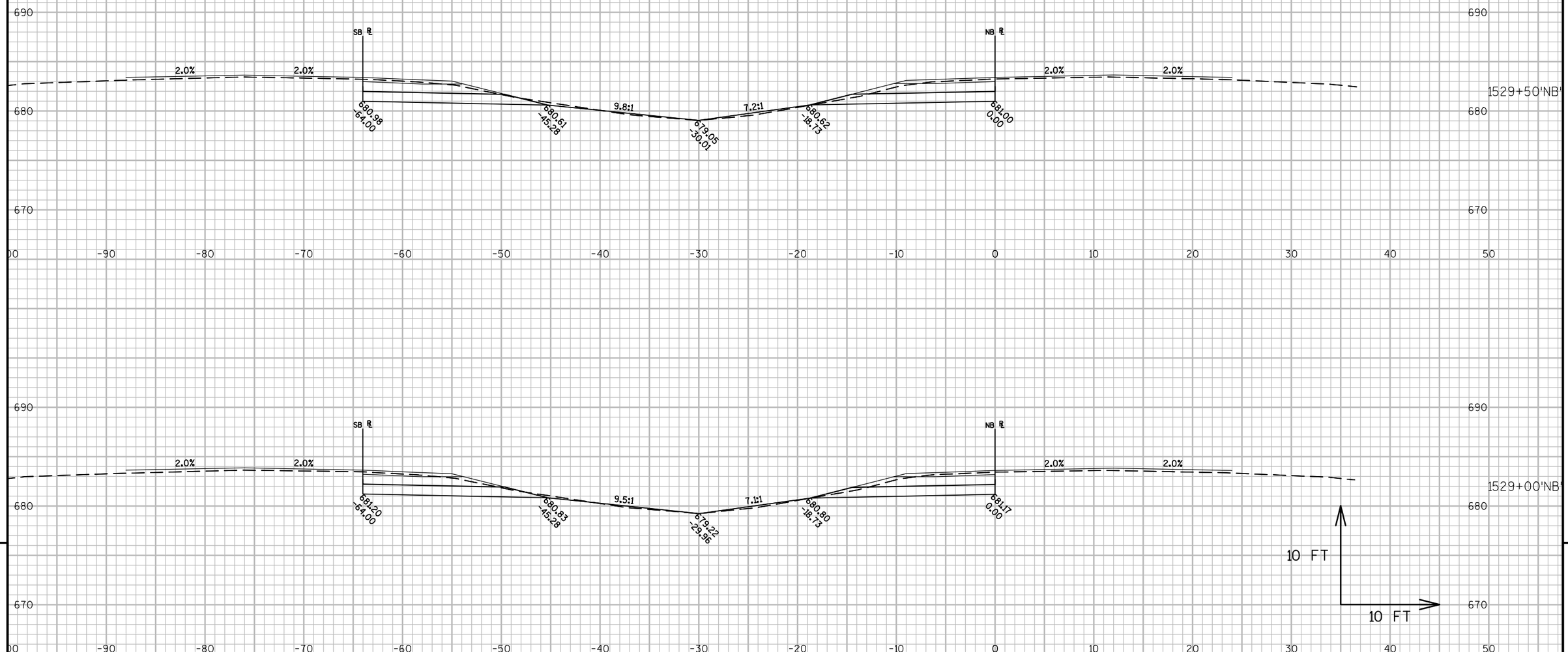


PROJECT NO: 1224-21-71	HWY: IH 43	COUNTY: MANITOWOC	CROSS SECTIONS: CROSSOVERS	SHEET 461 E

FILE NAME : N:\PDS\C3D\12242100\SHEETSPLAN\C3D 2014\12242171\090206_XS.DWG
LAYOUT NAME - 090206_XSU

PLOT DATE : 6/25/2015 8:55 AM PLOT BY : PORTER, STEVEN J PLOT NAME : PLOT SCALE : 1 IN:10 FT

WISDOT/CADDS SHEET 49



9

9

PROJECT NO: 1224-21-71	HWY: IH 43	COUNTY: MANITOWOC	CROSS SECTIONS: CROSSOVERS	SHEET 462 E

FILE NAME : N:\PDS\C3D\12242100\SHEETSPLAN\C3D 2014\12242171\090206_XS.DWG
LAYOUT NAME - 090206_XSV

PLOT DATE : 6/25/2015 8:55 AM PLOT BY : PORTER, STEVEN J PLOT NAME : PLOT SCALE : 1 IN:10 FT

Notes

Wisconsin Department of Transportation

Dedicated people creating transportation solutions
through innovation and exceptional service.

http://www.dot.wisconsin.gov