WKE

JUNE 2013

PROJECT ID: 1450-16-70

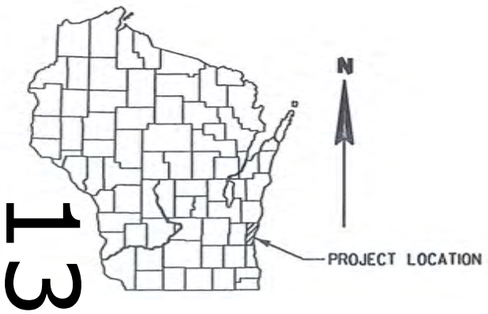
WITH: N/A

COUNTY: OZAUKEE

ORDER OF SHEETS

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

TOTAL SHEETS = 312



13

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

PLAN OF PROPOSED IMPROVEMENT

NORTH SOUTH FREEWAY

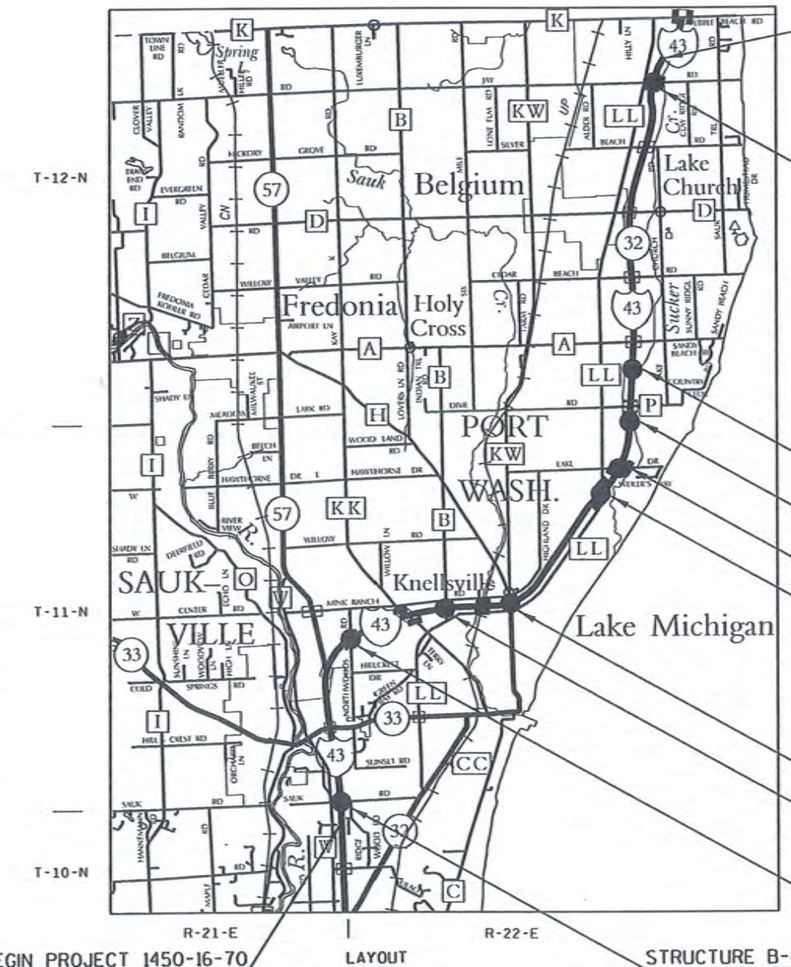
STH 32 TO N. OZAUKEE COUNTY LINE

IH 43
OZAUKEE COUNTY

STATE PROJECT NUMBER

1450-16-70

STATE PROJECT	FEDERAL PROJECT	
	PROJECT	CONTRACT
1450-16-70	WISC 2013355	1



END PROJECT 1450-16-70
STA. 977+00

STRUCTURE B-45-57 (SB)

STRUCTURE B-45-66

STRUCTURE B-45-64

STRUCTURE B-45-50 (NB)
STRUCTURE B-45-51 (SB)

STRUCTURE B-45-48 (NB)
STRUCTURE B-45-49 (SB)

STRUCTURE B-45-45

STRUCTURE B-45-42

STRUCTURE B-45-59

STRUCTURE B-45-33

BEGIN PROJECT 1450-16-70
STA. 140+80
Y = 601,864.31
X = 417,940.73

LAYOUT SCALE 0 1 MI.

TOTAL NET LENGTH OF CENTERLINE = 1.17 MI.

COORDINATES ON THIS PLAN ARE REFERENCED TO THE WISCONSIN COUNTY COORDINATE SYSTEM. (ECCS), OZAUKEE COUNTY

DESIGN DESIGNATION

		IH 43
A.A.D.T. (2007)	=	48,700
A.A.D.T. (2032)	=	69,200
D.H.V.	=	8.2%
D.D.	=	-
T.	=	14.9%
DESIGN SPEED	=	70 mph
ESALS	=	46,552,100

CONVENTIONAL SYMBOLS

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

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

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

ORIGINAL PLANS PREPARED BY:

MSA PROFESSIONAL SERVICES — TRANSPORTATION • MUNICIPAL DEVELOPMENT • ENVIRONMENTAL

WISCONSIN — JAIME L KURTEN-CHMIELEWSKI E-42403 MADISON WI — PROFESSIONAL ENGINEER

4/8/13 Date — Jaime Kurten Chmielewski Signature

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

PREPARED BY

Surveyor	MSA Professional Services, Inc.
Designer	MSA Professional Services, Inc.
Project Manager	Steven Hoff
Regional Examiner	
Regional Supervisor	Manojay Nag
C.O. Examiner	

APPROVED FOR THE DEPARTMENT

DATE: 4/8/13 (Signature)

E

2

ORDER OF DETAILS

GENERAL NOTES
PROJECT OVERVIEW
TYPICAL SECTIONS
CONSTRUCTION DETAILS
STORM SEWER
PERMANENT SIGNING
PAVEMENT MARKINGS
TRAFFIC CONTROL
TRAFFIC SIGNAL MODIFICATIONS

GENERAL NOTES

DISTURBED AREAS WITHIN THE RIGHT-OF-WAY, EXCEPT THE AREAS WITHIN THE FINISHED SHOULDER POINTS SHALL BE FERTILIZED AND SEEDED AS DIRECTED BY THE ENGINEER. OVERSOW PERMANENT SEEDING AREAS WITH TEMPORARY SEED AT 1.5 LBS. PER 1000 SQUARE FEET.

THE CONTRACTOR WILL BE RESPONSIBLE FOR RESHAPING AND SEEDING ANY PREVIOUSLY GRASSED AREAS WHICH ARE DISTURBED BY HIS OPERATION OUTSIDE OF THE NORMAL CONSTRUCTION LIMITS.

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

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

THE 5" HMA PAVEMENT SHALL BE INSTALLED IN ONE LAYER.

THE EROSION CONTROL ITEMS SHOWN ON THE PLANS ARE AT SUGGESTED LOCATIONS. THE ENGINEER SHALL DETERMINE THE EXACT LOCATION. ALL TEMPORARY EROSION CONTROL MEASURES SHALL BE MAINTAINED UNTIL SUCH TIME AS THE ENGINEER DETERMINES THE MEASURE IS NO LONGER NECESSARY.

LIMIT EXPOSED TOPSOIL TO A MAXIMUM OF 5 CALENDER DAYS.

CONTRACTOR MUST CONTACT THE PROJECT ENGINEER AND SEWRPC, AT LEAST TWO WEEKS PRIOR TO WORK NEAR ANY PUBLIC SERVICE MONUMENT.

EXCAVATION BELOW SUBGRADE (EBS) AREAS SHOWN IN THE PLANS ARE APPROXIMATE AND THE FINAL LOCATIONS WILL BE DETERMINED IN THE FIELD BY THE ENGINEER.

ELEVATIONS SHOWN ON THIS PLAN ARE BASED ON ELEVATIONS NOTED ON AS-BUILT PLANS FOR THE STRUCTURES SHOWN.

1451-1-72 - STRUCTURE B-45-33: TOP OF SW CORNER OF WING WALL ELEV. 791.42.
1451-6-78 - STRUCTURE B-45-59: DISK ON SE CORNER ELEV. 818.55.
1451-6-74 - STRUCTURE B-45-42: DISK ON SE CORNER ELEV. 794.91.
1451-6-76 - STRUCTURE B-45-45: DISK ELEV. 734.41.
1451-6-77 - STRUCTURE B-45-48: DISK ON SE CORNER ELEV. 701.01.
1451-6-77 - STRUCTURE B-45-49: DISK ON NW CORNER ELEV. 697.35.
1451-7-76 - STRUCTURE B-45-50: DISK ON SE CORNER ELEV. 673.18.
1451-7-76 - STRUCTURE B-45-51: DISK ON NW CORNER ELEV. 671.97.
1451-7-75 - STRUCTURE B-45-64: DISK ON NE WING ELEV. 651.63.
1451-7-75 - STRUCTURE B-45-66: CHISELED SQUARE ON OF CONC. BOX CULVERT ELEV. 658.25.
1451-7-73 - STRUCTURE B-45-57: DISK ON NW CORNER ELEV. 711.46.

HMA PAVEMENT GRADATION TABLE

HMA PAVEMENT TYPE E-1 5"	
	19mm
ASPHALTIC MATERIAL	
	PG-58-28

STANDARD ABBREVIATIONS

AC	ACRES
AH	AHEAD
ALUM.	ALUMINUM
A.P.	ACCESS POINT
AVE	AVENUE
BK	BACK
BLK	BLOCK
BM	BENCHMARK
CL or C/L	CENTERLINE
Δ	CENTRAL ANGLE or DELTA
CSM	CERTIFIED SURVEY MAP
D	DEGREE OF CURVE
E	EAST
EAT	ENERGY ABSORBING TERMINAL
EB	EASTBOUND
ET AL	AND OTHERS
EW	ENDWALL
EXIST	EXISTING
FO	FIBER OPTIC
FT	FOOT
G	GAS
GN	GRID NORTH
IN	INCH
IP	IRON PIPE
L	LENGTH
L	LENGTH OF CURVE
LF	LINEAL FEET
LC	LONG CHORD
LCB	LONG CHORD BEARING
LT	LEFT
MH	MANHOLE
MI	MILE
MON	MONUMENT
N	NORTH
NB	NORTHBOUND
NO	NUMBER
OH	OVERHEAD
PT	POINT
PC	POINT OF CURVATURE
PI	POINT OF INTERSECTION
PT	POINT OF TANGENCY
PL	PROPERTY LINE
PLE	PERMANENT LIMITED EASEMENT
POB	POINT OF BEGINNING
R	RADIUS
RP	RADIUS POINT
R	RANGE
RL or R/L	REFERENCE LINE
REQ'D	REQUIRED
RT	RIGHT
R/W	RIGHT-OF-WAY
RD	ROAD
SAN	SANITARY SEWER
S	SOUTH
SB	SOUTHBOUND
SQ	SQUARE
FT2	SQUARE FEET
STD	STANDARD
SEC	SECTION
SS	STORM SEWER
ST	STREET
STA	STATION
STM	STORM SEWER
STR	STRUCTURE
T	TANGENT
T	TELEPHONE
TAN	TANGENT
TEMP	TEMPORARY
TLE	TEMPORARY LIMITED EASEMENT
T or TN	TOWN
TV	TELEVISION
TYP	TYPICAL
WM	WATERMAIN
WV	WATER VALVE
W	WEST
W	WATERMAIN
WB	WESTBOUND
X	EAST GRID COORDINATE
Y	NORTH GRID COORDINATE

DEPARTMENT OF TRANSPORTATION CONTACT

DEPARTMENT OF TRANSPORTATION
ATTN: STEVE HOFF
141 NW BARSTOW STREET
P.O. BOX 798
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PHONE: 262-548-6718
EMAIL: Steve.Hoff@dot.wi.gov

BOB DREBLOW (OZAUKEE COUNTY)
410 SOUTH SPRING ST
P.O. BOX 994
PORT WASHINGTON, WI 53704
PHONE: (262)238-8331
BDREBLOW@CO.OZAUKEE.WI.US

DNR LIAISON

DEPARTMENT OF NATURAL RESOURCES
ATTN: JOANNE KLINE
REGIONAL WETLAND BIOLOGIST/TRANSPORTATION LIAISON
WISCONSIN DNR, SOUTHEAST REGION
2300 N. DR. MARTIN LUTHER KING JR. DR.
MILWAUKEE, WI 53212
PHONE: 414-236-8756
EMAIL: Joanne.Kline@wisconsin.gov

DESIGN CONTACT

MSA PROFESSIONAL SERVICES, INC.
ATTN: JAIME KURTEN
2901 INTERNATIONAL LANE, SUITE 300
MADISON, WI 53704
PHONE: 608-242-7779
EMAIL: jkurten@msa-ps.com

PORT WASHINGTON SIGNALS
TAPCO
ATTN: RICK KLINE
5100 W. BROWN DEER ROAD
BROWN DEER, WI 53223
PHONE: 414-659-4504

SEWRPC
ATTN: DON SIMON AND JOHN WASHBURN
SOUTHEASTERN WISCONSIN REGIONAL PLANNING COMMISSION
W239 N1812 ROCKWOOD DRIVE
P.O. BOX 1607
WAUKESHA, WI53187-1607
PHONE (262)547-6721
FAX (262)547-1103
E-MAIL: SEWRPC@SEWRPC.ORG

UTILITY CONTACTS

ELECTRIC & GAS:
WE ENERGIES
SEND ALL CORRESPONDENCE TO:
DAN SANDE
333 W. EVERETT STREET
MILWAUKEE, WI 53203
PHONE: 414-221-4578

GAS FIELD CONTACT:
PAUL OSMANSKI
500 S. 116TH ST
WEST ALLIS, WI 53214
PHONE: 414-944-5796

ELECTRIC FIELD CONTRACT:
AL SCHMIDT
245 SAND DRIVE
WEST BEND, WI 53095
PHONE: 414-322-1824

TELECOMMUNICATIONS
FRONTIER
ATTN: ROBERT CHURCH
100 COMMUNICATION DRIVE
SUN PRAIRIE, WI 53590
PHONE: 608-837-1881
EMAIL: robert.church@ftr.com

FIELD CONTRACT:
RYAN OSNESS
118 DIVISION STREET
PLYMOUTH, WI 53073
PHONE: 920-893-7455
EMAIL: ryan.d.osness@ftr.com

TELECOMMUNICATIONS
TIME WARNER CABLE
ATTN: LUKAS LACROSSE
1320 N. MARTIN LUTHER KING JR. DR.
MILWAUKEE, WI 53212
PHONE: 414-277-4045
EMAIL: lukas.lacrosse@twcable.com

FIBER OPTIC
CENTURYLINK
ATTN: KEVIN HUFF
W329 N4072 LAKELAND DRIVE
NASHOTAH, WI 53058
PHONE: 920-960-6003

TELECOMMUNICATIONS
PAETEC
ATTN: JAMES BIRKENHEIER
731 N. JACKSON STREET
MILWAUKEE, WI 53202
414-831-5252
EMAIL: james.birkenheier@paetec.com

VILLAGE OF BELGIUM
ATTN: KEVIN KOWALKOVSKI, VILLAGE PRESIDENT
195 COMMERCE STREET
PO BOX 224
BELGIUM, WI 53004
920-285-7931
EMAIL: kkowalkovski@village.belgium.com

TELECOMMUNICATIONS:
AT&T WISCONSIN
ATTN: CAROL COULLIARD
7721 W. FOND DU LAC AVE.
MILWAUKEE, WI 53218
PHONE: 414-536-2992
EMAIL: cw6735@att.com

DIGGERS HOTLINE

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

PROJECT NO: 1450-16-70	HWY: IH 43	COUNTY: OZAUKEE	GENERAL NOTES	SHEET 2	E

FILE NAME : $$....designfile....$$ PLOT DATE : $$...plottingdate...$$ PLOT BY : $$...plotuser...$$ PLOT NAME : PLOT SCALE : $$.....plotscale.....$$ WISDOT/CADDS SHEET 42

2012 General Notes.dgn 4/10/2013 1:50:07 PM jdolens

END PROJECT 1450-16-70

B-45-57

SEE DETAIL 'A'

B-45-66

B-45-64

B-45-51

B-45-50

B-45-49

B-45-48

SEE DETAIL 'B'

B-45-42

B-45-45

B-45-59

SEE DETAIL 'C'

B-45-33

BEGIN PROJECT 1450-16-70

STRUCTURE B-45-64 (WING REPLACEMENT)
IH 43 OVER SUCKER CREEK
STA. 635+71.0'NB'/STA. 635+33.5'SB'

STRUCTURE B-45-66 (WING REPLACEMENT)
IH 43 OVER SUCKER CREEK
STA. 679+04.5'NB'/STA. 678+67.5'SB'

STRUCTURE B-45-51 (OVERLAY)
IH 43 SB OVER LAKE DRIVE
BEGIN CONSTRUCTION STA. 595+50.00'SB'
END CONSTRUCTION STA. 598+50.00'SB'

STRUCTURE B-45-50 (OVERLAY)
IH 43 NB OVER LAKE DRIVE
BEGIN CONSTRUCTION STA. 596+00.00'NB'
END CONSTRUCTION STA. 599+00.00'NB'

STRUCTURE B-45-49 (OVERLAY)
IH 43 SB OVER CTH LL
BEGIN CONSTRUCTION STA. 570+90.00'SB'
END CONSTRUCTION STA. 577+90.00'SB'

STRUCTURE B-45-48 (OVERLAY)
IH 43 NB OVER CTH LL
BEGIN CONSTRUCTION STA. 568+25.00'NB'
END CONSTRUCTION STA. 575+00.00'NB'

DETAIL 'B'

STRUCTURE B-45-59 (OVERLAY)
NORTH WOODS ROAD OVER IH 43
BEGIN CONSTRUCTION STA. 35+50.00
END CONSTRUCTION STA. 42+00.00

STRUCTURE B-45-45 (DECK REPLACEMENT)
WI 32 OVER IH 43
BEGIN CONSTRUCTION STA. 39+50.00
END CONSTRUCTION STA. 44+55.00

STRUCTURE B-45-42 (OVERLAY)
CTH B OVER IH 43
BEGIN CONSTRUCTION STA. 37+00.00
END CONSTRUCTION STA. 40+50.00

STRUCTURE B-45-33 (DECK REPLACEMENT)
SAUK ROAD OVER IH 43
BEGIN CONSTRUCTION STA. 38+00.00
END CONSTRUCTION STA. 43+00.00

DETAIL 'C'

STRUCTURE B-45-57 (OVERLAY)
IH 43 SB OVER JAY RD.
BEGIN CONSTRUCTION STA. 916+75.00'SB'
END CONSTRUCTION STA. 920+25.00'SB'

DETAIL 'A'

PROJECT NO: 1450-16-70	HWY: IH 43	COUNTY: OZAUKEE	PROJECT OVERVIEW	SHEET 3	E

FILE NAME : $$....designfile....$$ PLOT DATE : $$...plottingdate...$$ PLOT BY : $$...plotuser...$$ PLOT NAME : PLOT SCALE : $$.....plotscale.....$$

WISDOT/CADDS SHEET 42

Project Overview.dgn 4/10/2013 1:50:09 PM jdolens

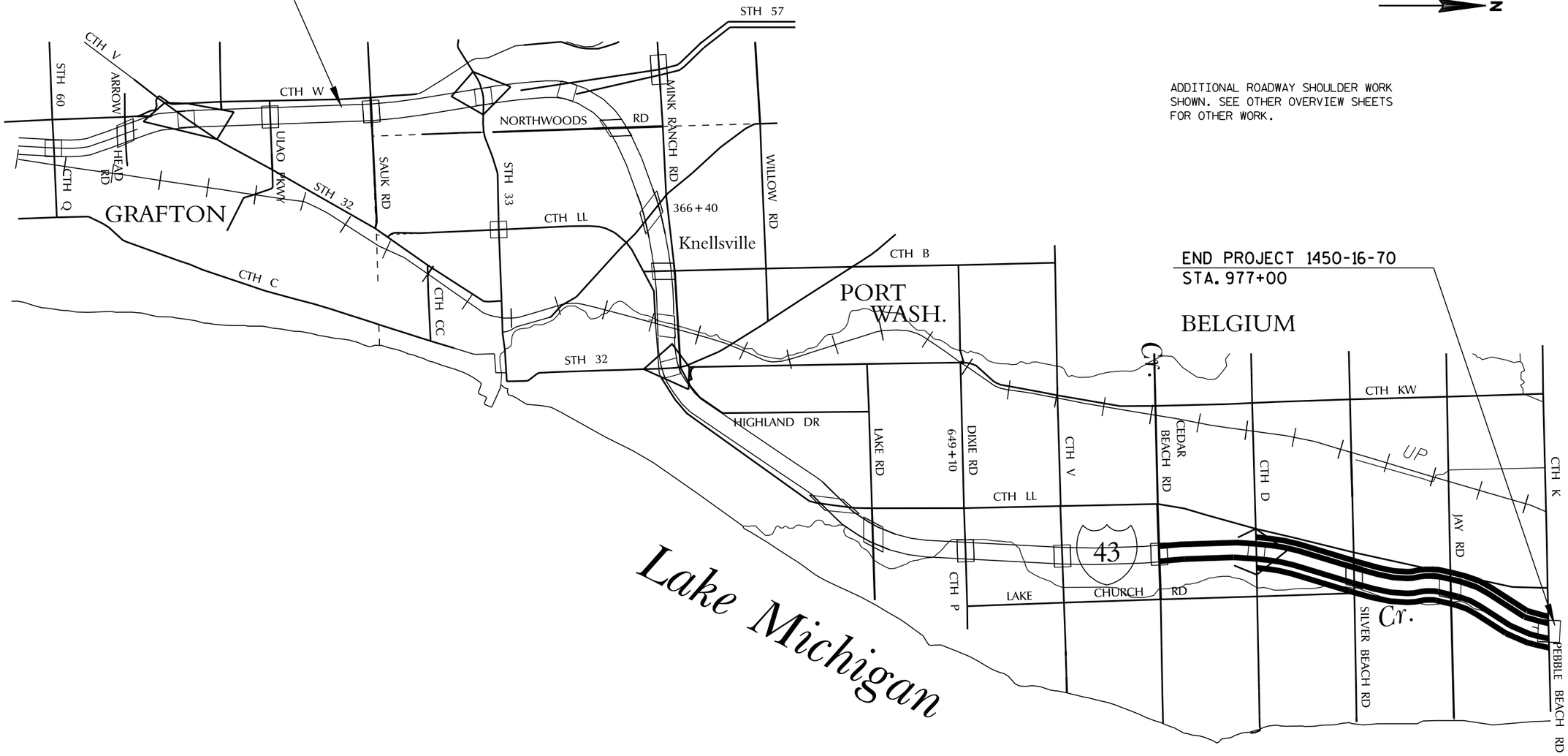
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BEGIN PROJECT 1450-16-70
STA. 140+80
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Y = 417940.73

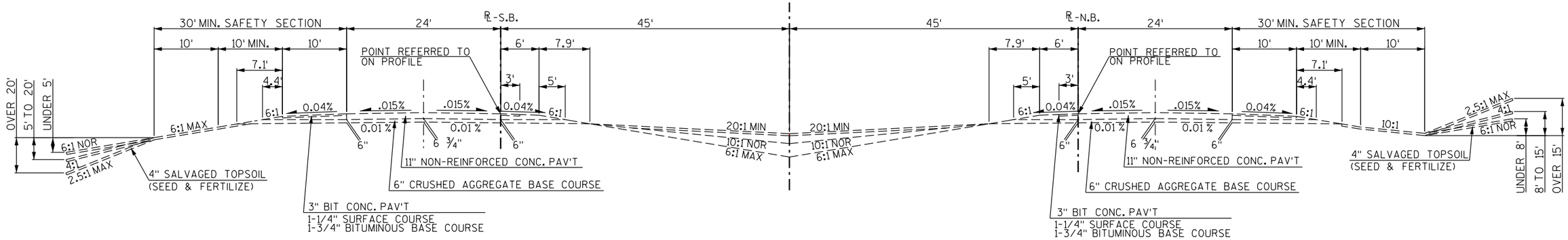
N

ADDITIONAL ROADWAY SHOULDER WORK SHOWN. SEE OTHER OVERVIEW SHEETS FOR OTHER WORK.

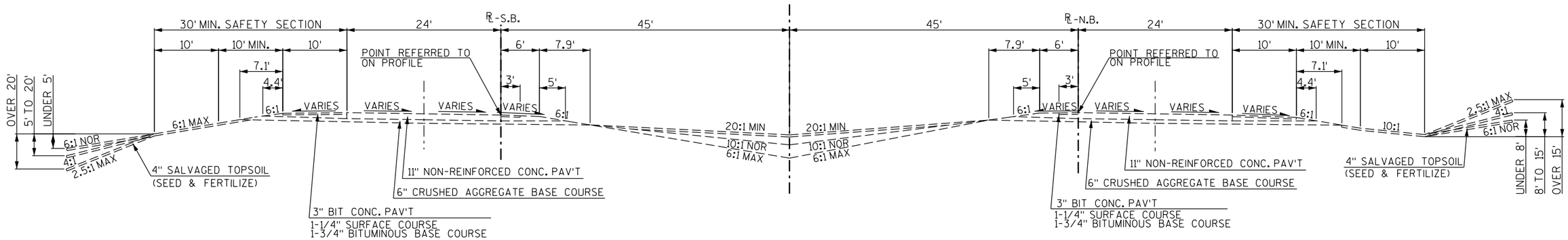
END PROJECT 1450-16-70
STA. 977+00



PROJECT NO: 1450-16-70	HWY: IH-43	COUNTY: OZAUKEE	OVERVIEW - ROADWAY SHOULDER ADD-ON WORK	SHEET 4	E

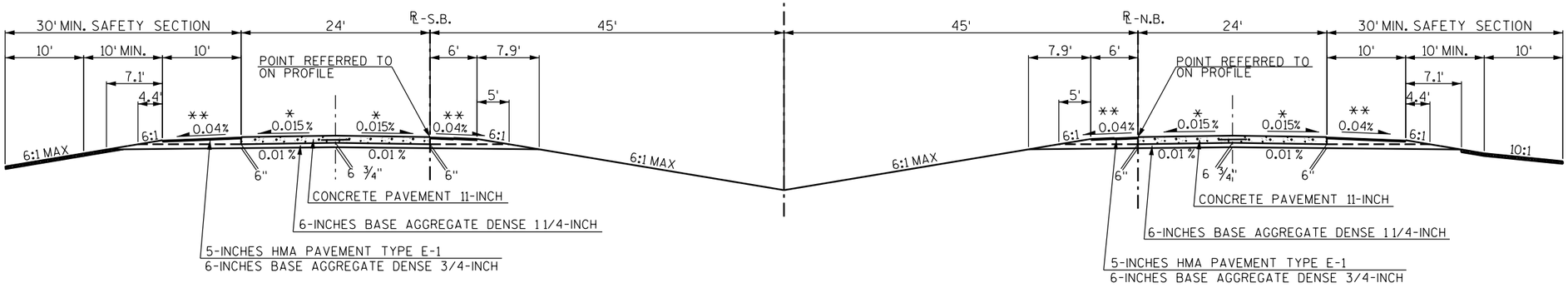


EXISTING TYPICAL SECTION - IH 43



EXISTING TYPICAL SUPERELEVATED SECTION - IH 43

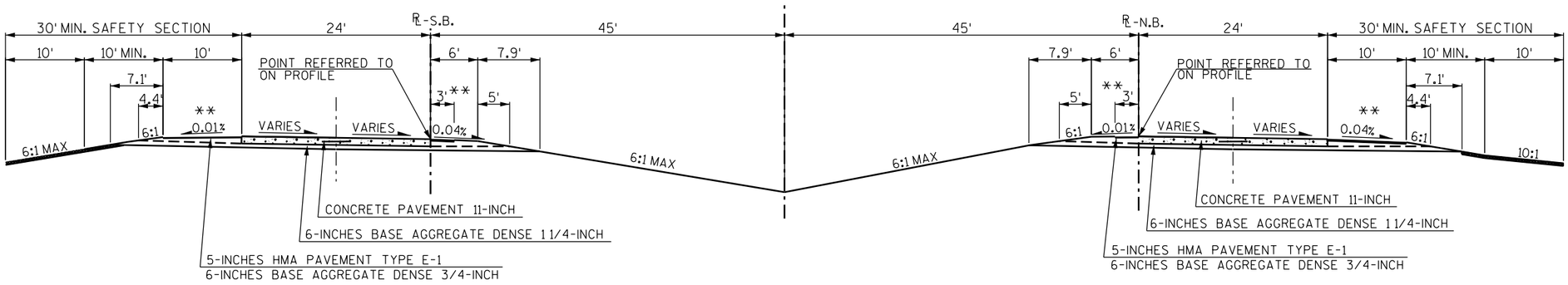
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FINISHED TYPICAL SECTION - IH 43

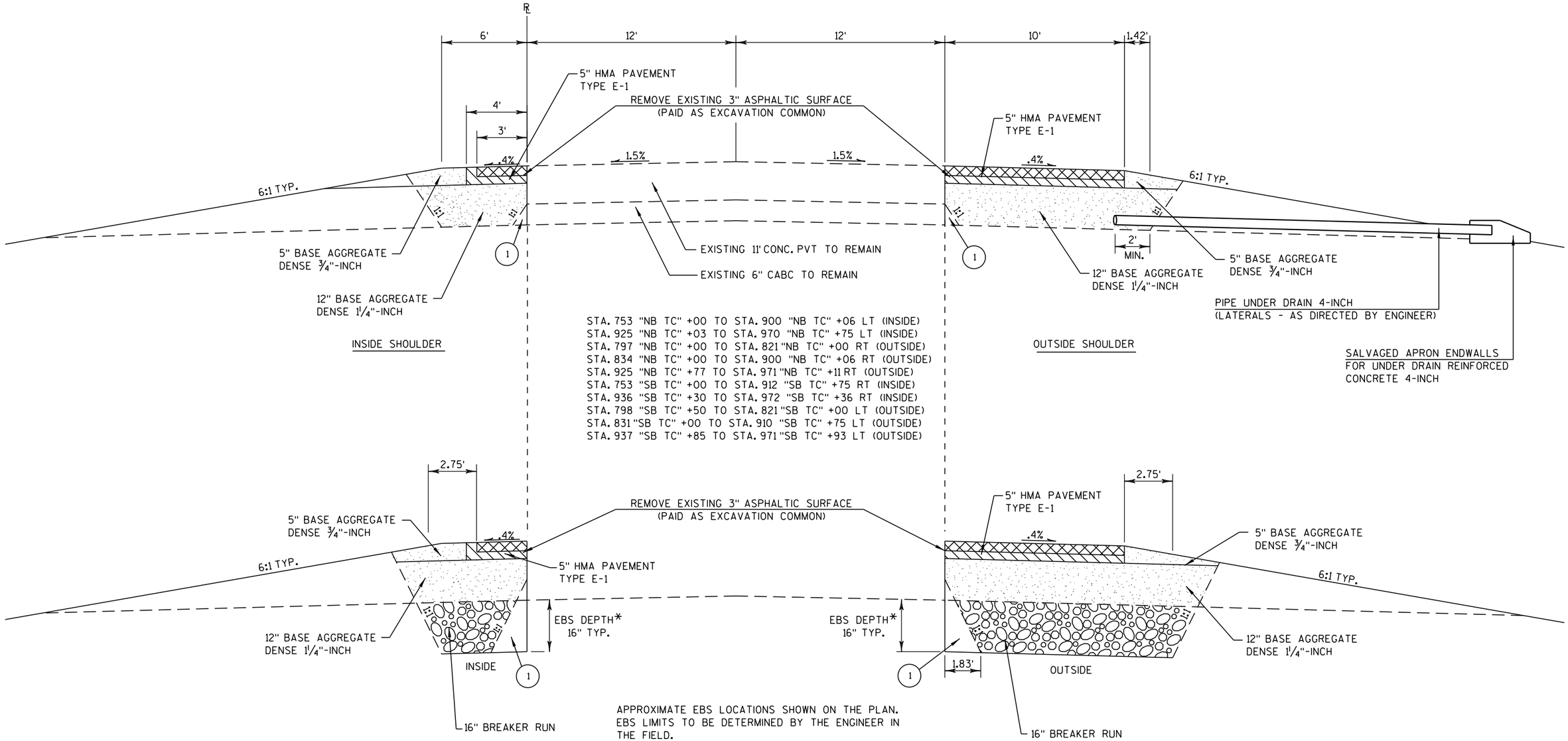
* 0.015% NORMAL VARIES BETWEEN 0.020% AT BRIDGE RECONSTRUCTION TO 0.015% AT 50' FROM BRIDGE RECONSTRUCTION

** TOP 3-INCHES OF BASE AGG DENSE 3/4-INCH



FINISHED TYPICAL SUPERELEVATED SECTION - IH 43

PROJECT NO: 1450-16-70	HWY: IH 43	COUNTY: OZAUKEE	TYPICAL SECTIONS - IH 43	SHEET 6	E



APPROXIMATE EBS LOCATIONS SHOWN ON THE PLAN. EBS LIMITS TO BE DETERMINED BY THE ENGINEER IN THE FIELD.

* BACKFILL WITH BREAKER RUN AND PROVIDE POSITIVE DRAINAGE USING RELIEF TRENCHES. SEE RELIEF TRENCH DETAIL.

IF EBS IS NEEDED ALONG PROPOSED BEAM GUARD SOUTHBOUND IH-43 OUTSIDE FROM STA. 955 "SB TC" +96 TO STA. 959 "SB TC" + 75, DO NOT OVERSIZE EXCAVATION BEYOND 10' SHOULDER ALONG GUARDRAIL POSTS.

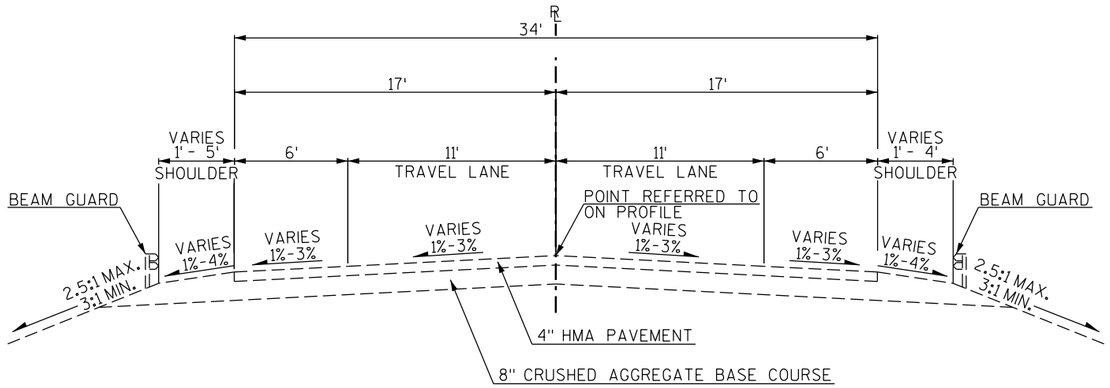
PROPOSED TYPICAL HALF SECTION FOR IH-43 NORTHBOUND SHOULDER REPLACEMENT

(SOUTHBOUND IS MIRROR IMAGE)

(1) PROVIDE 1:1 SLOPE TO PREVENT UNDERMINING OF EXISTING CONCRETE PAVEMENT

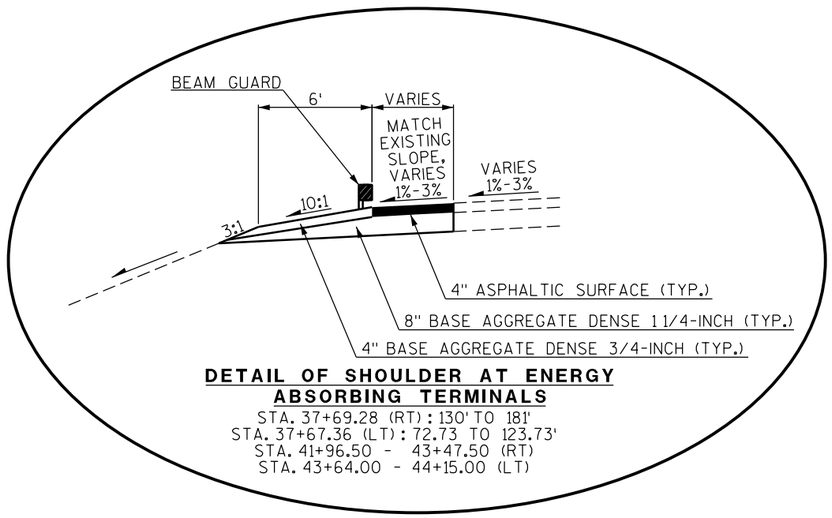
(2) BACKFILL AROUND PIPE UNDER DRAIN MAY CONSIST OF BASE AGGREGATE DENSE 1¼ OR ¾, OR BREAKER RUN.

PROJECT NO: 1450-16-70	HWY: IH-43	COUNTY: OZAUKEE	TYPICAL SECTION	SHEET 7	E



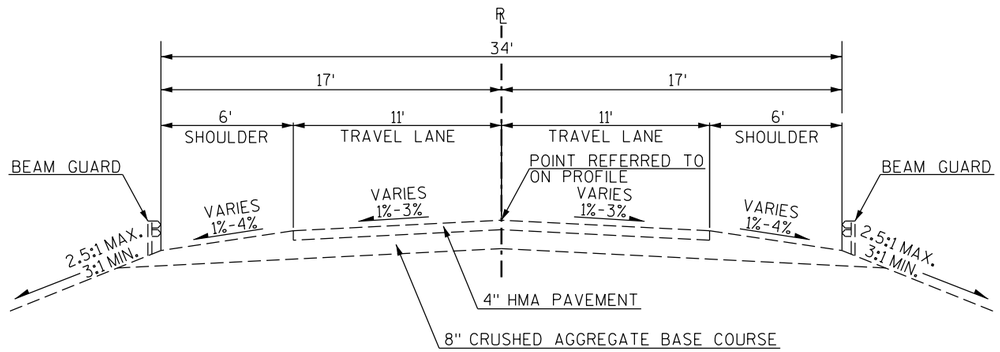
EXISTING TYPICAL SECTION - SAUK ROAD

STA. 38+00.00 - 38+71.50



DETAIL OF SHOULDER AT ENERGY ABSORBING TERMINALS

STA. 37+69.28 (RT) : 130' TO 181'
STA. 37+67.36 (LT) : 72.73 TO 123.73'
STA. 41+96.50 - 43+47.50 (RT)
STA. 43+64.00 - 44+15.00 (LT)



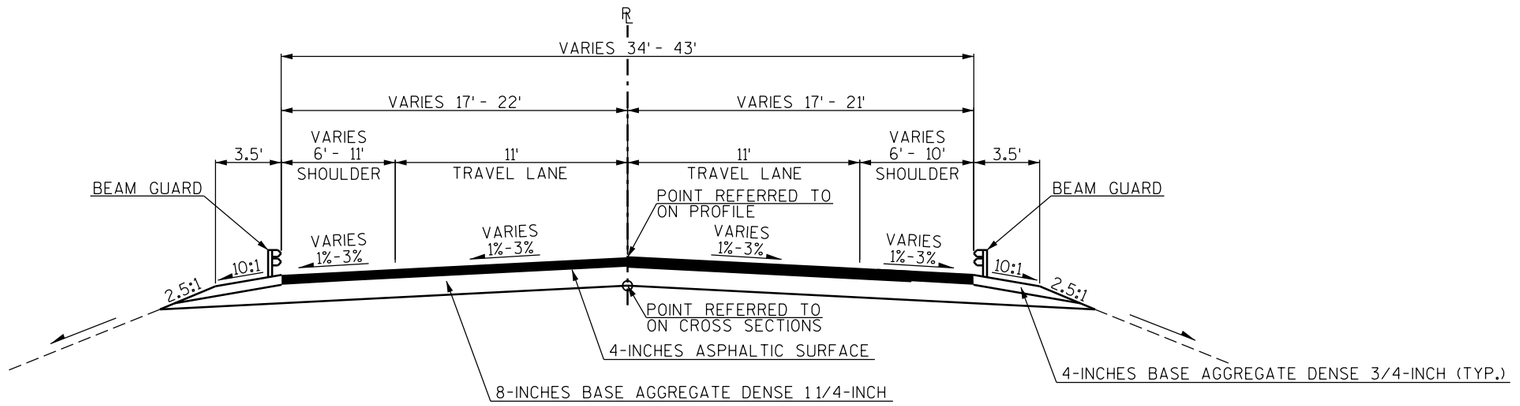
EXISTING TYPICAL SECTION - SAUK ROAD

STA. 41+36.00 - 43+00.00

PROJECT NO: 1450-16-70	HWY: IH 43	COUNTY: OZAUKEE	TYPICAL SECTIONS - SAUK ROAD	SHEET 8	E

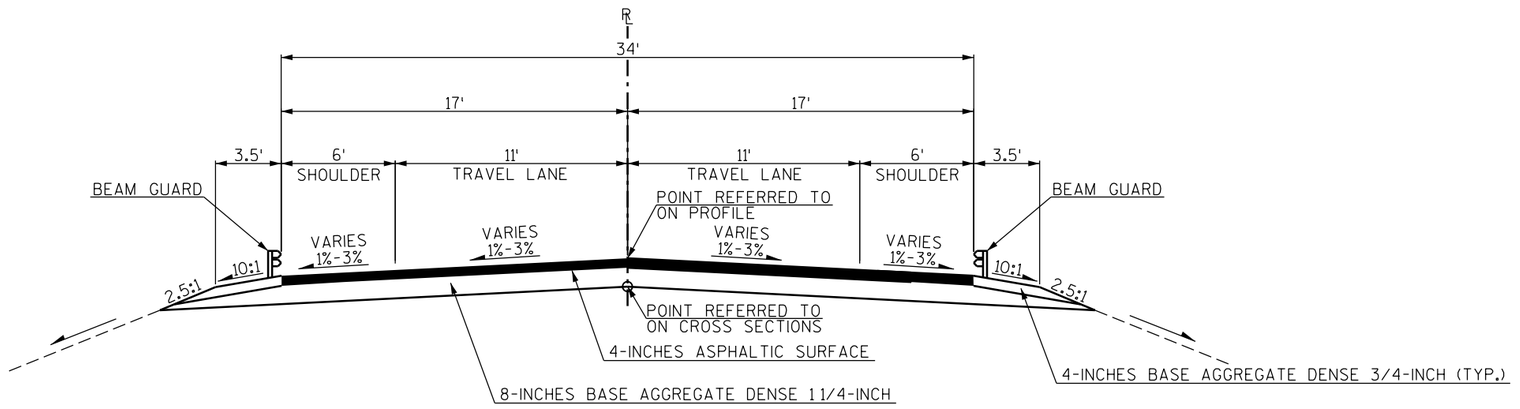
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Sauk Road Typical Section 01.dgn 4/10/2013 1:50:15 PM jdolens



FINISHED TYPICAL SECTION - SAUK ROAD

STA. 38+00.00 - 38+71.50



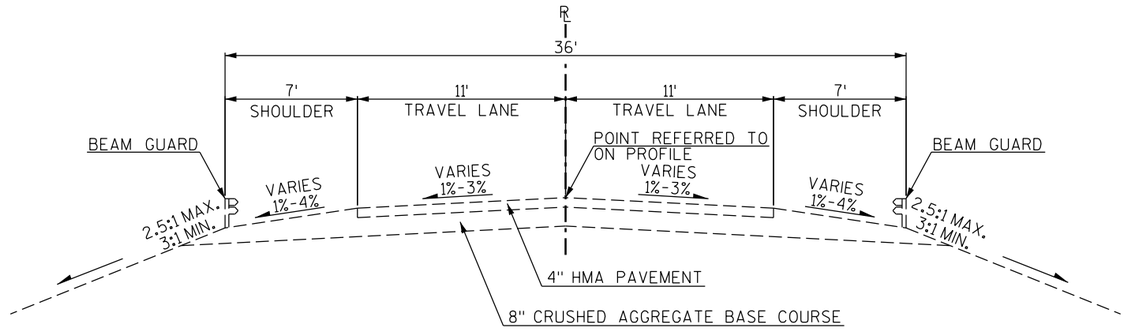
FINISHED TYPICAL SECTION - SAUK ROAD

STA. 41+36.00 - 43+00.00

PROJECT NO: 1450-16-70	HWY: IH 43	COUNTY: OZAUKEE	TYPICAL SECTIONS - SAUK ROAD	SHEET 9	E

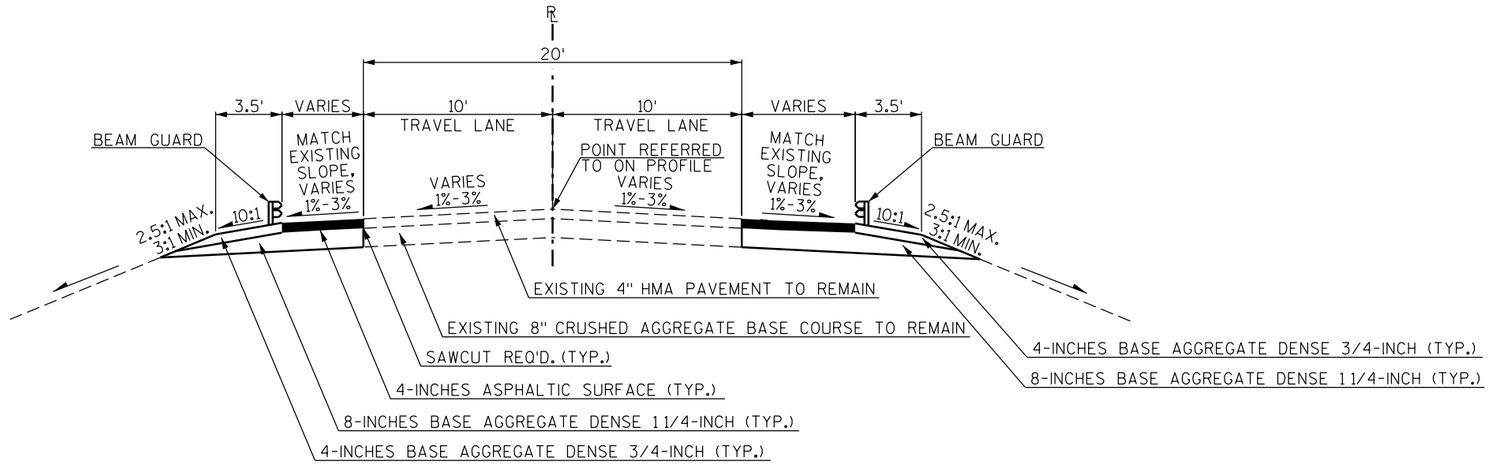
FILE NAME : $$....designfile....$$ PLOT DATE : $$...plottingdate...$$ PLOT BY : $$...plotuser...$$ PLOT NAME : PLOT SCALE : $$.....plotscale.....$$ WISDOT/CADDS SHEET 42

Sauk Road Typical Section 02.dgn 4/10/2013 1:50:16 PM jdolens



EXISTING TYPICAL SECTION - NORTH WOODS ROAD

STA. 35+50.00 - 42+00.00



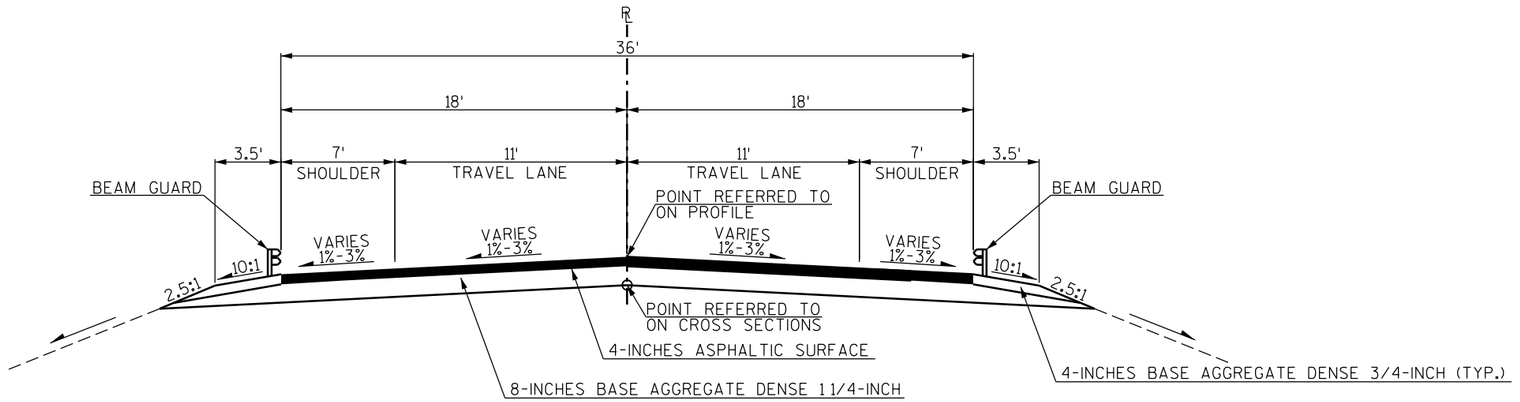
FINISHED TYPICAL SECTION - NORTH WOODS ROAD

STA. 35+35.00 - 35+50.00
STA. 42+00.00 - 42+26.00

PROJECT NO: 1450-16-70	HWY: IH 43	COUNTY: OZAUKEE	TYPICAL SECTIONS - NORTH WOODS ROAD	SHEET 10	E

FILE NAME : $$....designfile....$$ PLOT DATE : $$...plottingdate...$$ PLOT BY : $$...plotuser...$$ PLOT NAME : PLOT SCALE : $$.....plotscale.....$$ WISDOT/CADDS SHEET 42

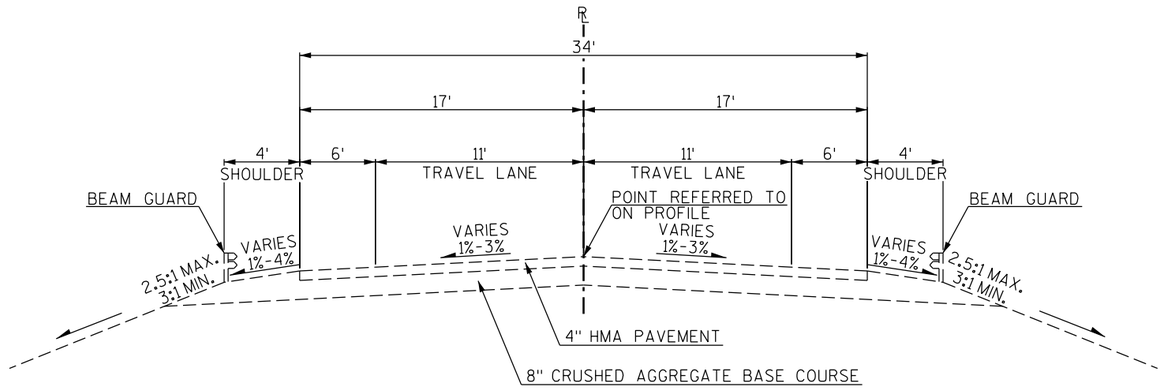
North Woods Road Typical Section 01.dgn 4/10/2013 1:50:18 PM jdolens



FINISHED TYPICAL SECTION - NORTH WOODS ROAD

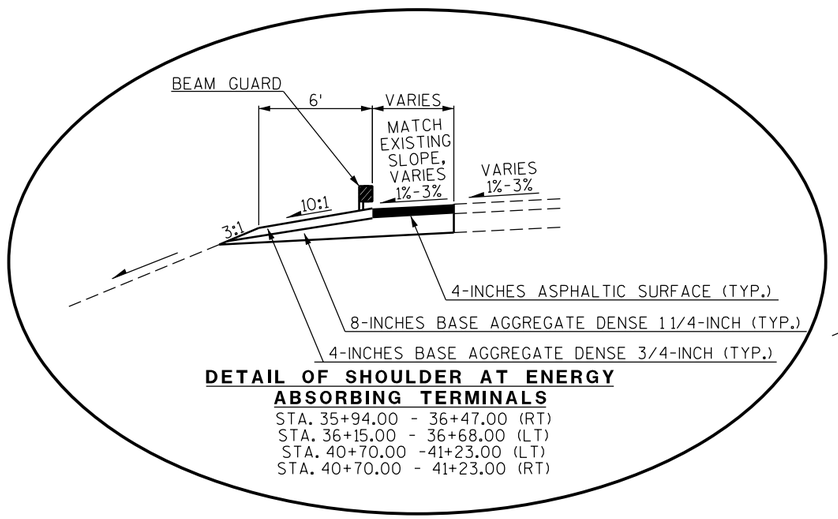
STA. 35+50.00 - 36+77.28
STA. 41+38.68 - 42+00.00

PROJECT NO: 1450-16-70	HWY: IH 43	COUNTY: OZAUKEE	TYPICAL SECTIONS - NORTH WOODS ROAD	SHEET 11	E



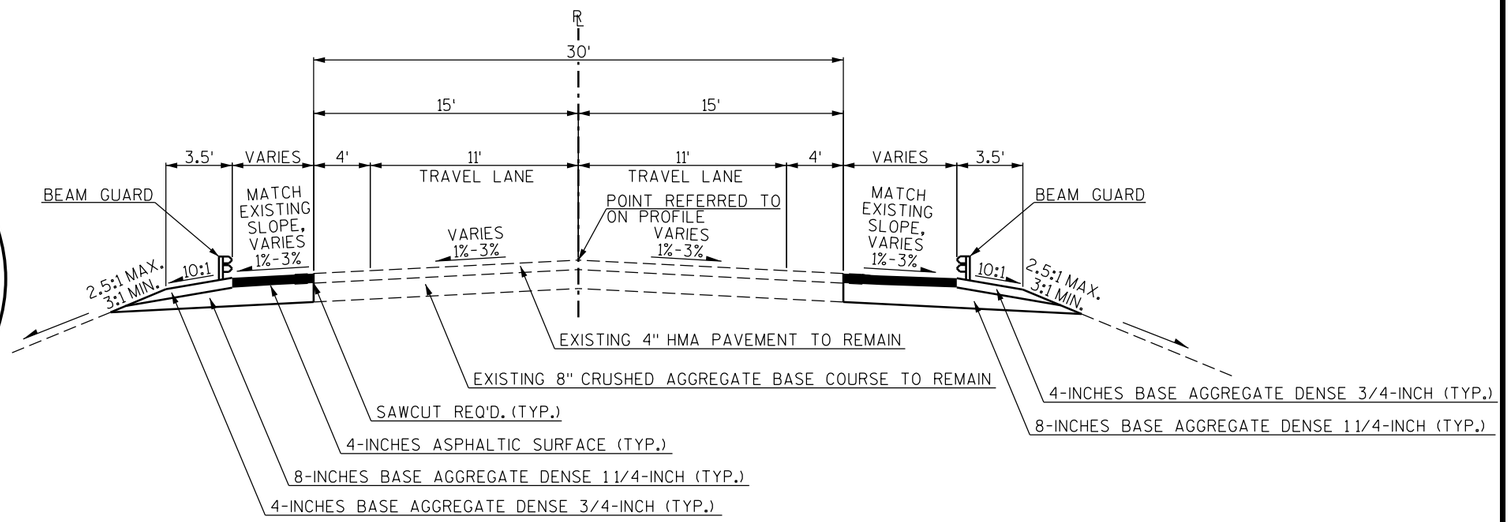
EXISTING TYPICAL SECTION - CTH B

STA. 37+00.00 - 37+36.11
STA. 40+00.29 - 40+50.00



DETAIL OF SHOULDER AT ENERGY ABSORBING TERMINALS

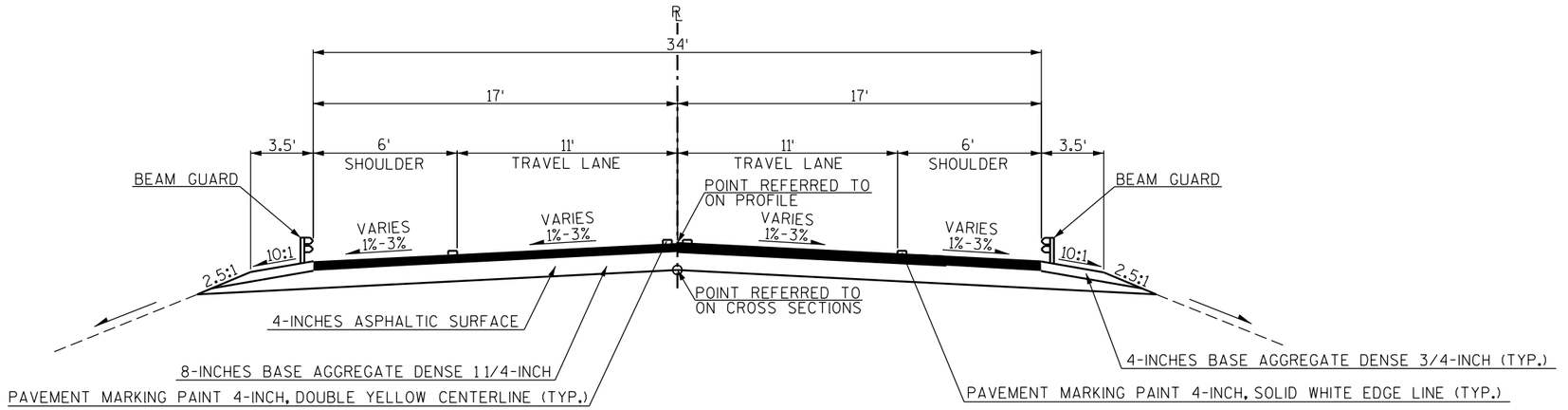
STA. 35+94.00 - 36+47.00 (RT)
STA. 36+15.00 - 36+68.00 (LT)
STA. 40+70.00 -41+23.00 (LT)
STA. 40+70.00 - 41+23.00 (RT)



FINISHED TYPICAL SECTION - CTH B

STA. 35+85.00 - 37+00.00
STA. 40+50.00 - 41+33.10

PROJECT NO: 1450-16-70	HWY: IH 43	COUNTY: OZAUKEE	TYPICAL SECTIONS - CTH B	SHEET 12	E



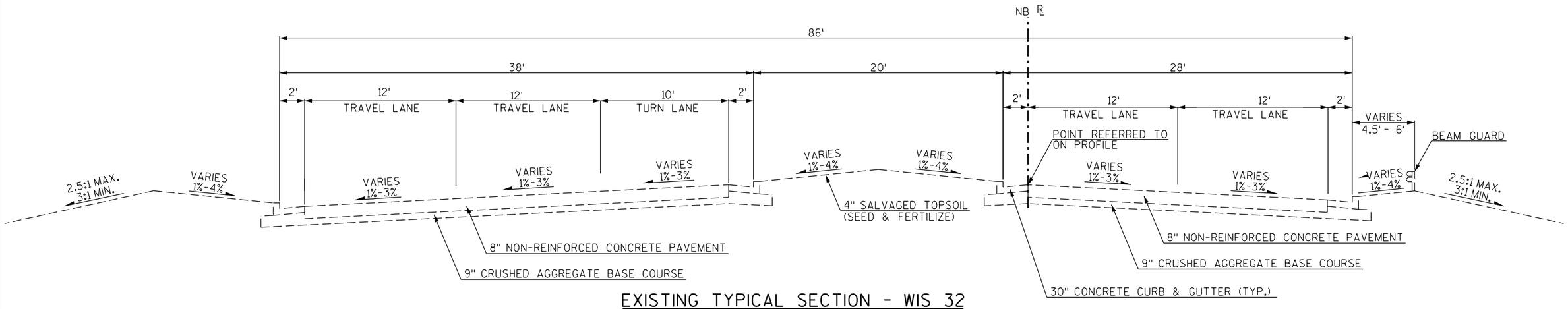
FINISHED TYPICAL SECTION - CTH B

STA. 37+00.00 - 37+36.11
STA. 40+00.29 - 40+50.00

PROJECT NO: 1450-16-70	HWY: IH 43	COUNTY: OZAUKEE	TYPICAL SECTIONS - CTH B	SHEET 13	E

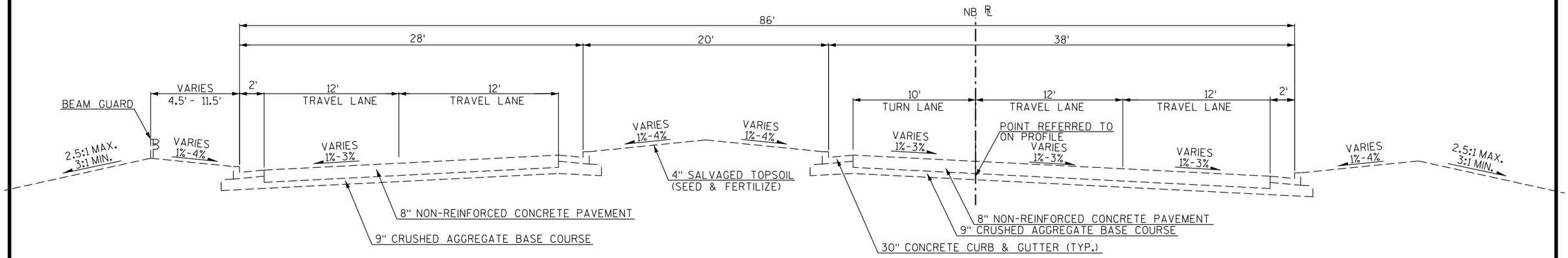
FILE NAME : $$....designfile....$$ PLOT DATE : $$...plottingdate...$$ PLOT BY : $$...plotuser...$$ PLOT NAME : PLOT SCALE : $$.....plotscale.....$$ WISDOT/CADDS SHEET 42

CTH B Typical Section 02.dgn 4/10/2013 1:50:24 PM jdolens



EXISTING TYPICAL SECTION - WIS 32

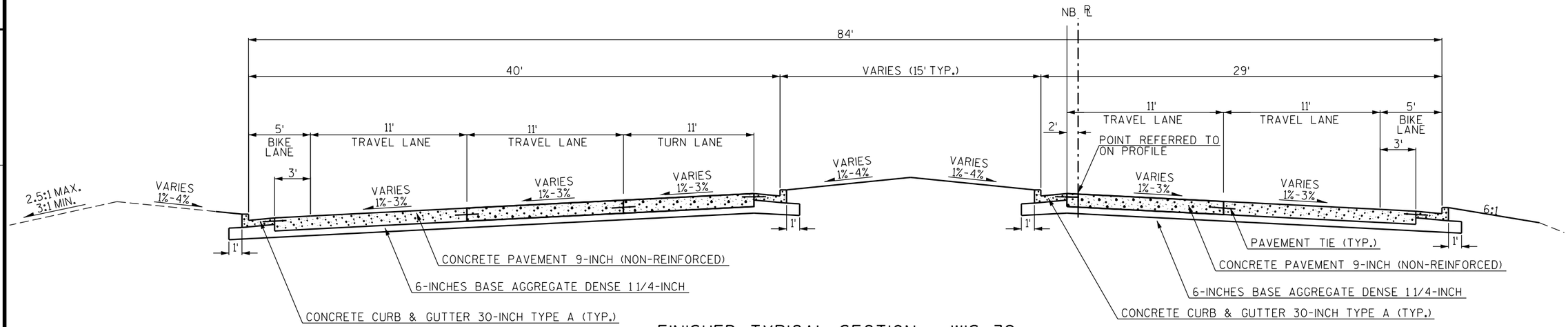
STA. 39+50.00 - 40+81.23



EXISTING TYPICAL SECTION - WIS 32

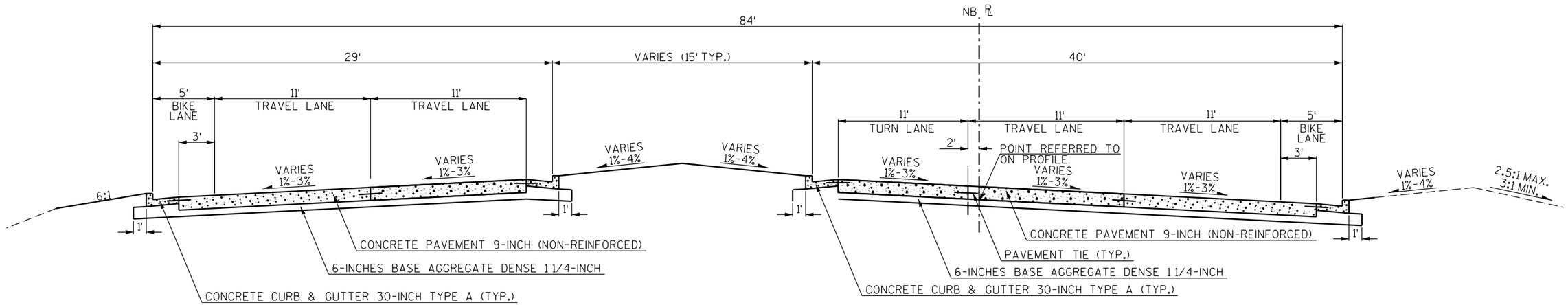
STA. 43+64.41 - 44+55.00

PROJECT NO: 1450-16-70	HWY: IH 43	COUNTY: OZAUKEE	TYPICAL SECTIONS - WIS 32	SHEET 14	E



FINISHED TYPICAL SECTION - WIS 32

STA. 39+50.00 - 40+81.23



FINISHED TYPICAL SECTION - WIS 32

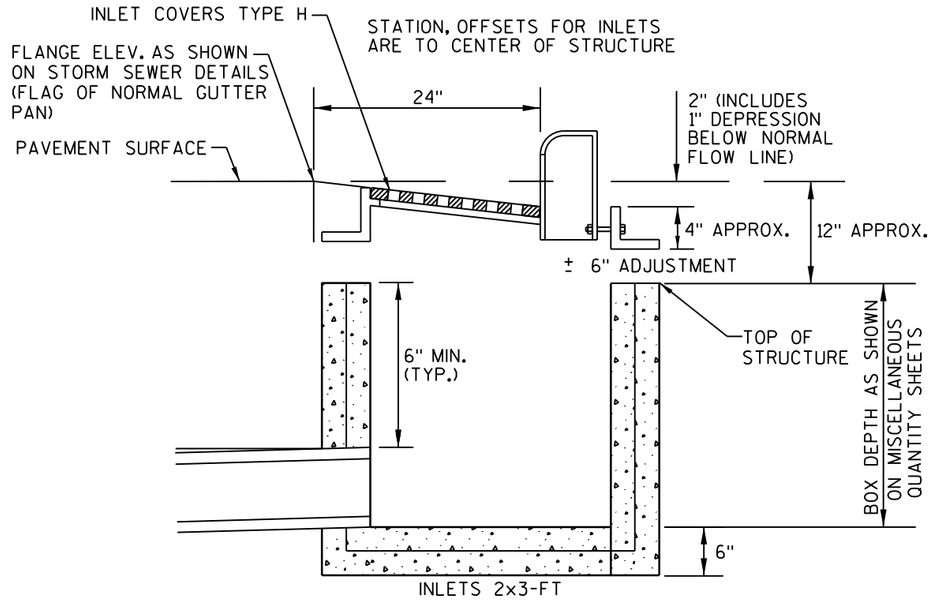
STA. 43+64.41 - 44+55.00

PROJECT NO: 1450-16-70	HWY: IH 43	COUNTY: OZAUKEE	TYPICAL SECTIONS - WIS 32	SHEET 15	E

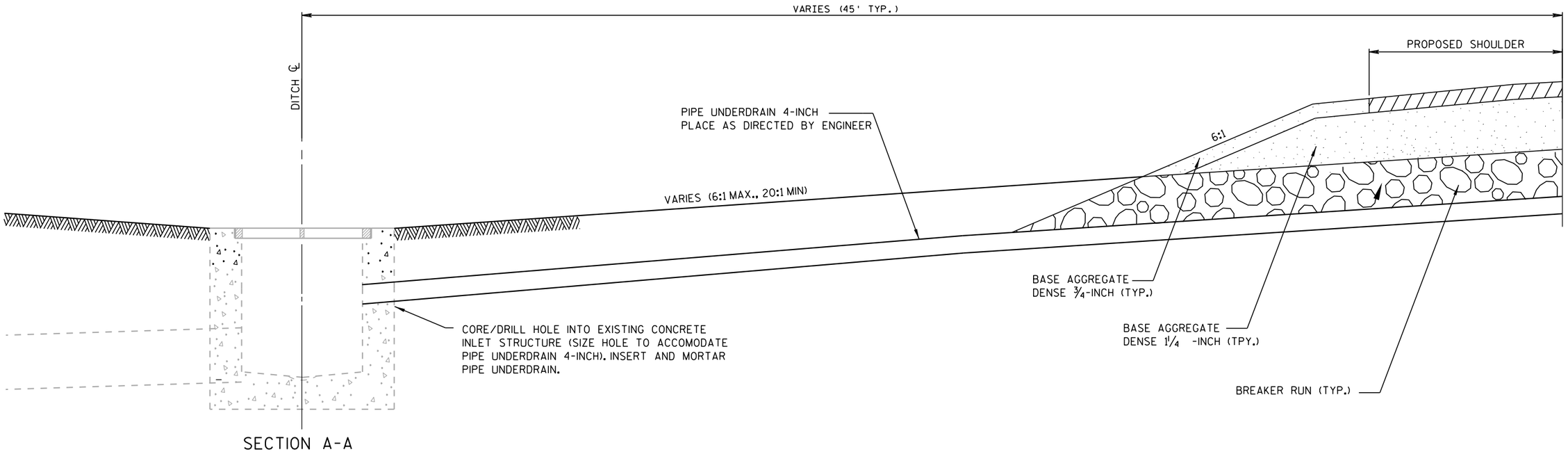
FILE NAME : $$....designfile....$$ PLOT DATE : $$...plottingdate...$$ PLOT BY : $$...plotuser...$$ PLOT NAME : PLOT SCALE : $$.....plotscale.....$$ WISDOT/CADDS SHEET 42

STH 32 Typical Section 02.dgn 4/10/2013 1:50:29 PM jdolens

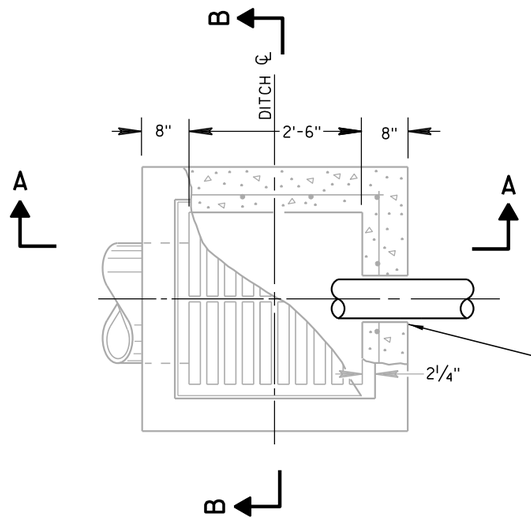
2



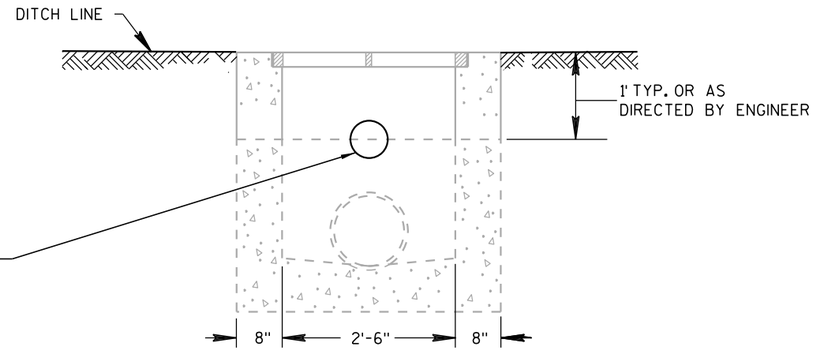
DETAIL FOR COMPUTING INLET ELEVATIONS



SECTION A-A



PLAN VIEW
EXISTING INLET (TYP.)

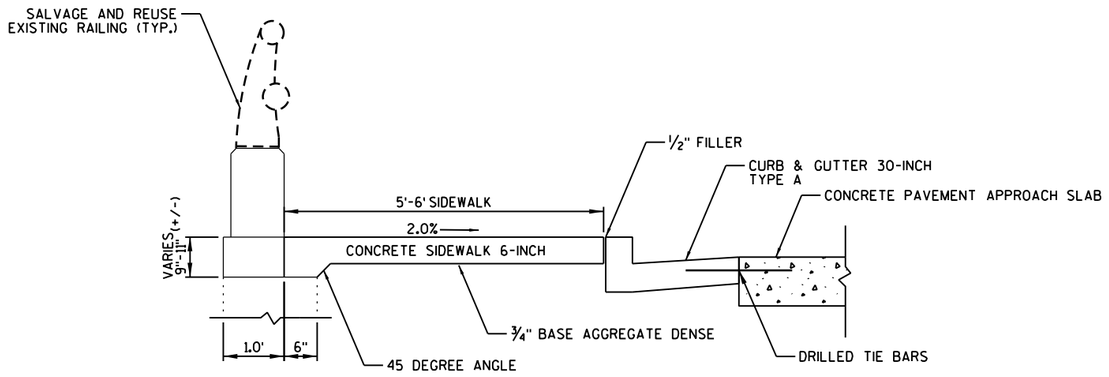


SECTION B-B

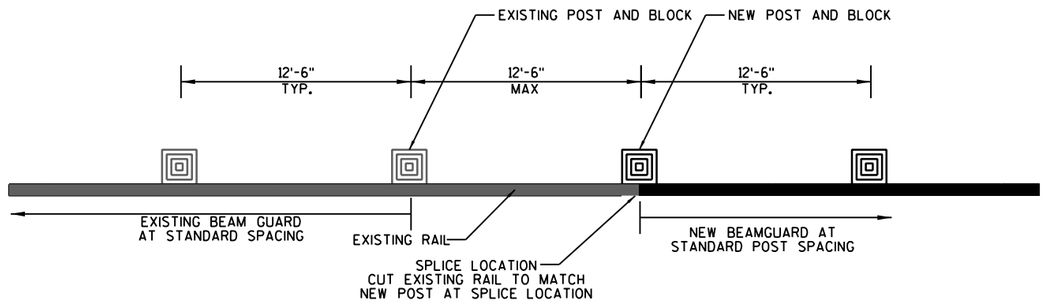
CONNECTING PIPE UNDERDRAIN 4-INCH TO EXISTING INLET

(SEE MISCELLANEOUS QUANTITIES FOR LOCATIONS)
NOT TO SCALE

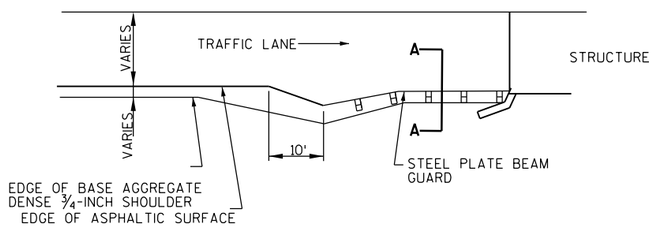
PROJECT NO: 1450-16-70	HWY: IH 43	COUNTY: OZAUKEE	CONSTRUCTION DETAILS	SHEET 17	E



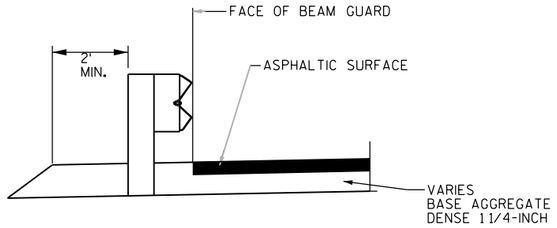
SIDEWALK DETAIL
STRUCTURE B-45-45



BEAM GUARD DETAIL
TIE IN TO EXISTING



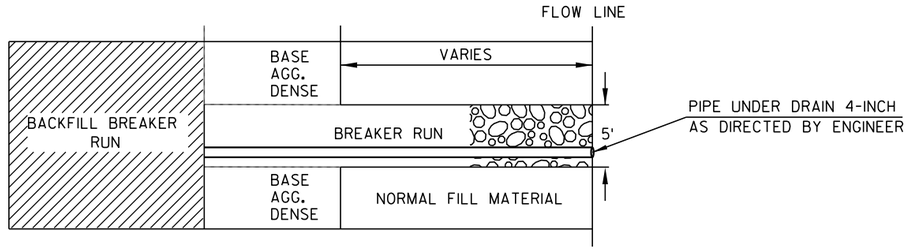
PLAN - ASPHALTIC PAVEMENT
SHOULDER AT BEAM GUARD



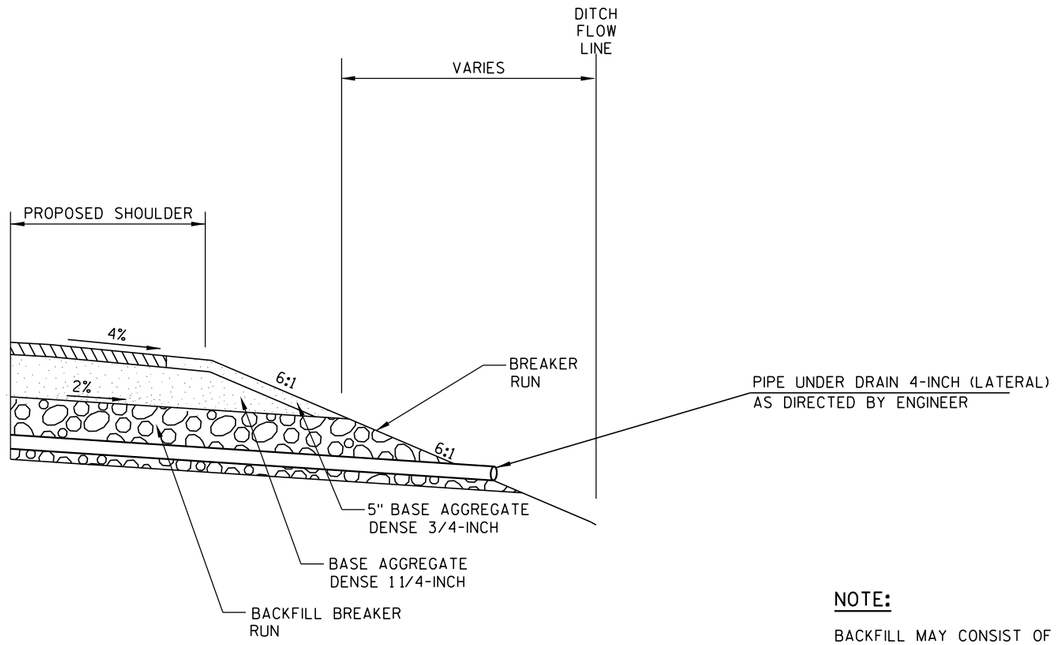
SECTION A-A THRU BEAM GUARD

PROJECT NO: 1450-16-70	HWY: IH 43	COUNTY: OZAUKEE	CONSTRUCTION DETAILS	SHEET 18	E

2



PLAN VIEW



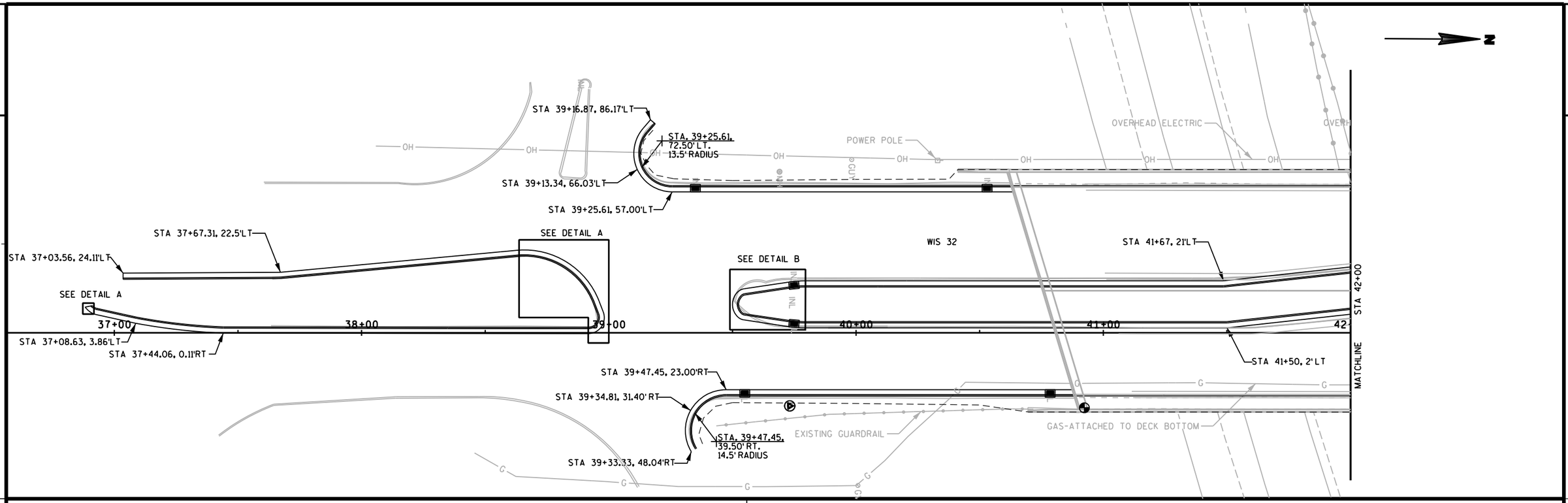
PROFILE VIEW

RELIEF TRENCH DETAIL

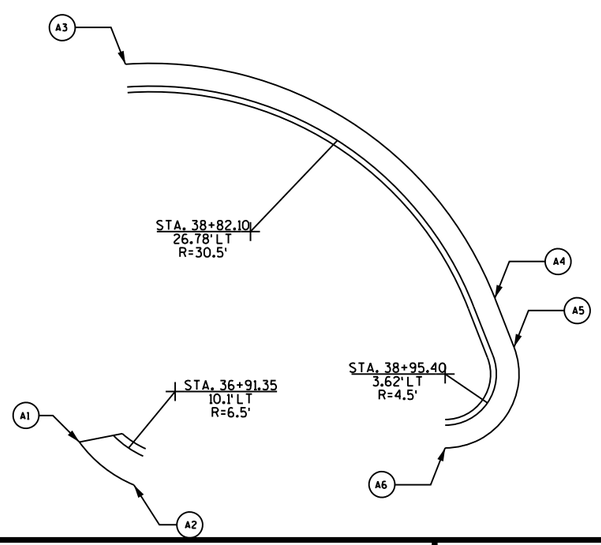
PLACE IN DITCH AREAS AT SAG CURVE
LOW POINTS AND EVERY 250'
OR 1 MINIMUM PER EBS AREA
AND AS DIRECTED BY THE ENGINEER

NOTE:

BACKFILL MAY CONSIST OF BASE AGGREGATE DENSE 1¼ OR ¾, OR BREAKER RUN, PLACE PER ENGINEER DIRECTIONS.



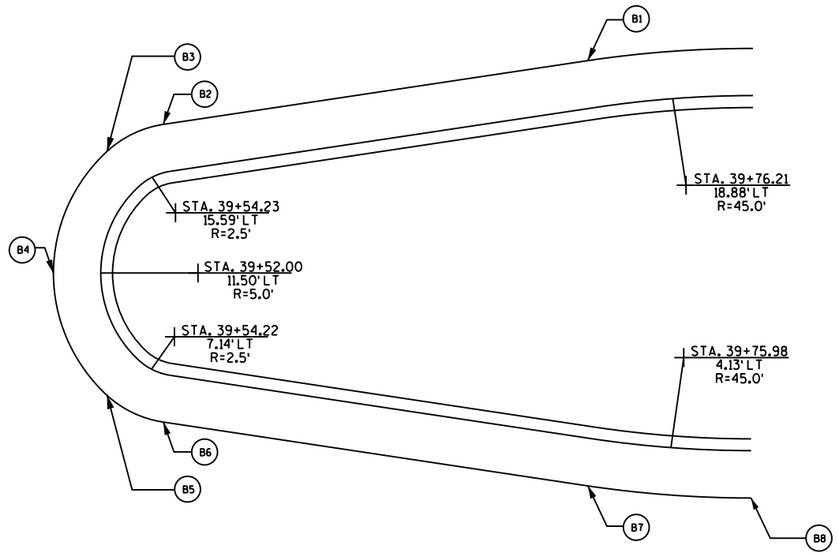
DETAIL A



POINT	STATION	LOCATION
A1	STA 36+88.10	21'LT
A2	STA 36+91.79	18'LT
A3	STA 38+63.54	33.44'LT
A4	STA 38+96.05	12.85'LT
A5	STA 38+97.74	8.53'LT
A6	STA 38+91.68	0.34'RT

NOT TO SCALE

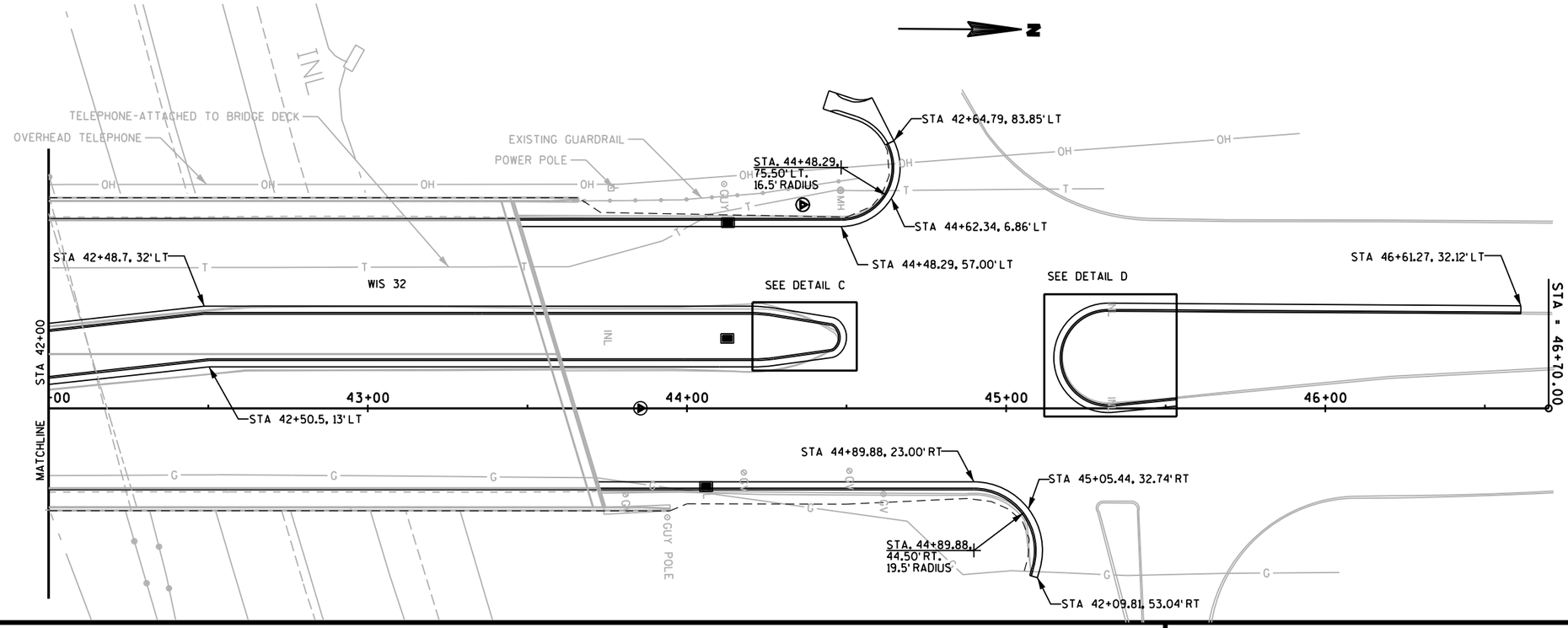
DETAIL B



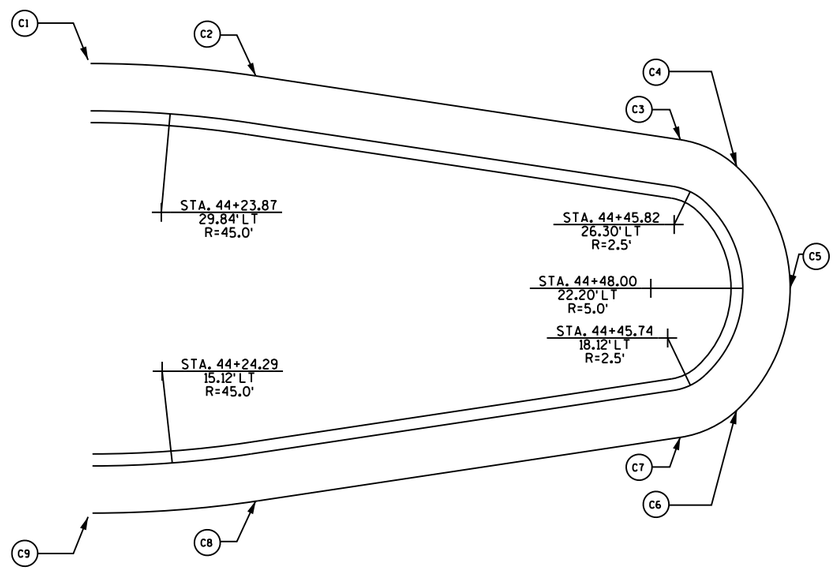
POINT	STATION	LOCATION
B1	STA 39+72.60	20.5'LT
B2	STA 39+54.60	17.8'LT
B3	STA 39+52.30	16.7'LT
B4	STA 39+50.00	11.5'LT
B5	STA 39+52.30	6.4'LT
B6	STA 39+54.60	5.2'LT
B7	STA 39+72.6	2.5'LT
B8	STA 39+79.60	2'LT

NOT TO SCALE

PROJECT NO: 1450-16-70	HWY: IH 43	COUNTY: OZAUKEE	MEDIAN PAVEMENT DETAIL - B-45-45 (WIS 32 OVER IH 43)	SHEET 20	E



DETAIL C

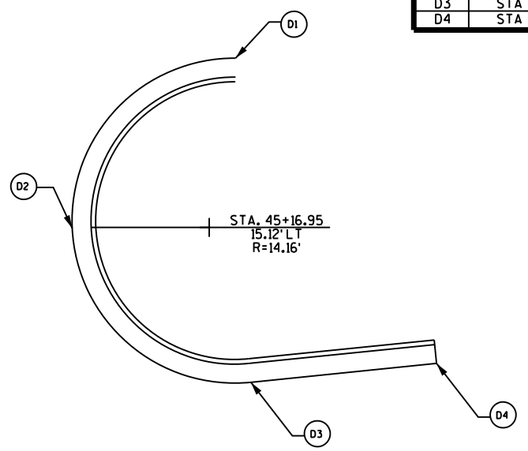


POINT	STATION	LOCATION
C1	STA 44+20.53	32'LT
C2	STA 44+27.52	31.4'LT
C3	STA 44+45.43	28.5'LT
C4	STA 44+47.80	27.34'LT
C5	STA 44+50.00	22.2'LT
C6	STA 44+47.80	17'LT
C7	STA 44+45.43	15.9'LT
C8	STA 44+27.52	13.4'LT
C9	STA 44+20.53	13'LT

NOT TO SCALE

DETAIL D

POINT	STATION	LOCATION
D1	STA 45+32.21	33'LT
D2	STA 45+15.00	15'LT
D3	STA 45+33.82	1.24'RT
D4	STA 45+53.45	0.74'RT



NOT TO SCALE

PROJECT NO: 1450-16-70	HWY: IH 43	COUNTY: OZAUKEE	MEDIAN PAVEMENT DETAIL - B-45-45 (WIS 32 OVER IH 43)	SHEET 21	E

2

2

N

STOP
ESTR

Grafton 4
Milwaukee 24
ESTR

.T.H. "W"

3/S.T.H. 57

PC Sta = 158+24.21

INL

SAUK RD.

155 "SB TC" + 00

160 "SB TC" + 00

165 "SB TC" + 00

155+00

160+00

165+00

INL

INL

PC Sta = 159+34.8264

Historic Downtown
Port Washington
EXIT 96
ESTR

PROJECT NO: 1450-16-70	HWY: IH-43	COUNTY: OZAUKEE	PERMANENT SIGNING - B-45-33	SHEET	E

FILE NAME : j:\projects\D2_14501643\70\B-45-33 Permanent Signing.dgn PLOT DATE : 16-JUL-2012 08:17 PLOT BY : MSCCXV PLOT NAME : PLOT SCALE : 100:1

WISDOT/CADDS SHEET 42

2

2

N

STOP
R1-1
ESTR

MINK RANCH RD.

2
W3-1
MOVE
TYPE II SIGN

MILE
1
00
ESTR

385 "SB TC" + 00

390 "SB TC" + 00

395 "SB TC" + 00

INL

C.T.H. "B"

385+00

390+00

395+00

I 43

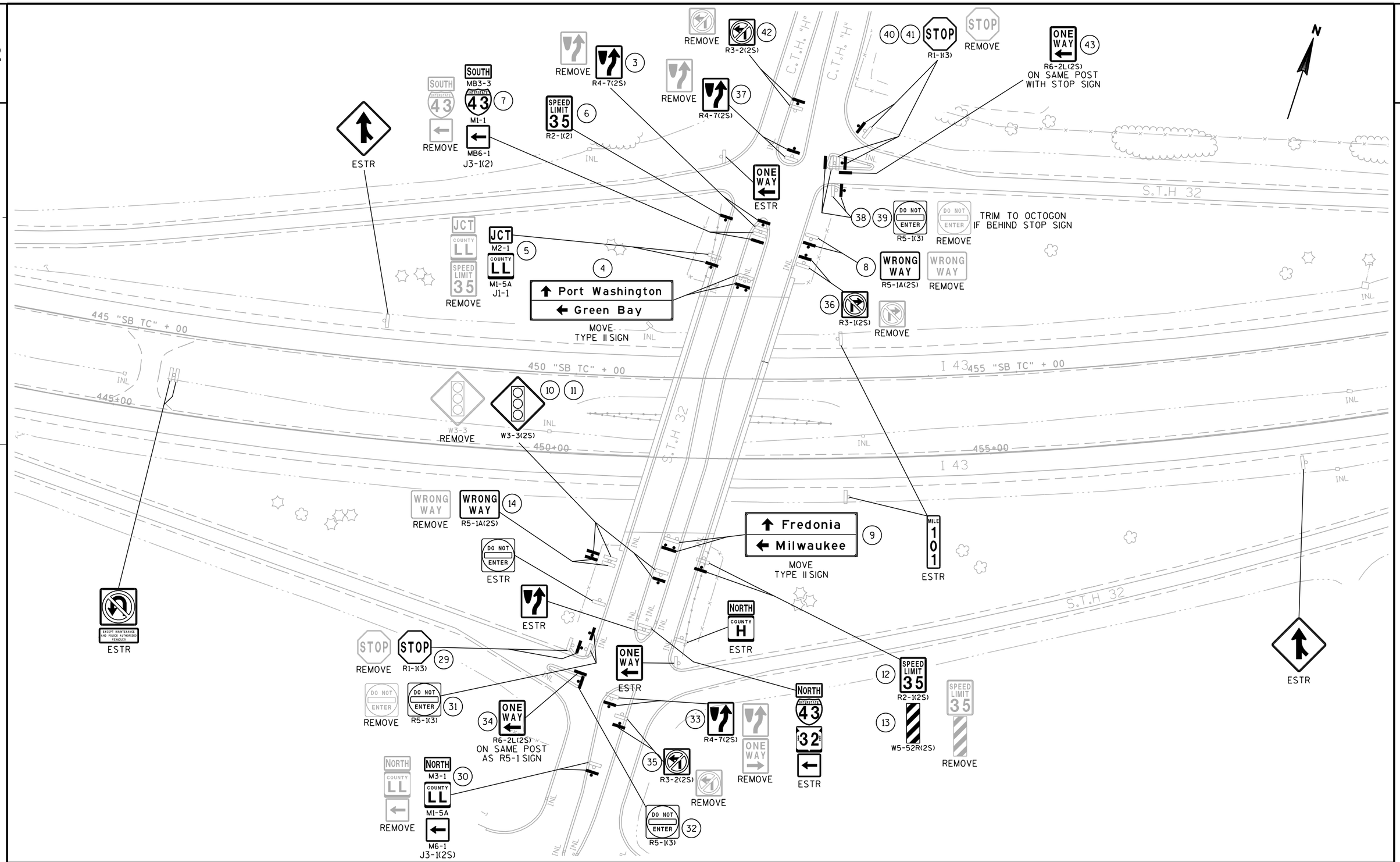
INL

MILE
1
00
ESTR

JCT
COUNTY
LL
ESTR

PROJECT NO: 1450-16-70	HWY: IH-43	COUNTY: OZAUKEE	PERMANENT SIGNING - B-45-42	SHEET	E

FILE NAME : j:\projects\D2_14501643\70\B-45-42 Permanent Signing.dgn PLOT DATE : 16-JUL-2012 08:17 PLOT BY : MSCCXV PLOT NAME : PLOT SCALE : 100:1



PROJECT NO: 1450-16-70	HWY: IH-43	COUNTY: OZAUKEE	PERMANENT SIGNING - B-45-42	SHEET	E

FILE NAME : j:\projects\D2_14501643\70\B-45-45 Permanent Signing.dgn PLOT DATE : 16-JUL-2012 08:18 PLOT BY : MSCCXV PLOT NAME : PLOT SCALE : 100:1

2

2

N

W5-52L
REMOVE

17

W5-52L(3)
4" HEIGHT

Hwy LL 20

MOVE
TYPE II SIGN

W5-52R
REMOVE

15

W5-52R(3)
4" HEIGHT

C.T.H. "L"

570 "SB TC" + 00

575 "SB TC" + 00

I 43/S.T.H. 32

580 "SB TC" + 00

570+53.21 = PC STA = 570+45.47

IN

570 "NB TC" + 00

575 "NB TC" + 00

I 43/S.T.H. 32

580 "NB TC" + 00

18

W5-52R(3)
4" HEIGHT

Hwy LL 19

MOVE
TYPE II SIGN

16

W5-52L(3)
4" HEIGHT

W5-52L
REMOVE

W5-52R
REMOVE

PROJECT NO: 1450-16-70	HWY: IH-43	COUNTY: OZAUKEE	PERMANENT SIGNING - B-45-48/49	SHEET	E

FILE NAME : j:\projects\D2_14501643\70\B-45-48 & 49 Permanent Signing.dgn PLOT DATE : 16-JUL-2012 08:18 PLOT BY : MSCCXV PLOT NAME : PLOT SCALE : 100:1

2

N

W5-52R
REMOVE

W5-52L
REMOVE

21

W5-52R(3)
4' HEIGHT

22

W5-52L(3)
4' HEIGHT

LAKE DR.

STA AHEAD = 592+10.89
STA BACK = 592+00.00

590 "SB TC" + 00

I 43/S.T.H. 32

595 "SB TC" + 00

600 "SB TC" + 00

605 "SB TC

INL

INL

INL

INL

590 "NB TC" + 00

I 43/S.T.H. 32

595 "NB TC" + 00

600 "NB TC" + 00

605 "NB TC

I 43/S.T.H. 32

PT Sta Back = 592+21.84

PT Sta Ahead = 592+06.55

24

W5-52L(3)
4' HEIGHT

23

W5-52R(3)
4' HEIGHT

W5-52L
REMOVE

W5-52R
REMOVE

PROJECT NO: 1450-16-70	HWY: IH-43	COUNTY: OZAUKEE	PERMANENT SIGNING - B-45-50/51	SHEET	E

FILE NAME : j:\projects\D2_14501643\70\B-45-50 & 51 Permanent Signing.dgn PLOT DATE : 16-JUL-2012 08:18 PLOT BY : MSCCXV PLOT NAME : PLOT SCALE : 100:1

WISDOT/CADDS SHEET 42

2

N

W5-52R
REMOVE

25

W5-52R(3)
4' HEIGHT

W5-52L
REMOVE

26

W5-52L(3)
4' HEIGHT

JAY RD.

915 "SB TC" + 00

920 "SB TC" + 00

925 "SB TC" + 00

I 43/S.T.H. 32

INL

915 "NB TC" + 00

920 "NB TC" + 00

925 "NB TC" + 00

I 43/S.T.H. 32

WALLS

WALLS

28

W5-52L(3)
4' HEIGHT

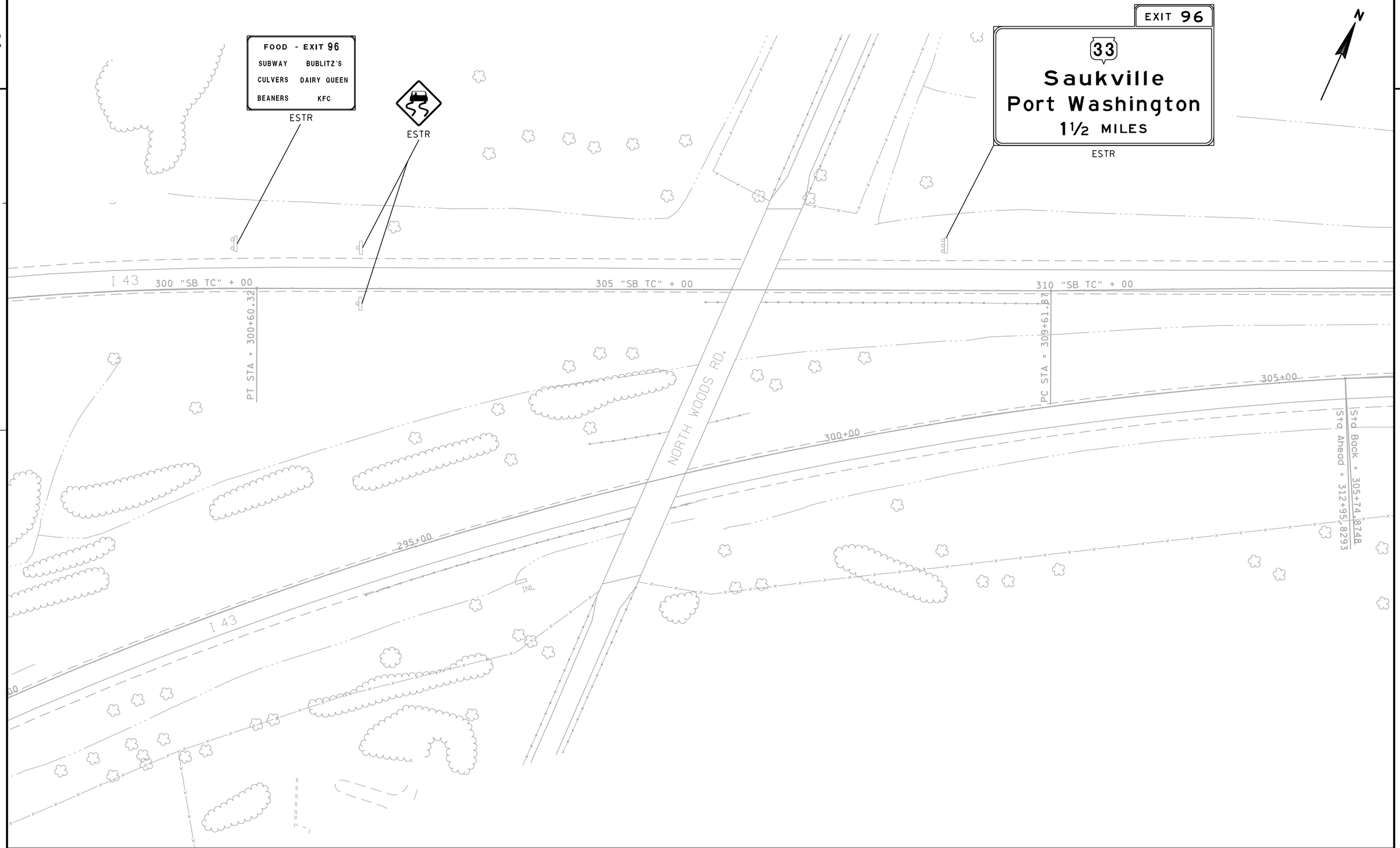
W5-52L
REMOVE

27

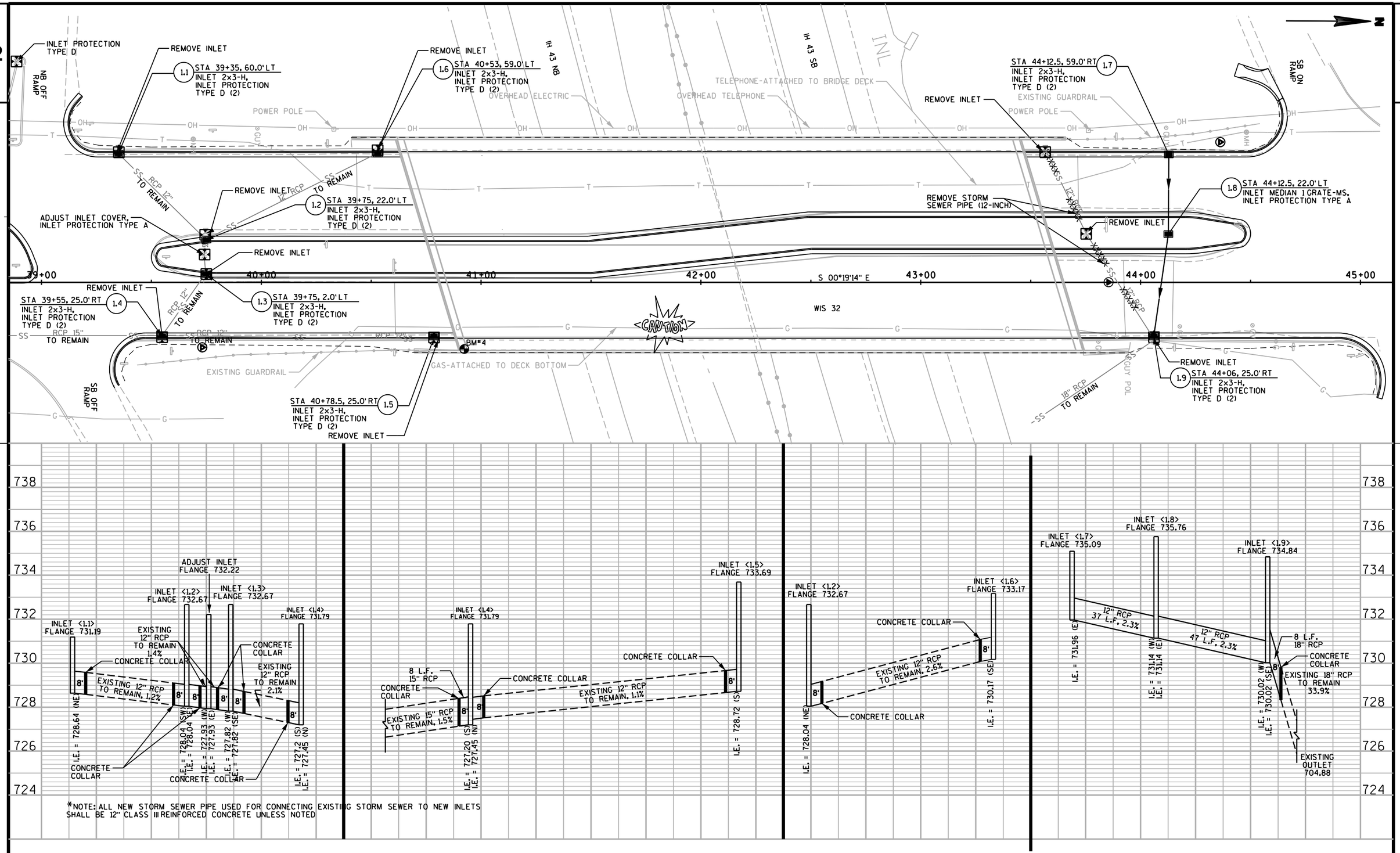
W5-52R(3)
4' HEIGHT

W5-52R
REMOVE

PROJECT NO: 1450-16-70	HWY: IH-43	COUNTY: OZAUKEE	PERMANENT SIGNING - B-45-57	SHEET	E



PROJECT NO: 1450-16-70	HWY: IH-43	COUNTY: OZAUKEE	PERMANENT SIGNING - B-45-59	SHEET	E



*NOTE: ALL NEW STORM SEWER PIPE USED FOR CONNECTING EXISTING STORM SEWER TO NEW INLETS SHALL BE 12" CLASS III REINFORCED CONCRETE UNLESS NOTED

PROJECT NO: 1450-16-70	HWY: IH 43	COUNTY: OZAUKEE	STORM SEWER - B-45-45 (WIS 32 OVER IH 43)	SHEET 29	E

2

2

PAVEMENT MARKING PAINT
4-INCH (DOUBLE YELLOW)

EXISTING GUARDRAIL

IH 43 NB

IH 43 SB

SIGN

EXISTING GUARDRAIL

CTH B 36+00 37+00 38+00 39+00 40+00 41+00 CTH B

EXISTING GUARDRAIL

PAVEMENT MARKING PAINT
4-INCH (WHITE)

EXISTING GUARDRAIL

OH OH OH OH OH OH OH OH OH OH OH OH OH OH OH OH OH

POWER POLE

OVERHEAD UTILITIES

POWER POLE

I 43

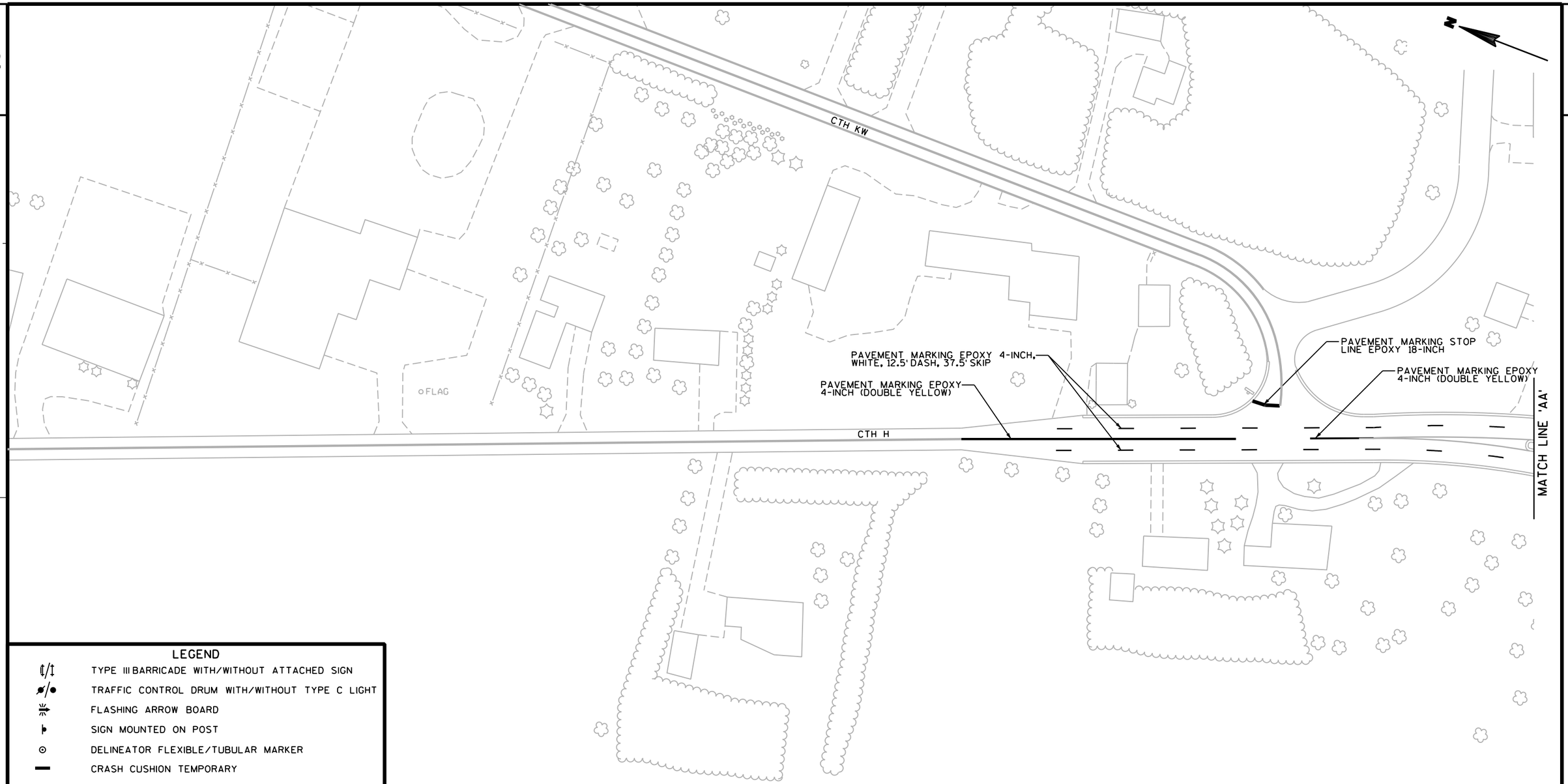
I 43

PROJECT NO: 1450-16-70	HWY: IH 43	COUNTY: OZAUKEE	PAVEMENT MARKINGS: B-45-42 (CTH B OVER IH 43)	SHEET 30	E

FILE NAME : $$....designfile....$$ PLOT DATE : $$...plottingdate...$$ PLOT BY : $$...plotuser...$$ PLOT NAME : PLOT SCALE : $$.....plotscale.....$$ WISDOT/CADDS SHEET 42

B-45-42 PM_01.dgn 4/10/2013 1:50:46 PM jdolens

2



LEGEND

- TYPE III BARRICADE WITH/WITHOUT ATTACHED SIGN
- TRAFFIC CONTROL DRUM WITH/WITHOUT TYPE C LIGHT
- FLASHING ARROW BOARD
- SIGN MOUNTED ON POST
- DELINEATOR FLEXIBLE/TUBULAR MARKER
- CRASH CUSHION TEMPORARY
- CONCRETE BARRIER TEMPORARY PRECAST
- WORK AREA
- DIRECTION OF TRAFFIC
- MB PORTABLE CHANGEABLE MESSAGE BOARD
- TEMPORARY DELINEATOR
- FLAGS 18" X 18" ORANGE
- TEMPORARY ASPHALTIC SURFACE
- XXXXX REMOVING PAVEMENT MARKING

NOTE: TRAFFIC CONTROL STAGING & PAVEMENT MARKING PLAN SHEETS FOR STRUCTURE B-45-45 ARE SHOWN IN REVERSE FROM ALIGNMENT STATIONING AND PLAN &PROFILE SHEETS.

PROJECT NO: 1450-16-70	HWY: IH 43	COUNTY: OZAUKEE	PAVEMENT MARKINGS: B-45-45 (WIS 32 OVER IH 43)	SHEET 31	E

2

2

N

HIGHLAND DRIVE

MATCH LINE 'AA'

CTH H

MINK RANCH ROAD

IH 43 SB

455 "SB TC" + 00

IH 43 NB

455 "NB TC" + 00

450 "SB TC" + 00

450 "NB TC" + 00

CTH LL/E. SEVEN HILLS ROAD

CTH LL/W. SEVEN HILLS ROAD

STH 32/
N. WISCONSIN STREET

SIGN

SIGN

SIGN

PAVEMENT MARKING EPOXY 4-INCH, WHITE, 12.5' DASH, 37.5' SKIP

PAVEMENT MARKING EPOXY 8-INCH

PAVEMENT MARKING STOP LINE EPOXY 18-INCH (INSTALLED AS PART OF STAGE 2)

PAVEMENT MARKING CURB EPOXY

PAVEMENT MARKING EPOXY 8-INCH

PAVEMENT MARKING EPOXY 4-INCH

PAVEMENT MARKING CURB EPOXY

PAVEMENT MARKING EPOXY 4-INCH

PAVEMENT MARKING EPOXY 8-INCH

PAVEMENT MARKING STOP LINE EPOXY 18-INCH

PAVEMENT MARKING CURB EPOXY

PAVEMENT MARKING EPOXY 8-INCH

PAVEMENT MARKING EPOXY 4-INCH, WHITE, 12.5' DASH, 37.5' SKIP

NOTE: TRAFFIC CONTROL STAGING & PAVEMENT MARKING PLAN SHEETS FOR STRUCTURE B-45-45 ARE SHOWN IN REVERSE FROM ALIGNMENT STATIONING AND PLAN &PROFILE SHEETS.

PROJECT NO: 1450-16-70	HWY: IH 43	COUNTY: OZAUKEE	PAVEMENT MARKINGS: STRUCTURE B-45-45 (WIS 32 OVER IH-43)	SHEET 32	E

FILE NAME : P:\90s\93\00093065\CADD MAD\00093039\Staging\93039 Stage 1 Plans\B-45-45 PM_02.dgn PLOT DATE : 4/10/2013 PLOT BY : jdolens PLOT NAME : PLOT SCALE : 1:100

WISDOT/CADDS SHEET 42

B-45-45 PM_02.dgn 4/10/2013 1:50:52 PM jdolens

2

N

CEDAR BEACH RD.

CEDAR BEACH RD.

2

BEGIN INSIDE SHOULDER REPLACEMENT
STA. 753 "SB TC" +00

PT STA = 753+39.68

750 "SB TC" + 00

755 "SB TC" + 00

IH-43 SB

760 "SB TC" + 00

I 43/S.T.H. 32

765 "S

1

1

"NB TC" + 00

755 "NB TC" + 00

760 "NB TC" + 00

765 "NB TC" +

IH-43 NB

I 43/S.T.H. 32

BEGIN INSIDE SHOULDER REPLACEMENT
STA. 753 "NB TC" +00

PT STA = 754+09.97

2

LEGEND

(1) REMOVING PAVEMENT EXCAVATION COMMON, HMA PAVEMENT TYPE E-3, PG 58-28

(2) EBS SHOULDER LT & RT AS DIRECTED BY ENGINEER LOCATIONS MAY VARY

ROCK BAGS

TEMPORARY DITCH CHECK

SILT FENCE

INLET PROTECTION (TYPE A UNLESS OTHERWISE SPECIFIED)

XXXXX SAWING ASPHALT

PROJECT NO: 1450-16-70	HWY: IH-43	COUNTY: OZAUKEE	PLAN DETAIL - SHOULDER REPLACEMENT	SHEET 33	E

2

2

N

765 "SB TC" + 00

770 "SB TC" + 00

IH-43 SB

775 "SB TC" + 00

780 "SB

PC STA = 779+29.41

XXXXX XXXXX XXXXX XXXXX

1

1

"NB TC" + 00

770 "NB TC" + 00

775 "NB TC" + 00

780 "NB TC" +

XXXXX XXXXX XXXXX

IH-43 NB

PC STA = 779+81.06

LEGEND

(1) REMOVING PAVEMENT EXCAVATION COMMON, HMA PAVEMENT TYPE E-3, PG 58-28

(2) EBS SHOULDER LT & RT AS DIRECTED BY ENGINEER LOCATIONS MAY VARY

ROCK BAGS

TEMPORARY DITCH CHECK

SILT FENCE

INLET PROTECTION (TYPE A UNLESS OTHERWISE SPECIFIED)

XXXXX SAWING ASPHALT

PROJECT NO: 1450-16-70	HWY: IH-43	COUNTY: OZAUKEE	PLAN DETAIL - SHOULDER REPLACEMENT	SHEET 34	E

2

2

N

PC STA = 779+29.41

780 "SB TC" + 00

I 43/S.T.H. 32

785 "SB TC" + 00

IH-43 SB

790 "SB TC" + 00

795 "SB

"NB TC" + 00

PC STA = 779+81.06

785 "NB TC" + 00

I 43/S.T.H. 32

IH-43 NB

790 "NB TC" + 00

795 "NB TC" + 0

LEGEND

1. REMOVING PAVEMENT EXCAVATION COMMON, HMA PAVEMENT TYPE E-3, PG 58-28
2. EBS SHOULDER LT & RT AS DIRECTED BY ENGINEER LOCATIONS MAY VARY

ROCK BAGS

TEMPORARY DITCH CHECK

SILT FENCE

INLET PROTECTION (TYPE A UNLESS OTHERWISE SPECIFIED)

XXXXX SAWING ASPHALT

PROJECT NO: 1450-16-70	HWY: IH-43	COUNTY: OZAUKEE	PLAN DETAIL - SHOULDER REPLACEMENT	SHEET 35	E

2

2

BEGIN OUTSIDE SHOULDER REPLACEMENT
STA. 798 "SB TC" + 50

795 "SB TC" + 00

800 "SB TC" + 00

I 43/S.T.H. 32

IH-43 SB

805 "SB TC" + 00

810 "SB TC

CTH D

805 "NB TC" + 00

800 "NB TC" + 00

"NB TC" + 00

I 43/S.T.H. 32

IH-43 NB

810 "NB TC" +

BEGIN OUTSIDE SHOULDER REPLACEMENT
STA. 797 "NB TC" + 00

C.T.H. "D" INL

C.T.H. "D" INL

INL

LEGEND

1 REMOVING PAVEMENT EXCAVATION COMMON, HMA PAVEMENT TYPE E-3, PG 58-28

2 EBS SHOULDER LT & RT AS DIRECTED BY ENGINEER LOCATIONS MAY VARY

ROCK BAGS

TEMPORARY DITCH CHECK

SILT FENCE

INLET PROTECTION (TYPE A UNLESS OTHERWISE SPECIFIED)

XXXXX SAWING ASPHALT

PROJECT NO: 1450-16-70	HWY: IH-43	COUNTY: OZAUKEE	PLAN DETAIL - SHOULDER REPLACEMENT	SHEET 36	E

2

2

N

END OUTSIDE SHOULDER REPLACEMENT
STA. 821 "SB TC" +00

PT STA = 824+64.53

815 "SB TC" + 00

IH-43 SB

820 "SB TC" + 00

825 "SB TC"

10 "SB TC" + 00

I 43/S.T.H. 32

820 "NB TC" + 00

825 "NB TC" +

815 "NB TC" + 00

IH-43 NB

PT STA = 824+79.20

"NB TC" + 00

END OUTSIDE SHOULDER REPLACEMENT
STA. 821 "NB TC" +00

LEGEND

1 REMOVING PAVEMENT EXCAVATION COMMON, HMA PAVEMENT TYPE E-3, PG 58-28

2 EBS SHOULDER LT & RT AS DIRECTED BY ENGINEER LOCATIONS MAY VARY

ROCK BAGS

TEMPORARY DITCH CHECK

SILT FENCE

INLET PROTECTION (TYPE A UNLESS OTHERWISE SPECIFIED)

XXXXX SAWING ASPHALT

PROJECT NO: 1450-16-70	HWY: IH-43	COUNTY: OZAUKEE	PLAN DETAIL - SHOULDER REPLACEMENT	SHEET 37	E

2

N

BEGIN OUTSIDE SHOULDER REPLACEMENT
STA. 831 "SB TC +00

SB TC" + 00 | 830 "SB TC" + 00 | IH-43 SB | I 43/S.T.H. 32 | 835 "SB TC" + 00 | 840 "SB TC" + 0

TC" + 00 | 830 "NB TC" + 00 | IH-43 NB | I 43/S.T.H. 32 | 835 "NB TC" + 00 | 840 "NB TC" + 00

BEGIN OUTSIDE SHOULDER REPLACEMENT
STA. 834 "NB TC +00

LEGEND

(1) REMOVING PAVEMENT EXCAVATION COMMON, HMA PAVEMENT TYPE E-3, PG 58-28

(2) EBS SHOULDER LT & RT AS DIRECTED BY ENGINEER LOCATIONS MAY VARY

ROCK BAGS

TEMPORARY DITCH CHECK

SILT FENCE

INLET PROTECTION (TYPE A UNLESS OTHERWISE SPECIFIED)

XXXXX SAWING ASPHALT

PROJECT NO: 1450-16-70	HWY: IH-43	COUNTY: OZAUKEE	PLAN DETAIL - SHOULDER REPLACEMENT	SHEET 38	E

2

2

N

B TC" + 00 | 845 "SB TC" + 00 | 850 "SB TC" + 00 | 855 "SB TC" + 00

IH-43 SB

I 43/S.T.H. 32

XXXXX XXXXX XXXXX XXXXX

C" + 00 | 845 "NB TC" + 00 | 850 "NB TC" + 00 | 855 "NB TC" + 00

IH-43 NB

I 43/S.T.H. 32

1

2

LEGEND

1 REMOVING PAVEMENT EXCAVATION COMMON, HMA PAVEMENT TYPE E-3, PG 58-28

2 EBS SHOULDER LT & RT AS DIRECTED BY ENGINEER LOCATIONS MAY VARY

ROCK BAGS

TEMPORARY DITCH CHECK

SILT FENCE

INLET PROTECTION (TYPE A UNLESS OTHERWISE SPECIFIED)

XXXXX SAWING ASPHALT

PROJECT NO: 1450-16-70	HWY: IH-43	COUNTY: OZAUKEE	PLAN DETAIL - SHOULDER REPLACEMENT	SHEET 39	E

2

2

SILVER BEACH RD.

SILVER BEACH RD.

SB TC" + 00

860 "SB TC" + 00

IH-43 SB

865 "SB TC" + 00

870 "SB TC" + 00

I 43/S.T.H. 32

TC" + 00

860 "NB TC" + 00

865 "NB TC" + 00

870 "NB TC" + 00

IH-43 NB

I 43/S.T.H. 3

SUCKER CREEK

LEGEND

1 REMOVING PAVEMENT EXCAVATION COMMON, HMA PAVEMENT TYPE E-3, PG 58-28

2 EBS SHOULDER LT & RT AS DIRECTED BY ENGINEER LOCATIONS MAY VARY

ROCK BAGS

TEMPORARY DITCH CHECK

SILT FENCE

INLET PROTECTION (TYPE A UNLESS OTHERWISE SPECIFIED)

XXXXX SAWING ASPHALT

PROJECT NO: 1450-16-70	HWY: IH-43	COUNTY: OZAUKEE	PLAN DETAIL - SHOULDER REPLACEMENT	SHEET 40	E

2

2

N

PC STA = 873+48.14

PC STA = 873+64.69

IH-43 SB

IH-43 NB

875 "SB TC" + 00

880 "SB TC" + 00

885 "SB TC" + 00

875 "NB TC" + 00

880 "NB TC" + 00

885 "NB TC" + 00

SB TC" + 00

TC" + 00

3/S.T.H. 32

SUCKER CREEK

LEGEND

(1) REMOVING PAVEMENT EXCAVATION COMMON, HMA PAVEMENT TYPE E-3, PG 58-28

(2) EBS SHOULDER LT & RT AS DIRECTED BY ENGINEER LOCATIONS MAY VARY

ROCK BAGS

TEMPORARY DITCH CHECK

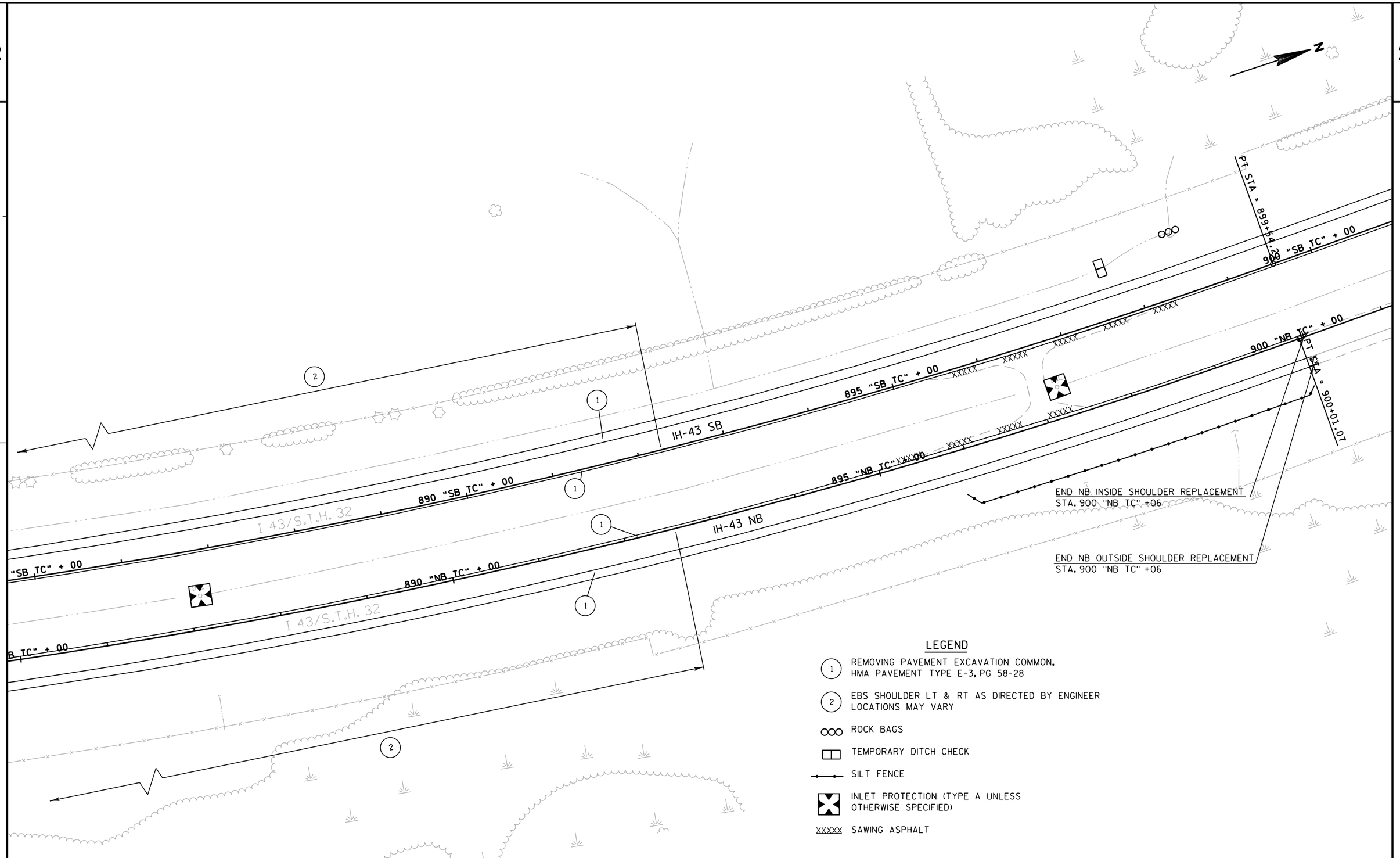
SILT FENCE

INLET PROTECTION (TYPE A UNLESS OTHERWISE SPECIFIED)

XXXXX SAWING ASPHALT

PROJECT NO: 1450-16-70	HWY: IH-43	COUNTY: OZAUKEE	PLAN DETAIL - SHOULDER REPLACEMENT	SHEET 41	E

2



LEGEND

(1)	REMOVING PAVEMENT EXCAVATION COMMON, HMA PAVEMENT TYPE E-3, PG 58-28
(2)	EBS SHOULDER LT & RT AS DIRECTED BY ENGINEER LOCATIONS MAY VARY
ooo	ROCK BAGS
▭	TEMPORARY DITCH CHECK
——	SILT FENCE
⊠	INLET PROTECTION (TYPE A UNLESS OTHERWISE SPECIFIED)
XXXXX	SAWING ASPHALT

PROJECT NO: 1450-16-70	HWY: IH-43	COUNTY: OZAUKEE	PLAN DETAIL - SHOULDER REPLACEMENT	SHEET 42	E

2

N

STA. 910 "SB TC" +75 (AHEAD)
OUTSIDE SHOULDER (SEE NOTE)

STA. 912 "SB TC" +75 (AHEAD)
INSIDE SHOULDER (SEE NOTE)

EBS OUTSIDE SHOULDER

EBS INSIDE SHOULDER

915 "SB TC" + 00

915 "NB TC" + 00

910 "SB TC" + 00

910 "NB TC" + 00

905 "SB TC" + 00

905 "NB TC" + 00

PC STA AHEAD = 905+75.15
PC STA BACK = 905+60.73

PT Sta Ahead = 905+87.87
PT Sta Back = 906+00.39

IH-43 SB

IH-43 NB

I 43/S.T.H. 32

NB EXISTING SHOULDERS
(2012) TO REMAIN

4'

5'

WALLS

WALLS

W

W

LEGEND

(1) REMOVING PAVEMENT EXCAVATION COMMON, HMA PAVEMENT TYPE E-3, PG 58-28

(2) EBS SHOULDER LT & RT AS DIRECTED BY ENGINEER LOCATIONS MAY VARY

ROCK BAGS

TEMPORARY DITCH CHECK

SILT FENCE

INLET PROTECTION (TYPE A UNLESS OTHERWISE SPECIFIED)

XXXXX SAWING ASPHALT

NOTE:
REPLACE SHOULDER IN 2013, PERFORM BRIDGE WORK IN 2014, SEE TRAFFIC CONTROL STAGING TYPICAL SECTIONS FOR B-45-57.

PROJECT NO: 1450-16-70	HWY: IH-43	COUNTY: OZAUKEE	PLAN DETAIL - SHOULDER REPLACEMENT	SHEET 43	E

2

N

JAY RD.

REPLACE SHOULDER IN 2013, PERFORM BRIDGE WORK IN 2014, SEE TRAFFIC CONTROL STAGING TYPICAL SECTIONS FOR B-45-57. FOR PAVEMENT AND EBS IN THIS SEGMENT.

B-45-57

IH-43 SB

920 "SB TC" + 00

925 "SB TC" + 00

930 "SB TC" + 00

I 43/S.T.H. 32

1

1

6

6

925 "NB TC" + 00

920 "NB TC" + 00

IH-43 NB

I 43/S.T.H. 32

930 "NB TC" + 00

1

1

(NB BRIDGE WORK PERFORMED IN 2012)

BEGIN NB INSIDE SHOULDER REPLACEMENT
STA.925 "NB TC" +03

BEGIN NB OUTSIDE SHOULDER REPLACEMENT
STA.925 "NB TC" +77

NB EXISTING SHOULDER (2012) TO REMAIN

LEGEND

- (1) REMOVING PAVEMENT EXCAVATION COMMON, HMA PAVEMENT TYPE E-3, PG 58-28
- (2) EBS SHOULDER LT & RT AS DIRECTED BY ENGINEER LOCATIONS MAY VARY
- ROCK BAGS
- TEMPORARY DITCH CHECK
- SILT FENCE
- INLET PROTECTION (TYPE A UNLESS OTHERWISE SPECIFIED)
- XXXXX SAWING ASPHALT

PROJECT NO: 1450-16-70	HWY: IH-43	COUNTY: OZAUKEE	PLAN DETAIL - SHOULDER REPLACEMENT	SHEET 44	E

2

2

STA. 936 "SB TC" + 30 (BACK)
INSIDE SHOULDER (SEE NOTE)

STA. 937 "SB TC" + 85 (BACK)
OUTSIDE SHOULDER (SEE NOTE)

+ 00

935 "SB TC" + 00

" + 00

935 "NB TC" + 00

6'

4'

IH-43 SB

940 "SB TC" + 00

1

1

IH-43 NB

940 "NB TC" + 00

1

PT STA = 944+28.57

945 "SB TC" + 00

I 43/S.T.H. 32

I 43/S.T.H. 32

PT STA = 943+98.64

945 "NB TC" + 00

SUCKER CREEK

NOTE:
REPLACE SHOULDER IN 2013,
PERFORM BRIDGE WORK IN 2014,
SEE TRAFFIC CONTROL STAGING
TYPICAL SECTIONS FOR B-45-57.

LEGEND

(1) REMOVING PAVEMENT EXCAVATION COMMON, HMA PAVEMENT TYPE E-3, PG 58-28

(2) EBS SHOULDER LT & RT AS DIRECTED BY ENGINEER LOCATIONS MAY VARY

ROCK BAGS

TEMPORARY DITCH CHECK

SILT FENCE

INLET PROTECTION (TYPE A UNLESS OTHERWISE SPECIFIED)

XXXXX SAWING ASPHALT

PROJECT NO: 1450-16-70	HWY: IH-43	COUNTY: OZAUKEE	PLAN DETAIL - SHOULDER REPLACEMENT	SHEET 45	E

2

2

N

950 "SB TC" + 00

950 "NB TC" + 00

PC STA = 952+27.16

IH-43 SB

955 "SB TC" + 00

SUCKER CREEK

REMOVE EXISTING GUARDRAIL & REPLACE WITH MGS GUARDRAIL

PC STA = 951+63.29

IH-43 NB

955 "NB TC" + 00

960 "SB TC" + 00

I 43/S.T.H. 32

960 "NB TC" + 00

43/S.T.H. 3

LEGEND

(1) REMOVING PAVEMENT EXCAVATION COMMON, HMA PAVEMENT TYPE E-3, PG 58-28

(2) EBS SHOULDER LT & RT AS DIRECTED BY ENGINEER LOCATIONS MAY VARY

ROCK BAGS

TEMPORARY DITCH CHECK

SILT FENCE

INLET PROTECTION (TYPE A UNLESS OTHERWISE SPECIFIED)

XXXXX SAWING ASPHALT

PROJECT NO: 1450-16-70	HWY: IH-43	COUNTY: OZAUKEE	PLAN DETAIL - SHOULDER REPLACEMENT	SHEET 46	E

2

2

SHEBOYGAN COUNTY
OZAUKEE COUNTY

PEBBLE BEACH

N

END SB OUTSIDE SHOULDER REPLACEMENT
STA. 971 "SB TC" +93

END SB INSIDE SHOULDER REPLACEMENT
STA. 972 "SB TC" +36
MATCH TO EXISTING

I 43/S.T.H. 32

965 "SB TC" + 00

IH-43 SB

970 "SB TC" + 00

975 "SB TC" + 00

INL

I 43/S.T.H. 32

965 "NB TC" + 00

IH-43 NB

970 "NB TC" + 00

975 "NB TC" + 00

END NB OUTSIDE SHOULDER REPLACEMENT
STA. 971 "NB TC" +11

END NB INSIDE SHOULDER REPLACEMENT
STA. 970 "NB TC" +75
MATCH TO EXISTING

LEGEND

(1) REMOVING PAVEMENT EXCAVATION COMMON, HMA PAVEMENT TYPE E-3, PG 58-28

(2) EBS SHOULDER LT & RT AS DIRECTED BY ENGINEER
LOCATIONS MAY VARY

ROCK BAGS

TEMPORARY DITCH CHECK

SILT FENCE

INLET PROTECTION (TYPE A UNLESS OTHERWISE SPECIFIED)

XXXXX SAWING ASPHALT

PROJECT NO: 1450-16-70	HWY: IH-43	COUNTY: OZAUKEE	PLAN DETAIL - SHOULDER REPLACEMENT	SHEET 47	E

2

N

PEBBLE BEACH RD.

NORTH PROJECT LIMIT
STA. 977+00

IH-43 SB

980 "SB TC" + 00

985 "SB TC" + 00

990 "SB TC" + 00

EOP STA = 990+20.43

PT STA = 982+52.07

I 43/S.T.H. 32

INL

990 "NB TC" + 00

EOP STA = 990+11.98

985 "NB TC" + 00

I 43/S.T.H. 32

PT STA = 982+70.73

980 "NB TC" + 00

IH-43 NB

PEBBLE BEACH RD.

OZAUKEE COUNTY

SHEBOYGAN COUNTY

LEGEND

(1) REMOVING PAVEMENT EXCAVATION COMMON, HMA PAVEMENT TYPE E-3, PG 58-28

(2) EBS SHOULDER LT & RT AS DIRECTED BY ENGINEER LOCATIONS MAY VARY

ROCK BAGS

TEMPORARY DITCH CHECK

SILT FENCE

INLET PROTECTION (TYPE A UNLESS OTHERWISE SPECIFIED)

SAWING ASPHALT

NOTE:

COORDINATION OF TRAFFIC CONTROL STAGING REQUIRED WITH PROJECT AT STH 32 CEDAR GROVE EXIT 2 MILE NORTH OF COUNTY LINE. SEE SPECIAL PROVISIONS.

PROJECT NO: 1450-16-70	HWY: IH-43	COUNTY: OZAUKEE	PLAN DETAIL - SHOULDER REPLACEMENT	SHEET 48	E

2

FIXED MESSAGE SIGNS (DETAILS SHEETS)

GENERAL NOTES:

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

2. AFTER SIGNS HAVE BEEN LOCATED IN THE FIELD, BUT BEFORE INSTALLATION, THE PROJECT ENGINEER SHALL VERIFY EACH SIGN LOCATION.

3. ALL SIGNS TO BE MOUNTED ON WOODEN POST SUPPORTS (4"x6"). THE NUMBER OF POSTS REQUIRED FOR EACH LAYOUT IS SHOWN.

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

5. SIGNS SHALL BE BLACK NON-REFLECTIVE MESSAGE ON ORANGE FLUORESCENT REFLECTIVE BACKGROUND PER SPEC 643 & 637.
6. ALL SIGNS SHALL HAVE CAPITAL LETTERS AND NUMERALS:
   12" CAPS SHALL BE SERIES "D"
   6" CAPS SHALL BE SERIES "C"

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

8. CONTRACTOR SHALL SUBMIT SHOP DRAWINGS TO ENGINEER FOR REVIEW PRIOR TO MANUFACTURING.

9. SIGN BASE MATERIAL SHALL BE ACCORDING TO SECTION 643 & 637.

10. SIGNS TO BE IN PLACE 10 DAYS PRIOR TO CONSTRUCTION.

(X) = SIGN NUMBER

FOR PLAN SHEETS

LEGEND: FIXED MESSAGE SIGNS

	EXISTING GUIDE SIGN TO BE COVERED
	FIXED MESSAGE SIGN(S) ON WOOD POST SUPPORTS
(XX)	FIXED MESSAGE SIGN NUMBER
(A1)	CONTRACTOR SHALL COVER AS DIRECTED BY THE ENGINEER ALL ROUTE MARKINGS PERTAINING TO THE PROJECT. INCIDENTAL TO WORK ZONE TRAFFIC CONTROL SIGNING.
CMS	CHANGEABLE MESSAGE SIGN

NOTES: FIXED MESSAGE SIGNS

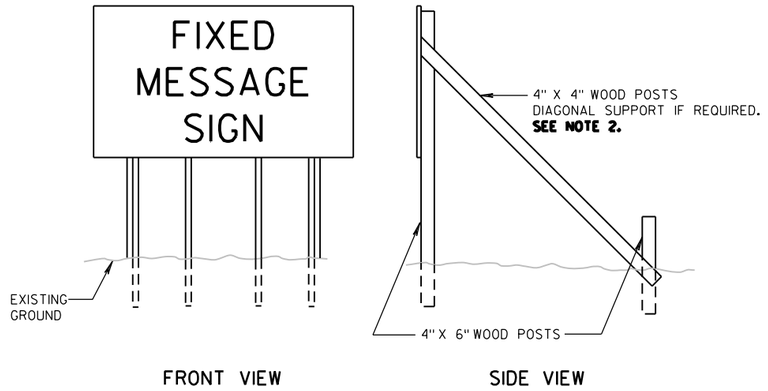
1. CONTRACTOR SHOULD LOCATE FIXED MESSAGE SIGNS A MINIMUM OF 400' FROM ANY EXISTING TYPE "I" SIGN.

2. ALL FIXED MESSAGE SIGNS SHALL BE BLACK NON-REFLECTIVE MESSAGE ON ORANGE REFLECTIVE BACKGROUND.

3. SEE FIXED MESSAGE SIGNS AND SPECIAL MESSAGE SIGNS LAYOUT SHEETS FOR MORE INFORMATION.

4. COVER DETOUR SIGNING WHEN NOT IN USE. INCIDENTAL TO WORK ZONE TRAFFIC CONTROL SIGNING.

5. SIGNS TO BE PLACED 10 DAYS PRIOR TO CONSTRUCTION.



FRONT VIEW

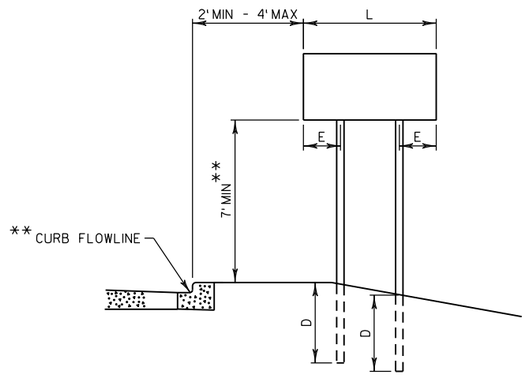
SIDE VIEW

NOTES

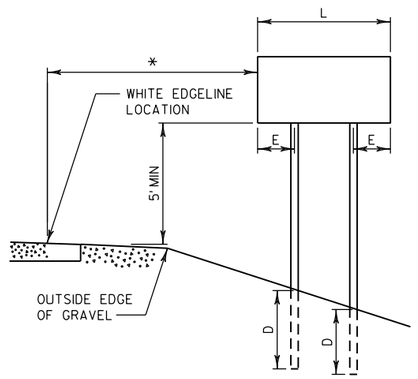
1. SEE TRAFFIC CONTROL SHEETS FOR SIGN LOCATIONS.
2. TWO DIAGONAL SUPPORTS TO BE INCLUDED FOR EACH SIGN OVER 12'LONG AND HIGHER THAN 8'. DIAGONAL SUPPORTS TO BE AFFIXED TO THE OUTSIDE SUPPORTS AND TO BE INCIDENTAL TO THE "TRAFFIC CONTROL FIXED MESSAGE SIGN" ITEM. IF DIAGONAL SUPPORTS ARE USED, SIGN TO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

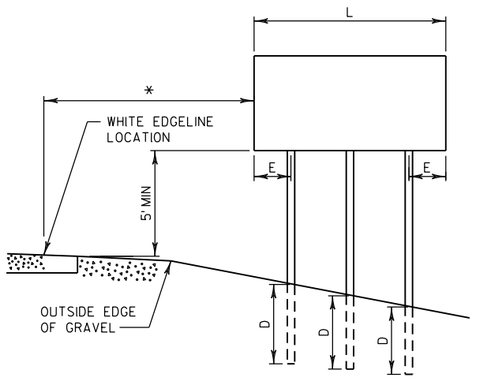
* 6'FROM EDGE OF A PAVED SHOULDER OR 12'FROM THE EDGE OF PAVEMENT (EDGE LINE LOCATION) OR 2'FROM OUTSIDE EDGE OF GRAVEL, WHICHEVER IS GREATER UNLESS DIRECTED BY PROJECT ENGINEER. SEE NOTE 2 FOR OFFSET REQUIREMENTS WHERE DIAGONAL SUPPORTS ARE USED.

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



URBAN AREA





RURAL AREA

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

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

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

POST EMBEDMENT DEPTH

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

NOTE TO DESIGNERS: SHOW POSTS ON FMS SIGN DETAILS.

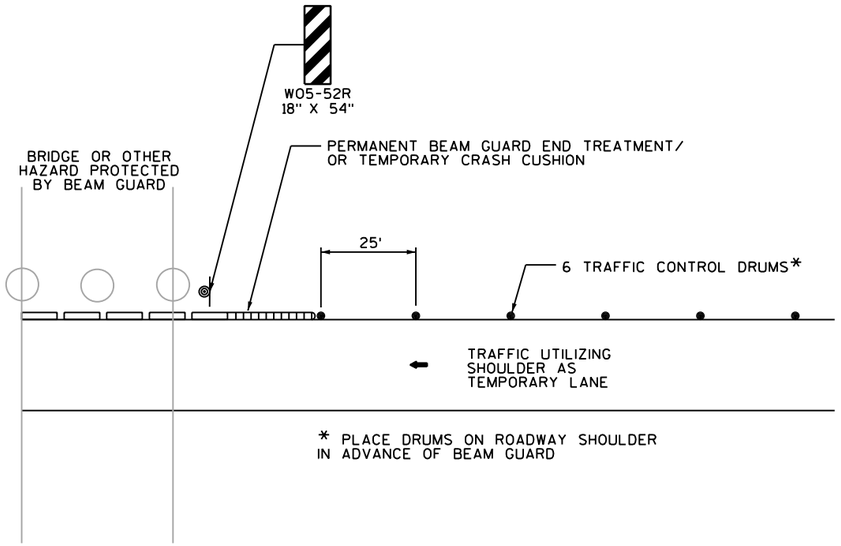
110210

POST MOUNTING DETAIL FOR TRAFFIC CONTROL FIXED MESSAGE SIGNS

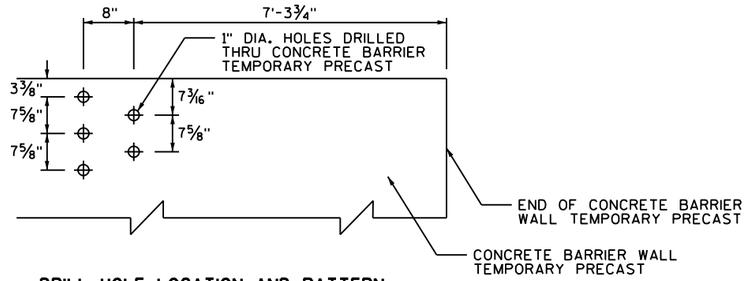
PROJECT NO: 1450-16-70	HWY: IH 43	COUNTY: OZAUKEE	FIXED MESSAGE SIGNS MOUNTING DETAIL	SHEET 50	E

FILE NAME : $$....designfile....$$ PLOT DATE : $$...plottingdate...$$ PLOT BY : $$...plotuser...$$ PLOT NAME : $FILE$ PLOT SCALE : $$.....plotscale.....$$ WISDOT/CADDS SHEET 42

Post mounting detail for traffic control fixed message signs.dgn 4/10/2013 1:50:56 PM jdolens



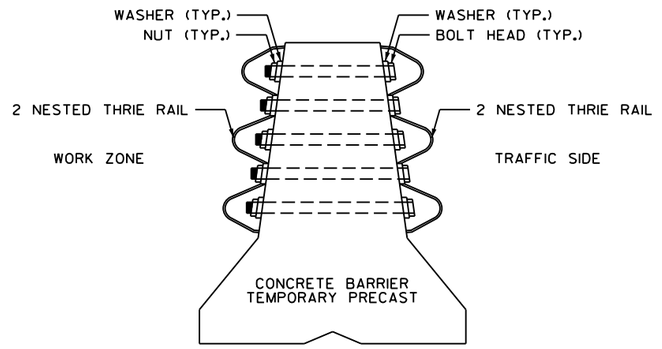
TRAFFIC CONTROL DRUM PLACEMENT AT BEAM GUARD OR CRASH CUSHION



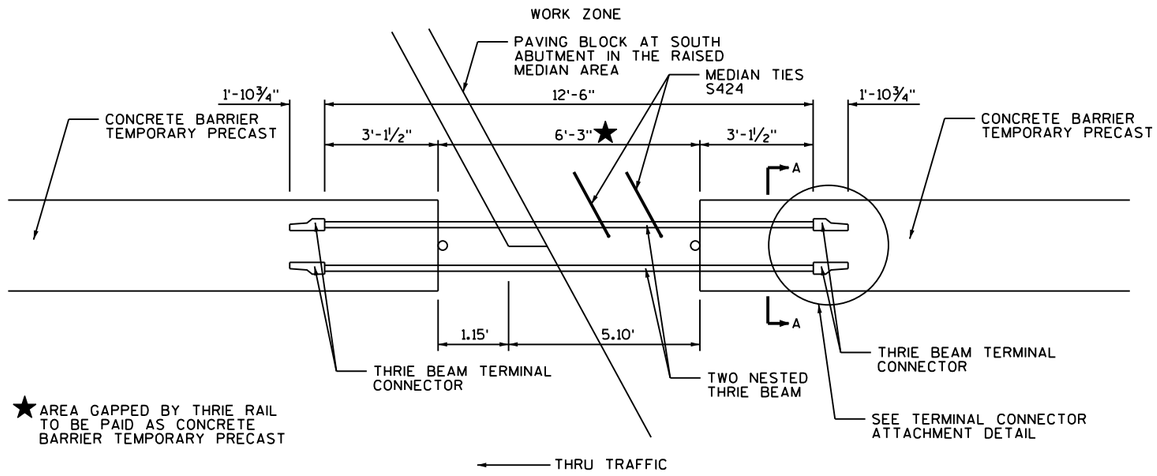
DRILL HOLE LOCATION AND PATTERN FOR THRIE BEAM CONNECTION

GENERAL NOTES

1. BOLTS, NUTS AND WASHERS SHALL CONFORM TO ASTM A325, A449 AND GALVANIZED PER STANDARD SPECIFICATIONS 614.
2. INCLUDE THE PAYMENT FOR DRILLING BOLT HOLES THROUGH THE PARAPET AND ALL BOLTS, NUTS AND WASHERS IN THE ITEM "CONCRETE BARRIER TEMPORARY PRECAST."
3. BOLTS MAY BE A325 BOLTS OR A449 BOLTS. BOLT LENGTH AND THREADING LENGTH ARE TO ALLOW FOR A TIGHT CONNECTION BETWEEN TEMPORARY BARRIER AND THRIE BEAM CONNECTION PLATE. CONTRACTOR IS TO FIELD VERIFY BOLT LENGTH AND THREAD LENGTH. ONE ROUND WASHER REQUIRED BETWEEN BOLT HEAD AND THRIE BEAM TERMINAL CONNECTOR. BOLTS THAT EXTEND THROUGH THE PARAPET AND OUT THE BACK FACE REQUIRE A HARDENED ROUND STEEL WASHER THAT IS 2" O.D. X ⅝" THICK AND ONE PLATE WASHER.

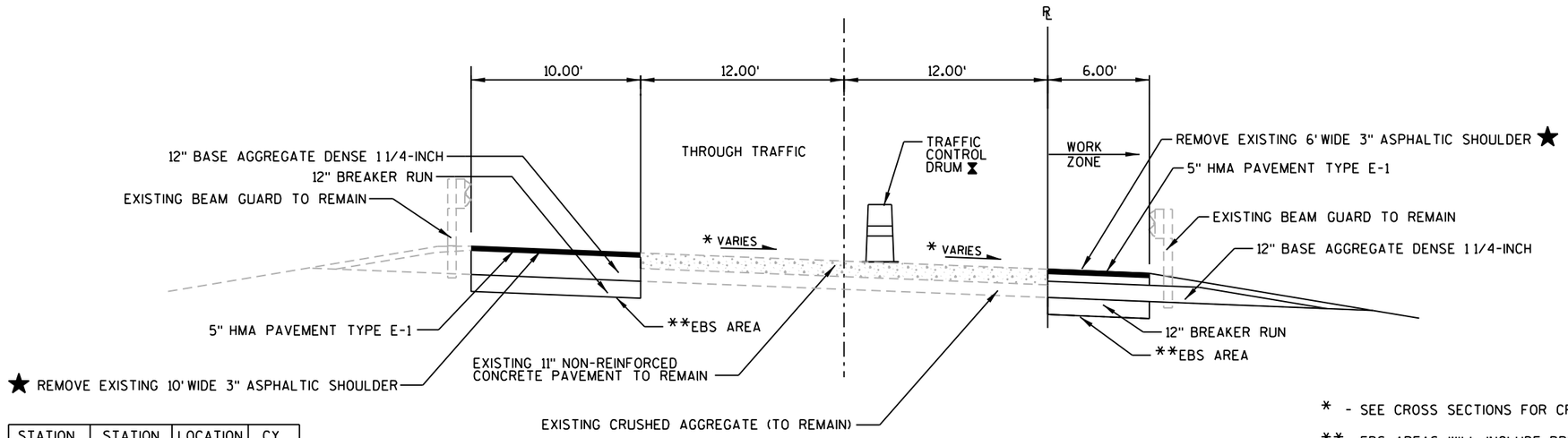


SECTION A-A
TERMINAL CONNECTION ATTACHEMENT DETAIL



PLAN VIEW

STRUCTURE B-45-45 TEMPORARY CONCRETE BARRIER BLOCK DETAIL - STAGE 2



STATION	STATION	LOCATION	CY
912+75'SB'	917+50'SB'	RT	180
918+68'SB'	934+50'SB'	RT	610
910+75'SB'	913+50'SB'	LT	150
918+60'SB'	927+50'SB'	LT	490
552+35'NB'	571+52'NB'	LT	640
593+50'NB'	596+86'NB'	LT	110
598+22'NB'	603+00'NB'	LT	160
550+65'NB'	557+50'NB'	RT	520
593+50'NB'	597+04'NB'	RT	200
598+36'NB'	605+00'NB'	RT	370
566+90'SB'	573+40'SB'	RT	220
575+30'SB'	593+50'SB'	RT	610
575+50'SB'	578+50'SB'	LT	170
583+50'SB'	596+23'SB'	LT	710
597+56'SB'	608+50'SB'	LT	780

NOTE: EXCAVATION BELOW SUBGRADE (EBS) AREAS SHOWN IN THE PLANS ARE APPROXIMATE AND THE FINAL LOCATIONS WILL BE DETERMINED IN THE FIELD BY THE ENGINEER.

★ PAID AS REMOVING ASPHALTIC SURFACE

⧗ MOVE DRUM TO OUTSIDE OF SHOULDER DURING PERIODS OF NO WORK.

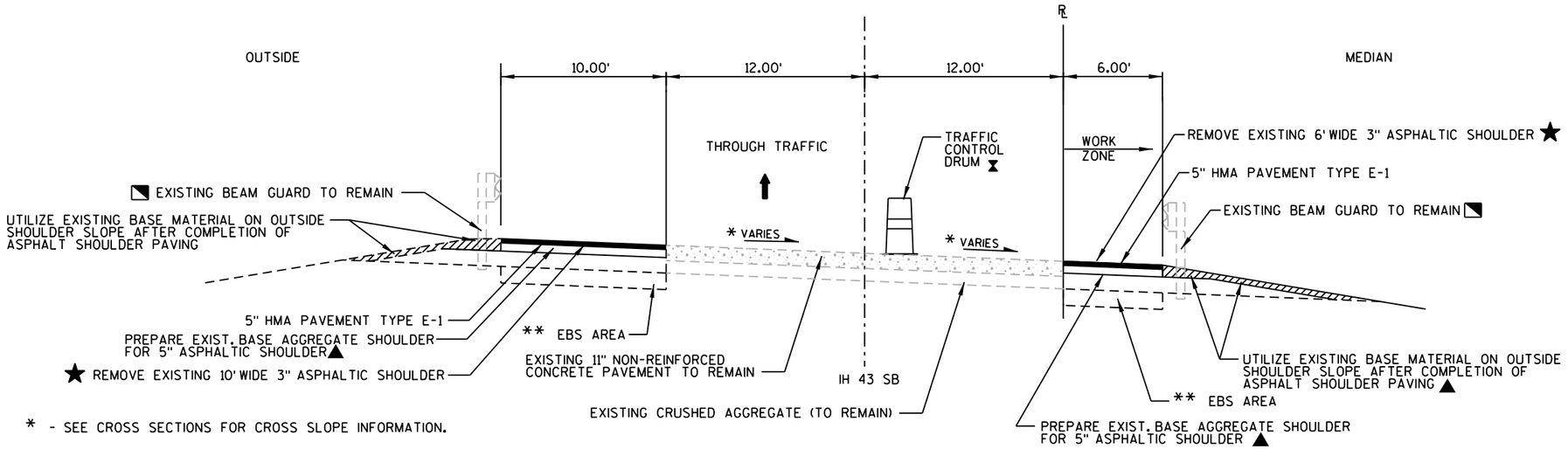
* - SEE CROSS SECTIONS FOR CROSS SLOPE INFORMATION.

**- EBS AREAS WILL INCLUDE BREAKER RUN AND BASE AGGREGATE 1 1/4-INCH. SEE EBS DETAIL AND MISCELLANEOUS QUANTITY SHEETS FOR QUANTITY AND LOCATION.

STAGE 1A

EBS DETAIL - B-45-48, 49, 50, 51 & 57

PROJECT NO: 1450-16-70	HWY: IH 43	COUNTY: OZAUKEE	EXCAVATION BELOW SUBGRADE DETAIL	SHEET 52	E



* - SEE CROSS SECTIONS FOR CROSS SLOPE INFORMATION.

**- EBS AREAS WILL INCLUDE BREAKER RUN AND BASE AGGREGATE 1 1/4-INCH. SEE EBS DETAIL AND MISCELLANEOUS QUANTITY SHEETS FOR QUANTITY AND LOCATION.

TYPICAL SECTION - STAGE 1A AT B-45-48, 49, 50, 51 & 57 (OFF-PEAK WORK)

	OUTSIDE SHOULDER
B-45-48	550NB•65 - 568NB•25
	575NB•00 - 596NB•00
B-45-49	564SB•90 - 570SB•90
	577SB•90 - 595SB•50
B-45-50	599NB•00 - 605NB•00
B-45-51	598SB•50 - 616SB•00
B-45-57	910SB•75 - 916SB•75
	920SB•25 - 937SB•85

SHOULDER IMPROVEMENT WORK

SOUTHBOUND MEDIAN LANE CLOSURE SHOWN

★ PAID AS REMOVING ASPHALTIC SURFACE

▲ PAID AS PREPARE FOUNDATION FOR ASPHALTIC SHOULDERS

EXISTING BEAM GUARD TO REMAIN DURING STAGE 1 WORK

⧗ MOVE DRUM TO OUTSIDE OF SHOULDER DURING PERIODS OF NO WORK.

NOTE: DISREGARD STATION EQUATIONS WHEN LAYING OUT SHOULDER IMPROVEMENT AREAS. ALL STATIONING SHOWN UTILIZES AHEAD STATIONING SHOWN ON THE PLAN.

	MEDIAN SHOULDER
B-45-48	522NB•35 - 571NB•67
	574NB•00 - 596NB•86
B-45-49	566SB•90 - 572SB•97
	575SB•16 - 596SB•35
B-45-50	598NB•22 - 603NB•00
B-45-51	597SB•48 - 614SB•40
B-45-57	912SB•75 - 917SB•49
	918SB•69 - 936SB•15

NOTES:

CONSTRUCT MEDIAN AND OUTSIDE SHOULDERS TO THE LIMITS SHOWN PRIOR TO BEGINNING STAGE 1B.

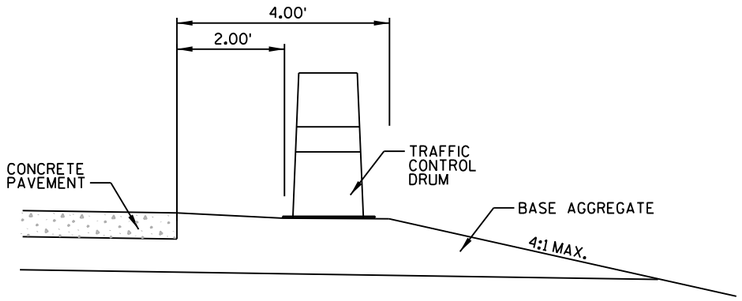
OUTSIDE AND MEDIAN SHOULDER WORK TO BE COMPLETED AT NIGHT OR DURING OFF-PEAK HOURS WITH TRAFFIC REDUCED TO ONE LANE.

STAGE THE WORK TO COMPLETE A SINGLE SECTION OF SHOULDER IMPROVEMENT IN ONE NIGHT, INCLUDING REMOVAL OF EXISTING ASPHALT SHOULDER, PREPARATION OF FOUNDATION AND PLACEMENT OF 5" HMA PAVEMENT TYPE E-3.

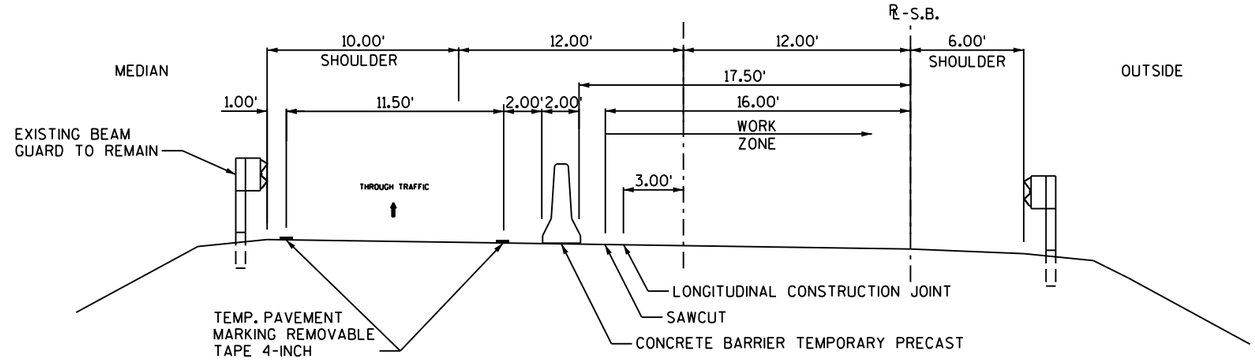
THE 5" HMA PAVEMENT SHALL BE INSTALLED IN ONE LAYER.

IN AN EMERGENCY SITUATION, AS APPROVED BY THE ENGINEER, GRADE BASE AGGREGATE SHOULDER AS SHOWN IN DETAIL BEFORE OPENING ROADWAY TO TRAFFIC.

SEE SDD "TRAFFIC CONTROL LANE CLOSURE SPEEDS GREATER THAN 40 MPH" FOR LANE CLOSURE SIGNING



BASE AGGREGATE SHOULDER FOR EMERGENCY SITUATION DETAIL



STAGE 1 B TRAFFIC IH 43 AT B-45-48, 49, 50, 51 & 57

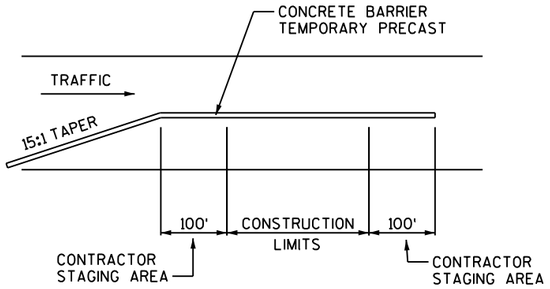
RECONSTRUCTION AREA

SOUTHBOUND SHOWN - NORTHBOUND IS REVERSED

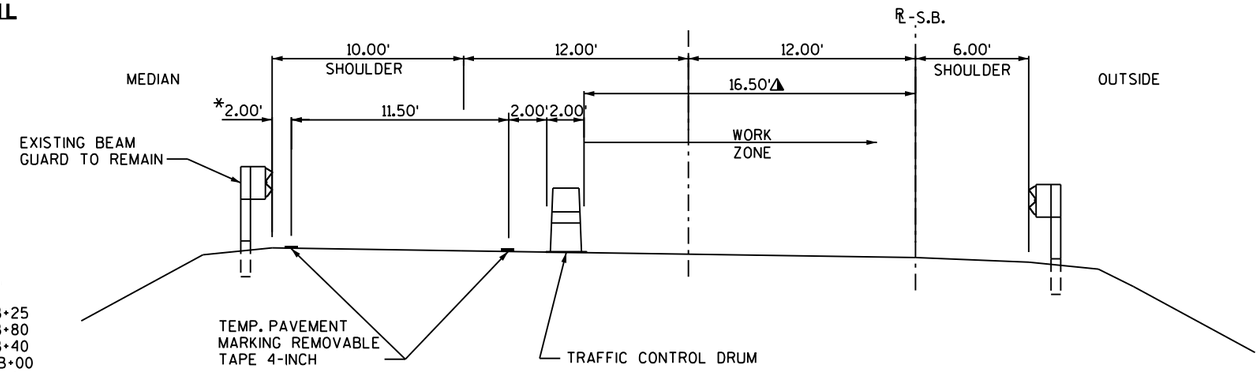
B-45-48	567NB+25 - 571NB+77	(BRIDGE) 573NB+98 -	576NB+00
B-45-49	569SB+90 - 573SB+02	(BRIDGE) 575SB+11 -	578SB+90
B-45-50	595NB+00 - 596NB+85	(BRIDGE) 598NB+21 -	600NB+00
B-45-51	594SB+50 - 596SB+37	(BRIDGE) 597SB+73 -	599SB+50
B-45-57	915SB+75 - 917SB+48	(BRIDGE) 918SB+69 -	921SB+25

NOTE:
STATIONING SHOWN INCLUDES 100' CONTRACTOR STAGING AREA ON EACH SIDE OF THE CONSTRUCTION LIMITS.

SEE SDD "TRAFFIC CONTROL LANE CLOSURE SPEEDS GREATER THAN 40 MPH WITH BARRIER" FOR LANE CLOSURE SIGNING



CONCRETE BARRIER TEMPORARY PRECAST LAYOUT DETAIL



* TRANSITION FROM 2' TO 1'

B-45-48	563NB+35 -	567NB+25
B-45-49	578SB+90 -	582SB+80
B-45-50	599NB+50 -	603NB+40
B-45-51	590SB+10 -	595SB+00
B-45-57	921SB+25 -	925SB+15

▲ TRANSITION FROM 16.5' TO 17.5'

B-45-48	563NB+35 -	567NB+25
B-45-49	578SB+90 -	582SB+80
B-45-50	599NB+50 -	603NB+40
B-45-51	590SB+10 -	595SB+00
B-45-57	921SB+25 -	925SB+15

STAGE 1 B TRAFFIC IH 43 AT B-45-48, 49, 50, 51 & 57

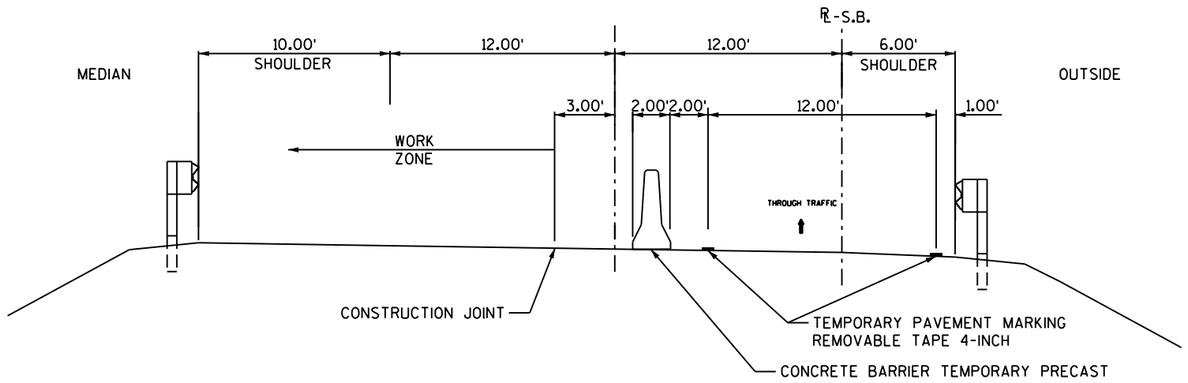
TRAFFIC CONTROL AREAS

BEFORE AND AFTER RECONSTRUCTION AREA

SOUTHBOUND SHOWN - NORTHBOUND IS REVERSED

B-45-48	552NB+35 - 567NB+25 & 576NB+00 - 579NB+10
B-45-49	578SB+90 - 591SB+50
B-45-50	579NB+10 - 595NB+00
B-45-51	591SB+50 - 594SB+50 & 599SB+50 - 614SB+40
B-45-57	912SB+75 - 915SB+75 & 921SB+25 - 936SB+15

NOTE: DISREGARD STATION EQUATIONS WHEN LAYING OUT SHOULDER IMPROVEMENT AREAS. ALL STATIONING SHOWN UTILIZES AHEAD STATIONING SHOWN ON THE PLAN.

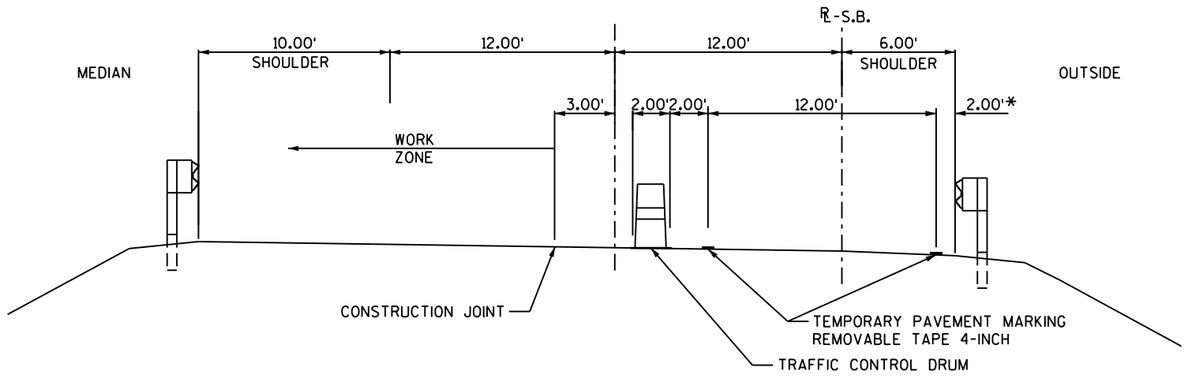


STAGE 2 TRAFFIC IH 43 AT B-45-48, 49, 50, 51 & 57

RECONSTRUCTION AREA

SOUTHBOUND SHOWN - NORTHBOUND IS REVERSED

B-45-48	567NB•25 - 571NB•77	(BRIDGE) 573NB•98 -	576NB•00
B-45-49	569SB•90 - 573SB•02	(BRIDGE) 575SB•11 -	578SB•90
B-45-50	595NB•00 - 596NB•85	(BRIDGE) 598NB•21 -	600NB•00
B-45-51	594SB•50 - 596SB•37	(BRIDGE) 597SB•73 -	599SB•50
B-45-57	915SB•75 - 917SB•48	(BRIDGE) 918SB•69 -	921SB•25



* TRANSITION FROM 2' TO 1'

B-45-48	563NB•65 - 567NB•25
B-45-49	578SB•90 - 582SB•50
B-45-50	599NB•50 - 603NB•10
B-45-51	591SB•40 - 595SB•00
B-45-57	921SB•25 - 924SB•85

STAGE 2 TRAFFIC IH 43 AT B-45-48, 49, 50, 51 & 57

TRAFFIC CONTROL AREAS

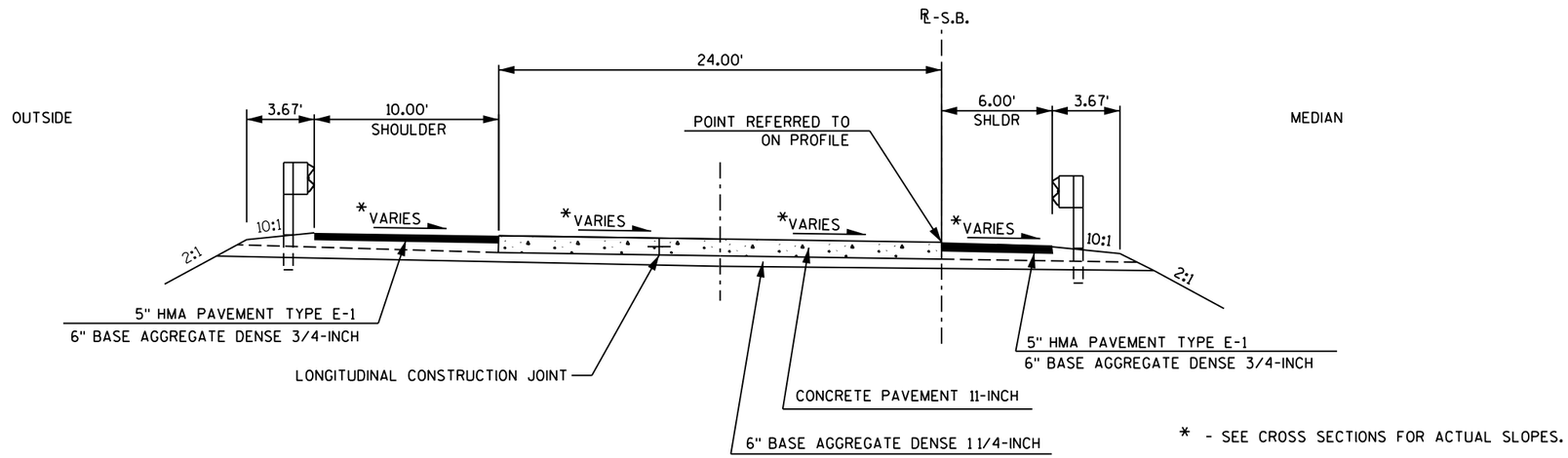
BEFORE AND AFTER RECONSTRUCTION AREA

SOUTHBOUND SHOWN - NORTHBOUND IS REVERSED

B-45-48	550NB•65 - 567NB•25 & 576NB•00 - 590NB•00
B-45-49	578SB•90 - 589SB•50
B-45-50	590NB•00 - 595NB•00
B-45-51	589SB•50 - 594SB•50 & 599SB•50 - 616SB•10
B-45-57	921SB•25 - 937SB•85

NOTE: DISREGARD STATION EQUATIONS WHEN LAYING OUT SHOULDER IMPROVEMENT AREAS. ALL STATIONING SHOWN UTILIZES AHEAD STATIONING SHOWN ON THE PLAN.

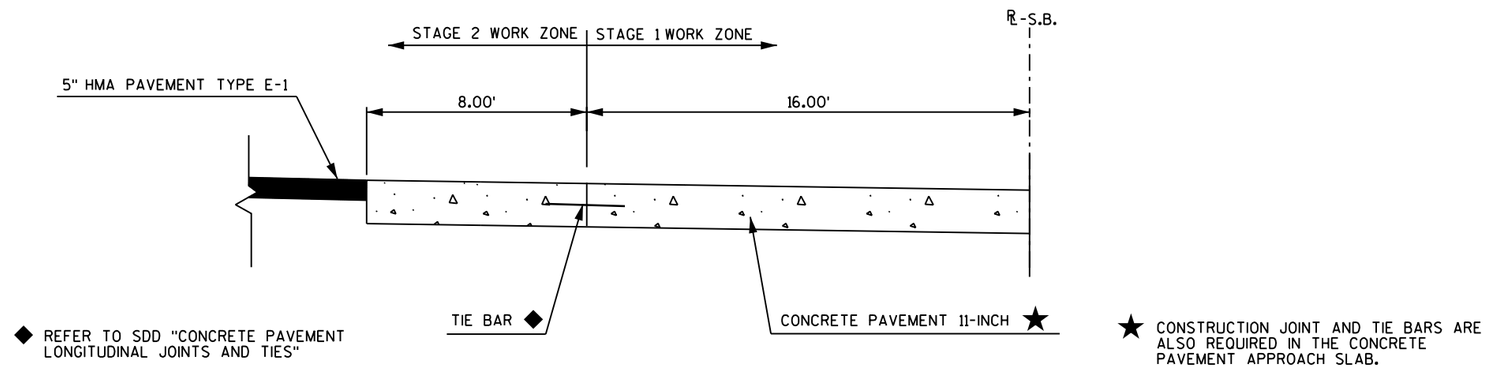
PROJECT NO: 1450-16-70	HWY: IH 43	COUNTY: OZAUKEE	TRAFFIC CONTROL - STAGE 2 IH 43 AT B-45-48, 49, 50, 51 & 57	SHEET 55	E



TYPICAL FINISHED SECTION IH 43 AT B-45-48, 49, 50, 51 & 57

SHOWN SOUTHBOUND - REVERSE FOR NORTHBOUND

B-45-48	568NB+25 - 571NB+67	(BRIDGE) 574NB+00 - 575NB+00
B-45-49	570SB+90 - 572SB+97	(BRIDGE) 575SB+16 - 577SB+90
B-45-50	596NB+00 - 596NB+86	(BRIDGE) 598NB+21 - 599NB+00
B-45-51	595SB+50 - 596SB+38	(BRIDGE) 597SB+73 - 598SB+50
B-45-57	916SB+75 - 917SB+49	(BRIDGE) 918SB+68 - 920SB+25

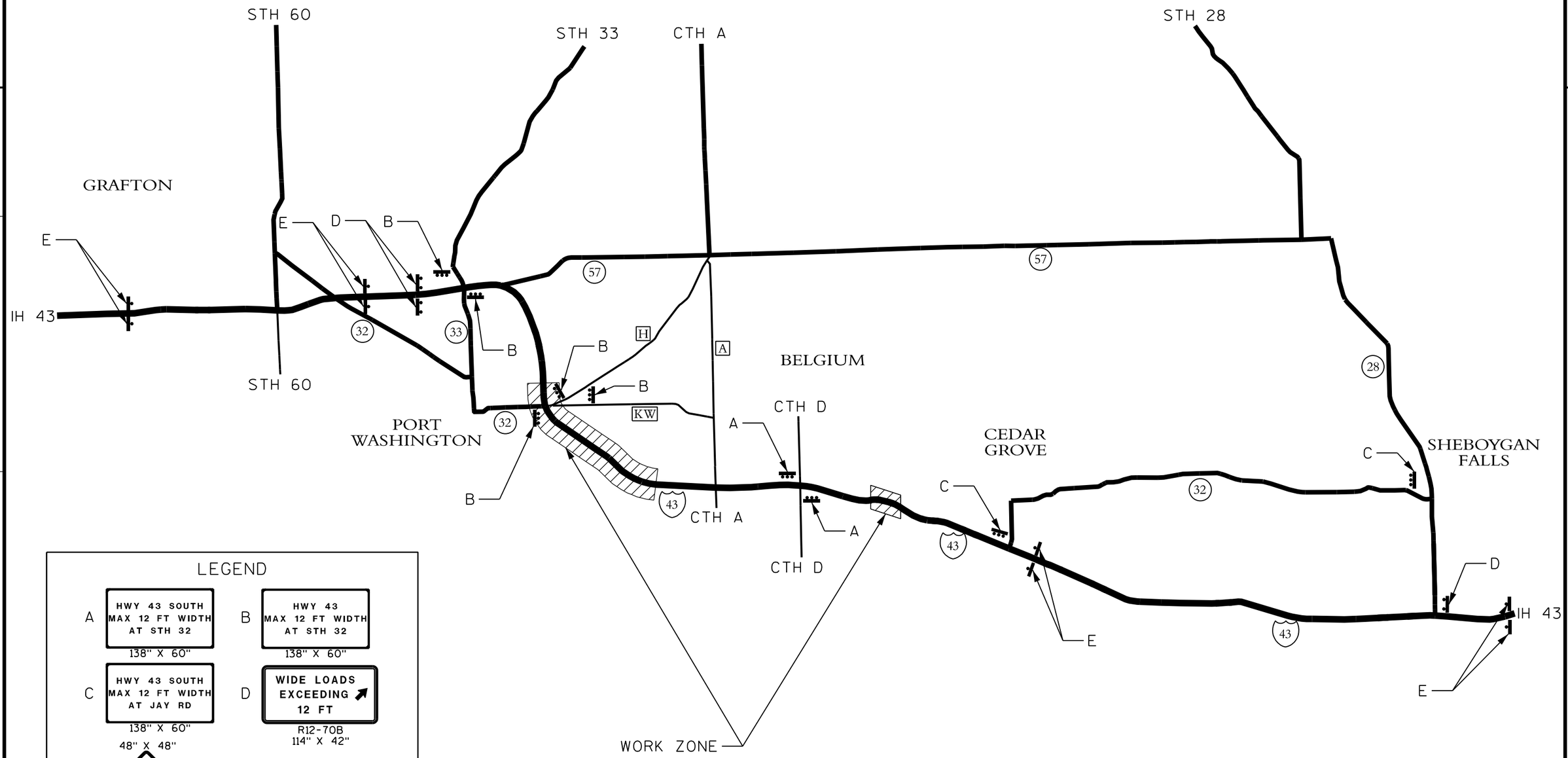


PAVEMENT LONGITUDINAL CONSTRUCTION JOINT DETAIL

REVERSE FOR NORTHBOUND IH 43

PROJECT NO: 1450-16-70	HWY: IH 43	COUNTY: OZAUKEE	TYPICAL SECTION - IH 43 AT B-45-48, 49, 50, 51 & 57	SHEET 56 E

2



LEGEND

A — HWY 43 SOUTH MAX 12 FT WIDTH AT STH 32
138" X 60"

B — HWY 43 MAX 12 FT WIDTH AT STH 32
138" X 60"

C — HWY 43 SOUTH MAX 12 FT WIDTH AT JAY RD
138" X 60"

D — WIDE LOADS EXCEEDING 12 FT
R12-70B
114" X 42"

48" X 48"

E — MAX. 12' WIDTH W12-52
XX MILES AHEAD
W057-52
48" X 36"

POST MOUNTED SIGN

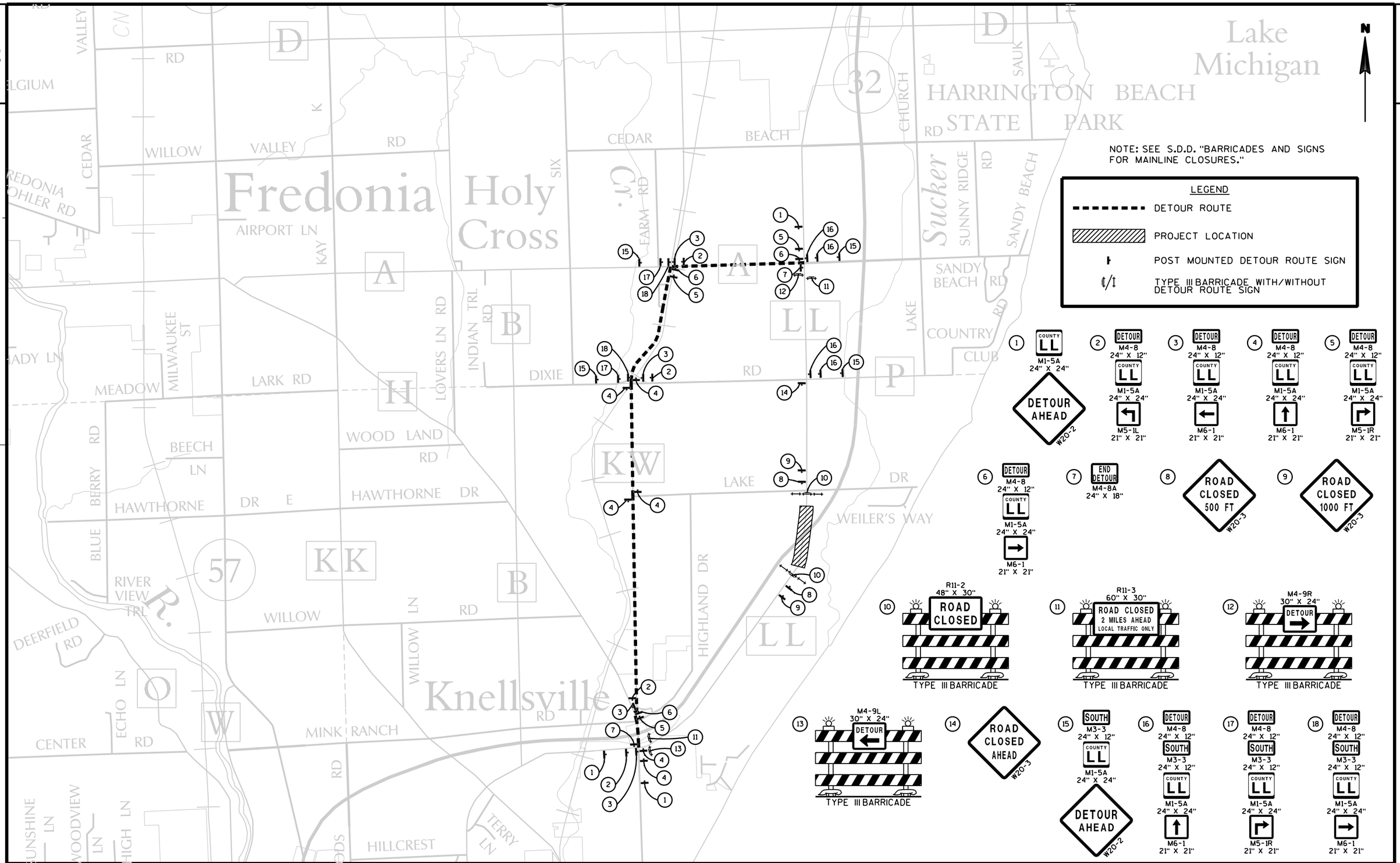
DOUBLE POST MOUNTED SIGN

TRIPLE POST MOUNTED SIGN

WIDE LOAD ADVANCE WARNING SIGNAGE

N

PROJECT NO: 1450-16-70	HWY: IH 43	COUNTY: OZAUKEE	TRAFFIC CONTROL DETAILS	SHEET 57	E



PROJECT NO: 1450-16-70	HWY: IH 43	COUNTY: OZAUKEE	DETOUR ROUTE: B-45-48 & B-45-49 BRIDGE PAINTING	SHEET 58	E

FILE NAME : $$....designfile....$$ PLOT DATE : $$...plottingdate...$$ PLOT BY : $$...plotuser...$$ PLOT NAME : PLOT SCALE : $$.....plotscale.....$$ WISDOT/CADDS SHEET 42

B-45-48 and B-45-49 Detour Plan.dgn 4/10/2013 1:51:08 PM jdolens

NOTE: FOR IH 43 LANE CLOSURES, SEE S.D.D. "TRAFFIC CONTROL, LANE CLOSURE, SPEEDS GREATER THAN 40 M.P.H."

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

N

PERFORM WORK ON CTH W UTILIZING FLAGGING, SEE SDD "TRAFFIC CONTROL FOR LANE CLOSURE (SUITABLE FOR MOVING OPERATIONS)."

★ PLACE DRUMS AT 25' SPACING WHEN BEAM GUARD IN NOT IN PLACE. SEE SPECIAL PROVISIONS.

ROAD WORK AHEAD W20-1 48"×48"

SAUK RD. 42"×15"

TRAFFIC CONTROL SIGN FIXED MESSAGE 4.375 sf

W04-2R 48"×48"

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

ROAD WORK 1 MILE W20-1 48"×48"

RIGHT LANE CLOSED 1/2 MILE W20-5 48"×48"

RIGHT LANE CLOSED 1500 FT W20-5 48"×48"

ROAD CLOSED STARTING XXX XX 48"×24"

TRAFFIC CONTROL SIGN FIXED MESSAGE 8.0 sf

INSTALL ON EACH APPROACH OF SAUK ROAD PRIOR TO CONSTRUCTION.

BRIDGE OUT R11-2B 48" X 30"

ROAD CLOSED R11-2 48" X 30"

ROAD CLOSED 500 FT W20-3 48"×48"

ROAD CLOSED 1000 FT W20-3 48"×48"

ROAD CLOSED AHEAD W20-3 48"×48"

DISTANCE TO BE DETERMINED BY FIELD ENGINEER

SAUK ROAD

FOSTER RD.

CTH W

I-43 NB

I-43 SB

160 "NB TC" + 00

160 "SB TC" + 00

PC Sta = 159+3.

PC STA = 158+24.21

RIDGEWOOD RD.

NOTE: SEE S.D.D. "BARRICADES AND SIGNS FOR MAINLINE CLOSURES."

ROAD WORK AHEAD W20-1 48"×48"

SAUK RD. 42"×15"

TRAFFIC CONTROL SIGN FIXED MESSAGE 4.375 sf

RIGHT LANE CLOSED 1/2 MILE W20-5 48"×48"

ROAD WORK 1 MILE W20-1 48"×48"

RIGHT LANE CLOSED 1500 FT W20-5 48"×48"

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

LEGEND

- TYPE III BARRICADE WITH/WITHOUT ATTACHED SIGN
- TRAFFIC CONTROL DRUM WITH/WITHOUT TYPE C LIGHT
- FLASHING ARROW BOARD
- SIGN MOUNTED ON POST
- DELINEATOR FLEXIBLE/TUBULAR MARKER
- CRASH CUSHION TEMPORARY
- CONCRETE BARRIER TEMPORARY PRECAST
- WORK AREA
- DIRECTION OF TRAFFIC
- MB PORTABLE CHANGEABLE MESSAGE BOARD
- TEMPORARY DELINEATOR
- FLAGS 18" X 18" ORANGE
- TEMPORARY ASPHALTIC SURFACE
- XXXXX REMOVING PAVEMENT MARKING

PROJECT NO: 1450-16-70	HWY: IH 43	COUNTY: OZAUKEE	TRAFFIC CONTROL: STRUCTURE B-45-33	SHEET 59	E

NOTE: FOR IH 43 LANE CLOSURES, SEE S.D.D. "TRAFFIC CONTROL, LANE CLOSURE, SPEED GREATER THAN 40 M.P.H. WITH BARRIER

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

ROAD CLOSED STARTING XXX XX
48"x24"
TRAFFIC CONTROL SIGN
FIXED MESSAGE 8.0 sf
INSTALL ON EACH APPROACH OF NORTHWOOD ROAD PRIOR TO CONSTRUCTION.

ROAD WORK 1 MILE
W20-1 48"x48"

RIGHT LANE CLOSED 1/2 MILE
W20-5 48"x48"

RIGHT LANE CLOSED 1500 FT
W20-5 48"x48"

W04-2R 48"x48"

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

2600'
1600'
750'
"SB" TC + 00
PT STA = 309+61.87
475' BUFFER
1000'
1040' TAPER
800' BUFFER
100' (TYP.)
XXXXX

I-43 NB

"NB TC" + 00
300'
500'

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

W05-52R
18" X 54"

ROAD WORK AHEAD
W20-1 48"x48"
NORTHWOODS RD.
66"x15"
TRAFFIC CONTROL SIGN
FIXED MESSAGE 6.875 sf

NOTE: SEE S.D.D. "BARRICADES AND SIGNS FOR MAINLINE CLOSURES."

350'

BRIDGE OUT
1/2 MILE AHEAD
LOCAL TRAFFIC ONLY
R11-3B
60" X 30"

BRIDGE OUT
R11-2B
48" X 30"

ROAD CLOSED
R11-2
48" X 30"

NORTHWOODS ROAD

500' 500' 50' 500'

ROAD CLOSED 500 FT
W20-3 48"x48"

ROAD CLOSED 1000 FT
W20-3 48"x48"

ROAD CLOSED AHEAD
W20-3 48"x48"

DISTANCE TO BE DETERMINED BY FIELD ENGINEER

ROAD WORK AHEAD
W20-1 48"x48"
NORTHWOODS RD.
66"x15"
TRAFFIC CONTROL SIGN
FIXED MESSAGE 6.875 sf

MINK RANCH RD.

I-43 SB

"SB TC" + 00
305'
500'

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

W05-52R
18" X 54"

800' BUFFER
100' (TYP.)
1040' TAPER
475' BUFFER
1000'
"NB TC" + 00
295'

PT STA = 300+

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

W04-2R 48"x48"

RIGHT LANE CLOSED 1500 FT
W20-5 48"x48"

ROAD WORK 1 MILE
W20-1 48"x48"

ROAD WORK AHEAD
W20-1 48"x48"
NORTHWOODS RD.
66"x15"
TRAFFIC CONTROL SIGN
FIXED MESSAGE 6.875 sf

ROAD CLOSED AHEAD
W20-3 48"x48"

ROAD CLOSED 1000 FT
W20-3 48"x48"

ROAD CLOSED 500 FT
W20-3 48"x48"

HILLCREST ROAD

350'

BRIDGE OUT
1/2 MILE AHEAD
LOCAL TRAFFIC ONLY
R11-3B
60" X 30"

BRIDGE OUT
R11-2B
48" X 30"

ROAD CLOSED
R11-2
48" X 30"

NORTHWOODS ROAD

500' 500' 50' 500'

NOTE: SEE S.D.D. "BARRICADES AND SIGNS FOR MAINLINE CLOSURES."

RIGHT LANE CLOSED 1/2 MILE
W20-5 48"x48"

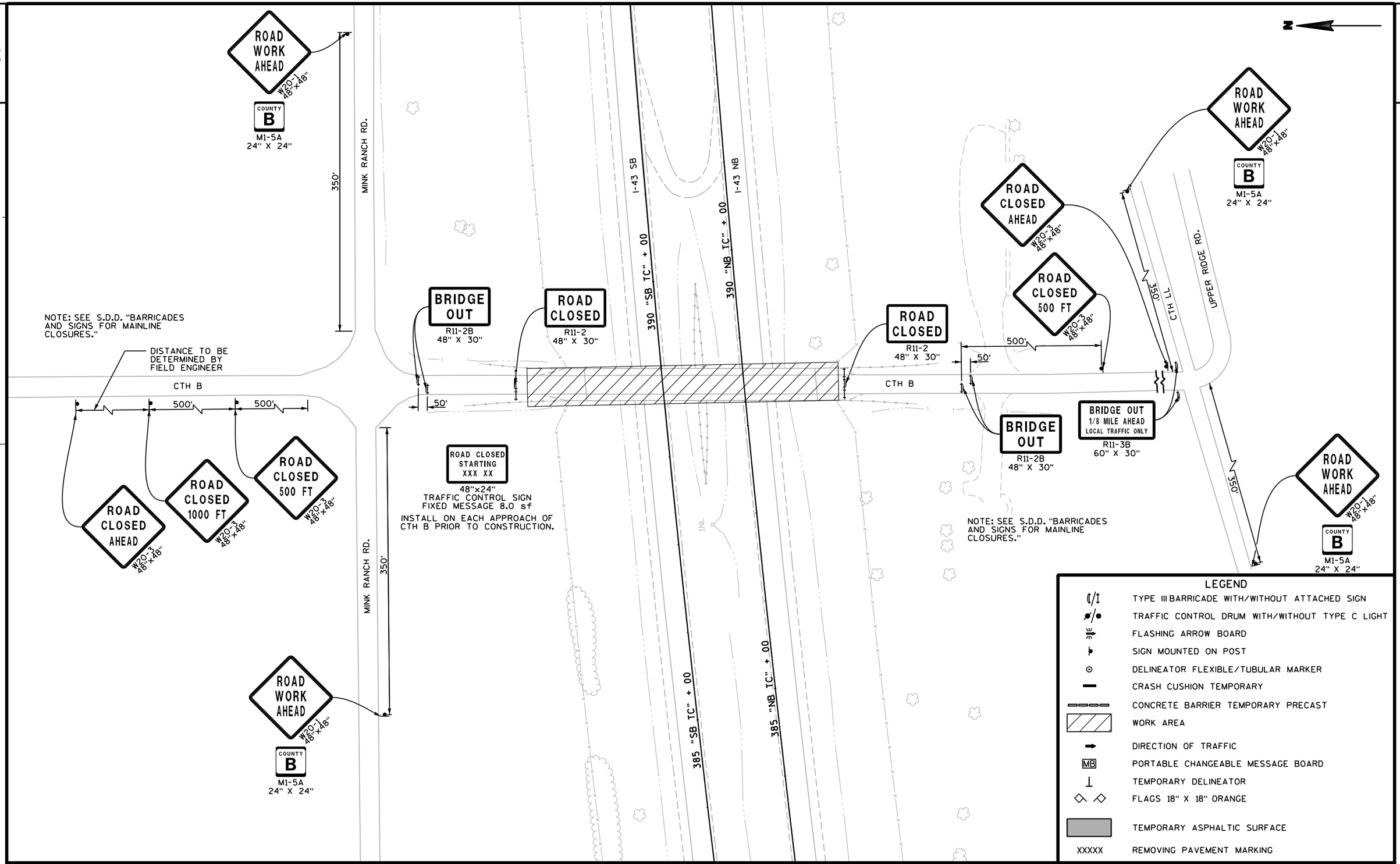
LEGEND

	TYPE III BARRICADE WITH/WITHOUT ATTACHED SIGN
	TRAFFIC CONTROL DRUM WITH/WITHOUT TYPE C LIGHT
	FLASHING ARROW BOARD
	SIGN MOUNTED ON POST
	DELINEATOR FLEXIBLE/TUBULAR MARKER
	CRASH CUSHION TEMPORARY
	CONCRETE BARRIER TEMPORARY PRECAST
	WORK AREA
	DIRECTION OF TRAFFIC
MB	PORTABLE CHANGEABLE MESSAGE BOARD
	TEMPORARY DELINEATOR
	FLAGS 18" X 18" ORANGE
	TEMPORARY ASPHALTIC SURFACE
XXXXX	REMOVING PAVEMENT MARKING

PROJECT NO: 1450-16-70	HWY: IH 43	COUNTY: OZAUKEE	TRAFFIC CONTROL: STRUCTURE B-45-59	SHEET E

FILE NAME : $$....designfile....$$ PLOT DATE : $$...plottingdate...$$ PLOT BY : $$...plotuser...$$ PLOT NAME : PLOT SCALE : $$.....plotscale.....$$ WISDOT/CADDS SHEET 42

B-45-59 TC.dgn 4/10/2013 1:51:14 PM jdolens



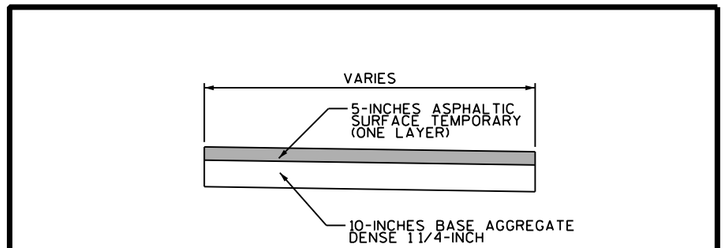
LEGEND

	TYPE III BARRICADE WITH/WITHOUT ATTACHED SIGN
	TRAFFIC CONTROL DRUM WITH/WITHOUT TYPE C LIGHT
	FLASHING ARROW BOARD
	SIGN MOUNTED ON POST
	DELINEATOR FLEXIBLE/TUBULAR MARKER
	CRASH CUSHION TEMPORARY
	CONCRETE BARRIER TEMPORARY PRECAST
	WORK AREA
	DIRECTION OF TRAFFIC
MB	PORTABLE CHANGEABLE MESSAGE BOARD
	TEMPORARY DELINEATOR
	FLAGS 18" X 18" ORANGE
	TEMPORARY ASPHALTIC SURFACE
XXXXX	REMOVING PAVEMENT MARKING

PROJECT NO: 1450-16-70	HWY: IH 43	COUNTY: OZAUKEE	TRAFFIC CONTROL: STRUCTURE B-45-42	SHEET	E

FILE NAME : $$....designfile....$$ PLOT DATE : $$...plottingdate...$$ PLOT BY : $$...plotuser...$$ PLOT NAME : PLOT SCALE : $$.....plotscale.....$$ WISDOT/CADDS SHEET 42

B-45-42 TC.dgn 4/10/2013 1:51:16 PM jdolens



TEMPORARY PAVEMENT TYPICAL SECTION (IN MEDIANS AND AT IH 43 RAMP RADII)

CTH KW

ROAD WORK AHEAD
W20-1
48"x48"

350'

STOP
COVER SIGN

TEMPORARY PAVEMENT MARKING STOP LINE REMOVABLE TAPE 12-INCH

REMOVE PAVEMENT MARKING STOP LINE

TEMPORARY PAVEMENT MARKING REMOVABLE TAPE 4-INCH CENTERLINE (DOUBLE YELLOW)

REMOVE PAVEMENT MARKING LANE LINE

TEMPORARY PAVEMENT MARKING REMOVABLE TAPE 4-INCH EDGE LINE (WHITE)

STOP
R1-1
30" X 30"

TEMPORARY PAVEMENT MARKING REMOVABLE TAPE 4-INCH EDGE LINE (WHITE)

TEMPORARY PAVEMENT MARKING REMOVABLE TAPE 4-INCH CENTERLINE (DOUBLE YELLOW)

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

500'

CTH H

25'

TEMPORARY PAVEMENT MARKING REMOVABLE TAPE 4-INCH EDGE LINE (WHITE)

REMOVE PAVEMENT MARKING LANE LINE

REMOVE PAVEMENT MARKING DOUBLE YELLOW CENTERLINE

ROAD WORK AHEAD
W20-1
48"x48"

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

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

MATCH LINE 'AA'

LEGEND

- TYPE III BARRICADE WITH/WITHOUT ATTACHED SIGN
- TRAFFIC CONTROL DRUM WITH/WITHOUT TYPE C LIGHT
- FLASHING ARROW BOARD
- SIGN MOUNTED ON POST
- DELINEATOR FLEXIBLE/TUBULAR MARKER
- CRASH CUSHION TEMPORARY
- CONCRETE BARRIER TEMPORARY PRECAST
- WORK AREA
- DIRECTION OF TRAFFIC
- MB — PORTABLE CHANGEABLE MESSAGE BOARD
- TEMPORARY DELINEATOR
- FLAGS 18" X 18" ORANGE
- TEMPORARY ASPHALTIC SURFACE
- XXXXX — REMOVING PAVEMENT MARKING

NOTE: TRAFFIC CONTROL STAGING & PAVEMENT MARKING PLAN SHEETS FOR STRUCTURE B-45-45 ARE SHOWN IN REVERSE FROM ALIGNMENT STATIONING AND PLAN &PROFILE SHEETS.

PROJECT NO: 1450-16-70	HWY: IH 43	COUNTY: OZAUKEE	TRAFFIC CONTROL: STRUCTURE B-45-45 - STAGE 1	SHEET	E

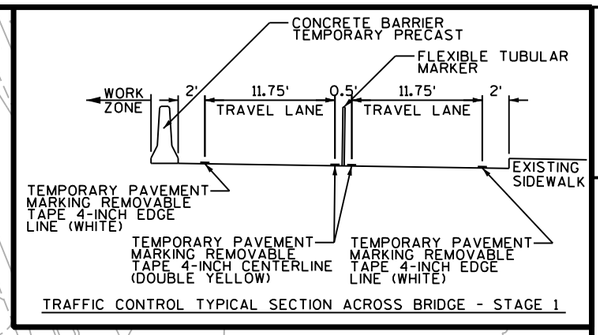
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B-45-45 TC_01.dgn 4/10/2013 1:51:18 PM jdolens

NOTE: FOR IH 43 LANE CLOSURES, SEE S.D.D. "TRAFFIC CONTROL, LANE CLOSURE, SPEED GREATER THAN 40 M.P.H. WITH BARRIER."

INSTALL ADVANCE WARNING SIGNING PRIOR TO BEGINNING WORK ON MEDIAN REMOVAL & TEMPORARY ASPHALTIC SURFACE.

PERFORM PAVEMENT AND CURB & GUTTER REMOVALS AND PLACEMENT OF TEMPORARY ASPHALTIC SURFACE UTILIZING SDD "TRAFFIC CONTROL, INTERSECTION WITH SINGLE LANE CLOSURE."



TRAFFIC CONTROL TYPICAL SECTION ACROSS BRIDGE - STAGE 1

ROAD WORK AHEAD W20-1 48"x48"

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

R11-2 (MOD.) 48" X 30" LANE CLOSED TYPE III BARRICADE

STOP R1-1 30" X 30" COVER SIGNS

STOP R1-1 30" X 30" COVER SIGN

STOP R1-1 30" X 30"

STOP R1-1 30" X 30" TO REMAIN

STOP R1-1 30" X 30" REMOVE

STOP R1-1 30" X 30" TO REMAIN

STOP R1-1 30" X 30" REMOVE

STOP R1-1 30" X 30" TO REMAIN

YIELD COVER SIGN

WO1-6 48" X 24" TYPE III BARRICADE

WO1-6 48" X 24" TYPE III BARRICADE

R3-2 24" X 24"

R3-2 24" X 24"

R5-1 30" X 30" DO NOT ENTER

R3-1 24" X 24"

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

DO NOT ENTER ONE WAY TO REMAIN

ONE WAY REMOVE

LEFT TURN LANE R3-55L(MOD) 24" X 30"

NORTH COUNTY LL MOVE SIGN TO REMAIN

SOUTH COUNTY LL

TEMPORARY COVER PLATE

TEMPORARY COVER PLATE REMOVE

TEMPORARY COVER PLATE TO REMAIN

TEMPORARY INLET CASTING

REMOVE PAVEMENT MARKING LANE LINE

TEMPORARY PAVEMENT MARKING REMOVABLE TAPE 8-INCH CHANNELIZATION LINE (WHITE)

TEMPORARY PAVEMENT MARKING REMOVABLE TAPE 4-INCH LANE LINE, 2' DASH, 6' SKIP (YELLOW)

TEMPORARY PAVEMENT MARKING REMOVABLE TAPE 4-INCH LANE LINE, 2' DASH, 6' SKIP (WHITE)

STA. 36+88, 10.5' LT.

EXISTING CURB & GUTTER TO REMAIN

MAINTAIN 2' FROM TRAFFIC SIGNAL POLE TO EDGE OF TRAVEL LANE

STA. 37+3.5, 13.0' LT.

STA. 37+3.5, 24.0' LT.

REMOVING CURB & GUTTER

TEMPORARY COVER PLATE

TEMPORARY PAVEMENT MARKING REMOVABLE TAPE 4-INCH LANE LINE, 2' DASH, 6' SKIP (WHITE)

ROAD WORK AHEAD W20-1 48"x48"

ROAD WORK AHEAD W20-1 48"x48"

ROAD WORK AHEAD W20-1 48"x48"

ROAD WORK AHEAD W20-1 48"x48"

TEMPORARY PAVEMENT MARKING REMOVABLE TAPE 4-INCH EDGE LINE (WHITE)

TEMPORARY PAVEMENT MARKING STOP LINE REMOVABLE TAPE 12-INCH

TEMPORARY PAVEMENT MARKING REMOVABLE TAPE 4-INCH EDGE LINE (WHITE)

TEMPORARY PAVEMENT MARKING STOP LINE REMOVABLE TAPE 12-INCH

TEMPORARY PAVEMENT MARKING REMOVABLE TAPE 4-INCH CENTERLINE (DOUBLE YELLOW)

TEMPORARY PAVEMENT MARKING REMOVABLE TAPE 8-INCH CHANNELIZATION LINE (WHITE)

TEMPORARY PAVEMENT MARKING REMOVABLE TAPE 4-INCH EDGE LINE (WHITE)

REMOVE PAVEMENT MARKING STOP LINE

TEMPORARY PAVEMENT MARKING REMOVABLE TAPE 4-INCH EDGE LINE (WHITE)

REMOVE PAVEMENT MARKING LANE LINE

TEMPORARY PAVEMENT MARKING REMOVABLE TAPE 4-INCH EDGE LINE (WHITE)

REMOVE PAVEMENT MARKING LANE LINE

CRASH CUSHION TEMPORARY REQ'D.

CONCRETE BARRIER TEMPORARY PRECAST

CRASH CUSHION TEMPORARY REQ'D.★

TEMPORARY PAVEMENT MARKING REMOVABLE TAPE 4-INCH EDGE LINE (WHITE)

TEMPORARY PAVEMENT MARKING STOP LINE REMOVABLE TAPE 12-INCH

TEMPORARY PAVEMENT MARKING REMOVABLE TAPE 4-INCH LANE LINE, 2' DASH, 6' SKIP (WHITE)

REMOVE PAVEMENT MARKING LANE LINE

TEMPORARY PAVEMENT MARKING REMOVABLE TAPE 4-INCH CENTERLINE (DOUBLE YELLOW)

TEMPORARY PAVEMENT MARKING STOP LINE REMOVABLE TAPE 12-INCH

TEMPORARY PAVEMENT MARKING REMOVABLE TAPE 4-INCH LANE LINE, 2' DASH, 6' SKIP (WHITE)

STA. 45+54, 1.0' LT.

STA. 45+52, 11.0' LT.

REMOVING CURB & GUTTER

TEMPORARY INLET CASTING

STA. 46+40, 29.5' LT.

STA. 46+61, 29.5' LT.

STA. 45+95, 24.5' LT.

STA. 39+57.5, 60.5' LT.

REMOVING CURB & GUTTER

STA. 39+29.5, 73.5' LT.

STA. 39+11.5, 99.0' LT.

HIGHLAND DRIVE 350'

MINK RANCH ROAD 350'

CTH H

CTH LL/SEVEN HILLS ROAD

CTH LL/W. SEVEN HILLS ROAD

STH 32/N. WISCONSIN STREET

IH 43 SB

IH 43 NB

455 "SB TC" + 00

455 "NB TC" + 00

450 "SB TC" + 00

450 "NB TC" + 00

MATCH LINE 'AA'

MATCH LINE 'BB'

25'

100'

LEGEND

- TYPE III BARRICADE WITH/WITHOUT ATTACHED SIGN
- TRAFFIC CONTROL DRUM WITH/WITHOUT TYPE C LIGHT
- FLASHING ARROW BOARD
- SIGN MOUNTED ON POST
- DELINEATOR FLEXIBLE/TUBULAR MARKER
- CRASH CUSHION TEMPORARY
- CONCRETE BARRIER TEMPORARY PRECAST
- WORK AREA
- DIRECTION OF TRAFFIC
- MB PORTABLE CHANGEABLE MESSAGE BOARD
- TEMPORARY DELINEATOR
- FLAGS 18" X 18" ORANGE
- TEMPORARY ASPHALTIC SURFACE
- XXXXX REMOVING PAVEMENT MARKING

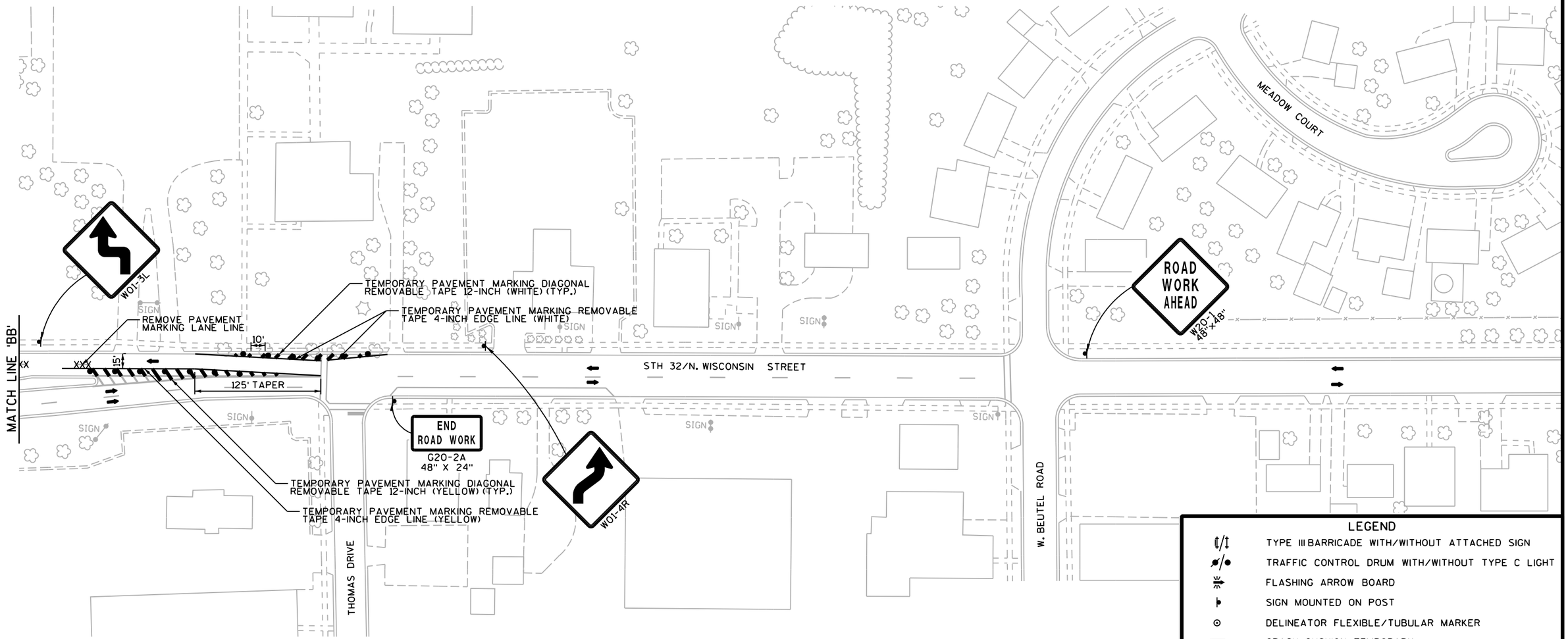
NOTE: TRAFFIC CONTROL STAGING & PAVEMENT MARKING PLAN SHEETS FOR STRUCTURE B-45-45 ARE SHOWN IN REVERSE FROM ALIGNMENT STATIONING AND PLAN &PROFILE SHEETS.

★PLACE CRASH CUSHIONS AS CLOSE AS POSSIBLE TO BEGIN CONSTRUCTION AND END CONSTRUCTION LIMITS. EXACT LOCATIONS OF CRASH CUSHIONS TO BE LOCATED BY THE CONTRACTOR BASED ON LAYING LENGTH OF THE CONCRETE BARRIER TEMPORARY PRECAST AND THE LENGTH OF THE CRASH CUSHION SUPPLIED BY THE CONTRACTOR.

PROJECT NO: 1450-16-70	HWY: IH 43	COUNTY: OZAUKEE	TRAFFIC CONTROL: STRUCTURE B-45-45 - STAGE 1	SHEET 63	E

2

N



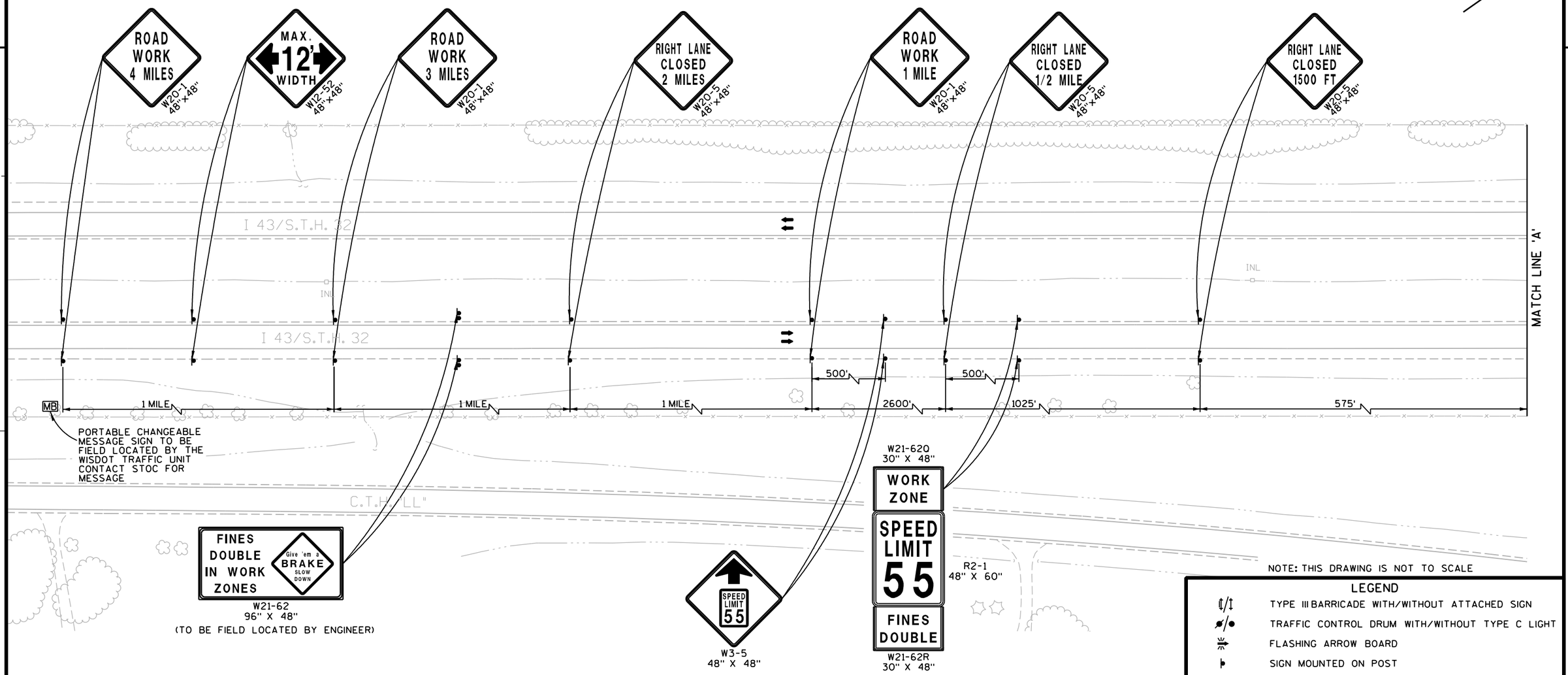
LEGEND

- TYPE III BARRICADE WITH/WITHOUT ATTACHED SIGN
- TRAFFIC CONTROL DRUM WITH/WITHOUT TYPE C LIGHT
- FLASHING ARROW BOARD
- SIGN MOUNTED ON POST
- DELINEATOR FLEXIBLE/TUBULAR MARKER
- CRASH CUSHION TEMPORARY
- CONCRETE BARRIER TEMPORARY PRECAST
- WORK AREA
- DIRECTION OF TRAFFIC
- MB — PORTABLE CHANGEABLE MESSAGE BOARD
- TEMPORARY DELINEATOR
- FLAGS 18" X 18" ORANGE
- TEMPORARY ASPHALTIC SURFACE
- XXXXX — REMOVING PAVEMENT MARKING

NOTE: TRAFFIC CONTROL STAGING & PAVEMENT MARKING PLAN SHEETS FOR STRUCTURE B-45-45 ARE SHOWN IN REVERSE FROM ALIGNMENT STATIONING AND PLAN &PROFILE SHEETS.

PROJECT NO: 1450-16-70	HWY: IH 43	COUNTY: OZAUKEE	TRAFFIC CONTROL: STRUCTURE B-45-45 - STAGE 1	SHEET 64	E

NOTE: SEE S.D.D "TRAFFIC CONTROL LANE CLOSURE, SPEEDS GREATER THAN 40 M.P.H." FOR LANE CLOSURE SIGNING.



NOTE: THIS DRAWING IS NOT TO SCALE

LEGEND

- TYPE III BARRICADE WITH/WITHOUT ATTACHED SIGN
- TRAFFIC CONTROL DRUM WITH/WITHOUT TYPE C LIGHT
- FLASHING ARROW BOARD
- SIGN MOUNTED ON POST
- DELINEATOR FLEXIBLE/TUBULAR MARKER
- CRASH CUSHION TEMPORARY
- CONCRETE BARRIER TEMPORARY PRECAST
- WORK AREA
- DIRECTION OF TRAFFIC
- MB — PORTABLE CHANGEABLE MESSAGE BOARD
- TEMPORARY DELINEATOR
- FLAGS 18" X 18" ORANGE
- TEMPORARY ASPHALTIC SURFACE
- XXXXX — REMOVING PAVEMENT MARKING

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.

ANY EXISTING SIGNS THAT CONFLICT WITH THIS WORKSHALL BE COVERED OR REMOVED AS DIRECTED BY THE ENGINEER. ALL STOP, WARNING AND REGULATORY SIGNS ON THE SIDEROADS SHALL NOT BE DISTURBED, EXCEPT WHEN NECESSARY TO COMPLETE THE WORK. THE SIGNS MUST THEN BE IMMEDIATELY RE-ESTABLISHED.

ALL "W" AND "WO" SIGNS SHALL BE 48"x48" UNLESS OTHERWISE NOTED.

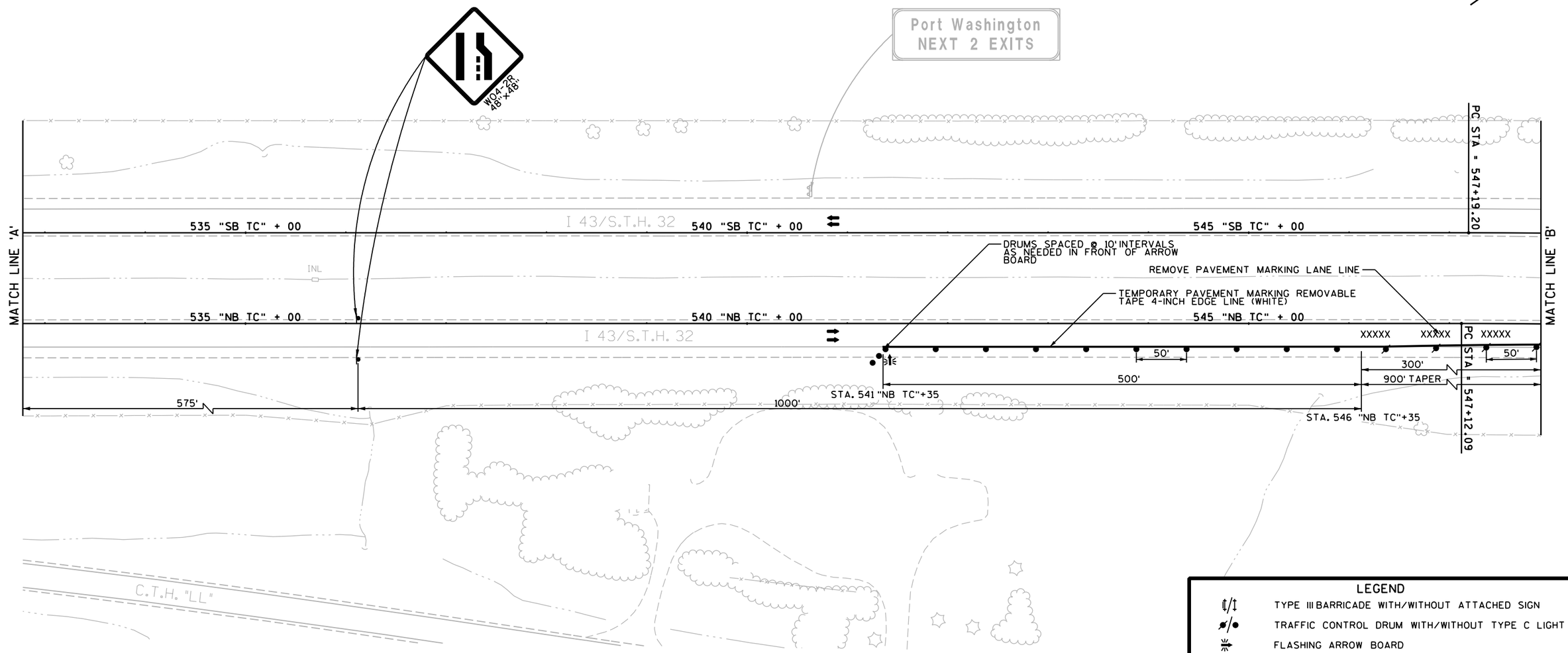
"WO" SIGNS ARE THE SAME AS "W" SIGNS EXCEPT THE BACKGROUND IS ORANGE.

ALL EXISTING SIGNS THAT NEED TO BE COVERED SHALL BE COVERED WITH A BLANK ORANGE PANEL.

PROJECT NO: 1450-16-70	HWY: IH 43	COUNTY: OZAUKEE	TRAFFIC CONTROL: MAINLINE STRUCTURES - STAGE 1	SHEET 65	E

NOTE: SEE S.D.D "TRAFFIC CONTROL LANE CLOSURE, SPEEDS GREATER THAN 40 M.P.H." FOR LANE CLOSURE SIGNING.

NOTE: SEE S.D.D "TRAFFIC CONTROL LANE CLOSURE, SPEEDS GREATER THAN 40 M.P.H. WITH BARRIER."



LEGEND

	TYPE III BARRICADE WITH/WITHOUT ATTACHED SIGN
	TRAFFIC CONTROL DRUM WITH/WITHOUT TYPE C LIGHT
	FLASHING ARROW BOARD
	SIGN MOUNTED ON POST
	DELINEATOR FLEXIBLE/TUBULAR MARKER
	CRASH CUSHION TEMPORARY
	CONCRETE BARRIER TEMPORARY PRECAST
	WORK AREA
	DIRECTION OF TRAFFIC
MB	PORTABLE CHANGEABLE MESSAGE BOARD
	TEMPORARY DELINEATOR
	FLAGS 18" X 18" ORANGE
	TEMPORARY ASPHALTIC SURFACE
XXXXX	REMOVING PAVEMENT MARKING

PROJECT NO: 1450-16-70	HWY: IH 43	COUNTY: OZAUKEE	TRAFFIC CONTROL: MAINLINE STRUCTURES - STAGE 1	SHEET 66	E

NOTE: SEE S.D.D "TRAFFIC CONTROL LANE CLOSURE, SPEEDS GREATER THAN 40 M.P.H. WITH BARRIER."

MATCH LINE 'B'

550 "SB TC" + 00

555 "SB TC" + 00

560 "SB TC" + 00

550 "NB TC" + 00

REMOVE PAVEMENT MARKING LANE LINE

STA. 552"NB TC"+35

REMOVE PAVEMENT MARKING EDGE LINE

TEMPORARY PAVEMENT MARKING REMOVABLE TAPE 4-INCH EDGE LINE (WHITE)

555 "NB TC" + 00

TEMPORARY PAVEMENT MARKING REMOVABLE TAPE 4-INCH EDGE LINE (YELLOW)

560 "NB TC" + 00

300'

50'

100'

900' TAPER

STA. 555"NB TC"+35

800' BUFFER

I 43/S.T.H. 32

MILE 103

INL

FOOTBRIDGE

MATCH LINE 'C'

R11-2 (MOD.)
48" X 30"

LANE CLOSED

TYPE III BARRICADE

LEGEND

- TYPE III BARRICADE WITH/WITHOUT ATTACHED SIGN
- TRAFFIC CONTROL DRUM WITH/WITHOUT TYPE C LIGHT
- FLASHING ARROW BOARD
- SIGN MOUNTED ON POST
- DELINEATOR FLEXIBLE/TUBULAR MARKER
- CRASH CUSHION TEMPORARY
- CONCRETE BARRIER TEMPORARY PRECAST
- WORK AREA
- DIRECTION OF TRAFFIC
- MB PORTABLE CHANGEABLE MESSAGE BOARD
- TEMPORARY DELINEATOR
- FLAGS 18" X 18" ORANGE
- TEMPORARY ASPHALTIC SURFACE
- XXXXX REMOVING PAVEMENT MARKING

PROJECT NO: 1450-16-70	HWY: IH 43	COUNTY: OZAUKEE	TRAFFIC CONTROL: MAINLINE STRUCTURES - STAGE 1	SHEET 67	E

FILE NAME : $$....designfile....$$ PLOT DATE : $$...plottingdate...$$ PLOT BY : $$...plotuser...$$ PLOT NAME : PLOT SCALE : $$.....plotscale.....$$ WISDOT/CADDS SHEET 42

Stage 1_3.dgn 4/10/2013 1:51:27 PM jdolens

NOTE: SEE S.D.D "TRAFFIC CONTROL LANE CLOSURE, SPEEDS GREATER THAN 40 M.P.H. WITH BARRIER."

NOTE: SEE S.D.D "TRAFFIC CONTROL ONE LANE ROAD WITH TEMPORARY SIGNALS" FOR BRIDGE PAINTING TRAFFIC CONTROL ON CTH LL.

W21-62Q
30" X 48"
WORK ZONE
SPEED LIMIT 55
FINES DOUBLE
W21-62R
30" X 48"

R2-1
48" X 60"

PT STA AHEAD = 563+25.35

MATCH LINE 'C'

500'

100' TAPER

565 "SB TC" + 00

570 "SB TC" + 00

575 "SB TC" + 00

I 43/S.T.H. 32

STA. 566"SB TC"+90

STA. 569"SB TC"+90

PC STA = 570+53.21

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

TEMPORARY PAVEMENT MARKING REMOVABLE TAPE 4-INCH EDGE LINE (YELLOW)

TEMPORARY PAVEMENT MARKING REFLECTIVE PAINT 4-INCH EDGE LINE (WHITE)

REMOVE PAVEMENT MARKING EDGE LINE

CONCRETE BARRIER TEMPORARY PRECAST

STRUCTURE B-45-49

TEMPORARY PAVEMENT MARKING REFLECTIVE PAINT 4-INCH EDGE LINE (YELLOW)

STRUCTURE B-45-48

INL

565 "NB TC" + 00

570 "NB TC" + 00

575 "NB TC" + 00

100'

15:1

STA. 567 "NB TC"+25

STA. 576"NB TC"+00

PT STA AHEAD = 563+37.73

STA. 563"NB TC"+35

CRASH CUSHION TEMPORARY REQ'D.

W05-52R
18" X 54"
(MOUNT ON BARRIER)

800' BUFFER

PC STA = 570+46.17

Hwy LL

C.T.H. "LL"

TEMPORARY PAVEMENT MARKING REMOVABLE TAPE

TEMPORARY PAVEMENT MARKING REFLECTIVE PAINT

STA. 568 "NB TC"+25

STA. 577 "SB TC"+00

STA. 575 "NB TC" +00

MATCH LINE 'D'

R11-2 (MOD.)
48" X 30"
LANE CLOSED

TYPE III BARRICADE

LEGEND

- TYPE III BARRICADE WITH/WITHOUT ATTACHED SIGN
- TRAFFIC CONTROL DRUM WITH/WITHOUT TYPE C LIGHT
- FLASHING ARROW BOARD
- SIGN MOUNTED ON POST
- DELINEATOR FLEXIBLE/TUBULAR MARKER
- CRASH CUSHION TEMPORARY
- CONCRETE BARRIER TEMPORARY PRECAST
- WORK AREA
- DIRECTION OF TRAFFIC
- MB — PORTABLE CHANGEABLE MESSAGE BOARD
- TEMPORARY DELINEATOR
- FLAGS 18" X 18" ORANGE
- TEMPORARY ASPHALTIC SURFACE
- XXXXX — REMOVING PAVEMENT MARKING

PROJECT NO: 1450-16-70	HWY: IH 43	COUNTY: OZAUKEE	TRAFFIC CONTROL: MAINLINE STRUCTURES - STAGE 1	SHEET 68	E

NOTE: SEE S.D.D "TRAFFIC CONTROL LANE CLOSURE, SPEEDS GREATER THAN 40 M.P.H. WITH BARRIER."

R11-2 (MOD.)
48" X 30"
LANE CLOSED
TYPE III BARRICADE

W05-52R
18" X 54"
(MOUNT ON BARRIER)

CONCRETE BARRIER TEMPORARY PRECAST

TEMPORARY PAVEMENT MARKING REMOVABLE TAPE 4-INCH EDGE LINE (WHITE)

STA. 578 "SB TC"+90

580 "SB TC" + 00

STA. 582"SB TC"+80

TEMPORARY PAVEMENT MARKING REMOVABLE TAPE 4-INCH EDGE LINE (YELLOW)

CRASH CUSHION TEMPORARY REQ'D.

100'

585 "SB TC" + 00

SLOWER TRAFFIC KEEP RIGHT

EXCEPT MAINTENANCE AND POLICE AUTHORIZED VEHICLES

REMOVE PAVEMENT MARKING EDGE LINE

590 "SB TC" + 00

STA AHEAD = 592+10.89
STA BACK = 592+00.00

I 43/S.T.H. 32

MATCH LINE 'D'

MATCH LINE 'E'

580 "NB TC" + 00

585 "NB TC" + 00

TEMPORARY PAVEMENT MARKING REMOVABLE TAPE 4-INCH EDGE LINE (WHITE)

REMOVE PAVEMENT MARKING EDGE LINE

100'

TEMPORARY PAVEMENT MARKING REMOVABLE TAPE 4-INCH EDGE LINE (YELLOW)

CONCRETE BARRIER TEMPORARY PRECAST

590 "NB TC" + 00

I 43/S.T.H. 32

CRASH CUSHION TEMPORARY REQ'D.

STA. 590"NB TC"+10

PT Sta Back = 592+21.34

PT Sta Ahead = 592+06.55

R11-2 (MOD.)
48" X 30"
LANE CLOSED
TYPE III BARRICADE

LEGEND

	TYPE III BARRICADE WITH/WITHOUT ATTACHED SIGN
	TRAFFIC CONTROL DRUM WITH/WITHOUT TYPE C LIGHT
	FLASHING ARROW BOARD
	SIGN MOUNTED ON POST
	DELINEATOR FLEXIBLE/TUBULAR MARKER
	CRASH CUSHION TEMPORARY
	CONCRETE BARRIER TEMPORARY PRECAST
	WORK AREA
	DIRECTION OF TRAFFIC
MB	PORTABLE CHANGEABLE MESSAGE BOARD
	TEMPORARY DELINEATOR
	FLAGS 18" X 18" ORANGE
	TEMPORARY ASPHALTIC SURFACE
XXXXX	REMOVING PAVEMENT MARKING

PROJECT NO: 1450-16-70	HWY: IH 43	COUNTY: OZAUKEE	TRAFFIC CONTROL: MAINLINE STRUCTURES - STAGE 1	SHEET 69	E

NOTE: SEE S.D.D "TRAFFIC CONTROL LANE CLOSURE, SPEEDS GREATER THAN 40 M.P.H. WITH BARRIER."

TEMPORARY PAVEMENT MARKING REMOVABLE TAPE | TEMPORARY PAVEMENT MARKING REFLECTIVE PAINT
STA. 595 "SB TC"+50

R11-2 (MOD.) 48" X 30"
LANE CLOSED
TYPE III BARRICADE

TEMPORARY PAVEMENT MARKING REFLECTIVE PAINT | TEMPORARY PAVEMENT MARKING REMOVABLE TAPE
STA. 598 "SB TC"+50

W21-620 30" X 48"
WORK ZONE
SPEED LIMIT 55
FINES DOUBLE
R2-1 48" X 60"
W21-62R 30" X 48"

W05-52R 18" X 54" (MOUNT ON BARRIER)

CONCRETE BARRIER TEMPORARY PRECAST
REMOVE PAVEMENT MARKING EDGE LINE
STA. 594"SB TC"+50
595 "SB TC" + 00
100'
STA. 599"SB TC"+50
600 "SB TC" + 00
STA. 603"SB TC"+40
800' BUFFER
CRASH CUSHION TEMPORARY REQ'D.
100'
605 "SB TC" + 00

MATCH LINE 'E'
MATCH LINE 'F'

TEMPORARY PAVEMENT MARKING REMOVABLE TAPE 4-INCH EDGE LINE (YELLOW)
STRUCTURE B-45-51
TEMPORARY PAVEMENT MARKING REMOVABLE TAPE 4-INCH EDGE LINE (YELLOW)
TEMPORARY PAVEMENT MARKING REMOVABLE TAPE 4-INCH EDGE LINE (WHITE)

STRUCTURE B-45-50
TEMPORARY PAVEMENT MARKING REFLECTIVE PAINT 4-INCH EDGE LINE (WHITE)
595 "NB TC" + 00
100'
STA. 595"NB TC"+00
CONCRETE BARRIER TEMPORARY PRECAST
600 "NB TC" + 00
REMOVE PAVEMENT MARKING EDGE LINE
STA. 603"NB TC"+00
605 "NB TC" + 00

W05-52R 18" X 54" (MOUNT ON BARRIER)

100' TAPER
500'
STA. 600"NB TC"+00

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

MILE 104

TEMPORARY PAVEMENT MARKING REMOVABLE TAPE | TEMPORARY PAVEMENT MARKING REFLECTIVE PAINT
STA. 596 "NB TC"+00

TEMPORARY PAVEMENT MARKING REFLECTIVE PAINT | TEMPORARY PAVEMENT MARKING REMOVABLE TAPE
STA. 599 "NB TC"+00

LAKE DR.
I 43/S.T.H. 32

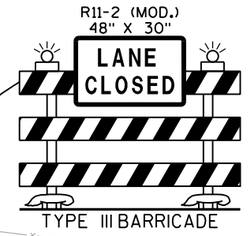
LEGEND

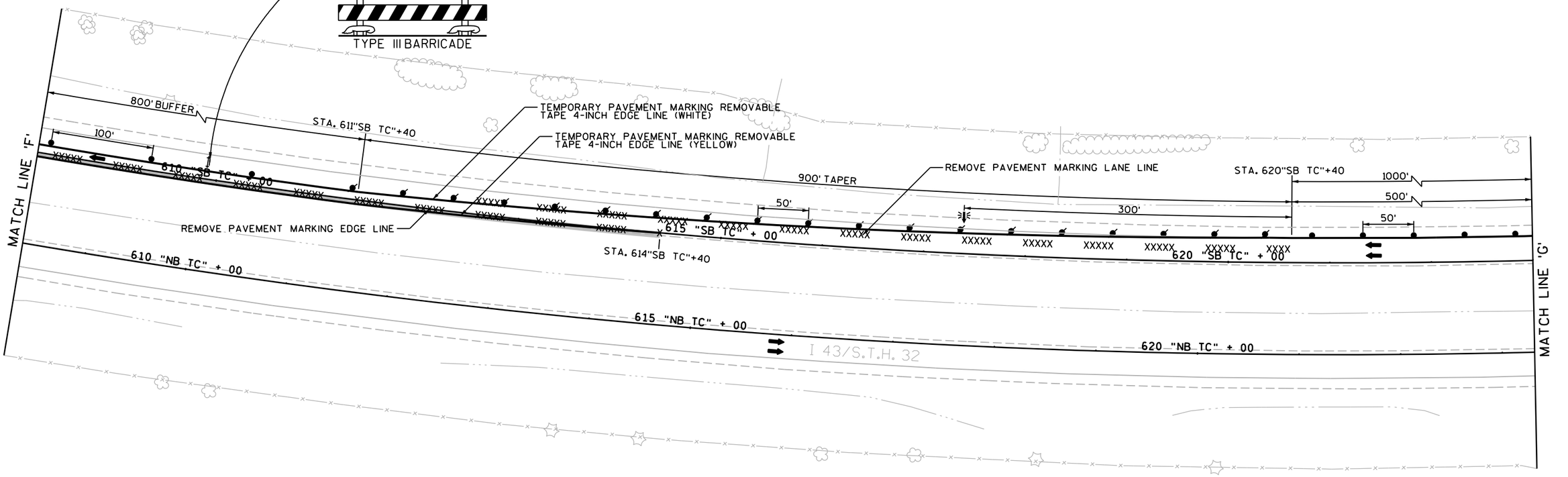
- TYPE III BARRICADE WITH/WITHOUT ATTACHED SIGN
- TRAFFIC CONTROL DRUM WITH/WITHOUT TYPE C LIGHT
- FLASHING ARROW BOARD
- SIGN MOUNTED ON POST
- DELINEATOR FLEXIBLE/TUBULAR MARKER
- CRASH CUSHION TEMPORARY
- CONCRETE BARRIER TEMPORARY PRECAST
- WORK AREA
- DIRECTION OF TRAFFIC
- MB PORTABLE CHANGEABLE MESSAGE BOARD
- TEMPORARY DELINEATOR
- FLAGS 18" X 18" ORANGE
- TEMPORARY ASPHALTIC SURFACE
- XXXXX REMOVING PAVEMENT MARKING

PROJECT NO: 1450-16-70	HWY: IH 43	COUNTY: OZAUKEE	TRAFFIC CONTROL: MAINLINE STRUCTURES - STAGE 1	SHEET 70	E

NOTE: SEE S.D.D "TRAFFIC CONTROL LANE CLOSURE, SPEEDS GREATER THAN 40 M.P.H. WITH BARRIER."

NOTE: SEE S.D.D "TRAFFIC CONTROL LANE CLOSURE, SPEEDS GREATER THAN 40 M.P.H." FOR LANE CLOSURE SIGNING.





LEGEND

- TYPE III BARRICADE WITH/WITHOUT ATTACHED SIGN
- TRAFFIC CONTROL DRUM WITH/WITHOUT TYPE C LIGHT
- FLASHING ARROW BOARD
- SIGN MOUNTED ON POST
- DELINEATOR FLEXIBLE/TUBULAR MARKER
- CRASH CUSHION TEMPORARY
- CONCRETE BARRIER TEMPORARY PRECAST
- WORK AREA
- DIRECTION OF TRAFFIC
- MB — PORTABLE CHANGEABLE MESSAGE BOARD
- TEMPORARY DELINEATOR
- FLAGS 18" X 18" ORANGE
- TEMPORARY ASPHALTIC SURFACE
- XXXXX — REMOVING PAVEMENT MARKING

PROJECT NO: 1450-16-70	HWY: IH 43	COUNTY: OZAUKEE	TRAFFIC CONTROL: MAINLINE STRUCTURES - STAGE 1	SHEET 71	E

NOTE: SEE S.D.D "TRAFFIC CONTROL LANE CLOSURE, SPEEDS GREATER THAN 40 M.P.H." FOR LANE CLOSURE SIGNING.

NOTE: SEE S.D.D "TRAFFIC CONTROL LANE CLOSURE, SPEEDS GREATER THAN 40 M.P.H. WITH BARRIER."

N

W4-2R 48"x48"

RIGHT LANE CLOSED 1500 FT

W20-5 48"x48"

TEMPORARY PAVEMENT MARKING REMOVABLE TAPE 4-INCH EDGE LINE (WHITE)

1000'

500'

STA. 625"SB TC"+40

50'

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

575'

1025'

PT STA = 627+12.96

MATCH LINE 'G'

625 "SB TC" + 00

630 "SB TC" + 00

I 43/S.T.H. 32

635 "SB TC" + 00

INL

625 "NB TC" + 00

630 "NB TC" + 00

635 "NB TC" + 00

I 43/S.T.H. 32

PT STA = 627+48.01

MATCH LINE 'H'

LEGEND

- TYPE III BARRICADE WITH/WITHOUT ATTACHED SIGN
- TRAFFIC CONTROL DRUM WITH/WITHOUT TYPE C LIGHT
- FLASHING ARROW BOARD
- SIGN MOUNTED ON POST
- DELINEATOR FLEXIBLE/TUBULAR MARKER
- CRASH CUSHION TEMPORARY
- CONCRETE BARRIER TEMPORARY PRECAST
- WORK AREA
- DIRECTION OF TRAFFIC
- MB — PORTABLE CHANGEABLE MESSAGE BOARD
- TEMPORARY DELINEATOR
- FLAGS 18" X 18" ORANGE
- TEMPORARY ASPHALTIC SURFACE
- XXXXX — REMOVING PAVEMENT MARKING

PROJECT NO: 1450-16-70	HWY: IH 43	COUNTY: OZAUKEE	TRAFFIC CONTROL: MAINLINE STRUCTURES - STAGE 1	SHEET 72	E

NOTE: SEE S.D.D "TRAFFIC CONTROL LANE CLOSURE, SPEEDS GREATER THAN 40 M.P.H." FOR LANE CLOSURE SIGNING.

N

RIGHT LANE CLOSED 1/2 MILE
W20-5 48"x48"

ROAD WORK 1 MILE
W20-1 48"x48"

RIGHT LANE CLOSED 2 MILES
W20-5 48"x48"

ROAD WORK 3 MILES
W20-1 48"x48"

MAX. 12' WIDTH
W12-52 48"x48"

ROAD WORK 4 MILES
W20-1 48"x48"

1025' 2600' 500' 500' 1 MILE 1 MILE 1 MILE

PORTABLE CHANGEABLE MESSAGE SIGN TO BE FIELD LOCATED BY THE WISDOT TRAFFIC UNIT CONTACT STOC FOR MESSAGE

MB

MATCH LINE 'H'

I 43/S.T.H. 32

C.T.H. "P"

I 43/S.T.H. 32

TNL

W21-620
30" X 48"

WORK ZONE
SPEED LIMIT 55
FINES DOUBLE

R2-1
48" X 60"

W21-62R
30" X 48"

SPEED LIMIT 55

W3-5
48" X 48"

FINES DOUBLE IN WORK ZONES
Give 'em a BRAKE SLOW DOWN

W21-62
96" X 48"
(TO BE FIELD LOCATED BY ENGINEER)

NOTE: THIS DRAWING IS NOT TO SCALE

LEGEND

	TYPE III BARRICADE WITH/WITHOUT ATTACHED SIGN
	TRAFFIC CONTROL DRUM WITH/WITHOUT TYPE C LIGHT
	FLASHING ARROW BOARD
	SIGN MOUNTED ON POST
	DELINEATOR FLEXIBLE/TUBULAR MARKER
	CRASH CUSHION TEMPORARY
	CONCRETE BARRIER TEMPORARY PRECAST
	WORK AREA
	DIRECTION OF TRAFFIC
MB	PORTABLE CHANGEABLE MESSAGE BOARD
	TEMPORARY DELINEATOR
	FLAGS 18" X 18" ORANGE
	TEMPORARY ASPHALTIC SURFACE
XXXXX	REMOVING PAVEMENT MARKING

PROJECT NO: 1450-16-70	HWY: IH 43	COUNTY: OZAUKEE	TRAFFIC CONTROL: MAINLINE STRUCTURES - STAGE 1	SHEET 73	E

NOTE: SEE S.D.D "TRAFFIC CONTROL LANE CLOSURE, SPEEDS GREATER THAN 40 M.P.H. WITH BARRIER."

TEMPORARY PAVEMENT MARKING REMOVABLE TAPE | TEMPORARY PAVEMENT MARKING REFLECTIVE PAINT

STA. 916 "SB TC"+75

TEMPORARY PAVEMENT MARKING REFLECTIVE PAINT | TEMPORARY PAVEMENT MARKING REMOVABLE TAPE

STA. 920 "SB TC"+25

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

500'

STA. 915"SB TC"+75

100' TAPER

STRUCTURE B-45-57

JAY RD.

TEMPORARY PAVEMENT MARKING REFLECTIVE PAINT 4-INCH EDGE LINE (WHITE)

CONCRETE BARRIER TEMPORARY PRECAST

REMOVE PAVEMENT MARKING EDGE LINE

STA. 921"SB TC"+25

100'

915 "SB TC" + 00

920 "SB TC" + 00

I 43/S.T.H. 32

910 "SB TC" + 00

STA. 912"SB TC"+75

TEMPORARY PAVEMENT MARKING REMOVABLE TAPE 4-INCH EDGE LINE (YELLOW)

920 "NB TC" + 00

915 "NB TC" + 00

I 43/S.T.H. 32

910 "NB TC" + 00

INL

MATCH LINE "1"

W05-52R
18" X 54"
(MOUNT ON BARRIER)

WALLS

WALLS

W

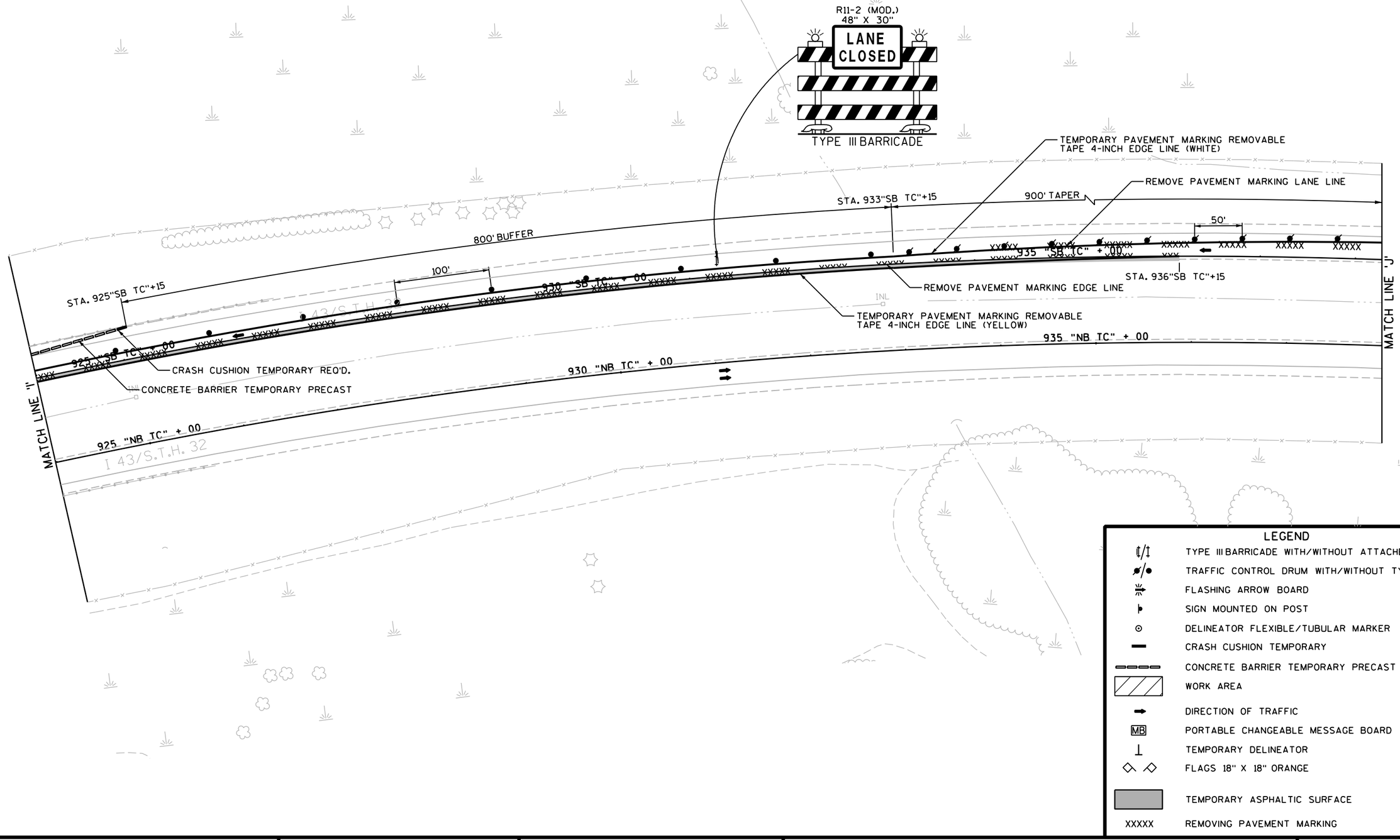
W

LEGEND

	TYPE III BARRICADE WITH/WITHOUT ATTACHED SIGN
	TRAFFIC CONTROL DRUM WITH/WITHOUT TYPE C LIGHT
	FLASHING ARROW BOARD
	SIGN MOUNTED ON POST
	DELINEATOR FLEXIBLE/TUBULAR MARKER
	CRASH CUSHION TEMPORARY
	CONCRETE BARRIER TEMPORARY PRECAST
	WORK AREA
	DIRECTION OF TRAFFIC
MB	PORTABLE CHANGEABLE MESSAGE BOARD
	TEMPORARY DELINEATOR
	FLAGS 18" X 18" ORANGE
	TEMPORARY ASPHALTIC SURFACE
XXXXX	REMOVING PAVEMENT MARKING

PROJECT NO: 1450-16-70	HWY: IH 43	COUNTY: OZAUKEE	TRAFFIC CONTROL: MAINLINE STRUCTURES - STAGE 1	SHEET 74	E

NOTE: SEE S.D.D "TRAFFIC CONTROL LANE CLOSURE, SPEEDS GREATER THAN 40 M.P.H. WITH BARRIER."



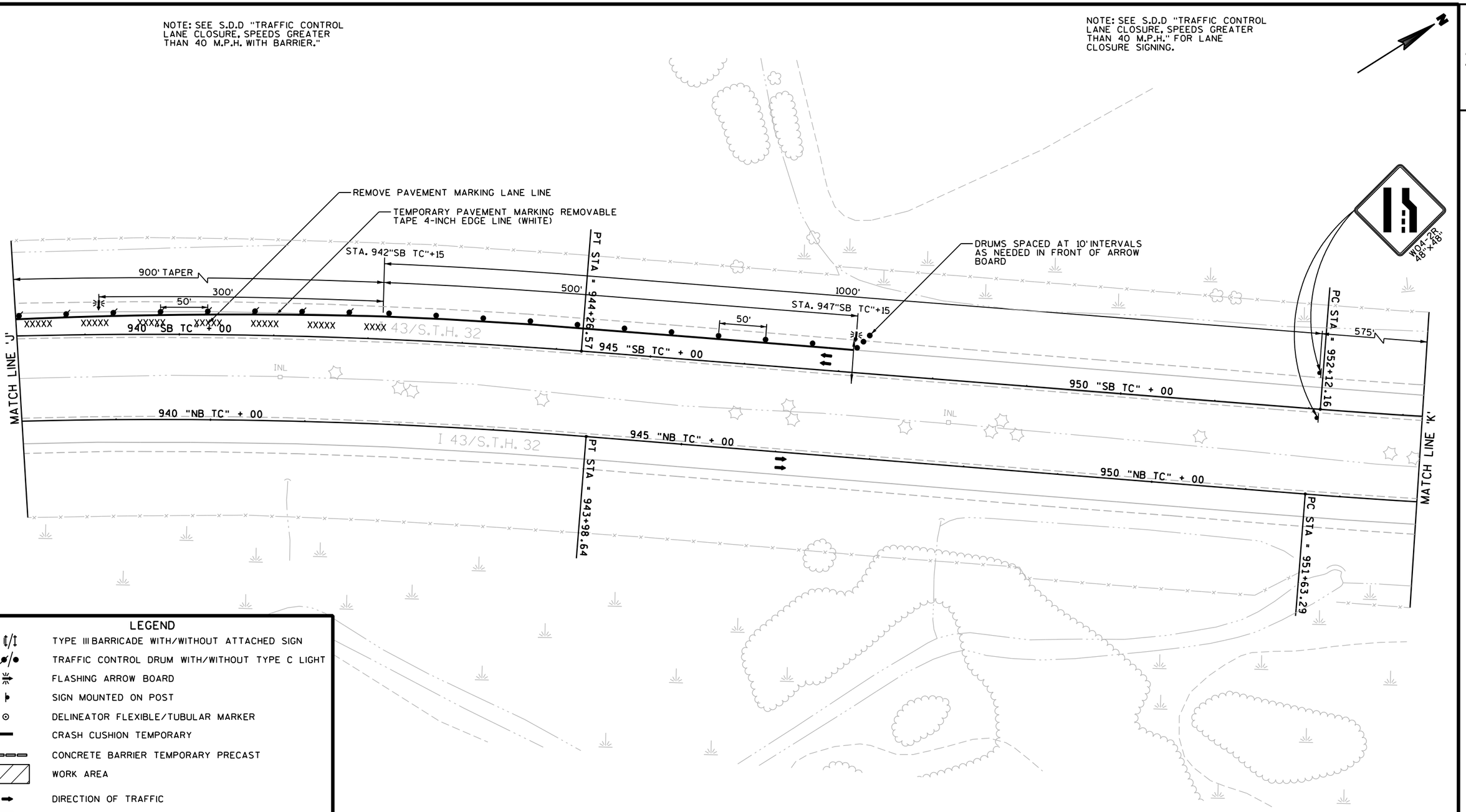
LEGEND

- TYPE III BARRICADE WITH/WITHOUT ATTACHED SIGN
- TRAFFIC CONTROL DRUM WITH/WITHOUT TYPE C LIGHT
- FLASHING ARROW BOARD
- SIGN MOUNTED ON POST
- DELINEATOR FLEXIBLE/TUBULAR MARKER
- CRASH CUSHION TEMPORARY
- CONCRETE BARRIER TEMPORARY PRECAST
- WORK AREA
- DIRECTION OF TRAFFIC
- MB — PORTABLE CHANGEABLE MESSAGE BOARD
- TEMPORARY DELINEATOR
- FLAGS 18" X 18" ORANGE
- TEMPORARY ASPHALTIC SURFACE
- XXXXX — REMOVING PAVEMENT MARKING

PROJECT NO: 1450-16-70	HWY: IH 43	COUNTY: OZAUKEE	TRAFFIC CONTROL: MAINLINE STRUCTURES - STAGE 1	SHEET 75	E

NOTE: SEE S.D.D "TRAFFIC CONTROL LANE CLOSURE, SPEEDS GREATER THAN 40 M.P.H. WITH BARRIER."

NOTE: SEE S.D.D "TRAFFIC CONTROL LANE CLOSURE, SPEEDS GREATER THAN 40 M.P.H." FOR LANE CLOSURE SIGNING.



LEGEND

- TYPE III BARRICADE WITH/WITHOUT ATTACHED SIGN
- TRAFFIC CONTROL DRUM WITH/WITHOUT TYPE C LIGHT
- FLASHING ARROW BOARD
- SIGN MOUNTED ON POST
- DELINEATOR FLEXIBLE/TUBULAR MARKER
- CRASH CUSHION TEMPORARY
- CONCRETE BARRIER TEMPORARY PRECAST
- WORK AREA
- DIRECTION OF TRAFFIC
- MB PORTABLE CHANGEABLE MESSAGE BOARD
- TEMPORARY DELINEATOR
- FLAGS 18" X 18" ORANGE
- TEMPORARY ASPHALTIC SURFACE
- XXXXX REMOVING PAVEMENT MARKING

PROJECT NO: 1450-16-70	HWY: IH 43	COUNTY: OZAUKEE	TRAFFIC CONTROL: MAINLINE STRUCTURES - STAGE 1	SHEET 76	E

NOTE: SEE S.D.D "TRAFFIC CONTROL LANE CLOSURE, SPEEDS GREATER THAN 40 M.P.H." FOR LANE CLOSURE SIGNING.

W21-62Q
30" X 48"
WORK ZONE
SPEED LIMIT 55
FINES DOUBLE
R2-1
48" X 60"
W21-62R
30" X 48"

W3-5
48" X 48"

FINES DOUBLE IN WORK ZONES
Give 'em a BRAKE SLOW DOWN
W21-62
96" X 48"
(TO BE FIELD LOCATED BY ENGINEER)

MAX. 12' WIDTH
W12-52
48"x48"

ROAD WORK 4 MILES
W20-1
48"x48"

MB
PORTABLE CHANGEABLE MESSAGE SIGN TO BE FIELD LOCATED BY THE WISDOT TRAFFIC UNIT CONTACT STOC FOR MESSAGE

MATCH LINE 'K'

575'
1025'
500'
2600'
500'
1 MILE
1 MILE
1 MILE

I 43/S.T.H. 32

INL

RIGHT LANE CLOSED 1500 FT
W20-5
48"x48"

RIGHT LANE CLOSED 1/2 MILE
W20-5
48"x48"

ROAD WORK 1 MILE
W20-1
48"x48"

RIGHT LANE CLOSED 2 MILES
W20-5
48"x48"

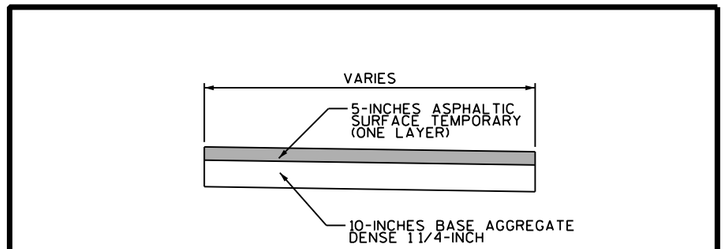
ROAD WORK 3 MILES
W20-1
48"x48"

NOTE: THIS DRAWING IS NOT TO SCALE

LEGEND

- TYPE III BARRICADE WITH/WITHOUT ATTACHED SIGN
- TRAFFIC CONTROL DRUM WITH/WITHOUT TYPE C LIGHT
- FLASHING ARROW BOARD
- SIGN MOUNTED ON POST
- DELINEATOR FLEXIBLE/TUBULAR MARKER
- CRASH CUSHION TEMPORARY
- CONCRETE BARRIER TEMPORARY PRECAST
- WORK AREA
- DIRECTION OF TRAFFIC
- MB PORTABLE CHANGEABLE MESSAGE BOARD
- TEMPORARY DELINEATOR
- FLAGS 18" X 18" ORANGE
- TEMPORARY ASPHALTIC SURFACE
- XXXXX REMOVING PAVEMENT MARKING

PROJECT NO: 1450-16-70	HWY: IH 43	COUNTY: OZAUKEE	TRAFFIC CONTROL: MAINLINE STRUCTURES - STAGE 1	SHEET 77	E



TEMPORARY PAVEMENT TYPICAL SECTION (IN MEDIANS AND AT IH 43 RAMP RADII)

CTH KW

INSTALLED AS PART OF STAGE 1 (TO REMAIN)

ROAD WORK AHEAD
W20-1
48" x 48"

STOP
UNCOVER SIGN

PAVEMENT MARKING STOP LINE EPOXY 12-INCH

TEMPORARY PAVEMENT MARKING REMOVABLE TAPE 4-INCH EDGE LINE (WHITE)

TEMPORARY PAVEMENT MARKING REMOVABLE TAPE 4-INCH CENTERLINE (DOUBLE YELLOW)

REMOVE PAVEMENT MARKING LANE LINE

INSTALLED AS PART OF STAGE 1 (TO REMAIN)

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

CTH H

XXX 25'

REMOVE PAVEMENT MARKING LANE LINE

MATCH LINE 'AA'

W01-6
48" X 24"

TYPE III BARRICADE

NOTE: MAINTAIN DRIVEWAY ACCESS

NOTE: MAINTAIN DRIVEWAY ACCESS

INSTALLED AS PART OF STAGE 1 (TO REMAIN)

ROAD WORK AHEAD
W20-1
48" x 48"

TEMPORARY PAVEMENT MARKING REMOVABLE TAPE 4-INCH EDGE LINE (WHITE)

W01-7
48" X 24"

TYPE III BARRICADE

R11-2
48" X 30"

ROAD CLOSED

TYPE III BARRICADE

R11-2
48" X 30"

ROAD CLOSED

TYPE III BARRICADE

LEGEND

↕	TYPE III BARRICADE WITH/WITHOUT ATTACHED SIGN
	TRAFFIC CONTROL DRUM WITH/WITHOUT TYPE C LIGHT
	FLASHING ARROW BOARD
	SIGN MOUNTED ON POST
	DELINEATOR FLEXIBLE/TUBULAR MARKER
	CRASH CUSHION TEMPORARY
	CONCRETE BARRIER TEMPORARY PRECAST
	WORK AREA
	DIRECTION OF TRAFFIC
MB	PORTABLE CHANGEABLE MESSAGE BOARD
	TEMPORARY DELINEATOR
	FLAGS 18" X 18" ORANGE
	TEMPORARY ASPHALTIC SURFACE
XXXXX	REMOVING PAVEMENT MARKING

NOTE: TRAFFIC CONTROL STAGING & PAVEMENT MARKING PLAN SHEETS FOR STRUCTURE B-45-45 ARE SHOWN IN REVERSE FROM ALIGNMENT STATIONING AND PLAN &PROFILE SHEETS.

PROJECT NO: 1450-16-70	HWY: IH 43	COUNTY: OZAUKEE	TRAFFIC CONTROL: STRUCTURE B-45-45 - STAGE 2	SHEET 78	E

NOTE: FOR IH 43 LANE CLOSURES, SEE S.D.D. "TRAFFIC CONTROL, LANE CLOSURE, SPEED GREATER THAN 40 M.P.H. WITH BARRIER."

ROAD WORK AHEAD W20-1 48"×48" — INSTALLED AS PART OF STAGE 1 (TO REMAIN)

ROAD WORK AHEAD W20-1 48"×48" — INSTALLED AS PART OF STAGE 1 (TO REMAIN)

ROAD WORK AHEAD W20-1 48"×48" — INSTALLED AS PART OF STAGE 1 (TO REMAIN)

W01-6 48" X 24" — TYPE III BARRICADE

W01-6R

STOP — REMOVE

DO NOT ENTER / ONE WAY — REMOVE

ONE WAY — REMOVE

STOP — UNCOVER SIGNS

STOP — REMAIN COVERED

HIGHLAND DRIVE

IH 43 SB

IH 43 NB

455 "SB TC" + 00

455 "NB TC" + 00

STA. 45+17.5, 64.5' RT.

PAVEMENT MARKING STOP LINE EPOXY 18-INCH

STA. 45+00, 43.5' RT.

STOP R1-1 30" X 30"

REMOVE PAVEMENT MARKING LANE LINE

CONCRETE BARRIER WALL TEMPORARY PRECAST

TEMPORARY PAVEMENT MARKING REMOVABLE TAPE 4-INCH LANE LINE, 2' DASH, 6' SKIP (WHITE)

TEMPORARY PAVEMENT MARKING STOP LINE REMOVABLE TAPE 12-INCH

STA. 39+54, 24' RT.

CRASH CUSHION TEMPORARY REQ'D. ★

TEMPORARY PAVEMENT MARKING REMOVABLE TAPE 4-INCH CENTERLINE (DOUBLE YELLOW)

TEMPORARY PAVEMENT MARKING STOP LINE REMOVABLE TAPE 12-INCH

TEMPORARY PAVEMENT MARKING REMOVABLE TAPE 4-INCH CENTERLINE (DOUBLE YELLOW)

REMOVE PAVEMENT MARKING CHANNELIZATION LINE

TEMPORARY PAVEMENT INSTALLED AS PART OF STAGE 1

TEMPORARY PAVEMENT MARKING REMOVABLE TAPE 4-INCH EDGE LINE (WHITE)

STOP R1-1 30" X 30"

CTH H

STA. 39+57, 88.5' RT.

STA. 39+49, 64.5' RT.

STA. 39+47, 39' RT.

YIELD — UNCOVER SIGN

R3-2 24" X 24"

LEFT TURN LANE R3-55L(MOD) 24" X 30"

CTH LL/E SEVEN HILLS ROAD

W01-6 48" X 24" — TYPE III BARRICADE

INSTALLED AS PART OF STAGE 1 (TO REMAIN)

LEFT TURN LANE R3-55L(MOD) 24" X 30"

STH 32/N. WISCONSIN STREET

MATCH LINE 'AA'

MINK RANCH ROAD

STOP R1-1 30" X 30"

R11-2 48" X 30" — ROAD CLOSED — TYPE III BARRICADE

ROAD WORK AHEAD W20-1 48"×48" — INSTALLED AS PART OF STAGE 1 (TO REMAIN)

STOP — COVER SIGN

CRASH CUSHION TEMPORARY REQ'D. ★ STA. 44+74, 24' RT.

R3-2 24" X 24"

TEMPORARY PAVEMENT MARKING REMOVABLE TAPE 4-INCH LANE LINE, 2' DASH, 6' SKIP (WHITE)

SEE TEMPORARY CONCRETE BARRIER SEAL SPAN DETAIL

450 "SB TC" + 00

450 "NB TC" + 00

R11-2 48" X 30" — ROAD CLOSED — TYPE III BARRICADE

TEMPORARY PAVEMENT INSTALLED AS PART OF STAGE 1

R11-2 (MOD.) 48" X 30" — LANE CLOSED — TYPE III BARRICADE

STOP R1-1 30" X 30"

STOP — COVER SIGNS

REMOVE PAVEMENT MARKING STOP LINE

TEMPORARY PAVEMENT MARKING REMOVABLE TAPE 4-INCH EDGE LINE (WHITE)

TEMPORARY PAVEMENT MARKING REMOVABLE TAPE 4-INCH EDGE LINE (DOUBLE YELLOW)

TEMPORARY PAVEMENT MARKING REMOVABLE TAPE 8-INCH CHANNELIZATION LINE (WHITE)

ROAD WORK AHEAD W20-1 48"×48" — INSTALLED AS PART OF STAGE 1 (TO REMAIN)

CTH LL/W SEVEN HILLS ROAD

ROAD WORK AHEAD W20-1 48"×48" — INSTALLED AS PART OF STAGE 1 (TO REMAIN)

TEMPORARY PAVEMENT MARKING REMOVABLE TAPE 8-INCH CHANNELIZATION LINE INSTALLED AS PART OF STAGE 1 (TO REMAIN)

TEMPORARY PAVEMENT MARKING REMOVABLE TAPE 4-INCH LANE LINE, 2' DASH, 6' SKIP (YELLOW)

TEMPORARY PAVEMENT MARKING REMOVABLE TAPE 8-INCH LANE LINE, 2' DASH, 6' SKIP (WHITE)

TEMPORARY PAVEMENT MARKING STOP LINE REMOVABLE TAPE 12-INCH

TEMPORARY PAVEMENT INSTALLED AS PART OF STAGE 1

TEMPORARY PAVEMENT MARKING REMOVABLE TAPE 8-INCH CHANNELIZATION LINE (WHITE)

MATCH LINE 'BB'

TEMPORARY PAVEMENT MARKING REMOVABLE TAPE 8-INCH CHANNELIZATION LINE INSTALLED AS PART OF STAGE 1 (TO REMAIN)

CONCRETE BARRIER TEMPORARY PRECAST

FLEXIBLE TUBULAR MARKER

2' | 12' TRAVEL LANE | 0.5' | 12' TRAVEL LANE | 2' | WORK ZONE

EXISTING SIDEWALK

TEMPORARY PAVEMENT MARKING REMOVABLE TAPE 4-INCH EDGE LINE (WHITE)

TEMPORARY PAVEMENT MARKING REMOVABLE TAPE 4-INCH CENTERLINE (DOUBLE YELLOW)

TEMPORARY PAVEMENT MARKING REMOVABLE TAPE 4-INCH EDGE LINE (WHITE)

TRAFFIC CONTROL TYPICAL SECTION ACROSS BRIDGE - STAGE 2

NOTE: TRAFFIC CONTROL STAGING & PAVEMENT MARKING PLAN SHEETS FOR STRUCTURE B-45-45 ARE SHOWN IN REVERSE FROM ALIGNMENT STATIONING AND PLAN & PROFILE SHEETS.

★ PLACE CRASH CUSHIONS AS CLOSE AS POSSIBLE TO BEGIN CONSTRUCTION AND END CONSTRUCTION LIMITS. EXACT LOCATIONS OF CRASH CUSHIONS TO BE LOCATED BY THE CONTRACTOR BASED ON PLACEMENT OF THE CONCRETE BARRIER SEAL SPANNING DETAIL, LAYING LENGTH OF THE CONCRETE BARRIER TEMPORARY PRECAST, AND THE LENGTH OF THE CONTRACTOR SUPPLIED TEMPORARY CRASH CUSHION.

LEGEND

- TYPE III BARRICADE WITH/WITHOUT ATTACHED SIGN
- TRAFFIC CONTROL DRUM WITH/WITHOUT TYPE C LIGHT
- FLASHING ARROW BOARD
- SIGN MOUNTED ON POST
- DELINEATOR FLEXIBLE/TUBULAR MARKER
- CRASH CUSHION TEMPORARY
- CONCRETE BARRIER TEMPORARY PRECAST
- WORK AREA
- DIRECTION OF TRAFFIC
- MB — PORTABLE CHANGEABLE MESSAGE BOARD
- TEMPORARY DELINEATOR
- FLAGS 18" X 18" ORANGE
- TEMPORARY ASPHALTIC SURFACE
- XXXXX — REMOVING PAVEMENT MARKING

PROJECT NO: 1450-16-70	HWY: IH 43	COUNTY: OZAUKEE	TRAFFIC CONTROL: STRUCTURE B-45-45 - STAGE 2	SHEET 79	E

FILE NAME : $$....designfile....$$ PLOT DATE : $$...plottingdate...$$ PLOT BY : $$...plotuser...$$ PLOT NAME : PLOT SCALE : $$.....plotscale.....$$ WISDOT/CADDS SHEET 42

B-45-45 TC_02.dgn 4/10/2013 1:51:49 PM jdolens

2

N

MEADOW COURT

ROAD WORK AHEAD
W20-1
48" x 48"
INSTALLED AS PART OF STAGE 1(TO REMAIN)

TEMPORARY PAVEMENT MARKING DIAGONAL REMOVABLE TAPE 12-INCH INSTALLED AS PART OF STAGE 1(TO REMAIN)

TEMPORARY PAVEMENT MARKING REMOVABLE TAPE 4-INCH EDGE LINE INSTALLED AS PART OF STAGE 1(TO REMAIN)

MATCH LINE 'BB'

15'

STH 32/N. WISCONSIN STREET

SIGN

END ROAD WORK
G20-2A
48" X 24"
INSTALLED AS PART OF STAGE 1(TO REMAIN)

W01-4R

TEMPORARY PAVEMENT MARKING DIAGONAL REMOVABLE TAPE 12-INCH INSTALLED AS PART OF STAGE 1(TO REMAIN)

TEMPORARY PAVEMENT MARKING REMOVABLE TAPE 4-INCH EDGE LINE INSTALLED AS PART OF STAGE 1(TO REMAIN)

INSTALLED AS PART OF STAGE 1(TO REMAIN)

THOMAS DRIVE

W. BEUTEL ROAD

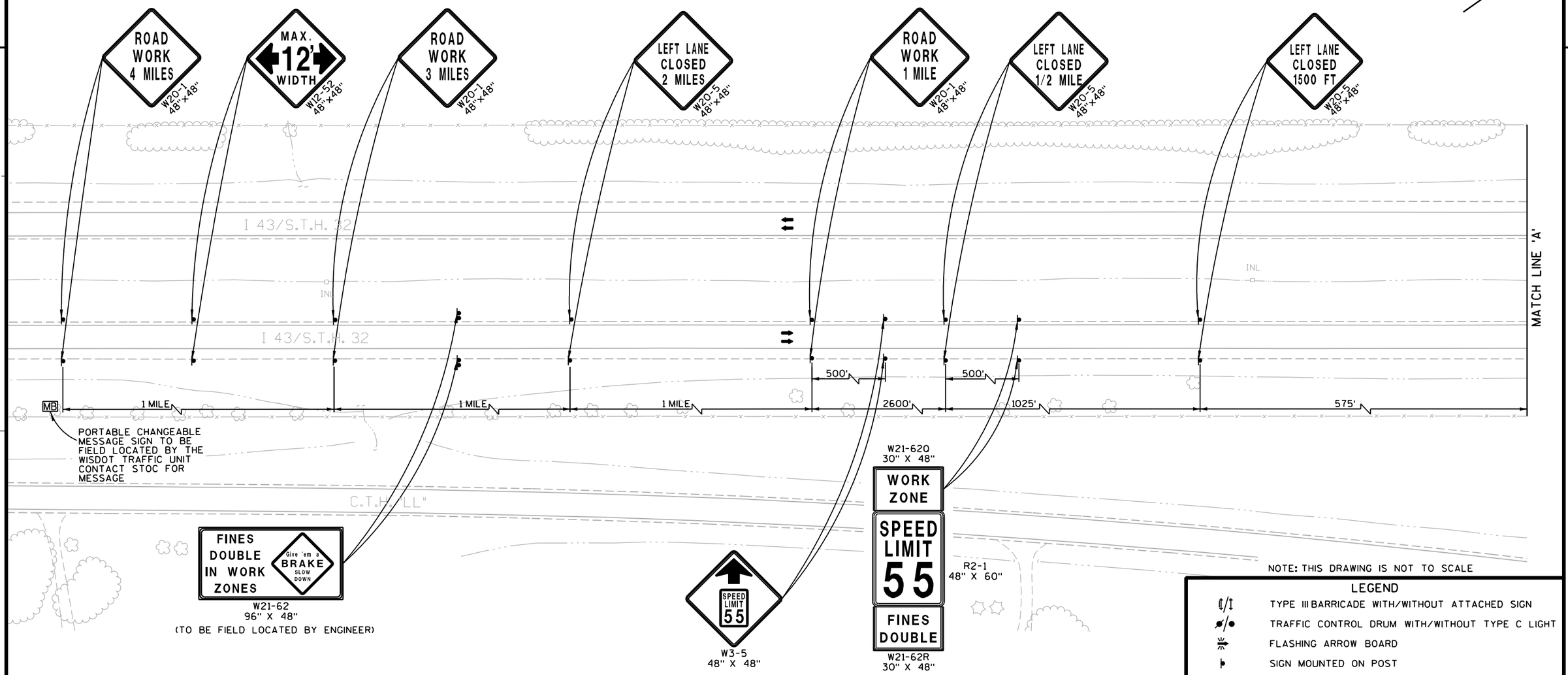
NOTE: TRAFFIC CONTROL STAGING & PAVEMENT MARKING PLAN SHEETS FOR STRUCTURE B-45-45 ARE SHOWN IN REVERSE FROM ALIGNMENT STATIONING AND PLAN &PROFILE SHEETS.

LEGEND

- TYPE III BARRICADE WITH/WITHOUT ATTACHED SIGN
- TRAFFIC CONTROL DRUM WITH/WITHOUT TYPE C LIGHT
- FLASHING ARROW BOARD
- SIGN MOUNTED ON POST
- DELINEATOR FLEXIBLE/TUBULAR MARKER
- CRASH CUSHION TEMPORARY
- CONCRETE BARRIER TEMPORARY PRECAST
- WORK AREA
- DIRECTION OF TRAFFIC
- MB — PORTABLE CHANGEABLE MESSAGE BOARD
- TEMPORARY DELINEATOR
- FLAGS 18" X 18" ORANGE
- TEMPORARY ASPHALTIC SURFACE
- XXXXX — REMOVING PAVEMENT MARKING

PROJECT NO: 1450-16-70	HWY: IH 43	COUNTY: OZAUKEE	TRAFFIC CONTROL: STRUCTURE B-45-45 - STAGE 2	SHEET 80	E

NOTE: SEE S.D.D "TRAFFIC CONTROL LANE CLOSURE, SPEEDS GREATER THAN 40 M.P.H." FOR LANE CLOSURE SIGNING.



NOTE: THIS DRAWING IS NOT TO SCALE

LEGEND

	TYPE III BARRICADE WITH/WITHOUT ATTACHED SIGN
	TRAFFIC CONTROL DRUM WITH/WITHOUT TYPE C LIGHT
	FLASHING ARROW BOARD
	SIGN MOUNTED ON POST
	DELINEATOR FLEXIBLE/TUBULAR MARKER
	CRASH CUSHION TEMPORARY
	CONCRETE BARRIER TEMPORARY PRECAST
	WORK AREA
	DIRECTION OF TRAFFIC
MB	PORTABLE CHANGEABLE MESSAGE BOARD
	TEMPORARY DELINEATOR
	FLAGS 18" X 18" ORANGE
	TEMPORARY ASPHALTIC SURFACE
XXXXX	REMOVING PAVEMENT MARKING

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.

ANY EXISTING SIGNS THAT CONFLICT WITH THIS WORKSHALL BE COVERED OR REMOVED AS DIRECTED BY THE ENGINEER. ALL STOP, WARNING AND REGULATORY SIGNS ON THE SIDEROADS SHALL NOT BE DISTURBED, EXCEPT WHEN NECESSARY TO COMPLETE THE WORK. THE SIGNS MUST THEN BE IMMEDIATELY RE-ESTABLISHED.

ALL "W" AND "WO" SIGNS SHALL BE 48"x48" UNLESS OTHERWISE NOTED.

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

ALL EXISTING SIGNS THAT NEED TO BE COVERED SHALL BE COVERED WITH A BLANK ORANGE PANEL.

PROJECT NO: 1450-16-70	HWY: IH 43	COUNTY: OZAUKEE	TRAFFIC CONTROL: MAINLINE STRUCTURES - STAGE 2	SHEET 81	E

NOTE: SEE S.D.D "TRAFFIC CONTROL LANE CLOSURE, SPEEDS GREATER THAN 40 M.P.H." FOR LANE CLOSURE SIGNING.

NOTE: SEE S.D.D "TRAFFIC CONTROL LANE CLOSURE, SPEEDS GREATER THAN 40 M.P.H. WITH BARRIER."

W10A-2L 48"x48"

Port Washington
NEXT 2 EXITS

MATCH LINE 'A'

535 "SB TC" + 00

I 43/S.T.H. 32

540 "SB TC" + 00

545 "SB TC" + 00

PC STA = 547+19.20

MATCH LINE 'B'

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

REMOVE PAVEMENT MARKING LANE LINE

TEMPORARY PAVEMENT MARKING REMOVABLE TAPE 4-INCH EDGE LINE (YELLOW)

INL

535 "NB TC" + 00

540 "NB TC" + 00

545 "NB TC" + 00

50'

50'

XXXXX

PC XXXXX

X

I 43/S.T.H. 32

300'

900' TAPER

500'

575'

STA. 541 "NB TC"+65
1000'

STA. 546 "NB TC"+65

547+12.09

C.T.H. "LL"

LEGEND

	TYPE III BARRICADE WITH/WITHOUT ATTACHED SIGN
	TRAFFIC CONTROL DRUM WITH/WITHOUT TYPE C LIGHT
	FLASHING ARROW BOARD
	SIGN MOUNTED ON POST
	DELINEATOR FLEXIBLE/TUBULAR MARKER
	CRASH CUSHION TEMPORARY
	CONCRETE BARRIER TEMPORARY PRECAST
	WORK AREA
	DIRECTION OF TRAFFIC
MB	PORTABLE CHANGEABLE MESSAGE BOARD
	TEMPORARY DELINEATOR
	FLAGS 18" X 18" ORANGE
	TEMPORARY ASPHALTIC SURFACE
XXXXX	REMOVING PAVEMENT MARKING

PROJECT NO: 1450-16-70	HWY: IH 43	COUNTY: OZAUKEE	TRAFFIC CONTROL: MAINLINE STRUCTURES - STAGE 2	SHEET 82	E

FILE NAME : $$....designfile....$$ PLOT DATE : $$...plottingdate...$$ PLOT BY : $$...plotuser...$$ PLOT NAME : PLOT SCALE : $$.....plotscale.....$$ WISDOT/CADDS SHEET 42

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NOTE: SEE S.D.D "TRAFFIC CONTROL LANE CLOSURE, SPEEDS GREATER THAN 40 M.P.H. WITH BARRIER."

MATCH LINE 'B'

550 "SB TC" + 00

555 "SB TC" + 00

560 "SB TC" + 00

REMOVE PAVEMENT MARKING LANE LINE

REMOVE PAVEMENT MARKING EDGE LINE

TEMPORARY PAVEMENT MARKING REMOVABLE TAPE 4-INCH EDGE LINE (WHITE)

TEMPORARY PAVEMENT MARKING REMOVABLE TAPE 4-INCH EDGE LINE (YELLOW)

50'

550 "NB TC" + 00

555 "NB TC" + 00

560 "NB TC" + 00

300'

100'

STA. 550"NB TC"+65

900' TAPER

STA. 555"NB TC"+65

800' BUFFER

I 43/S.T.H. 32

MILE 103

FOOTBRIDGE

MATCH LINE 'C'

R11-2 (MOD.)
48" X 30"

LANE CLOSED

TYPE III BARRICADE

LEGEND

- TYPE III BARRICADE WITH/WITHOUT ATTACHED SIGN
- TRAFFIC CONTROL DRUM WITH/WITHOUT TYPE C LIGHT
- FLASHING ARROW BOARD
- SIGN MOUNTED ON POST
- DELINEATOR FLEXIBLE/TUBULAR MARKER
- CRASH CUSHION TEMPORARY
- CONCRETE BARRIER TEMPORARY PRECAST
- WORK AREA
- DIRECTION OF TRAFFIC
- MB PORTABLE CHANGEABLE MESSAGE BOARD
- TEMPORARY DELINEATOR
- FLAGS 18" X 18" ORANGE
- TEMPORARY ASPHALTIC SURFACE
- XXXXX REMOVING PAVEMENT MARKING

PROJECT NO: 1450-16-70	HWY: IH 43	COUNTY: OZAUKEE	TRAFFIC CONTROL: MAINLINE STRUCTURES - STAGE 2	SHEET 83	E

NOTE: SEE S.D.D "TRAFFIC CONTROL LANE CLOSURE, SPEEDS GREATER THAN 40 M.P.H. WITH BARRIER."

NOTE: SEE S.D.D "TRAFFIC CONTROL ONE LANE ROAD WITH TEMPORARY SIGNALS" FOR BRIDGE PAINTING TRAFFIC CONTROL ON CTH LL.

W21-62Q
30" X 48"
WORK ZONE
SPEED LIMIT 55
FINES DOUBLE
W21-62R
30" X 48"
R2-1
48" X 60"

PT STA AHEAD = 563+25.35
MATCH LINE 'C'
STA. 564"SB TC"+90
500'
565 "SB TC" + 00
I 43/S.T.H. 32
END ROAD WORK
G20-2A
48" X 24"
100' TAPER
STA. 569"SB TC"+90
PC STA = 570+53.21
570 "SB TC" + 00
REMOVE PAVEMENT MARKING EDGE LINE
TEMPORARY PAVEMENT MARKING REMOVABLE TAPE 4-INCH EDGE LINE (WHITE)
CONCRETE BARRIER TEMPORARY PRECAST
575 "SB TC" + 00
STRUCTURE B-45-49
TEMPORARY PAVEMENT MARKING REMOVABLE TAPE 4-INCH EDGE LINE (YELLOW)
MATCH LINE 'D'
Hwy LL
C.T.H. "LL"
INL
STRUCTURE B-45-48
100'
575 "NB TC" + 00
STA. 576"NB TC"+00
I 43/S.T.H. 32
REMOVE PAVEMENT MARKING EDGE LINE
TEMPORARY PAVEMENT MARKING REMOVABLE TAPE 4-INCH EDGE LINE (YELLOW)
565 "NB TC" + 00
570 "NB TC" + 00
STA. 567 "NB TC"+25
15:1
100'
PT STA AHEAD = 563+37.73
STA. 563"NB TC"+65
CRASH CUSHION TEMPORARY REQ'D.
CONCRETE BARRIER TEMPORARY PRECAST
W05-52R
18" X 54"
(MOUNT ON BARRIER)
PC STA = 570+46.47
TEMPORARY PAVEMENT MARKING REMOVABLE TAPE 4-INCH EDGE LINE (WHITE)
Hwy LL
C.T.H. "LL"
800' BUFFER
R11-2 (MOD.)
48" X 30"
LANE CLOSED
TYPE III BARRICADE

LEGEND

- TYPE III BARRICADE WITH/WITHOUT ATTACHED SIGN
- TRAFFIC CONTROL DRUM WITH/WITHOUT TYPE C LIGHT
- FLASHING ARROW BOARD
- SIGN MOUNTED ON POST
- DELINEATOR FLEXIBLE/TUBULAR MARKER
- CRASH CUSHION TEMPORARY
- CONCRETE BARRIER TEMPORARY PRECAST
- WORK AREA
- DIRECTION OF TRAFFIC
- MB — PORTABLE CHANGEABLE MESSAGE BOARD
- TEMPORARY DELINEATOR
- FLAGS 18" X 18" ORANGE
- TEMPORARY ASPHALTIC SURFACE
- XXXXX — REMOVING PAVEMENT MARKING

PROJECT NO: 1450-16-70	HWY: IH 43	COUNTY: OZAUKEE	TRAFFIC CONTROL: MAINLINE STRUCTURES - STAGE 2	SHEET 84	E

NOTE: SEE S.D.D "TRAFFIC CONTROL LANE CLOSURE, SPEEDS GREATER THAN 40 M.P.H. WITH BARRIER."

R11-2 (MOD.)
48" X 30"
LANE CLOSED
TYPE III BARRICADE

W05-52R
18" X 54"
(MOUNT ON BARRIER)

CONCRETE BARRIER TEMPORARY PRECAST

TEMPORARY PAVEMENT MARKING REMOVABLE TAPE 4-INCH EDGE LINE (WHITE)

SLOWER TRAFFIC KEEP RIGHT

REMOVE PAVEMENT MARKING EDGE LINE

STA AHEAD = 592+10.89
STA BACK = 592+00.00

MATCH LINE 'D'

STA. 578 "SB TC"+90

580 "SB TC" + 00

CRASH CUSHION TEMPORARY REQ'D.

STA. 582"SB TC"+50

585 "SB TC" + 00

100'

590 "SB TC" + 00

I 43/S.T.H. 32

MATCH LINE 'E'

580 "NB TC" + 00

TEMPORARY PAVEMENT MARKING REMOVABLE TAPE 4-INCH EDGE LINE (YELLOW)

REMOVE PAVEMENT MARKING EDGE LINE

585 "NB TC" + 00

100'

590 "NB TC" + 00

CONCRETE BARRIER TEMPORARY PRECAST

CRASH CUSHION TEMPORARY REQ'D.

STA. 591"NB TC"+40

I 43/S.T.H. 32

PTI Sta Ahead = 592+06.55
PTI Sta Back = 592+21.34

R11-2 (MOD.)
48" X 30"
LANE CLOSED
TYPE III BARRICADE

TEMPORARY PAVEMENT MARKING REMOVABLE TAPE 4-INCH EDGE LINE (WHITE)

EXCEPT MAINTENANCE AND POLICE AUTHORIZED VEHICLES

LEGEND

	TYPE III BARRICADE WITH/WITHOUT ATTACHED SIGN
	TRAFFIC CONTROL DRUM WITH/WITHOUT TYPE C LIGHT
	FLASHING ARROW BOARD
	SIGN MOUNTED ON POST
	DELINEATOR FLEXIBLE/TUBULAR MARKER
	CRASH CUSHION TEMPORARY
	CONCRETE BARRIER TEMPORARY PRECAST
	WORK AREA
	DIRECTION OF TRAFFIC
MB	PORTABLE CHANGEABLE MESSAGE BOARD
	TEMPORARY DELINEATOR
	FLAGS 18" X 18" ORANGE
	TEMPORARY ASPHALTIC SURFACE
XXXXX	REMOVING PAVEMENT MARKING

PROJECT NO: 1450-16-70	HWY: IH 43	COUNTY: OZAUKEE	TRAFFIC CONTROL: MAINLINE STRUCTURES -STAGE 2	SHEET	E

FILE NAME : $$....designfile....$$ PLOT DATE : $$...plottingdate...$$ PLOT BY : $$...plotuser...$$ PLOT NAME : PLOT SCALE : $$.....plotscale.....$$ WISDOT/CADDS SHEET 42

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2

R11-2 (MOD.)
48" X 30"
LANE CLOSED

TYPE III BARRICADE

W21-620
30" X 48"
WORK ZONE
SPEED LIMIT 55
FINES DOUBLE

R2-1
48" X 60"

W21-62R
30" X 48"

NOTE: SEE S.D.D "TRAFFIC CONTROL LANE CLOSURE, SPEEDS GREATER THAN 40 M.P.H. WITH BARRIER."

W05-52R
18" X 54"
(MOUNT ON BARRIER)

LAKE DR.

MATCH LINE 'E'

MATCH LINE 'F'

CONCRETE BARRIER TEMPORARY PRECAST

REMOVE PAVEMENT MARKING EDGE LINE

595 "SB TC" + 00

STA. 594"SB TC"+50

STA. 599"SB TC"+50

600 "SB TC" + 00

15:1

STRUCTURE B-45-51

STRUCTURE B-45-50

TEMPORARY PAVEMENT MARKING REMOVABLE TAPE 4-INCH EDGE LINE (YELLOW)

TEMPORARY PAVEMENT MARKING REMOVABLE TAPE 4-INCH EDGE LINE (WHITE)

STA. 603"SB TC"+10

800' BUFFER

605 "SB TC" + 00

100'

CRASH CUSHION TEMPORARY REQ'D.

I 43/S.T.H. 32

MILE 104

595 "NB TC" + 00

100'

STA. 595"NB TC"+00

600 "NB TC" + 00

100' TAPER

STA. 600"NB TC"+00

TEMPORARY PAVEMENT MARKING REMOVABLE TAPE 4-INCH EDGE LINE (WHITE)

605 "NB TC" + 00

500'

STA. 605"NB TC"+00

END ROAD WORK

G20-2A
48" X 24"

LEGEND

- TYPE III BARRICADE WITH/WITHOUT ATTACHED SIGN
- TRAFFIC CONTROL DRUM WITH/WITHOUT TYPE C LIGHT
- FLASHING ARROW BOARD
- SIGN MOUNTED ON POST
- DELINEATOR FLEXIBLE/TUBULAR MARKER
- CRASH CUSHION TEMPORARY
- CONCRETE BARRIER TEMPORARY PRECAST
- WORK AREA
- DIRECTION OF TRAFFIC
- MB — PORTABLE CHANGEABLE MESSAGE BOARD
- TEMPORARY DELINEATOR
- FLAGS 18" X 18" ORANGE
- TEMPORARY ASPHALTIC SURFACE
- XXXXX — REMOVING PAVEMENT MARKING

PROJECT NO: 1450-16-70	HWY: IH 43	COUNTY: OZAUKEE	TRAFFIC CONTROL: MAINLINE STRUCTURES - STAGE 2	SHEET 86 OF	E

NOTE: SEE S.D.D "TRAFFIC CONTROL LANE CLOSURE, SPEEDS GREATER THAN 40 M.P.H. WITH BARRIER."

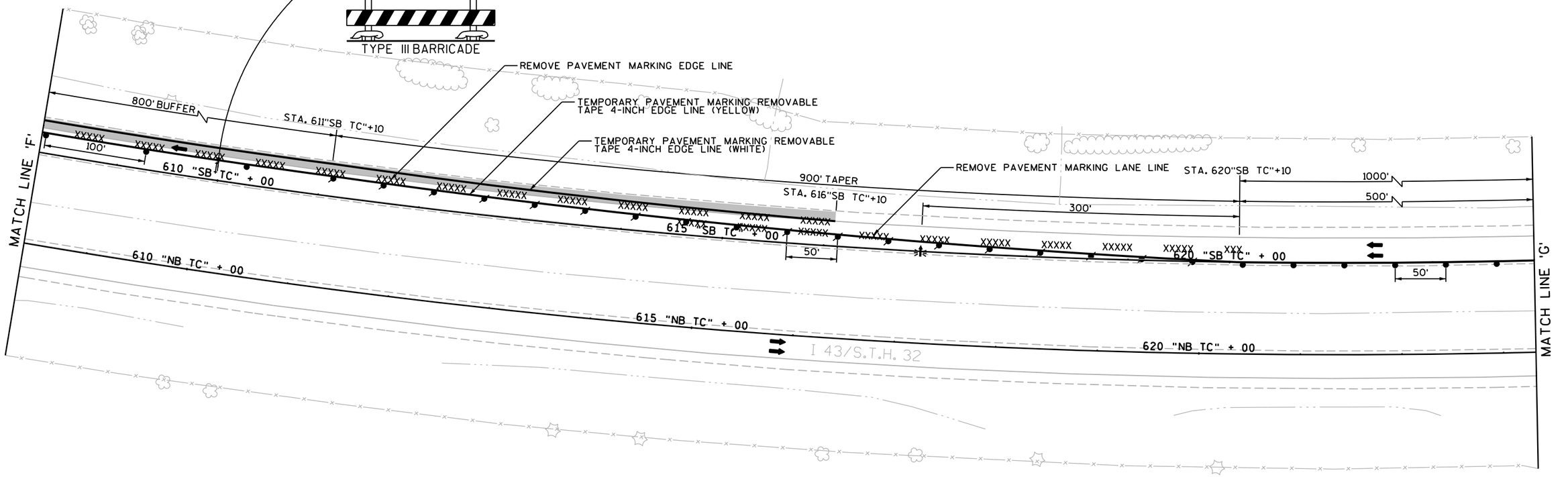
NOTE: SEE S.D.D "TRAFFIC CONTROL LANE CLOSURE, SPEEDS GREATER THAN 40 M.P.H." FOR LANE CLOSURE SIGNING.

N

R11-2 (MOD.)
48" X 30"



TYPE III BARRICADE



LEGEND

⇕/↕	TYPE III BARRICADE WITH/WITHOUT ATTACHED SIGN
⁄/●	TRAFFIC CONTROL DRUM WITH/WITHOUT TYPE C LIGHT
⇻	FLASHING ARROW BOARD
▸	SIGN MOUNTED ON POST
⊙	DELINEATOR FLEXIBLE/TUBULAR MARKER
▬	CRASH CUSHION TEMPORARY
▭▭▭	CONCRETE BARRIER TEMPORARY PRECAST
▨	WORK AREA
➡	DIRECTION OF TRAFFIC
MB	PORTABLE CHANGEABLE MESSAGE BOARD
⊥	TEMPORARY DELINEATOR
◇ ◇	FLAGS 18" X 18" ORANGE
▬	TEMPORARY ASPHALTIC SURFACE
XXXXX	REMOVING PAVEMENT MARKING

PROJECT NO: 1450-16-70	HWY: IH 43	COUNTY: OZAUKEE	TRAFFIC CONTROL: MAINLINE STRUCTURES - STAGE 2	SHEET 87	E

FILE NAME : $$....designfile....$$ PLOT DATE : $$...plottingdate...$$ PLOT BY : $$...plotuser...$$ PLOT NAME : PLOT SCALE : $$.....plotscale.....$$

WISDOT/CADDS SHEET 42

Stage 2_7.dgn 4/10/2013 1:52:04 PM jdolens

NOTE: SEE S.D.D "TRAFFIC CONTROL LANE CLOSURE, SPEEDS GREATER THAN 40 M.P.H." FOR LANE CLOSURE SIGNING.

NOTE: SEE S.D.D "TRAFFIC CONTROL LANE CLOSURE, SPEEDS GREATER THAN 40 M.P.H. WITH BARRIER."

N

W04-2L 48"x48"

LEFT LANE CLOSED 1500 FT

W20-5 48"x48"

MATCH LINE 'G'

MATCH LINE 'H'

PT STA = 627+12.96

PT STA = 627+48.01

1000'

500'

STA. 625"SB TC"+10

575'

1025'

625 "SB TC" + 00

630 "SB TC" + 00

635 "SB TC" + 00

I 43/S.T.H. 32

50'

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

TEMPORARY PAVEMENT MARKING REMOVABLE TAPE 4-INCH EDGE LINE (YELLOW)

INL

625 "NB TC" + 00

630 "NB TC" + 00

635 "NB TC" + 00

I 43/S.T.H. 32

LEGEND

- TYPE III BARRICADE WITH/WITHOUT ATTACHED SIGN
- TRAFFIC CONTROL DRUM WITH/WITHOUT TYPE C LIGHT
- FLASHING ARROW BOARD
- SIGN MOUNTED ON POST
- DELINEATOR FLEXIBLE/TUBULAR MARKER
- CRASH CUSHION TEMPORARY
- CONCRETE BARRIER TEMPORARY PRECAST
- WORK AREA
- DIRECTION OF TRAFFIC
- MB — PORTABLE CHANGEABLE MESSAGE BOARD
- TEMPORARY DELINEATOR
- FLAGS 18" X 18" ORANGE
- TEMPORARY ASPHALTIC SURFACE
- XXXXX — REMOVING PAVEMENT MARKING

PROJECT NO: 1450-16-70	HWY: IH 43	COUNTY: OZAUKEE	TRAFFIC CONTROL: MAINLINE STRUCTURES - STAGE 2	SHEET 88	E

NOTE: SEE S.D.D "TRAFFIC CONTROL LANE CLOSURE, SPEEDS GREATER THAN 40 M.P.H." FOR LANE CLOSURE SIGNING.

N

LEFT LANE CLOSED 1/2 MILE
W20-5 48"x48"

ROAD WORK 1 MILE
W20-1 48"x48"

LEFT LANE CLOSED 2 MILES
W20-5 48"x48"

ROAD WORK 3 MILES
W20-1 48"x48"

MAX. 12' WIDTH
W12-52 48"x48"

ROAD WORK 4 MILES
W20-1 48"x48"

1025' 2600' 500' 500' 1 MILE 1 MILE 1 MILE

PORTABLE CHANGEABLE MESSAGE SIGN TO BE FIELD LOCATED BY THE WISDOT TRAFFIC UNIT

MB

MATCH LINE 'H'

I 43/S.T.H. 32

C.T.H. "P"

I 43/S.T.H. 32

TNL

W21-620
30" X 48"

WORK ZONE
SPEED LIMIT 55
FINES DOUBLE

R2-1
48" X 60"

W21-62R
30" X 48"

SPEED LIMIT 55

W3-5
48" X 48"

FINES DOUBLE IN WORK ZONES
Give 'em a BRAKE SLOW DOWN

W21-62
96" X 48"
(TO BE FIELD LOCATED BY ENGINEER)

NOTE: THIS DRAWING IS NOT TO SCALE

LEGEND

- TYPE III BARRICADE WITH/WITHOUT ATTACHED SIGN
- TRAFFIC CONTROL DRUM WITH/WITHOUT TYPE C LIGHT
- FLASHING ARROW BOARD
- SIGN MOUNTED ON POST
- DELINEATOR FLEXIBLE/TUBULAR MARKER
- CRASH CUSHION TEMPORARY
- CONCRETE BARRIER TEMPORARY PRECAST
- WORK AREA
- DIRECTION OF TRAFFIC
- MB PORTABLE CHANGEABLE MESSAGE BOARD
- TEMPORARY DELINEATOR
- FLAGS 18" X 18" ORANGE
- TEMPORARY ASPHALTIC SURFACE
- XXXXX REMOVING PAVEMENT MARKING

PROJECT NO: 1450-16-70	HWY: IH 43	COUNTY: OZAUKEE	TRAFFIC CONTROL: MAINLINE STRUCTURES - STAGE 2	SHEET 89	E

NOTE: SEE S.D.D "TRAFFIC CONTROL LANE CLOSURE, SPEEDS GREATER THAN 40 M.P.H. WITH BARRIER."

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

STA. 910"SB TC"+75
500'
STA. 915"SB TC"+75
100' TAPER
910 "SB TC" + 00
915 "SB TC" + 00
920 "SB TC" + 00
STA. 921"SB TC"+25
100'
STRUCTURE B-45-57
JAY RD.
I 43/S.T.H. 32
TEMPORARY PAVEMENT MARKING REMOVABLE TAPE 4-INCH EDGE LINE (WHITE)
TEMPORARY PAVEMENT MARKING REMOVABLE TAPE 4-INCH EDGE LINE (YELLOW)
CONCRETE BARRIER TEMPORARY PRECAST
REMOVE PAVEMENT MARKING EDGE LINE
910 "NB TC" + 00
915 "NB TC" + 00
920 "NB TC" + 00
MATCH LINE "1"
W05-52R
18" X 54"
(MOUNT ON BARRIER)
WALLS
INL
W

LEGEND

	TYPE III BARRICADE WITH/WITHOUT ATTACHED SIGN
	TRAFFIC CONTROL DRUM WITH/WITHOUT TYPE C LIGHT
	FLASHING ARROW BOARD
	SIGN MOUNTED ON POST
	DELINEATOR FLEXIBLE/TUBULAR MARKER
	CRASH CUSHION TEMPORARY
	CONCRETE BARRIER TEMPORARY PRECAST
	WORK AREA
	DIRECTION OF TRAFFIC
MB	PORTABLE CHANGEABLE MESSAGE BOARD
	TEMPORARY DELINEATOR
	FLAGS 18" X 18" ORANGE
	TEMPORARY ASPHALTIC SURFACE
XXXXX	REMOVING PAVEMENT MARKING

PROJECT NO: 1450-16-70	HWY: IH 43	COUNTY: OZAUKEE	TRAFFIC CONTROL: MAINLINE STRUCTURES - STAGE 2	SHEET 90	E

FILE NAME : $$....designfile....$$ PLOT DATE : $$...plottingdate...$$ PLOT BY : $$...plotuser...$$ PLOT NAME : PLOT SCALE : $$.....plotscale.....$$ WISDOT/CADDS SHEET 42

Stage 2_10.dgn 4/10/2013 1:52:10 PM jdolens

NOTE: SEE S.D.D "TRAFFIC CONTROL LANE CLOSURE, SPEEDS GREATER THAN 40 M.P.H. WITH BARRIER."

R11-2 (MOD.)
48" X 30"

LANE CLOSED

TYPE III BARRICADE

TEMPORARY PAVEMENT MARKING REMOVABLE TAPE 4-INCH EDGE LINE (WHITE)

REMOVE PAVEMENT MARKING EDGE LINE

STA. 932"SB TC"+85

900' TAPER

STA. 937"SB TC"+85

800' BUFFER

STA. 924"SB TC"+85

100'

930 "SB TC" + 00

935 "SB TC" + 00

50'

REMOVE PAVEMENT MARKING LANE LINE

TEMPORARY PAVEMENT MARKING REMOVABLE TAPE 4-INCH EDGE LINE (YELLOW)

I 43/S.T.H. 32

925 "SB TC" + 00

935 "NB TC" + 00

930 "NB TC" + 00

CRASH CUSHION TEMPORARY REQ'D.

CONCRETE BARRIER TEMPORARY PRECAST

925 "NB TC" + 00

I 43/S.T.H. 32

MATCH LINE "I"

MATCH LINE "J"

LEGEND

- TYPE III BARRICADE WITH/WITHOUT ATTACHED SIGN
- TRAFFIC CONTROL DRUM WITH/WITHOUT TYPE C LIGHT
- FLASHING ARROW BOARD
- SIGN MOUNTED ON POST
- DELINEATOR FLEXIBLE/TUBULAR MARKER
- CRASH CUSHION TEMPORARY
- CONCRETE BARRIER TEMPORARY PRECAST
- WORK AREA
- DIRECTION OF TRAFFIC
- MB — PORTABLE CHANGEABLE MESSAGE BOARD
- TEMPORARY DELINEATOR
- FLAGS 18" X 18" ORANGE
- TEMPORARY ASPHALTIC SURFACE
- XXXXX — REMOVING PAVEMENT MARKING

PROJECT NO: 1450-16-70	HWY: IH 43	COUNTY: OZAUKEE	TRAFFIC CONTROL: MAINLINE STRUCTURES - STAGE 2	SHEET 91^^	E

FILE NAME : $$....designfile....$$ PLOT DATE : $$...plottingdate...$$ PLOT BY : $$...plotuser...$$ PLOT NAME : PLOT SCALE : $$.....plotscale.....$$ WISDOT/CADDS SHEET 42

Stage 2_11.dgn 4/10/2013 1:52:12 PM jdolens

NOTE: SEE S.D.D "TRAFFIC CONTROL LANE CLOSURE, SPEEDS GREATER THAN 40 M.P.H. WITH BARRIER."

NOTE: SEE S.D.D "TRAFFIC CONTROL LANE CLOSURE, SPEEDS GREATER THAN 40 M.P.H." FOR LANE CLOSURE SIGNING.

N

W04-2L
48"x48"

REMOVE PAVEMENT MARKING LANE LINE

STA. 941"SB TC"+85

900' TAPER

300'

500'

1000'

STA. 946"SB TC"+85

PT STA = 944+26.57

PC STA = 952+12.16

575'

MATCH LINE 'J'

XXX XXXXX XXXXX XXXXX XXXXX XXXXX XX

940 "SB TC" + 00

I 43/S.T.H. 32

50'

945 "SB TC" + 00

50'

950 "SB TC" + 00

TEMPORARY PAVEMENT MARKING REMOVABLE TAPE 4-INCH EDGE LINE (YELLOW)

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

940 "NB TC" + 00

945 "NB TC" + 00

950 "NB TC" + 00

I 43/S.T.H. 32

PT STA = 943+98.64

PC STA = 951+63.29

MATCH LINE 'K'

LEGEND

- TYPE III BARRICADE WITH/WITHOUT ATTACHED SIGN
- TRAFFIC CONTROL DRUM WITH/WITHOUT TYPE C LIGHT
- FLASHING ARROW BOARD
- SIGN MOUNTED ON POST
- DELINEATOR FLEXIBLE/TUBULAR MARKER
- CRASH CUSHION TEMPORARY
- CONCRETE BARRIER TEMPORARY PRECAST
- WORK AREA
- DIRECTION OF TRAFFIC
- MB PORTABLE CHANGEABLE MESSAGE BOARD
- TEMPORARY DELINEATOR
- FLAGS 18" X 18" ORANGE
- TEMPORARY ASPHALTIC SURFACE
- XXXXX REMOVING PAVEMENT MARKING

PROJECT NO: 1450-16-70	HWY: IH 43	COUNTY: OZAUKEE	TRAFFIC CONTROL: MAINLINE STRUCTURES - STAGE 2	SHEET 92	E

NOTE: SEE S.D.D "TRAFFIC CONTROL LANE CLOSURE, SPEEDS GREATER THAN 40 M.P.H." FOR LANE CLOSURE SIGNING.

W21-62Q
30" X 48"
WORK ZONE
SPEED LIMIT 55
FINES DOUBLE
R2-1
48" X 60"
W21-62R
30" X 48"

SPEED LIMIT 55
W3-5
48" X 48"

FINES DOUBLE IN WORK ZONES
Give 'em a BRAKE SLOW DOWN
W21-62
96" X 48"
(TO BE FIELD LOCATED BY ENGINEER)

MAX. 12' WIDTH
W12-52
48"x48"

ROAD WORK 4 MILES
W20-1
48"x48"

MATCH LINE 'K'

575'
1025'
500'
2600'
500'
1 MILE
1 MILE
1 MILE

INL
INL

I 43/S.T.H. 32
I 43/S.T.H. 32

MB
PORTABLE CHANGEABLE MESSAGE SIGN TO BE FIELD LOCATED BY THE WISDOT TRAFFIC UNIT CONTACT STOC FOR MESSAGE

LEFT LANE CLOSED 1500 FT
W20-5
48"x48"

LEFT LANE CLOSED 1/2 MILE
W20-5
48"x48"

ROAD WORK 1 MILE
W20-1
48"x48"

LEFT LANE CLOSED 2 MILES
W20-5
48"x48"

ROAD WORK 3 MILES
W20-1
48"x48"

NOTE: THIS DRAWING IS NOT TO SCALE

LEGEND

	TYPE III BARRICADE WITH/WITHOUT ATTACHED SIGN
	TRAFFIC CONTROL DRUM WITH/WITHOUT TYPE C LIGHT
	FLASHING ARROW BOARD
	SIGN MOUNTED ON POST
	DELINEATOR FLEXIBLE/TUBULAR MARKER
	CRASH CUSHION TEMPORARY
	CONCRETE BARRIER TEMPORARY PRECAST
	WORK AREA
	DIRECTION OF TRAFFIC
MB	PORTABLE CHANGEABLE MESSAGE BOARD
	TEMPORARY DELINEATOR
	FLAGS 18" X 18" ORANGE
	TEMPORARY ASPHALTIC SURFACE
XXXXX	REMOVING PAVEMENT MARKING

PROJECT NO: 1450-16-70	HWY: IH 43	COUNTY: OZAUKEE	TRAFFIC CONTROL: MAINLINE STRUCTURES - STAGE 2	SHEET 93	E

2

CTH KW

INSTALLED AS PART OF STAGE 1(TO REMAIN)

ROAD WORK AHEAD

W20-1 48"x48"

STOP

INSTALLED AS PART OF STAGE 1(TO REMAIN)

END ROAD WORK

C20-2A 48" X 24"

TEMPORARY PAVEMENT MARKING REMOVABLE TAPE 4-INCH CENTERLINE (YELLOW)

CTH H

25'

25'

25'

25'

MATCH LINE 'AA'

INSTALLED AS PART OF STAGE 1(TO REMAIN)

ROAD WORK AHEAD

W20-1 48"x48"

W01-6 48" X 24"

W01-3R

TYPE III BARRICADE

R11-2 (MOD.) 48" X 30"

LANE CLOSED

TYPE III BARRICADE

LEGEND

	TYPE III BARRICADE WITH/WITHOUT ATTACHED SIGN
	TRAFFIC CONTROL DRUM WITH/WITHOUT TYPE C LIGHT
	FLASHING ARROW BOARD
	SIGN MOUNTED ON POST
	DELINEATOR FLEXIBLE/TUBULAR MARKER
	CRASH CUSHION TEMPORARY
	CONCRETE BARRIER TEMPORARY PRECAST
	WORK AREA
	DIRECTION OF TRAFFIC
MB	PORTABLE CHANGEABLE MESSAGE BOARD
	TEMPORARY DELINEATOR
	FLAGS 18" X 18" ORANGE
	TEMPORARY ASPHALTIC SURFACE
XXXXX	REMOVING PAVEMENT MARKING

NOTE: TRAFFIC CONTROL STAGING & PAVEMENT MARKING PLAN SHEETS FOR STRUCTURE B-45-45 ARE SHOWN IN REVERSE FROM ALIGNMENT STATIONING AND PLAN &PROFILE SHEETS.

PROJECT NO: 1450-16-70	HWY: IH 43	COUNTY: OZAUKEE	TRAFFIC CONTROL: STRUCTURE B-45-45 - STAGE 3	SHEET 94	E

NOTE: FOR IH 43 LANE CLOSURES, SEE S.D.D. "TRAFFIC CONTROL, LANE CLOSURE, SPEED GREATER THAN 40 M.P.H. WITH BARRIER."

ROAD WORK AHEAD W20-1 48"x48" — INSTALLED AS PART OF STAGE 1 (TO REMAIN)

ROAD WORK AHEAD W20-1 48"x48" — INSTALLED AS PART OF STAGE 1 (TO REMAIN)

ROAD WORK AHEAD W20-1 48"x48" — INSTALLED AS PART OF STAGE 1 (TO REMAIN)

HIGHLAND DRIVE

STOP — UNCOVER SIGN

R11-2 (MOD.) 48" X 30" LANE CLOSED — TYPE III BARRICADE

MATCH LINE 'AA'

25'

MINK RANCH ROAD

STOP — UNCOVER SIGN

ROAD WORK AHEAD W20-1 48"x48" — INSTALLED AS PART OF STAGE 1 (TO REMAIN)

455 "SB TC" + 00

455 "NB TC" + 00

IH 43 SB

IH 43 NB

STOP

CTH H

25'

R11-2 (MOD.) 48" X 30" LANE CLOSED — TYPE III BARRICADE

450 "SB TC" + 00

450 "NB TC" + 00

R11-2 (MOD.) 48" X 30" LANE CLOSED — TYPE III BARRICADE

CTH LL/E. SEVEN HILLS ROAD

YIELD

SIGN

STH 32/N. WISCONSIN STREET

25'

STOP — UNCOVER SIGNS

PAVEMENT MARKING STOP LINE EPOXY 12-INCH

R11-2 (MOD.) 48" X 30" LANE CLOSED — TYPE III BARRICADE

INSTALLED AS PART OF STAGE 1 (TO REMAIN) LEFT TURN LANE

R3-55L(MOD) 24" X 30"

15'

25'

MATCH LINE 'BB'

TEMPORARY PAVEMENT MARKING REMOVABLE TAPE 8-INCH CHANNELIZATION LINE INSTALLED AS PART OF STAGE 1 (TO REMAIN)

SIGN

TEMPORARY PAVEMENT MARKING REMOVABLE TAPE 8-INCH CHANNELIZATION LINE (WHITE)

CTH LL/W. SEVEN HILLS ROAD

ROAD WORK AHEAD W20-1 48"x48" — INSTALLED AS PART OF STAGE 1 (TO REMAIN)

ROAD WORK AHEAD W20-1 48"x48" — INSTALLED AS PART OF STAGE 1 (TO REMAIN)

NOTE: TRAFFIC CONTROL STAGING & PAVEMENT MARKING PLAN SHEETS FOR STRUCTURE B-45-45 ARE SHOWN IN REVERSE FROM ALIGNMENT STATIONING AND PLAN &PROFILE SHEETS.

LEGEND

⇕/↕	TYPE III BARRICADE WITH/WITHOUT ATTACHED SIGN
⁄/●	TRAFFIC CONTROL DRUM WITH/WITHOUT TYPE C LIGHT
	FLASHING ARROW BOARD
	SIGN MOUNTED ON POST
⊙	DELINEATOR FLEXIBLE/TUBULAR MARKER
▬	CRASH CUSHION TEMPORARY
▬▬▬	CONCRETE BARRIER TEMPORARY PRECAST
▨	WORK AREA
➡	DIRECTION OF TRAFFIC
MB	PORTABLE CHANGEABLE MESSAGE BOARD
⊥	TEMPORARY DELINEATOR
◇ ◇	FLAGS 18" X 18" ORANGE
▬	TEMPORARY ASPHALTIC SURFACE
XXXXX	REMOVING PAVEMENT MARKING

PROJECT NO: 1450-16-70	HWY: IH 43	COUNTY: OZAUKEE	TRAFFIC CONTROL: STRUCTURE B-45-45 - STAGE 3	SHEET 95	E

2

N

MATCH LINE 'BB'

TEMPORARY PAVEMENT MARKING DIAGONAL REMOVABLE TAPE 12-INCH INSTALLED AS PART OF STAGE 1 (TO REMAIN)

TEMPORARY PAVEMENT MARKING REMOVABLE TAPE 4-INCH EDGE LINE INSTALLED AS PART OF STAGE 1 (TO REMAIN)

W01-4L

STH 32/N. WISCONSIN STREET

SIGN

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

INSTALLED AS PART OF STAGE 1 (TO REMAIN)

TEMPORARY PAVEMENT MARKING DIAGONAL REMOVABLE TAPE 12-INCH INSTALLED AS PART OF STAGE 1 (TO REMAIN)

TEMPORARY PAVEMENT MARKING REMOVABLE TAPE 4-INCH EDGE LINE INSTALLED AS PART OF STAGE 1 (TO REMAIN)

THOMAS DRIVE

MEADOW COURT

ROAD WORK AHEAD
W20-1
48" x 48"

INSTALLED AS PART OF STAGE 1 (TO REMAIN)

W. BEUTEL ROAD

NOTE: TRAFFIC CONTROL STAGING & PAVEMENT MARKING PLAN SHEETS FOR STRUCTURE B-45-45 ARE SHOWN IN REVERSE FROM ALIGNMENT STATIONING AND PLAN &PROFILE SHEETS.

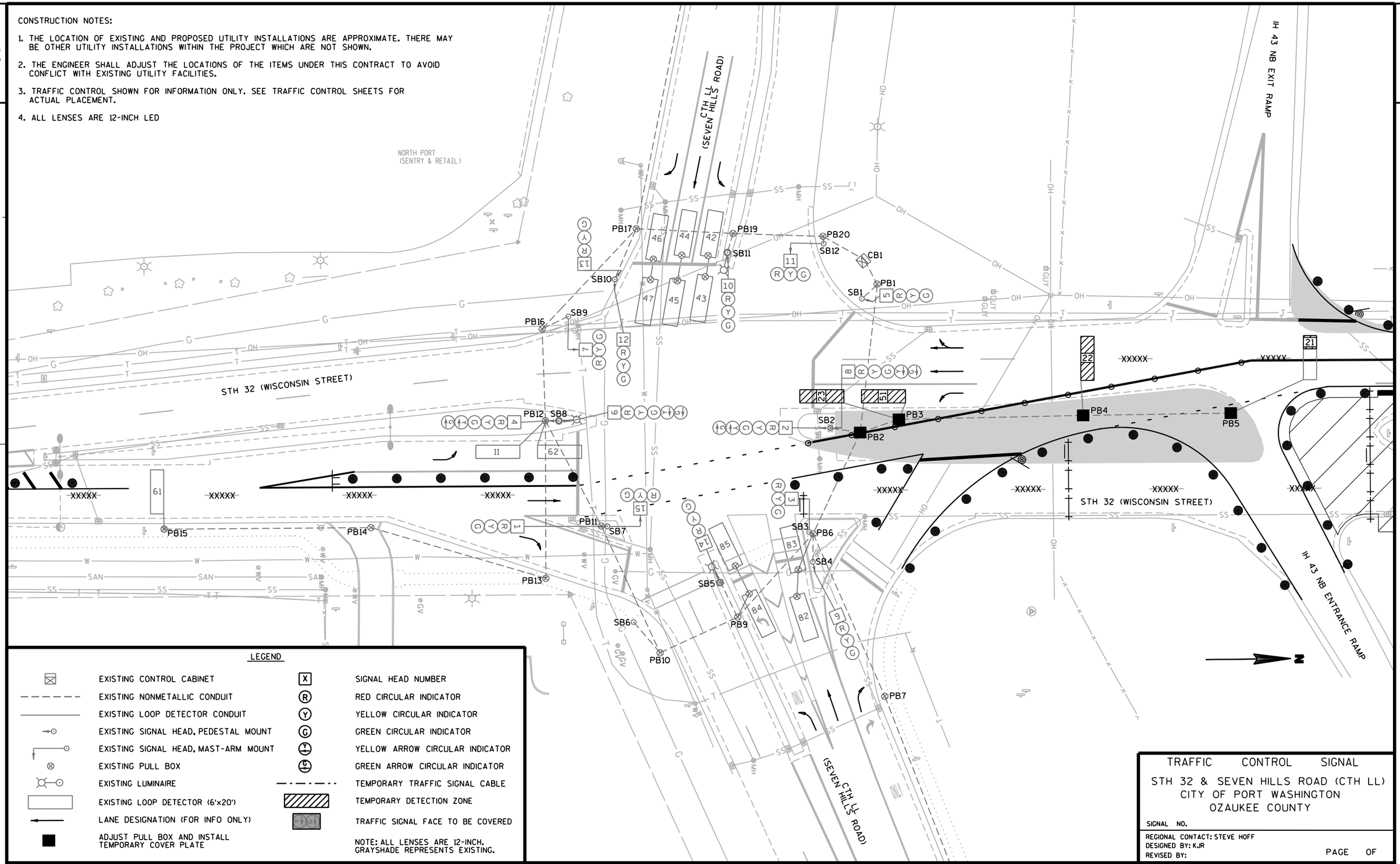
LEGEND

- TYPE III BARRICADE WITH/WITHOUT ATTACHED SIGN
- TRAFFIC CONTROL DRUM WITH/WITHOUT TYPE C LIGHT
- FLASHING ARROW BOARD
- SIGN MOUNTED ON POST
- DELINEATOR FLEXIBLE/TUBULAR MARKER
- CRASH CUSHION TEMPORARY
- CONCRETE BARRIER TEMPORARY PRECAST
- WORK AREA
- DIRECTION OF TRAFFIC
- MB — PORTABLE CHANGEABLE MESSAGE BOARD
- TEMPORARY DELINEATOR
- FLAGS 18" X 18" ORANGE
- TEMPORARY ASPHALTIC SURFACE
- XXXXX — REMOVING PAVEMENT MARKING

PROJECT NO: 1450-16-70	HWY: IH 43	COUNTY: OZAUKEE	TRAFFIC CONTROL: STRUCTURE B-45-45 - STAGE 3	SHEET 96	E

CONSTRUCTION NOTES:

1. THE LOCATION OF EXISTING AND PROPOSED UTILITY INSTALLATIONS ARE APPROXIMATE. THERE MAY BE OTHER UTILITY INSTALLATIONS WITHIN THE PROJECT WHICH ARE NOT SHOWN.
2. THE ENGINEER SHALL ADJUST THE LOCATIONS OF THE ITEMS UNDER THIS CONTRACT TO AVOID CONFLICT WITH EXISTING UTILITY FACILITIES.
3. TRAFFIC CONTROL SHOWN FOR INFORMATION ONLY. SEE TRAFFIC CONTROL SHEETS FOR ACTUAL PLACEMENT.
4. ALL LENSES ARE 12-INCH LED



LEGEND

⊠	EXISTING CONTROL CABINET	X	SIGNAL HEAD NUMBER
- - - - - -	EXISTING NONMETALLIC CONDUIT	R	RED CIRCULAR INDICATOR
———	EXISTING LOOP DETECTOR CONDUIT	Y	YELLOW CIRCULAR INDICATOR
—⊙	EXISTING SIGNAL HEAD, PEDESTAL MOUNT	G	GREEN CIRCULAR INDICATOR
⊙—	EXISTING SIGNAL HEAD, MAST-ARM MOUNT	Ya	YELLOW ARROW CIRCULAR INDICATOR
⊗	EXISTING PULL BOX	Ga	GREEN ARROW CIRCULAR INDICATOR
—⊙—	EXISTING LUMINAIRE	-·-·-·-	TEMPORARY TRAFFIC SIGNAL CABLE
▭	EXISTING LOOP DETECTOR (6'x20')	▨	TEMPORARY DETECTION ZONE
←	LANE DESIGNATION (FOR INFO ONLY)		TRAFFIC SIGNAL FACE TO BE COVERED
■	ADJUST PULL BOX AND INSTALL TEMPORARY COVER PLATE		NOTE: ALL LENSES ARE 12-INCH. GRAYSHADE REPRESENTS EXISTING.

TRAFFIC CONTROL SIGNAL

STH 32 & SEVEN HILLS ROAD (CTH LL)
CITY OF PORT WASHINGTON
OZAUKEE COUNTY

SIGNAL NO.

REGIONAL CONTACT: STEVE HOFF
DESIGNED BY: KJR
REVISED BY:

PAGE OF

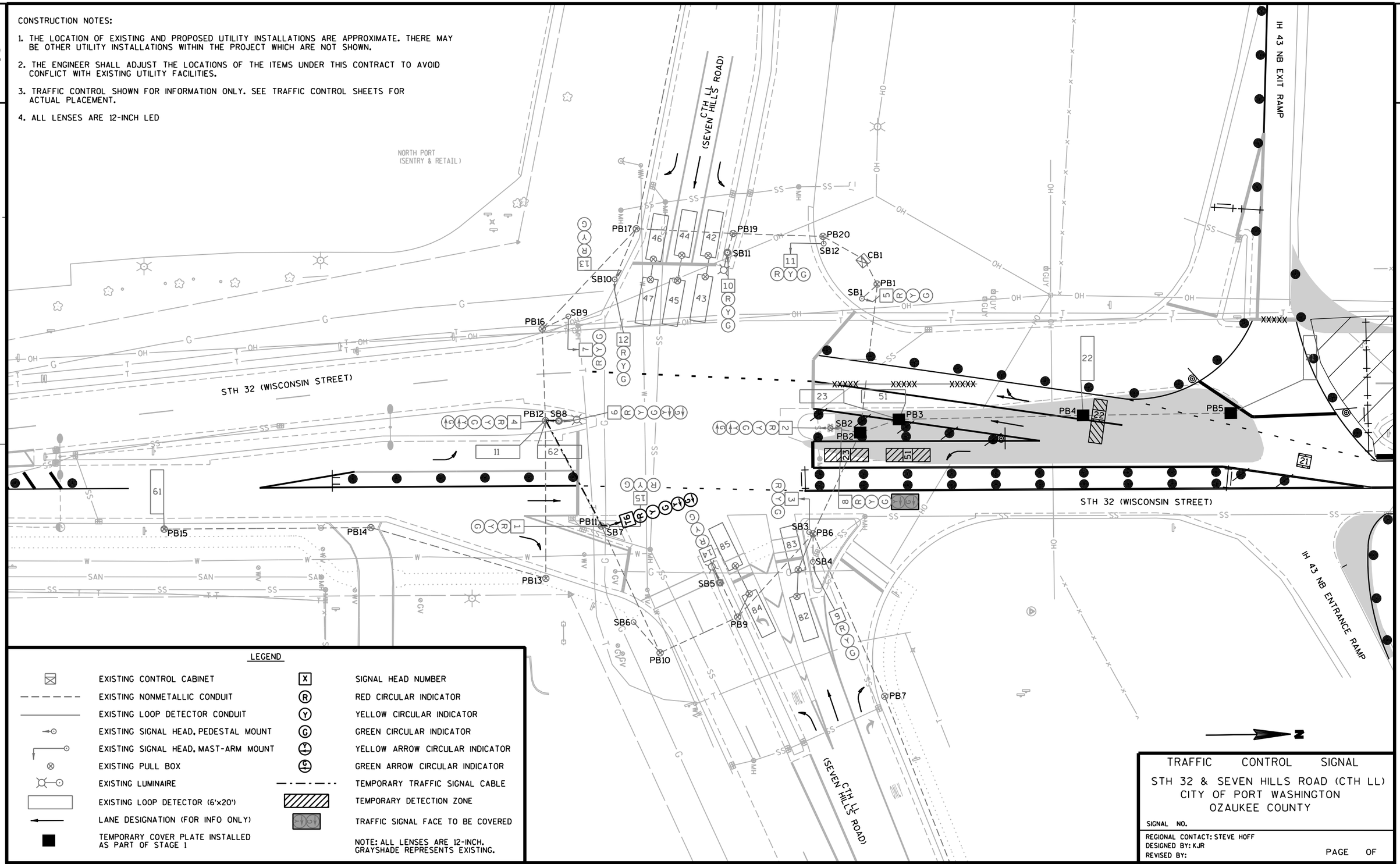
PROJECT NO: 1450-16-70	HWY: IH 43	COUNTY: OZAUKEE	TRAFFIC SIGNAL MODIFICATIONS - STAGE 1	SHEET	E

FILE NAME : $$....designfile....$$ PLOT DATE : $$...plottingdate...$$ PLOT BY : $$...plotuser...$$ PLOT NAME : PLOT SCALE : $$.....plotscale.....$$ WISDOT/CADDS SHEET 42

Traffic Signal - Stage 1.dgn 4/10/2013 1:52:23 PM jdolens

CONSTRUCTION NOTES:

1. THE LOCATION OF EXISTING AND PROPOSED UTILITY INSTALLATIONS ARE APPROXIMATE. THERE MAY BE OTHER UTILITY INSTALLATIONS WITHIN THE PROJECT WHICH ARE NOT SHOWN.
2. THE ENGINEER SHALL ADJUST THE LOCATIONS OF THE ITEMS UNDER THIS CONTRACT TO AVOID CONFLICT WITH EXISTING UTILITY FACILITIES.
3. TRAFFIC CONTROL SHOWN FOR INFORMATION ONLY. SEE TRAFFIC CONTROL SHEETS FOR ACTUAL PLACEMENT.
4. ALL LENSES ARE 12-INCH LED



LEGEND

	EXISTING CONTROL CABINET	X	SIGNAL HEAD NUMBER
	EXISTING NONMETALLIC CONDUIT	R	RED CIRCULAR INDICATOR
	EXISTING LOOP DETECTOR CONDUIT	Y	YELLOW CIRCULAR INDICATOR
	EXISTING SIGNAL HEAD, PEDESTAL MOUNT	G	GREEN CIRCULAR INDICATOR
	EXISTING SIGNAL HEAD, MAST-ARM MOUNT	Y	YELLOW ARROW CIRCULAR INDICATOR
	EXISTING PULL BOX	G	GREEN ARROW CIRCULAR INDICATOR
	EXISTING LUMINAIRE		TEMPORARY TRAFFIC SIGNAL CABLE
	EXISTING LOOP DETECTOR (6'x20')		TEMPORARY DETECTION ZONE
	LANE DESIGNATION (FOR INFO ONLY)		TRAFFIC SIGNAL FACE TO BE COVERED
	TEMPORARY COVER PLATE INSTALLED AS PART OF STAGE 1		NOTE: ALL LENSES ARE 12-INCH. GRAYSHADE REPRESENTS EXISTING.

TRAFFIC CONTROL SIGNAL

STH 32 & SEVEN HILLS ROAD (CTH LL)
CITY OF PORT WASHINGTON
OZAUKEE COUNTY

SIGNAL NO.

REGIONAL CONTACT: STEVE HOFF
DESIGNED BY: KJR
REVISED BY:

PAGE OF

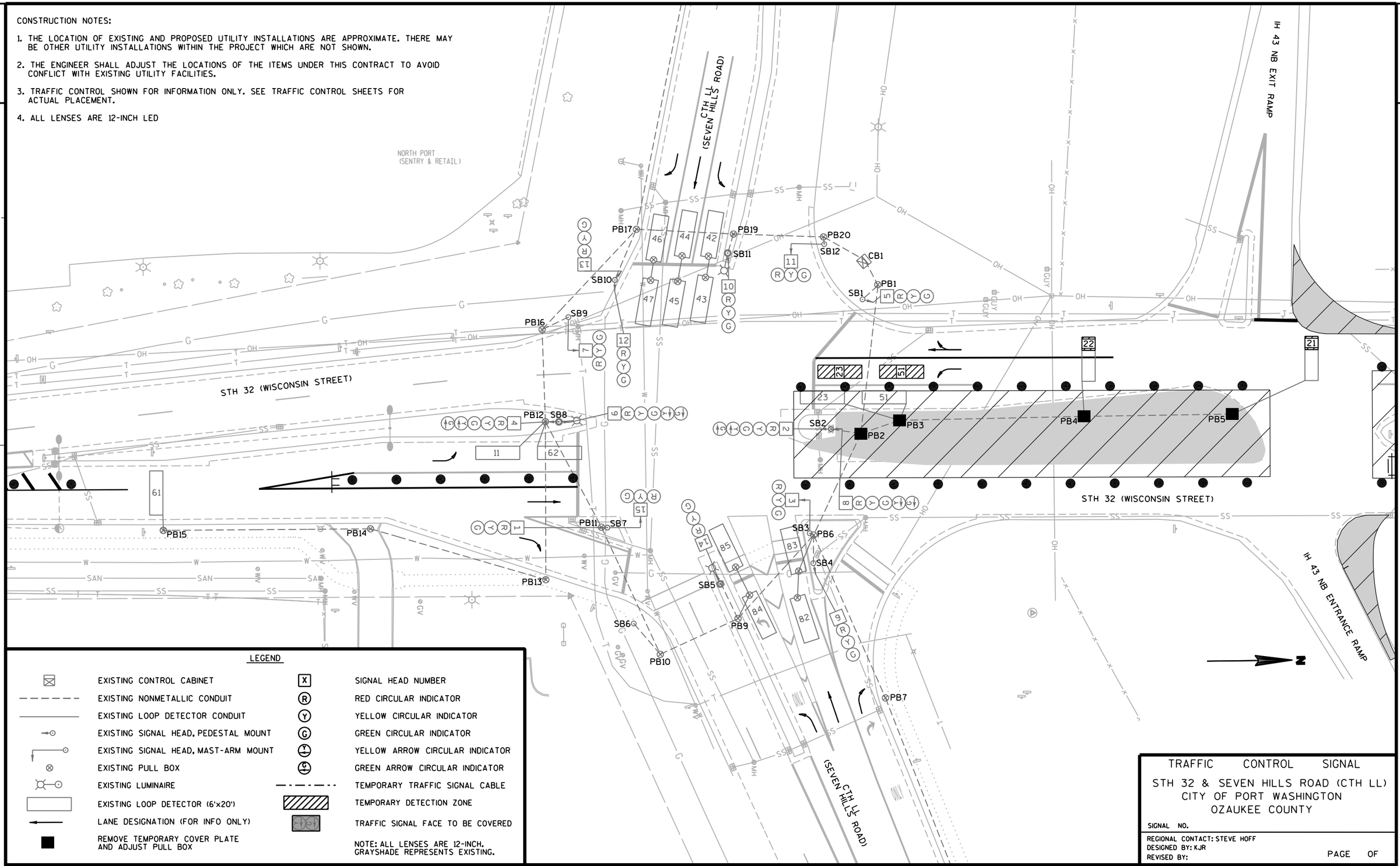
PROJECT NO: 1450-16-70	HWY: IH 43	COUNTY: OZAUKEE	TRAFFIC SIGNAL MODIFICATIONS - STAGE 2	SHEET 98	E

FILE NAME : $$....designfile....$$ PLOT DATE : $$...plottingdate...$$ PLOT BY : $$...plotuser...$$ PLOT NAME : PLOT SCALE : $$.....plotscale.....$$ WISDOT/CADDS SHEET 42

Traffic Signal - Stage 2.dgn 4/10/2013 1:52:25 PM jdolens

CONSTRUCTION NOTES:

1. THE LOCATION OF EXISTING AND PROPOSED UTILITY INSTALLATIONS ARE APPROXIMATE. THERE MAY BE OTHER UTILITY INSTALLATIONS WITHIN THE PROJECT WHICH ARE NOT SHOWN.
2. THE ENGINEER SHALL ADJUST THE LOCATIONS OF THE ITEMS UNDER THIS CONTRACT TO AVOID CONFLICT WITH EXISTING UTILITY FACILITIES.
3. TRAFFIC CONTROL SHOWN FOR INFORMATION ONLY. SEE TRAFFIC CONTROL SHEETS FOR ACTUAL PLACEMENT.
4. ALL LENSES ARE 12-INCH LED



LEGEND

⊠	EXISTING CONTROL CABINET	X	SIGNAL HEAD NUMBER
- - - - - -	EXISTING NONMETALLIC CONDUIT	R	RED CIRCULAR INDICATOR
———	EXISTING LOOP DETECTOR CONDUIT	Y	YELLOW CIRCULAR INDICATOR
—⊙	EXISTING SIGNAL HEAD, PEDESTAL MOUNT	G	GREEN CIRCULAR INDICATOR
⊙—	EXISTING SIGNAL HEAD, MAST-ARM MOUNT	Ty	YELLOW ARROW CIRCULAR INDICATOR
⊗	EXISTING PULL BOX	Gy	GREEN ARROW CIRCULAR INDICATOR
—⊙—	EXISTING LUMINAIRE	-·-·-·-	TEMPORARY TRAFFIC SIGNAL CABLE
▭	EXISTING LOOP DETECTOR (6'x20')	▨	TEMPORARY DETECTION ZONE
←	LANE DESIGNATION (FOR INFO ONLY)	▨	TRAFFIC SIGNAL FACE TO BE COVERED
■	REMOVE TEMPORARY COVER PLATE AND ADJUST PULL BOX		NOTE: ALL LENSES ARE 12-INCH. GRAYSHADE REPRESENTS EXISTING.

TRAFFIC CONTROL SIGNAL

STH 32 & SEVEN HILLS ROAD (CTH LL)
CITY OF PORT WASHINGTON
OZAUKEE COUNTY

SIGNAL NO.

REGIONAL CONTACT: STEVE HOFF
DESIGNED BY: KJR
REVISED BY:

PAGE OF

PROJECT NO: 1450-16-70	HWY: IH 43	COUNTY: OZAUKEE	TRAFFIC SIGNAL MODIFICATIONS - STAGE 3	SHEET 99	E

FILE NAME : $$....designfile....$$ PLOT DATE : $$...plottingdate...$$ PLOT BY : $$...plotuser...$$ PLOT NAME : PLOT SCALE : $$.....plotscale.....$$ WISDOT/CADDS SHEET 42

Traffic Signal - Stage 3.dgn 4/10/2013 1:52:27 PM jdolens

DATE 30APR13 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	1450-16-70 QUANTITY
0010	201.0105	CLEARING	STA	7.000	7.000
0020	201.0205	GRUBBING	STA	7.000	7.000
0030	203.0200	REMOVING OLD STRUCTURE (STATION) 01. 40+00	LS	1.000	1.000
0040	203.0200	REMOVING OLD STRUCTURE (STATION) 03. 42'NB'+22.82	LS	1.000	1.000
0050	203.0200	REMOVING OLD STRUCTURE (STATION) 10. 635+55	LS	1.000	1.000
0060	203.0200	REMOVING OLD STRUCTURE (STATION) 11. 678+75	LS	1.000	1.000
0070	203.0210.S	ABATEMENT OF ASBESTOS CONTAINING MATERIAL (STRUCTURE) 01. B-45-33 REHAB	LS	1.000	1.000
0080	203.0210.S	ABATEMENT OF ASBESTOS CONTAINING MATERIAL (STRUCTURE) 03. B-45-45 REHAB	LS	1.000	1.000
0090	203.0210.S	ABATEMENT OF ASBESTOS CONTAINING MATERIAL (STRUCTURE) 04. B-45-48 REHAB	LS	1.000	1.000
0100	203.0210.S	ABATEMENT OF ASBESTOS CONTAINING MATERIAL (STRUCTURE) 05. B-45-49 REHAB	LS	1.000	1.000
0110	203.0210.S	ABATEMENT OF ASBESTOS CONTAINING MATERIAL (STRUCTURE) 06. B-45-50 REHAB	LS	1.000	1.000
0120	203.0210.S	ABATEMENT OF ASBESTOS CONTAINING MATERIAL (STRUCTURE) 07. B-45-51 REHAB	LS	1.000	1.000
0130	203.0210.S	ABATEMENT OF ASBESTOS CONTAINING MATERIAL (STRUCTURE) 08. B-45-57 REHAB	LS	1.000	1.000
0140	203.0210.S	ABATEMENT OF ASBESTOS CONTAINING MATERIAL (STRUCTURE) 09. B-45-59 REHAB	LS	1.000	1.000
0150	203.0225.S	DEBRIS CONTAINMENT (STRUCTURE) 01. B-45-33 REHAB	LS	1.000	1.000
0160	203.0225.S	DEBRIS CONTAINMENT (STRUCTURE) 02. B-45-42 REHAB	LS	1.000	1.000
0170	203.0225.S	DEBRIS CONTAINMENT (STRUCTURE) 03. B-45-45 REHAB	LS	1.000	1.000
0180	203.0225.S	DEBRIS CONTAINMENT (STRUCTURE) 04. B-45-48 REHAB	LS	1.000	1.000
0190	203.0225.S	DEBRIS CONTAINMENT (STRUCTURE) 05. B-45-49 REHAB	LS	1.000	1.000
0200	203.0225.S	DEBRIS CONTAINMENT (STRUCTURE) 06. B-45-50 REHAB	LS	1.000	1.000
0210	203.0225.S	DEBRIS CONTAINMENT (STRUCTURE) 07. B-45-51 REHAB	LS	1.000	1.000
0220	203.0225.S	DEBRIS CONTAINMENT (STRUCTURE) 08. B-45-57 REHAB	LS	1.000	1.000
0230	203.0225.S	DEBRIS CONTAINMENT (STRUCTURE) 09. B-45-59 REHAB	LS	1.000	1.000
0240	204.0100	REMOVING PAVEMENT	SY	5,760.000	5,760.000
0250	204.0110	REMOVING ASPHALTIC SURFACE	SY	16,450.000	16,450.000
0260	204.0150	REMOVING CURB & GUTTER	LF	825.000	825.000
0270	204.0165	REMOVING GUARDRAIL	LF	3,860.000	3,860.000
0280	204.0170	REMOVING FENCE	LF	745.000	745.000
0290	204.0180	REMOVING DELINEATORS AND MARKERS	EACH	113.000	113.000
0300	204.0220	REMOVING INLETS	EACH	10.000	10.000
0310	204.0245	REMOVING STORM SEWER (SIZE) 01. 12-INCH	LF	170.000	170.000
0320	204.0245	REMOVING STORM SEWER (SIZE) 02. 15-INCH	LF	8.000	8.000
0330	204.0245	REMOVING STORM SEWER (SIZE) 03. 18-INCH	LF	8.000	8.000
0340	204.0280	SEALING PIPES	EACH	1.000	1.000
0350	205.0100	EXCAVATION COMMON	CY	49,909.000	49,909.000

3

DATE 30APR13 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	1450-16-70 QUANTITY
0360	206.1000	EXCAVATION FOR STRUCTURES BRIDGES (STRUCTURE) 02. B-45-42 REHAB	LS	1.000	1.000
0370	206.2000	EXCAVATION FOR STRUCTURES CULVERTS (STRUCTURE) 10. B-45-64 REHAB	LS	1.000	1.000
0380	206.2000	EXCAVATION FOR STRUCTURES CULVERTS (STRUCTURE) 11. B-45-66 REHAB	LS	1.000	1.000
0390	206.6000.S	TEMPORARY SHORING	SF	690.000	690.000
0400	210.0100	BACKFILL STRUCTURE	CY	210.000	210.000
0410	211.0400	PREPARE FOUNDATION FOR ASPHALTIC SHOULDERS	STA	210.000	210.000
0420	213.0100	FINISHING ROADWAY (PROJECT) 01. 1450-16-70	EACH	1.000	1.000
0430	305.0110	BASE AGGREGATE DENSE 3/4-INCH	TON	21,720.000	21,720.000
0440	305.0120	BASE AGGREGATE DENSE 1 1/4-INCH	TON	70,334.000	70,334.000
0450	305.0500	SHAPING SHOULDERS	STA	211.000	211.000
0460	311.0110	BREAKER RUN	TON	26,011.000	26,011.000
0470	415.0090	CONCRETE PAVEMENT 9-INCH	SY	1,295.000	1,295.000
0480	415.0110	CONCRETE PAVEMENT 11-INCH	SY	3,920.000	3,920.000
0490	415.0410	CONCRETE PAVEMENT APPROACH SLAB	SY	1,246.000	1,246.000
0500	416.0610	DRILLED TIE BARS	EACH	63.000	63.000
0510	416.0620	DRILLED DOWEL BARS	EACH	406.000	406.000
0520	440.4410.S	INCENTIVE IRI RIDE	DOL	2,340.000	2,340.000
0530	455.0105	ASPHALTIC MATERIAL PG58-28	TON	1,161.000	1,161.000
0540	455.0605	TACK COAT	GAL	11.000	11.000
0550	460.1101	HMA PAVEMENT TYPE E-1	TON	20,550.000	20,550.000
0560	460.2000	INCENTIVE DENSITY HMA PAVEMENT	DOL	13,160.000	13,160.000
0570	465.0105	ASPHALTIC SURFACE	TON	420.000	420.000
0580	465.0125	ASPHALTIC SURFACE TEMPORARY	TON	300.000	300.000
0590	465.0310	ASPHALTIC CURB	LF	242.000	242.000
0600	465.0315	ASPHALTIC FLUMES	SY	99.000	99.000
0610	465.0400	ASPHALTIC SHOULDER RUMBLE STRIP	LF	90,794.000	90,794.000
0620	502.0100	CONCRETE MASONRY BRIDGES	CY	1,454.000	1,454.000
0630	502.2000	COMPRESSION JOINT SEALER PREFORMED ELASTOMERIC (WIDTH) 03. 2 1/4-INCH	LF	282.000	282.000
0640	502.3100	EXPANSION DEVICE (STRUCTURE) 01. B-45-33 REHAB	LS	1.000	1.000
0650	502.3100	EXPANSION DEVICE (STRUCTURE) 03. B-45-45 REHAB	LS	1.000	1.000
0660	502.3100	EXPANSION DEVICE (STRUCTURE) 04. B-45-48 REHAB	LS	1.000	1.000
0670	502.3100	EXPANSION DEVICE (STRUCTURE) 05. B-45-49 REHAB	LS	1.000	1.000
0680	502.3100	EXPANSION DEVICE (STRUCTURE) 06. B-45-50 REHAB	LS	1.000	1.000
0690	502.3100	EXPANSION DEVICE (STRUCTURE) 07. B-45-51 REHAB	LS	1.000	1.000
0700	502.3100	EXPANSION DEVICE (STRUCTURE) 09. B-45-59 REHAB	LS	1.000	1.000
0710	502.3200	PROTECTIVE SURFACE TREATMENT	SY	12,528.000	12,528.000
0720	502.5005	MASONRY ANCHORS TYPE L NO. 5 BARS	EACH	1,590.000	1,590.000
0730	502.5010	MASONRY ANCHORS TYPE L NO. 6 BARS	EACH	148.000	148.000
0740	502.6105	MASONRY ANCHORS TYPE S 5/8-INCH	EACH	80.000	80.000
0750	504.0100	CONCRETE MASONRY CULVERTS	CY	31.000	31.000
0760	505.0605	BAR STEEL REINFORCEMENT HS COATED BRIDGES	LB	324,020.000	324,020.000

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LINE NUMBER	ITEM	ITEM DESCRIPTION	UNIT	TOTAL	1450-16-70 QUANTITY
0770	505.0610	BAR STEEL REINFORCEMENT HS COATED CULVERTS	LB	3,400.000	3,400.000
0780	505.0905	BAR COUPLERS NO. 5	EACH	6.000	6.000
0790	505.0906	BAR COUPLERS NO. 6	EACH	50.000	50.000
0800	505.0908	BAR COUPLERS NO. 8	EACH	12.000	12.000
0810	506.2605	BEARING PADS ELASTOMERIC NON-LAMINATED	EACH	12.000	12.000
0820	506.3015	WELDED STUD SHEAR CONNECTORS 7/8X6-INCH	EACH	400.000	400.000
0830	506.3020	WELDED STUD SHEAR CONNECTORS 7/8X7-INCH	EACH	170.000	170.000
0840	506.7000.S	BEARING REPLACEMENT (STRUCTURE) 01. B-45-33 REHAB	EACH	8.000	8.000
0850	506.7000.S	BEARING REPLACEMENT (STRUCTURE) 03. B-45-45 REHAB	EACH	10.000	10.000
0860	506.7000.S	BEARING REPLACEMENT (STRUCTURE) 04. B-45-48 REHAB	EACH	2.000	2.000
0870	506.7000.S	BEARING REPLACEMENT (STRUCTURE) 05. B-45-49 REHAB	EACH	7.000	7.000
0880	506.7000.S	BEARING REPLACEMENT (STRUCTURE) 06. B-45-50 REHAB	EACH	4.000	4.000
0890	506.7000.S	BEARING REPLACEMENT (STRUCTURE) 07. B-45-51 REHAB	EACH	4.000	4.000
0900	506.7000.S	BEARING REPLACEMENT (STRUCTURE) 09. B-45-59 REHAB	EACH	3.000	3.000
0910	506.7050.S	REMOVING BEARINGS (STRUCTURE) 02. B-45-42 REHAB	EACH	12.000	12.000
0920	509.0301	PREPARATION DECKS TYPE 1	SY	748.000	748.000
0930	509.0302	PREPARATION DECKS TYPE 2	SY	282.000	282.000
0940	509.0500	CLEANING DECKS	SY	6,368.000	6,368.000
0950	509.1000	JOINT REPAIR	SY	228.000	228.000
0960	509.1500	CONCRETE SURFACE REPAIR	SF	292.000	292.000
0970	509.2000	FULL-DEPTH DECK REPAIR	SY	15.000	15.000
0980	509.2500	CONCRETE MASONRY OVERLAY DECKS	CY	594.000	594.000
0990	516.0500	RUBBERIZED MEMBRANE WATERPROOFING	SY	31.000	31.000
1000	517.0900.S	PREPARATION AND COATING OF TOP FLANGES (STRUCTURE) 01. B-45-33 REHAB	LS	1.000	1.000
1010	517.0900.S	PREPARATION AND COATING OF TOP FLANGES (STRUCTURE) 03. B-45-45 REHAB	LS	1.000	1.000
1020	517.1800.S	STRUCTURE REPAINTING RECYCLED ABRASIVE (STRUCTURE) 03. B-45-45 REHAB	LS	1.000	1.000
1030	517.1800.S	STRUCTURE REPAINTING RECYCLED ABRASIVE (STRUCTURE) 04. B-45-48 REHAB	LS	1.000	1.000
1040	517.1800.S	STRUCTURE REPAINTING RECYCLED ABRASIVE (STRUCTURE) 05. B-45-49 REHAB	LS	1.000	1.000
1050	517.1800.S	STRUCTURE REPAINTING RECYCLED ABRASIVE (STRUCTURE) 09. B-45-59 REHAB	LS	1.000	1.000
1060	517.4500.S	NEGATIVE PRESSURE CONTAINMENT AND COLLECTION OF WASTE MATERIALS (STRUCTURE) 03. B-45-45 REHAB	LS	1.000	1.000
1070	517.4500.S	NEGATIVE PRESSURE CONTAINMENT AND COLLECTION OF WASTE MATERIALS (STRUCTURE) 04. B-45-48 REHAB	LS	1.000	1.000
1080	517.4500.S	NEGATIVE PRESSURE CONTAINMENT AND COLLECTION OF WASTE MATERIALS (STRUCTURE) 05. B-45-49 REHAB	LS	1.000	1.000
1090	517.4500.S	NEGATIVE PRESSURE CONTAINMENT AND COLLECTION OF WASTE MATERIALS (STRUCTURE) 09. B-45-59 REHAB	LS	1.000	1.000
1100	517.6001.S	PORTABLE DECONTAMINATION FACILITY	EACH	4.000	4.000

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LINE NUMBER	ITEM	ITEM DESCRIPTION	UNIT	TOTAL	1450-16-70 QUANTITY
1110	520.8000	CONCRETE COLLARS FOR PIPE	EACH	12.000	12.000
1120	601.0409	CONCRETE CURB & GUTTER 30-INCH TYPE A	LF	1,710.000	1,710.000
1130	601.0551	CONCRETE CURB AND GUTTER 4-INCH SLOPED 36-INCH TYPE A	LF	165.000	165.000
1140	601.0553	CONCRETE CURB AND GUTTER 4-INCH SLOPED 36-INCH TYPE D	LF	100.000	100.000
1150	601.0557	CONCRETE CURB AND GUTTER 6-INCH SLOPED 36-INCH TYPE D	LF	90.000	90.000
1160	603.8000	CONCRETE BARRIER TEMPORARY PRECAST DELIVERED	LF	6,150.000	6,150.000
1170	603.8125	CONCRETE BARRIER TEMPORARY PRECAST INSTALLED	LF	12,175.000	12,175.000
1180	604.0500	SLOPE PAVING CRUSHED AGGREGATE	SY	88.000	88.000
1190	604.9010.S	SLOPE PAVING REPAIR CRUSHED AGGREGRATE	CY	169.000	169.000
1200	604.9015.S	RESEAL CRUSHED AGGREGATE SLOPE PAVING	SY	3,480.000	3,480.000
1210	606.0200	RIPRAP MEDIUM	CY	78.000	78.000
1220	608.0312	STORM SEWER PIPE REINFORCED CONCRETE CLASS III 12-INCH	LF	164.000	164.000
1230	608.0315	STORM SEWER PIPE REINFORCED CONCRETE CLASS III 15-INCH	LF	8.000	8.000
1240	608.0318	STORM SEWER PIPE REINFORCED CONCRETE CLASS III 18-INCH	LF	8.000	8.000
1250	611.0430	RECONSTRUCTING INLETS	EACH	5.000	5.000
1260	611.0624	INLET COVERS TYPE H	EACH	8.000	8.000
1270	611.0642	INLET COVERS TYPE MS	EACH	1.000	1.000
1280	611.3230	INLETS 2X3-FT	EACH	8.000	8.000
1290	611.3901	INLETS MEDIAN 1 GRATE	EACH	1.000	1.000
1300	611.8115	ADJUSTING INLET COVERS	EACH	2.000	2.000
1310	611.8120.S	COVER PLATES TEMPORARY	EACH	4.000	4.000
1320	612.0104	PIPE UNDERDRAIN 4-INCH	LF	5,258.000	5,258.000
1330	614.0010	BARRIER SYSTEM GRADING SHAPING FINISHING	EACH	1.000	1.000
1340	614.0150	ANCHOR ASSEMBLIES FOR STEEL PLATE BEAM GUARD	EACH	4.000	4.000
1350	614.0200	STEEL THRIE BEAM STRUCTURE APPROACH	LF	315.000	315.000
1360	614.0305	STEEL PLATE BEAM GUARD CLASS A	LF	1,310.000	1,310.000
1370	614.0905	CRASH CUSHIONS TEMPORARY	EACH	13.000	13.000
1380	614.2300	MGS GUARDRAIL 3	LF	1,817.000	1,817.000
1390	614.2500	MGS THRIE BEAM TRANSITION	LF	600.000	600.000
1400	614.2610	MGS GUARDRAIL TERMINAL EAT	EACH	9.000	9.000
1410	614.2620	MGS GUARDRAIL TERMINAL TYPE 2	EACH	1.000	1.000
1420	616.0100	FENCE WOVEN WIRE (HEIGHT) 01. 4.5 FEET	LF	691.000	691.000
1430	616.0100	FENCE WOVEN WIRE (HEIGHT) 02. 4 FEET	LF	50.000	50.000
1440	619.1000	MOBILIZATION	EACH	1.000	1.000
1450	625.0100	TOPSOIL	SY	4,664.000	4,664.000
1460	625.0500	SALVAGED TOPSOIL	SY	13,100.000	13,100.000
1470	627.0200	MULCHING	SY	16,478.000	16,478.000
1480	628.1504	SILT FENCE	LF	6,120.000	6,120.000
1490	628.1520	SILT FENCE MAINTENANCE	LF	6,420.000	6,420.000
1500	628.1905	MOBILIZATIONS EROSION CONTROL	EACH	60.000	60.000
1510	628.1910	MOBILIZATIONS EMERGENCY EROSION CONTROL	EACH	44.000	44.000
1520	628.2004	EROSION MAT CLASS I TYPE B	SY	1,645.000	1,645.000
1530	628.7005	INLET PROTECTION TYPE A	EACH	28.000	28.000
1540	628.7015	INLET PROTECTION TYPE C	EACH	2.000	2.000
1550	628.7020	INLET PROTECTION TYPE D	EACH	32.000	32.000
1560	628.7504	TEMPORARY DITCH CHECKS	LF	225.000	225.000

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LINE NUMBER	ITEM	ITEM DESCRIPTION	UNIT	TOTAL	1450-16-70 QUANTITY
1570	628.7570	ROCK BAGS	EACH	225.000	225.000
1580	629.0210	FERTILIZER TYPE B	CWT	17.100	17.100
1590	630.0110	SEEDING MIXTURE NO. 10	LB	241.000	241.000
1600	630.0200	SEEDING TEMPORARY	LB	33.000	33.000
1610	633.0100	DELINEATOR POSTS STEEL	EACH	113.000	113.000
1620	634.0618	POSTS WOOD 4X6-INCH X 18-FT	EACH	40.000	40.000
1630	637.0202	SIGNS REFLECTIVE TYPE II	SF	244.880	244.880
1640	638.2102	MOVING SIGNS TYPE II	EACH	18.000	18.000
1650	638.2602	REMOVING SIGNS TYPE II	EACH	36.000	36.000
1660	638.3000	REMOVING SMALL SIGN SUPPORTS	EACH	39.000	39.000
1670	642.5001	FIELD OFFICE TYPE B	EACH	1.000	1.000
1680	643.0100	TRAFFIC CONTROL (PROJECT) 01. 1450-16-70	EACH	1.000	1.000
1690	643.0300	TRAFFIC CONTROL DRUMS	DAY	65,971.000	65,971.000
1700	643.0420	TRAFFIC CONTROL BARRICADES TYPE III	DAY	7,998.000	7,998.000
1710	643.0500	TRAFFIC CONTROL FLEXIBLE TUBULAR MARKER POSTS	EACH	4,764.000	4,764.000
1720	643.0600	TRAFFIC CONTROL FLEXIBLE TUBULAR MARKER BASES	EACH	4,764.000	4,764.000
1730	643.0705	TRAFFIC CONTROL WARNING LIGHTS TYPE A	DAY	13,440.000	13,440.000
1740	643.0715	TRAFFIC CONTROL WARNING LIGHTS TYPE C	DAY	17,690.000	17,690.000
1750	643.0800	TRAFFIC CONTROL ARROW BOARDS	DAY	1,652.000	1,652.000
1760	643.0900	TRAFFIC CONTROL SIGNS	DAY	24,051.000	24,051.000
1770	643.0920	TRAFFIC CONTROL COVERING SIGNS TYPE II	EACH	31.000	31.000
1780	643.1000	TRAFFIC CONTROL SIGNS FIXED MESSAGE	SF	756.000	756.000
1790	643.1050	TRAFFIC CONTROL SIGNS PCMS	DAY	340.000	340.000
1800	643.2000	TRAFFIC CONTROL DETOUR (PROJECT) 01. 1450-16-70	EACH	1.000	1.000
1810	643.3000	TRAFFIC CONTROL DETOUR SIGNS	DAY	7,872.000	7,872.000
1820	645.0130	GEOTEXTILE FABRIC TYPE R	SY	113.000	113.000
1830	646.0103	PAVEMENT MARKING PAINT 4-INCH	LF	1,775.000	1,775.000
1840	646.0106	PAVEMENT MARKING EPOXY 4-INCH	LF	32,705.000	32,705.000
1850	646.0126	PAVEMENT MARKING EPOXY 8-INCH	LF	585.000	585.000
1860	646.0600	REMOVING PAVEMENT MARKINGS	LF	34,410.000	34,410.000
1870	646.0841.S	PAVEMENT MARKING GROOVED WET REFLECTIVE CONTRAST TAPE 4-INCH	LF	2,645.000	2,645.000
1880	647.0456	PAVEMENT MARKING CURB EPOXY	LF	320.000	320.000
1890	647.0556	PAVEMENT MARKING STOP LINE EPOXY 12-INCH	LF	30.000	30.000
1900	647.0566	PAVEMENT MARKING STOP LINE EPOXY 18-INCH	LF	60.000	60.000
1910	649.0200	TEMPORARY PAVEMENT MARKING REFLECTIVE PAINT 4-INCH	LF	4,650.000	4,650.000
1920	649.0400	TEMPORARY PAVEMENT MARKING REMOVABLE TAPE 4-INCH	LF	82,010.000	82,010.000
1930	649.0801	TEMPORARY PAVEMENT MARKING REMOVABLE TAPE 8-INCH	LF	825.000	825.000
1940	649.1000	TEMPORARY PAVEMENT MARKING STOP LINE REMOVABLE TAPE 12-INCH	LF	405.000	405.000
1950	649.1600	TEMPORARY PAVEMENT MARKING DIAGONAL REMOVABLE TAPE 12-INCH	LF	175.000	175.000
1960	650.4000	CONSTRUCTION STAKING STORM SEWER	EACH	9.000	9.000
1970	650.4500	CONSTRUCTION STAKING SUBGRADE	LF	2,515.000	2,515.000
1980	650.5000	CONSTRUCTION STAKING BASE	LF	2,515.000	2,515.000
1990	650.5500	CONSTRUCTION STAKING CURB GUTTER AND CURB & GUTTER	LF	2,065.000	2,065.000
2000	650.6500	CONSTRUCTION STAKING STRUCTURE LAYOUT (STRUCTURE) 01. B-45-33 REHAB	LS	1.000	1.000

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LINE NUMBER	ITEM	ITEM DESCRIPTION	UNIT	TOTAL	1450-16-70 QUANTITY
2010	650.6500	CONSTRUCTION STAKING STRUCTURE LAYOUT (STRUCTURE) 02. B-45-42 REHAB	LS	1.000	1.000
2020	650.6500	CONSTRUCTION STAKING STRUCTURE LAYOUT (STRUCTURE) 03. B-45-45 REHAB	LS	1.000	1.000
2030	650.6500	CONSTRUCTION STAKING STRUCTURE LAYOUT (STRUCTURE) 04. B-45-48 REHAB	LS	1.000	1.000
2040	650.6500	CONSTRUCTION STAKING STRUCTURE LAYOUT (STRUCTURE) 05. B-45-49 REHAB	LS	1.000	1.000
2050	650.6500	CONSTRUCTION STAKING STRUCTURE LAYOUT (STRUCTURE) 06. B-45-50 REHAB	LS	1.000	1.000
2060	650.6500	CONSTRUCTION STAKING STRUCTURE LAYOUT (STRUCTURE) 07. B-45-51 REHAB	LS	1.000	1.000
2070	650.6500	CONSTRUCTION STAKING STRUCTURE LAYOUT (STRUCTURE) 08. B-45-57 REHAB	LS	1.000	1.000
2080	650.6500	CONSTRUCTION STAKING STRUCTURE LAYOUT (STRUCTURE) 09. B-45-59 REHAB	LS	1.000	1.000
2090	650.6500	CONSTRUCTION STAKING STRUCTURE LAYOUT (STRUCTURE) 10. B-45-64 REHAB	LS	1.000	1.000
2100	650.6500	CONSTRUCTION STAKING STRUCTURE LAYOUT (STRUCTURE) 11. B-45-66 REHAB	LS	1.000	1.000
2110	650.7000	CONSTRUCTION STAKING CONCRETE PAVEMENT	LF	1,860.000	1,860.000
2120	650.8000	CONSTRUCTION STAKING RESURFACING REFERENCE	LF	43,629.000	43,629.000
2130	650.9910	CONSTRUCTION STAKING SUPPLEMENTAL CONTROL (PROJECT) 01. 1450-16-70	LS	1.000	1.000
2140	650.9920	CONSTRUCTION STAKING SLOPE STAKES	LF	2,515.000	2,515.000
2150	653.0900	ADJUSTING PULL BOXES	EACH	8.000	8.000
2160	690.0150	SAWING ASPHALT	LF	3,054.000	3,054.000
2170	690.0250	SAWING CONCRETE	LF	2,077.000	2,077.000
2180	715.0415	INCENTIVE STRENGTH CONCRETE PAVEMENT	DOL	1,940.000	1,940.000
2190	715.0502	INCENTIVE STRENGTH CONCRETE STRUCTURES	DOL	12,306.000	12,306.000
2200	ASP.1T0A	ON-THE-JOB TRAINING APPRENTICE AT $5. 00/HR	HRS	11,200.000	11,200.000
2210	ASP.1T0G	ON-THE-JOB TRAINING GRADUATE AT $5.00/HR	HRS	14,400.000	14,400.000
2220	SPV.0045	SPECIAL 01. PORTABLE CHANGABLE MESSAGE (PCMS) CELLULAR COMMUNICATIONS	DAY	240.000	240.000
2230	SPV.0060	SPECIAL 01. CLEANING AND PAINTING BEARINGS	EACH	62.000	62.000
2240	SPV.0060	SPECIAL 02. MASONRY ANCHORS TYPE S 1 1/2-INCH	EACH	40.000	40.000
2250	SPV.0060	SPECIAL 03. TEMPORARY INLET CASTING	EACH	2.000	2.000
2260	SPV.0060	SPECIAL 04. SALVAGED APRON ENDWALLS FOR UNDERDRAIN REINFORCED CONCRETE 4-INCH	EACH	264.000	264.000
2270	SPV.0060	SPECIAL 05. CONNECTING 4 INCH UNDERDRAIN TO EXISTING CONCRETE INLET	EACH	12.000	12.000
2280	SPV.0090	SPECIAL 01. CLEANING PARAPETS	LF	3,527.000	3,527.000
2290	SPV.0090	SPECIAL 02. CRACK SEALING EPOXY SPECIAL	LF	5,205.000	5,205.000
2300	SPV.0090	SPECIAL 03. EXPANDING WATERSTOP	LF	71.000	71.000
2310	SPV.0105	SPECIAL 01. GIRDER END PREPARATION	LS	1.000	1.000
2320	SPV.0105	SPECIAL 02. DEBRIS CONTAINMENT MODIFIED STRUCTURE B-45-64 REHAB	LS	1.000	1.000
2330	SPV.0105	SPECIAL 03. DEBRIS CONTAINMENT MODIFIED STRUCTURE B-45-66 REHAB	LS	1.000	1.000
2340	SPV.0105	SPECIAL 04. REMOVING AND RESETTING TUBULAR RAILING STRUCTURE B-45-45 REHAB	LS	1.000	1.000
2350	SPV.0105	SPECIAL 05. WE ENERGIES GAS MAIN REMOVAL STRUCTURE B-45-33 REHAB	LS	1.000	1.000

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LINE NUMBER	ITEM	ITEM DESCRIPTION	UNIT	TOTAL	1450-16-70 QUANTITY
2360	SPV.0105	SPECIAL 06. WE ENERGIES GAS MAIN REMOVAL STRUCTURE B-45-45 REHAB	LS	1.000	1.000
2370	SPV.0105	SPECIAL 07. WE ENERGIES ABUTMENT PENETRATION REPAIR STRUCTURE B-45-33 REHAB	LS	1.000	1.000
2380	SPV.0105	SPECIAL 08. WE ENERGIES ABUTMENT PENETRATION REPAIR STRUCTURE B-45-45 REHAB	LS	1.000	1.000
2390	SPV.0105	SPECIAL 09. AT&T TELEPHONE DUCT REMOVAL STRUCTURE B-45-45	LS	1.000	1.000
2400	SPV.0105	SPECIAL 10. AT&T TELEPHONE DUCT REMOVAL STRUCTURE B-45-59	LS	1.000	1.000
2410	SPV.0105	SPECIAL 11. AT&T TELEPHONE ABUTMENT PENETRATION REPAIR STRUCTURE B-45-45 REHAB	LS	1.000	1.000
2420	SPV.0105	SPECIAL 12. AT&T TELEPHONE ABUTMENT PENETRATION REPAIR STRUCTURE B-45-59 REHAB	LS	1.000	1.000
2430	SPV.0105	SPECIAL 13. TEMPORARY TRAFFIC SIGNAL HEAD ASSEMBLY AND CABLE	LS	1.000	1.000
2440	SPV.0105	SPECIAL 14. TEMPORARY VEHICLE DETECTION CTH LL INTERSECTION	LS	1.000	1.000

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CLEARING AND GRUBBING

CATEGORY	STRUCTURE	STATION	TO STATION	OFFSET	(201.0105) CLEARING STA	(201.0205) GRUBBING STA
0010	B-45-48	572"NB"+00	573"NB"+00	LT	1	1
		574"NB"+00	575"NB"+00	LT	1	1
	B-45-33	38+00	39+00	RT	1	1
		41+00	45+00	RT	4	4
			PROJECT TOTALS		**7**	**7**

REMOVING CURB & GUTTER

CATEGORY	STRUCTURE	STATION	TO STATION	LOCATION	(204.0150) LF
0010	B-45-45	36+90	38+95	LT (MEDIAN)	415
		39+12	39+58	LT	65
		39+34	39+54	RT	40
		44+75	45+08	RT	55
		45+17	46+61	LT (MEDIAN)	200
	B-45-48	574"NB"+18	574"NB"+25	LT	7
	B-45-49	575"SB"+71	575"SB"+76	LT	5
	B-45-59	36+45	36+65	LT	20
		36+72	36+90	RT	18
			PROJECT TOTAL		**825**

REMOVING FENCE

CATEGORY	STRUCTURE	FROM STATION	OFFSET	TO STATION	OFFSET	(204.0170) LF
0010	B-45-57	917"SB"+30	55' LT	917"SB"+34	35' LT	20
		918"SB"+66	55' LT	918"SB"+69	36' LT	20
	B-45-50	596"NB"+31	82' LT	596"NB"+75	7' LT	90
		596"NB"+96	35' RT	596"NB"+97	56' RT	20
		597"NB"+87	82' LT	598"NB"+23	6' RT	85
		598"NB"+51	36' RT	598"NB"+67	48' RT	20
	B-45-51	595"SB"+97	45' LT	596"SB"+14	35' LT	20
		597"SB"+59	56' LT	597"SB"+60	35' LT	20
	B-45-48	571"NB"+74	7' LT	571"NB"+95	21' LT	25
		571"NB"+15	36' RT	570"NB"+99	53' RT	25
		573"NB"+52	36' RT	573"NB"+61	59' RT	25
		574"NB"+13	7' LT	574"NB"+33	22' LT	25
	B-45-49	573"SB"+36	35' LT	573"SB"+36	60' LT	25
		572"SB"+81	8' RT	572"SB"+60	22' RT	25
		575"SB"+64	35' LT	575"SB"+78	56' LT	25
		575"SB"+09	7' RT	574"SB"+89	23' RT	25
	B-45-59	36+57	18' LT	36+35	31' LT	25
		36+84	18' RT	36+90	42' RT	25
		41+39	18' LT	41+41	43' LT	25
		41+51	18' RT	41+58	42' RT	25
	B-45-33	38+57	21' LT	38+55	46' LT	25
		38+62	18' RT	38+53	43' RT	25
		41+38	18' RT	41+42	43' RT	25
		41+39	18' RT	41+41	43' RT	25
	B-45-66		NORTHEAST WING			50
			PROJECT TOTAL			**745**

REMOVING PAVEMENT

CATEGORY	STRUCTURE	STATION	TO STATION	(204.0100) SY
0010	B-45-57	916"SB"+75	917"SB"+49	200
		918"SB"+68	920"SB"+25	420
	B-45-50	596"NB"+00	596"NB"+96	260
		598"NB"+21	599"NB"+00	210
	B-45-51	595"SB"+50	596"SB"+38	240
		597"SB"+73	598"SB"+50	210
	B-45-48	568"NB"+25	571"NB"+52	850
		573"NB"+52	575"NB"+00	310
	B-45-49	570"SB"+90	573"SB"+40	580
		575"SB"+31	577"SB"+90	690
	B-45-45	39+10	39+50	10
		39+21	39+50	20
		39+50	40+90	960
		43+45	44+55	750
		44+55	44+77	30
		44+55	45+11	20
			PROJECT TOTAL	**5,760**

REMOVING ASPHALTIC SURFACE

CATEGORY	STRUCTURE	STAGE	** STATION	** TO STATION	LOCATION	(204.0110) SY
0010	B-45-57	1	912"SB TC"+75	916"SB TC"+75	RT	130
			920"SB TC"+25	936"SB TC"+15	RT	530
		2	910"SB TC"+75	916"SB TC"+75	LT	670
			920"SB TC"+25	937"SB TC"+85	LT	1,960
	B-45-48/50	1	552"NB TC"+35	568"NB TC"+25	LT	530
			575"NB TC"+00	596"NB TC"+00	LT	700
			599"NB TC"+00	603"NB TC"+00	LT	130
		2	550"NB TC"+65	568"NB TC"+25	RT	1,960
			575"NB TC"+00	596"NB TC"+00	RT	2,330
			599"NB TC"+00	605"NB TC"+00	RT	670
	B-45-49/51	1	566"SB TC"+90	570"SB TC"+90	RT	130
			577"SB TC"+90	595"SB TC"+50	RT	590
			598"SB TC"+50	614"SB TC"+40	RT	530
		2	564"SB TC"+90	570"SB TC"+90	LT	670
			577"SB TC"+90	595"SB TC"+50	LT	1,960
			598"SB TC"+50	616"SB TC"+10	LT	1,960
	B-45-45	3	36+88	39+00	LT (MEDIAN)	590
			39+12	39+58	LT	70
			39+30	39+54	RT	70
			44+75	45+18	RT	50
			45+15	46+61	LT (MEDIAN)	220
				PROJECT TOTAL		**16,450**

**DISREGARD STATION EQUATIONS WHEN LAYING OUT SHOULDER IMPROVEMENT AREAS. ALL STATIONING SHOWN UTILIZES AHEAD STATIONING SHOWN ON THE PLAN AND PROFILE SHEETS.

REMOVING GUARDRAIL

CATEGORY	STRUCTURE	STATION	TO STATION	LOCATION	(204.0165) LF
0010	B-45-57	916"SB"+75	917"SB"+33	LT	60
		918"SB"+73	920"SB"+25	LT	150
		918"SB"+76	920"SB"+25	RT	150
	B-45-50	596"NB"+00	596"NB"+73	LT	75
		596"NB"+00	596"NB"+94	RT	95
	B-45-51	597"SB"+62	598"SB"+50	LT	90
		597"SB"+88	598"SB"+50	RT	60
	B-45-48	569"NB"+92	571"NB"+13	RT	120
		570"NB"+48	571"NB"+74	LT	125
		571"NB"+64	572"NB"+65	LT	115
		573"NB"+74	575"NB"+01	RT	130
		574"NB"+31	575"NB"+23	LT	115
	B-45-49	572"SB"+13	573"SB"+35	LT	125
		575"SB"+10	576"SB"+35	RT	125
		575"SB"+65	576"SB"+92	LT	125
	B-45-45	39+44	40+72	RT	130
		43+64	44+54	LT	90
	B-45-42	36+22	37+36	LT	100
		36+00	37+39	RT	120
		40+15	41+37	LT	125
		40+19	41+19	RT	100
	B-45-59	35+46	36+90	RT	140
		35+46	36+64	LT	110
		41+52	42+16	RT	65
		41+37	42+01	LT	65
	B-45-33	37+65	38+70	LT	130
		37+71	38+70	RT	215
		41+35	44+05	LT	255
		41+35	43+45	RT	190
	IH 43 SHOULDER REPLACEMENT	955"SB"+96	959"SB"+75	LT	365
			PROJECT TOTAL		**3,860**

EARTHWORK PROJECT I.D. 1451-16-70

Division	From / To Station	Location	Common Excavation (1) (item # 205.0100)		Salvaged / Unusable Pavement Material (4)	Available Material (5)	Unexpanded Fill	Expanded Fill (13)	Mass Ordinate + / - (14)	Waste	Borrow	Comment:
			Cut (2)	EBS Excavation (3)				Factor 1.25			(item #208.0100)	
B-45-33- Div 1	38+00 - 38+71	SAUK ROAD	120	0	0	120	0	0	120	120	-	
B-45-33 - Div 2	41+36 - 44+00	SAUK ROAD	226	0	0	226	23	29	197	197	-	
B-45-59 - Div 1	35+50 - 36+77	NORTH WOODS ROAD	161	0	0	161	3	4	157	157	-	
B-45-59 - Div 2	41+38 - 42+00	NORTH WOODS ROAD	83	0	0	83	0	0	83	83	-	
B-45-42 - Div 1	36+00 - 37+36	CTH B	138	0	0	138	12	15	124	124	-	
B-45-42 - Div 2	40+00 - 41+00	CTH B	147	0	0	147	5	5	142	142	-	
B-45-45 - Div 1	39+50 - 40+81	WIS 32	466	0	0	466	35	43	423	423	-	
B-45-45 - Div 2	43+64 - 44+55	WIS 32	419	0	0	419	6	8	411	411	-	
B-45-57 - Stage 1	912"SB TC"+75 - 917"SB TC"+50	RT	0	180	0	0	0	0	0	0	-	
	918"SB TC"+68 - 934"SB TC"+50	RT	0	610	0	0	0	0	0	0	-	
B-45-57 - Stage 2	910"SB TC"+75 - 913"SB TC"+50	LT	0	150	0	0	0	0	0	0	-	
	918"SB TC"+60 - 927"SB TC"+50	LT	0	490	0	0	0	0	0	0	-	
B-45-48/50 - Stage 1	552"NB TC"+35 - 571"NB TC"+52	LT	0	640	0	0	0	0	0	0	-	
	593"NB TC"+50 - 596"NB TC"+86	LT	0	110	0	0	0	0	0	0	-	
	598"NB TC"+22 - 603"NB TC"+00	LT	0	160	0	0	0	0	0	0	-	
B-45-48/50 - Stage 2	550"NB TC"+65 - 557"NB TC"+50	RT	0	520	0	0	0	0	0	0	-	
	593"NB TC"+50 - 597"NB TC"+04	RT	0	200	0	0	0	0	0	0	-	
	598"NB TC"+36 - 605"NB TC"+00	RT	0	370	0	0	0	0	0	0	-	
B-45-49/51 - Stage 1	566"SB TC"+90 - 573"SB TC"+40	RT	0	220	0	0	0	0	0	0	-	
	575"SB TC"+30 - 593"SB TC"+50	RT	0	610	0	0	0	0	0	0	-	
B-45-49/51 - Stage 2	575"SB TC"+50 - 578"SB TC"+50	LT	0	170	0	0	0	0	0	0	-	
	583"SB TC"+50 - 596"SB TC"+23	LT	0	710	0	0	0	0	0	0	-	
	597"SB TC"+56 - 608"SB TC"+50	LT	0	780	0	0	0	0	0	0	-	
IH 43 Shoulder Replacement	753"NB TC"+75 - 962"NB TC"+35	LT (Median)	0	993	0	0	0	0	0	0	-	
	809"NB TC"+90 - 962"NB TC"+35	RT (Outside)	0	1748	0	0	0	0	0	0	-	
	753"SB TC"+25 - 962"SB TC"+65	RT (Median)	0	1081	0	0	0	0	0	0	-	
	810"SB TC"+10 - 962"SB TC"+65	LT (Outside)	0	1867	0	0	0	0	0	0	-	
	753"NB TC"+00 - 900"NB TC"+06	LT (Median)	0	6273	0	0	0	0	0	0	-	
	925"NB TC"+03 - 970"NB TC"+75	LT (Median)	0	1950	0	0	0	0	0	0	-	
	797"NB TC"+00 - 821"NB TC"+00	RT (Outside)	0	1527	0	0	0	0	0	0	-	
	834"NB TC"+00 - 900"NB TC"+06	RT (Outside)	0	4204	0	0	0	0	0	0	-	
	925"NB TC"+77 - 971"NB TC"+11	RT (Outside)	0	2886	0	0	0	0	0	0	-	
	753"SB TC"+00 - 912"SB TC"+75	RT (Median)	0	10167	0	0	0	0	0	0	-	
	936"SB TC"+30 - 972"SB TC"+36	RT (Median)	0	2295	0	0	0	0	0	0	-	
	798"SB TC"+50 - 821"SB TC"+00	LT (Outside)	0	960	0	0	0	0	0	0	-	
	831"SB TC"+00 - 910"SB TC"+75	LT (Outside)	0	3402	0	0	0	0	0	0	-	
	937"SB TC"+85 - 971"SB TC"+93	LT (Outside)	0	1454	0	0	0	0	0	0	-	
	Undistributed		0	1422	0	0	0	0	0	0	-	
			1760	48149	0	1760	83	103	1656	1656	-	
Overall Total			1760	48149	0	1760	83	103	1656	1656	0	

1) Common Excavation is the sum of the Cut and EBS Excavation columns. Item number 205.0100 - Additional Quantity Found Elsewhere
2) Salvaged/Unsuable Pavement Material is included in Cut.
3) EBS Excavation, Breaker Run Fill, and Borrow Found Elsewhere.
4) Salvaged/Unusable Pavement Material
5) Available Material = Cut - Salvaged/Unusuable Pavement Material
6) The Mass Ordinate + or - Qty calculated for the Division. Plus quantity indicates an excess of material within the Division. Minus indicates a shortage of material within the Division.

BASE AGGREGATE DENSE

CATEGORY	STRUCTURE	STAGE	** STATION	** TO STATION	(305.0110) BASE AGGREGATE DENSE 3/4-INCH TON	(305.0120) BASE AGGREGATE DENSE 1 1/4-INCH TON
0010	B-45-57	1A	910"SB TC"+75	916"SB TC"+75	210	350
SHOULDERS		1A	920"SB TC"+25	936"SB TC"+15	560	910
		1A	912"SB TC"+75	917"SB TC"+49	190	220
		1A	918"SB TC"+69	936"SB TC"+85	730	830
		1B	916"SB TC"+75	917"SB TC"+29	20	30
		1B	918"SB TC"+88	920"SB TC"+25	50	80
		2	916"SB TC"+75	917"SB TC"+29	20	20
		2	918"SB TC"+88	920"SB TC"+25	60	60
	B-45-48/50	1A	552"SB TC"+35	571"NB TC"+67	780	880
		1A	574"NB TC"+00	596"NB TC"+86	920	1,040
		1A	598"NB TC"+22	603"NB TC"+00	190	220
		1A	550"NB TC"+65	568"NB TC"+25	610	1,010
		1A	575"NB TC"+00	596"NB TC"+00	730	1,210
		1A	599"NB TC"+00	605"NB TC"+00	210	350
		1B	568"NB TC"+25	571"NB TC"+18	100	170
		1B	574"NB TC"+15	575"NB TC"+00	30	50
		1B	596"NB TC"+00	596"NB TC"+68	20	40
		1B	598"NB TC"+55	599"NB TC"+00	40	70
		2	568"NB TC"+25	571"NB TC"+18	100	170
		2	574"NB TC"+15	575"NB TC"+00	30	40
		2	596"NB TC"+00	596"NB TC"+68	30	30
		2	598"NB TC"+55	599"NB TC"+00	20	20
	B-45-49/51	1A	564"SB TC"+90	570"SB TC"+90	210	350
		1A	577"SB TC"+90	595"SB TC"+50	610	1,010
		1A	598"SB TC"+50	616"SB TC"+10	610	1,010
		1A	566"SB TC"+90	572"SB TC"+97	240	280
		1A	575"SB TC"+16	596"SB TC"+35	850	970
		1A	597"SB TC"+48	614"SB TC"+40	680	770
		1B	570"SB TC"+90	572"SB TC"+81	70	110
		1B	575"SB TC"+65	577"SB TC"+90	80	130
		1B	595"SB TC"+50	596"SB TC"+06	20	30
		1B	597"SB TC"+94	598"SB TC"+50	20	30
		2	570"SB TC"+90	572"SB TC"+81	80	90
		2	575"SB TC"+65	577"SB TC"+90	90	100
		2	595"SB TC"+50	596"SB TC"+06	20	30
		2	597"SB TC"+94	598"SB TC"+50	20	30
	B-45-57	-	916"SB"+75	917"SB"+49	0	70
		-	918"SB"+88	920"SB"+25	0	120
	B-45-50	-	596"NB"+00	596"NB"+83	0	70
		-	598"NB"+55	599"NB"+00	0	40
	B-45-51	-	595"SB"+50	596"SB"+06	0	50
		-	597"SB"+94	598"SB"+50	0	50
	B-45-48	-	568"NB"+25	571"NB"+18	0	260
		-	574"NB"+15	575"NB"+00	0	80
	B-45-49	-	570"SB"+90	572"SB"+81	0	170
		-	575"SB"+65	577"SB"+90	0	200
	B-45-45	-	36+88	39+00	0	330
		-	39+12	39+58	0	40
		-	39+30	39+54	0	40
		-	39+50	40+70	0	230
		-	39+50	40+80	0	200
		-	43+46	44+55	0	160
		-	43+65	44+55	0	170
		-	44+75	45+18	0	30
		-	45+15	46+61	0	120
	B-45-42	-	35+85	37+00	20	40
		-	37+00	37+36	10	80
		-	40+00	40+50	10	160
	B-45-59	-	35+36	35+50	0	0
		-	35+50	36+77	30	310

CONT.

BASE AGGREGATE DENSE CONT.

CATEGORY	STRUCTURE	STAGE	** STATION	** TO STATION	(305.0110) BASE AGGREGATE DENSE 3/4-INCH TON	(305.0120) BASE AGGREGATE DENSE 1 1/4-INCH TON
0010	B-45-59	-	41+39	42+00	10	150
		-	42+00	42+15	0	10
	B-45-33	-	38+00	38+72	10	0
		-	41+36	43+00	30	350
		-	43+00	44+24	20	40
	IH 43 SHOULDER REPLACEMENT	-	753"NB TC"+00	900"NB TC"+06	2,496	9,346
		-	925"NB TC"+03	970"NB TC"+75	776	2,906
		-	797"NB TC"+00	821"NB TC"+00	407	2,156
		-	834"NB TC"+00	900"NB TC"+06	1,121	5,936
		-	925"NB TC"+77	971"NB TC"+11	770	4,074
		-	753"SB TC"+00	912"SB TC"+75	2,712	10,153
		-	936"SB TC"+30	972"SB TC"+36	612	2,292
		-	798"SB TC"+50	821"SB TC"+00	382	2,022
		-	831"SB TC"+00	910"SB TC"+75	1,354	7,166
		-	937"SB TC"+85	971"SB TC"+93	579	3,062
		-	UNDISTRIBUTED		1,121	4,911
			PROJECT TOTALS		**21,720**	**70,334**

**DISREGARD STATION EQUATIONS WHEN LAYING OUT SHOULDER IMPROVEMENT AREAS. ALL STATIONING SHOWN UTILIZES AHEAD STATIONING SHOWN ON THE PLAN AND PROFILE SHEETS.

ASPHALTIC PAVEMENT

CATEGORY	STRUCTURE	STAGE	** STATION	** TO STATION	LOCATION	(211.0400) PREPARE FOUNDATION FOR ASPHALTIC SHOULDERS STA	(465.0105) ASPHALTIC SURFACE TON	(465.0125) ASPHALTIC SURFACE TEMPORARY TON	(455.0605) TACK COAT GAL
0010	B-45-57	1	912"SB TC"+75	916"SB TC"+75	RT	4	-	-	-
			920"SB TC"+25	936"SB TC"+15	RT	16	-	-	-
		2	910"SB TC"+75	916"SB TC"+75	LT	6	-	-	-
			920"SB TC"+25	937"SB TC"+85	LT	18	-	-	-
	B-45-48/50	1	552"NB TC"+35	568"NB TC"+25	LT	16	-	-	-
			575"NB TC"+00	596"NB TC"+00	LT	21	-	-	-
			599"NB TC"+00	603"NB TC"+00	LT	4	-	-	-
		2	550"NB TC"+65	568"NB TC"+25	RT	18	-	-	-
			575"NB TC"+00	596"NB TC"+00	RT	21	-	-	-
			599"NB TC"+00	605"NB TC"+00	RT	6	-	-	-
	B-45-49/51	1	566"SB TC"+90	570"SB TC"+90	RT	4	-	-	-
			577"SB TC"+90	595"SB TC"+50	RT	18	-	-	-
			598"SB TC"+50	614"SB TC"40	RT	16	-	-	-
		2	564"SB TC"+90	570"SB TC"+90	LT	6	-	-	-
			577"SB TC"+90	595"SB TC"+50	LT	18	-	-	-
			598"SB TC"+50	616"SB TC"+10	LT	18	-	-	-
	B-45-45	1	36+88	39+00	LT (MEDIAN)	-	-	170	-
			39+12	39+58	LT	-	-	20	-
			39+30	39+54	RT	-	-	20	-
			44+75	45+18	RT	-	-	20	-
			45+15	46+61	LT (MEDIAN)	-	-	70	-
	B-45-42	1	35+85	37+13	LT & RT	-	30	-	1
			40+24	40+50	LT & RT	-	30	-	1
	B-45-59	1	35+36	36+77	LT & RT	-	100	-	3
			41+39	42+16	LT & RT	-	50	-	1
	B-45-33	1	38+00	38+53	LT & RT	-	50	-	1
			41+55	44+24	LT & RT	-	160	-	4
				PROJECT TOTALS		**210**	**420**	**300**	**11**

**DISREGARD STATION EQUATIONS WHEN LAYING OUT SHOULDER IMPROVEMENT AREAS. ALL STATIONING SHOWN UTILIZES AHEAD STATIONING SHOWN ON THE PLAN AND PROFILE SHEETS.

HMA PAVEMENT

CATEGORY	STRUCTURE	STAGE	** STATION	** TO STATION	LOCATION	(455.0105) ASPHALTIC MATERIAL PG58-28 TON	(460.1101) HMA PAVEMENT TYPE E-1 TON	(465.0400) ASPHALTIC SHOULDER RUMBLE STRIP LF
0010	B-45-57	1A	910"SB TC"+75	916"SB TC"+75	LT	12	190	600
		1A	920"SB TC"+25	937"SB TC"+85	LT	34	560	1,760
		1A	912"SB TC"+75	917"SB TC"+49	RT	5	90	474
		1A	918"SB TC"+69	936"SB TC"+15	RT	20	330	1,746
		1B	916"SB TC"+75	917"SB TC"+29	LT	1	20	54
		1B	918"SB TC"+88	920"SB TC"+25	LT	3	40	137
		2	916"SB TC"+75	917"SB TC"+29	RT	1	10	54
		2	918"SB TC"+88	920"SB TC"+25	RT	2	30	137
	B-45-48/50	1A	552"NB TC"+35	571"NB TC"+67	LT	22	370	1,932
		1A	574"NB TC"+00	596"NB TC"+86	LT	26	440	2,286
		1A	598"NB TC"+22	603"NB TC"+00	LT	5	90	478
		1A	550"NB TC"+65	568"NB TC"+25	RT	34	560	1,760
		1A	575"NB TC"+00	596"NB TC"+00	RT	40	670	2,100
		1A	599"NB TC"+00	605"NB TC"+00	RT	12	190	600
		1B	568"NB TC"+25	571"NB TC"+18	RT	6	90	293
		1B	574"NB TC"+15	575"NB TC"+00	RT	2	30	85
		1B	596"NB TC"+00	596"NB TC"+68	RT	1	20	68
		1B	598"NB TC"+55	599"NB TC"+00	RT	2	40	113
		2	568"NB TC"+25	571"NB TC"+18	LT	3	60	293
		2	574"NB TC"+15	575"NB TC"+00	LT	1	20	85
		2	596"NB TC"+00	596"NB TC"+68	LT	1	10	68
		2	598"NB TC"+55	599"NB TC"+00	LT	1	10	45
	B-45-49/51	1A	564"SB TC"+90	570"SB TC"+90	LT	12	190	600
		1A	577"SB TC"+90	595"SB TC"+50	LT	34	560	1,760
		1A	598"SB TC"+50	616"SB TC"+10	LT	34	560	1,760
		1A	566"SB TC"+90	572"SB TC"+97	RT	7	120	607
		1A	575"SB TC"+16	596"SB TC"+35	RT	24	410	2,119
		1A	597"SB TC"+48	614"SB TC"+40	RT	19	320	1,692
		1B	570"SB TC"+90	572"SB TC"+81	LT	4	60	191
		1B	575"SB TC"+65	577"SB TC"+90	LT	4	70	225
		1B	595"SB TC"+50	596"SB TC"+06	LT	1	20	56
		1B	597"SB TC"+94	598"SB TC"+50	LT	1	20	56
		2	570"SB TC"+90	572"SB TC"+81	RT	2	40	191
		2	575"SB TC"+65	577"SB TC"+90	RT	3	40	225
		2	595"SB TC"+50	596"SB TC"+06	RT	1	10	56
		2	597"SB TC"+94	598"SB TC"+50	RT	1	10	56
	IH 43 SHOULDER REPLACEMENT	MEDIAN	753"NB TC"+00	900"NB TC"+06	LT	103	1,880	14,706
		MEDIAN	925"NB TC"+03	970"NB TC"+75	LT	32	580	4,572
		OUTSIDE	797"NB TC"+00	821"NB TC"+00	RT	42	770	2,400
		OUTSIDE	834"NB TC"+00	900"NB TC"+06	RT	116	2,110	6,606
		OUTSIDE	925"NB TC"+77	971"NB TC"+11	RT	80	1,450	4,534
		MEDIAN	753"SB TC"+00	912"SB TC"+75	RT	112	2,040	15,975
		MEDIAN	936"SB TC"+15	972"SB TC"+36	RT	25	460	3,606
		OUTSIDE	798"SB TC"+50	821"SB TC"+00	LT	40	720	2,250
		OUTSIDE	831"SB TC"+00	910"SB TC"+75	LT	140	2,550	7,975
		OUTSIDE	937"SB TC"+85	971"SB TC"+93	LT	60	1,090	3,408
			UNDISTRIBUTED			33	600	-
			PROJECT TOTALS			**1,161**	**20,550**	**90,794**

**DISREGARD STATION EQUATIONS WHEN LAYING OUT SHOULDER IMPROVEMENT AREAS. ALL STATIONING SHOWN UTILIZES AHEAD STATIONING SHOWN ON THE PLAN AND PROFILE SHEETS.

FENCE WOVEN WIRE

CATEGORY	STRUCTURE	FROM STATION	OFFSET	TO STATION	OFFSET	(616.0100.01) 4.5 FEET LF	(616.0100.02) 4 FEET LF
0010	B-45-57	917"SB"+30	55' LT	917"SB"+34	35' LT	20	-
		918"SB"+66	55' LT	918"SB"+69	36' LT	20	-
	B-45-50	596"NB"+31	82' RT	596"NB"+75	7' LT	88	-
		596"NB"+96	35' RT	596"NB"+97	56' RT	20	-
		597"NB"+87	82' LT	598"NB"+23	6' LT	83	-
		598"NB"+51	36' RT	598"NB"+67	48' RT	20	-
	B-45-51	595"SB"+97	45' LT	596"SB"+14	35' LT	20	-
		597"SB"+59	56' LT	597"SB"+60	35' LT	20	-
	B-45-48	571"NB"+74	7' LT	571"NB"+95	21' LT	25	-
		571"NB"+15	36' RT	570"NB"+99	53' RT	25	-
		573"NB"+52	36' RT	573"NB"+61	59' RT	25	-
		574"NB"+13	7' LT	574"NB"+33	22' LT	25	-
	B-45-49	573"SB"+36	35' LT	573"SB"+36	60' LT	25	-
		572"SB"+81	8' RT	572"SB"+60	22' RT	25	-
		575"SB"+64	35' LT	575"SB"+78	56' LT	25	-
		575"SB"+09	7' RT	574"SB"+89	23' RT	25	-
	B-45-59	36+57	18' LT	36+35	31' LT	25	-
		36+84	18' RT	36+90	42' RT	25	-
		41+39	18' LT	41+41	43' LT	25	-
		41+51	18' RT	41+58	42' RT	25	-
	B-45-33	38+57	21' LT	38+55	46' LT	25	-
		38+62	18' RT	38+53	43' RT	25	-
		41+38	18' RT	41+42	43' RT	25	-
		41+39	18' RT	41+41	43' RT	25	-
	B-45-66	NORTHEAST WING				-	50
		PROJECT TOTAL				**691**	**50**

SHAPING SHOULDERS

CATEGORY	STRUCTURE	STAGE	** STATION	** TO STATION	(305.0500) STA.
0010	B-45-57	2	916"SB TC"+75	917"SB TC"+29	2
		2	918"SB TC"+88	920"SB TC"+25	3
	B-45-48/50	1A	552"SB TC"+35	571"NB TC"+67	20
		1A	574"NB TC"+00	596"NB TC"+86	23
		1A	598"NB TC"+22	603"NB TC"+00	6
		1A	550"NB TC"+65	568"NB TC"+25	19
		1A	575"NB TC"+00	596"NB TC"+00	22
		1A	599"NB TC"+00	605"NB TC"+00	7
		2	568"NB TC"+25	571"NB TC"+18	4
		2	574"NB TC"+15	575"NB TC"+00	1
		2	596"NB TC"+00	596"NB TC"+68	1
		2	598"NB TC"+55	599"NB TC"+00	1
	B-45-49/51	1A	564"SB TC"+90	570"SB TC"+90	7
		1A	577"SB TC"+90	595"SB TC"+50	19
		1A	598"SB TC"+50	616"SB TC"+10	19
		1A	566"SB TC"+90	572"SB TC"+97	7
		1A	575"SB TC"+16	596"SB TC"+35	22
		1A	597"SB TC"+48	614"SB TC"+40	18
		2	570"SB TC"+90	572"SB TC"+81	3
		2	575"SB TC"+65	577"SB TC"+90	3
		2	595"SB TC"+50	596"SB TC"+06	2
		2	597"SB TC"+94	598"SB TC"+50	2
		PROJECT TOTALS			**211**

**DISREGARD STATION EQUATIONS WHEN LAYING OUT SHOULDER IMPROVEMENT AREAS. ALL STATIONING SHOWN UTILIZES AHEAD STATIONING SHOWN ON THE PLAN AND PROFILE SHEETS.

CONCRETE PAVEMENT

CATEGORY	STRUCTURE	STATION	TO STATION	LOCATION	(415.0090) 9-INCH SY	(415.0110) 11-INCH SY
0010	B-45-57	916"SB"+75	917"SB"+48	LT	-	195
		918"SB"+69	920"SB"+25	LT	-	415
	B-45-50	596"NB"+00	596"NB"+82	RT	-	220
		598"NB"+22	599"NB"+00	RT	-	210
	B-45-51	595"SB"+50	596"SB"+35	LT	-	225
		597"SB"+74	598"SB"+50	LT	-	205
	B-45-48	568"NB"+25	571"NB"+19	RT	-	785
		571"NB"+13	571"NB"+35	RT	-	15
		571"NB"+35	571"NB"+76	LT	-	20
		573"NB"+52	573"NB"+98	RT	-	45
		574"NB"+02	574"NB"+17	LT	-	10
		574"NB"+16	575"NB"+00	RT	-	225
	B-45-49	570"SB"+90	572"SB"+81	LT	-	510
		572"SB"+82	572"SB"+96	RT	-	5
		572"SB"+97	573"SB"+40	LT	-	35
		575"SB"+09	575"SB"+48	RT	-	15
		575"SB"+50	575"SB"+71	LT	-	15
		575"SB"+65	577"SB"+90	LT	-	595
	B-45-45	39+10	39+26	LT	10	-
		39+21	39+48	RT	20	-
		39+50	40+49	LT	400	-
		39+50	40+61	RT	315	-
		43+75	44+55	LT	235	-
		43+87	44+55	RT	285	-
		44+55	44+77	LT	20	-
		44+90	45+11	RT	10	-
	B-45-42	37+13	37+35	LT	-	15
		37+13	37+38	RT	-	15
		39+99	40+24	LT	-	15
		40+01	40+24	RT	-	15
	B-45-59	36+53	36+69	LT	-	10
		36+62	36+90	RT	-	15
		41+31	41+59	LT	-	20
		41+44	41+59	RT	-	10
	B-45-33	38+53	38+72	LT	-	15
		38+53	38+72	RT	-	15
		41+36	41+55	LT	-	15
		41+36	41+55	RT	-	15
		PROJECT TOTAL			**1,295**	**3,920**

CONCRETE CURB & GUTTER

CATEGORY	STRUCTURE	STATION	TO STATION	LOCATION	(601.0409) 30-INCH TYPE A LF	(601.0551) 4-INCH SLOPED 36-INCH TYPE A LF	(601.0553) 4-INCH SLOPED 36-INCH TYPE D LF	(601.0557) 6-INCH SLOPED 36-INCH TYPE D LF	(650.5500) CONSTRUCTION STAKING CURB GUTTER AND CURB & GUTTER LF
0010	B-45-57	918"NB"+75	919"NB"+07	RT	-	35	-	-	35
	B-45-50	598"NB"+28	598"NB"+60	LT	-	35	-	-	35
	B-45-51	597"SB"+66	597"SB"+98	LT	-	35	-	-	35
	B-45-48	571"NB"+49	571"NB"+69	LT	-	20	-	-	20
		574"NB"+17	574"NB"+92	LT	-	-	75	-	75
	B-45-49	573"SB"+20	573"SB"+35	LT	-	15	-	-	15
		575"SB"+14	575"SB"+39	RT	-	25	-	-	25
		575"SB"+71	575"SB"+76	LT	-	-	5	-	5
	B-45-45	36+90	38+95	LT (MEDIAN)	415	-	-	-	415
		39+12	40+63	LT	175	-	-	-	175
		39+33	40+88	RT	175	-	-	-	175
		39+50	40+81	LT (MEDIAN)	260	-	-	-	260
		43+47	44+65	LT	135	-	-	-	135
		43+56	44+50	LT (MEDIAN)	190	-	-	-	190
		43+73	45+09	RT	160	-	-	-	160
		45+15	46+61	LT (MEDIAN)	200	-	-	-	200
	B-45-42	37+03	37+13	LT	-	-	-	10	10
		37+06	37+16	RT	-	-	-	10	10
	B-45-59	36+46	36+56	LT	-	-	10	-	10
		36+71	36+81	RT	-	-	10	-	10
	B-45-33	38+22	38+53	RT	-	-	-	35	35
		38+22	38+53	LT	-	-	-	35	35
		PROJECT TOTALS			**1,710**	**165**	**100**	**90**	**2,065**

DRILLED DOWEL BARS

CATEGORY	STRUCTURE	STATION	(416.0620) EACH
0010	B-45-57	916"SB"+75	25
		920"SB"+25	25
	B-45-50	596"NB"+00	25
		599"NB"+00	25
	B-45-51	595"SB"+50	25
		598"SB"+50	25
	B-45-48	568"NB"+25	24
		575"NB"+00	24
	B-45-49	570"SB"+90	24
		577"SB"+90	24
	B-45-45	39+50	80
		44+55	80
	PROJECT TOTAL		**406**

BREAKER RUN

CATEGORY	STRUCTURE	STAGE	STATION	TO STATION	LOCATION	(311.0110) TON
0010	B-45-57	1	912"SB TC"+75	917"SB TC"+50	RT	350
			918"SB TC"+68	934"SB TC"+50	RT	1,210
		2	910"SB TC"+75	913"SB TC"+50	LT	310
			918"SB TC"+60	927"SB TC"+50	LT	990
	B-45-48/50	1	552"NB TC"+35	571"NB TC"+52	LT	1,280
			593"NB TC"+50	596"NB TC"+86	LT	220
			598"NB TC"+22	603"NB TC"+00	LT	320
		2	550"NB TC"+65	557"NB TC"+50	RT	1,030
			593"NB TC"+50	597"NB TC"+04	RT	390
			598"NB TC"+36	605"NB TC"+00	RT	740
	B-45-49/51	1	566"SB TC"+90	573"SB TC"+40	RT	430
			575"SB TC"+30	593"SB TC"+50	RT	1,210
		2	575"SB TC"+50	578"SB TC"+50	LT	330
			583"SB TC"+50	596"SB TC"+23	LT	1,410
			597"SB TC"+56	608"SB TC"+50	LT	1,570
	IH 43 SHOULDER REPLACEMENT	MEDIAN	753"NB TC"+75	962"NB TC"+35	LT	1,985
		OUTSIDE	809"NB TC"+90	962"NB TC"+35	RT	3,496
		MEDIAN	753"SB TC"+25	962"SB TC"+65	RT	2,163
		OUTSIDE	810"SB TC"+10	962"SB TC"+65	LT	3,733
			UNDISTRIBUTED			2,844
			PROJECT TOTALS			**26,011**

CONCRETE PAVEMENT APPROACH SLAB

CATEGORY	STRUCTURE	LOCATION	(415.0410) SY
0010	B-45-57	NORTH	45
		SOUTH	45
	B-45-50	NORTH	55
		SOUTH	70
	B-45-51	NORTH	50
		SOUTH	50
	B-45-48	NORTH	85
		SOUTH	90
	B-45-49	NORTH	85
		SOUTH	85
	B-45-45	NORTH	138
		SOUTH	138
	B-45-42	NORTH	55
		SOUTH	55
	B-45-59	NORTH	60
		SOUTH	50
	B-45-33	NORTH	45
		SOUTH	45
	PROJECT TOTAL		**1,246**

ASPHALTIC FLUMES

CATEGORY	STRUCTURE	STATION	LOCATION	(465.0315) SY	(465.0310) ASPHALTIC CURB LF
0010	B-45-57	919"NB"+13	RT	9	22
	B-45-50	598"NB"+28	LT	9	22
	B-45-51	598"SB"+04	LT	9	22
	B-45-48	574"NB"+98	LT	9	22
	B-45-49	573"SB"+13	LT	9	22
		575"SB"+45	RT	9	22
	B-45-45	44+64	LT	9	22
	B-45-42	36+97	LT	9	22
		37+00	RT	9	22
	B-45-33	38+16	RT	9	22
		38+16	LT	9	22
		PROJECT TOTALS		**99**	**242**

DRILLED TIE BARS

CATEGORY	STRUCTURE	STATION	TO STATION	LOCATION	(416.0610) EACH
0010	B-45-45	39+10	39+10	LT	6
		39+10	39+26	LT	6
		39+21	39+33	RT	10
		39+21	39+48	RT	10
		44+55	44+77	LT	8
		44+77	44+65	LT	11
		44+90	45+07	RT	6
		45+07	45+11	RT	6
		PROJECT TOTAL			**63**

INLETS

CATEGORY	STRUCTURE	STATION	LOCATION	(204.0220) REMOVING INLETS EACH	(204.0280) SEALING PIPES EACH	(SPV.0060.03) TEMPORARY INLET CASTING EACH	(611.0430) RECONSTRUCTING INLETS EACH	(611.8115) ADJUSTING INLET COVERS EACH	(611.3230) INLETS 2x3-FT EACH	(611.3901) INLETS MEDIAN 1 GRATE EACH	(611.0624) INLET COVERS TYPE H EACH	(611.0642) INLET COVERS TYPE MS EACH	(628.7005) INLET PROTECTION TYPE A EACH	(628.7015) INLET PROTECTION TYPE C EACH	(628.7020) INLET PROTECTION TYPE D EACH	(650.4000) CONSTRUCTION STAKING STORM SEWER EACH	TOP OF STRUCTURE ELEVATION	DEPTH FEET	FLANGE OR RIM ELEVATION	INVERT
0010	B-45-57	918"SB"+81	7' RT	-	-	-	1	-	-	-	-	-	-	-	1	-	-	-	-	-
	B-45-50	598"NB"+29	8' RT	-	-	-	1	-	-	-	-	-	-	-	1	-	-	-	-	-
	B-45-51	597"SB"+67	35' LT	-	-	-	1	-	-	-	-	-	-	-	1	-	-	-	-	-
	B-45-48	574"NB"+20	7' LT	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	B-45-49	575"SB"+72	34' LT	-	-	-	-	1	-	-	-	-	-	-	1	-	-	-	-	-
	B-45-45	36+96	23' LT	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-
		36+96	12' LT	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-
		36+96	41' RT	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-
		36+98	7' LT	-	-	1	-	-	-	-	-	-	-	1	-	-	-	-	-	-
		37+47	60' LT	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-
		38+88	99' LT	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-
		39+35	60' LT	1	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-
	1.1	39+35	60.0' LT	-	-	-	-	-	1	-	1	-	-	-	1	1	730.15	2.55	731.19	728.64
		39+55	25' RT	1	-	-	-	-	-	-	-	-	-	-	1	-				
	1.4	39+55	24.5' RT	-	-	-	-	-	1	-	1	-	-	-	1	1	730.75	4.59	731.79	727.20
		39+75	22' LT	1	-	-	-	-	-	-	-	-	-	-	1	-				
	1.2	39+75	19.3' LT	-	-	-	-	-	1	-	1	-	-	-	1	1	731.63	4.63	732.67	728.04
		39+75	12' LT	-	-	-	-	1	-	-	-	-	1	-	-	-	-	-	-	-
		39+75	2' LT	1	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-
	1.3	39+75	3.7' LT	-	-	-	-	-	1	-	1	-	-	-	1	1	731.63	4.85	732.67	727.82
		40+53	59' LT	1	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-
	1.6	40+53	58.5' LT	-	-	-	-	-	1	-	1	-	-	-	1	1	731.92	6.00	733.17	730.17
		40+78.5	25' RT	1	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-
	1.5	40+78.5	24.5' RT	-	-	-	-	-	1	-	1	-	-	-	1	1	732.44	4.97	733.69	728.72
		44+12.5	59' LT	1	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-
	1.7	44+12.5	58.5' LT	-	-	-	-	-	1	-	1	-	-	-	1	1	734.05	3.13	735.09	731.96
	1.8	44+12.5	22' LT	1	-	-	-	-	-	1	-	1	1	-	-	1	734.72	4.62	735.76	731.14
		44+06	25' RT	1	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-
	1.9	44+06	24.5' RT	-	-	-	-	-	1	-	1	-	-	-	1	1	733.80	4.82	734.84	730.02
		45+33	32' LT	-	-	1	-	-	-	-	-	-	-	1	-	-	-	-	-	-
		45+44	73' RT	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-
		47+22	57' LT	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-
		47+24	16' LT	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-
		47+38	24' LT	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-
		47+50	30' LT	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-
	B-45-59	36+49	18' LT	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-
		36+76	17' RT	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-
	B-45-33	38+56	17' LT	-	-	-	1	-	-	-	-	-	-	-	1	-	-	-	-	-
		38+56	17' RT	-	-	-	1	-	-	-	-	-	-	-	1	-	-	-	-	-
	IH 43 SHOULDER	754+15	MEDIAN	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-
	REPLACEMENT	757"NB TC"+30	MEDIAN	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-
		767"NB TC"+25	MEDIAN	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-
		807"NB TC"+15	MEDIAN	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-
		807"SB TC"+15	LT	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-
		809"SB TC"+50	LT	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-
		810"NB TC"+60	MEDIAN	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-
		826"NB TC"+55	MEDIAN	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-
		834"NB TC"+75	MEDIAN	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-
		849"NB TC"+50	MEDIAN	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-
		858"NB TC"+00	MEDIAN	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-
		862"NB TC"+75	MEDIAN	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-
		866"NB TC"+80	MEDIAN	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-
		871"NB TC"+00	MEDIAN	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-
		879"NB TC"+30	MEDIAN	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-
		887"NB TC"+00	MEDIAN	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-
		897"NB TC"+25	MEDIAN	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-
		905"NB TC"+25	MEDIAN	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-
		910"NB TC"+05	MEDIAN	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-
		925"NB TC"+10	MEDIAN	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-
		932"NB TC"+75	MEDIAN	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-
		940"NB TC"+75	MEDIAN	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-
		947"NB TC"+75	MEDIAN	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-
		953"NB TC"+75	MEDIAN	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-
	PROJECT TOTALS			**10**	**1**	**2**	**5**	**2**	**8**	**1**	**8**	**1**	**28**	**2**	**32**	**9**				

REMOVING STORM SEWER

CATEGORY	STRUCTURE	STATION	TO STATION	LOCATION	(204.0245.01) 12-INCH LF	(204.0245.02) 15-INCH LF	(204.0245.03) 18-INCH LF
0010	B-45-45	43+57	43+75	LT	38	-	-
		43+75	44+06	LT/RT	52	-	-
			UNDISTRIBUTED		80	8	8
			PROJECT TOTAL		**170**	**8**	**8**

STORM SEWER PIPE REINFORCED CONCRETE CLASS III

CATEGORY	STRUCTURE	STRUCTURE ID FROM	STRUCTURE ID TO	(608.0312) 12-INCH LF	(608.0315) 15-INCH LF	(608.0318) 18-INCH LF
0010	B-45-45	1.7	1.8	37	-	-
		1.8	1.9	47	-	-
			UNDISTRIBUTED	80	8	8
			PROJECT TOTAL	**164**	**8**	**8**

CONCRETE COLLARS FOR PIPE

CATEGORY	STRUCTURE	STRUCTURE ID	STATION	LOCATION	(520.8000) EACH
0010	B-45-45	1.1	39+35	60' LT	1
		1.4	39+55	25' RT	3
		1.2	39+75	22' LT	3
		1.3	39+75	2' LT	2
		1.6	40+53	59' LT	1
		1.5	40+78.5	25' RT	1
		1.9	44+06	25' RT	1
			PROJECT TOTAL		**12**

PULL BOXES

CATEGORY	STRUCTURE	STATION	LOCATION	(653.0900) ADJUSTING PULL BOXES EACH	(611.8120.S) COVER PLATES TEMPORARY EACH
0010	B-45-45	37+16	14' LT	2	1
		37+32	18' LT	2	1
		38+11	18' LT	2	1
		38+80	18' LT	2	1
			PROJECT TOTALS	**8**	**4**

STEEL PLATE BEAM GUARD

CATEGORY	STRUCTURE	STATION	TO STATION	LOCATION	(614.0200) STEEL THRIE BEAM STRUCTURE APPROACH LF	(614.0305) STEEL PLATE BEAM GUARD CLASS A 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 TERMINAL TYPE 2 EACH	(614.0010) BARRIER SYSTEM GRADING SHAPING FINISHING EACH
0010	B-45-57	916"SB"+92	917"SB"+32	LT	21	-	-	40	-	-	-
		918"SB"+73	919"SB"+13	LT	21	-	-	40	-	-	-
		918"SB"+76	919"SB"+16	RT	21	-	-	40	-	-	-
		916"SB"+75	916"SB"+92	LT	-	36	17	-	-	-	-
		919"SB"+13	920"SB"+25	LT	-	131	112	-	-	-	-
		919"SB"+16	920"SB"+25	RT	-	91	72	-	-	-	-
	B-45-50	596"NB"+33	596"NB"+73	LT	21	-	-	40	-	-	-
		596"NB"+00	596"NB"+53	RT	21	-	-	40	-	-	-
		596"NB"+00	596"NB"+33	LT	-	52	33	-	-	-	-
		596"NB"+00	596"NB"+53	RT	-	72	53	-	-	-	-
	B-45-51	597"SB"+62	598"SB"+02	LT	-	-	-	40	-	-	-
		597"SB"+88	598"SB"+28	RT	-	-	-	40	-	-	-
		598"SB"+02	598"SB"+50	LT	-	-	48	-	-	-	-
		598"SB"+28	598"SB"+50	RT	-	-	22	-	-	-	-
	B-45-48	569"NB"+92	571"NB"+13	RT	21	100	-	-	-	-	-
		570"NB"+48	571"NB"+69	LT	21	100	-	-	-	-	-
		573"NB"+84	575"NB"+01	RT	21	125	-	-	-	-	-
	B-45-49	572"SB"+13	573"SB"+34	LT	21	100	-	-	-	-	-
		575"SB"+14	576"SB"+35	RT	21	100	-	-	-	-	-
		575"SB"+71	576"SB"+92	LT	21	100	-	-	-	-	-
	B-45-42	35+95	37+40	RT	-	-	106	40	1	-	-
		36+17	37+37	LT	-	-	80	40	1	-	-
		40+24	41+48	RT	-	-	80	40	1	-	-
		40+20	41+44	LT	-	-	80	40	1	-	-
	B-45-59	35+45	36+65	LT	21	90	-	-	-	-	-
		35+45	36+90	RT	21	125	-	-	-	-	-
		41+30	42+00	LT	21	44	-	-	-	-	-
		41+45	42+15	RT	21	44	-	-	-	-	-
	B-45-33	37+69	38+71	RT	-	-	206	40	1	-	-
		37+65	38+71	LT	-	-	150	40	1	-	-
		41+36	43+44	RT	-	-	170	40	1	-	-
		41+36	44+13	LT	-	-	238	40	1	-	-
	IH 43 SHOULDER REPLACEMENT	955"SB"+96	959"SB"+75	LT	-	-	350	-	1	1	1
			PROJECT TOTALS		**315**	**1,310**	**1,817**	**600**	**9**	**1**	**1**

DELINEATOR POSTS

CATEGORY	STRUCTURE	STATION	TO STATION	(204.0180) REMOVING DELINEATORS AND MARKERS EACH	(633.0100) DELINEATOR POSTS STEEL EACH
0010	IH 43 SHOULDER REPLACEMENT	794"NB"+50	808"NB"+50	5	5
		808"NB"+50	828"NB"+00	6	6
		828"NB"+00	864"NB"+00	14	14
		864"NB"+00	892"NB"+00	12	12
		909"NB"+00	SHEBOYGAN COUNTY LINE	21	21
		797"SB"+00	808"SB"+50	5	5
		808"SB"+50	822"SB"+00	6	6
		824"SB"+00	864"SB"+00	10	10
		864"SB"+00	917"SB"+00	17	17
		918"SB"+00	SHEBOYGAN COUNTY LINE	17	17
			PROJECT TOTALS	**113**	**113**

EROSION CONTROL

CATEGORY	STRUCTURE	STATION	TO STATION	LOCATION	(628.1504) SILT FENCE LF	(628.1520) SILT FENCE MAINTENANCE LF	(628.2004) EROSION MAT CLASS I TYPE B SY
0010	B-45-57	-	-	RT	50	50	25
		-	-	LT	45	45	25
	B-45-50	-	-	LT	90	90	100
		-	-	RT	45	45	25
		-	-	LT	85	85	100
		-	-	RT	70	70	30
	B-45-51	-	-	LT	70	70	30
		-	-	LT	45	45	25
	B-45-33	-	-	LT	-	-	220
		-	-	RT	-	-	170
	B-45-42	-	-	LT	-	-	120
		-	-	RT	-	-	140
	B-45-59	-	-	LT	-	-	120
		-	-	RT	-	-	115
	B-45-64	-	-	LT & RT	-	-	-
	B-45-66	-	-	LT	-	-	-
	IH 43 SHOULDER REPLACEMENT	856"SB TC"+00	863"SB TC"+25	LT	745	745	-
		861"NB TC"+80	864"NB TC"+15	RT	275	275	-
		864"SB TC"+25	870"SB TC"+10	LT	605	605	-
		865"NB TC"+10	868"NB TC"+25	RT	355	355	-
		870"NB TC"+10	871"NB TC"+90	RT	220	220	-
		877"NB TC"+00	880"NB TC"+40	RT	340	340	-
		877"SB TC"+25	880"SB TC"+80	LT	355	355	-
		895"NB TC"+80	900"NB TC"+00	RT	460	460	-
		931"SB TC"+00	934"SB TC"+00	LT	340	340	-
		932"NB TC"+00	935"NB TC"+00	RT	340	340	-
		939"NB TC"+30	942"NB TC"+25	RT	335	335	-
		947"NB TC"+00	949"NB TC"+10	RT	250	250	-
		954"SB TC"+00	960"SB TC"+60	LT	700	700	-
			UNDISTRIBUTED		300	600	400
	PROJECT TOTALS				**6,120**	**6,420**	**1,645**

ROCK BAGS

CATEGORY	STRUCTURE	STATION	LOCATION	(628.7570) EACH
0010	IH 43 SHOULDER REPLACEMENT	806"SB TC"+75	LT	25
		807"NB TC"+05	RT	25
		809"SB TC"+15	LT	25
		810"SB TC"+00	LT	25
		810"SB TC"+75	LT	25
		810"NB TC"+75	RT	25
		862"SB TC"+50	LT	25
		898"SB TC"+50	LT	25
		935"SB TC"+75	LT	25
		PROJECT TOTAL		**225**

TEMPORARY DITCH CHECKS

CATEGORY	STRUCTURE	STATION	LOCATION	(628.7504) LF
0010	IH 43 SHOULDER REPLACEMENT	832"SB TC"+75	LT	25
		835"SB TC"+00	LT	25
		861"SB TC"+50	LT	25
		877"SB TC"+50	LT	25
		880"SB TC"+50	LT	25
		897"SB TC"+75	LT	25
		953"SB TC"+50	LT	25
		954"SB TC"+10	LT	25
		955"SB TC"+00	LT	25
		PROJECT TOTAL		**225**

MOBILIZATIONS EROSION CONTROL

CATEGORY	STRUCTURE	(628.1905) EACH	(628.1910) EMERGENCY EROSION CONTROL EACH
0010	B-45-57	6	4
	B-45-66	3	3
	B-45-64	3	3
	B-45-50	6	4
	B-45-51	6	4
	B-45-48	6	4
	B-45-49	6	4
	B-45-45	9	5
	B-45-42	3	3
	B-45-59	3	3
	B-45-33	3	3
	IH 43 SHOULDER REPLACEMENT	6	4
	PROJECT TOTALS	**60**	**44**

PIPE UNDERDRAIN

CATEGORY	STRUCTURE	STATION	TO STATION	LOCATION	(612.0104) PIPE UNDERDRAIN 4-INCH LF	(SPV.0060.04) SALVAGED APRON ENDWALLS FOR UNDERDRAIN REINFORCED CONCRETE 4-INCH EACH	(SPV.0060.05) CONNECTING 4-INCH PIPE UNDERDRAIN TO EXISTING CONCRETE INLET EACH
0010	IH 43 SHOULDER REPLACEMENT	753"NB TC"+00	900"NB TC"+06	LT (MEDIAN)	941	59	5
		925"NB TC"+03	970"NB TC"+75	LT (MEDIAN)	293	18	1
		797"NB TC"+00	821"NB TC"+00	RT (OUTSIDE)	264	10	-
		834"NB TC"+00	900"NB TC"+06	RT (OUTSIDE)	727	26	-
		925"NB TC"+77	971"NB TC"+11	RT (OUTSIDE)	499	18	-
		753"SB TC"+00	912"SB TC"+75	RT (MEDIAN)	1,022	64	5
		936"SB TC"+30	972"SB TC"+36	RT (MEDIAN)	231	14	1
		798"SB TC"+50	821"SB TC"+00	LT (OUTSIDE)	212	9	-
		831"SB TC"+00	910"SB TC"+75	LT (OUTSIDE)	750	32	-
		937"SB TC"+85	971"SB TC"+93	LT (OUTSIDE)	320	14	-
			PROJECT TOTALS		**5,258**	**264**	**12**

RIPRAP

CATEGORY	STRUCTURE	STATION	OFFSET	(606.0200) RIPRAP MEDIUM CY	(645.0130) GEOTEXTILE FABRIC TYPE R SY
0010	B-45-57	919"NB"+09	RT	5	10
	B-45-50	598"NB"+62	LT	5	10
	B-45-51	598"NB"+00	LT	5	10
	B-45-48	574"NB"+98	LT	7	10
	B-45-49	573"SB"+13	LT	7	10
		575"SB"+45	RT	7	10
	B-45-42	36+97	LT	7	10
		37+00	RT	7	10
	B-45-33	38+16	LT	16	19
		38+16	RT	11	14
	PROJECT TOTALS			**78**	**113**

FINISHING ITEMS

CATEGORY	STRUCTURE	STATION	TO STATION	LOCATION	(625.0100) TOPSOIL SY	(625.0500) SALVAGED TOPSOIL SY	(627.0200) MULCHING SY	(629.0210) FERTILIZER TYPE B CWT	(630.0110) SEEDING MIXTURE NO. 10 LB	(630.0200) SEEDING TEMPORARY LB
0010	B-45-57	916"SB"+75	917"SB"+41	LT	51	-	51	0.03	0.7	0.4
		916"SB"+75	917"SB"+49	RT	58	-	58	0.04	0.8	0.4
		918"SB"+62	920"SB"+25	LT	127	-	127	0.08	1.7	0.9
		918"SB"+70	920"SB"+25	RT	121	-	121	0.08	1.6	0.8
			UNDISTRIBUTED		70	-	70	0.50	1.0	0.5
	B-45-48	569"NB"+92	571"NB"+13	RT	67	-	-	0.50	1.0	0.5
		570"NB"+48	571"NB"+69	LT	67	-	-	0.50	1.0	0.5
		573"NB"+84	575"NB"+01	RT	81	-	-	0.50	1.0	0.5
	B-45-49	572"SB"+13	573"SB"+34	LT	64	-	-	0.50	1.0	0.5
		575"SB"+14	576"SB"+35	RT	64	-	-	0.50	1.0	0.5
		575"SB"+71	576"SB"+92	LT	67	-	-	0.50	1.0	0.5
	B-45-50	596"NB"+00	596"NB"+79	LT	61	-	61	0.04	0.8	0.4
		596"NB"+00	597"NB"+01	RT	79	-	79	0.05	1.1	0.6
		598"NB"+19	599"NB"+00	LT	63	-	63	0.04	0.9	0.5
		598"NB"+40	599"NB"+00	RT	47	-	47	0.03	0.6	0.3
			UNDISTRIBUTED		70	-	70	0.50	1.0	0.5
	B-45-51	595"SB"+50	596"NB"+60	LT	51	-	51	0.03	0.7	0.4
		595"SB"+50	596"NB"+38	RT	68	-	68	0.04	0.9	0.5
		597"SB"+57	598"NB"+50	LT	72	-	72	0.05	1.0	0.5
			597"SB"+78		56	-	56	0.04	0.8	0.4
			UNDISTRIBUTED		70	-	70	0.50	1.0	0.5
	B-45-42	35+95	37+40	RT	138	-	-	0.09	1.9	1.0
		36+17	37+37	LT	120	-	-	0.08	1.6	0.8
			UNDISTRIBUTED		30	-	30	0.50	0.5	0.3
	B-45-45	36+89	38+96	LT (MEDIAN)	489	-	489	0.31	6.6	3.3
		39+15	40+63	LT	181	-	181	0.11	2.4	1.2
		39+33	40+90	RT	264	-	264	0.17	3.6	1.8
		39+52	40+79	LT (MEDIAN)	184	-	184	0.12	2.5	1.3
		43+46	44+64	LT	246	-	246	0.15	3.3	1.7
		43+56	44+48	LT (MEDIAN)	129	-	129	0.08	1.7	0.9
		43+73	45+12	RT	132	-	132	0.08	1.8	0.9
		45+17	46+70	LT (MEDIAN)	379	-	379	0.24	5.1	2.6
			UNDISTRIBUTED		220	-	220	0.50	3.0	1.5
	B-45-59	35+45	36+65	RT	67	-	-	0.04	0.9	0.5
		35+45	36+90	LT	81	-	-	0.05	1.1	0.6
		41+30	42+00	RT	39	-	-	0.02	0.5	0.3
		41+45	42+15	LT	39	-	-	0.02	0.5	0.3
			UNDISTRIBUTED		10	-	10	0.50	0.5	0.3
	B-45-33	37+69	38+71	RT	109	-	-	0.07	1.5	0.8
		37+65	38+71	LT	136	-	-	0.09	1.8	0.9
		41+36	43+44	RT	61	-	-	0.04	0.8	0.4
		41+36	44+13	LT	84	-	-	0.05	1.1	0.6
			UNDISTRIBUTED		50	-	50	0.50	1.0	0.5
	IH 43 SHOULDER REPLACEMENT	753"NB"+00	970"NB"+75	LT	-	3,630	3,630	2.29	49.0	-
		797"NB"+00	971"NB"+11	RT	-	2,910	2,910	1.83	39.3	-
		753"SB"+00	972"SB"+36	RT	-	3,660	3,660	2.31	49.4	-
		798"SB"+50	971"SB"+93	LT	-	2,900	2,900	1.83	39.2	-
			PROJECT TOTALS		**4,664**	**13,100**	**16,478**	**17.1**	**241**	**33**

TEMPORARY PAVEMENT MARKING

CATEGORY	STRUCTURE	STAGE	STATION	TO STATION	(646.0600) REMOVING PAVEMENT MARKINGS LF	(649.0200) REFLECTIVE PAINT 4-INCH WHITE LF	(649.0200) REFLECTIVE PAINT 4-INCH YELLOW LF	(649.0400) REMOVABLE TAPE 4-INCH WHITE LF	(649.0400) REMOVABLE TAPE 4-INCH YELLOW LF	(649.0801) REMOVABLE TAPE 8-INCH LF	(649.1000) STOP LINE REMOVABLE TAPE 12-INCH LF	(649.1600) DIAGONAL REMOVABLE TAPE 12-INCH WHITE LF	(649.1600) DIAGONAL REMOVABLE TAPE 12-INCH YELLOW LF
0010	B-45-57	1	912"SB TC"+75	947"SB TC"+15	2,555	-	-	2,895	1,980	-	-	-	-
			916"SB TC"+75	920"SB TC"+25	-	350	350	-	-	-	-	-	-
		2	910"SB TC"+75	946"SB TC"+85	2,880	-	-	2,745	3,220	-	-	-	-
	B-45-48/50	1	566"NB TC"+90	625"NB TC"+40	5,290	-	-	5,000	4,095	-	-	-	-
			568"NB TC"+25	575"NB TC"+00	-	675	675	-	-	-	-	-	-
			596"NB TC"+00	599"NB TC"+00	-	300	300	-	-	-	-	-	-
		2	541"NB TC"+65	605"NB TC"+00	5,550	-	-	5,455	5,950	-	-	-	-
	B-45-49/51	1	541"SB TC"+35	603"SB TC"+00	4,965	-	-	4,635	3,740	-	-	-	-
			570"SB TC"+90	577"SB TC"+90	-	700	700	-	-	-	-	-	-
			595"SB TC"+50	598"SB TC"+50	-	300	300	-	-	-	-	-	-
		2	564"SB TC"+90	625"SB TC"+10	4,710	-	-	5,090	5,560	-	-	-	-
	B-45-45		STAGE 1		1,190	-	-	3,000	4,250	265	230	60	115
			STAGE 2		520	-	-	2,785	4,525	425	155	-	-
			STAGE 3		-	-	-	-	1,165	135	20	-	-
			IH 43 MAINLINE CLOSURE		3,180	-	-	4,140	2,260	-	-	-	-
	B-45-59		IH 43 MAINLINE CLOSURE		3,180	-	-	4,140	2,260	-	-	-	-
	B-45-33		IH 43 MAINLINE CLOSURE		390	-	-	1,560	1,560	-	-	-	-
SUBTOTALS					**34,410**	**2,325**	**2,325**	**41,445**	**40,565**	**825**	**405**	**60**	**115**
PROJECT TOTALS					**34,410**	**4,650**		**82,010**		**825**	**405**	**175**	

PAVEMENT MARKING

CATEGORY	STRUCTURE	STATION	STATION	(646.0106) PAVEMENT MARKING EPOXY 4-INCH YELLOW LF	(646.0106) PAVEMENT MARKING EPOXY 4-INCH WHITE LF	(646.0126) PAVEMENT MARKING EPOXY 8-INCH LF	(646.0841.S) PAVEMENT MARKING GROOVED WET REFLECTIVE CONTRAST TAPE 4-INCH WHITE LF	(647.0556) PAVEMENT MARKING STOP LINE EPOXY 12-INCH LF	(647.0566) PAVEMENT MARKING STOP LINE EPOXY 18-INCH LF	(647.0456) PAVEMENT MARKING CURB EPOXY LF	(646.0103) PAVEMENT MARKING 4-INCH PAINT YELLOW LF	(646.0103) PAVEMENT MARKING 4-INCH PAINT WHITE LF
0010	B-45-57	912"SB TC"+75	947"SB TC"+15	2,710	2,340	-	290	-	-	-	-	-
	B-45-48/50	546"NB TC"+35	605"NB TC"+00	5,435	5,065	-	470	-	-	-	-	-
	B-45-49/51	570"SB TC"+90	616"SB TC"+10	4,560	4,750	-	455	-	-	-	-	-
	B-45-45	STAGE 3		3,420	1,765	585	520	30	60	320	-	-
	B-45-42	37+00	40+50	-	-	-	-	-	-	-	700	1,075
	B-45-59	IH 43 MAINLINE CLOSURE		2,660	-	-	520	-	-	-	-	-
	B-45-33	IH 43 MAINLINE CLOSURE		-	-	-	390	-	-	-	-	-
SUBTOTALS				**18,785**	**13,920**	**585**	**2,645**	**30**	**60**	**320**	**700**	**1,075**
PROJECT TOTALS				**32,705**		**585**	**2,645**	**30**	**60**	**320**	**1,775**	

CONCRETE BARRIER

CATEGORY	STRUCTURE	STAGE	(603.8000) TEMPORARY PRECAST DELIVERED LF	(603.8125) TEMPORARY PRECAST INSTALLED LF	(614.0905) CRASH CUSHIONS TEMPORARY EACH
0010	B-45-57	1	910	910	1
		2	-	910	-
	B-45-50	1	900	900	1
		2	-	860	1
	B-45-51	1	875	875	1
		2	-	850	1
	B-45-48	1	1,260	1,260	1
		2	-	1,225	1
	B-45-49	1	1,285	1,285	1
		2	-	1,260	1
	B-45-45	1	480	480	2
		2	-	480	2
	B-45-59	1	440	880	-
PROJECT TOTALS			**6,150**	**12,175**	**13**

TYPE II PERMANENT SIGNING -

1450-16-70 IH 43

SIGN NO.	SIGN CODE & SIZE	SIGN MESSAGE	SIGN SIZE W [IN.] x H [IN.]	637.0202 SIGNS REFLC TYPE II [SF]	638.2602 REM SIGNS TYPE II (EA)	638.3000 REM SMALL SIGN SUP (EA)	634.0618 WOOD POSTS 4"X 6"x18' [EA]	637.0402 SIGNS REFLECTIVE FOLDING TYPE II [EA]	638.2102 MOVE SIGNS TYPE II [EA]	MOUNT ON SAME POST AS SIGN #	REMARKS / NEW SIGN LOCATION
1		* NOT USED*	-- x --	--	--	--	--	--	--	--	* NOT USED *
2	W3-1	STOP AHEAD	-- x --	--	--	1	1	--	1	--	--
3	R4-7(2S)	KEEP RIGHT	24 x 30	5.000	1	1	1	--	--	--	--
4	D1-2	[A] PORT WASHINGTON [A] GREEN BAY	-- x --	--	--	2	2	--	1	--	--
5	J1-1(2)	--	24 x 39	6.500	2	1	1	--	--	--	--
	M2-1	JCT	21 x 15	--	--	--	--	--	--	--	--
	M1-5A	CTH LL	24 x 24	--	--	--	--	--	--	--	--
6	R2-1(2)	SPEED LIMIT 35	24 x 30	5.000	--	--	1	--	--	--	--
7	J3-1(2)	--	24 x 57	9.500	1	--	--	--	--	#3	--
	MB3-3	SOUTH	24 x 12	--	--	--	--	--	--	--	--
	M1-1	IH 43	24 x 24	--	--	--	--	--	--	--	--
	MB6-1	ARROW	21 x 21	--	--	--	--	--	--	--	--
8	R5-1A(2S)	WRONG WAY	36 x 24	6.000	1	1	1	--	--	--	--
9	D1-2	[A] FREDONIA [A] MILWAUKEE	-- x --	--	--	2	2	--	1	--	--
10	W3-3(2S)	SIGNAL AHEAD	36 x 36	9.000	1	1	1	--	--	--	--
11	W3-3(2S)	SIGNAL AHEAD	36 x 36	9.000	1	1	1	--	--	--	--
12	R2-1(2S)	SPEED LIMIT 35	24 x 30	5.000	1	1	1	--	--	--	--
13	W5-52R(2S)	CLEARANCE STRIPER	12 x 36	3.000	1	--	--	--	--	#12	4' MOUNTING HEIGHT
14	R5-1A(2S)	WRONG WAY	36 x 24	6.000	1	1	--	--	--	#10	--
15	W5-52R(3)	CLEARANCE STRIPER	18 x 54	6.750	1	1	1	--	--	--	4' MOUNTING HEIGHT
16	W5-52L(3)	CLEARANCE STRIPER	18 x 54	6.750	1	1	1	--	--	--	4' MOUNTING HEIGHT
17	W5-52L(3)	CLEARANCE STRIPER	18 x 54	6.750	1	1	1	--	--	--	4' MOUNTING HEIGHT
18	W5-52R(3)	CLEARANCE STRIPER	18 x 54	6.750	1	1	1	--	--	--	4' MOUNTING HEIGHT
19	D1-1	HWY LL	-- x --	--	--	2	2	--	1	--	--
20	D1-1	HWY LL	-- x --	--	--	2	2	--	1	--	--
21	W5-52R(3)	CLEARANCE STRIPER	18 x 54	6.750	1	1	1	--	--	--	4' MOUNTING HEIGHT
22	W5-52L(3)	CLEARANCE STRIPER	18 x 54	6.750	1	1	1	--	--	--	4' MOUNTING HEIGHT
23	W5-52R(3)	CLEARANCE STRIPER	18 x 54	6.750	1	1	1	--	--	--	4' MOUNTING HEIGHT
24	W5-52L(3)	CLEARANCE STRIPER	18 x 54	6.750	1	1	1	--	--	--	4' MOUNTING HEIGHT
25	W5-52R(3)	CLEARANCE STRIPER	18 x 54	6.750	1	1	1	--	--	--	4' MOUNTING HEIGHT
26	W5-52L(3)	CLEARANCE STRIPER	18 x 54	6.750	1	1	1	--	--	--	4' MOUNTING HEIGHT
27	W5-52R(3)	CLEARANCE STRIPER	18 x 54	6.750	1	1	1	--	--	--	4' MOUNTING HEIGHT
28	W5-52L(3)	CLEARANCE STRIPER	18 x 54	6.750	1	1	1	--	--	--	4' MOUNTING HEIGHT
29	R1-1(3)	STOP	36 x 36	7.460	1	1	1	--	--	--	--
30	J3-1(2S)	--	24 x 57	9.500	1	1	1	--	--	--	--
	M3-1	NORTH	24 x 12	--	--	--	--	--	--	--	--
	M1-5A	CTH LL	24 x 24	--	--	--	--	--	--	--	--
	M6-1	ARROW	21 x 21	--	--	--	--	--	--	--	--
31	R5-1(3)	DO NOT ENTER	36 x 36	9.000	1	1	1	--	--	--	--
32	R5-1(3)	DO NOT ENTER	36 x 36	9.000	--	--	1	--	--	--	--
33	R4-7(2S)	KEEP RIGHT	24 x 30	5.000	1	1	1	--	--	--	--
34	R6-2L(2S)	ONE WAY	24 x 30	5.000	1	--	--	--	--	--	MOUNT WITH SIGN #32
35	R3-2(2S)	NO LEFT TURN	24 x 24	4.000	1	1	1	--	--	--	--
36	R3-1(2S)	NO RIGHT TURN	24 x 24	4.000	1	1	1	--	--	--	--
37	R4-7(2S)	KEEP RIGHT	24 x 30	5.000	1	1	1	--	--	--	--
38	R5-1(3)	DO NOT ENTER	36 x 36	9.000	1	--	--	--	--	--	--
39	R5-1(3)	DO NOT ENTER	36 x 36	9.000	1	1	1	--	--	--	--
40	R1-1(3)	STOP	36 x 36	7.460	1	1	1	--	--	--	--
41	R1-1(3)	STOP	36 x 36	7.460	1	1	1	--	--	--	--
42	R3-2(2S)	NO LEFT TURN	24 x 24	4.000	1	1	1	--	--	--	--
43	R6-2L(2S)	ONE WAY	24 x 30	5.000	1	--	--	--	--	--	MOUNT WITH SIGN #40
	TOTALS			244.880	36	39	40	0	5	--	--

TRAFFIC CONTROL

CATEGORY	STAGE	DRUMS NO. DEVICES	(643.0300) DRUMS DAYS	(643.0500) FLEXIBLE TUBULAR MARKER NO. DEVICES	(643.0500) FLEXIBLE TUBULAR MARKER POSTS DAYS	(643.0600) FLEXIBLE TUBULAR MARKER BASES DAYS	BARRICADES TYPE III NO. DEVICES	(643.0420) BARRICADES TYPE III DAYS	WARNING LIGHTS TYPE A NO. DEVICES	(643.0705) WARNING LIGHTS TYPE A DAYS	WARNING LIGHTS TYPE C NO. DEVICES	(643.0715) WARNING LIGHTS TYPE C DAYS	ARROW BOARDS NO. DEVICES	(643.0800) ARROW BOARDS DAYS	SIGNS PCMS NO. DEVICES	(643.1050) SIGNS PCMS DAYS	(SPV.0045.01) PCMS CELLULAR COMMUNICATIONS DAYS	SIGNS NO. DEVICES	(643.0900) SIGNS DAYS	DURATION
0010																				
	B-45-64																			
	SHOULDER CLOSURE	22	660	0	0	0	0	0	0	0	0	0	0	0	0	0	0	8	240	30 DAYS
	B-45-66																			
	SHOULDER CLOSURE	22	550	0	0	0	0	0	0	0	0	0	0	0	0	0	0	8	200	25 DAYS
	IH 43 MAINLINE CLOSURE - B-45-57																			
	STAGE 1	43	1,935	0	0	0	1	45	2	90	18	810	2	90	1	45	45	30	1,350	45 DAYS
	STAGE 2	43	1,505	0	0	0	1	35	2	70	19	665	2	70	1	35	35	30	1,050	35 DAYS
	IH 43 MAINLINE CLOSURE - B-45-48/49/50/51																			
	STAGE 1	129	5,805	0	0	0	12	540	20	900	38	1,710	4	180	2	90	90	72	3,240	45 DAYS
	STAGE 2	128	4,480	0	0	0	6	210	12	420	37	1,295	4	140	2	70	70	72	2,520	35 DAYS
	DETOUR	0	0	0	0	0	10	640	16	1,024	0	0	0	0	0	0	0	0	0	64 DAYS
	B-45-45																			
	STAGE 1	107	3,852	67	2,412	2,412	28	1,008	48	1,728	16	576	0	0	0	0	0	34	1,224	36 DAYS
	STAGE 2	129	5,418	56	2,352	2,352	33	1,386	45	1,890	23	966	0	0	0	0	0	34	1,428	42 DAYS
	STAGE 3	130	5,590	0	0	0	12	516	18	774	4	172	0	0	0	0	0	25	1,075	43 DAYS
	IH 43 MAINLINE LANE CLOSURE	88	9,944	0	0	0	0	0	0	0	42	4,746	4	452	0	0	0	22	2,486	113 DAYS
	B-45-42																			
	ROAD CLOSURE	0	0	0	0	0	12	612	20	1,020	0	0	0	0	0	0	0	21	1,071	51 DAYS
	B-45-59																			
	ROAD CLOSURE	0	0	0	0	0	14	784	24	1,344	0	0	0	0	0	0	0	19	1,064	56 DAYS
	IH 43 MAINLINE LANE CLOSURE	88	8,712	0	0	0	0	0	0	0	42	4,158	4	396	0	0	0	22	2,178	99 DAYS
	B-45-33																			
	ROAD CLOSURE	15	840	0	0	0	10	560	16	896	0	0	0	0	0	0	0	15	840	56 DAYS
	IH 43 MAINLINE LANE CLOSURE	80	2,480	0	0	0	2	62	4	124	32	992	4	124	0	0	0	16	496	31 DAYS
	LANE WIDTH DETAIL SIGNING																			
		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	8	792	99 DAYS
		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	297	99 DAYS
	IH 43 SHOULDER REPLACEMENT																			
	STAGE 1 (OUTSIDE)	240	7,200	0	0	0	32	960	64	1,920	32	960	4	120	2	60	0	50	1,500	30 DAYS
	STAGE 2 (MEDIAN)	350	7,000	0	0	0	32	640	62	1,240	32	640	4	80	2	40	0	50	1,000	20 DAYS
	PROJECT TOTALS		**65,971**		**4,764**	**4,764**		**7,998**		**13,440**		**17,690**		**1,652**		**340**	**240**		**24,051**	

TRAFFIC CONTROL COVERING SIGNS TYPE II

CATEGORY	STRUCTURE	DESCRIPTION	(643.0920) EACH
0010	B-45-45	STAGE 1	5
		STAGE 2	2
	IH 43 SHOULDER REPLACEMENT	IH 43 NB @ CTH D ON RAMP	12
		IH 43 SB @ CTH D ON RAMP	12
		PROJECT TOTALS	**31**

MOVING SIGNS

CATEGORY	STRUCTURE	STATION	LOCATION	* (638.2102) TYPE II EACH
0010	B-45-45	STAGE 1		9
		STAGE 2		4
		PROJECT TOTALS		**13**

*ADDITIONAL QUANTITIES FOUND ELSEWHERE

TRAFFIC CONTROL SIGNS FIXED MESSAGE

CATEGORY	STRUCTURE	DESCRIPTION	NO. DEVICES	SIGN SIZE SF	(643.1000) SF
0010	B-45-42	ROAD CLOSED STARTING XXX XX	2	8.0	16
	B-45-59	NORTHWOODS RD	3	3.0	9
		ROAD CLOSED STARTING XXX XX	2	8.0	16
	B-45-33	SAUK RD	3	3.0	9
		ROAD CLOSED STARTING XXX XX	2	8.0	16
	WIDE LOAD SIGNAGE	SIGN A	5	57.5	288
		SIGN B	5	57.5	288
		SIGN C	2	57.5	115
		PROJECT TOTAL			**756**

TRAFFIC CONTROL DETOUR SIGNS

CATEGORY	STRUCTURE	DESCRIPTION	SIGNS NO. DEVICES	DURATION	(643.3000) DAYS
0010	B-45-48/49	STH 32/CTH H/CTH KW	39	64	2,496
	PAINTING	CTH LL	27	64	1,728
		CTH A	29	64	1,856
		DIXIE ROAD	28	64	1,792
		PROJECT TOTALS			**7,872**

CONSTRUCTION STAKING

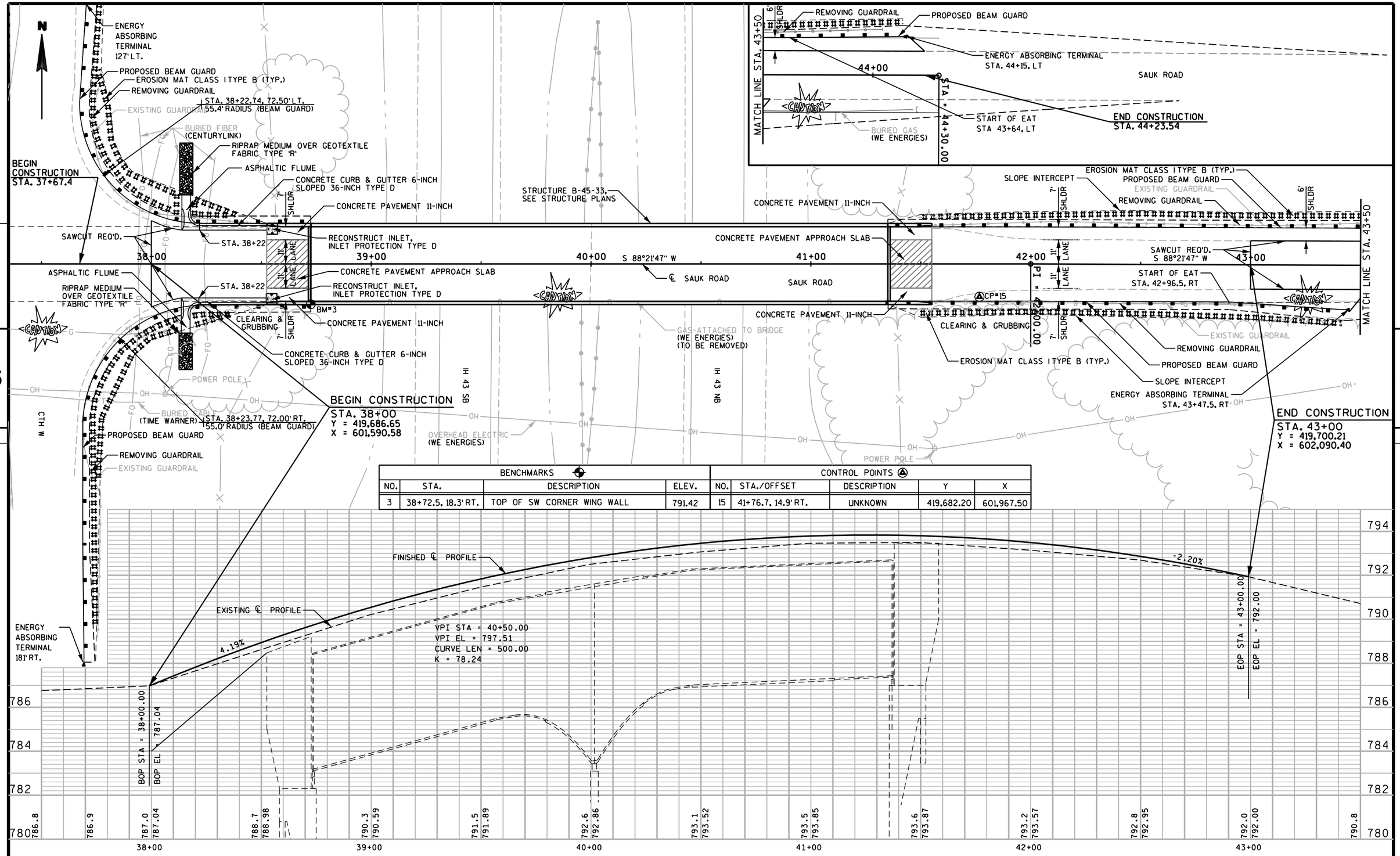
CATEGORY	STRUCTURE	STATION	TO STATION	LOCATION	(650.4500) SUBGRADE LF	(650.5000) BASE LF	(650.6500) STRUCTURE LAYOUT LS	(650.7000) CONCRETE PAVEMENT LF	(650.9910) SUPPLEMENTAL CONTROL LS	(650.9920) SLOPE STAKES LF
0010	B-45-57	916"SB"+75	917"SB"+48	LT & RT	70	70	-	70	0.125	70
		918"SB"+69	920"SB"+25	LT & RT	156	156	-	156	-	156
	B-45-50	596"NB"+00	596"NB"+82	LT & RT	82	82	-	82	0.125	82
		598"NB"+22	599"NB"+00	LT & RT	78	78	-	78	-	78
	B-45-51	595"SB"+50	596"SB"+35	LT & RT	85	85	-	85	0.125	85
		597"SB"+74	598"SB"+50	LT & RT	76	76	-	76	-	76
	B-45-48	568"NB"+25	571"NB"+52	LT & RT	327	327		327	0.125	327
		573"NB"+83	575"NB"+00	LT & RT	117	117		117		117
	B-45-49	570"SB"+90	573"SB"+40	LT & RT	250	250	-	250	0.125	250
		575"SB"+08	577"SB"+90	LT & RT	155	155	-	155	-	155
	B-45-45	39+50	40+81	LT & RT	131	131	-	131	0.125	131
		43+46	44+50	LT & RT	104	104	-	104	-	104
		39+50	40+75	LT & RT	125	125	-	125	-	125
		43+46	44+50	LT & RT	104	104	-	104	-	104
	B-45-42	35+85	37+36	LT & RT	151	151	-	-	0.125	151
		40+00	40+50	LT & RT	50	50	-	-	-	50
	B-45-59	35+36	36+77	LT & RT	141	141	-	-	0.125	141
		41+39	42+16	LT & RT	77	77	-	-	-	77
	B-45-33	38+00	38+72	LT & RT	72	72	-	-	0.125	72
		41+36	44+24	LT & RT	164	164	-	-	-	164
		CATEGORY 0010 TOTALS			**2,515**	**2,515**	**0**	**1,860**	**1**	**2,515**
0020		STRUCTURE B-45-0057 REHAB			-	-	1	-	-	-
0030		STRUCTURE B-45-0050 REHAB			-	-	1	-	-	-
0040		STRUCTURE B-45-0051 REHAB			-	-	1	-	-	-
0050		STRUCTURE B-45-0049 REHAB			-	-	1	-	-	-
0060		STRUCTURE B-45-0048 REHAB			-	-	1	-	-	-
0070		STRUCTURE B-45-0045 REHAB			-	-	1	-	-	-
0080		STRUCTURE B-45-0042 REHAB			-	-	1	-	-	-
0090		STRUCTURE B-45-0059 REHAB			-	-	1	-	-	-
0100		STRUCTURE B-45-0033 REHAB			-	-	1	-	-	-
		PROJECT TOTALS			**2,515**	**2,515**	**9**	**1,860**	**1**	**2,515**

CONSTRUCTION STAKING RESURFACING REFERENCE

CATEGORY	STRUCTURE	STATION	TO STATION	(650.8000) LF
0010	IH 43 SHOULDER REPLACEMENT	753"NB TC"+75	971"NB TC"+11	21,736
		753"SB TC"+00	971"SB TC"+93	21,893
		PROJECT TOTAL		**43,629**

SAWCUT

CATEGORY	STRUCTURE	STATION	TO STATION	(690.0150) SAWING ASPHALT LF	(690.0250) SAWING CONCRETE LF
0010	B-45-57	916"SB"+75		16	24
		920"SB"+25		16	24
	B-45-50	596"NB"+00		16	24
		599"NB"+00		16	24
	B-45-51	595"SB"+50		16	24
		598"SB"+50		16	24
	B-45-48	568"NB"+25		13	24
		575"NB"+00		13	24
		568"NB"+25	571"NB"+45	-	320
		573"NB"+77	575"NB"+00	-	123
	B-45-49	570"SB"+90		13	24
		577"SB"+90		13	24
		570"SB"+90	573"SB"+20	-	230
		575"SB"+43	577"SB"+90	-	247
	B-45-45	36+88		-	3
		37+03		-	3
		39+10	39+10	-	17
		39+10	39+50	-	40
		39+21	39+32	-	25
		39+21	39+50	-	29
		39+50		-	85
		39+50	44+55	-	505
		44+55		-	85
		44+55	44+77	-	22
		44+66	44+77	-	27
		44+55	45+07	-	52
		45+07	45+11	-	18
		45+53		-	3
		46+61		-	3
	B-45-42	37+00		395	-
		40+50		30	-
	B-45-59	35+50		52	-
		42+00		47	-
	B-45-33	38+00		40	-
		43+00		305	-
	IH 43 SHOULDER REPLACEMENT	753"SB TC"+00		3	-
		776"SB TC"+00	778"SB TC"+20	220	-
		798"SB TC"+50		10	-
		821"SB TC"+00		10	-
		831"SB TC"+00		10	-
		849"SB TC"+40	851"SB TC"+60	220	-
		895"SB TC"+40	898"SB TC"+30	290	-
		970"SB TC"+00	972"SB TC"+36	236	-
		971"SB TC"+93		3	-
		972"SB TC"+36		3	-
		753"NB TC"+00		3	-
		775"NB TC"+00	777"NB TC"+50	250	-
		797"NB TC"+00		10	-
		821"NB TC"+00		10	-
		834"NB TC"+00		10	-
		848"NB TC"+00	850"NB TC"+50	250	-
		895"NB TC"+20	897"NB TC"+50	230	-
		900"NB TC"+06		3	-
		900"NB TC"+06		10	-
		925"NB TC"+03		3	-
		925"NB TC"+77		10	-
		968"NB TC"+50	970"NB TC"+80	230	-
		970"NB TC"+75		3	-
		971"NB TC"+11		10	-
		PROJECT TOTALS		**3,054**	**2,077**



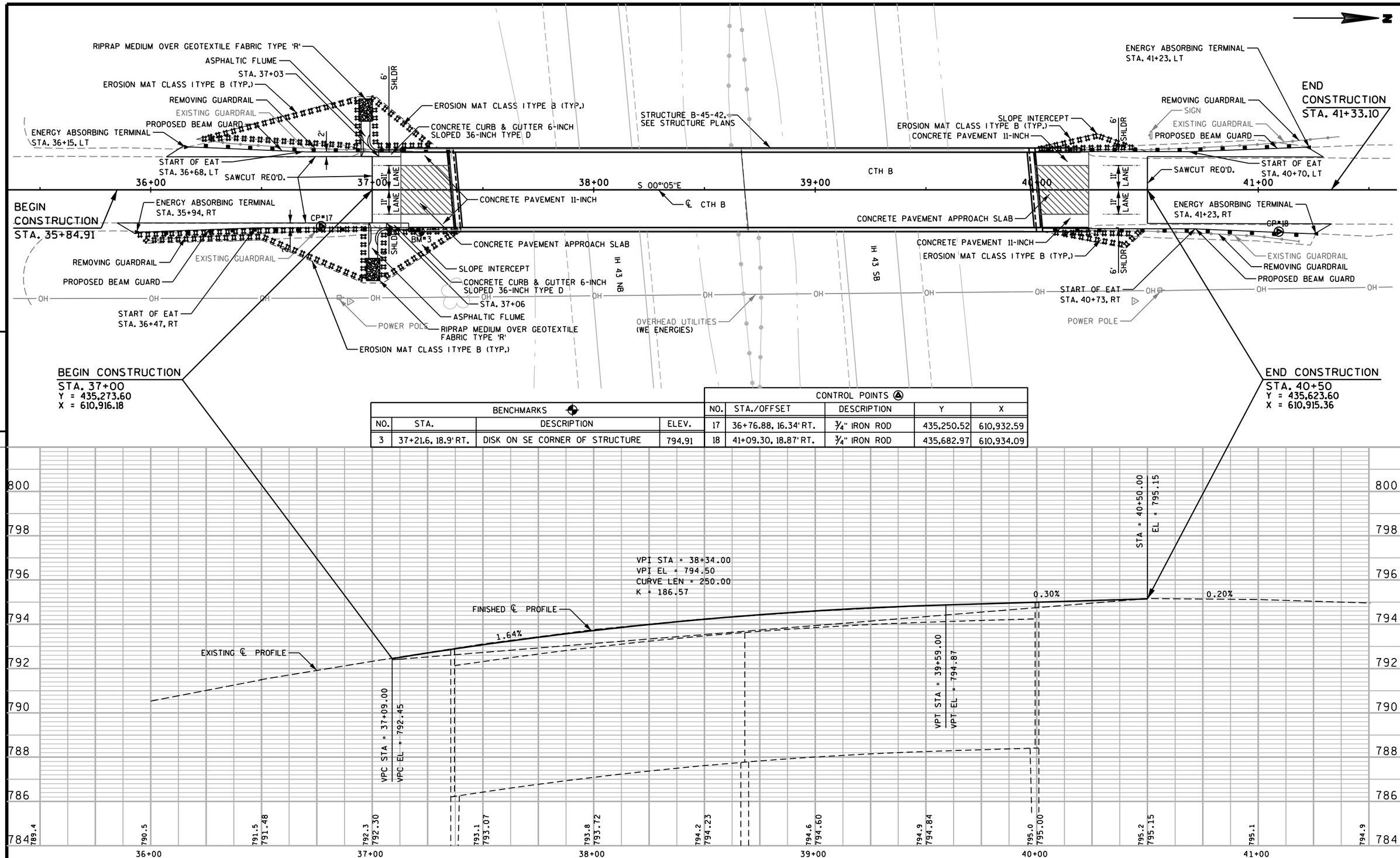
BENCHMARKS			
NO.	STA.	DESCRIPTION	ELEV.
3	38+72.5, 18.3' RT.	TOP OF SW CORNER WING WALL	791.42

CONTROL POINTS				
NO.	STA./OFFSET	DESCRIPTION	Y	X
15	41+76.7, 14.9' RT.	UNKNOWN	419,682.20	601,967.50

PROJECT NO: 1450-16-70	HWY: IH 43	COUNTY: OZAUKEE	PLAN & PROFILE - B-45-33 (SAUK RD OVER IH 43)	SHEET 120	E

FILE NAME : $$....designfile....$$ PLOT DATE : $$...plottingdate...$$ PLOT BY : $$...plotuser...$$ PLOT NAME : PLOT SCALE : $$.....plotscale.....$$ WISDOT/CADDS SHEET 40

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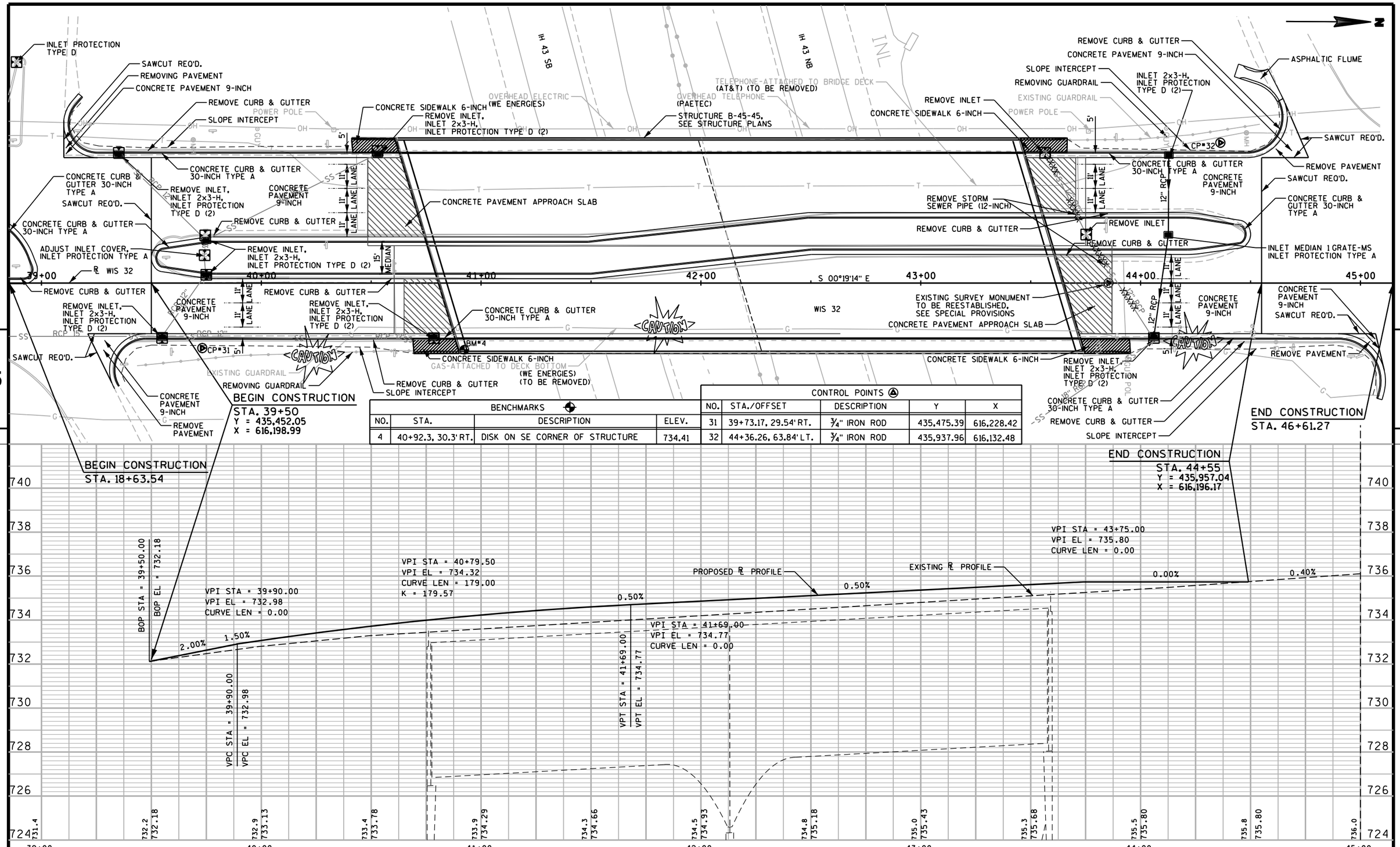
BENCHMARKS			
NO.	STA.	DESCRIPTION	ELEV.
3	37+21.6, 18.9' RT.	DISK ON SE CORNER OF STRUCTURE	794.91

CONTROL POINTS				
NO.	STA./OFFSET	DESCRIPTION	Y	X
17	36+76.88, 16.34' RT.	¾" IRON ROD	435,250.52	610,932.59
18	41+09.30, 18.87' RT.	¾" IRON ROD	435,682.97	610,934.09

PROJECT NO: 1450-16-70	HWY: IH 43	COUNTY: OZAUKEE	PLAN & PROFILE - B-45-42 (CTH B OVER IH 43)	SHEET 121	E

FILE NAME : $$....designfile....$$ PLOT DATE : $$...plottingdate...$$ PLOT BY : $$...plotuser...$$ PLOT NAME : PLOT SCALE : $$.....plotscale.....$$ WISDOT/CADDS SHEET 30

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BENCHMARKS			
NO.	STA.	DESCRIPTION	ELEV.
4	40+92.3, 30.3' RT.	DISK ON SE CORNER OF STRUCTURE	734.41

CONTROL POINTS				
NO.	STA./OFFSET	DESCRIPTION	Y	X
31	39+73.17, 29.54' RT.	¾" IRON ROD	435,475.39	616,228.42
32	44+36.26, 63.84' LT.	¾" IRON ROD	435,937.96	616,132.48

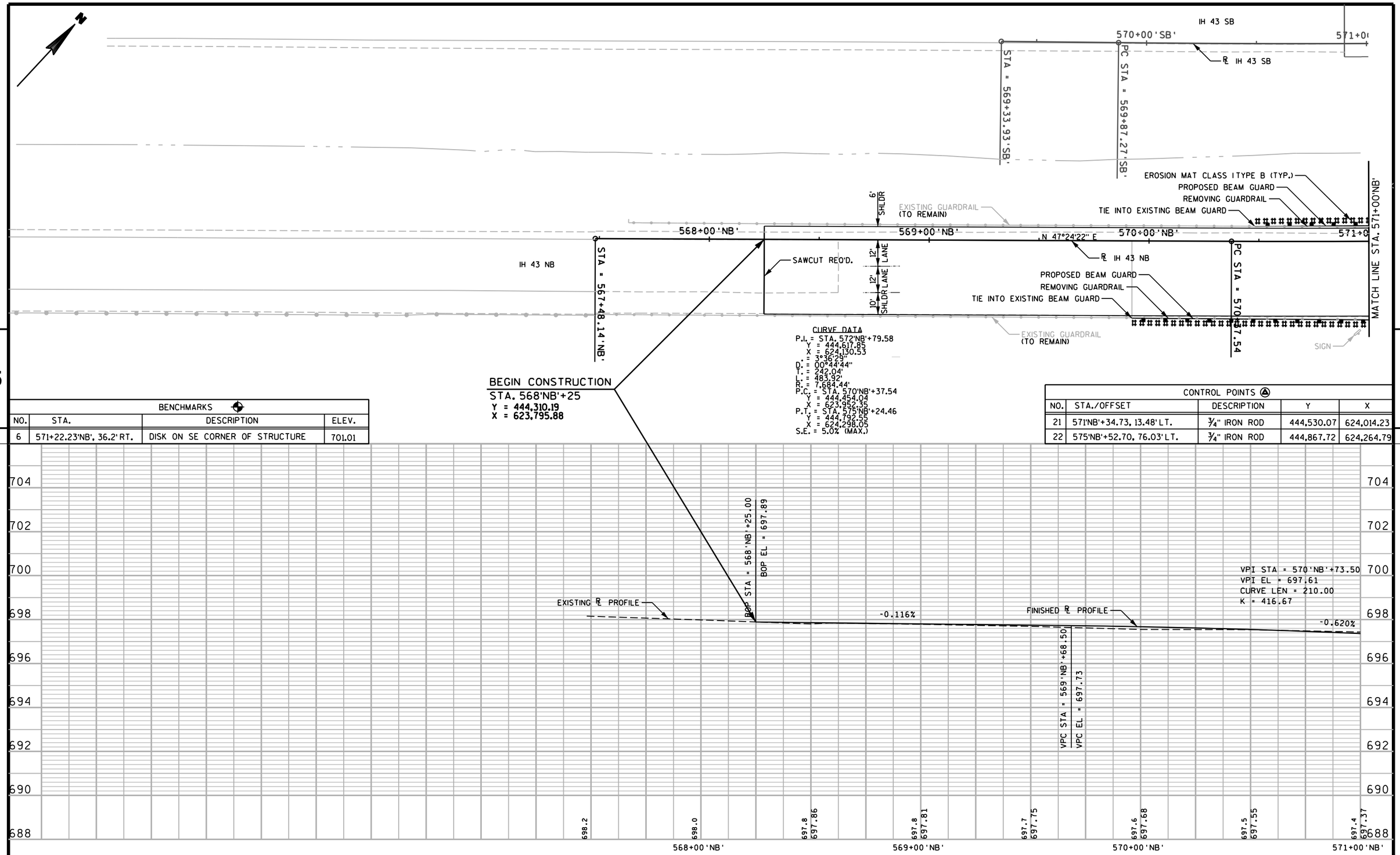
BEGIN CONSTRUCTION
STA. 39+50
Y = 435,452.05
X = 616,198.99

BEGIN CONSTRUCTION
STA. 18+63.54

END CONSTRUCTION
STA. 46+61.27

END CONSTRUCTION
STA. 44+55
Y = 435,957.04
X = 616,196.17

PROJECT NO: 1450-16-70	HWY: IH 43	COUNTY: OZAUKEE	PLAN & PROFILE - B-45-45 (WIS 32 OVER IH 43)	SHEET 122	E



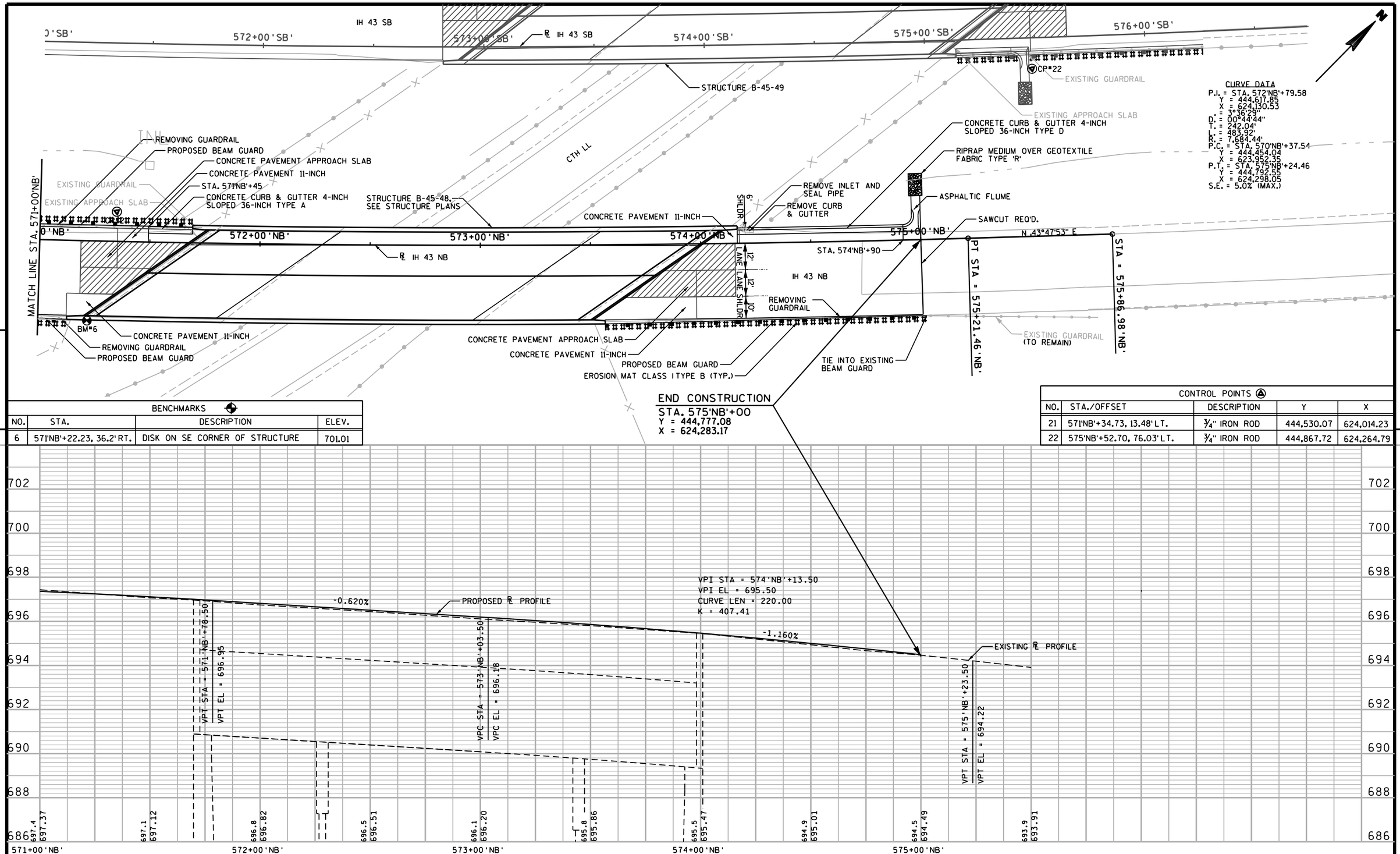
BENCHMARKS			
NO.	STA.	DESCRIPTION	ELEV.
6	571+22.23'NB', 36.2' RT.	DISK ON SE CORNER OF STRUCTURE	701.01

CONTROL POINTS				
NO.	STA./OFFSET	DESCRIPTION	Y	X
21	571'NB'+34.73, 13.48' LT.	¾" IRON ROD	444,530.07	624,014.23
22	575'NB'+52.70, 76.03' LT.	¾" IRON ROD	444,867.72	624,264.79

PROJECT NO: 1450-16-70	HWY: IH 43	COUNTY: OZAUKEE	PLAN & PROFILE - B-45-48 (IH 43 NB OVER CTH LL)	SHEET 123	E

FILE NAME : $$....designfile....$$ PLOT DATE : $$...plottingdate...$$ PLOT BY : $$...plotuser...$$ PLOT NAME : PLOT SCALE : $$.....plotscale.....$$ WISDOT/CADDS SHEET 30

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BENCHMARKS			
NO.	STA.	DESCRIPTION	ELEV.
6	571'NB'+22.23, 36.2' RT.	DISK ON SE CORNER OF STRUCTURE	701.01

CONTROL POINTS				
NO.	STA./OFFSET	DESCRIPTION	Y	X
21	571'NB'+34.73, 13.48' LT.	¾" IRON ROD	444,530.07	624,014.23
22	575'NB'+52.70, 76.03' LT.	¾" IRON ROD	444,867.72	624,264.79

PROJECT NO: 1450-16-70	HWY: IH 43	COUNTY: OZAUKEE	PLAN & PROFILE - B-45-48 (IH 43 NB OVER CTH LL)	SHEET 124	E

BENCHMARKS			
NO.	STA.	DESCRIPTION	ELEV.
5	575'SB'+60.8, 35.8'LT.	DISK ON NW CORNER OF STRUCTURE	697.35

CONTROL POINTS				
NO.	STA./OFFSET	DESCRIPTION	Y	X
21	571'SB'+30.08, 76.52'RT.	3/4" IRON ROD	444,530.07	624,014.23
22	575'SB'+48.47, 14.05'RT.	3/4" IRON ROD	444,867.72	624,264.79

CONCRETE PAVEMENT 11-INCH
EROSION MAT CLASS I TYPE B (TYP.)
CONCRETE PAVEMENT APPROACH SLAB
PROPOSED BEAM GUARD
REMOVING GUARDRAIL
TIE INTO EXISTING BEAM GUARD
EXISTING GUARDRAIL (TO REMAIN)
RIPRAP MEDIUM OVER GEOTEXTILE FABRIC TYPE 'R'
ASPHALTIC FLUME
CONCRETE CURB & GUTTER 4-INCH SLOPED 36-INCH TYPE A
STRUCTURE B-45-49, SEE STRUCTURE PLANS
PROPOSED BEAM GUARD
EXISTING GUARDRAIL
REMOVING GUARDRAIL
INLET PROTECTION TYPE D
REMOVE CURB & GUTTER
ADJUST INLET
BM=5
CONCRETE CURB & GUTTER 4-INCH SLOPED 36-INCH TYPE D
SAWCUT REQ'D.
IH 43 SB
10' SHLDR
12' LANE
12' LANE
6' SHLDR
STA. 573'SB'+20
CONCRETE PAVEMENT APPROACH SLAB
CONCRETE PAVEMENT 11-INCH
CONCRETE PAVEMENT 11-INCH
MATCH LINE STA. 576+00'SB'
570+00'SB'
571+00'SB'
572+00'SB'
573+00'SB'
574+00'SB'
575+00'SB'
576+0
PC STA = 569+87.27 SB'
CURVE DATA
P.I. = STA. 574'SB'+54.50
Y = 444,799.27
X = 624,199.32
Δ = 7°02'28"
D. = 00°45'16"
T. = 467.23'
L. = 933.27'
R. = 7,584.44'
P.C. = STA. 569'SB'+87.27
Y = 444,485.40
X = 623,853.22
P.T. = STA. 579'SB'+54.50
Y = 445,153.19
X = 624,504.34
S.E. = 5.0% (MAX.)
BEGIN CONSTRUCTION
STA. 570'SB'+90
Y = 444,554.92
X = 623,928.85
REMOVING GUARDRAIL (TYP.)
REMOVING FENCE (TYP.)
WOVEN WIRE FENCE (TYP.)
INL
CTH LL
℄ IH 43 SB
CONCRETE CURB & GUTTER 4-INCH SLOPED 36-INCH TYPE A
CP=22
REMOVING GUARDRAIL
EXISTING GUARDRAIL
PROPOSED BEAM GUARD
STA. 575'SB'+39
ASPHALTIC FLUME
RIPRAP MEDIUM OVER GEOTEXTILE FABRIC TYPE 'R'
EXISTING APPROACH SLAB
EXISTING GUARDRAIL
EXISTING APPROACH SLAB
CP=21
STRUCTURE B-45-48
570+00'NB'
571+00'NB'
572+00'NB'
573+00'NB'
574+00'NB'
575+00'NB'
PC STA =
PT STA
IH 43 NB
℄ IH 43 NB

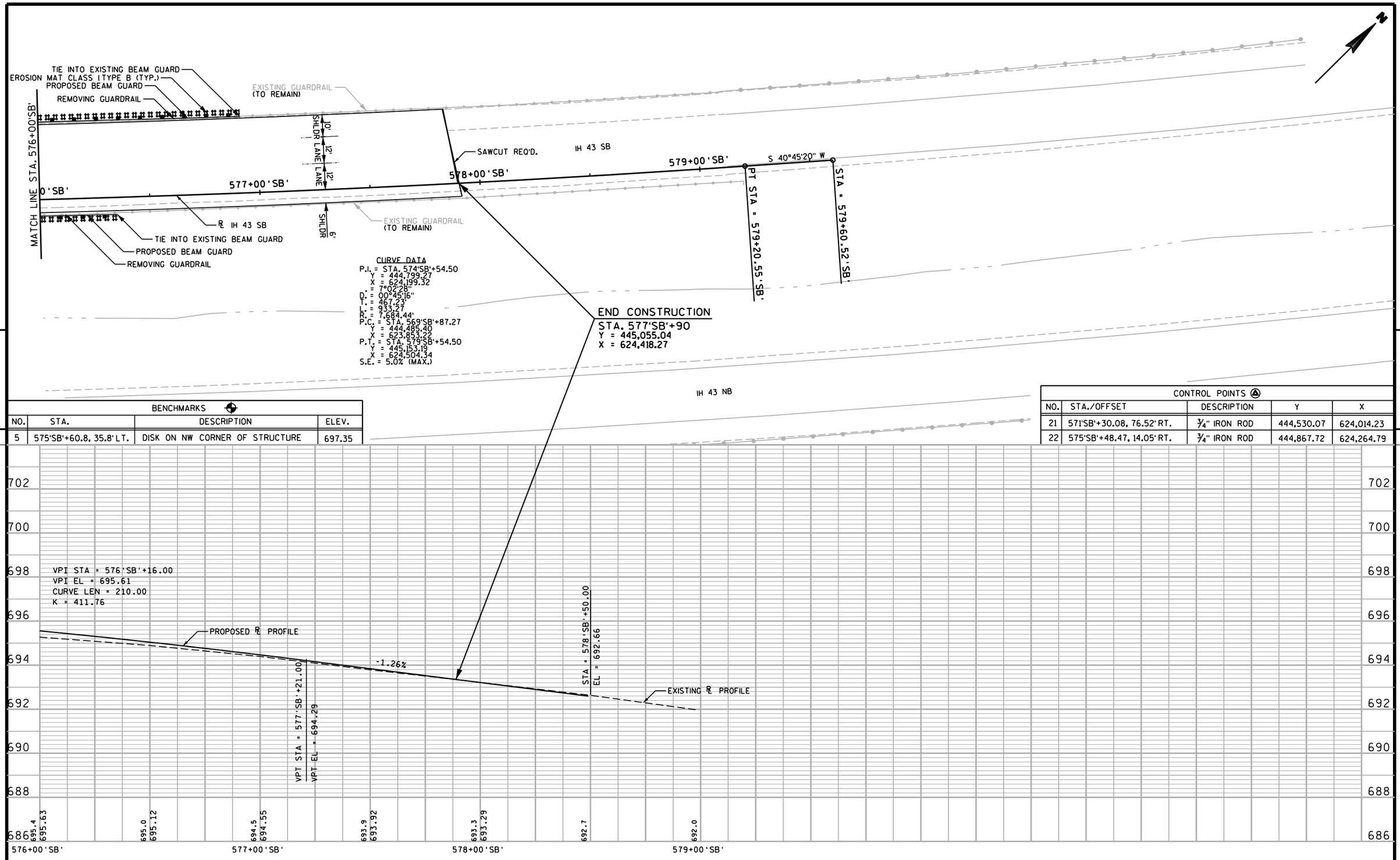
VPI STA = 571'SB'+90.00
VPI EL = 698.81
CURVE LEN = 262.00
K = 403.08
EXISTING ℄ PROFILE
-0.10%
PROPOSED ℄ PROFILE
-0.75%
VPC STA = 570+59.00 SB'
VPC EL = 698.94
VPT STA = 573+21.00'SB'
VPT EL = 697.82
VPC STA = 575+11.00'SB'
VPC EL = 696.40

704 702 700 698 696 694 692 690 688

699.1 698.9 698.95 698.9 698.88 698.7 698.74 698.6 698.55 698.2 698.29 697.9 697.98 697.6 697.61 697.1 697.23 696.8 696.86 696.4 696.48 695.8 696.09 695.4 695.63

570+00'SB' 571+00'SB' 572+00'SB' 573+00'SB' 574+00'SB' 575+00'SB' 576+00'SB'

PROJECT NO: 1450-16-70	HWY: IH 43	COUNTY: OZAUKEE	PLAN & PROFILE - B-45-49 (IH 43 SB OVER CTH LL)	SHEET 125	E



5

5

BENCHMARKS

NO.	STA.	DESCRIPTION	ELEV.
5	575'SB'+60.8, 35.8'LT.	DISK ON NW CORNER OF STRUCTURE	697.35

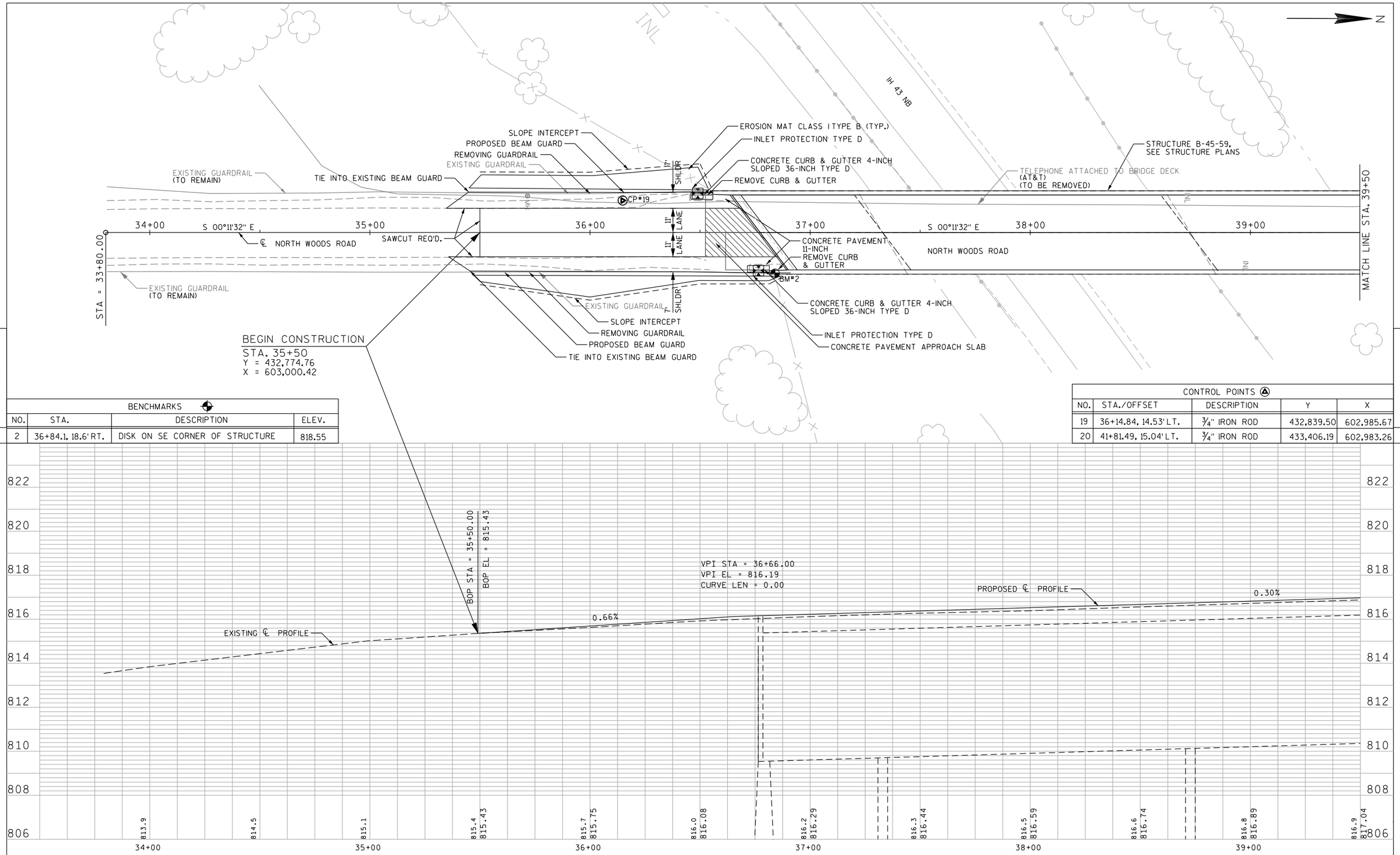
CONTROL POINTS

NO.	STA./OFFSET	DESCRIPTION	Y	X
21	571'SB'+30.08, 76.52'RT.	3/4" IRON ROD	444,530.07	624,014.23
22	575'SB'+48.47, 14.05'RT.	3/4" IRON ROD	444,867.72	624,264.79

PROJECT NO: 1450-16-70	HWY: IH 43	COUNTY: OZAUKEE	PLAN & PROFILE - B-45-49 (IH 43 SB OVER CTH LL)	SHEET 126	E

FILE NAME : $$....designfile....$$ PLOT DATE : $$...plottingdate...$$ PLOT BY : $$...plotuser...$$ PLOT NAME : PLOT SCALE : $$.....plotscale.....$$ WISDOT/CADDS SHEET 30

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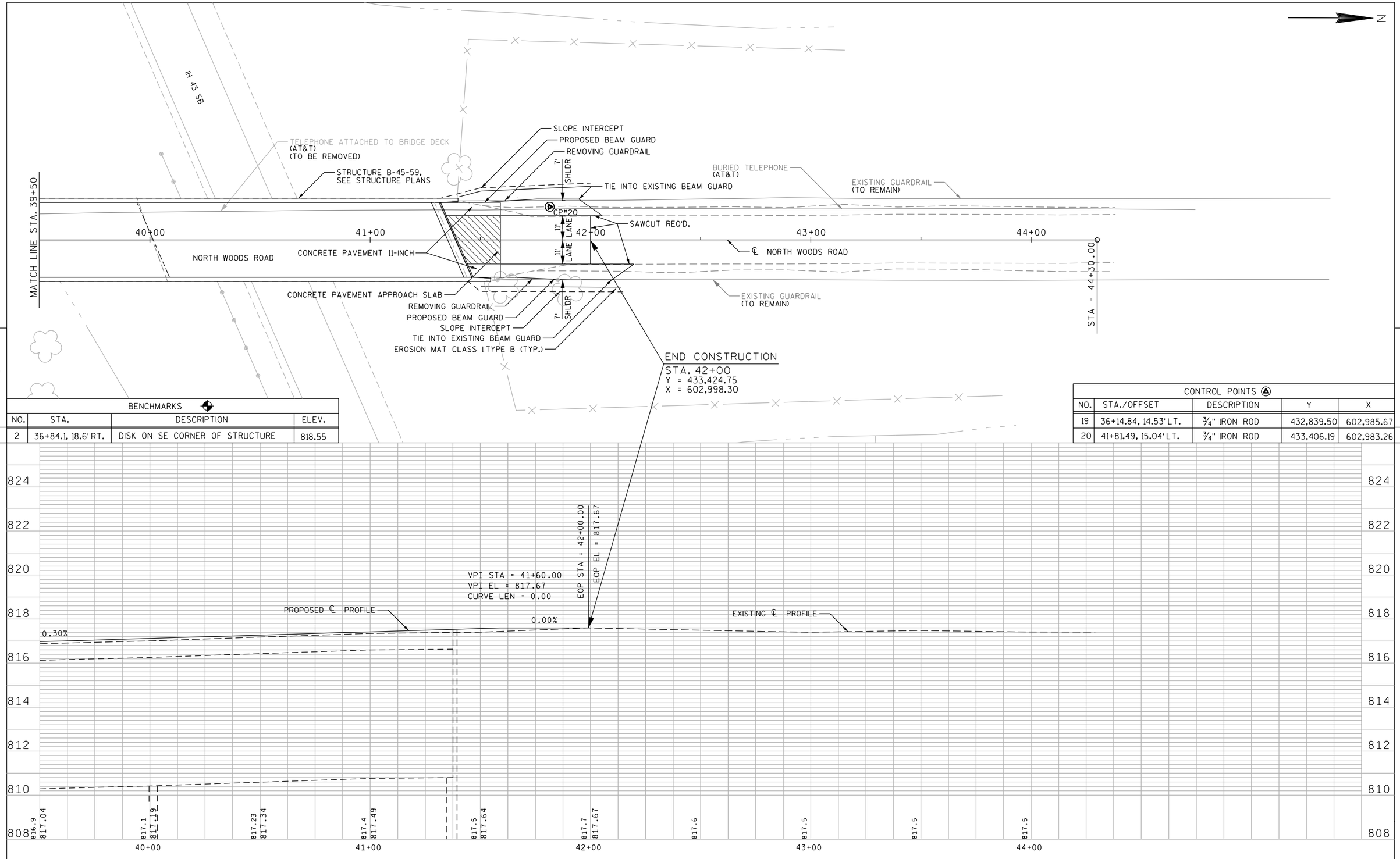
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BENCHMARKS			
NO.	STA.	DESCRIPTION	ELEV.
2	36+84.1, 18.6' RT.	DISK ON SE CORNER OF STRUCTURE	818.55

5

CONTROL POINTS				
NO.	STA./OFFSET	DESCRIPTION	Y	X
19	36+14.84, 14.53' LT.	¾" IRON ROD	432,839.50	602,985.67
20	41+81.49, 15.04' LT.	¾" IRON ROD	433,406.19	602,983.26

PROJECT NO: 1450-16-70	HWY: IH 43	COUNTY: OZAUKEE	PLAN & PROFILE - B-45-59 (NORTH WOODS ROAD OVER IH 43)	SHEET 127	E



5

BENCHMARKS			
NO.	STA.	DESCRIPTION	ELEV.
2	36+84.1, 18.6' RT.	DISK ON SE CORNER OF STRUCTURE	818.55

CONTROL POINTS				
NO.	STA./OFFSET	DESCRIPTION	Y	X
19	36+14.84, 14.53' LT.	¾" IRON ROD	432,839.50	602,985.67
20	41+81.49, 15.04' LT.	¾" IRON ROD	433,406.19	602,983.26

5

PROJECT NO: 1450-16-70	HWY: IH 43	COUNTY: OZAUKEE	PLAN & PROFILE - B-45-59 (NORTH WOODS ROAD OVER IH 43)	SHEET 128	E

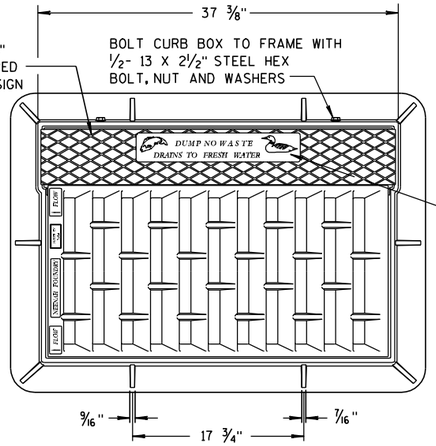
Standard Detail Drawing List

08A05-18A	INLET COVERS TYPE A, H, A-S, & H-S
08A05-18B	INLET COVERS TYPE B, B-A, C, MS, MS-A, & WM
08C07-01	INLETS 2X2-FT, 2X2.5-FT, 2X3-FT AND 2.5X3-FT
08C08-01	INLETS MEDIAN 1 AND 2 GRATE
08D01-17	CONCRETE CURB, CONCRETE CURB AND GUTTER AND TIES
08D04-05	CONCRETE SURFACE DRAINS & ASPHALTIC FLUMES
08D15-04A	EDGEDRAIN OUTLET AND OUTFALL MARKERS
08E08-03	TYPICAL INSTALLATIONS OF EROSION BALES / TEMPORARY DITCH CHECKS
08E09-06	SILT FENCE
08E10-02	INLET PROTECTION TYPE A, B, C AND D
08F04-07	JOINT TIES FOR CONCRETE PIPE AND CONCRETE COLLAR DETAIL
09B04-10	PULL BOX
12A03-10	NAME PLATE (STRUCTURES)
13A03-05	CONCRETE PAVEMENT SHOULDERS
13A05-05A	SHOULDER RUMBLE STRIP, MILLING
13A05-05B	SHOULDER RUMBLE STRIP, MILLING
13B02-06	CONCRETE PAVEMENT APPROACH SLAB
13C01-15	CONCRETE PAVEMENT LONGITUDINAL JOINTS AND TIES
13C11-10A	RURAL DOWELED CONCRETE PAVEMENT
13C11-10B	RURAL DOWELED CONCRETE PAVEMENT
13C13-07	URBAN DOWELED CONCRETE PAVEMENT
13C18-01A	CONCRETE PAVEMENT JOINTING
13C18-01B	CONCRETE PAVEMENT STEEL REINFORCEMENT
13C18-01C	CONCRETE PAVEMENT JOINT TIES
13C18-01D	CONCRETE PAVEMENT JOINTING AT UTILITY FIXTURES
14B07-13A	CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"
14B07-13B	CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"
14B07-13C	CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"
14B07-13D	CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"
14B07-13E	CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"
14B07-13F	CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"
14B07-13G	CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"
14B07-13H	CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"
14B08-01A	CRASH CUSHION/SAND BARREL ARRAY AND OTHER TEMPORARY BARRIER LAYOUT DETAILS
14B08-01B	CRASH CUSHION/SAND BARREL ARRAY AND OTHER TEMPORARY BARRIER LAYOUT DETAILS
14B08-01C	CRASH CUSHION/SAND BARREL ARRAY AND OTHER TEMPORARY BARRIER LAYOUT DETAILS
14B08-01D	CRASH CUSHION/SAND BARREL ARRAY AND OTHER TEMPORARY BARRIER LAYOUT DETAILS
14B08-01E	CRASH CUSHION/SAND BARREL ARRAY AND OTHER TEMPORARY BARRIER LAYOUT DETAILS
14B15-07A	STEEL PLATE BEAM GUARD, CLASS "A" INSTALLATION & ELEMENTS
14B15-07B	STEEL PLATE BEAM GUARD, CLASS "A" INSTALLATION & ELEMENTS
14B15-07C	STEEL PLATE BEAM GUARD, CLASS "A", INSTALLATION & ELEMENTS
14B18-06A	STEEL PLATE BEAM GUARD, CLASS "A" (AT BRIDGES, OBSTACLES AND SIDEROADS/DRIVEWAYS)
14B20-11A	STEEL THRIE BEAM STRUCTURE APPROACH
14B20-11B	STEEL THRIE BEAM STRUCTURE APPROACH, CONNECTION TO SQUARE END PARAPETS
14B20-11C	STEEL THRIE BEAM STRUCTURE APPROACH, CONNECTION TO VERTICAL FACED PARAPETS
14B20-11D	STEEL THRIE BEAM STRUCTURE APPROACH, CONNECTION TO SLOPED END PARAPETS
14B20-11E	STEEL THRIE BEAM STRUCTURE APPROACH, CONNECTION TO BRIDGE RAILING TYPES "F" AND "W"
14B20-11F	STEEL THRIE BEAM STRUCTURE APPROACH, CONNECTION TO BRIDGE RAILING TYPE "M"
14B20-11G	STEEL THRIE BEAM STRUCTURE APPROACH, CONNECTOR PLATE DETAIL
14B20-11H	STEEL THRIE BEAM STRUCTURE APPROACH, SINGLE SLOPE ATTACHMENT
14B42-02A	MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL
14B42-02B	MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL
14B42-02C	MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL
14B44-01A	MIDWEST GUARDRAIL SYSTEM ENERGY ABSORBING TERMINAL (MGS)
14B44-01B	MIDWEST GUARDRAIL SYSTEM ENERGY ABSORBING TERMINAL (MGS)
14B44-01C	MIDWEST GUARDRAIL SYSTEM ENERGY ABSORBING TERMINAL (MGS)
14B45-03A	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-03B	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-03C	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-03D	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-03E	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-03F	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-03G	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-03H	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-03I	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-03J	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B47-01A	MIDWEST GUARDRAIL SYSTEM (MGS) TYPE 2 TERMINAL
14B47-01B	MIDWEST GUARDRAIL SYSTEM (MGS) TYPE 2 TERMINAL

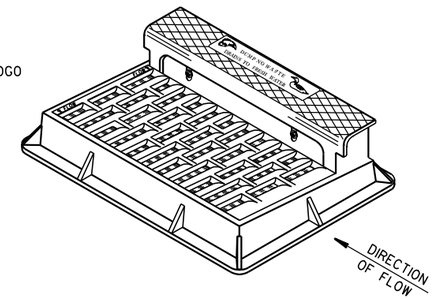
6

Standard Detail Drawing List

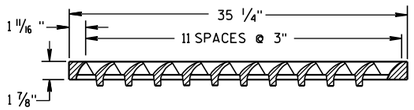
14B47-01C	MIDWEST GUARDRAIL SYSTEM (MGS) TYPE 2 TERMINAL
15A02-07	DELINEATOR POST, DELINEATOR BRACKET AND DELINEATOR
15A06-02	DELINEATOR LAYOUT
15B01-08A	FENCE WOVEN WIRE
15B01-08B	FENCE WOVEN WIRE
15C02-04A	BARRICADES AND SIGNS FOR MAINLINE CLOSURES
15C02-04B	BARRICADES AND SIGNS FOR MAINLINE CLOSURES
15C06-05	SIGNING & MARKING FOR TWO LANE BRIDGES
15C08-15A	PAVEMENT MARKING (MAINLINE)
15C08-15B	PAVEMENT MARKING (INTERSECTIONS)
15C08-15E	PAVEMENT MARKING (LEFT TURN LANE)
15C08-15F	PAVEMENT MARKING (ISLANDS, STOP LINE & CROSS WALK)
15C10-10	PAVEMENT MARKINGS FOR DROP LANES FREEWAY/EXPRESSWAY
15C11-05	FLEXIBLE TUBULAR MARKER POST, ANCHOR & BASES
15C12-03	TRAFFIC CONTROL FOR LANE CLOSURE (SUITABLE FOR MOVING OPERATIONS)
15C27-01	DOUBLE ARROW WARNING SIGN PLACEMENT
15C31-01A	PAVEMENT MARKING (RAMPS AND GORES)
15C31-01B	LANE DROP PAVEMENT MARKING
15D03-01	TRAFFIC CONTROL, LANE CLOSURE, SPEEDS GREATER THAN 40 M.P.H. WITH BARRIER
15D12-02	TRAFFIC CONTROL, LANE CLOSURE, SPEEDS GREATER THAN 40 M.P.H.
15D15-01	TRAFFIC CONTROL, EXIT AND ENTRANCE RAMP WITHIN LANE CLOSURE
15D20-01	TRAFFIC CONTROL, SINGLE LANE CLOSURE, NON-FREEWAY/EXPRESSWAY
15D21-01	TRAFFIC CONTROL, INTERSECTION WITHIN SINGLE LANE CLOSURE

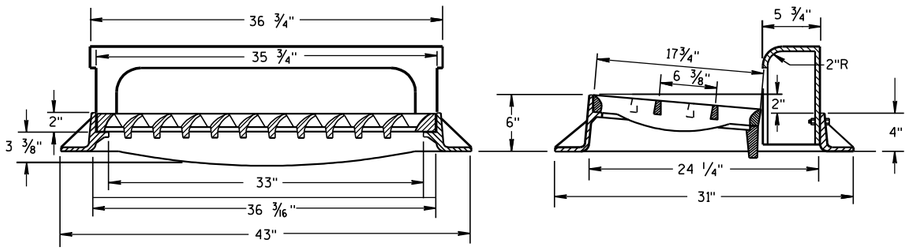


NOTE:
GRATE IS REVERSIBLE.



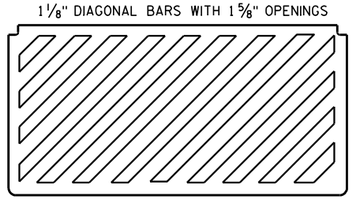
NOTE: CURB BOX HEIGHT ADJUSTABLE 6" TO 9"





TYPE "H"

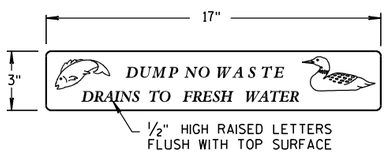
(APPROXIMATE WEIGHT 441 LBS.)
FRAME..... 181 LBS.
GRATE..... 146 LBS.
CURB BOX..... 114 LBS.



SPECIAL GRATE FOR TYPE "H" COVER

(MEASURES 35 1/4" X 17 3/4" X 2")
(APPROXIMATE WEIGHT 159 LBS.)
GRATE..... 159 LBS.

(NOTED AS TYPE H-S ON DRAINAGE TABLE)



LOGO DETAIL

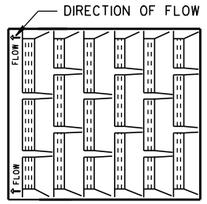
GENERAL NOTES

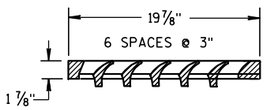
DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.

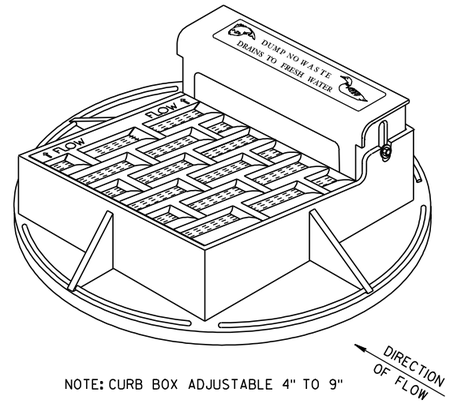
DETAIL DRAWINGS FOR PROPOSED ALTERNATE DESIGNS FOR CATCH BASIN, MANHOLE AND INLET COVERS SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL PROVIDING THAT SUCH ALTERNATE DESIGNS MAKE PROVISION FOR EQUIVALENT CAPACITY AND STRENGTH.

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

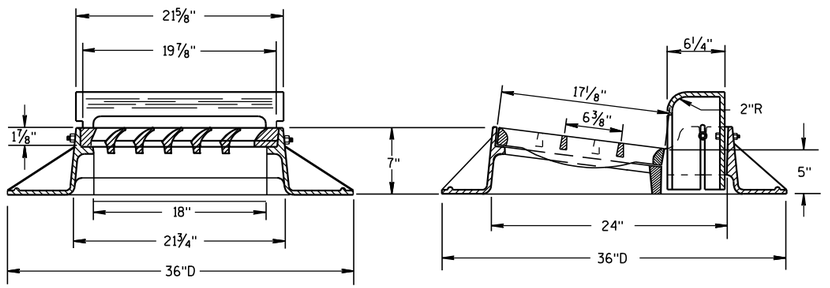
THE ACTUAL WEIGHT OF COVERS MAY VARY WITHIN 5 PERCENT, PLUS OR MINUS, OF THE APPROXIMATE WEIGHT.





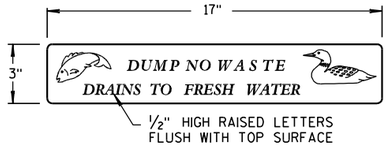


NOTE: CURB BOX ADJUSTABLE 4" TO 9"



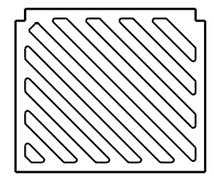
TYPE "A"

(APPROXIMATE WEIGHT 340 LBS.)
FRAME..... 185 LBS.
GRATE..... 71 LBS.
CURB BOX..... 84 LBS.



LOGO DETAIL

NOTE:
GRATE IS REVERSIBLE.



SPECIAL GRATE FOR TYPE "A" COVER

(MEASURES 19 3/4" X 17" X 1 7/8"
GRATE..... 84 LBS.

(NOTED AS TYPE A-S ON DRAINAGE TABLE)

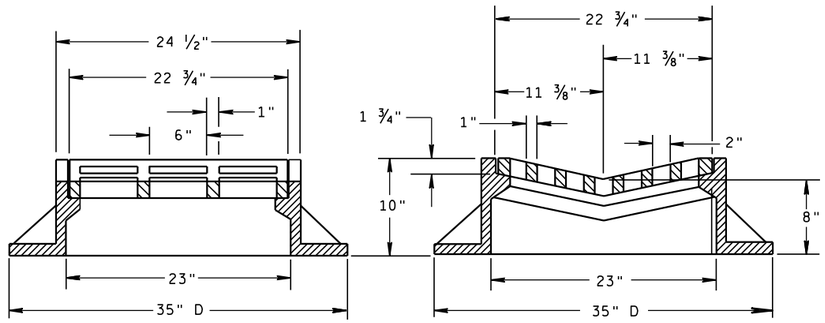
INLET COVERS TYPE A, H, A-S, & H-S

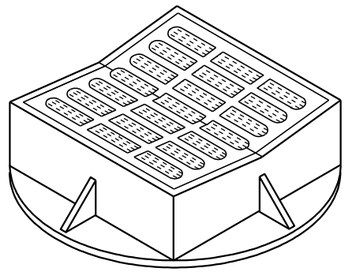
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
6/5/2012 DATE
/S/ Jerry H. [illegible]
ROADWAY STANDARDS ENGINEER
FHWA

6

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

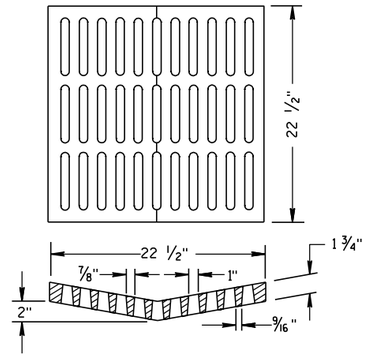




TYPE "B"

(APPROXIMATE WEIGHT 405 LBS.)

FRAME..... 294 LBS.
GRATE..... 111 LBS.

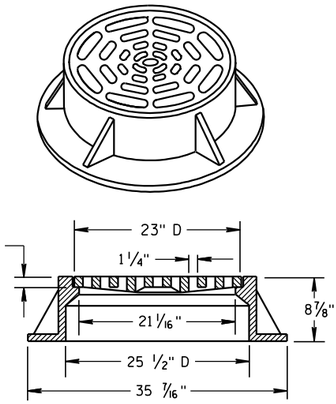


ALTERNATIVE GRATE FOR TYPE "B" COVER

(APPROXIMATE GRATE WEIGHT 134 LBS.)

USE WHERE PEDESTRIAN OR BICYCLE TRAFFIC IS POSSIBLE.

NOTED AS TYPE B-A ON THE DRAINAGE TABLE



TYPE "C"

(APPROXIMATE WEIGHT 259 LBS.)

FRAME..... 152 LBS.
GRATE..... 107 LBS.

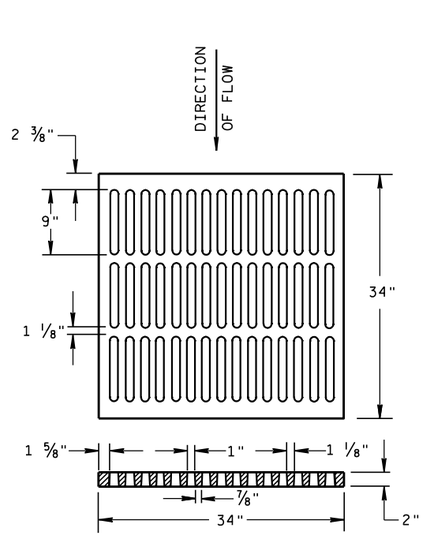
GENERAL NOTES

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.

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

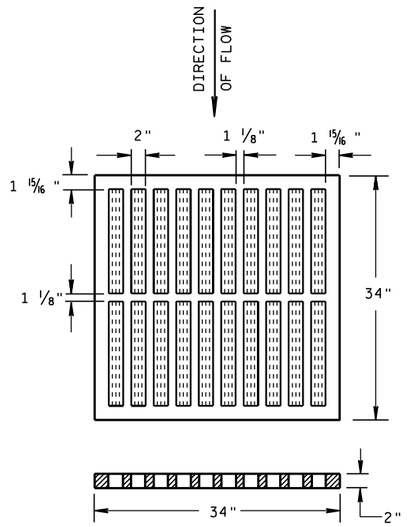


ALTERNATIVE TYPE "MS"

(APPROXIMATE GRATE WEIGHT 329 LBS.)

USE WHERE PEDESTRIAN OR BICYCLE TRAFFIC IS PERMITTED

NOTED AS TYPE MS-A ON THE DRAINAGE TABLE

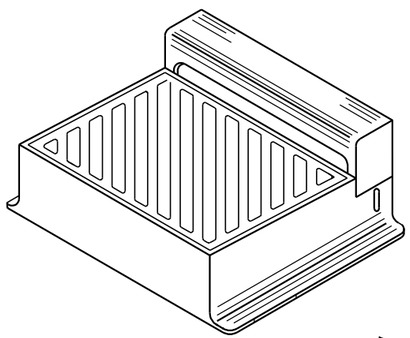


TYPE "MS"

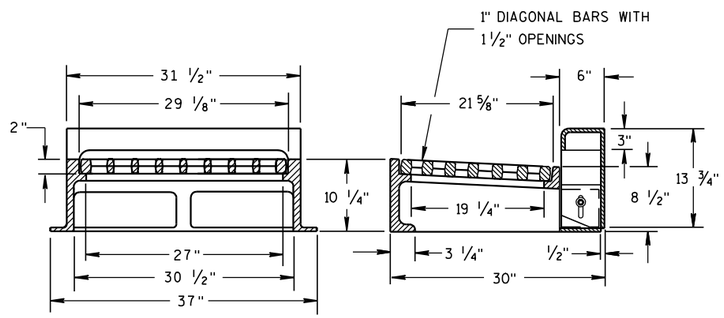
(APPROXIMATE GRATE WEIGHT 268 LBS.)

USE ON FREEWAYS AND EXPRESSWAYS

NOTED AS TYPE MS ON DRAINAGE TABLE



DIAGONAL SLOTS, SHALL BE ORIENTED TO THE DIRECTION OF FLOW AS ILLUSTRATED. GRATES ARE MANUFACTURED TO BE REVERSIBLE.



NOTE: CURB BOX HEIGHT ADJUSTABLE 6" TO 9"

TYPE "WM"

(APPROXIMATE WEIGHT 648 LBS.)

FRAME..... 355 LBS.
GRATE..... 156 LBS.
CURB BOX..... 137 LBS.

INLET COVERS
TYPE B, B-A, C, MS, MS-A, & WM

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

6/5/2012
DATE

/S/ Jerry H. Zogg
ROADWAY STANDARDS ENGINEER

132

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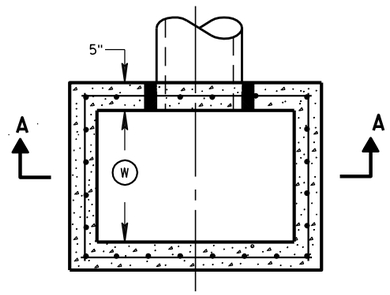
FHWA

6

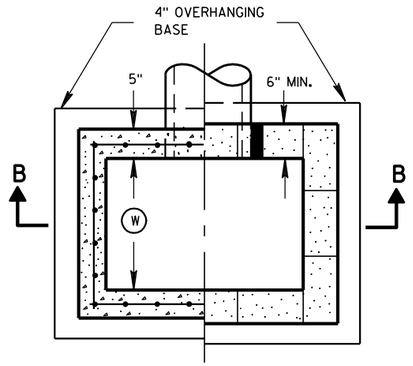
S.D.D. 8 A 5-18b

6

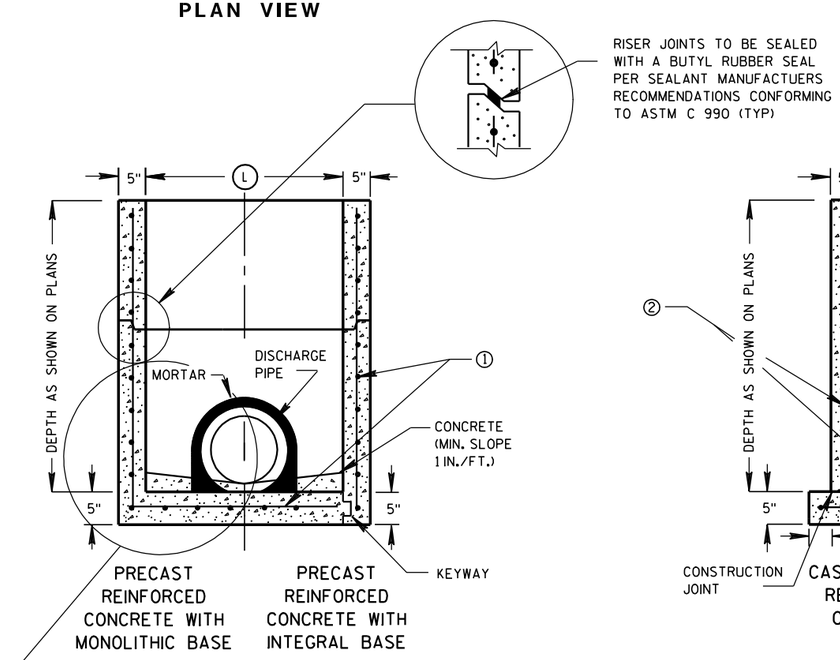
S.D.D. 8 A 5-18b



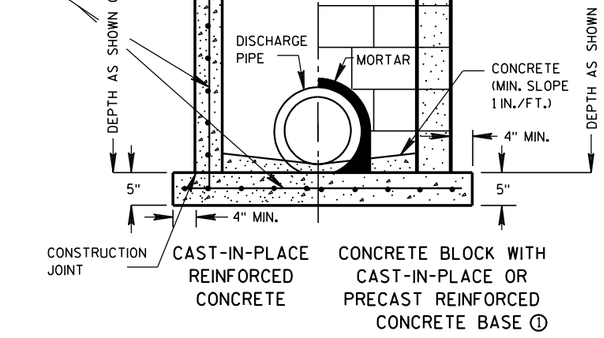
PLAN VIEW



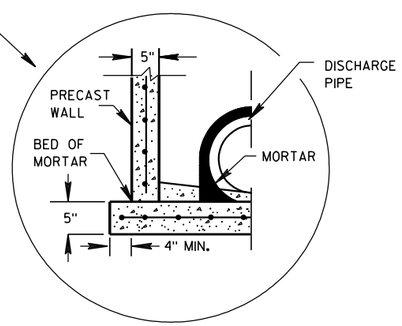
PLAN VIEW



SECTION A-A



SECTION B-B



SEPERATE 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 SEPERATE PRECAST BASE IS PROVIDED. OVERHANG IS NOT REQUIRED ON PRECAST STRUCTURES WITH AN INTEGRAL OR MONOLITHIC BASE.

MAXIMUM INSIDE PIPE DIAMETER DETERMINED BY 3 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.

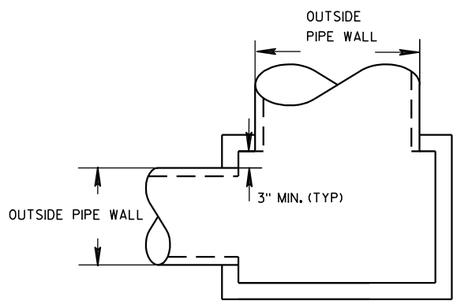
② CONTRACTOR TO PROVIDE DRAWING(S) STAMPED BY A PROFESSIONAL ENGINEER FOR STEEL REINFORCING DESIGN FOR CAST-IN-PLACE STRUCTURES.

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

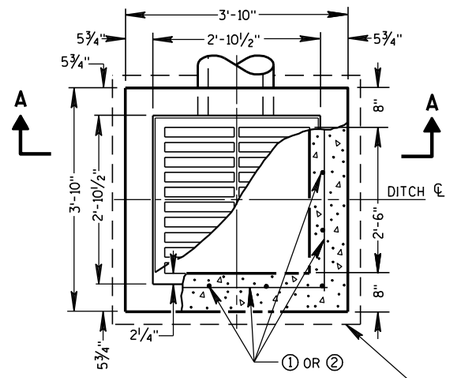
APPROVED
6/5/2012 — DATE
/S/ Jerry H. Zoda — ROADWAY STANDARDS D ENGINEER
FHWA

6

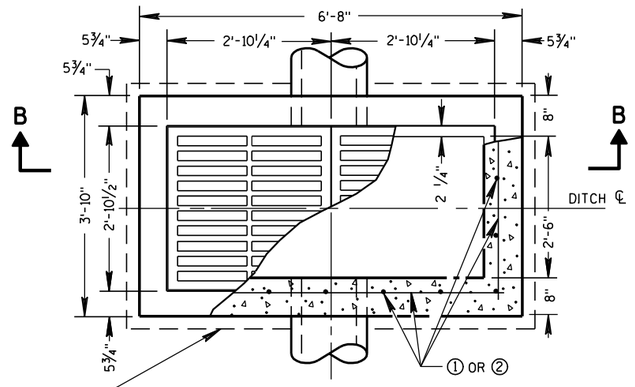
S.D.D. 8 C 7-1

6

S.D.D. 8 C 7-1

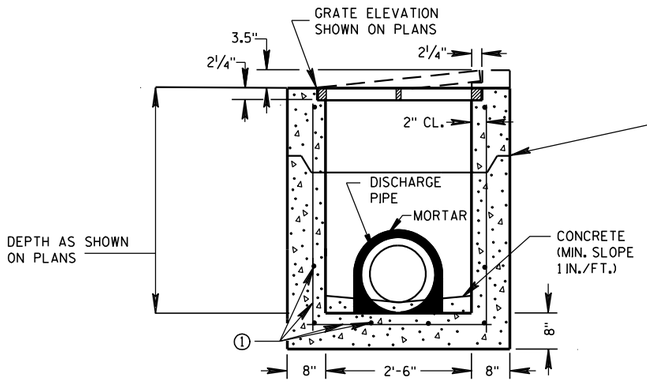


PLAN VIEW

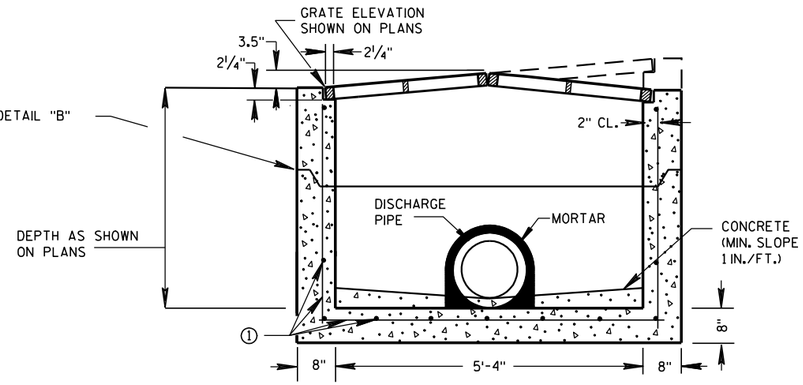


PLAN VIEW

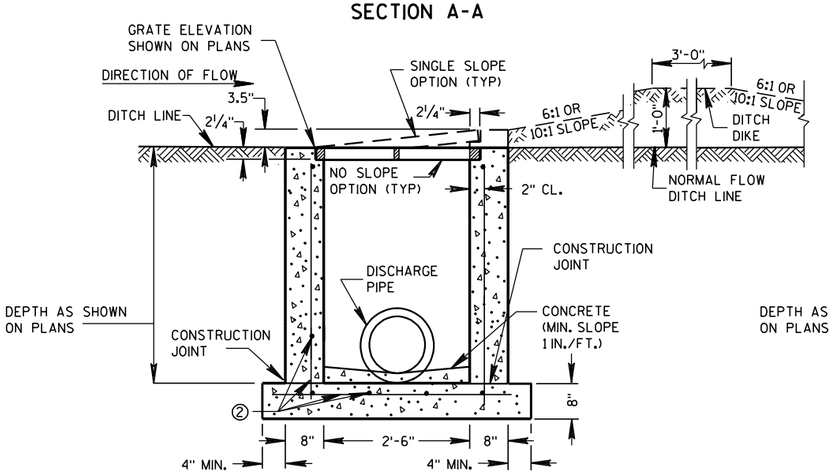
4" OVERHANGING BASE ON REINFORCED CAST-IN-PLACE CONCRETE INLETS



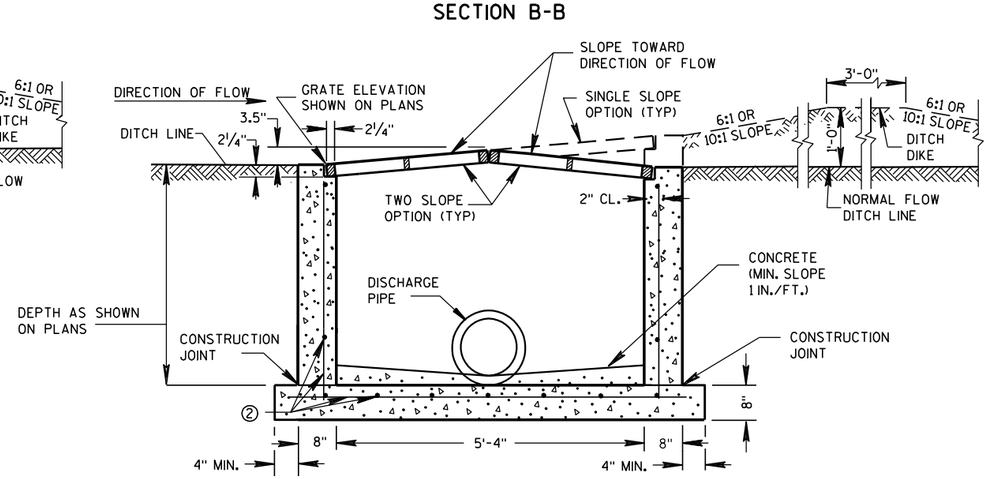
PRECAST REINFORCED CONCRETE SECTION A-A



PRECAST REINFORCED CONCRETE SECTION B-B



REINFORCED CAST-IN-PLACE CONCRETE SECTION A-A



REINFORCED CAST-IN-PLACE CONCRETE SECTION B-B

INLETS MEDIAN 1 GRATE

INLETS MEDIAN 2 GRATE

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 INLETS WHICH MAY INCLUDE PRECAST REINFORCED CONCRETE INLETS, SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL PROVIDING THAT SUCH ALTERNATE DESIGNS MAKE PROVISION FOR EQUIVALENT CAPACITY AND STRENGTH.

ALL MEDIAN INLETS ARE DESIGNATED ON THE PLANS AS "INLETS, 1G-MS", ETC. THE FIRST NUMBER AND LETTER DESIGNATE THE TYPE OF STRUCTURE, AND THE FOLLOWING LETTERS DESIGNATE THE TYPE OF COVER TO BE USED TO COMPRISE THE COMPLETE UNIT.

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.

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

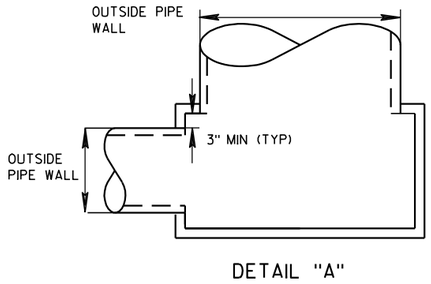
MAXIMUM INSIDE PIPE DIAMETER DETERMINED BY 3" CLEARANCE ON EACH SIDE OF THE OUTSIDE WALL OF THE PIPE. SEE DETAIL "A". ASSUMES PIPE ENTERS PERPENDICULAR TO THE STRUCTURE.

① FOR PRECAST 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.

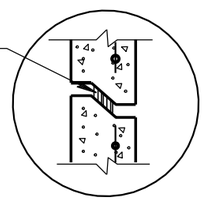
PIPE MATRIX

	MAXIMUM INSIDE PIPE DIAMETER	
INLET SIZE	WIDTH (IN)	LENGTH (IN)
1 GRATE	18	18
2 GRATE	18	42



DETAIL "A"

JOINTS TO BE SEALED WITH A BUTYL RUBBER SEAL PER SEALANT MANUFACTURERS RECOMMENDATIONS CONFORMING TO ASTM C 990 (TYP)



DETAIL "B"

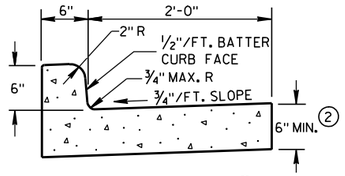
INLETS MEDIAN 1 AND 2 GRATE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

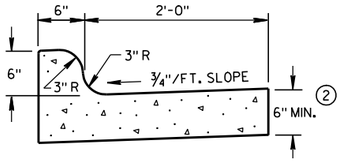
APPROVED
6/5/2012 — DATE
/S/ Jerry H. Zogg — ROADWAY STANDARDS DEVELOPMENT ENGINEER
FHWA

S.D.D. 8 C 8-1

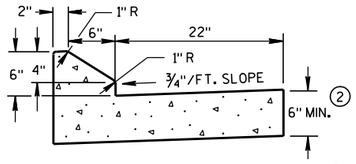
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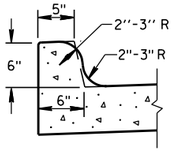
TYPES A & D (1)



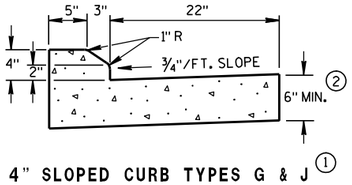
TYPES K & L (1)



6" SLOPED CURB TYPES G & J (1)

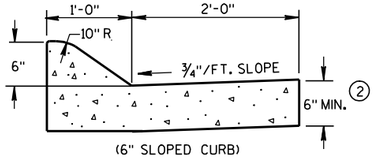


OPTIONAL CURB SHAPE FOR TYPES K & L (1)

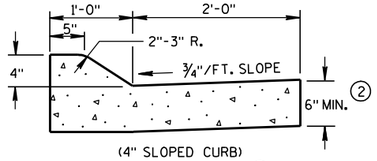


4" SLOPED CURB TYPES G & J (1)

CONCRETE CURB & GUTTER 30"

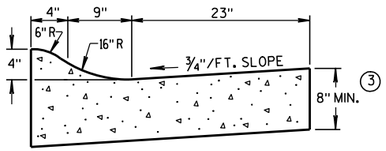


(6" SLOPED CURB)



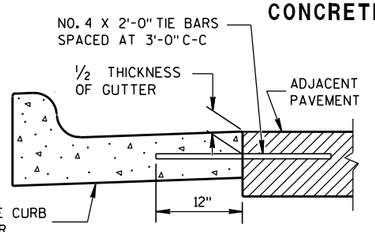
(4" SLOPED CURB)

TYPES A & D (1)

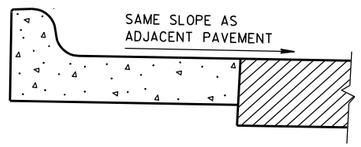


4" SLOPED CURB TYPES R & T (1) (4)

CONCRETE CURB & GUTTER 36"



TYPICAL TIE BAR LOCATION (1)



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

GENERAL NOTES

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

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

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

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

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

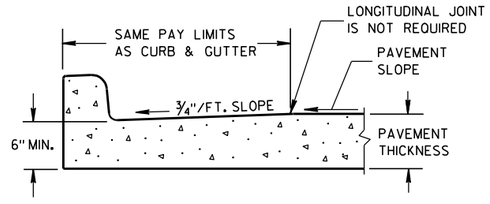
(1) TIE BARS ARE REQUIRED FOR CURB AND GUTTER TYPES A, G, K AND R.

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

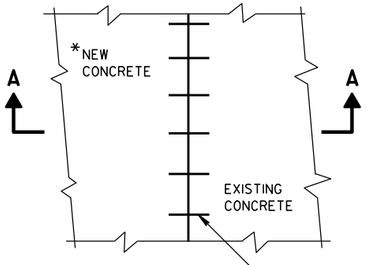
(3) THE BOTTOM OF CURB AND GUTTER MAY BE CONSTRUCTED EITHER LEVEL OR PARALLEL TO THE SLOPE OF THE SUBGRADE OR BASE AGGREGATE PROVIDED A 8" MINIMUM GUTTER THICKNESS IS MAINTAINED.

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

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

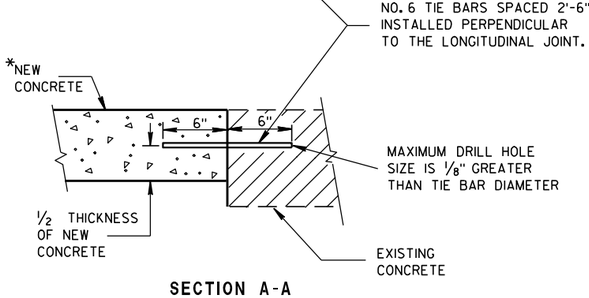


PARTIAL SECTION OF PAVEMENT WITH INTEGRAL CURB & GUTTER



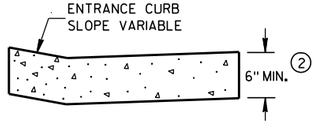
PLAN VIEW

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

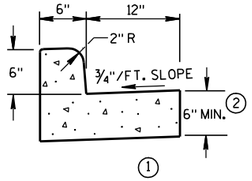


SECTION A-A

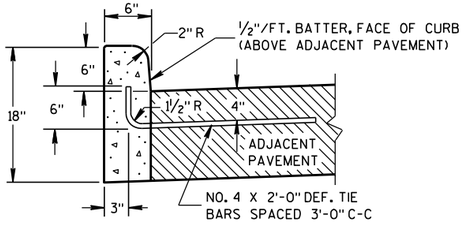
TIE BARS DRILLED INTO EXISTING PAVEMENT



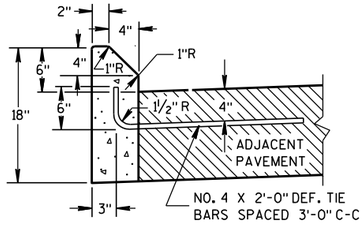
DRIVEWAY ENTRANCE CURB
(WHEN DIRECTED BY THE ENGINEER)



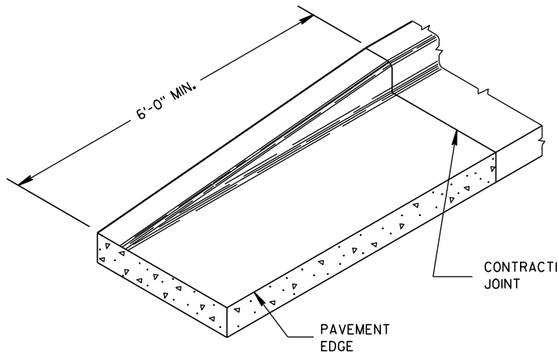
(1)
TYPES A & D
CONCRETE CURB & GUTTER 18"



(1)
TYPES A & D



(1)
TYPES G & J



END SECTION CURB & GUTTER

CONCRETE CURB

CONCRETE CURB, CONCRETE CURB & GUTTER AND TIES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
9/4/08 DATE
/S/ Jerry H. [illegible]
ROADWAY STANDARDS ENGINEER

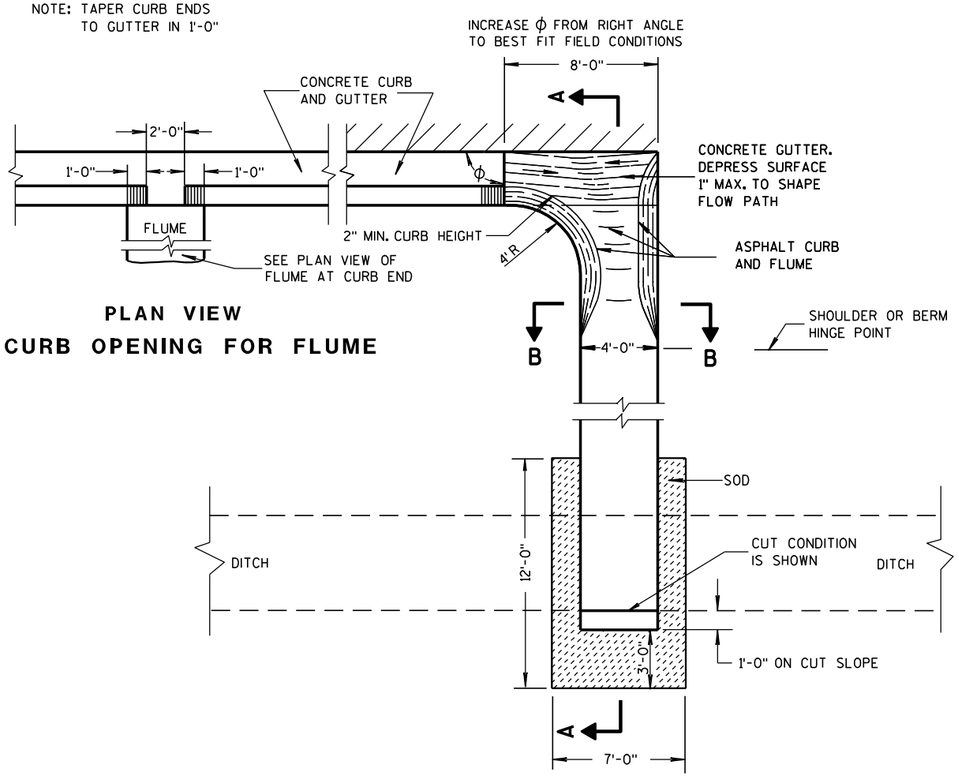
FHWA

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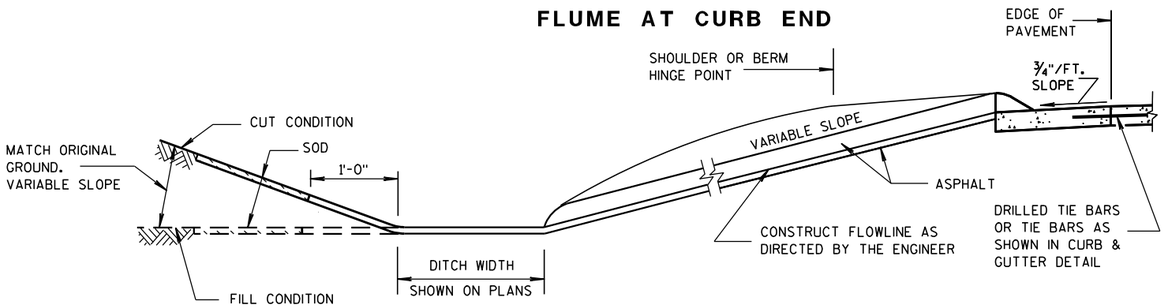
S.D.D. 8 D 1-17

ASPHALTIC FLUME

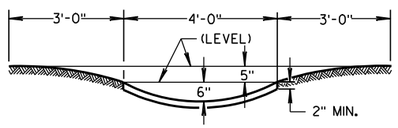


PLAN VIEW
CURB OPENING FOR FLUME

PLAN VIEW
FLUME AT CURB END



SECTION A-A



SECTION B-B

GENERAL NOTES

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

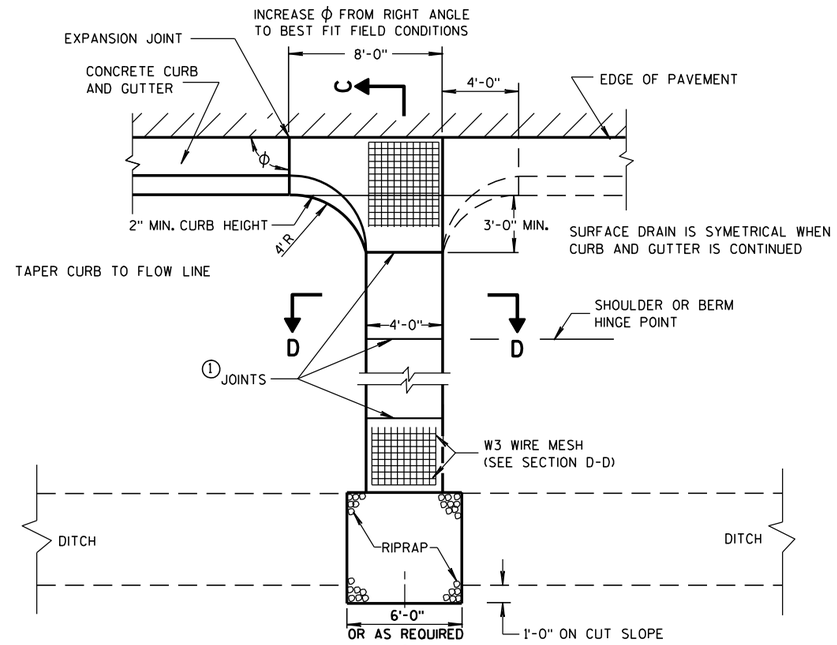
WELDED STEEL WIRE FABRIC SHALL BE IN ACCORDANCE WITH AASHTO SPECIFICATION M55.

① JOINTS SHALL BE ⅛ TO ¼ INCH WIDE BY 1½ INCHES DEEP AND SPACED AT UNIFORM INTERVALS OF APPROXIMATELY 4 FEET.

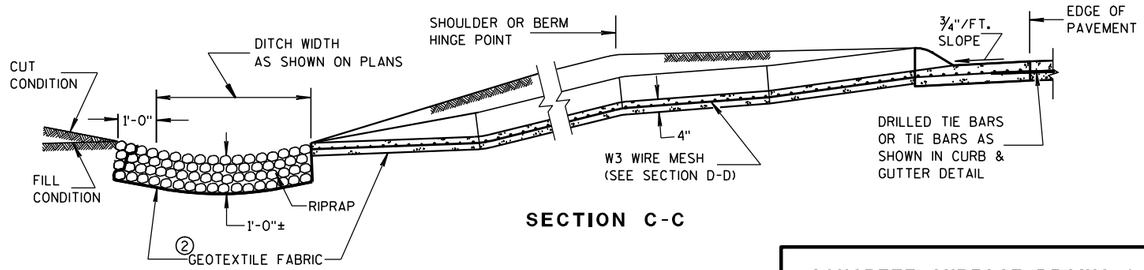
② GEOTEXTILE FABRIC TYPE "R" SHALL UNDERLAY THE FULL LENGTH AND WIDTH OF THE CONCRETE SURFACE DRAIN AND RIPRAP.

③ CONCRETE SURFACE DRAIN WITHOUT CURB AND GUTTER MAY BE USED ON BACKSLOPES WHEN SPECIFIED

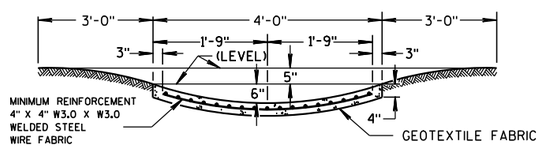
③ CONCRETE SURFACE DRAIN



PLAN VIEW



SECTION C-C



SECTION D-D

CONCRETE SURFACE DRAINS & ASPHALTIC FLUMES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
9-4-08 DATE
/S/ Jerry H. Zogg
ROADWAY STANDARDS ENGINEER
MENT
FHWA

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S.D.D. 8 D 4-5

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S.D.D. 8 D 4-5

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) UNPERFORATED PIPE UNDERDRAIN AND FITTINGS FURNISHED FOR OUTFALL PIPE SHALL MEET THE REQUIREMENTS OF ONE OF THE FOLLOWING SPECIFICATIONS:

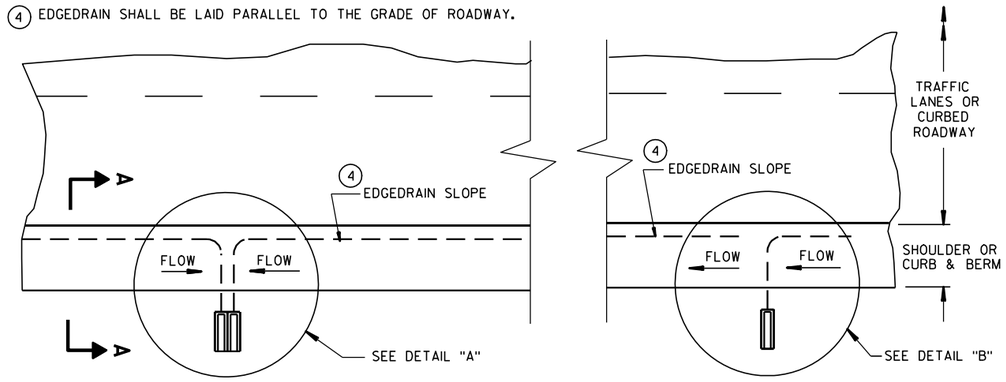
POLYVINYL CHLORIDE (PVC) PLASTIC DRAIN, WASTE, AND VENT PIPE AND FITTINGS, ASTM D 2665, SCHEDULE 40 PVC.

TYPE PSM POLYVINYL CHLORIDE (PVC) SEWER PIPE AND FITTINGS, ASTM D 3034, SDR 23.5 PVC SEWER PIPE.

(2) MAXIMUM SPACING OF EDGEDRAIN OUTLETS SHALL BE 250 FEET UNLESS OTHERWISE SPECIFIED IN THE CONTRACT OR DIRECTED BY THE ENGINEER.

(3) EDGEDRAIN SHALL BE CONNECTED TO INLETS REGARDLESS OF FLOW DIRECTION FOR DRAINAGE AND MAINTENANCE ACCESS.

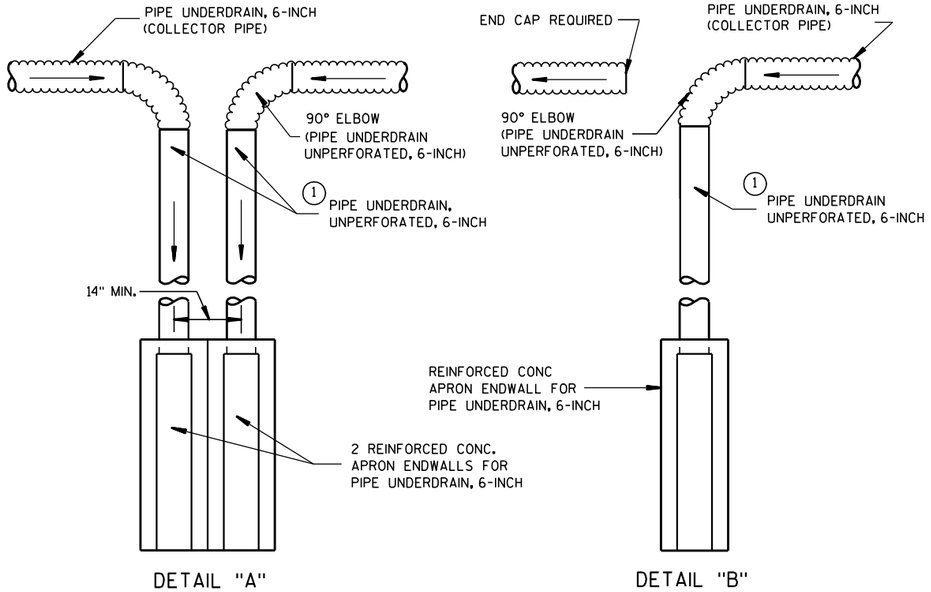
(4) EDGEDRAIN SHALL BE LAID PARALLEL TO THE GRADE OF ROADWAY.



PLAN VIEW

ROADWAY WITH SHOULDERS OR CURBS

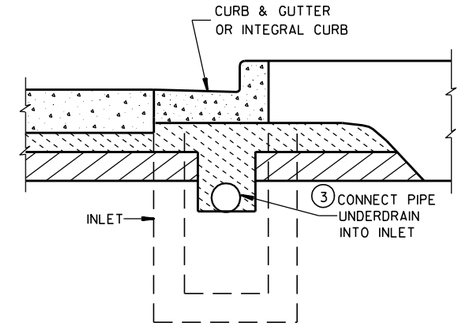
(EDGEDRAIN OUTLETS TO ROADSIDE) (2)



DETAIL "A"
TO BE USED AT LOW POINT LOCATIONS

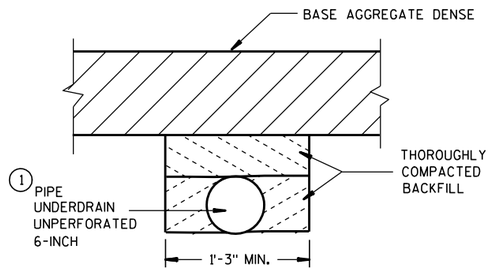
DETAIL "B"
TO BE USED AT INTERMEDIATE LOCATIONS

TYPICAL DRAIN OUT DETAILS



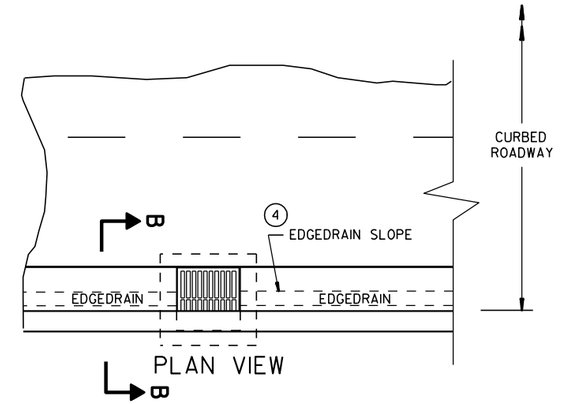
SECTION B-B

URBAN CROSS SECTION



SECTION C-C

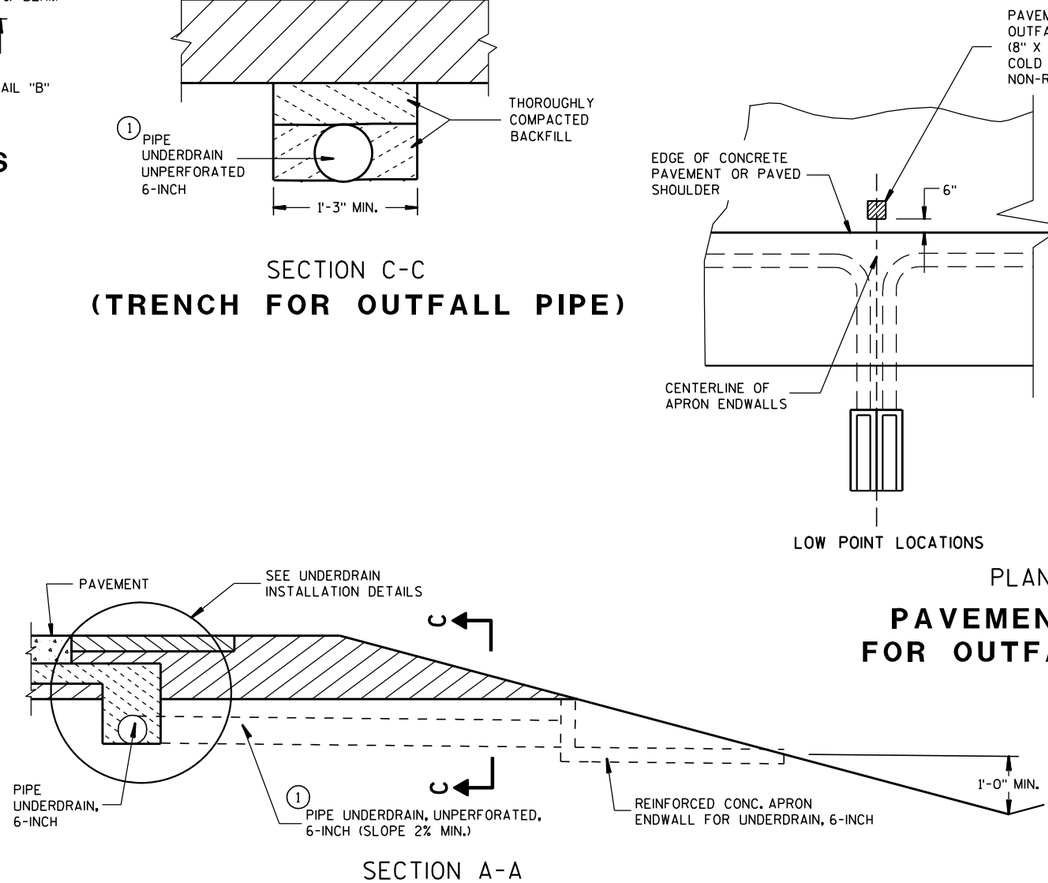
(TRENCH FOR OUTFALL PIPE)



PLAN VIEW

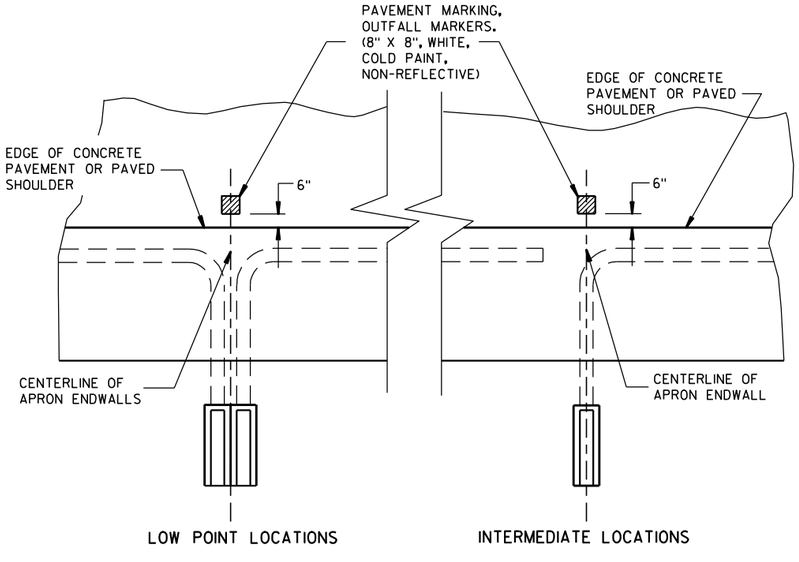
ROADWAY WITH CURBS

(EDGEDRAIN CONNECTS INTO INLET STRUCTURE)



SECTION A-A

RURAL CROSS SECTION



PLAN VIEW

PAVEMENT MARKING FOR OUTFALL MARKERS

EDGEDRAIN OUTLET AND OUTFALL MARKERS

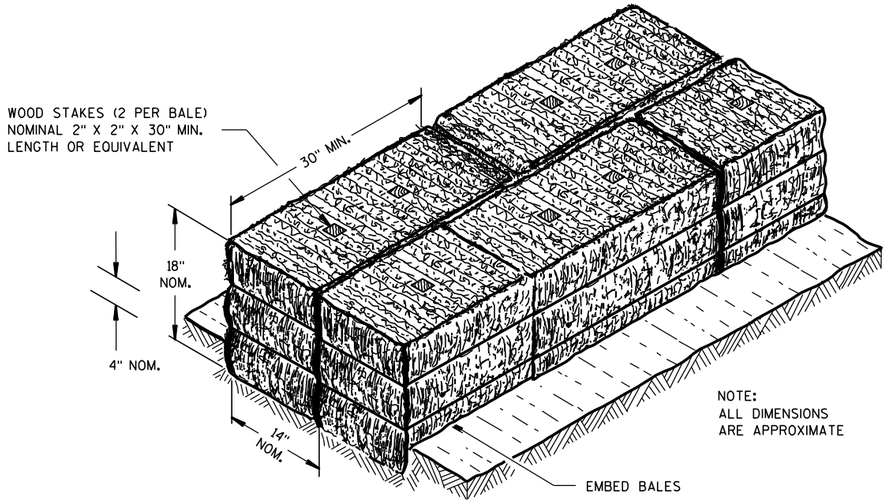
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

6

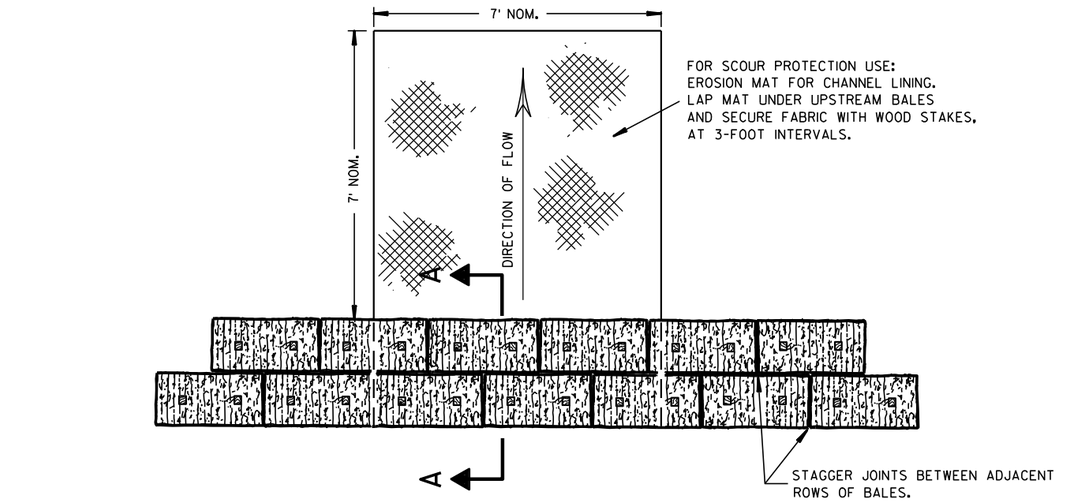
S.D.D. 8 D 15-4a

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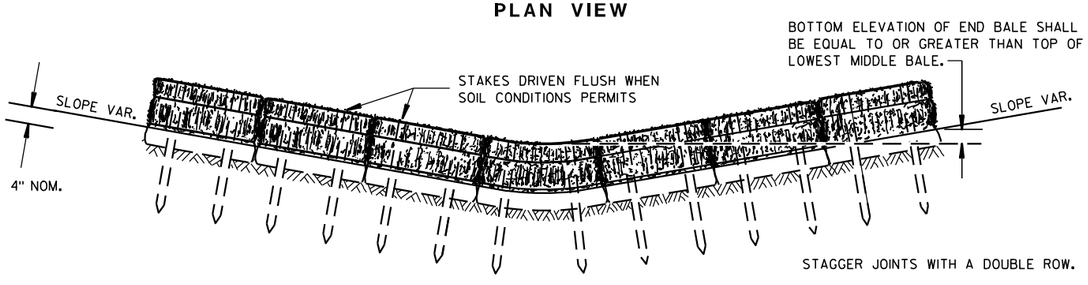
S.D.D. 8 D 15-4a



SECTION A-A



PLAN VIEW



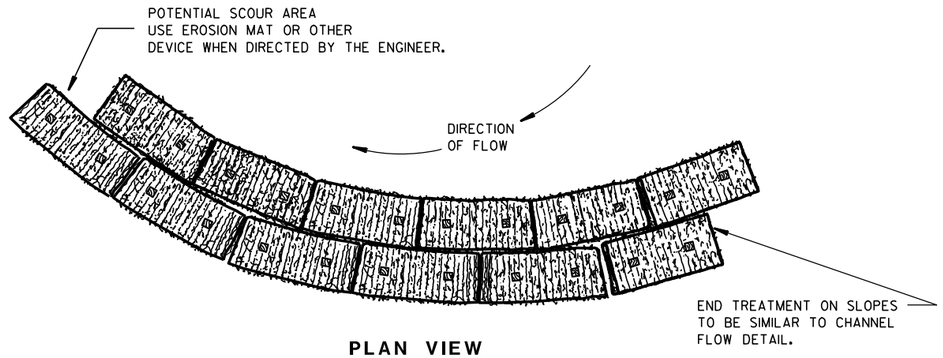
FRONT ELEVATION

TEMPORARY DITCH CHECK USING EROSION BALES ①

GENERAL NOTES

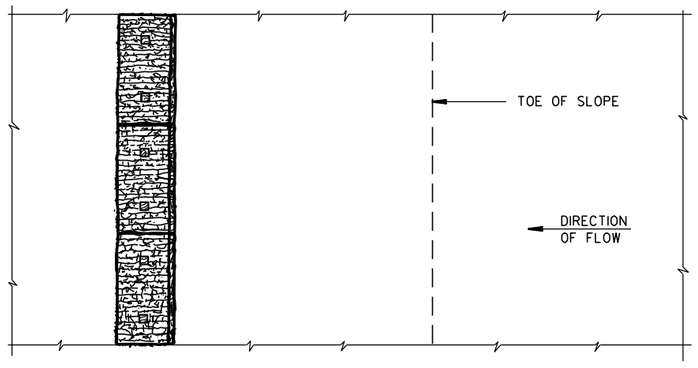
DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.

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.

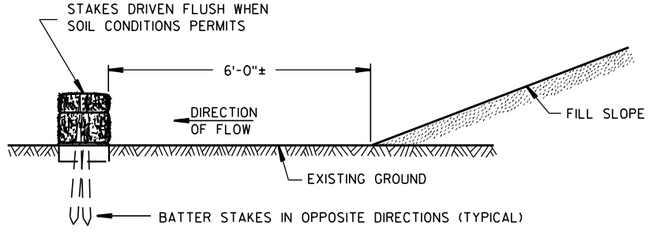


PLAN VIEW

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

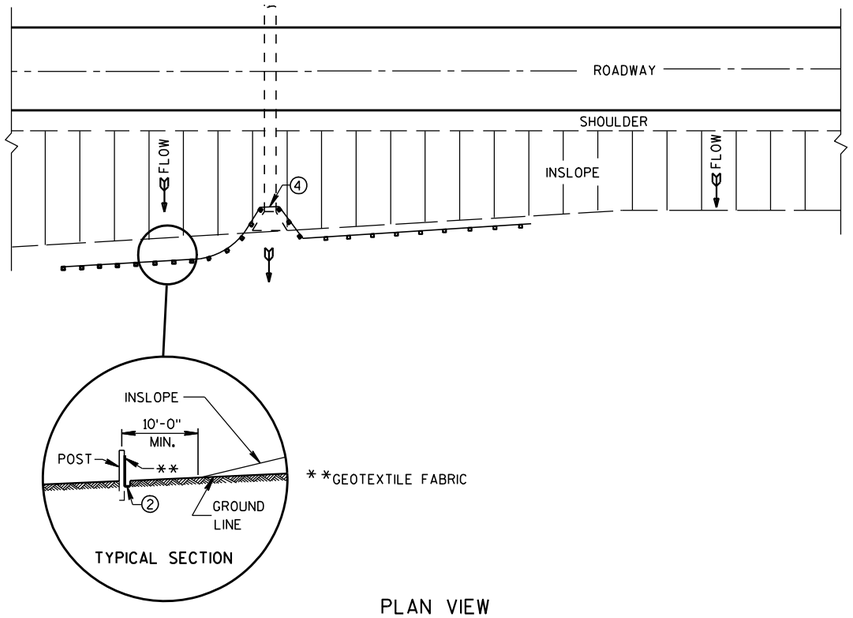
APPROVED
6/04/02 DATE
/S/ Beth Cannestra CHIEF ROADWAY DEVELOPMENT ENGINEER
FHWA

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S.D.D. 8 E 8-3

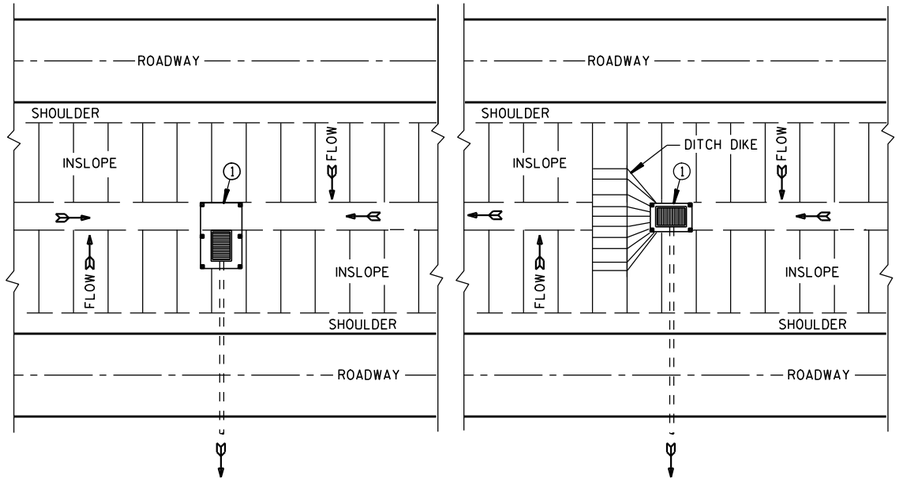
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S.D.D. 8 E 8-3



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.

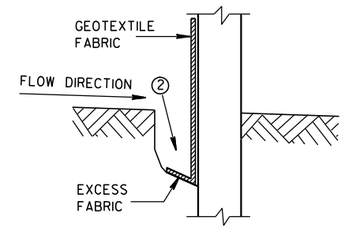
① HORIZONTAL BRACE REQUIRED WITH 2" X 4" WOODEN FRAME OR EQUIVALENT AT TOP OF POSTS.

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.

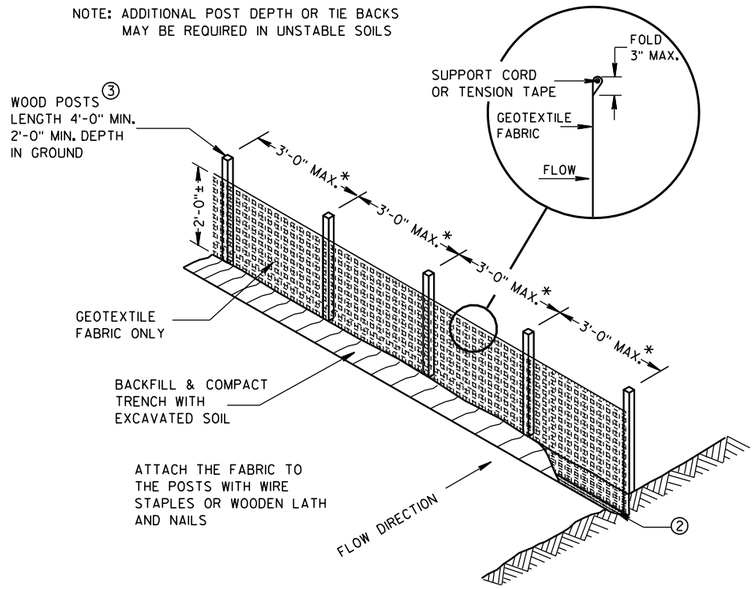
③ WOOD POSTS SHALL BE A MINIMUM SIZE OF 1⅛" X 1⅛" OF OAK OR HICKORY.

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.

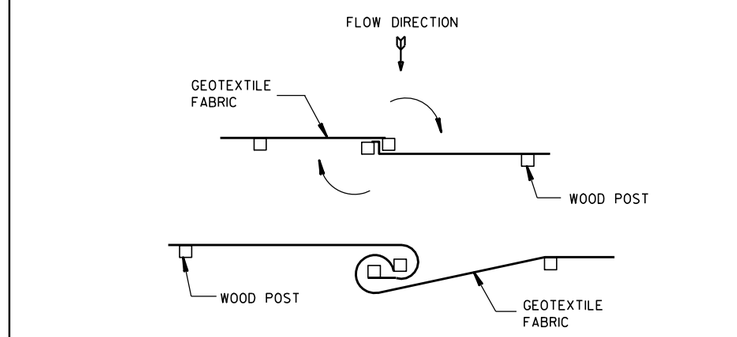


TRENCH DETAIL

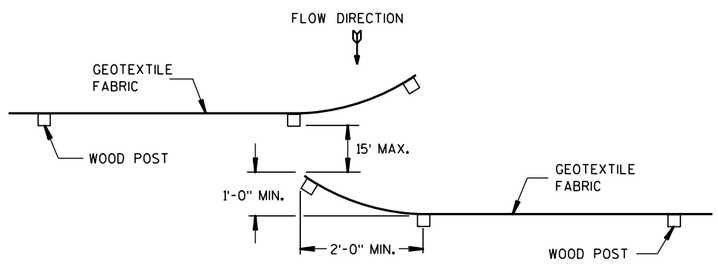


*NOTE: 8'-0" POST SPACING ALLOWED IF A WOVEN GEOTEXTILE FABRIC IS USED.

SILT FENCE

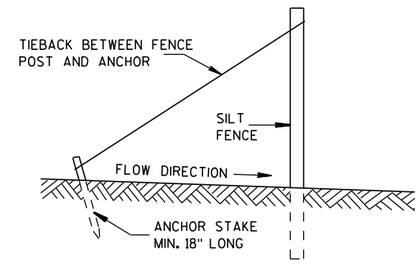


TWIST METHOD



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

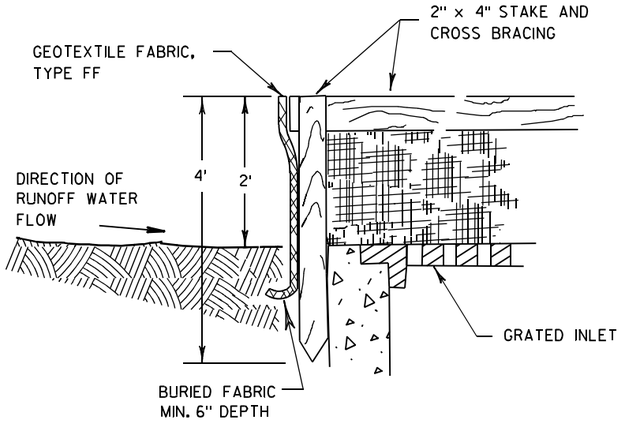
APPROVED
4-29-05 DATE
/S/ Beth Cannestra
CHIEF ROADWAY DEVELOPMENT ENGINEER
FHWA

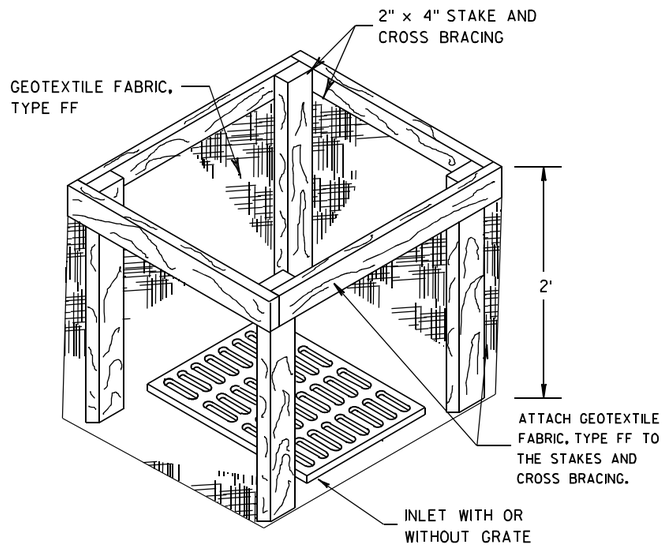
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S.D.D. 8 E 9-6

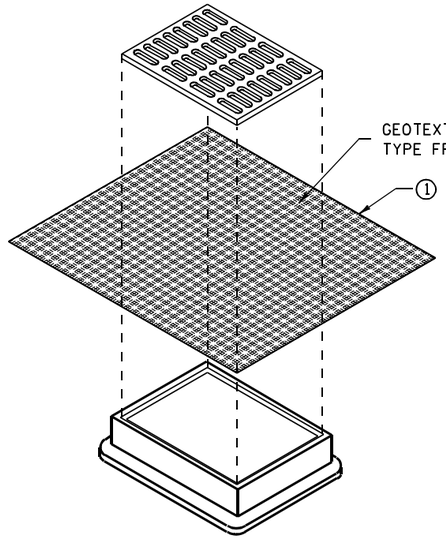
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S.D.D. 8 E 9-6



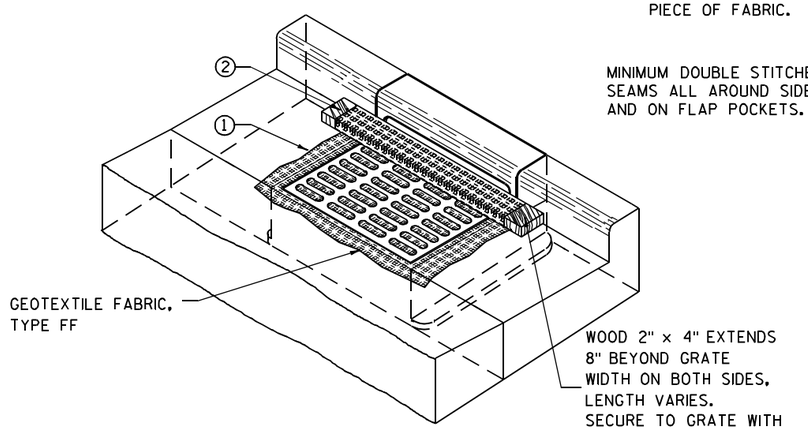


INLET PROTECTION, TYPE A

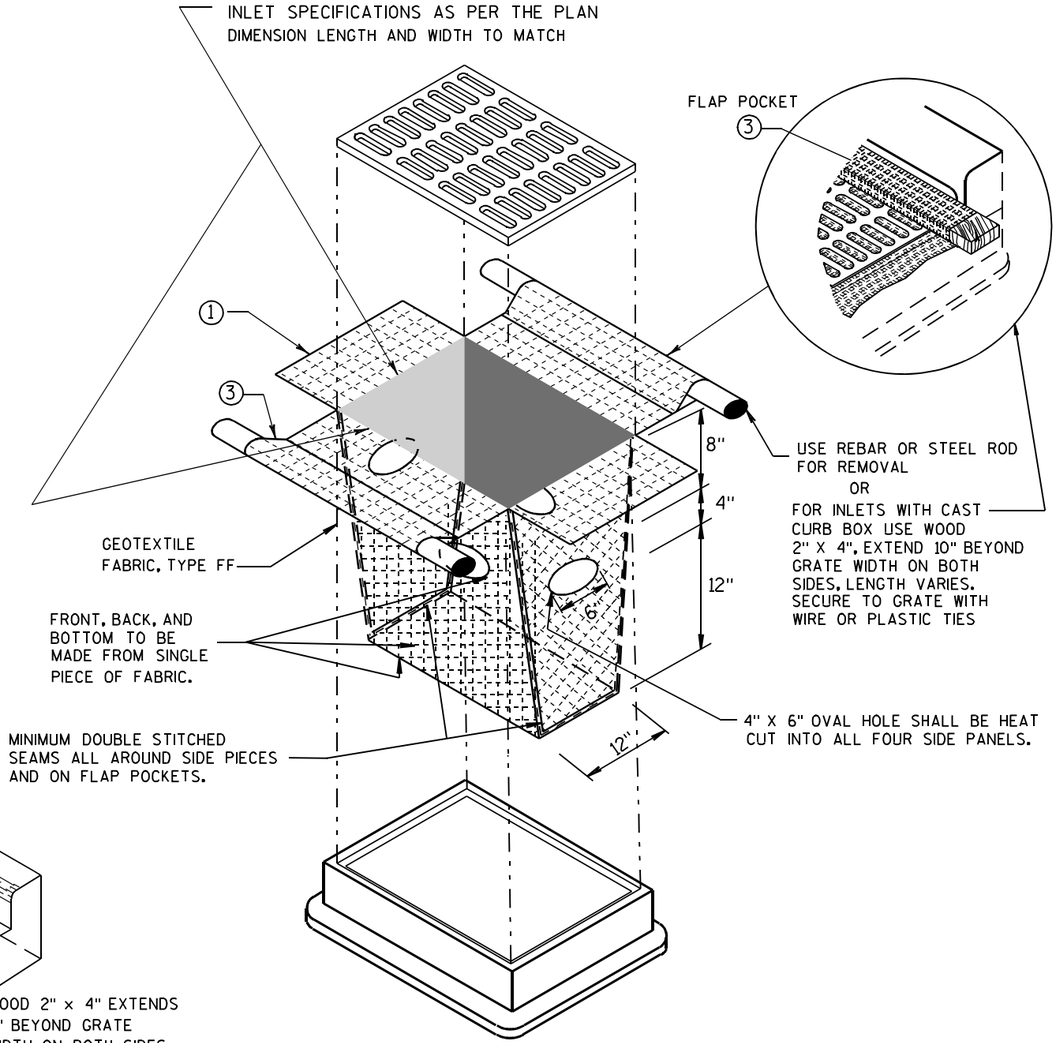


INLET PROTECTION, TYPE B
(WITHOUT CURB BOX)

(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

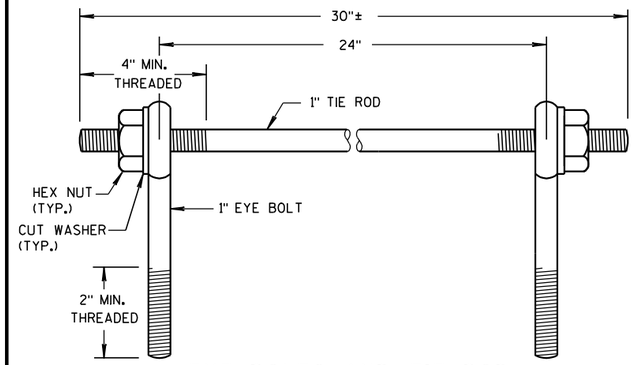
APPROVED
10/16/02
DATE
/S/ Beth Cannestra
CHIEF ROADWAY DEVELOPMENT ENGINEER
FHWA

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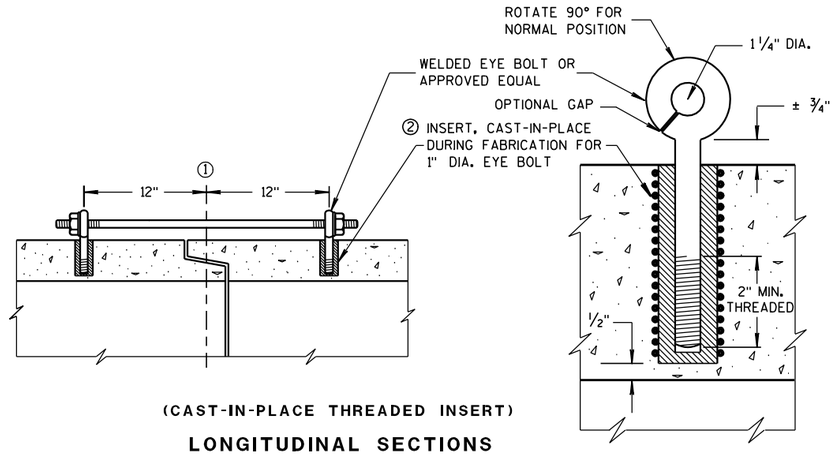
S.D.D. 8 E 10-2

6

S.D.D. 8 E 10-2



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.

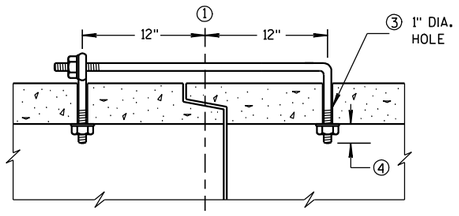
② THE INSIDE OF THE THREADED INSERTS SHALL BE CLEAN TO ALLOW THE INSERTION OF THREADED EYE BOLTS.

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

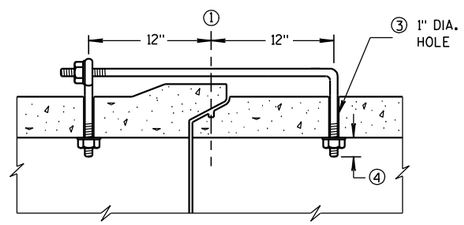
④ BOLT PROJECTION INSIDE OF PIPE SHALL NOT EXCEED 2 INCHES.

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)

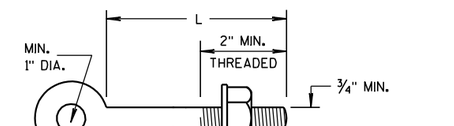


(MODIFIED BELL PIPE)

LONGITUDINAL SECTION

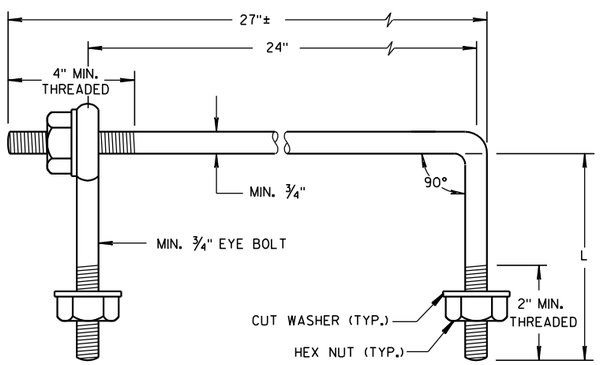
EYE BOLT DIMENSION TABLE

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"	



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

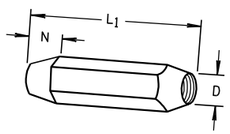
(JOINT TIES FOR 18" TO 66" DIA. CONCRETE PIPE)

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

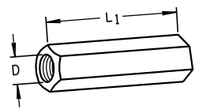
ADJUSTABLE TIE ROD TABLE

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



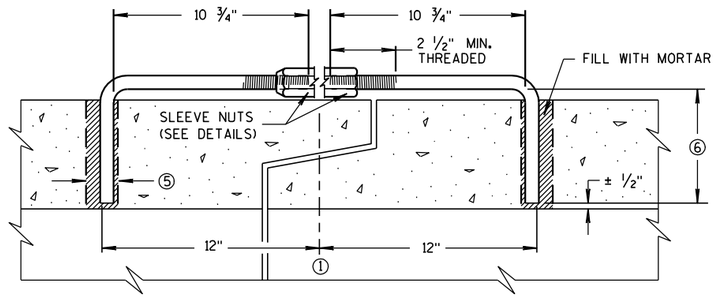
TAPERED



PLAIN

RIGHT AND LEFT THREADS

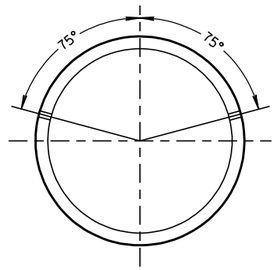
SLEEVE NUTS



LONGITUDINAL SECTION

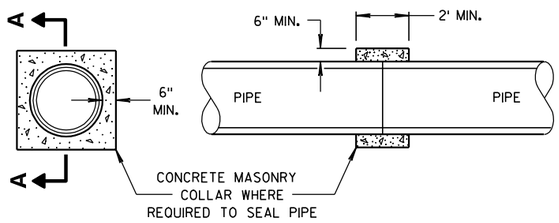
(JOINT TIES FOR 12" TO 108" DIA. CONCRETE PIPE)

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
141
FHWA

6

S.D.D. 8 F 4-7

6

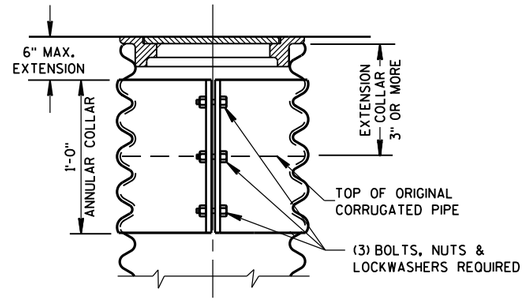
S.D.D. 8 F 4-7

TABLE OF NOMINAL DIMENSIONS AND WEIGHTS

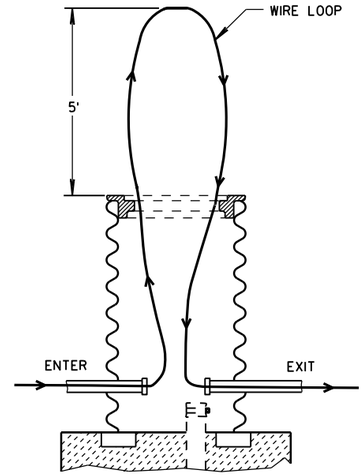
DIMENSION IN INCHES		CORRUGATED STEEL PIPE								
PIPE DIAMETER (INSIDE)	A	12	12	12	18	18	18	24	24	24
PIPE LENGTH **	B	24	30	36	24	30	36	36	42	48
WALL THICKNESS	C	0.064	0.064	0.064	0.064	0.064	0.064	0.064	0.064	0.064
COVER	D	10 1/4	10 1/4	10 1/4	16 1/4	16 1/4	16 1/4	22 1/4	22 1/4	22 1/4
FRAME	E	14 1/2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

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

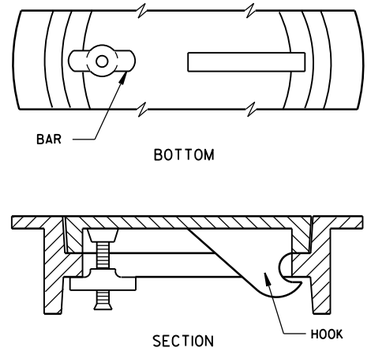
** NORMALLY USED LENGTHS. THE PROJECT ENGINEER SHALL DETERMINE IF PIPE LENGTHS, OTHER THAN THOSE SPECIFIED, SHALL BE USED, TO A MAXIMUM OF 48" (CONTINUOUS LENGTH, NON-SPLICED). THE ADDITIONAL LENGTH SHALL BE INCIDENTAL TO THE PULL BOX BID PRICE.



CORRUGATED PIPE EXTENDER

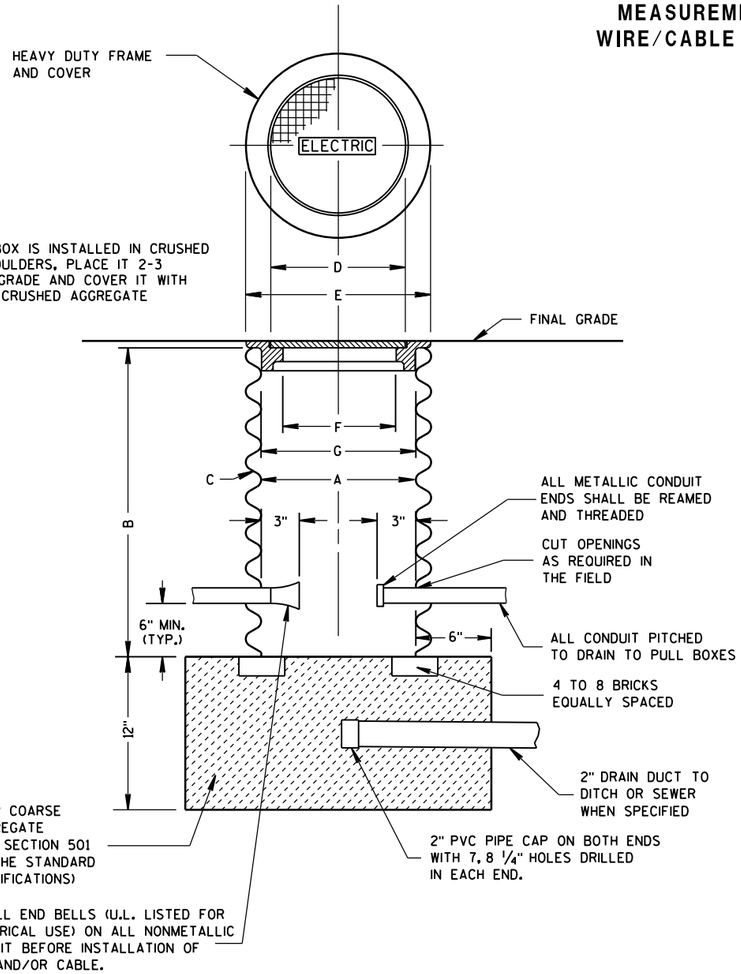


MEASUREMENT DETAIL FOR WIRE/CABLE IN THE PULL BOX



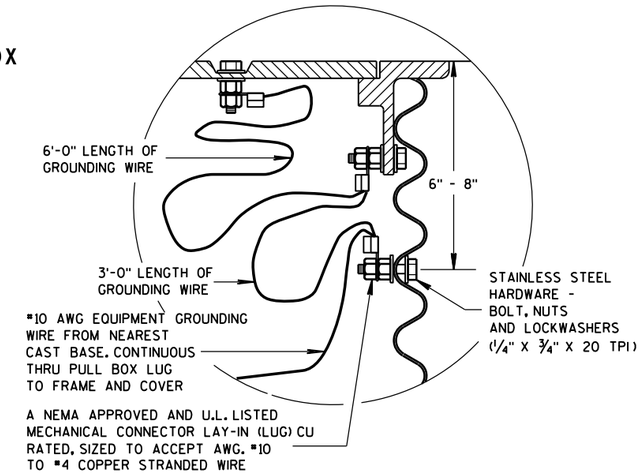
ALTERNATE COVER (LOCKING)

TIGHTENING BAR TYPE

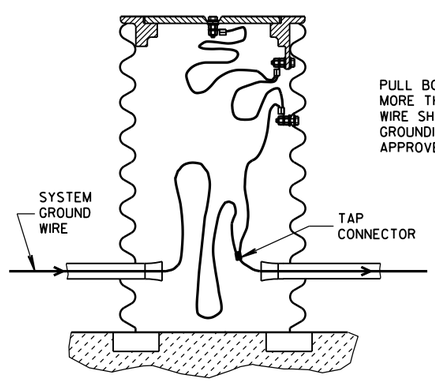


WHEN A PULL BOX IS INSTALLED IN CRUSHED AGGREGATE SHOULDERS, PLACE IT 2-3 INCHES BELOW GRADE AND COVER IT WITH 2-3 INCHES OF CRUSHED AGGREGATE

PULL BOX



EQUIPMENT GROUNDING LUG AND LOCATION IN STEEL PULL BOXES



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

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.

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

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

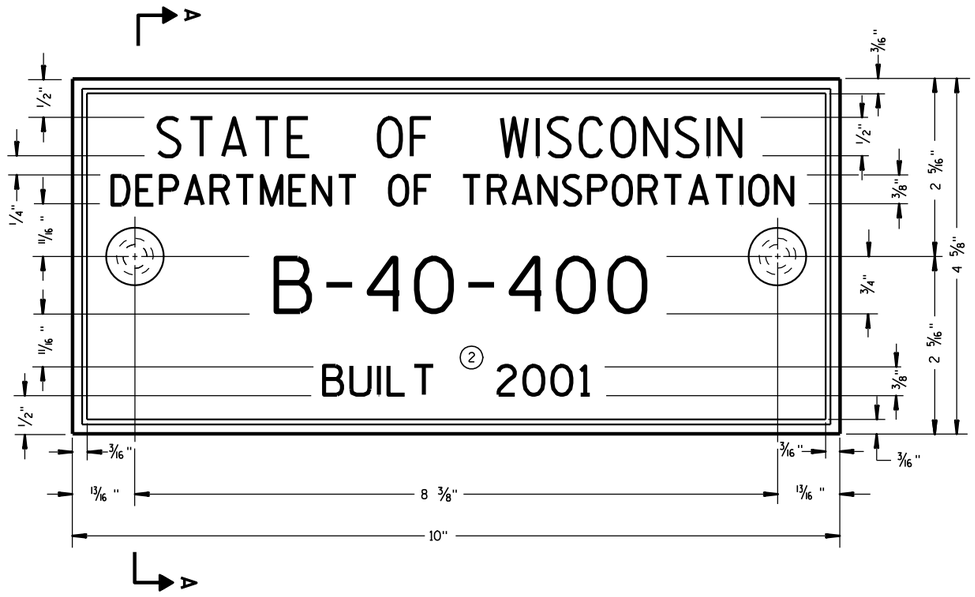
S.D.D. 9B2, "CONDUIT", APPLIES TO THIS DRAWING.

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

PULL BOX	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED	
2-7-2013 DATE	/S/ Ahmet Demirbilek STATE ELECTRICAL
FHWA	

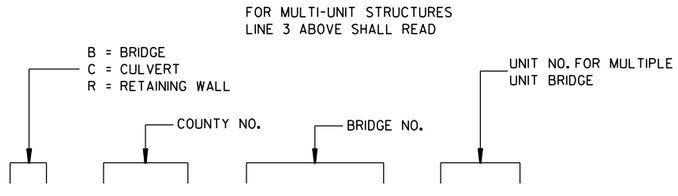
6

S.D.D. 9 B 4-10



TYPICAL NAME PLATE

(BRIDGES, CULVERTS, AND RETAINING WALLS)



NUMBERING DESIGNATION
MULTI-UNIT STRUCTURES

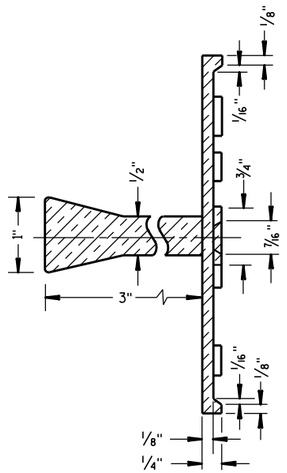
GENERAL NOTES

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

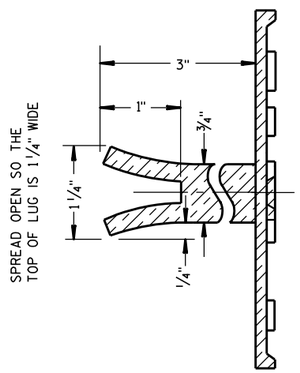
THE BRIDGE NUMBER AND YEAR BUILT SHOWN ON THIS DRAWING ARE EXAMPLES ONLY. SEE CONSTRUCTION PLANS FOR INDIVIDUAL NUMBERING AND YEAR BUILT.

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

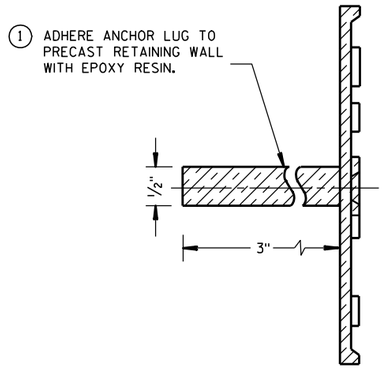
(2) REHABILITATION OF AN EXISTING STRUCTURE SHOULD USE THE DATE OF ORIGINAL STRUCTURE CONSTRUCTION.



SECTION A-A



ALTERNATE LUG



ALTERNATE LUG

(FOR ATTACHMENT TO PRECAST STRUCTURES)

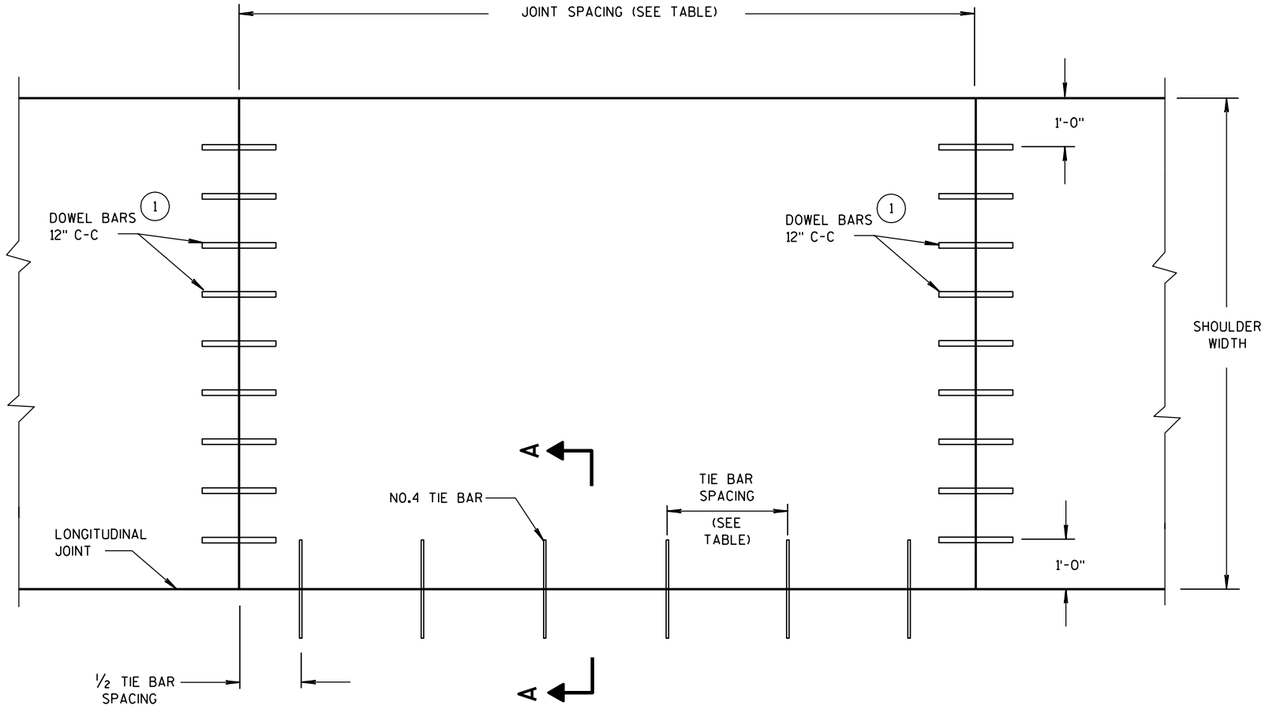
NAME PLATE (STRUCTURES)	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED	
3/26/10 DATE	/S/ Scot Beck CHIEF STRUCTURAL DEVELOP ENGINEER
FHWA	

6

S.D.D. 12 A 3-10

6

S.D.D. 12 A 3-10



PLAN VIEW

CONCRETE PAVEMENT SHOULDER

PAVEMENT TYPE OF TRAFFIC LANES	TIE BAR SPACING	SHOULDER JOINT SPACING
NON-REINFORCED	30"	MATCH JOINT SPACING OF ADJACENT TRAFFIC LANE
CONTINUOUSLY REINFORCED	30"	15' FOR 6' TO 10' WIDE SHOULDERS
CONTINUOUSLY REINFORCED	36"	12' FOR 3' WIDE SHOULDERS

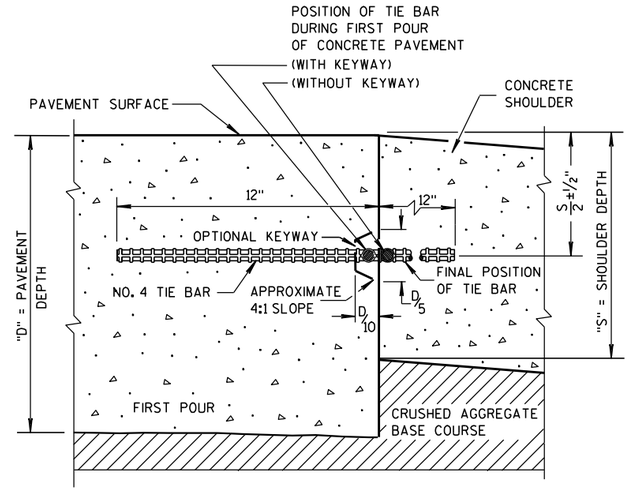
GENERAL NOTES

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

TRANSVERSE JOINT DETAILS ARE SHOWN ELSEWHERE IN THE PLAN.

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

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



SECTION A-A

LONGITUDINAL CONSTRUCTION JOINT

(1)

PAVEMENT DEPTH, DOWEL BAR SIZE AND JOINT SPACING TABLE

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

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

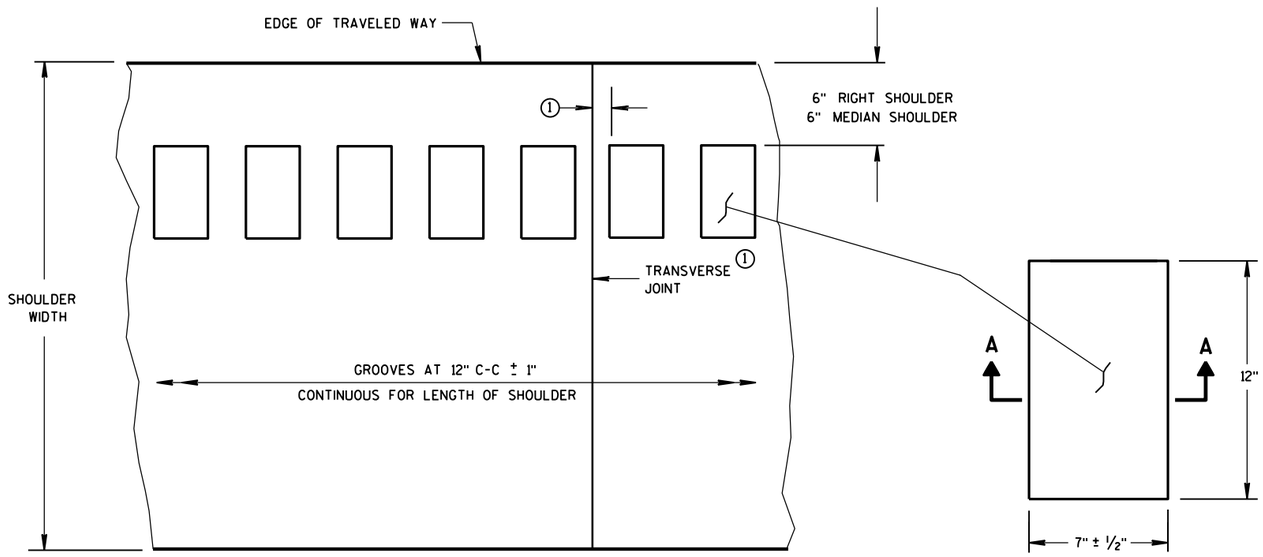
CONCRETE PAVEMENT SHOULDERS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
8/15/2011 — DATE
/S/ Deb Bischoff — PAVEMENT POLICY & D — INEER
FHWA

6

S.D.D. 13 A 3-5



PLAN VIEW
SHOULDER WITH GROOVES

PLAN VIEW
(SINGLE GROOVE)

PLACEMENT DETAIL FOR MILLED RUMBLE STRIP

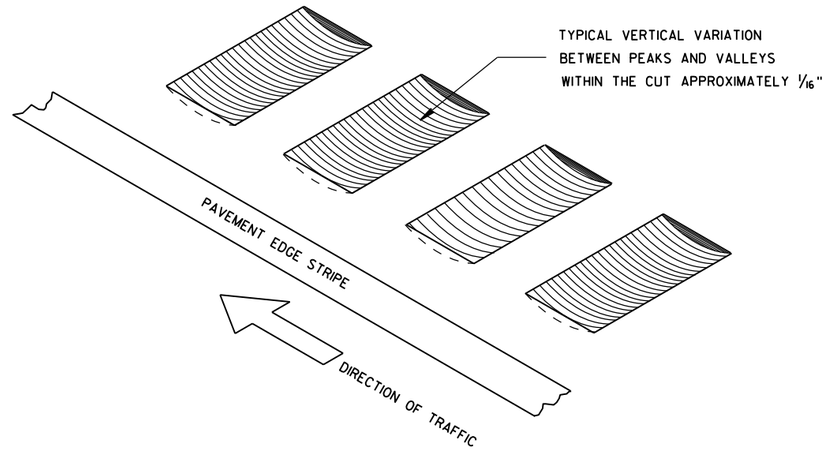
GENERAL NOTES

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

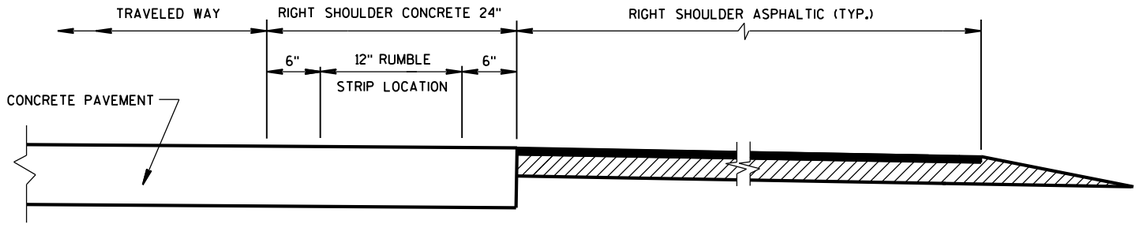
RUMBLE STRIPS ON EXPRESSWAYS

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.

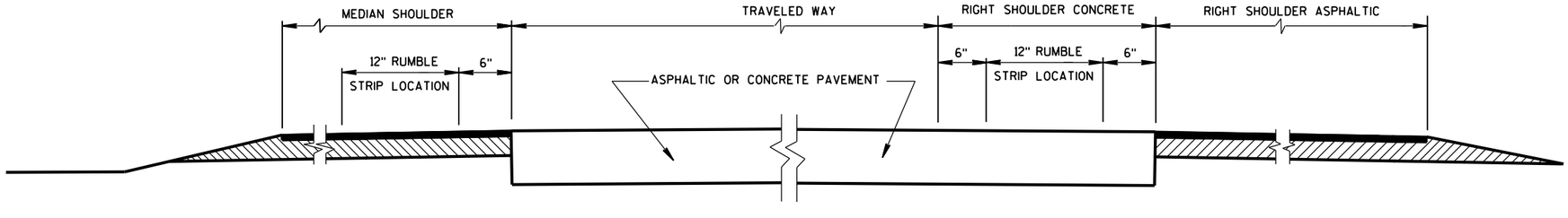
(1) CONCRETE PAVEMENT - RUMBLE STRIPS SHALL BE A MINIMUM OF 6" AWAY FROM TRANSVERSE JOINTS.



ISOMETRIC



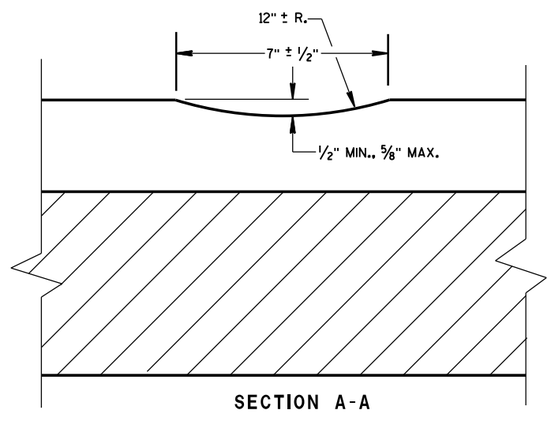
SECTION VIEW
CONCRETE PAVEMENT EXTENDS INTO RIGHT SHOULDER)



SECTION VIEW

TYPICAL LOCATIONS OF SHOULDER RUMBLE STRIPS IN RURAL DIVIDED HIGHWAYS

(ONE ROADWAY IS SHOWN)



SECTION A-A

SHOULDER RUMBLE STRIP, MILLING

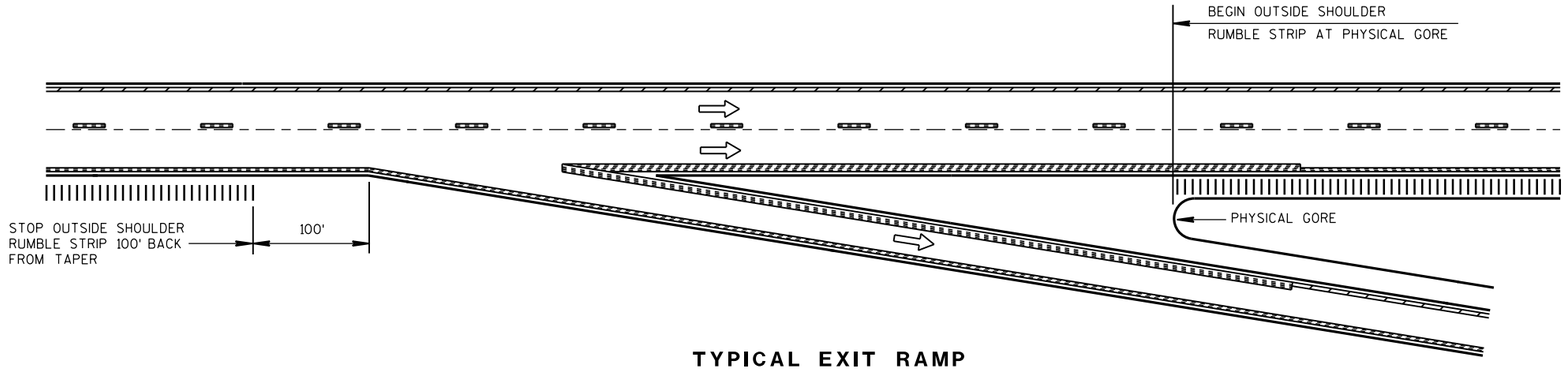
STATE OF WISCONSIN
DEPARTMENT OF TRANSPOI

6

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

6

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



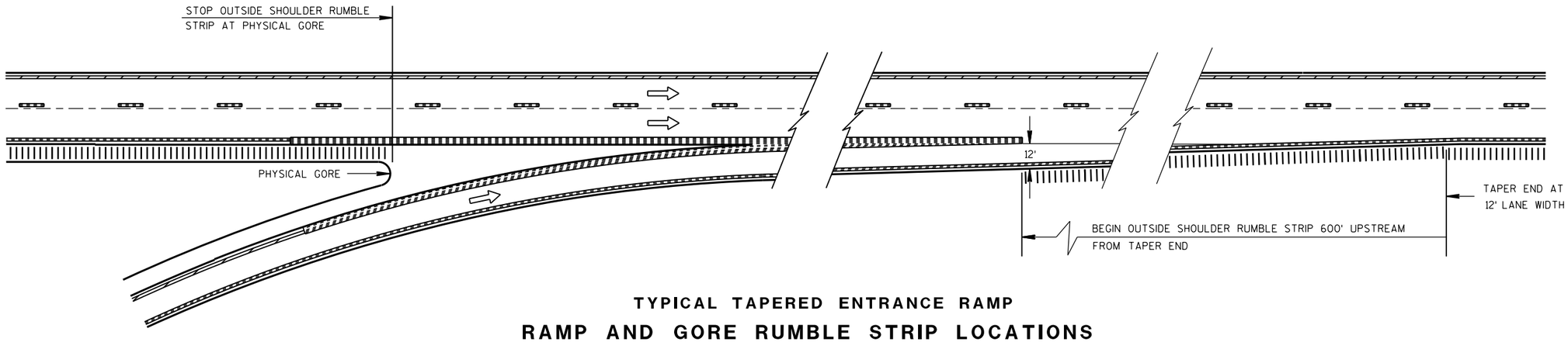
TYPICAL EXIT RAMP

NOTES:

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

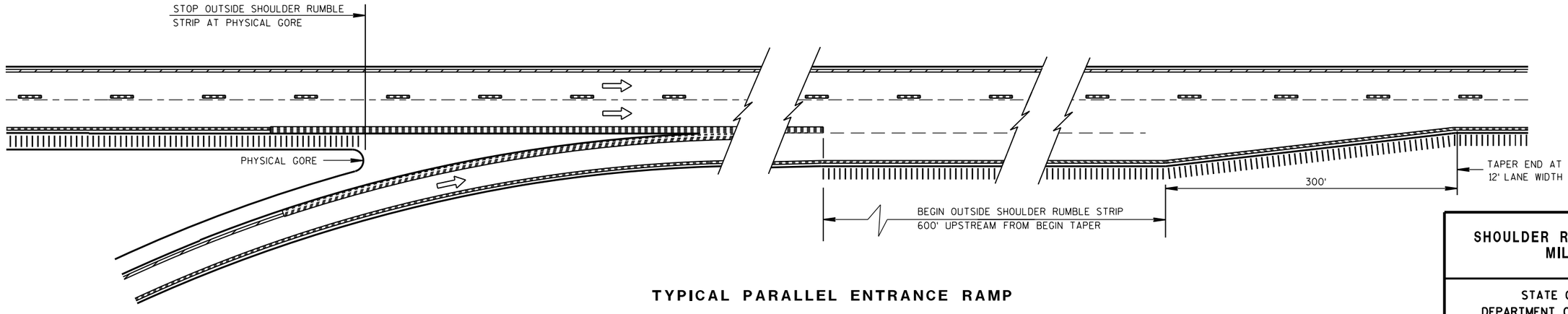
PAVEMENT MARKING DETAILS AND SPECIFICATIONS ARE PROVIDED ELSEWHERE IN THE CONTRACT.

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

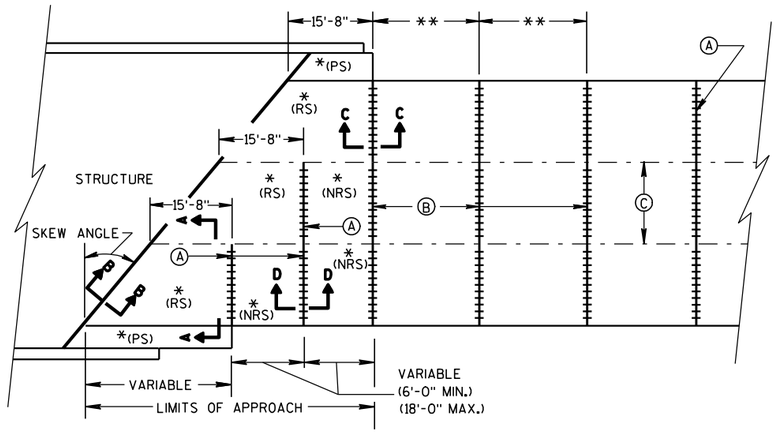
SHOULDER RUMBLE STRIP, MILLING

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

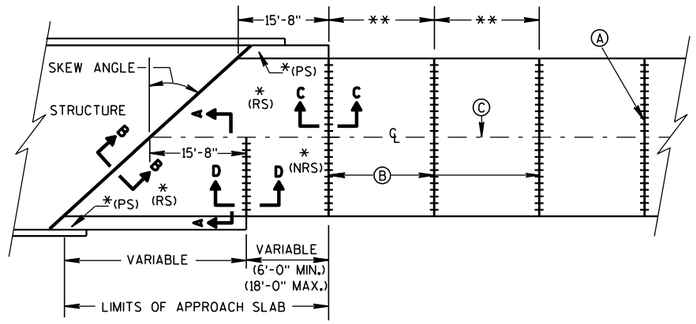
APPROVED
12/17/2012 — DATE
/S/ Jerry H. Zoga — ROADWAY STANDARDS ENGINEER
FHWA

6

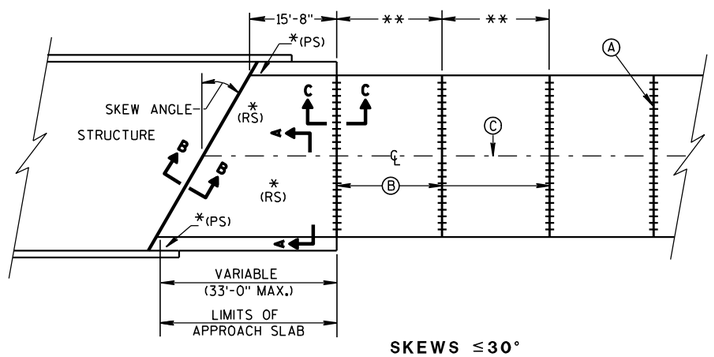
S.D.D. 13 A 5-5b



SKEWED APPROACH
(PAVEMENT MORE THAN 2 LANES)



SKEWS >30°
(PAVEMENT WIDTH ≤30')



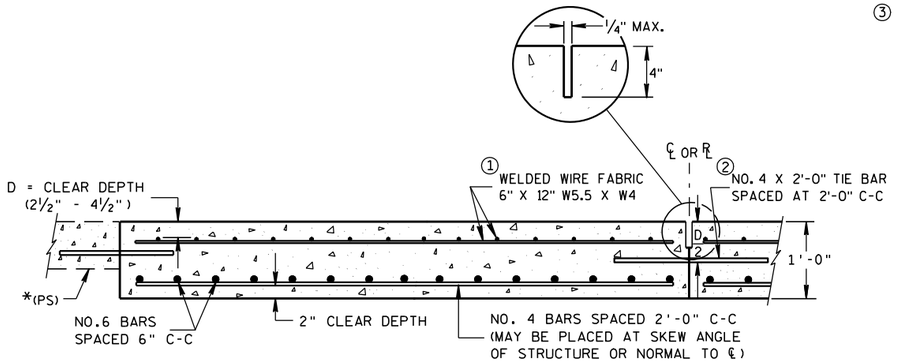
SKEWS ≤30°
(PAVEMENT WIDTH ≤30')

APPROACH SLAB AND ADJACENT PAVEMENT

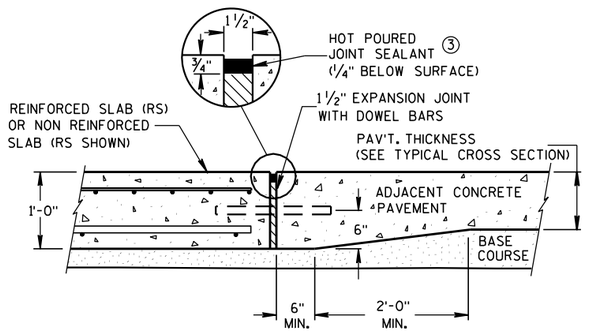
*(RS) = REINFORCED CONCRETE SLAB
*(PS) = PAVED CONCRETE SHOULDER: CONCRETE PAVEMENT, OR CONCRETE SURFACE DRAIN
(SEE DETAILS ELSEWHERE IN THE PLAN)
*(NRS) = NON-REINFORCED CONCRETE SLAB

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

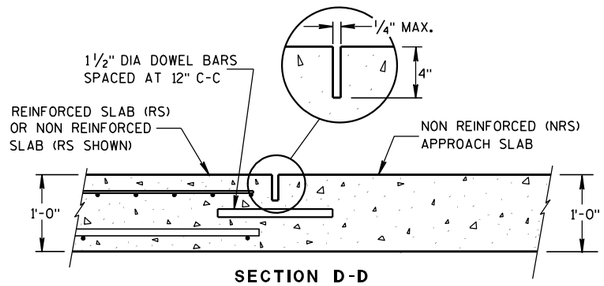
(A) STANDARD CONTRACTION JOINT NORMAL TO ℄ OR ℄
(B) 1½" EXPANSION JOINT WITH DOWEL BARS NORMAL TO ℄ OR ℄
(C) STANDARD LONGITUDINAL JOINT AND TIE BARS.



SECTION A-A
REINFORCEMENT POSITIONING DETAIL



SECTION C-C
TRANSITION DETAIL
APPROACH SLAB TO ADJACENT PAVEMENT



SECTION D-D
CONTRACTION JOINT

GENERAL NOTES

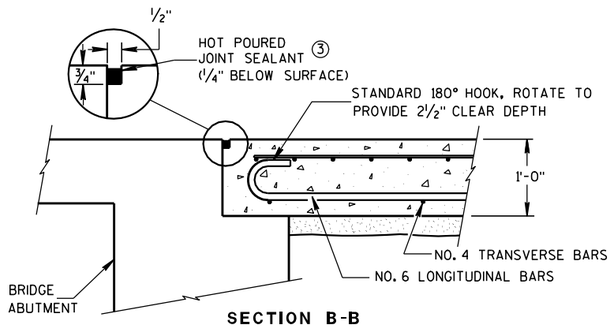
APPROACH SLABS ABUTTING AN HMA PAVEMENT OVER BASE COURSE DO NOT NEED TO BE DOWELED.

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

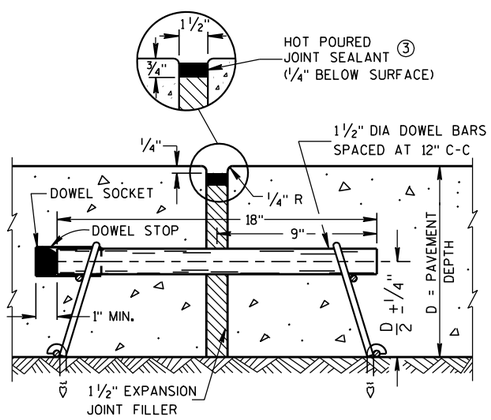
① THE CONTRACTOR MAY USE NO. 4 BARS SPACED AT 2'-0" C-C IN BOTH THE LONGITUDINAL AND TRANSVERSE DIRECTIONS FOR TOP REINFORCEMENT AS AN ALTERNATIVE TO THE WELDED WIRE FABRIC.

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

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



SECTION B-B
BEND DETAIL
BOTTOM REINFORCEMENT



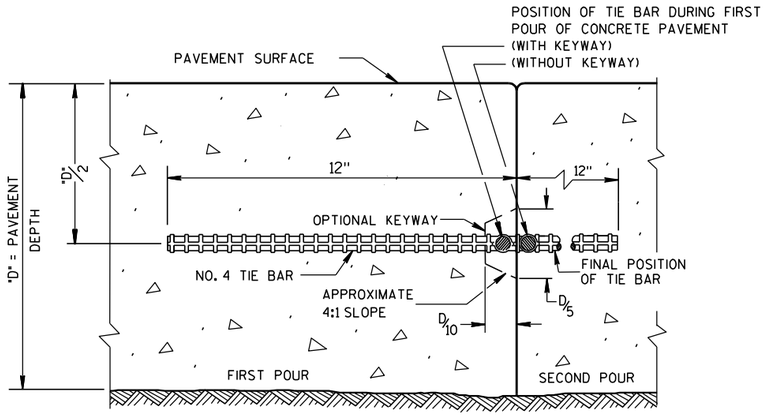
EXPANSION JOINT

CONCRETE PAVEMENT APPROACH SLAB

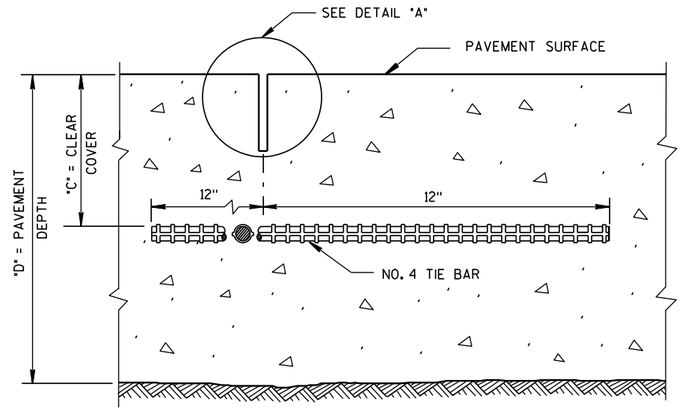
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
12/11/2009 — DATE
/S/ Deb Bischoff — PAVEMENT POLICY & DE ... NEER
FHWA

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S.D.D. 13 B 2-6



CONSTRUCTION JOINT



SAWED JOINT

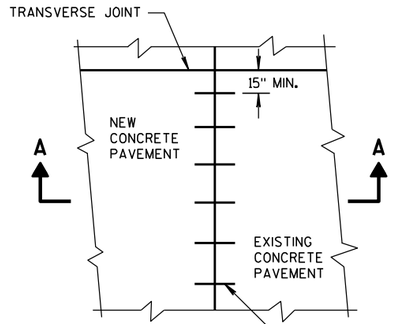
GENERAL NOTES

DO NOT SEAL OR FILL LONGITUDINAL JOINTS.

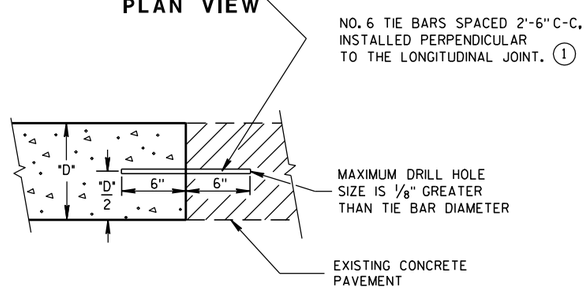
CREATE A LONGITUDINAL JOINT FOR PAVEMENT WIDTHS GREATER THAN 15 FEET.

CORRELATE LONGITUDINAL JOINTS WITH LANE LINES WHEN POSSIBLE.

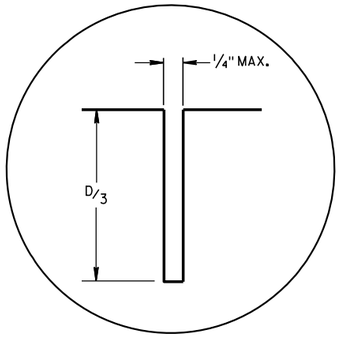
(1) ANCHOR TIE BARS INTO DRILLED HOLES WITH AN EPOXY.



PLAN VIEW

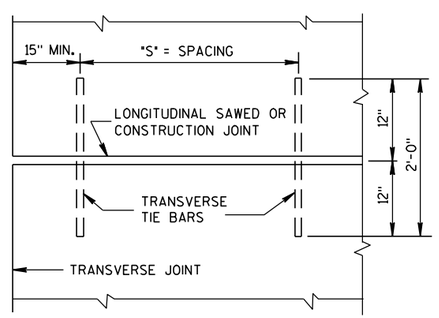


SECTION A-A
LONGITUDINAL CONSTRUCTION JOINT TIE BARS ANCHORED INTO EXISTING PAVEMENT



DETAIL "A"

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



PLAN VIEW
SHOWING LOCATION OF TIE BARS

CONCRETE PAVEMENT LONGITUDINAL JOINTS AND TIES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

10-5-2010
DATE

/S/ Deb Bischoff
PAVEMENT POLICY & DI[148]INEER

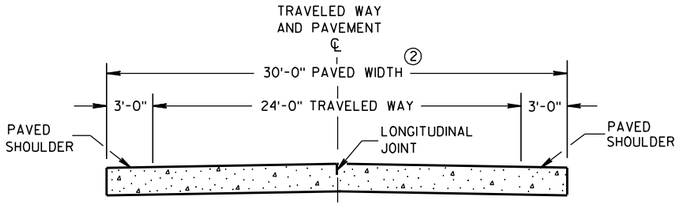
FHWA

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S.D.D. 13 C 1-15

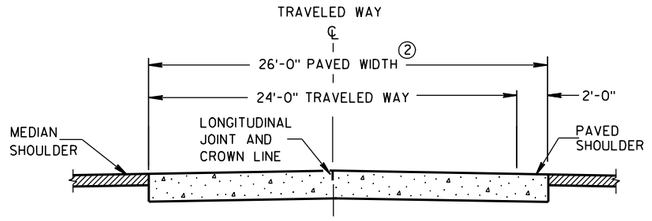
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S.D.D. 13 C 1-15

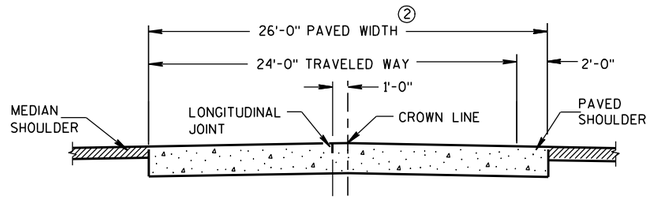


SECTION A-A ①

TWO-LANE TWO-WAY HIGHWAY



SECTION B-B



ALTERNATIVE SECTION B-B

①

DIVIDED HIGHWAY

GENERAL NOTES

CONTRACTION JOINTS

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

DO NOT SEAL OR FILL CONTRACTION JOINTS.

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

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

CONSTRUCTION JOINTS

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

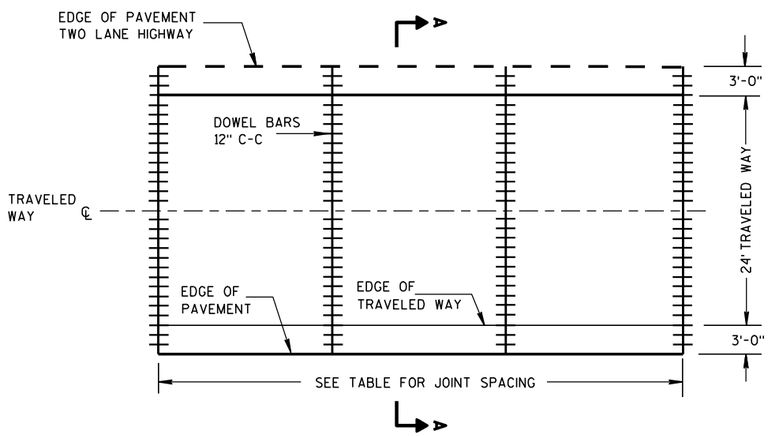
THE CONTRACTOR MAY INSERT TIE BARS THROUGH THE HEADER BOARD AFTER THE CONCRETE HAS BEEN PLACED.

① REFER TO TYPICAL CROSS SECTIONS FOR ADDITIONAL DETAILS.

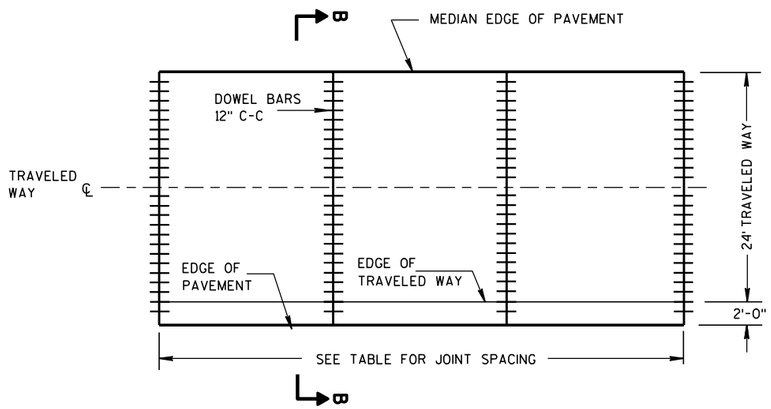
② MEASURE THE ENTIRE PAVED WIDTH INCLUDING THE PORTION(S) LABELED PAVED SHOULDER AS CONCRETE PAVEMENT.

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'



CONTRACTION JOINT LAYOUT FOR TWO-LANE TWO-WAY HIGHWAY



CONTRACTION JOINT LAYOUT FOR DIVIDED HIGHWAY

RURAL DOWELED CONCRETE PAVEMENT

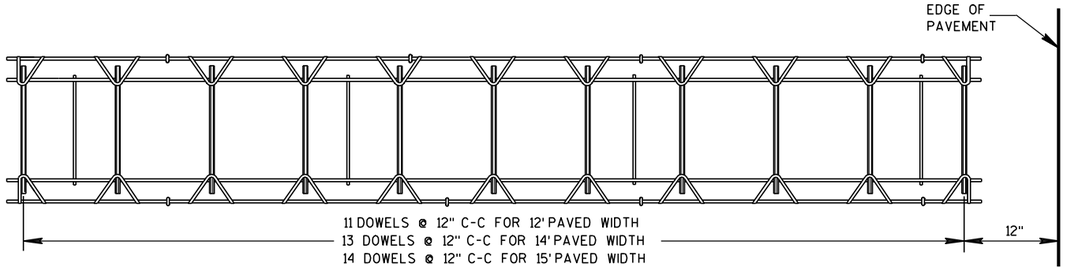
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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S.D.D. 13 C 11-10a

6

S.D.D. 13 C 11-10a



PLAN VIEW

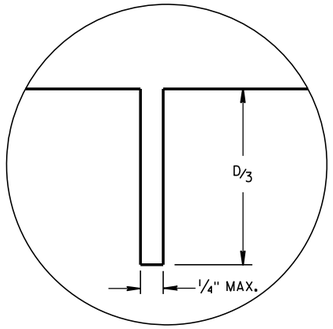


⑤

SIDE VIEW

(NORMAL TO CENTERLINE)

CONTRACTION JOINT DOWEL ASSEMBLY ①



JOINT DETAIL

GENERAL NOTES

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

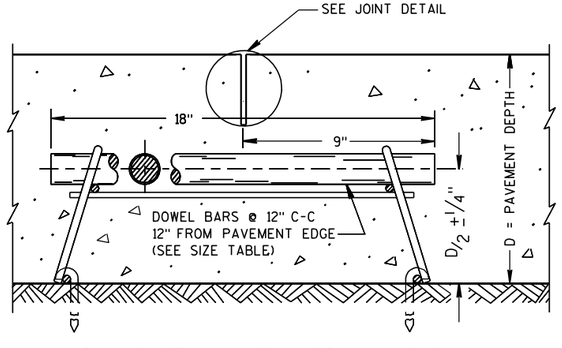
② ANCHOR DOWEL BARS INTO DRILLED HOLES WITH AN EPOXY.

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

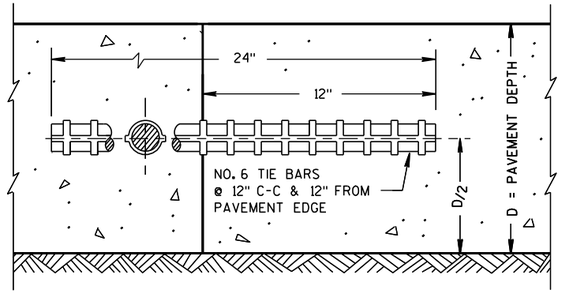
④ SPACE DOWEL BARS INSTALLED BY DRILLING 1'-3" ON CENTER. CENTER THE GROUPING OF DOWEL BARS INSIDE THE SLAB BASED ON ALL THE FOLLOWING SITUATIONS:

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

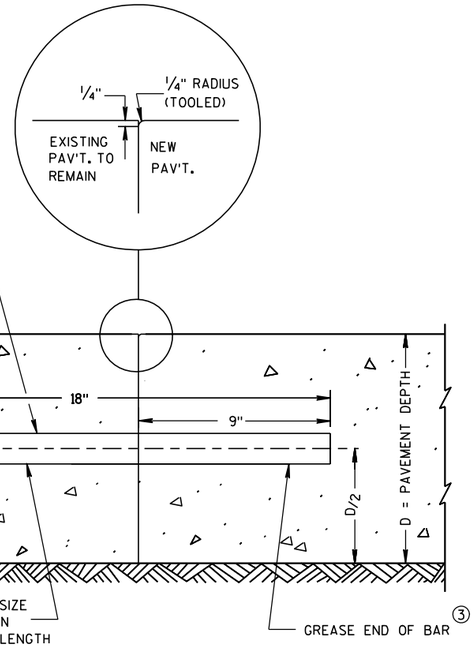
⑤ SECURE BASKETS WITH ANCHORS TO HOLD DOWEL BARS IN THE CORRECT POSITION AND ALIGNMENT. TYPE, LOCATION, NUMBER AND LENGTH OF ANCHORS ARE DEPENDENT UPON FIELD CONDITIONS.



DOWELED CONTRACTION JOINT



CONSTRUCTION JOINT



TRANSVERSE CONTRACTION JOINTS ABUTTING EXISTING PAVEMENT

④ DOWEL BAR DETAIL

RIRAL DOWELED CONCRETE PAVEMENT

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

12/11/09
DATE

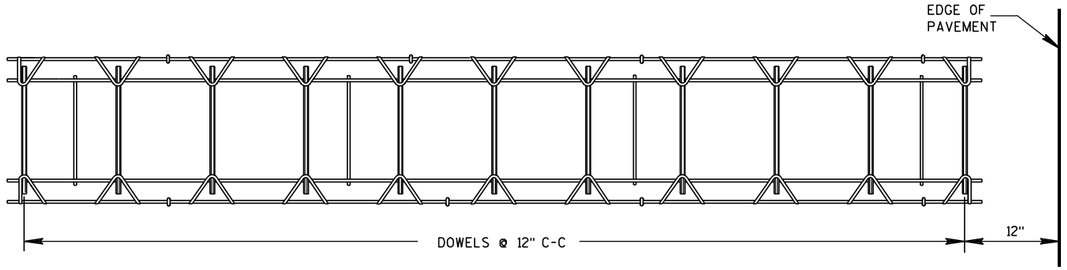
/S/ Deb Bischoff
PAVEMENT POLICY & DE

NEER

FHWA

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S.D.D. 13 C 11-10b

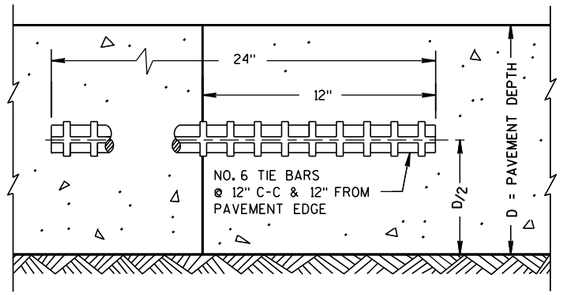


PLAN VIEW



SIDE VIEW

CONTRACTION JOINT DOWEL ASSEMBLY ①



TRANSVERSE CONSTRUCTION JOINT

GENERAL NOTES

CONTRACTION JOINTS

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

DO NOT SEAL OR FILL CONTRACTION JOINTS.

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

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

CONSTRUCTION JOINTS

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

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

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

② ANCHOR DOWEL BARS INTO DRILLED HOLES WITH AN EPOXY.

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

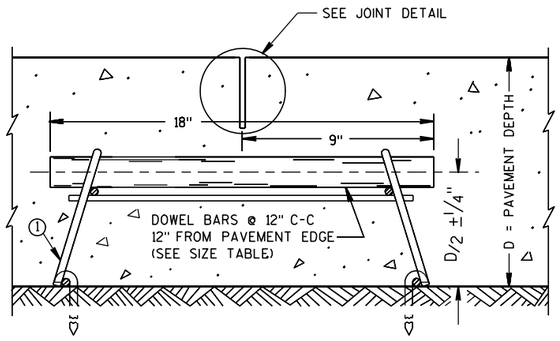
④ SPACE DOWEL BARS INSTALLED BY DRILLING 1'-3" ON CENTER. CENTER THE GROUPING OF DOWEL BARS INSIDE THE SLAB BASED ON ALL THE FOLLOWING SITUATIONS:

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

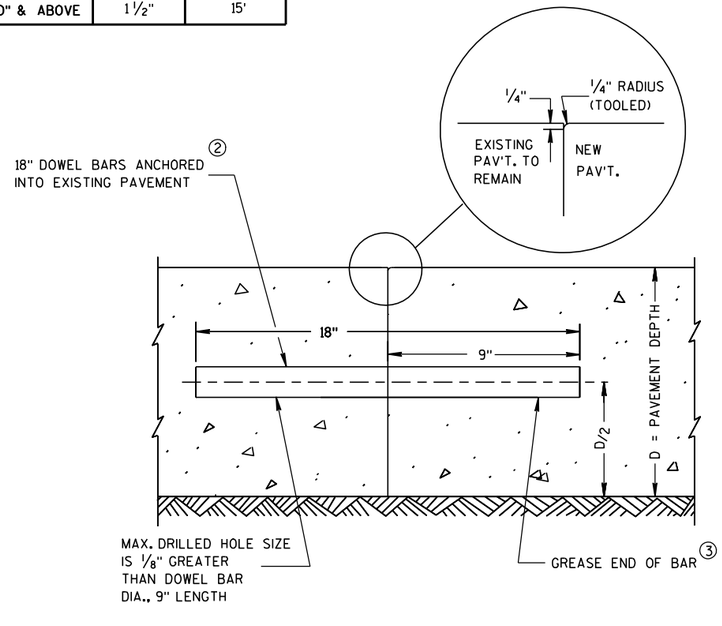
⑤ SECURE BASKETS WITH ANCHORS TO HOLD DOWEL BARS IN THE CORRECT POSITION AND ALIGNMENT. TYPE, LOCATION, NUMBER AND LENGTH OF ANCHORS ARE DEPENDENT UPON FIELD CONDITIONS.

PAVEMENT DEPTH, DOWEL BAR SIZE AND JOINT SPACING TABLE

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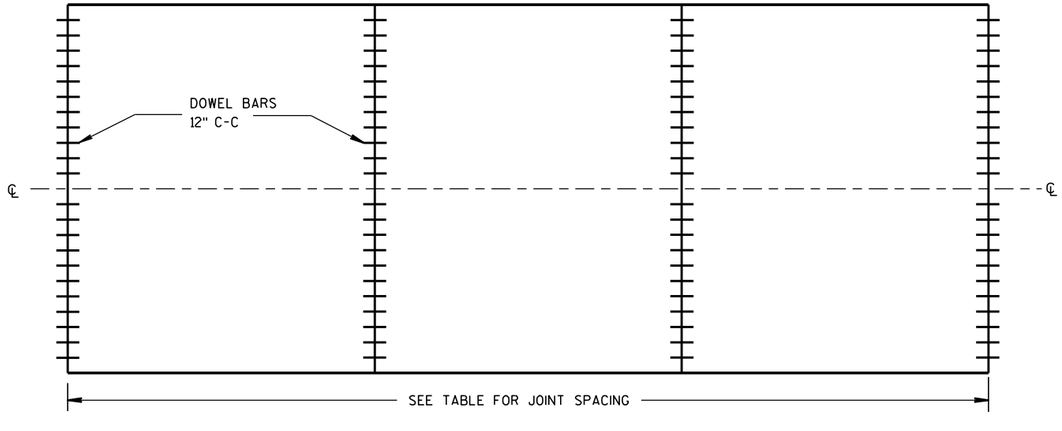


DOWELED CONTRACTION JOINT

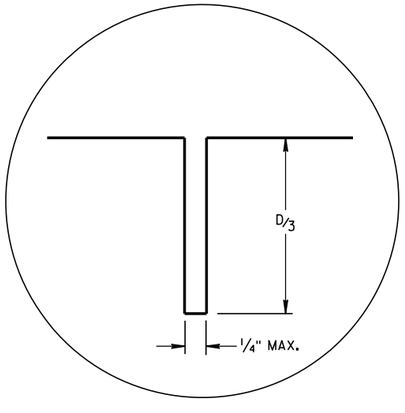


TRANSVERSE CONTRACTION JOINTS ABUTTING EXISTING PAVEMENT

④ DOWEL BAR DETAIL



CONTRACTION JOINT LOCATIONS



JOINT DETAIL

URBAN DOWELED CONCRETE PAVEMENT

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

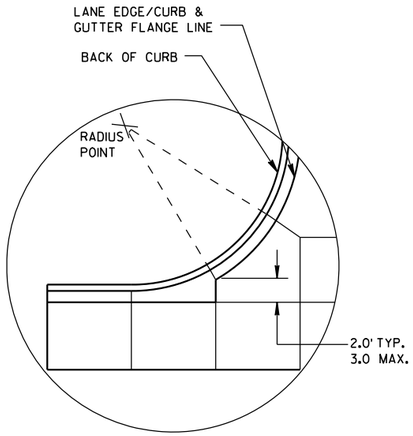
APPROVED
12/11/2009 DATE
/S/ Deb Bischoff PAVEMENT POLICY & DE
NEER
FHWA

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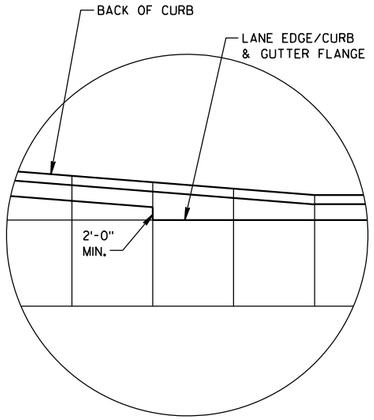
S.D.D. 13 C 13-7

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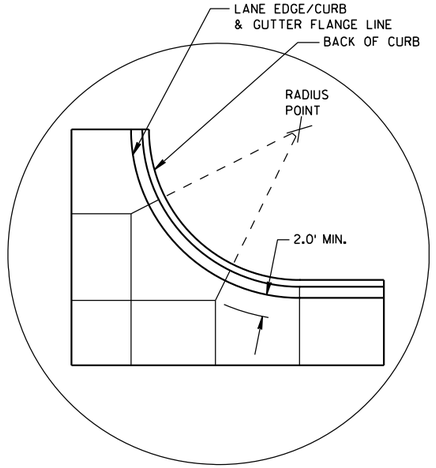
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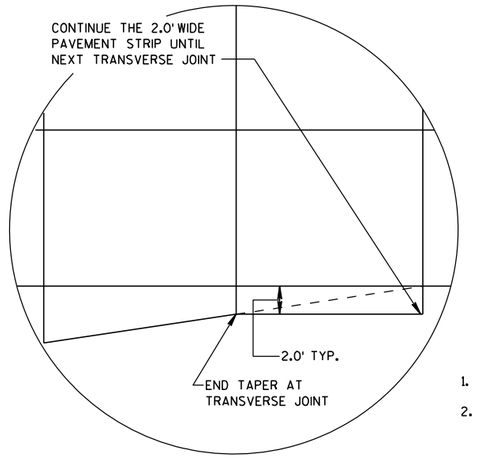
DETAIL "A"



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.

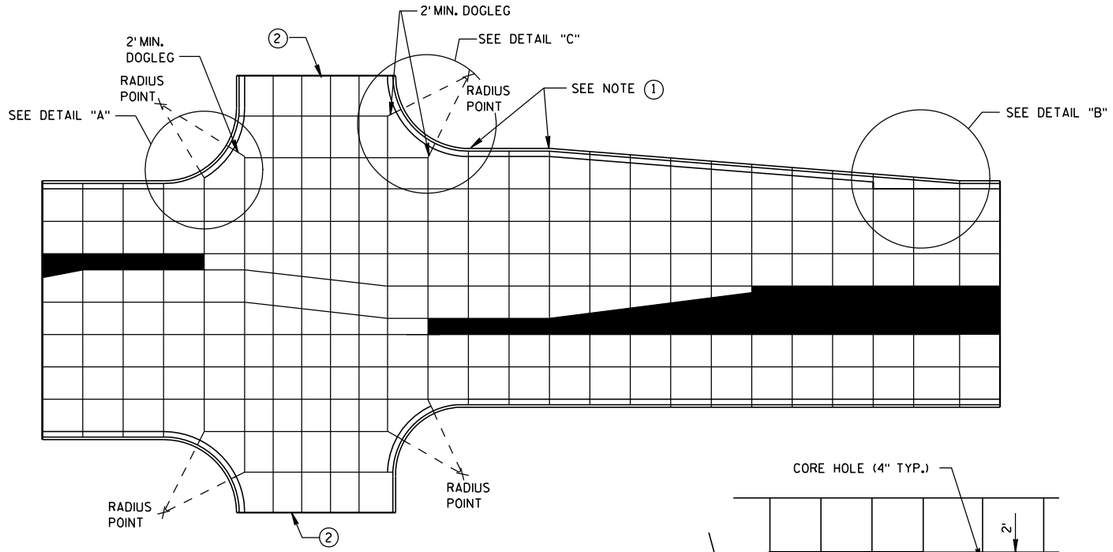
AVOID SLABS LESS THAN 2 FEET WIDE OR GREATER THAN 15 FEET WIDE.

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.

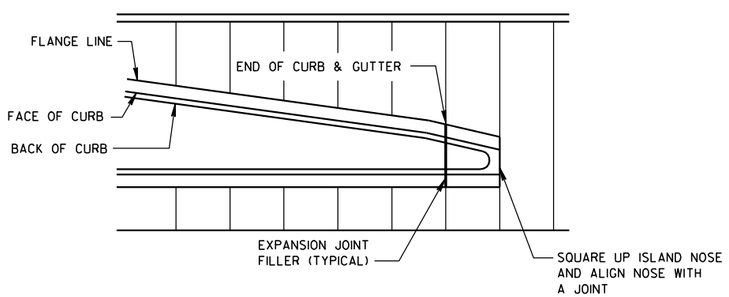
1. PROVIDE TRANSVERSE JOINTS AT ALL PAVEMENT WIDTH CHANGES.
2. CONSTRUCT DOWELED EXPANSION JOINT ON THE SIDE ROAD OF AN INTERSECTION IF THE SIDE ROAD IS CONCRETE PAVEMENT AND GREATER THAN 300 FEET IN LENGTH. ALIGN EXPANSION JOINT WITH EDGE OF RADIUS.
3. THE ENGINEER MAY APPROVE SLIGHT VARIATIONS FROM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



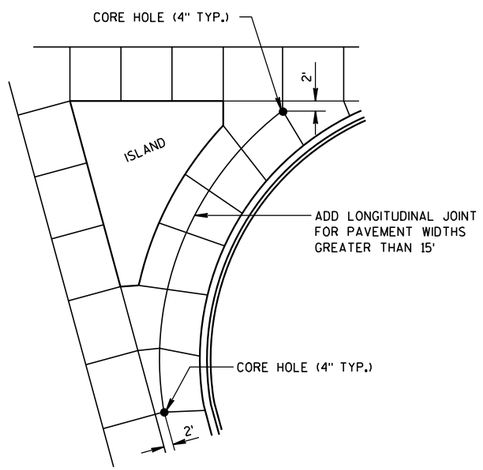
STANDARD INTERSECTION

PAVEMENT DEPTH AND JOINT SPACING TABLE

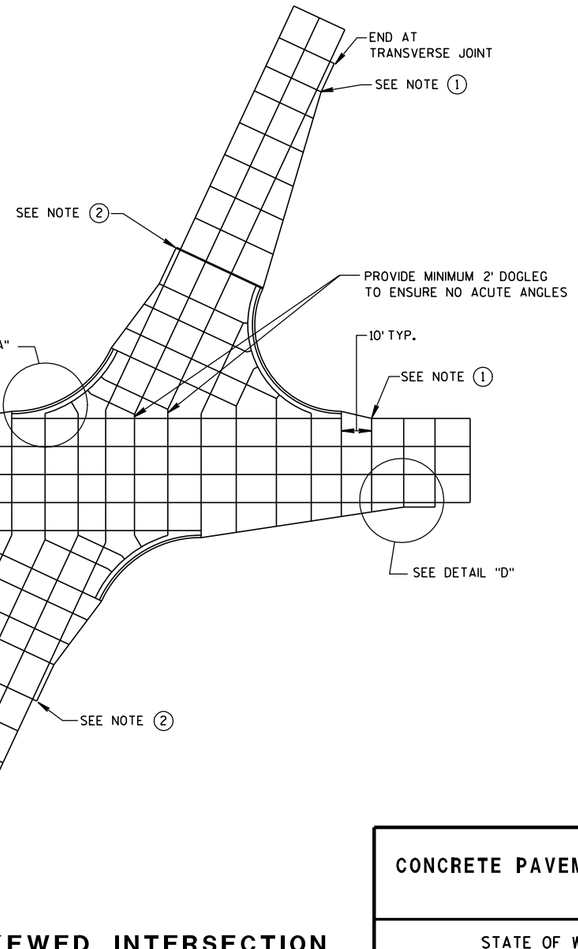
PAVEMENT DEPTH (D)	CONTRACTION JOINT SPACING
6", 6½"	12'
7", 7½"	14'
8" & ABOVE	15'



APPROACH TO MEDIAN



LARGE RIGHT TURN



SKEWED INTERSECTION

CONCRETE PAVEMENT JOINTING

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

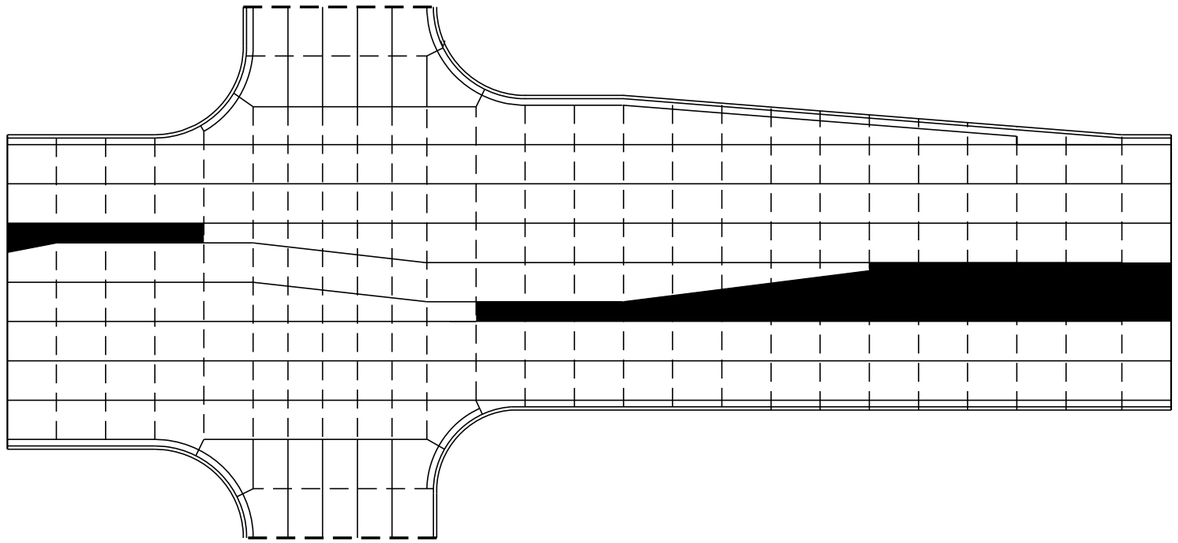
6
S.D.D. 13 C 18-1a

LEGEND

POTENTIAL DOWELED EXPANSION JOINT

DOWELED JOINT

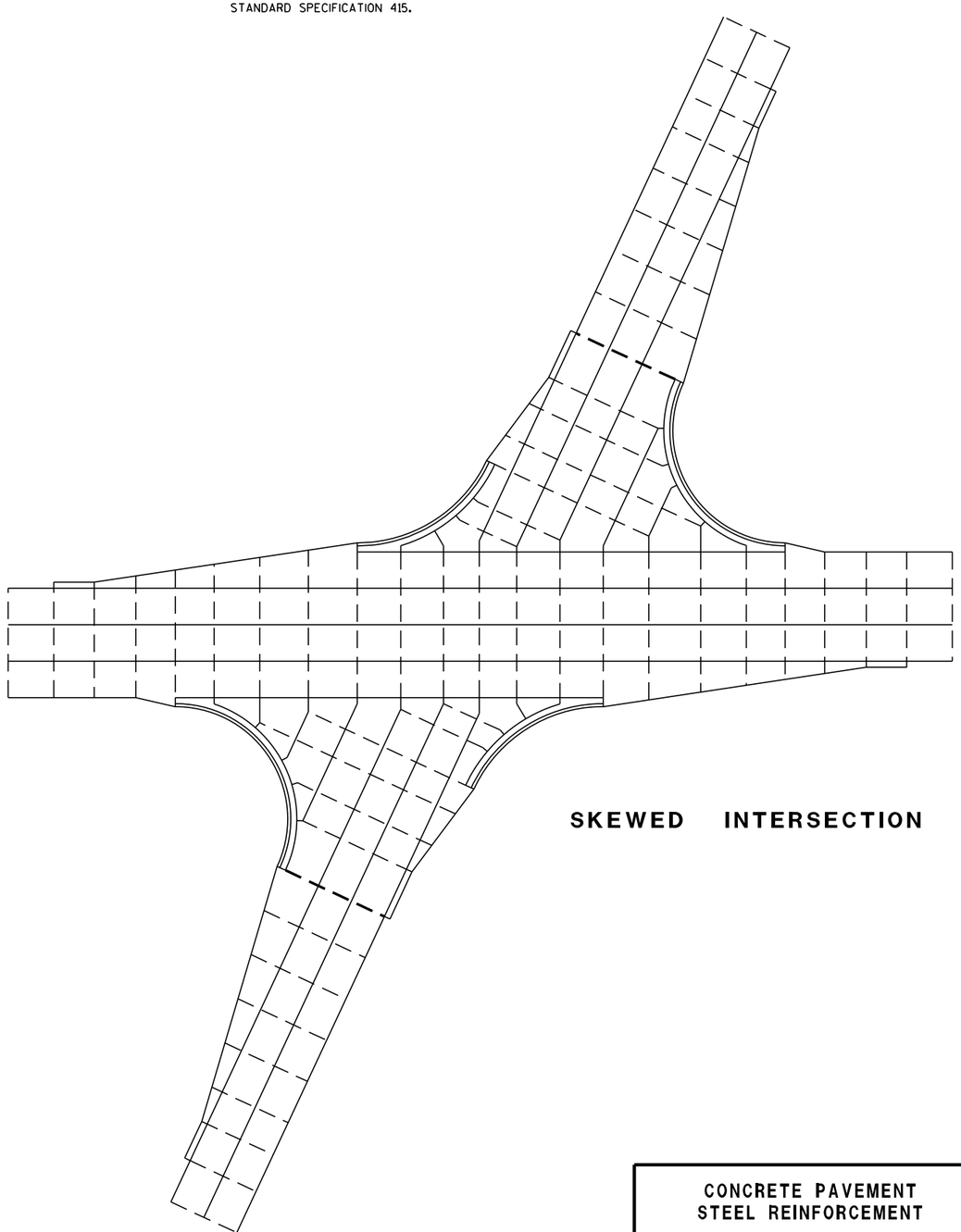
TIED JOINT



STANDARD INTERSECTION

GENERAL NOTES

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



SKEWED INTERSECTION

6

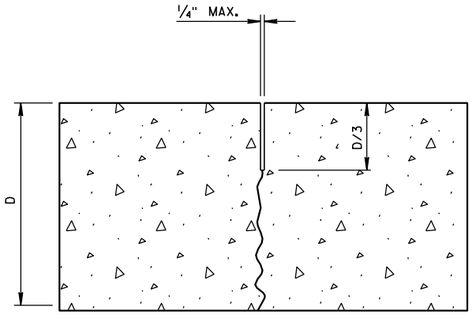
S.D.D. 13 C 18-1b

CONCRETE PAVEMENT
STEEL REINFORCEMENT

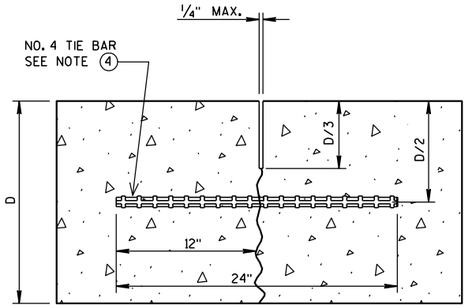
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

6

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



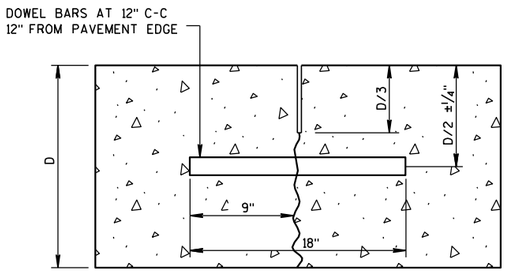
UNDOWELED-TRANSVERSE



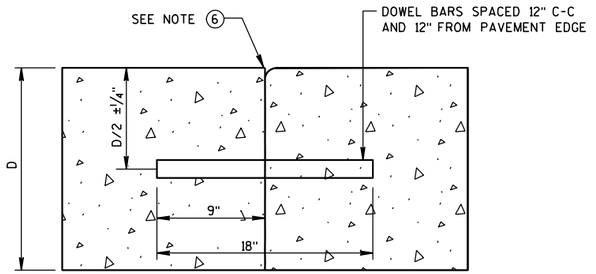
TIED LONGITUDINAL

GENERAL NOTES

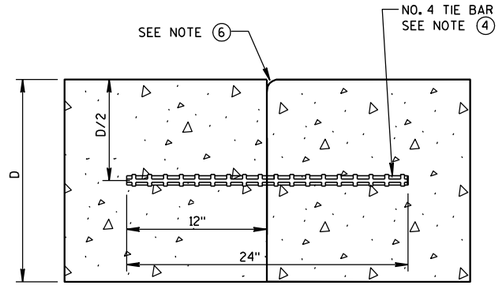
1. USE DOWELED EXPANSION JOINTS ON SIDE ROADS AT INTERSECTIONS (TO ISOLATE THE SIDE ROAD FROM THE THROUGH STREET) IF THE SIDE ROAD IS CONCRETE PAVEMENT AND GREATER THAN 300 FEET IN LENGTH.
2. SPACE CONTRACTION JOINTS IN ACCORDANCE WITH 13C4, 13C11 OR 13C13.
3. LOCATE CONSTRUCTION JOINTS A MINIMUM OF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



DOWELED-TRANSVERSE



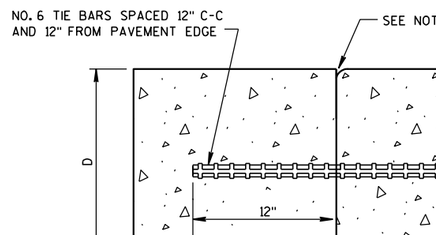
DOWELED TRANSVERSE



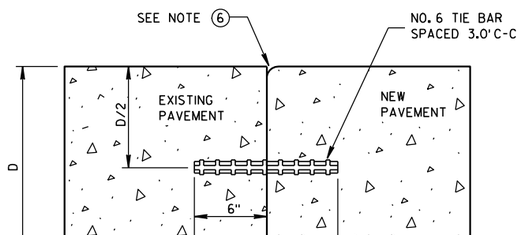
TIED LONGITUDINAL

CONTRACTION JOINTS

SEE NOTE (2)



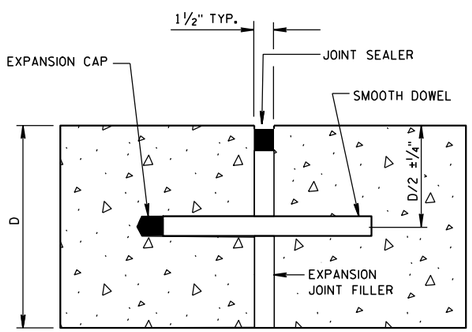
TIED TRANSVERSE
SEE NOTE (3)



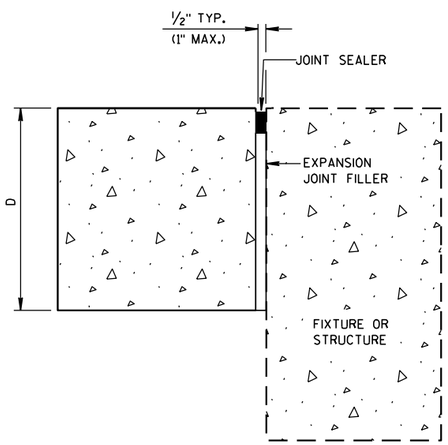
TIED LONGITUDINAL TO EXISTING

CONSTRUCTION JOINTS

SEE NOTE (5)



DOWELED-TRANSVERSE
SEE NOTE (1)



UNTIED-LONGITUDINAL

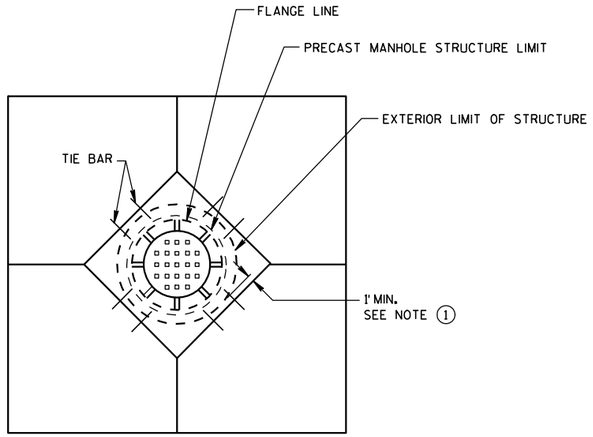
EXPANSION JOINTS

CONCRETE PAVEMENT
JOINT TYPES

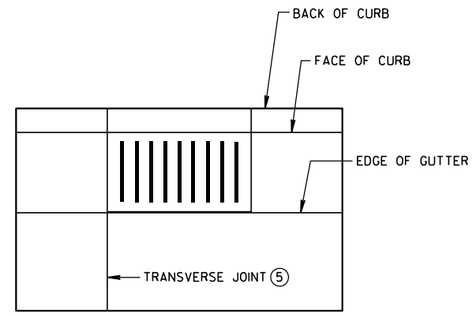
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

6

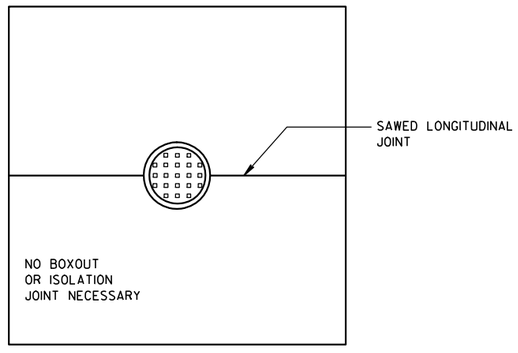
S.D.D. 13 C 18-1c



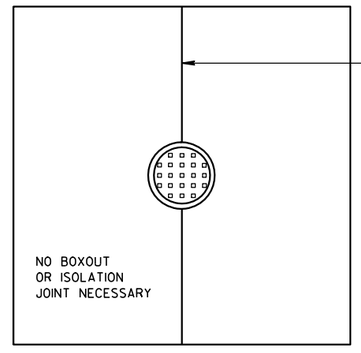
DIAGONAL MANHOLE BOXOUT FOR CONSTRUCTION JOINTS



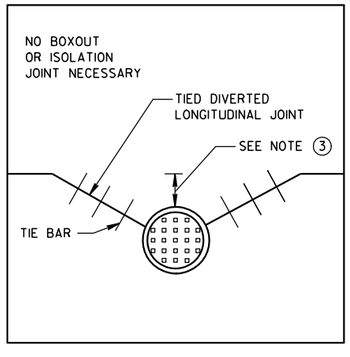
INLET WITH TRANSVERSE JOINT



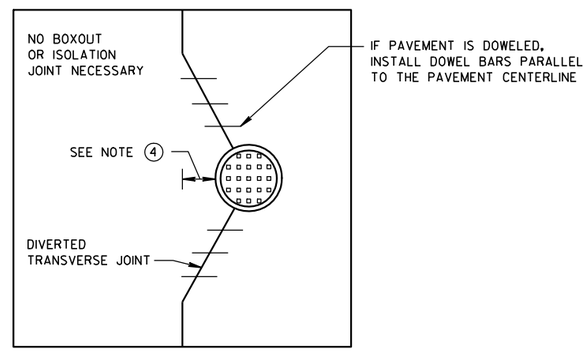
MANHOLE WITH LONGITUDINAL JOINT



MANHOLE WITH TRANSVERSE JOINT



MANHOLE WITH DIVERTED LONGITUDINAL CONTRACTION JOINT



MANHOLE WITH DIVERTED TRANSVERSE CONTRACTION JOINT

GENERAL NOTES

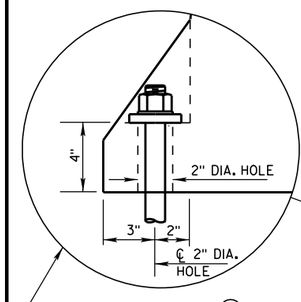
1. USE BOXOUTS WHEN UTILITY STRUCTURE IS IN THE PATH OF CONSTRUCTION JOINTS. PROVIDE A 1 FOOT MINIMUM CLEARANCE BETWEEN THE EXTERIOR LIMIT OF THE STRUCTURE TO THE DIAMOND BOXOUT.
2. ADJUST TRANSVERSE JOINT TO INTERSECT MANHOLE IF POSSIBLE.
3. IF DISTANCE BETWEEN THE LONGITUDINAL JOINT AND THE EDGE OF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

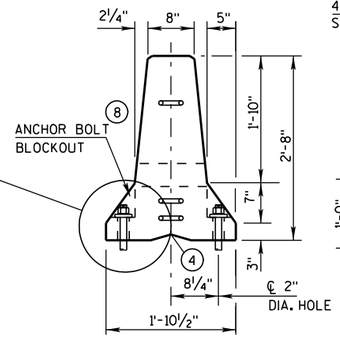
CONCRETE PAVEMENT JOINTING AT UTILITY FIXTURES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

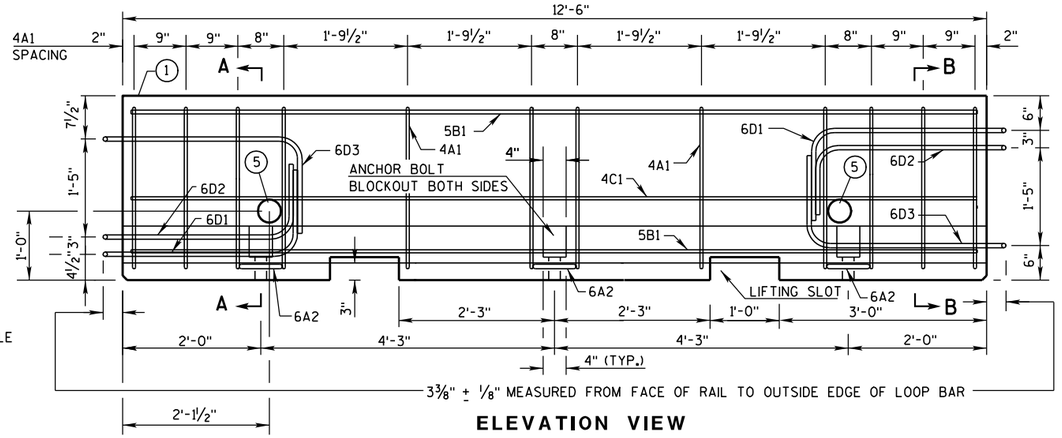
APPROVED
10-5-2010 — DATE
/S/ Deb Bischoff — PAVEMENT POLICY & D ENGINEER
FHWA

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

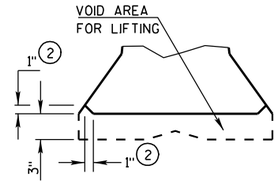




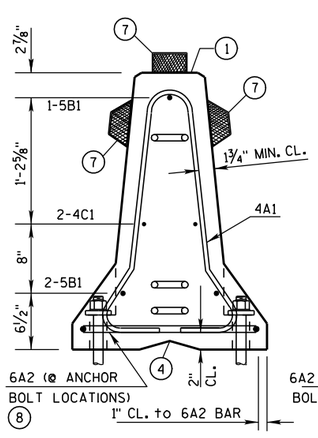
END VIEW



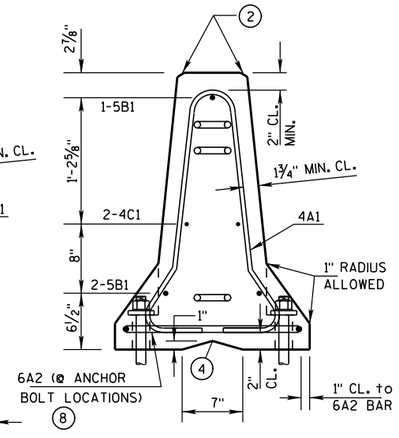
ELEVATION VIEW



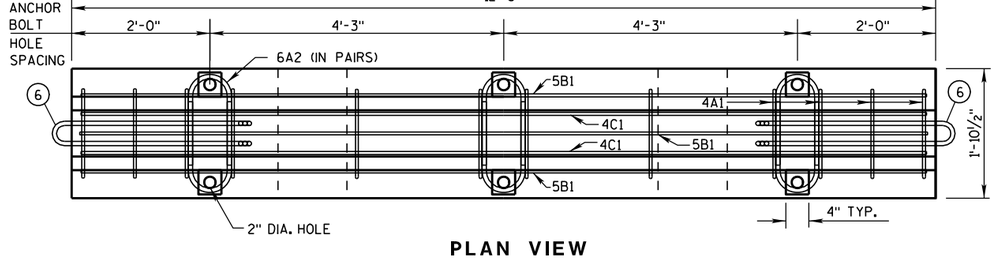
DETAIL "B"
LIFTING SLOT DETAIL



SECTION A-A
(STIRRUP PLACEMENT)

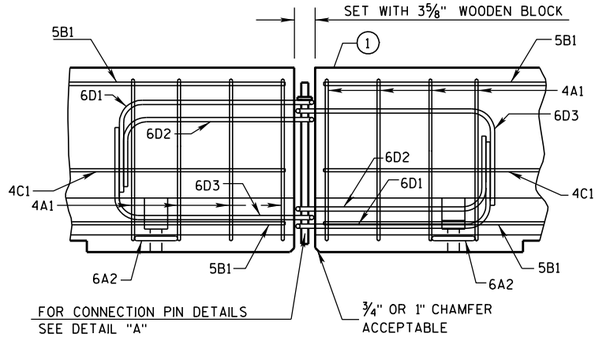


SECTION B-B
(STIRRUP PLACEMENT)

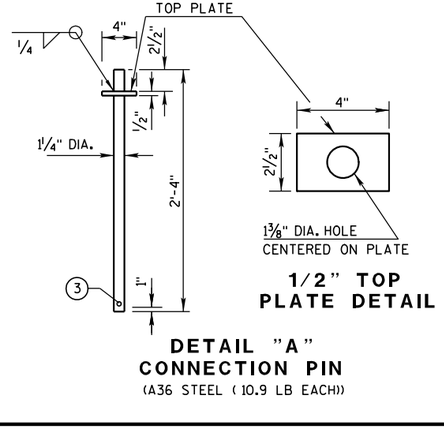


PLAN VIEW

DETAILS OF BARRIER SECTION

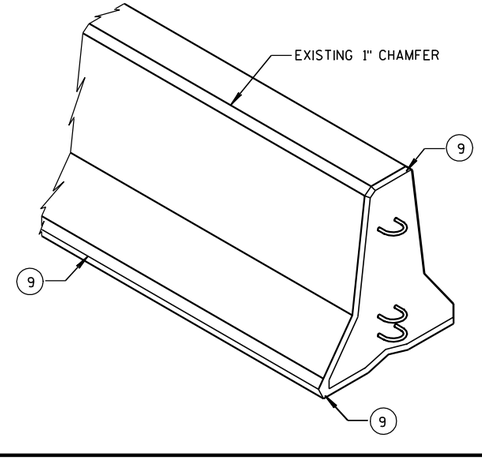


DETAILS OF BARRIER CONNECTION



1/2" TOP PLATE DETAIL

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



GENERAL NOTES

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

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

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

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

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

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

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

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

(2) 1" CHAMFER TO PREVENT SPALLING.

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

(4) "V" NOTCH IS OPTIONAL.

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

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

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

(8) SEE SHEET D FOR ANCHORING CRITERIA.

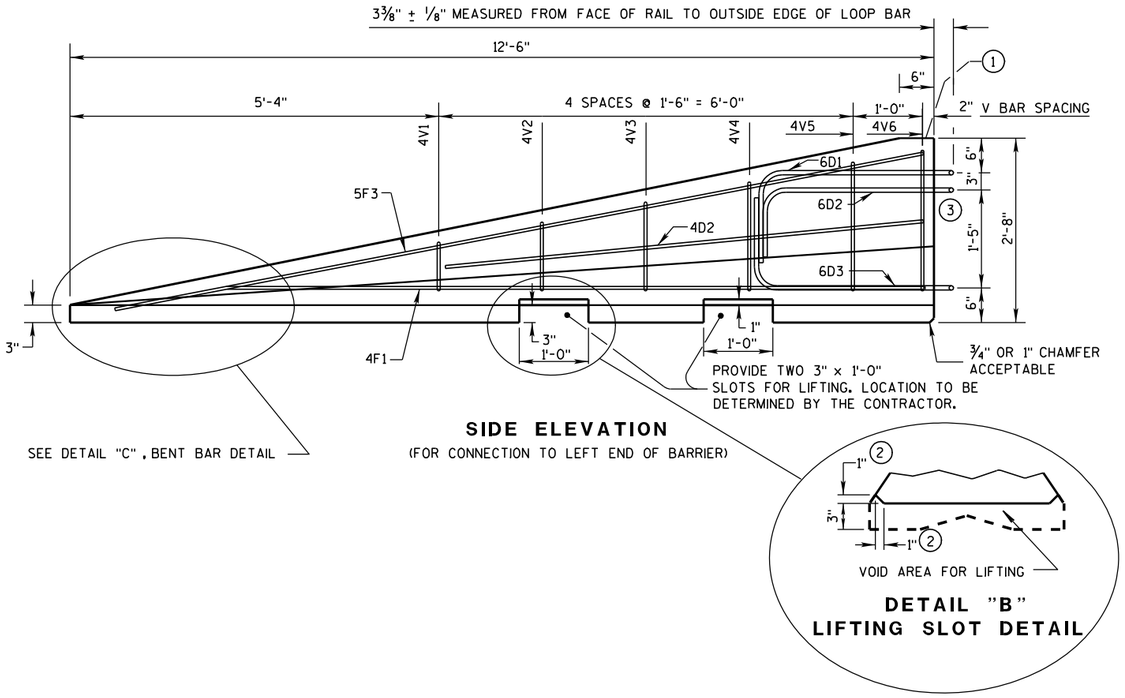
(9) 1" CHAMFER OPTIONAL.

CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"

STATE OF WISCONSIN
DEPARTMENT OF TRANSPO...

6

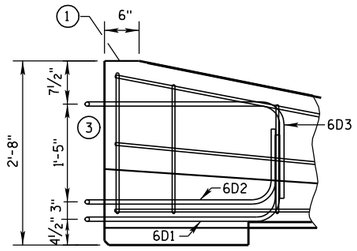
S.D.D. 14 B 7-13a



SIDE ELEVATION

(FOR CONNECTION TO LEFT END OF BARRIER)

DETAIL "B"
LIFTING SLOT DETAIL

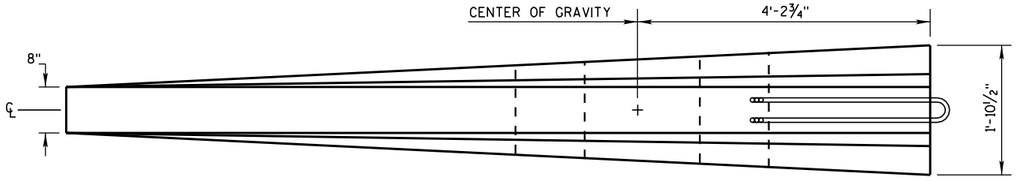


SIDE ELEVATION

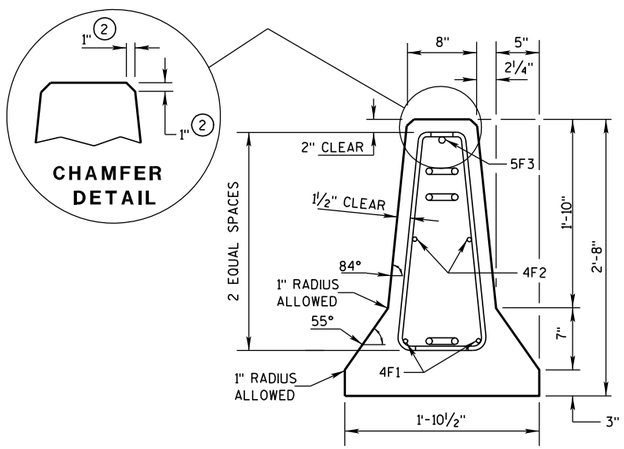
LOOP BAR ASSEMBLY INVERTED
FOR OPPOSITE END.
(FOR CONNECTION TO RIGHT END OF BARRIER)

GENERAL NOTES

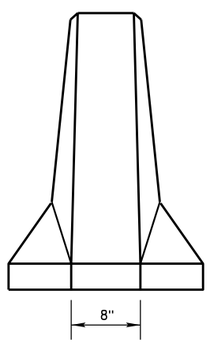
1. MARK ONE END OF EACH BARRIER PERMANENTLY BY FORMING INTO THE BARRIER THE FOLLOWING INFORMATION:
   a. TYPE WICBTP
   b. MANUFACTURER
   c. DATE MANUFACTURED (MONTH AND YEAR)
2. 1" CHAMFER TO PREVENT SPALLING.
3. NEVER USE LOOP BARS (6D1, 6D2 OR 6D3) TO LIFT, MOVE OR REPOSITION THE BARRIER.



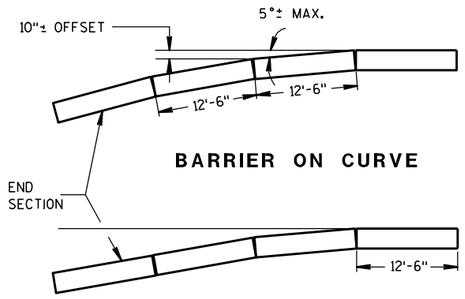
PLAN VIEW



END SECTION



FRONT ELEVATION



BARRIER ON CURVE

FLARE AT BARRIER END

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

DETAILS OF BARRIER TAPER SECTION

CONCRETE BARRIER
TEMPORARY PRECAST, 12'-6"

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

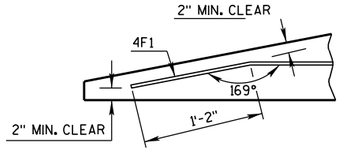
6

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

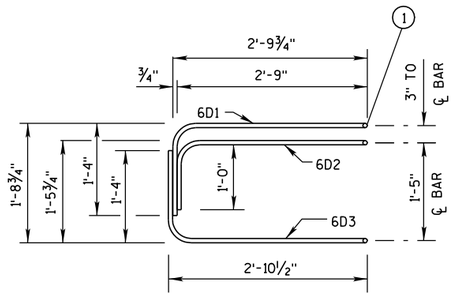
BARRIER TAPER SECTION BILL OF MATERIALS

(PER 12'-6" BARRIER TAPER SECTION)

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



DETAIL "C"
BENT BAR DETAIL



ELEVATION
LOOP BAR ASSEMBLY

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

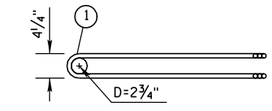
GENERAL NOTES

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

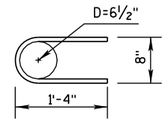
BARRIER SECTION BILL OF MATERIALS

(PER 12'-6" BARRIER SECTION)

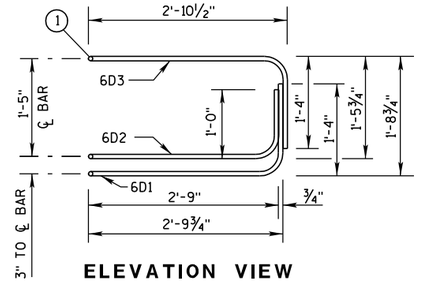
BAR	BAR SIZE	NO. OF BARS	LENGTH FT.
4A1	4	12	6'-0"
6A2	6	6	2'-11"
5B1	5	3	12'-2"
4C1	4	2	12'-2"
LOOP ASSEMBLY			
6D1	6	2	8'-5"
6D2	6	2	7'-7"
6D3	6	2	8'-6"



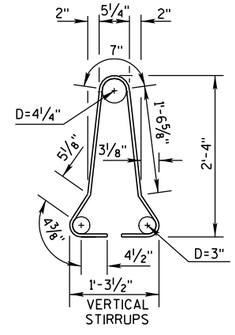
PLAN VIEW
LOOP BAR ASSEMBLY
(MARKED END SHOWN, INVERT FOR OTHER END)



6A2



ELEVATION VIEW



4A1

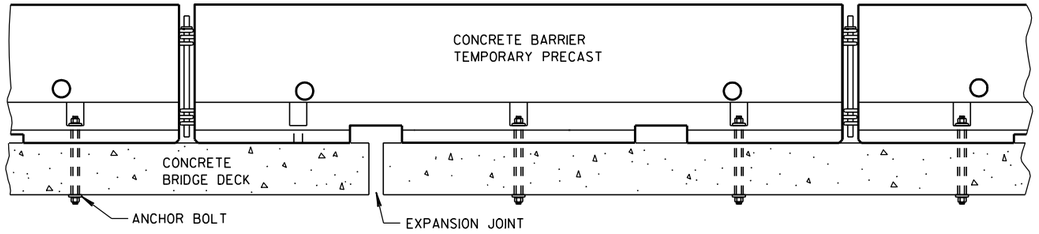
BARRIER SECTION

CONCRETE BARRIER
TEMPORARY PRECAST, 12'-6"

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

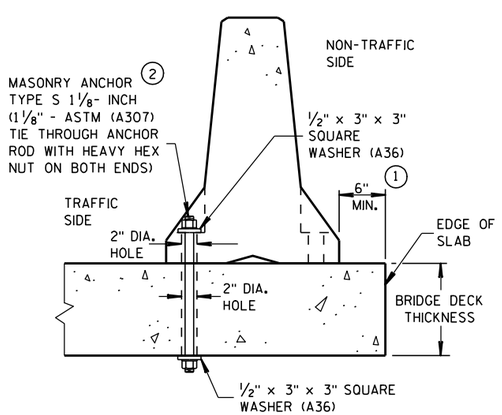
6

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



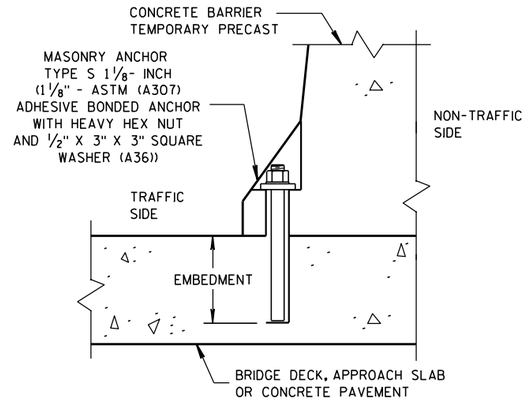
TREATMENT AT BRIDGE DECK EXPANSION JOINTS

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



THROUGH BOLTED ANCHOR INSTALLATION ON BRIDGE DECK

(DO NOTUSE ON CONCRETE BRIDGE DECK WITH ASPHALT OVERLAY)



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

(DO NOT USE ON CONCRETE WITH AN ASPHALTIC OVERLAY)

GENERAL NOTES

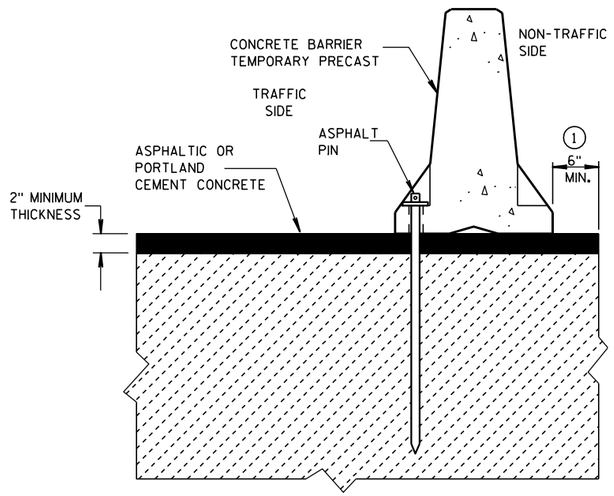
① CONCRETE BARRIER TEMPORARY PRECAST, 12'-6" SHALL BE ANCHORED IF:
THE DISTANCE TO A 2 FOOT OR GREATER DROPOFF THAT IS STEEPER THAN 3H : 1V, FOR EXAMPLE THE EDGE OF A BRIDGE DECK OR A DROPOFF AT THE EDGE OF PAVEMENT, IS LESS THAN 4 FEET FROM THE SIDE OF THE BARRIER CLOSEST TO THE DROPOFF AND THE POSTED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

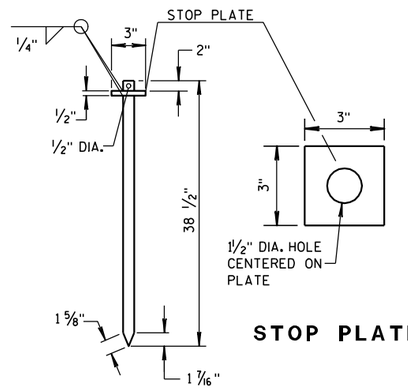
WITH THE APPROVAL OF THE ENGINEER, REMOVABLE ADHESIVE BONDED (EPOXY) ANCHOR BOLT INSTALLATION MAY BE USED IN LIEU OF THROUGH BOLTED ANCHOR INSTALLATION. THE ADHESIVE BONDED ANCHOR BOLT MUST BE REMOVABLE. USE ASTM (A307) MASONRY ANCHORS TYPE S 1⅛-INCH, EMBEDDED TO A DEPTH SUFFICIENT TO DEVELOP THE ULTIMATE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

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



STAKE DOWN INSTALLATION FOR ASPHALTIC OR PORTLAND CEMENT CONCRETE SURFACE

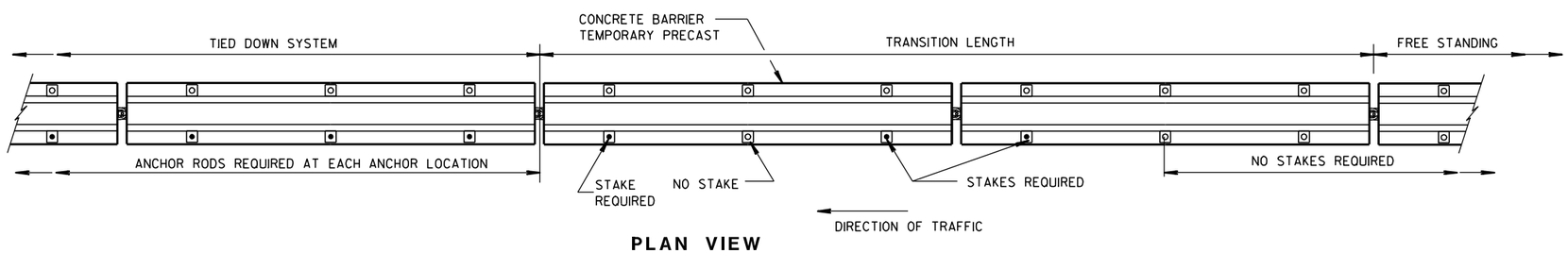
(STAKING IS INCIDENTAL TO CONCRETE BARRIER TEMPORARY PRECAST)



STOP PLATE

ASPHALT PIN

(ASTM A36 STEEL)



PLAN VIEW

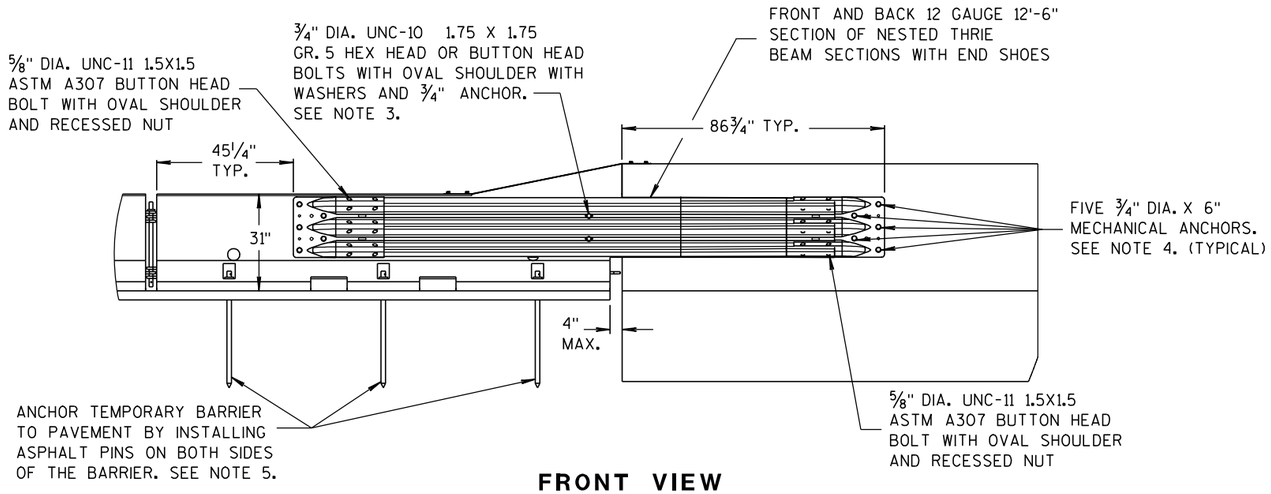
FREE STANDING TRANSITION TO TIED-DOWN SYSTEM

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

CONCRETE BARRIER
TEMPORARY PRECAST, 12'-6"

STATE OF WISCONSIN
DEPARTMENT OF TRANSPO...

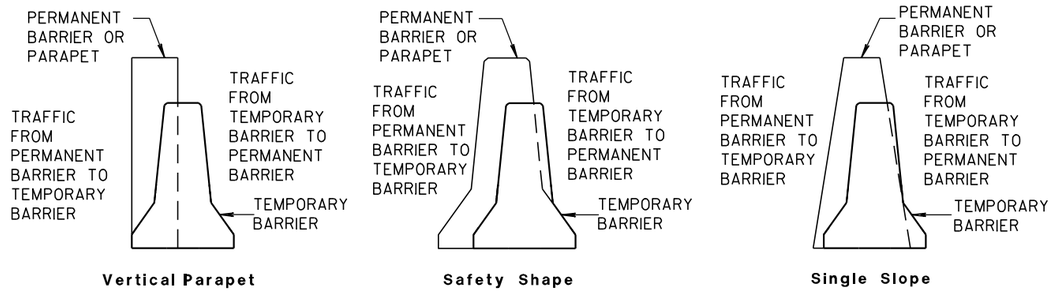
6
S.D.D. 14 B 7-13d

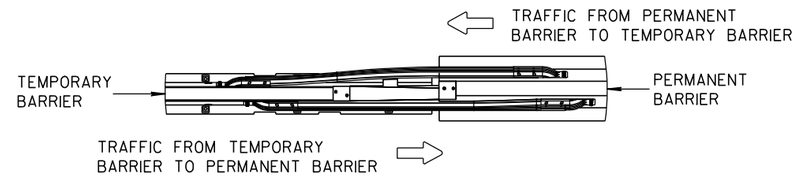


FRONT VIEW

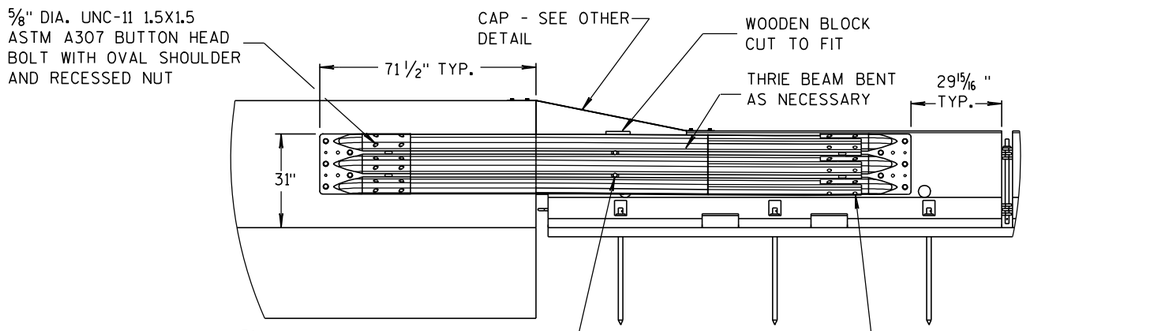
NOTES

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

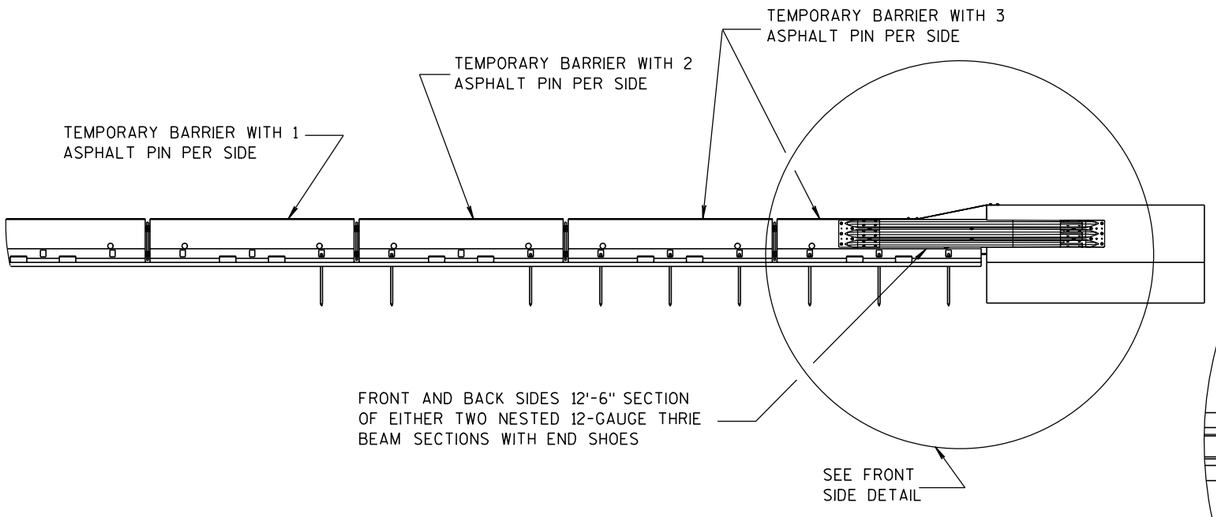




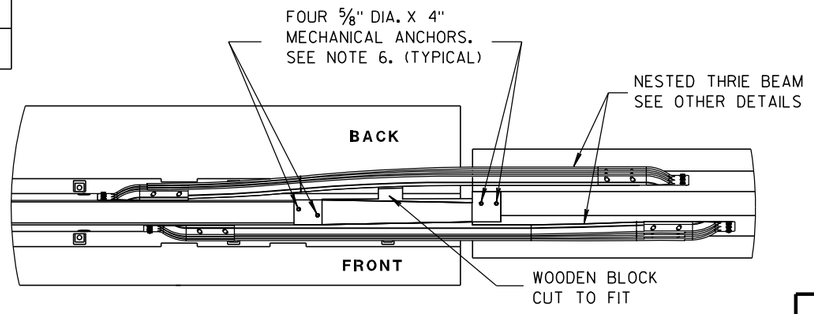
TEMPORARY BARRIER PLACEMENT FOR BI-DIRECTIONAL TRANSITION TO TIED-DOWN SYSTEM



BACK VIEW



FRONT VIEW



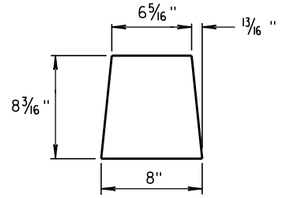
PLAN VIEW

BI-DIRECTIONAL TRANSITION TO TIED-DOWN SYSTEM

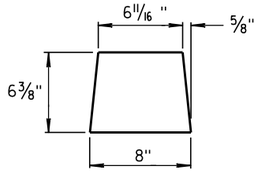
CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

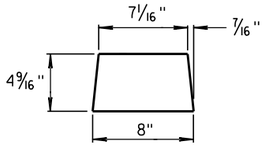
6
S.D.D. 14 B 7-13e



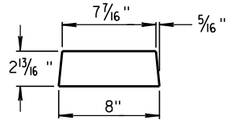
GUSSET 1



GUSSET 2

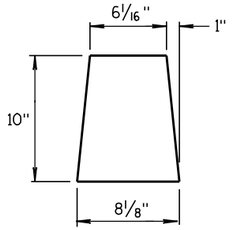


GUSSET 3

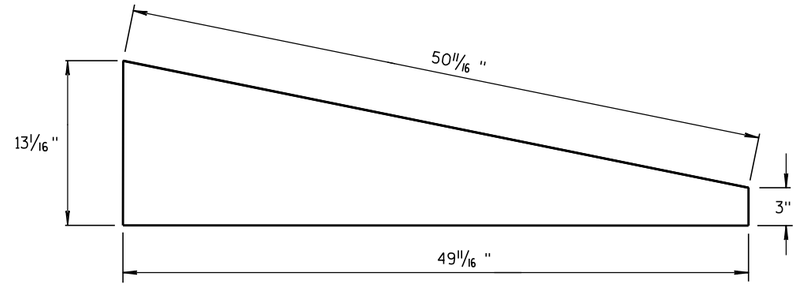


GUSSET 4

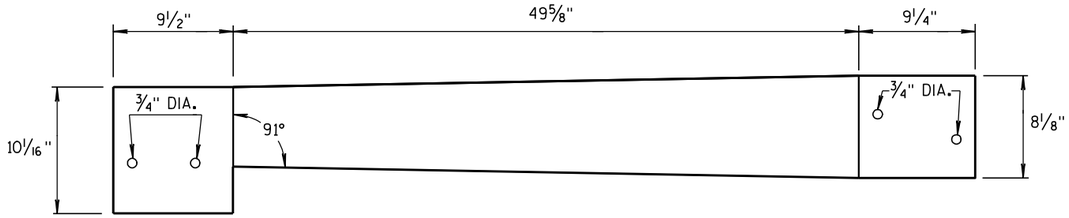
GUSSETS

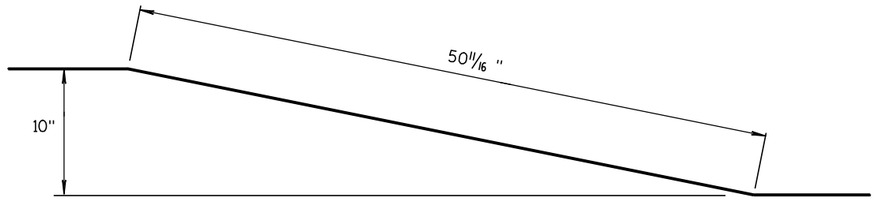


END PLATE

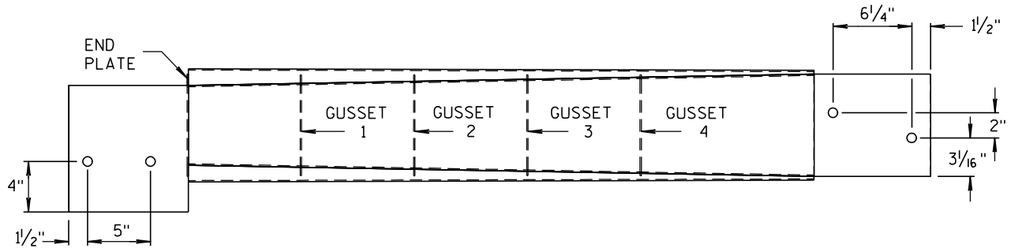


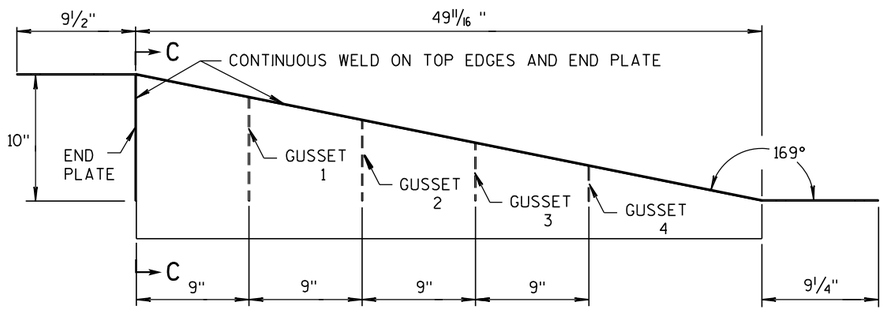
SIDE PLATE

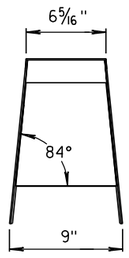




TOP PLATE







SECTION C-C

NOTES

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

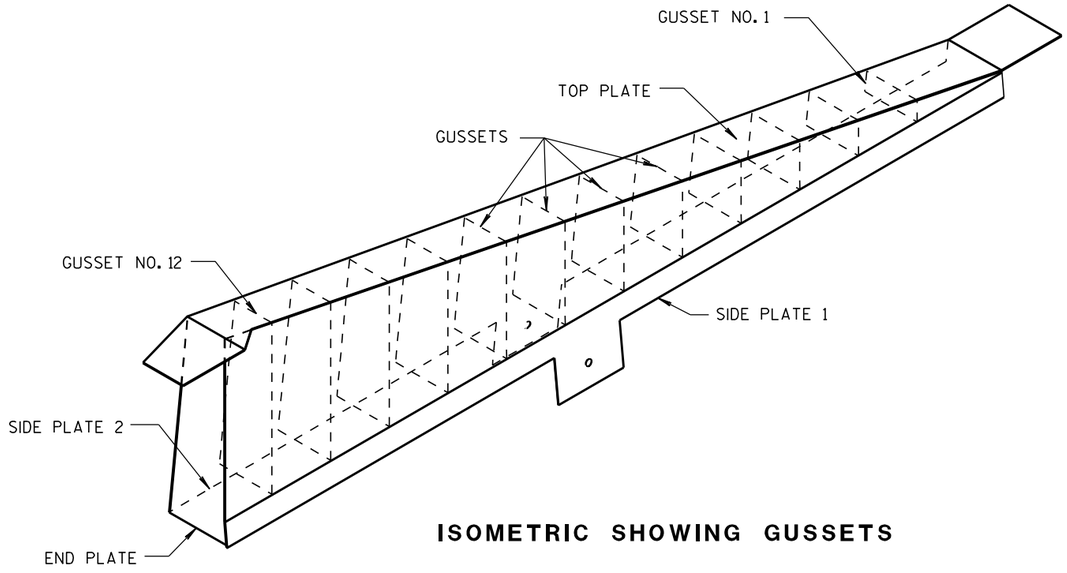
CAP DETAILS FOR TEMPORARY CONCRETE BARRIER TO 42" PERMANENT CONCRETE BARRIER

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

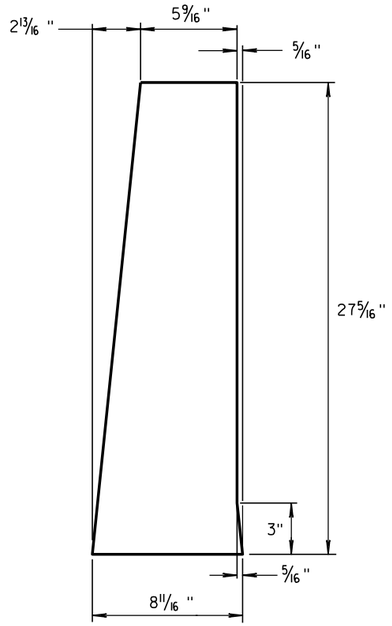
SIDE PLATES, TOP PLATE, END PLATE AND GUSSETS ARE 12 GAUGE ASTM A36 GALVANIZED STEEL.

CONCRETE BARRIER
TEMPORARY PRECAST, 12'-6"

STATE OF WISCONSIN
DEPARTMENT OF TRANSPO...

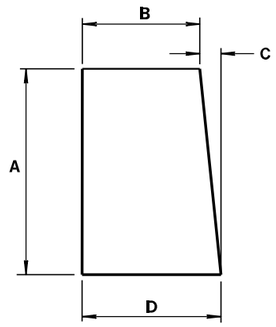


ISOMETRIC SHOWING GUSSETS



END PLATE

1/8" STEEL PLATE



GUSSETS 1 - 12

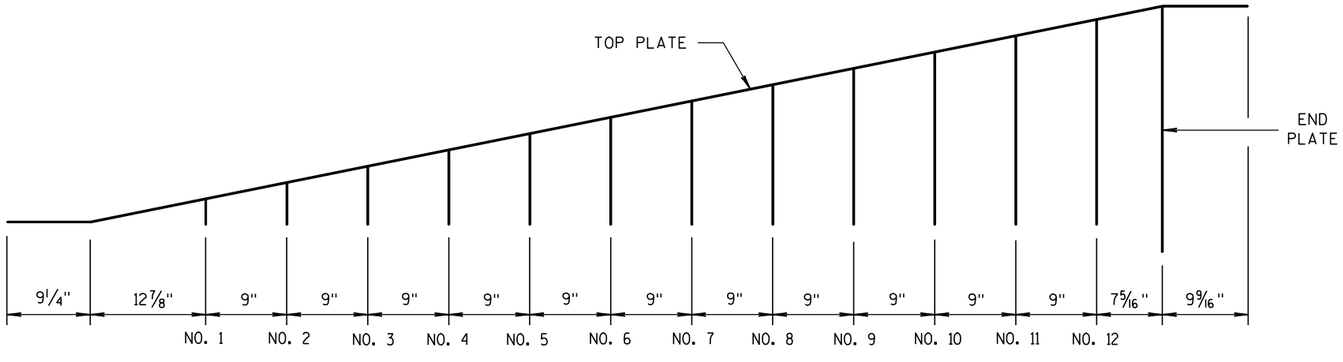
ALL GUSSETS 1/8" STEEL PLATE

GUSSET DIMENSIONS

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

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

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



GUSSET LOCATION

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

CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"

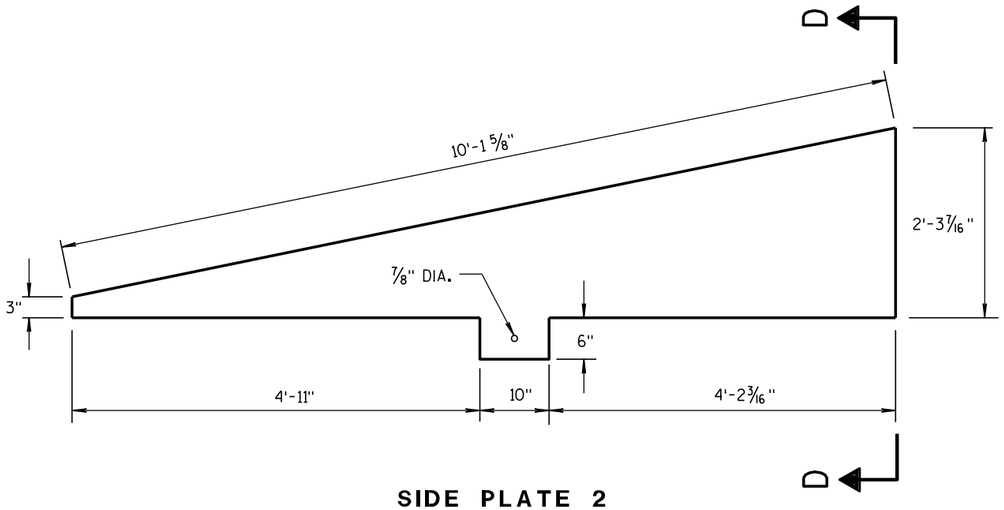
STATE OF WISCONSIN
DEPARTMENT OF TRANSPO...

6

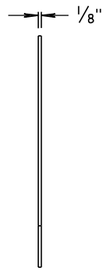
S.D.D. 14 B 7-13g

6

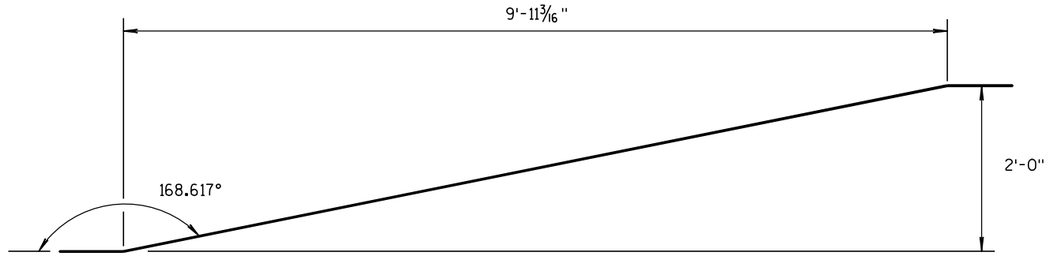
S.D.D. 14 B 7-13g



SIDE PLATE 2

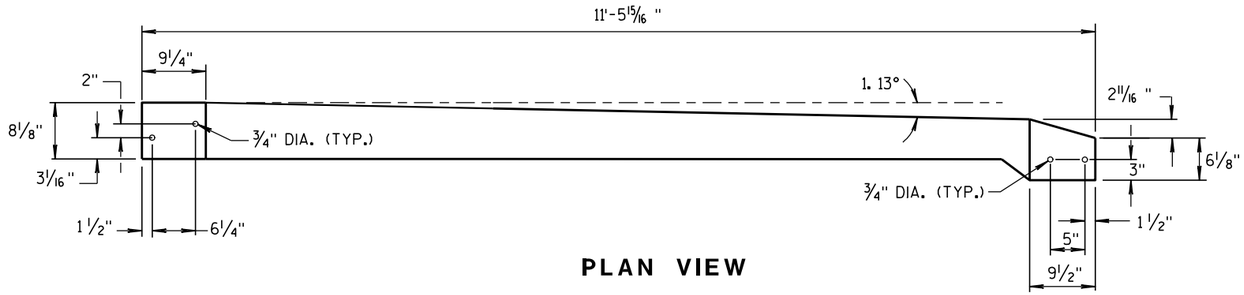


END VIEW



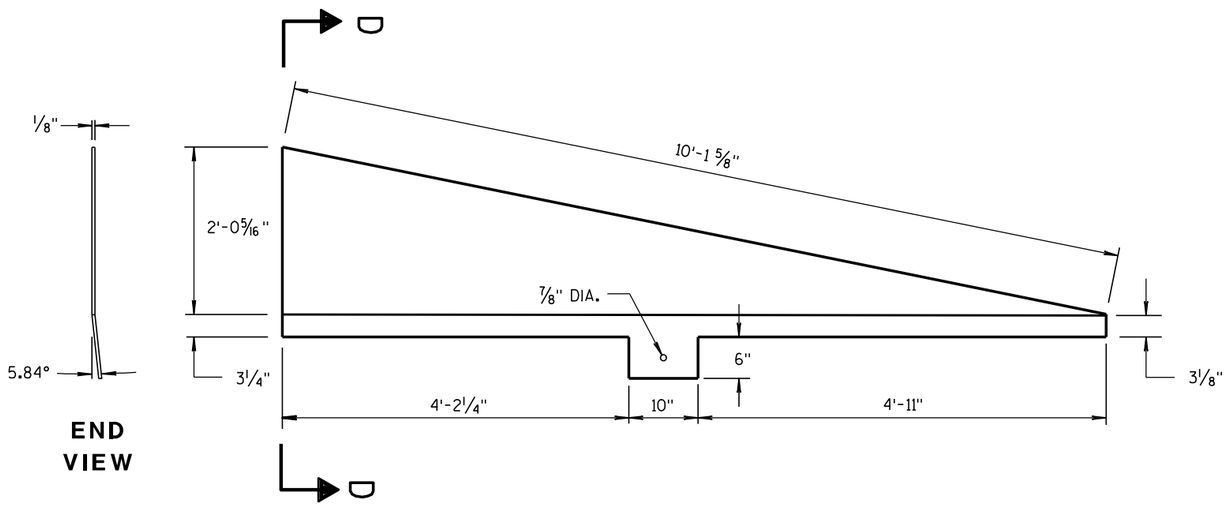
SIDE VIEW

TOP PLATE



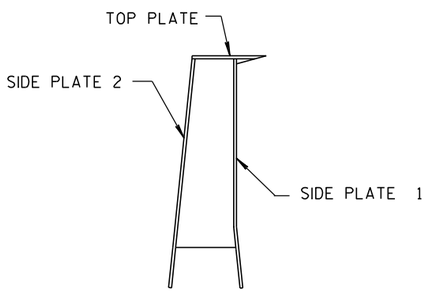
PLAN VIEW

TOP PLATE



END VIEW

SIDE PLATE 1



SECTION D-D

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

CONCRETE BARRIER
TEMPORARY PRECAST, 12'-6"

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

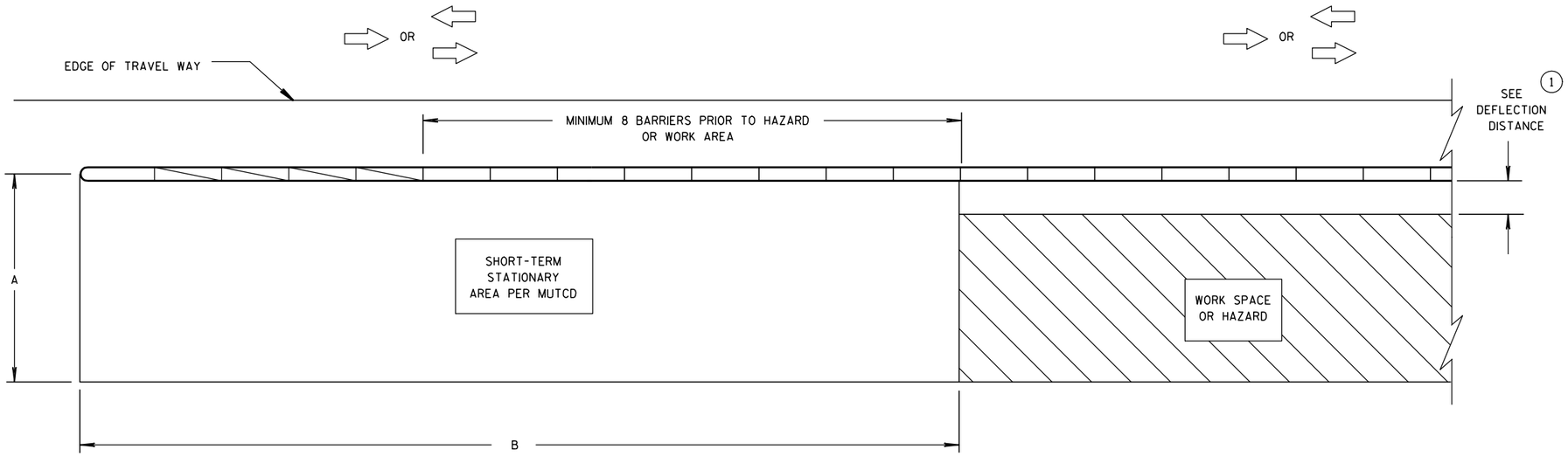
APPROVED
8/31/2012
DATE
/S/ Jerry H. ----
ROADWAY STANDARDS ENGINEER
ENT
FHWA

6

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

6

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



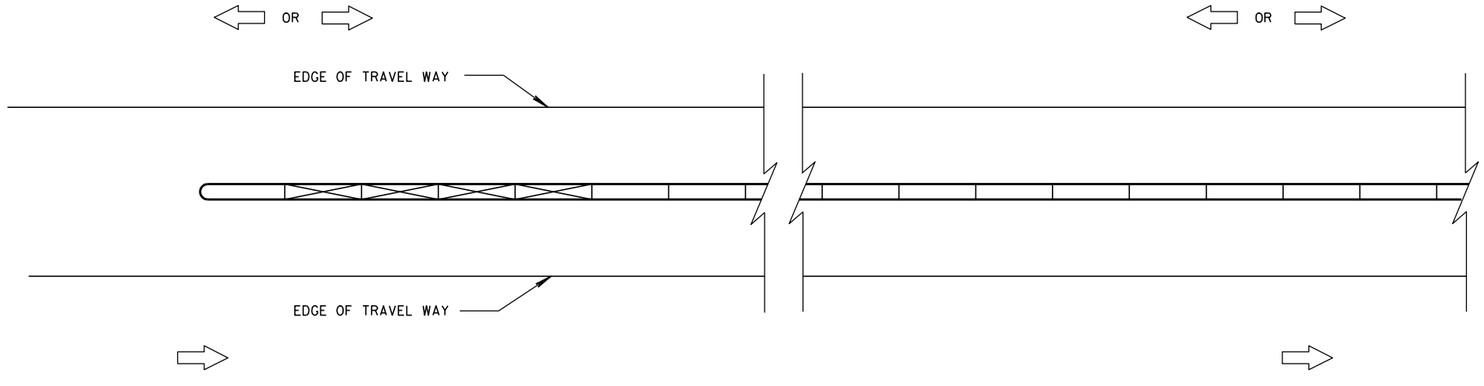
CRASH CUSHION/SAND BARREL ARRAY AND TEMPORARY BARRIER INSTALLATION FOR TRAFFIC ON ONE SIDE OF BARRIER

DIMENSION A TABLE (2)

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

DIMENSION B TABLE (2)

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



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

LEGEND

DIRECTION OF TRAVEL

CRASH CUSHION OR SAND BARREL ARRAY

SEE FREE STANDING TRANSITION TO TIED-DOWN SYSTEM DETAILS

SEE BI-DIRECTIONAL TRANSITION TO TIED-DOWN SYSTEM DETAILS

3 PINS PLACED ON TRAFFIC SIDE OF BARRIER

PERMANENT CONCRETE BARRIER OR CONCRETE PARAPET

FREE STANDING TEMPORARY BARRIER

GENERAL NOTES

SEE STANDARD DETAIL DRAWING 14B7 FOR MORE INFORMATION.

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

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

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

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

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

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

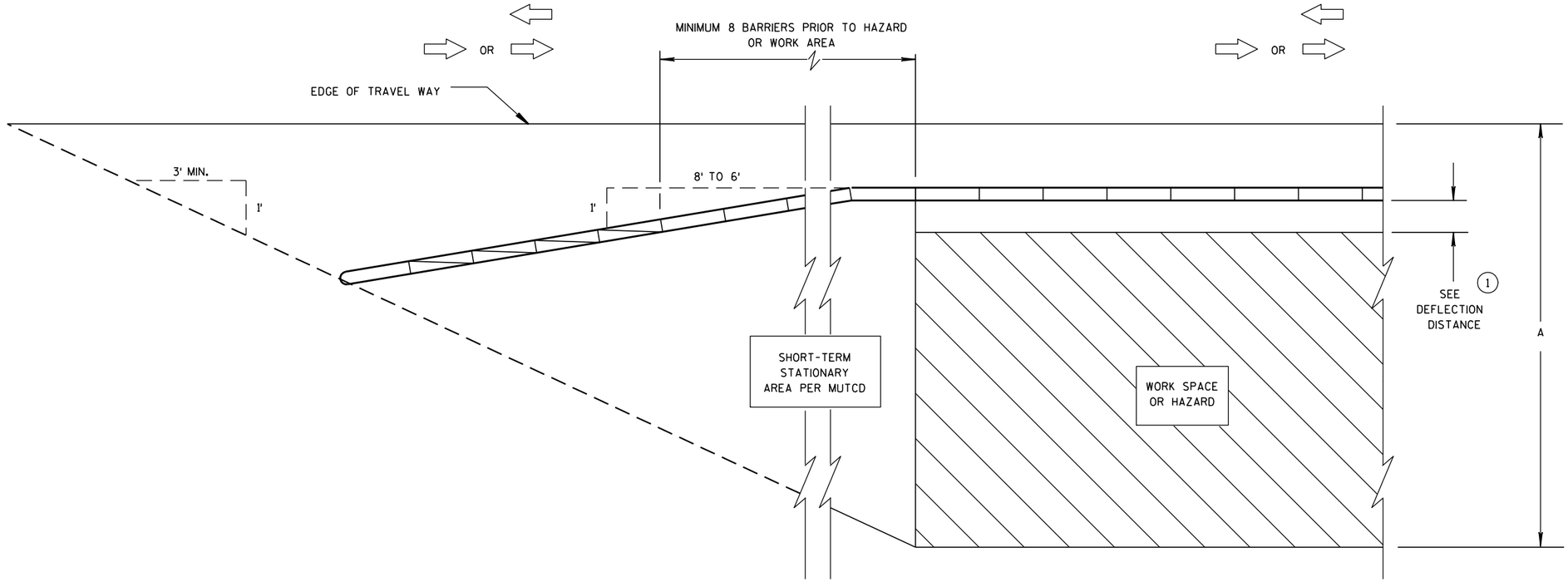
(2) VALUES PROVIDED MAY NOT FIT ALL POSSIBLE SITUATIONS OR SITE CONDITIONS. SEE OTHER SECTIONS OF THE CONTRACT OR PROJECT ENGINEER FOR MORE DETAILS.

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

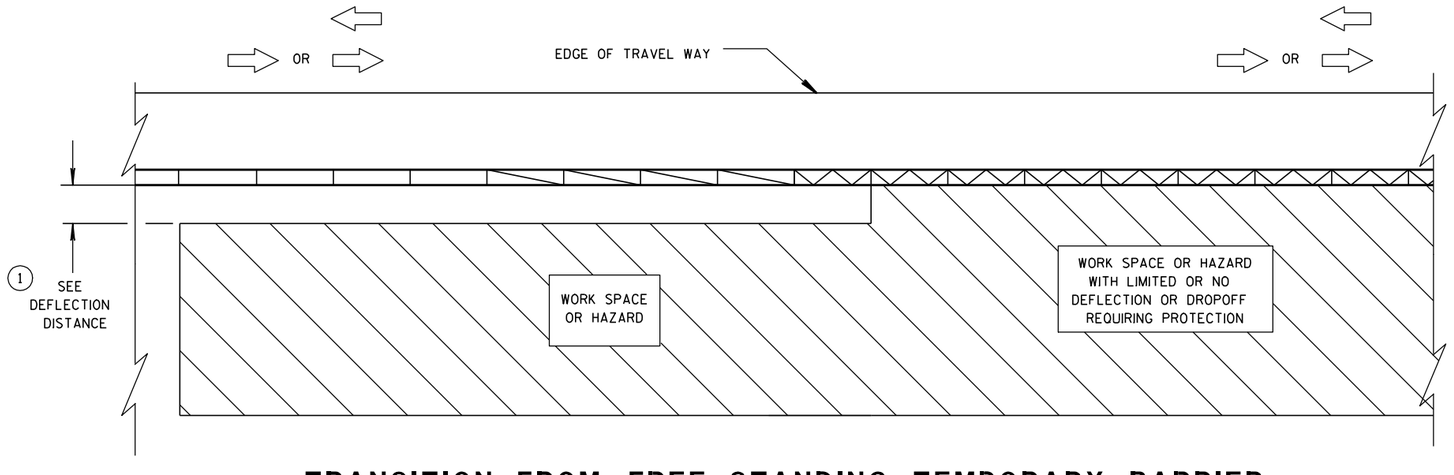
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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



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



TRANSITION FROM FREE STANDING TEMPORARY BARRIER TO ANCHORED BARRIER

LEGEND

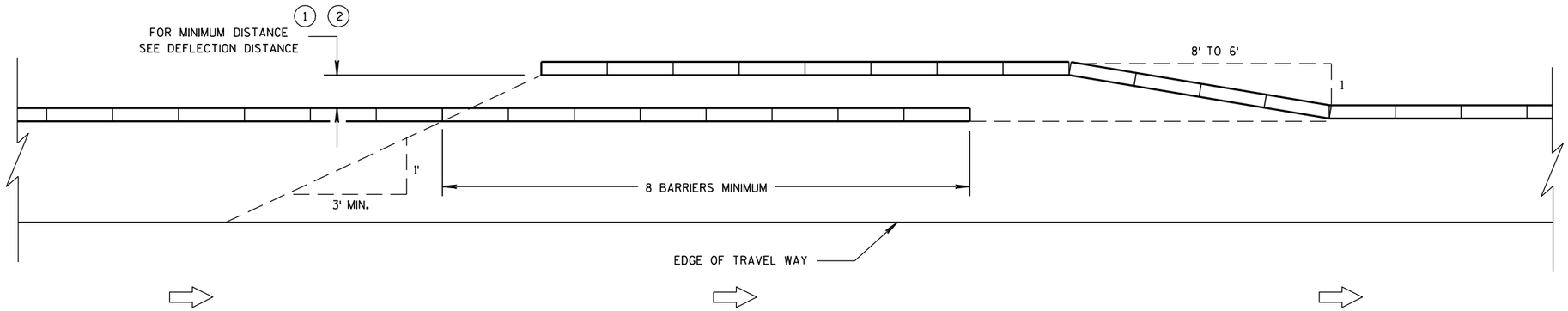
- DIRECTION OF TRAVEL
- CRASH CUSHION OR SAND BARREL ARRAY
- SEE FREE STANDING TRANSITION TO TIED-DOWN SYSTEM DETAILS
- SEE BI-DIRECTIONAL TRANSITION TO TIED-DOWN SYSTEM DETAILS
- 3 PINS PLACED ON TRAFFIC SIDE OF BARRIER
- PERMANENT CONCRETE BARRIER OR CONCRETE PARAPET
- FREE STANDING TEMPORARY BARRIER

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

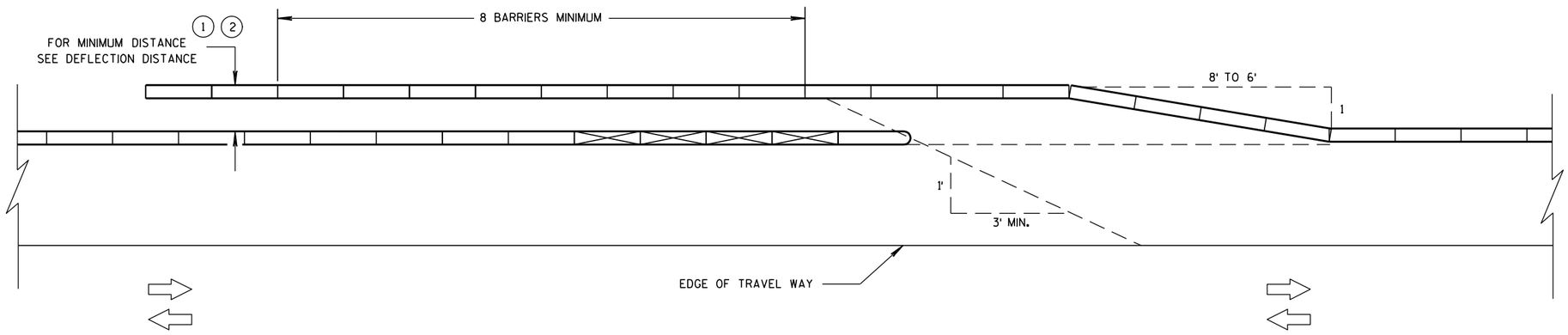
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

6

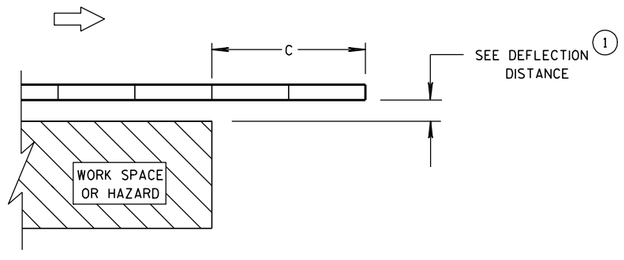
S.D.D. 14 B 8-1b



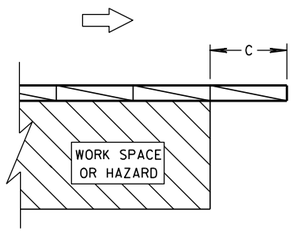
TEMPORARY BARRIER OVERLAP - ONE-WAY TRAFFIC



TEMPORARY BARRIER OVERLAP - TWO-WAY TRAFFIC



ENDING TEMPORARY BARRIER DOWNSTREAM - UNANCHORED



ENDING TEMPORARY BARRIER DOWNSTREAM - ANCHORED

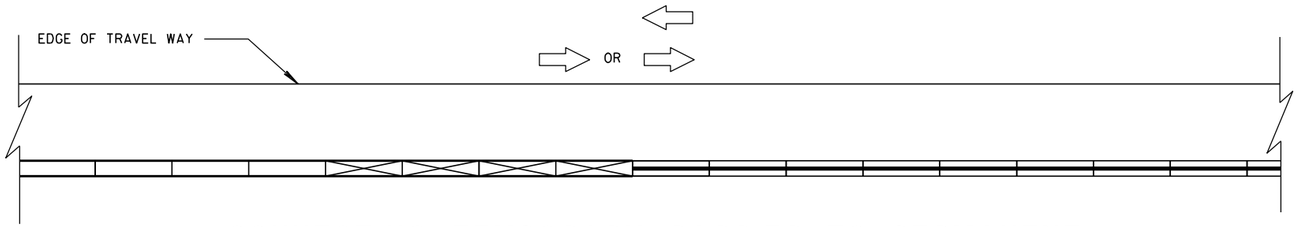
LEGEND

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

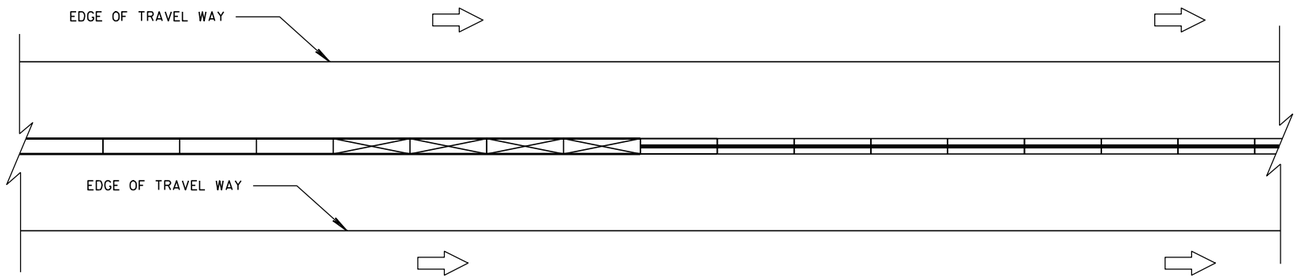
CRASH CUSHION/SAND BARREL ARRAY AND OTHER TEMPORARY BARRIER LAYOUT DETAILS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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



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



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

LEGEND

DIRECTION OF TRAVEL

CRASH CUSHION OR SAND BARREL ARRAY

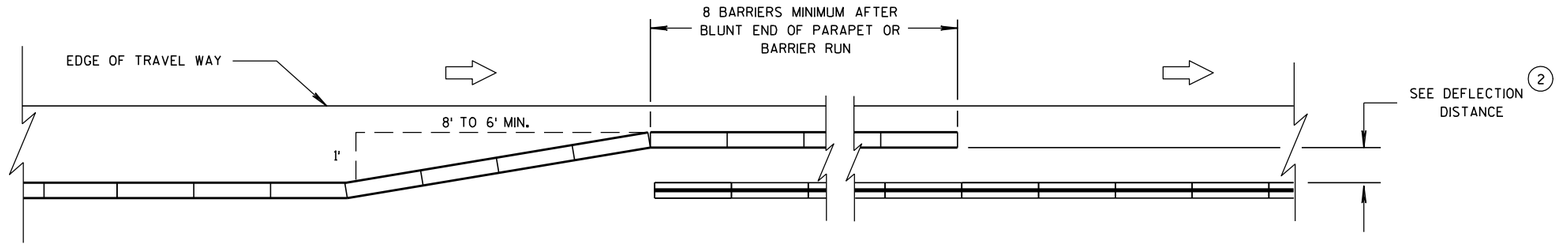
SEE FREE STANDING TRANSITION TO TIED-DOWN SYSTEM DETAILS

SEE BI-DIRECTIONAL TRANSITION TO TIED-DOWN SYSTEM DETAILS

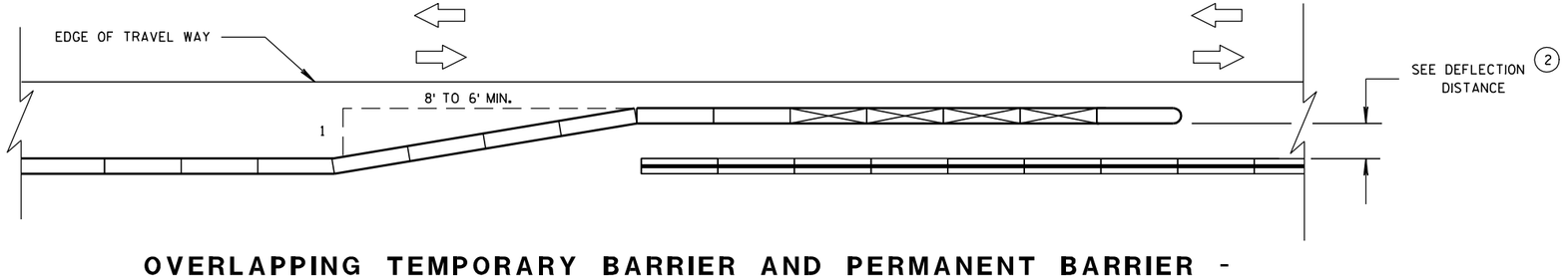
3 PINS PLACED ON TRAFFIC SIDE OF BARRIER

PERMANENT CONCRETE BARRIER OR CONCRETE PARAPET

FREE STANDING TEMPORARY BARRIER



OVERLAPPING TEMPORARY BARRIER AND PERMANENT BARRIER - ONE WAY TRAFFIC



OVERLAPPING TEMPORARY BARRIER AND PERMANENT BARRIER - TWO WAY TRAFFIC

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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPO...

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

LEGEND

DIRECTION OF TRAVEL

CRASH CUSHION OR SAND BARREL ARRAY

SEE FREE STANDING TRANSITION TO TIED-DOWN SYSTEM DETAILS

SEE BI-DIRECTIONAL TRANSITION TO TIED-DOWN SYSTEM DETAILS

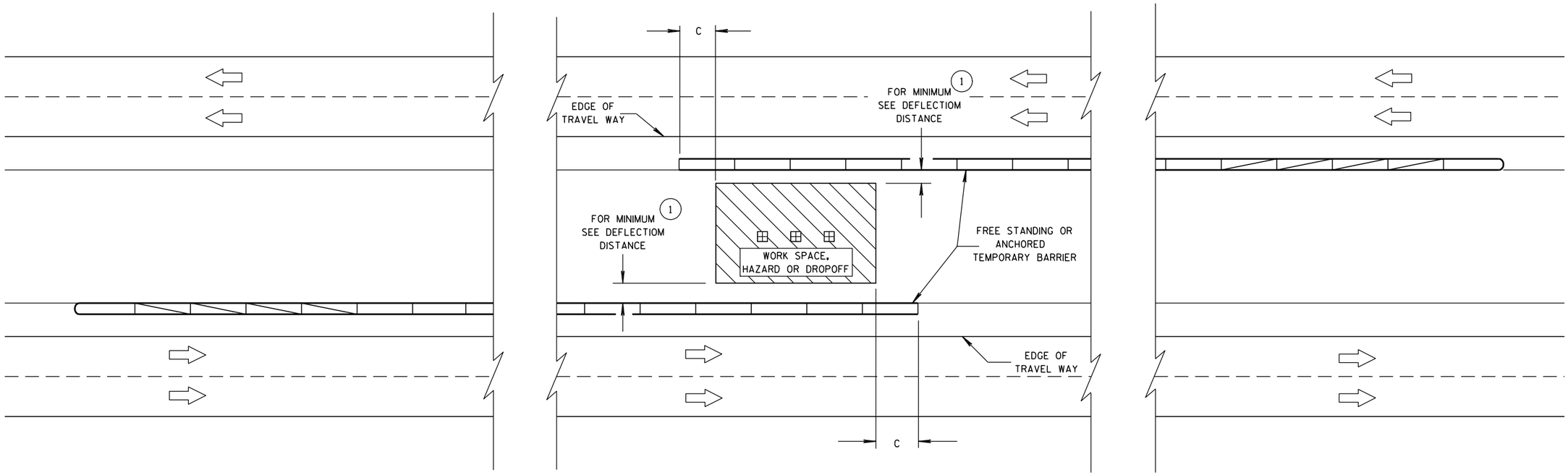
3 PINS PLACED ON TRAFFIC SIDE OF BARRIER

PERMANENT CONCRETE BARRIER OR CONCRETE PARAPET

FREE STANDING TEMPORARY BARRIER

DIMENSION C TABLE (2)

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



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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

8/31/2012
DATE

/S/ Jerry H. Zogg
ROADWAY STANDARDS ENGINNER

FHWA

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

GENERAL NOTES

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

(1) W6 X 9 OR W6 X 8.5 STEEL POSTS AND NOTCHED PLASTIC BLOCKOUTS ARE ACCEPTABLE ALTERNATIVES FOR 6" X 8" WOOD POSTS WITH WOOD OR PLASTIC BLOCKOUTS. USE APPROVED NOTCHED PLASTIC BLOCKOUTS WITH STEEL POSTS. APPROVED PLASTIC BLOCKOUT DESIGNS MAY VARY FROM THIS TYPICAL DETAIL WHEN USED IN CONJUNCTION WITH STEEL POSTS.

DO NOT MIX STEEL POSTS AND WOOD POSTS IN A SINGLE INSTALLATION.

(2) USE STRUCTURAL STEEL POSTS CONFORMING TO ASTM A 36. GALVANIZED POSTS ACCORDING TO AASHTO M 111. EITHER SET THE POSTS IN DRILLED HOLES OR DRIVE TO GRADE. REMOVE MUSHROOMING CAUSED BY DRIVING AND REPAIR DAMAGED SPELTER COATING ON GALVANIZED POSTS.

(3) INSTALL STEEL POSTS WITH HOLES ON APPROACHING TRAFFIC SIDE.

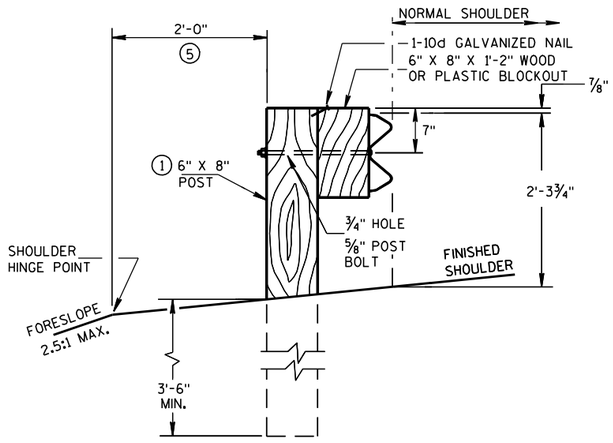
(4) USE EITHER WOOD OR APPROVED PLASTIC BLOCKOUTS ON WOOD POSTS.

(5) IF THE DISTANCE FROM BACK OF POST TO SHOULDER HINGE POINT IS LESS THAN 2 FEET INSTALL LONGER POST AT HALF POST SPACING, W BEAM (LHW).

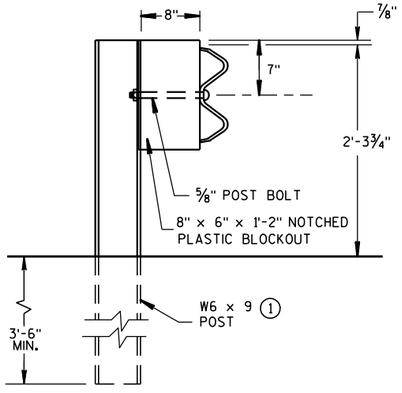
(6) IF ROCK IS ENCOUNTERED DURING EXCAVATION, THE ENGINEER MAY APPROVE USING A 12 INCH DIAMETER POST HOLE EXTENDING 20 INCHES DEEP INTO THE ROCK. PLACE GRANULAR MATERIAL IN THE BOTTOM OF THE HOLE APPROXIMATELY 2½ INCHES DEEP. CUT THE POSTS TO LENGTH AND PLACE IN YHE HOLE. BACKFILL WITH MATERIAL EXCAVATED FROM THE HOLE AND COMPACT ADEQUATEY.

INSTALL BEAM GUARD SECTIONS AND ALL NECESSARY HARDWARE ACCORDING TO THE APPLICABLE PLAN AND CURRENT STANDARD AND SUPPLEMENTAL SPECIFICATIONS.

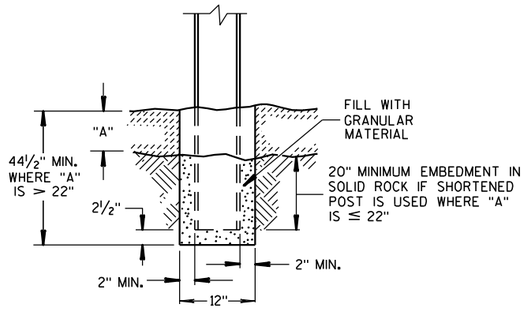
ALL DIMENSIONS ARE SUBJECT TO MANUFACTURER'S TOLERANCES EXCEPT WHERE ALLOWABLE TOLERANCES ARE SHOWN.



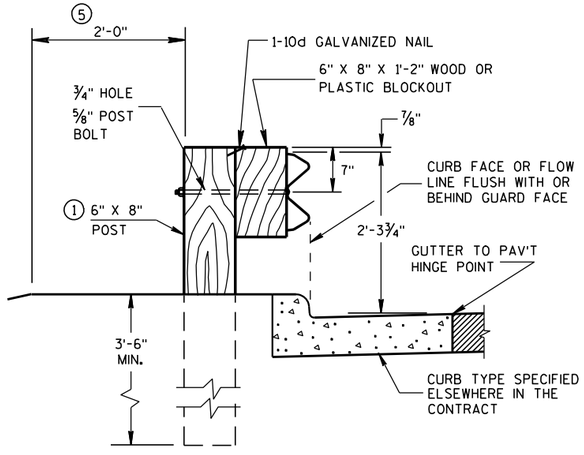
END VIEW
LOCATED ALONG A ROADWAY SHOULDER
STANDARD INSTALLATION



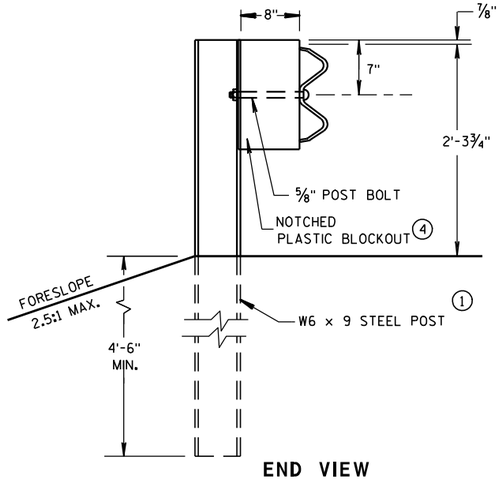
END VIEW
STEEL POST & NOTCHED
PLASTIC BLOCKOUT ALTERNATIVE
STANDARD INSTALLATION



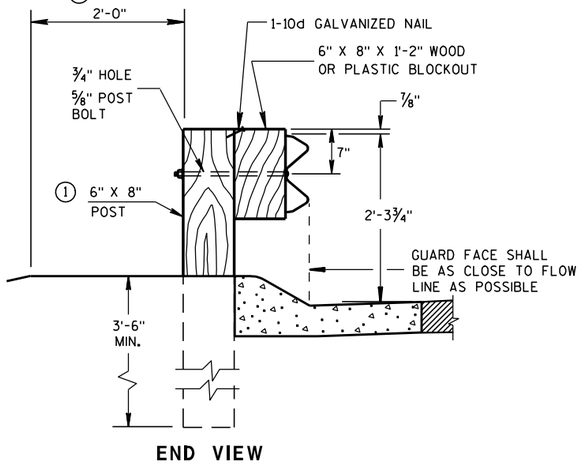
END VIEW
SETTING STEEL OR WOOD POST IN ROCK (6)



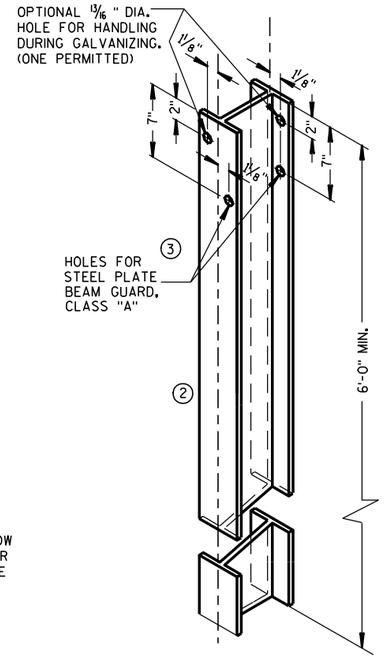
END VIEW
LOCATED ALONG A CURBED ROADWAY



END VIEW
LONGER POST AT HALF
POST SPACING W BEAM
(LHW)

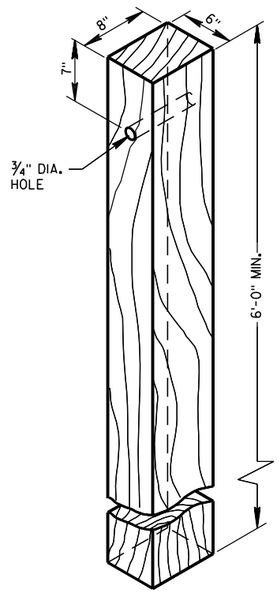


END VIEW
LOCATED ALONG A
MOUNTABLE CURBED ROADWAY

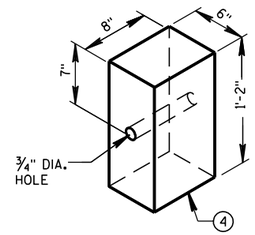


STEEL POST &
HOLE PUNCHING DETAIL
(W6 X 9) (1)

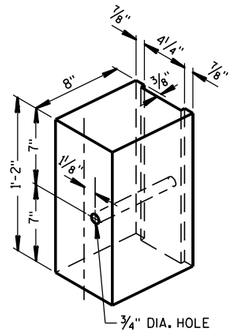
ALL HOLES 13/16" DIAMETER EXCEPT AS NOTED



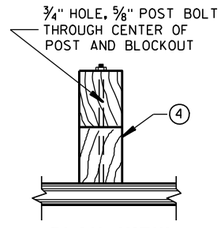
WOOD POST
(6"X8") NOMINAL



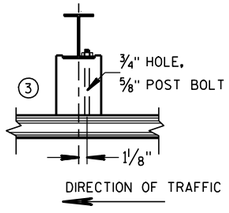
WOOD OR PLASTIC
BLOCKOUT FOR
WOOD POSTS



TYPICAL NOTCHED (1)
PLASTIC BLOCKOUT
FOR STEEL POSTS



PLAN VIEW
WOOD POST,
BLOCKOUT & BEAM



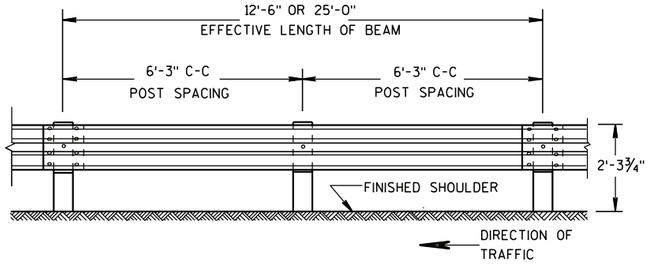
PLAN VIEW
STEEL POST, NOTCHED
PLASTIC BLOCKOUT & BEAM

STEEL PLATE BEAM GUARD,
CLASS "A"
INSTALLATION & ELEMENTS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

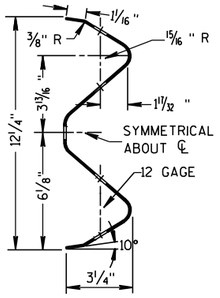
TYPICAL INSTALLATION OF STEEL PLATE BEAM GUARD

6
S.D.D. 14 B 15-7a

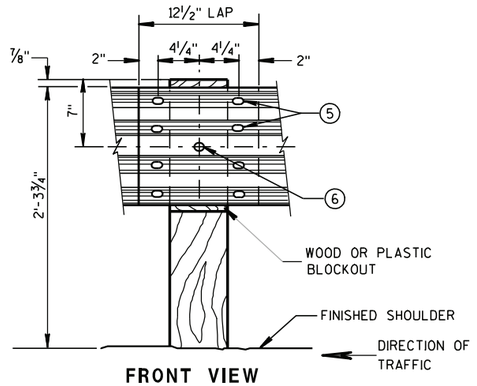


FRONT VIEW

POST SPACING STANDARD INSTALLATION



SECTION THRU W BEAM

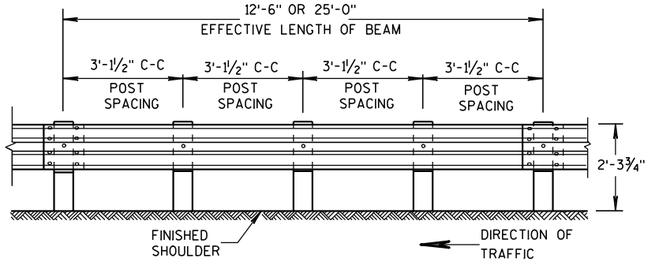


FRONT VIEW

BEAM SPLICE AT WOOD POST AND POST MOUNTING DETAIL

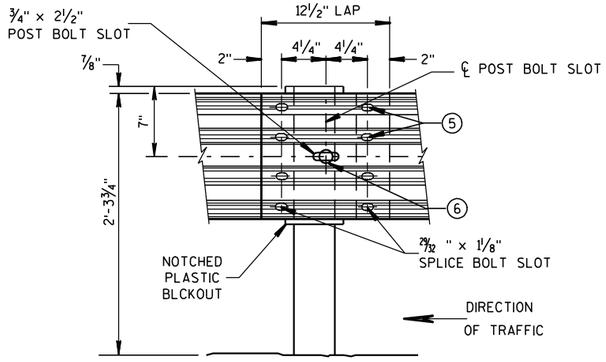
GENERAL NOTES

1. PROVIDE TYPE "H" SILVER REFLECTIVE SHEETING ON ALL REFLECTORS EXCEPT THOSE LOCATED ALONG THE LEFT EDGE OF ONE-WAY ROADWAYS, WHICH SHALL BE PROVIDED WITH TYPE "H" YELLOW REFLECTIVE SHEETING.
2. DO NOT INSTALL REFLECTORS ON THE FIRST 50 FEET OF THE APPROACH END OF THE ENERGY ABSORBING TERMINAL.
3. REVERSE EVERY OTHER REFLECTOR FOR 2-WAY VISIBILITY. THE CONTRACTOR MAY FURNISH TWO-SIDED REFLECTORS IN LIEU OF ONE-SIDED REFLECTORS.
4. PROVIDE AN ANGLE OF BEND OF 90° ± 1° FOR TWO-SIDED REFLECTORS.
5. 8 - 5/8" ϕ X 2 " BUTTON HEAD BOLTS WITH OVAL SHOULDERS & RECESS NUTS.
6. 5/8" ϕ X 1'-6" BUTTON HEAD BOLT AND AND RECESS NUT WITH ROUND WASHER UNDER NUT.



FRONT VIEW

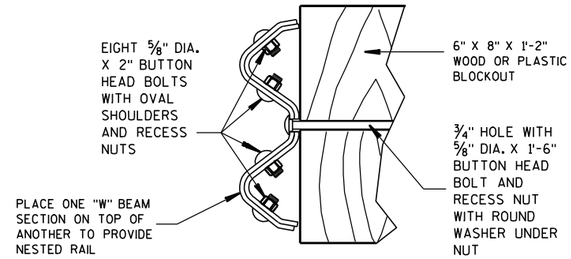
POST SPACING FOR LONGER POST AT HALF POST SPACING W BEAM (LHW)



FRONT VIEW

BEAM SPLICE AT STEEL POST

TYPICAL SPLICING DETAILS OF STEEL PLATE BEAM GUARD

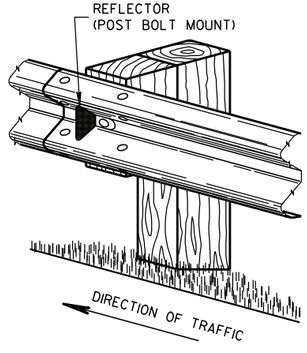


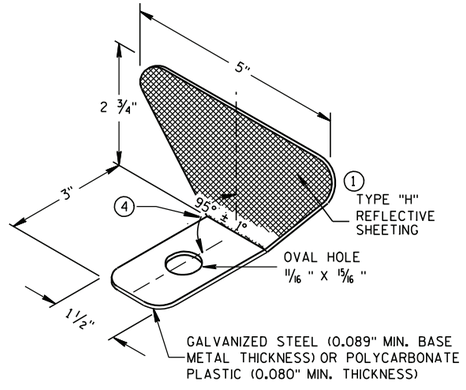
NESTED W BEAM (NW)

USE ALL OTHER STANDARD BEAM GUARD DETAILS FOR CONSTRUCTING NESTED W BEAM (NW)

REFLECTOR SPACING (2)

	BEAM GUARD LENGTH	REFLECTOR SPACING	NO. SURFACES REFLECTORIZED	MIN. NO. REFLECTORS
ONE WAY TRAFFIC	< 200'	50' C-C	1	3
	> 200'	100' C-C	1	
TWO WAY TRAFFIC	< 200'	25' C-C	1 (3)	6
	> 200'	50' C-C	1	
TWO WAY TRAFFIC	< 200'	50' C-C	2	3
	> 200'	100' C-C	2 (4)	



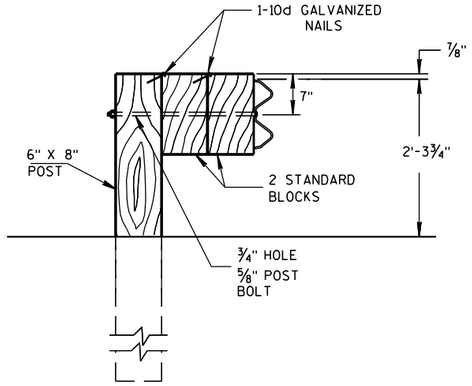


ONE SIDED REFLECTOR DETAIL AND TYPICAL INSTALLATION (1)

STEEL PLATE BEAM GUARD,
CLASS "A",
INSTALLATION & ELEMENTS

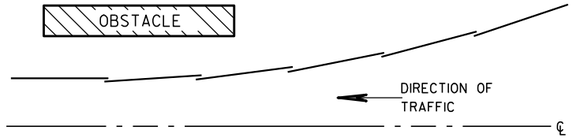
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

6
S.D.D. 14 B 15-7b

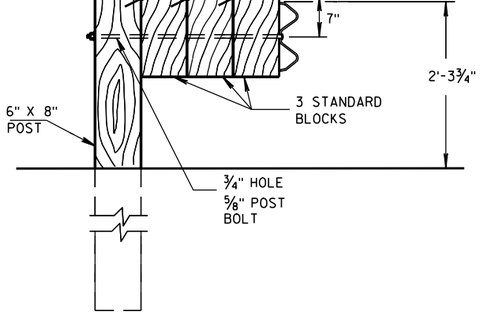


DETAIL FOR DOUBLE BLOCKS

THE NUMBER OF DOUBLE BLOCK POSTS WITHIN A BARRIER RUN IS UNLIMITED

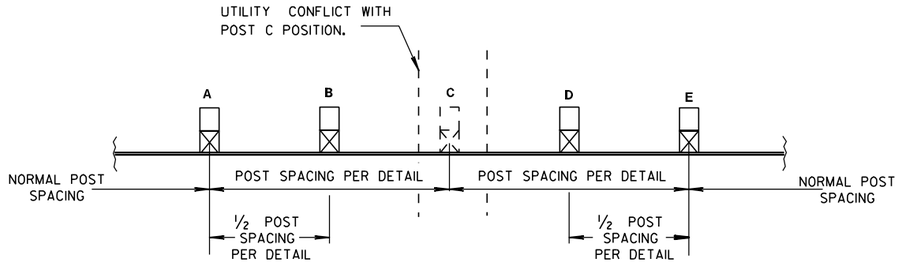


PLAN VIEW
BEAM LAPPING DETAIL



DETAIL FOR TRIPLE BLOCKS

TRIPLE BLOCK DETAIL IS LIMITED TO ONE LOCATION WITHIN A BEAM GUARD RUN.



POST DRIVING FOR CONTINUOUS UNDERGROUND OBSTRUCTION

NOTES: USE DOUBLE OR TRIPLE BLOCKS WHEN UNDERGROUND OBSTACLES PREVENT THE POST FROM BEING INSTALLED.

DO NOT USE EXTRA 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.

STEEL PLATE BEAM GUARD, CLASS "A", INSTALLATION & ELEMENTS

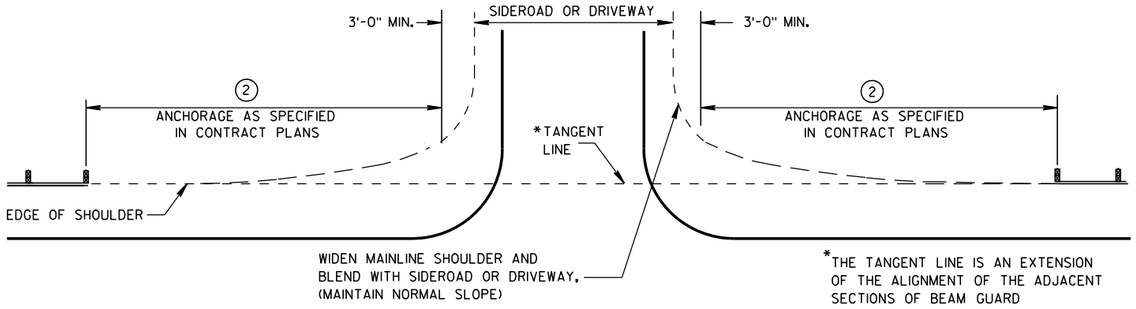
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

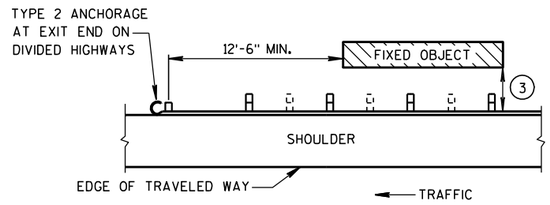
5/23/11	/S/ Jerry H. Zogg	
DATE	ROADWAY STANDARDS ENGINEER	ENT

FHWA

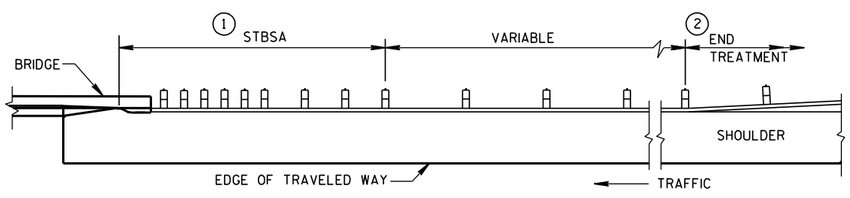
6
S.D.D. 14 B 15-7c



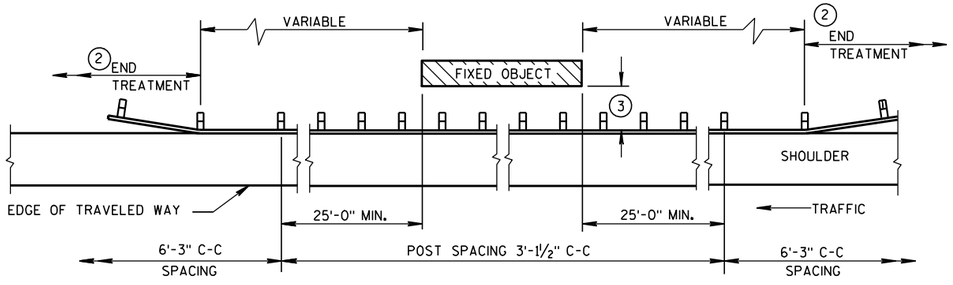
BEAM GUARD AT SIDEROADS OR DRIVEWAYS



BEAM GUARD AT OBSTACLES EXIT END - ONE WAY TRAFFIC

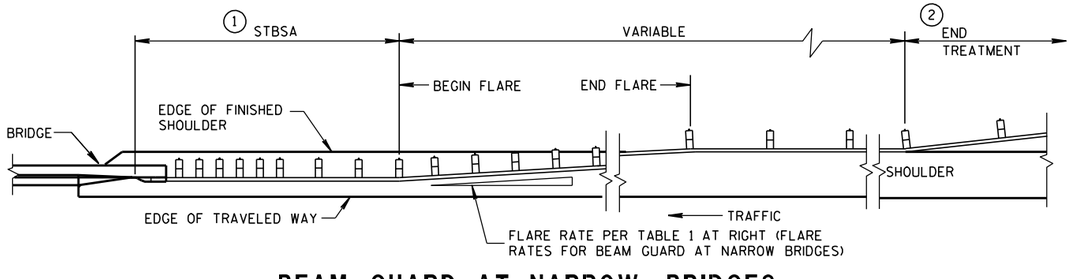


BEAM GUARD AT FULL WIDTH BRIDGES



BEAM GUARD AT OBSTACLES - TWO WAY TRAFFIC

(RAIL TO OBSTACLE CLEARANCE 3'-6" TO 4'-6")



BEAM GUARD AT NARROW BRIDGES

(FLARED TO SHOULDER EDGE, THEN PARALLEL TO ROADWAY)

TABLE 1
FLARE RATES FOR BEAM GUARD AT NARROW BRIDGES

POSTED SPEED (MPH)	FLARE RATE
25	13:1
30	15:1
35	16:1
40	18:1
45	21:1
50	24:1
55	26:1
65	30:1

GENERAL NOTES

DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP SHALL CONFORM TO THE PERTINENT STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.

W6 X 9 OR W6 X 8.5 STEEL POSTS WITH NOTCHED PLASTIC BLOCKOUTS ARE ACCEPTABLE ALTERNATIVES FOR 6" X 8" WOOD POSTS WITH WOOD OR PLASTIC BLOCKOUTS. USE APPROVED NOTCHED PLASTIC BLOCKOUTS WITH STEEL POSTS.

THE LOCATIONS AND LENGTHS OF BEAM GUARD ARE SHOWN ELSEWHERE IN THE PLAN.

(1) STEEL THRIE BEAM STRUCTURAL APPROACH (STBSA) - SEE CURRENT SDD 14B20.

(2) USE AN APPROVED END TREATMENT FOR THE TRAFFIC APPROACH SIDE OF BRIDGE/OBSTACLES. USE TYPE 2 ANCHORAGE ONLY AT THE DOWNSTREAM ENDS OF BEAM GUARD LOCATED ALONG ROADWAYS WITH ONE WAY TRAFFIC.

(3)

MINIMUM LATERAL DISTANCE FROM FACE OF BEAM GUARD TO FIXED OBJECT	POST SPACING
3'-6"	3' - 1½"
4'-6"	6' - 3"

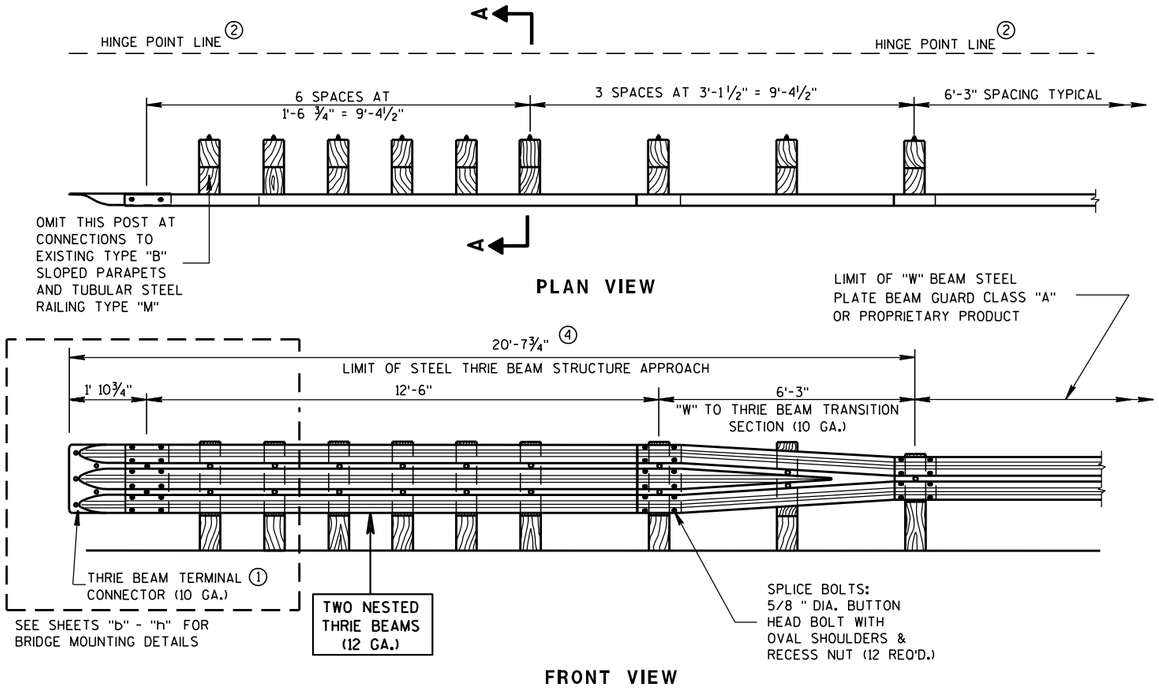
STEEL PLATE BEAM GUARD CLASS "A" AT BRIDGES, OBSTACLES AND SIDEROADS/DRIVEWAYS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
8-21-07 DATE
/S/ Jerry H. Zogg
ROADWAY STANDARDS DEVELOPMENT ENGINEER
FHWA

6

S.D.D. 14 B 18-6a



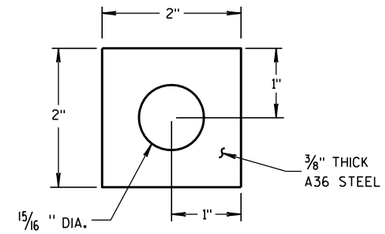


PLATE WASHER DETAIL

GENERAL NOTES

BOLT THE THRIE BEAM TO ALL POSTS AND BLOCKOUTS. DRILL OR PUNCH BOLT HOLES IN THE BEAM IF THE POST SPACING IS LESS THAN 6'-3".

DO NOT USE STEEL POSTS AND NOTCHED PLASTIC BLOCKOUTS IN THE STEEL THRIE BEAM STRUCTURAL APPROACH AND THE TRANSITION SECTION OF STEEL PLATE BEAM GUARD, CLASS "A" INSTALLATIONS.

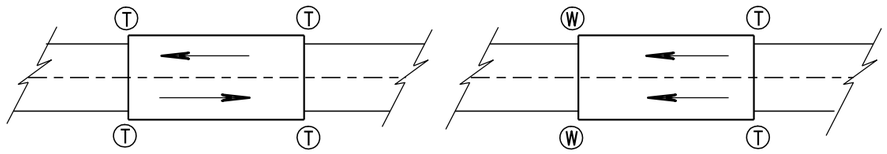
IF ROCK IS ENCOUNTERED, REMOVE ROCK TO FULL DEPTH OF POST PLUS 2 1/2" , AND 12" DIAMETER AROUND POST. SEE 14B15 FOR MORE DETAILS.

① BRIDGE RAILING TYPE "W" DOES NOT REQUIRE A TERMINAL CONNECTOR.

② MINIMUM EMBEDMENT SHALL BE 4'-0". WHERE EXISTING CONDITIONS DO NOT PERMIT THE APPROPRIATE EARTHWORK SHOWN ON THE PLAN TYPICAL SECTIONS OR DETAILS, THE ENGINEER MAY ALLOW THE REDUCTION OR ELIMINATION OF THE 2 FOOT DISTANCE TO THE HINGE POINT. OTHERWISE BUILD AS THE PLAN SHOWS OR AS THE ENGINEER DIRECTS. IF THE 2 FOOT DISTANCE TO THE HINGE POINT IS REDUCED OR ELIMINATED, INCREASE THE POST EMBEDMENT DEPTH TO 4'-6" OR MORE.

③ POST BOLTS ARE 5/8" DIAMETER ASTM A307 BUTTON HEAD BOLT. A POST BOLT REQUIRES A 5/8" DIAMETER A563A DOUBLE RECESSED (DR) HEAVY HEX AND A 5/8" DIAMETER F844 FLAT WASHER. LENGTH OF POST BOLT MAY VARY.

④ ALL WOOD POSTS MUST BE 6" X 8" AND AT LEAST 7'-0" LONG.



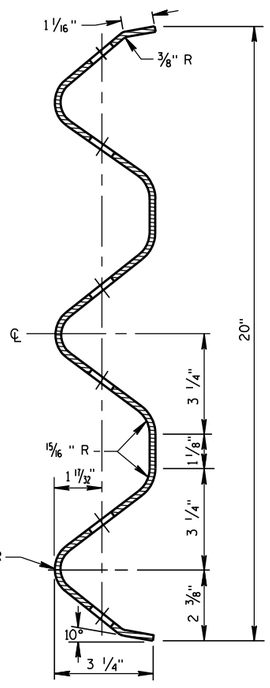
TWO WAY TRAFFIC

ONE WAY TRAFFIC

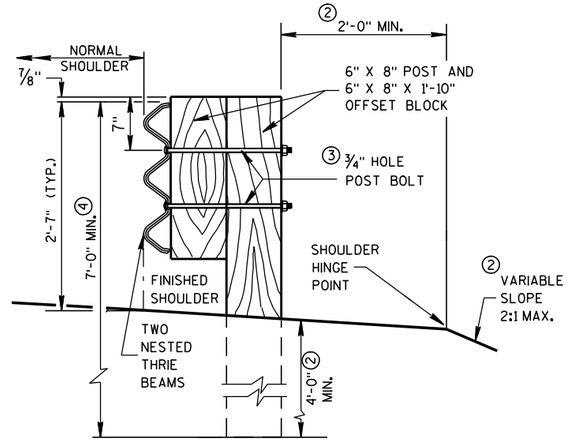
(T) THRIE BEAM CONNECTION

(W) W-BEAM CONNECTION WHEN REQUIRED

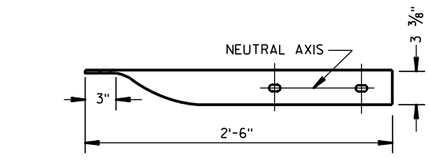
TYPICAL LOCATIONS OF THRIE BEAM AND W-BEAM CONNECTIONS TO BRIDGE

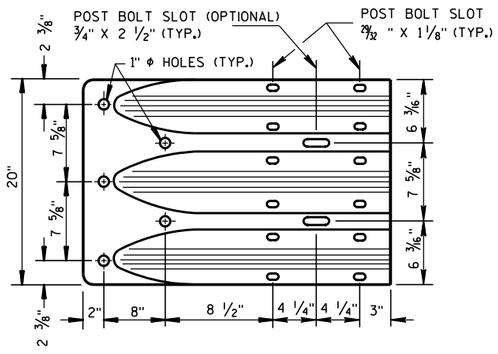


SECTION THRU THRIE BEAM RAIL ELEMENT

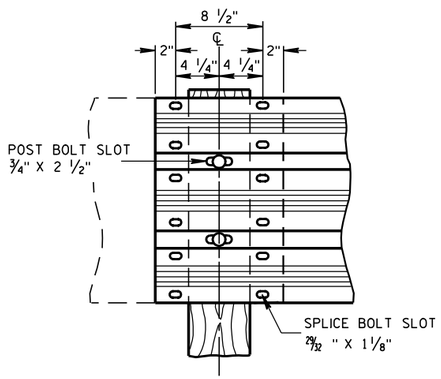


SECTION A-A





THRIE BEAM TERMINAL CONNECTOR



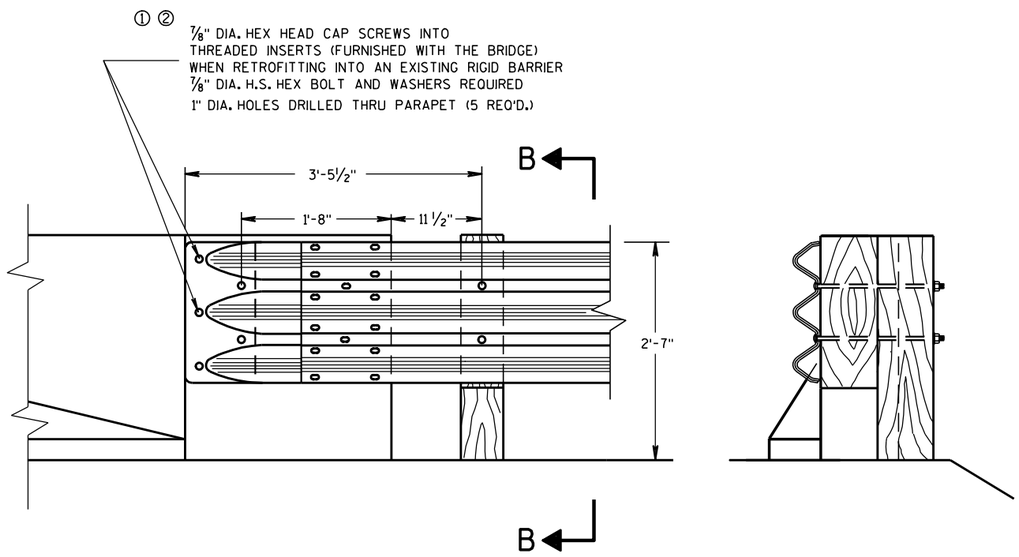
THRIE BEAM SPLICE

STEEL THRIE BEAM STRUCTURE APPROACH

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
8/31/2012 DATE
/S/ Jerry H. Zogg
ROADWAY STANDARDS ENGINEER

FHWA



FRONT VIEW

SECTION B-B

THRIE BEAM CONNECTION TO BRIDGE PARAPET WITH SQUARE ENDS

GENERAL NOTES

THESE ARE TYPICAL CONNECTION DETAILS. ADJUST THE POSTION OF CONNECTIONS TO EXISTING BRIDGES TO FIT THE ACTUAL BRIDGE AND SITE DIMENSIONS.

BOLTS, NUTS AND WASHERS SHALL CONFORM TO ASTM A325, A449 AND GALVANIZED PER STANDARD SPECIFICATIONS 614.

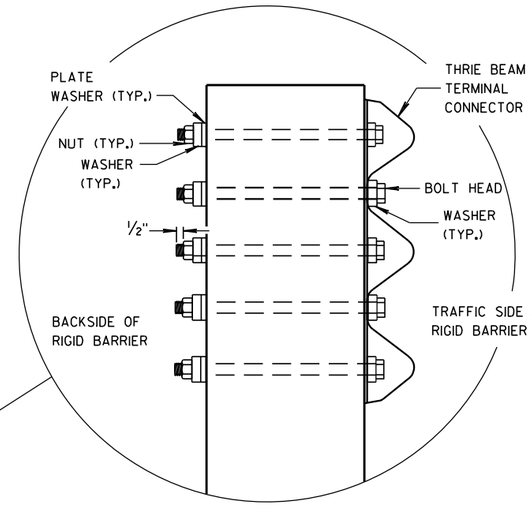
① DRILLING BOLT HOLES THROUGH THE PARAPET, BOLTS, NUTS, WASHERS AND REPAIRING DAMAGED CONCRETE ARE INCIDENTAL TO THE CONTRACT.

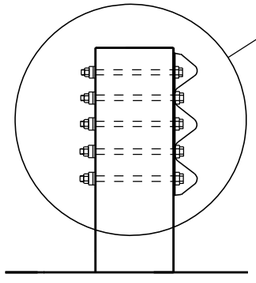
② BOLTS MAY BE A325 BOLTS OR A449 BOLTS. BOLT LENGTH AND THREADING LENGTH ARE TO ALLOW FOR A TIGHT CONNECTION BETWEEN RIGID BARRIER AND THRIE BEAM CONNECTION PLATE. CONTRACTOR IS TO FIELD VERIFY BOLT LENGTH AND THREAD LENGTH. ONE ROUND WASHER REQUIRED BETWEEN BOLT HEAD AND THRIE BEAM TERMINAL CONNECTOR. BOLTS THAT EXTEND THROUGH THE PARAPET AND OUT THE BACK FACE REQUIRE A HARDENED ROUND STEEL WASHER THAT IS 2" O.D. X ⅝" THICK AND ONE PLATE WASHER. REPAIR ANY DAMAGED CONCRETE FROM BOLT INSTALLATION.

③ THE RECESS FOR A W-BEAM CONNECTION, WHICH EXISTS ON SOME PARAPETS OF THIS TYPE, SHALL BE FILLED WITH A TREATED TIMBER BLOCKOUT. BLOCKOUT SIZE IS 1'-6" X 2'-0" X 3 ½".

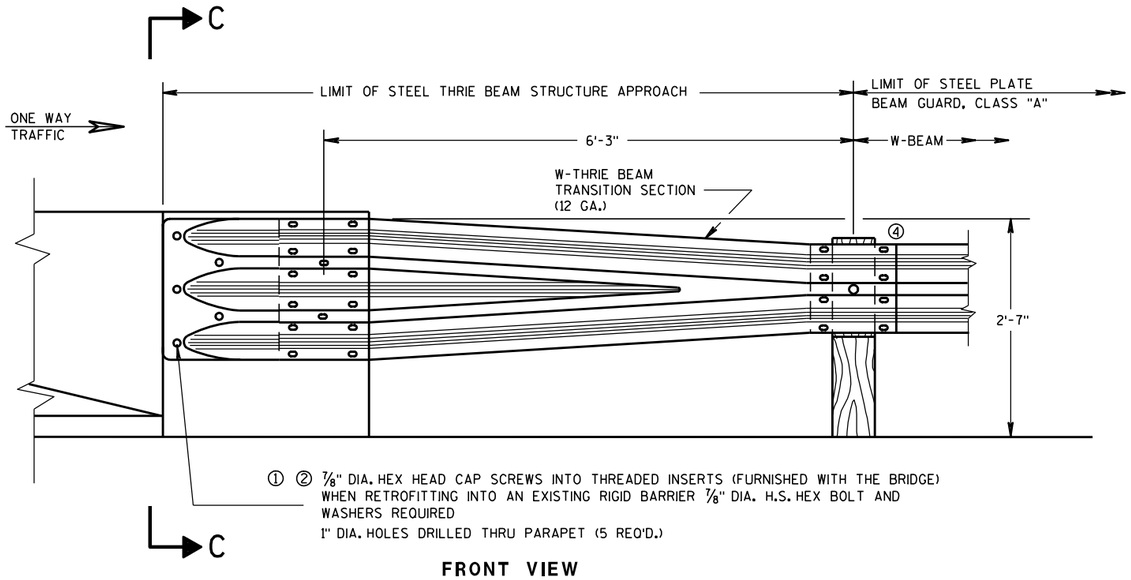
④ W6 X 9 OR W6 X 8.5 STEEL POSTS AND NOTCHED PLASTIC BLOCKOUTS ARE ACCEPTABLE ALTERNATIVES FOR 6" X 8" WOOD POST WITH WOOD OR PLASTIC BLOCKOUTS. USE APPROVED NOTCHED PLASTIC BLOCKOUTS WITH STEEL POSTS.

DO NOT USE STEEL POSTS AND NOTCHED PLASTIC BLOCKOUTS IN THE STEEL THRIE BEAM STRUCTURAL APPROACH AND THE TRANSITION SECTION OF STEEL PLATE BEAM GUARD, CLASS "A" INSTALLATIONS.





SECTION C-C



① ② ⅞" DIA. HEX HEAD CAP SCREWS INTO THREADED INSERTS (FURNISHED WITH THE BRIDGE) WHEN RETROFITTING INTO AN EXISTING RIGID BARRIER ⅞" DIA. H.S. HEX BOLT AND WASHERS REQUIRED
1" DIA. HOLES DRILLED THRU PARAPET (5 REQ'D.)

FRONT VIEW

W BEAM TRANSITION AND CONNECTION TO BRIDGE PARAPETS WITH SQUARE ENDS

(USE ONLY ON THE TRAFFIC EXIT END OF ONE WAY BRIDGES)

STEEL THRIE BEAM STRUCTURE APPROACH, CONNECTION TO SQUARE END PARAPETS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

8/31/2012
DATE

/S/ Jerry H. Zogg
ROADWAY STANDARDS [174 ENT
ENGINEER

FHWA

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S.D.D. 14 B 20-11b

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S.D.D. 14 B 20-11b

GENERAL NOTES

THESE ARE TYPICAL CONNECTION DETAILS. ADJUST THE POSTION OF CONNECTIONS TO EXISTING BRIDGES TO FIT THE ACTUAL BRIDGE AND SITE DIMENSIONS.

BOLTS, NUTS AND WASHERS SHALL CONFORM TO ASTM A325, A449 AND GALVANIZED PER STANDARD SPECIFICATIONS 614.

① DRILLING BOLT HOLES THROUGH THE PARAPET, BOLTS, NUTS, WASHERS AND REPAIRING DAMAGED CONCRETE ARE INCIDENTAL TO THE CONTRACT.

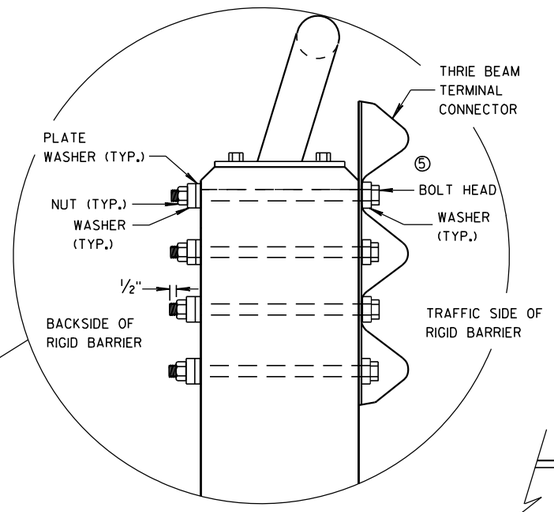
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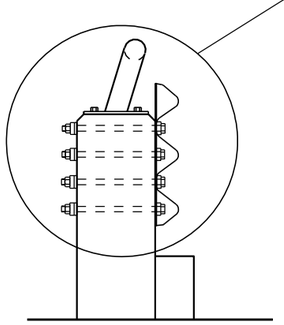
③ THE RECESS FOR A W-BEAM CONNECTION, WHICH EXISTS ON SOME PARAPETS OF THIS TYPE, SHALL BE FILLED WITH A TREATED TIMBER BLOCKOUT. BLOCKOUT SIZE IS 1'-6" X 2'-0" X 3 ½".

④ W6 X 9 OR W6 X 8.5 STEEL POSTS AND NOTCHED PLASTIC BLOCKOUTS ARE ACCEPTABLE ALTERNATIVES FOR 6" X 8" WOOD POST WITH WOOD OR PLASTIC BLOCKOUTS. USE APPROVED NOTCHED PLASTIC BLOCKOUTS WITH STEEL POSTS.

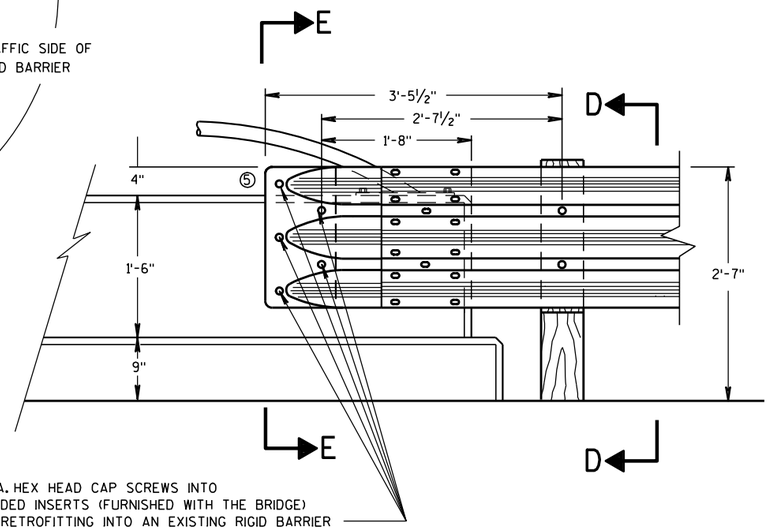
⑤ BOLT, NUT AND WASHERS NOT REQUIRED FOR THIS LOCATION WHEN RETROFITTING AN EXISTING PAPAPET AND THE HOLE IS EITHER ABOVE PARAPET OR WITHIN 4 INCHES OF THE EDGE OF PARAPET.

DO NOT USE STEEL POSTS AND NOTCHED PLASTIC BLOCKOUTS IN THE STEEL THRIE BEAM STRUCTURAL APPROACH AND THE TRANSITION SECTION OF STEEL PLATE BEAM GUARD, CLASS "A" INSTALLATIONS.





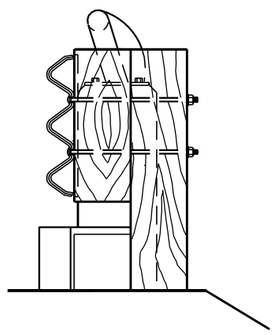
SECTION E-E



① ② ⅞" DIA. HEX HEAD CAP SCREWS INTO THREADED INSERTS (FURNISHED WITH THE BRIDGE) WHEN RETROFITTING INTO AN EXISTING RIGID BARRIER
⅞" DIA. H.S. HEX BOLT AND WASHERS REQUIRED

1" DIA. HOLES DRILLED THRU PARAPET (4 REQ'D.)

FRONT VIEW

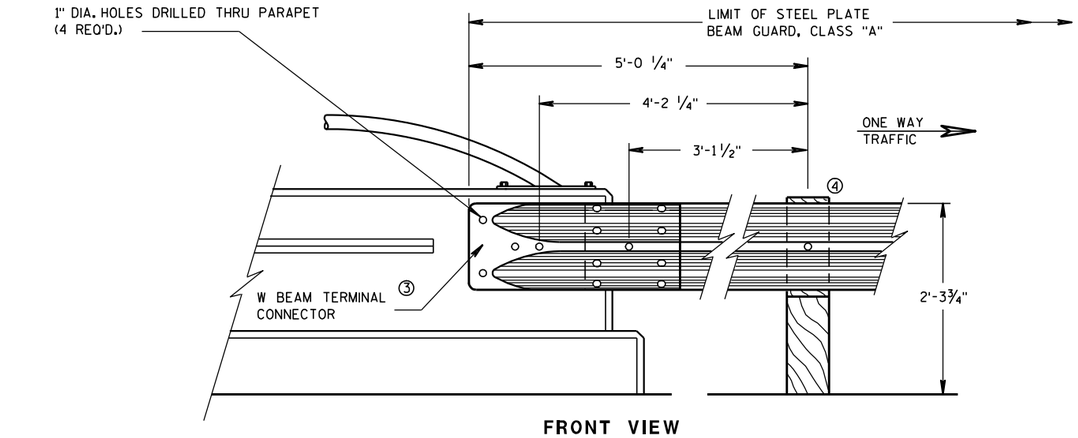


SECTION D-D

THRIE BEAM CONNECTION TO VERTICAL FACED PARAPETS

① ② ⅞" DIA. HEX HEAD CAP SCREWS INTO THREADED INSERTS (FURNISHED WITH THE BRIDGE) WHEN RETROFITTING INTO AN EXISTING RIGID BARRIER
⅞" DIA. HEX HEAD CAP SCREWS INTO THREADED INSERTS (FURNISHED WITH THE BRIDGE) WHEN RETROFITTING INTO AN EXISTING RIGID BARRIER
⅞" DIA. H.S. HEX BOLT AND WASHERS REQUIRED

1" DIA. HOLES DRILLED THRU PARAPET (4 REQ'D.)



FRONT VIEW

W BEAM CONNECTION TO VERTICAL FACE PARAPET
(USE ONLY ON THE TRAFFIC EXIT END OF ONE WAY BRIDGES)

STEEL THRIE BEAM STRUCTURE APPROACH, CONNECTION TO VERTICAL FACED PARAPETS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

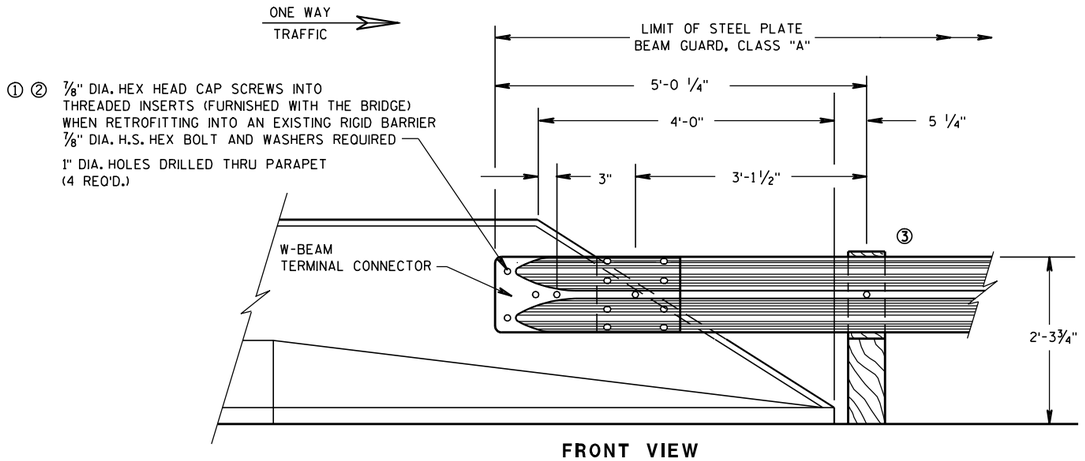
APPROVED
8/31/2012 — DATE
/S/ Jerry H. Zaa — ROADWAY STANDARDS [175 — ENGINEER
FHWA

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S.D.D. 14 B 20-11c

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S.D.D. 14 B 20-11c



FRONT VIEW

W BEAM CONNECTION TO PARAPETS WITH SLOPED ENDS

(USE ONLY AT TRAFFIC EXIT END OF ONE WAY BRIDGE)

GENERAL NOTES

THESE ARE TYPICAL CONNECTION DETAILS. ADJUST THE POSTION OF CONNECTIONS TO EXISTING BRIDGES TO FIT THE ACTUAL BRIDGE AND SITE DIMENSIONS.

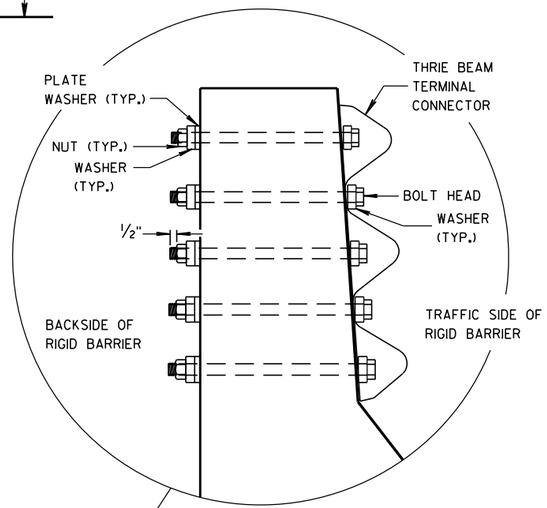
BOLTS, NUTS AND WASHERS SHALL CONFORM TO ASTM A325, A449 AND GALVANIZED PER STANDARD SPECIFICATIONS 614.

① DRILLING BOLT HOLES THROUGH THE PARAPET, BOLTS, NUTS, WASHERS AND REPAIRING DAMAGED CONCRETE ARE INCIDENTAL TO THE CONTRACT.

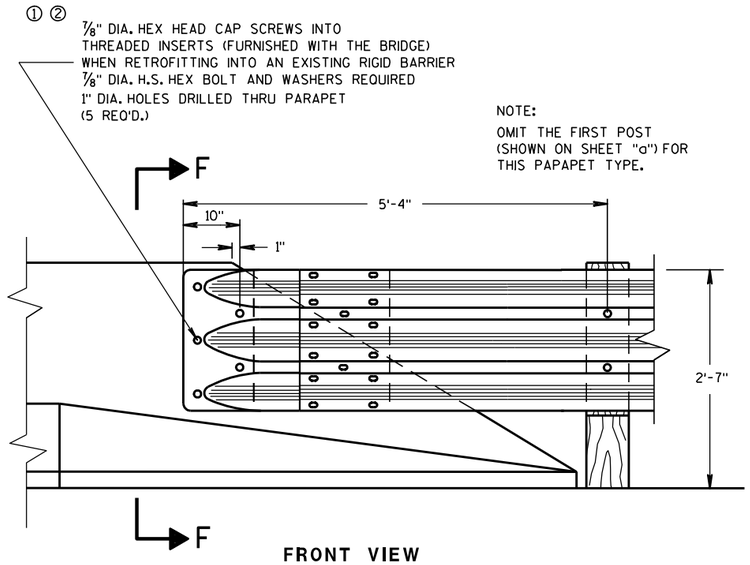
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③ W6 X 9 OR W6 X 8.5 STEEL POSTS AND NOTCHED PLASTIC BLOCKOUTS ARE ACCEPTABLE ALTERNATIVES FOR 6" X 8" WOOD POST WITH WOOD OR PLASTIC BLOCKOUTS. USE APPROVED NOTCHED PLASTIC BLOCKOUTS WITH STEEL POSTS.

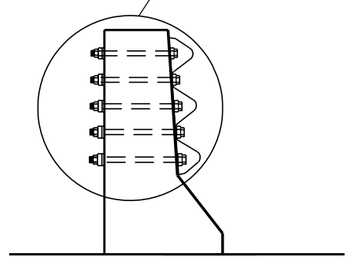
DO NOT USE STEEL POSTS AND NOTCHED PLASTIC BLOCKOUTS IN THE STEEL THRIE BEAM STRUCTURAL APPROACH AND THE TRANSITION SECTION OF STEEL PLATE BEAM GUARD, CLASS "A" INSTALLATIONS.



DRILL HOLE LOCATION AND PATTERN FOR THRIE BEAM CONNECTION



FRONT VIEW



SECTION F-F

THRIE BEAM CONNECTION TO BRIDGE PARAPETS WITH SLOPED ENDS

STEEL THRIE BEAM STRUCTURE APPROACH, CONNECTION TO SLOPED END PARAPETS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

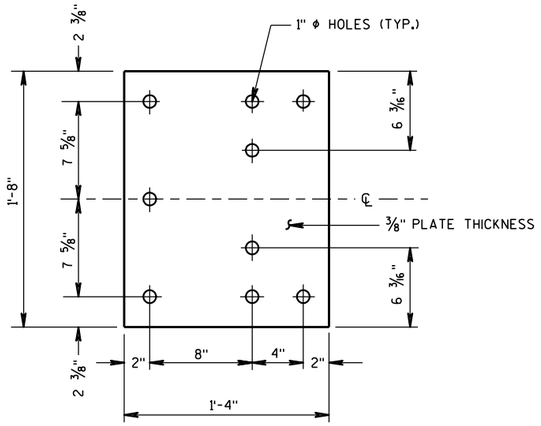
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8/31/2012 — DATE
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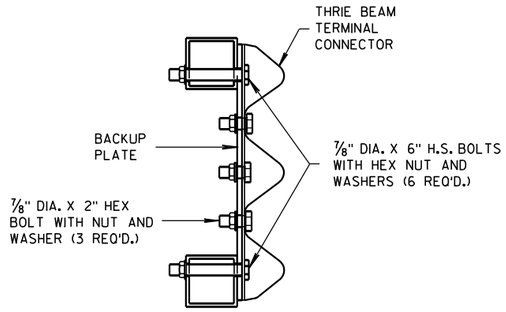
S.D.D. 14 B 20-11d

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S.D.D. 14 B 20-11d



BACK-UP PLATE DETAIL



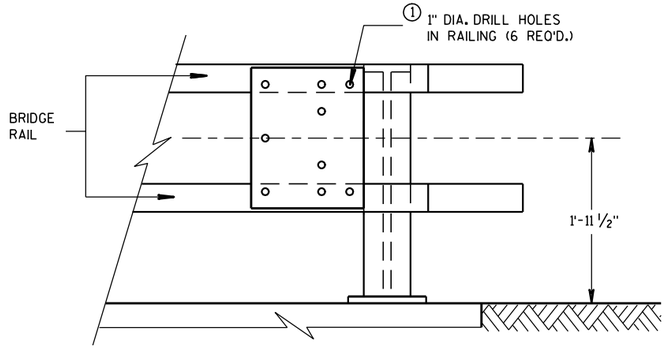
SECTION G-G

GENERAL NOTES

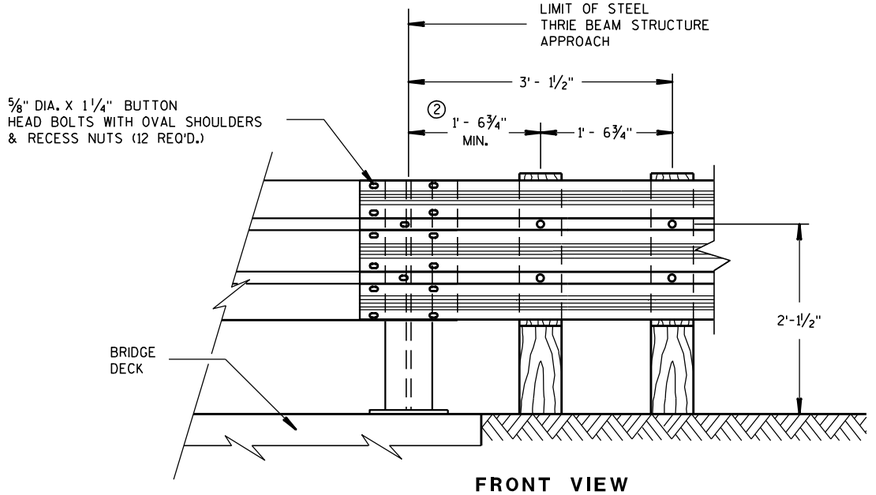
BOLTS, PLATES, NUTS AND WASHERS SHALL CONFORM TO THE REQUIREMENTS OF ASTM SPECIFICATION A 325 AND BE GALVANIZED IN ACCORDANCE WITH ASTM A 153.

① DRILLING BOLT HOLES THROUGH THE PARAPET, BOLTS, NUTS, WASHERS AND REPAIRING DAMAGED CONCRETE ARE INCIDENTAL TO THE CONTRACT.

② VARY THIS DIMENSION DEPENDING ON ABUTMENT TYPE, WINGWALL DETAILS, AND ANGLE OF SKEW. PLACE THE FIRST WOOD POST OFF THE BRIDGE SHALL AS CLOSE AS FEASIBLE TO THE STEEL END POST.

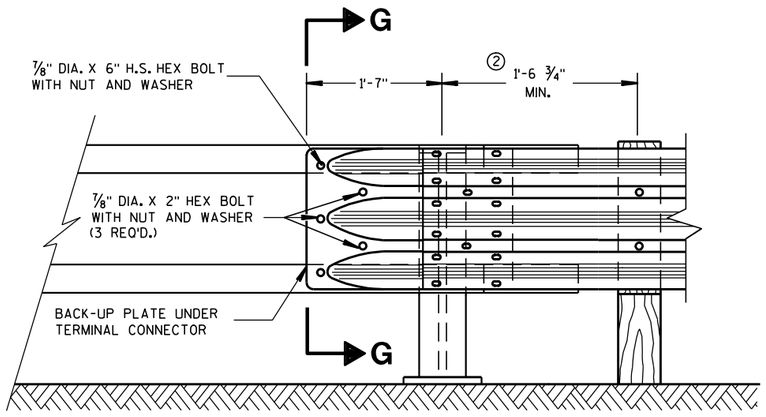


BACK-UP PLATE MOUNTING ONTO BRIDGE RAILING

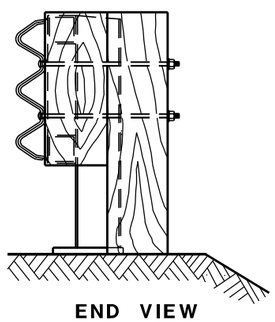


FRONT VIEW

THRIE BEAM CONNECTION TO STEEL RAILING TYPE "W"



FRONT VIEW



END VIEW

THRIE BEAM CONNECTION TO TUBULAR RAILING TYPE "F"

STEEL THRIE BEAM STRUCTURE APPROACH, CONNECTION TO BRIDGE RAILING TYPES "F" AND "W"

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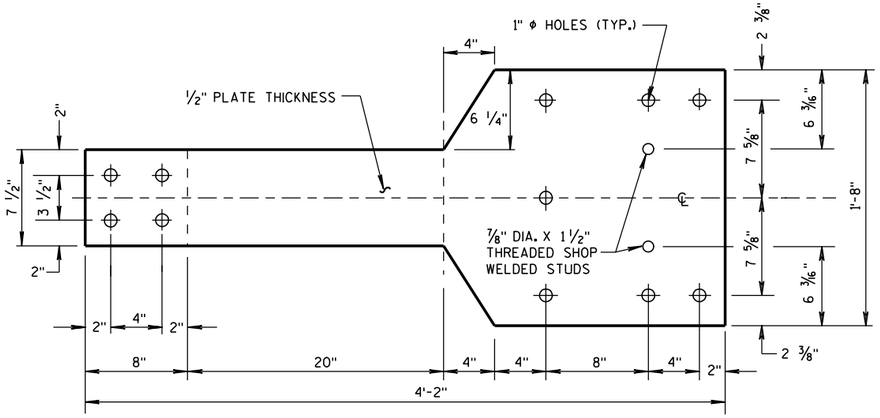
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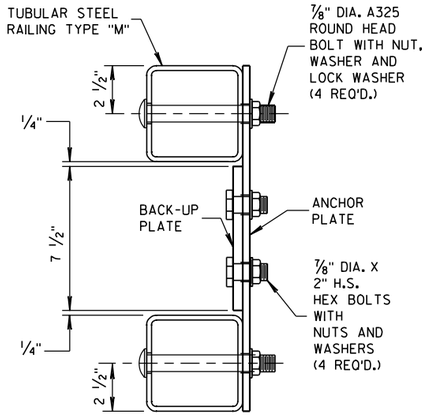
S.D.D. 14 B 20-11e

GENERAL NOTES

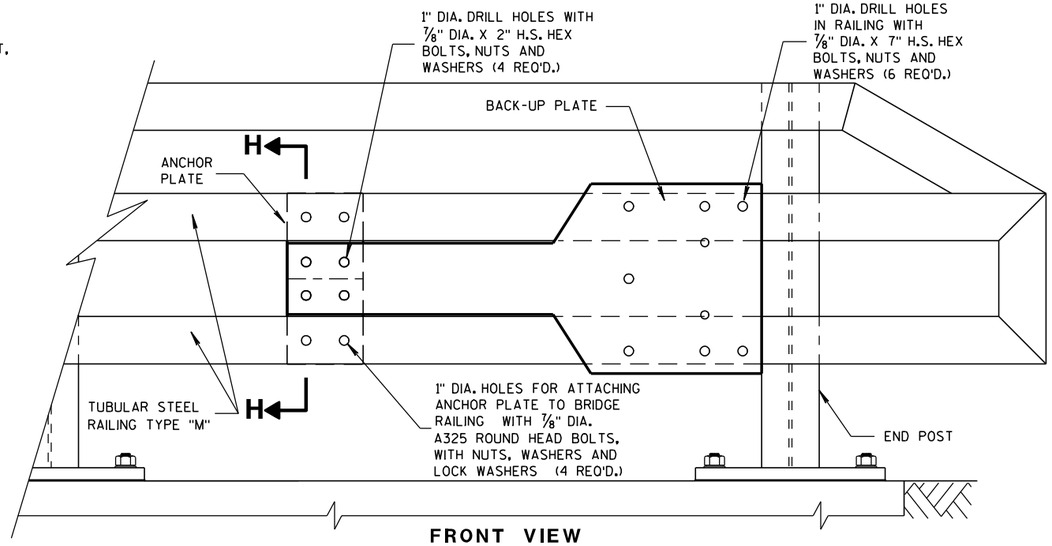
① VARY THIS DIMENSION DEPENDING ON ABUTMENT TYPE, WINGWALL DETAILS, AND ANGLE OF SKEW. PLACE THE FIRST WOOD POST OFF THE BRIDGE SHALL BE AS CLOSE AS FEASIBLE TO THE STEEL END POST.



FRONT VIEW

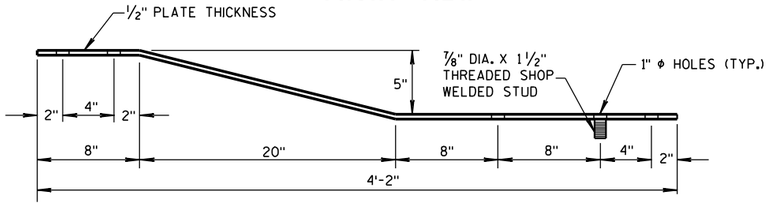


SECTION H-H



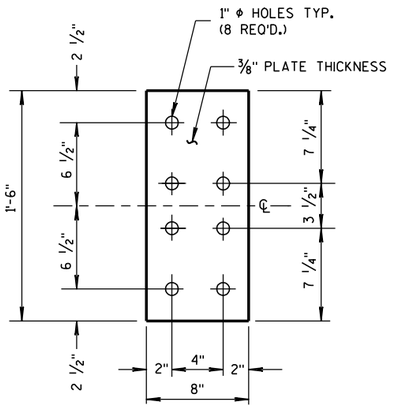
FRONT VIEW

ANCHOR AND BACK-UP PLATE MOUNTING TO BRIDGE RAILING, TYPE "M"



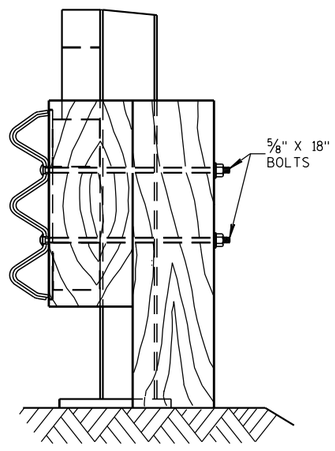
PLAN VIEW

BACK-UP PLATE DETAIL, TYPE "M"

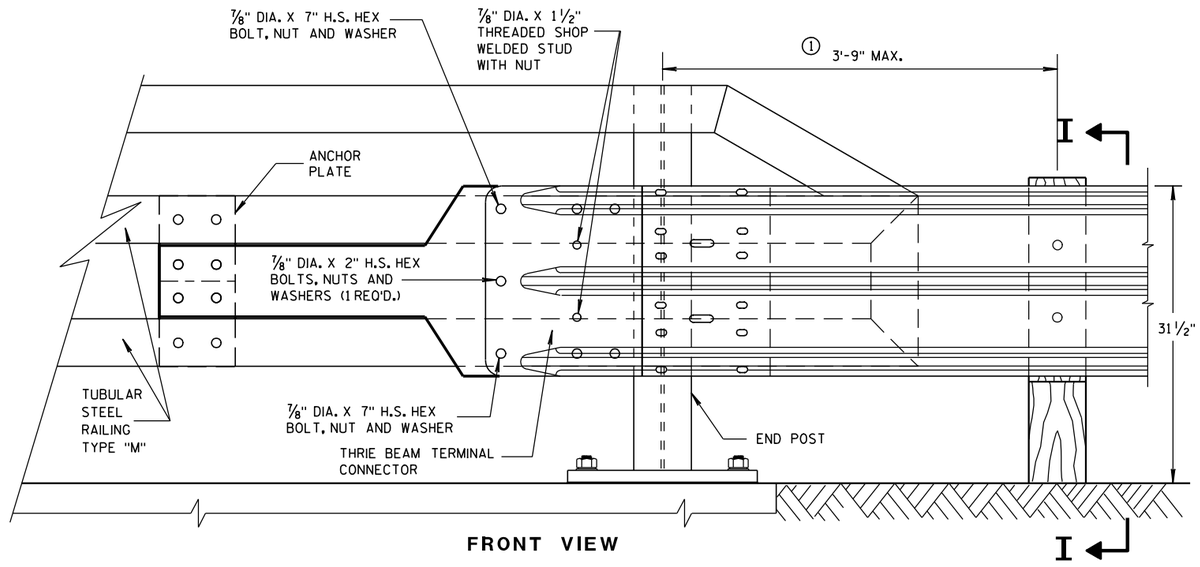


FRONT VIEW

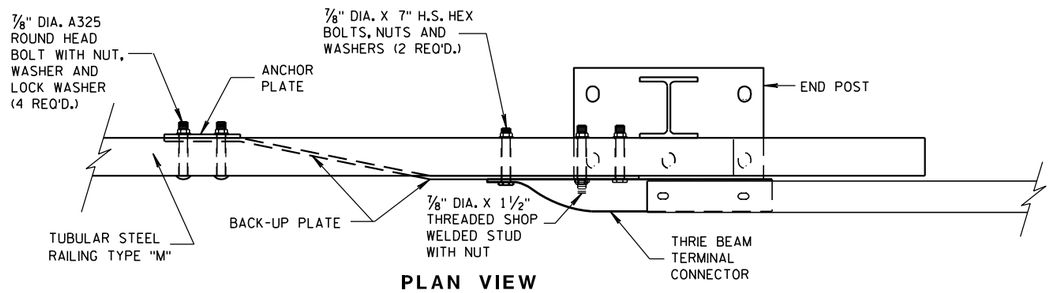
ANCHOR PLATE DETAIL, TYPE "M"



SECTION I-I



FRONT VIEW



PLAN VIEW

THRIE BEAM CONNECTION TO TUBULAR RAILING, TYPE "M"

STEEL THRIE BEAM STRUCTURE APPROACH, CONNECTION TO BRIDGE RAILING TYPE "M"

STATE OF WISCONSIN
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GENERAL NOTES

COVER PLATE PANELS ARE 3/16" THICK.

ALL STIFFENERS ARE 1/4" THICK.

CONNECTOR PLATE SHALL BE FABRICATED FROM ASTM GRADE A36 STEEL AND GALVANIZED.

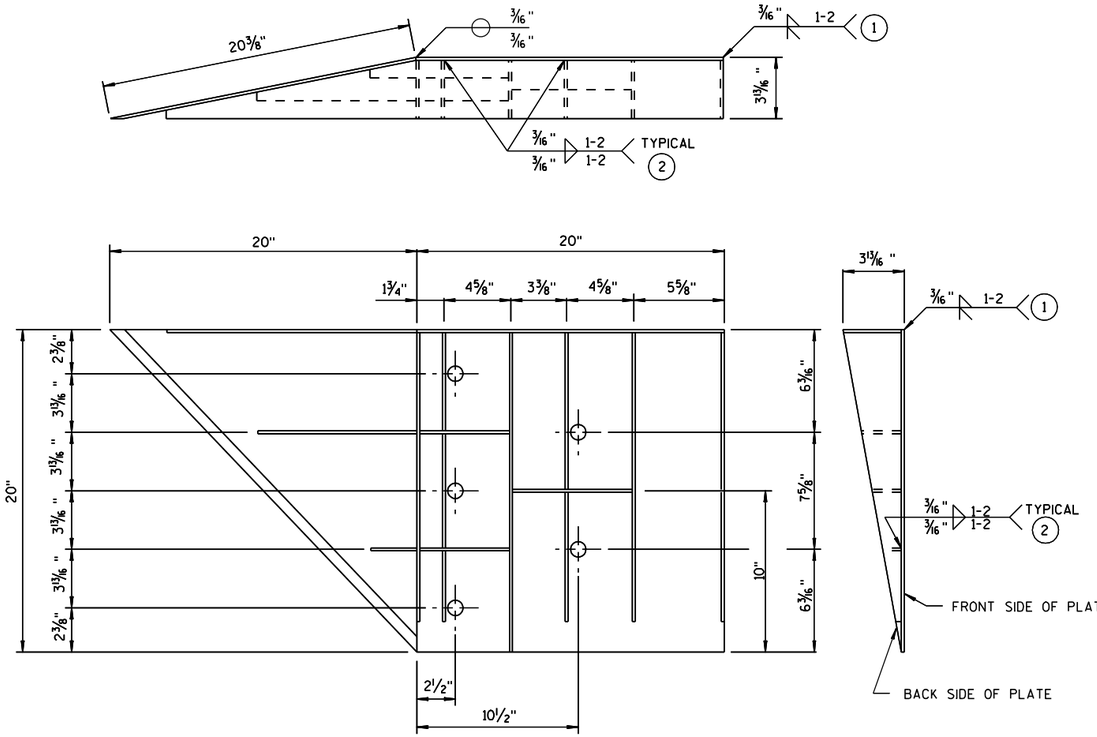
FOR GALVANIZED REQUIREMENTS, SEE SECTION 614 OF THE STANDARD SPECIFICATIONS.

ALL HOLE DIAMETERS SHALL BE 1".

FOR OPPOSITE SIDE INSTALLATION MIRROR DRAWINGS.

(1) STIFFENERS LOCATED AT THE OUTSIDE EDGES OF THE COVER PLATES SHALL BE WELDED AS FOLLOWS:
SINGLE BEVEL GROOVE WELD ON EXTERNAL SIDES AND 3/16" FILLET WELD BY 1" LONG SPACED AT 2" ON INTERNAL SIDES.

(2) STIFFENERS LOCATED ON THE INSIDE OF THE COVER PLATE SHALL BE WELDED AS FOLLOWS:
3/16" FILLET WELD BY 1" LONG SPACED AT 2".



WELDING INSTRUCTION

(VIEWED FROM BACK SIDE OF PLATE)

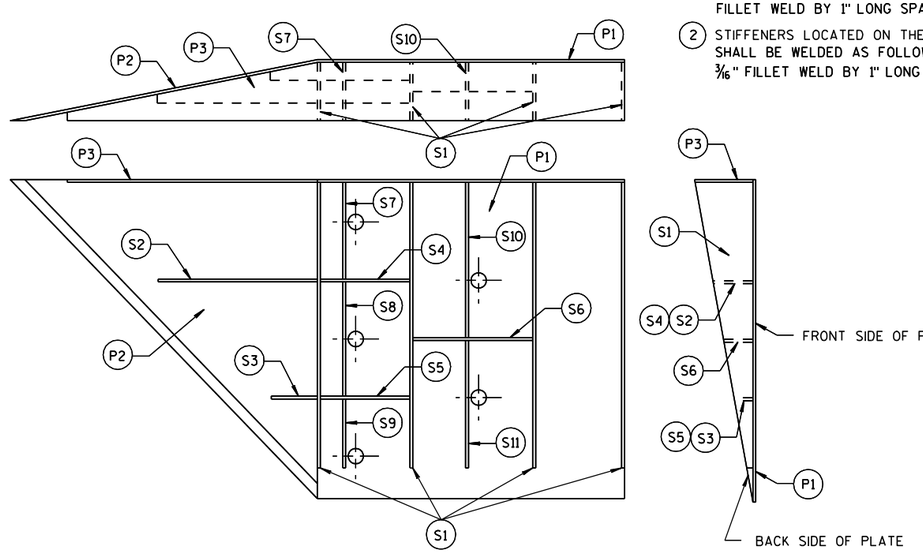


PLATE AND STIFFENER IDENTIFICATION

(VIEWED FROM BACK SIDE OF PLATE)

CONNECTOR PLATE DIMENSION (PER ASSEMBLY)

PLATE	QUANTITY	SHAPE	SIZE (A x B x C x D)	THICKNESS
P1	1		20" x 20"	3/16"
P2	1		20" x 20" x 28 9/16"	3/16"
P3	1		39" x 3 5/8" x 20" x 19 5/16"	3/16"
S1	4		18 7/16" x 3 5/8" x 18 3/4"	1/4"
S2	1		10 1/4" x 2 7/16" x 10 3/8" x 1/2"	1/4"
S3	1		3" x 1 1/16" x 3 1/8" x 1/2"	1/4"
S4	1		6 1/8" x 2 7/16"	1/4"
S5	1		6 1/8" x 1 1/16"	1/4"
S6	1		7 3/4" x 1 3/4"	1/4"
S7	1		2 9/16" x 6" x 3 5/8" x 5 7/8"	1/4"
S8	1		1 5/32" x 7 1/2" x 2 1/2" x 7 3/8"	1/4"
S9	1		6 1/16" x 6 3/16" x 1 3/32"	1/4"
S10	1		1 7/8" x 9 7/8" x 3 5/8" x 9 11/16"	1/4"
S11	1		8 1/2" x 8 3/4" x 1 13/16"	1/4"

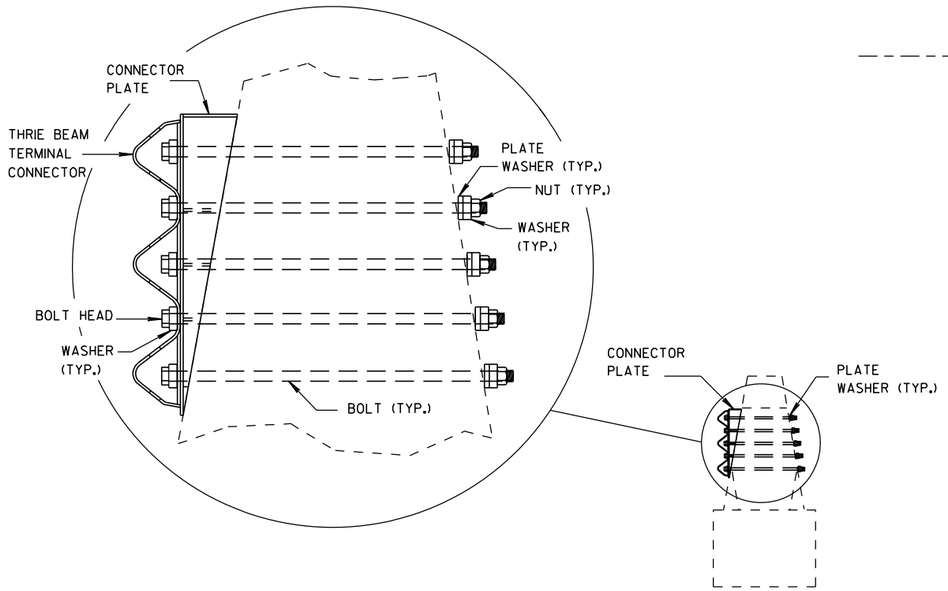
STEEL THRIE BEAM STRUCTURE APPROACH

STEEL THRIE BEAM STRUCTURE APPROACH, CONNECTOR PLATE DETAIL

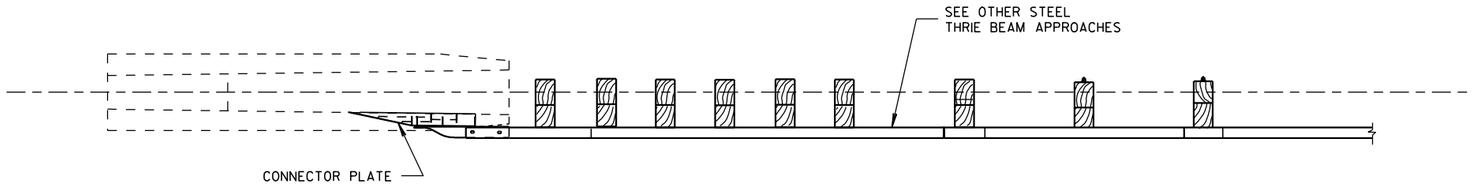
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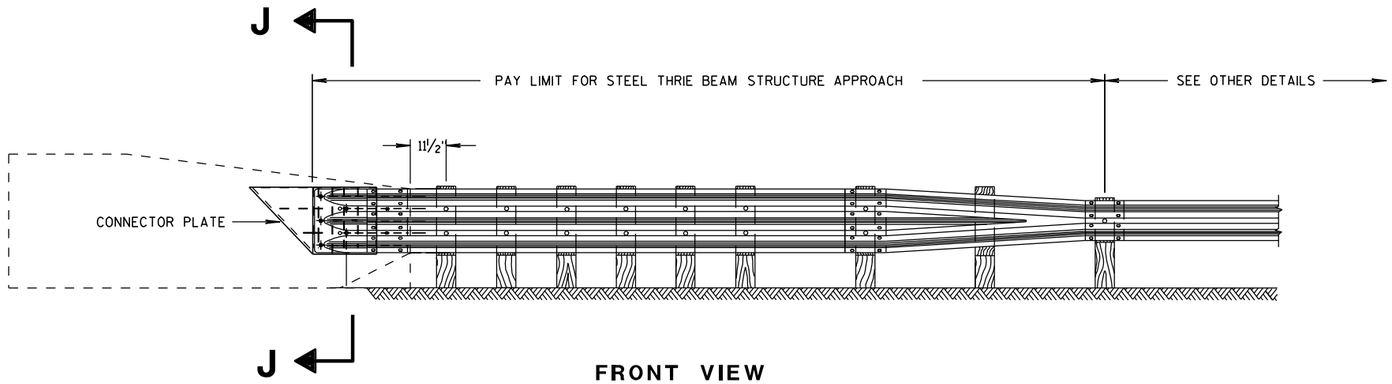
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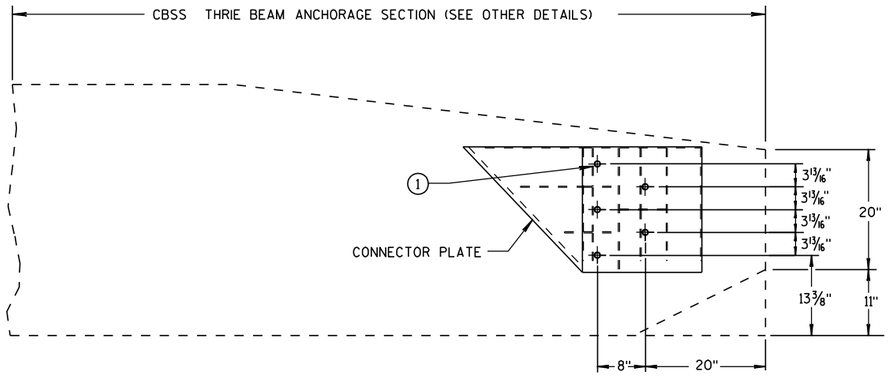
SECTION J-J



PLAN VIEW



FRONT VIEW



CONNECTOR PLATE LOCATION

GENERAL NOTES

CONSTRUCT PER STANDARD SPECIFICATION 614.

CONNECTOR PLATE, DRILLING HOLES THROUGH PARAPET, BOLTS, NUTS, WASHERS AND REPAIRING DAMAGED CONCRETE ARE INCIDENTAL TO THE CONTRACT.

(1) BOLTS MAY BE A325 BOLTS OR A449 BOLTS. BOLT LENGTH AND THREADING LENGTH ARE TO ALLOW FOR A TIGHT CONNECTION BETWEEN RIGID BARRIER AND THRIE BEAM CONNECTION PLATE. CONTRACTOR IS TO FIELD VERIFY BOLT LENGTH AND THREAD LENGTH. ONE ROUND WASHER REQUIRED BETWEEN BOLT HEAD AND THRIE BEAM TERMINAL CONNECTOR. BOLTS THAT EXTEND THROUGH THE PARAPET AND OUT THE BACK FACE REQUIRE A HARDENED ROUND STEEL WASHER THAT IS 2" O.D. X 5/8" THICK AND ONE PLATE WASHER. REPAIR ANY DAMAGED CONCRETE FROM BOLT INSTALLATION.

STEEL THRIE BEAM STRUCTURE APPROACH

STEEL THRIE BEAM STRUCTURE APPROACH, SINGLE SLOPE ATTACHMENT

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DATE

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GENERAL NOTES

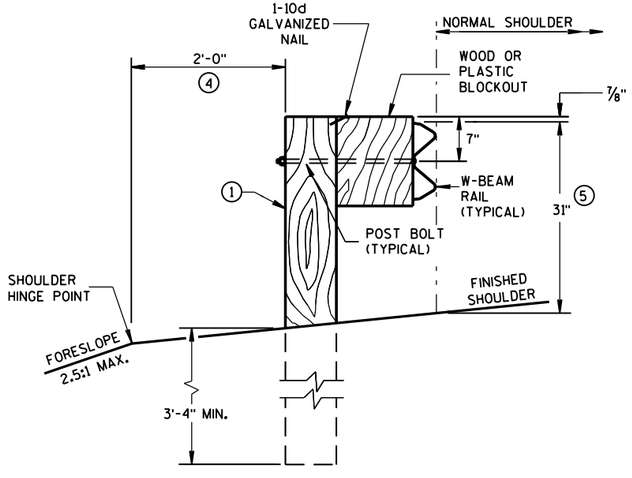
1. WOOD OR STEEL POSTS (w6X9 OR w6X8.5) MAY BE USED. DO NOT INTERMIX WOOD AND STEEL POSTS. INSTALL STEEL POSTS WITH HOLES ON APPROACHING TRAFFIC SIDE.

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 2½INCHES OF GRANULAR MATERIAL IN THE BOTTOM OF THE HOLE. CUT THE POSTS THE TO LENGTH AMD INSTALL. BACKFILL WITH EXCAVATED MATERIAL AND COMPACT. BACKFILL IS TO BE FREE OF LARGE ROCKS.

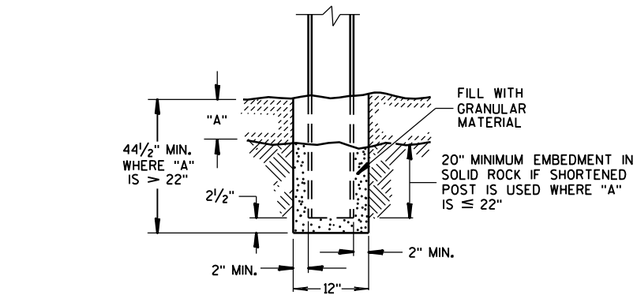
4. WHEN THE DISTANCE FROM BACK OF POST TO SHOULDER HINGE POINT IS LESS THAN 2 FEET INSTALL LONGER POST AT HALF POST SPACING (K).

5. FOR NEW MGS INSTALLATION TOP OF W-BEAM RAIL TOLERANCE IS ± 1". FOR EXISTING MGS INSTALLATION TOP OF W-BEAM IS BETWEEN 27¾" TO 32".



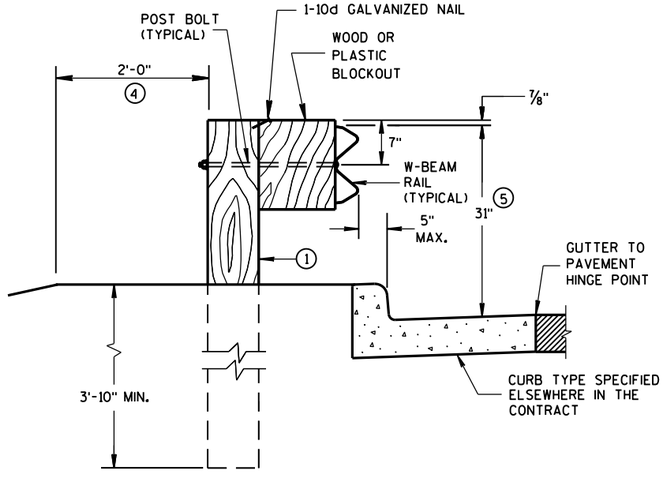
END VIEW

LOCATED ALONG A ROADWAY SHOULDER
STANDARD INSTALLATION



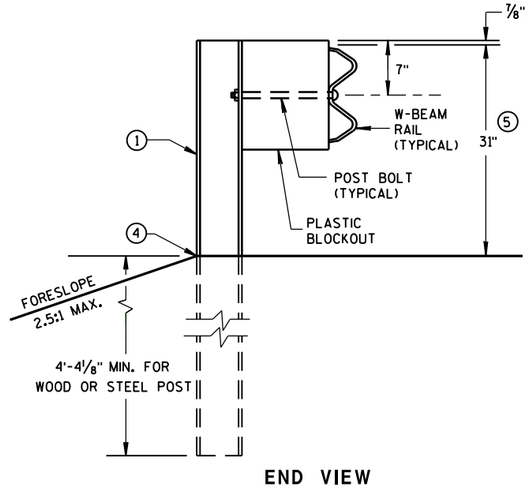
END VIEW

SETTING STEEL OR WOOD POST IN ROCK ③



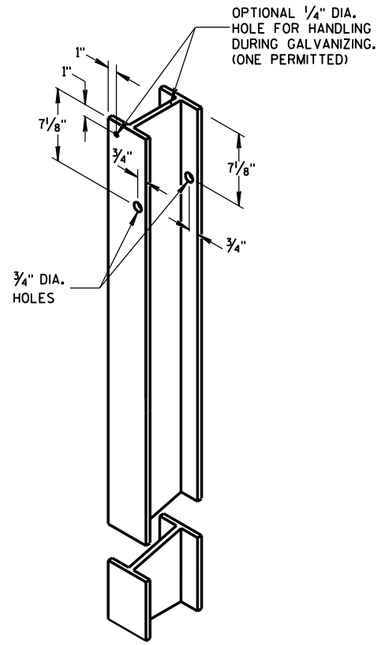
END VIEW

LOCATED ALONG A CURBED ROADWAY

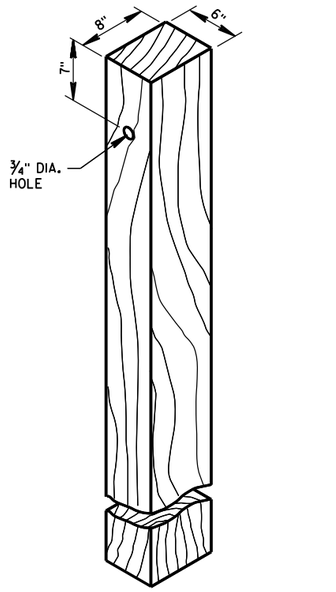


END VIEW

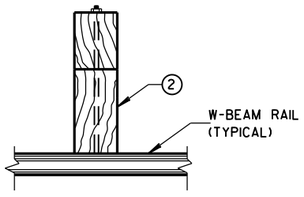
MGS LONGER POST AT HALFPOST SPACING W BEAM (K)



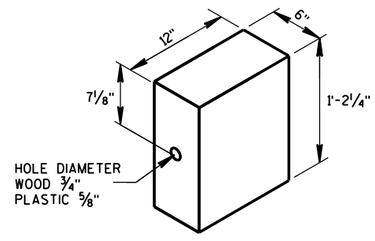
STEEL POST &
HOLE PUNCHING DETAIL
(w6X9) ①



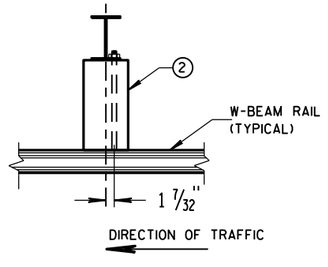
WOOD POST
(6" X 8") NOMINAL ①



PLAN VIEW
WOOD POST,
BLOCKOUT & BEAM



WOOD OR
PLASTIC BLOCKOUT ②

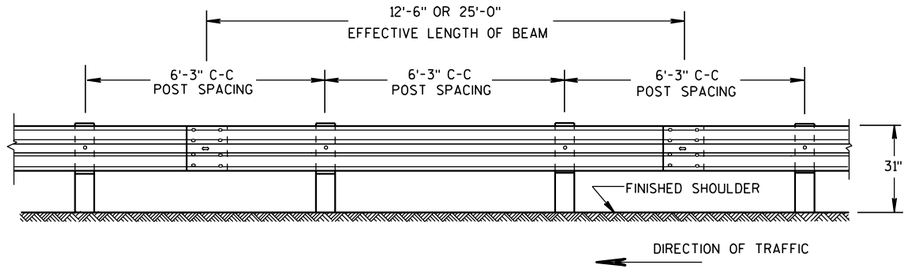


PLAN VIEW
STEEL POST,
PLASTIC BLOCKOUT & BEAM

MIDWEST GUARDRAIL SYSTEM
(MGS) GUARDRAIL

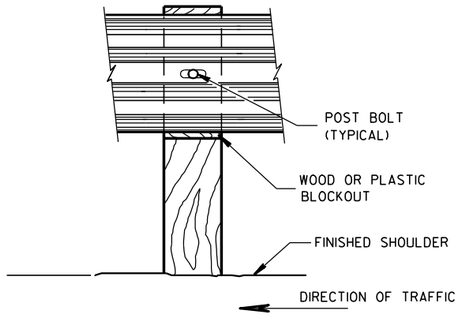
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FRONT VIEW

POST SPACING STANDARD INSTALLATION



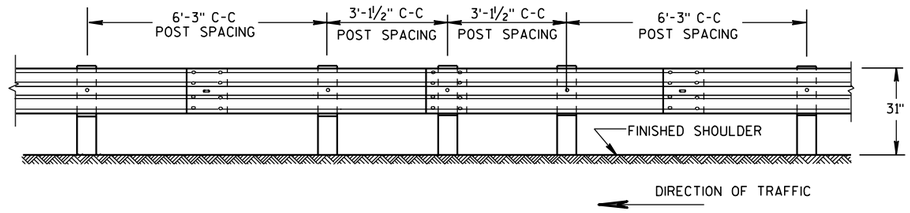
FRONT VIEW AT WOOD POST

GENERAL NOTES

1. PROVIDE TYPE "H" SILVER REFLECTIVE SHEETING ON ALL REFLECTORS EXCEPT THOSE LOCATED ALONG THE LEFT EDGE OF ONE-WAY ROADWAYS, WHICH SHALL BE PROVIDED WITH TYPE "H" YELLOW REFLECTIVE SHEETING.
2. DO NOT INSTALL REFLECTORS ON THE FIRST 50 FEET OF THE APPROACH END OF THE ENERGY ABSORBING TERMINAL. RAIL SPLICE LOCATIONS ARE THE ONLY ACCEPTABLE LOCATIONS FOR REFLECTORS.
3. REVERSE EVERY OTHER REFLECTOR FOR 2-WAY VISIBILITY. THE CONTRACTOR MAY FURNISH TWO-SIDED REFLECTORS IN LIEU OF ONE-SIDED REFLECTORS.
4. PROVIDE AN ANGLE OF BEND OF 90° ± 1° FOR TWO-SIDED REFLECTORS.
5. 25 FEET OF HALF POST SPACING IS REQUIRED ON APPROACH AND DEPARTURE ENDS OF QUARTER POST SPACING.

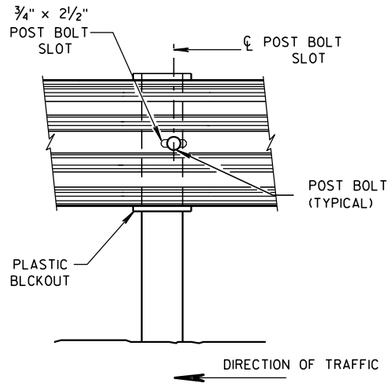
POST BOLTS ARE A 5/8" DIAMETER ASTM A307 GUARDRAIL BOLT. A POST BOLT REQUIRES 5/8" DIAMETER A563A DOUBLE RECESSED (DR) HEAVY HEX NUT AND 5/8" DIAMETER F844 FLAT WASHER. POST BOLTS MAY BE LONGER IF MULTIPLE BLOCKOUTS ARE BEING USED.

GUARD RAIL SPLICE BOLTS ARE A 5/8" DIAMETER ASTM A307 GUARDRAIL HEAD BOLT. A GUARDRAIL SPLICE BOLT REQUIRES 5/8" DIAMETER A563A DOUBLE RECESSED (DR) HEAVY HEX NUT.

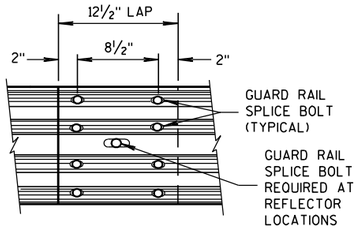


FRONT VIEW

HALF POST SPACING (HS) AND HALF POST SPACING WITH LONGER POSTS (K)

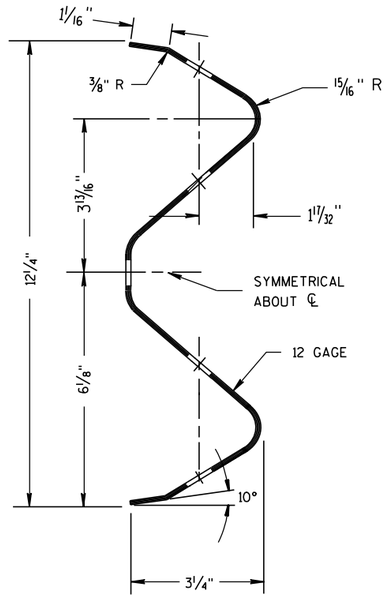


FRONT VIEW AT STEEL POST

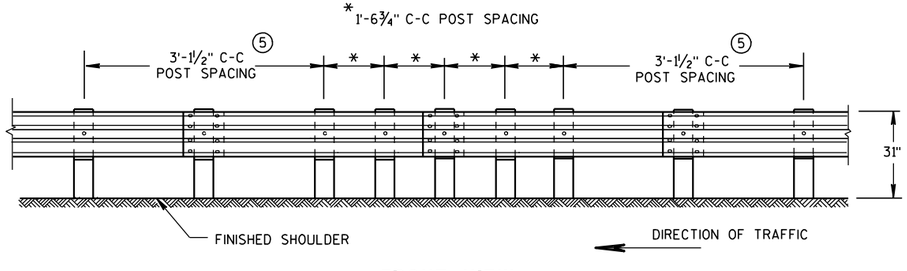


FRONT VIEW

MID-SPAN BEAM SPLICE

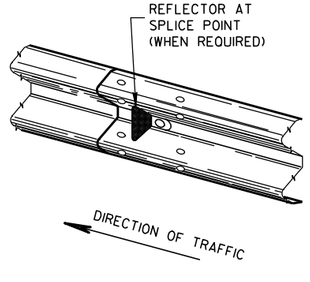


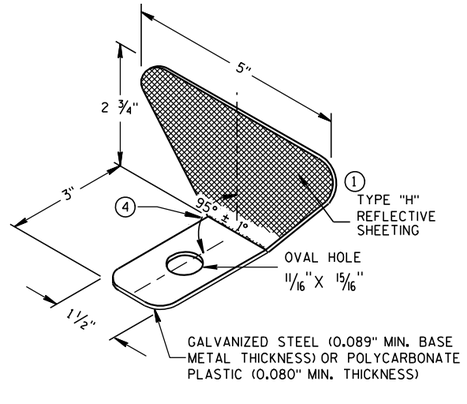
SECTION THRU W-BEAM RAIL



FRONT VIEW

QUARTER POST SPACING (QS)





ONE SIDED REFLECTOR DETAIL AND TYPICAL INSTALLATION ①

REFLECTOR SPACING ②

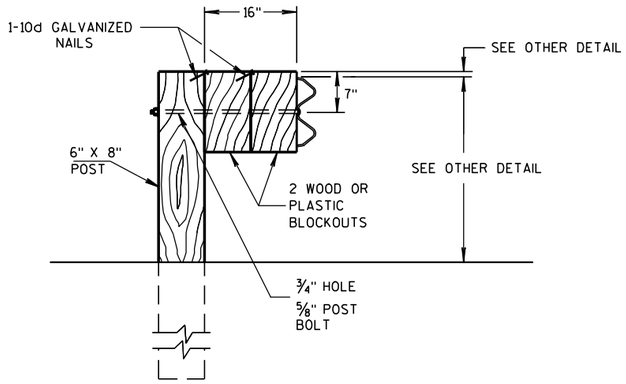
	BEAM GUARD LENGTH	REFLECTOR SPACING	NO. SURFACES REFLECTORIZED	MIN. NO. REFLECTORS
ONE WAY TRAFFIC	< 200' > 200'	50' C-C 100' C-C	1 1	3
TWO WAY TRAFFIC	< 200' > 200'	25' C-C 50' C-C	1 1 ③	6
TWO WAY TRAFFIC	< 200' > 200'	50' C-C 100' C-C	2 2 ④	3

MIDWEST GUARDRAIL SYSTEM
(MGS) GUARDRAIL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

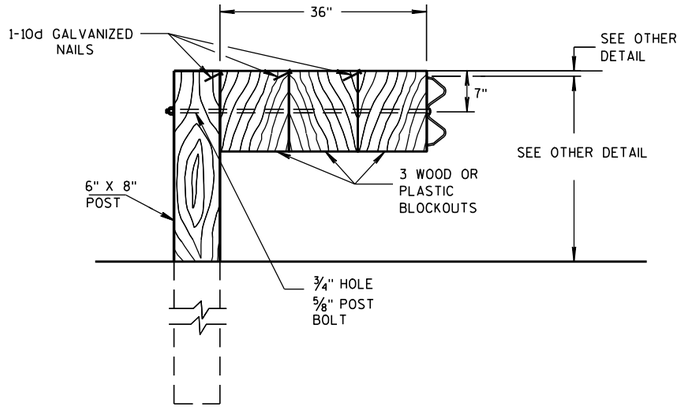
S.D.D. 14 B 42-2b

S.D.D. 14 B 42-2b



DETAIL FOR 16" BLOCKOUT DEPTH

IT IS ACCEPTABLE TO USE BLOCKOUTS UP TO 16" DEEP TO INCREASE THE POST OFFSET TO AVOID UNDERGROUND OBSTACLES. THERE IS NO LIMIT TO THE NUMBER OF POSTS THAT CAN HAVE ADDITIONAL BLOCKOUTS UP TO 16" DEEP.

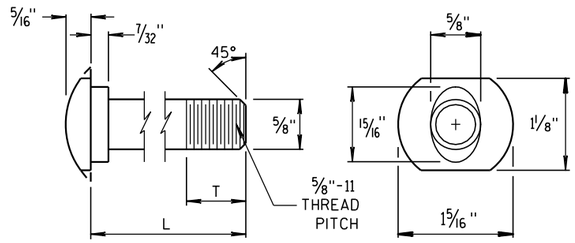


DETAIL FOR 36" BLOCKOUT DEPTH

NOTES: UNDER SPECIAL CIRCUMSTANCES, SUCH AS AVOIDING OBSTACLES THAT ARE NOT RELOCATED, IT IS ACCEPTABLE TO INSTALL ADDITIONAL BLOCKOUTS TO OBTAIN UP TO 36" DEPTH FOR ONE OR TWO POSTS IN A SECTION OF GUARDRAIL.

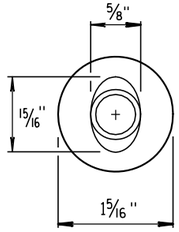
DO NOT USE 16" OR 36" BLOCKOUTS IF IT CAUSES THE POST TO BE DRIVEN BEYOND SHOULDER HINGE POINT OR CAUSES A FIXED OBJECT TO BE WITHIN THE DEFLECTION DISTANCE OF THE BARRIER.

NOTE: 1. ALL FILLETS SHALL HAVE A MINIMUM RADIUS OF 1/16".
2. IF THE BOLT EXTENDS MORE THAN 1/4" FROM THE NUT THE BOLT SHOULD BE TRIMMED BACK.

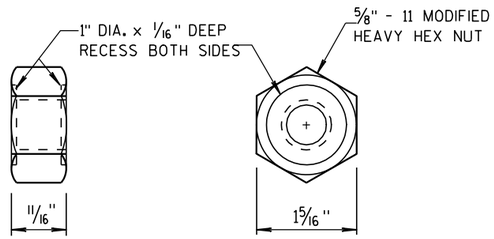


POST BOLT TABLE

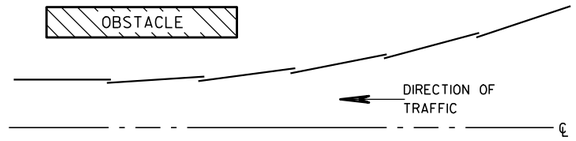
L	T (MIN.)
1 1/4"	1 1/8"
2"	1 3/4"
10"	4"
14"	4 1/16"
18"	4"
21"	4 1/16"
25"	4"



ALTERNATE BOLT HEAD

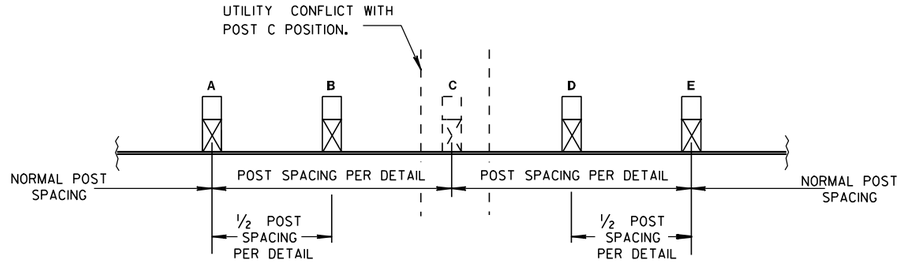


POST BOLT AND RECESS NUT

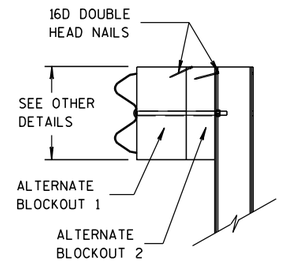


PLAN VIEW

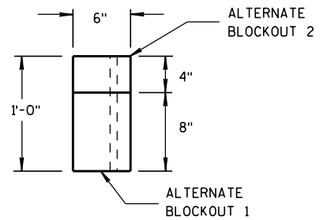
BEAM LAPPING DETAIL



POST DRIVING FOR CONTINUOUS UNDERGROUND OBSTRUCTION



SIDE VIEW



TOP VIEW

ALTERNATE WOOD BLOCKOUT DETAIL

MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

11/15/2011 DATE

/S/ Jerry H. [illegible]
ROADWAY STANDARDS ENGINEER

FHWA

ENT

6

S.D.D. 14 B 42-2c

6

S.D.D. 14 B 42-2c

GENERAL NOTES

(A) THE SLOPE IN THE AREA BOUNDED BY THE EXTENDED VEHICLE RUNOUT PATH (EVRP), THE HINGE POINT LINE (HPL),AND THE CLEAR ZONE LIMITS (CZL) SHALL BE 4:1 OR FLATTER.

(B) AFTER FINAL ASSEMBLY, RECHECK CABLE TO BE SURE IT IS TAUT AND HAS NOT RELAXED.

(C) DIFFERENT MANUFACTURES REQUIRE DIFFERENT PERFORATED W-BEAM RAIL END PANELS. SEE MANUFACTURES INFORMATION.

(D) THE TOP OF THE STEEL TUBE ON POST 1 AND POST 2 SHALL NOT BE MORE THAN 3" ABOVE THE FINISH GROUND ELEVATION.

(F) SHEETING IS ATTACHED TO 0.040 ALUMINUM SHEET AND ATTACHED TO E.A.T. HEAD USING 4 STAINLESS STEEL SELF-TAPPING SCREWS. ONE SCREW PER CORNER OF E.A.T.

(G) ½" DIAMETER X 3" LONG LAG BOLT AND WASHER.

(H) HARDWARE VARIES BETWEEN DIFFERENT MANUFACTURES. SEE MANUFACTURE'S DRAWING FOR INFORMATION.

(I) DIMENSIONS MAY VARY. SEE MANUFACTURE'S INFORMATION.

SEE SDD 14B42 FOR MORE INFORMATION.

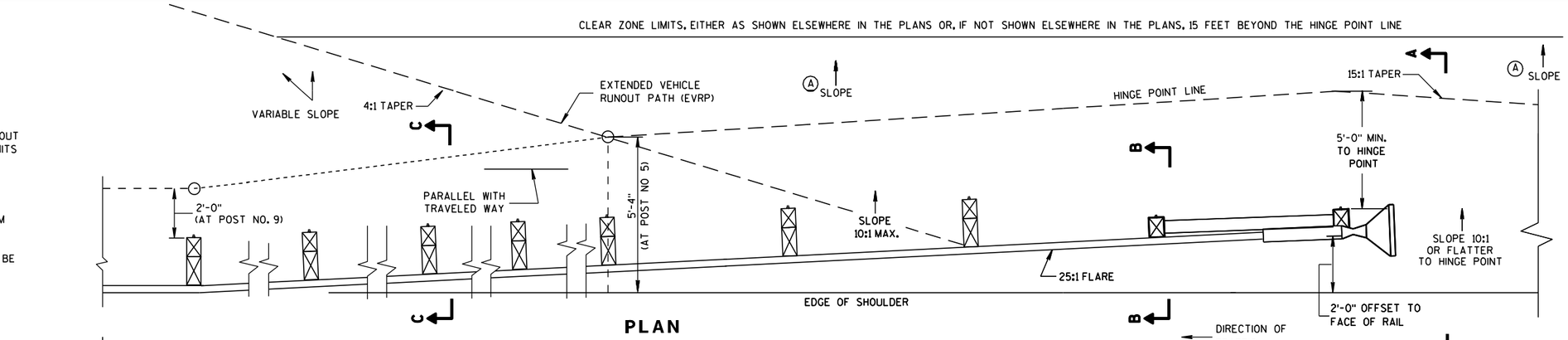
* DO NOT ATTACH BLOCKOUTS TO POSTS 1 AND 2.

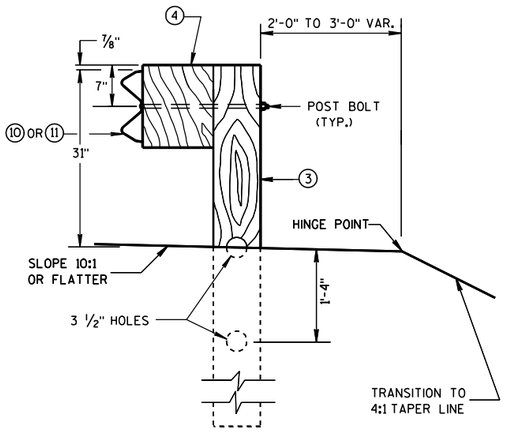
DO NOT INSTALL REFLECTORS ON THE FIRST 50 FEET OF THE APPROACH END OF THE ENERGY ABSORBING TERMINAL.

W-BEAM RAIL SPLICES ARE LOCATED AT POST NUMBER 3, AND BETWEEN POST 5 AND 6, BETWEEN POSTS 7 AND 8, AND MIDDLE OF THE SPAN AFTER POST 9.

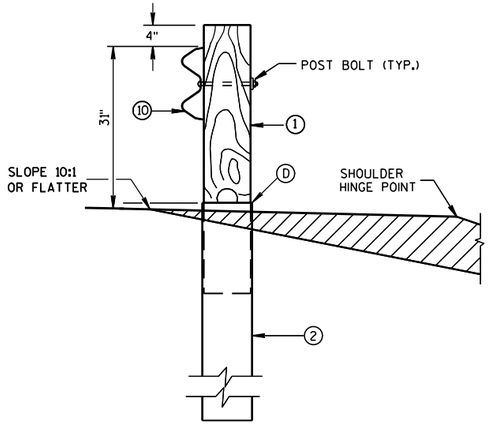
PATTERN AND COLORS ON REFLECTIVE SHEETING TYPE H ARE TO CONFORM TO OM3-L OR OM3-R OF THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES.

THE CENTER OF THE UPPER 3½" DIAMETER HOLE ON POST NUMBER 3 THROUGH POST 9 IS TO BE FLUSH WITH THE GROUND LINE (± ¾")

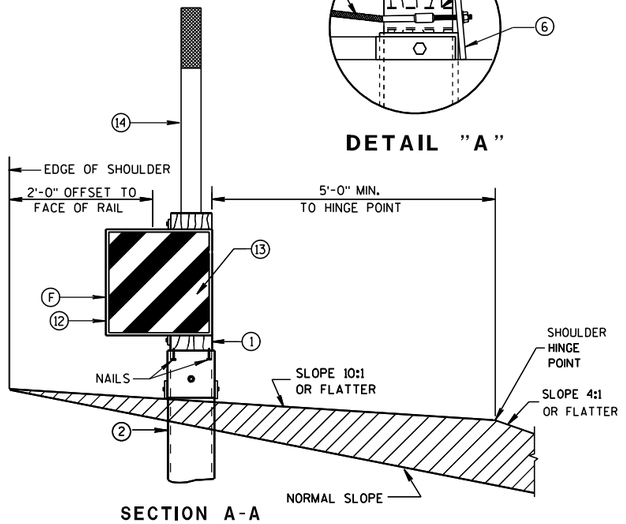




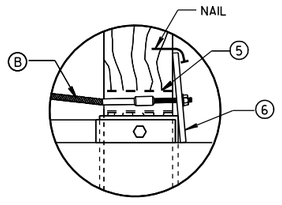
SECTION C-C
TYPICAL AT POST NOS. 3-9



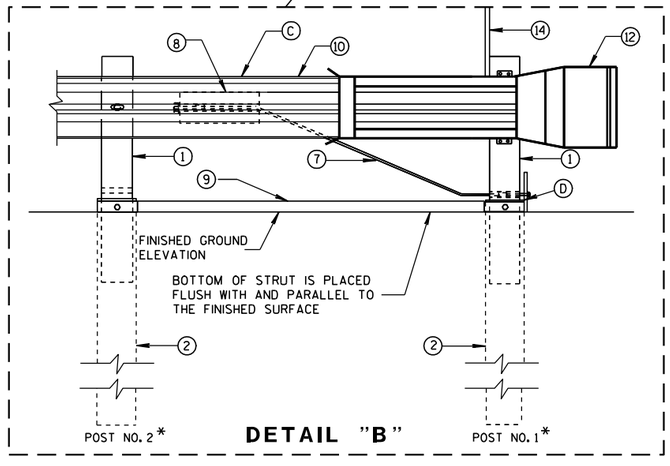
SECTION B-B
TYPICAL AT POST NO. 2*



SECTION A-A
TYPICAL AT POST NO. 1*



DETAIL "A"



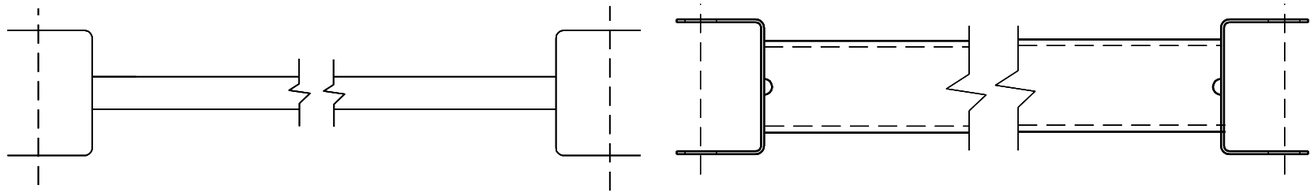
DETAIL "B"

MIDWEST GUARDRAIL SYSTEM
ENERGY ABSORBING TERMINAL (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

S.D.D. 14 B 44-1a

6

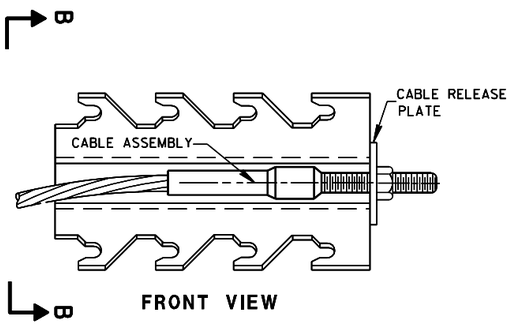


⑨ Ⓗ

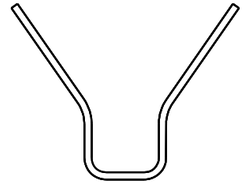
GENERIC GROUND STRUT

BILL OF MATERIALS

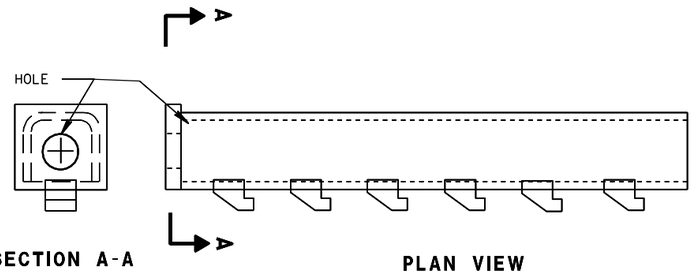
PART NO.	DESCRIPTION MATERIALS PROVIDED BY MGS EAT MANUFACTURER. SEE MANUFACTURER'S DETAILS FOR MORE INFORMATION.
①	WOOD BREAKAWAY POST
②	6" X 8" X 0.188", 6'-0" LONG FOUNDATION TUBE AT POSTS 1 AND 2
③	WOOD CRT
④	WOOD BLOCKOUT
⑤	PIPE SLEEVE
⑥	BEARING PLATE
⑦	BCT CABLE ASSEMBLY
⑧	ANCHOR CABLE BOX
⑨	GROUND STRUT
⑩	PERFORATED W-BEAM RAIL END PANEL, 12'-6" LONG.
⑪	STANDARD W-BEAM RAIL. MULTIPLE SECTIONS REQUIRED. SECTIONS VARY IN LENGTH.
⑫	END SECTION EAT
⑬	0.040" ALUMINUM SHEET WITH REFLECTIVE SHEETING TYPE H (ONLY THE SHEETING IS SUPPLIED BY THE MANUFACTURER)
⑭	EAT MARKER POST - YELLOW (SEE APPROVED PRODUCTS LIST)



FRONT VIEW



SECTION B-B

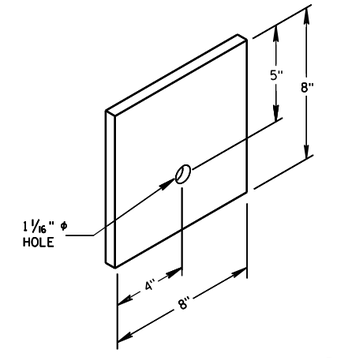


SECTION A-A

PLAN VIEW

GENERIC ANCHOR CABLE BOX

⑧ Ⓗ



BEARING PLATE

⑥

MIDWEST GUARDRAIL SYSTEM ENERGY ABSORBING TERMINAL (MGS)

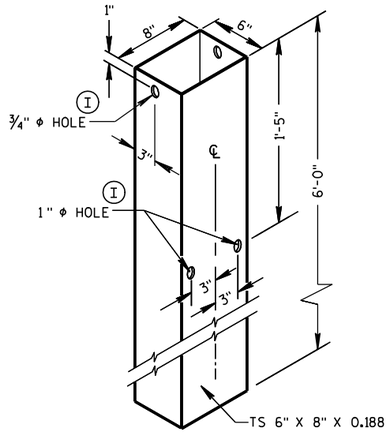
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

6

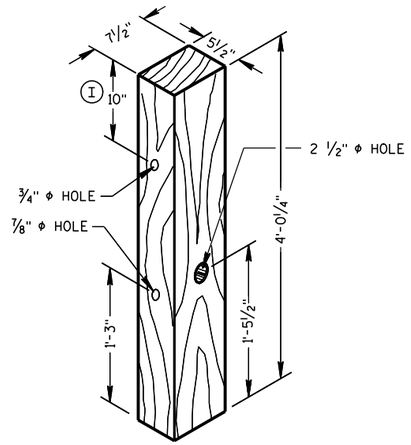
S.D.D. 14 B 44-1b

6

S.D.D. 14 B 44-1b

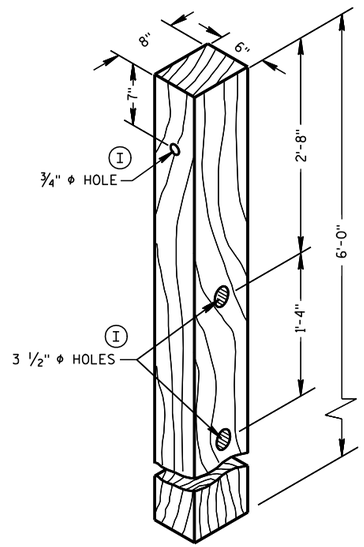


FOUNDATION TUBE (2)



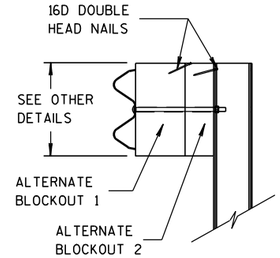
POSTS NUMBER 1 AND 2

WOOD BREAKAWAY POST (1)

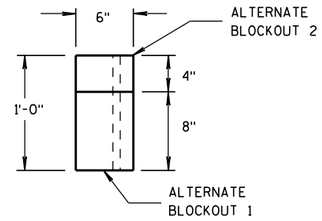


POSTS NUMBER 3-9

WOOD CRT POST (3)

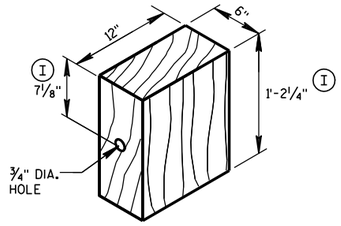


SIDE VIEW



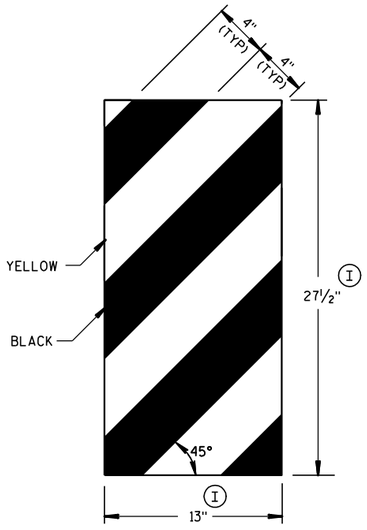
TOP VIEW

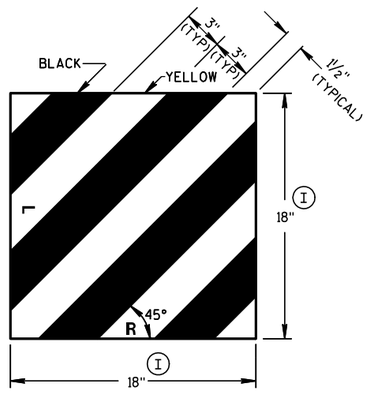
ALTERNATE WOOD BLOCKOUT DETAIL



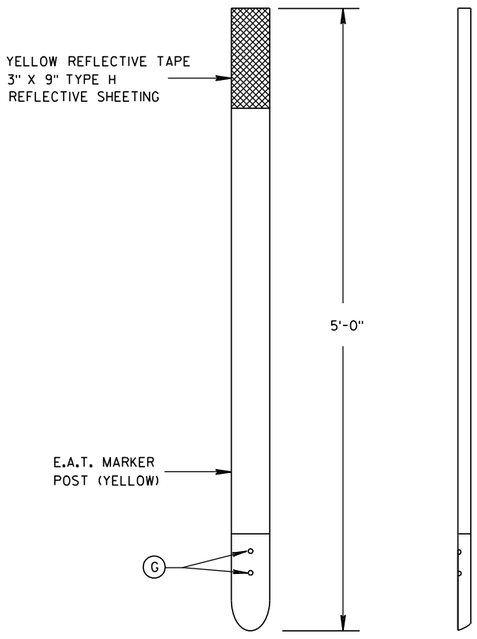
WOOD BLOCKOUT (4)

REQ'D. AT ALL POSTS EXCEPT POST NO'S 1 & 2





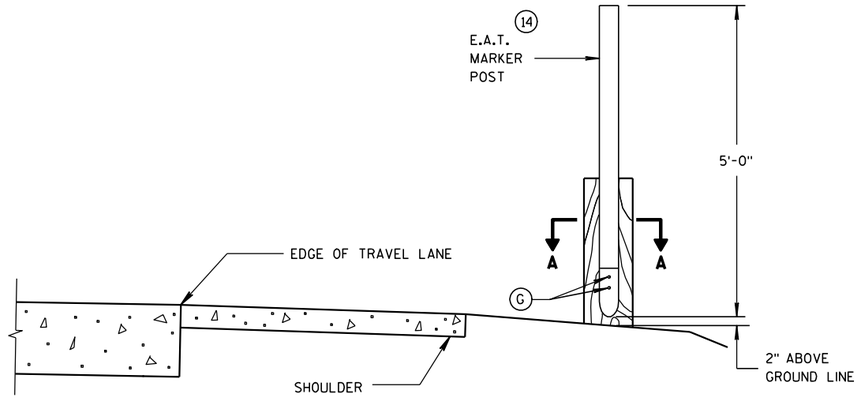
GENERIC REFLECTIVE SHEETING (13) (H)



FRONT VIEW

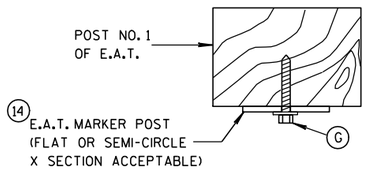
SIDE VIEW

E.A.T. MARKER POST (14)



TYPICAL INSTALLATION OF E.A.T. MARKER POST BACKSIDE OF POST NO. 1

(E.A.T. AND RAIL REMOVED FOR CLARITY)



SECTION A-A

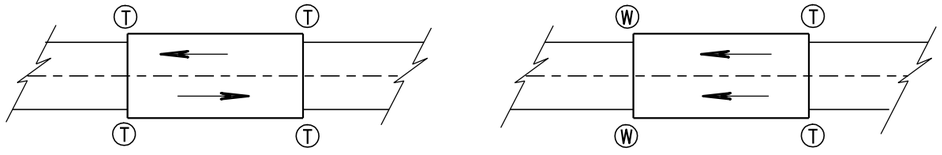
MIDWEST GUARDRAIL SYSTEM ENERGY ABSORBING TERMINAL (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
5/23/2011 — DATE
/S/ Jerry H. [illegible] — ROADWAY STANDARDS ENGINEER
FHWA

6

S.D.D. 14 B 44-1c



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

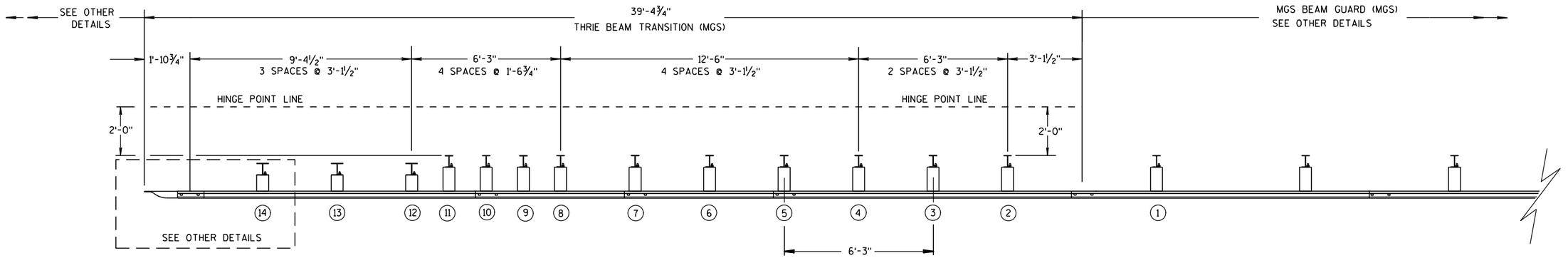
BOLT THE THRIE BEAM TO ALL POSTS AND BLOCKOUTS. DRILL OR PUNCH BOLT HOLES IN THE BEAM IF THE POST SPACING IS LESS THAN 6'-3.

IF ROCK IS ENCOUNTERED, REMOVE ROCK TO FULL DEPTH OF POST PLUS 2½", AND 12" DIAMETER AROUND POST. SEE 14B42 FOR MORE DETAILS.

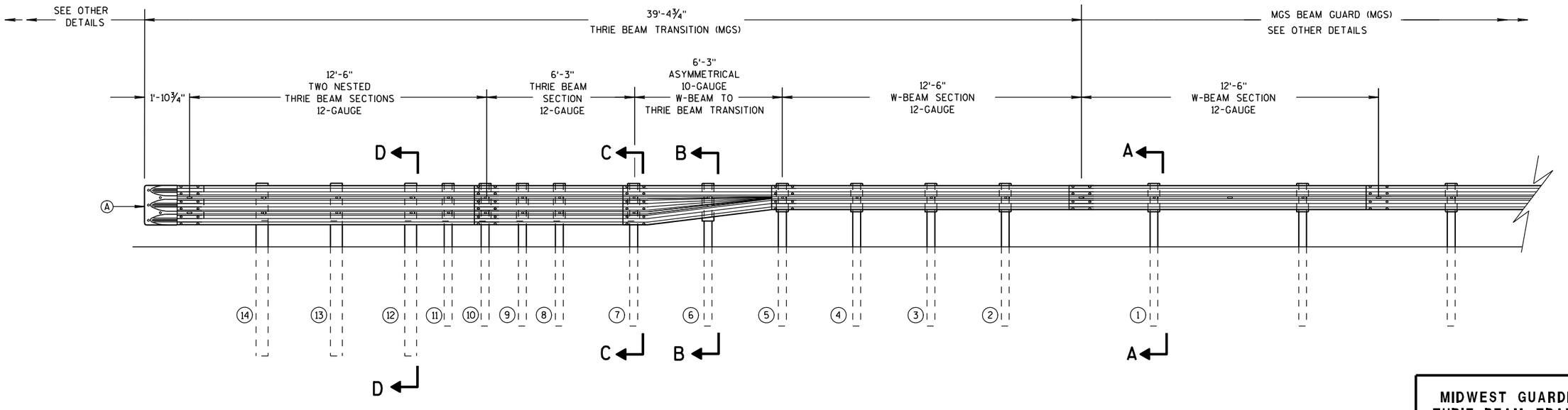
TRANSITION USES STEEL POSTS ONLY.

SEE STANDARD DETAIL DRAWING 14 B 42 FOR MORE INFORMATION.

Ⓐ BRIDGE RAILING TYPE "W" DOES NOT REQUIRE A TERMINAL CONNECTOR.



PLAN VIEW



ELEVATION VIEW

MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION

MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

6

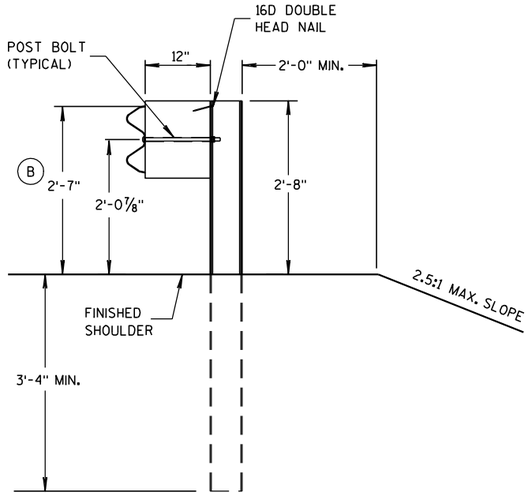
S.D.D. 14 B 45-3a

6

S.D.D. 14 B 45-3a

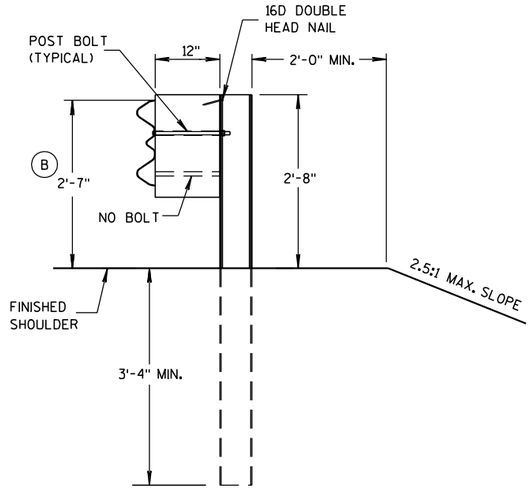
GENERAL NOTES

(B) TOLERANCE FOR TOP OF W-BEAM RAIL IS ± 1".



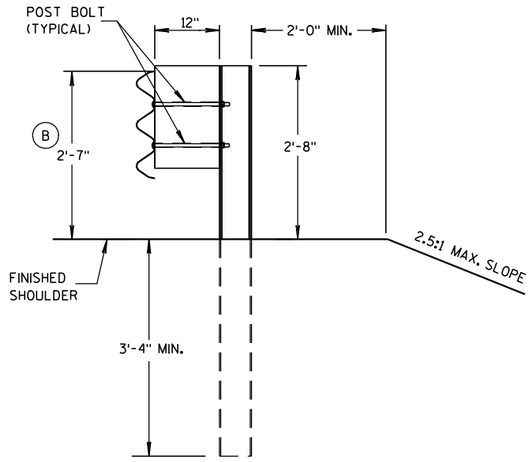
SECTION A-A

POSTS 1-5



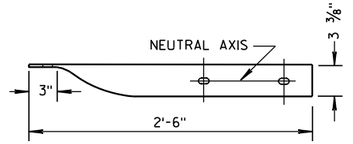
SECTION B-B

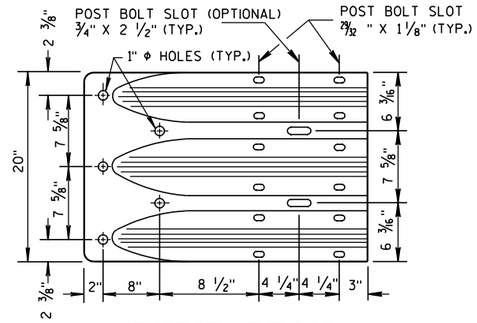
POST 6



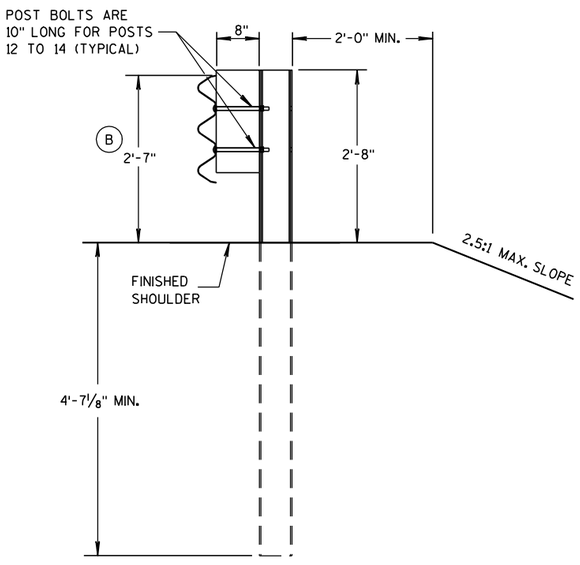
SECTION C-C

POSTS 7-11





THRIE BEAM TERMINAL CONNECTOR



SECTION D-D

POSTS 12-14

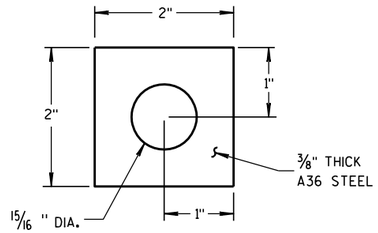
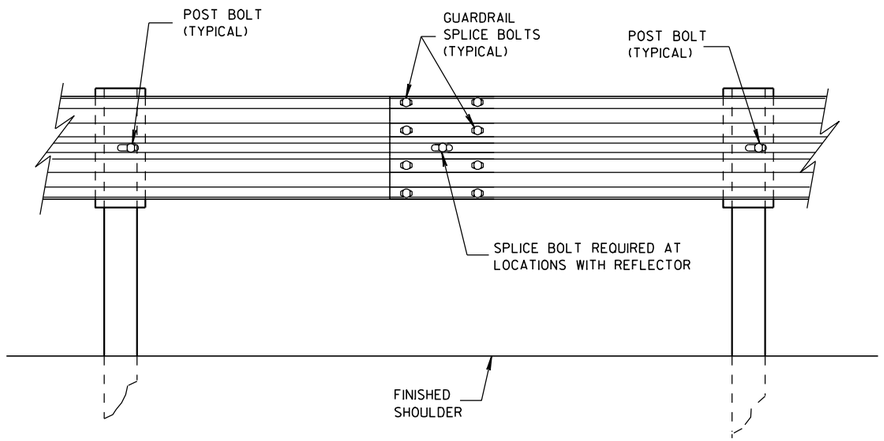
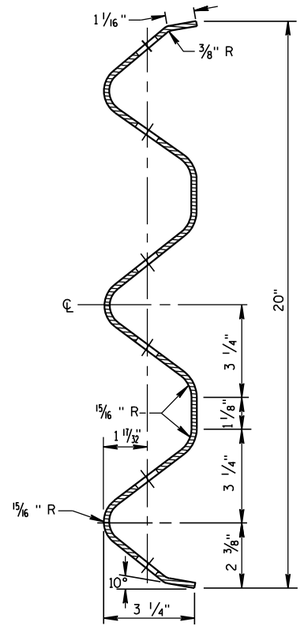


PLATE WASHER DETAIL



SPLICE DETAIL



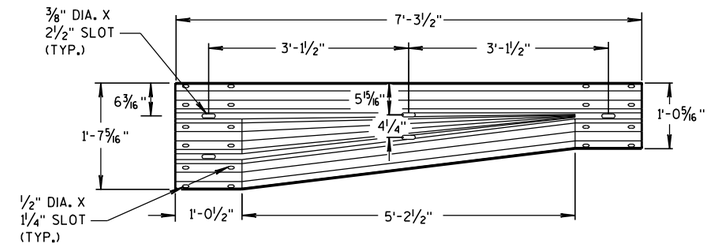
SECTION THRU THRIE BEAM RAIL ELEMENT

MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

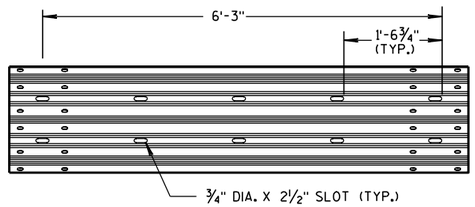
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

6

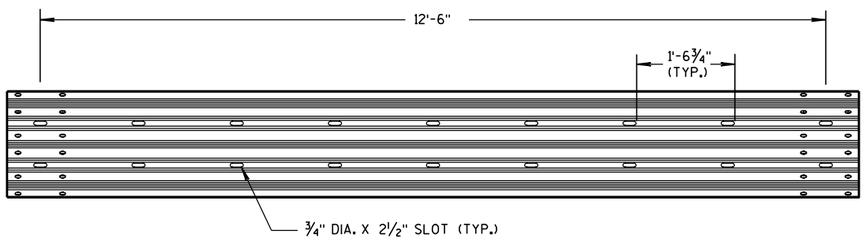
S.D.D. 14 B 45-3b



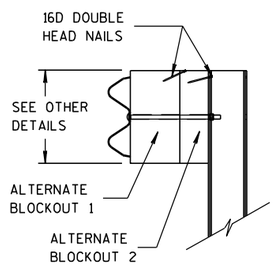
W-BEAM TO THRIE BEAM TRANSITION SECTION



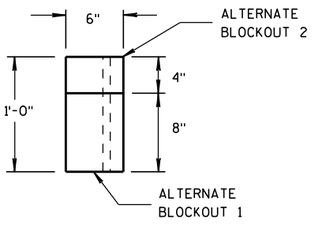
6'-3" THRIE BEAM SECTION



12'-6" THRIE BEAM SECTION

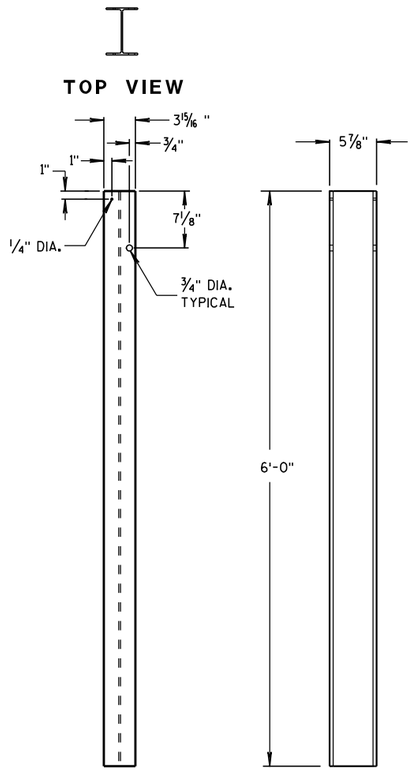


SIDE VIEW

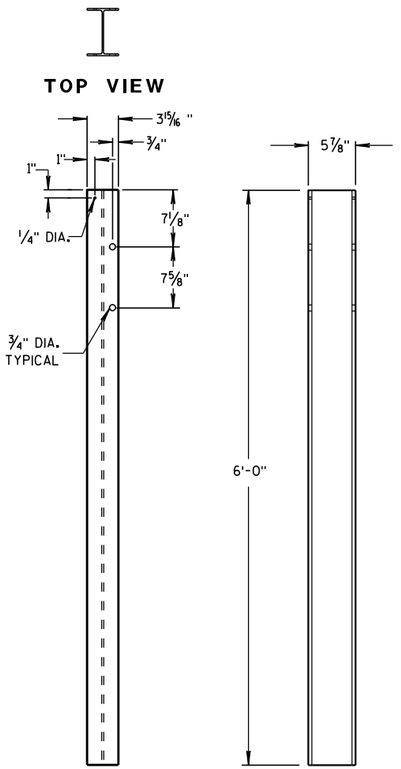


TOP VIEW

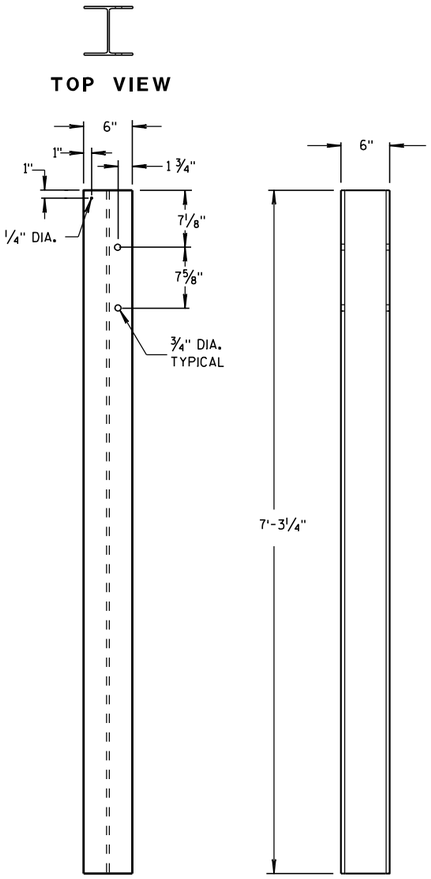
ALTERNATE WOOD BLOCKOUT DETAIL



STEEL POSTS 1-5

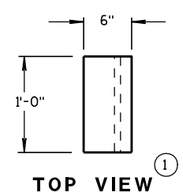


STEEL POSTS 6-11

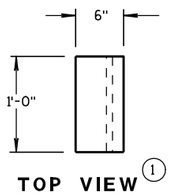


STEEL POSTS 12-14

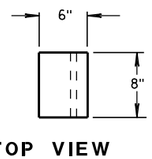
1 WOOD BLOCKS MAY BE CONSTRUCTED OUT OF 2 WOOD BLOCKS. SEE ALTERNATE WOOD BLOCK DETAIL.



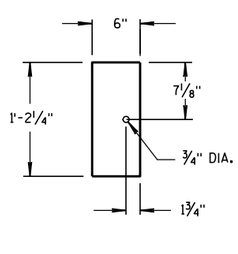
TOP VIEW (1)



TOP VIEW (1)

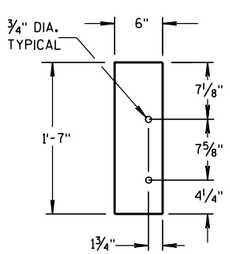


TOP VIEW



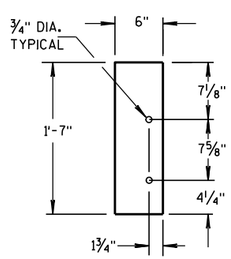
FRONT VIEW

BLOCKOUT POSTS 1-5



FRONT VIEW

BLOCKOUT POSTS 6-11



FRONT VIEW

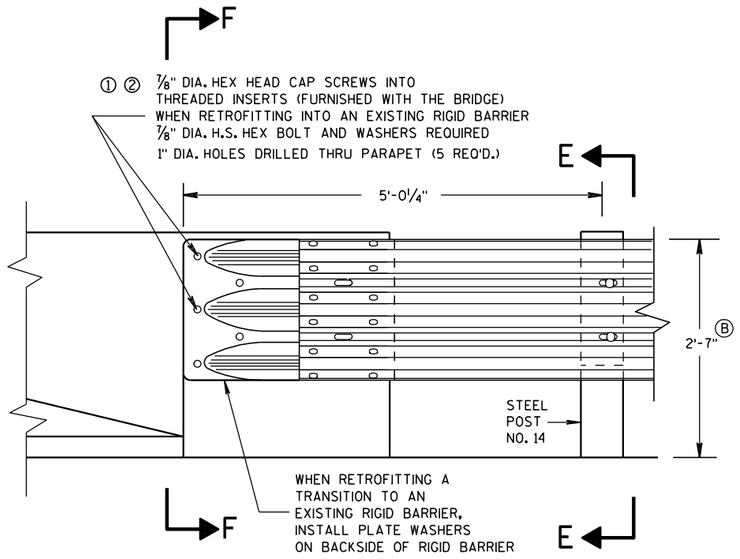
BLOCKOUT POSTS 12-14

STEEL POST SIZES

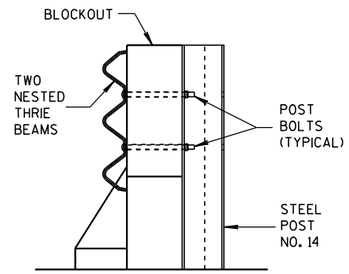
POST NUMBER	SECTION TYPE	LENGTH
1	W6x9	72"
2	W6x9	72"
3	W6x9	72"
4	W6x9	72"
5	W6x9	72"
6	W6x9	72"
7	W6x9	72"
8	W6x9	72"
9	W6x9	72"
10	W6x9	72"
11	W6x9	72"
12	W6x15	87 1/8"
13	W6x15	87 1/8"
14	W6x15	87 1/8"

MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



FRONT VIEW



SECTION E-E

GENERAL NOTES

THESE ARE TYPICAL CONNECTION DETAILS. ADJUST THE POSTION OF CONNECTIONS TO EXISTING BRIDGES TO FIT THE ACTUAL BRIDGE AND SITE DIMENSIONS.

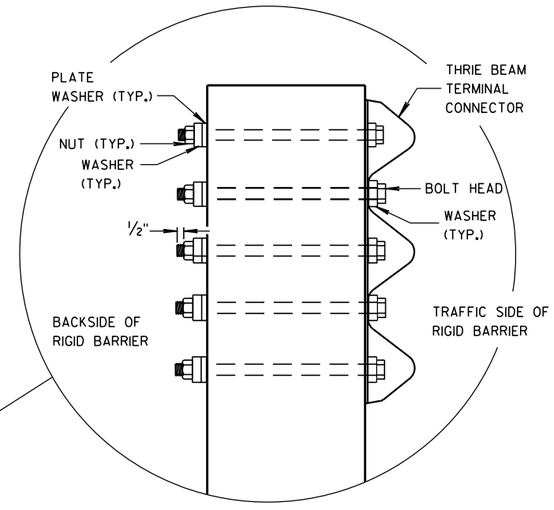
① DRILLING BOLT HOLES THROUGH THE PARAPET, BOLTS, NUTS, WASHERS AND REPAIRING DAMAGED CONCRETE ARE INCIDENTAL TO THE CONTRACT.

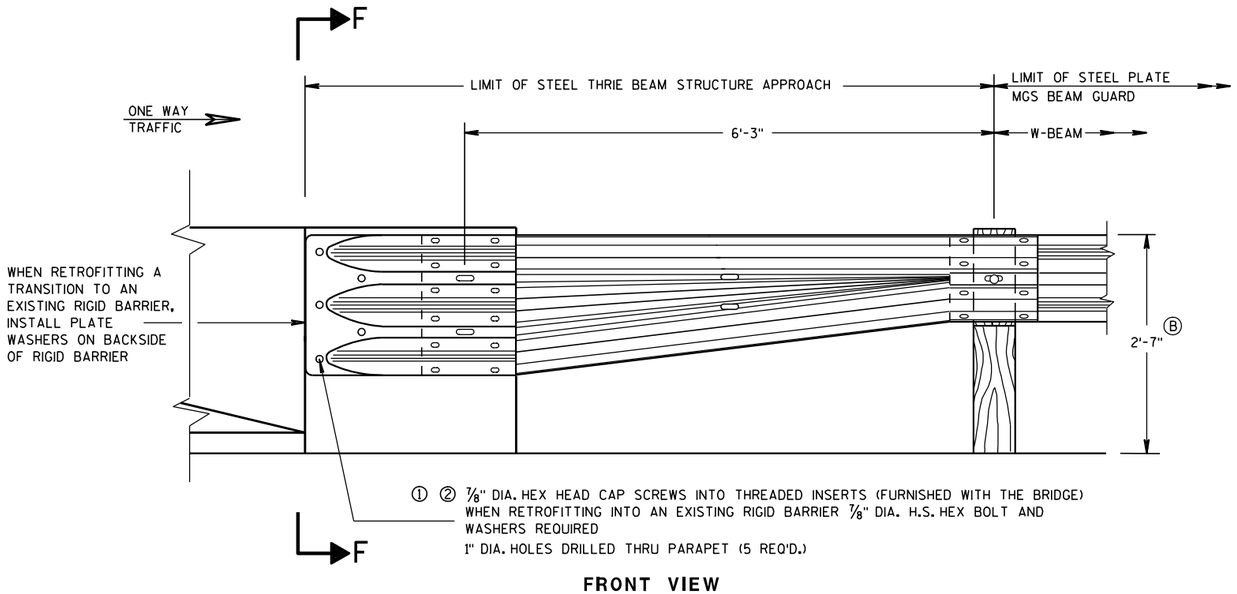
② BOLTS MAY BE A325 BOLTS OR A449 BOLTS. BOLT LENGTH AND THREADING LENGTH ARE TO ALLOW FOR A TIGHT CONNECTION BETWEEN RIGID BARRIER AND THRIE BEAM CONNECTION PLATE. CONTRACTOR IS TO FIELD VERIFY BOLT LENGTH AND THREAD LENGTH. ONE ROUND WASHER REQUIRED BETWEEN BOLT HEAD AND THRIE BEAM CONNECTOR PLATE. BOLTS THAT EXTEND THROUGH THE PARAPET AND OUT THE BACK FACE REQUIRE A HARDENED ROUND STEEL WASHER THAT IS 2" O.D. X 5/8" THICK AND ONE PLATE WASHER. REPAIR ANY DAMAGED CONCRETE FROM BOLT INSTALLATION.

③ THE RECESS FOR A W-BEAM CONNECTION, WHICH EXISTS ON SOME PARAPETS OF THIS TYPE, SHALL BE FILLED WITH A TREATED TIMBER BLOCKOUT. BLOCKOUT SIZE IS 1'-6" X 2'-0" X 3 1/2".

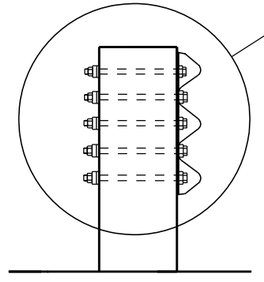
Ⓑ TOLERANCE FOR TOP OF BEAM IS ± 1".

THRIE BEAM CONNECTION TO BRIDGE PARAPET WITH SQUARE ENDS





FRONT VIEW



SECTION F-F

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

8/31/2012 — DATE

/S/ Jerry H. [illegible] — ROADWAY STANDARDS [illegible] ENGINEER

FHWA

6
S.D.D. 14 B 45-3d

GENERAL NOTES

THESE ARE TYPICAL CONNECTION DETAILS. ADJUST THE POSTION OF CONNECTIONS TO EXISTING BRIDGES TO FIT THE ACTUAL BRIDGE AND SITE DIMENSIONS.

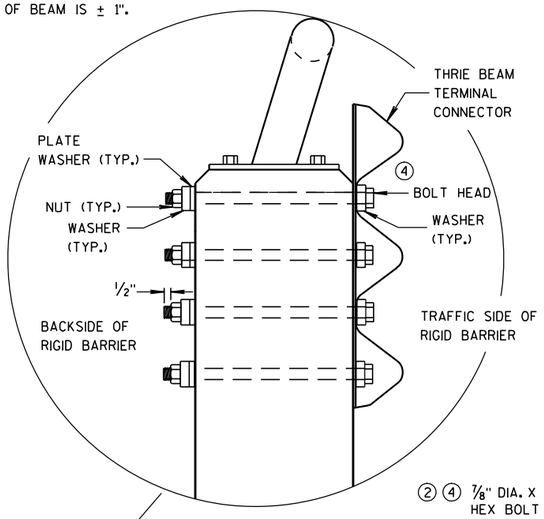
① DRILLING BOLT HOLES THROUGH THE PARAPET, BOLTS, NUTS, WASHERS AND REPAIRING DAMAGED CONCRETE ARE INCIDENTAL TO THE CONTRACT.

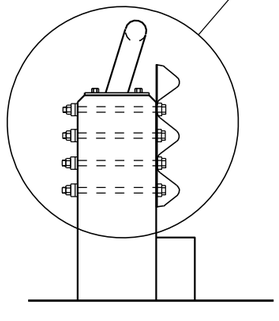
② BOLTS MAY BE A325 BOLTS OR A449 BOLTS. BOLT LENGTH AND THREADING LENGTH ARE TO ALLOW FOR A TIGHT CONNECTION BETWEEN RIGID BARRIER AND THRIE BEAM CONNECTION PLATE. CONTRACTOR IS TO FIELD VERIFY BOLT LENGTH AND THREAD LENGTH. ONE ROUND WASHER REQUIRED BETWEEN BOLT HEAD AND THRIE BEAM CONNECTOR PLATE. BOLTS THAT EXTEND THROUGH THE PARAPET AND OUT THE BACK FACE REQUIRE A HARDENED ROUND STEEL WASHER THAT IS 2" O.D. X 5/8" THICK AND ONE PLATE WASHER. REPAIR ANY DAMAGED CONCRETE FROM BOLT INSTALLATION.

③ THE RECESS FOR A W-BEAM CONNECTION, WHICH EXISTS ON SOME PARAPETS OF THIS TYPE, SHALL BE FILLED WITH A TREATED TIMBER BLOCKOUT. BLOCKOUT SIZE IS 1'-6" X 2'-0" X 3 1/2". BLOCK IS INCIDENTAL TO THE CONTRACT.

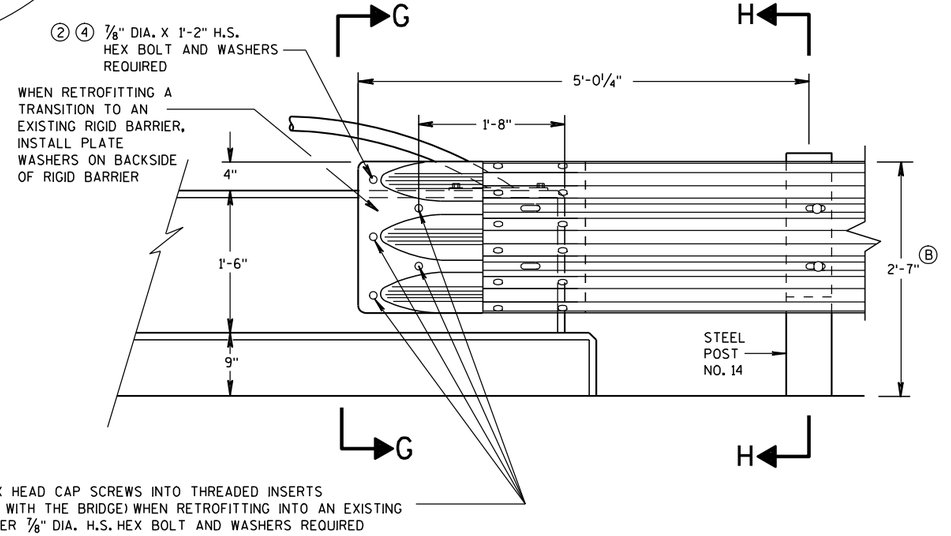
④ BOLT, NUT AND WASHERS NOT REQUIRED FOR THIS LOCATION WHEN RETROFITTING AN EXISTING PAPAPET AND THE HOLE IS EITHER ABOVE PARAPET OR WITHIN 4 INCHES OF THE EDGE OF PARAPET.

Ⓑ TOLERANCE FOR TOP OF BEAM IS ± 1".

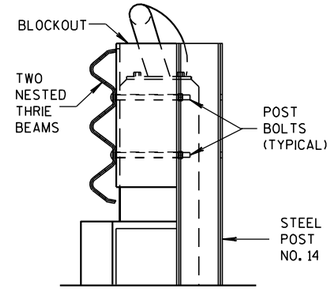




SECTION G-G

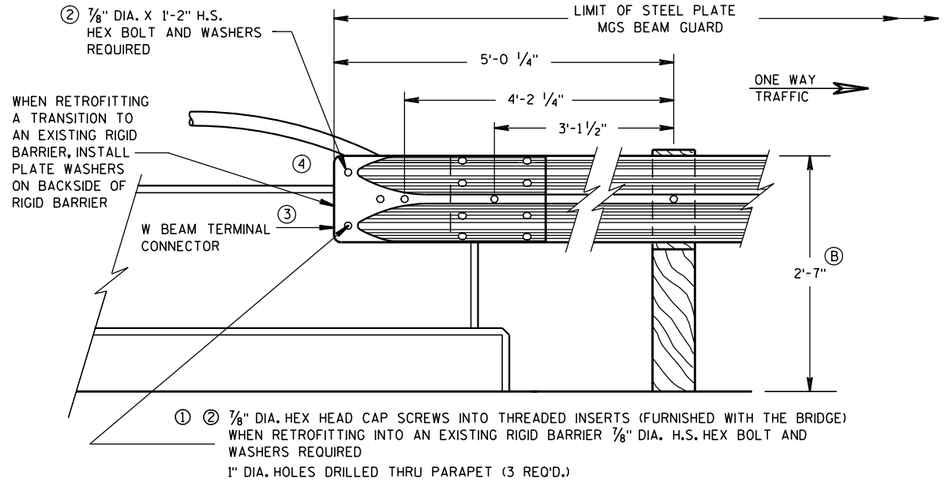


FRONT VIEW



SECTION H-H

THRIE BEAM CONNECTION TO VERTICAL FACED PARAPETS

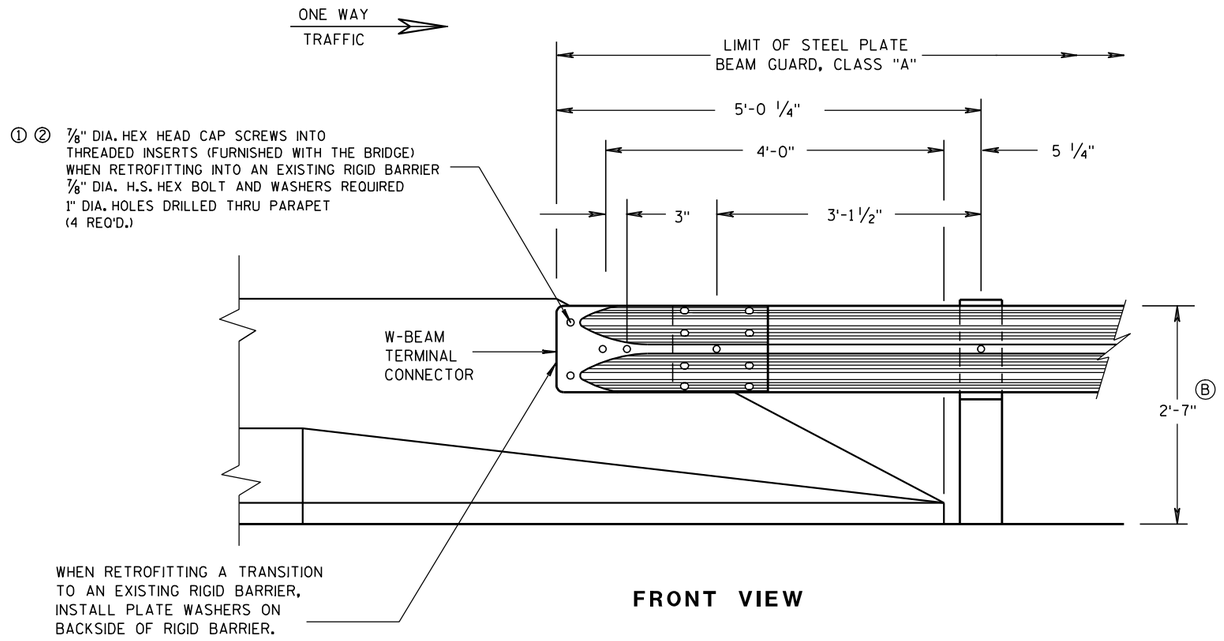


FRONT VIEW

W BEAM CONNECTION TO VERTICAL FACE PARAPET

(USE ONLY ON THE TRAFFIC EXIT END OF ONE WAY BRIDGES)

MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED	
8-31-2012 DATE	/S/ Jerry H. Zogg ROADWAY STANDARDS DEVELOPMENT ENGINEER
FHWA	



FRONT VIEW

W BEAM CONNECTION TO PARAPETS WITH SLOPED ENDS

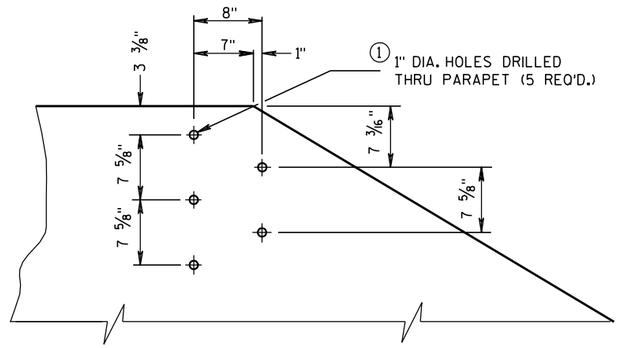
(USE ONLY AT TRAFFIC EXIT END OF ONE WAY BRIDGE)

GENERAL NOTES

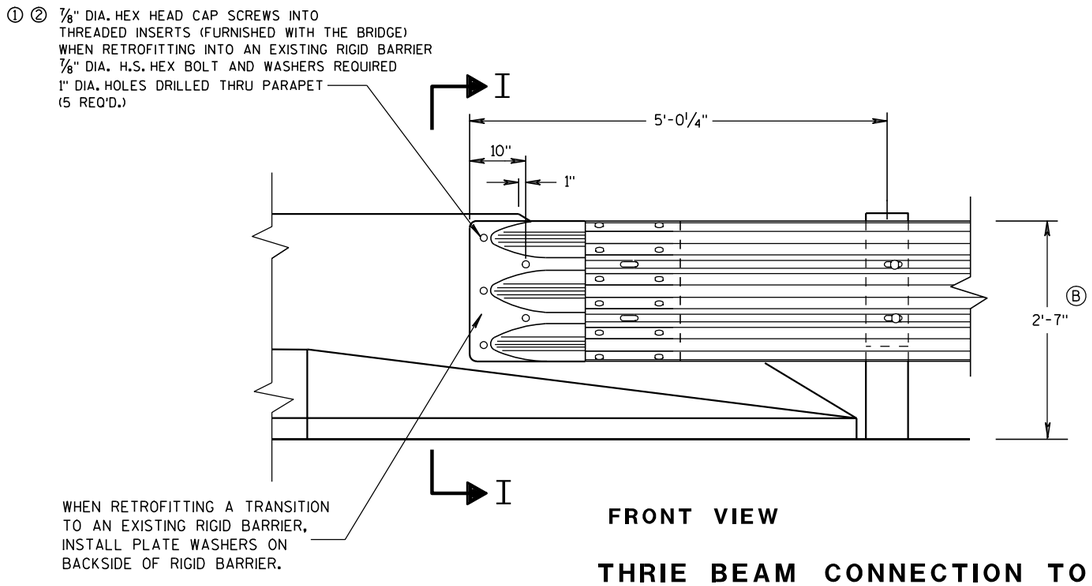
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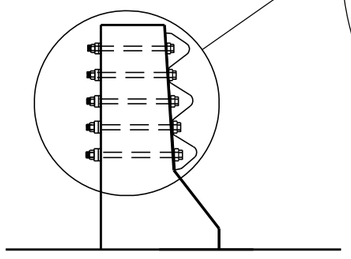
Ⓑ TOLERANCE FOR TOP OF BEAM IS ± 1".



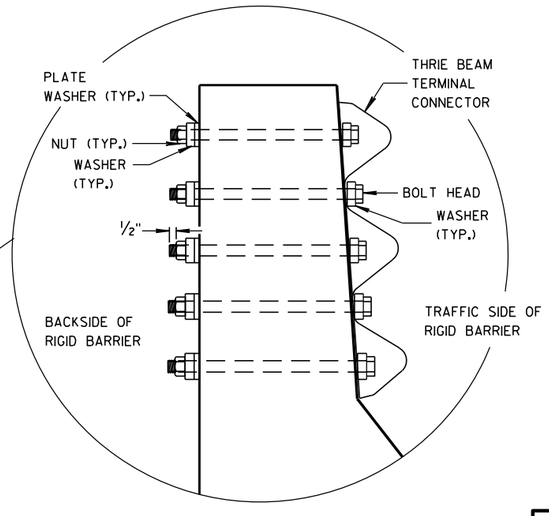
DRILL HOLE LOCATION AND PATTERN FOR THRIE BEAM CONNECTION



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

8/31/2012 — DATE

/S/ Jerry H. Zogg — ROADWAY STANDARDS ENGINEER

192

ENT

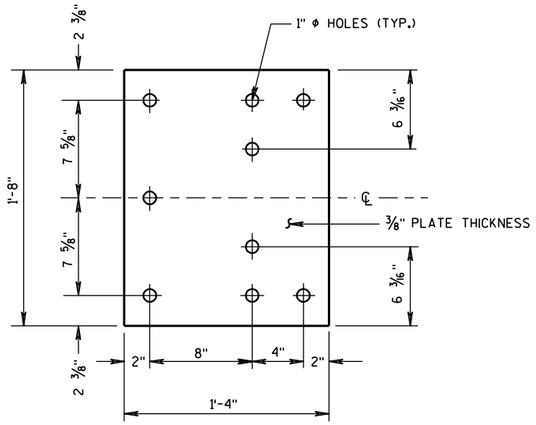
FHWA

6

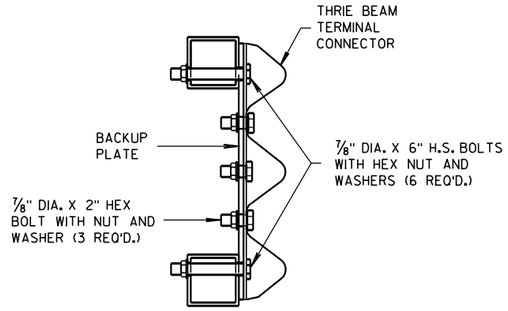
S.D.D. 14 B 45-3f

6

S.D.D. 14 B 45-3f



BACK-UP PLATE DETAIL

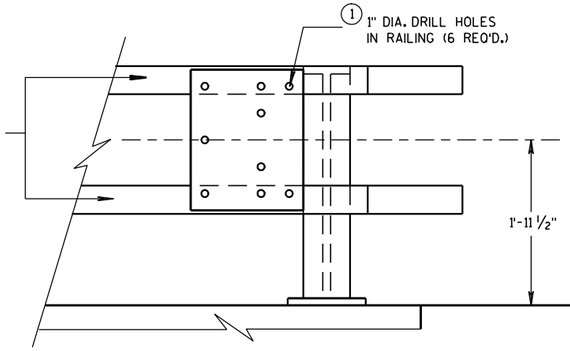


SECTION J-J

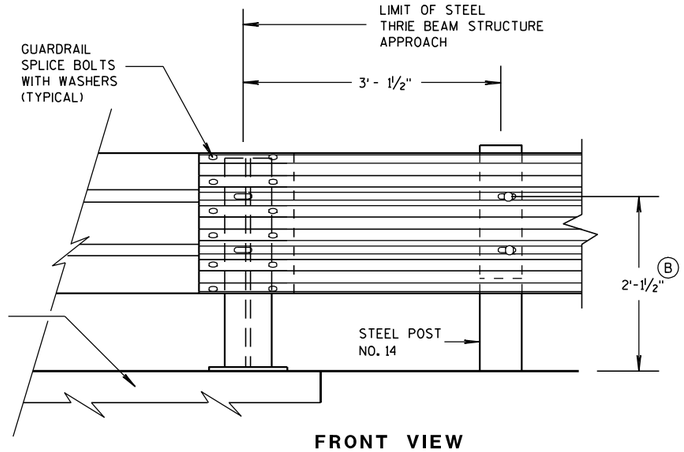
GENERAL NOTES

(1) DRILLING HOLES THROUGH THE PAPRPET, BOLTS, NUTS, WASHERS AND REPAIRING DAMAGED CONCRETE ARE INCIDENTAL TO THE CONTRACT.

(B) TOLERANCE FOR TOP OF BEAM IS ± 1".

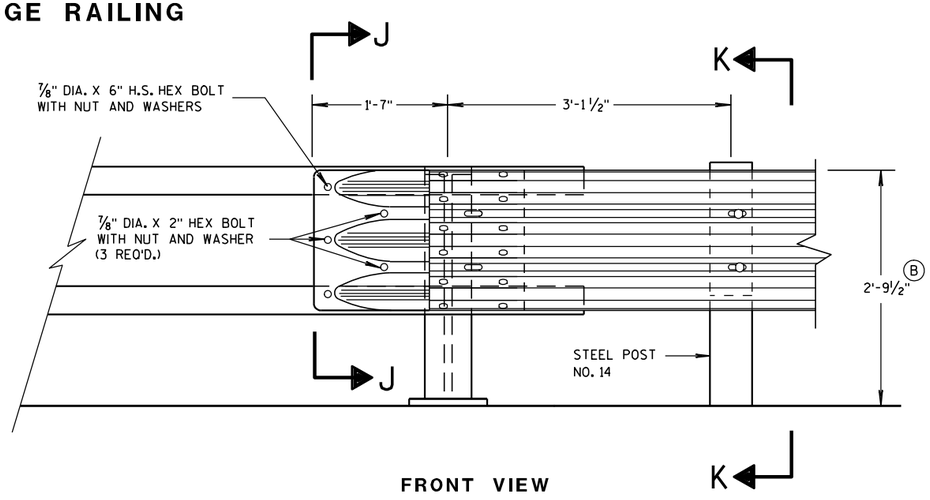


BACK-UP PLATE MOUNTING ONTO BRIDGE RAILING

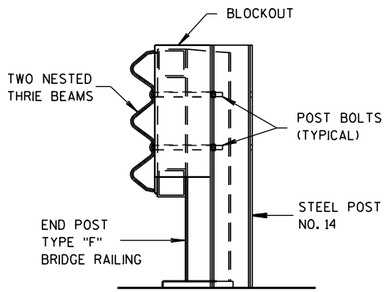


FRONT VIEW

THRIE BEAM CONNECTION TO STEEL RAILING TYPE "W"



FRONT VIEW



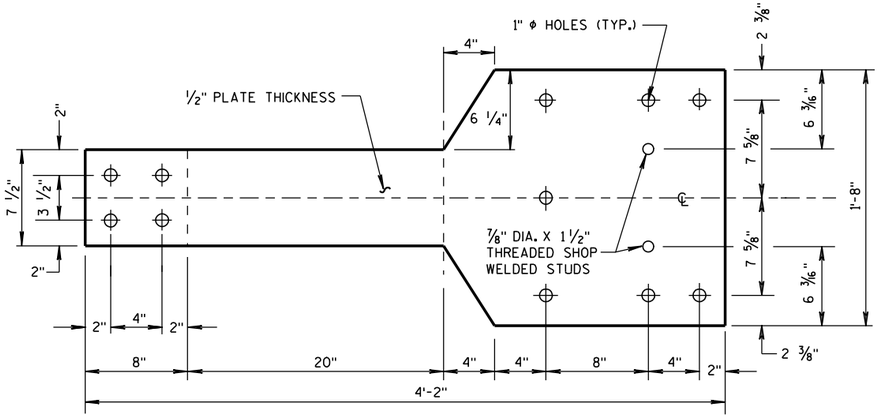
SECTION K-K

THRIE BEAM CONNECTION TO TUBULAR RAILING TYPE "F"

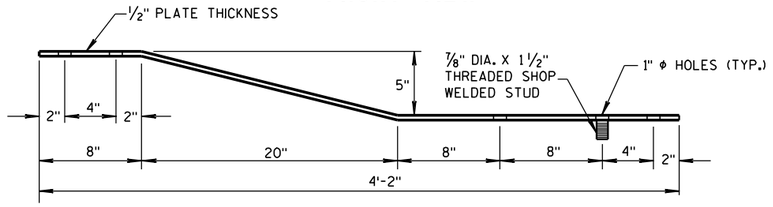
MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED 8/31/2012 DATE FHWA	/S/ Jerry H. Zogg ROADWAY STANDARDS DEVELOPMENT ENGINEER

GENERAL NOTES

(B) TOLERANCE FOR TOP OF W-BEAM RAIL IS ± 1".

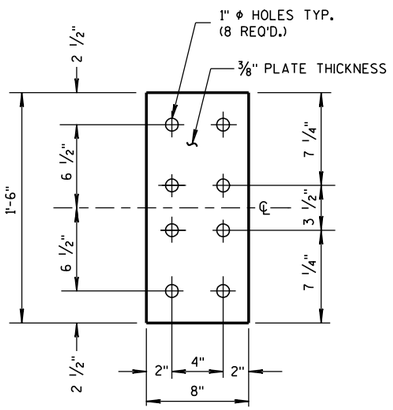


FRONT VIEW



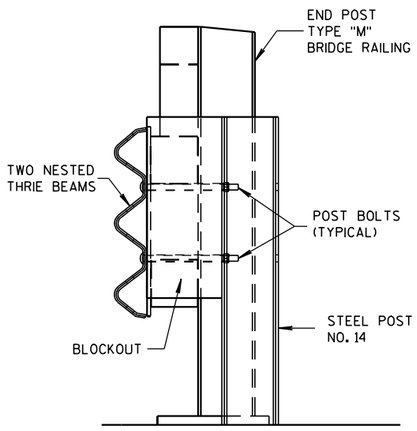
PLAN VIEW

BACK-UP PLATE DETAIL, TYPE "M"

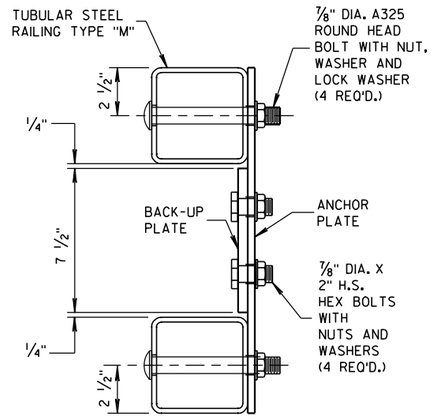


FRONT VIEW

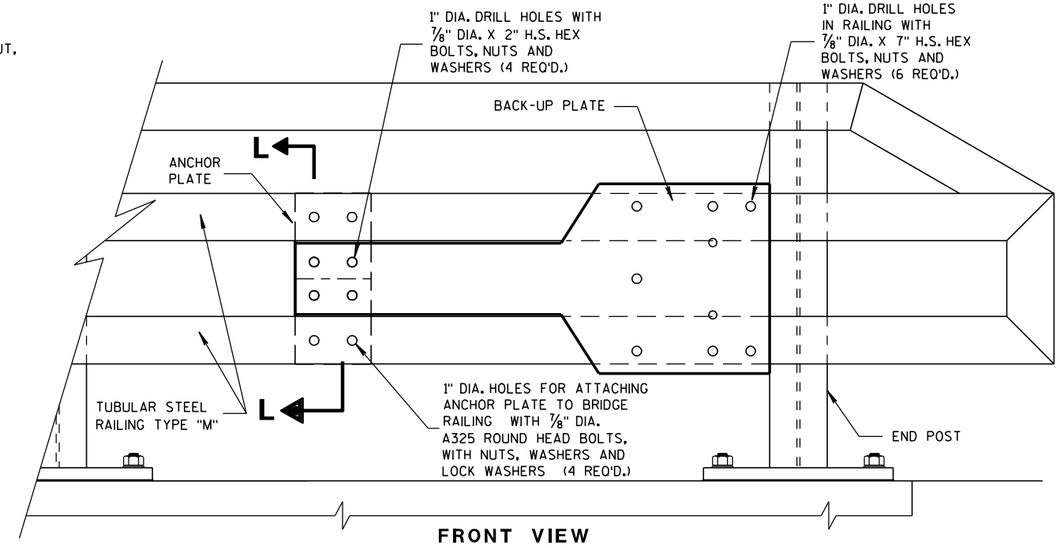
ANCHOR PLATE DETAIL, TYPE "M"



SECTION M-M

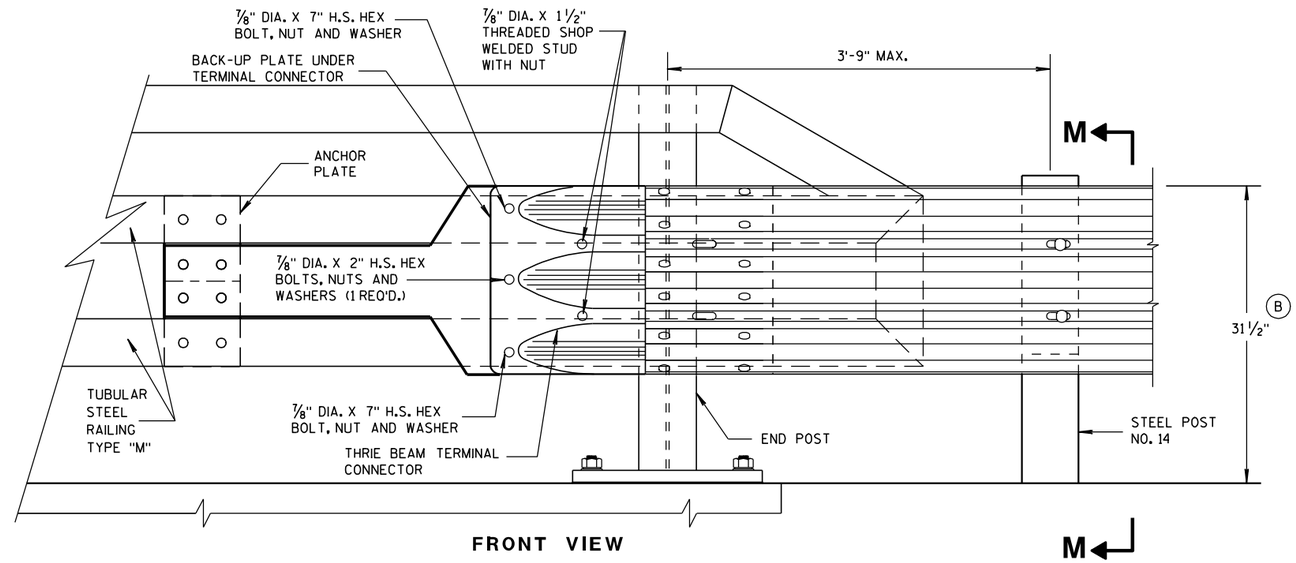


SECTION L-L

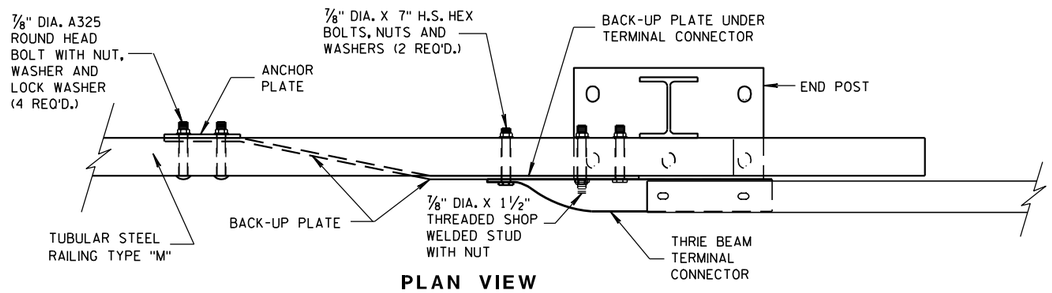


FRONT VIEW

ANCHOR AND BACK-UP PLATE MOUNTING TO BRIDGE RAILING, TYPE "M"



FRONT VIEW



PLAN VIEW

THRIE BEAM CONNECTION TO TUBULAR RAILING, TYPE "M"

MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
8-31-2012 DATE
/S/ Jerry H. [illegible]
ROADWAY STANDARDS ENGINEER

194

FHWA

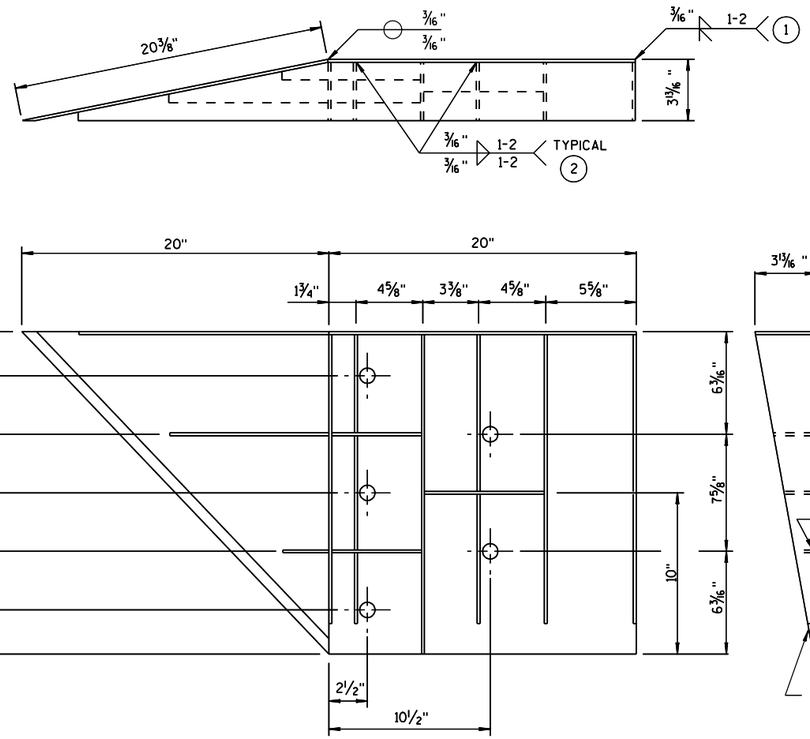
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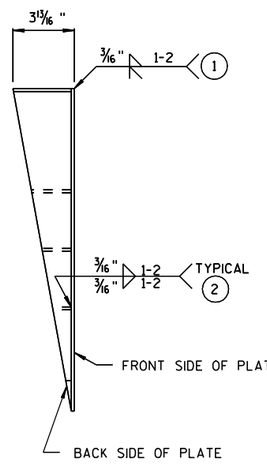
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S.D. 14 B 45-3h

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S.D. 14 B 45-3h





WELDING INSTRUCTION

(VIEWED FROM BACK SIDE OF PLATE)

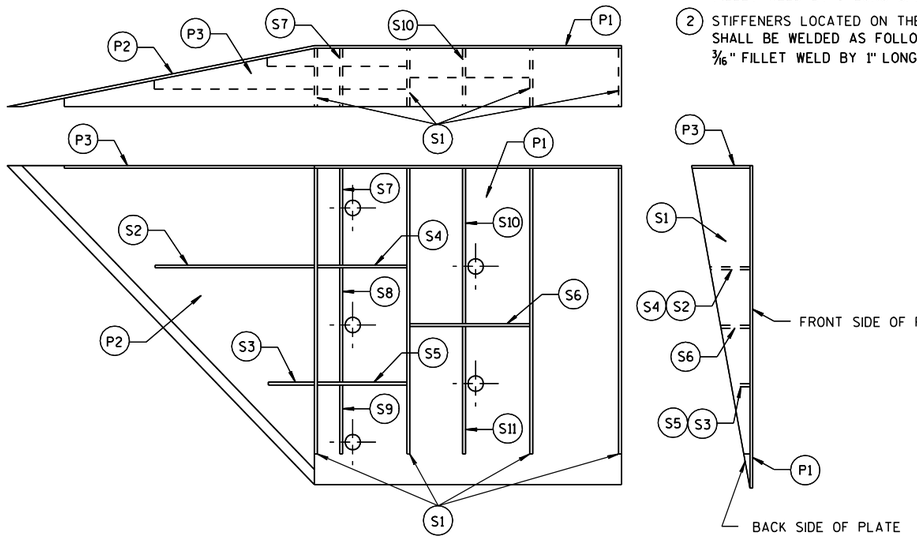


PLATE AND STIFFENER IDENTIFICATION

(VIEWED FROM BACK SIDE OF PLATE)

GENERAL NOTES

COVER PLATE PANELS ARE ⅜" THICK.

ALL STIFFENERS ARE ¼" THICK.

CONNECTOR PLATE SHALL BE FABRICATED FROM ASTM GRADE A36 STEEL AND GALVANIZED.

FOR GALVANIZED REQUIREMENTS, SEE SECTION 614 OF THE STANDARD SPECIFICATIONS.

ALL HOLE DIAMETERS SHALL BE 1".

FOR OPPOSITE SIDE INSTALLATION MIRROR DRAWINGS.

(1) STIFFENERS LOCATED AT THE OUTSIDE EDGES OF THE COVER PLATES SHALL BE WELDED AS FOLLOWS:
SINGLE BEVEL GROOVE WELD ON EXTERNAL SIDES AND ⅜" FILLET WELD BY 1" LONG SPACED AT 2" ON INTERNAL SIDES.

(2) STIFFENERS LOCATED ON THE INSIDE OF THE COVER PLATE SHALL BE WELDED AS FOLLOWS:
⅜" 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"	⅜"
P2	1		20" x 20" x 28⁹⁄₁₆"	⅜"
P3	1		39" x 3⅝" x 20" x 19⁵⁄₁₆"	⅜"
S1	4		18⁷⁄₁₆" x 3⅝" x 18¾"	¼"
S2	1		10¼" x 2⁷⁄₁₆" x 10⅜" x ½"	¼"
S3	1		3" x 1⁹⁄₁₆" x 3⅛" x ½"	¼"
S4	1		6⅛" x 2⁷⁄₁₆"	¼"
S5	1		6⅛" x 1⁹⁄₁₆"	¼"
S6	1		7¾" x 1¾"	¼"
S7	1		2⁹⁄₁₆" x 6" x 3⅝" x 5⅞"	¼"
S8	1		1⁵⁄₃₂" x 7½" x 2½" x 7⅜"	¼"
S9	1		6⅛" x 6⅜" x 1³⁄₃₂"	¼"
S10	1		1⅞" x 9⅞" x 3⅝" x 9¹¹⁄₁₆"	¼"
S11	1		8½" x 8¾" x 1¹³⁄₁₆"	¼"

SINGLE SLOPE CONNECTION PLATE

MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

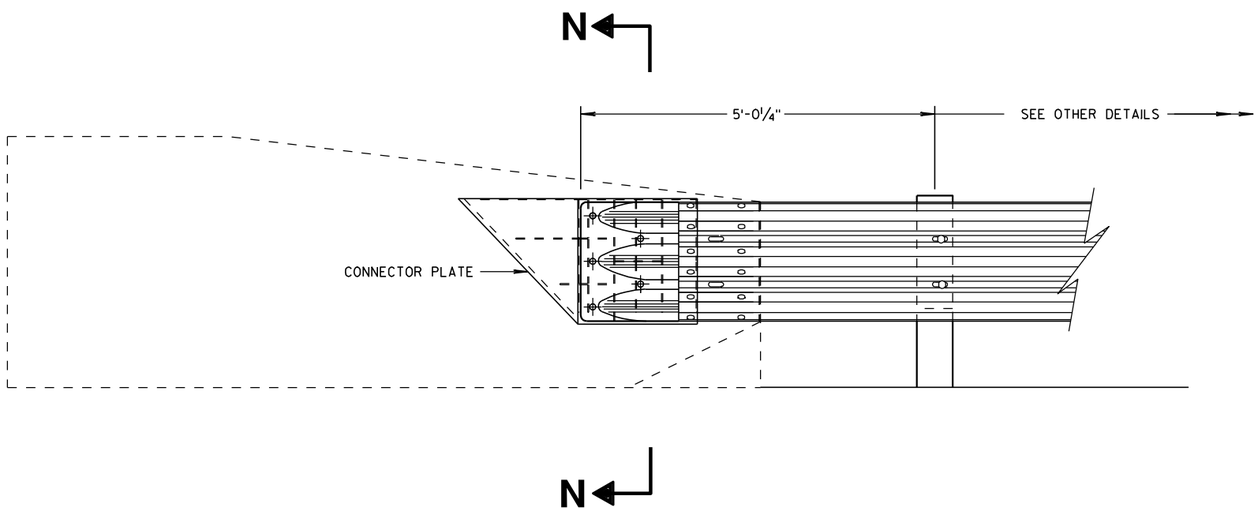
APPROVED
8/31/2012
DATE
/S/ Jerry H ----
ROADWAY STANDARDS ENGINEER
FHWA

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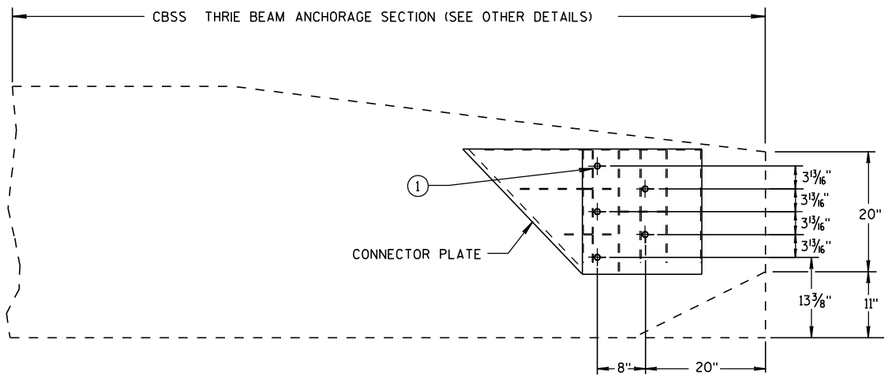
S.D.D. 14 B 45-3i

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S.D.D. 14 B 45-3i



THRIE BEAM CONNECTION TO SINGLE SLOPE BARRIER

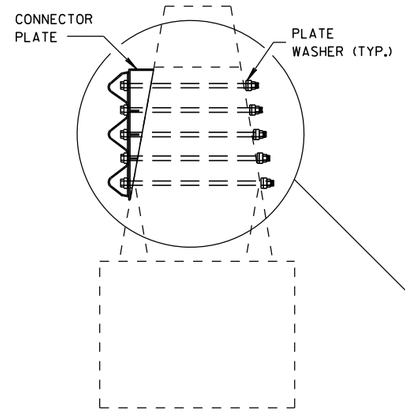


SINGLE SLOPE CONNECTION PLATE PLACEMENT

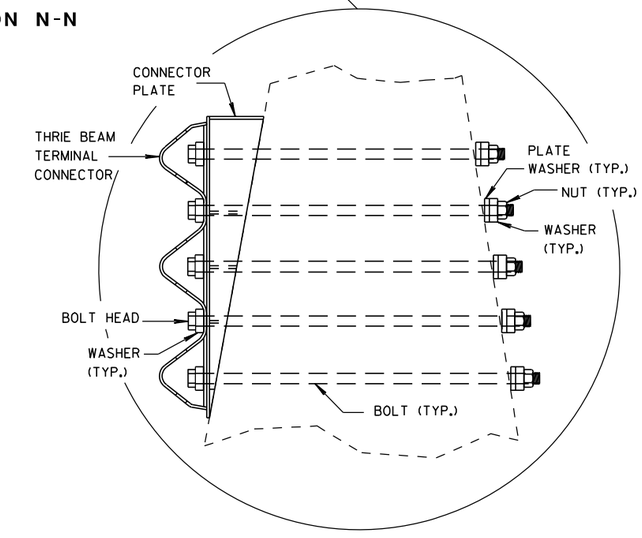
GENERAL NOTES

CONNECTOR PLATE, DRILLING BOLT HOLES THROUGH THE PARAPET, BOLTS, NUTS, WASHERS AND REPAIRING DAMAGED CONCRETE ARE INCIDENTAL TO THE CONTRACT.

(1) BOLTS MAY BE A325 BOLTS OR A449 BOLTS. BOLT LENGTH AND THREADING LENGTH ARE TO ALLOW FOR A TIGHT CONNECTION BETWEEN RIGID BARRIER AND THRIE BEAM CONNECTION PLATE. CONTRACTOR IS TO FIELD VERIFY BOLT LENGTH AND THREAD LENGTH. ONE ROUND WASHER REQUIRED BETWEEN BOLT HEAD AND THRIE BEAM CONNECTOR PLATE. BOLTS THAT EXTEND THROUGH THE PARAPET AND OUT THE BACK FACE REQUIRE A HARDENED ROUND STEEL WASHER THAT IS 2" O.D. X ⅝" 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

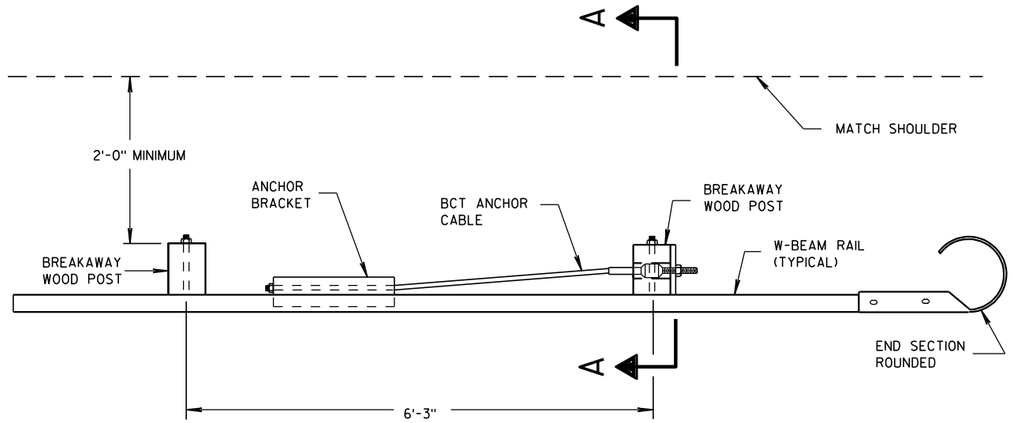
APPROVED
8/31/2012 — DATE
/S/ Jerry H. [illegible] — ROADWAY STANDARDS ENGINEER
FHWA

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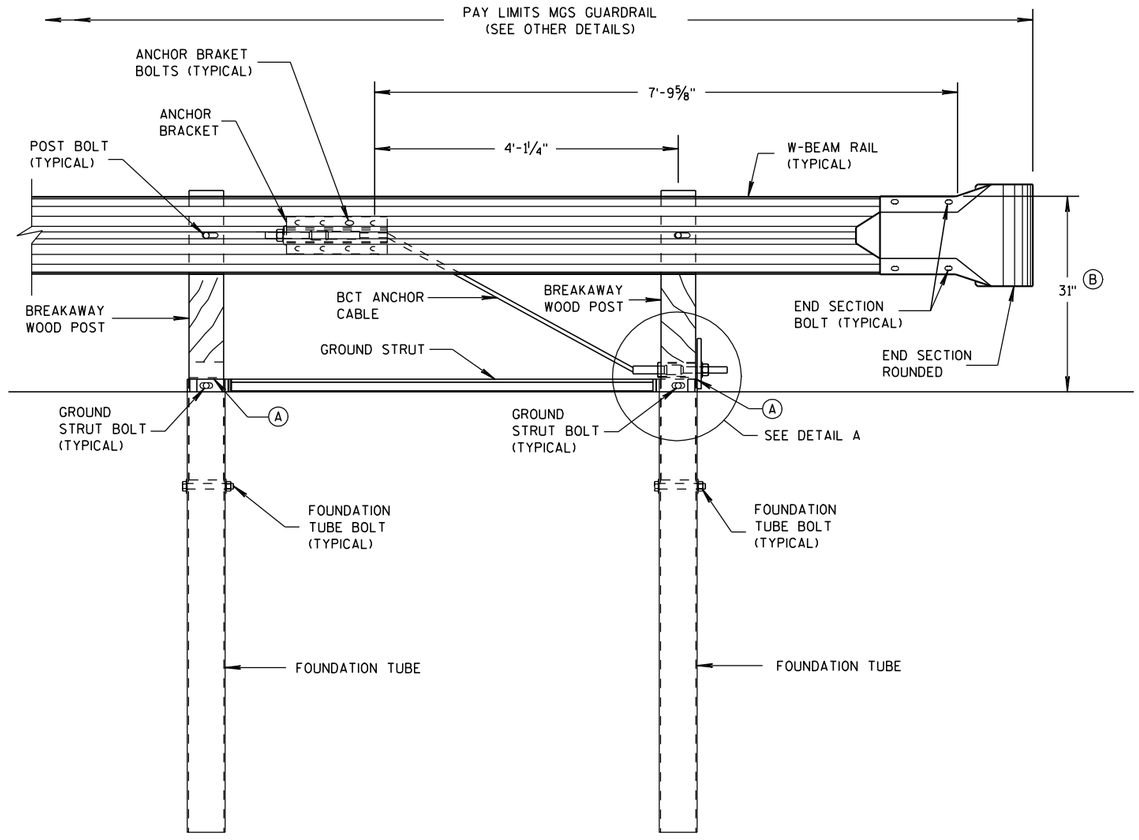
S.D.D. 14 B 45-3j

6

S.D.D. 14 B 45-3j

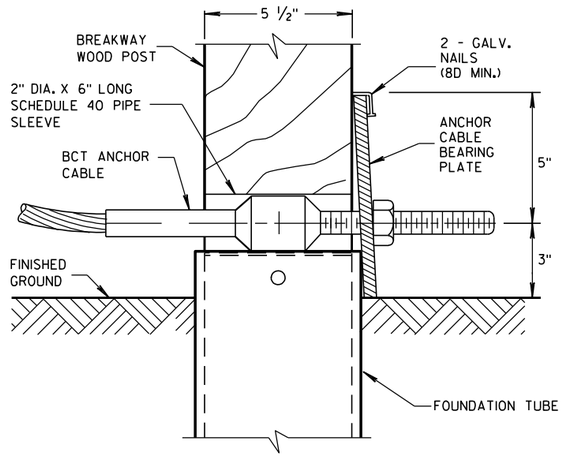


PLAN VIEW



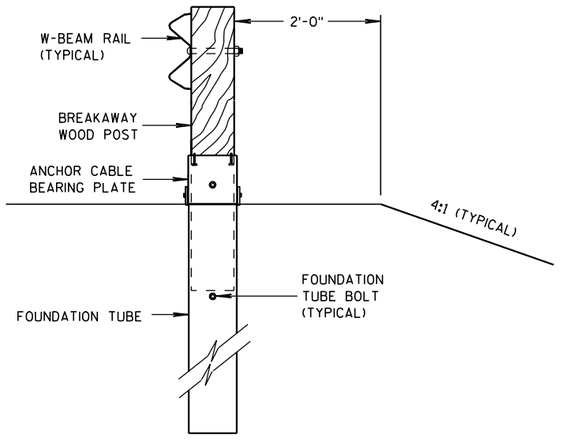
FRONT VIEW

END RAIL DETAIL



DETAIL A

POST NO. 1
GROUNG STRUT NOT SHOWN FOR CLARITY.



SECTION A-A

GENERAL NOTES

SEE SDD 14 B 42 FOR MORE INFORMATION.

POST BOLTS ARE A ⅝" DIAMETER X 10" LONG GUARDRAIL BOLT. A POST BOLT REQUIRES A ⅝" DIAMETER DH MODIFIED (RECESSED) HEAVY HEX NUT AND ⅝" DIAMETER FLAT WASHER.

FOUNDATION TUBE BOLTS ARE A ⅞" DIAMETER X 7½" LONG HEAVY HEX HEAD BOLT. A FOUNDATION TUBE BOLT REQUIRES A ⅞" DIAMETER DH HEAVY HEX NUT AND A ⅝" DIAMETER FLAT WASHER.

GROUND STRUT BOLTS ARE A ⅝" DIAMETER X 10" LONG HEAVY HEX HEAD BOLT. A GROUND STRUT BOLT REQUIRES A ⅝" DIAMETER DH HEAVY HEX NUT AND A ⅝" DIAMETER FLAT WASHER.

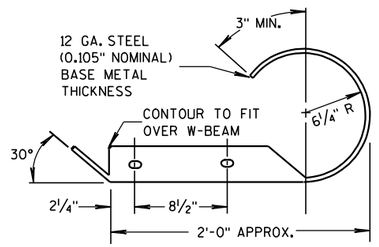
ANCHOR BRAKET BOLTS ARE A ⅝" DIAMETER X 1½" LONG HEAVY HEX HEAD BOLT. AN ANCHOR BRAKET BOLT REQUIRES A ⅝" DIAMETER DH HEAVY HEX NUT AND A FLAT WASHER.

END SECTION BOLTS ARE A ⅝" DIAMETER X 1½" HEAVY HEX HEAD BOLT. AN END SECTION BOLT REQUIRES ⅝" DIAMETER DH HEAVY HEX NUT AND A ⅝" DIAMETER FLAT WASHER.

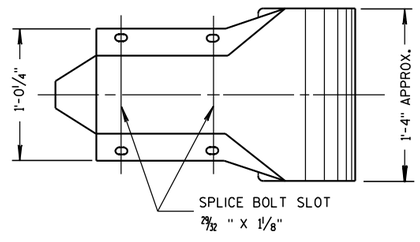
W-BEAM END SECTION ROUNDED HAS THE SAME MATERIAL PROPERTIES AS STANDARD STEEL RAIL.

(A) TOP OF FOUNDATION TUBE SHALL BE NO MORE THAN 3" ABOVE FINISHED GROUND.

(B) FOR NEW CONSTRUCTION TOP OF RAIL IS 31" ± 1".
FOR EXISTING INSTALLATIONS TOP OF RAIL IS BETWEEN 27¾" TO 32" ± 1".



PLAN VIEW



FRONT VIEW

W BEAM END SECTION ROUNDED

MIDWEST GUARDRAIL SYSTEM (MGS) TYPE 2 TERMINAL

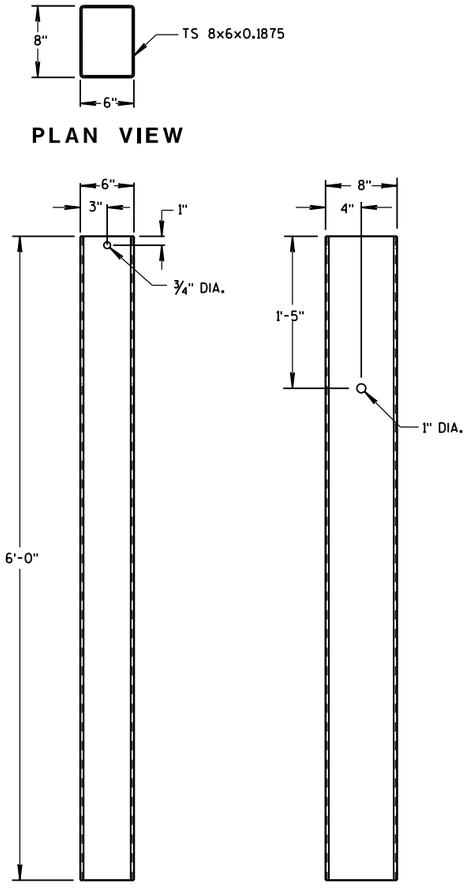
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

6

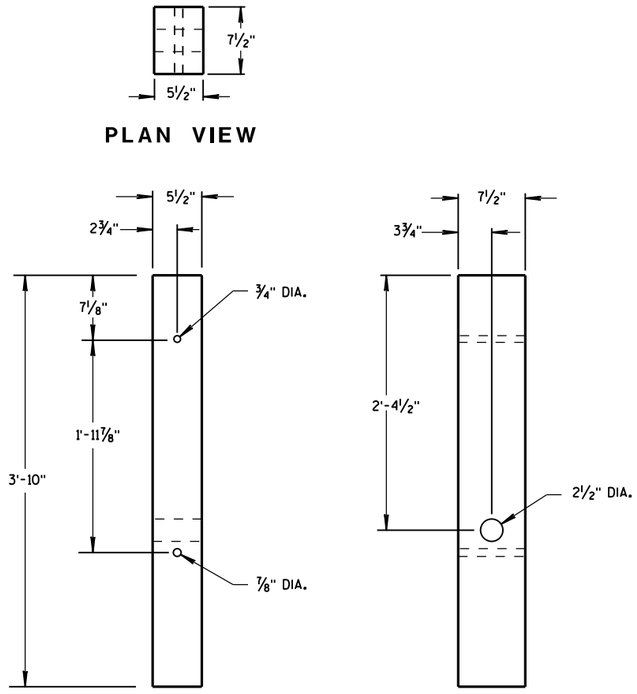
S.D.D. 14 B 47-1a

6

S.D.D. 14 B 47-1a



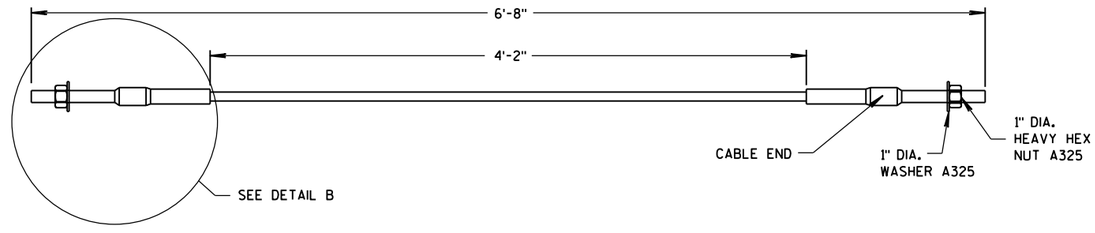
FOUNDATION TUBE



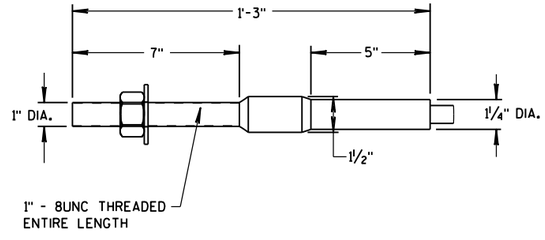
BREAKAWAY WOOD POST

GENERAL NOTES

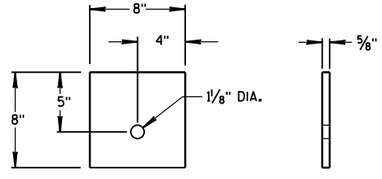
BCT ANCHOR CABLE IS A ⅜" DIAMETER 6X19 IWRC IPS GALVANIZED WIRE ROPE. THE SWAGED FITTINGS AND STUD ARE REQUIRED. THE END FITTING SHALL BE MACHINED FROM HOT-ROLLED CARBON STEEL CONFORMING TO ASTM A576 GRADE 1035 AND GALVANIZED ACCORDING TO ASTM A123. THE TREADED STUD SHOULD CONFORM TO ASTM A325 OR SAE GRADE 5. MINIMUM BREAKING STRENGTH OF WIRE ROPE IS 43,000 LB. WIRE ROPE IS TO BE TAUT.



BCT ANCHOR CABLE



DETAIL B



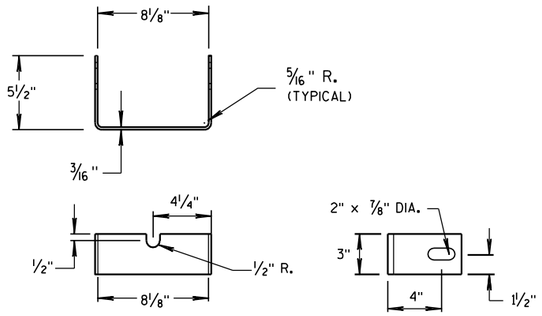
ANCHOR CABLE
BEARING PLATE

MIDWEST GUARDRAIL
SYSTEM (MGS) TYPE 2 TERMINAL

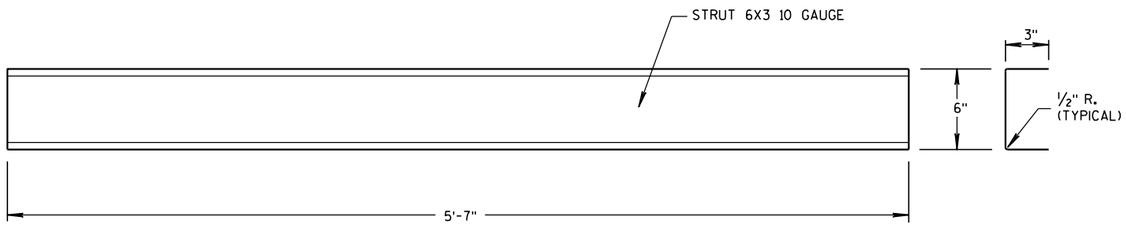
STATE OF WISCONSIN
DEPARTMENT OF TRANSPOI

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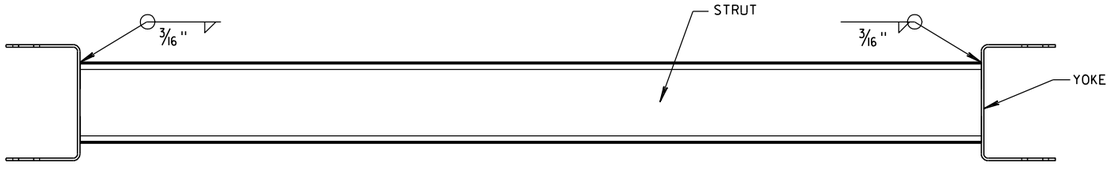
S.D.D. 14 B 47-1b



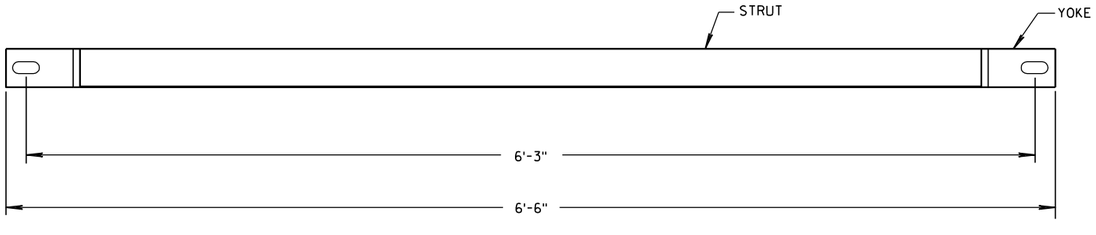
YOKE DETAIL



STRUT DETAIL

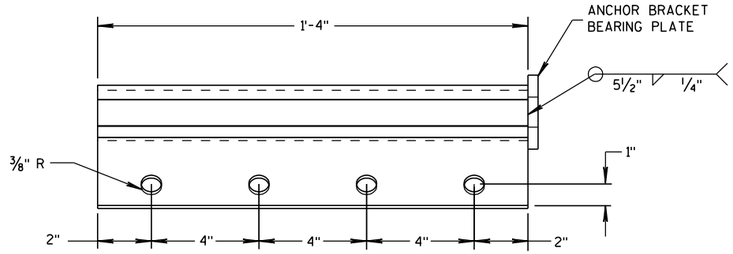


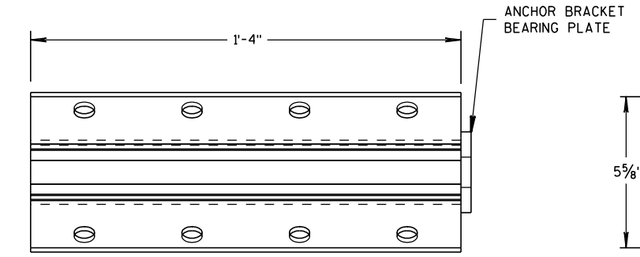
PLAN VIEW

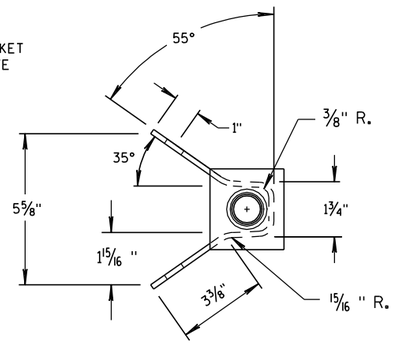


FRONT VIEW

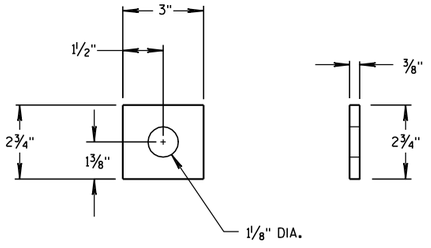
GROUND STRUT DETAIL







ANCHOR BRACKET



ANCHOR BRACKET BEARING PLATE

MIDWEST GUARDRAIL SYSTEM (MGS) TYPE 2 TERMINAL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

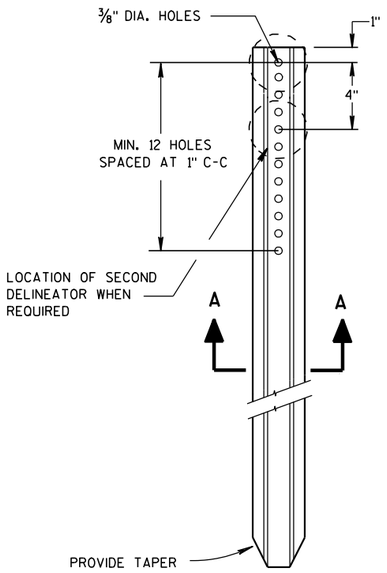
5/23/2011
DATE

/S/ Jerry H. [illegible]
ROADWAY STANDARDS ENGINEER

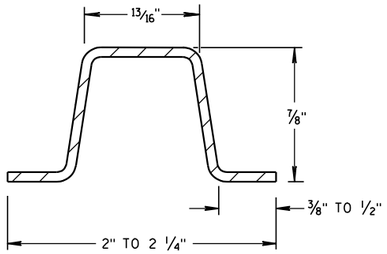
FHWA

6

S.D.D. 14 B 47-1c

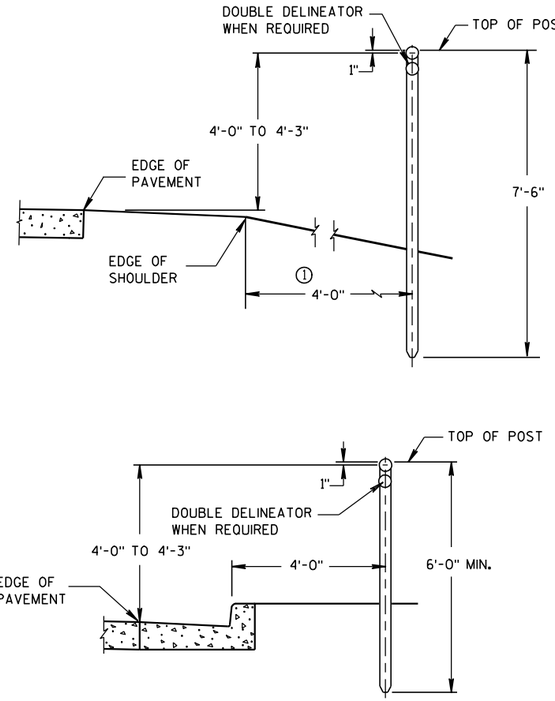


DELINEATOR POST



SECTION A-A

WEIGHT 1.12 LBS PER FT. ± 0.1 LB.

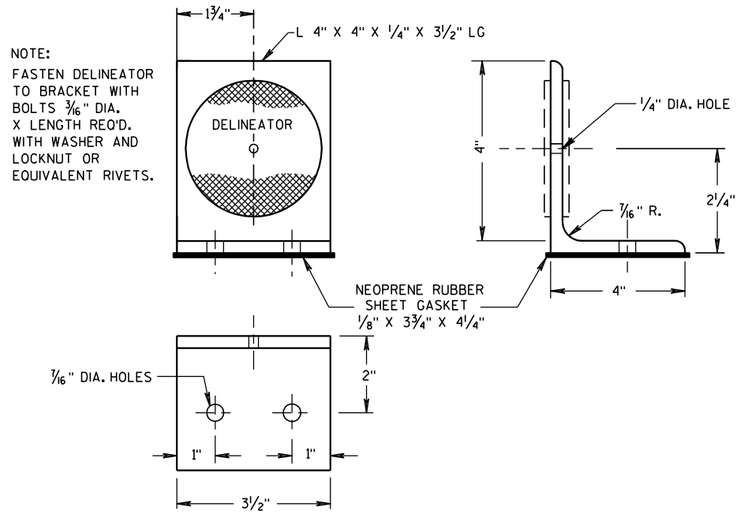


TYPICAL INSTALLATIONS OF DELINEATOR POSTS

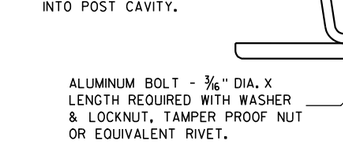
GENERAL NOTES

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

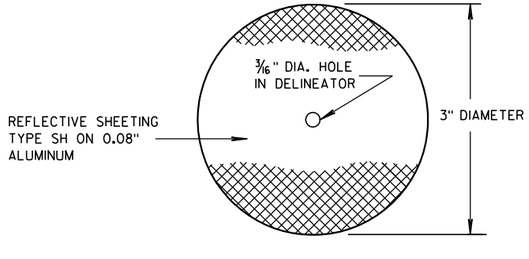
① DELINEATORS SHALL BE PLACED AT A CONSTANT DISTANCE FROM THE EDGE OF THE SHOULDER FOR THE LENGTH OF THE INSTALLATION.



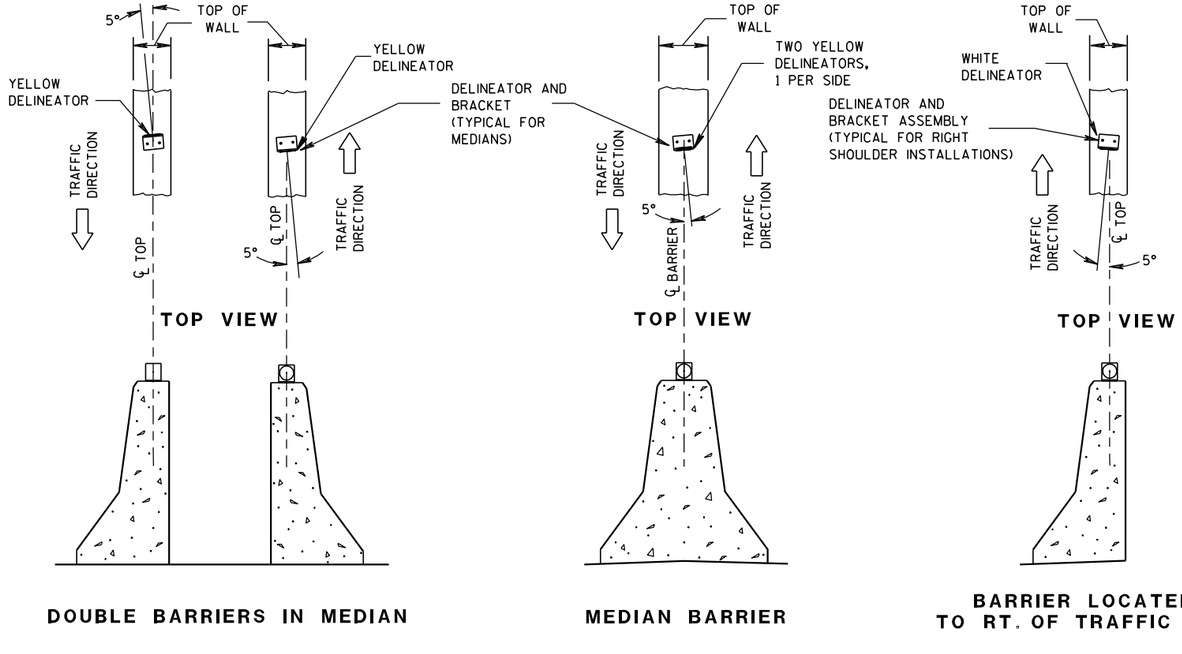
DELINEATOR BRACKET



MOUNTING DETAIL FOR DELINEATOR



DELINEATOR

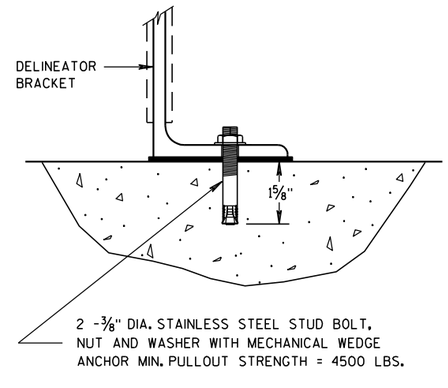


DOUBLE BARRIERS IN MEDIAN

MEDIAN BARRIER

BARRIER LOCATED TO RT. OF TRAFFIC FLOW

LOCATION AND AIMING DETAILS FOR DELINEATORS MOUNTED ON CONCRETE BARRIERS



DELINEATOR BRACKET MOUNTING DETAIL

DELINEATOR POST, DELINEATOR BRACKET AND DELINEATOR

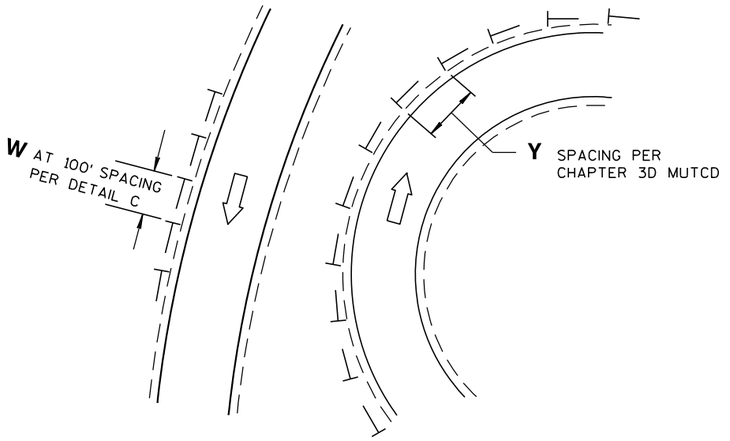
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
1/25/2011
DATE
/S/ Thomas N. Nothdurft
STATE TRAFFIC ENGINEER
FHWA

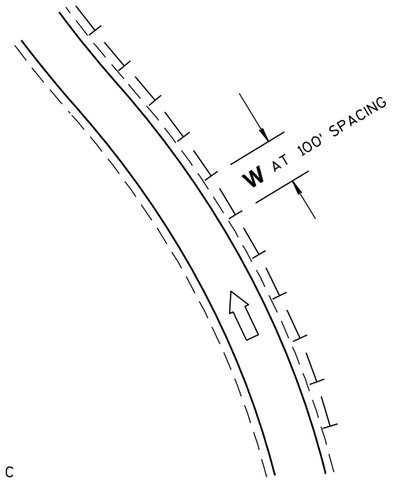
6
S.D.D. 15 A 2-7

GENERAL NOTES

* USE DOUBLE DELINEATOR ALONG ACCELERATION-DECELERATION LANES AND TAPERS. USE SINGLE DELINEATOR WHEN RAMP PAVEMENT IS FULL WIDTH.



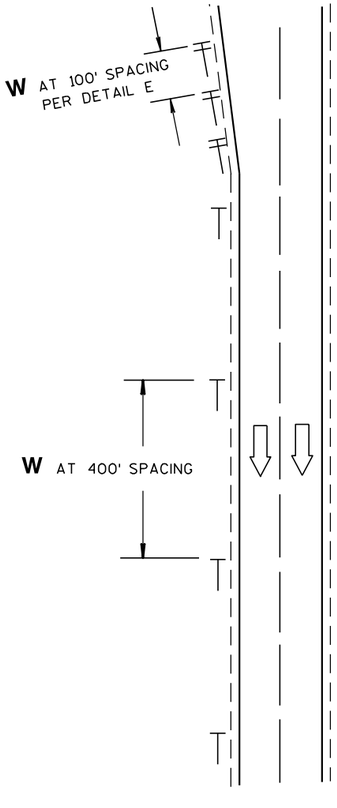
DETAIL A
DELINEATOR LAYOUT AT CURVED RAMP



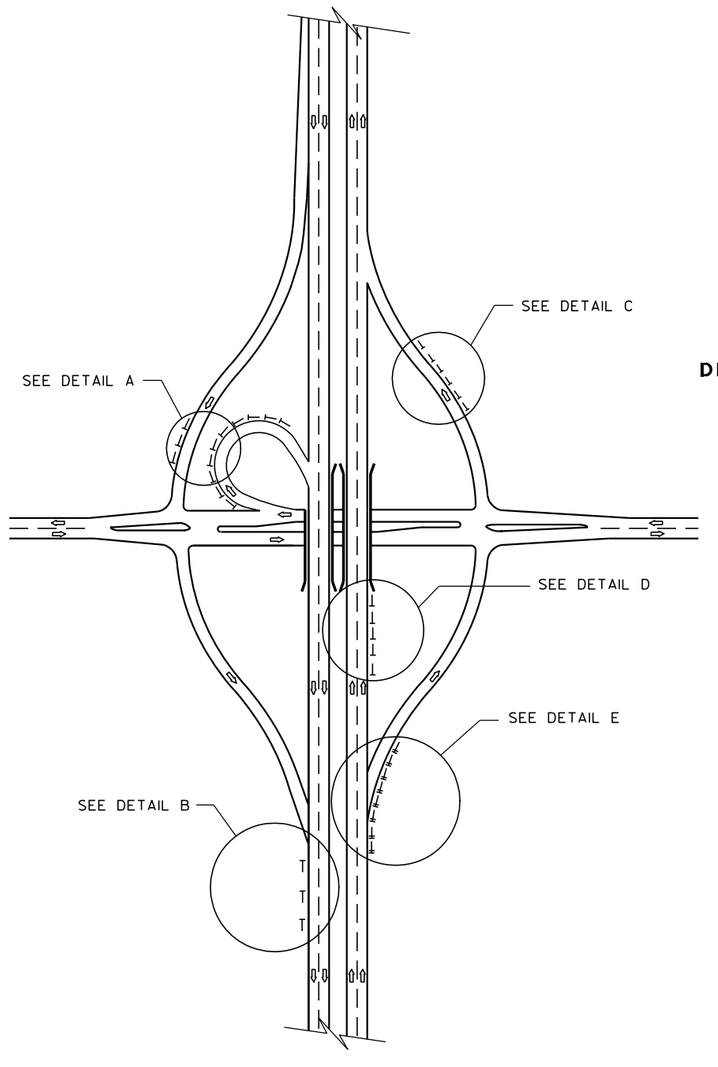
DETAIL C
DELINEATOR LAYOUT ALONG RAMP

LEGEND

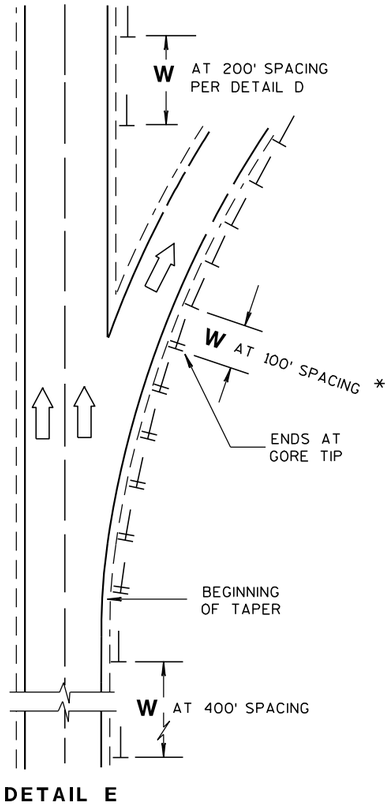
- DIRECTION OF TRAFFIC FLOW
- SINGLE DELINEATOR
- DOUBLE DELINEATOR
- W — WHITE
- Y — YELLOW



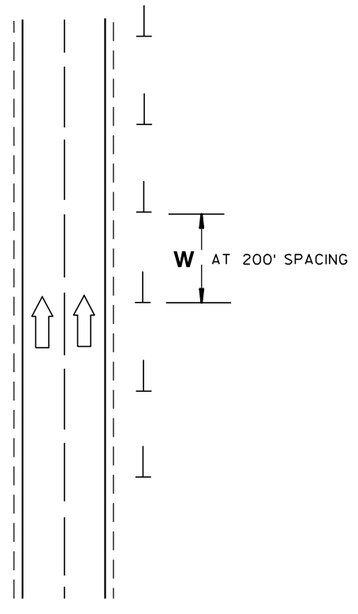
DETAIL B
DELINEATOR LAYOUT ALONG MAINLINE



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

APPROVED
2/5/09 DATE
/S/ Thomas N. Nothdurft STATE TRAFFIC ENGINEER
FHWA

6

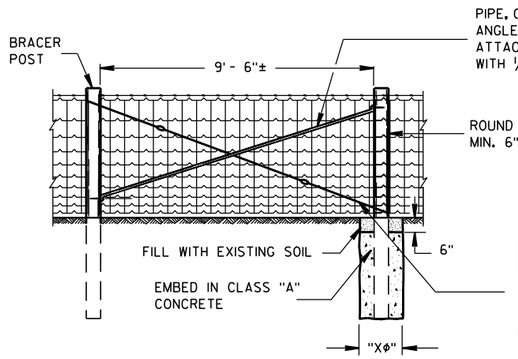
S.D.D. 15 A 6-2

6

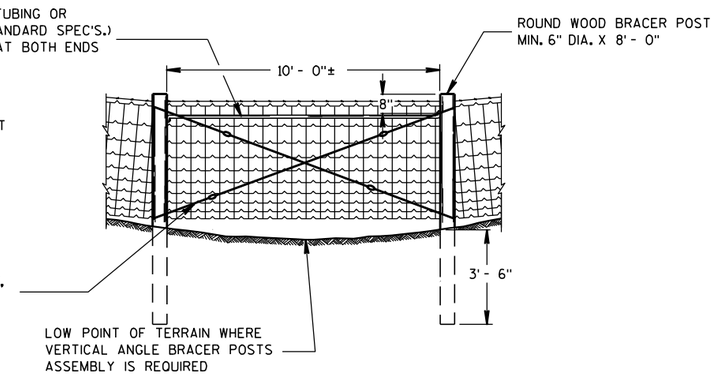
S.D.D. 15 A 6-2

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

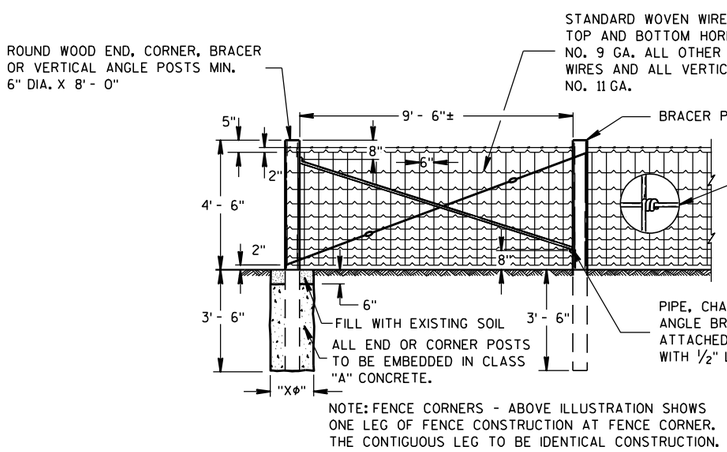
GENERAL NOTES

"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.

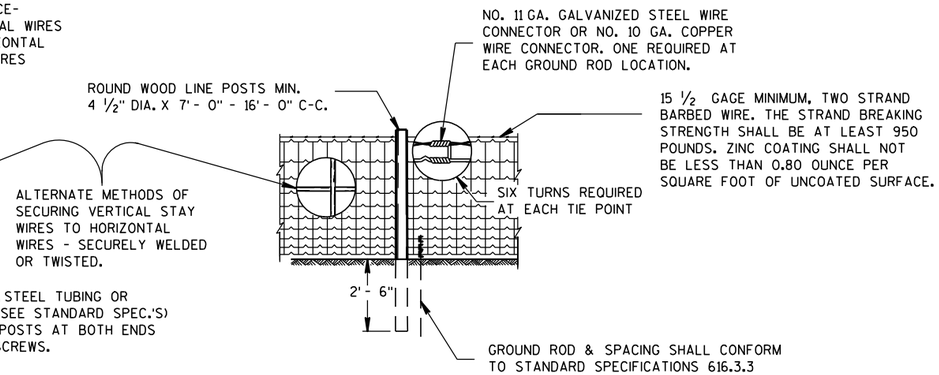
DO NOT STAPLE WIRE TIGHT TO THE LINE POSTS. ALLOW MOVEMENT OF WIRE FOR EXPANSION AND CONTRACTION. STAPLE ARRANGEMENT SHALL BE THE SAME FOR ALL OTHER POSTS EXCEPT THAT THEY SHALL BE DRIVEN TIGHT TO POSTS. ALL STAPLES SHALL BE 2" X 9 GAGE AND SHALL BE MANUFACTURED FROM GALVANIZED WIRE OR HOT DIP GALVANIZED 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.



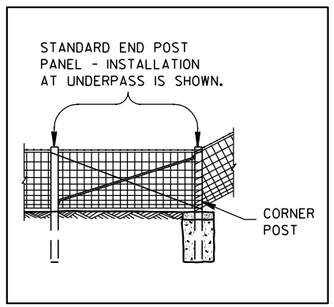
NOTE: FENCE CORNERS - ABOVE ILLUSTRATION SHOWS ONE LEG OF FENCE CONSTRUCTION AT FENCE CORNER. THE CONTIGUOUS LEG TO BE IDENTICAL CONSTRUCTION.

END OR CORNER POSTS ASSEMBLY

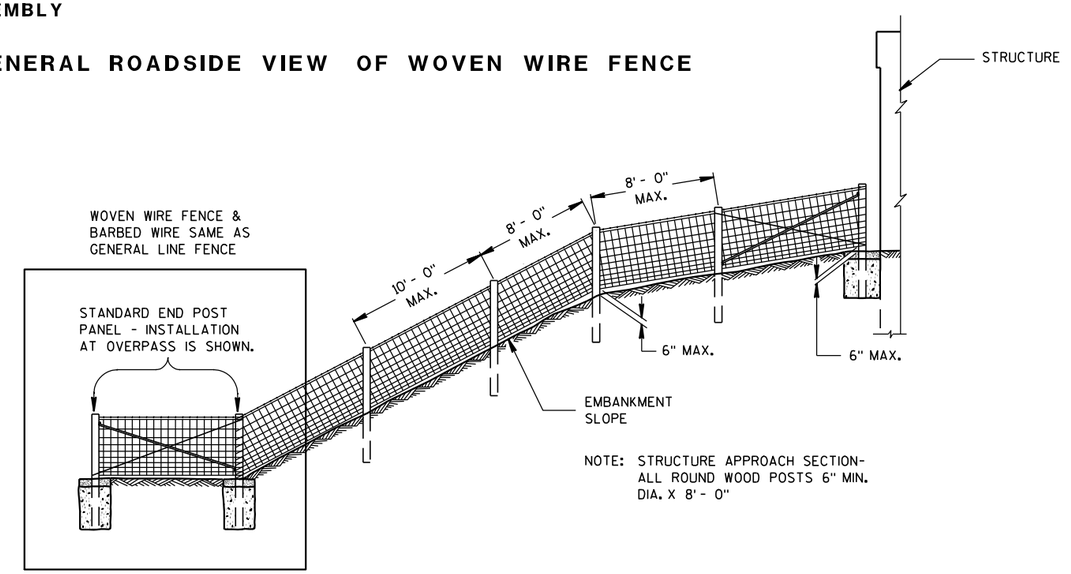


LINE FENCE CONSTRUCTION

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"

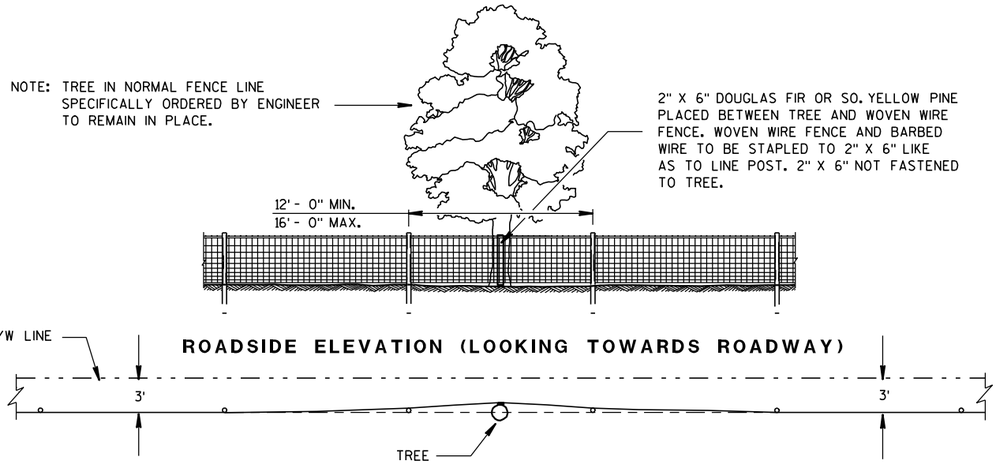
FENCE DESIGN AT STRUCTURE APPROACH

FENCE WOVEN WIRE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

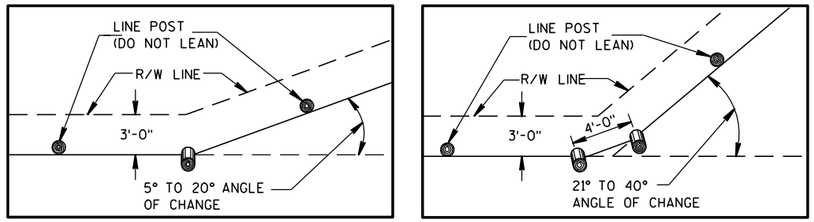
6

S.D.D. 15 B 1-8a



PLAN VIEW

FENCE DESIGN AT TREES REMAINING IN NORMAL FENCE LINE



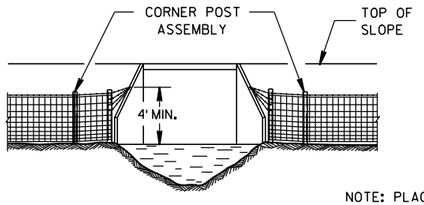
PLAN VIEW
SINGLE POST CORNER

PLAN VIEW
DOUBLE POST CORNER

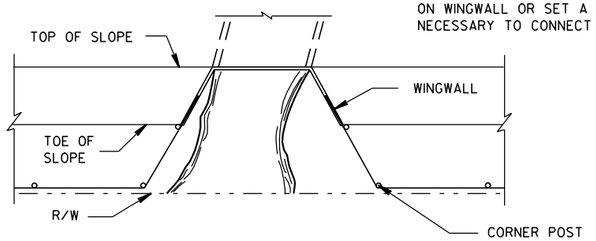
RIGHT OF WAY LINE CHANGE 40° AND LESS

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.

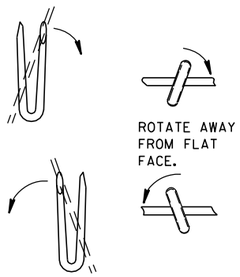
WHEN THE RIGHT OF WAY LINE CHANGE IS MORE THAN 40° USE THE CORNER OR STRETCHER POSTS ASSEMBLY.



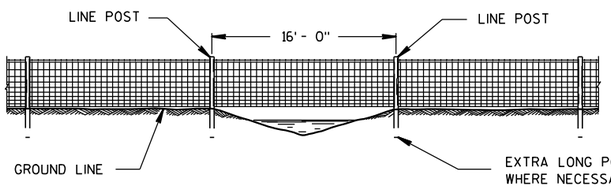
NOTE: PLACE A MINIMUM OF 4 STRANDS OF BARBED WIRE, 6" MAXIMUM CENTERS IN FAN SHAPE CONNECTED TO AN EYE BOLT ON WINGWALL OR SET A LONE POST WHEN NECESSARY TO CONNECT BARBED WIRE.



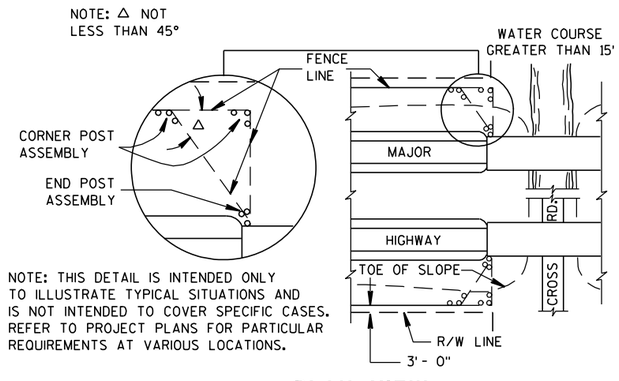
FENCE INSTALLATION TO WINGWALLS



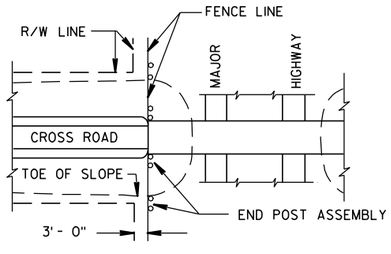
LINE POST



FENCE CONSTRUCTION OVER STREAM COURSES OF 15 FT. OR LESS IN WIDTH

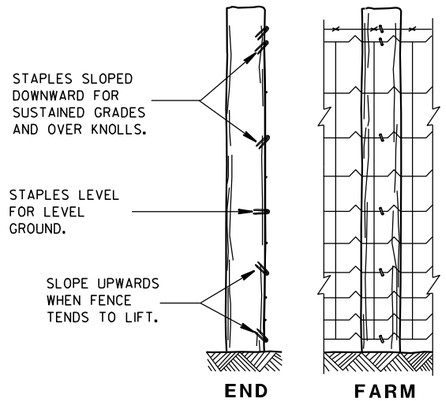


PLAN VIEW
MAJOR HIGHWAY OVERPASS OR STREAM COURSE CROSSING OF GREATER THAN 15 FT. IN WIDTH



PLAN VIEW
MAJOR HIGHWAY UNDERPASS

NOTE: WHEN POSTS ARE DRIVEN THE SMALL END SHALL BE DOWN.



END ELEVATION **FARM SIDE ELEVATION**

FENCE MOUNTING DETAIL

FENCE LOCATION AT STRUCTURES

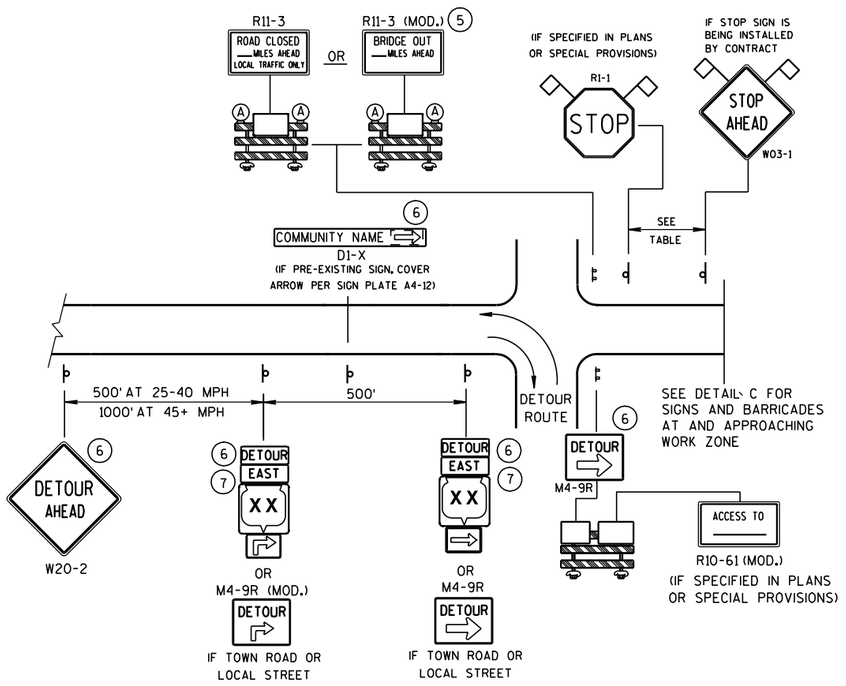
FENCE WOVEN WIRE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
4/4/2008 DATE
/S/ Jerry H. Zinn
ROADWAY STANDARDS DEVELOPMENT ENGINEER
FHWA

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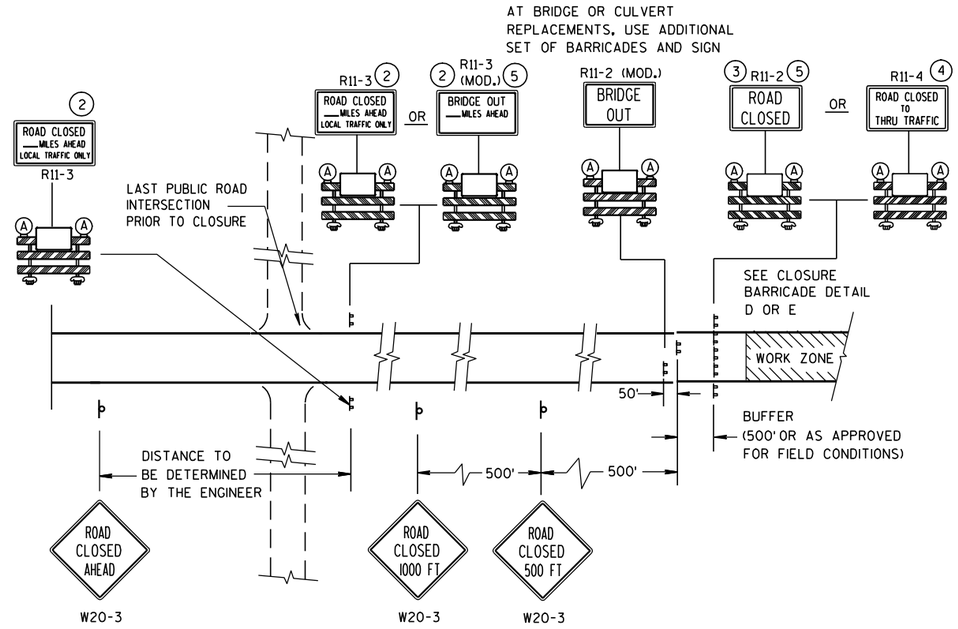
S.D.D. 15 B 1-8b



DETAIL A

MAINLINE CLOSURE WITH POSTED DETOUR

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

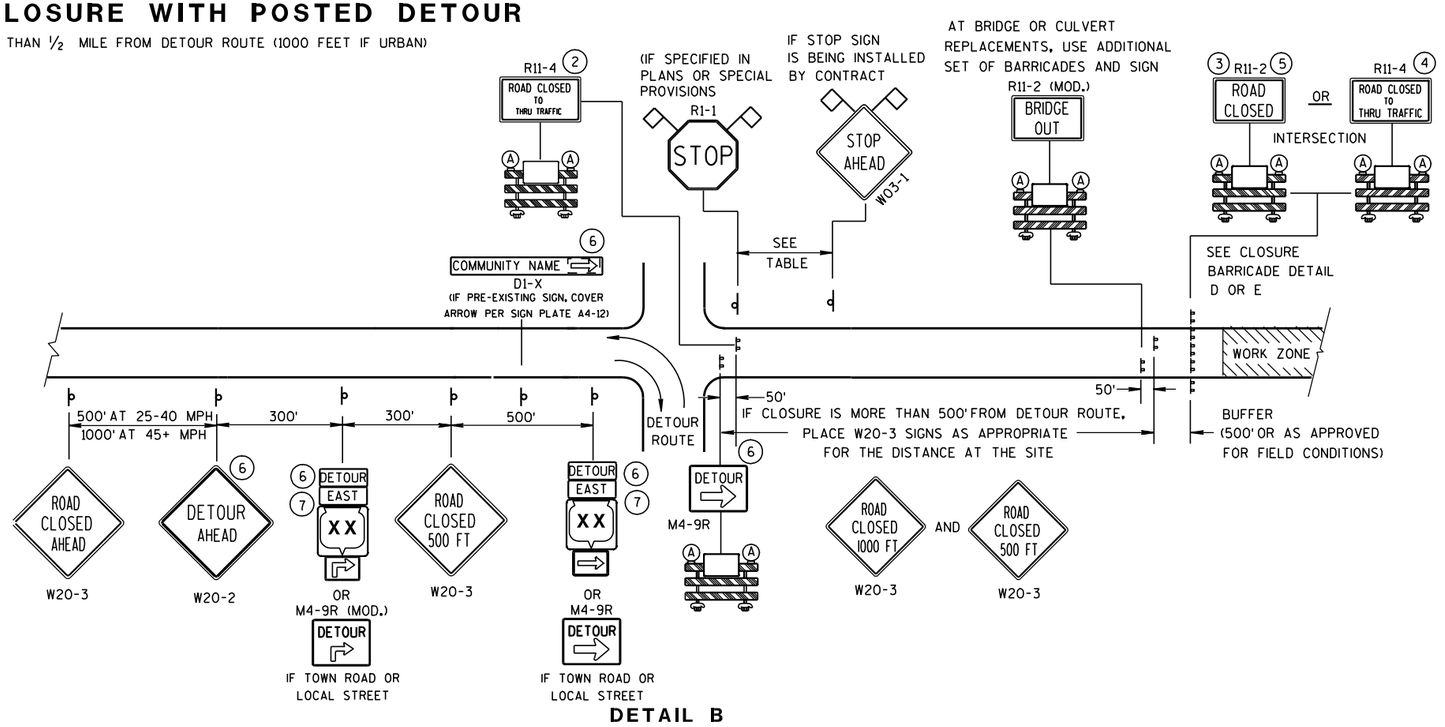


DETAIL C

MAINLINE CLOSURE, NO POSTED DETOUR

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

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



DETAIL B

MAINLINE CLOSURE WITH POSTED DETOUR

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

LEGEND

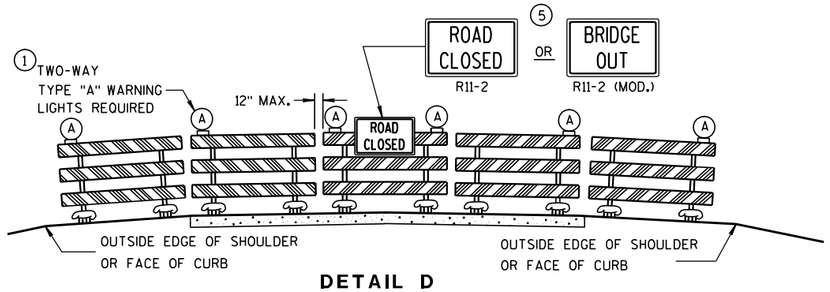
- POST MOUNTED SIGN
- TYPE III BARRICADES
- (A) TYPE "A" LOW INTENSITY FLASHING WARNING LIGHT (FOR NIGHT USE)
- WORK ZONE
- DETOUR / EAST — M4-8 / M3-X
- XX — M1-4; COUNTY XX — M1-5A; XX — M1-6
- M05-1; M06-1
- FLAGS, 16" X 16" MIN., (ORANGE)

BARRICADES AND SIGNS FOR MAINLINE CLOSURES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

6

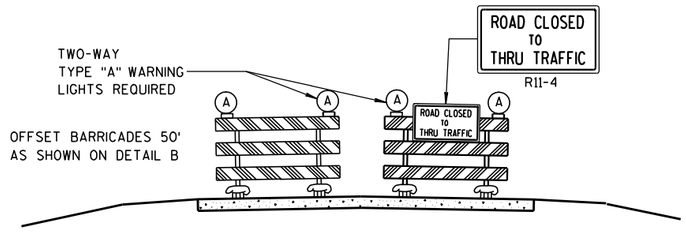
S.D.D. 15 C 2-4a



DETAIL D

ROAD CLOSURE BARRICADE DETAIL

APPROACH VIEW



DETAIL E

LANE CLOSURE BARRICADE DETAIL

APPROACH VIEW

SEE SDD 15C2-4a FOR LEGEND

GENERAL NOTES

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

BARRICADES AND SIGNS FOR MAINLINE CLOSURES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

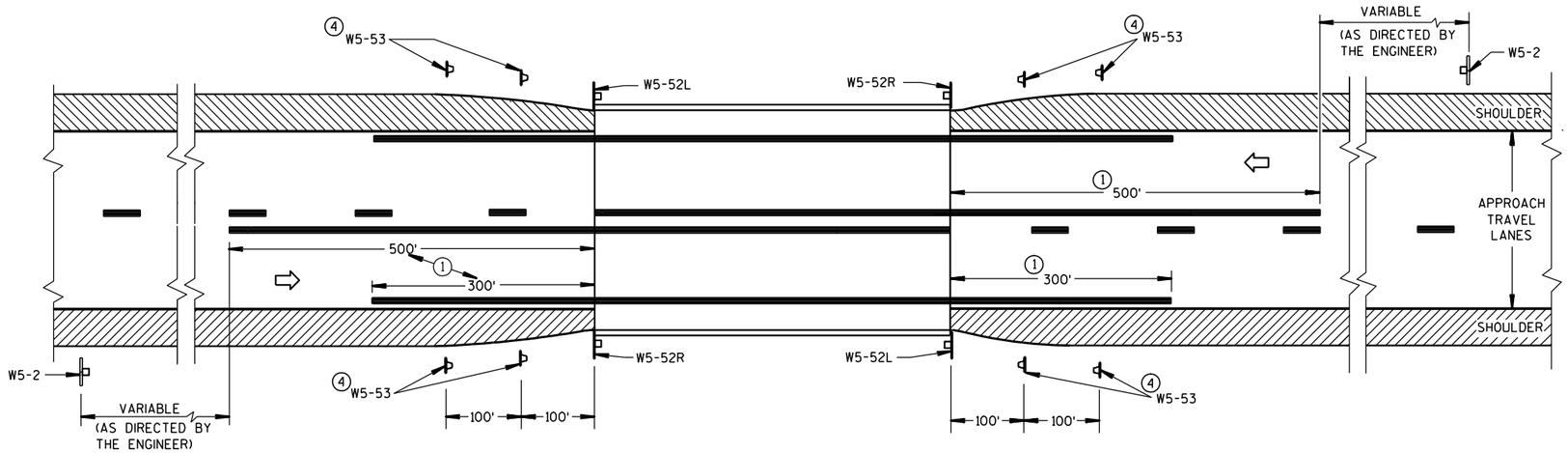
9/16/03 — DATE

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

FHWA

6

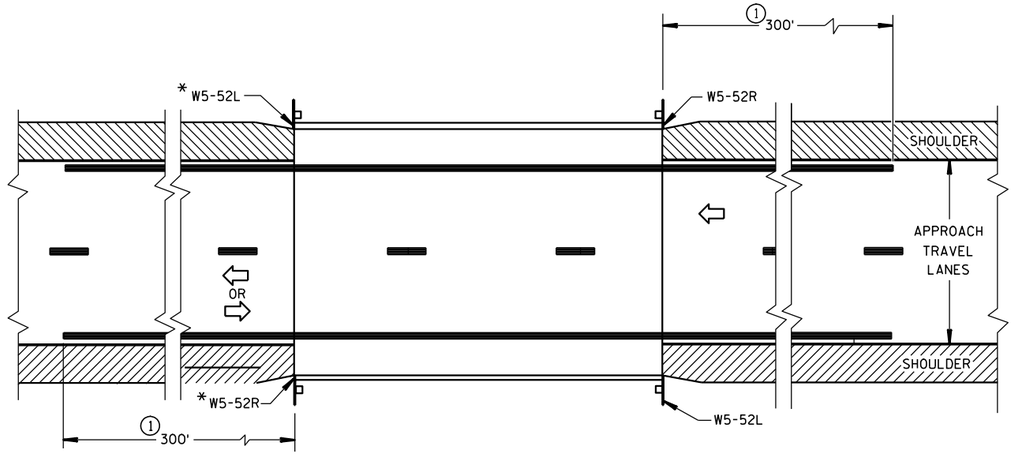
S.D.D. 15 C 2-4b



SITUATION 1

WARRANTING CRITERION:

BRIDGE WIDTH IS AT LEAST 18 FEET BUT LESS THAN 24 FEET

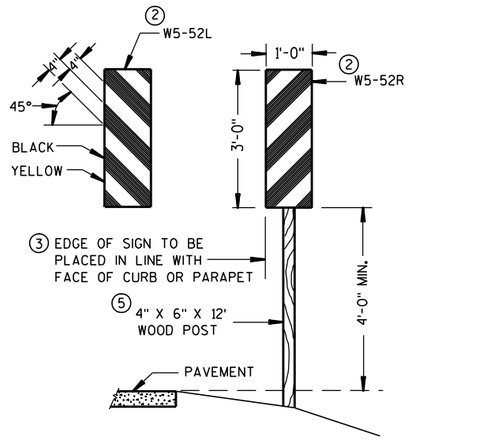


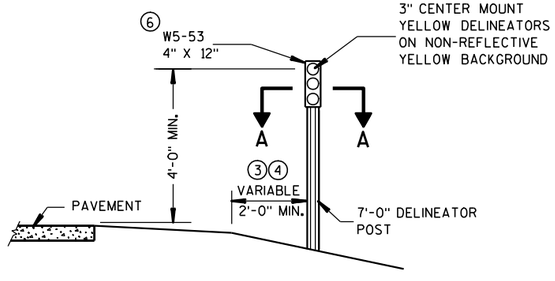
*OMIT ON ONE-WAY TRAVELLED WAYS

SITUATION 2

WARRANTING CRITERIA:

1. BRIDGE WIDTH IS AT LEAST 24 FEET AND
2. BRIDGE IS LESS THAN 6 FEET WIDER (ON EACH SIDE) THAN APPROACH TRAVEL LANES.





OBJECT MARKER PLACEMENT

GENERAL NOTES

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

PAVEMENT MARKING SHOWN ON THIS DRAWING IS NOT REQUIRED UNLESS OTHERWISE SPECIFIED IN THE CONTRACT. WHEN SPECIFIED, PAVEMENT MARKING SHALL CONFORM TO THIS DRAWING AND OTHER CONTRACT REQUIREMENTS.

① MINIMUM DISTANCE UNLESS OTHERWISE SHOWN ON THE PLAN.

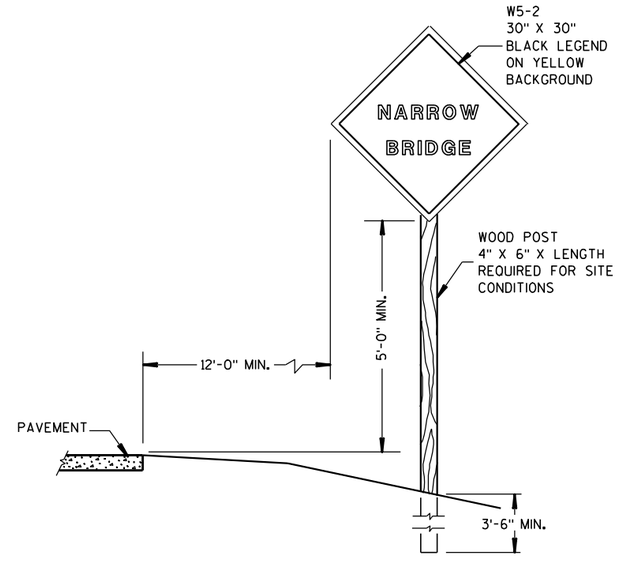
② FACE OF OBJECT MARKERS W5-52R AND W5-52L SHALL BE COVERED WITH TYPE H REFLECTIVE SHEETING.

③ LOCATE OBJECT MARKER POST(S) BEHIND GUARDRAIL WHEN PRESENT.

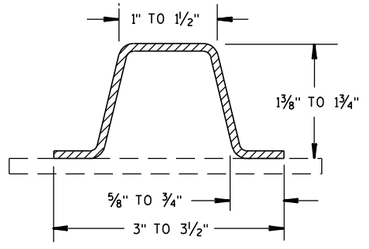
④ OBJECT MARKERS (W5-53) SHALL BE LOCATED ALONG A LINE FLARED AWAY FROM THE BRIDGE CORNER TO DELINEATE THE NARROWING OF THE SHOULDER OR BERM.

⑤ A 12 FOOT DELINEATOR POST MAY BE USED INSTEAD OF A WOOD POST.

⑥ NON-BID ITEM. INCIDENTAL TO OTHER ITEMS.



SIGN PLACEMENT



SECTION A-A

(MINIMUM WEIGHT 1.9 LBS. PER FT. AFTER GALVANIZING)

SIGNING & MARKING FOR TWO LANE BRIDGES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

9/5/06 — DATE

/S/ Thomas N. [illegible] — STATE TRAFFIC ENGINEER

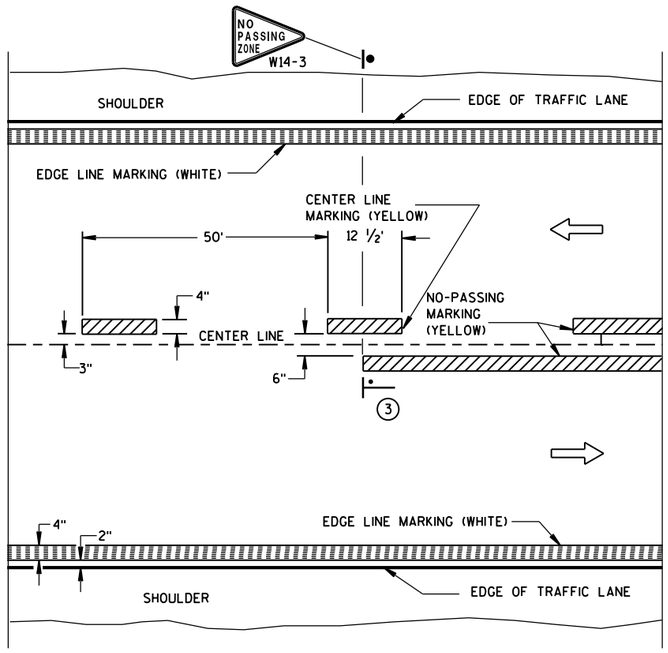
FHWA

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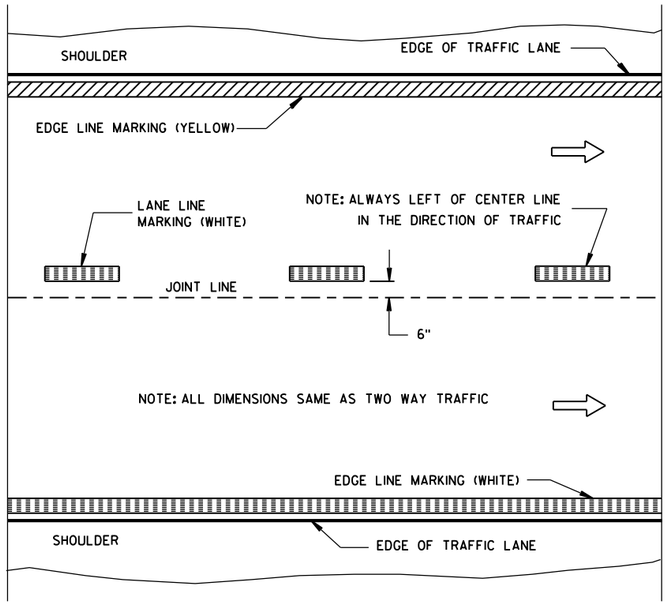
S.D.D. 15 C 6-5

6

S.D.D. 15 C 6-5



TWO WAY TRAFFIC



ONE WAY TRAFFIC

PERMANENT PAVEMENT MARKING

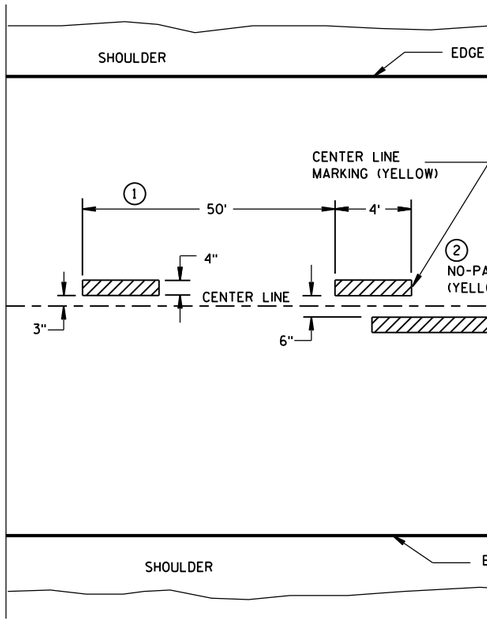
GENERAL NOTES

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

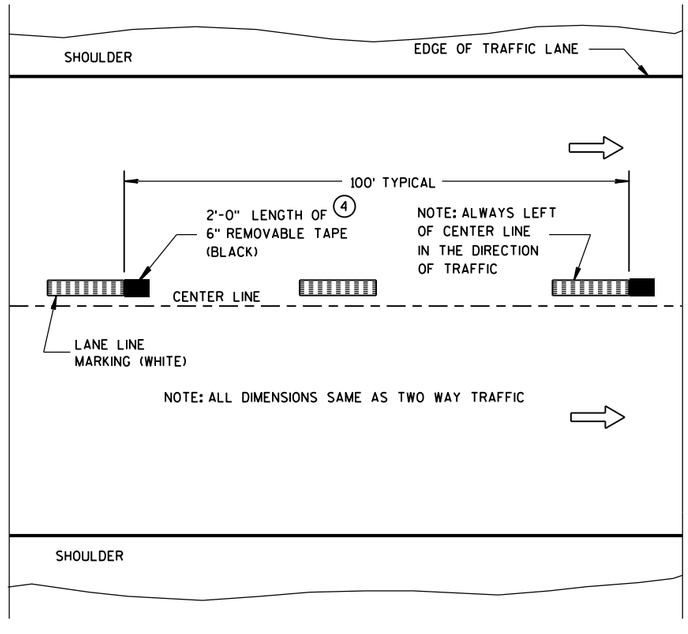
1. HALF CYCLE LENGTHS (25'±) WITH 2' MINIMUM STRIPE LENGTHS SHALL BE PROVIDED ON ROADWAYS (INCLUDING TEMPORARY TRAVELED WAYS) WITH REVERSE CURVATURE, CURVATURE OF OVER 5 DEGREES OR WHEN DIRECTED BY THE ENGINEER TO MARK UNUSUAL ALIGNMENT OF THE TRAVELED WAY.
2. NO PASSING ZONE TEMPORARY PAVEMENT MARKING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

NOTE

ARROW SYMBOL (⇨) SHOWS DIRECTION OF TRAVEL



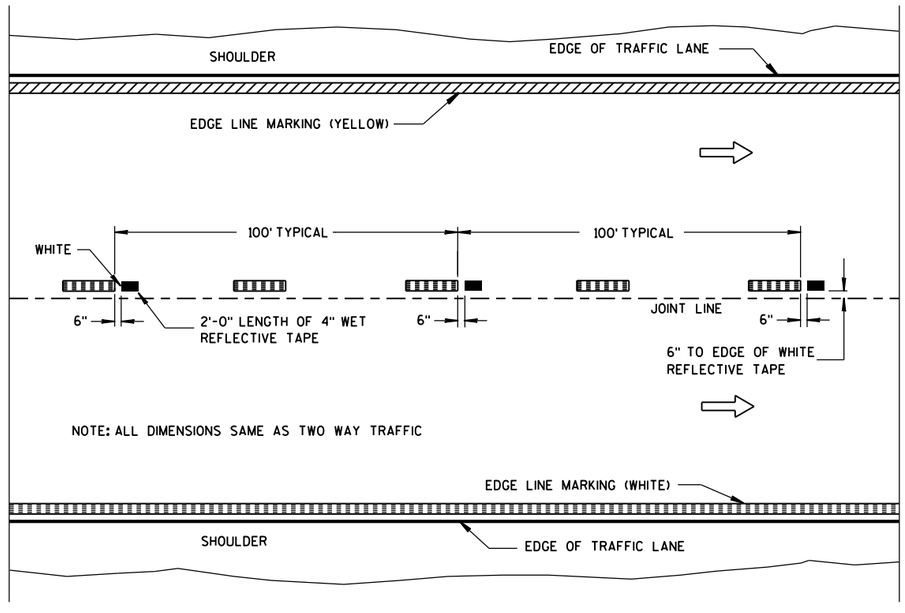
TWO WAY TRAFFIC



ONE WAY TRAFFIC

TEMPORARY (INTERMEDIATE) PAVEMENT MARKING

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



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

LEGEND

"T" MARKING

POST MOUNTED SIGN

PAVEMENT MARKING (MAINLINE)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

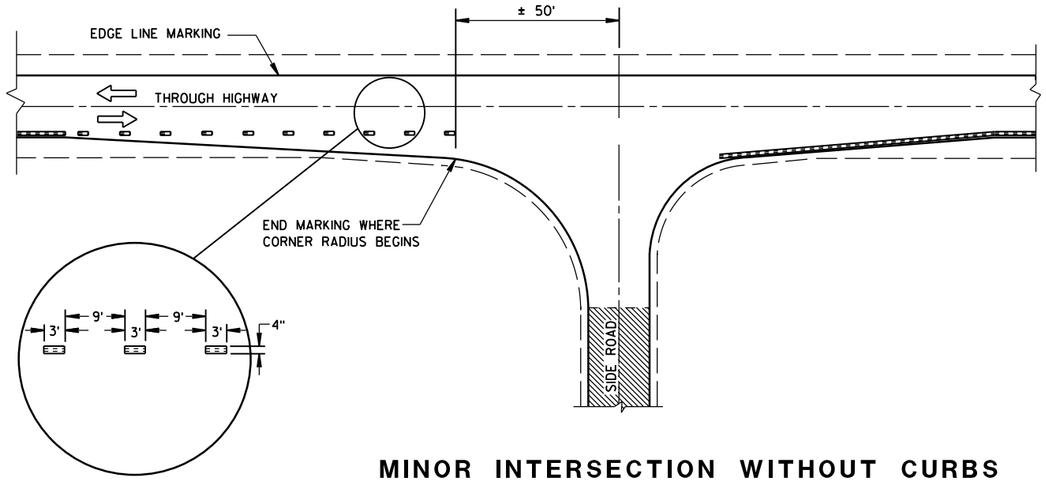
APPROVED
10-1-2012 — DATE
/S/ Travis Feltes — STATE TRAFFIC ENGINEER
FHWA

6

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

6

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



MINOR INTERSECTION WITHOUT CURBS

GENERAL NOTES

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

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

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

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

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

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

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

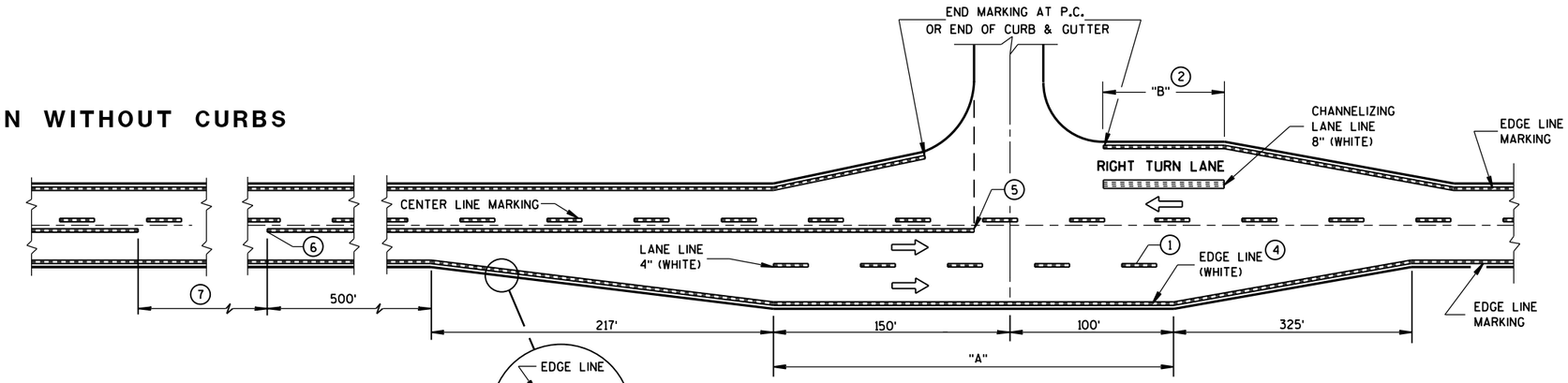
(7) IF THE DISTANCE BETWEEN 2 SUCCESSIVE NO-PASSING ZONES IS LESS THAN THE MINIMUM DISTANCE BETWEEN ZONES, CONNECT THE 2 ZONES.

(8) 3' LINE 9' GAP, EXCEPT RETRACE THE EXISTING LINE - GAP PATTERN WHERE EXISTING MARKINGS ARE IN PLACE.

ARROW SYMBOL (⇨) SHOWS DIRECTION OF TRAVEL

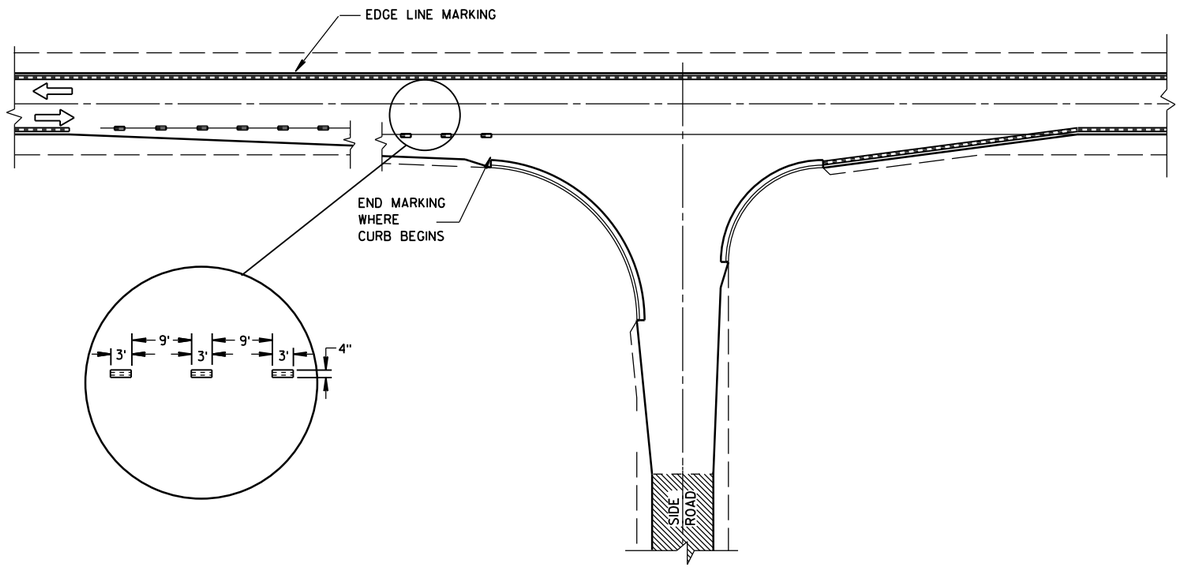
(7)

POSTED SPEED (MPH)	MINIMUM DISTANCE BETWEEN ZONES (FEET)
25 - 30	528
35 - 40	528
45 - 50	686
55	792



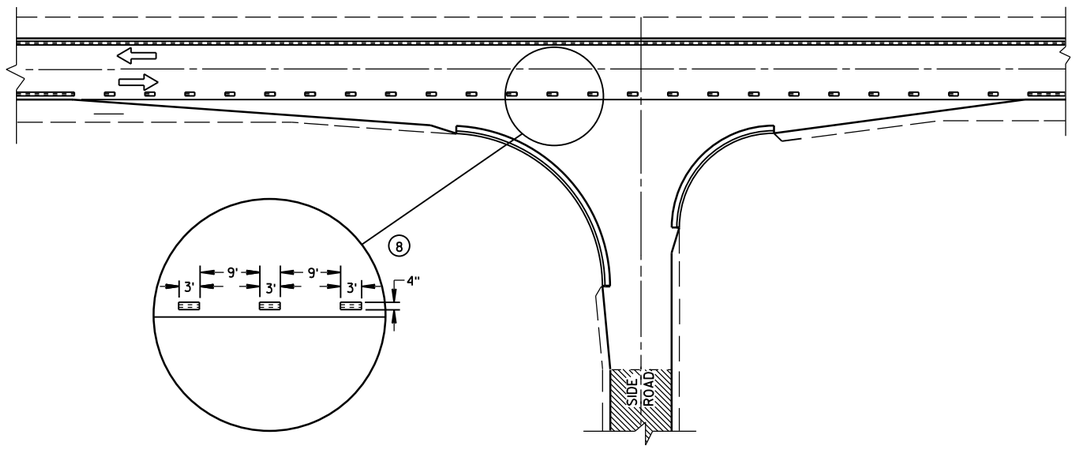
MAJOR INTERSECTIONS

(INTERSECTION WITH FULL RIGHT TURN LANE OR BYPASS LANES)



MINOR INTERSECTION WITH CURBS

(TYPICAL MARKING)



MINOR INTERSECTION WITH CURBS

(3) (FOR SPECIAL CONDITIONS AS SPECIFIED)

PAVEMENT MARKING
(INTERSECTIONS)

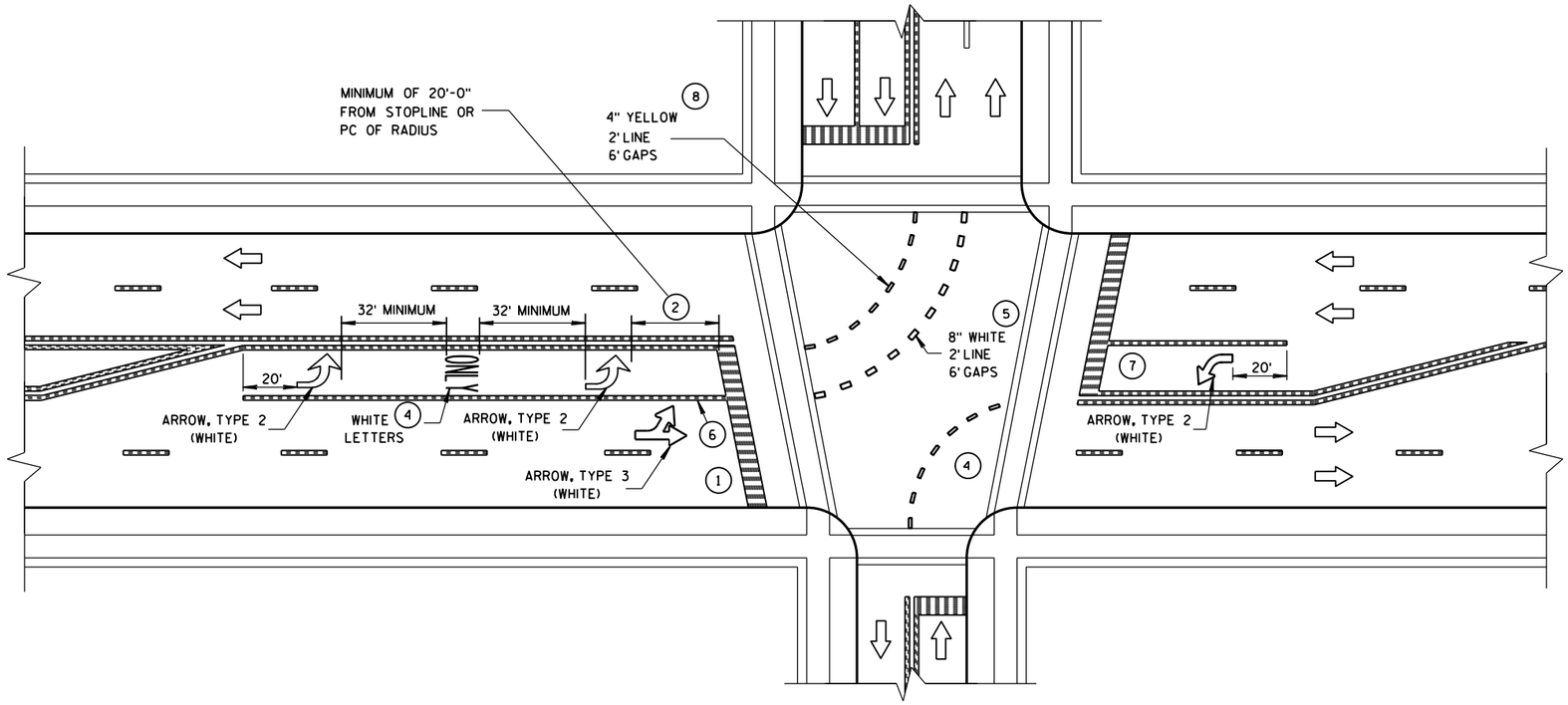
STATE OF WISCONSIN
DEPARTMENT OF TRANSPOR

6

S.D.D. 15 C 8-15b

6

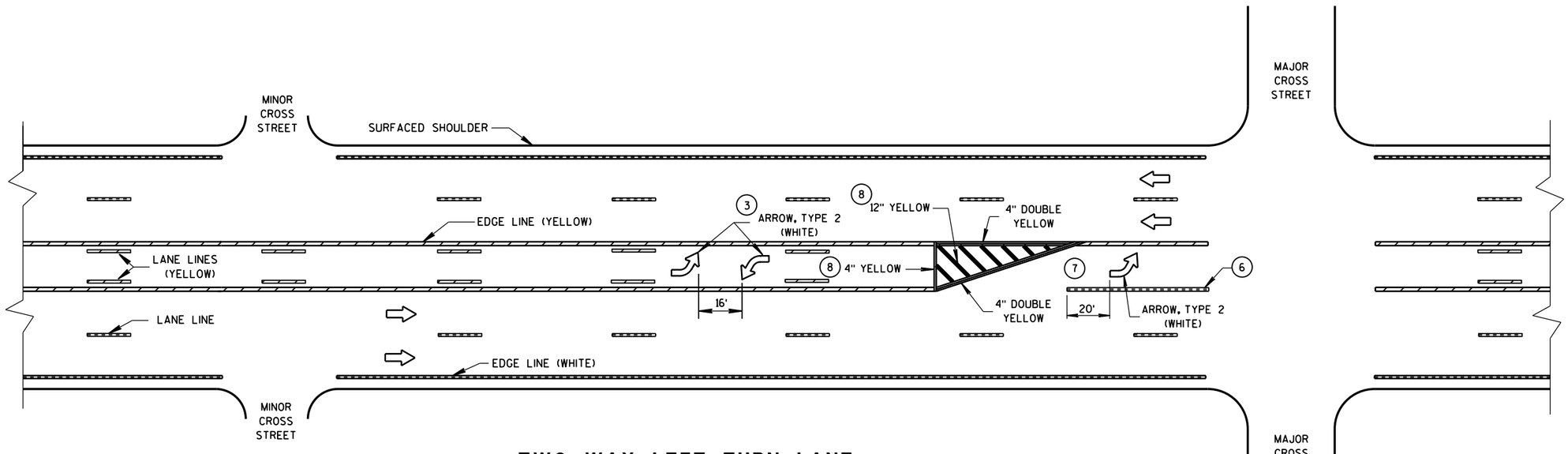
S.D.D. 15 C 8-15b



GENERAL NOTES

1. STOP BAR IS REQUIRED ONLY WHEN SPECIFIED IN THE CONTRACT.
2. DISTANCE MAY BE ADJUSTED TO ACCOMODATE SHORT LEFT TURN LANES. AS APPROVED BY THE ENGINEER.
3. A SET OF ARROWS IS REQUIRED EVERY 400' OR NEAR INTERSECTIONS OR DRIVEWAYS WITH TURNING TRAFFIC.
4. ADD EXTRA ARROW AND ONLY PER 160' OR WHEN ON A CURVE.
5. 8" WHITE WITH 2'LINE 6'GAPS FOR DUAL TURN LANE.
6. 8" WHITE
7. ADD SECOND ARROW WHEN TURN BAY IS GREATER THAN OR EQUAL TO 108'.
8. REQUIRED ONLY WHEN SPECIFIED IN THE CONTRACT.

NOTE:
ARROW SYMBOL (⇨)
SHOWS DIRECTION OF TRAVEL



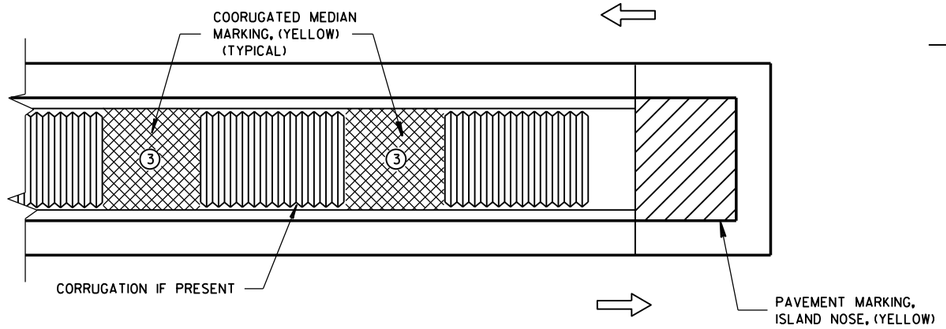
TWO WAY LEFT TURN LANE

PAVEMENT MARKING (LEFT TURN LANE)

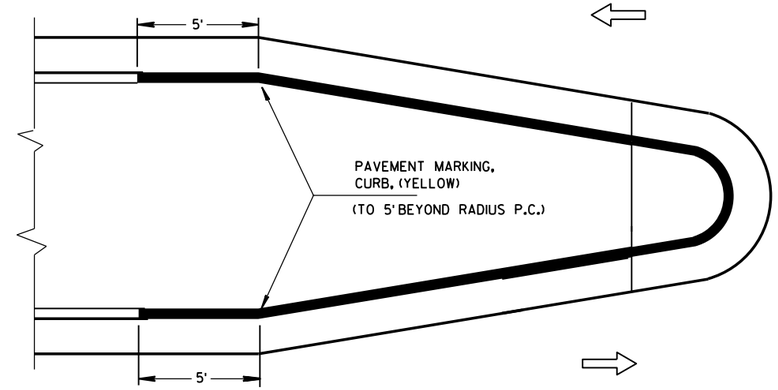
STATE OF WISCONSIN
DEPARTMENT OF TRANSPOI

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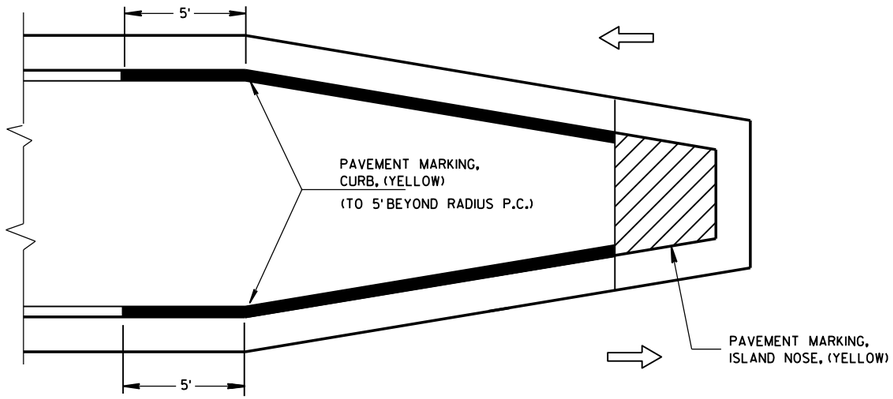
S.D.D. 15 C 8-15e



MEDIAN ISLAND WITH SQUARE BLUNT NOSE

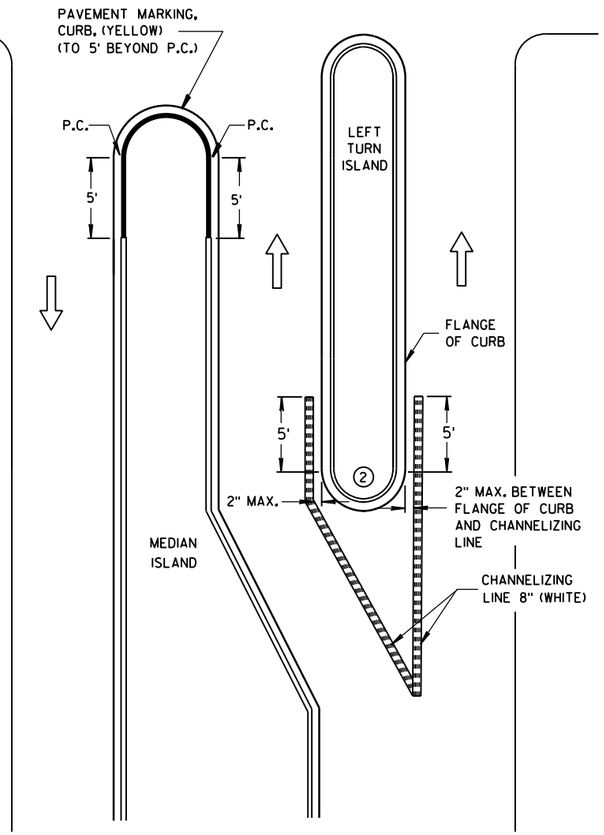


MEDIAN ISLAND WITH ROUND BLUNT NOSE



MEDIAN ISLAND WITH SLOPED NOSE

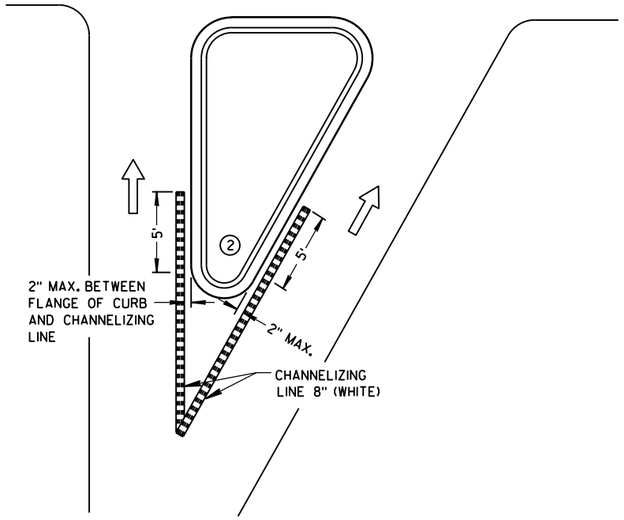
TYPICAL PLACEMENT OF PAVEMENT MARKING ON MEDIAN ISLANDS



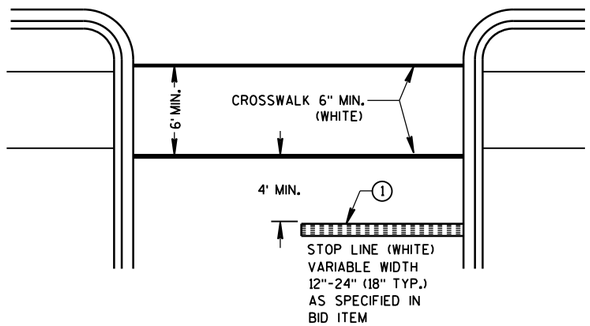
LEFT TURN & MEDIAN ISLAND

GENERAL NOTES

1. STOP LINE IS REQUIRED ONLY WHEN SPECIFIED IN THE CONTRACT.
2. DO NOT MARK CURB NOSES THAT SEPARATE LANES OF TRAFFIC TRAVELING IN THE SAME DIRECTION.
3. WHEN CONCRETE CORRUGATED MEDIAN IS CONSTRUCTED TO SEPARATE TRAFFIC OPERATING IN THE OPPOSING DIRECTION YELLOW PAVEMENT MARKING SHALL BE APPLIED TO THE FLAT PORTION OF THE CONCRETE CORRUGATED MEDIAN. THE ITEM OF PAVEMENT MARKING, CONCRETE CORRUGATED MEDIAN, WILL BE MEASURED IN PLACE AND AND ACCEPTED IN ACCORDANCE WITH THE CONTRACT AND PAID FOR AT THE CONTRACT UNIT PRICE PER SQUARE FOOT.



RIGHT TURN ISLAND



STOP LINE AND CROSSWALK

LEGEND

- ISLAND NOSE MARKING
- CURB MARKING
- CORRUGATED MEDIAN MARKING
- DIRECTION OF TRAVEL

PAVEMENT MARKING (ISLANDS, STOP LINE & CROSS WALK)

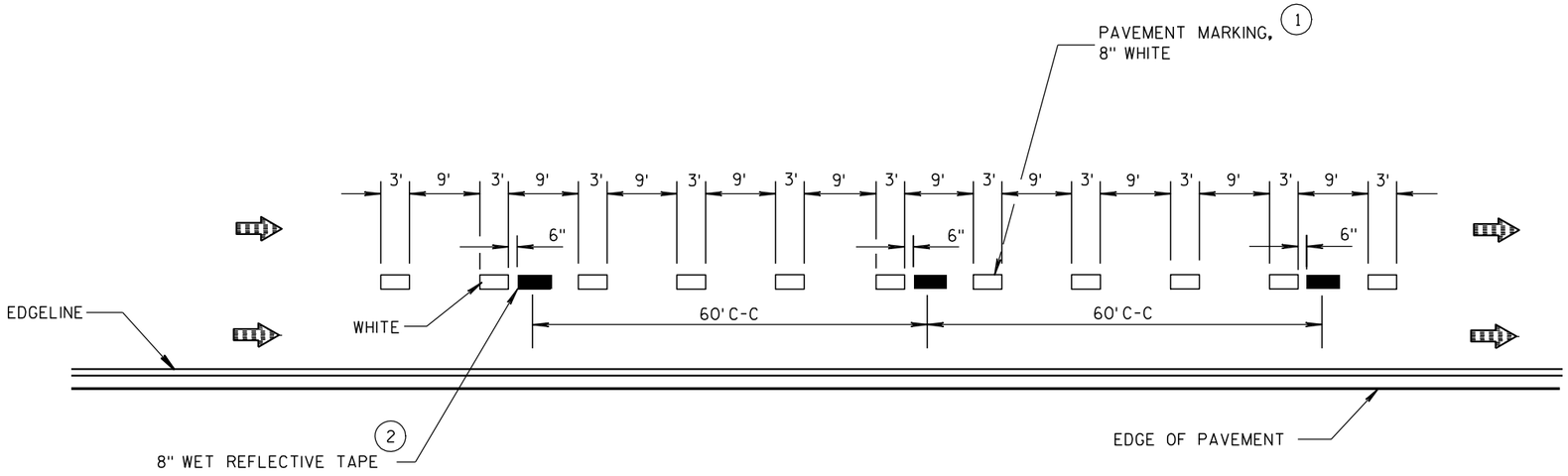
STATE OF WISCONSIN
DEPARTMENT OF TRANSPOI

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S.D.D. 15 C 8-15f

6

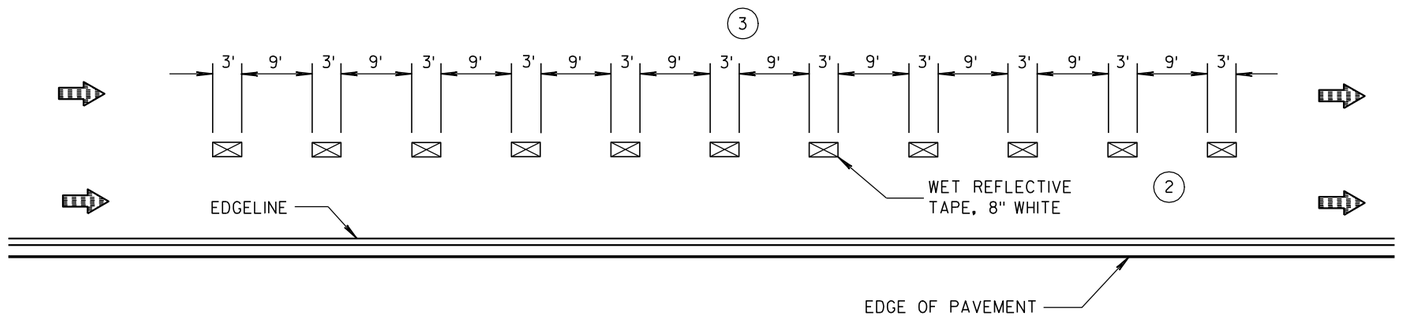
S.D.D. 15 C 8-15f



SPRAYED OR NON WET REFLECTIVE DROP LANE
LINE SUPPLEMENTED BY WET REFLECTIVE TAPE SEGMENT

GENERAL NOTES

1. 3' LINE 9' GAP, EXCEPT RETRACE THE EXISTING LINE - GAP PATTERN WHERE EXISTING MARKINGS ARE IN PLACE. RETRACE EXISTING 4" MARKING WITH 8" MARKING.
2. REPLACE SAME 4" WET REFLECTIVE TAPE WHERE EXISTING 4" TAPE IS IN PLACE.
3. 3' LINE 9' GAP, EXCEPT REPLACE THE EXISTING LINE - GAP PATTERN AND WIDTH OF TAPE WHERE EXISTING TAPE IS IN PLACE.



DROP LANE DETAIL FOR
NEW WET REFLECTIVE TAPE INSTALLATIONS

LEGEND

- 2.0' LENGTH OF WET REFLECTIVE TAPE
- 3.0' LENGTH OF WET REFLECTIVE TAPE
- DROP LANE MARKING SPRAYED OR NON WET REFLECTIVE TAPE
- DIRECTION OF TRAFFIC

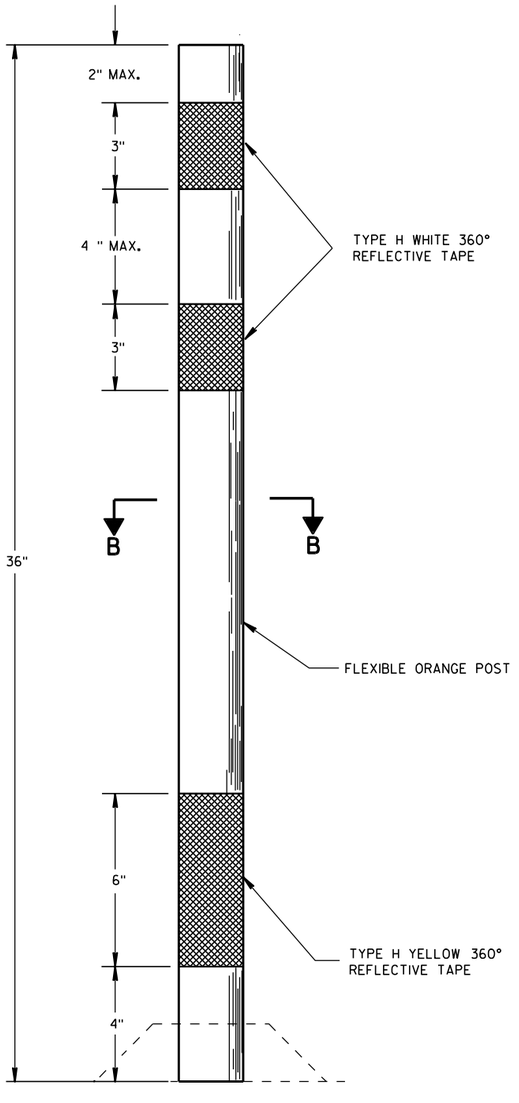
PAVEMENT MARKINGS FOR DROP LANES FREEWAY/EXPRESSWAY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

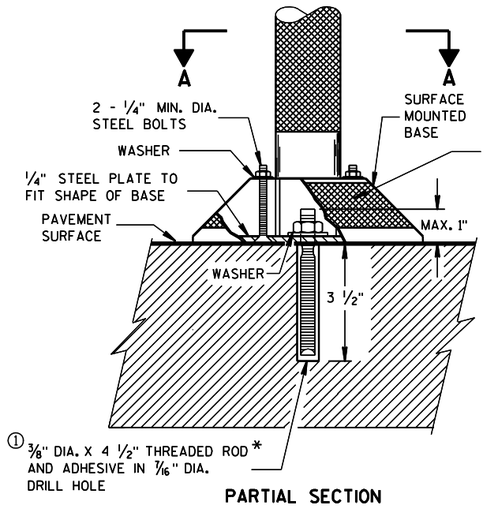
APPROVED
5/13/10 DATE
/S/ Thomas N. Nothnagel
STATE TRAFFIC ENGINEER
FHWA

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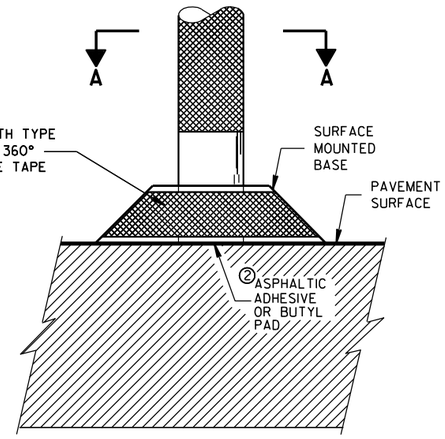
S.D.D. 15 C 10-10



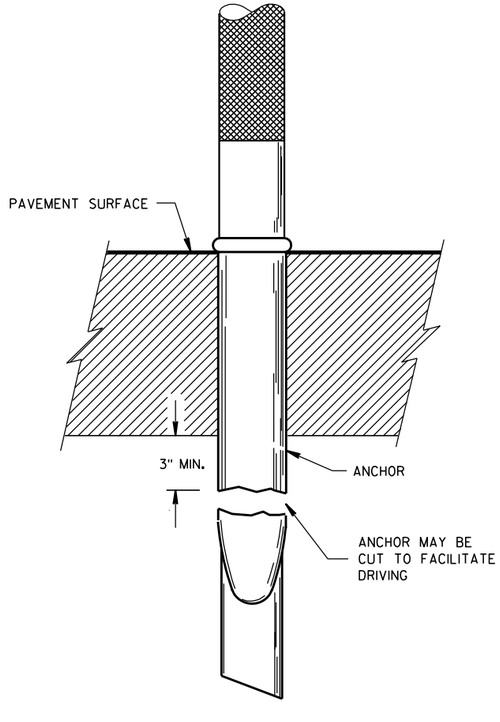
FLEXIBLE TUBULAR MARKER POST



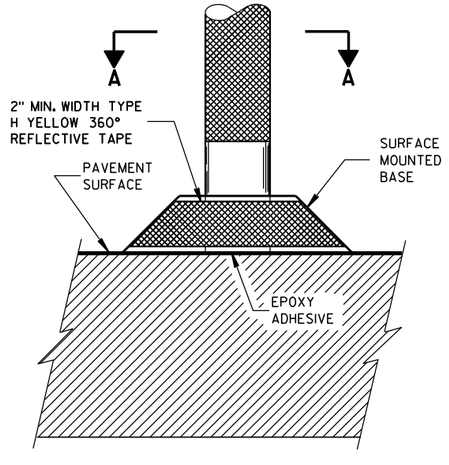
PARTIAL SECTION TO SHOW BOLTS



POST BASES ON NEW OR EXISTING PAVEMENT



POST ANCHOR AND BASE ON PAVEMENT WHICH WILL BE REMOVED



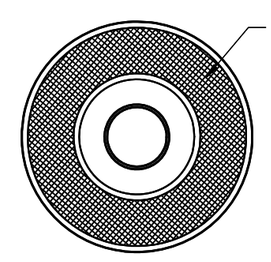
GENERAL NOTES

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

SURFACE MOUNTED BASES SHALL BE FURNISHED IN ACCORDANCE WITH MANUFACTURERS RECOMMENDATIONS TO BE COMPATIBLE WITH FLEXIBLE TUBULAR MARKER POSTS TO A SIZE AND SHAPE THAT WILL PROVIDE A STABLE POST FOUNDATION WHEN SECURED TO THE PAVEMENT.

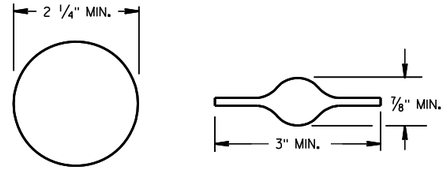
① THREADED ROD SHALL BE MACHINED DOWN TO 0.280 INCH DIA. 1 1/4 INCHES FROM THE TOP.

② THE ASPHALTIC ADHESIVE OR BUTYL PAD FURNISHED SHALL BE IN ACCORDANCE WITH MANUFACTURERS RECOMMENDATIONS.



SECTION A-A

SURFACE MOUNTED BASE



SECTION B-B

ALTERNATIVE SHAPES

FLEXIBLE TUBULAR MARKER POST, ANCHOR & BASES
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION
APPROVED 2/17/94 DATE /S/ Chester J. [illegible] DIRECTOR, OFFICE O 212 FHWA

6

S.D.D. 15 C 11-5

6

S.D.D. 15 C 11-5

TWO-LANE ROADWAY

SYMBOLS

WORK AREA

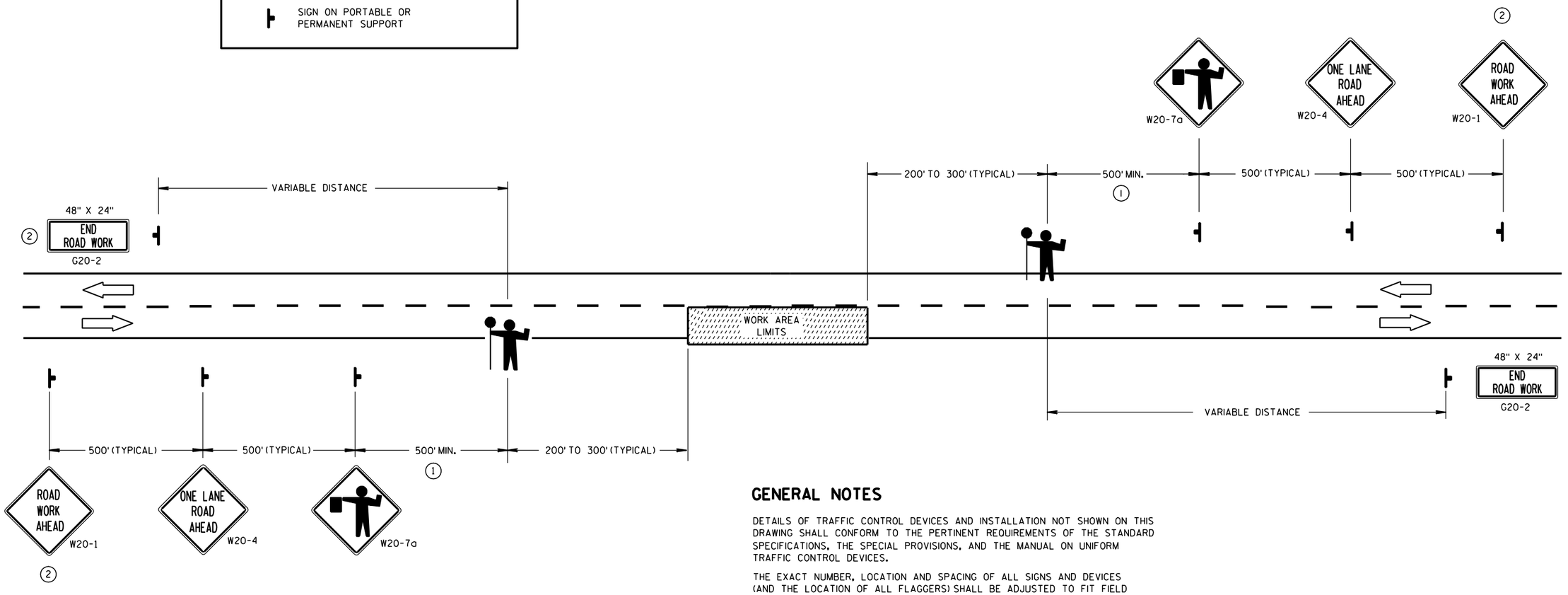
FLAGGER, EQUIPPED WITH STOP/SLOW PADDLE FASTENED ON SUPPORT STAFF

SIGN ON PORTABLE OR PERMANENT SUPPORT



W3-4

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



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

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

GENERAL NOTES

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

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

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

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

FLAGGERS SHALL BE IN SIGHT OF EACH OTHER OR IN DIRECT COMMUNICATION AT ALL TIMES. THEY SHALL BE EQUIPPED WITH STOP/SLOW PADDLES FASTENED ON SUPPORT STAFFS. WHEN THE FLAGGING OPERATION IS NOT IN EFFECT, THE "FLAGGER AHEAD", THE "ROAD WORK AHEAD" AND THE ONE LANE ROAD AHEAD" SIGNS SHALL BE COVERED OR REMOVED AND THE HIGHWAY RESTORED TO NORMAL OPERATION.

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

TRAFFIC CONTROL FOR LANE CLOSURE (SUITABLE FOR MOVING OPERATIONS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

9/5/06 — DATE

/S/ Thomas N. Nathaam — STATE TRAFFIC ENGINEER

FHWA

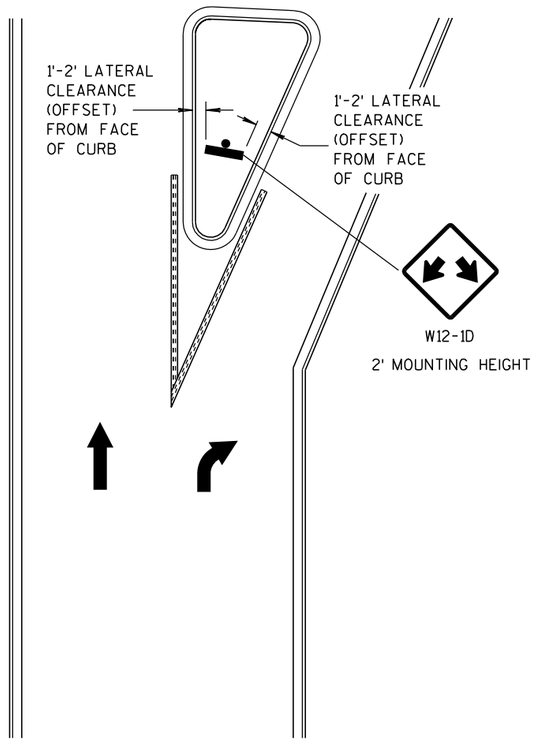
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S.D.D. 15 C 12-3

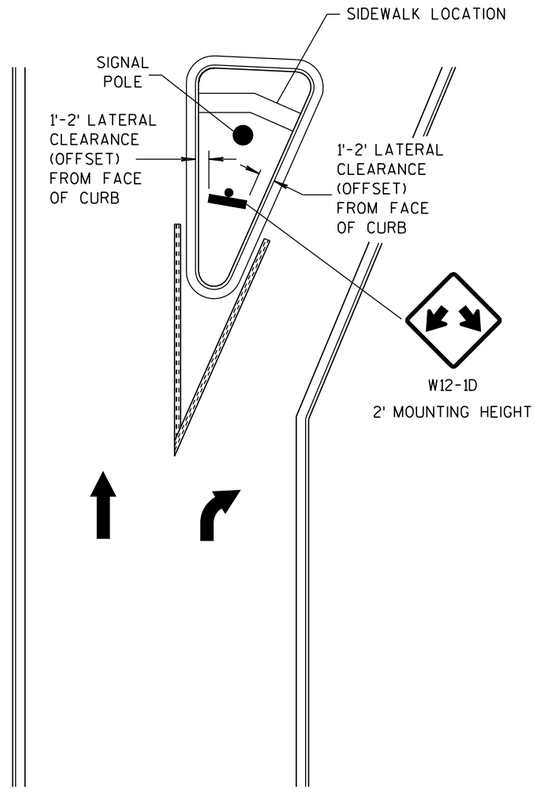
GENERAL NOTE

APPLIES TO ISLANDS AT LEFT TURNS AT ONE WAY ROADWAYS AS WELL.

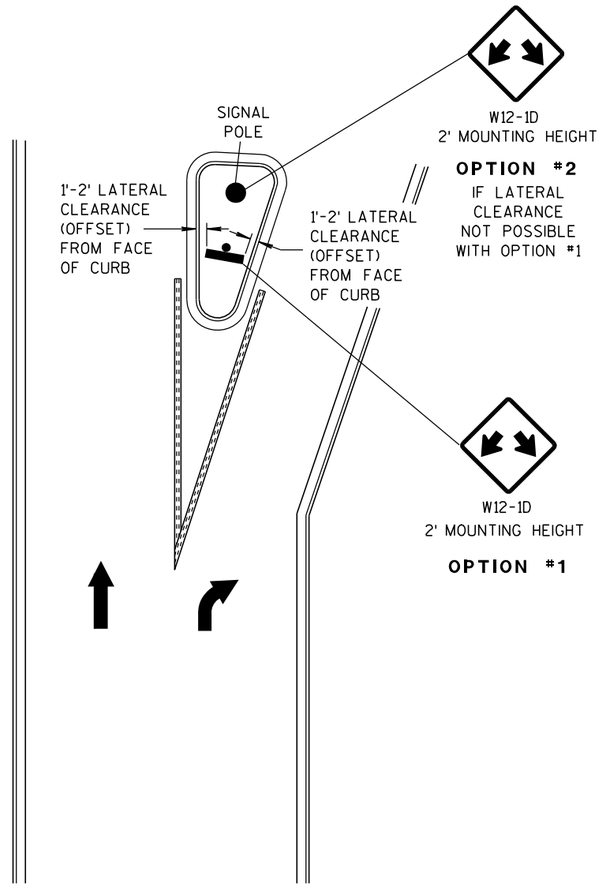
SEE MISCELLANEOUS QUANTITIES FOR SIGN SIZE.



LARGE RIGHT TURN ISLAND



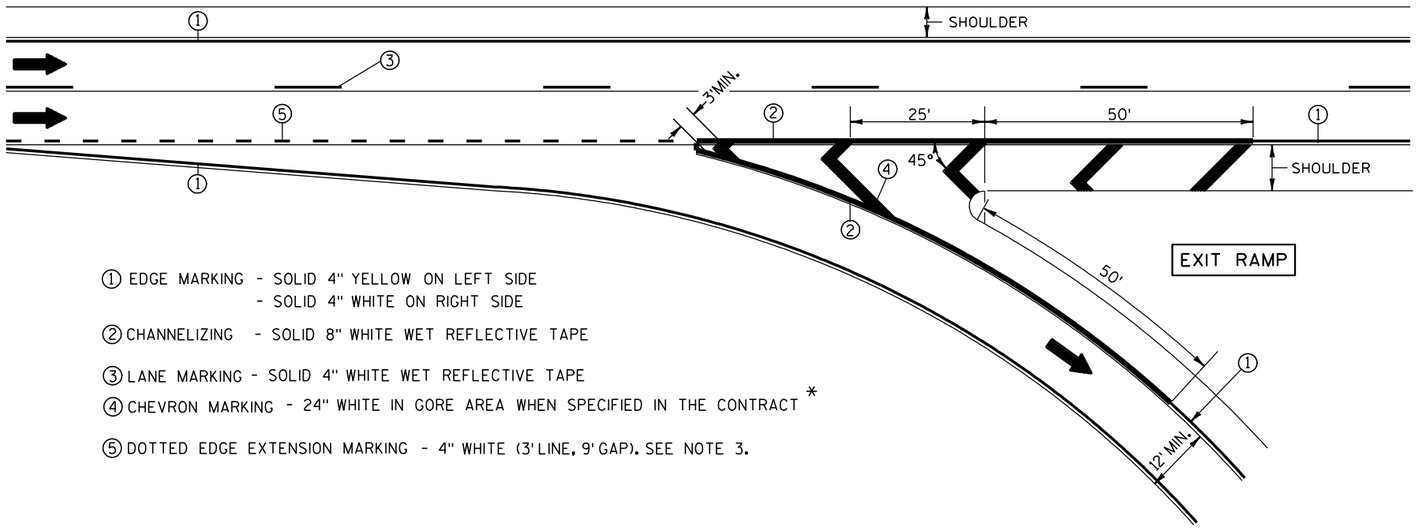
LARGE RIGHT TURN ISLAND
WITH SIGNAL POLE



SMALL RIGHT TURN ISLAND

DOUBLE ARROW WARNING SIGN PLACEMENT

DOUBLE ARROW WARNING SIGN PLACEMENT	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED	
10-22-08 DATE	/S/ Thomas N. Nothem STATE TRAFFIC ENGINEER
FHWA	214 IGN



① EDGE MARKING - SOLID 4" YELLOW ON LEFT SIDE
- SOLID 4" WHITE ON RIGHT SIDE

② CHANNELIZING - SOLID 8" WHITE WET REFLECTIVE TAPE

③ LANE MARKING - SOLID 4" WHITE WET REFLECTIVE TAPE

④ CHEVRON MARKING - 24" WHITE IN GORE AREA WHEN SPECIFIED IN THE CONTRACT *

⑤ DOTTED EDGE EXTENSION MARKING - 4" WHITE (3' LINE, 9' GAP). SEE NOTE 3.

NOTES:

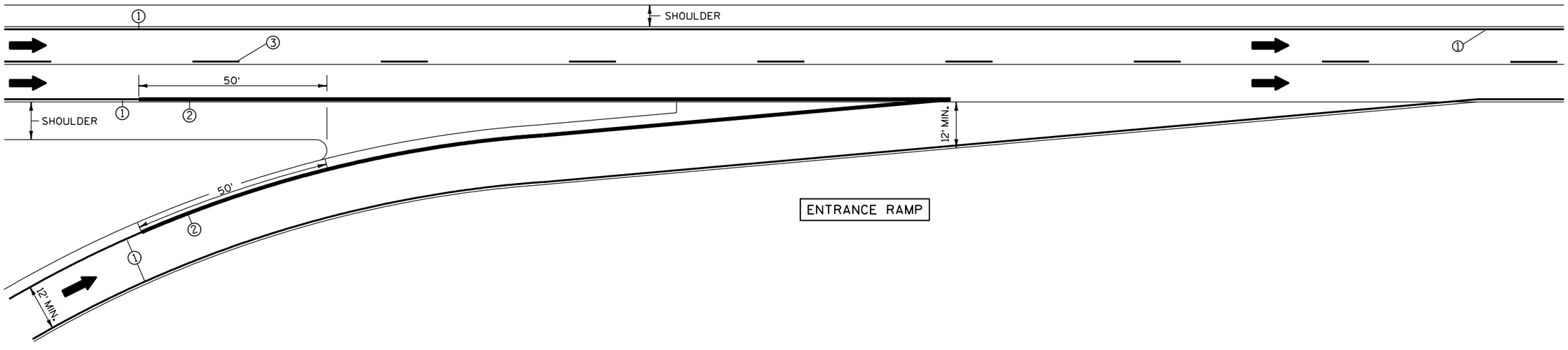
1. ARROWS SHOWN ON THIS MARKING PLAN DESIGNATE TRAFFIC FLOW, AND SHALL NOT BE TAKEN AS PROPOSED PAVEMENT MARKINGS.

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

3. 3' LINE 9' GAP, EXCEPT RETRACE THE EXISTING LINE-GAP PATTERN WHERE EXISTING MARKINGS ARE IN PLACE.

4. RETRACE EXISTING DIAGONAL MARKINGS.

* REFER TO DESIGN NOTES.



6

6

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

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

PAVEMENT MARKING
(RAMPS AND GORES)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

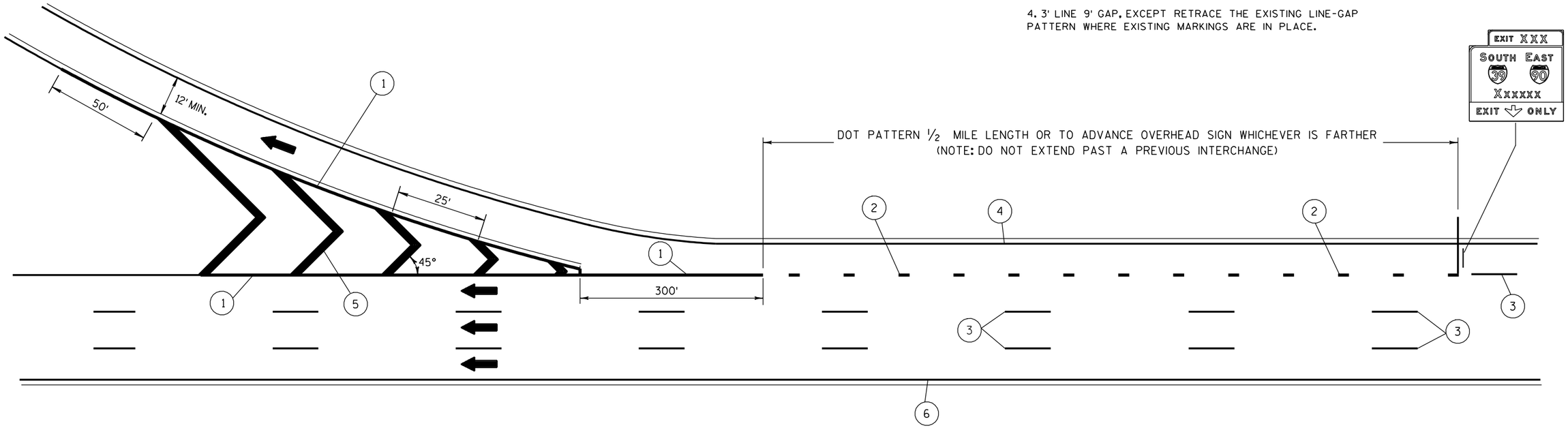
NOTES:

1. SEE STANDARD DETAIL DRAWING 15 C 10 FOR SPRAYED OR NON WET REFLECTIVE LINE SEGMENTS.

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

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

4. 3' LINE 9' GAP, EXCEPT RETRACE THE EXISTING LINE-GAP PATTERN WHERE EXISTING MARKINGS ARE IN PLACE.



1. CHANNELIZING - SOLID 8" WHITE WET RELECTIVE TAPE
2. 3' LINE, 9' GAP SOLID 8" WHITE WET REFLECTIVE TAPE. SEE NOTE 4.
3. SOLID 4" WHITE WET REFLECTIVE TAPE
4. 4" WHITE EDGELINE
5. CHEVRON MARKING - 24" WHITE WHEN SPECIFIED IN THE CONTRACT
6. 4" YELLOW EDGELINE

LANE DROP
PAVEMENT MARKING

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

6

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

6

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

LEGEND

- POST WITH ATTACHED SIGN
- DRUM WITH WARNING LIGHT (TYPE C)
- DRUM
- ARROW BOARD
- REMOVING PAVEMENT MARKING
- TEMPORARY PRECAST CONCRETE BARRIER
- DIRECTION OF TRAFFIC
- WORK ZONE

GENERAL NOTES :

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

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

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

ALL SIGNS ARE 48"x48" UNLESS OTHERWISE NOTED.

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

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

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

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

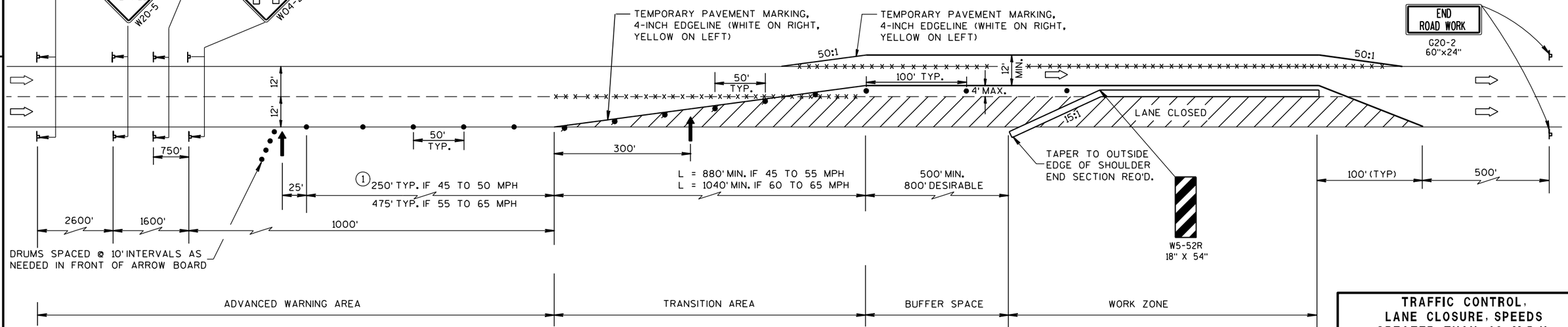
REMOVE PAVEMENT MARKINGS IF LANE CLOSURE IS TO BE IN PLACE FOR LONGER THAN 7 CONTINUOUS DAYS AND NIGHTS.

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

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

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





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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

7-14-94
DATE

/S/ Chester J. [illegible]
DIRECTOR, OFFICE OF [illegible]

FHWA

6
S.D.D. 15 D 3-1

LEGEND

- POST WITH ATTACHED SIGN
- POST WITH ATTACHED SIGN IN DRUM
- DRUM WITH WARNING LIGHT (TYPE C)
- DRUM
- ARROW BOARD
- 8' TYPE III BARRICADE
- REMOVING PAVEMENT MARKING
- DIRECTION OF TRAFFIC

GENERAL NOTES :

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

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

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

ALL SIGNS ARE 48"x48" UNLESS OTHERWISE NOTED.

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

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

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

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

GENERAL NOTES CONTINUED:

REMOVE PAVEMENT MARKINGS IF LANE CLOSURE IS TO BE IN PLACE FOR LONGER THAN 7 CONTINUOUS DAYS AND NIGHTS.

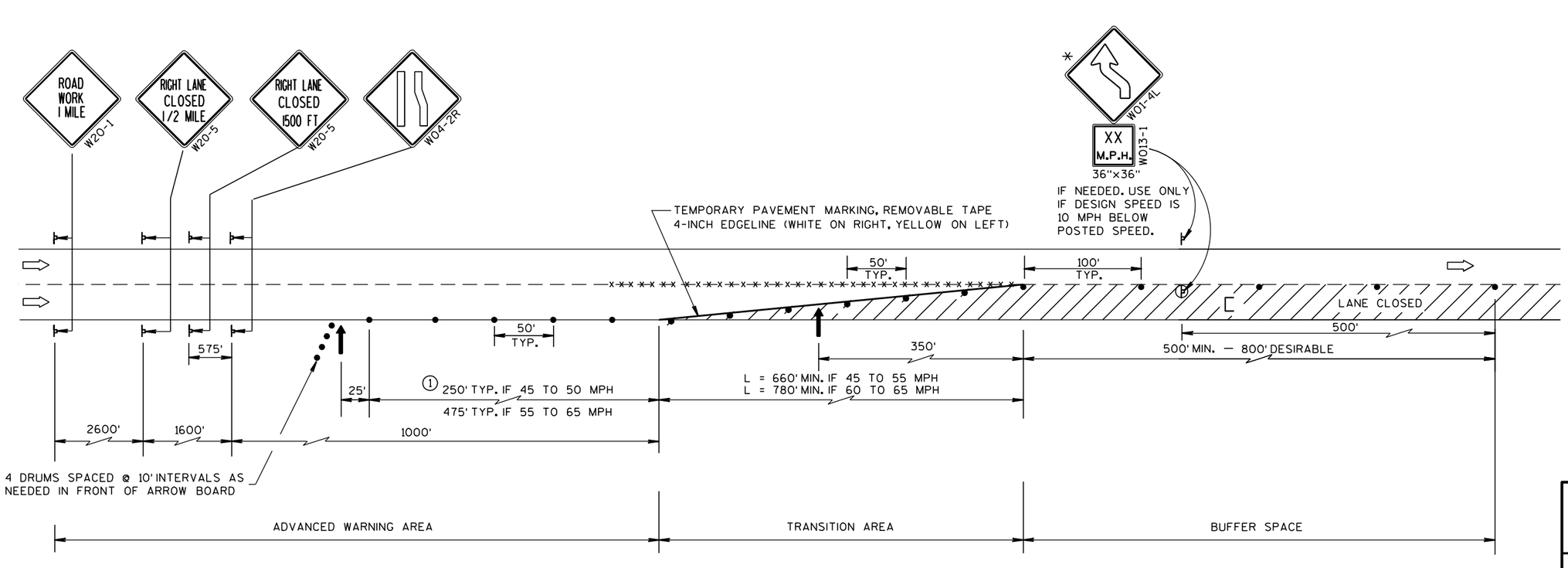
WARNING LIGHTS ARE NOT REQUIRED IF THE LANE CLOSURE IS A DAYTIME ONLY OPERATION.

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

IF LANE CLOSURE IS MORE THAN 1 MILE, PLACE A TYPE III BARRICADE APPROXIMATELY EVERY 1/4 MILE ACROSS THE CLOSED LANE TO HELP ENFORCE THE DRUM LINE.

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

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



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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

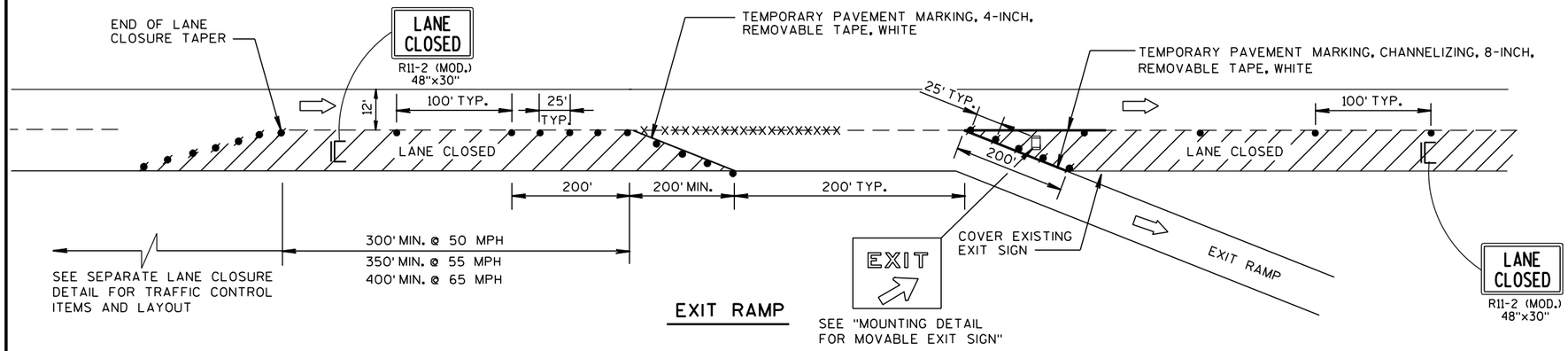
APPROVED
8-7-95 DATE
/S/ Chester J. [illegible]
DIRECTOR, OFFICE O 218 C
FHWA

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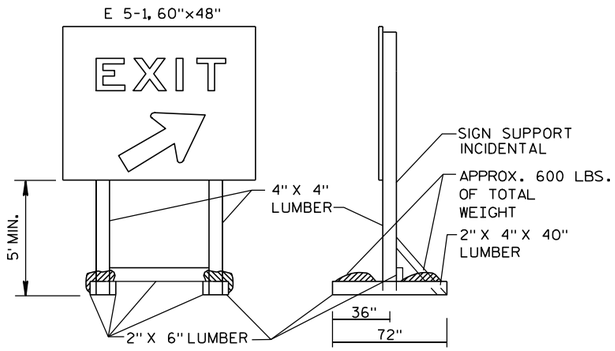
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S.D.D. 15 D 12-2

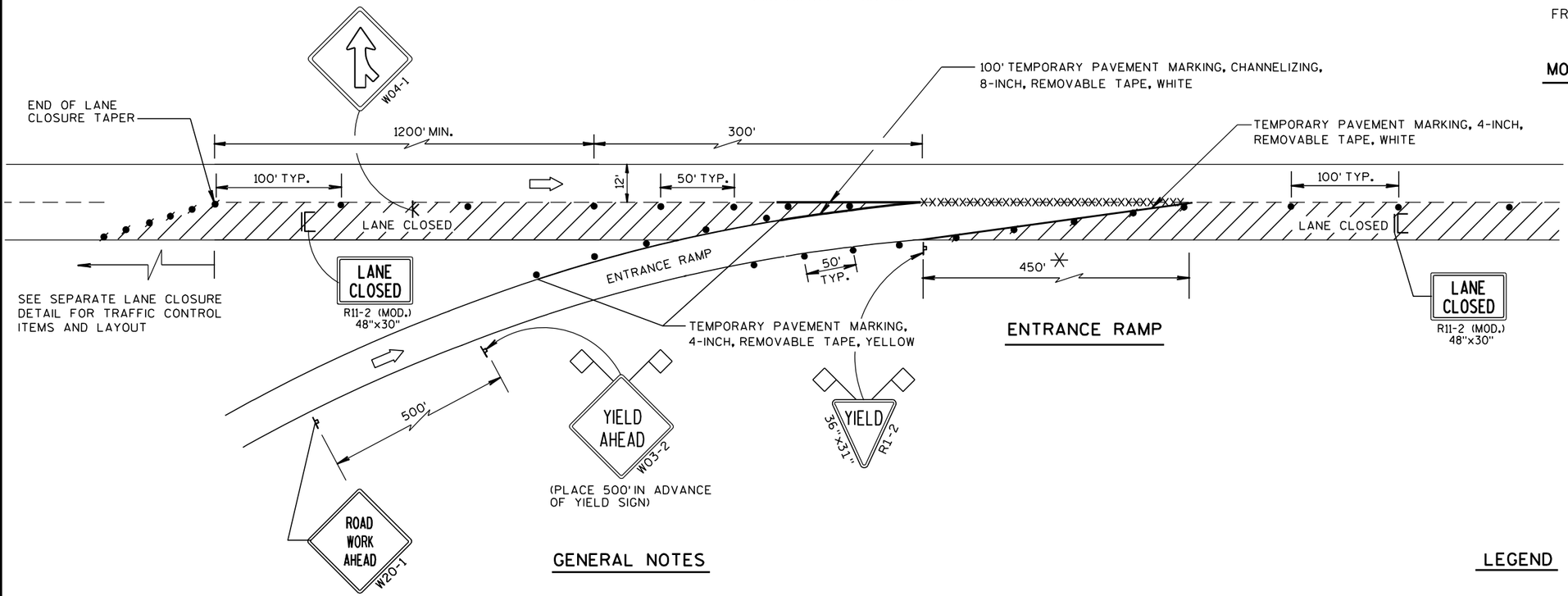


EXIT RAMP



NOTE: ALL LUMBER DIMENSIONS ARE NOMINAL

MOUNTING DETAIL FOR MOVABLE EXIT SIGN



ENTRANCE RAMP

GENERAL NOTES

THE INSTALLATIONS SHOWN ON THIS SHEET ARE TYPICAL EXAMPLES AND ARE NOT INTENDED TO REPRESENT ANY PARTICULAR RAMP. AT SPECIFIC FIELD LOCATIONS, SIMILAR INSTALLATIONS SHALL BE USED AND ADJUSTED TO THE GEOMETRICS OF THE RAMP AS COORDINATED WITH THE ENGINEER.

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

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

ALL SIGNS ARE 48"x48" UNLESS OTHERWISE NOTED.

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

SEE SEPARATE LANE CLOSURE DETAIL FOR TYPICAL SPACING OF TYPE III BARRICADES AND R11-2 (MOD.) "LANE CLOSED" SIGNS.

YIELD SIGN AND WARNING SIGNS ON ENTRANCE RAMP ARE ALSO APPROPRIATE FOR CLOSURE OF THE MAINLINE LEFT LANE. OMIT THE YIELD SIGN IF MORE THAN ONE LANE REMAINS OPEN ON THE MAINLINE AND THE RAMP TAPER IS AT LEAST AS LONG AS THE NORMAL ENTRANCE RAMP TAPER AT THE SITE.

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

IF INDICATED IN MISCELLANEOUS QUANTITIES, SUBSTITUTE FLEXIBLE TUBULAR MARKERS FOR DRUMS IN THE GORE BETWEEN THE ENTRANCE RAMP AND MAINLINE TRAFFIC.

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

REMOVE PAVEMENT MARKINGS AND PLACE TEMPORARY PAVEMENT MARKING, REMOVABLE TAPE IF LANE CLOSURE IS TO BE IN PLACE FOR 7 OR MORE CONTINUOUS DAYS AND NIGHTS.

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

✳ LENGTH OF OPENING MAY BE REDUCED TO 150 FEET DURING STAGING OF WORK IN IMMEDIATE AREA OF RAMP TAPER.

LEGEND

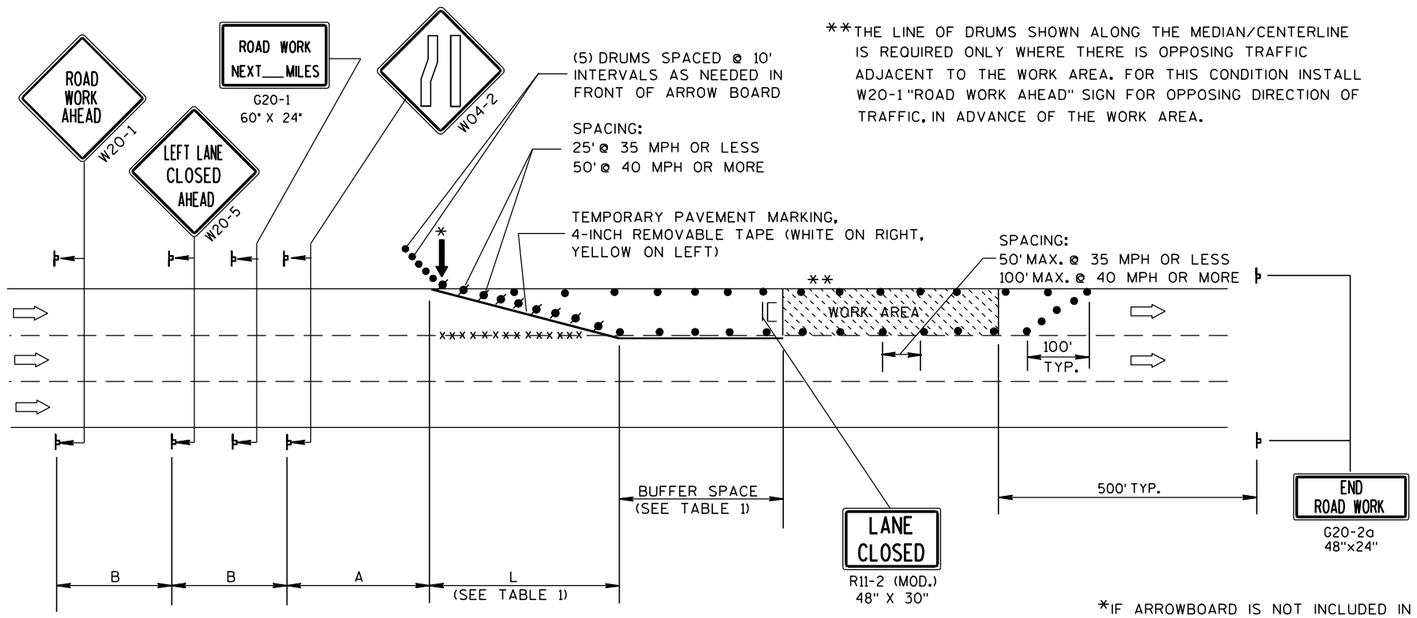
- POST MOUNTED SIGN
- SIGN ON PORTABLE SUPPORT
- TRAFFIC CONTROL, DRUM
- TRAFFIC CONTROL, DRUM WITH WARNING LIGHT, TYPE C (STEADY-BURN)
- REMOVING PAVEMENT MARKING (SEE GENERAL NOTES)
- TYPE III BARRICADE (8' EQUIVALENT) WITH SIGN
- FLAGS, 16"x16" MIN., ORANGE
- DIRECTION OF TRAFFIC FLOW

TRAFFIC CONTROL, EXIT AND ENTRANCE RAMP WITHIN LANE CLOSURE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

6
S.D.D. 15 D 15-1



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

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

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

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

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

W01-6
48"x24"

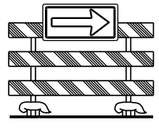


TABLE 1
TAPER AND BUFFER SPACE FOR 12' LANE WIDTH

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

FOR LANE WIDTH OTHER THAN 12':

L = WS AT 45 MPH OR GREATER

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

L = TAPER LENGTH IN FEET

S = NON-CONSTRUCTION SPEED LIMIT (MPH)

W = WIDTH OF LANE CLOSURE

LEGEND

- DRUM WITH/WITHOUT WARNING LIGHT, TYPE C (STEADY-BURN)
- POST MOUNTED SIGN
- ARROW BOARD
- TYPE III BARRICADE (8' EQUIVALENT) AND WARNING LIGHTS, TYPE A (FLASHING) WITH/WITHOUT SIGN
- DIRECTION OF TRAFFIC FLOW
- xxxx REMOVING PAVEMENT MARKING (SEE GENERAL NOTES)

GENERAL NOTES

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

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

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

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

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

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

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

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

REMOVE PAVEMENT MARKINGS AND PLACE TEMPORARY PAVEMENT MARKING, REMOVABLE TAPE IF LANE CLOSURE IS TO BE IN PLACE FOR 7 OR MORE CONTINUOUS DAYS AND NIGHTS.

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

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

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

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

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

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

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

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

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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

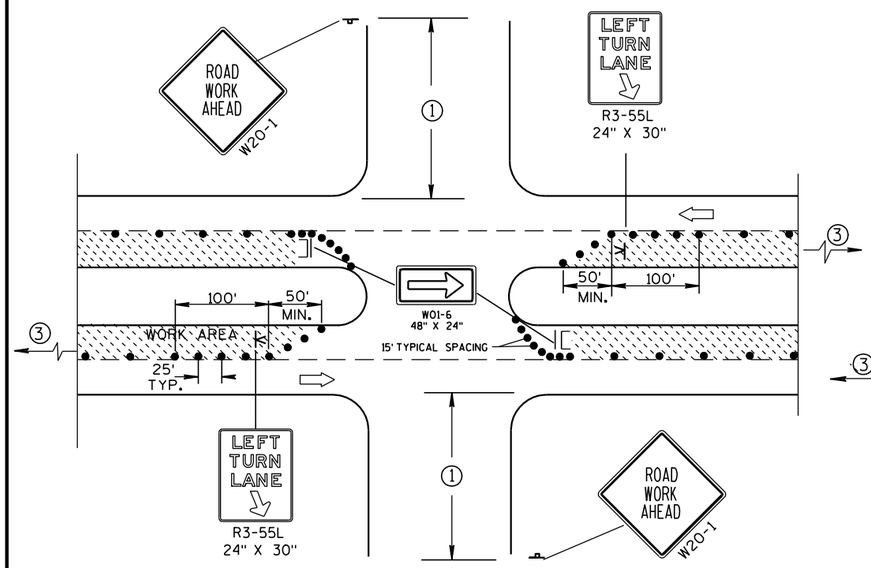
APPROVED

5/23/00
DATE

/S/ Chester J. [illegible]
CHIEF SIGNS AND MARKINGS ENGINEER

FHWA

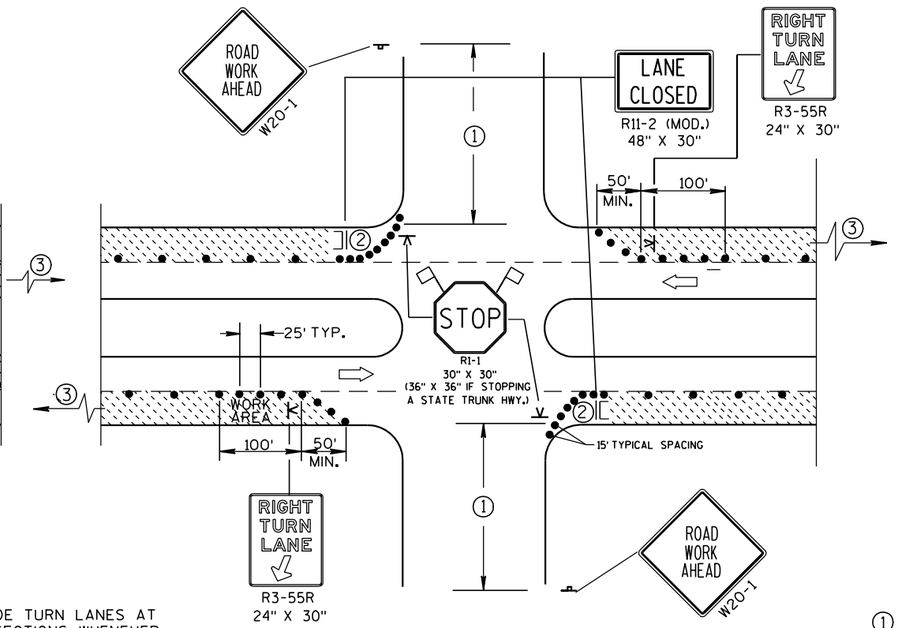
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S.D.D. 15 D 20-1



DETAIL A

FOR LEFT LANE CLOSURE AT INTERSECTION OR MEDIAN OPENING

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



DETAIL B

FOR RIGHT LANE CLOSURE AT INTERSECTION

GENERAL NOTES

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

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

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

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

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

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

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

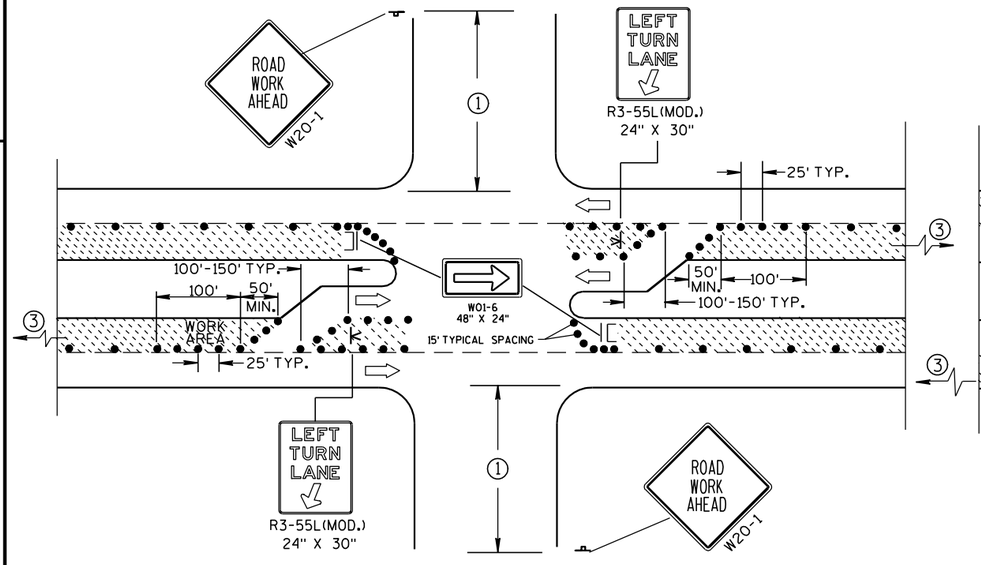
CHANNELIZING DEVICES PLACED ADJACENT TO WORK AREA SHALL BE PULLED BACK FROM THE TRAVEL LANE WHEN WORK IS NOT IN PROGRESS.

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

① 500' TYPICAL OR AT LAST INTERSECTION, WHICHEVER IS CLOSER.
350' IF 35-40 MPH.
200' IF 25-30 MPH.

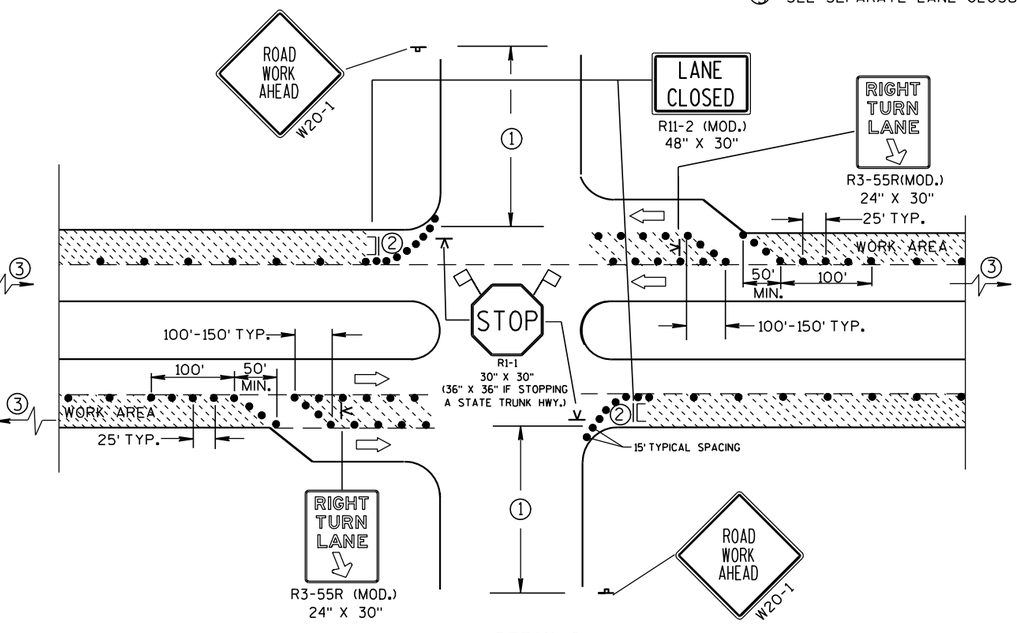
② ALSO USE BARRICADE AND 15' TYPICAL DRUM SPACING AT COMMERCIAL DRIVEWAYS.

③ SEE SEPARATE LANE CLOSURE DETAIL FOR ADDITIONAL TRAFFIC CONTROL.



DETAIL C

FOR LEFT LANE CLOSURE AT INTERSECTION OR MEDIAN OPENING (WITH LEFT TURN BAY OPEN)



DETAIL D

FOR RIGHT LANE CLOSURE AT INTERSECTION (WITH RIGHT TURN BAY OPEN)

LEGEND

- DRUM
- POST MOUNTED SIGN
- SIGN ON PORTABLE SUPPORT (5' MIN. MOUNTING HEIGHT)
- TYPE III BARRICADE (8' EQUIVALENT) AND WARNING LIGHT, TYPE A (FLASHING) WITH SIGN
- DIRECTION OF TRAFFIC FLOW
- FLAGS, 16" X 16" MIN., ORANGE

TRAFFIC CONTROL, INTERSECTION WITHIN SINGLE LANE CLOSURE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
5/23/00 — DATE
/S/ Chester J. Spang — CHIEF SIGNS AND MARKINGS ENGINEER
FHWA

6

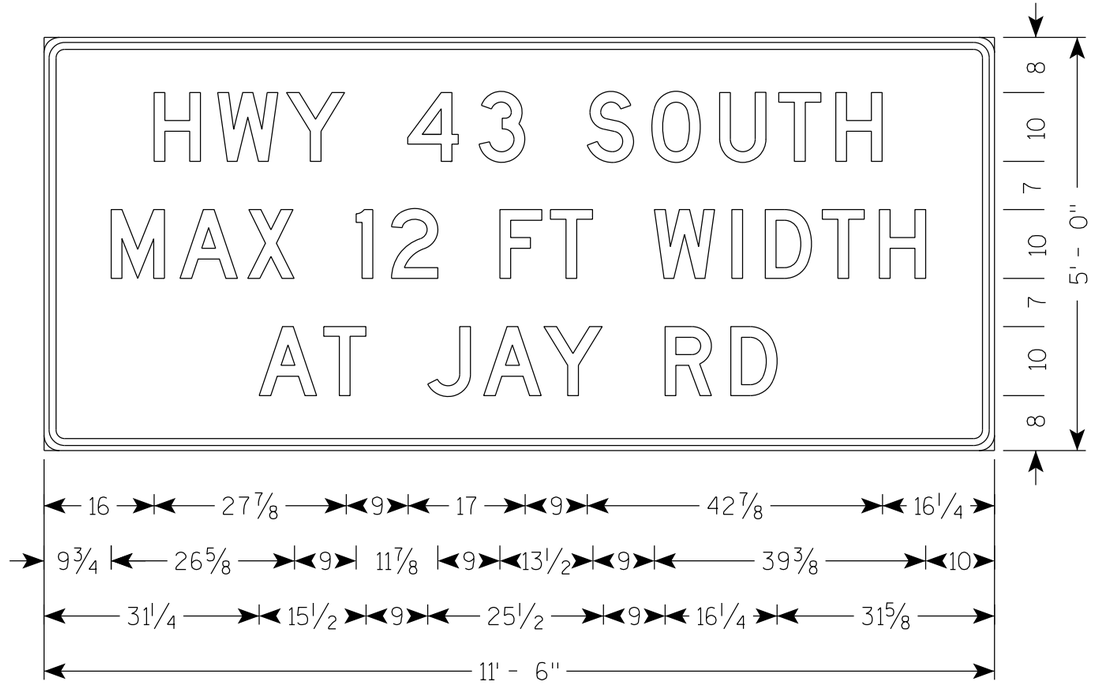
S.D.D. 15 D 21-1
S.D.D. 15 D 21-1



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
   Message - BLACK
3. Message Series - D

3/4" Margin
1" Border
2 1/4" Radius



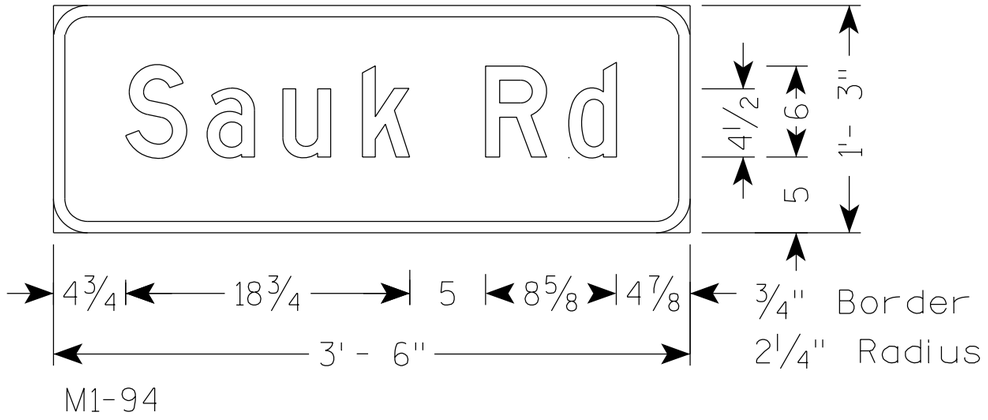
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7

PROJECT NO: 1450-16-70	HWY: IH 43	COUNTY: OZAUKEE	TEMPORARY SIGN DETAILS	SHEET 222	E

FILE NAME : $$....designfile....$$ PLOT DATE : $$...plottingdate...$$ PLOT BY : $$...plotuser...$$ PLOT NAME : PLOT SCALE : $$.....plotscale.....$$ WISDOT/CADDS SHEET 47

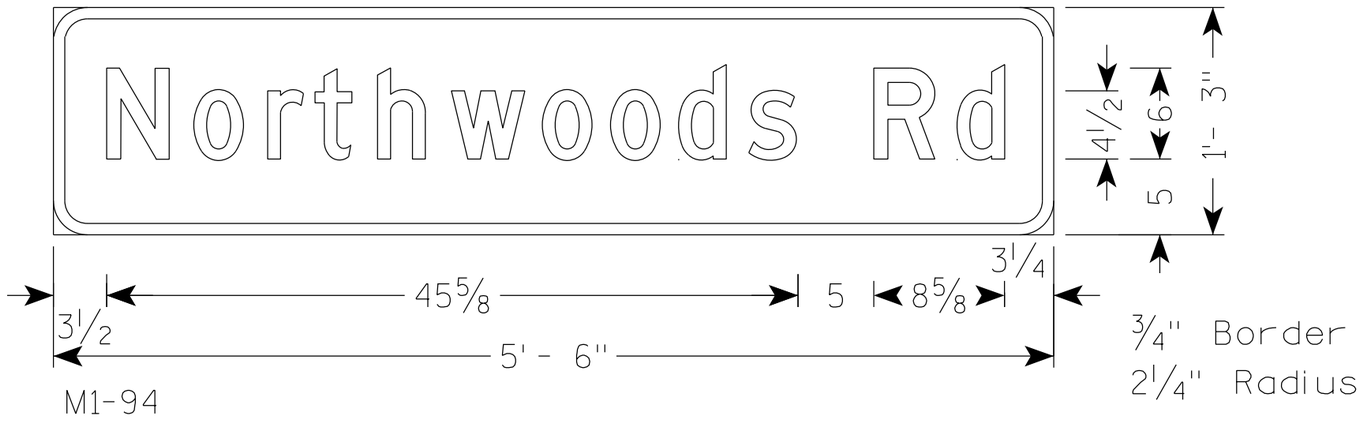
Temporary Sign Plates.dgn 4/10/2013 1:52:53 PM jdolens



M1-94

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
   Message - BLACK
3. Message Series - D



M1-94

7

7

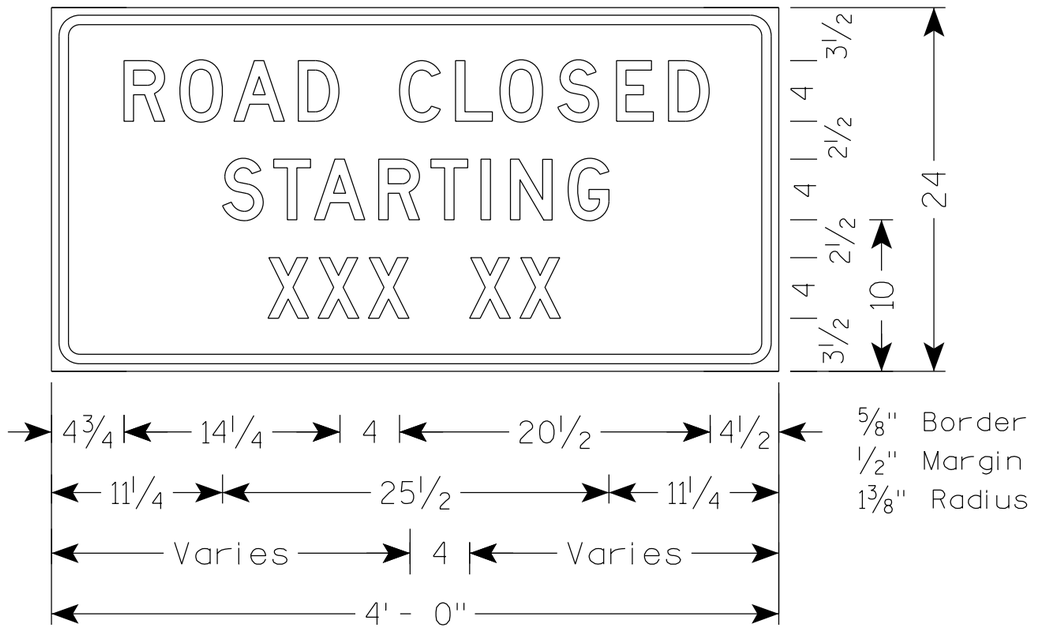
PROJECT NO: 1450-16-70	HWY: IH 43	COUNTY: OZAUKEE	TEMPORARY SIGN DETAILS	SHEET 223	E

FILE NAME : $$....designfile....$$ PLOT DATE : $$...plottingdate...$$ PLOT BY : $$...plotuser...$$ PLOT NAME : PLOT SCALE : $$.....plotscale.....$$ WISDOT/CADDS SHEET 47

Temporary Sign Plates_02.dgn 4/10/2013 1:52:54 PM jdolens

NOTES

1. Sign Is Type II - Type F Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - ORANGE
   Message - BLACK
3. Message Series - D



7

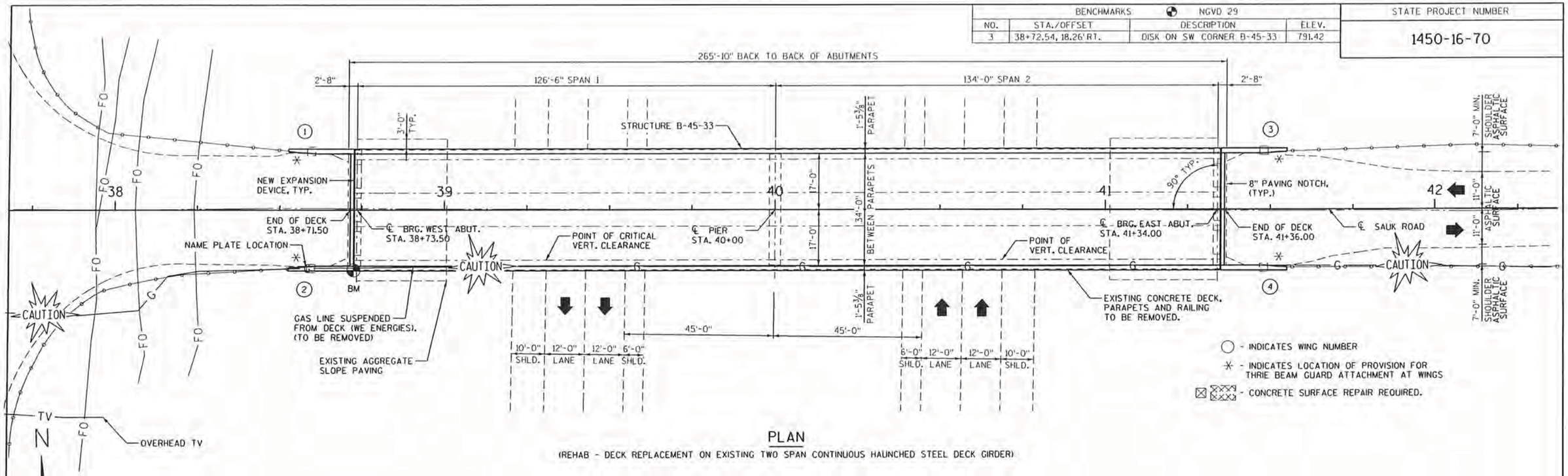
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PROJECT NO: 1450-16-70	HWY: IH 43	COUNTY: OZAUKEE	TEMPORARY SIGN DETAILS	SHEET 224	E

BENCHMARKS	NGVD 29		
NO.	STA./OFFSET	DESCRIPTION	ELEV.
3	38+72.54, 18.26' RT.	DISK ON SW CORNER B-45-33	791.42

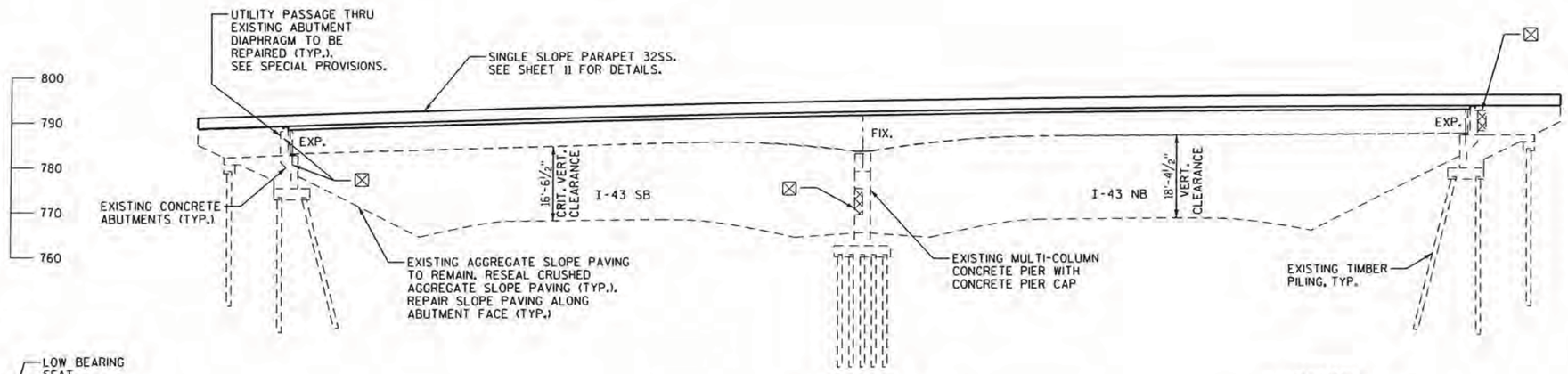
STATE PROJECT NUMBER

1450-16-70



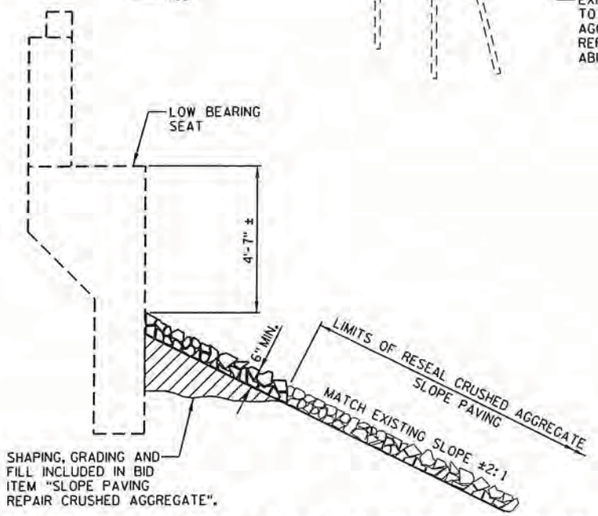
PLAN

(REHAB - DECK REPLACEMENT ON EXISTING TWO SPAN CONTINUOUS HAUNCHED STEEL DECK GIRDER)



ELEVATION

(NORMAL TO SAUK ROAD)



CROSS SECTION - SLOPE PAVING CRUSHED AGGREGATE

DESIGN DATA

LIVE LOAD
- INVENTORY RATING : HS-19
- OPERATING RATING : HS-31
- MAX. STD. PERMIT VEHICLE LOAD = 170 KIPS

TRAFFIC DATA:
- A.A.D.T. (2012) = 170
- A.A.D.T. (2032) = 250
- RDS (2012) = 250

ULTIMATE DESIGN STRESSES:
- CONCRETE MASONRY - ALL ——— fc' = 4,000 P.S.I.
- BAR STEEL REINFORCEMENT HS COATED BRIDGES ——— fy = 60,000 P.S.I.

FOUNDATION DATA:
- NEW CONCRETE DECK SUPPORTED ON EXISTING GIRDERS AND FOUNDATIONS.

LIST OF DRAWINGS

1. GENERAL PLAN
2. CROSS SECTION & NOTES
3. QUANTITIES & PROFILE
4. ABUTMENTS
5. EXPANSION BEARING REPLACEMENT DETAILS
6. SUPERSTRUCTURE PLAN
7. SUPERSTRUCTURE CROSS SECTION
8. SLAB ELEVATIONS
9. EXPANSION DEVICE
10. COVER PLATE DETAILS
11. SINGLE SLOPE PARAPET 32SS

WISCONSIN PROFESSIONAL ENGINEER
DANIEL H. WAGNER
E-19220
BARABOO, WI
Daniel H. Wagner
10-8-2012

DESIGN CONTACT: DANIEL WAGNER (608) 355-8952

BRIDGE OFFICE CONTACT: WILLIAM DREHER (608) 266-8489

NO.	DATE	REVISION	BY

MSA PROFESSIONAL SERVICES
TRANSPORTATION • MUNICIPAL DEVELOPMENT • ENVIRONMENTAL
1230 South Boulevard Baraboo, WI 53913
608-356-2771 1-800-362-4505 Fax: 608-356-2770

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
ACCEPTED William C. Dreher KAR 04/19/13
CHIEF STRUCTURES DESIGN ENGINEER DATE

STRUCTURE B-45-33 REHAB

SAUK ROAD OVER I-43

COUNTY	TOWN/~~CITY/VILLAGE~~
OZAUKEE	SAUKVILLE

DESIGN SPEC.
REHABILITATION - N/A

DESIGNED BY	DESIGN CK'D.	DRAWN BY	PLANS CK'D.
DHW	LJM	RLR	DHW

GENERAL PLAN

SHEET 1 OF 11

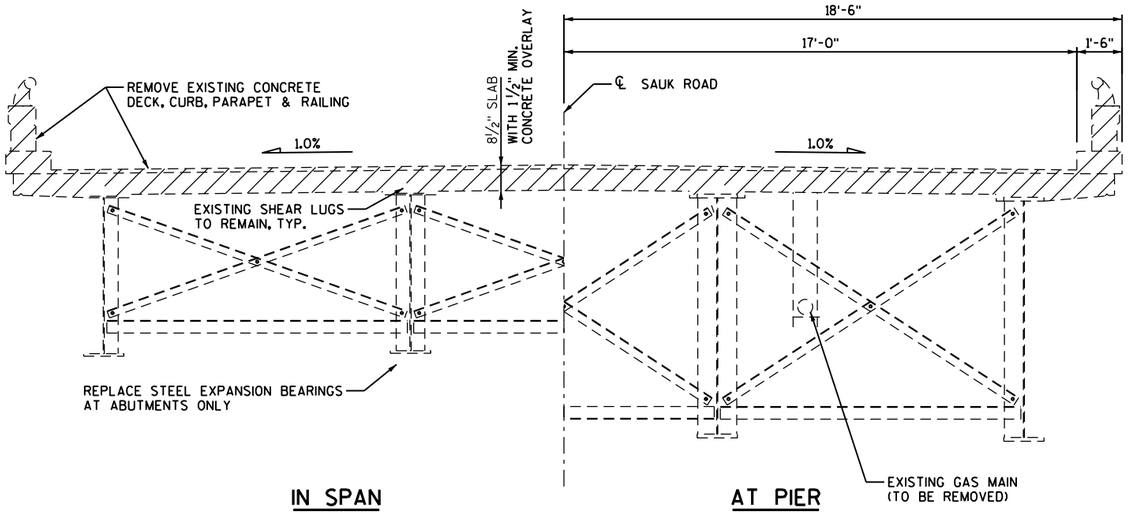
225

FILE= B-45-33-01.DGN
DATE= 10/8/2012

8

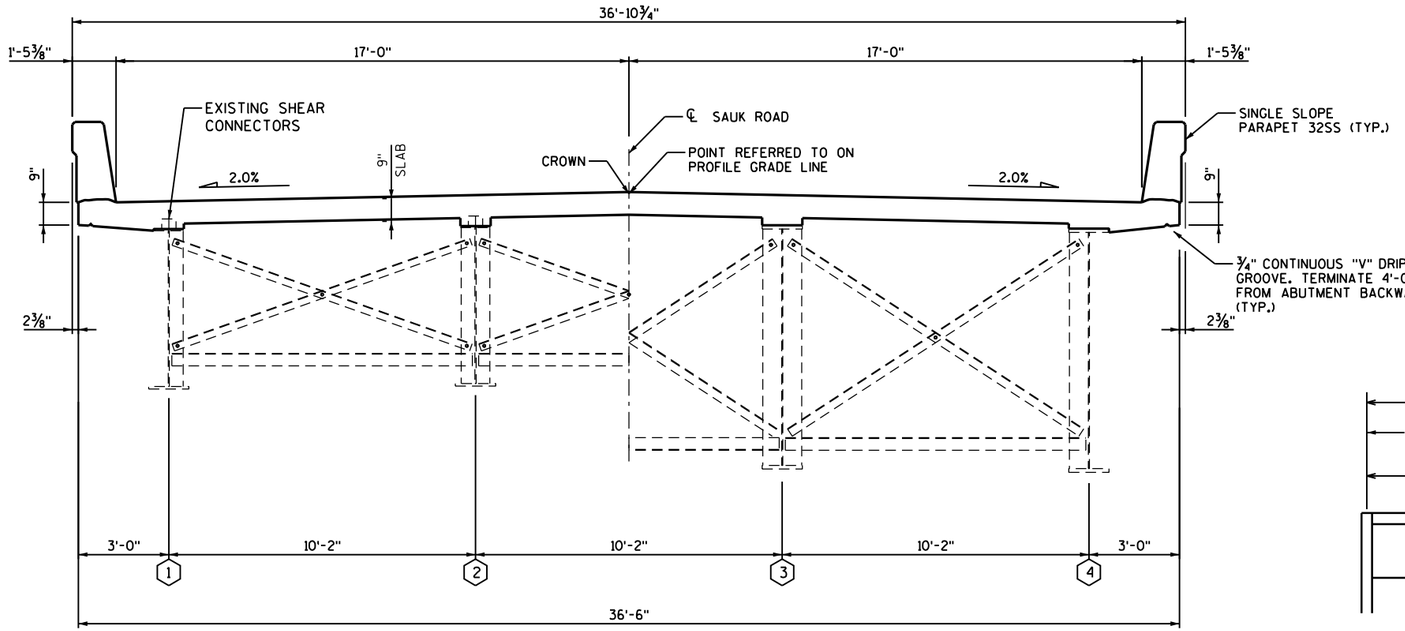
8

B-45-33_01.dgn 10/8/2012 10:13:10 AM RRABSKA



CROSS SECTION THRU EXISTING BRIDGE

(LOOKING EAST)



CROSS SECTION THRU BRIDGE

(LOOKING EAST)

⬡ - GIRDER NUMBER

GENERAL NOTES

DRAWINGS SHALL NOT BE SCALED.

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

THE FIRST DIGIT OF A THREE DIGIT BAR MARK SIGNIFIES THE BAR SIZE.

AT THE ABUTMENTS AND WINGWALLS ALL EXCAVATED VOLUME BELOW THE ROADWAY SUBGRADE OR PAVEMENT APPROACH SLAB NOT OCCUPIED BY THE NEW STRUCTURE SHALL BE BACKFILLED WITH BACKFILL STRUCTURE. THE EXCAVATION AND BACKFILL STRUCTURE WILL BE INCLUDED IN THE BID ITEM "REMOVING OLD STRUCTURE STATION 40+00".

APPLY PROTECTIVE SURFACE TREATMENT TO THE EXPOSED TOP OF SLAB, AND TOP AND ROADWAY FACE OF THE PARAPETS INCLUDING PARAPETS ON ABUTMENT WINGS.

APPLY BRIDGE SEAT PROTECTION, PER SUBSECTION 502.3.12 OF THE STANDARD SPECIFICATIONS, TO THE TOP SURFACE OF BOTH ABUTMENTS, INCLUDING THE SURFACE BELOW BEARINGS TO BE REPLACED.

THE EXISTING GROUND LINE SHALL BE USED AS THE UPPER LIMITS OF EXCAVATION AT THE ABUTMENTS.

DIMENSIONS OF EXISTING BRIDGE MEMBERS SHOWN ARE BASED ON ORIGINAL PLANS.

ORIGINAL PLANS OF EXISTING BRIDGE B-45-33 ARE AVAILABLE AT THE WISDOT SOUTHEAST REGION OFFICE. REFERENCE THOSE PLANS FOR THE DESIGN OF SLAB OVERHANG SHORING AND TEMPORARY BRACING DURING CONSTRUCTION.

ELEVATIONS SHOWN ON THIS PLAN ARE REFERENCED TO BM #3, A DISK ON THE TOP OF WING 2 OF B-45-33, ELEV. 791.42, NGVD 29.

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 1972.

THIS STRUCTURE WILL REHABILITATE THE EXISTING STRUCTURE, B-45-33, A TWO SPAN, 265'-10" LONG, CONTINUOUS HAUNCHED STEEL DECK GIRDER SET ON CONCRETE SEMI-RETAINING ABUTMENTS AND A MULTI-COLUMN PIER.

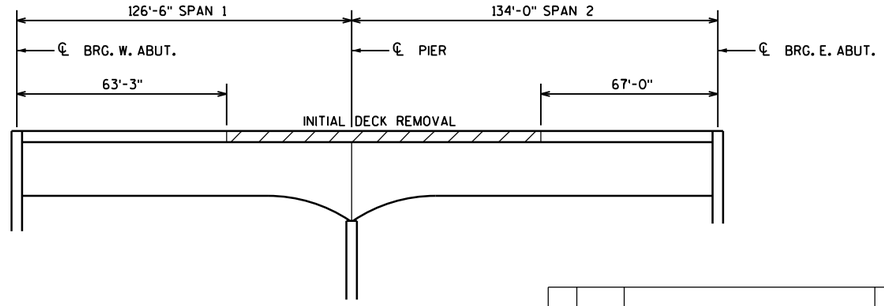
THE MINIMUM CONCRETE HAUNCH AT THE EDGE OF THE EXISTING GIRDER FLANGES SHALL BE 1¼". THE HAUNCH CONCRETE QUANTITY IS BASED ON AN AVERAGE HAUNCH DEPTH OF 4⅜" OVER THE PERTINENT WIDTHS OF THE TOP FLANGES, WHICH IS THE MAXIMUM HAUNCH QUANTITY FOR WHICH THE CONTRACTOR WILL BE PAID.

THE LOCATIONS OF EXISTING UTILITY INSTALLATIONS AS SHOWN ON THE PLANS ARE APPROXIMATE.

ALL CONCRETE REMOVAL SHALL BE DEFINED BY A 1½" DEEP SAWCUT UNLESS NOTED OR SHOWN OTHERWISE. SEE SHEET 4. OTHER REMOVAL WITHIN THE FOOTPRINT OF THE BRIDGE THAT IS NOT SPECIFICALLY INDICATED ON THE PLANS, BUT IS REQUIRED FOR CONSTRUCTION OF THE NEW WORK, IS TO BE INCLUDED UNDER THE BID ITEM "REMOVING OLD STRUCTURE STATION 40+00".

CLEAN AND PAINT ALL PIER BEARINGS. SEE SPECIAL PROVISIONS.

THE ITEM WELDED STUD SHEAR CONNECTORS ⅞×6-INCH MAY ONLY BE USED WITH THE APPROVAL OF THE ENGINEER.



DECK REMOVAL SEQUENCE

REMOVE THE EXISTING CONCRETE DECK IN A SEQUENCE TO PRECLUDE UPLIFT AT EITHER ABUTMENT BEARINGS RESULTING FROM DEAD LOADS REMAINING IN THE OPPOSITE SPAN. PROVIDE AS PART OF THE BID ITEM "REMOVING OLD STRUCTURE" TEMPORARY HOLD DOWN DEVICES AS DETAILED ON SHEET 6, IF THE FOLLOWING REMOVAL SEQUENCE IS NOT FOLLOWED.

REMOVE THE SEGMENT OF DECK BETWEEN THE MIDSPANS OF BOTH SPANS PRIOR TO REMOVAL OF THE DECK ON EITHER END OF THE BRIDGE.

STATE PROJECT NUMBER

1450-16-70

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-45-33 REHAB

DRAWN BY RLR | PLANS CK'D. DHW

CROSS SECTION & NOTES

SHEET 2 OF 11

226

FILE= B-45-33-02
DATE= 4/10/2013

B-45-33_02.dgn 4/10/2013 7:40:02 AM RRABSKA

STATE PROJECT NUMBER

1450-16-70

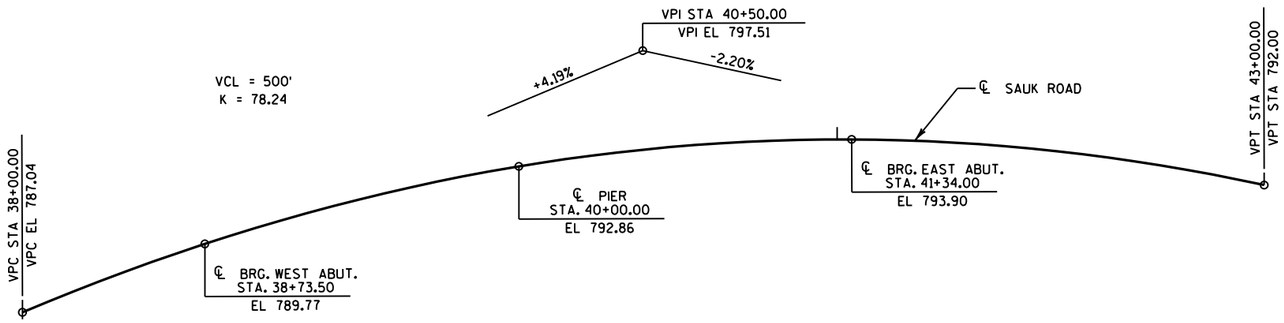
STRUCTURE ESTIMATED QUANTITIES

	ITEM NUMBER	BID ITEM	UNIT	WEST ABUT.	PIER	EAST ABUT.	SUPER.	TOTAL
	203.0200.01	REMOVING OLD STRUCTURE STATION 40+00	LS	-	-	-	-	1
	203.0210.S.01	ABATEMENT OF ASBESTOS CONTAINING MATERIAL STRUCTURE B-45-33 REHAB	LS	-	-	-	-	1
	203.0225.S.01	DEBRIS CONTAINMENT STRUCTURE B-45-33 REHAB	LS	-	-	-	-	1
	502.0100	CONCRETE MASONRY BRIDGES	CY	9	-	9	355	373
	502.3100.01	EXPANSION DEVICE STRUCTURE B-45-33 REHAB	LS	-	-	-	-	1
	502.3200	PROTECTIVE SURFACE TREATMENT	SY	15	-	15	1210	1240
	502.5005	MASONRY ANCHORS TYPE L NO. 5 BARS	EACH	146	-	146	-	292
	505.0605	BAR STEEL REINFORCEMENT HS COATED BRIDGES	LB	1200	-	1200	79920	82320
	506.3015	WELDED STUD SHEAR CONNECTORS 7/8 X 6 - INCH	EACH	-	-	-	150	150
	506.7000.S.01	BEARING REPLACEMENT STRUCTURE B-45-33 REHAB	EACH	4	-	4	-	8
*	509.1500	CONCRETE SURFACE REPAIR	SF	40	20	30	-	90
	517.0900.S.01	PREPARATION AND COATING OF TOP FLANGES STRUCTURE B-45-33 REHAB	LS	-	-	-	-	1
	604.9010.S	SLOPE PAVING REPAIR CRUSHED AGGREGATE	CY	10	-	10	-	20
	604.9015.S	RESEAL CRUSHED AGGREGATE SLOPE PAVING	SY	130	-	130	-	260
	614.0150	ANCHOR ASSEMBLIES FOR STEEL PLATE BEAM GUARD	EACH	2	-	2	-	4
	SPV.0060.01	CLEANING AND PAINTING BEARINGS	EACH	-	4	-	-	4
△	SPV.0105.05	WE ENERGIES GAS MAIN REMOVAL STRUCTURE B-45-33 REHAB	LS	-	-	-	-	1
	SPV.0105.07	WE ENERGIES ABUTMENT PENETRATION REPAIR STRUCTURE B-45-33 REHAB	LS	-	-	-	-	1
		NON-BID ITEMS						
		PREFORMED FILLER	SIZE					½"
		BRIDGE SEAT PROTECTION	EACH	1	-	1	-	2

LEGEND

△ - NON-PARTICIPATING BID ITEMS - CATEGORY 0130.

* - CONCRETE SURFACE REPAIR ON SUBSTRUCTURE UNITS AS DIRECTED BY THE FIELD ENGINEER.



PROFILE GRADE LINE

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-45-33 REHAB

DRAWN BY RLR | PLANS CK'D. DHW

QUANTITIES & PROFILE

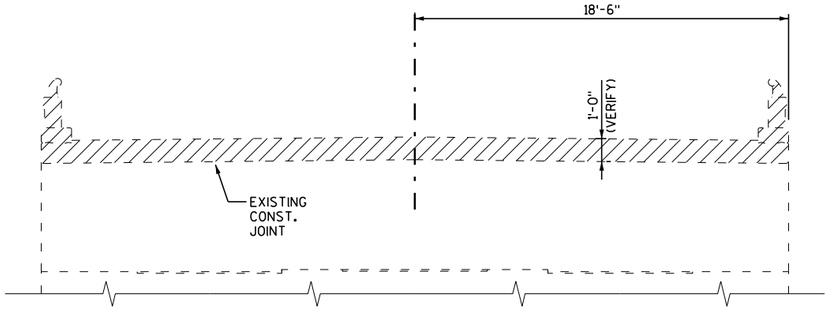
SHEET 7 OF 11
227

FILE= B-45-33-03
DATE= 4/15/2013

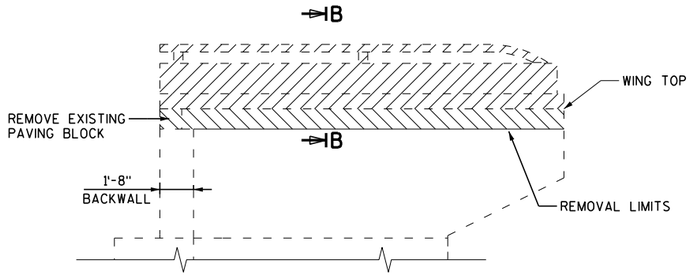
B-45-33_03_qu.dgn 4/15/2013 2:00:29 PM RRABSKA

STATE PROJECT NUMBER

1450-16-70



ELEVATION - PAVING BLOCK REMOVAL



WING ELEVATION - PARAPET & CURB REMOVAL

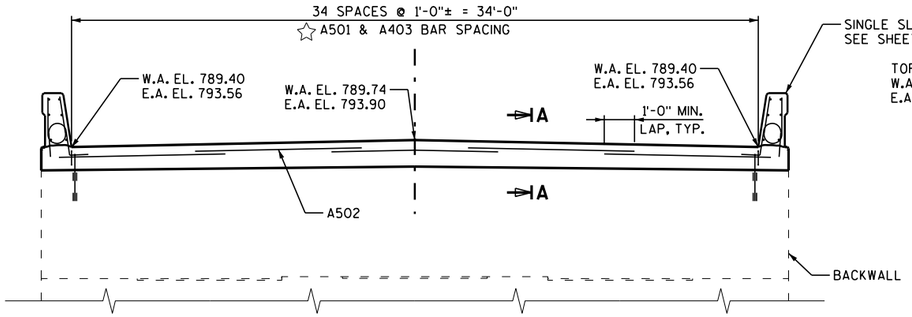
BILL OF BARS (1 ABUTMENT) 1200 LBS. COATED

BAR MARK	NO. REQ'D	LENGTH	BENT	LOCATION
☆ A501	146	3-1	X	PAVING BLOCK & WING TYPE L DOWELS - VERT.
A502	20	8-3		PAVING BLOCK - HORIZONTAL
A403	35	3-4	X	PAVING BLOCK - STIRRUP - VERT.
A504	16	4-11	X	WINGS - END STIRRUP - VERT.
A505	52	5-10	X	WINGS - STIRRUP - VERT.
A506	2	19-8		WINGS - F.F. - LONGIT.
A507	2	19-8	X	WINGS - B.F. - LONGIT.

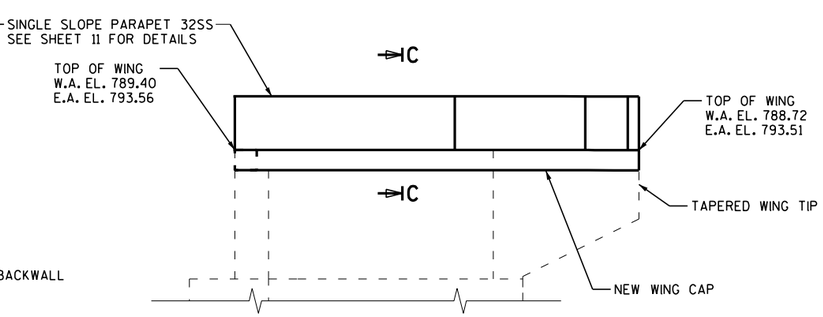
DIMENSIONS IN BENDING DETAILS ARE OUT TO OUT OF BAR.

EPOXY COAT ALL BAR STEEL REINFORCEMENT.

BAR MARKS FOR WEST ABUTMENT ARE SHOWN.
LABEL AND BUNDLE EAST ABUTMENT BARS WITH B MARK (B501 THRU B507).



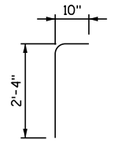
ELEVATION



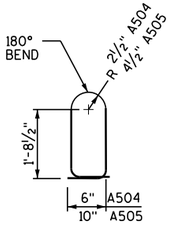
WING ELEVATION



A403



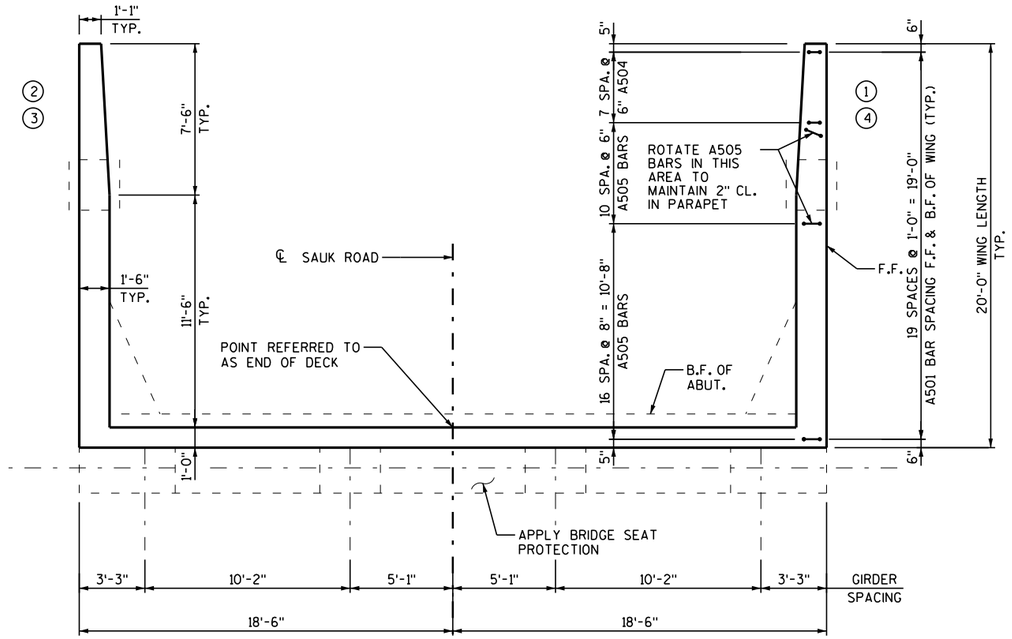
A501



A504, A505



A507



PLAN

LEGEND

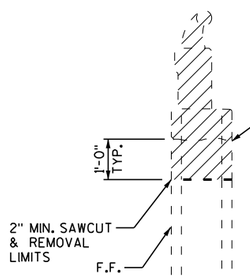
REMOVAL

☆ MASONRY ANCHORS TYPE L NO. 5 BARS HAVING A MINIMUM PULLOUT CAPACITY OF 19 KPS. EMBED 1'-6" INTO EXISTING CONCRETE. SPACE AT 1'-0". TURN 10" LEG AS NECESSARY TO FIT. PLACE AT F.F. & B.F. OF BACKWALL AND WINGS. 8" MIN. SPACING.

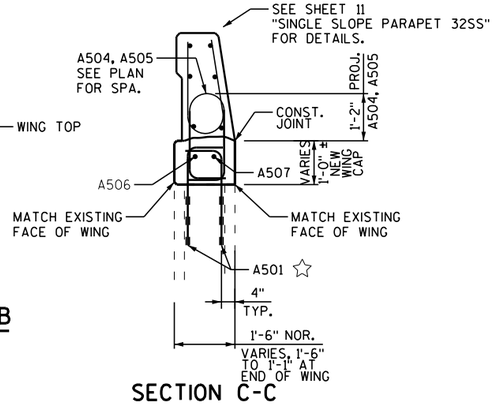
◯ INDICATES WING NUMBER

F.F. - FRONT FACE

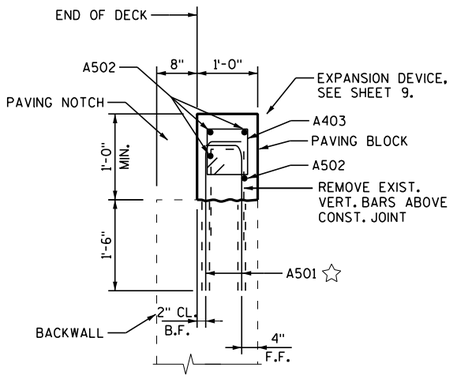
B.F. - BACK FACE



SECTION B-B
(EXISTING)



SECTION C-C



SECTION A-A

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-45-33 REHAB

DRAWN BY RLR | PLANS CK'D. DHW

ABUTMENTS

SHEET 4 OF 11
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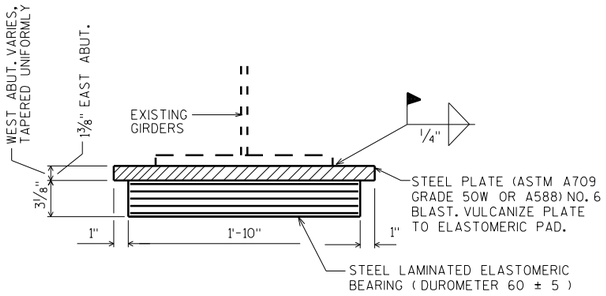
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FILE= B-45-33-04
DATE= 4/8/2013

STATE PROJECT NUMBER

1450-16-70



TYPICAL FRONT ELEVATION AT ABUTMENT

BEARING NOTES

REMOVE EXISTING EXPANSION BEARINGS. BURN OFF EXISTING ANCHOR BOLTS AND REMOVE TO 2" BELOW CONCRETE BEARING SURFACE. FILL VOID FLUSH WITH CONCRETE BEARING SURFACE WITH NON-SHRINK GROUT AND GRIND SMOOTH.

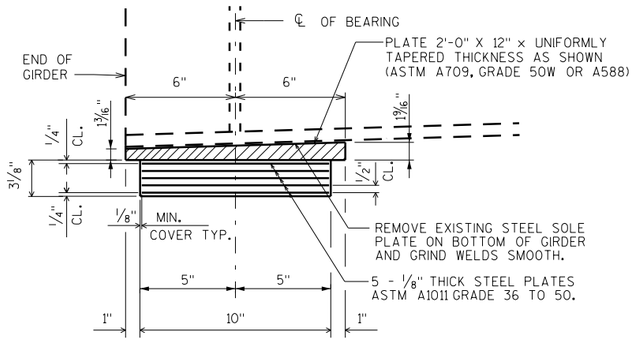
ALL MATERIAL USED FOR BEARINGS SHALL BE PAID FOR AT THE UNIT PRICE BID FOR "BEARING REPLACEMENT STRUCTURE B-45-33 REHAB", EACH.

ALL STRUCTURAL STEEL BEARING 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.

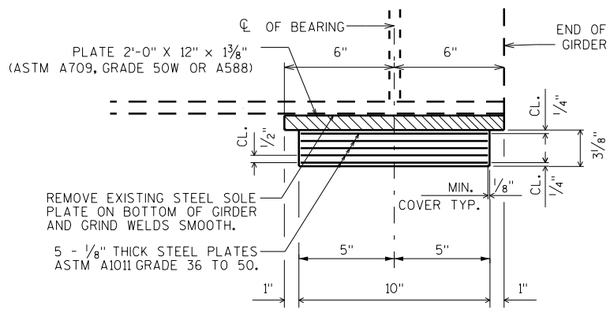
GRIND OFF THE EXISTING WELD THAT ATTACHED THE EXISTING TOP PLATE TO THE EXISTING BOTTOM FLANGE. GRIND AFFECTED AREAS SMOOTH.

COMPRESSION LOAD AND ADHESION TESTS WILL BE WAIVED.



SECTION THRU ELASTOMERIC BEARING AT WEST ABUTMENT

LOOKING NORTH



SECTION THRU ELASTOMERIC BEARING AT EAST ABUTMENT

LOOKING NORTH

8

8

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-45-33 REHAB

DRAWN BY RLR | PLANS CK'D. DHW

EXPANSION BEARING REPLACEMENT DETAILS

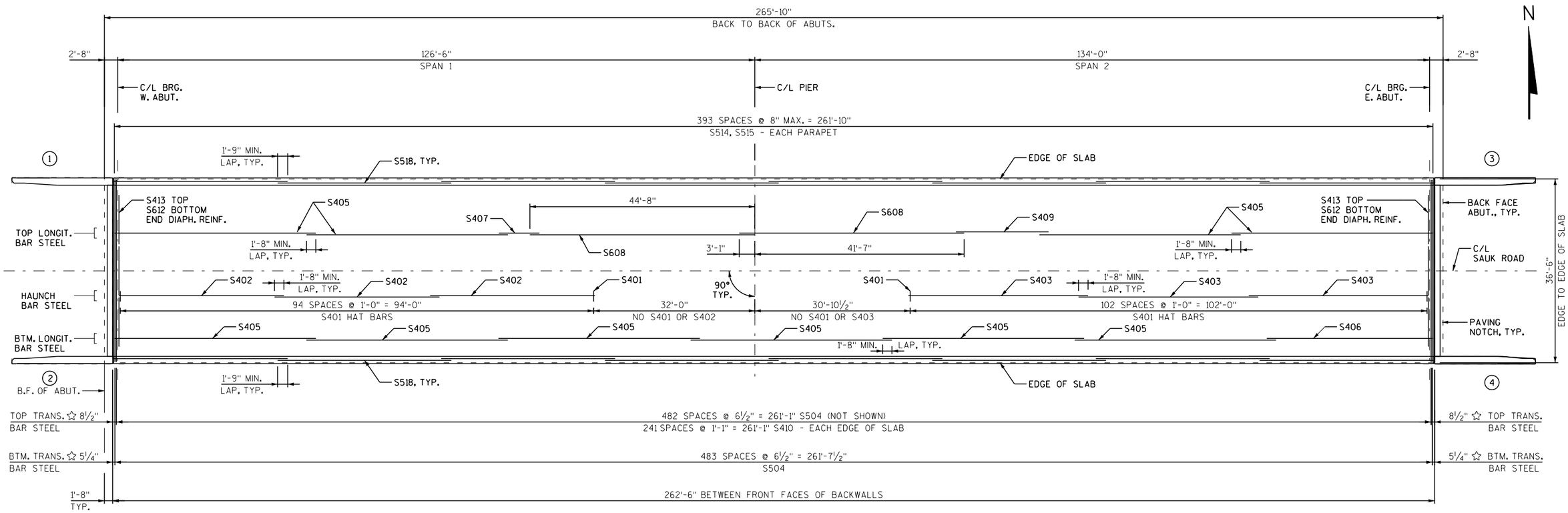
SHEET 5 OF 11
229

FILE= B-45-33-05
DATE= 4/8/2013

B-45-33_05_elasto-bearing.dgn 4/8/2013 1:49:06 PM RRABSKA

STATE PROJECT NUMBER

1450-16-70

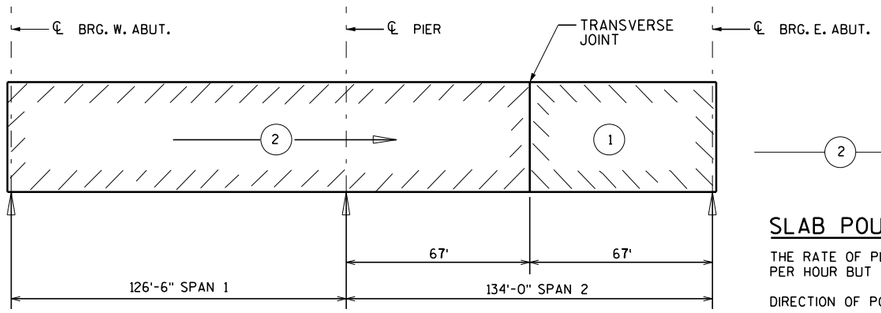


LEGEND

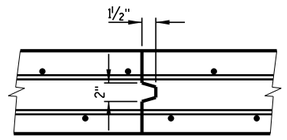
☆ DIM. TAKEN OFF FRONT FACE OF BACKWALL

◯ INDICATES WING NUMBER

PLAN



SLAB POURING SEQUENCE



SECTION THRU TRANSVERSE JOINT

(2) INDICATES POUR NUMBER AND DIRECTION OF POUR

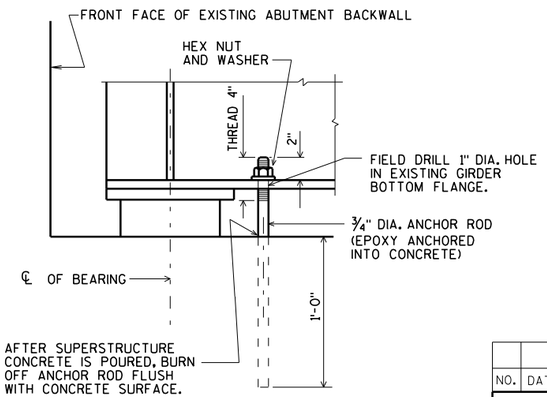
SLAB POUR NOTES

THE RATE OF PLACING CONCRETE SHALL EQUAL OR EXCEED ½ SPAN LENGTH PER HOUR BUT NEED NOT EXCEED 100 CU. YDS. PER HOUR.

DIRECTION OF POUR IN SPAN 1 SHALL BE UPHILL FROM WEST TO EAST.

THE CONTRACTOR MAY SUBMIT AN ALTERNATE POURING SEQUENCE SUBJECT TO THE APPROVAL OF THE STRUCTURES DESIGN SECTION.

IF THE LENGTH OF POUR NUMBER 1 IS INCREASED, UPLIFT WOULD BE EXPECTED AT THE WEST ABUTMENT BEARING AND TEMPORARY HOLD DOWN DEVICES WOULD BE REQUIRED.



TEMPORARY HOLD DOWN DEVICE

IF THE SLAB REMOVAL SEQUENCE OR SLAB POURING SEQUENCE AS DETAILED ON THIS SHEET IS NOT FOLLOWED, PROVIDE TEMPORARY HOLD DOWN DEVICES AS PART OF THE BID ITEM "REMOVING OLD STRUCTURE." PLACE ONE ANCHOR ROD PER GIRDER AT ABUTMENT WHERE SLAB REMOVAL BEGINS OR SLAB POUR TERMINATES. LOCATE 4" (NORMAL) OFF ℄ OF GIRDER. MINIMUM PULLOUT CAPACITY OF 27 KIPS.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-45-33 REHAB

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SUPERSTRUCTURE PLAN

SHEET 6 OF 11
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FILE= B-45-33-06
DATE= 4/8/2013

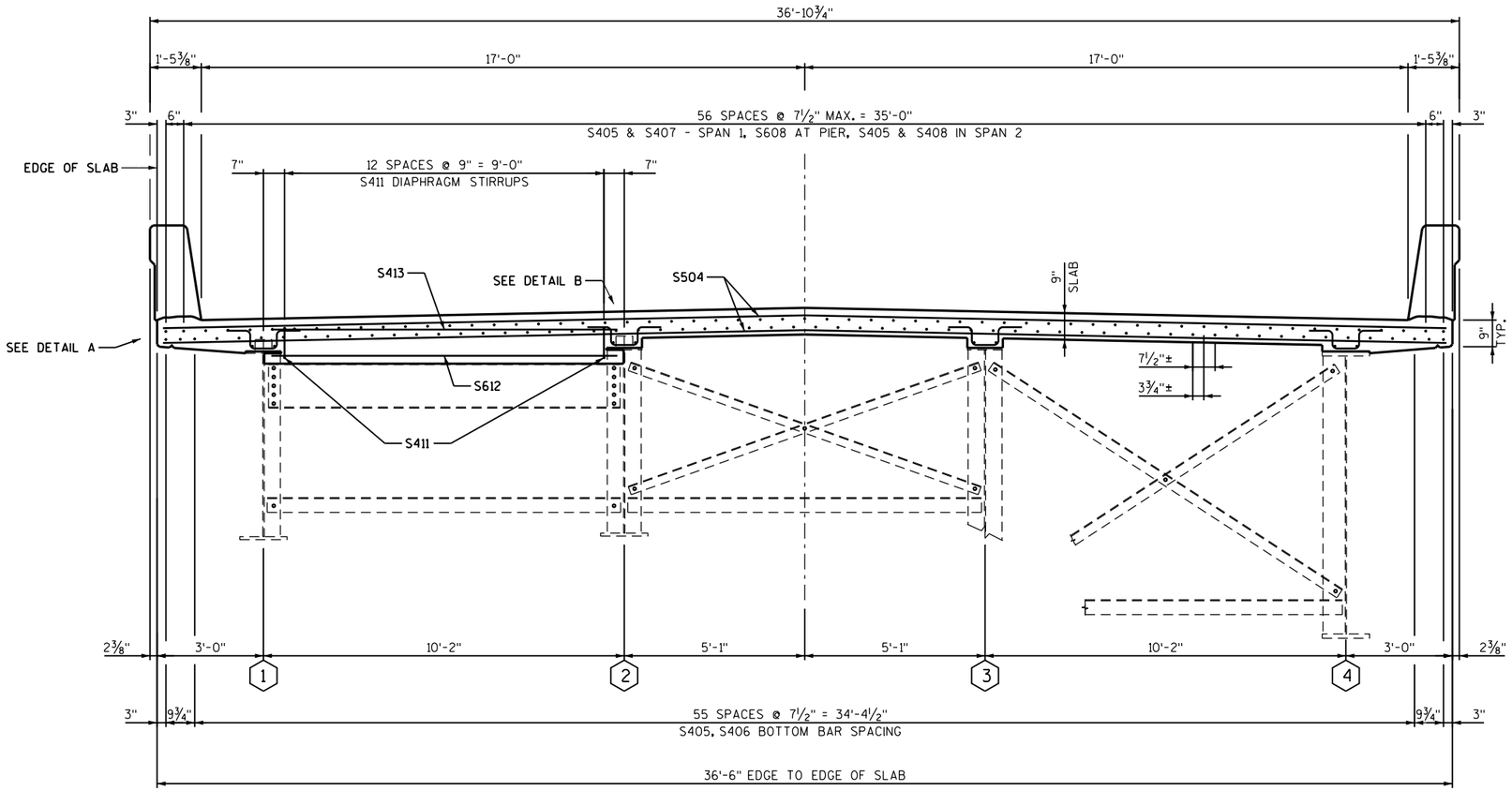
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STATE PROJECT NUMBER

1450-16-70



AT ABUTMENTS

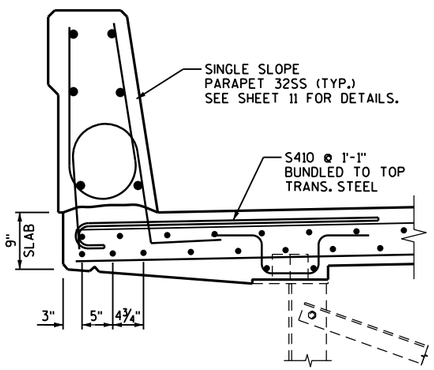
IN SPAN

AT PIER

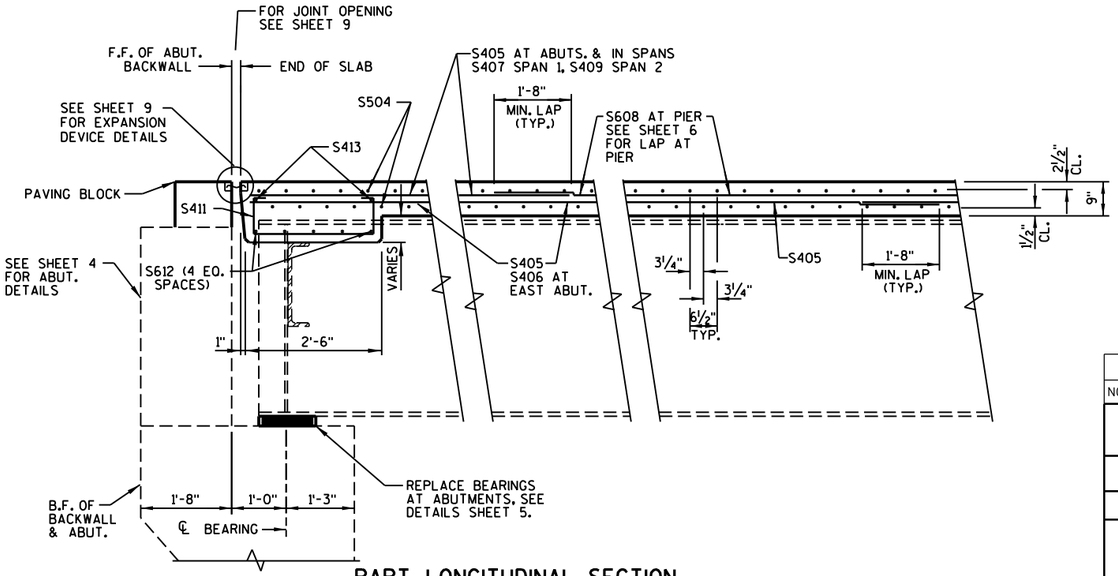
CROSS SECTION THRU ROADWAY

LOOKING EAST

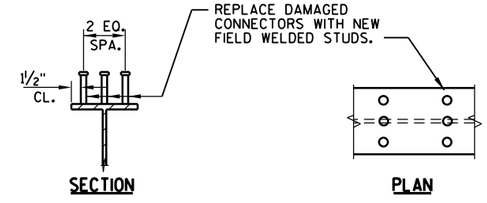
⬡ - GIRDER NUMBER



DETAIL A



PART LONGITUDINAL SECTION



SECTION

PLAN

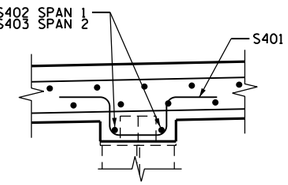
SHEAR CONNECTOR DETAILS & NOTES

EXISTING SHEAR CONNECTORS, IF DAMAGED, SHALL BE REMOVED AND REPLACED WITH FIELD WELDED ⅞" Φ x 6" LONG STUDS ON ALL GIRDERS.

SHEAR CONNECTOR LOCATIONS MAY BE ADJUSTED UP TO 3".

REPLACEMENT OF DAMAGED SHEAR CONNECTORS IS INCLUDED IN THE BID ITEM WELDED STUD SHEAR CONNECTORS ⅞x6-INCH.

THE QUANTITY NOTED IS AN ESTIMATE.



DETAIL B

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-45-33 REHAB

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SUPERSTRUCTURE CROSS SECTION

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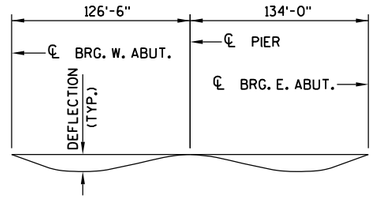
B-45-33_07_super_xs.dgn 4/10/2013 7:43:25 AM RRABSKA

STATE PROJECT NUMBER

1450-16-70

TOP OF SLAB ELEVATIONS

LOCATION	C/L BRG. W.	1/10	2/10	3/10	4/10	5/10	6/10	FS #1	7/10	8/10	9/10	C/L PIER	1/10	2/10	3/10	FS #2	4/10	5/10	6/10	7/10	8/10	9/10	C/L BRG. E. ABUT.
✳ N. EDGE OF SLAB	789.43	789.83	790.21	790.57	790.91	791.23	791.53	--	791.81	792.07	792.30	792.52	792.73	792.91	793.07	--	793.21	793.33	793.42	793.49	793.53	793.56	793.56
GIRDER 1	789.47	789.87	790.25	790.61	790.95	791.27	791.57	791.71	791.84	792.10	792.34	792.55	792.76	792.95	793.11	793.15	793.24	793.36	793.45	793.52	793.57	793.59	793.59
GIRDER 2	789.67	790.07	790.45	790.81	791.15	791.47	791.77	791.92	792.05	792.30	792.54	792.76	792.96	793.15	793.31	793.35	793.45	793.56	793.66	793.73	793.77	793.80	793.80
C/L SAUK ROAD	789.77	790.17	790.55	790.91	791.25	791.57	791.87	792.02	792.15	792.41	792.64	792.86	793.07	793.25	793.41	793.45	793.55	793.67	793.76	793.83	793.87	793.90	793.90
GIRDER 3	789.67	790.07	790.45	790.81	791.15	791.47	791.77	791.92	792.05	792.30	792.54	792.76	792.96	793.15	793.31	793.35	793.45	793.56	793.66	793.73	793.77	793.80	793.80
GIRDER 4	789.47	789.87	790.25	790.61	790.95	791.27	791.57	791.71	791.84	792.10	792.34	792.55	792.76	792.95	793.11	793.15	793.24	793.36	793.45	793.52	793.57	793.59	793.59
✳ S. EDGE OF SLAB	789.43	789.83	790.21	790.57	790.91	791.23	791.53	--	791.81	792.07	792.30	792.52	792.73	792.91	793.07	--	793.21	793.33	793.42	793.49	793.53	793.56	793.56



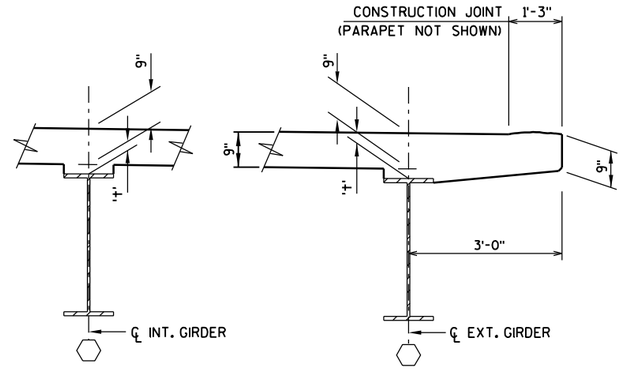
DEFLECTION DIAGRAM
(DEFLECTION DUE TO CONCRETE)

DEFLECTION DUE TO CONCRETE

LOCATION	C/L BRG. W.	1/10	2/10	3/10	4/10	5/10	6/10	FS #1	7/10	8/10	9/10	C/L PIER	1/10	2/10	3/10	FS #2	4/10	5/10	6/10	7/10	8/10	9/10	C/L BRG. E. ABUT.
INTERIOR GIRDER	0.00	0.92	1.65	2.10	2.19	1.95	1.45	1.11	0.82	0.28	0.01	0.00	0.27	0.83	1.65	1.88	2.46	3.05	3.28	3.06	2.40	1.33	0.00

NOTE: ALL DEFLECTIONS ARE MEASURED IN INCHES. TENTH POINTS FOR ELEVATIONS AND DEFLECTIONS AT GIRDER LINES ARE MEASURED ALONG THE GIRDERS BETWEEN ℄ OF SUBSTRUCTURE UNITS. TENTH POINTS FOR EDGE OF SLAB ELEVATIONS ARE MEASURED ALONG THE EDGE OF SLAB.

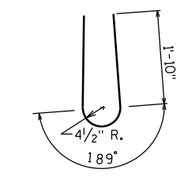
✳ - EDGE OF SLAB ELEVATIONS MATCH ELEVATIONS AT TRAFFIC FACE OF PARAPET.



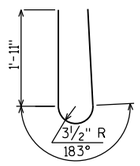
BILL OF BARS - SUPERSTRUCTURE (COATED) 79,920 LBS.

EPOXY COAT ALL SUPERSTRUCTURE BARS.
BAR DIMENSIONS ARE OUT TO OUT OF BAR.
BENDING RADII ARE INSIDE.

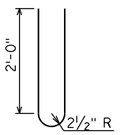
BAR MARK	NO. REQ'D	LENGTH	BENT	LOCATION
S401	792	2-11	X	SLAB - HAT BARS OVER GIRDERS - VERT.
S402	24	32-9		SLAB - OVER GIRDERS - SPAN 1 - LONGIT.
S403	24	35-8		SLAB - OVER GIRDERS - SPAN 2 - LONGIT.
S504	967	36-2		SLAB - TOP & BOTTOM - TRANS.
S405	596	40-0		SLAB - TOP & BOTTOM - LONGIT.
S406	60	33-0		SLAB - BOTTOM - LONGIT.
S407	59	8-1		SLAB - TOP - SPAN 1 - LONGIT.
S608	118	44-8		SLAB - TOP - OVER PIER - LONGIT.
S409	59	18-5		SLAB - TOP - SPAN 2 - LONGIT.
S410	484	4-4	X	SLAB - TOP @ EDGES - TRANS.
S411	78	4-3	X	DIAPHRAGM @ SLAB END - STIRRUP - VERT.
S612	30	9-9		DIAPHRAGM @ SLAB END - TRANS.
S413	24	9-9		DIAPHRAGM @ SLAB END & EXP. DEVICE - TRANS.
S514	788	4-5	X	PARAPET ON SLAB - STIRRUP - VERT.
S515	856	5-0	X	PARAPET - STIRRUP - TOP - VERT.
S516	24	4-10	X	PARAPET ON WING - STIRRUP - TOP - VERT.
S517	44	4-9	X	PARAPET ON WING - STIRRUP - TOP - VERT.
S518	96	34-6		PARAPET ON SLAB - LONGIT.
S519	20	19-8		PARAPET ON WING - LONGIT.
S520	4	19-8	X	PARAPET ON WING - LONGIT.



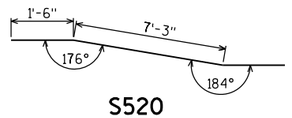
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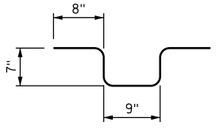
S516



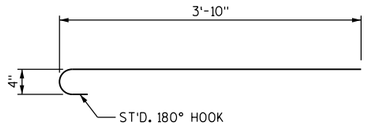
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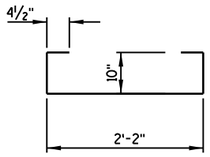
S520



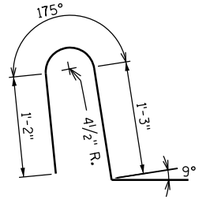
S401



S410



S411



S514

SLAB FORMING DETAILS

TO DETERMINE 't': ELEVATIONS OF THE TOP FLANGES, TOP OF SPLICE PLATES, OR TOP OF COVER PLATES, WHICHEVER APPLIES, SHALL BE TAKEN AT ℄ OF BEARINGS, AND AT 1/10TH POINTS OF EACH SPAN AFTER THE EXISTING SLAB IS REMOVED BUT PRIOR TO INSTALLATION OF ANY SLAB FORMING. THEN FOLLOW THIS PROCESS.

▼ TOP OF SLAB ELEV. AT FINAL GRADE
- TOP OF STEEL ELEV.
+ DEFLECTION (FROM TABLE ABOVE)
- SLAB THICKNESS (9")

= HAUNCH THICKNESS 't'.

▼ CONVERT DIFFERENCE IN ELEVATIONS TO INCHES FOR CONSISTENCY OF UNITS.

NOTE:

SEE GENERAL NOTES, SHEET 2, FOR THE AVERAGE HAUNCH ("t") USED IN THE QUANTITY "CONCRETE MASONRY BRIDGES".

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-45-33 REHAB

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SLAB ELEVATIONS

SHEET 8 OF 11
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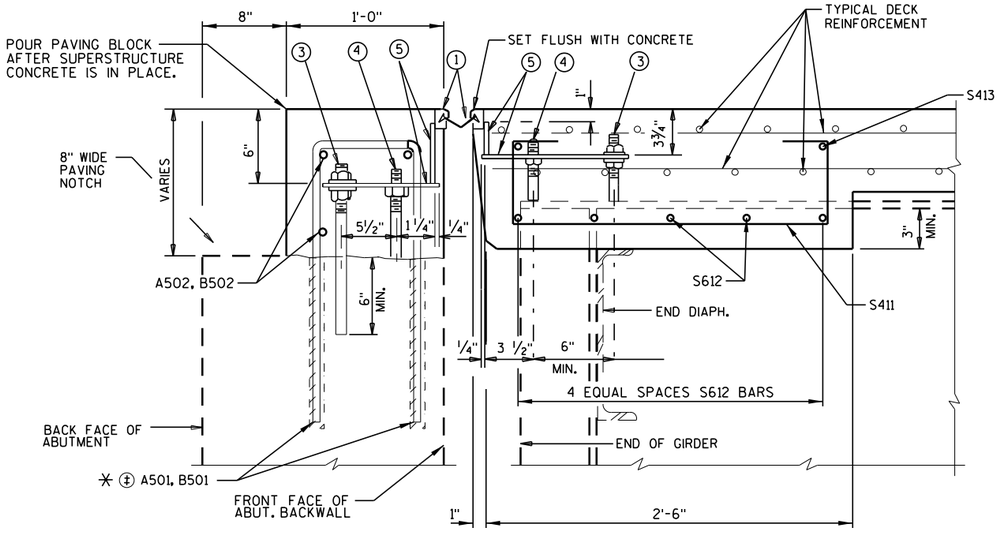
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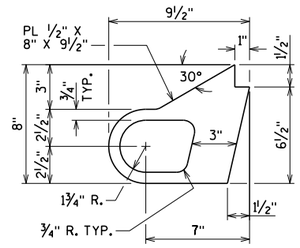
8

STATE PROJECT NUMBER

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TYPICAL SECTION THRU JOINT AT ABUTMENT

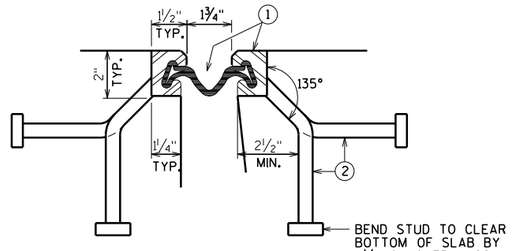


ALTERNATE STRIP SEAL ANCHOR

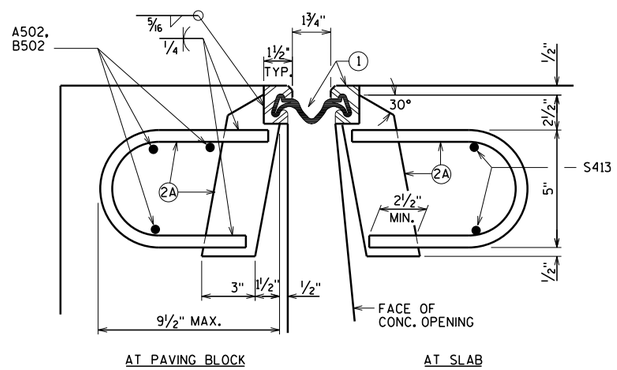
LEGEND

‡ - REMOVE EXISTING VERTICAL REINFORCING BARS DURING REMOVAL OF PAVING BLOCK. REPLACE WITH "MASONRY ANCHORS TYPE L NO. 5 BARS" SPACED AT 1'-0".

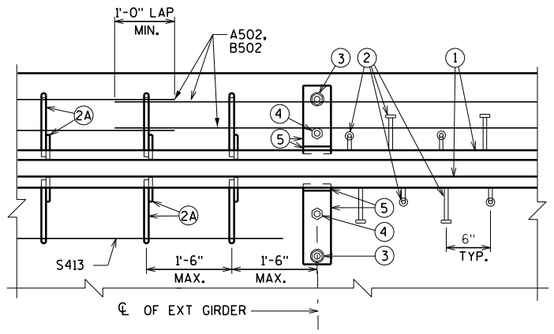
✳ - MASONRY ANCHORS TYPE L NO. 5 BARS SHALL DEVELOP A MINIMUM PULLOUT CAPACITY OF 19 KIPS. EMBED BAR 1'-6" MINIMUM. ANCHOR HOLES SHALL BE 4" CLEAR MIN. TO FACE OF EXISTING CONCRETE. TURN 10" HORIZONTAL LEG OF BARS AS NECESSARY TO FIT.



SECTION THRU JOINT
EXTERIOR GIRDER TO EDGE OF SLAB & AT PARAPETS



SECTION THRU JOINT
BETWEEN EXTERIOR GIRDERS.



PART PLAN

LEGEND

(1) NEOPRENE STRIP SEAL (4 - INCH) & STEEL EXTRUSIONS.

(2) STUDS ⅝"Φ X 6⅜" LONG AT 6" ALTERNATE CENTERS. WELD TO EXTRUSIONS & BEND AS SHOWN AFTER WELDING.

(2A) ½" THICK ANCHOR PLATE WITH ⅝"Φ ROD (OR ALTERNATE STRIP SEAL ANCHOR). WELD ROD TO ANCHOR PLATE. WELD ANCHOR PLATE TO NO. 1 AT 1'-6" CENTERS BETWEEN GIRDERS.

(3) ¾" Φ THREADED ROD WITH 2 NUTS AND PLATE WASHERS. WELD THREADED ROD TO TOP FLANGE OR ATTACH BY BOLTING THRU FLANGE. ON ABUTMENT SIDE GROUT THREADED ROD INTO FIELD DRILLED HOLES IN ABUTMENT BACKWALL AS SHOWN.

(4) ¾"Φ THREADED ROD WITH NUT. TACK WELD NUT TO NO. 5.

(5) FABRICATE SUPPORT FROM 3" X ½" BAR AS SHOWN OR EQUIVALENT, ONE PER GIRDER PER SIDE. 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.

REFER TO NEXT SHEET

(6) GALVANIZED PLATE ⅜" X 10" X 2'-0" LONG WITH HOLES FOR NO. 7. FOR SINGLE SLOPE PARAPET.

(7) ¾"Φ X 1½" STAINLESS STEEL SOCKET FLAT HEAD SCREWS WITH ANTI-SEIZE LUBRICANT. PLACE IN COUNTERSUNK HOLE. RECESS 1/16" BELOW PLATE SURFACE.

(8) ¾"Φ X 4" GALVANIZED HEX HEAD BOLT. BEND 45°.

(9) ¾"Φ X 2¼" GALVANIZED THREADED COUPLING.

(10) 1" X 5" SLOTTED COUNTERSUNK HOLE FOR NO. 7. PLACE SLOT PARALLEL TO DIRECTION OF MOVEMENT.

GENERAL NOTES

ONE FIELD SPLICE PERMITTED IN STEEL EXTRUSIONS, IF USED, DETAILS SHALL BE SUBMITTED FOR APPROVAL. NO SPLICING IN NEOPRENE STRIP SEAL.

AFTER FABRICATION, BUT BEFORE SHIPMENT, STRAIGHTEN STEEL EXTRUSIONS SUCH THAT THEY SHALL BE FREE FROM WARP, TWIST & SWEEP.

FABRICATOR SHALL PROVIDE MEANS OF KEEPING GALVANIZED EXTRUSIONS CLEAN & SMOOTH DURING SHIPMENT AND PRIOR TO APPLYING LUBRICANT ADHESIVE FOR NEOPRENE GLAND INSTALLATION.

SANDBLAST PLATES & EXTRUSIONS AFTER FABRICATION IN ACCORDANCE WITH SSPC SP. #6 "COMMERCIAL BLAST CLEANING". AFTER BLAST CLEANING, THE PLATES & EXTRUSIONS SHALL BE HOT DIPPED GALVANIZED.

ANCHOR SYSTEM 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 PARAPET PLATES, ANCHOR STUDS & HARDWARE, CONNECTIONS AND FIELD DRILLING, WILL BE PAID FOR AT THE LUMP SUM PRICE BID FOR "EXPANSION DEVICE STRUCTURE B-45-33 REHAB".

8

8

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-45-33 REHAB

DRAWN BY RLR | PLANS CK'D. DHW

EXPANSION DEVICE

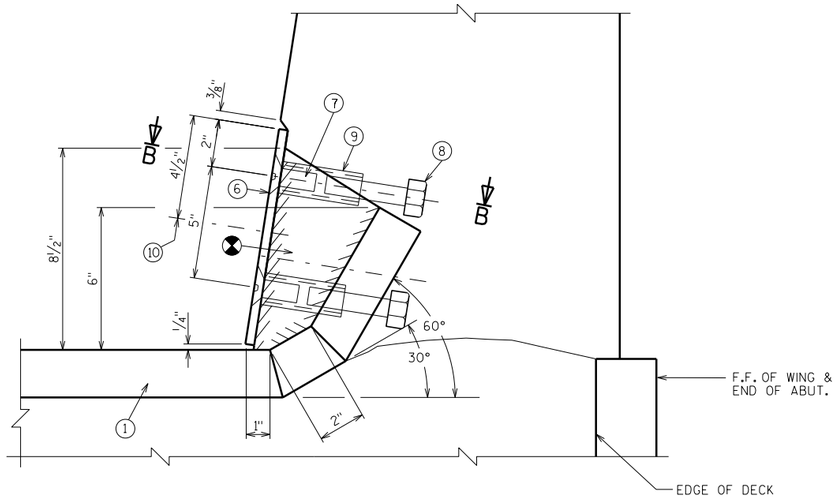
SHEET 9 OF 11
233

FILE= B-45-33-09
DATE= 4/8/2013

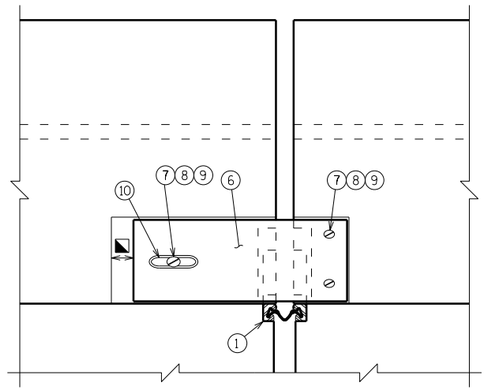
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STATE PROJECT NUMBER

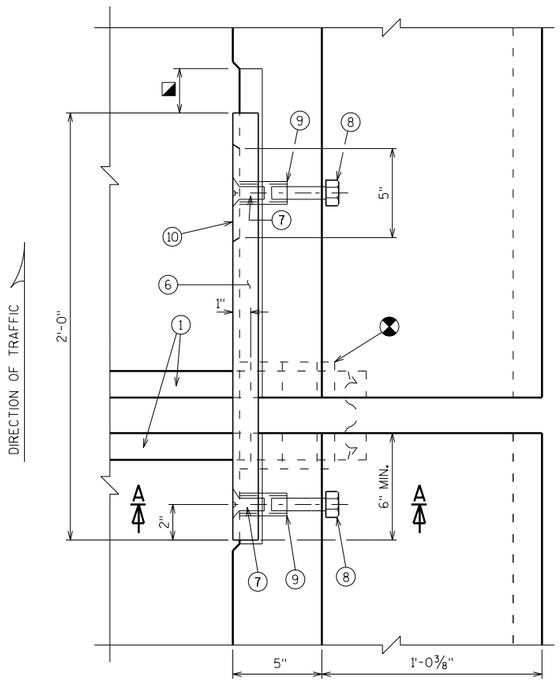
1450-16-70



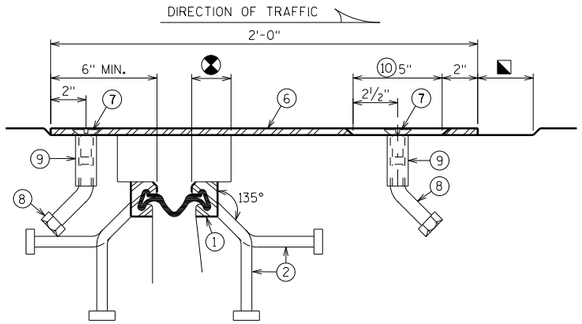
SECTION A-A



VIEW OF PARAPET PLATE FROM ROADWAY



PLAN



SECTION B-B

BLOCK OUT CONCRETE 2" EACH SIDE OF JOINT OPENING.

JOINT OPENING DIM. ALONG SKEW PLUS 1/2".

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STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-45-33 REHAB

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COVER PLATE DETAILS

SHEET 10 OF 11
234

FILE= B-45-33-10
DATE= 4/8/2013

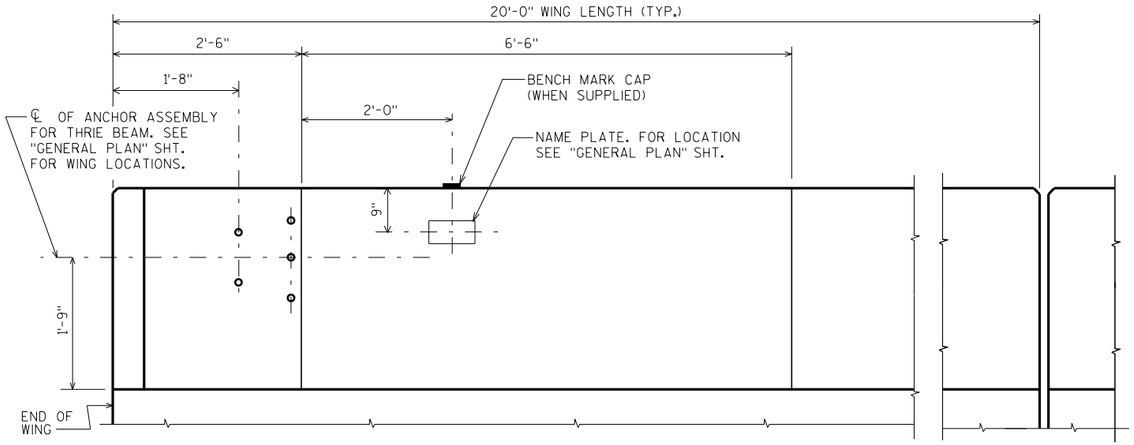
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8

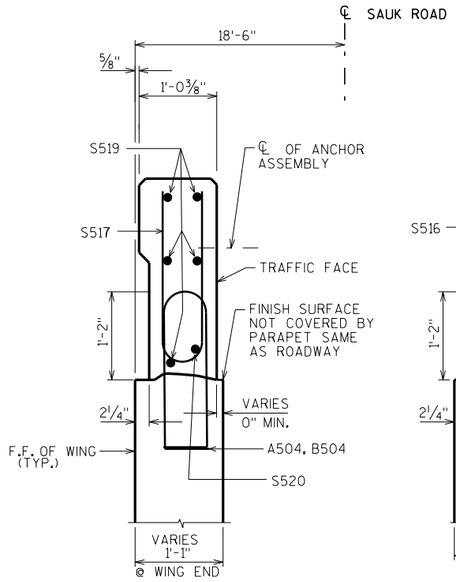
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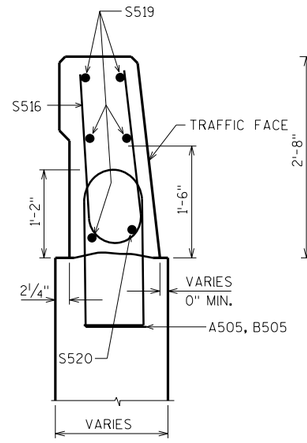
1450-16-70



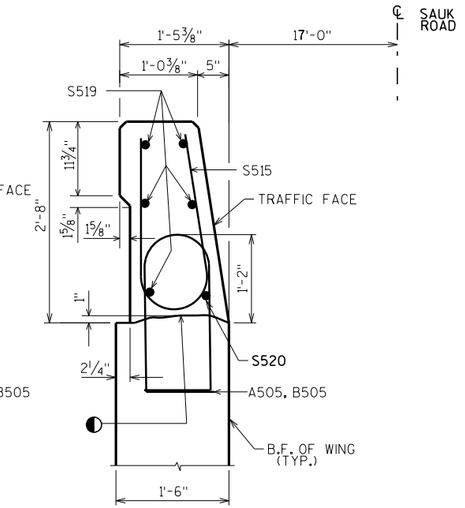
INSIDE ELEVATION



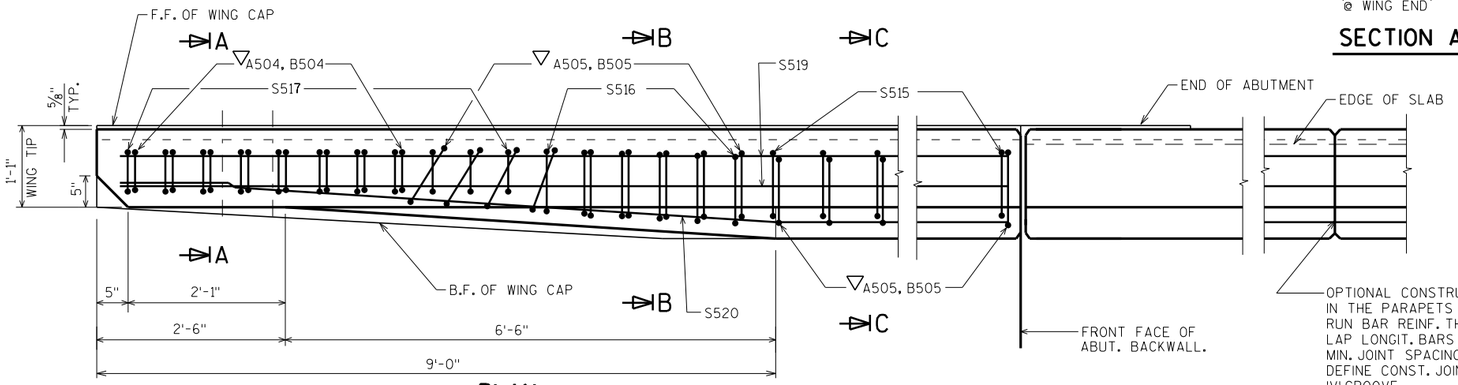
SECTION A



SECTION B

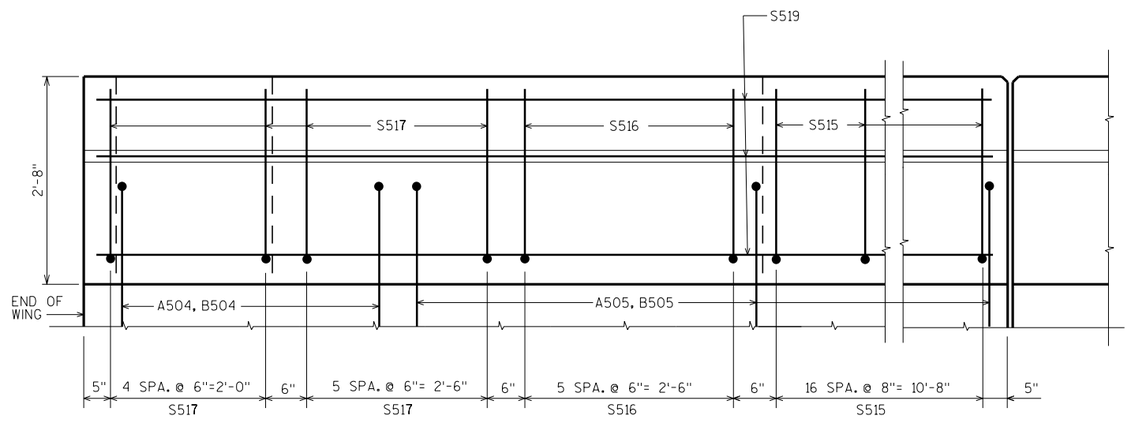


SECTION C

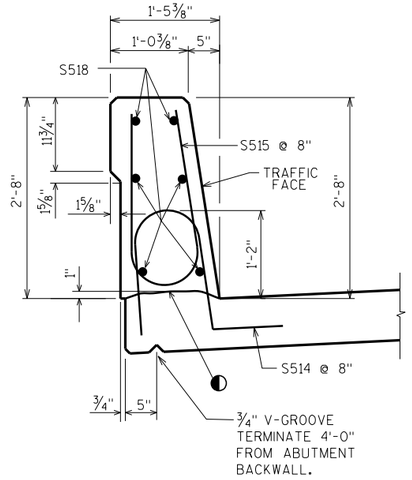


OPTIONAL CONSTRUCTION JOINTS IN THE PARAPETS MAY BE USED. RUN BAR REINF. THRU THE JOINT. LAP LONGIT. BARS A MIN. OF 1'-9". MIN. JOINT SPACING OF 80'-0". DEFINE CONST. JOINT WITH A 3/4" - 'V' GROOVE.

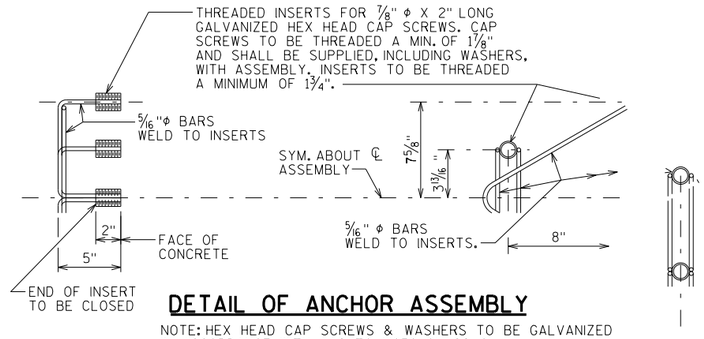
PLAN



OUTSIDE ELEVATION



SECTION THRU PARAPET ON BRIDGE



DETAIL OF ANCHOR ASSEMBLY

NOTE: HEX HEAD CAP SCREWS & WASHERS TO BE GALVANIZED IN ACCORDANCE WITH AASHTO M232 CLASS C.

ASSEMBLY SHALL BE BID ITEM "ANCHOR ASSEMBLIES FOR STEEL PLATE BEAM GUARD", EACH.

LEGEND

F.F. - FRONT FACE

B.F. - BACK FACE

◐ CONST. JOINT - STRIKE OFF AS SHOWN.

▽ A504, B504 AND A505, B505 BARS TO BE TIED TO WING STEEL BEFORE WING IS POURED. ROTATE A505, B505 BARS AS NEEDED TO MAINTAIN 2" CONCRETE CLEARANCE ALONG TAPERING OF PARAPET ENDS.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-45-33 REHAB

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SINGLE SLOPE PARAPET 32SS

SHEET 11 OF 11
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FILE= B-45-33-11
DATE= 4/8/2013

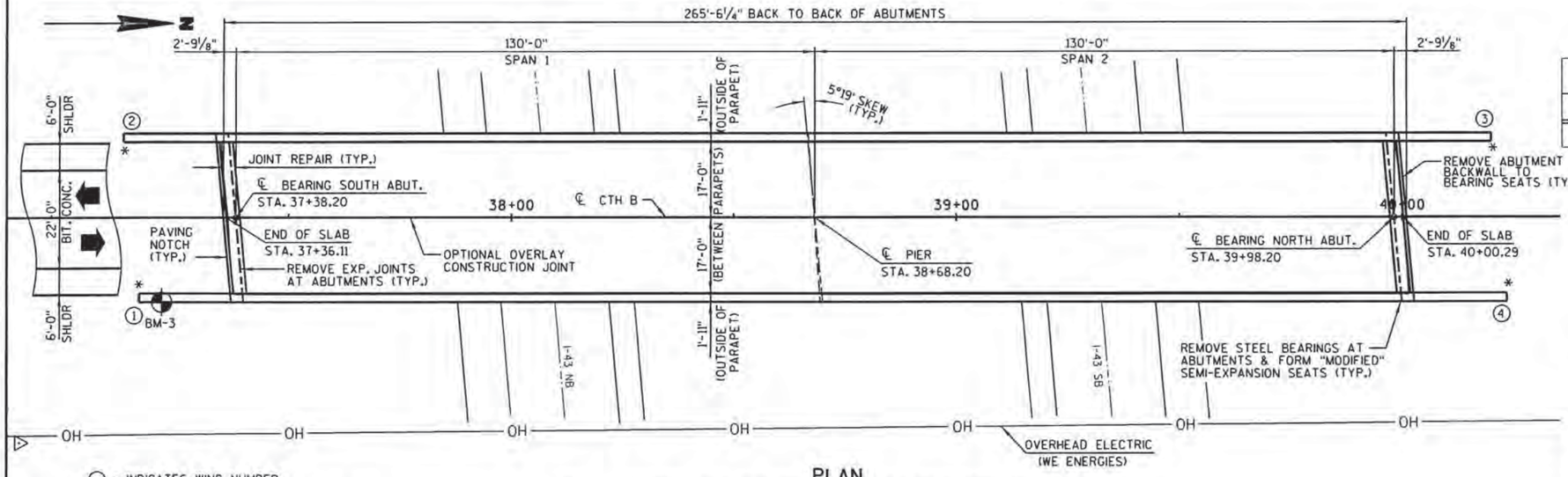
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STATE PROJECT NUMBER

1450-16-70

BENCHMARKS — NGVD 29

NO.	STA.	DESCRIPTION	ELEV.
3	37+21.6, 18.9' RT	DISK ON SE CORNER OF STRUCTURE	794.91



PLAN

(REHAB - CONCRETE OVERLAY ON EXISTING TWO SPAN 70" PRESTRESSED GIRDER)

◯ - INDICATES WING NUMBER

* - INDICATES LOCATION OF PROVISION FOR NEW THRIE BEAM ATTACHMENT AT WINGS (SEE SDD MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)).

⬡ - INDICATES GIRDER NUMBER

Ⓢ - CRACK SEALING EPOXY. SEE SHEET 2 FOR JOINT DETAILS. ESTIMATED QUANTITY FOR CRACK SEALING EPOXY INCLUDES OPTIONAL OVERLAY CONSTRUCTION JOINT. QUANTITIES AT OPTIONAL LONGITUDINAL CONSTRUCTION JOINT WILL NOT BE PAID FOR IF THE JOINT IS NOT USED.

DESIGN DATA

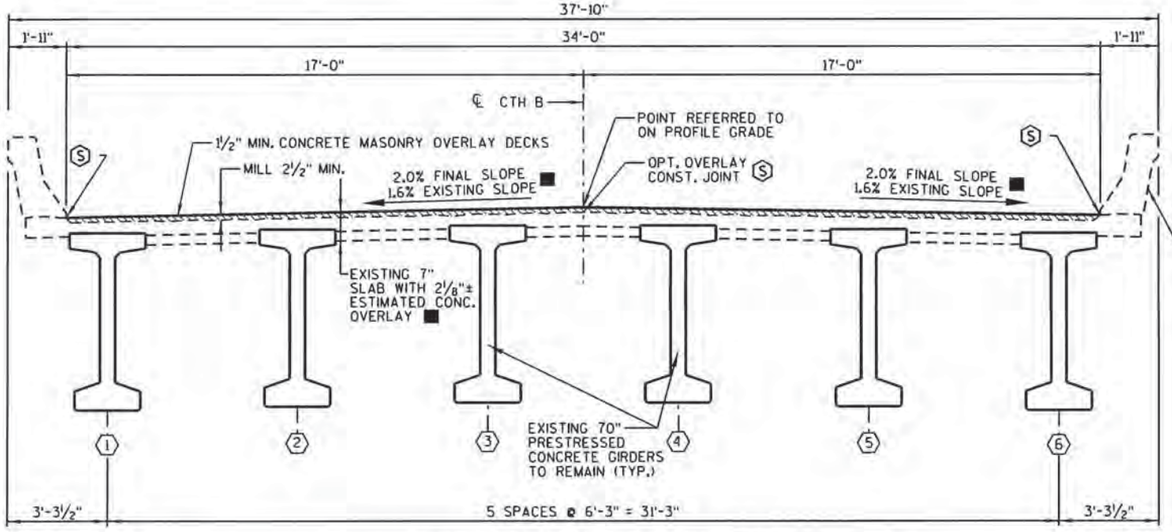
LIVE LOAD:
- INVENTORY RATING : HS-19
- OPERATIONAL RATING : HS-36
- MAX. STD. PERMIT VEHICLE LOAD: 250 KIPS

TRAFFIC DATA:
- A.A.D.T. (2012) = 310
- A.A.D.T. (2032) = 450

ULTIMATE DESIGN STRESSES:
- CONCRETE MASONRY — f'c = 4,000 P.S.I.
- CONCRETE MASONRY OVERLAY DECKS — f'c = 4,000 P.S.I.
- BAR STEEL REINFORCEMENT HS COATED BRIDGES — fy = 60,000 P.S.I.

LIST OF DRAWINGS

1. GENERAL PLAN, PROFILE & CROSS SECTION
2. STRUCTURE QUANTITIES, NOTES & DETAILS
3. ABUTMENTS
4. SUPERSTRUCTURE SECTIONS & DETAILS
5. SLOPED FACE PARAPET 'A' & SLOPE PAVING



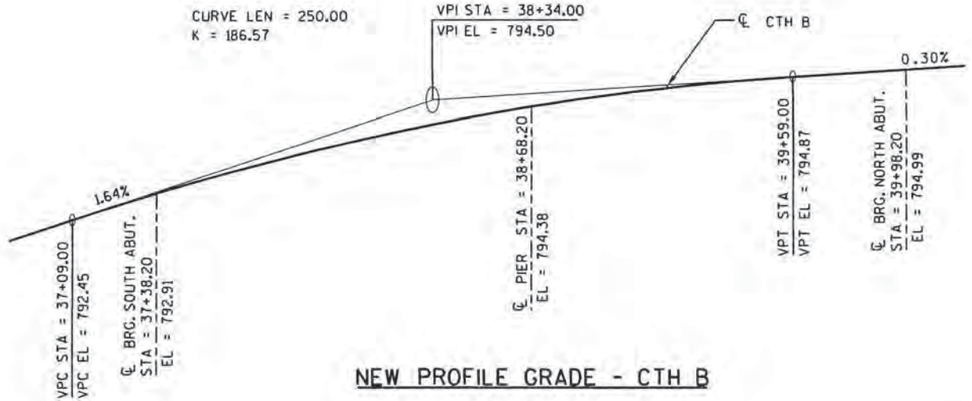
CROSS SECTION THRU ROADWAY

(LOOKING NORTH)

■ - BASED ON SURVEY DATA

CLEAN INSIDE FACE AND TOP SURFACE OF EXISTING SLOPED FACE PARAPET 'A'. RESEAL JOINTS ALL AROUND. REPLACE SECTIONS OF PARAPETS AT END DIAPHRAGMS. (TYP.)

CURVE LEN = 250.00
K = 186.57



NEW PROFILE GRADE - CTH B

WISCONSIN
LEAH J. RHODES
E-41726
BARABOO
WI
PROFESSIONAL ENGINEER
10-18-12

DESIGN CONTACT:
LEAH RHODES
(608) 355-8945

BRIDGE OFFICE CONTACT:
WILLIAM DREHER
(608) 266-8489

NO.	DATE	REVISION	BY

MSA PROFESSIONAL SERVICES
TRANSPORTATION • MUNICIPAL DEVELOPMENT • ENVIRONMENTAL
1230 South Boulevard Baraboo, WI 53913
608-356-2771 1-800-362-4505 Fax: 608-356-2770

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
ACCEPTED William C. Dreher KAR 04/19/13
CHIEF STRUCTURES DESIGN ENGINEER — DATE

STRUCTURE B-45-42 REHAB

CTH B OVER I-43

COUNTY	TOWN/CITY/VILLAGE
OZAUKEE	PORT WASHINGTON

DESIGN SPEC. REHABILITATION - N/A

DESIGNED BY	DESIGN CK'D.	DRAWN BY	PLANS CK'D.
LJM	DHW	CAR/RLR	LJM

GENERAL PLAN, PROFILE & CROSS SECTION

SHEET 1 OF 5

FILE= B-45-42-01.DGN
DATE= 10/17/2012

STATE PROJECT NUMBER

1450-16-70

STRUCTURE ESTIMATED QUANTITIES

	ITEM NUMBER	BID ITEM	UNIT	SOUTH ABUT.	PIER 1	NORTH ABUT.	SUPER	TOTAL
	203.0225.S.02	DEBRIS CONTAINMENT STRUCTURE B-45-42 REHAB	LS	-	-	-	-	1
	206.1000.02	EXCAVATION FOR STRUCTURES BRIDGES B-45-42 REHAB	LS	-	-	-	-	1
	210.0100	BACKFILL STRUCTURE	CY	80	-	80	-	160
	502.0100	CONCRETE MASONRY BRIDGES	CY	1	-	1	67	69
	502.3200	PROTECTIVE SURFACE TREATMENT	SY	-	-	-	1260	1260
	502.6105	MASONRY ANCHORS TYPE S 5/8-INCH	EACH	40	-	40	-	80
	505.0605	BAR STEEL REINFORCEMENT HS COATED BRIDGES	LB	240	-	240	5500	5980
	506.2605	BEARING PADS ELASTOMERIC NON-LAMINATED	EACH	6	-	6	-	12
	506.7050.S.02	REMOVING BEARINGS, STRUCTURE B-45-42 REHAB	EACH	6	-	6	-	12
	509.0301	PREPARATION DECKS TYPE 1	SY	-	-	-	160	160
	509.0302	PREPARATION DECKS TYPE 2	SY	-	-	-	60	60
	509.0500	CLEANING DECKS	SY	-	-	-	970	970
	509.1000	JOINT REPAIR	SY	-	-	-	38	38
*	509.1500	CONCRETE SURFACE REPAIR	SF	10	-	10	-	20
	509.2500	CONCRETE MASONRY OVERLAY DECKS	CY	-	-	-	80	80
	516.0500	RUBBERIZED MEMBRANE WATERPROOFING	SY	8	-	8	-	16
	604.9010.S	SLOPE PAVING REPAIR CRUSHED AGGREGATE	CY	8	-	-	-	8
	SPV.0090.01	CLEANING PARAPETS	LF	-	-	-	615	615
	SPV.0090.02	CRACK SEALING EPOXY SPECIAL	LF	-	-	-	840	840
	SPV.0105.01	GIRDER END PREPARATION	LS	-	-	-	-	1
		NON-BID ITEMS						
		PREFORMED FILLER	SIZE					½"
		CORK FILLER	SIZE					¾"

* - CONCRETE SURFACE REPAIR ON ABUTMENTS AS DIRECTED BY THE FIELD ENGINEER.

GENERAL NOTES

DRAWINGS SHALL NOT BE SCALED.

THE FIRST DIGIT OF A THREE DIGIT BAR MARK SIGNIFIES THE BAR SIZE.

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

DIMENSIONS OF EXISTING BRIDGE MEMBERS SHOWN ARE BASED ON ORIGINAL PLANS.

THIS STRUCTURE WILL REHABILITATE THE EXISTING STRUCTURE, B-45-42, A TWO SPAN, 265'-6¼" LONG, PRESTRESSED GIRDER SET ON CONCRETE SEMI-RETAINING ABUTMENTS AND A MULTI-COLUMN PIER.

THE LOCATIONS OF EXISTING UTILITY INSTALLATIONS AS SHOWN ON THE PLANS ARE APPROXIMATE.

AT THE ABUTMENTS ALL EXCAVATED VOLUME BELOW THE ROADWAY SUBGRADE NOT OCCUPIED BY THE NEW STRUCTURE SHALL BE BACKFILLED WITH BACKFILL STRUCTURE. THE BACKFILL STRUCTURE ESTIMATED QUANTITIES ASSUMED A 1½:1 EXCAVATION SLOPE AT THE ABUTMENTS.

A MINIMUM OF 2½" OF CONCRETE SHALL BE REMOVED FROM THE ENTIRE BRIDGE DECK UNDER THE BID ITEM "CLEANING DECKS".

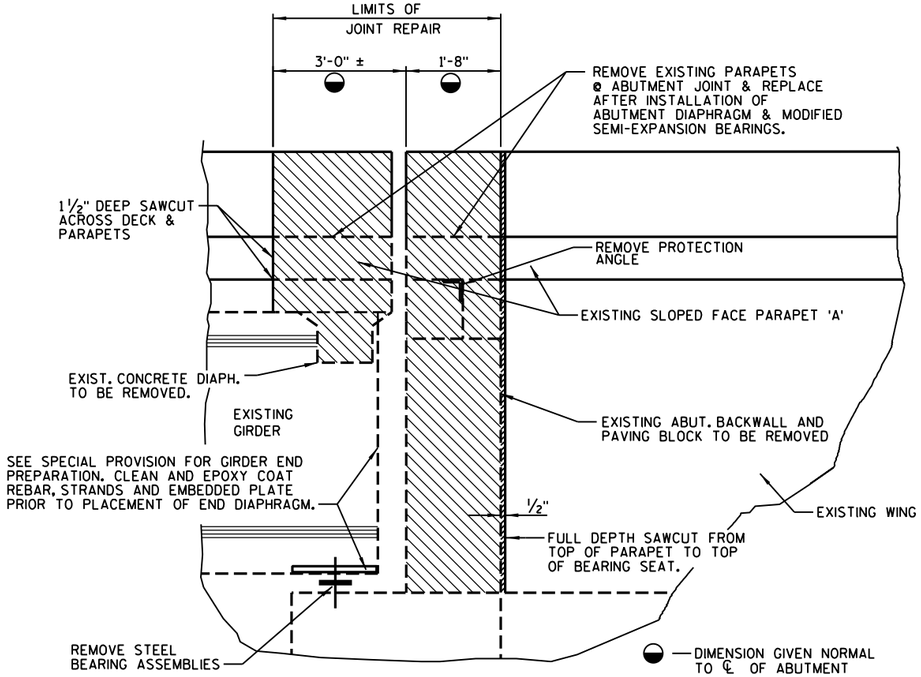
THE MINIMUM OVERLAY THICKNESS IS 1½" PLACED ABOVE THE DECK SURFACE AFTER CLEANING. THE EXPECTED AVERAGE OVERLAY THICKNESS IS 2" BASED ON THE NEW PROFILE GRADE LINE. IF THE EXPECTED AVERAGE OVERLAY THICKNESS WILL BE EXCEEDED BY MORE THAN ½", CONTACT THE STRUCTURES DESIGN SECTION BEFORE OVERLAY PLACEMENT.

THE "CONCRETE MASONRY OVERLAY DECKS" QUANTITY IS BASED ON THE EXPECTED AVERAGE OVERLAY THICKNESS OF 2" PLUS AN ADDITIONAL ½" TO ACCOUNT FOR VARIATIONS IN THE DECK SURFACE.

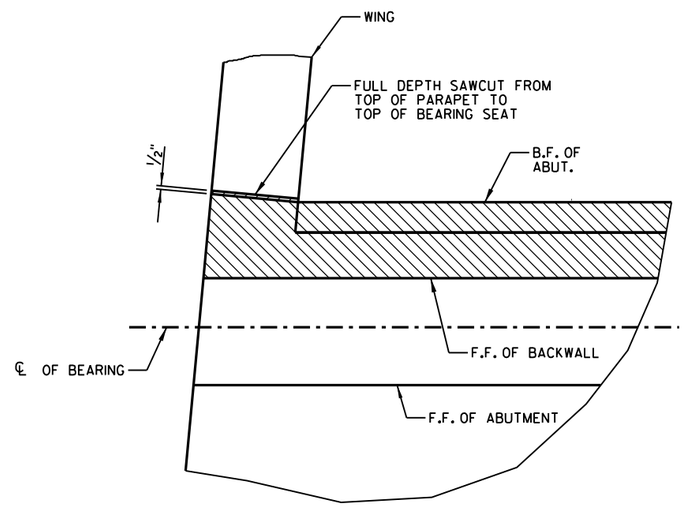
VARIATIONS TO THE NEW PROFILE GRADE LINE OVER ¼" MUST BE SUBMITTED BY THE FIELD ENGINEER TO THE STRUCTURES DESIGN SECTION FOR REVIEW.

EXISTING PARAPET TOP AND INSIDE FACES SHALL BE GIVEN A LIGHT SANDBLASTING. PARAPET JOINTS SHALL BE CLEANED AND RE-SEALED WITH NON-STAINING, GRAY, NON-BITUMINOUS JOINT SEALER. INCLUDE IN BID ITEM "CLEANING PARAPETS".

APPLY PROTECTIVE SURFACE TREATMENT TO THE TOP OF DECK AND INSIDE FACES AND TOPS OF PARAPETS, INCLUDING PARAPETS ON ABUTMENT WINGS.

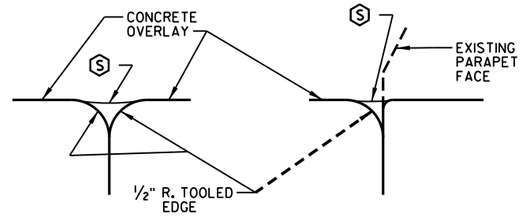


SECTION THRU ABUTMENT

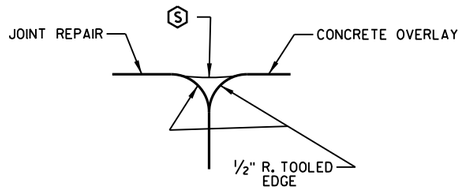


PLAN - ABUTMENT

REMOVAL DETAIL
(AT ABUTMENTS/WINGS)



LONGITUDINAL JOINT AT ℄ JOINT AT PARAPET



TRANSVERSE JOINT AT ABUTMENTS

JOINT DETAILS

Ⓢ — CRACK SEALING EPOXY.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-45-42 REHAB

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STRUCTURE QUANTITIES, NOTES & DETAILS

SHEET 2 OF 5
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FILE= B-45-42-02.DGN
DATE= 4/10/2013

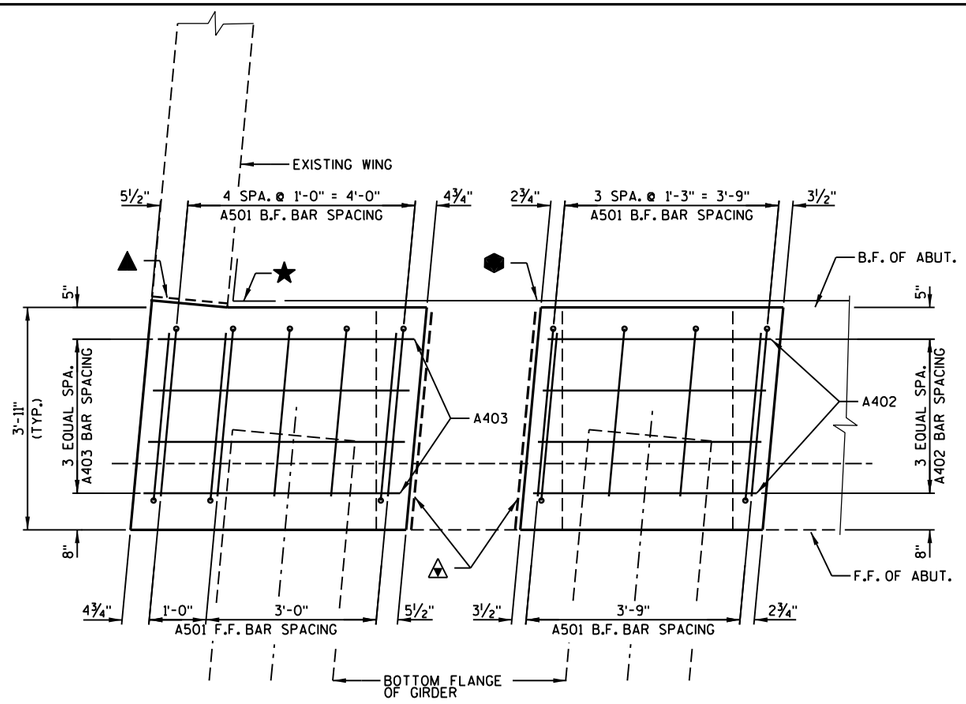
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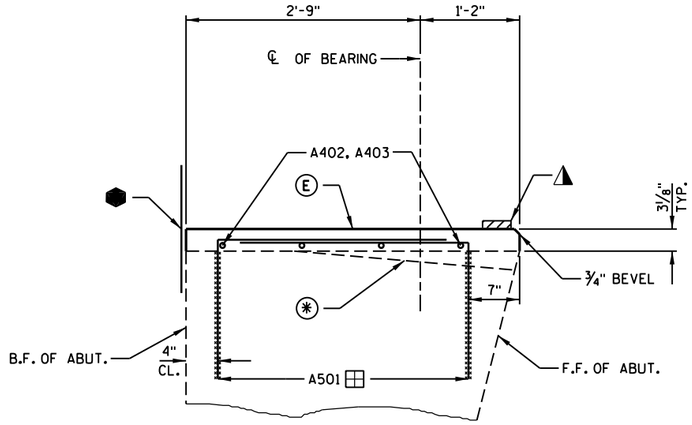
STATE PROJECT NUMBER

1450-16-70



TYP. EXTERIOR GIRDER TYP. INTERIOR GIRDER

BEARING SEAT DETAILS



TYPICAL SECTION THRU GIRDER SEAT

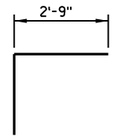
BILL OF BARS - 1 ABUTMENT 240 LBS. (COATED)

MARK	NO. REQ'D.	LENGTH	BENT	LOCATION
⊞ A501	40	4-2	X	BEARING SEATS - TYPE S BAR - VERT.
A402	16	3-11		BEARING SEATS - INTERIOR GIRDERS - TRANS.
A403	8	4-6		BEARING SEATS - EXTERIOR GIRDERS - TRANS.

DIMENSIONS IN BENDING DETAILS ARE OUT TO OUT OF BAR.

EPOXY COAT ALL BAR STEEL REINFORCEMENT.

BAR MARKS FOR SOUTH ABUTMENT ARE SHOWN.
LABEL AND BUNDLE NORTH ABUTMENT BARS WITH B MARK (B501 THRU B403).



A501

LEGEND

⊞ — MASONRY ANCHORS TYPE S ⅝-INCH SHALL DEVELOP A MININUM PULLOUT CAPACITY OF 19 KIPS. EMBED BAR 6" MIN. ANCHOR HOLES SHALL BE 4" CLEAR MIN. TO FACE OF EXISTING CONCRETE.

F.F.— FRONT FACE B.F.— BACK FACE CL.— CLEAR

▲ — ½" FILLER BETWEEN BACK FACE OF ABUTMENT AND VERTICAL SAWCUT ON WING TOP. EXTEND FROM BRIDGE SEAT TO TOP OF CONCRETE PARAPET. SEAL ALL EXPOSED HORIZ. & VERT. SURFACES OF FILLER WITH NON-STAINING GRAY, NON-BITUMINOUS JOINT SEALER (1" DEEP & HOLD ⅛" BELOW SURFACE OF CONCRETE).

◭ — 4"x ¾" FILLER, EXTEND FULL LENGTH OF ABUTMENT.

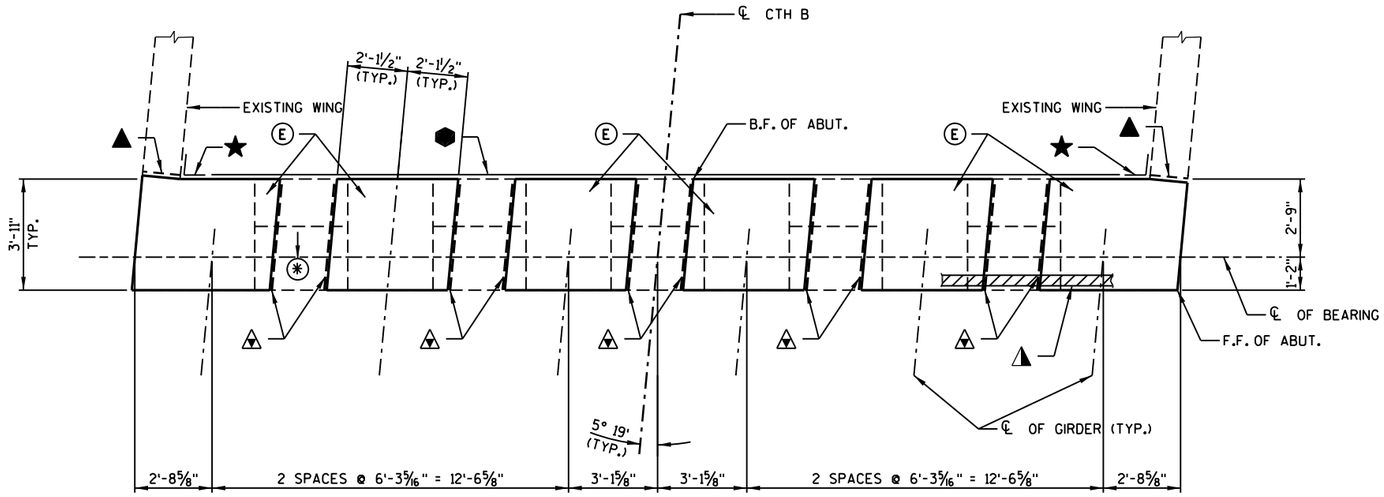
★ — VERTICAL 18" WIDE RUBBERIZED MEMBRANE WATERPROOFING. EXTEND FROM 9" BELOW BEARING SEAT TO TOP OF WINGS.

⬢ — HORIZONTAL 18" WIDE RUBBERIZED MEMBRANE WATERPROOFING. EXTEND BETWEEN WINGS.

Ⓔ — SEMI-EXPANSION SEAT, CONSTRUCT 3⅛" ABOVE EXISTING GIRDER SEATS. REMOVE EXISTING GIRDER BEARINGS. GRIND OR UTILIZE CONCRETE SURFACE REPAIR TO ATTAIN SMOOTH TOP SURFACE OF SEMI-EXPANSION POCKET. PLACE MULTIPLE LAYERS OF POLYETHYLENE SHEETS OVER ENTIRE ABUTMENT TOP AFTER PLACING SEMI-EXPANSION BLOCKS BUT BEFORE PLACING BEARING PADS AND/OR SUPERSTRUCTURE. TOTAL THICKNESS OF SHEETS SHALL BE AT LEAST 0.03".

◬ — ¾" CORK FILLER (SIDE VERTICAL FACES ONLY).

⊛ — TOP OF ABUTMENT SEMI-EXPANSION POCKETS ARE SLOPED TO DRAIN BETWEEN EXISTING BEAM SEATS. 1" DROP FROM F.F. EXISTING BACKWALL TO F.F. OF ABUTMENT. (TYP.)



PLAN

8

8

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-45-42 REHAB

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ABUTMENTS

SHEET 3 OF 5

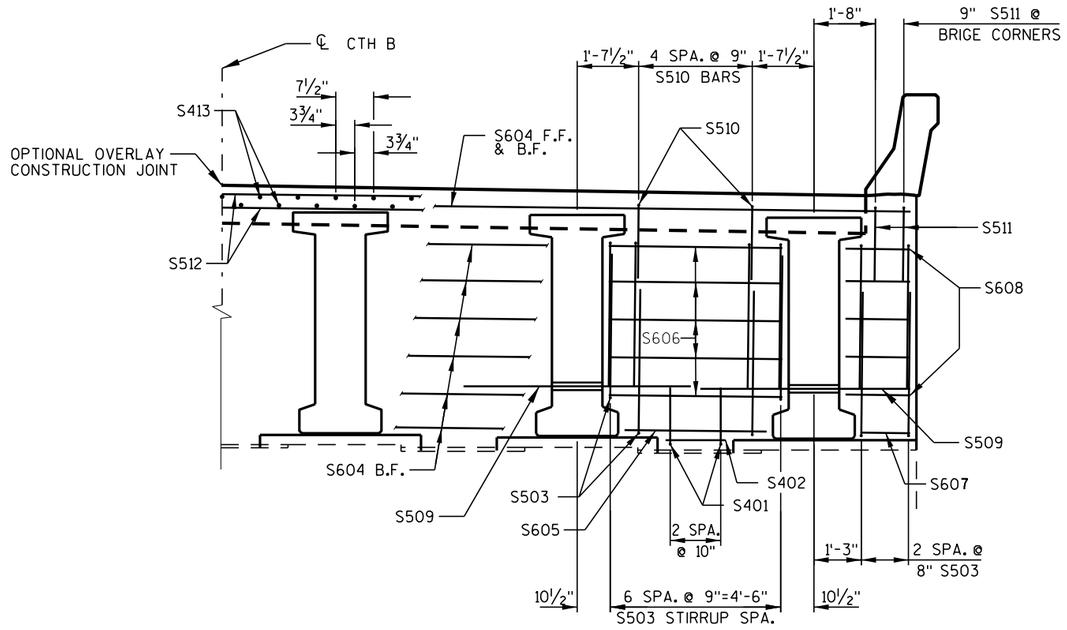
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DATE=4/10/2013

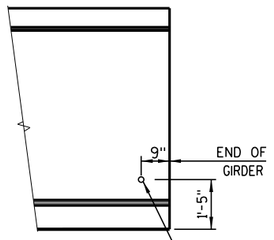
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STATE PROJECT NUMBER

1450-16-70



PART. SECTION THRU BRIDGE AT END DIAPHRAGM



CORE 1½" ϕ HOLE IN WEB OF EXISTING GIRDERS (ABUTMENT END ONLY) TO ALLOW PLACEMENT OF S509 BARS. AVOID BAR STEEL REINFORCEMENT IN EXISTING GIRDERS. ORIGINAL PLANS SHOW VERTICAL STIRRUP REINFORCING AT 2½", 7" AND 11½" FROM THE GIRDER ENDS.

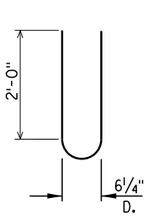
EXISTING GIRDER END DETAIL

BILL OF BARS (COATED) 5,500 LBS.

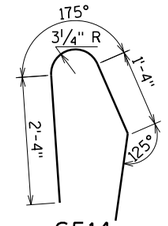
MARK	NO. REQ'D.	LENGTH	BENT	LOCATION
S401	30	5-11	X	END DIAPH. - S.E. NOTCH STIRRUP - VERT.
S402	40	1-8		END DIAPH. - S.E. NOTCH - HORIZ.
S503	164	10-1	X	END DIAPH. - STIRRUP - VERT.
S604	16	36-4		END DIAPH. - B.F. - HORIZ.
S605	10	3-9		END DIAPH. - F.F. INT. BAY - HORIZ.
S606	50	4-7		END DIAPH. - F.F. INT. BAY - HORIZ.
S607	4	1-3		END DIAPH. - F.F. END BAY - HORIZ.
S608	20	2-1		END DIAPH. - F.F. END BAY - HORIZ.
S509	24	6-0		END DIAPH. - THRU GIRDER WEB - HORIZ.
S510	50	6-0	X	END DIAPH. - TOP STIRRUP - VERT.
S511	8	6-8	X	END DIAPH. - STIRRUP @ BRIDGE CORNERS - VERT.
S512	30	36-4		DECK - TRANSVERSE
S413	118	3-9		DECK - LONGITUDINAL
S514	20	5-10	X	PARAPET - BOTTOM STIRRUP - VERT.
S515	20	5-0	X	PARAPET - TOP STIRRUP - VERT.
S516	20	4-4		PARAPET - LONGITUDINAL

DIMENSIONS IN BENDING DETAILS ARE OUT TO OUT OF BAR.

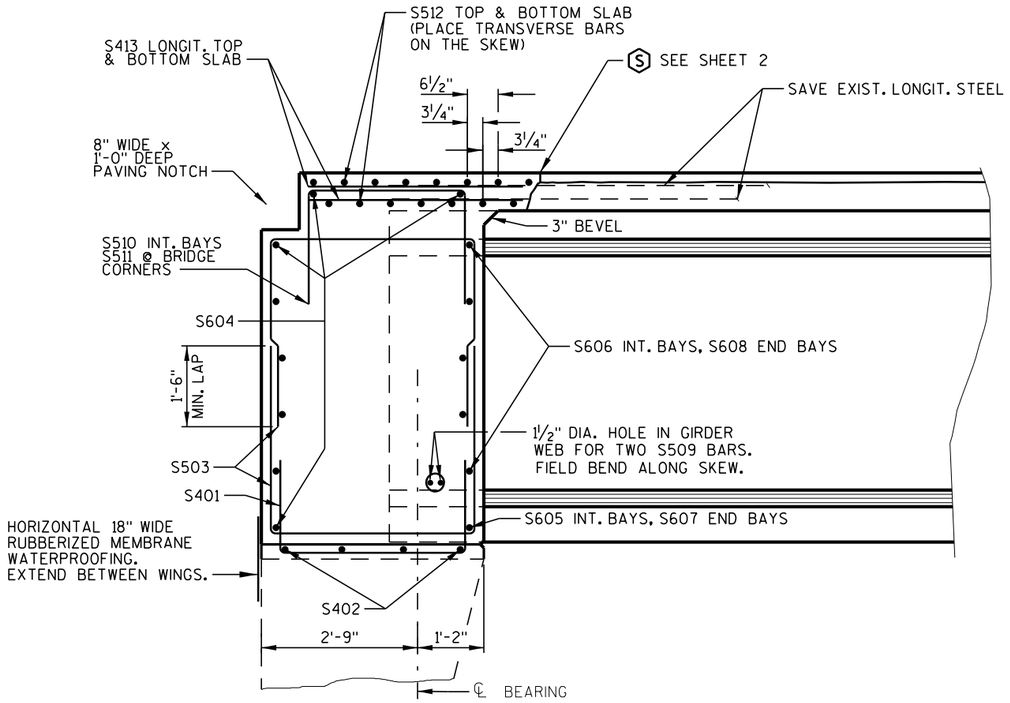
EPOXY COAT ALL BAR STEEL REINFORCEMENT.



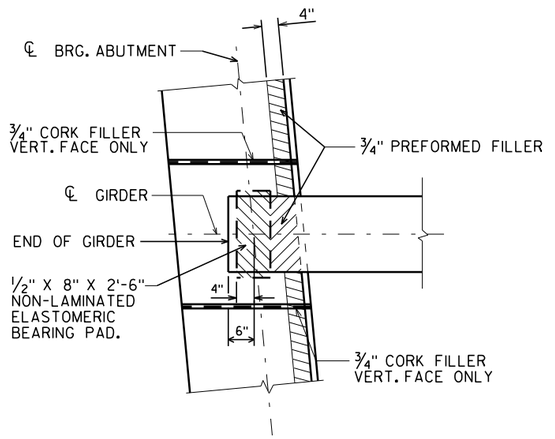
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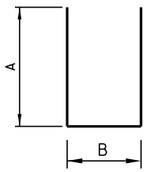
S514



PART. LONGIT. SECTION



BEARING PAD DETAIL



BAR MARK	A	B
S401	1'-3"	3'-7"
S503	3'-6"	3'-7"
S510	1'-8"	2'-11"
S511	1'-8"	3'-7"

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-45-42 REHAB

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SUPERSTRUCTURE SECTIONS & DETAILS

SHEET 4 OF 5

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FILE= B-45-42-04.DGN
DATE=4/8/2013

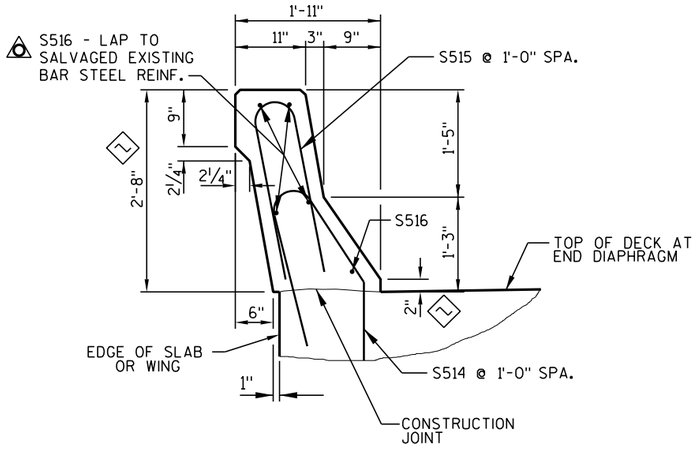
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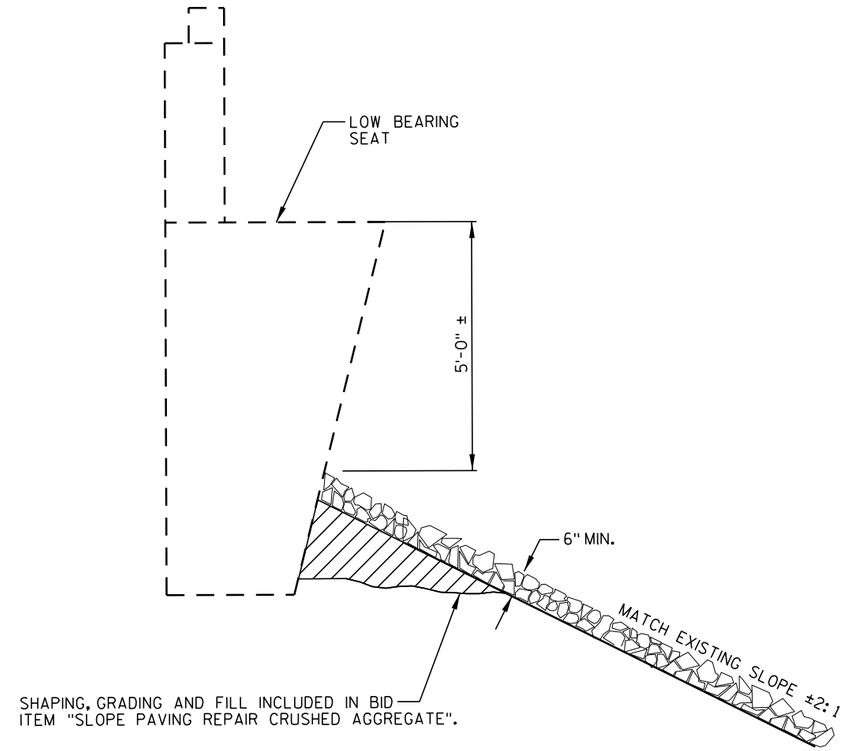
1450-16-70



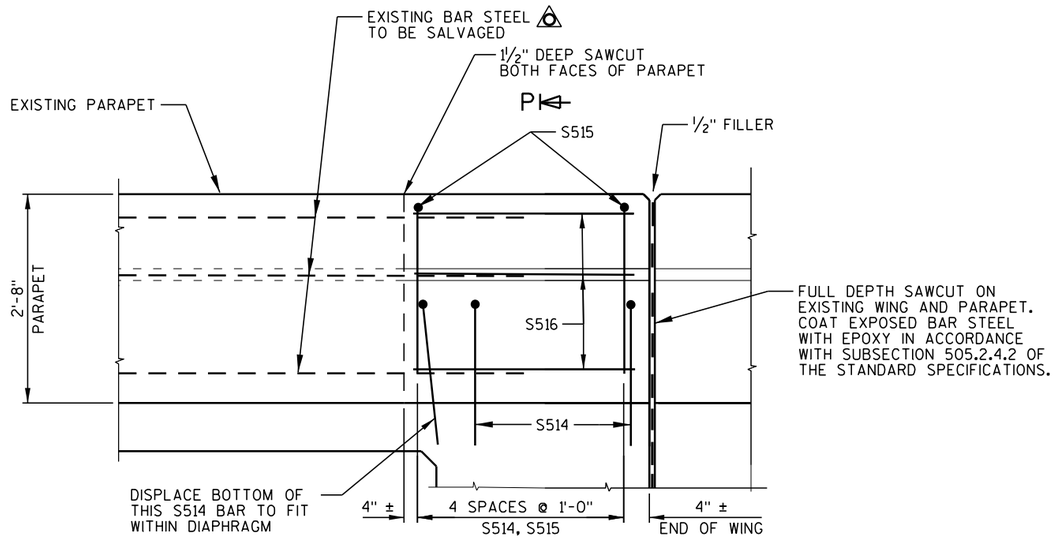
SECTION P-P THRU PARAPET

LEGEND

- REDUCE DIMENSION AS REQUIRED TO MATCH NEW PARAPET TOP WITH EXISTING PARAPET TOP.
- IF EXISTING BAR STEEL REINFORCEMENT IS DAMAGED, INSTALL MASONRY ANCHORS TYPE L NO. 5 BARS NEAR LOCATON OF DAMAGED BARS. MASONRY ANCHORS IF REQUIRED SHALL BE INCLUDED IN THE BID ITEM "JOINT REPAIR". MASONRY ANCHORS TYPE L NO. 5 BARS SHALL HAVE A MINIMUM PULLOUT CAPACITY OF 19 KIPS. EMBED 1'-6" MINIMUM. ANCHOR HOLES SHALL BE 4" CLEAR TO ALL EDGES.



CROSS SECTION THRU SOUTH ABUTMENT SLOPE PAVING CRUSHED AGGREGATE



PARAPET ELEVATION

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-45-42 REHAB

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SLOPED FACE PARAPET 'A' & SLOPE PAVING

SHEET 5 OF 5

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FILE= B-45-42-05.DGN
DATE= 4/8/2013

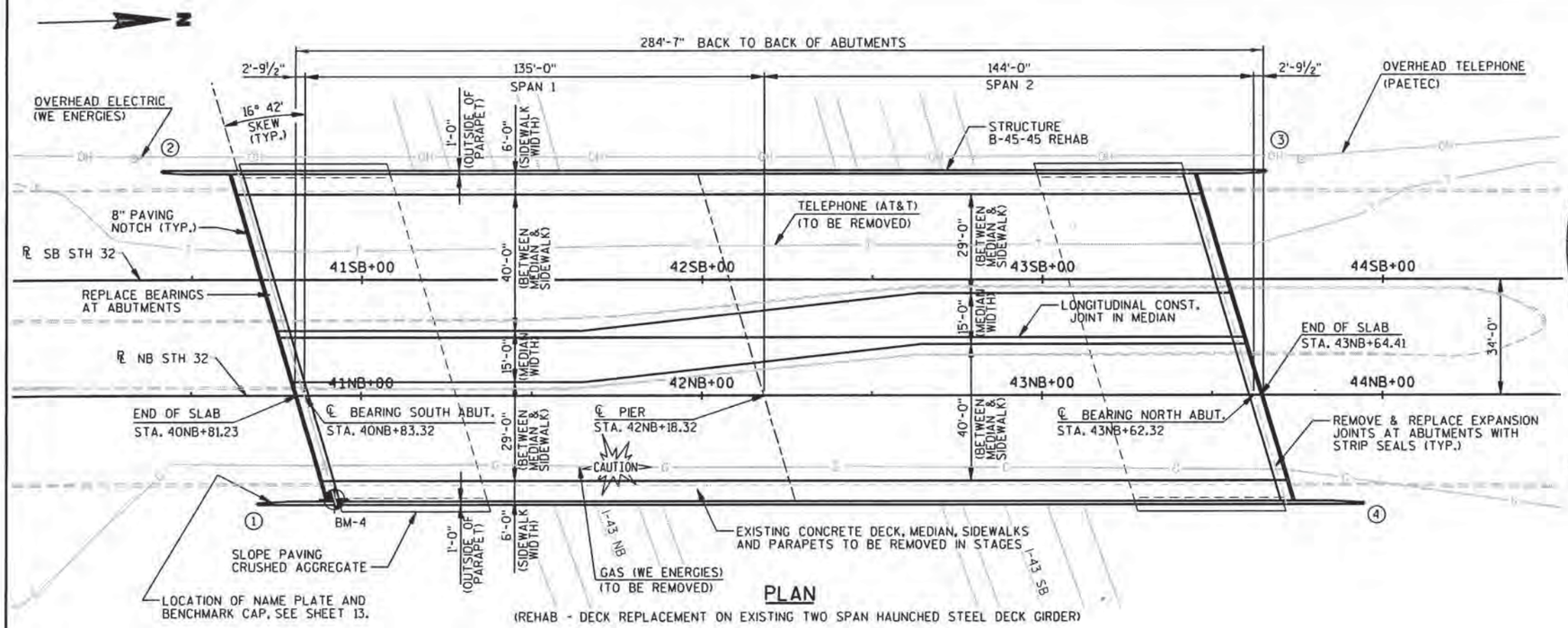
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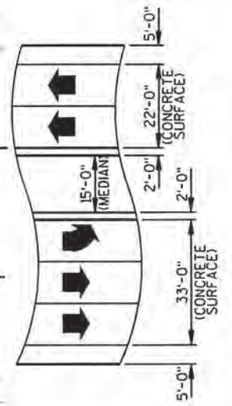
STATE PROJECT NUMBER
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BENCHMARKS ⊕ NGVD 29			
NO.	STA.	DESCRIPTION	ELEV.
4	40NB+92.3, 30.3' RT.	DISK ON SE CORNER OF STRUCTURE	734.41



PLAN

(REHAB - DECK REPLACEMENT ON EXISTING TWO SPAN HAUNCHED STEEL DECK GIRDER)



○ - INDICATES WING NUMBER

LIST OF DRAWINGS

1. GENERAL PLAN
2. CROSS SECTIONS & STAGING DETAILS
3. QUANTITIES & GENERAL NOTES
4. STAGE 1 CONSTRUCTION SOUTH ABUTMENT
5. STAGE 1 CONSTRUCTION NORTH ABUTMENT
6. STAGE 1 CONST. ABUTMENT & WING DETAILS
7. STAGE 2 CONSTRUCTION SOUTH ABUTMENT
8. STAGE 2 CONSTRUCTION NORTH ABUTMENT
9. STAGE 2 CONST. ABUTMENT & WING DETAILS
10. SLAB FORMING DETAILS
11. SUPERSTRUCTURE & BEARINGS
12. SUPERSTRUCTURE SECTIONS & DETAILS
13. VERTICAL FACE PARAPET 'A' & SIDEWALK DETAILS
14. TUBULAR RAILING TYPE 'H' ANCHOR BOLT DETAILS
15. MEDIAN AND SUPERSTRUCTURE DETAILS
16. STRIP SEAL EXPANSION JOINT
17. STRIP SEAL COVER PLATE DETAILS
18. SLOPE PAVING DETAILS

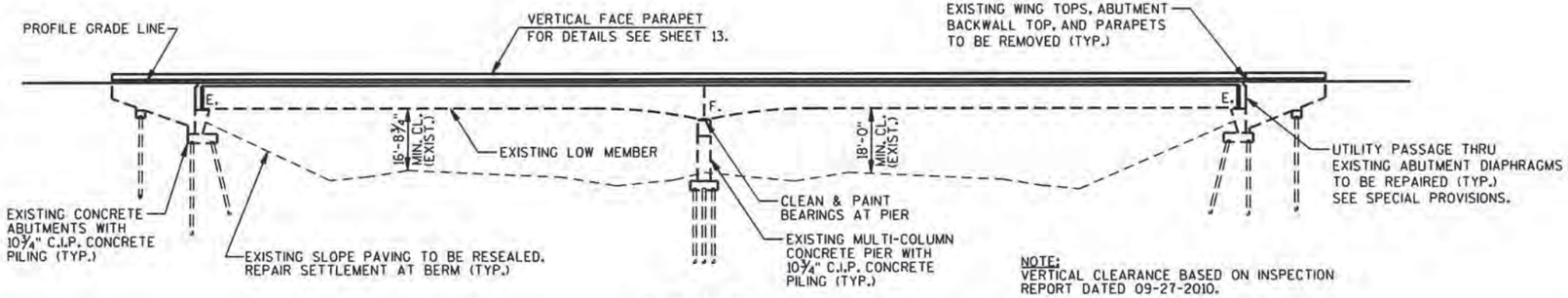
DESIGN DATA

LIVE LOAD:
- INVENTORY RATING : HS-21
- OPERATIONAL RATING : HS-36
- MAX. STD. PERMIT VEHICLE LOAD: 220 KIPS

TRAFFIC DATA:
- A.A.D.T. (2012) = 8100
- A.A.D.T. (2032) = 11,350

ULTIMATE DESIGN STRESSES:
- CONCRETE MASONRY - ALL ——— f'c = 4,000 P.S.I.
- BAR STEEL REINFORCEMENT HS COATED BRIDGES —— fy = 60,000 P.S.I.

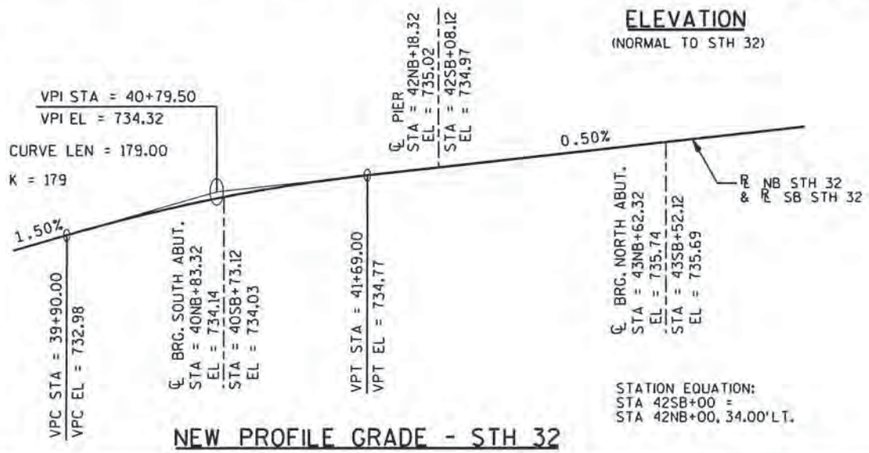
FOUNDATION DATA:
NEW CONCRETE DECK SUPPORTED ON EXISTING GIRDERS AND FOUNDATIONS.



ELEVATION

(NORMAL TO STH 32)

NOTE:
VERTICAL CLEARANCE BASED ON INSPECTION REPORT DATED 09-27-2010.



NEW PROFILE GRADE - STH 32

STATION EQUATION:
STA 42SB+00 =
STA 42NB+00.34.00'LT.

DESIGN CONTACT:
LEAH RHODES
(608) 355-8945

BRIDGE OFFICE CONTACT:
WILLIAM DREHER
(608) 266-8489

WISCONSIN
LEAH J. RHODES
E-41726
BARABOO
WI
PROFESSIONAL ENGINEER

Leah J. Rhodes
4-11-13

NO.	DATE	REVISION	BY

MSA PROFESSIONAL SERVICES
TRANSPORTATION • MUNICIPAL DEVELOPMENT • ENVIRONMENTAL
1230 South Boulevard Baraboo, WI 53913
608-356-2771 1-800-362-4505 Fax: 608-356-2770

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

ACCEPTED William C. Dreher KAR — CHIEF STRUCTURES DESIGN ENGINEER — 04/19/13 DATE

STRUCTURE B-45-45 REHAB

STH 32 OVER I-43

COUNTY	TOWN/CITY/VILLAGE
OZAUKEE	PORT WASHINGTON

DESIGN SPEC. ORIGINAL STEEL BEAMS - AASHO 1969
NEW SLAB - AASHTO LRFD DESIGN SPEC. 6TH EDITION

DESIGNED BY	DESIGN CK'D.	DRAWN BY	CK'D.	PLANS CK'D.
LJM	DHW	CAR/RLR		LJM

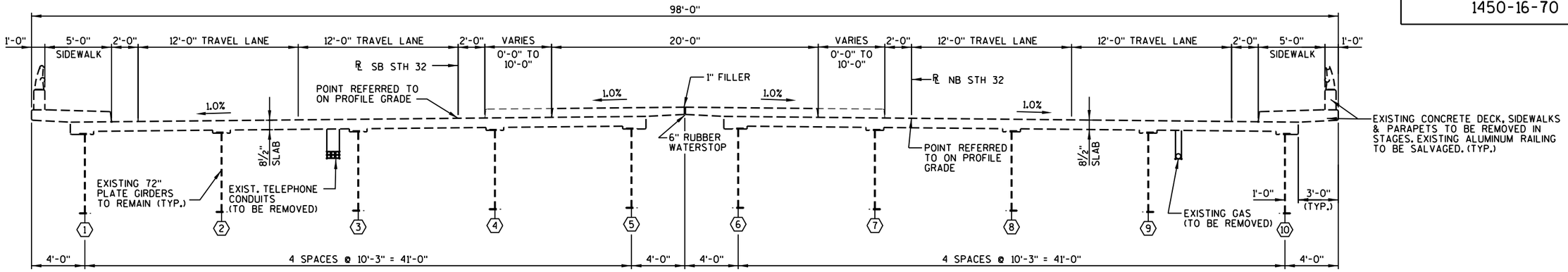
GENERAL PLAN

SHEET 1 OF 18

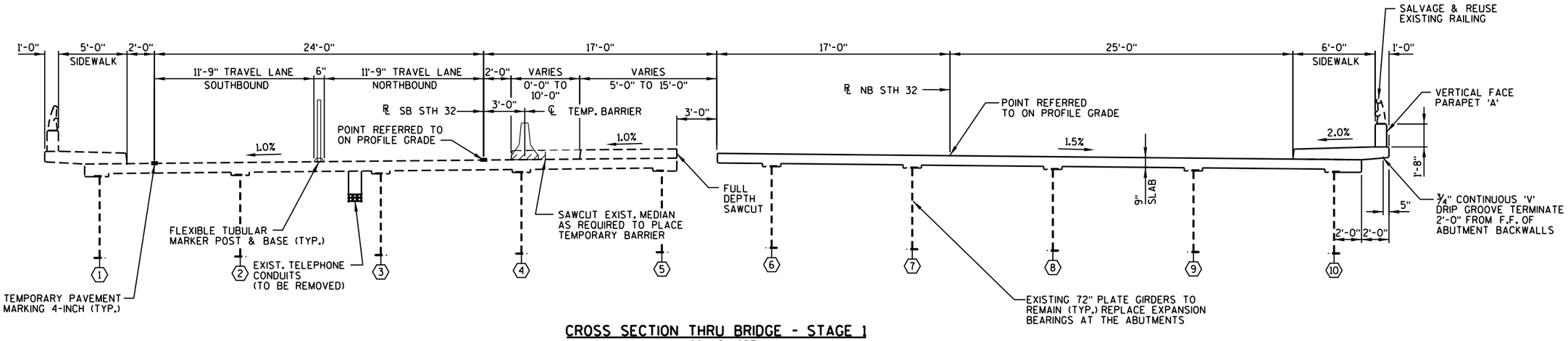
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STATE PROJECT NUMBER

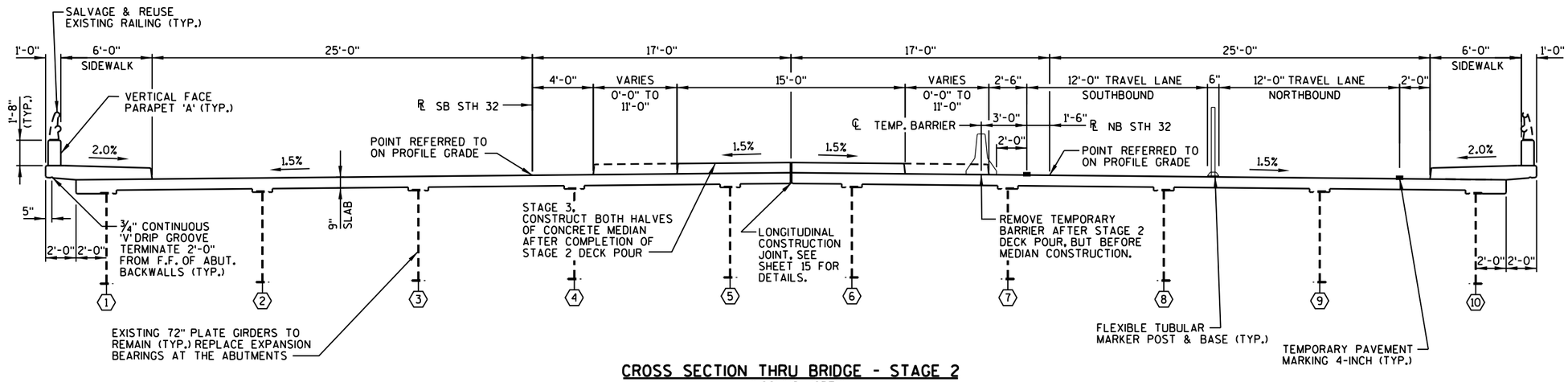
1450-16-70



CROSS SECTION THRU EXISTING BRIDGE
(LOOKING NORTH)



CROSS SECTION THRU BRIDGE - STAGE 1
(LOOKING NORTH)



CROSS SECTION THRU BRIDGE - STAGE 2
(LOOKING NORTH)

NOTES:

CONCRETE BARRIER TEMPORARY PRECAST, FLEXIBLE TUBULAR MARKER POST & BASE, AND TEMPORARY PAVEMENT MARKING 4-INCH ARE INCLUDED IN THE ROAD APPROACH QUANTITIES.

⬡ - INDICATES GIRDER NUMBER

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-45-45 REHAB

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CROSS SECTIONS & STAGING DETAILS

SHEET 7 OF 18
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DATE= 4/11/2013

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STATE PROJECT NUMBER
1450-16-70

STRUCTURE ESTIMATED QUANTITIES

	ITEM NUMBER	BID ITEM	UNIT	SOUTH ABUT.	PIER	NORTH ABUT.	SUPER	TOTAL
	203.0200.03	REMOVING OLD STRUCTURE STATION 42NB+22.82	LS	-	-	-	-	1
	203.0210.S.03	ABATEMENT OF ASBESTOS CONTAINING MATERIAL STRUCTURE B-45-45 REHAB	LS	-	-	-	-	1
	203.0225.S.03	DEBRIS CONTAINMENT STRUCTURE B-45-45 REHAB	LS	-	-	-	-	1
	502.0100	CONCRETE MASONRY BRIDGES	CY	7	-	7	998	1012
	502.2000.03	COMPRESSION JOINT SEALER PREFORMED ELASTOMERIC (2 1/4 - INCH)	LF	-	-	-	282	282
	502.3100.03	EXPANSION DEVICE STRUCTURE B-45-45 REHAB	LS	-	-	-	-	1
	502.3200	PROTECTIVE SURFACE TREATMENT	SY	-	-	-	3265	3265
	502.5005	MASONRY ANCHORS TYPE L NO. 5 BARS	EACH	198	-	198	-	396
	502.5010	MASONRY ANCHORS TYPE L NO. 6 BARS	EACH	74	-	74	-	148
	505.0605	BAR STEEL REINFORCEMENT HS COATED BRIDGES	LB	1870	-	1895	215465	219230
	506.3015	WELDED STUD SHEAR CONNECTORS 7/8 X 6 - INCH	EACH	-	-	-	250	250
	506.3020	WELDED STUD SHEAR CONNECTORS 7/8 X 7 - INCH	EACH	-	-	-	170	170
	506.7000.S.03	BEARING REPLACEMENT STRUCTURE B-45-45 REHAB	EACH	-	-	10	-	10
*	509.1500	CONCRETE SURFACE REPAIR	SF	10	2	15	-	27
	517.0900.S.03	PREPARATION AND COATING OF TOP FLANGES STRUCTURE B-45-45 REHAB	LS	-	-	-	-	1
	517.1800.S.03	STRUCTURE REPAINTING RECYCLED ABRASIVE STRUCTURE B-45-45 REHAB	LS	-	-	-	-	1
	517.4500.S.03	NEGATIVE PRESSURE CONTAINMENT AND COLLECTION OF WASTE MATERIALS, STRUCTURE B-45-45 REHAB	LS	-	-	-	-	1
	517.6001.S	PORTABLE DECONTAMINATION FACILITY	EACH	-	-	-	-	1
	604.0500	SLOPE PAVING CRUSHED AGGREGATE	SY	40	-	48	-	88
	604.9010.S	SLOPE PAVING REPAIR CRUSHED AGGREGATE	CY	18	-	5	-	23
	604.9015.S	RESEAL CRUSHED AGGREGATE SLOPE PAVING	SY	320	-	460	-	780
	SPV.0060.01	CLEANING AND PAINTING BEARINGS	EACH	-	10	-	-	10
	SPV.0105.04	REMOVING AND RESETTING TUBULAR RAILING STRUCTURE B-45-45 REHAB	LS	-	-	-	-	1
△	SPV.0105.06	WE ENERGIES GAS MAIN REMOVAL STRUCTURE B-45-45 REHAB	LS	-	-	-	-	1
	SPV.0105.08	WE ENERGIES ABUTMENT PENETRATION REPAIR STRUCTURE B-45-45 REHAB	LS	-	-	-	-	1
◇	SPV.0105.09	AT&T TELEPHONE DUCT REMOVAL STRUCTURE B-45-45 REHAB	LS	-	-	-	-	1
	SPV.0105.11	AT&T TELEPHONE ABUTMENT PENETRATION REPAIR STRUCTURE B-45-45 REHAB	LS	-	-	-	-	1
		NON-BID ITEMS						
		PREFORMED FILLER	SIZE	-	-	-	-	½"
		CORK FILLER	SIZE	-	-	-	-	½"
		BRIDGE SEAT PROTECTION	EACH	1	-	1	-	2

LEGEND

△ - NON-PARTICIPATING BID ITEMS - CATEGORY 0130.

◇ - NON-PARTICIPATING BID ITEMS - CATEGORY 0140.

* - CONCRETE SURFACE REPAIR ON SUBSTRUCTURE UNITS AS DIRECTED BY THE FIELD ENGINEER.

GENERAL NOTES

DRAWINGS SHALL NOT BE SCALED.

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

THE FIRST DIGIT OF A THREE DIGIT BAR MARK SIGNIFIES THE BAR SIZE.

AT THE ABUTMENTS AND WINGWALLS ALL EXCAVATED VOLUME BELOW THE ROADWAY SUBGRADE OR PAVEMENT APPROACH SLAB NOT OCCUPIED BY THE NEW STRUCTURE SHALL BE BACKFILLED WITH BACKFILL STRUCTURE. THE EXCAVATION AND BACKFILL STRUCTURE WILL BE INCLUDED IN THE BID ITEM "REMOVING OLD STRUCTURE STATION 42NB+22.82".

APPLY PROTECTIVE SURFACE TREATMENT TO THE EXPOSED TOP OF SLAB, TOP AND EDGES OF MEDIAN, TOP AND ROADWAY FACE OF SIDEWALKS, AND TOP AND ROADWAY FACE OF THE PARAPETS INCLUDING PARAPETS ON ABUTMENT WINGS.

APPLY BRIDGE SEAT PROTECTION, PER SUBSECTION 502.3.12 OF THE STANDARD SPECIFICATIONS, TO THE TOP SURFACE OF BOTH ABUTMENTS, INCLUDING THE SURFACE BELOW BEARINGS TO BE REPLACED.

THE EXISTING GROUND LINE SHALL BE USED AS THE UPPER LIMITS OF EXCAVATION AT THE ABUTMENTS.

DIMENSIONS OF EXISTING BRIDGE MEMBERS SHOWN ARE BASED ON ORIGINAL PLANS.

ORIGINAL PLANS OF EXISTING BRIDGE B-45-45 ARE AVAILABLE AT THE WISDOT SOUTHEAST REGION OFFICE. REFERENCE THOSE PLANS FOR THE DESIGN OF SLAB OVERHANG SHORING AND TEMPORARY BRACING DURING CONSTRUCTION.

ELEVATIONS SHOWN ON THIS PLAN ARE REFERENCED TO BM *4, A DISK ON THE TOP OF WING 1 OF B-45-45, ELEV. 734.41, NGVD 29.

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 1974.

THIS STRUCTURE WILL REHABILITATE THE EXISTING STRUCTURE, B-45-45, A TWO SPAN, 284'-7" LONG, CONTINUOUS HAUNCHED STEEL DECK GIRDER SET ON CONCRETE SEMI-RETAINING ABUTMENTS AND A MULTI-COLUMN PIER.

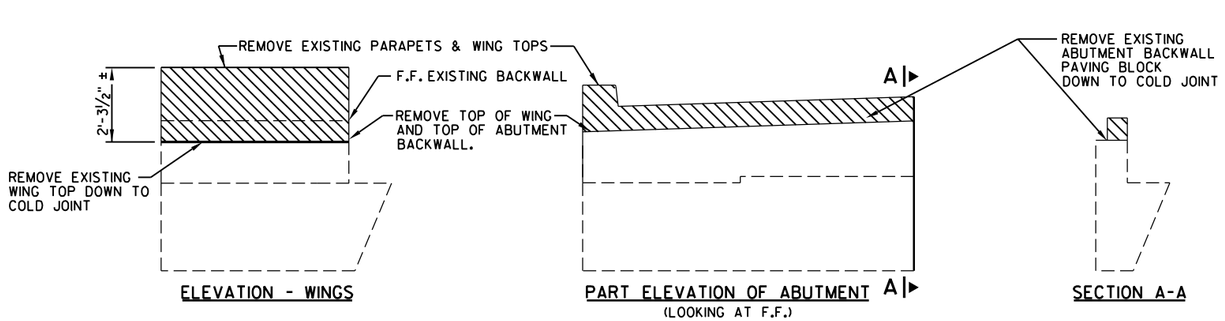
THE MINIMUM CONCRETE HAUNCH AT THE EDGE OF THE EXISTING GIRDER FLANGES SHALL BE 1¼". THE HAUNCH CONCRETE QUANTITY IS BASED ON AN AVERAGE HAUNCH DEPTH OF 4" OVER THE PERTINENT WIDTHS OF THE TOP FLANGES, WHICH IS THE MAXIMUM HAUNCH QUANTITY FOR WHICH THE CONTRACTOR WILL BE PAID.

THE LOCATIONS OF EXISTING UTILITY INSTALLATIONS AS SHOWN ON THE PLANS ARE APPROXIMATE.

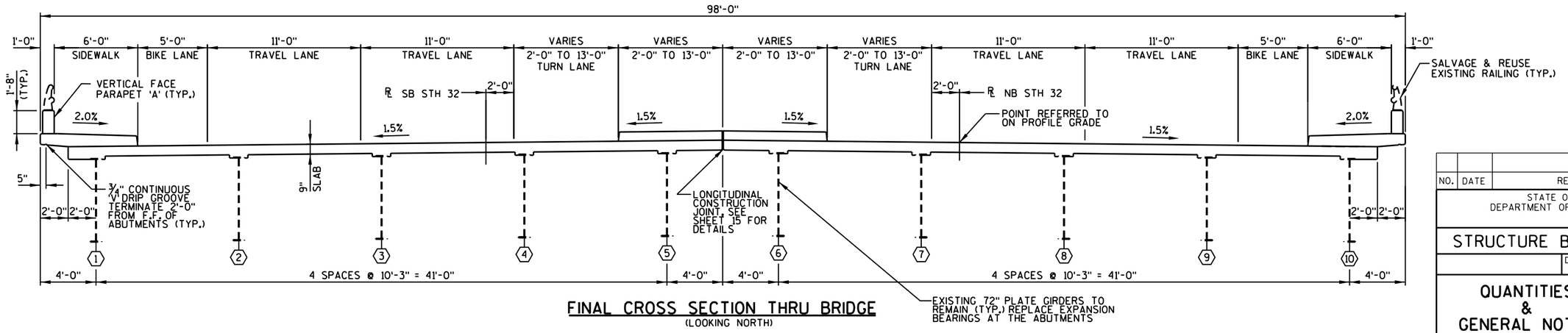
ALL EXPOSED STEEL TO BE CLEANED AND PAINTED.

CLEAN AND PAINT ALL PIER BEARINGS. SEE SPECIAL PROVISIONS.

THE ITEMS WELDED STUD SHEAR CONNECTORS 7/8×6-INCH AND WELDED STUD SHEAR CONNECTORS 7/8×7-INCH MAY ONLY BE USED WITH THE APPROVAL OF THE ENGINEER.



EXISTING ABUTMENT REMOVAL LIMITS



FINAL CROSS SECTION THRU BRIDGE

(LOOKING NORTH)

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-45-45 REHAB

DRAWN BY CAR/RLR | PLANS CK'D. LJM

QUANTITIES & GENERAL NOTES

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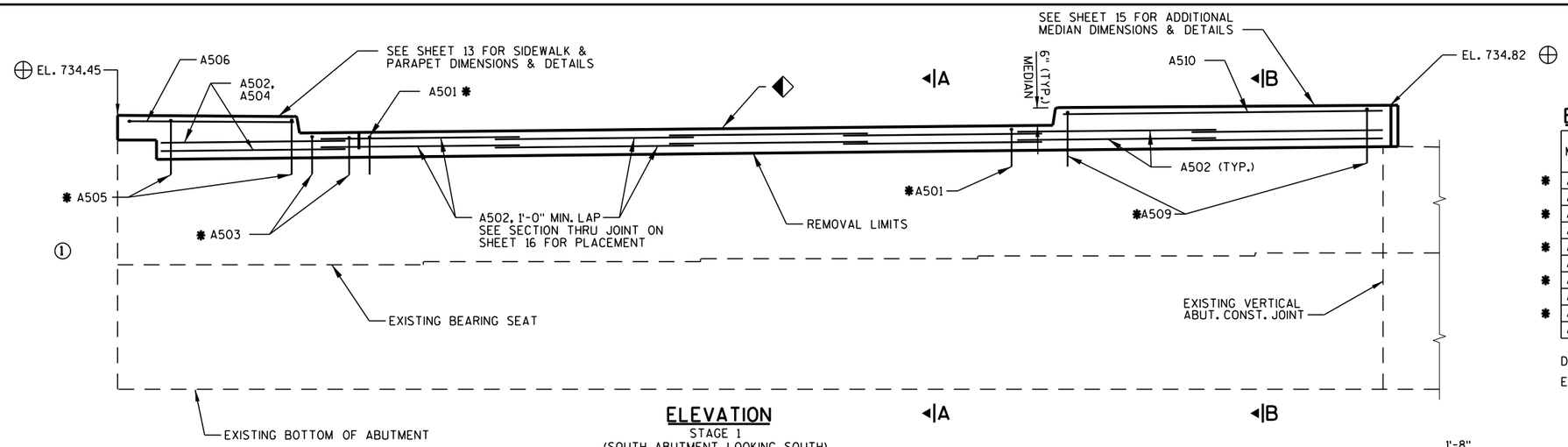
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STATE PROJECT NUMBER

1450-16-70



ELEVATION

STAGE 1
(SOUTH ABUTMENT LOOKING SOUTH)

BILL OF BARS (COATED) 960 LBS.

	MARK	NO. REQ'D.	LENGTH	BENT	LOCATION
✱	A501	56	3-5	X	PAVING BLOCK - DOWEL - VERT.
	A502	21	8-0		PAVING BLOCK- HORIZ.
✱	A503	4	3-7	X	PAVING BLOCK @ GUTTER - DOWEL - VERT.
	A504	2	7-3		PAVING BLOCK @ GUTTER - HORIZ.
✱	A505	12	4-2	X	PAVING BLOCK @ SIDEWALK - DOWEL - VERT.
	A506	2	9-8	X	PAVING BLOCK @ SIDEWALK - HORIZ.
✱	A607	38	4-11	X	WING 1 TOP - DOWEL - VERT.
	A608	2	21-10		WING 1 TOP - HORIZ.
✱	A509	26	4-0	X	PAVING BLOCK @ MEDIAN - DOWEL - VERT.
	A510	2	13-0		PAVING BLOCK @ MEDIAN - HORIZ.

DIMENSIONS IN BENDING DETAILS ARE OUT TO OUT OF BAR.

EPOXY COAT ALL BAR STEEL REINFORCEMENT.

LEGEND

F.F.–FRONT FACE

B.F.–BACK FACE

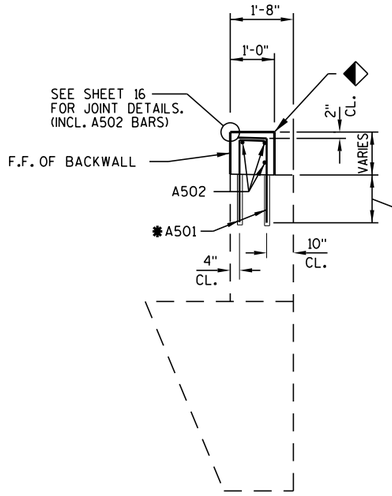
CL.–CLEAR

◯ –INDICATES WING NUMBER.

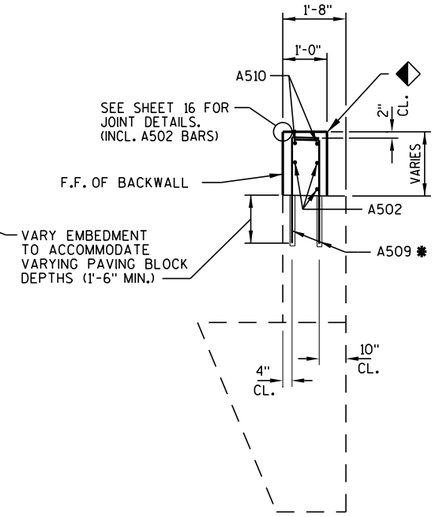
◆ –POUR PAVING BLOCK & NEW WING TOPS AFTER DECK IS IN PLACE.

✱ –MASONRY ANCHORS TYPE L NO. 5 BARS SHALL DEVELOP A MININUM PULLOUT CAPACITY OF 19 KIPS. EMBED BAR 1'-6" MIN. MASONRY ANCHORS TYPE L NO. 6 BARS SHALL DEVELOP A MINIMUM PULLOUT CAPACITY OF 26 KIPS. EMBED BAR 1'-10" MIN. TURN 10" HORIZONTAL LEG ON BARS A501 AND A509 AS NECESSARY TO FIT.

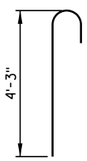
⊕ - ELEVATIONS GIVEN AT F.F. OF BACKWALL



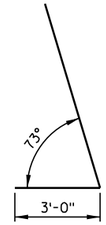
SECTION A-A



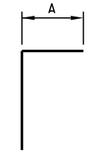
SECTION B-B



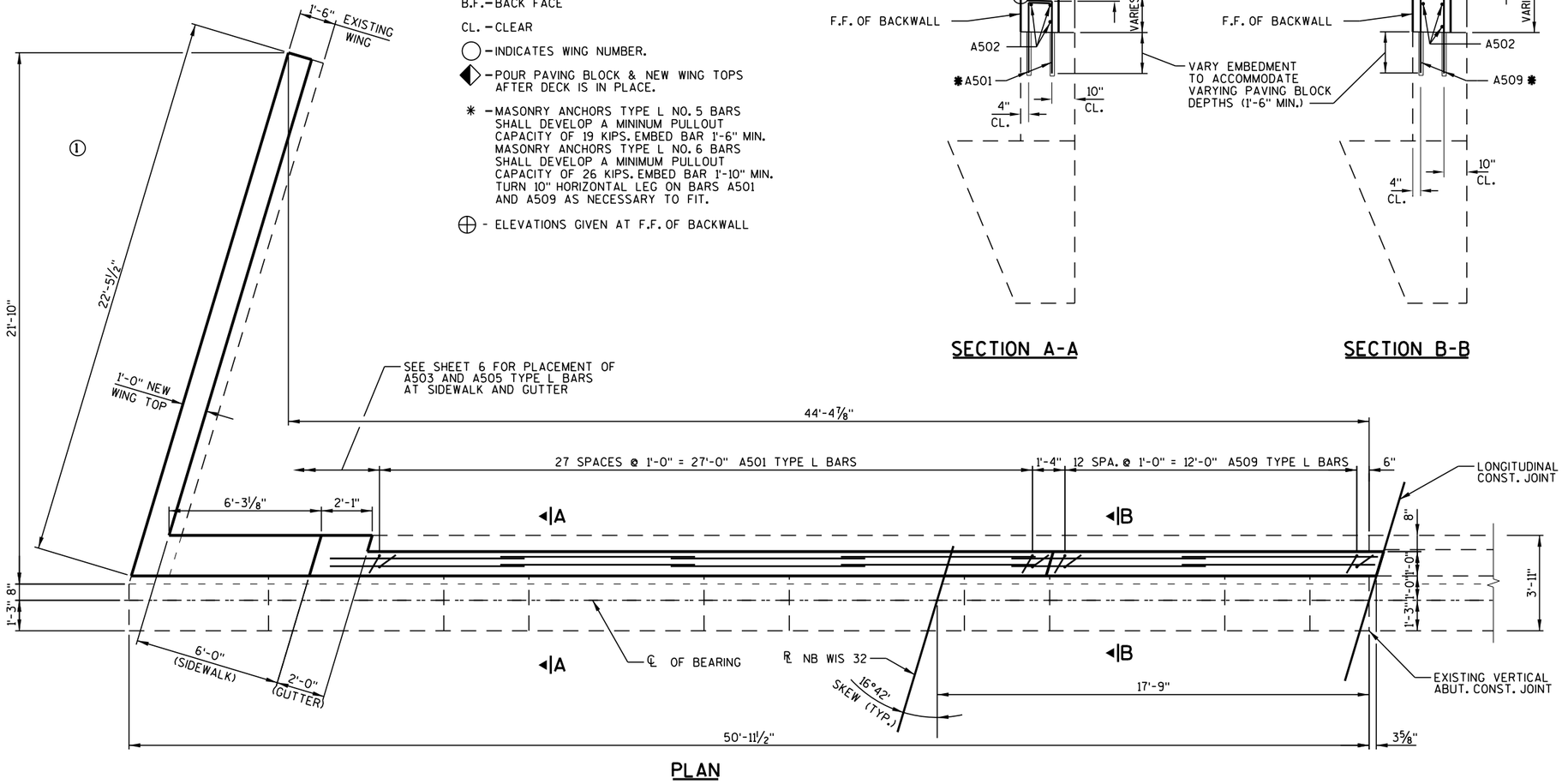
A607
STANDARD 180° HOOK



A506



BAR MARK	A
A501	10"
A503	1'-2"
A505	1'-2"
A509	10"



PLAN

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-45-45 REHAB

DRAWN BY RLR | PLANS CK'D. LJM

STAGE 1 CONSTRUCTION SOUTH ABUTMENT

SHEET 4 OF 18
244

FILE= B-45-45-04.DGN
DATE= 4/8/2013

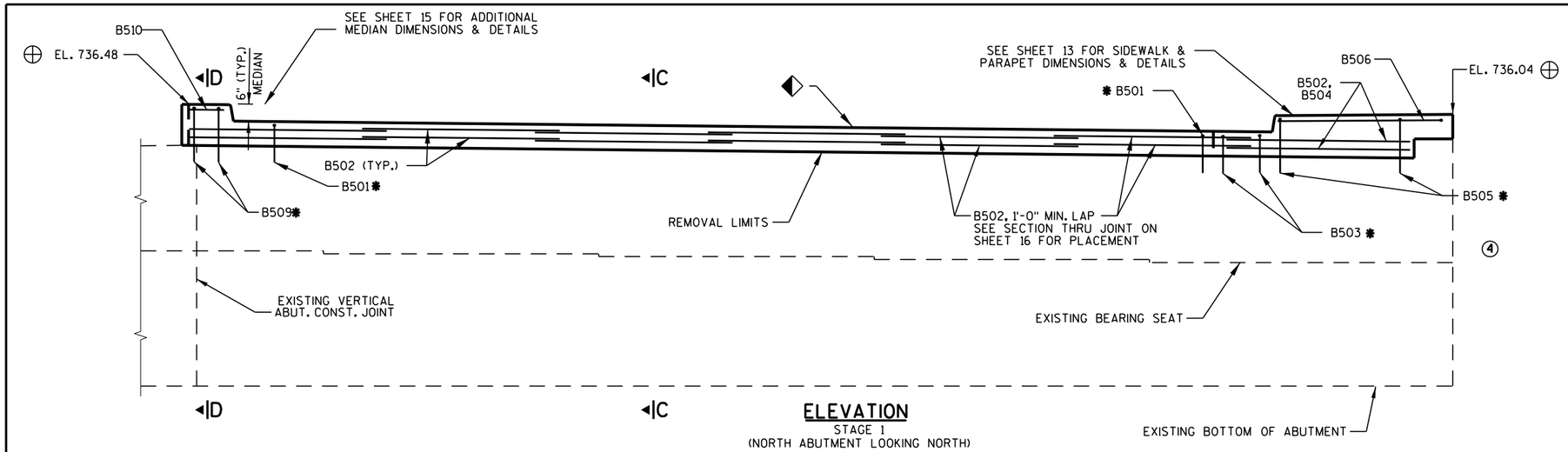
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B-45-45-04_abut.dgn 4/8/2013 3:04:20 PM RRABSKA

STATE PROJECT NUMBER

1450-16-70



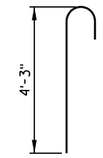
ELEVATION

STAGE 1
(NORTH ABUTMENT LOOKING NORTH)

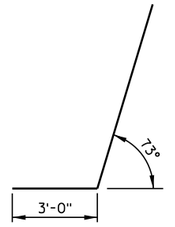
BILL OF BARS (COATED) 930 LBS.

	MARK	NO. REQ'D.	LENGTH	BENT	LOCATION
✱	B501	80	3-7	X	PAVING BLOCK - DOWEL - VERT.
	B502	21	8-0		PAVING BLOCK- HORIZ.
✱	B503	4	3-8	X	PAVING BLOCK @ GUTTER - DOWEL - VERT.
	B504	2	7-3		PAVING BLOCK @ GUTTER - HORIZ.
✱	B505	12	4-3	X	PAVING BLOCK @ SIDEWALK - DOWEL - VERT.
	B506	2	9-8	X	PAVING BLOCK @ SIDEWALK - HORIZ.
✱	B607	36	4-11	X	WING 4 TOP - DOWEL - VERT.
	B608	2	21-2		WING 4 TOP - HORIZ.
✱	B509	4	4-1	X	PAVING BLOCK @ MEDIAN - DOWEL - VERT.
	B510	2	1-7		PAVING BLOCK @ MEDIAN - HORIZ.

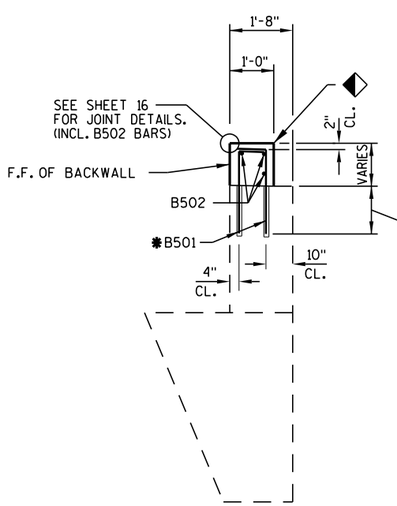
DIMENSIONS IN BENDING DETAILS ARE OUT TO OUT OF BAR.
EPOXY COAT ALL BAR STEEL REINFORCEMENT.



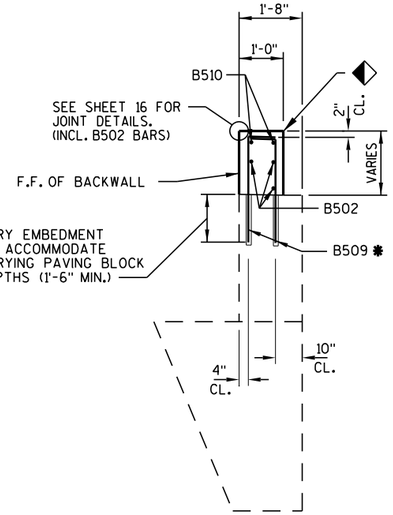
B607
STANDARD 180° HOOK



B506



SECTION C-C



SECTION D-D

LEGEND

F.F. – FRONT FACE

B.F. – BACK FACE

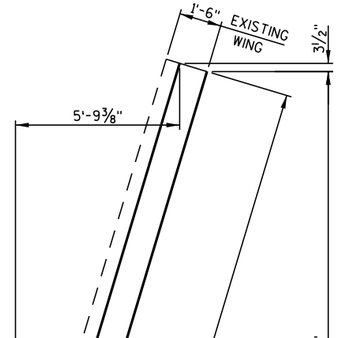
CL. – CLEAR

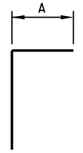
◯ – INDICATES WING NUMBER.

◆ – POUR PAVING BLOCK & NEW WING TOPS AFTER DECK IS IN PLACE.

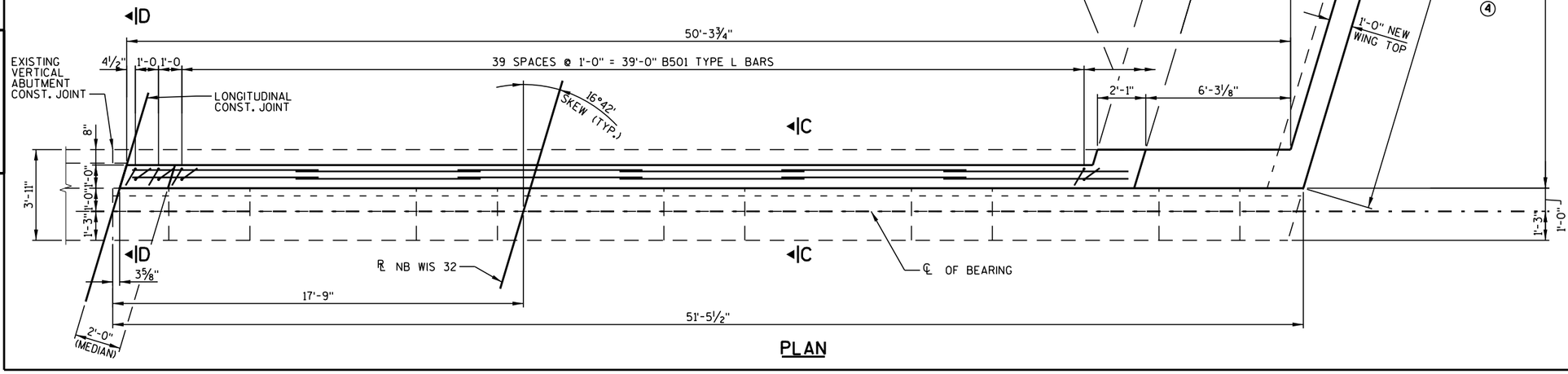
✱ – MASONRY ANCHORS TYPE L NO. 5 BARS SHALL DEVELOP A MININUM PULLOUT CAPACITY OF 19 KIPS. EMBED BAR 1'-6" MIN. MASONRY ANCHORS TYPE L NO. 6 BARS SHALL DEVELOP A MINIMUM PULLOUT CAPACITY OF 26 KIPS. EMBED BAR 1'-10" MIN. TURN 10" HORIZONTAL LEG ON BARS B501 AND B509 AS NECESSARY TO FIT.

⊕ - ELEVATIONS GIVEN AT F.F. OF BACKWALL





BAR MARK	A
B501	10"
B503	1'-2"
B505	1'-2"
B509	10"



PLAN

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-45-45 REHAB

DRAWN BY RLR | PLANS CK'D. LJM

STAGE 1 CONSTRUCTION NORTH ABUTMENT

SHEET 5 OF 18
245

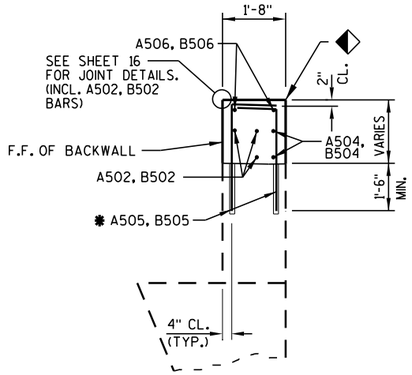
FILE= B-45-45-05.DGN
DATE= 4/8/2013

8

8

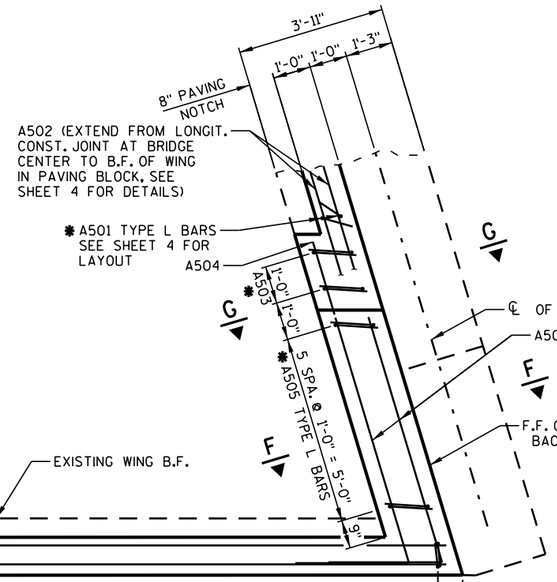
STATE PROJECT NUMBER

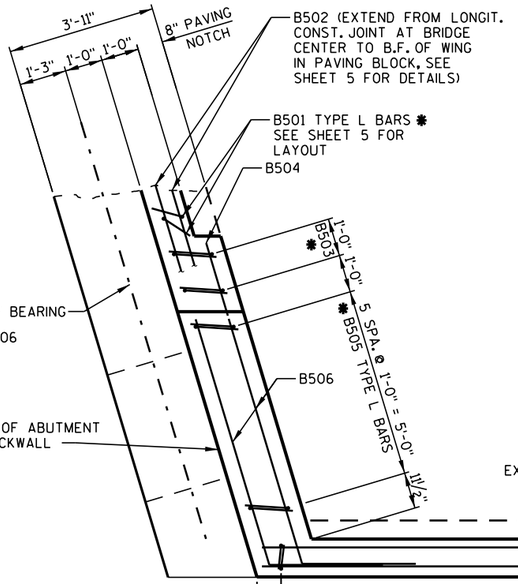
1450-16-70

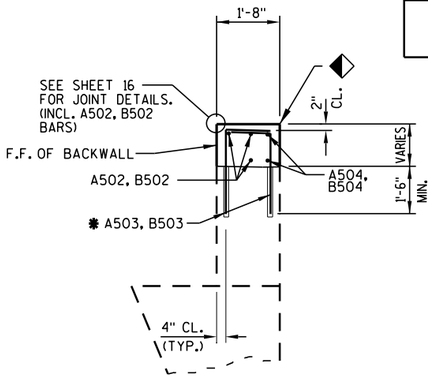


SECTION F-F

(WING 1 SHOWN - WING 4 SIMILAR)

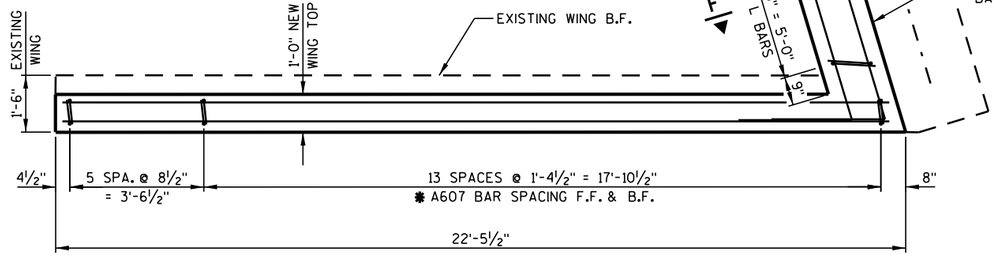




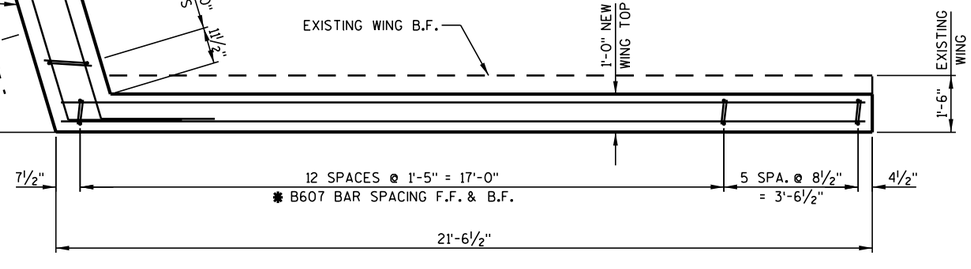


SECTION G-G

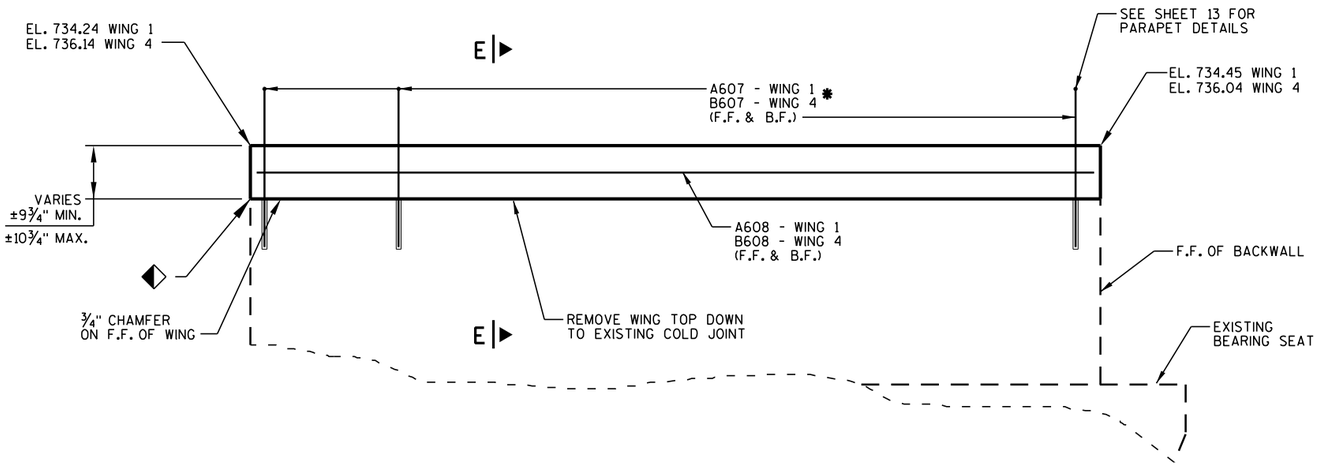
(WING 1 SHOWN - WING 4 SIMILAR)



PLAN - WING 1

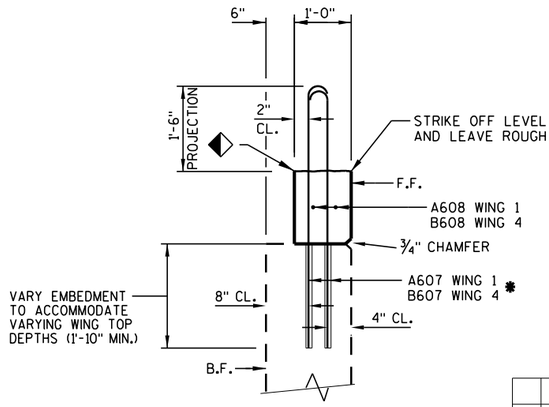


PLAN - WING 4



ELEVATION - TOP OF WINGS

(WING 1 SHOWN - WING 4 SIMILAR)



SECTION E-E THRU WING TOP

(WING 1 SHOWN - WING 4 SIMILAR)

SEE SHEET 4 FOR LEGEND OF ◆ F.F. ✱ B.F. CL.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-45-45 REHAB

DRAWN BY RLR | PLANS CK'D. LJM

STAGE 1 CONST. ABUTMENT & WING DETAILS

SHEET 6 OF 18
246

FILE= B-45-45-06.dgn
DATE= 4/8/2013

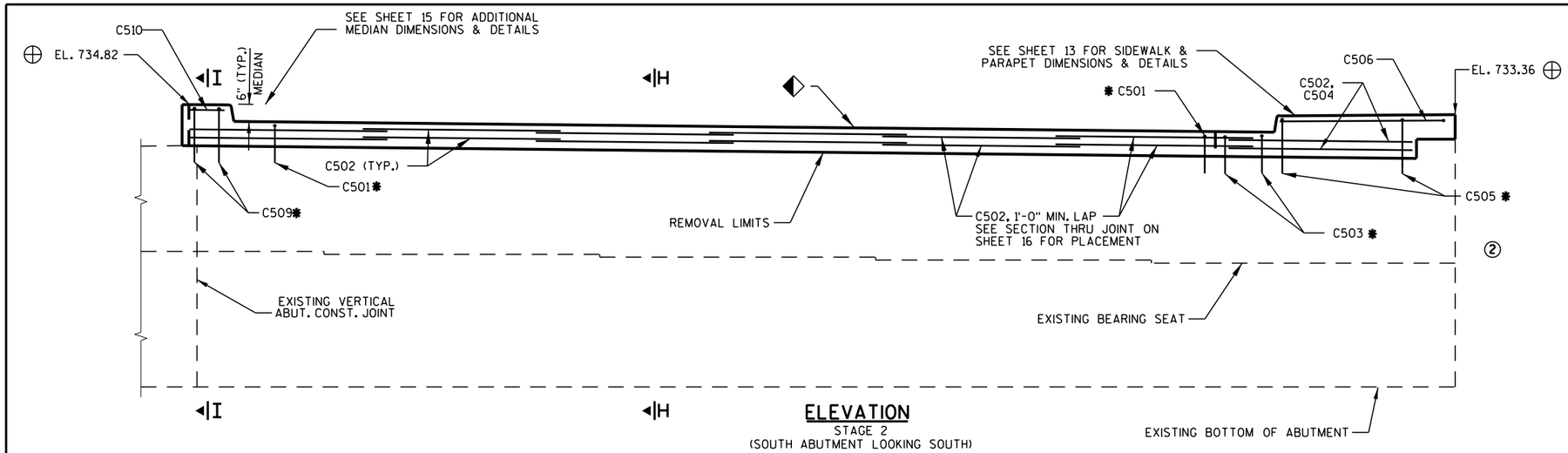
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B-45-45-06_STG1abutDET.dgn 4/8/2013 3:04:22 PM RRABSKA

STATE PROJECT NUMBER

1450-16-70



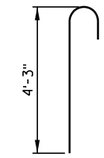
ELEVATION

STAGE 2
(SOUTH ABUTMENT LOOKING SOUTH)

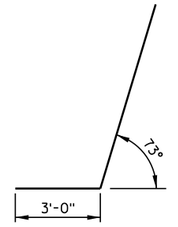
BILL OF BARS (COATED) 910 LBS.

	MARK	NO. REQ'D.	LENGTH	BENT	LOCATION
✱	C501	80	3-5	X	PAVING BLOCK - DOWEL - VERT.
	C502	21	8-0		PAVING BLOCK- HORIZ.
✱	C503	4	3-6	X	PAVING BLOCK @ GUTTER - DOWEL - VERT.
	C504	2	7-3		PAVING BLOCK @ GUTTER - HORIZ.
✱	C505	12	4-1	X	PAVING BLOCK @ SIDEWALK - DOWEL - VERT.
	C506	2	9-8	X	PAVING BLOCK @ SIDEWALK - HORIZ.
✱	C607	36	4-11	X	WING 2 TOP - DOWEL - VERT.
	C608	2	21-2		WING 2 TOP - HORIZ.
✱	C509	4	4-0	X	PAVING BLOCK @ MEDIAN - DOWEL - VERT.
	C510	2	1-7		PAVING BLOCK @ MEDIAN - HORIZ.

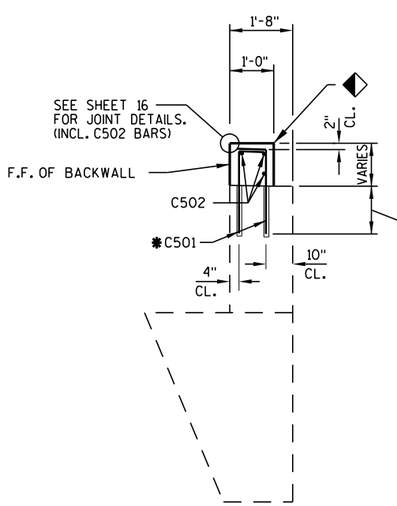
DIMENSIONS IN BENDING DETAILS ARE OUT TO OUT OF BAR.
EPOXY COAT ALL BAR STEEL REINFORCEMENT.



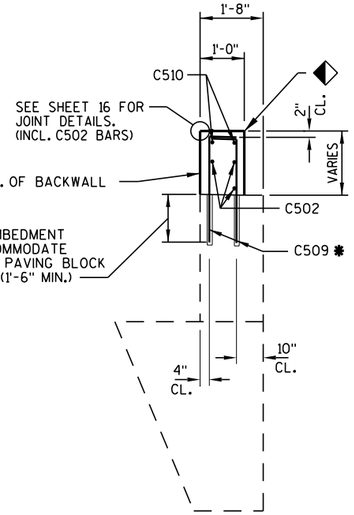
C607
STANDARD 180° HOOK



C506



SECTION H-H



SECTION I-I

LEGEND

F.F. – FRONT FACE

B.F. – BACK FACE

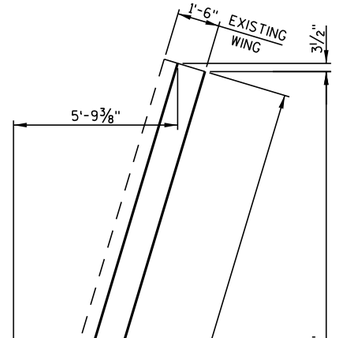
CL. – CLEAR

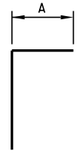
◯ – INDICATES WING NUMBER.

◆ – POUR PAVING BLOCK & NEW WING TOPS AFTER DECK IS IN PLACE.

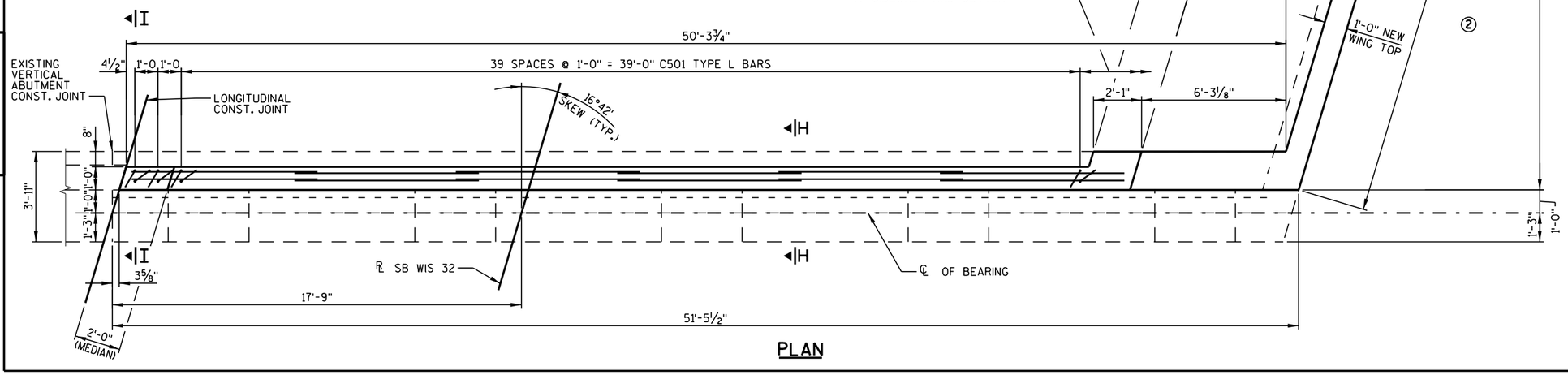
✱ – MASONRY ANCHORS TYPE L NO. 5 BARS SHALL DEVELOP A MININUM PULLOUT CAPACITY OF 19 KIPS. EMBED BAR 1'-6" MIN. MASONRY ANCHORS TYPE L NO. 6 BARS SHALL DEVELOP A MINIMUM PULLOUT CAPACITY OF 26 KIPS. EMBED BAR 1'-10" MIN. TURN 10" HORIZONTAL LEG ON BARS C501 AND C509 AS NECESSARY TO FIT.

⊕ - ELEVATIONS GIVEN AT F.F. OF BACKWALL





BAR MARK	A
C501	10"
C503	1'-2"
C505	1'-2"
C509	10"



PLAN

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-45-45 REHAB

DRAWN BY RLR | PLANS CK'D. LJM

STAGE 2 CONSTRUCTION SOUTH ABUTMENT

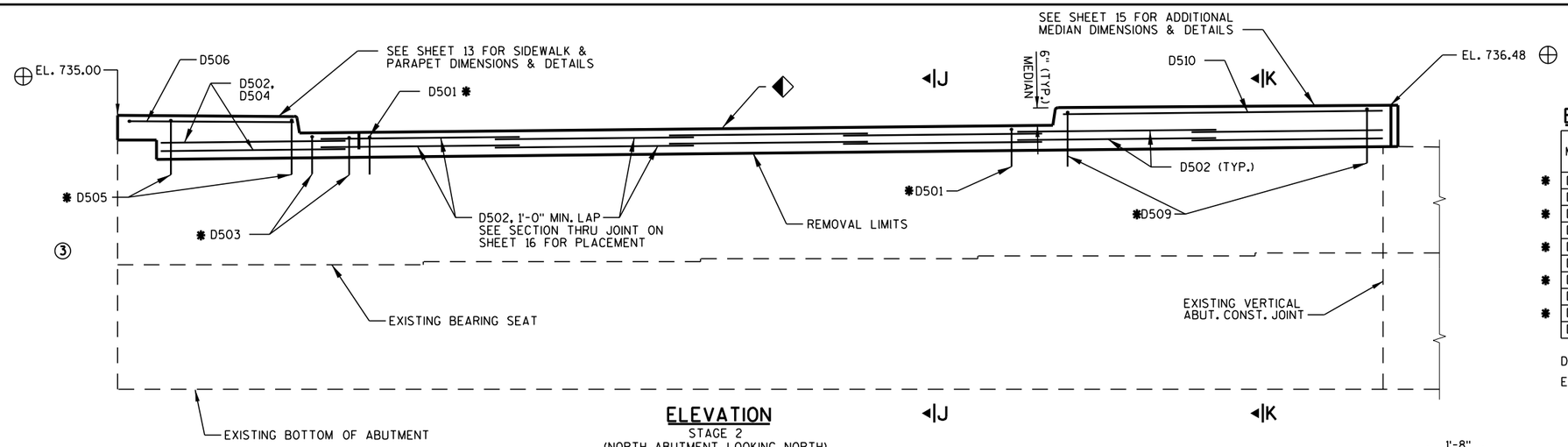
SHEET 7 OF 18
247

FILE= B-45-45-07.DGN
DATE= 4/8/2013

B-45-45-07_abut.dgn 4/8/2013 3:04:23 PM RRABSKA

STATE PROJECT NUMBER

1450-16-70



ELEVATION

STAGE 2
(NORTH ABUTMENT LOOKING NORTH)

BILL OF BARS (COATED) 965 LBS.

	MARK	NO. REQ'D.	LENGTH	BENT	LOCATION
✱	D501	56	3-6	X	PAVING BLOCK - DOWEL - VERT.
	D502	21	8-0		PAVING BLOCK- HORIZ.
✱	D503	4	3-8	X	PAVING BLOCK @ GUTTER - DOWEL - VERT.
	D504	2	7-3		PAVING BLOCK @ GUTTER - HORIZ.
✱	D505	12	4-3	X	PAVING BLOCK @ SIDEWALK - DOWEL - VERT.
	D506	2	9-8	X	PAVING BLOCK @ SIDEWALK - HORIZ.
✱	D607	38	4-11	X	WING 3 TOP - DOWEL - VERT.
	D608	2	21-10		WING 3 TOP - HORIZ.
✱	D509	26	4-1	X	PAVING BLOCK @ MEDIAN - DOWEL - VERT.
	D510	2	13-0		PAVING BLOCK @ MEDIAN - HORIZ.

DIMENSIONS IN BENDING DETAILS ARE OUT TO OUT OF BAR.
EPOXY COAT ALL BAR STEEL REINFORCEMENT.

LEGEND

F.F.- FRONT FACE

B.F.- BACK FACE

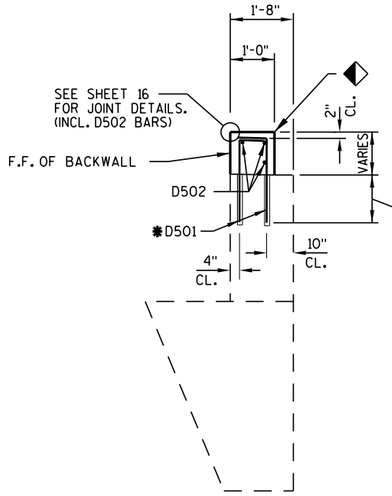
CL. - CLEAR

◯ - INDICATES WING NUMBER.

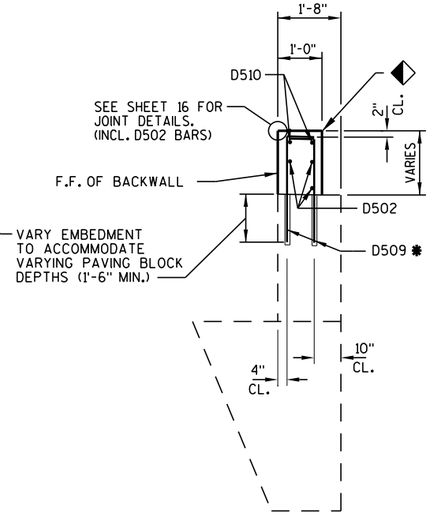
◆ - POUR PAVING BLOCK & NEW WING TOPS AFTER DECK IS IN PLACE.

✱ - MASONRY ANCHORS TYPE L NO. 5 BARS SHALL DEVELOP A MININUM PULLOUT CAPACITY OF 19 KIPS. EMBED BAR 1'-6" MIN. MASONRY ANCHORS TYPE L NO. 6 BARS SHALL DEVELOP A MINIMUM PULLOUT CAPACITY OF 26 KIPS. EMBED BAR 1'-10" MIN. TURN 10" HORIZONTAL LEG ON BARS D501 AND D509 AS NECESSARY TO FIT.

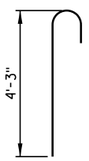
⊕ - ELEVATIONS GIVEN AT F.F. OF BACKWALL



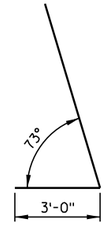
SECTION J-J



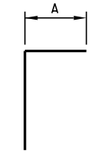
SECTION K-K



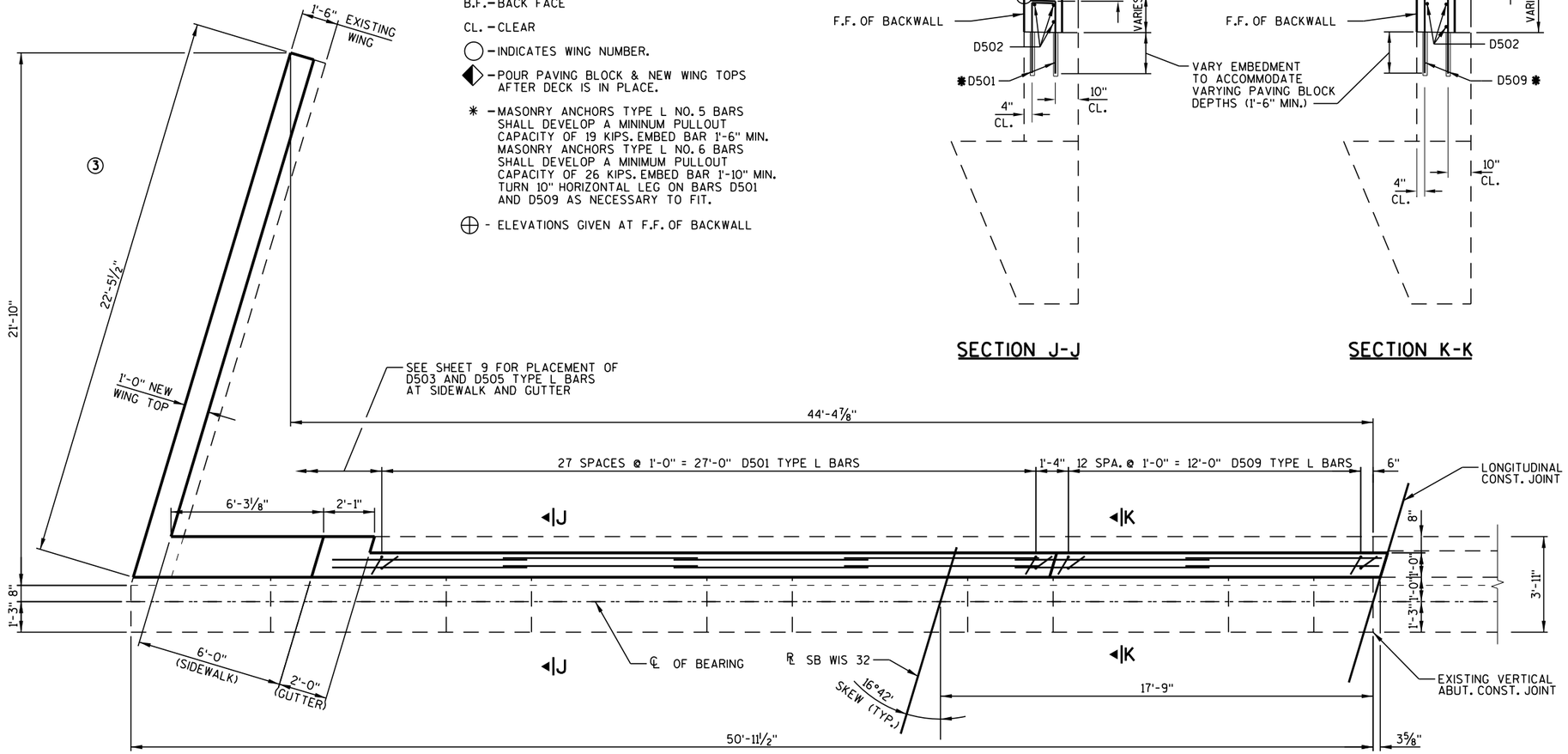
D607
STANDARD 180° HOOK



D506



BAR MARK	A
D501	10"
D503	1'-2"
D505	1'-2"
D509	10"



PLAN

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-45-45 REHAB

DRAWN BY RLR | PLANS CK'D. LJM

STAGE 2 CONSTRUCTION NORTH ABUTMENT

SHEET R 248 OF 18

FILE= B-45-45-08.DGN
DATE= 4/8/2013

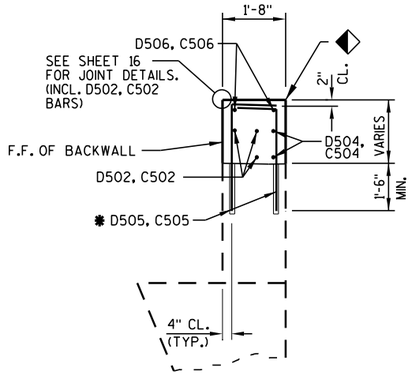
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B-45-45-08_abut.dgn 4/8/2013 3:04:24 PM RRABSKA

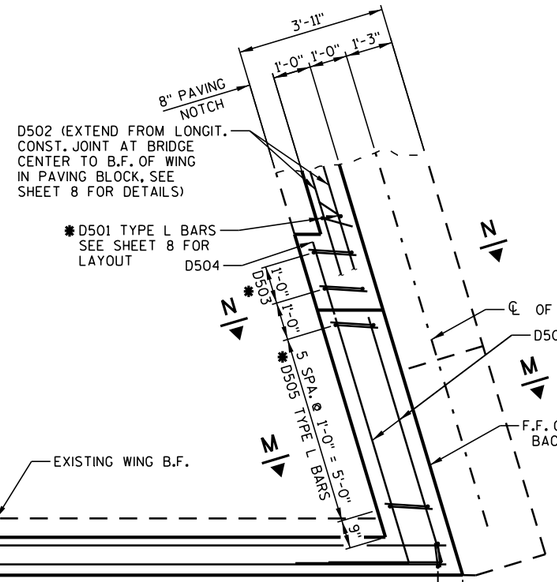
STATE PROJECT NUMBER

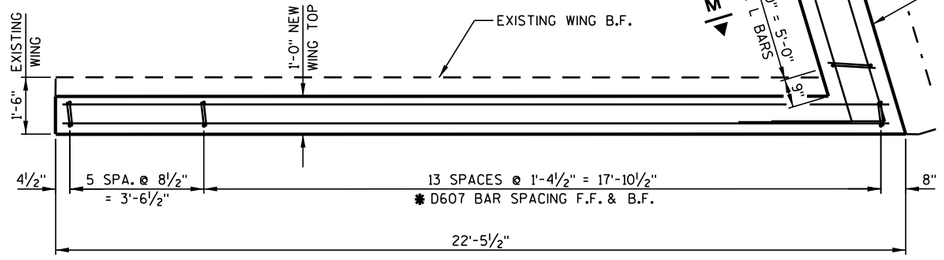
1450-16-70



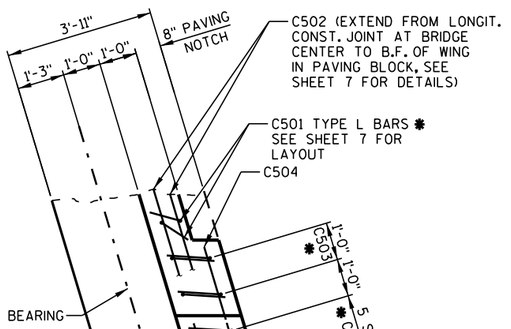
SECTION M-M

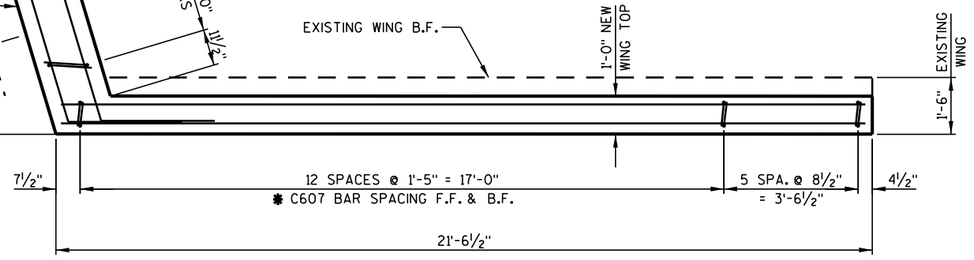
(WING 3 SHOWN - WING 2 SIMILAR)



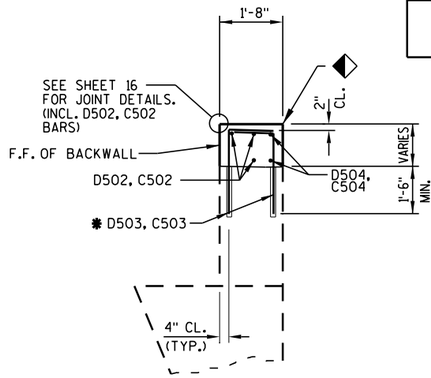


PLAN - WING 3



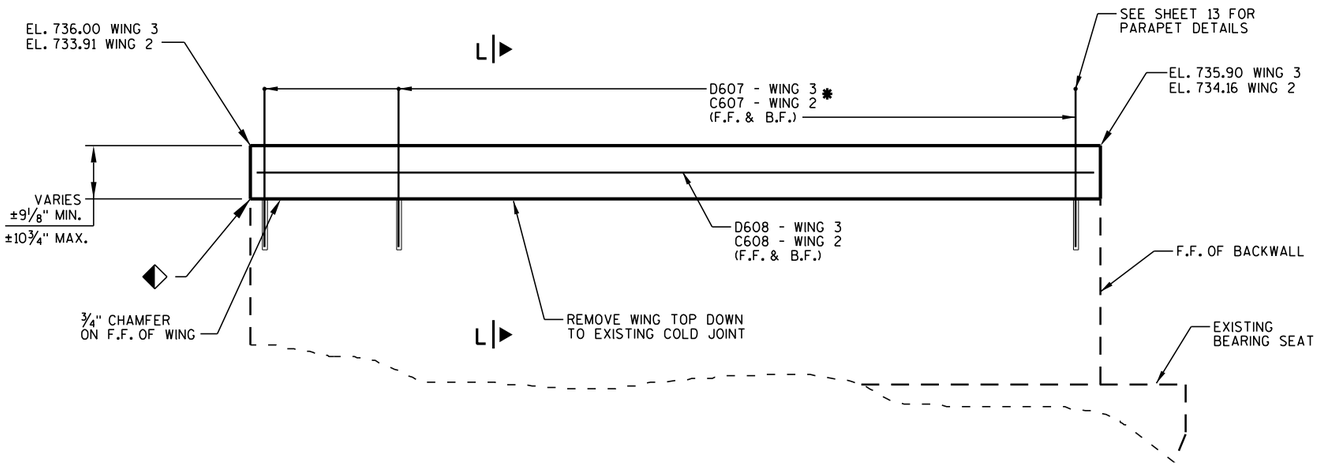


PLAN - WING 2



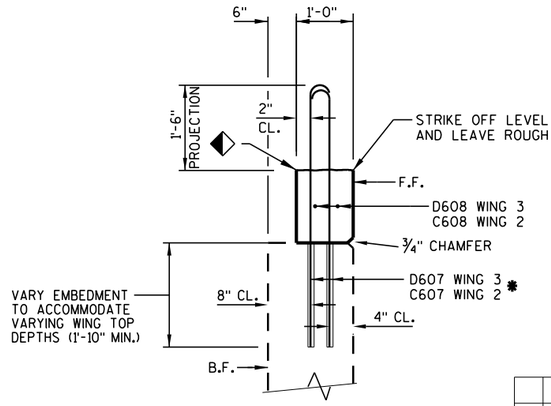
SECTION N-N

(WING 3 SHOWN - WING 2 SIMILAR)



ELEVATION - TOP OF WINGS

(WING 3 SHOWN - WING 2 SIMILAR)



SEE SHEET 7 FOR LEGEND OF
◆ F.F. ✱ B.F. CL.

SECTION L-L THRU WING TOP

(WING 3 SHOWN - WING 2 SIMILAR)

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-45-45 REHAB

DRAWN BY RLR | PLANS CK'D. LJM

STAGE 2 CONST. ABUTMENT & WING DETAILS

SHEET 9 OF 18
249

FILE= B-45-45-09.dgn
DATE= 4/8/2013

8

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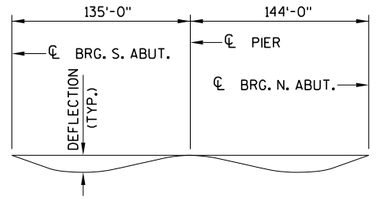
B-45-45-09_STG2abutDET.dgn 4/8/2013 3:04:25 PM RRABSKA

STATE PROJECT NUMBER

1450-16-70

TOP OF SLAB ELEVATIONS

	LOCATION	S. ABUT.	1/10	2/10	3/10	4/10	5/10	6/10	7/10	8/10	9/10	PIER 1	1/10	2/10	3/10	4/10	5/10	6/10	7/10	8/10	9/10	N. ABUT.
**	WEST EDGE OF SLAB	733.49	733.63	733.76	733.88	733.99	734.09	734.19	734.27	734.34	734.40	734.47	734.54	734.62	734.69	734.76	734.83	734.90	734.98	735.05	735.12	735.19
	C/L GIRDER 1	733.53	733.67	733.80	733.92	734.03	734.13	734.22	734.30	734.37	734.44	734.50	734.58	734.65	734.72	734.79	734.86	734.94	735.01	735.08	735.15	735.22
	C/L GIRDER 2	733.71	733.85	733.98	734.10	734.21	734.30	734.39	734.47	734.54	734.61	734.67	734.75	734.82	734.89	734.96	735.03	735.11	735.18	735.25	735.32	735.39
	C/L GIRDER 3	733.90	734.03	734.16	734.28	734.38	734.48	734.56	734.64	734.71	734.77	734.84	734.91	734.99	735.06	735.13	735.20	735.27	735.35	735.42	735.49	735.56
	R/L SB WIS 32	734.03	734.17	734.29	734.41	734.51	734.61	734.69	734.76	734.83	734.90	734.97	735.04	735.11	735.18	735.25	735.33	735.40	735.47	735.54	735.61	735.69
	C/L GIRDER 4	734.08	734.22	734.34	734.46	734.56	734.65	734.74	734.81	734.88	734.94	735.01	735.08	735.16	735.23	735.30	735.37	735.44	735.52	735.59	735.66	735.73
	C/L GIRDER 5	734.27	734.40	734.52	734.63	734.74	734.83	734.91	734.98	735.05	735.11	735.18	735.25	735.32	735.40	735.47	735.54	735.61	735.68	735.76	735.83	735.90
	C/L WIS 32	734.34	734.47	734.59	734.70	734.80	734.89	734.97	735.04	735.11	735.18	735.25	735.32	735.39	735.46	735.53	735.61	735.68	735.75	735.82	735.89	735.97
	C/L GIRDER 6	734.29	734.42	734.54	734.65	734.75	734.84	734.92	734.99	735.06	735.13	735.19	735.26	735.34	735.41	735.48	735.55	735.62	735.70	735.77	735.84	735.91
	C/L GIRDER 7	734.17	734.30	734.42	734.52	734.62	734.71	734.78	734.85	734.92	734.99	735.05	735.13	735.20	735.27	735.34	735.41	735.49	735.56	735.63	735.70	735.77
	R/L SB WIS 32	734.14	734.26	734.38	734.49	734.58	734.67	734.75	734.81	734.88	734.95	735.02	735.09	735.16	735.23	735.31	735.38	735.45	735.52	735.59	735.67	735.74
	C/L GIRDER 8	734.05	734.17	734.29	734.39	734.49	734.57	734.65	734.71	734.78	734.85	734.92	734.99	735.06	735.13	735.20	735.28	735.35	735.42	735.49	735.56	735.64
	C/L GIRDER 9	733.92	734.05	734.16	734.26	734.35	734.44	734.51	734.57	734.64	734.71	734.78	734.85	734.92	734.99	735.07	735.14	735.21	735.28	735.35	735.43	735.50
	C/L GIRDER 10	733.80	733.92	734.03	734.13	734.22	734.30	734.37	734.44	734.50	734.57	734.64	734.71	734.78	734.86	734.93	735.00	735.07	735.14	735.22	735.29	735.36
**	EAST EDGE OF SLAB	733.77	733.89	734.00	734.10	734.19	734.27	734.34	734.41	734.48	734.54	734.61	734.68	734.76	734.83	734.90	734.97	735.04	735.12	735.19	735.26	735.33



DEFLECTION DIAGRAM

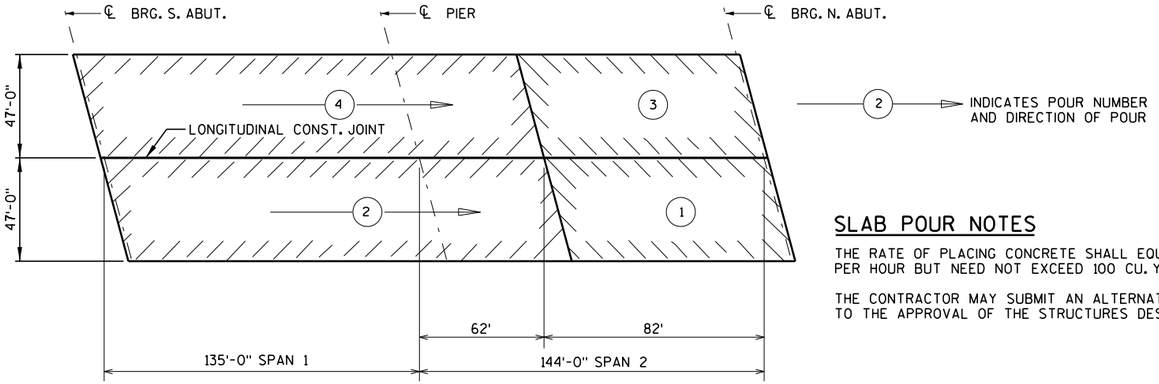
(DEFLECTION DUE TO CONCRETE)

DEFLECTION DUE TO CONCRETE

LOCATION	S. ABUT.	1/10	2/10	3/10	4/10	5/10	6/10	7/10	8/10	9/10	PIER 1	1/10	2/10	3/10	4/10	5/10	6/10	7/10	8/10	9/10	N. ABUT.
INTERIOR GIRDER	0.0	0.8	1.5	1.9	2.0	1.8	1.4	0.9	0.4	0.1	0.0	0.2	0.8	1.4	2.1	2.5	2.7	2.5	1.9	1.1	0.0

NOTE: ALL DEFLECTIONS ARE MEASURED IN INCHES. TENTH POINTS FOR ELEVATIONS AND DEFLECTIONS AT GIRDER LINES ARE MEASURED ALONG THE GIRDERS BETWEEN ℄ OF SUBSTRUCTURE UNITS. TENTH POINTS FOR EDGE OF SLAB ELEVATIONS ARE MEASURED ALONG THE EDGE OF SLAB.

** - EDGE OF SLAB ELEVATIONS ASSUME THE NORMAL CROSS SLOPE (1.5%) IS CARRIED OUT THRU THE CONSTRUCTION JOINT TO THE EDGE OF SLAB.



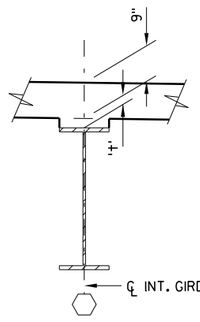
SLAB POURING SEQUENCE

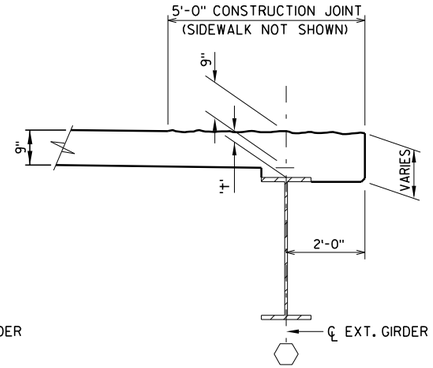
SLAB POUR NOTES

THE RATE OF PLACING CONCRETE SHALL EQUAL OR EXCEED 1/2 SPAN LENGTH PER HOUR BUT NEED NOT EXCEED 100 CU. YDS. PER HOUR.

THE CONTRACTOR MAY SUBMIT AN ALTERNATE POURING SEQUENCE SUBJECT TO THE APPROVAL OF THE STRUCTURES DESIGN SECTION.

SECTION THRU TRANSVERSE JOINT





SLAB FORMING DETAILS

TO DETERMINE '†': ELEVATIONS OF THE TOP FLANGES, TOP OF SPLICE PLATES, OR TOP OF COVER PLATES, WHICHEVER APPLIES, SHALL BE TAKEN AT ℄ OF BEARINGS, AND AT 1/10TH POINTS OF EACH SPAN AFTER THE EXISTING SLAB IS REMOVED BUT PRIOR TO INSTALLATION OF ANY SLAB FORMING. THEN FOLLOW THIS PROCESS.

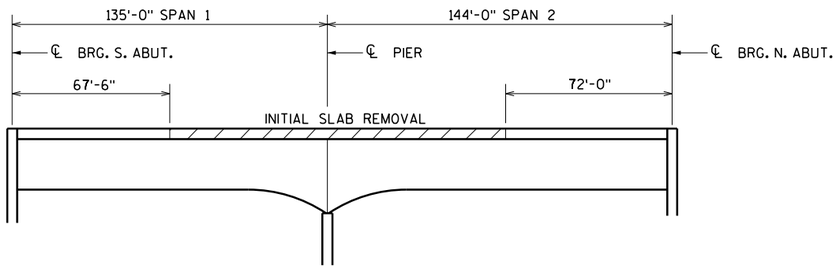
▼ TOP OF SLAB ELEV. AT FINAL GRADE
- TOP OF STEEL ELEV.
+ DEFLECTION (FROM TABLE ABOVE)
- SLAB THICKNESS (9")

= HAUNCH THICKNESS '†'.

▼ CONVERT DIFFERENCE IN ELEVATIONS TO INCHES FOR CONSISTENCY OF UNITS.

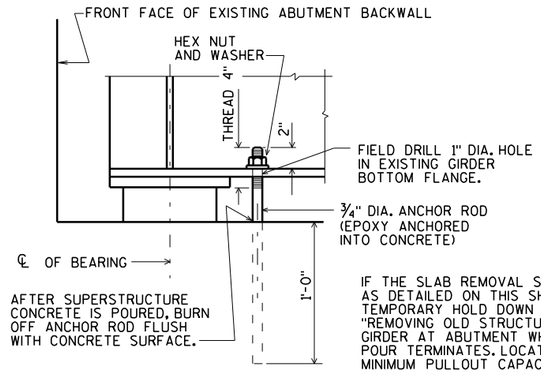
NOTE:

SEE GENERAL NOTES, SHEET 3, FOR THE AVERAGE HAUNCH ("†") USED IN THE QUANTITY "CONCRETE MASONRY BRIDGES".



SLAB REMOVAL SEQUENCE

REMOVE THE SEGMENT OF SLAB BETWEEN THE MID-POINT OF EACH SPAN PRIOR TO REMOVAL OF THE SLAB ON EITHER END OF THE BRIDGE.



TEMPORARY HOLD DOWN DEVICE

IF THE SLAB REMOVAL SEQUENCE OR SLAB POURING SEQUENCE AS DETAILED ON THIS SHEET IS NOT FOLLOWED, PROVIDE TEMPORARY HOLD DOWN DEVICES AS PART OF THE BID ITEM "REMOVING OLD STRUCTURE." PLACE ONE ANCHOR ROD PER GIRDER AT ABUTMENT WHERE SLAB REMOVAL BEGINS OR SLAB POUR TERMINATES. LOCATE 4" (NORMAL) OFF ℄ OF GIRDER. MINIMUM PULLOUT CAPACITY OF 27 KIPS.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-45-45 REHAB

DRAWN BY RLR | PLANS CK'D. LJM

SLAB FORMING DETAILS

SHEET 10 OF 18
250

FILE= B-45-45_10.DGN
DATE= 4/8/2013

8

8

STATE PROJECT NUMBER

1450-16-70

N

℄ BEARING S. ABUT.

16° 42' SKEW (TYP.)

℄ PIER

℄ BEARING N. ABUT.

EDGE OF SLAB

EDGE OF SIDEWALK

S407

S609

3'-1" S609 LAP

46'-10" S609

43'-9" S609

S408

S408

S410

SHOWING TOP BAR STEEL REINFORCEMENT

℄ SB STH 32

41SB+00

42SB+00

43SB+00

44SB+00

S411

S505

LONGITUDINAL CONST. JOINT IN MEDIAN

30'-0"

17'-0"

17'-0"

30'-0"

SHOWING BOTTOM BAR STEEL REINFORCEMENT

℄ NB STH 32

41NB+00

42NB+00

43NB+00

44NB+00

S505

1'-8" TYP. LAP TOP & BOTTOM

B.F. OF ABUTMENT

S406

EDGE OF SIDEWALK

FRONT FACE OF ABUTMENT BACKWALL ◭

EDGE OF SLAB

FRONT FACE OF ABUTMENT BACKWALL ◭

1'-0½" | 135'-0" SPAN 1 | 144'-0" SPAN 2 | 1'-0½"

◭ — FOR JOINT OPENING AND EXPANSION JOINT DETAILS, SEE SHEET 16.

PLAN

(MEDIAN NOT SHOWN FOR CLARITY)

BEARING NOTES

REMOVE EXISTING EXPANSION BEARINGS. BURN OFF EXISTING ANCHOR BOLTS AND REMOVE TO 2" BELOW CONCRETE BEARING SURFACE. FILL VOID FLUSH WITH CONCRETE BEARING SURFACE WITH NON-SHRINK GROUT AND GRIND SMOOTH.

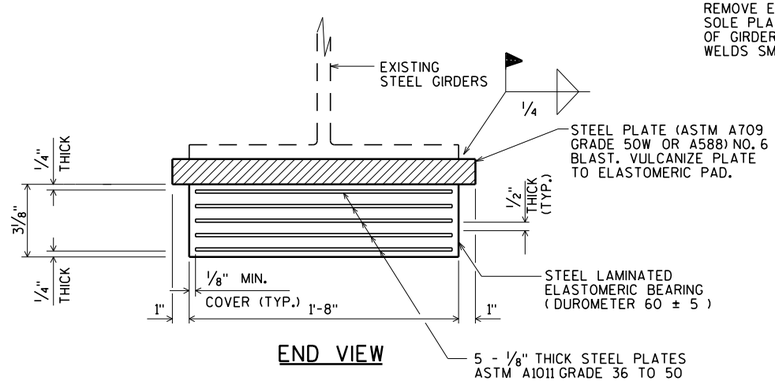
GRIND OFF THE EXISTING WELD THAT ATTACHED THE EXISTING TOP PLATE TO THE EXISTING BOTTOM FLANGE. GRIND AFFECTED AREAS SMOOTH.

ALL MATERIAL USED FOR BEARINGS SHALL BE PAID FOR AT THE UNIT PRICE BID FOR "BEARING REPLACEMENT STRUCTURE B-45-45 REHAB".

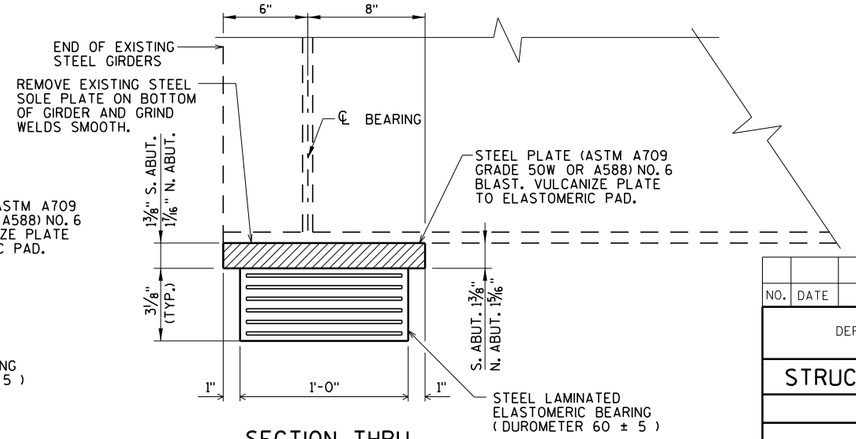
ALL STRUCTURAL STEEL BEARING PLATES SHALL BE FLAT ROLLED WITH ALL SURFACES SMOOTH AND FREE FROM WARP AND ALL EDGES SMOOTH, STRAIGHT AND VERTICAL.

ALL PLATE CUTS SHALL BE MACHINE OR MACHINE FLAME CUTS.

COMPRESSION LOAD AND ADHESION TESTS WILL BE WAIVED.



END VIEW



SECTION THRU BEARING AT ABUTMENTS

ABUTMENT BEARING DETAILS

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-45-45 REHAB

DRAWN BY RLR | PLANS CK'D. LJM

SUPERSTRUCTURE & BEARINGS

SHEET 11 OF 18
251

FILE= B-45-45-11.DGN
DATE= 4/8/2013

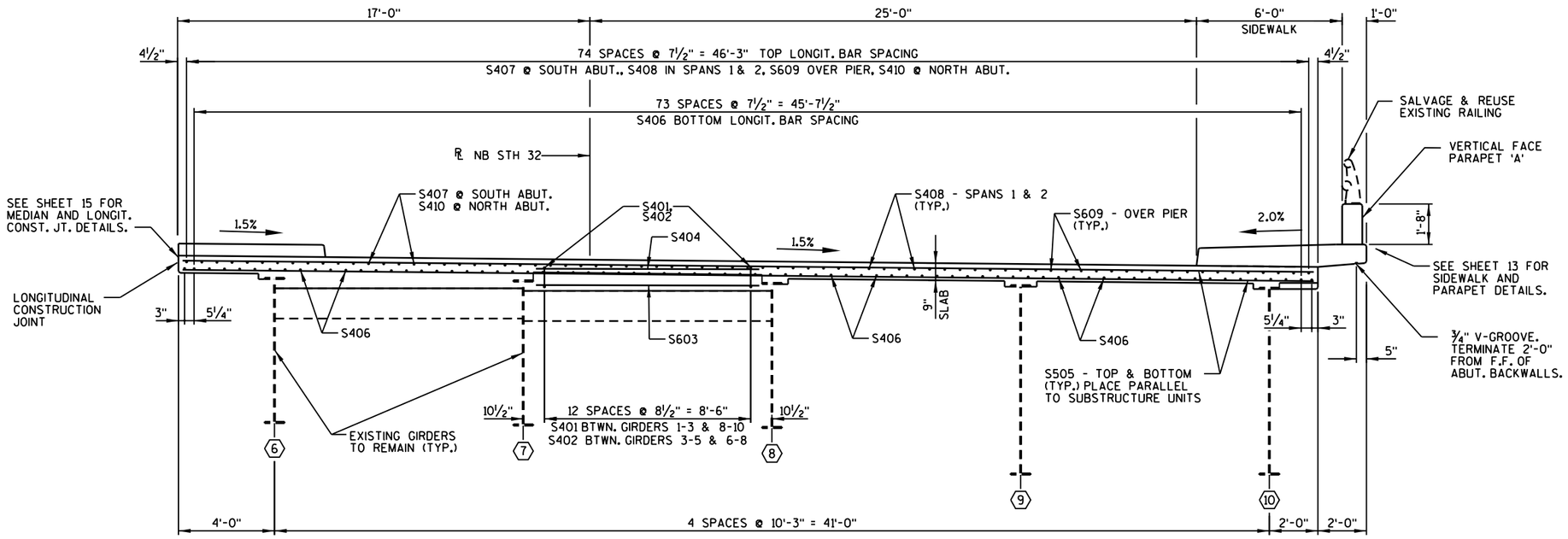
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B-45-45-11 SUPER.dgn 4/8/2013 3:04:27 PM RRABSKA

STATE PROJECT NUMBER

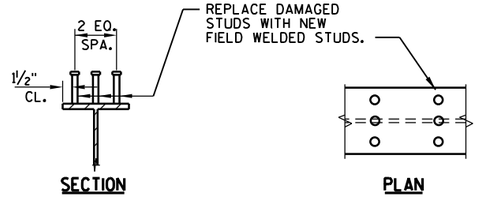
1450-16-70



AT ABUTMENTS IN SPAN AT PIER

CROSS SECTION THRU BRIDGE

(LOOKING NORTH)
STAGE 1 SHOWN - STAGE 2 SIMILAR



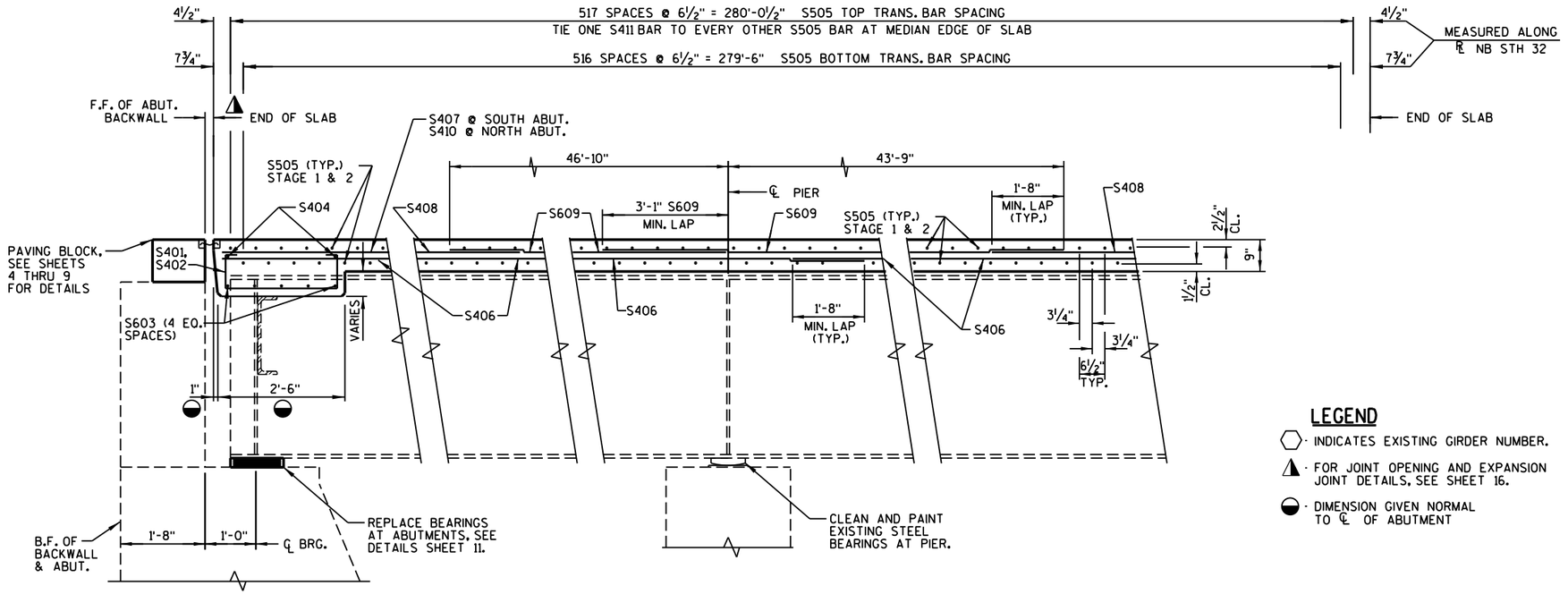
SHEAR CONNECTOR DETAILS & NOTES

EXISTING SHEAR CONNECTORS, IF DAMAGED, SHALL BE REMOVED AND REPLACED WITH FIELD WELDED ⅞" ϕ x 6" LONG STUDS ON GIRDERS 1-3 & 8-10 AND ⅞" ϕ x 7" LONG STUDS ON GIRDERS 4-7.

SHEAR CONNECTOR LOCATIONS MAY BE ADJUSTED UP TO 3".

REPLACEMENT OF DAMAGED SHEAR CONNECTORS IS INCLUDED IN THE BID ITEMS WELDED STUD SHEAR CONNECTORS ⅞x6-INCH AND WELDED STUD SHEAR CONNECTORS ⅞x7-INCH.

THE QUANTITY NOTED IS AN ESTIMATE.

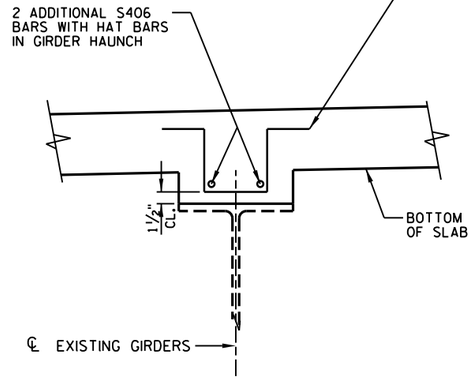


PART LONGITUDINAL SECTION

LEGEND

- ⬡ · INDICATES EXISTING GIRDER NUMBER.
- ◭ · FOR JOINT OPENING AND EXPANSION JOINT DETAILS, SEE SHEET 16.
- ◒ · DIMENSION GIVEN NORMAL TO ℄ OF ABUTMENT

S412 HAT BARS - GIRDERS 1-3 & 8-10.
S413 HAT BARS - GIRDERS 4-7.
PLACE HAT BARS AT 1'-0" MAXIMUM SPACING IN AREAS WHERE SHEAR STUDS ARE PRESENT.



HAT BAR DETAIL

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-45-45 REHAB

DRAWN BY RLR | PLANS CK'D. LJM

SUPERSTRUCTURE SECTIONS & DETAILS

SHEET 12 OF 18
252

FILE= B-45-45_12.DGN
DATE= 4/10/2013

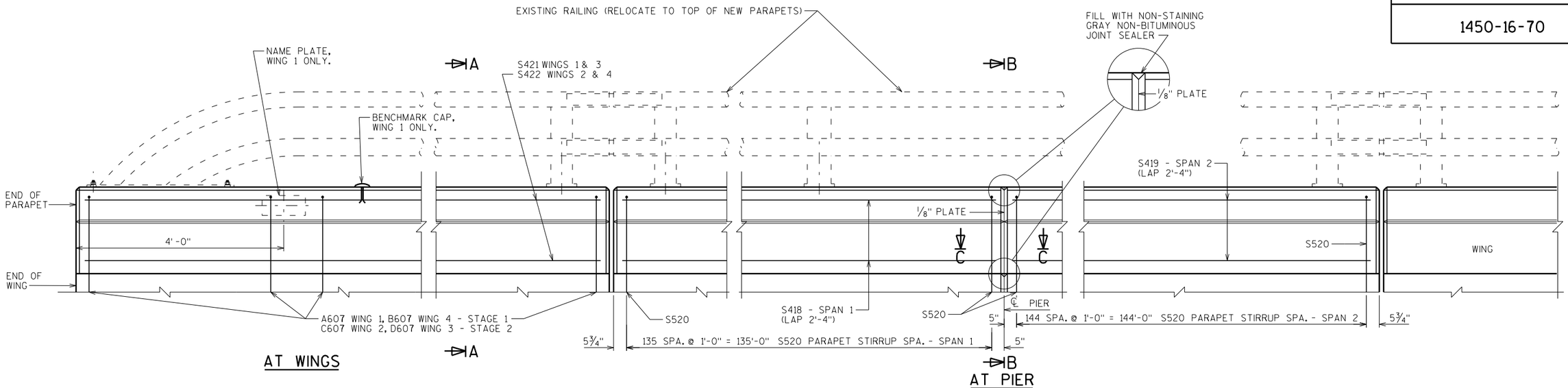
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B-45-45-12_SUPER-X.dgn 4/10/2013 8:27:12 AM RRABSKA

STATE PROJECT NUMBER

1450-16-70

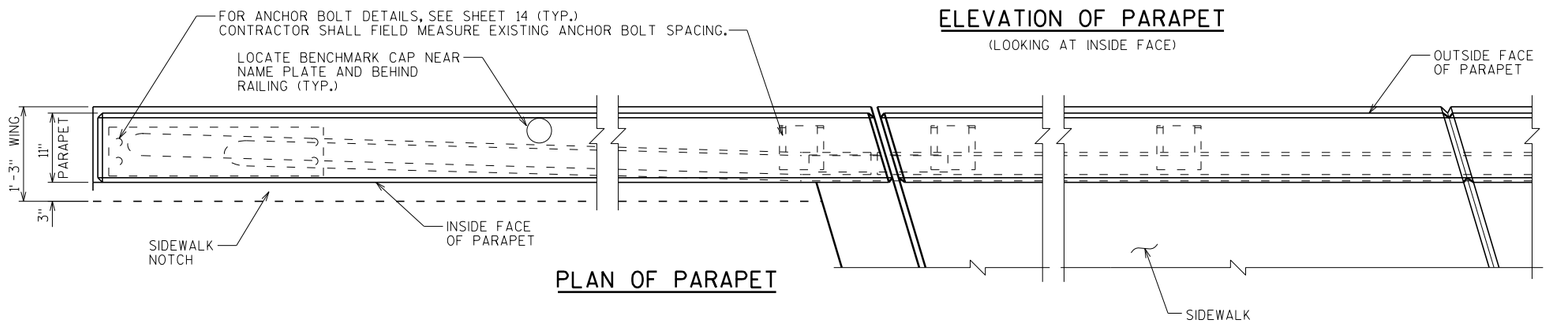


AT WINGS

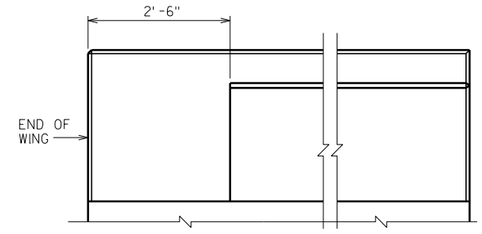
AT PIER

ELEVATION OF PARAPET

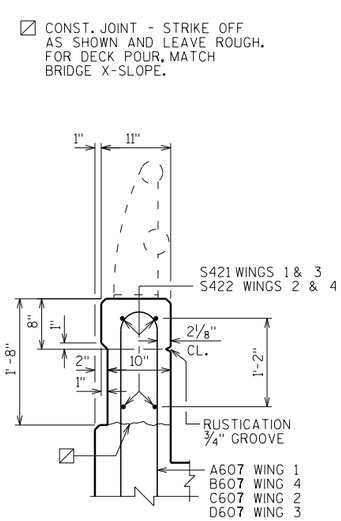
(LOOKING AT INSIDE FACE)



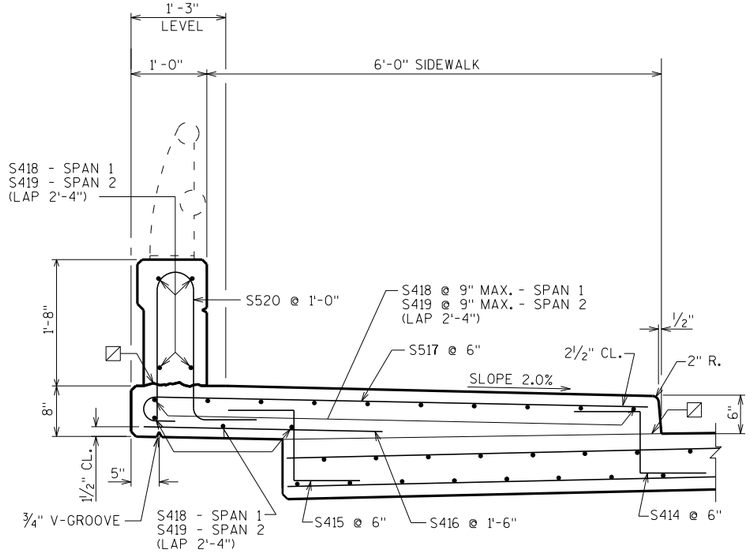
PLAN OF PARAPET



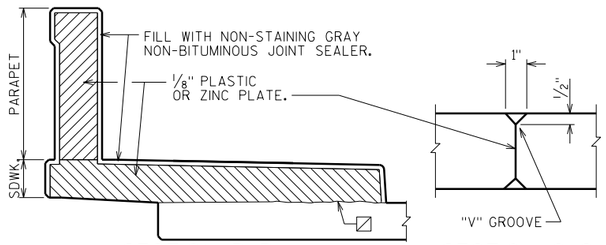
OUTSIDE FACE OF PARAPET



SECTION A-A



SECTION THRU SIDEWALK & PARAPET



SECTION B-B

(SHOWING DEFLECTION JOINT IN PARAPET AND SIDEWALK.)

SECTION C-C

WHEN PARAPETS ARE POURED CONTINUOUSLY FROM END TO END, THEY SHALL BE SEPARATED AT THE DEFLECTION JOINTS BY A PIECE OF 1/8" ZINC OR PLASTIC PLATE CUT AS SHOWN IN SECTION B-B BY SHADED AREA. IF CONSTRUCTION JOINTS IN PARAPETS ARE USED AT THE DEFLECTION JOINTS, ONE SIDE OF JOINT SHALL BE COATED WITH AN APPROVED LIQUID BOND BREAKER AND PLATE SEPARATORS MAY BE OMITTED.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-45-45 REHAB

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VERTICAL FACE PARAPET 'A' & SIDEWALK DETAILS

SHEET 13 OF 18
253

FILE= B-45-45_13.DGN
DATE= 4/8/2013

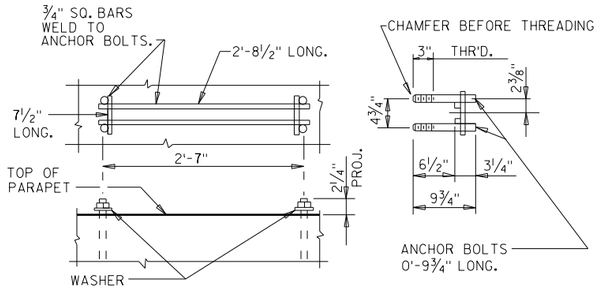
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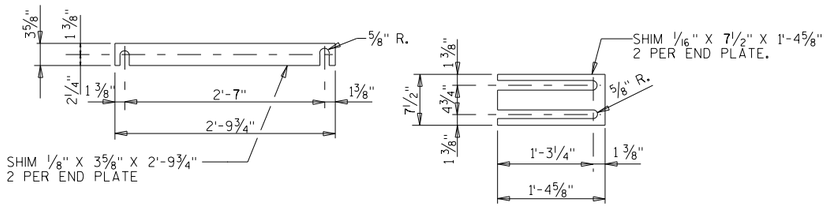
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STATE PROJECT NUMBER

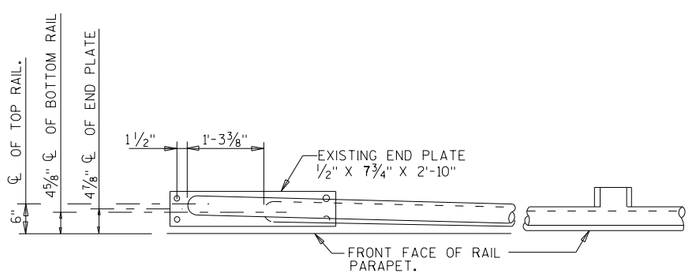
1450-16-70



ANCHOR BOLTS AT END PLATE

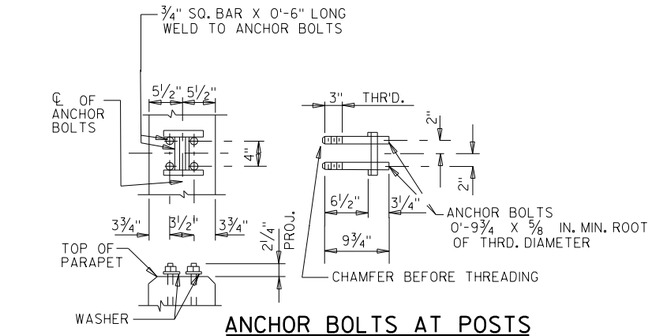


END PLATE SHIM DETAILS

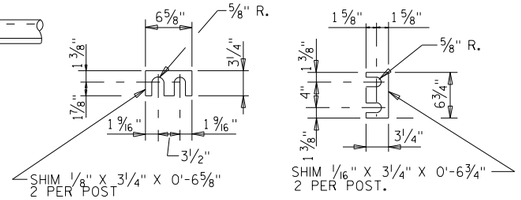


PLAN

DETAIL OF RAIL BEND AT ABUTMENTS



ANCHOR BOLTS AT POSTS



POST SHIM DETAILS

GENERAL NOTES

ALL ITEMS SHOWN SHALL BE INCLUDED IN THE BID ITEM "REMOVING AND RESETTING TUBULAR RAILING STRUCTURE B-45-45 REHAB".

THE SHANK AND ROOT DIAMETER OF THREAD FOR ANCHOR BOLTS SHALL BE A MIN. OF ⅝".

ANCHOR BOLTS, NUTS AND WASHERS SHALL BE STAINLESS STEEL.

SHIMS SHALL CONFORM TO SAME MATERIAL AS POSTS.

RAILING POSTS SHALL BE SET NORMAL TO GRADE LINE.

SHIMS SHALL BE USED UNDER POSTS AND END PLATES WHERE REQ'D. FOR ALIGNMENT.

FILL ALL EXPOSED OPENINGS BETWEEN SHIMS AND POST ANCHOR BOLT HOLES AND SEAL AROUND PERIMETER OF POST BASE PLATE WITH NON-STAINING GRAY NON-BITUMINOUS JOINT SEALER.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-45-45 REHAB

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TUBULAR RAILING TYPE 'H' ANCHOR BOLT DETAILS

SHEET 14 OF 18
254

FILE= B-45-45-14.DGN
DATE= 4/8/2013

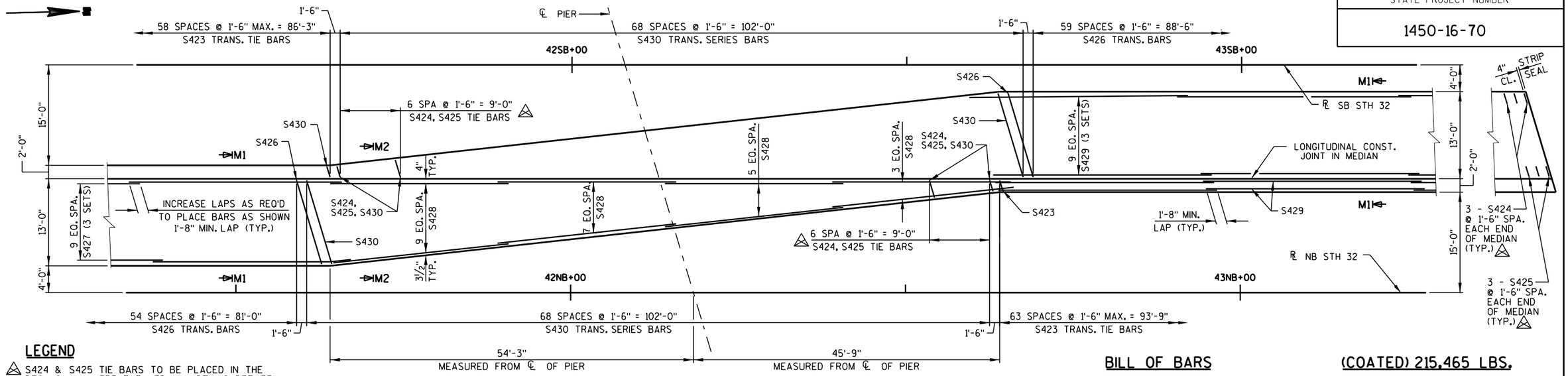
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STATE PROJECT NUMBER

1450-16-70



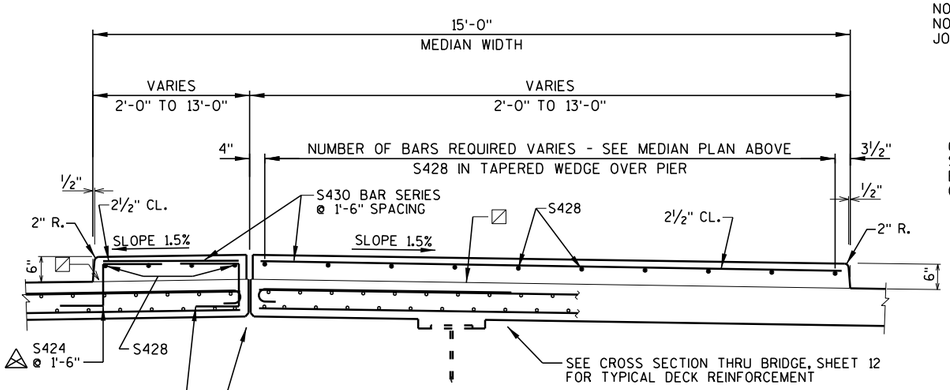
LEGEND

△ S424 & S425 TIE BARS TO BE PLACED IN THE DECK ONLY WHERE THE MEDIAN WIDTH IS BETWEEN 2'-0" AND 3'-0". TIE BARS ARE NOT REQUIRED FOR MEDIAN WIDTHS GREATER THAN 3'-0". TIE 3 - S424 BARS AND 3 - S425 BARS TO THE LAST 3 - S429 BARS IN 13'-0" SECTION OF MEDIAN.

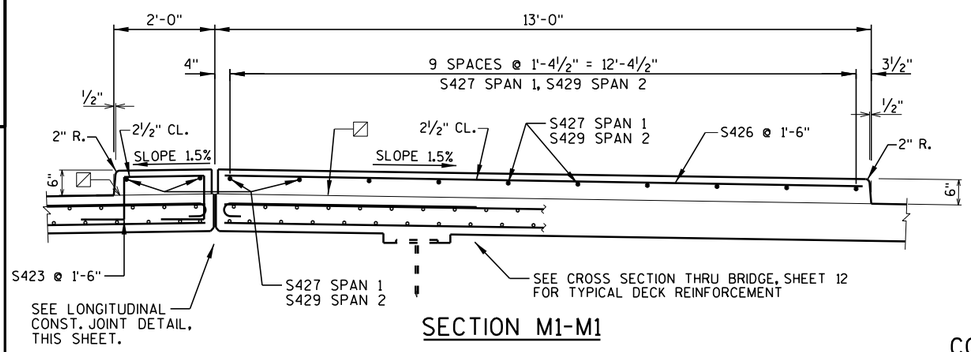
▨ CONST. JOINT - STRIKE OFF AS SHOWN AND LEAVE ROUGH. FOR DECK POUR, MATCH BRIDGE X-SLOPE.

NOTE:

PROVIDE PROTECTION FOR MEDIAN TIE BARS S423 THRU S425 UNTIL MEDIAN CONCRETE IS POURED.

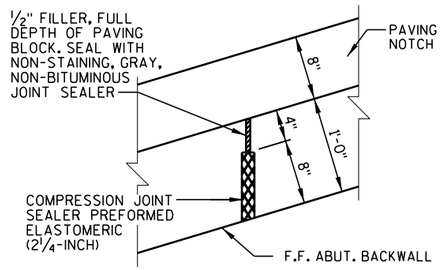


SECTION M2-M2

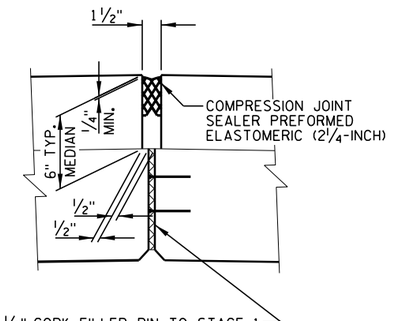


SECTION M1-M1

MEDIAN PLAN

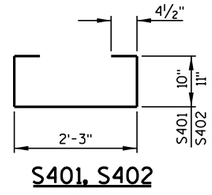


PLAN - LONGITUDINAL JOINT AT PAVING BLOCK



½" CORK FILLER, PIN TO STAGE 1 EDGE OF DECK WITH 16D NAILS @ 1'-0" SPACING (FILLER MUST BE COMPRESSIBLE TO 50% OF ITS ORIGINAL THICKNESS WITHOUT EXTRUSION). PROVIDE 2" WIDE VERTICAL "DRAINAGE GAP" IN CORK FILLER 5'-0" OFF THE SOUTH ABUTMENT AND SOUTH SIDE OF PIER. SEAL TOP AND VERTICAL "DRAINAGE GAP" SIDES OF CORK FILLER WITH NON-STAINING, GRAY, NON-BITUMINOUS JOINT SEALER.

LONGITUDINAL CONSTRUCTION JOINT DETAIL

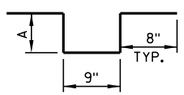


S401, S402

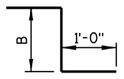
(STIRRUP)

S411

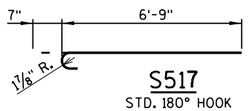
STD. 180° HOOK



MARK	A
S412	6"
S413	7"

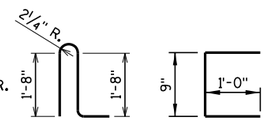


MARK	B
S414	8"
S415	10"
S424	9"

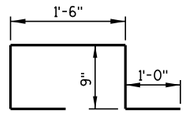


S517

STD. 180° HOOK



S520 S425



S423

BILL OF BARS (COATED) 215,465 LBS.

MARK	NO. REQ'D	LENGTH	BENT	BAR SERIES	LOCATION
S401	104	4-4	X		ABUT. DIAPH. BTWN. GIRDERS 1-3 & 8-10 - STIRRUP
S402	104	4-6	X		ABUT. DIAPH. BTWN. GIRDERS 3-5 & 6-8 - STIRRUP
S603	80	9-3			ABUT. DIAPH. BETWEEN GIRDERS - TRANS.
S404	64	9-3			ABUT. DIAPH. BETWEEN GIRDERS - TRANS.
S505	2070	48-8			SLAB - TOP & BOTTOM - TRANS.
S406	1376	36-7			SLAB BOTTOM - LONGIT.
S407	150	14-0			SLAB TOP @ SOUTH ABUT. - LONGIT.
S408	600	40-0			SLAB TOP - SPANS 1 & 2 - LONGIT.
S609	300	46-10			SLAB TOP OVER PIERS - LONGIT.
S410	150	26-0			SLAB TOP @ NORTH ABUT. - LONGIT.
S411	518	5-6	X		SLAB TOP @ EDGE UNDER MEDIAN - TRANS.
S412	1290	2-9	X		SLAB HAT BARS OVER GIRDERS 1-3 & 8-10 - VERT.
S413	860	2-11	X		SLAB HAT BARS OVER GIRDERS 4-7 - VERT.
S414	1120	2-6	X		SIDEWALK INTO SLAB - VERT.
S415	1120	2-8	X		SIDEWALK INTO SLAB - VERT.
S416	376	3-2			SIDEWALK - BOTTOM - TRANS.
S517	1120	7-4	X		SIDEWALK - TOP - TRANS.
S418	136	35-8			SIDEWALK & PARAPET - SPAN 1 - LONGIT.
S419	136	37-11			SIDEWALK & PARAPET - SPAN 2 - LONGIT.
S520	562	4-8	X		PARAPET STIRRUP - INTO SIDEWALK - VERT.
S421	8	21-10			PARAPET ON WINGS 1 & 3 - LONGIT.
S422	8	21-2			PARAPET ON WINGS 2 & 4 - LONGIT.
S423	123	4-8	X		MEDIAN TIES - 2'-0" SECTION - VERT.
S424	20	2-7	X		MEDIAN TIES - 2'-0" TO 3'-0" SECTION - VERT.
S425	20	2-7	X		MEDIAN TIES - 2'-0" TO 3'-0" SECTION - VERT.
S426	115	13-0			MEDIAN - 13'-0" SECTION - TRANS.
S427	36	31-0			MEDIAN - SPAN 1 - LONGIT.
S428	56	26-10			MEDIAN - WEDGE OVER PIER - LONGIT.
S429	36	33-3			MEDIAN - SPAN 2 - LONGIT.
S430	138	7-4		⊗	MEDIAN - WEDGE OVER PIER - TRANS.

DIMENSIONS IN BENDING DETAILS ARE OUT TO OUT OF BAR.

ALL BAR STEEL SHALL BE EPOXY COATED.

⊗ - LENGTH SHOWN FOR BAR IS AN AVERAGE AND SHOULD ONLY BE USED FOR BAR WEIGHT CALCULATIONS. SEE BAR SERIES TABLE FOR ACTUAL LENGTHS.

BAR MARK	NO. REQ'D.	LENGTH
S430	2 SERIES OF 69	1'-8" TO 13'-0"

BAR SERIES TABLE

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-45-45 REHAB

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MEDIAN AND SUPERSTRUCTURE DETAILS

SHEET 15 OF 18
255

FILE= B-45-45-15.DGN
DATE= 4/8/2013

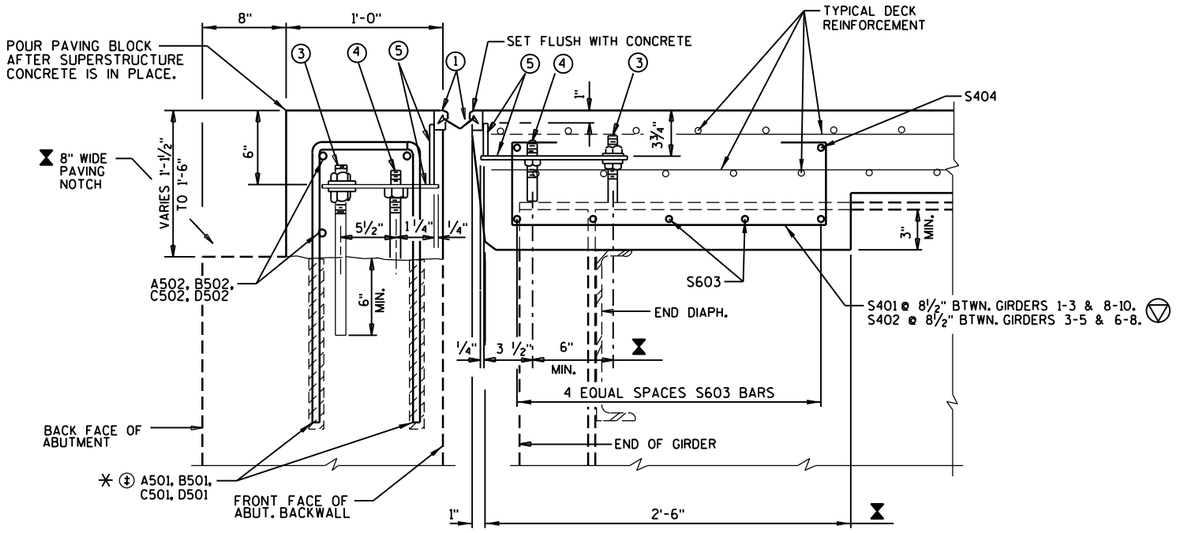
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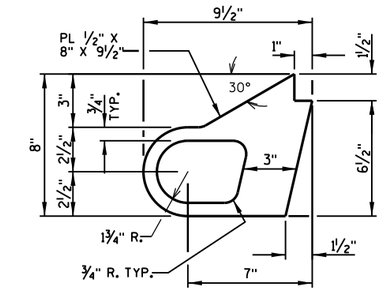
1450-16-70



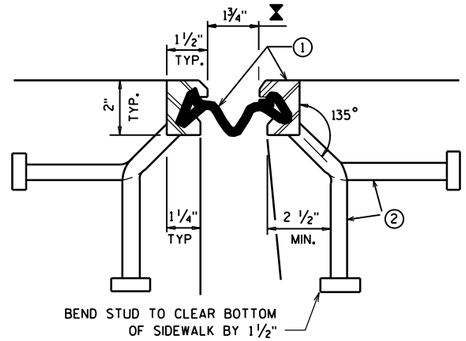
TYPICAL SECTION THRU JOINT AT ABUTMENT

LEGEND

- (‡) · REMOVE EXISTING VERTICAL REINFORCING BARS DURING REMOVAL OF PAVING BLOCK. REPLACE WITH "MASONRY ANCHORS TYPE L NO. 5 BARS" SPACED AT 1'-0".
- ✳ · MASONRY ANCHORS TYPE L NO. 5 BARS SHALL DEVELOP A MINIMUM PULLOUT CAPACITY OF 19 KIPS. EMBED BAR 1'-6" MINIMUM. ANCHOR HOLES SHALL BE 4" CLEAR MIN. TO FACE OF EXISTING CONCRETE. TURN 10" HORIZONTAL LEG OF BARS AS NECESSARY TO FIT.
- ▽ · DIMENSION IS GIVEN NORMAL TO ℄ OF GIRDER.
- ⧗ · DIMENSION IS GIVEN NORMAL TO THE ℄ OF ABUTMENT.

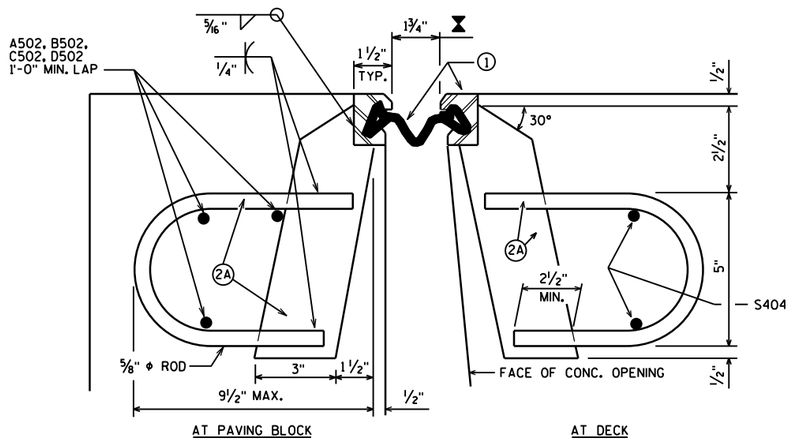


ALTERNATE STRIP SEAL ANCHOR



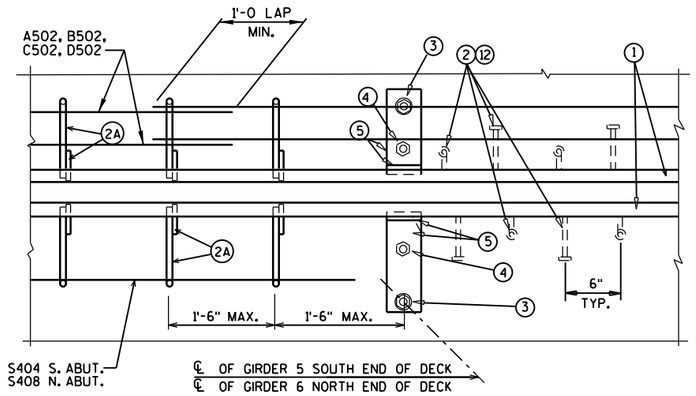
SECTION THRU JOINT

AT SIDEWALKS AND MEDIAN AND BETWEEN GIRDERS 5 & 6



SECTION THRU JOINT

TYPICAL ROADWAY TRAFFIC AREA BETWEEN SIDEWALK AND MEDIAN CURBS



PART PLAN

LEGEND

① NEOPRENE STRIP SEAL (4 - INCH) & STEEL EXTRUSIONS. SET JOINT OPENING AT 1¾". JOINT OPENING MEASURED NORMAL TO ℄ OF ABUTMENTS.

② STUDS ⅝" ø X 6⅜" LONG AT 6" ALTERNATE CENTERS. WELD TO EXTRUSIONS & BEND AS SHOWN AFTER WELDING. IN AREA OF MEDIAN, THE VERTICAL STUDS SHALL BE ⅝" ø X 4" LONG.

②A ½" THICK ANCHOR PLATE WITH ⅝"ø ROD OR ALTERNATE STRIP SEAL ANCHOR. WELD ROD TO ANCHOR PLATE, WELD ANCHOR PLATE TO NO. 1 AT 1'-6" CTRS. BETWEEN GIRDERS.

③ ¾" ø THREADED ROD WITH 2 NUTS AND PLATE WASHERS. FIELD WELD THREADED ROD TO TOP FLANGE OR ATTACH BY BOLTING THRU FLANGE. ON ABUTMENT SIDE GROUT THREADED ROD INTO FIELD DRILLED HOLES IN ABUTMENT BACKWALL AS SHOWN.

④ ¾"ø 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" ø HOLE FOR NO. 3 & 1" ø HOLE FOR NO. 4.

⑥ MEDIAN COVER PLATE ⅜" x 1'-4¾" x LIMITS SHOWN. BEND DOWN FACE OF MEDIAN WITH HOLES FOR #7. GALVANIZE PLATE.

⑦ ¾" x 1½" STAINLESS STEEL SOCKET FLAT HEAD SCREWS WITH ANTI-SEIZE LUBRICANT. PLACE IN COUNTERSUNK HOLE. RECESS 1/16" BELOW PLATE SURFACE.

⑧ ¾" ø x 4" GALV. HEX HEAD BOLT. BEND 45°.

⑨ ¾" ø x 2¼" GALV. THREADED COUPLING.

⑩ SIDEWALK COVER PLATE ⅜" x 1'-4¾" x LIMITS SHOWN. BEND DOWN FACE OF SIDEWALK WITH HOLES FOR #7. GALVANIZE PLATE AFTER SLIP-RESISTANT SURFACE IS APPLIED.

⑪ 1" x 3" SLOTTED COUNTERSUNK HOLE FOR #7. SLOT PARALLEL TO DIRECTION OF MOVEMENT.

NOTES

ONE FIELD SPLICE PERMITTED IN STEEL EXTRUSIONS PER STAGE. IF USED, DETAILS SHALL BE SUBMITTED FOR APPROVAL. NO SPLICING 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 PARAPET PLATES, ANCHOR STUDS & HARDWARE, CONNECTIONS AND FIELD DRILLING, WILL BE PAID FOR AT THE LUMP SUM PRICE BID FOR "EXPANSION DEVICE STRUCTURE B-45-45 REHAB".

ALL NEW TRANSVERSE STEEL SHALL BE PLACED PARALLEL TO THE JOINT.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-45-45 REHAB

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STRIP SEAL EXPANSION JOINT

SHEET 16 OF 18

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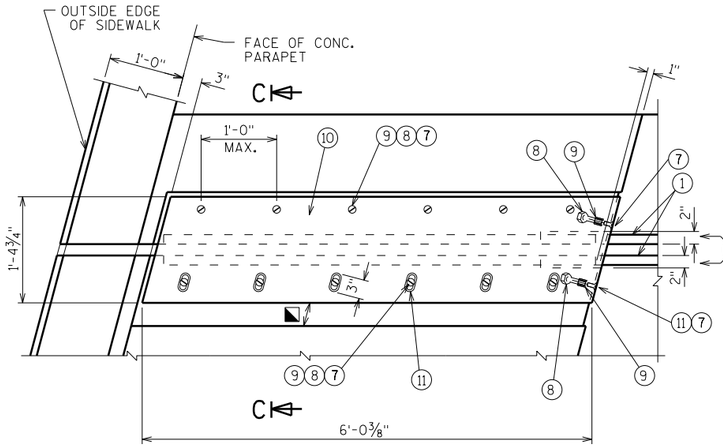
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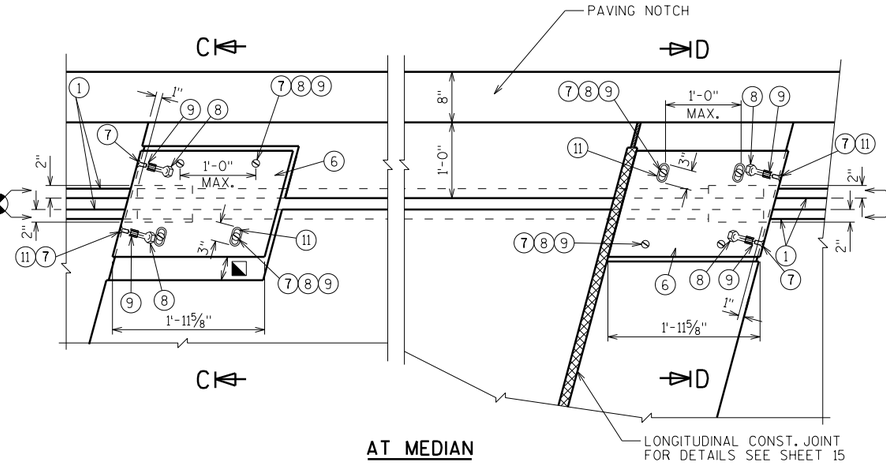
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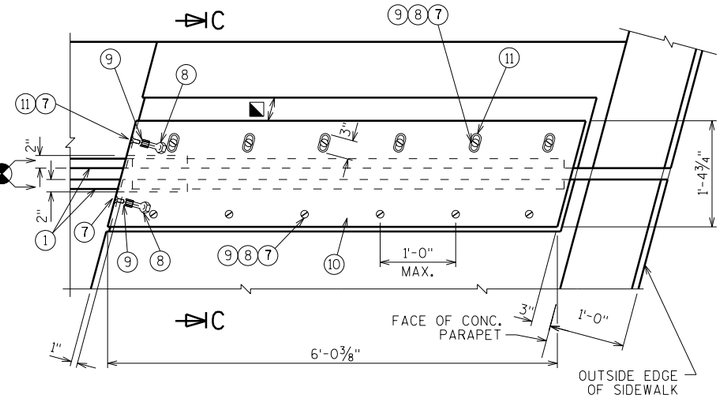
1450-16-70



AT SIDEWALK

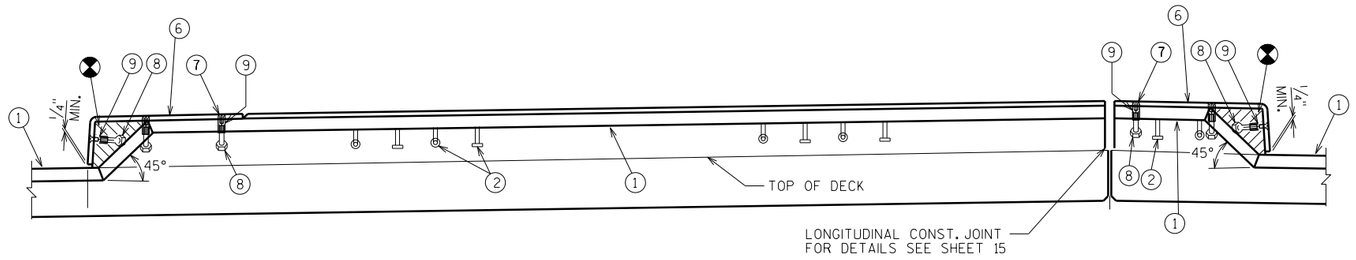


AT MEDIAN

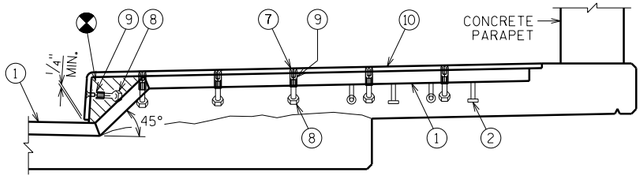


AT SIDEWALK

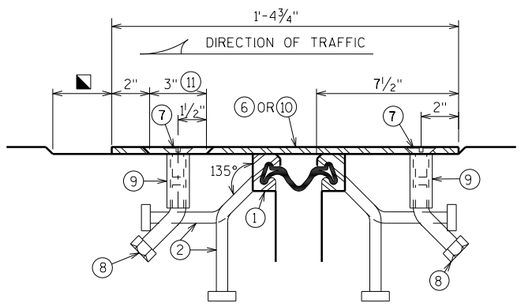
PLAN



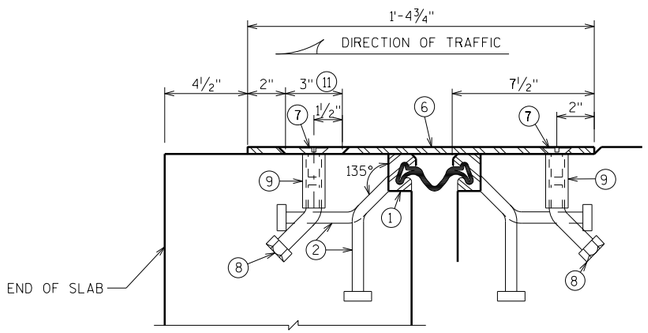
SECTION AT MEDIAN



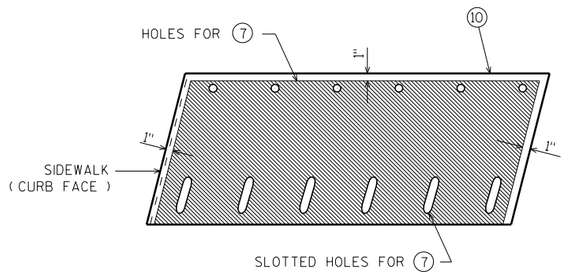
SECTION AT SIDEWALK



SECTION C-C



SECTION D-D



PLAN OF SIDEWALK COVER PLATE WITH SLIP-RESISTANT SURFACE

PLACE SLIP-RESISTANT SURFACE ON TOP WALKING SURFACE IN SHADED AREA ONLY (NOT ON CURB FACE).

APPROVED SLIP-RESISTANT APPLIED SURFACES FOR STEEL PLATES		
PRODUCT	MANUFACTURER	CONTACT AT
SLIPNOT GRADE 2, STEEL	W. S. MOLNAR COMPANY	1-800-SLIPNOT
ALGRIP, STEEL	ROSS TECHNOLOGY CORP.	1-800-345-8170

NOTES

SEE SHEET 16 FOR LEGEND.

BLOCK OUT CONCRETE 2" EACH SIDE OF JOINT OPENING.

JOINT OPENING DIM. ALONG SKEW PLUS ½".

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-45-45 REHAB

DRAWN BY RLR | PLANS CK'D. LJM

STRIP SEAL COVER PLATE DETAILS

SHEET 17 OF 18
257

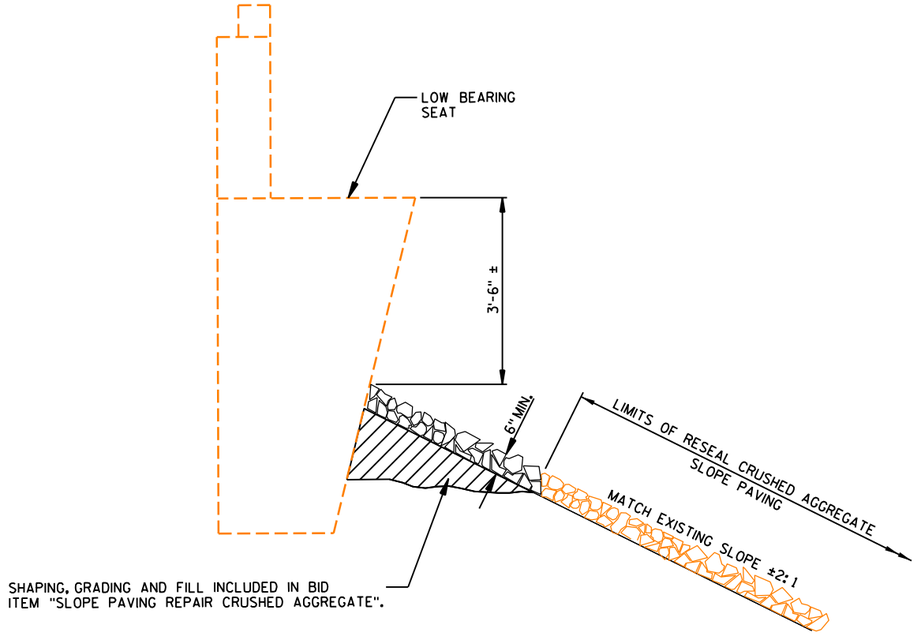
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DATE= 4/8/2013

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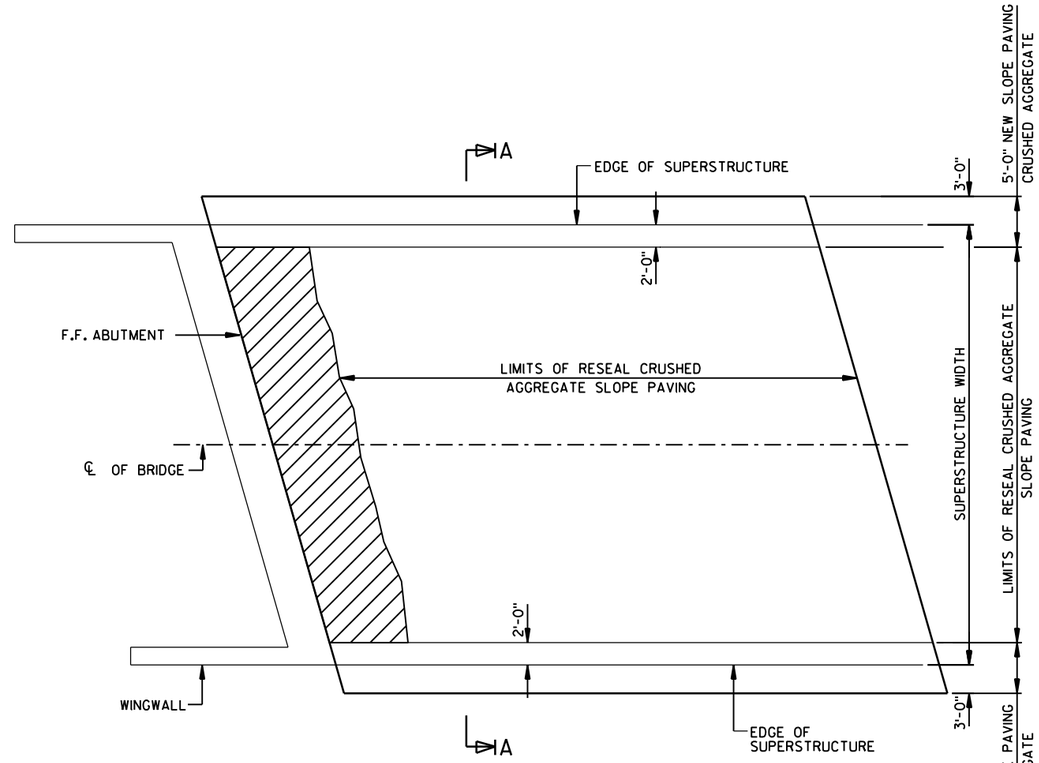
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STATE PROJECT NUMBER
1450-16-70

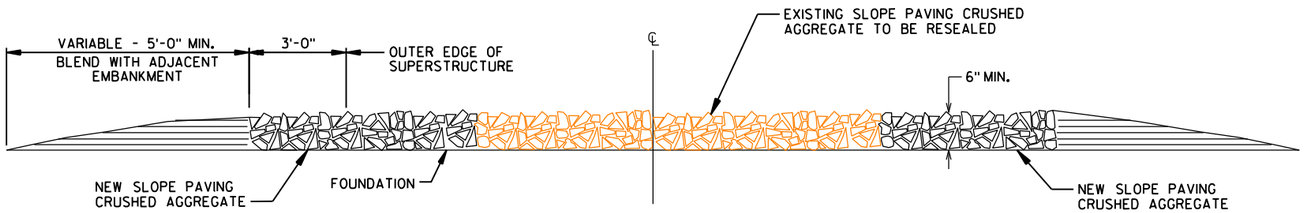


CROSS SECTION - SLOPE PAVING CRUSHED AGGREGATE



PLAN - SLOPE PAVING CRUSHED AGGREGATE

▨ - APPROXIMATE LIMITS OF SLOPE PAVING REPAIR CRUSHED AGGREGATE. REPAIR SLOPE PAVING AT ABUTMENTS WHERE SETTLEMENT HAS OCCURRED.



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.

WOOD FORMS MAY BE LEFT IN PLACE WHEN OF A QUALITY ACCEPTABLE TO THE ENGINEER.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-45-45 REHAB

DRAWN BY RLR | PLANS CK'D. LJM

SLOPE PAVING DETAILS

SHEET 18 OF 18
258

FILE= B-45-45-18.DGN
DATE= 4/8/2013

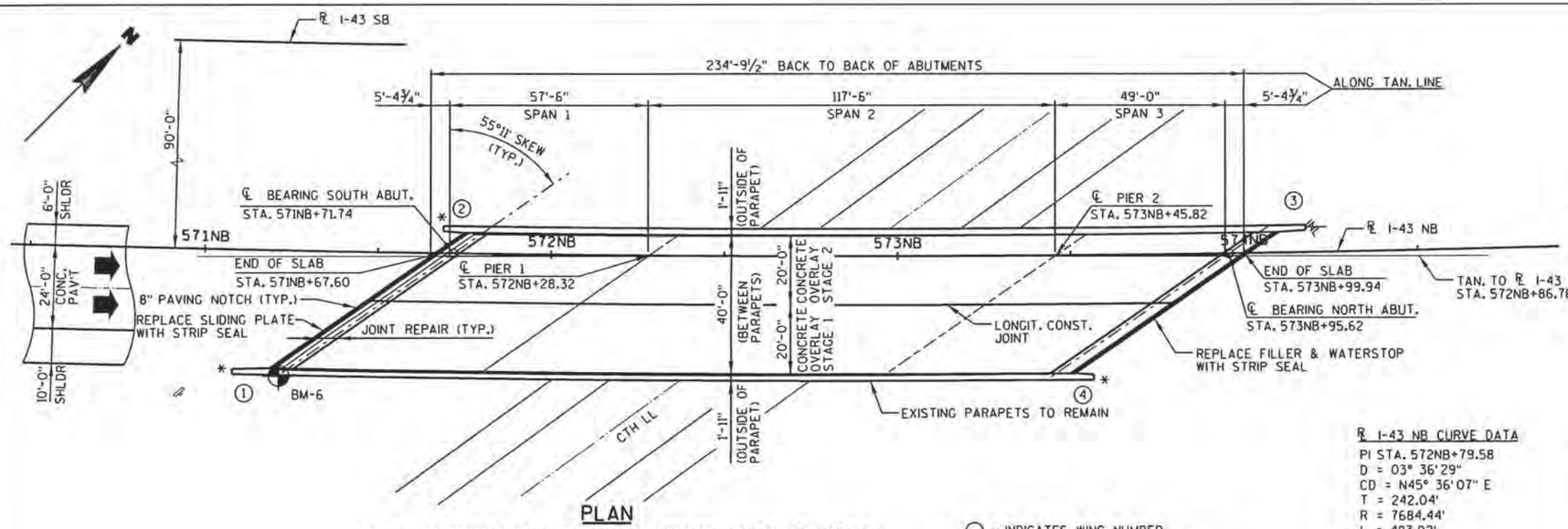
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B-45-45-18_SLOPV AGG.dgn 4/8/2013 3:02:55 PM RRABSKA

STATE PROJECT NUMBER
1450-16-70

BENCHMARKS ◆ NGVD 29			
NO.	STA.	DESCRIPTION	ELEV.
6	571NB+22.23, 36.2' RT	DISK ON SE CORNER OF STRUCTURE	701.01



PLAN

(REHAB - CONCRETE OVERLAY ON EXISTING THREE SPAN STEEL DECK GIRDER)

○ - INDICATES WING NUMBER

* - INDICATES LOCATION OF PROVISION FOR NEW THRIE BEAM ATTACHMENT AT WINGS (SEE SDD STEEL THRIE BEAM STRUCTURE APPROACH, CONNECTION TO SLOPED END PARAPETS.)

DESIGN DATA

LIVE LOAD:
INVENTORY RATING : HS-22
OPERATIONAL RATING : HS-37
MAX. STD. PERMIT VEHICLE LOAD: 250 KIPS

TRAFFIC DATA:
A.A.D.T. (2012) = 24,900
A.A.D.T. (2032) = 28,211

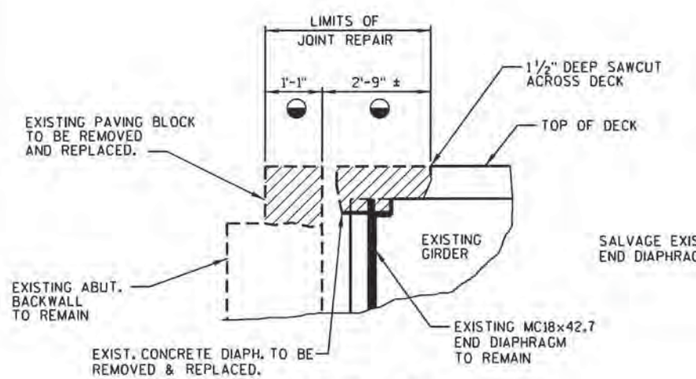
ULTIMATE DESIGN STRESSES:
CONCRETE MASONRY OVERLAY DECKS —— f'c = 4,000 P.S.I.
BAR STEEL REINFORCEMENT HS COATED BRIDGES —— fy = 60,000 P.S.I.

℄ I-43 NB CURVE DATA

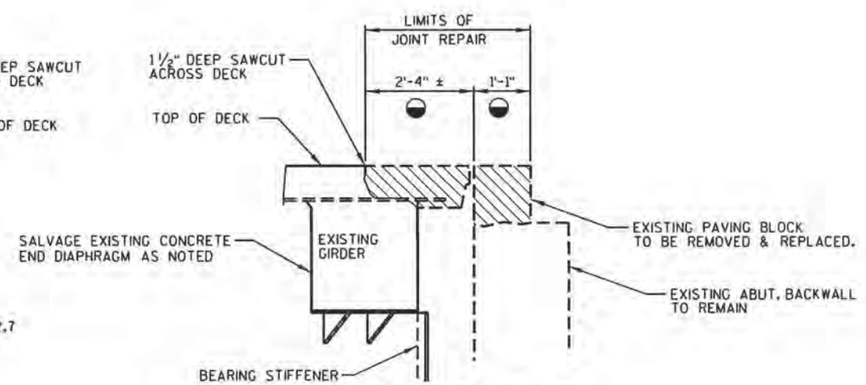
PI STA. 572NB+79.58
D = 03° 36' 29"
CD = N45° 36' 07" E
T = 242.04'
R = 7684.44'
L = 483.92'
SE = 3.6%

LIST OF DRAWINGS

1. GENERAL PLAN & REMOVAL DETAILS
2. CROSS SECTIONS & STAGING DETAILS
3. STRUCTURE QUANTITIES, NOTES, PROFILE & DETAILS
4. EXPANSION BEARINGS
5. HOLD DOWN DEVICE
6. PARAPET & DECK REMOVAL DETAILS
7. STRIP SEAL EXPANSION JOINT
8. STRIP SEAL EXPANSION JOINT DETAILS
9. PARAPET DETAILS



SOUTH ABUTMENT



NORTH ABUTMENT

JOINT REMOVAL DETAILS

◒ — DIMENSION GIVEN NORMAL TO ℄ OF ABUTMENT

DESIGN CONTACT:
LEAH RHODES
(608) 355-8945

BRIDGE OFFICE CONTACT:
WILLIAM DREHER
(608) 266-8489

WISCONSIN
LEAH J. RHODES
E-41726
BARABOO
WI
PROFESSIONAL ENGINEER
Leah J. Rhodes
10-18-12

NO.	DATE	REVISION	BY

MSA PROFESSIONAL SERVICES
TRANSPORTATION • MUNICIPAL DEVELOPMENT • ENVIRONMENTAL
1230 South Boulevard Baraboo, WI 53913
608-356-2771 1-800-362-4520 Fax: 608-356-2770

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
ACCEPTED William C. Dreher KAR 04/19/13
CHIEF STRUCTURES DESIGN ENGINEER DATE

STRUCTURE B-45-48 REHAB

I-43 NB OVER CTH LL

COUNTY OZAUKEE
TOWN/CITY/VILLAGE PORT WASHINGTON

DESIGN SPEC. REHABILITATION - N/A

DESIGNED BY	DESIGN CK'D.	DRAWN BY	PLANS CK'D.
LJM	DHW	CAR/RLR	LJM

GENERAL PLAN & REMOVAL DETAILS

SHEET 1 OF 9

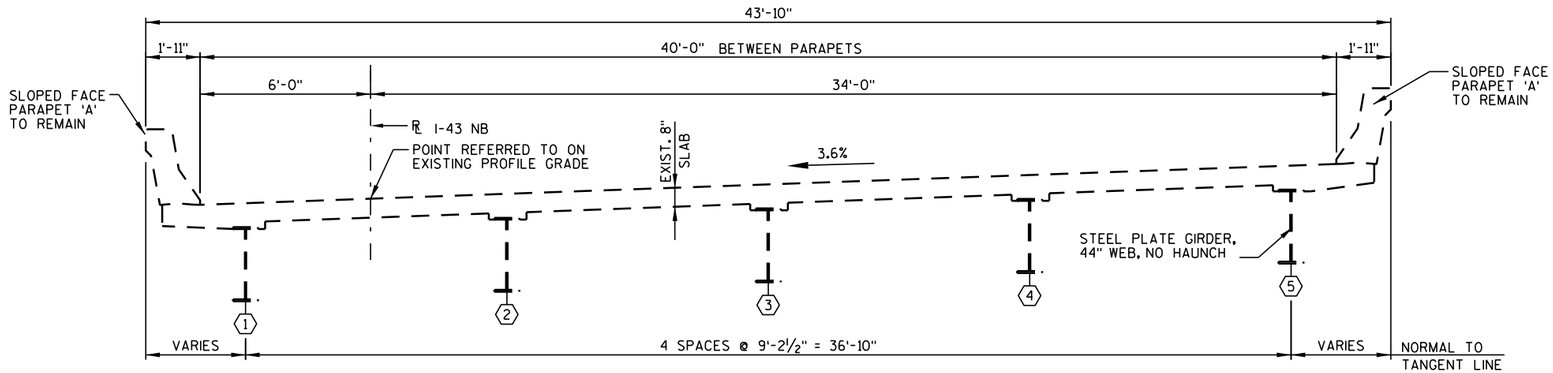
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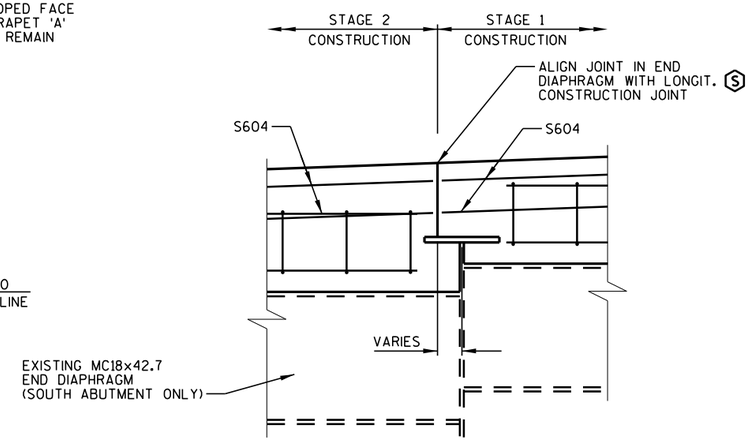
STATE PROJECT NUMBER

1450-16-70



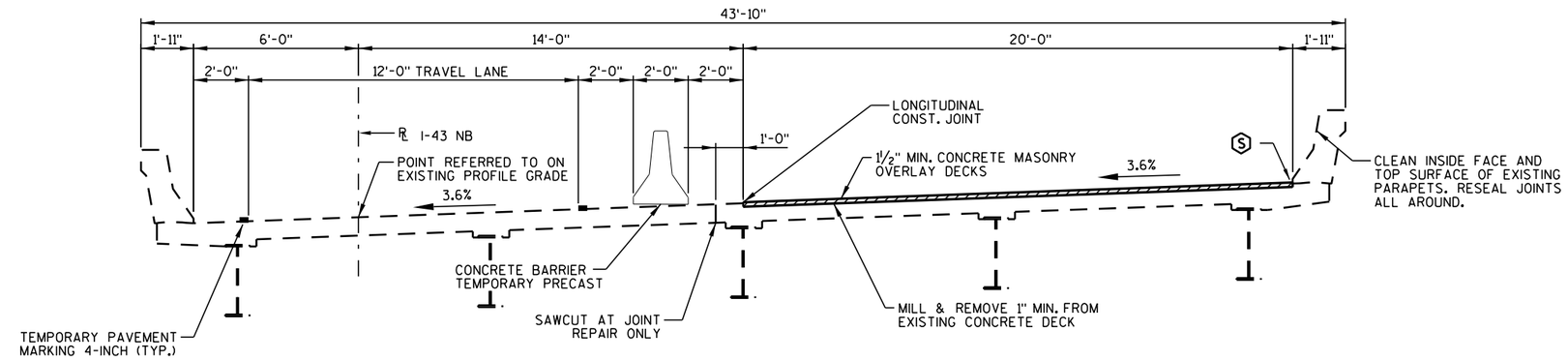
CROSS SECTION THRU EXISTING BRIDGE

(LOOKING NORTH)



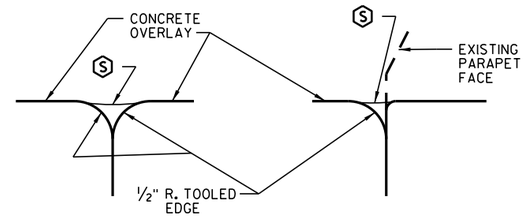
PART SECTION THRU BRIDGE AT END DIAPHRAGM

(SOUTH ABUTMENT SHOWN, NORTH ABUTMENT CONSTRUCTION JOINT SIMILAR)
(LOOKING NORTH)

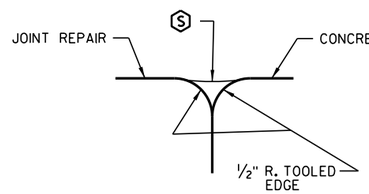


CROSS SECTION THRU BRIDGE - STAGE 1

(LOOKING NORTH)



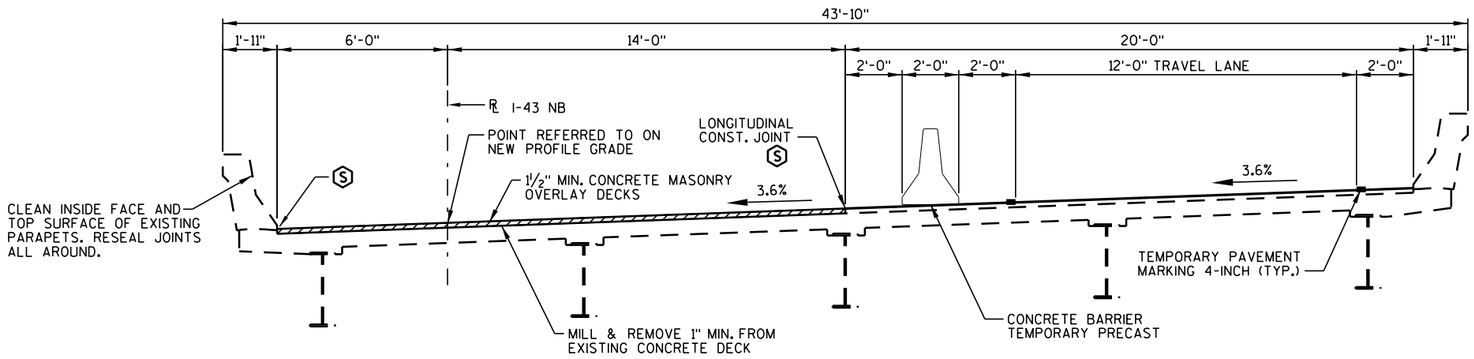
LONGITUDINAL JOINT AT ℄ **JOINT AT PARAPETS**



TRANSVERSE JOINT AT ABUTMENTS

JOINT DETAILS

Ⓢ — CRACK SEALING EPOXY.



CROSS SECTION THRU BRIDGE - STAGE 2

(LOOKING NORTH)

NOTES:

ALL DIMENSIONS ARE MEASURED RADIAL TO ℄ I-43 NB UNLESS NOTED OTHERWISE.

CONCRETE BARRIER TEMPORARY PRECAST AND TEMPORARY PAVEMENT MARKING 4-INCH ARE INCLUDED IN THE ROAD APPROACH QUANTITIES.

⬡ - INDICATES GIRDER NUMBER

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-45-48 REHAB

DRAWN BY CAR/RLR | PLANS CK'D. LJM

CROSS SECTIONS & STAGING DETAILS

SHEET 2 OF 9
260

FILE= B-45-48-02.DGN
DATE= 4/8/2013

8

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B-45-48-02.dgn 4/8/2013 3:41:01 PM RRABSKA

STATE PROJECT NUMBER

1450-16-70

STRUCTURE ESTIMATED QUANTITIES

	ITEM NUMBER	BID ITEM	UNIT	SOUTH ABUT.	PIER 1	PIER 2	NORTH ABUT.	SUPER	TOTAL
	203.0210.S.04	ABATEMENT OF ASBESTOS CONTAINING MATERIAL STRUCTURE B-45-48 REHAB	LS	-	-	-	-	-	1
	203.0225.S.04	DEBRIS CONTAINMENT STRUCTURE B-45-48 REHAB	LS	-	-	-	-	-	1
	502.3100.04	EXPANSION DEVICE STRUCTURE B-45-48 REHAB	LS	-	-	-	-	-	1
	502.3200	PROTECTIVE SURFACE TREATMENT	SY	-	-	-	-	1245	1245
	502.5005	MASONRY ANCHORS TYPE L NO. 5 BARS	EACH	141	-	-	141	-	282
	505.0605	BAR STEEL REINFORCEMENT HS COATED BRIDGES	LB	-	-	-	-	4600	4600
	505.0906	BAR COUPLERS NO. 6	EACH	9	-	-	7	-	16
	506.7000.S.04	BEARING REPLACEMENT STRUCTURE B-45-48 REHAB	EACH	2	-	-	-	-	2
	509.0301	PREPARATION DECKS TYPE 1	SY	-	-	-	-	280	280
	509.0302	PREPARATION DECKS TYPE 2	SY	-	-	-	-	100	100
	509.0500	CLEANING DECKS	SY	-	-	-	-	978	978
	509.1000	JOINT REPAIR	SY	-	-	-	-	60	60
*	509.1500	CONCRETE SURFACE REPAIR	SF	-	-	-	-	42	42
	509.2500	CONCRETE MASONRY OVERLAY DECKS	CY	-	-	-	-	107	107
	517.1800.S.04	STRUCTURE REPAINTING RECYCLED ABRASIVE STRUCTURE B-45-48 REHAB	LS	-	-	-	-	-	1
	517.4500.S.04	NEGATIVE PRESSURE CONTAINMENT AND COLLECTION OF WASTE MATERIALS, STRUCTURE B-45-48 REHAB	LS	-	-	-	-	-	1
	517.6001.S	PORTABLE DECONTAMINATION FACILITY	EACH	-	-	-	-	-	1
	604.9010.S	SLOPE PAVING REPAIR CRUSHED AGGREGATE	CY	10	-	-	10	-	20
	604.9015.S	RESEAL CRUSHED AGGREGATE SLOPE PAVING	SY	325	-	-	300	-	625
	SPV.0060.01	CLEANING AND PAINTING BEARINGS	EACH	3	5	5	5	-	18
	SPV.0060.02	MASONRY ANCHORS TYPE S 1 1/2-INCH	EACH	8	-	-	-	-	8
	SPV.0090.01	CLEANING PARAPETS	LF	-	-	-	-	500	500
	SPV.0090.02	CRACK SEALING EPOXY SPECIAL	LF	-	-	-	-	830	830
		NON-BID ITEMS							
		BRIDGE SEAT PROTECTION	EACH	1	-	-	1	-	2

* - CONCRETE SURFACE REPAIR ON SUPERSTRUCTURE AS DIRECTED BY THE FIELD ENGINEER.

GENERAL NOTES

DRAWINGS SHALL NOT BE SCALED.

THE FIRST DIGIT OF A THREE DIGIT BAR MARK SIGNIFIES THE BAR SIZE.

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

DIMENSIONS OF EXISTING BRIDGE MEMBERS SHOWN ARE BASED ON ORIGINAL PLANS.

THIS STRUCTURE WILL REHABILITATE THE EXISTING STRUCTURE, B-45-48, A THREE SPAN, 234'-9½" LONG, CONTINUOUS STEEL DECK GIRDER SET ON CONCRETE SILL ABUTMENTS AND MULTI-COLUMN PIERS.

THE LOCATIONS OF EXISTING UTILITY INSTALLATIONS AS SHOWN ON THE PLANS ARE APPROXIMATE.

AT THE ABUTMENTS AND WINGWALLS ALL EXCAVATED VOLUME BELOW THE ROADWAY SUBGRADE OR PAVEMENT APPROACH SLAB NOT OCCUPIED BY THE NEW STRUCTURE SHALL BE BACKFILLED WITH BACKFILL STRUCTURE. THE EXCAVATION AND BACKFILL STRUCTURE WILL BE INCLUDED IN THE BID ITEM "CONCRETE MASONRY OVERLAY DECKS".

A MINIMUM OF 1" OF CONCRETE SHALL BE REMOVED FROM THE ENTIRE BRIDGE DECK UNDER THE BID ITEM "CLEANING DECKS".

THE MINIMUM OVERLAY THICKNESS IS 1½" PLACED ABOVE THE DECK SURFACE AFTER CLEANING. THE EXPECTED AVERAGE OVERLAY THICKNESS IS 1⅞" BASED ON THE NEW PROFILE GRADE LINE. IF THE EXPECTED AVERAGE OVERLAY THICKNESS WILL BE EXCEEDED BY MORE THAN ½", CONTACT THE STRUCTURES DESIGN SECTION BEFORE OVERLAY PLACEMENT.

THE "CONCRETE MASONRY OVERLAY DECKS" QUANTITY IS BASED ON THE EXPECTED AVERAGE OVERLAY THICKNESS OF 1⅞" PLUS AN ADDITIONAL ½" TO ACCOUNT FOR VARIATIONS IN THE DECK SURFACE.

VARIATIONS TO THE NEW PROFILE GRADE LINE OVER ¼" MUST BE SUBMITTED BY THE FIELD ENGINEER TO THE STRUCTURES DESIGN SECTION FOR REVIEW.

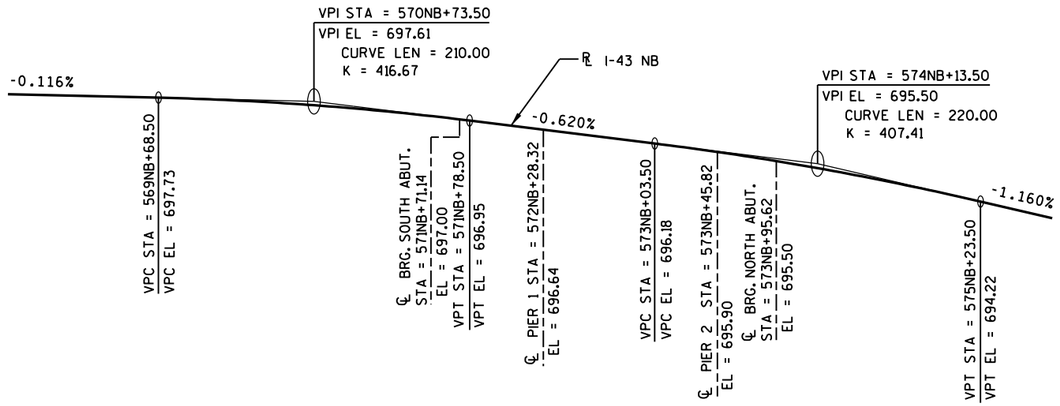
EXISTING PARAPET TOP AND INSIDE FACES SHALL BE GIVEN A LIGHT SANDBLASTING. PARAPET JOINTS SHALL BE CLEANED AND RE-SEALED WITH NON-STAINING, GRAY, NON-BITUMINOUS JOINT SEALER. INCLUDE IN BID ITEM "CLEANING PARAPETS".

ALL EXPOSED STEEL SHALL BE CLEANED AND PAINTED. PAINT EXPOSED STEEL AT BEARING REPLACEMENTS.

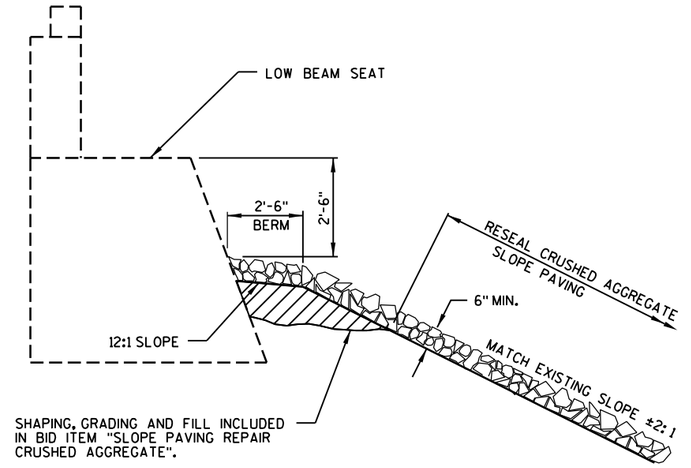
CLEAN AND PAINT ALL BEARINGS AT ABUTMENTS AND PIERS THAT ARE NOT BEING REPLACED. SEE SPECIAL PROVISIONS FOR "CLEANING AND PAINTING BEARINGS."

APPLY BRIDGE SEAT PROTECTION, PER SUBSECTION 502.3.12 OF THE STANDARD SPECIFICATIONS, TO THE TOP SURFACE OF BOTH ABUTMENTS, INCLUDING THE SURFACE BELOW BEARINGS TO BE REPLACED.

APPLY PROTECTIVE SURFACE TREATMENT TO THE TOP OF DECK AND INSIDE FACES AND TOPS OF PARAPETS, INCLUDING PARAPETS ON ABUTMENT WINGS.



NEW PROFILE GRADE - I-43 NB



CROSS SECTION THRU ABUTMENTS
SLOPE PAVING CRUSHED AGGREGATE

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-45-48 REHAB

DRAWN BY CAR/RLR | PLANS CK'D. LJM

STRUCTURE QUANTITIES, NOTES, PROFILE & DETAILS

SHEET 3 OF 9
261

FILE= B-45-48-03.DGN
DATE= 4/8/2013

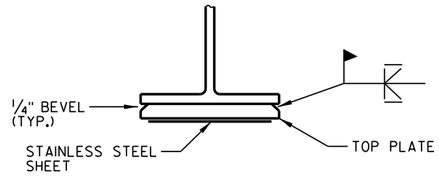
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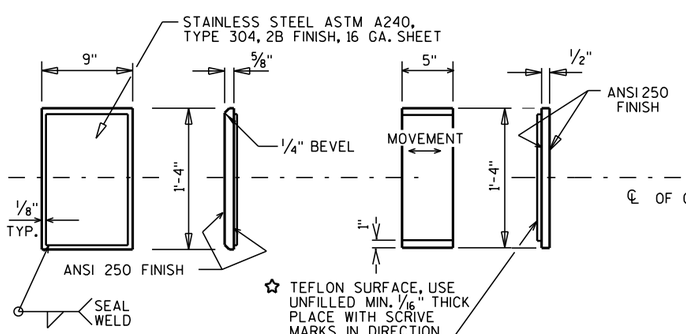
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STATE PROJECT NUMBER

1450-16-70

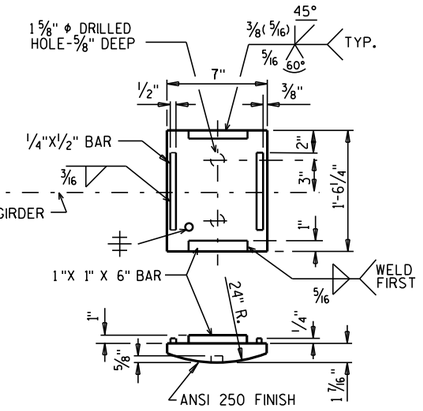


TOP PLATE "A" WELD DETAIL

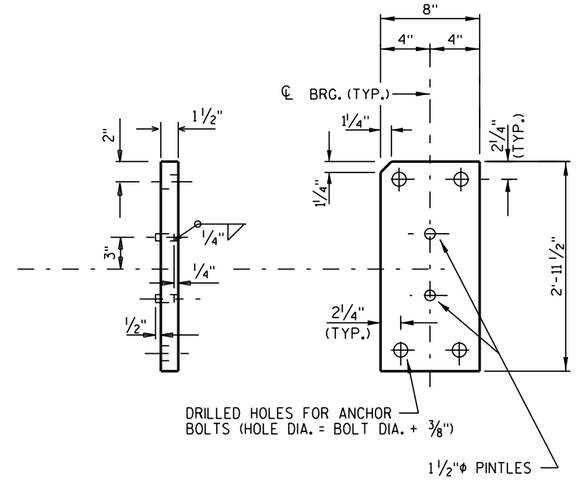


TOP PLATE "A"

TEFLON SURFACE ON PLATE "B"



ROCKER PLATE "C"

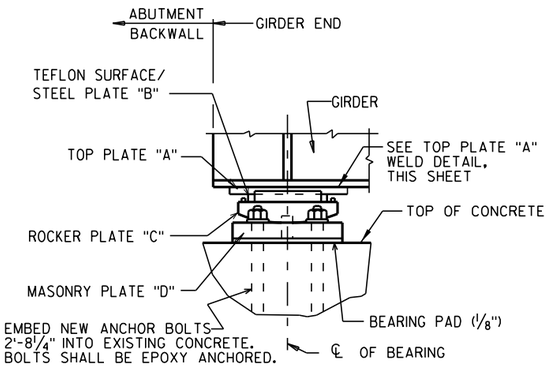


MASONRY PLATE "D"
(2 REQUIRED)

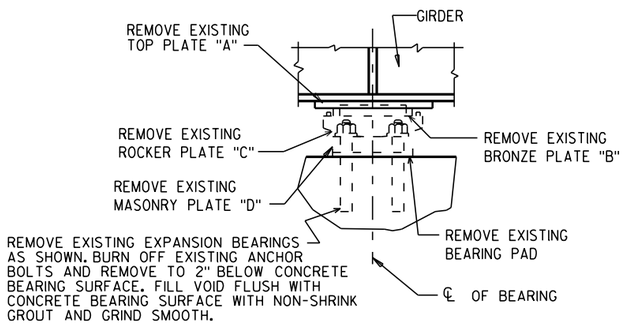
☆ BOND STEEL PLATE "B" AND TEFLON WITH ADHESIVE MATERIAL MEETING FEDERAL SPECIFICATION MMM-A-134, FEP FILM OR EQUAL.

⧺ PROVIDE A METHOD FOR HANDLING ROCKER PLATE "C" DURING GALVANIZING.

EXPANSION BEARING PLATES
(SKEW NOT SHOWN)



NEW EXPANSION BEARING ASSEMBLY
(HOLD DOWN DEVICE NOT SHOWN)



EXISTING EXPANSION BEARING REMOVAL
(HOLD DOWN DEVICE NOT SHOWN)

BEARING NOTES

ALL BEARINGS ARE SYMMETRICAL ABOUT ℄ OF GIRDER AND ℄ OF BEARING, EXCEPT FOR CORNER CLIPS.

ANCHOR BOLTS, NUTS AND WASHERS SHALL BE GALVANIZED IN ACCORDANCE WITH ASTM A153, CLASS C.

ROCKER PLATE "C" AND MASONRY PLATE "D" SHALL BE GALVANIZED. TOP PLATE "A" AND STEEL PLATE "B" SHALL BE SHOP PAINTED. USE A WELDABLE PRIMER ON TOP PLATE A". DO NOT PAINT STAINLESS STEEL OR TEFLON SURFACES.

ALL MATERIAL IN BEARINGS, EXCLUDING STAINLESS STEEL SHEET, TEFLON SURFACE, PINTLES, ANCHOR BOLTS, NUTS AND WASHERS, SHALL CONFORM TO ASTM A709 GRADE 50W.

ALL MATERIAL IN BEARINGS, EXCLUDING ANCHOR BOLTS, WASHERS AND NUTS, SHALL BE PAID FOR AT THE UNIT PRICE BID FOR "BEARING REPLACEMENT STRUCTURE B-45-48 REHAB", EACH. ANCHOR BOLTS, WASHERS AND NUTS SHALL BE PAID FOR AS "MASONRY ANCHORS TYPE S 1 1/2-INCH" AND SHALL BE EPOXY ANCHORED.

ALL FINISHED SURFACES SHALL BE MACHINE FINISHED BY AN AUTOMATIC PROCESS.

ALL PLATE CUTS SHALL BE MACHINE OR MACHINE FLAME CUTS.

ALL STRUCTURAL STEEL BEARING PLATES SHALL BE FLAT ROLLED STEEL PLATES WITH ALL SURFACES SMOOTH AND FREE FROM WARP AND ALL EDGES SMOOTH, STRAIGHT AND VERTICAL.

PROVIDE 1/8" THICK BEARING PAD SAME SIZE AS PLATE "D" FOR EACH BEARING.

ANCHOR BOLTS SHALL BE FULLY THREADED. CHAMFER TOP OF ANCHOR BOLTS PRIOR TO THREADING. PROVIDE ONE STANDARD WROUGHT WASHER AND ONE HEX NUT PER BOLT. PROJECT ANCHOR BOLTS, MASONRY PLATE "D" THICKNESS PLUS 2 1/4", ABOVE TOP OF EXISTING CONCRETE.

CHAMFER TOP OF PINTLES 1/8". DRILL HOLES FOR ALL PINTLES IN MASONRY PLATE "D" FOR A DRIVING FIT.

STEEL PINTLES SHALL CONFORM TO ASTM A449 OR MATERIAL OF EQUIVALENT YIELD STRENGTH & ELONGATION.

ANCHOR BOLTS, NUTS AND WASHERS SHALL CONFORM TO ASTM A709 GRADE 36, OR MATERIAL OF EQUIVALENT YIELD STRENGTH AND ELONGATION.

AT INSTALLATION, ENSURE STAINLESS STEEL SLIDING FACE OF THE UPPER ELEMENT AND THE TFE SLIDING FACE OF THE LOWER ELEMENT HAVE THE SURFACE FINISH SPECIFIED AND ARE CLEAN AND FREE OF ALL DUST, MOISTURE, OR ANY OTHER FOREIGN MATTER.

REPLACE SOUTH ABUTMENT COMPLETE BEARING ASSEMBLIES, INCLUDING HOLD DOWN DEVICES, AT GIRDERS 2 AND 4 ONLY.

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DEPARTMENT OF TRANSPORTATION

STRUCTURE B-45-48 REHAB

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EXPANSION BEARINGS

SHEET 4 OF 9
262

8

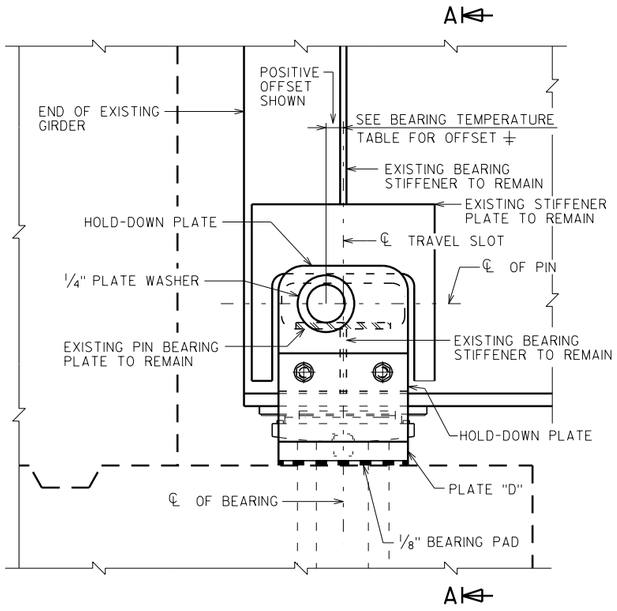
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FILE= B-45-48-04.DGN
DATE= 4/8/2013

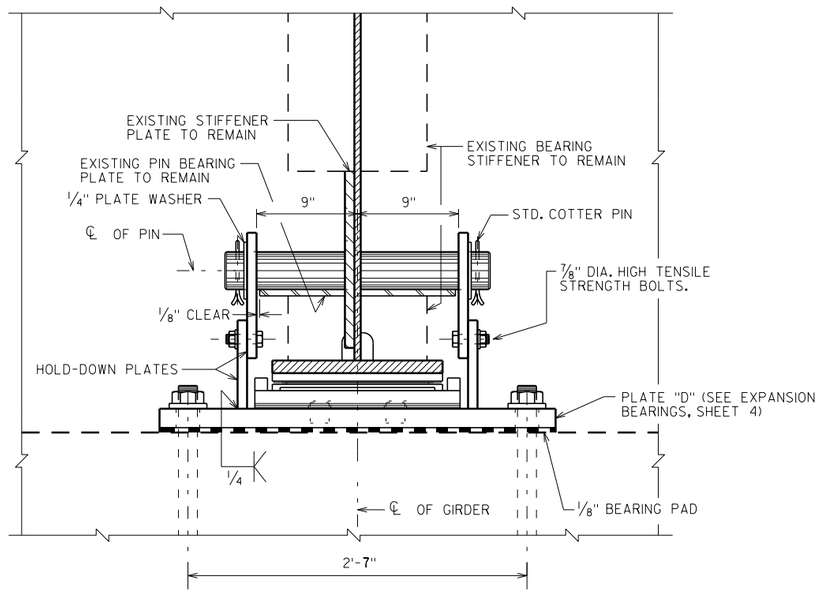
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1450-16-70



ELEVATION



SECTION A-A

HOLD DOWN DEVICE NOTES

ALL HOLD-DOWN DEVICES ARE SYMMETRICAL ABOUT ℄ OF GIRDER AND ℄ OF BEARING.

ALL STRUCTURAL STEEL PLATES SHALL BE FLAT ROLLED STEEL PLATES 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.

THE MATERIAL FOR THE HOLD-DOWN PLATES SHALL CONFORM TO ASTM A709 GRADE 50W.

ALL MATERIAL IN HOLD DOWN DEVICES, WHICH INCLUDES HOLD-DOWN PLATES, HIGH TENSILE STRENGTH BOLTS, PINS AND PLATE WASHERS, SHALL BE INCLUDED IN THE UNIT PRICE BID FOR "BEARING REPLACEMENT STRUCTURE B-45-48 REHAB", EACH.

◨ PROJECT ANCHOR BOLTS, PLATE "D" THICKNESS PLUS 2 1/4", ABOVE TOP OF EXISTING CONCRETE.

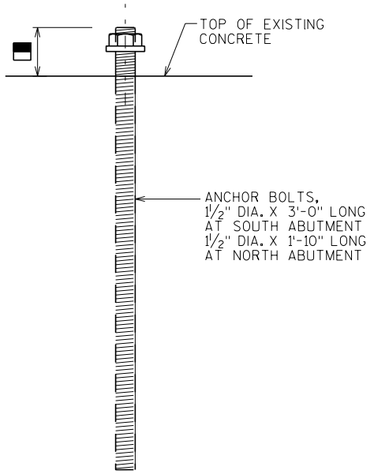
⊙ HOLES FOR PIN IN HOLD-DOWN PLATES AND PLATE WASHERS SHALL BE AS STATED IN STANDARD SPECIFICATION 506.3.17.

± OFFSET IS MEASURED ALONG ℄ GIRDER. A POSITIVE OFFSET INDICATES THAT THE PIN SHALL BE INSTALLED CLOSER TO THE ABUTMENT BACKWALL. A NEGATIVE OFFSET INDICATES THAT THE PIN SHALL BE INSTALLED CLOSER TO THE SPAN.

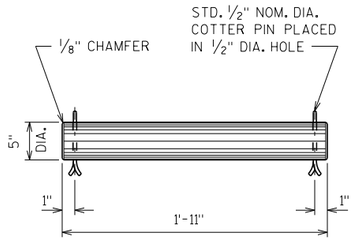
BEARING TEMPERATURE TABLE

SHADED UNDERSIDE OF DECK TEMP. (°F)	PIN OFFSET FROM ℄ TRAVEL SLOT (IN.) ±
85°	- 1/2
75°	- 3/8
65°	- 1/4
55°	- 1/8
45°	0
35°	1/8
25°	1/4
15°	3/8
5°	1/2

PERMANENT HOLD DOWN DEVICE

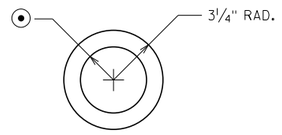


ANCHOR BOLT DETAIL

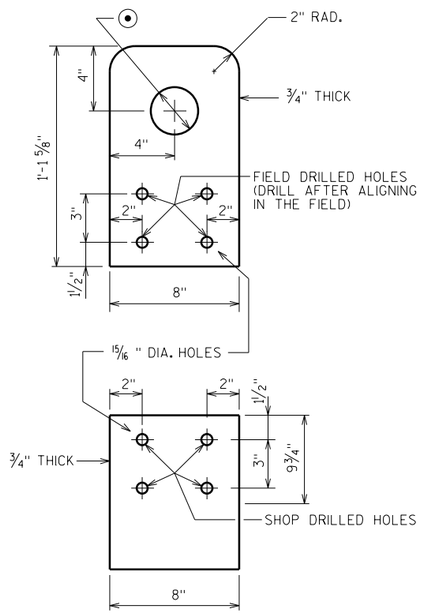


PIN DETAIL

COLD ROLLED STEEL OR CARBON STEEL FORGING.



1/4" PLATE WASHER



HOLD-DOWN PLATES

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HOLD DOWN DEVICE

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263

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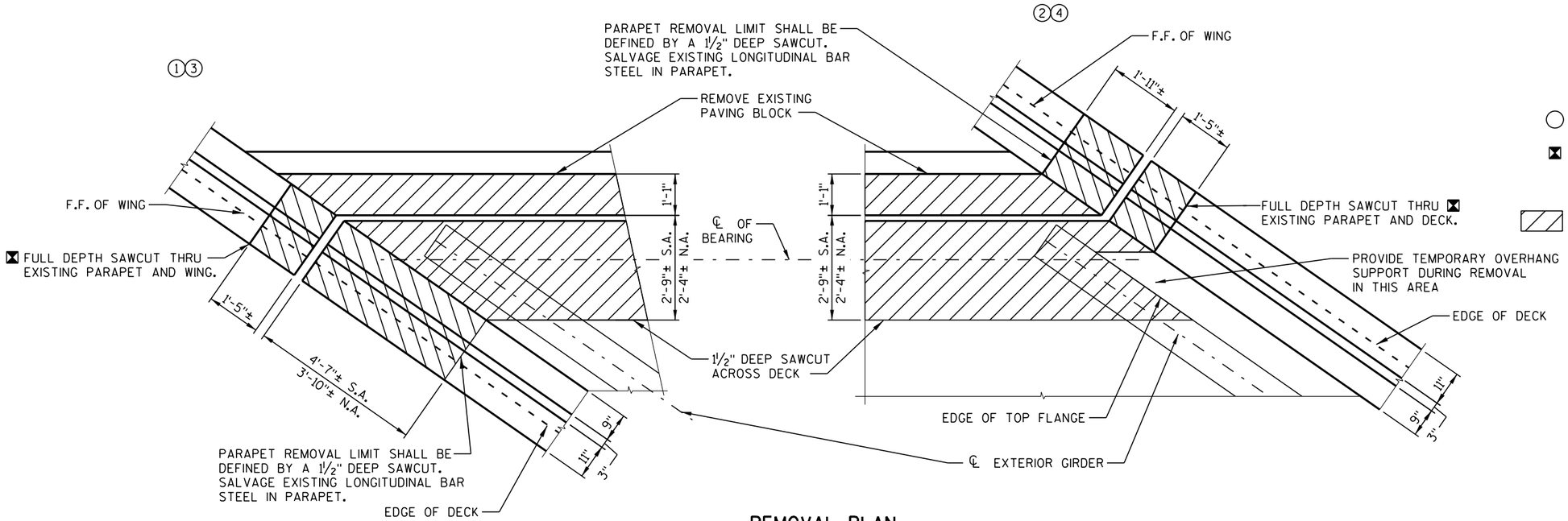
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STATE PROJECT NUMBER

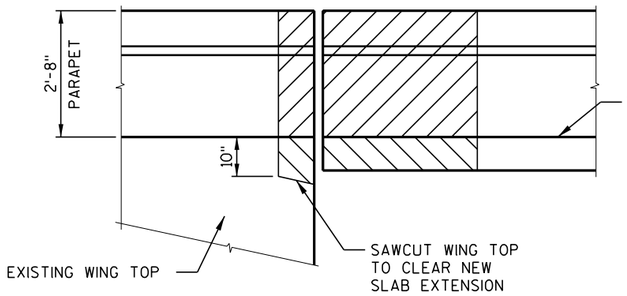
1450-16-70



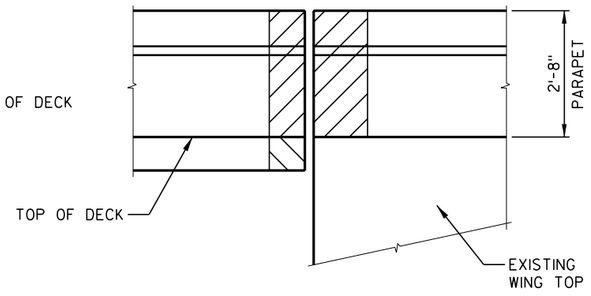
REMOVAL PLAN

LEGEND

- ◯ - INDICATES WING NUMBER
- ⊠ - COAT EXPOSED BAR STEEL WITH EPOXY IN ACCORDANCE WITH SUBSECTION 505.2.4.2 OF THE STANDARD SPECIFICATIONS.
- ▨ - MINIMUM REMOVAL LIMITS (AT JOINT REPAIR)
  - F.F. - FRONT FACE
  - S.A. - SOUTH ABUTMENT
  - N.A. - NORTH ABUTMENT



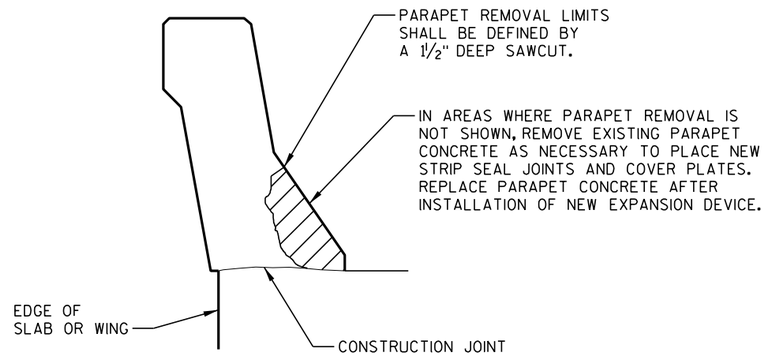
WINGS 1 & 3



WINGS 2 & 4

PARAPET ELEVATION

(LOOKING AT OUTSIDE FACE OF PARAPET)



PARAPET REMOVAL LIMITS

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STRUCTURE B-45-48 REHAB

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PARAPET & DECK REMOVAL DETAILS

SHEET 6 OF 9

264

FILE= B-45-48-06.DGN
DATE= 4/8/2013

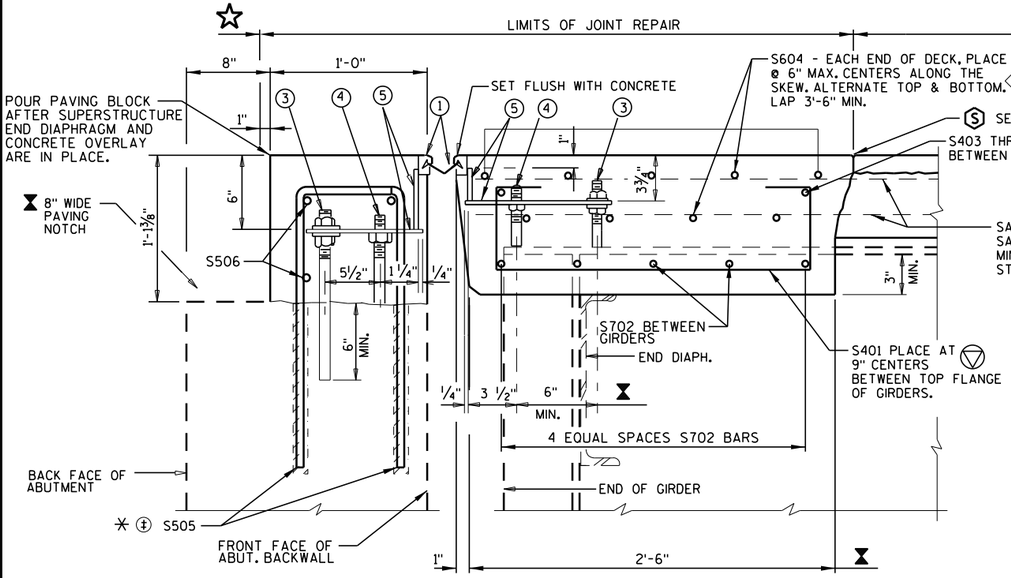
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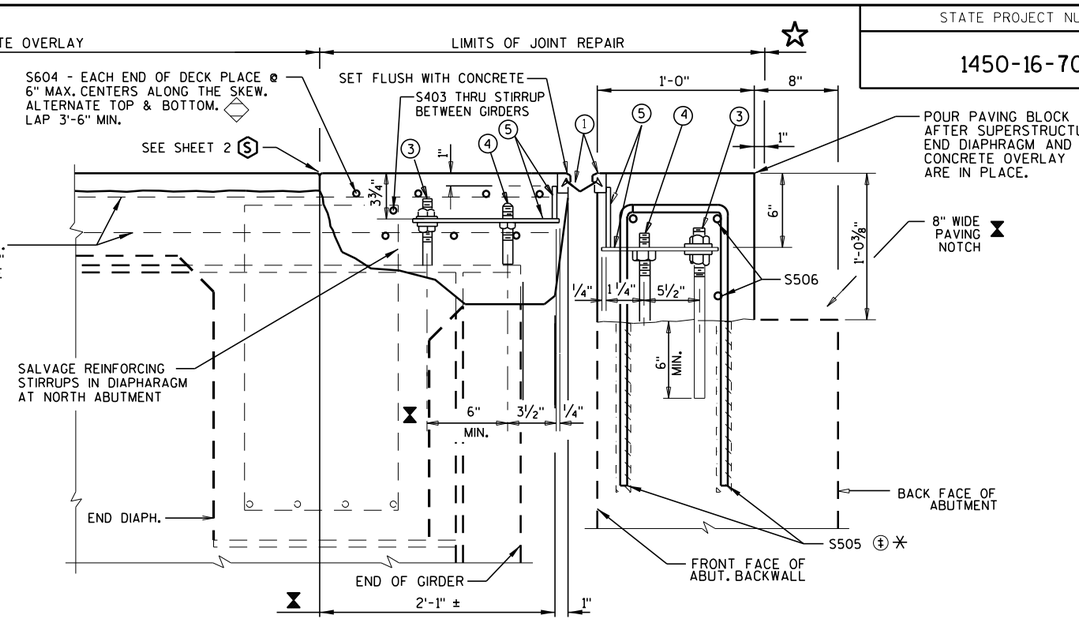
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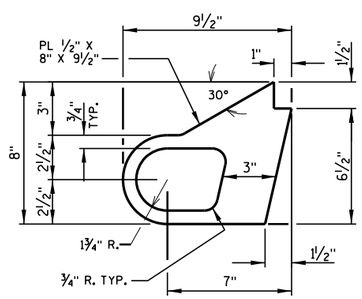
1450-16-70



SECTION THRU JOINT AT SOUTH ABUTMENT



SECTION THRU JOINT AT NORTH ABUTMENT



ALTERNATE STRIP SEAL ANCHOR

LEGEND

Ⓣ - REMOVE EXISTING VERTICAL REINFORCING BARS DURING REMOVAL OF PAVING BLOCK. REPLACE WITH "MASONRY ANCHORS TYPE L NO. 5 BARS" SPACED AT 1'-0".

✳ - MASONRY ANCHORS TYPE L NO. 5 BARS SHALL DEVELOP A MINIMUM PULLOUT CAPACITY OF 19 KIPS. EMBED BAR 1'-6" MINIMUM. ANCHOR HOLES SHALL BE 4" CLEAR MIN. TO FACE OF EXISTING CONCRETE. TURN 10" HORIZONTAL LEG OF S505 BARS AS NECESSARY TO FIT.

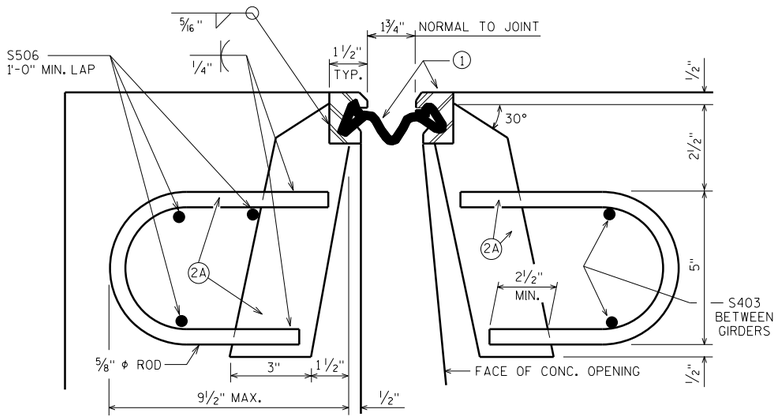
▽ - DIMENSION IS GIVEN NORMAL TO ℄ OF GIRDER.

⧗ - DIMENSION IS GIVEN NORMAL TO THE ℄ OF ABUTMENT.

☆ - BACK FACE OF EXISTING PAVING BLOCK.

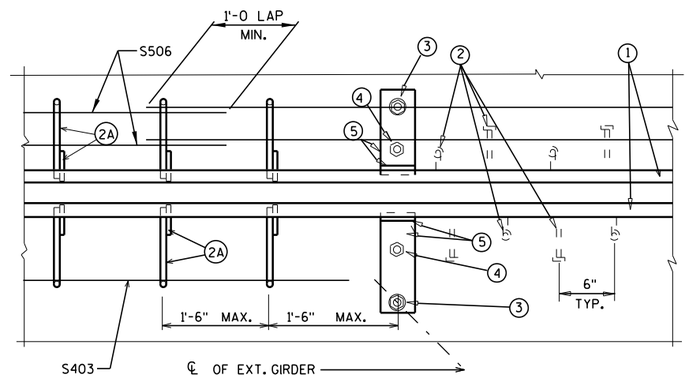
◇ - BAR COUPLERS NO. 6 ARE REQUIRED AT LONGITUDINAL CONSTRUCTION JOINT BETWEEN BARS S604. IF BAR LAPS ARE REQUIRED AT BAR COUPLERS, PROVIDE A MINIMUM LAP LENGTH OF 3'-6". IF FLANGED COUPLERS ARE USED, CLIP FLANGES TO PROVIDE 2" COVER TO TOP OF SLAB.

◯ - SEE SHEET 8 FOR LEGEND OF EXPANSION JOINT COMPONENTS.

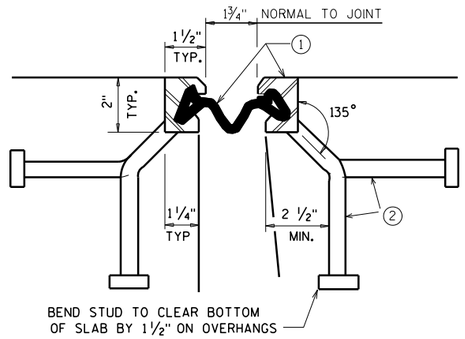


SECTION THRU JOINT

ROADWAY TRAFFIC AREA BETWEEN EXTERIOR GIRDERS.



PART PLAN



SECTION THRU JOINT

EXTERIOR GIRDER TO EDGE OF DECK & AT PARAPETS

8

8

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STRUCTURE B-45-48 REHAB

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STRIP SEAL EXPANSION JOINT

SHEET 7 OF 9

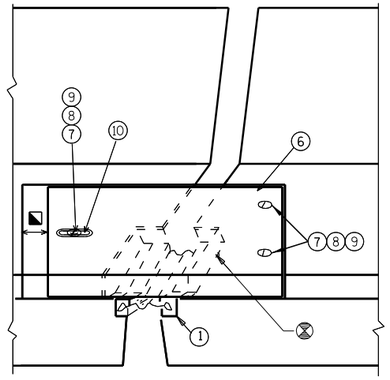
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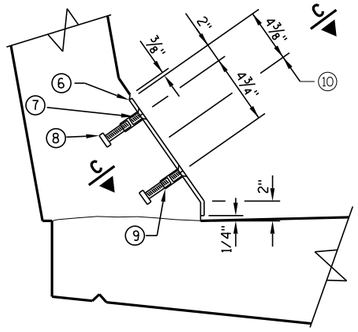
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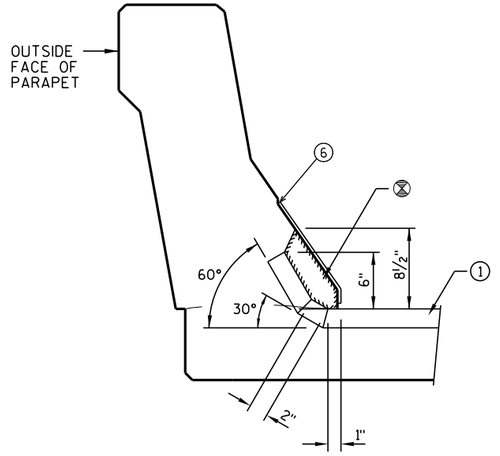
1450-16-70



VIEW OF PARAPET PLATES FROM ROADWAY



SECTION A-A



SECTION B-B

LEGEND

(1) NEOPRENE STRIP SEAL (4 - INCH) & STEEL EXTRUSIONS. SET JOINT OPENING AT 1¾". JOINT OPENING MEASURED NORMAL TO ℄ OF ABUTMENTS.

(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 NO. 1 AT 1'-6" CTRS. BETWEEN GIRDERS.

(3) ¾" Φ THREADED ROD WITH 2 NUTS AND PLATE WASHERS. FIELD WELD THREADED ROD TO TOP FLANGE OR ATTACH BY BOLTING THRU FLANGE. ON ABUTMENT SIDE, GROUT THREADED ROD INTO FIELD DRILLED HOLES IN ABUTMENT BACKWALL AS SHOWN.

(4) ¾"Φ THREADED ROD WITH NUT. TACK WELD NUT TO NO. 5.

(5) FABRICATE SUPPORT FROM 3" X ½" BAR AS SHOWN OR EQUIVALENT, ONE PER GIRDER PER SIDE. 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 3'-0" LONG WITH HOLES FOR #7. BEND AS SHOWN.

(7) ¾" Φ x 1½" STAINLESS STEEL SOCKET FLAT HEAD SCREWS WITH ANTI-SEIZE LUBRICANT. PLACE IN COUNTERSUNK HOLE. RECESS 1/16" BELOW PLATE SURFACE.

(8) ¾" Φ x 4" GALV. HEX HEAD BOLT. BEND 45°.

(9) ¾" Φ x 2¼" GALV. THREADED COUPLING.

(10) 1" x 5" SLOTTED COUNTERSUNK HOLE FOR #7. SLOT PARALLEL TO DIRECTION OF MOVEMENT.

NOTES

ONE FIELD SPLICE PERMITTED IN STEEL EXTRUSIONS, UNLESS MORE ARE NEEDED FOR STAGED CONSTRUCTION. IF SPLICE IS USED, DETAILS SHALL BE SUBMITTED FOR APPROVAL. NO SPLICING IN NEOPRENE STRIP SEAL.

AFTER FABRICATION, BUT BEFORE SHIPMENT, STRAIGHTEN STEEL EXTRUSIONS SUCH THAT THEY SHALL BE FREE FROM WARP, TWIST & SWEEP.

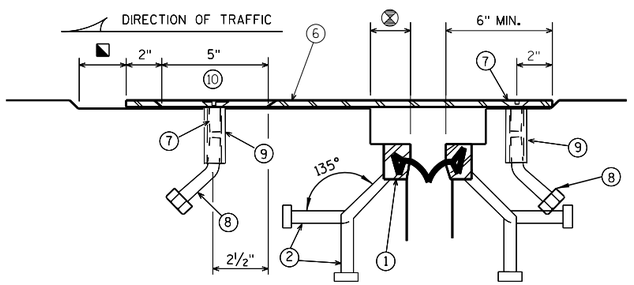
FABRICATOR SHALL PROVIDE MEANS OF KEEPING GALVANIZED EXTRUSIONS CLEAN & SMOOTH DURING SHIPMENT AND PRIOR TO APPLYING LUBRICANT ADHESIVE FOR NEOPRENE GLAND INSTALLATION.

SANDBLAST PLATES & EXTRUSIONS AFTER FABRICATION IN ACCORDANCE WITH SSPC SP. #6 "COMMERCIAL BLAST CLEANING". AFTER BLAST CLEANING, THE PLATES & EXTRUSIONS SHALL BE HOT DIPPED GALVANIZED.

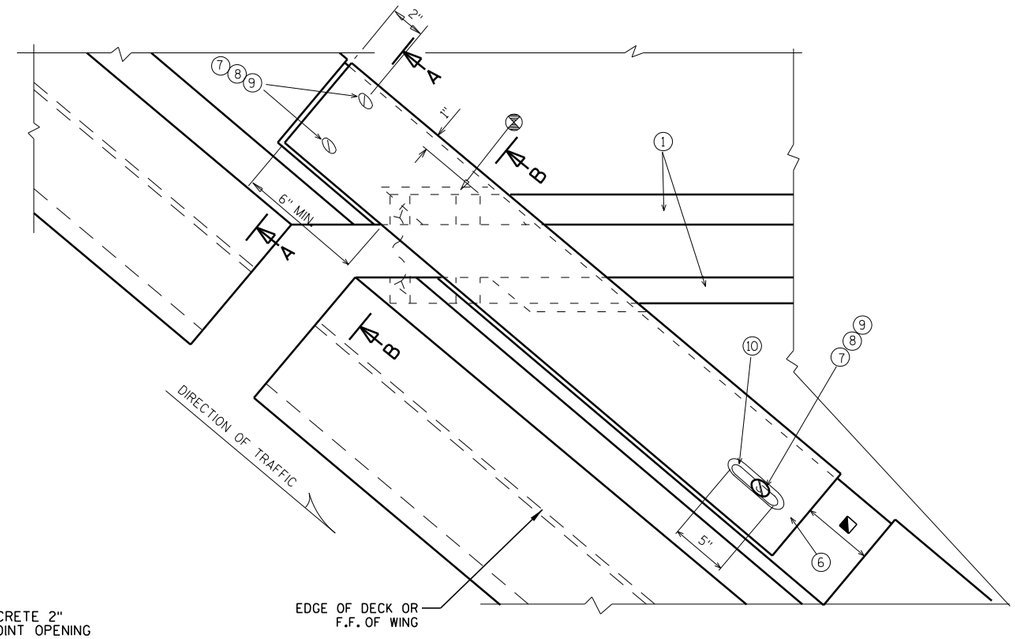
ANCHOR SYSTEM NO. 8 & NO. 9 SHALL CONFORM TO ASTM A307 & SHALL BE GALVANIZED IN ACCORDANCE WITH ASTM A153 CLASS C & D.

STRIP SEAL EXPANSION JOINT ASSEMBLY, INCLUDING PARAPET PLATES, ANCHOR STUDS & HARDWARE, CONNECTIONS AND FIELD DRILLING, WILL BE PAID FOR AT THE LUMP SUM PRICE BID FOR "EXPANSION DEVICE STRUCTURE B-45-48 REHAB".

ALL NEW TRANSVERSE STEEL SHALL BE PLACED PARALLEL TO THE JOINT.



SECTION C-C



PLAN AT PARAPET

⊗ — BLOCK OUT CONCRETE 2" EACH SIDE OF JOINT OPENING

◪ — JOINT OPENING DIMENSION ALONG SKEW PLUS ½"

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STRUCTURE B-45-48 REHAB

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STRIP SEAL EXPANSION JOINT DETAILS

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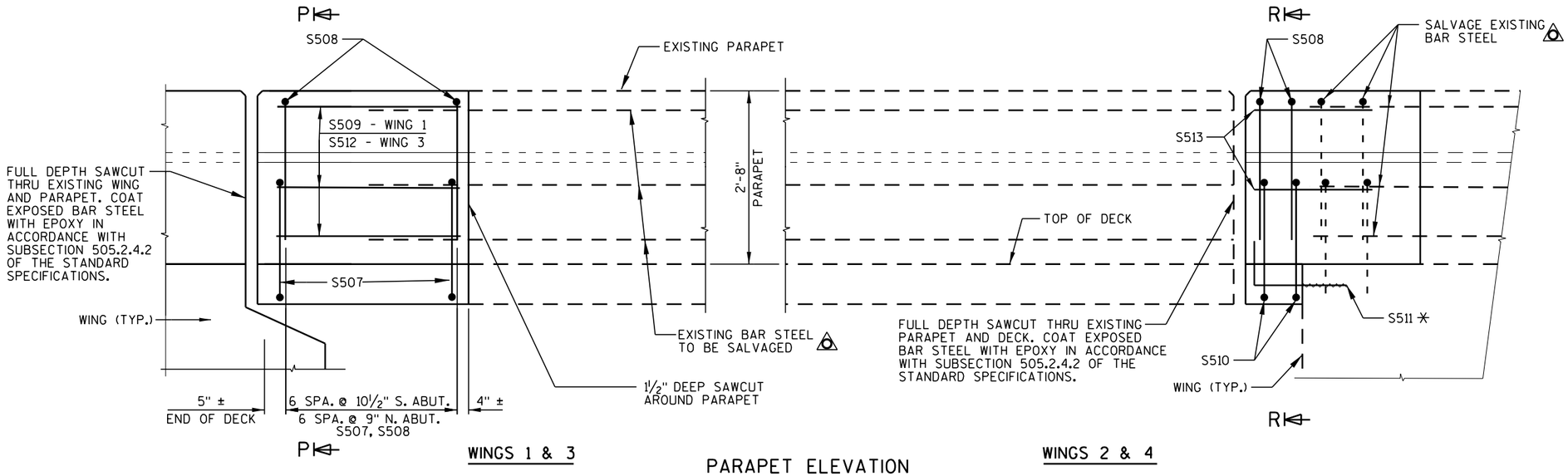
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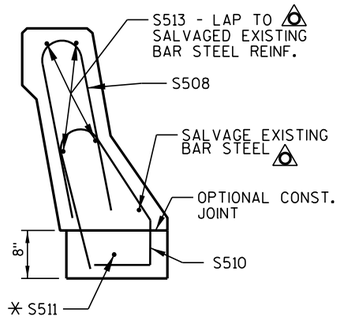
STATE PROJECT NUMBER

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PARAPET ELEVATION

(LOOKING AT OUTSIDE FACE OF PARAPET)



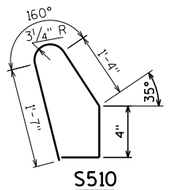
SECTION R–R THRU PARAPET

BILL OF BARS (COATED) 4600 LBS.

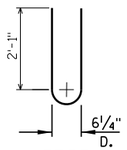
	MARK	NO. REQ'D	LENGTH	BENT	LOCATION
	S401	44	5-6	X	DIAPH @ SOUTH ABUT. - STIRRUP - VERT.
	S702	20	13-6		DIAPH @ SOUTH ABUT. - BETWEEN GIRDERS - TRANS.
	S403	28	13-6		DECK ENDS BETWEEN GIRDERS - THRU STRIP SEAL & STIRRUPS - TRANS.
	S604	64	20-3		DECK ENDS - ABOVE DIAPHRAGM - TRANS.
✳	S505	280	3-2	X	ABUTMENT BACKWALL TOP - TYPE L - VERT.
	S506	60	8-0		ABUTMENT BACKWALL TOP - TRANS.
	S507	14	4-9	X	PARAPET LOWER STIRRUP - VERT.
	S508	18	5-0	X	PARAPET UPPER STIRRUP - VERT.
	S509	5	5-0		PARAPET @ WING 1 - LONGIT.
	S510	4	4-5	X	PARAPET @ WINGS 2 & 4 LOWER STIRRUP - VERT.
✳	S511	2	2-9	X	WINGS 2 & 4 UNDER PARAPET - TYPE L - HORIZ.
	S512	5	4-3		PARAPET @ WING 3 - LONGIT.
	S513	8	3-1		PARAPET @ WINGS 2 & 4 - LONGIT.

DIMENSIONS IN BENDING DETAILS ARE OUT TO OUT OF BAR.

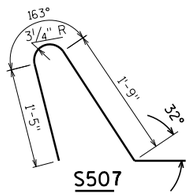
EPOXY COAT ALL BAR STEEL.



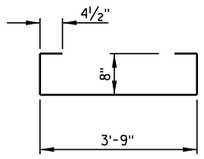
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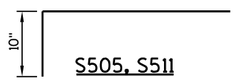
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S507



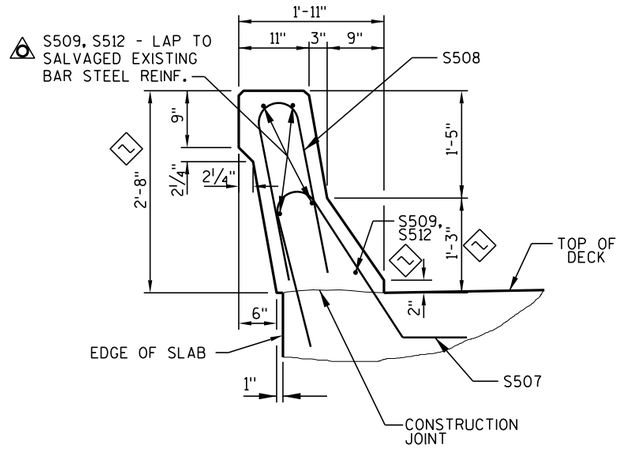
S401



S505, S511

LEGEND

- REDUCE DIMENSION AS REQUIRED TO MATCH NEW PARAPET TOP WITH EXISTING PARAPET TOP.
- IF EXISTING BAR STEEL REINFORCEMENT IS DAMAGED, INSTALL MASONRY ANCHORS TYPE L NO. 5 BARS NEAR LOCATON OF DAMAGED BARS. MASONRY ANCHORS IF REQUIRED SHALL BE INCLUDED IN THE BID ITEM "JOINT REPAIR". ✳
- ✳ — MASONRY ANCHORS TYPE L NO. 5 BARS SHALL DEVELOP A MININUM PULLOUT CAPACITY OF 19 KIPS. EMBED BAR 1'-6" MIN. ANCHOR HOLES SHALL BE 4" CLEAR MIN. TO FACE OF EXISTING CONCRETE.



SECTION P–P THRU PARAPET

NOTES

SEE SHEET 6 FOR REMOVAL LIMITS.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-45-48 REHAB

DRAWN BY RLR | PLANS CK'D. LJM

PARAPET DETAILS

SHEET 9 OF 9

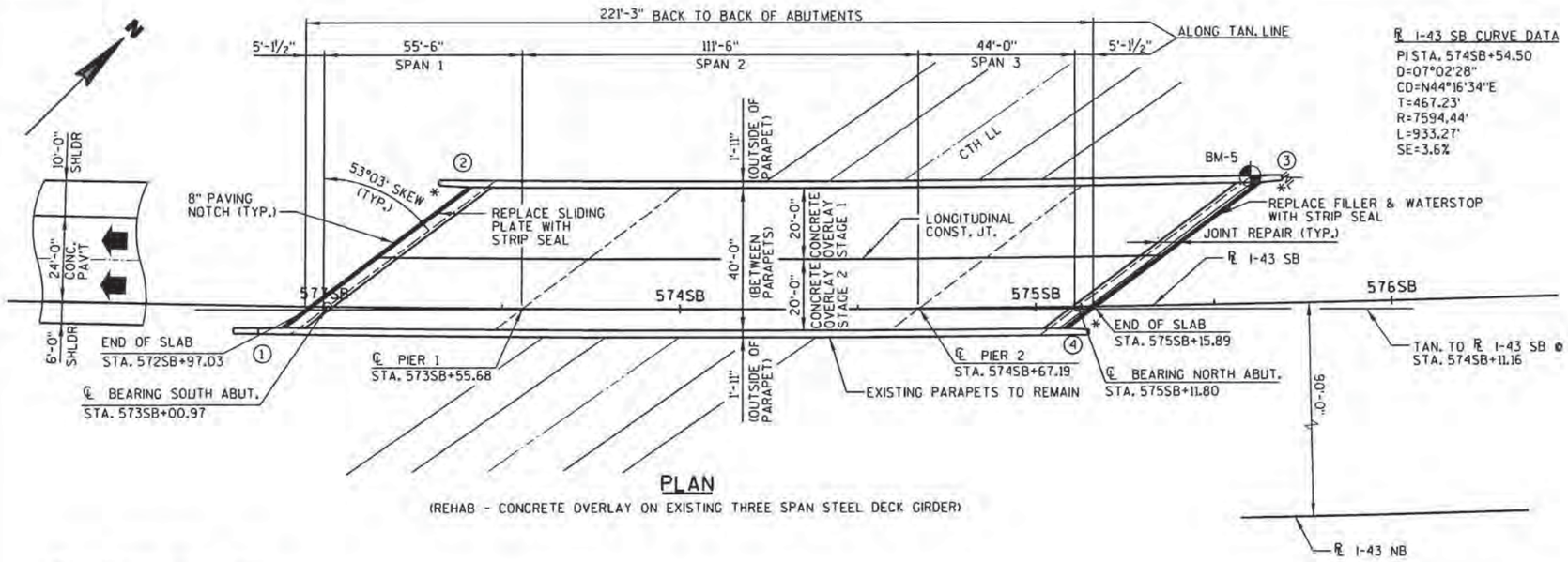
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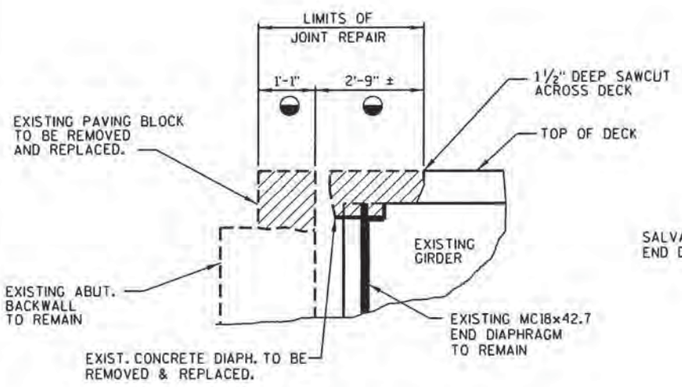


PLAN

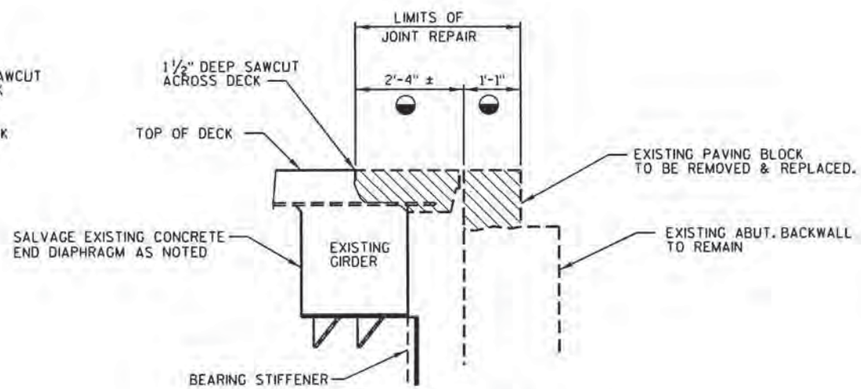
(REHAB - CONCRETE OVERLAY ON EXISTING THREE SPAN STEEL DECK GIRDER)

◯ - INDICATES WING NUMBER

* - INDICATES LOCATION OF PROVISION FOR NEW THRIE BEAM ATTACHMENT AT WINGS (SEE SDD STEEL THRIE BEAM STRUCTURE APPROACH, CONNECTION TO SLOPED END PARAPETS.)



SOUTH ABUTMENT



NORTH ABUTMENT

JOINT REMOVAL DETAILS

◒ — DIMENSION GIVEN NORMAL TO ℄ OF ABUTMENT

STATE PROJECT NUMBER

1450-16-70

BENCHMARKS ✥ NGVD 29

NO.	STA.	DESCRIPTION	ELEV.
5	575SB+60.8, 35.8' LT	DISK ON NW CORNER OF STRUCTURE	697.35

DESIGN DATA

LIVE LOAD:
INVENTORY RATING : HS-23
OPERATIONAL RATING : HS-38
MAX. STD. PERMIT VEHICLE LOAD: 250 KIPS

TRAFFIC DATA:
A.A.D.T. (2012) = 24,900
A.A.D.T. (2032) = 28,211

ULTIMATE DESIGN STRESSES:
CONCRETE MASONRY OVERLAY DECKS —— f'c = 4,000 P.S.I.
BAR STEEL REINFORCEMENT HS COATED BRIDGES —— fy = 60,000 P.S.I.

LIST OF DRAWINGS

1. GENERAL PLAN & REMOVAL DETAILS
2. CROSS SECTIONS & STAGING DETAILS
3. STRUCTURE QUANTITIES, NOTES, PROFILE & DETAILS
4. EXPANSION BEARINGS
5. HOLD DOWN DEVICE
6. PARAPET & DECK REMOVAL DETAILS
7. NORTH ABUTMENT END DIAPHRAGM & PARAPET DETAILS
8. STRIP SEAL EXPANSION JOINT
9. STRIP SEAL EXPANSION JOINT DETAILS

WISCONSIN
LEAH J. RHODES
E-41726
BARABOO
WI
PROFESSIONAL ENGINEER

10-18-12

DESIGN CONTACT:
LEAH RHODES
(608) 355-8945

BRIDGE OFFICE CONTACT:
WILLIAM DREHER
(608) 266-8489

MSA PROFESSIONAL SERVICES
TRANSPORTATION • MUNICIPAL DEVELOPMENT • ENVIRONMENTAL
1230 South Boulevard Baraboo, WI 53913
608-356-2771 1-800-362-4966 Fax: 608-356-2770

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
ACCEPTED William C. Dreher KAR 04/19/13
CHIEF STRUCTURES DESIGN ENGINEER DATE

STRUCTURE B-45-49 REHAB

I-43 SB OVER CTH LL

COUNTY: OZAUKEE
TOWN/CITY/VILLAGE: ~~CITY~~ PORT WASHINGTON

DESIGN SPEC.
REHABILITATION - N/A

DESIGNED BY	DESIGN CK'D.	DRAWN BY	PLANS CK'D.
DHW	LJM	CAR/RLR	LJM

GENERAL PLAN & REMOVAL DETAILS

SHEET 1 OF 9

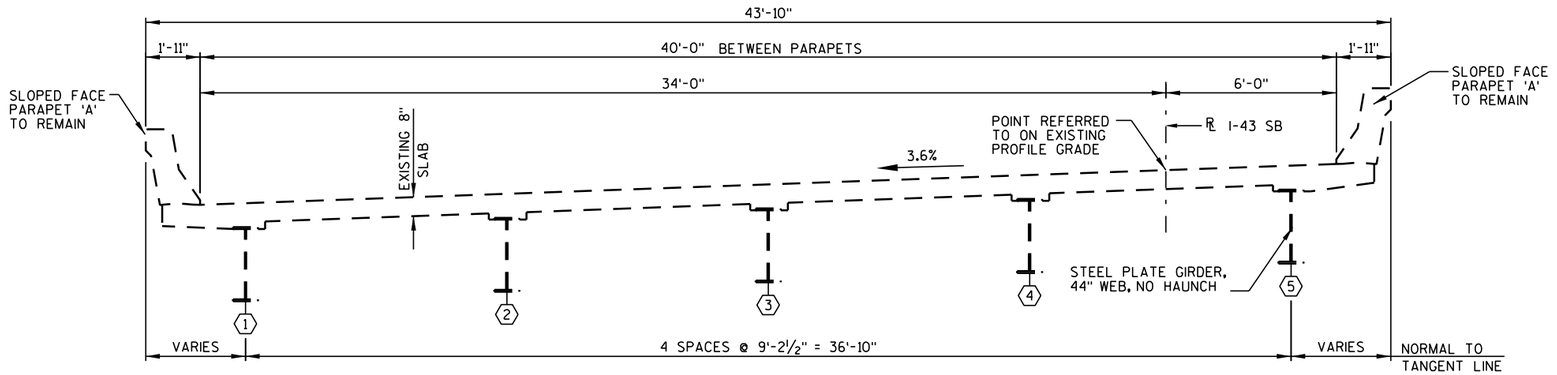
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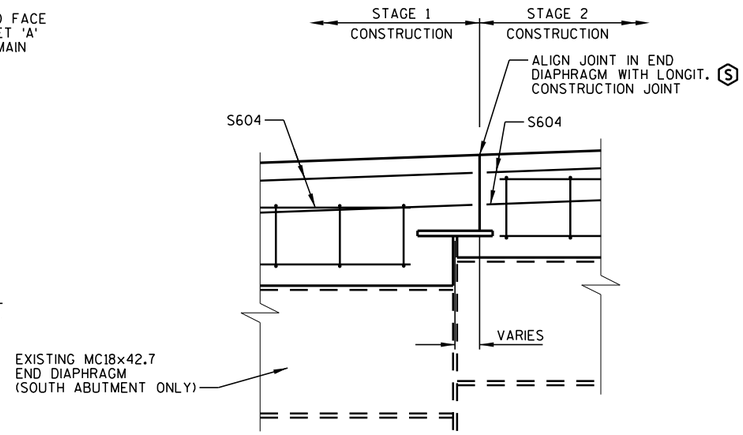
STATE PROJECT NUMBER

1450-16-70



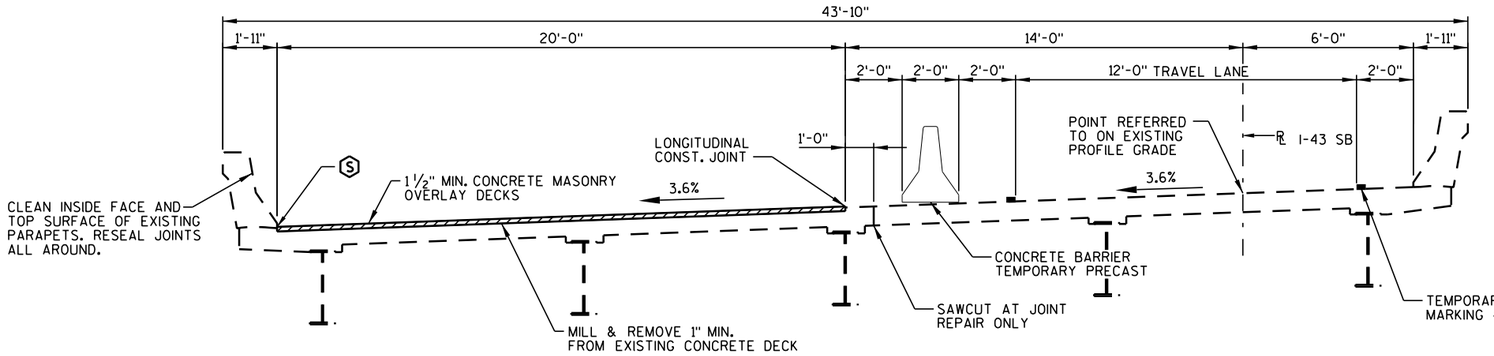
CROSS SECTION THRU EXISTING BRIDGE

(LOOKING NORTH)



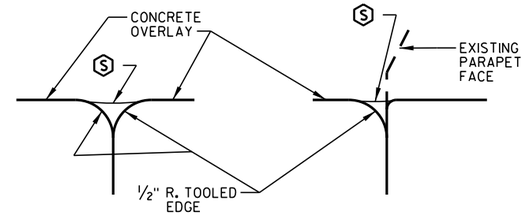
PART SECTION THRU BRIDGE AT END DIAPHRAGM

(SOUTH ABUTMENT SHOWN, NORTH ABUTMENT CONSTRUCTION JOINT SIMILAR)
(LOOKING NORTH)

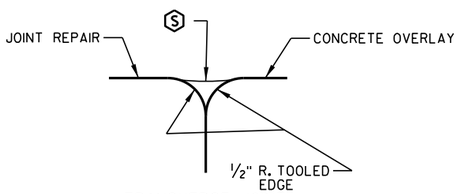


CROSS SECTION THRU BRIDGE - STAGE 1

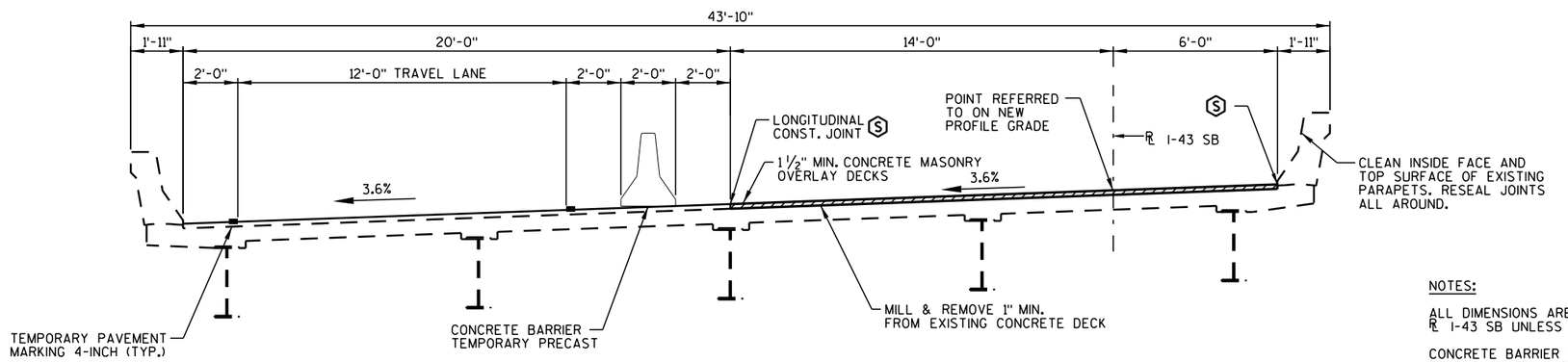
(LOOKING NORTH)



LONGITUDINAL JOINT AT ℄ JOINT AT PARAPETS



TRANSVERSE JOINT AT ABUTMENTS



CROSS SECTION THRU BRIDGE - STAGE 2

(LOOKING NORTH)

JOINT DETAILS

Ⓢ — CRACK SEALING EPOXY.

NOTES:

ALL DIMENSIONS ARE MEASURED RADIAL TO ℄ I-43 SB UNLESS NOTED OTHERWISE.

CONCRETE BARRIER TEMPORARY PRECAST AND TEMPORARY PAVEMENT MARKING 4-INCH ARE INCLUDED IN THE ROAD APPROACH QUANTITIES.

⬡ - INDICATES GIRDER NUMBER

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-45-49 REHAB

DRAWN BY CAR | PLANS CK'D. LJM

CROSS SECTIONS & STAGING DETAILS

SHEET 2 OF 9

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DATE= 4/9/2013

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STATE PROJECT NUMBER

1450-16-70

STRUCTURE ESTIMATED QUANTITIES

	ITEM NUMBER	BID ITEM	UNIT	SOUTH ABUT.	PIER 1	PIER 2	NORTH ABUT.	SUPER	TOTAL
	203.0210.S.05	ABATEMENT OF ASBESTOS CONTAINING MATERIAL STRUCTURE B-45-49 REHAB	LS	-	-	-	-	-	1
	203.0225.S.05	DEBRIS CONTAINMENT STRUCTURE B-45-49 REHAB	LS	-	-	-	-	-	1
	502.3100.05	EXPANSION DEVICE STRUCTURE B-45-49 REHAB	LS	-	-	-	-	-	1
	502.3200	PROTECTIVE SURFACE TREATMENT	SY	-	-	-	-	1180	1180
	502.5005	MASONRY ANCHORS TYPE L NO. 5 BARS	EACH	135	-	-	135	-	270
	505.0605	BAR STEEL REINFORCEMENT HS COATED BRIDGES	LB	-	-	-	-	4740	4740
	505.0906	BAR COUPLERS NO. 6	EACH	9	-	-	7	-	16
	506.7000.S.05	BEARING REPLACEMENT STRUCTURE B-45-49 REHAB	EACH	5	-	-	2	-	7
	509.0301	PREPARATION DECKS TYPE 1	SY	-	-	-	-	50	50
	509.0302	PREPARATION DECKS TYPE 2	SY	-	-	-	-	20	20
	509.0500	CLEANING DECKS	SY	-	-	-	-	920	920
	509.1000	JOINT REPAIR	SY	-	-	-	-	55	55
*	509.1500	CONCRETE SURFACE REPAIR	SF	-	-	-	-	45	45
	509.2500	CONCRETE MASONRY OVERLAY DECKS	CY	-	-	-	-	87	87
	517.1800.S.05	STRUCTURE REPAINTING RECYCLED ABRASIVE STRUCTURE B-45-49 REHAB	LS	-	-	-	-	-	1
	517.4500.S.05	NEGATIVE PRESSURE CONTAINMENT AND COLLECTION OF WASTE MATERIALS, STRUCTURE B-45-49 REHAB	LS	-	-	-	-	-	1
	517.6001.S	PORTABLE DECONTAMINATION FACILITY	EACH	-	-	-	-	-	1
	604.9010.S	SLOPE PAVING REPAIR CRUSHED AGGREGATE	CY	12	-	-	12	-	24
	604.9015.S	RESEAL CRUSHED AGGREGATE SLOPE PAVING	SY	315	-	-	270	-	585
	SPV.0060.01	CLEANING AND PAINTING BEARINGS	EACH	-	5	5	3	-	13
	SPV.0060.02	MASONRY ANCHORS TYPE S 1 1/2-INCH	EACH	14	-	-	8	-	22
	SPV.0090.01	CLEANING PARAPETS	LF	-	-	-	-	477	477
	SPV.0090.02	CRACK SEALING EPOXY SPECIAL	LF	-	-	-	-	780	780
		NON-BID ITEMS							
		BRIDGE SEAT PROTECTION	EACH	1	-	-	1	-	2

* - CONCRETE SURFACE REPAIR ON SUPERSTRUCTURE AS DIRECTED BY THE FIELD ENGINEER.

GENERAL NOTES

DRAWINGS SHALL NOT BE SCALED.

THE FIRST DIGIT OF A THREE DIGIT BAR MARK SIGNIFIES THE BAR SIZE.

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

DIMENSIONS OF EXISTING BRIDGE MEMBERS SHOWN ARE BASED ON ORIGINAL PLANS.

THIS STRUCTURE WILL REHABILITATE THE EXISTING STRUCTURE, B-45-49, A THREE SPAN, 221'-3" LONG, CONTINUOUS STEEL DECK GIRDER SET ON CONCRETE SILL ABUTMENTS AND MULTI-COLUMN PIERS.

THE LOCATIONS OF EXISTING UTILITY INSTALLATIONS AS SHOWN ON THE PLANS ARE APPROXIMATE.

AT THE ABUTMENTS AND WINGWALLS ALL EXCAVATED VOLUME BELOW THE ROADWAY SUBGRADE OR PAVEMENT APPROACH SLAB NOT OCCUPIED BY THE NEW STRUCTURE SHALL BE BACKFILLED WITH BACKFILL STRUCTURE. THE EXCAVATION AND BACKFILL STRUCTURE WILL BE INCLUDED IN THE BID ITEM "CONCRETE MASONRY OVERLAY DECKS".

A MINIMUM OF 1" OF CONCRETE SHALL BE REMOVED FROM THE ENTIRE BRIDGE DECK UNDER THE BID ITEM "CLEANING DECKS".

THE MINIMUM OVERLAY THICKNESS IS 1 1/2" PLACED ABOVE THE DECK SURFACE AFTER CLEANING. THE EXPECTED AVERAGE OVERLAY THICKNESS IS 1 7/8" BASED ON THE NEW PROFILE GRADE LINE. IF THE EXPECTED AVERAGE OVERLAY THICKNESS WILL BE EXCEEDED BY MORE THAN 1/2", CONTACT THE STRUCTURES DESIGN SECTION BEFORE OVERLAY PLACEMENT.

THE "CONCRETE MASONRY OVERLAY DECKS" QUANTITY IS BASED ON THE EXPECTED AVERAGE OVERLAY THICKNESS OF 1 7/8" PLUS AN ADDITIONAL 1/2" TO ACCOUNT FOR VARIATIONS IN THE DECK SURFACE.

VARIATIONS TO THE NEW PROFILE GRADE LINE OVER 1/4" MUST BE SUBMITTED BY THE FIELD ENGINEER TO THE STRUCTURES DESIGN SECTION FOR REVIEW.

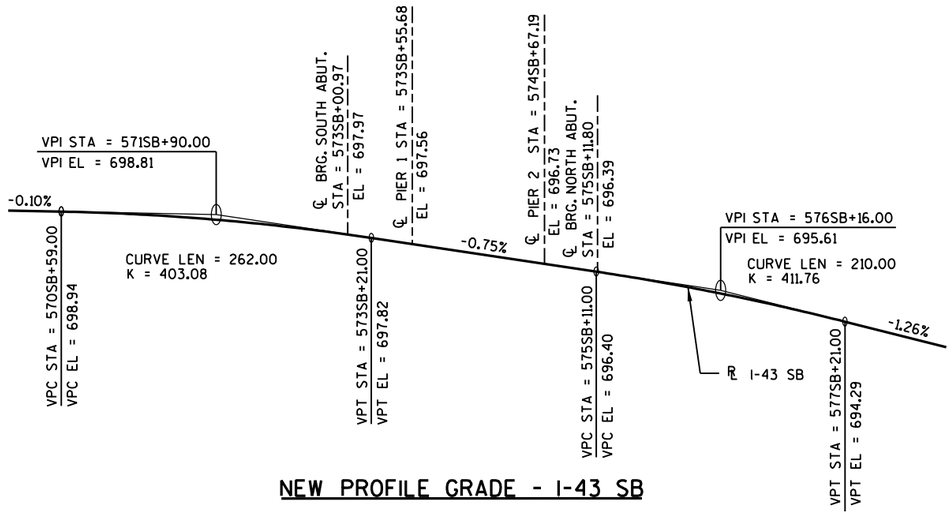
EXISTING PARAPET TOP AND INSIDE FACES SHALL BE GIVEN A LIGHT SANDBLASTING. PARAPET JOINTS SHALL BE CLEANED AND RE-SEALED WITH NON-STAINING, GRAY, NON-BITUMINOUS JOINT SEALER. INCLUDE IN BID ITEM "CLEANING PARAPETS".

ALL EXPOSED STEEL SHALL BE CLEANED AND PAINTED. PAINT EXPOSED STEEL AT BEARING REPLACEMENTS.

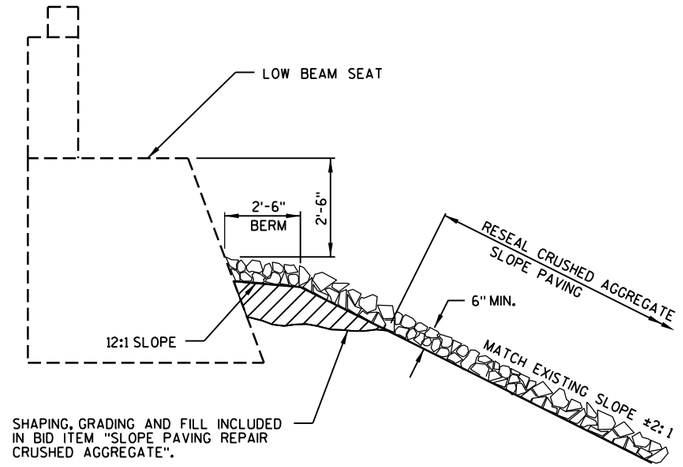
CLEAN AND PAINT ALL BEARINGS AT NORTH ABUTMENT AND PIERS THAT ARE NOT BEING REPLACED. SEE SPECIAL PROVISIONS FOR "CLEANING AND PAINTING BEARINGS."

APPLY BRIDGE SEAT PROTECTION, PER SUBSECTION 502.3.12 OF THE STANDARD SPECIFICATIONS, TO THE TOP SURFACE OF BOTH ABUTMENTS, INCLUDING THE SURFACE BELOW BEARINGS TO BE REPLACED.

APPLY PROTECTIVE SURFACE TREATMENT TO THE TOP OF DECK AND INSIDE FACES AND TOPS OF PARAPETS, INCLUDING PARAPETS ON ABUTMENT WINGS.



NEW PROFILE GRADE - I-43 SB



CROSS SECTION THRU ABUTMENTS
SLOPE PAVING CRUSHED AGGREGATE

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-45-49 REHAB

DRAWN BY CAR/RLR | PLANS CK'D. LJM

STRUCTURE QUANTITIES, NOTES, PROFILE & DETAILS

SHEET 3 OF 9
270

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DATE= 4/9/2013

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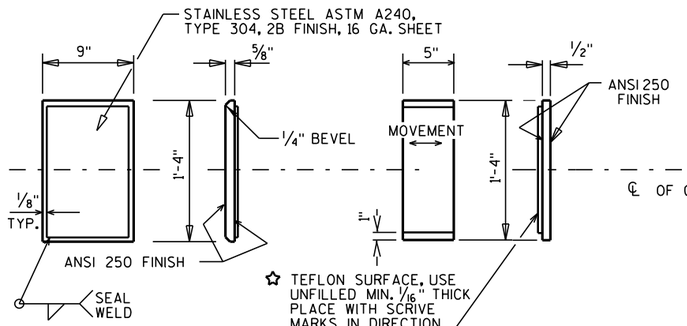
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STATE PROJECT NUMBER

1450-16-70

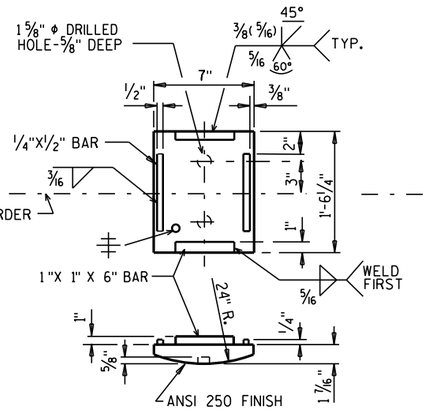
☆ BOND STEEL PLATE "B" AND TEFLON WITH ADHESIVE MATERIAL MEETING FEDERAL SPECIFICATION MMM-A-134, FEP FILM OR EQUAL.

⧺ PROVIDE A METHOD FOR HANDLING ROCKER PLATE "C" DURING GALVANIZING.



TOP PLATE "A"

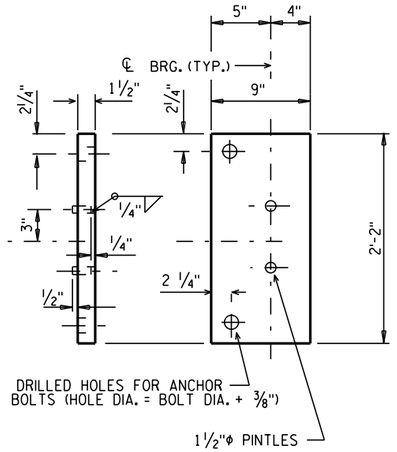
TEFLON SURFACE ON PLATE "B"



ROCKER PLATE "C"

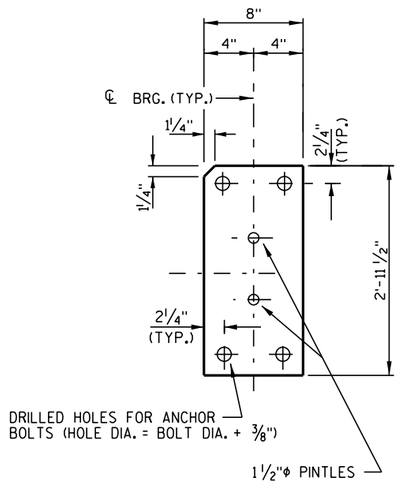
EXPANSION BEARING PLATES

(SKEW NOT SHOWN)



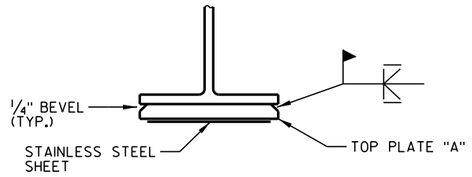
MASONRY PLATE "D"

(EXPANSION BEARINGS - 3 REQUIRED)

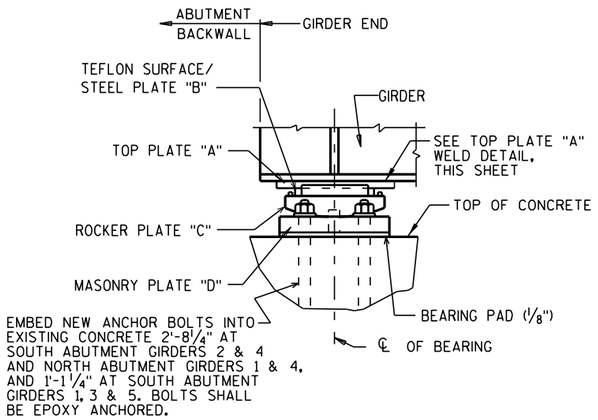


MASONRY PLATE "D"

(HOLD DOWN BEARINGS - 4 REQUIRED)

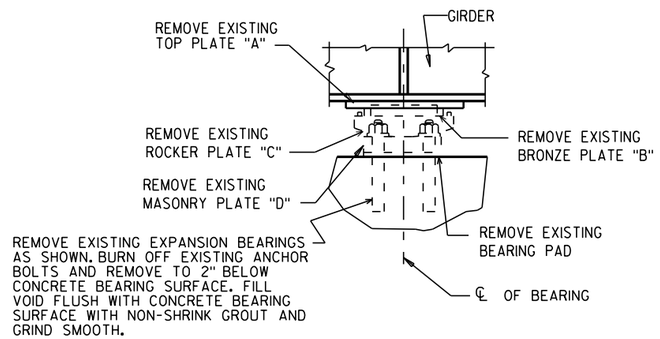


TOP PLATE "A" WELD DETAIL



NEW EXPANSION BEARING ASSEMBLY

(HOLD DOWN DEVICE NOT SHOWN)



EXISTING EXPANSION BEARING REMOVAL

(HOLD DOWN DEVICE NOT SHOWN)

BEARING NOTES

ALL BEARINGS ARE SYMMETRICAL ABOUT ℄ OF GIRDER AND ℄ OF BEARING, EXCEPT FOR MASONRY PLATE "D" AT SOUTH ABUTMENT GIRDERS 1, 3 AND 5 AND CORNER CLIPS.

ANCHOR BOLTS, NUTS & WASHERS SHALL BE GALVANIZED IN ACCORDANCE WITH ASTM DESIGNATION A153, CLASS C.

ROCKER PLATE "C" AND MASONRY PLATE "D" SHALL BE GALVANIZED. TOP PLATE "A" AND STEEL PLATE "B" SHALL BE SHOP PAINTED. USE A WELDABLE PRIMER ON TOP PLATE "A". DO NOT PAINT STAINLESS STEEL OR TEFLON SURFACES.

ALL MATERIAL IN BEARINGS, EXCLUDING STAINLESS STEEL SHEET, TEFLON SURFACE, PINTLES, ANCHOR BOLTS, NUTS AND WASHERS, SHALL CONFORM TO ASTM A709 GRADE 50W.

ALL MATERIAL IN BEARINGS, EXCLUDING ANCHOR BOLTS, WASHERS AND NUTS, SHALL BE PAID FOR AT THE UNIT PRICE BID FOR "BEARING REPLACEMENT STRUCTURE B-45-49 REHAB", EACH. ANCHOR BOLTS, NUTS AND WASHERS SHALL BE PAID FOR AS "MASONRY ANCHORS TYPE S 1 1/2-INCH" AND SHALL BE EPOXY ANCHORED.

ALL FINISHED SURFACES SHALL BE MACHINE FINISHED BY AN AUTOMATIC PROCESS.

ALL PLATE CUTS SHALL BE MACHINE OR MACHINE FLAME CUTS.

ALL STRUCTURAL STEEL BEARING PLATES SHALL BE FLAT ROLLED STEEL PLATES WITH ALL SURFACES SMOOTH AND FREE FROM WARP AND ALL EDGES SMOOTH, STRAIGHT AND VERTICAL.

PROVIDE 1/8" THICK BEARING PAD SAME SIZE AS PLATE "D" FOR EACH BEARING.

ANCHOR BOLTS SHALL BE FULLY THREADED. CHAMFER TOP OF ANCHOR BOLTS PRIOR TO THREADING. PROVIDE ONE STANDARD WROUGHT WASHER AND ONE HEX NUT PER BOLT. PROJECT ANCHOR BOLTS, MASONRY PLATE "D" THICKNESS PLUS 2 1/4", ABOVE TOP OF EXISTING CONCRETE.

CHAMFER TOP OF PINTLES 1/8". DRILL HOLES FOR ALL PINTLES IN MASONRY PLATE "D" FOR A DRIVING FIT.

STEEL PINTLES SHALL CONFORM TO ASTM A449 OR MATERIAL OF EQUIVALENT YIELD STRENGTH & ELONGATION.

ANCHOR BOLTS, NUTS AND WASHERS SHALL CONFORM TO ASTM A709 GRADE 36, OR MATERIAL OF EQUIVALENT YIELD STRENGTH AND ELONGATION.

AT INSTALLATION, ENSURE STAINLESS STEEL SLIDING FACE OF THE UPPER ELEMENT AND THE TFE SLIDING FACE OF THE LOWER ELEMENT HAVE THE SURFACE FINISH SPECIFIED AND ARE CLEAN AND FREE OF ALL DUST, MOISTURE, OR ANY OTHER FOREIGN MATTER.

REPLACE SOUTH ABUTMENT COMPLETE BEARING ASSEMBLIES AT ALL GIRDERS, INCLUDING HOLD DOWN DEVICES AT GIRDERS 2 AND 4.

REPLACE NORTH ABUTMENT COMPLETE BEARING ASSEMBLIES, INCLUDING HOLD DOWN DEVICES, AT GIRDERS 1 AND 4 ONLY.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-45-49 REHAB

DRAWN BY RLR | PLANS CK'D. LJM

EXPANSION BEARINGS

SHEET 4 OF 9

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FILE= B-45-49_04.DGN
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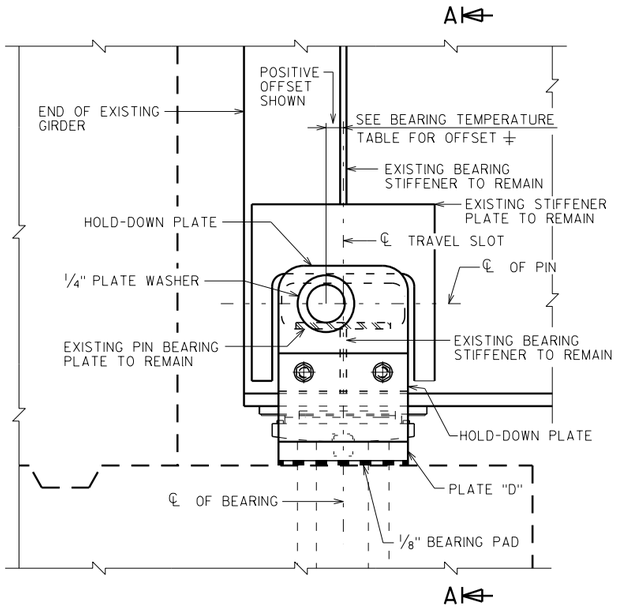
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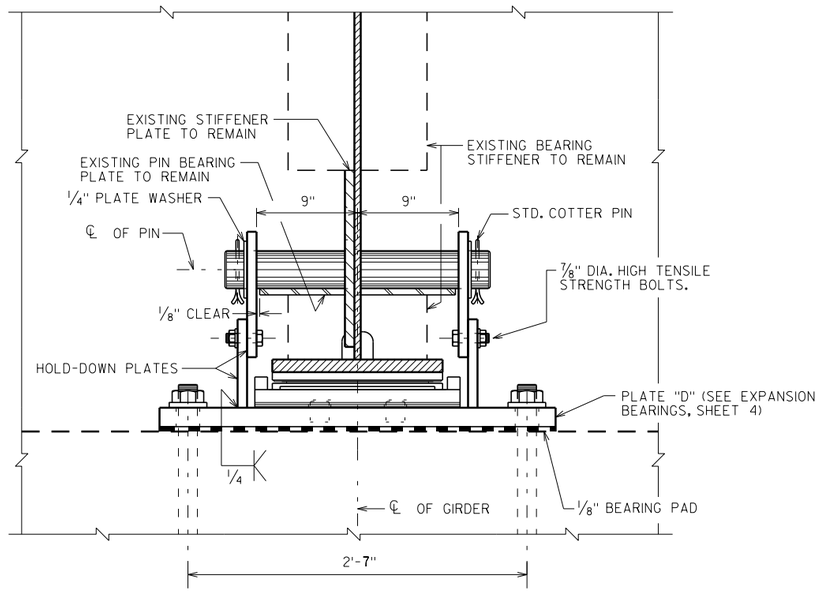
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STATE PROJECT NUMBER

1450-16-70



ELEVATION



SECTION A-A

HOLD DOWN DEVICE NOTES

ALL HOLD-DOWN DEVICES ARE SYMMETRICAL ABOUT ℄ OF GIRDER AND ℄ OF BEARING.

ALL STRUCTURAL STEEL PLATES SHALL BE FLAT ROLLED STEEL PLATES 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.

THE MATERIAL FOR THE HOLD-DOWN PLATES SHALL CONFORM TO ASTM A709 GRADE 50W.

ALL MATERIAL IN HOLD DOWN DEVICES, WHICH INCLUDES HOLD-DOWN PLATES, HIGH TENSILE STRENGTH BOLTS, PINS AND PLATE WASHERS, SHALL BE INCLUDED IN THE UNIT PRICE BID FOR "BEARING REPLACEMENT STRUCTURE B-45-49 REHAB", EACH.

◨ PROJECT ANCHOR BOLTS, PLATE "D" THICKNESS PLUS 2 1/4", ABOVE TOP OF EXISTING CONCRETE.

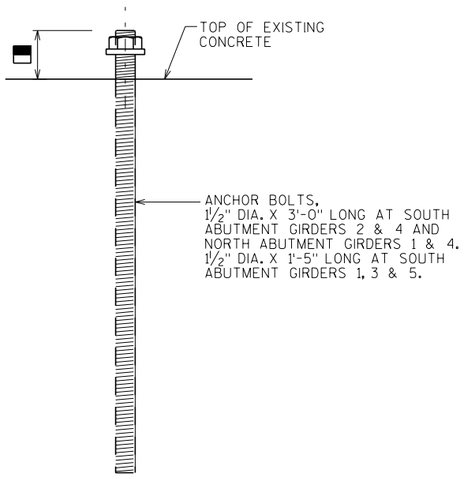
⊙ HOLES FOR PIN IN HOLD-DOWN PLATES AND PLATE WASHERS SHALL BE AS STATED IN STANDARD SPECIFICATION 506.3.17.

± OFFSET IS MEASURED ALONG ℄ GIRDER. A POSITIVE OFFSET INDICATES THAT THE PIN SHALL BE INSTALLED CLOSER TO THE ABUTMENT BACKWALL. A NEGATIVE OFFSET INDICATES THAT THE PIN SHALL BE INSTALLED CLOSER TO THE SPAN. THE PIN OFFSET VALUES SHOWN IN THE BEARING TEMPERATURE TABLE ARE FOR THE SOUTH ABUTMENT ONLY. AT THE NORTH ABUTMENT, THE PIN SHALL BE INSTALLED AT ℄ TRAVEL SLOT FOR ALL INSTALLATION TEMPERATURES.

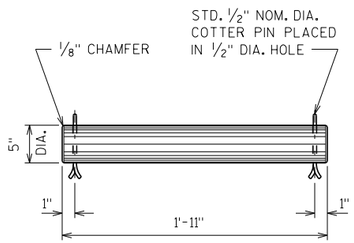
BEARING TEMPERATURE TABLE

SHADED UNDERSIDE OF DECK TEMP. (°F)	PIN OFFSET FROM ℄ TRAVEL SLOT AT SOUTH ABUTMENT (IN.) ±
85°	- 1/2
75°	- 3/8
65°	- 1/4
55°	- 1/8
45°	0
35°	1/8
25°	1/4
15°	3/8
5°	1/2

PERMANENT HOLD DOWN DEVICE

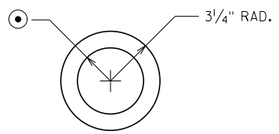


ANCHOR BOLT DETAIL

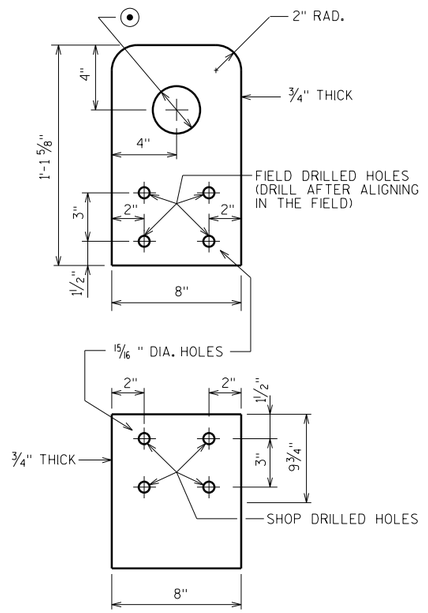


PIN DETAIL

COLD ROLLED STEEL OR CARBON STEEL FORGING.



1/4" PLATE WASHER



HOLD-DOWN PLATES

8

8

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STRUCTURE B-45-49 REHAB

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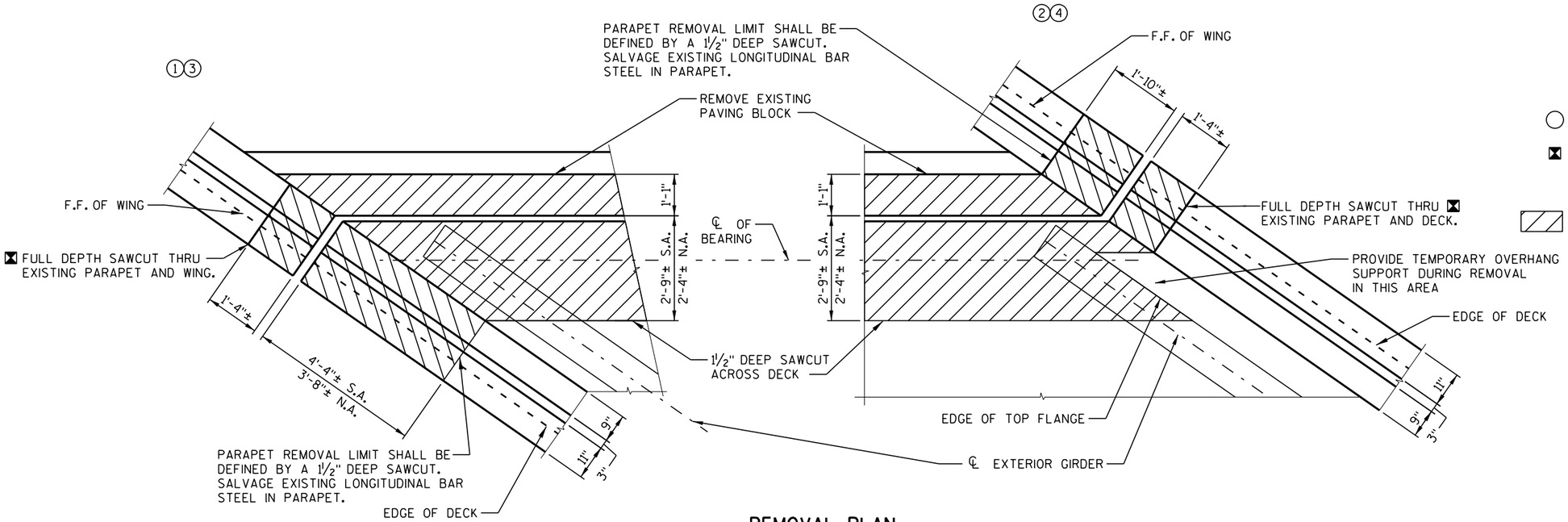
HOLD DOWN DEVICE

SHEET 5 OF 9
272

FILE= B-45-49-05.DGN
DATE= 4/9/2013

B-45-49_05.dgn 4/9/2013 7:28:09 AM RRABSKA

STATE PROJECT NUMBER
1450-16-70



REMOVAL PLAN

LEGEND

◯ - INDICATES WING NUMBER

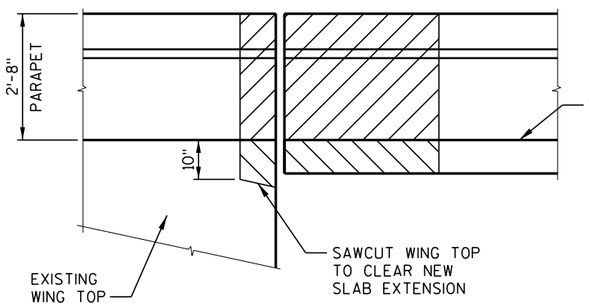
☒ - COAT EXPOSED BAR STEEL WITH EPOXY IN ACCORDANCE WITH SUBSECTION 505.2.4.2 OF THE STANDARD SPECIFICATIONS.

▨ - MINIMUM REMOVAL LIMITS (AT JOINT REPAIR)

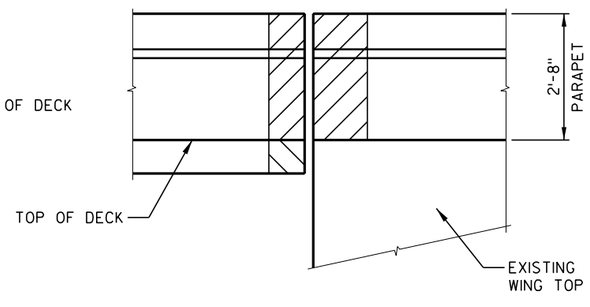
F.F. - FRONT FACE

S.A. - SOUTH ABUTMENT

N.A. - NORTH ABUTMENT



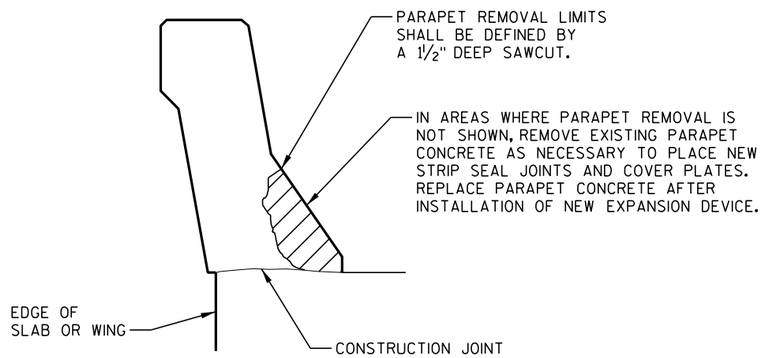
WINGS 1 & 3



WINGS 2 & 4

PARAPET ELEVATION

(LOOKING AT OUTSIDE FACE OF PARAPET)



PARAPET REMOVAL LIMITS

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STRUCTURE B-45-49 REHAB

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PARAPET & DECK REMOVAL DETAILS

SHEET 6 OF 9
273

8

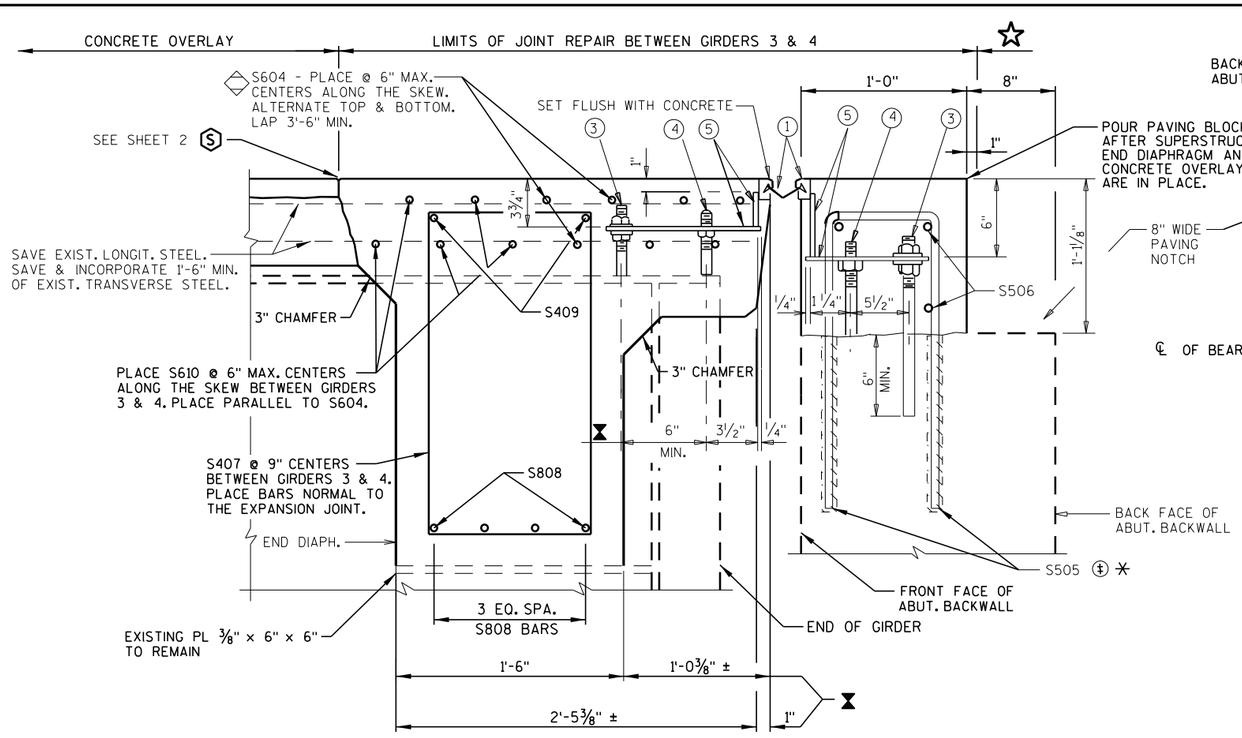
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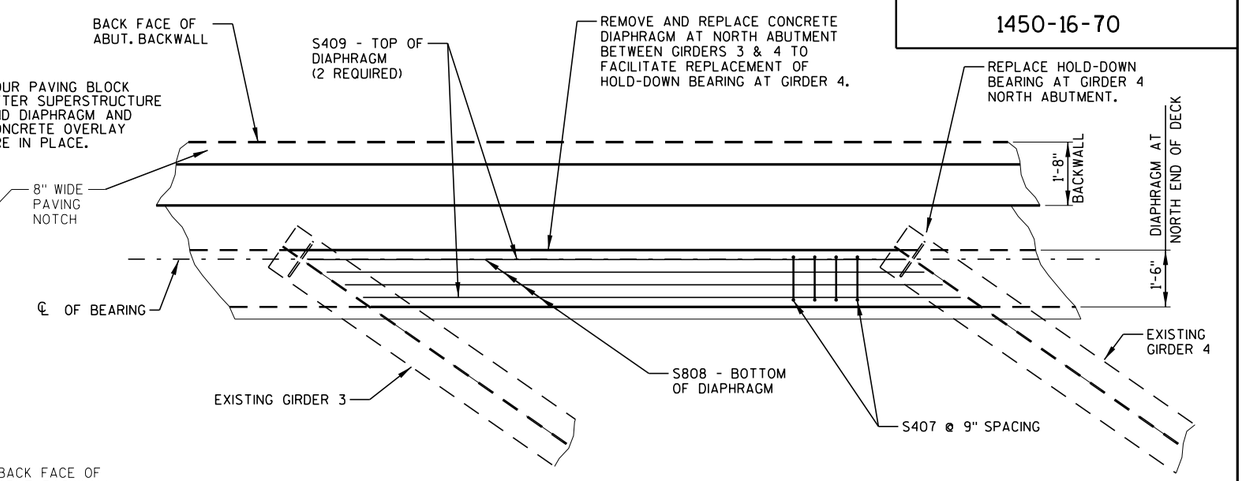
STATE PROJECT NUMBER

1450-16-70



SECTION THRU DIAPHRAGM REPLACEMENT - NORTH ABUTMENT

(BETWEEN GIRDERS 3 & 4 ONLY)



PLAN - DIAPHRAGM REPLACEMENT AT NORTH ABUTMENT

NOTES:

SEE SHEET 8 FOR BILL OF BARS, BAR BEND DETAILS, AND OTHER DETAILS OF JOINTS AND DIAPHRAGMS AT ENDS OF DECK.

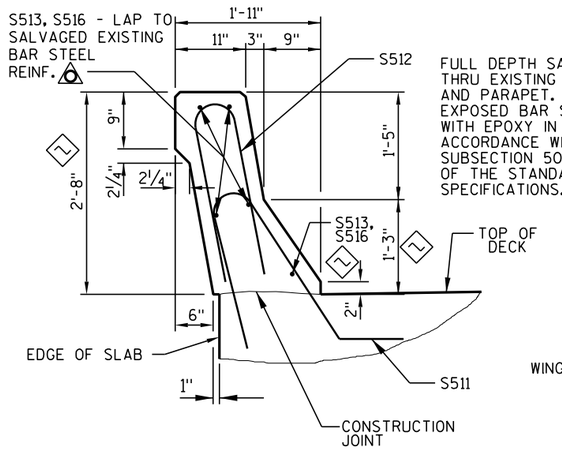
SEE LEGEND, SHEET 8 FOR DESCRIPTION OF: ⊕ ✳ ◇ ☆ ⧗

SEE LEGEND, SHEET 9 FOR DESCRIPTION OF ◯ SIGNIFYING VARIOUS EXPANSION JOINT COMPONENTS.

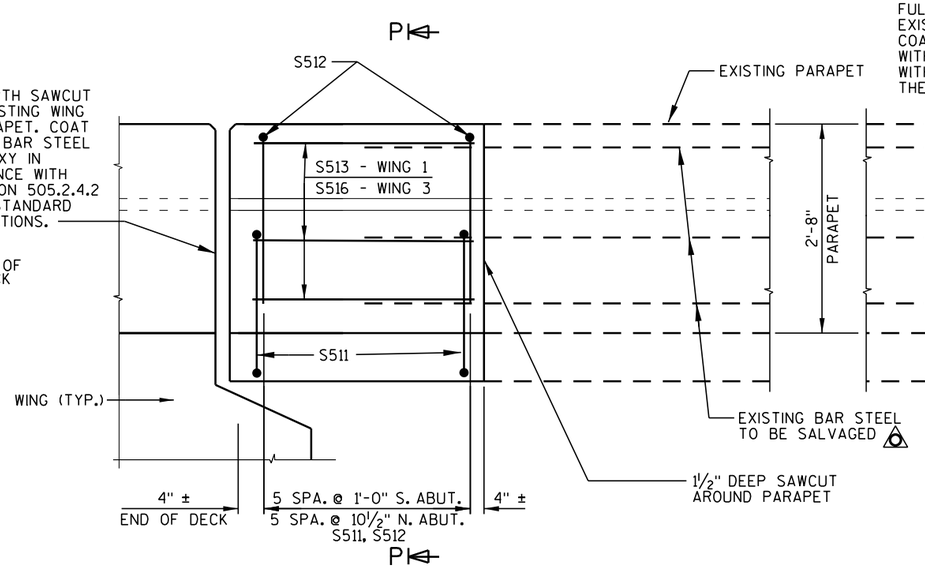
LEGEND

◇ — REDUCE DIMENSION AS REQUIRED TO MATCH NEW PARAPET TOP WITH EXISTING PARAPET TOP.

△ — IF EXISTING BAR STEEL REINFORCEMENT IS DAMAGED, INSTALL MASONRY ANCHORS TYPE L NO. 5 BARS NEAR LOCATON OF DAMAGED BARS. MASONRY ANCHORS IF REQUIRED SHALL BE INCLUDED IN THE BID ITEM "JOINT REPAIR". ✳

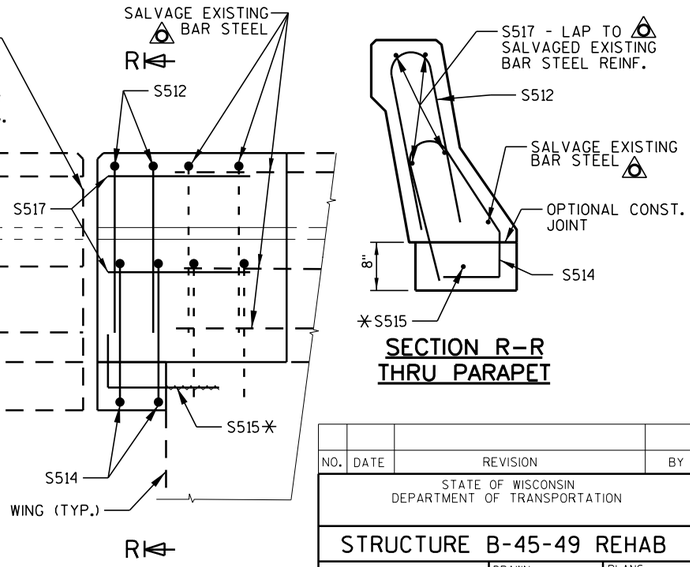


SECTION P-P THRU PARAPET



PARAPET ELEVATION

(LOOKING AT OUTSIDE FACE OF PARAPET)



WINGS 2 & 4

SECTION R-R THRU PARAPET

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DEPARTMENT OF TRANSPORTATION

STRUCTURE B-45-49 REHAB

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NORTH ABUTMENT END DIAPHRAGM & PARAPET DETAILS

SHEET 7 OF 9

274

FILE= B-45-49_07.DGN
DATE= 4/9/2013

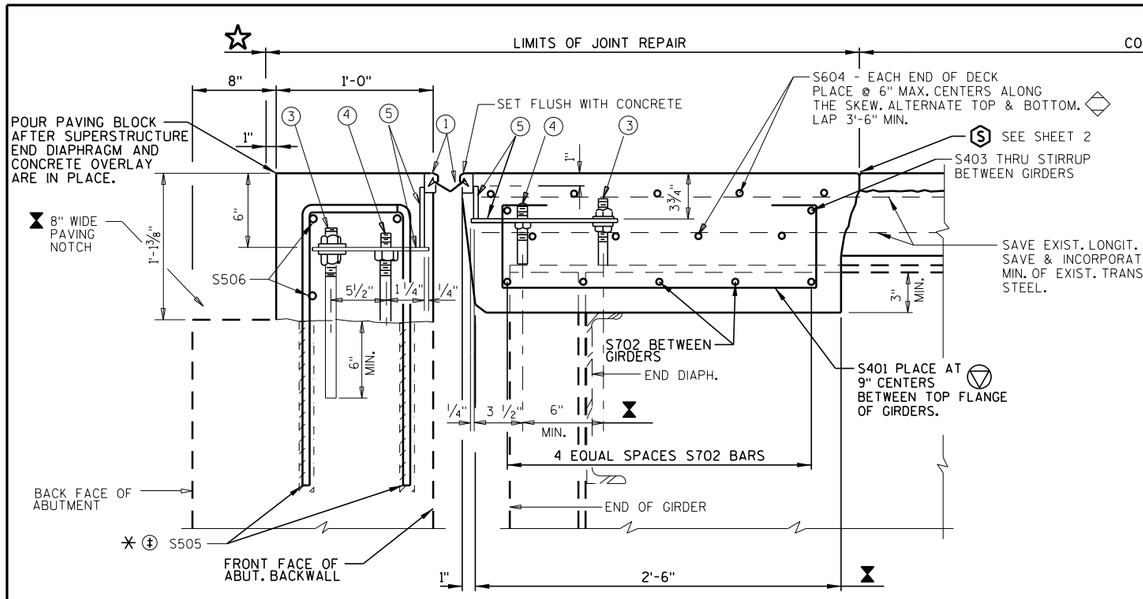
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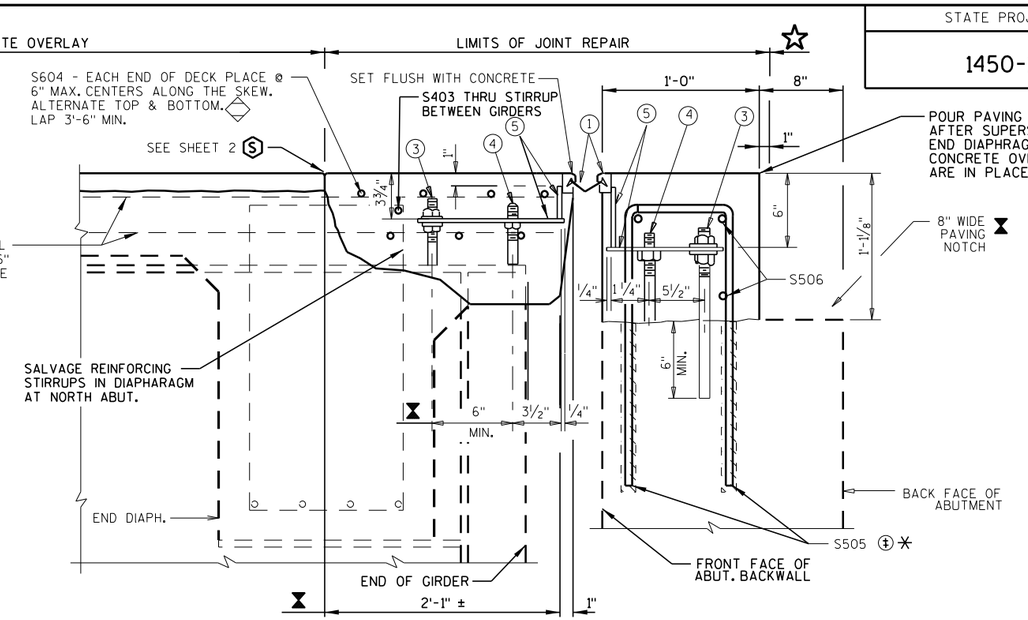
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SECTION THRU JOINT AT SOUTH ABUTMENT

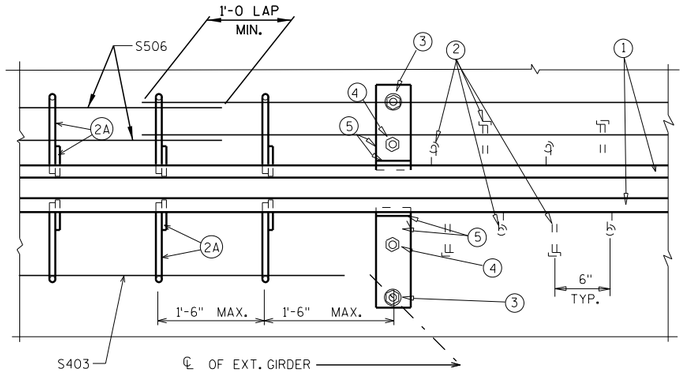


SECTION THRU JOINT AT NORTH ABUTMENT

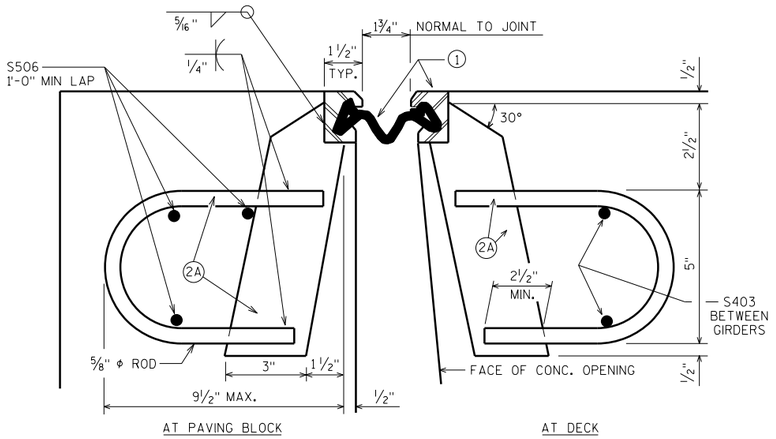
SEE SHEET 7 FOR ADDITIONAL DETAILS BETWEEN GIRDERS 3 AND 4.

LEGEND

- ⊕ - REMOVE EXISTING VERTICAL REINFORCING BARS DURING REMOVAL OF PAVING BLOCK. REPLACE WITH "MASONRY ANCHORS TYPE L NO. 5 BARS" SPACED AT 1'-0".
- ✳ - MASONRY ANCHORS TYPE L NO. 5 BARS SHALL DEVELOP A MINIMUM PULLOUT CAPACITY OF 19 KIPS. EMBED BAR 1'-6" MINIMUM. ANCHOR HOLES SHALL BE 4" CLEAR MIN. TO FACE OF EXISTING CONCRETE. TURN 10" HORIZONTAL LEG OF S505 BARS AS NECESSARY TO FIT.
- ▽ - DIMENSION IS GIVEN NORMAL TO ℄ OF GIRDER.
- ⧗ - DIMENSION IS GIVEN NORMAL TO THE ℄ OF ABUTMENT.
- ☆ - BACK FACE OF EXISTING PAVING BLOCK.
- ◇ - BAR COUPLERS NO. 6 ARE REQUIRED AT LONGITUDINAL CONSTRUCTION JOINT BETWEEN BARS S604. IF BAR LAPS ARE REQUIRED AT BAR COUPLERS, PROVIDE A MINIMUM LAP LENGTH OF 3'-6". IF FLANGED COUPLERS ARE USED, CLIP FLANGES TO PROVIDE 2" COVER TO TOP OF SLAB.
- ○ - SEE SHEET 9 FOR LEGEND OF EXPANSION JOINT COMPONENTS.

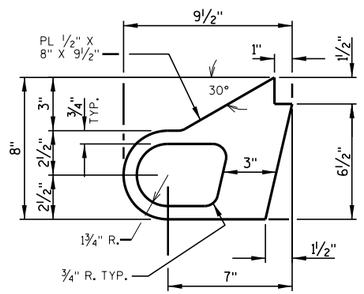


PART PLAN



SECTION THRU JOINT

ROADWAY TRAFFIC AREA BETWEEN EXTERIOR GIRDERS.



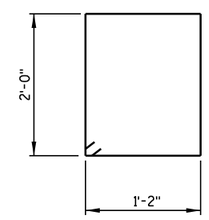
ALTERNATE STRIP SEAL ANCHOR

BILL OF BARS (COATED) 4740 LBS.

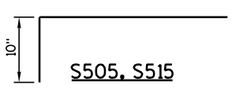
	MARK	NO. REQ'D	LENGTH	BENT	LOCATION
	S401	44	5-4	X	DIAPH @ SOUTH ABUT. - STIRRUP - VERT.
	S702	20	13-1		DIAPH @ SOUTH ABUT. - BETWEEN GIRDERS - TRANS.
	S403	27	13-1		DECK ENDS BETWEEN GIRDERS - THRU STRIP SEAL & STIRRUPS - TRANS.
	S604	64	19-4		DECK ENDS - ABOVE DIAPHRAGM - TRANS.
✳	S505	268	3-2	X	ABUTMENT BACKWALL TOP - TYPE L - VERT.
	S506	60	7-6		ABUTMENT BACKWALL TOP - TRANS.
	S407	16	6-10	X	NEW DIAPH @ NORTH ABUT. (1 BAY) - BETWEEN GIRDERS 3 & 4 - STIRRUP - VERT.
	S808	4	14-7		NEW DIAPH @ NORTH ABUT. (1 BAY) - BETWEEN GIRDERS 3 & 4 - BOTTOM - TRANS.
	S409	2	14-9		NEW DIAPH @ NORTH ABUT. (1 BAY) - BETWEEN GIRDERS 3 & 4 - TOP - TRANS.
	S610	5	14-9		NORTH DECK END - ABOVE NEW DIAPHRAGM - TRANS.
	S511	12	4-9	X	PARAPET LOWER STIRRUP - VERT.
	S512	16	5-0	X	PARAPET UPPER STIRRUP - VERT.
	S513	5	4-6		PARAPET @ WING 1 - LONGIT.
	S514	4	4-5	X	PARAPET @ WINGS 2 & 4 LOWER STIRRUP - VERT.
✳	S515	2	2-9	X	WINGS 2 & 4 UNDER PARAPET - TYPE L - HORIZ.
	S516	5	3-10		PARAPET @ WING 3 - LONGIT.
	S517	8	2-11		PARAPET @ WINGS 2 & 4 - LONGIT.

DIMENSIONS IN BENDING DETAILS ARE OUT TO OUT OF BAR.

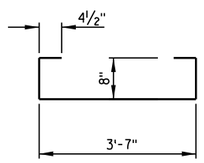
EPOXY COAT ALL BAR STEEL REINFORCEMENT.



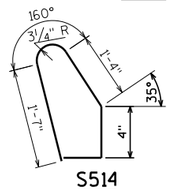
S407



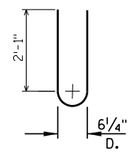
S505, S515



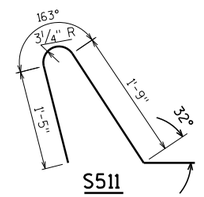
S401



S514



S512



S511

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STRUCTURE B-45-49 REHAB

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STRIP SEAL EXPANSION JOINT

SHEET 8 OF 9
275

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DATE= 4/9/2013

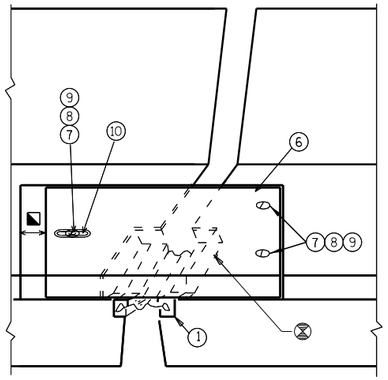
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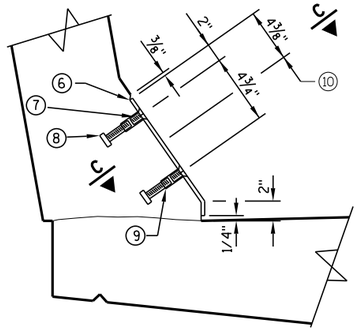
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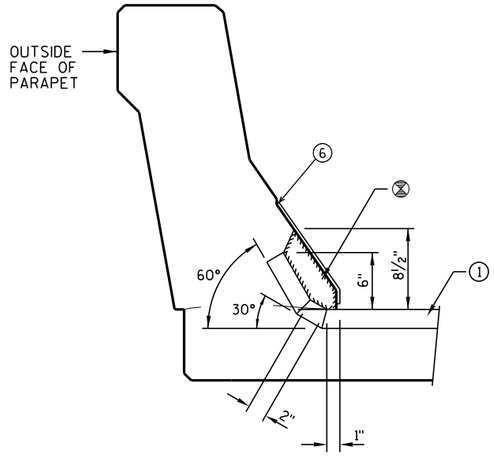
1450-16-70



VIEW OF PARAPET PLATES FROM ROADWAY



SECTION A-A



SECTION B-B

LEGEND

(1) NEOPRENE STRIP SEAL (4 - INCH) & STEEL EXTRUSIONS. SET JOINT OPENING AT 1¾". JOINT OPENING MEASURED NORMAL TO ℄ OF ABUTMENTS.

(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 NO. 1 AT 1'-6" CTRS. BETWEEN GIRDERS.

(3) ¾" Φ THREADED ROD WITH 2 NUTS AND PLATE WASHERS. FIELD WELD THREADED ROD TO TOP FLANGE OR ATTACH BY BOLTING THRU FLANGE. ON ABUTMENT SIDE, GROUT THREADED ROD INTO FIELD DRILLED HOLES IN ABUTMENT BACKWALL AS SHOWN.

(4) ¾"Φ THREADED ROD WITH NUT. TACK WELD NUT TO NO. 5.

(5) FABRICATE SUPPORT FROM 3" X ½" BAR AS SHOWN OR EQUIVALENT, ONE PER GIRDER PER SIDE. 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.

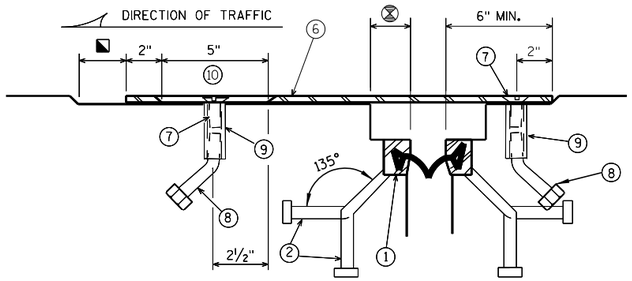
(6) GALVANIZED PLATE ⅜" x 10½" x 3'-0" LONG WITH HOLES FOR #7. BEND AS SHOWN.

(7) ¾" Φ x 1½" STAINLESS STEEL SOCKET FLAT HEAD SCREWS WITH ANTI-SEIZE LUBRICANT. PLACE IN COUNTERSUNK HOLE. RECESS 1/16" BELOW PLATE SURFACE.

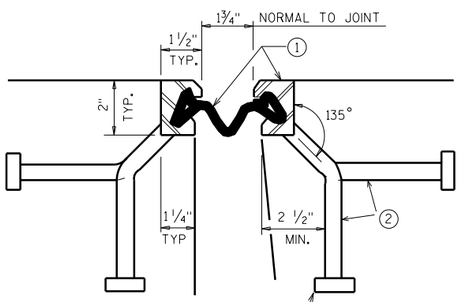
(8) ¾" Φ x 4" GALV. HEX HEAD BOLT. BEND 45°.

(9) ¾" Φ x 2¼" GALV. THREADED COUPLING.

(10) 1" x 5" SLOTTED COUNTERSUNK HOLE FOR #7. SLOT PARALLEL TO DIRECTION OF MOVEMENT.



SECTION C-C

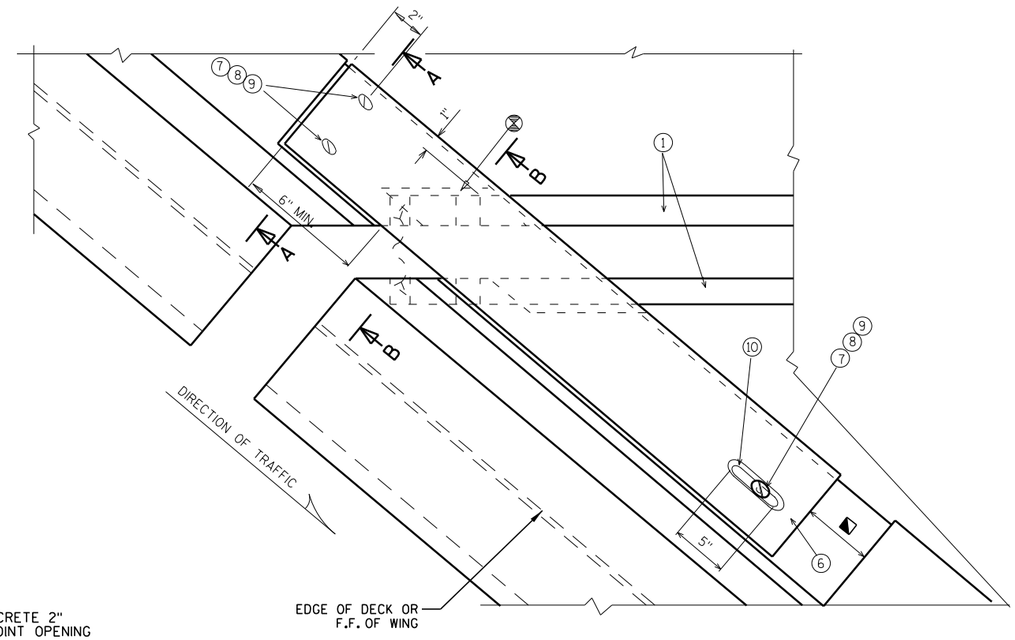


SECTION THRU JOINT

EXTERIOR GIRDER TO EDGE OF DECK & AT PARAPETS

⊗ — BLOCK OUT CONCRETE 2" EACH SIDE OF JOINT OPENING

◥ — JOINT OPENING DIMENSION ALONG SKEW PLUS ½"



PLAN AT PARAPET

NOTES

ONE FIELD SPLICE PERMITTED IN STEEL EXTRUSIONS, UNLESS MORE ARE NEEDED FOR STAGED CONSTRUCTION. IF SPLICE IS USED, DETAILS SHALL BE SUBMITTED FOR APPROVAL. NO SPLICING IN NEOPRENE STRIP SEAL.

AFTER FABRICATION, BUT BEFORE SHIPMENT, STRAIGHTEN STEEL EXTRUSIONS SUCH THAT THEY SHALL BE FREE FROM WARP, TWIST & SWEEP.

FABRICATOR SHALL PROVIDE MEANS OF KEEPING GALVANIZED EXTRUSIONS CLEAN & SMOOTH DURING SHIPMENT AND PRIOR TO APPLYING LUBRICANT ADHESIVE FOR NEOPRENE GLAND INSTALLATION.

SANDBLAST PLATES & EXTRUSIONS AFTER FABRICATION IN ACCORDANCE WITH SSPC SP. #6 "COMMERCIAL BLAST CLEANING". AFTER BLAST CLEANING, THE PLATES & EXTRUSIONS SHALL BE HOT DIPPED GALVANIZED.

ANCHOR SYSTEM 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 PARAPET PLATES, ANCHOR STUDS & HARDWARE, CONNECTIONS AND FIELD DRILLING, WILL BE PAID FOR AT THE LUMP SUM PRICE BID FOR "EXPANSION DEVICE STRUCTURE B-45-49 REHAB".

ALL NEW TRANSVERSE STEEL SHALL BE PLACED PARALLEL TO THE JOINT.

8

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STRUCTURE B-45-49 REHAB

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STRIP SEAL EXPANSION JOINT DETAILS

SHEET 9 OF 9

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DATE=4/9/2013

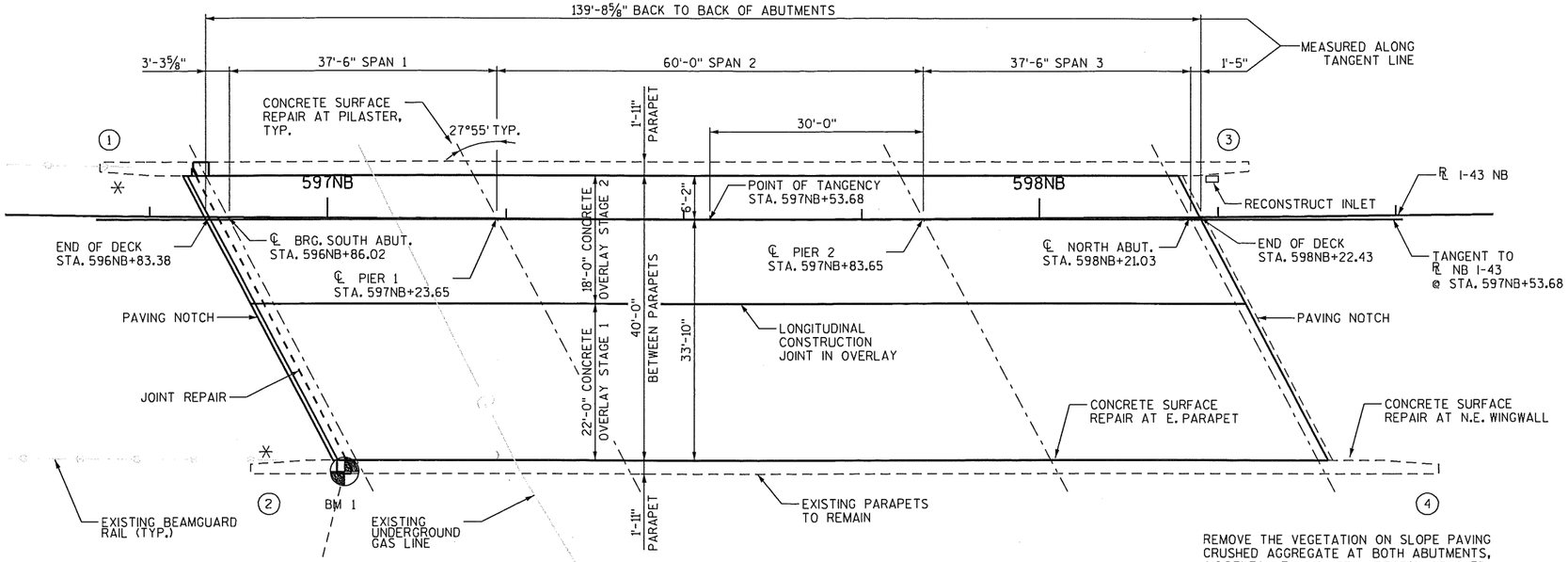
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STATE PROJECT NUMBER
1450-16-70

◯ - INDICATES WING NUMBER

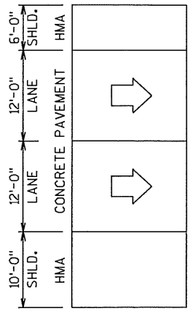
✳ - INDICATES LOCATION OF PROVISION FOR NEW THRIE BEAM ATTACHMENT AT WINGS (SEE SDD. STEEL THRIE BEAM STRUCTURE APPROACH. CONNECTION TO SLOPED END PARAPETS.)

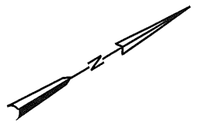
BENCHMARKS			
NO.	STA./OFFSET	DESCRIPTION	ELEV.
BM 1	597NB+02.69, 35.63' RT.	DISK ON SE CORNER B-45-50	673.20



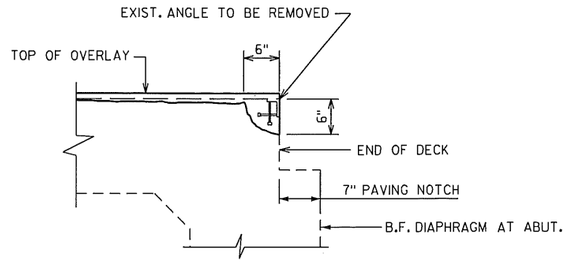
PLAN

(REHAB - CONCRETE OVERLAY ON EXISTING THREE SPAN PRESTRESSED CONCRETE GIRDER)





REMOVE THE VEGETATION ON SLOPE PAVING CRUSHED AGGREGATE AT BOTH ABUTMENTS, INCIDENTAL TO BID ITEM "RESEAL CRUSHED AGGREGATE SLOPE PAVING".



SECTION AT END OF SLAB - NORTH ABUTMENT

CONCRETE OVERLAY

DESIGN DATA

LIVE LOAD

INVENTORY RATING : HS-14
OPERATING RATING : HS-24
MAX STD. PERMIT VEHICLE LOAD = 160 KIPS

TRAFFIC DATA:

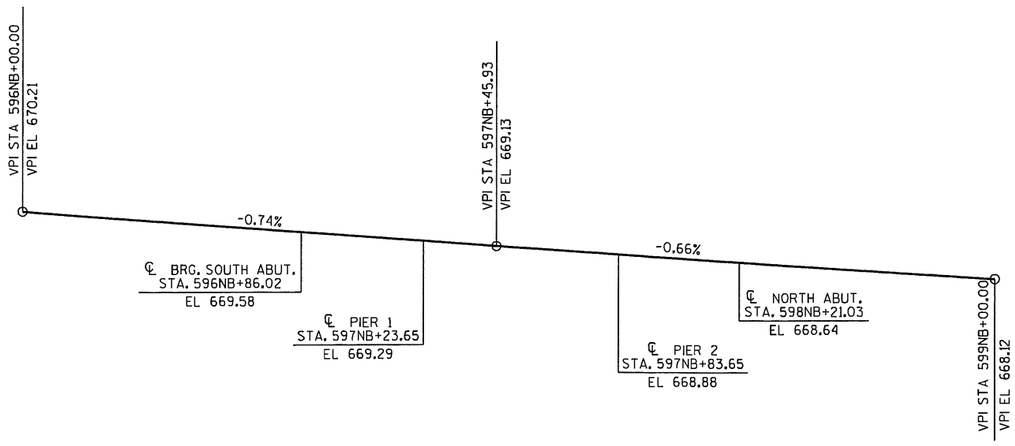
A.A.D.T. (2012) = 24,900
A.A.D.T. (2032) = 28,211

ULTIMATE DESIGN STRESSES:

CONCRETE MASONRY — SUPERSTRUCTURE —— f'c = 4,000 P.S.I.
ALL OTHER —— f'c = 3,500 P.S.I.
HIGH STRENGTH BAR STEEL REINFORCEMENT GRADE 60 —— f'y = 60,000 P.S.I.

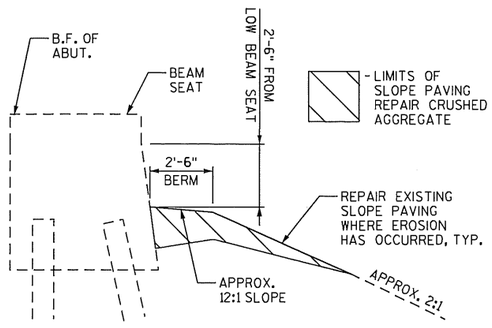
LIST OF DRAWINGS

1. GENERAL PLAN
2. CROSS SECTION, QUANTITIES & NOTES
3. STRIP SEAL EXPANSION JOINT
4. STRIP SEAL EXPANSION JOINT DETAILS 1
5. STRIP SEAL EXPANSION JOINT DETAILS 2
6. BEARING REPLACEMENT DETAILS
7. PARAPET AND DECK REMOVAL DETAILS
8. PARAPET DETAILS



PROFILE GRADE LINE - I-43 NB

(R/L I-43 NB)



SLOPE PAVING AT ABUTMENTS

WISCONSIN
YOON-MOON CHUN
E-39076
WHITEFISH BAY
WIS.
PROFESSIONAL ENGINEER
4-10-2013

STRUCTURES DESIGN CONTACTS

BRIDGE OFFICE:
WILLIAM DREHER (608) 266-8489
CONSULTANT:
YOONMOON CHUN (262) 821-1171

NO.	DATE	REVISION	BY

KSA K. Singh & Associates, Inc.
Engineers, Scientists and Environmental Management Consultants

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

ACCEPTED William C. Dreher KAR 04/17/13
CHIEF STRUCTURES DESIGN ENGINEER DATE

STRUCTURE B-45-50 REHAB

I-43 NB OVER LAKE DRIVE

COUNTY	TOWN ~~CITY/VILLAGE~~
OZAUKEE	PORT WASHINGTON

DESIGN SPEC. REHABILITATION N/A

DESIGNED BY	DESIGN CK'D.	DRAWN BY	PLANS CK'D.
DRJ	BNS	DRJ	BNS

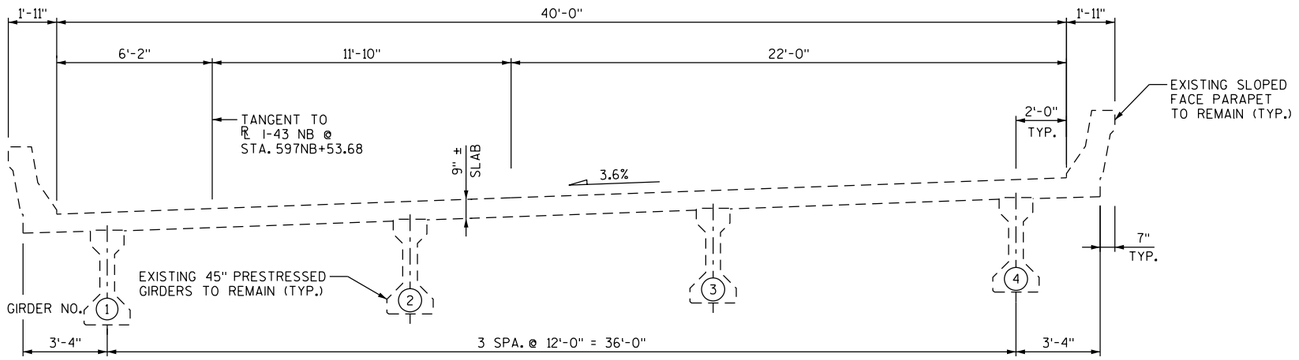
GENERAL PLAN

SHEET 1 OF 8
277

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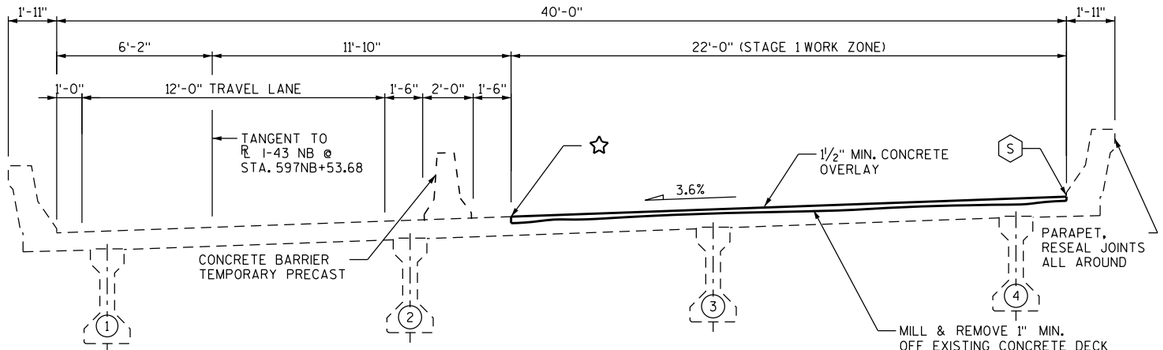
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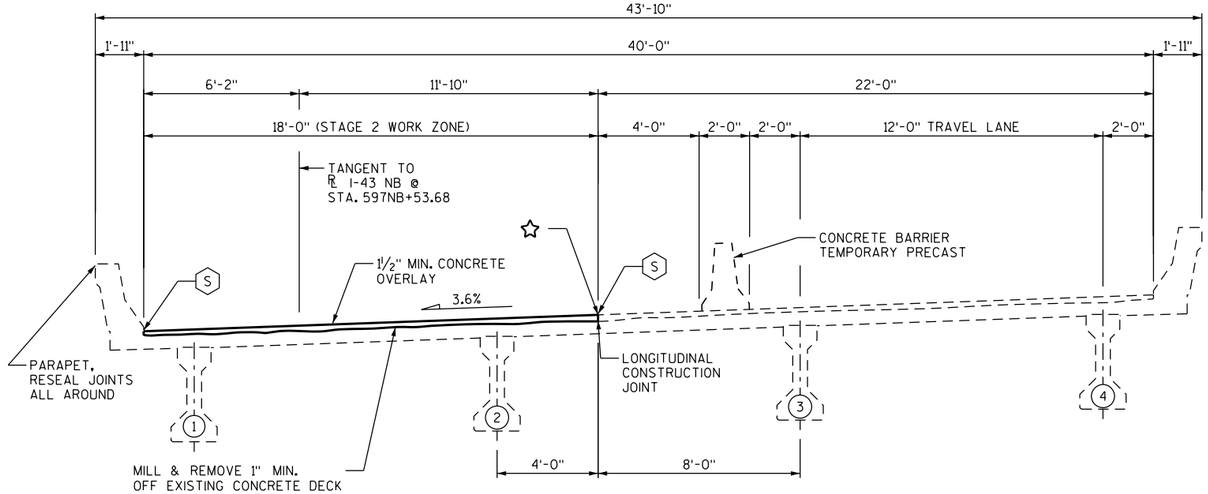
CROSS SECTION THRU EXISTING BRIDGE

(LOOKING NORTH)
DIMENSIONS MEASURED NORMAL TO TANGENT LINE



CROSS SECTION THRU BRIDGE - STAGE 1

(LOOKING NORTH)
DIMENSIONS MEASURED NORMAL TO TANGENT LINE



CROSS SECTION THRU BRIDGE - STAGE 2

(LOOKING NORTH)
MEASURED NORMAL TO TANGENT LINE

TOTAL ESTIMATED QUANTITIES

	ITEM NO.	BID ITEMS	UNIT	TOTAL
	203.0210.S.06	ABATEMENT OF ASBESTOS CONTAINING MATERIAL STRUCTURE B-45-50 REHAB	LS	1
	203.0225.S.06	DEBRIS CONTAINMENT STRUCTURE B-45-50 REHAB	LS	1
	502.3100.06	EXPANSION DEVICE STRUCTURE B-45-50 REHAB	LS	1
	502.3200	PROTECTIVE SURFACE TREATMENT	SY	762
	502.5005	MASONRY ANCHORS TYPE L NO. 5 BARS	EACH	93
	505.0605	BAR STEEL REINFORCEMENT HS COATED BRIDGES	LB	1,960
	505.0905	BAR COUPLERS NO. 5	EACH	3
	505.0906	BAR COUPLERS NO. 6	EACH	9
	505.0908	BAR COUPLERS NO. 8	EACH	6
	506.7000.S.06	BEARING REPLACEMENT STRUCTURE B-45-50 REHAB	EACH	4
	509.0301	PREPARATION DECKS TYPE 1	SY	62
	509.0302	PREPARATION DECKS TYPE 2	SY	25
	509.0500	CLEANING DECKS	SY	625
	509.1000	JOINT REPAIR	SY	20
**	509.1500	CONCRETE SURFACE REPAIR	SF	35
	509.2000	FULL-DEPTH DECK REPAIR	SY	5
	509.2500	CONCRETE MASONRY OVERLAY DECKS	CY	66
	604.9010.S	SLOPE PAVING REPAIR CRUSHED AGGREGATE	CY	20
	604.9015.S	RESEAL CRUSHED AGGREGATE SLOPE PAVING	SY	455
	SPV.0090.01	CLEANING PARAPETS	LF	335
	SPV.0090.02	CRACK SEALING EPOXY SPECIAL	LF	465

** AS PER DIRECTION BY THE ENGINEER

GENERAL NOTES

DRAWINGS SHALL NOT BE SCALED.

DIMENSIONS OF EXISTING BRIDGE MEMBERS SHOWN ARE BASED ON ORIGINAL PLANS.

ELEVATIONS SHOWN ON THIS PLAN ARE REFERENCED TO BM#1, A DISK ON THE TOP OF THE SE WING OF B-45-50, ELEV. 673.20.

THIS STRUCTURE WILL REHABILITATE THE EXISTING STRUCTURE, B-45-50, A THREE SPAN, 139.1'LONG, PRESTRESSED CONCRETE GIRDER BRIDGE SET ON CONCRETE ABUTMENTS AND MULTI-COLUMN PIERS.

THERE MAY BE UTILITY INSTALLATIONS WITHIN THE PROJECT AREA THAT ARE NOT SHOWN.

A MINIMUM OF 1" CONCRETE SHALL BE REMOVED FROM THE ENTIRE BRIDGE DECK UNDER THE BID ITEM "CLEANING DECKS".

EXISTING PARAPET INSIDE FACES AND TOPS SHALL BE GIVEN A LIGHT SAND BLASTING. PARAPET JOINTS SHALL BE CLEANED AND RE-SEALED WITH NON-STAINING, GRAY NON-BITUMINOUS JOINT SEALER. INCLUDE IN BID ITEM "CLEANING PARAPETS".

THE MINIMUM OVERLAY THICKNESS IS 1½" PLACED ABOVE THE DECK SURFACE AFTER CLEANING. THE EXPECTED AVERAGE OVERLAY THICKNESS IS 2" BASED ON THE NEW PROFILE GRADE LINE. IF THE EXPECTED AVERAGE OVERLAY THICKNESS IS EXCEED BY MORE THAN ½", CONTACT THE STRUCTURES DESIGN SECTION.

THE "CONCRETE MASONRY OVERLAY DECKS" QUANTITY IS BASED ON THE EXPECTED AVERAGE OVERLAY THICKNESS OF 2" PLUS AN ADDITIONAL ½" TO ACCOUNT FOR VARIATIONS IN THE DECK SURFACE.

ANY EXCAVATION REQUIRED TO COMPLETE THE OVERLAY OR PAVING BLOCK AT THE ABUTMENTS IS TO BE CONSIDERED INCIDENTAL TO THE BID ITEM "CONCRETE MASONRY OVERLAY DECKS".

CONCRETE BARRIER TEMPORARY PRECAST IS INCLUDED IN THE ROAD APPROACH QUANTITIES.

VARIATIONS TO THE NEW PROFILE GRADE LINE OVER ¼" MUST BE SUBMITTED BY THE FIELD ENGINEER TO THE STRUCTURES DESIGN SECTION FOR REVIEW.

APPLY PROTECTIVE SURFACE TREATMENT TO THE TOP OF DECK AND INSIDE FACES AND TOPS OF PARAPETS, INCLUDING PARAPETS ON ABUTMENT WINGS.

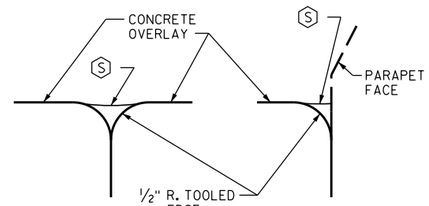
☆ USE BAR COUPLING SYSTEM FOR TRANSVERSE STEEL ACROSS THE LONG. CONST. JOINT AT THE DIAPHRAGM AND PAVING BLOCK AT S. ABUT. FOR DETAILS SEE SHEET 5.

UTILIZE EXISTING BAR STEEL REINFORCEMENT WHERE SHOWN AND EXTEND 24 BAR DIAMETERS INTO NEW WORK, UNLESS SPECIFIED OTHERWISE.

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

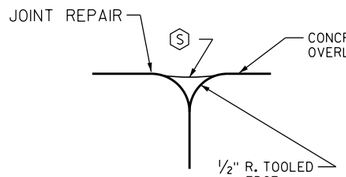
THE FIRST OR FIRST TWO DIGITS OF THE BAR MARK SIGNIFIES THE BAR SIZE.

ONCE CRACKED PILASTERS ARE REMOVED, INSPECT AND REPLACE ANY SUBSTANDARD JOINT FILLER SURROUNDING PILASTER, EXCLUDING UNDERSIDE AT SLAB OR BEAM. THIS WORK IS INCIDENTAL TO THE BID ITEM "CONCRETE SURFACE REPAIR".



LONGITUDINAL JOINT AT ℄

JOINT AT PARAPET



TRANSVERSE JOINT AT ABUTMENTS

JOINT DETAILS

Ⓢ — CRACK SEALING EPOXY JOINTS. SEE JOINT DETAILS ABOVE.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-45-50 REHAB

DRAWN BY DRJ | PLANS CK'D. BNS

CROSS SECTION, QUANTITIES & NOTES

SHEET 2 OF 8
278

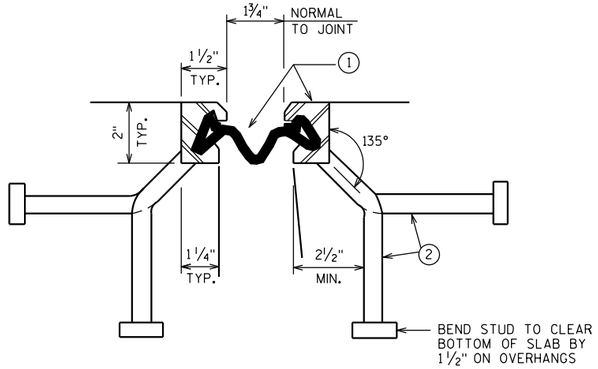
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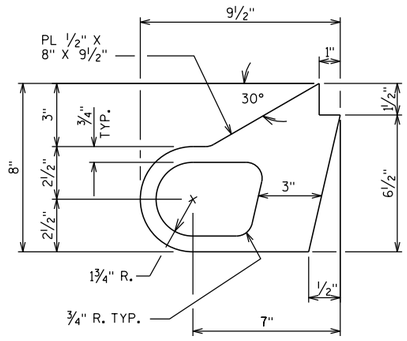
STATE PROJECT NUMBER

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SECTION THRU JOINT

EXTERIOR GIRDER TO EDGE OF DECK & AT PARAPETS



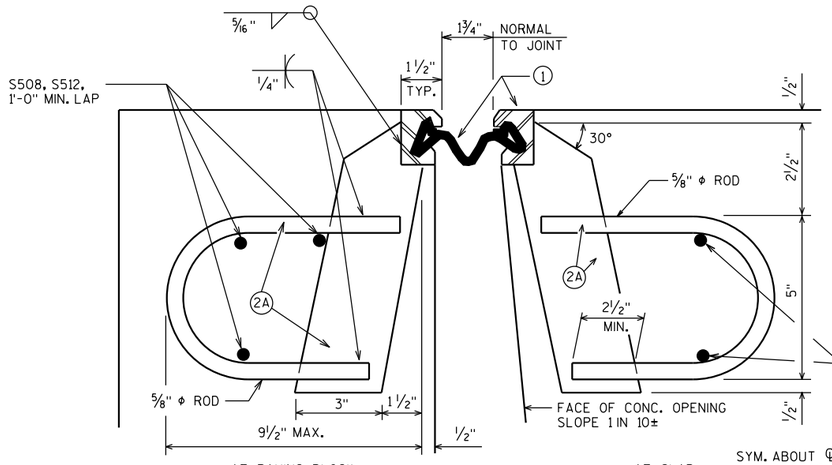
ALTERNATE STRIP SEAL ANCHOR

LEGEND

1. NEOPRENE STRIP STEAL (4 - INCH) & STEEL EXTRUSIONS. SET JOINT OPENING AT 1¾-INCH. MEASURED NORMAL TO ℄ OF ABUTMENTS.
2. STUDS ⅝" ϕ x 6⅜" LONG AT 6" ALTERNATE CENTERS. WELD TO EXTRUSIONS & BEND AS SHOWN AFTER WELDING.

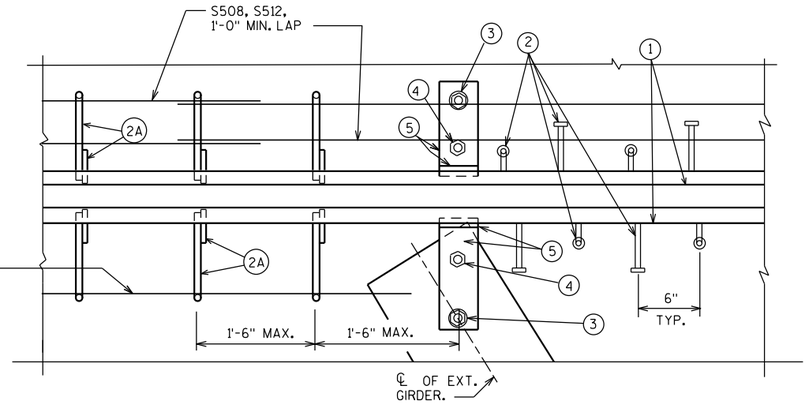
2A. ½" THICK ANCHOR PLATE WITH ⅝" ϕ ROD (OR ALTERNATE STRIP SEAL ANCHOR). WELD ROD TO ANCHOR PLATE, WELD ANCHOR PL. TO NO. 1 AT 1'-6" CTRS. BETWEEN GIRDERS.

3. ¾" ϕ THREADED ROD WITH 2 NUTS AND WASHERS. FOR STEEL GIRDERS WELD THREADED ROD TO TOP FLANGE OR ATTACH BY BOLTING THRU FLANGE. ON ABUTMENT SIDE GROUT THREADED ROD INTO FIELD DRILLED HOLES IN ABUTMENT BACKWALL AS SHOWN.
4. ¾" ϕ THREADED ROD WITH NUT. TACK WELD NUT TO NO. 5.
5. FABRICATE SUPPORT FROM 3" x ½" BAR AS SHOWN OR EQUIVALENT. ONE PER GIRDER PER SIDE. SHOP OR FIELD WELD TO NO. 1. IF FIELD WELDED, COVER WELDED AREAS WITH EPOXY-COATING MATERIAL. PROVIDE 1 ½" ϕ HOLE FOR NO. 3 & 1" ϕ HOLE FOR NO. 4.
6. GALVANIZED PLATE ⅜" x 10½" x 2'-0".
7. ¾" ϕ x 1½" STAINLESS STEEL SOCKET FLAT HEAD SCREWS WITH ANTI-SEIZE LUBRICANT. RECESS 1/16" BELOW PLATE SURFACE.
8. ¾" ϕ x 4" GALVANIZED HEX HEAD BOLT. BEND 45°.
9. ¾" ϕ x 2¼" GALVANIZED THREADED COUPLING.
10. 1" x 5" SLOTTED CSK. HOLE FOR NO. 7. SLOT PARALLEL TO DIRECTION OF MOVEMENT.



SECTION THRU JOINT

ROADWAY TRAFFIC AREA BETWEEN EXTERIOR GIRDERS.



PART PLAN

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-45-50 REHAB

DRAWN BY DRJ | PLANS CK'D. BNS

STRIP SEAL EXPANSION JOINT

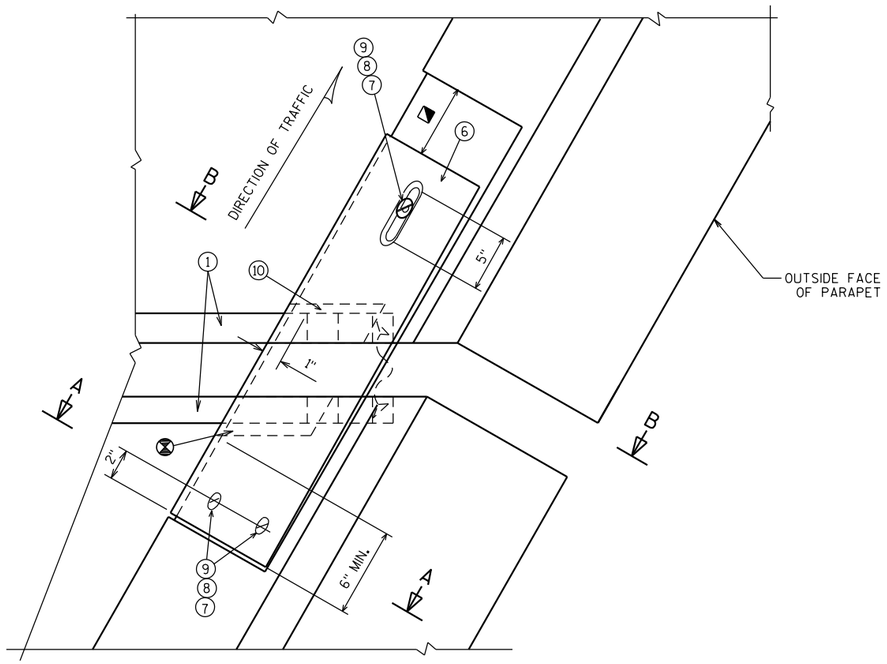
SHEET 3 OF 8
279

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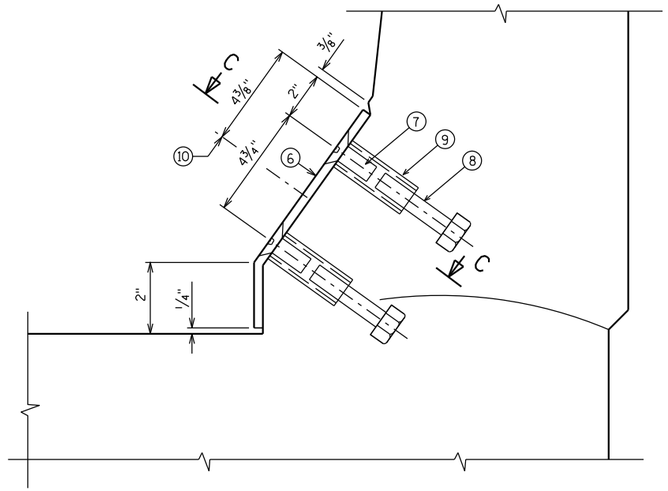
8

8

STATE PROJECT NUMBER
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PLAN AT PARAPET



SECTION A-A

NOTES

ONE FIELD SPLICE PERMITTED IN STEEL EXTRUSIONS. IF USED, DETAILS SHALL BE SUBMITTED FOR APPROVAL. NO SPLICING PERMITTED IN NEOPRENE STRIP SEAL.

AFTER FABRICATION, BUT BEFORE SHIPMENT, STRAIGHTEN STEEL EXTRUSIONS SUCH THAT THEY SHALL BE FREE FROM WARP, TWIST & SWEEP.

FABRICATOR SHALL PROVIDE MEANS OF KEEPING GALVANIZED EXTRUSIONS CLEAN & SMOOTH DURING SHIPMENT AND PRIOR TO APPLYING LUBRICANT ADHESIVE FOR NEOPRENE GLAND INSTALLATION.

SANDBLAST PLATES & EXTRUSIONS AFTER FABRICATION IN ACCORDANCE WITH SSPC SP. #6 "COMMERCIAL BLAST CLEANING". AFTER BLAST CLEANING, THE PLATES & EXTRUSIONS SHALL BE HOT DIPPED GALVANIZED.

ANCHOR SYSTEM NO. 8 & NO. 9 SHALL CONFORM TO ASTM A307 & SHALL BE GALVANIZED IN ACCORDANCE WITH ASTM A153 CLASS C & D.

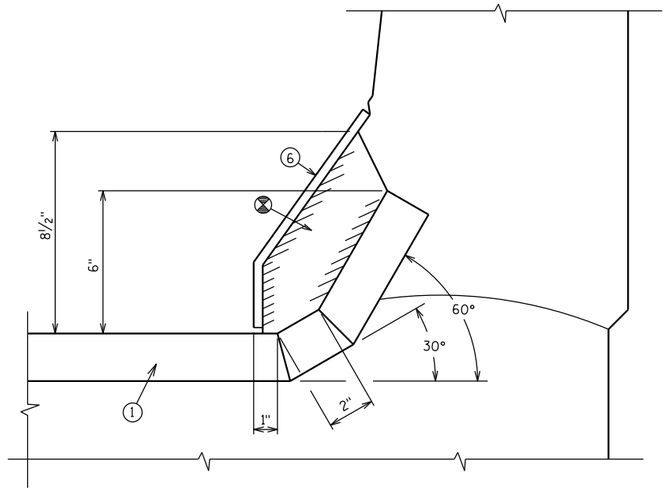
STRIP SEAL EXPANSION JOINT ASSEMBLY, INCLUDING PARAPET PLATES, ANCHOR STUDS, & HARDWARE, CONNECTIONS AND FIELD DRILLING, WILL BE PAID FOR AT THE LUMP SUM PRICE BID FOR "EXPANSION DEVICE B-45-50 REHAB".

SALVAGE AND REUSE EXISTING BAR STEEL REINFORCEMENT WHERE POSSIBLE AND BEND INTO NEW WORK.

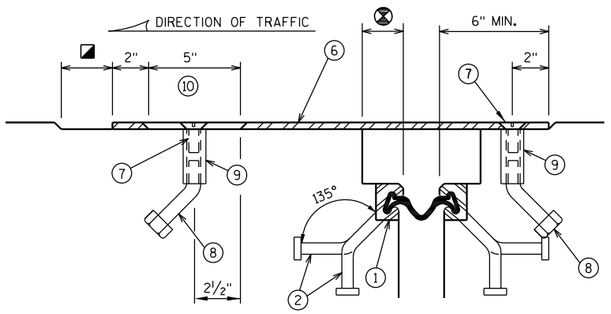
REMOVE EXISTING PARAPET, PLATES, AND WING TO 1½" BELOW NEW STEEL EXTRUSION. INSTALL NEW PLATES TO MATCH EXISTING PARAPET.

ALL NEW TRANSVERSE STEEL SHALL BE PLACED PARALLEL TO THE JOINT.

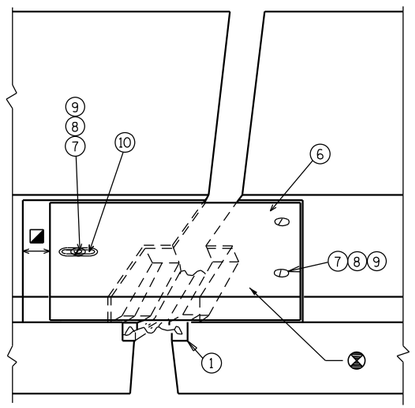
REFER TO SHEET 3 FOR LEGEND.



SECTION B-B



SECTION C-C



VIEW OF PARAPET PLATES FROM ROADWAY

LEGEND

- ⊗ BLOCK OUT CONCRETE 2" EACH SIDE FOR JOINT OPENING
- ◪ JOINT OPENING DIM. ALONG SKEW PLUS ½"

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-45-50 REHAB

DRAWN BY DRJ | PLANS CK'D. BNS

STRIP SEAL EXPANSION JOINT DETAILS 1

SHEET 4 OF 8
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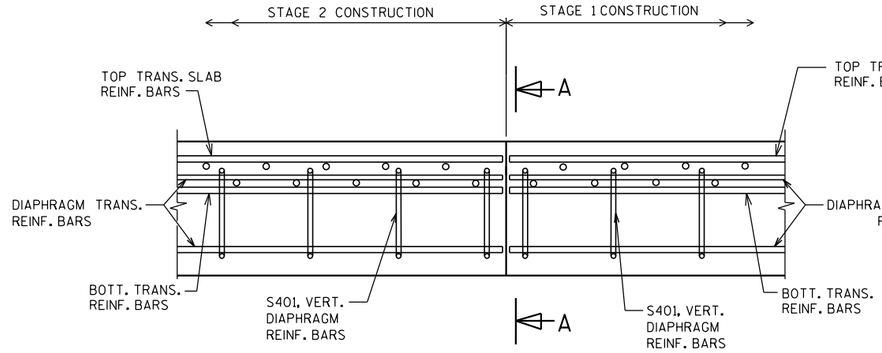
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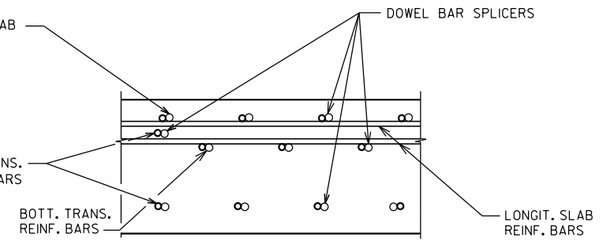
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STATE PROJECT NUMBER

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SECTION THRU DIAPHRAGM



SECTION A-A

NOTES

STEEL SPLICE (COUPLER) ASSEMBLY SHALL BE AN APPROVED TYPE AND SHALL DEVELOP IN TENSION AT LEAST 125% OF THE YIELD STRENGTH OF THE SPLICED REINFORCEMENT BARS.

DOWEL BAR SPLICERS SHALL BE OF MINIMUM 60 ksi YIELD STRENGTH, AND HAVE TENSILE STRENGTH AREA EQUAL OR GREATER THAN THAT OF THE LAPPED REINFORCEMENT BARS.

DOWEL BAR SPLICERS SHALL MEET THE DEFORMATION REQUIREMENTS FOR STANDARD ASTM DEFORMED REINFORCING BARS.

FOR DOWEL BAR SPLICERS, ALL REINFORCEMENT BARS SHALL BE LAPPED AND TIED TO THE SPLICER BARS.

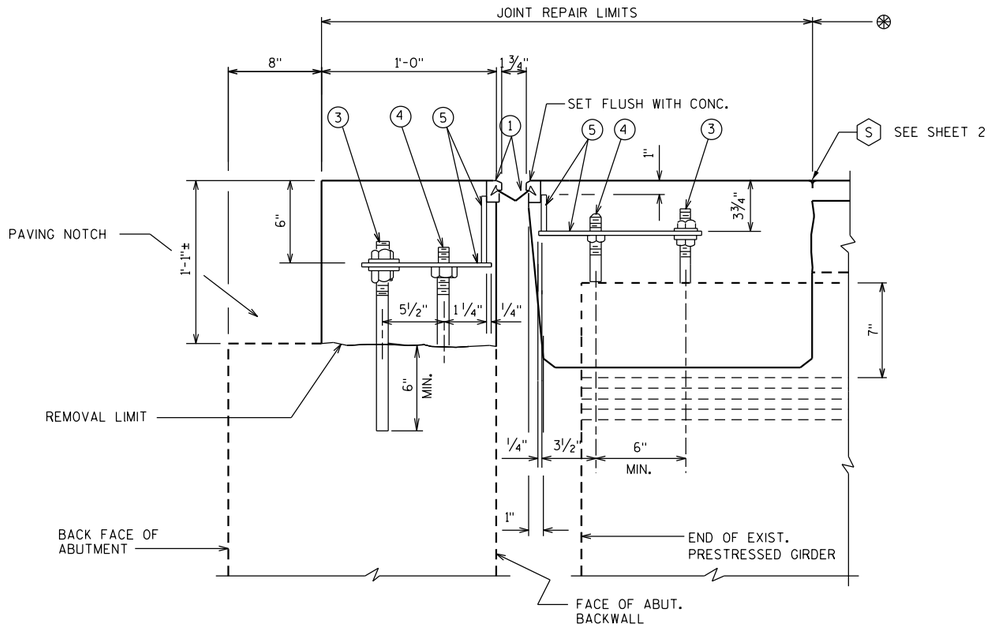
SPLICER (COUPLER) ASSEMBLY IN THE SLAB SHALL BE EPOXY COATED IN ACCORDANCE WITH THE REQUIREMENTS FOR REINFORCEMENT BARS.

OTHER SYSTEMS OF SIMILAR DESIGN MAY BE SUBMITTED TO THE ENGINEER FOR APPROVAL. APPROVAL SHALL BE BASED ON CERTIFIED TEST RESULTS FROM AN APPROVED TESTING LABORATORY THAT THE PROPOSED SPLICER (COUPLER) ASSEMBLY SATISFIES THE FOLLOWING REQUIREMENT:

MINIMUM CAPACITY = 1.25 X fy X AREA OF SPLICED REINFORCEMENT BAR.

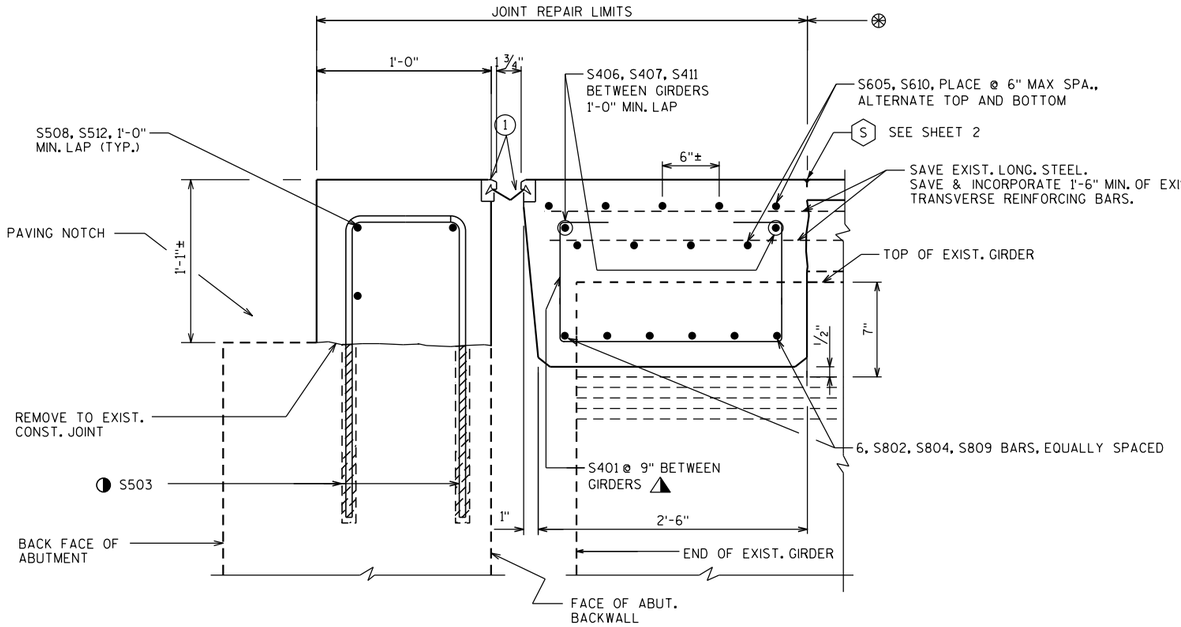
WHERE fy = YIELD STRENGTH OF SPLICED REINFORCEMENT BARS

REFER TO SHEET 3 FOR LEGEND.



TYPICAL SECTION THRU JOINT AT S. ABUTMENT

NORMAL TO ℄ EXPANSION JOINT



TYPICAL SECTION THRU PAVING BLOCK AT S. ABUTMENT

NORMAL TO ℄ EXPANSION JOINT

LEGEND

▲ PARALLEL TO ℄ OF GIRDER

⊛ REMOVE ENTIRE EXISTING CONCRETE DIAPHRAGM, APPROX. 2'-6" FROM ℄ EXIST. EXPANSION JOINT TO FRONT OF EXIST. DIAPHRAGM.

◑ REMOVE EXISTING VERTICAL REINFORCING BARS DURING REMOVAL OF PAVING BLOCK. REPLACE WITH "MASONRY ANCHORS TYPE L NO. 5 BARS" SPACED AT 1'-0" AND EMBEDDED 1'-6" MINIMUM. PROVIDE A MINIMUM PULLOUT CAPACITY OF 19 KIPS. TURN HORIZONTAL LEG AS NECESSARY TO FIT.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-45-50 REHAB

DRAWN BY DRJ | PLANS CK'D. BNS

STRIP SEAL EXPANSION JOINT DETAILS 2

SHEET 5 OF 8

281

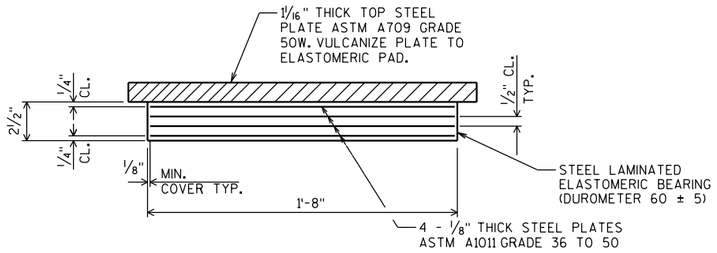
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4/10/2013

8

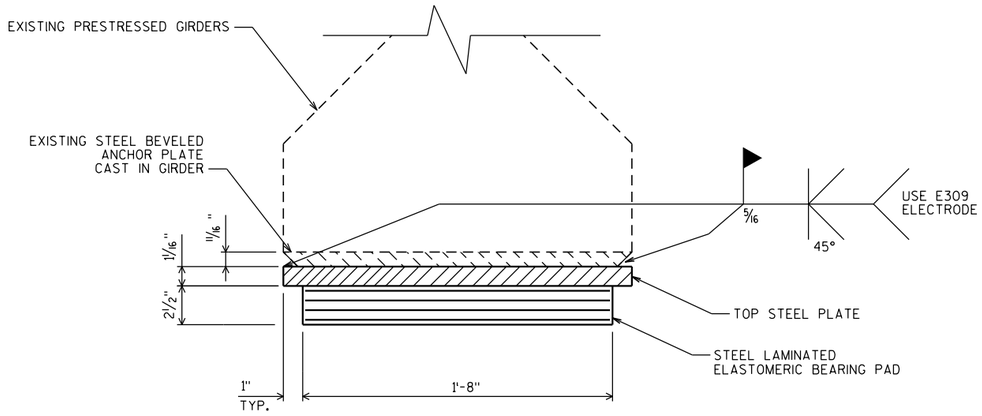
8

STATE PROJECT NUMBER

1450-16-70



SECTION THRU ELASTOMERIC BEARING



END VIEW

NOTES

ALL MATERIAL USED FOR BEARINGS SHALL BE PAID FOR AT THE UNIT PRICE BID FOR "BEARING REPLACEMENT STRUCTURE B-45-50 REHAB".

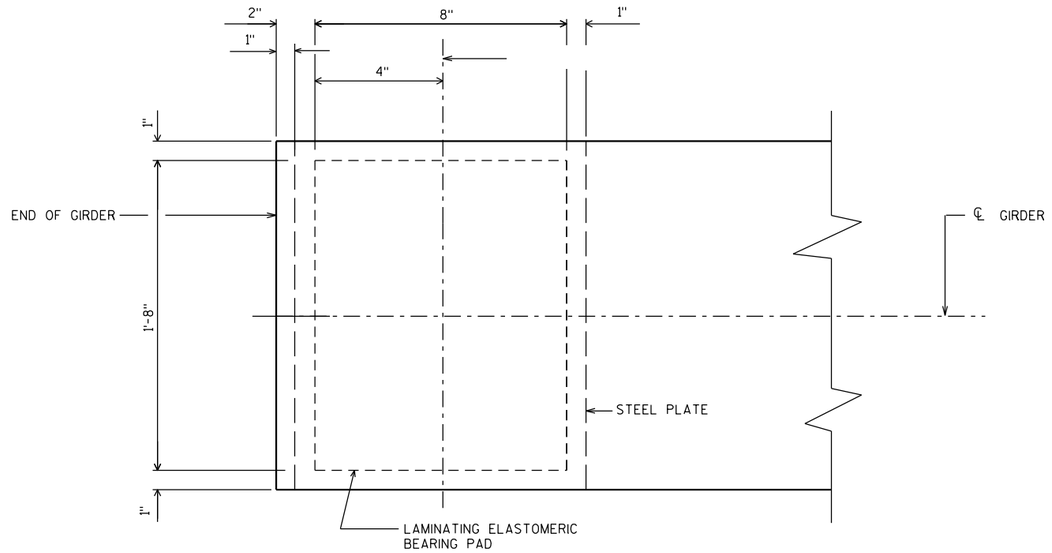
ON BEARING REPLACEMENTS, COMPRESSION LOAD AND ADHESION TESTS WILL BE WAIVED WHERE BEARINGS ARE DETAILED TO MEET HEIGHT REQUIREMENTS.

ALL STRUCTURAL STEEL PLATES SHALL BE FLAT ROLLED WITH ALL SURFACES SMOOTH AND FREE FROM WARP AND ALL EDGES SMOOTH, STRAIGHT, AND VERTICAL.

ALL PLATE CUTS SHALL BE MACHINE OR MACHINE FLAME CUTS.

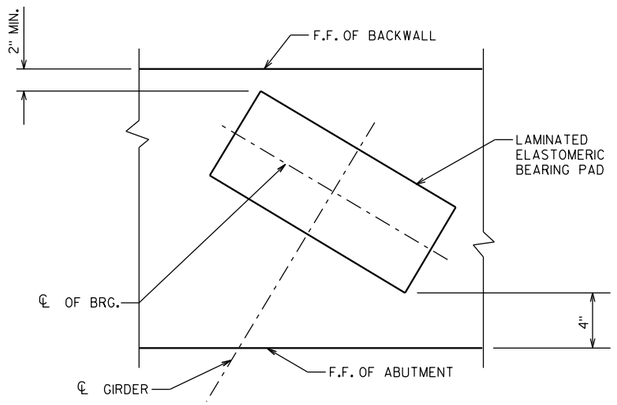
ELASTOMER MATERIAL PROPERTIES SHALL CONFORM TO WISDOT STANDARD.

REMOVE EXISTING EXPANSION BEARINGS & EXISTING ANCHOR BOLTS FLUSH WITH CONCRETE BEARING SURFACE & GRIND SMOOTH.



PLAN VIEW

(TYP. S. ABUTMENT)



CLEARANCE DIAGRAM

(TYP. S. ABUTMENT)

8

8

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-45-50 REHAB

DRAWN BY DRJ | PLANS CK'D. BNS

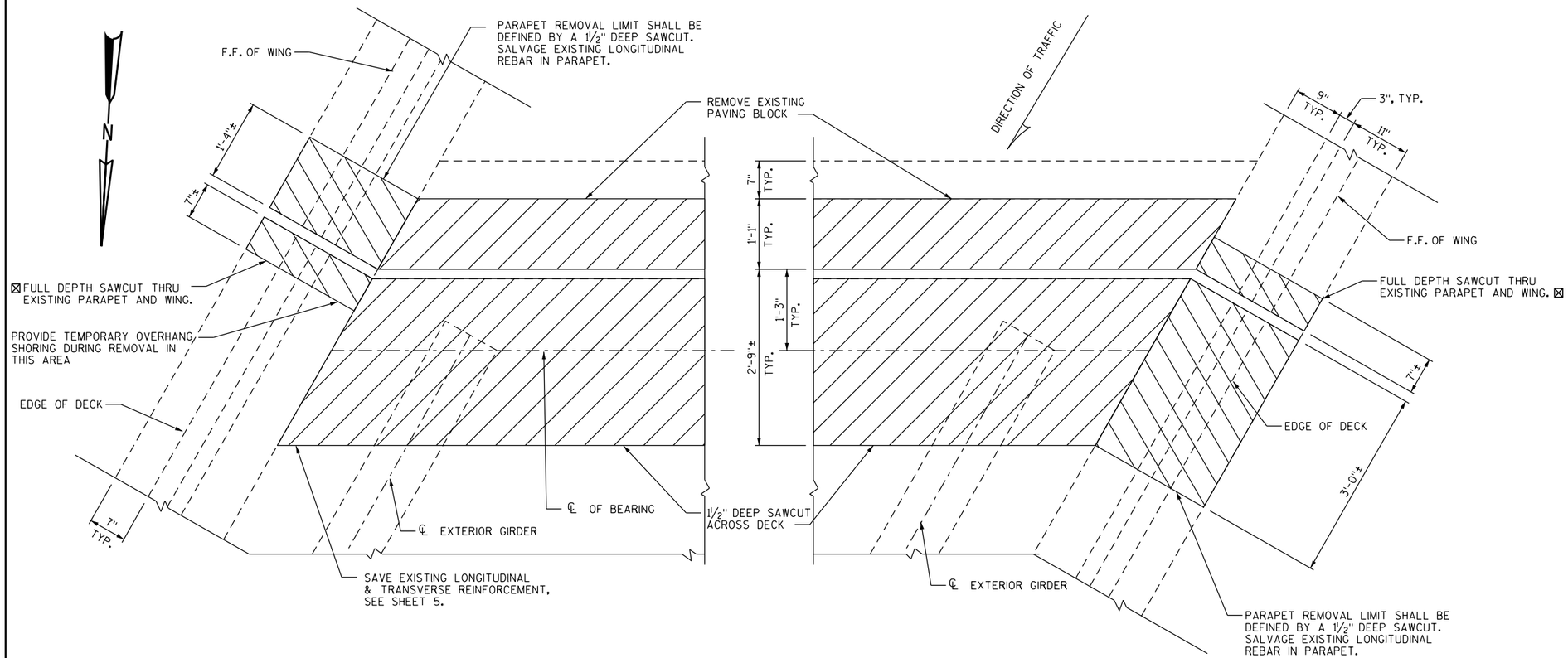
BEARING REPLACEMENT DETAILS

SHEET 6 OF 8

282

B-45-50_06.dgn
SCALE = 1:6
4/10/2013

STATE PROJECT NUMBER
1450-16-70



REMOVAL PLAN

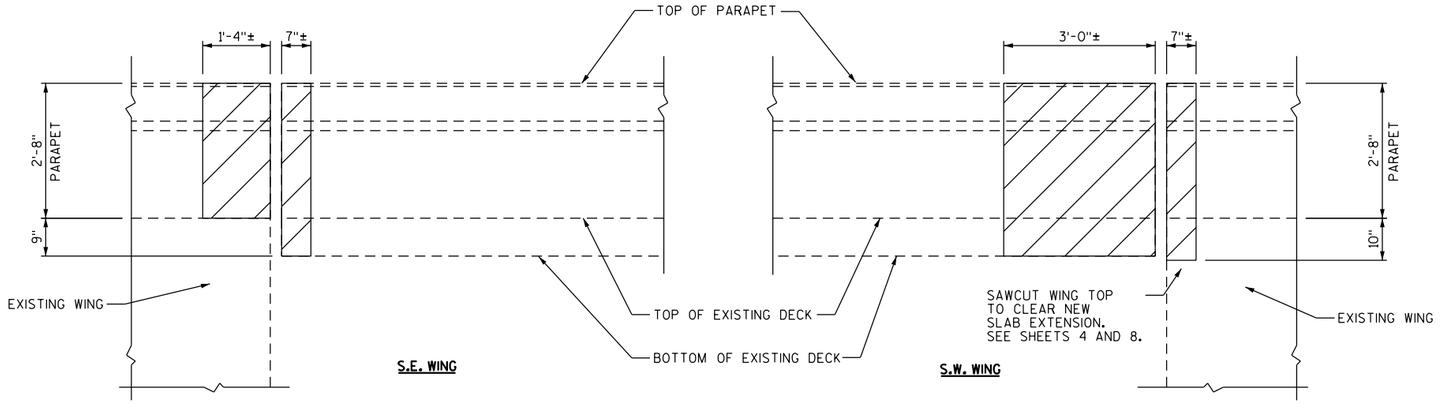
SOUTH ABUTMENT

LEGEND

F.F. - FRONT FACE

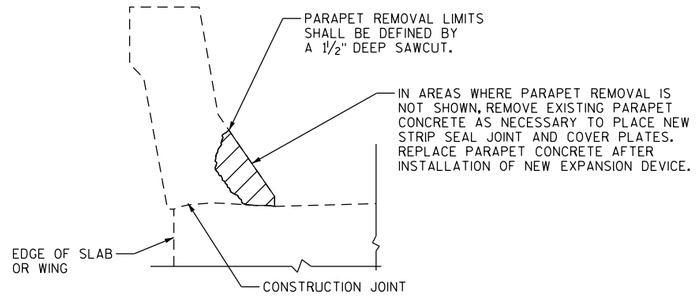
☒ - COAT EXPOSED BAR STEEL WITH EPOXY IN ACCORDANCE WITH SUBSECTION 505.2.4.2 OF THE STANDARD SPECIFICATIONS.

▨ - MINIMUM REMOVAL LIMITS (AT JOINT REPAIR)



PARAPET ELEVATION

(LOOKING AT OUTSIDE FACE OF PARAPET)



PARAPET REMOVAL LIMITS

8

8

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-45-50 REHAB

DRAWN BY DRJ | PLANS CK'D. BNS

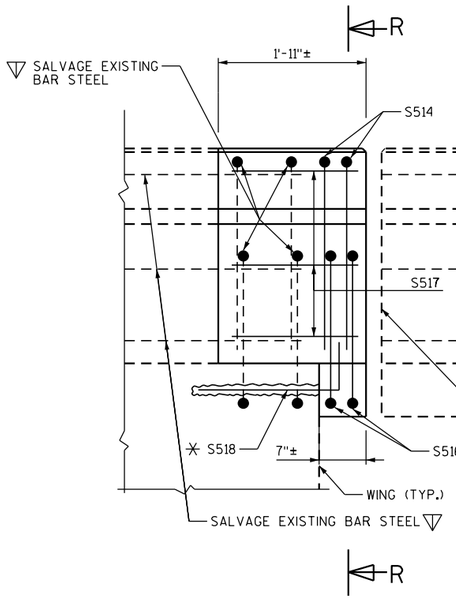
PARAPET & DECK REMOVAL DETAILS

SHEET 7 OF 8
283

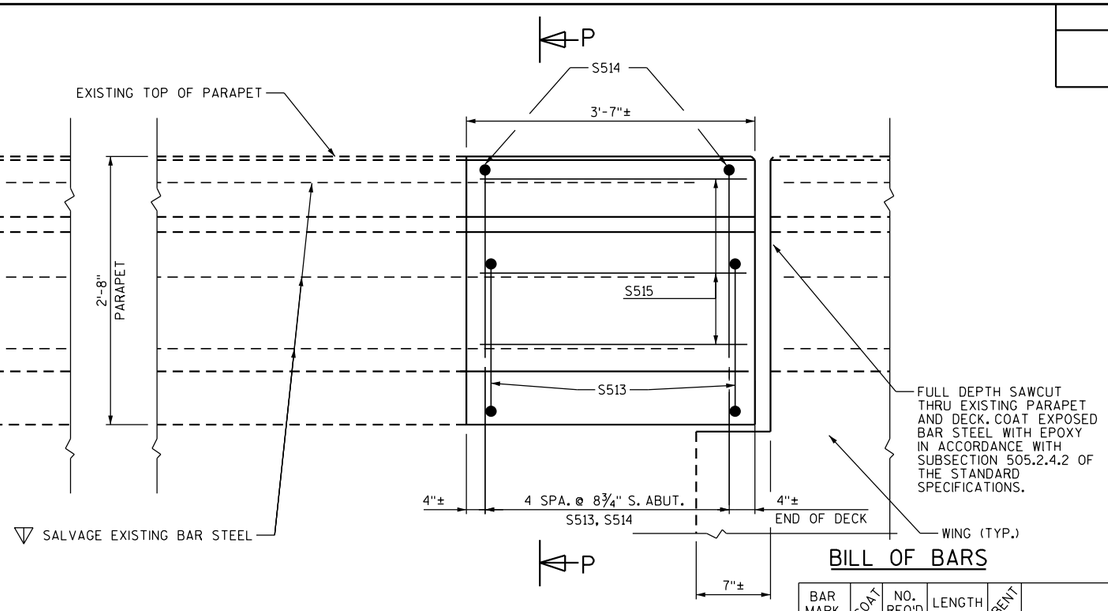
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SCALE = 1:16
4/10/2013

STATE PROJECT NUMBER

1450-16-70



S.E. WING



S.W. WING

PARAPET ELEVATION

(LOOKING AT OUTSIDE FACE OF PARAPET)

BILL OF BARS

1,960 LBS.

BAR MARK	COAT	NO. REQ'D	LENGTH	BENT	LOCATION
S401	X	46	4'-8"	X	DIAPH.-STIRRUP-VERT.
S802	X	12	11'-8"		DIAPH.-TRANS.
S503	X	92	2'-10"	X	PAVING BLOCK-MASONRY ANCHOR-VERT.
✲ S804	X	6	8'-1"		DIAPH.-TRANS.-STG. 1
✲ S605	X	9	24'-8"		DECK END-TRANS.-STG. 1
S406	X	4	11'-8"		DIAPH.-TRANS.
S407	X	2	9'-4"		DIAPH.-TRANS.-STG. 1
S508	X	9	9'-0"		PAVING BLOCK-TRANS.-STG. 1
✲ S809	X	6	3'-7"		DIAPH.-TRANS.-STG. 2
✲ S610	X	9	21'-8"		DECK END-TRANS.-STG. 2
S411	X	2	3'-7"		DIAPH.-TRANS.-STG. 2
S512	X	9	7'-7"		PAVING BLOCK-TRANS.-STG. 2
S513	X	5	4'-9"	X	PARAPET LOWER STIRRUP-VERT.
S514	X	7	5'-0"	X	PARAPET UPPER STIRRUP-VERT.
S515	X	5	3'-3"		PARAPET @ S.W. WING-LONGIT.
S516	X	2	4'-9"	X	PARAPET LOWER STIRRUP-VERT.
S517	X	5	1'-7"		PARAPET @ S.E. WING-LONGIT.
S518	X	1	2'-6"	X	S.E. WING UNDER PARAPET-TYPE L-HORIZ.
S519	X	1	2'-8"		PARAPET @ S.W. WING-LONGIT.
S520	X	1	1'-0"		PARAPET @ S.E. WING-LONGIT.
S421	X	4	11'-8"		EXPANSION DEVICE- HORIZ. BETWEEN GIRDERS
S422	X	2	9'-4"		EXPANSION DEVICE- HORIZ. BETWEEN GIRDERS-STG. 1
S423	X	2	3'-7"		EXPANSION DEVICE- HORIZ. BETWEEN GIRDERS-STG. 2

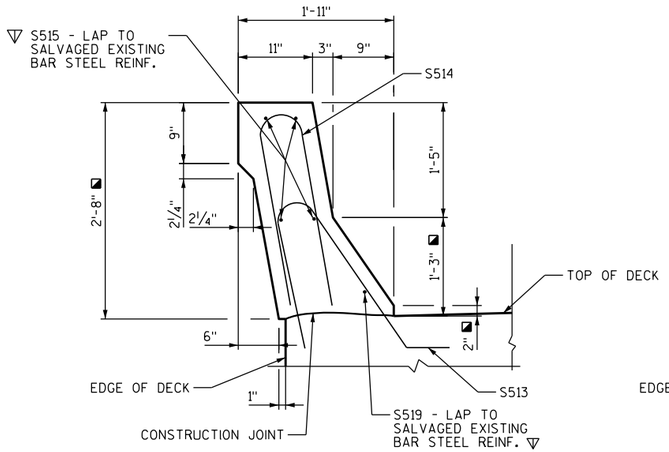
LEGEND

✲ BAR COUPLERS USED. BAR LENGTH COMPUTED TO ℄ OF LONGITUDINAL JOINT & SHALL BE MODIFIED TO THE BAR COUPLER MANUFACTURERS RECOMMENDATIONS.

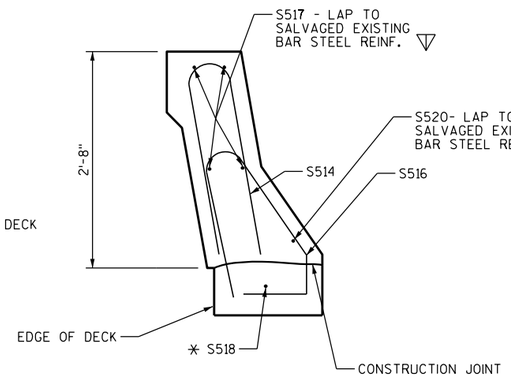
▽ IF EXISTING BAR STEEL REINFORCEMENT IS DAMAGED. INSTALL MASONRY ANCHORS TYPE L NO. 5 BARS NEAR LOCATION OF DAMAGED BARS. MASONRY ANCHORS IF REQUIRED SHALL BE INCLUDED IN THE BID ITEM "JOINT REPAIR".

✲ MASONRY ANCHORS TYPE L NO. 5 BARS SHALL DEVELOP A MINIMUM PULLOUT CAPACITY OF 19 KIPS. EMBED BARS 1'-6" MIN. ANCHOR HOLES SHALL BE 4" CLEAR MIN. TO FACE OF EXISTING CONCRETE.

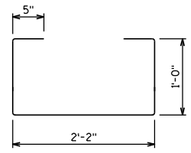
◥ REDUCE DIMENSION AS REQUIRED TO MATCH NEW PARAPET TOP WITH EXISTING PARAPET TOP.



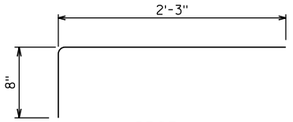
SECTION P-P THRU PARAPET



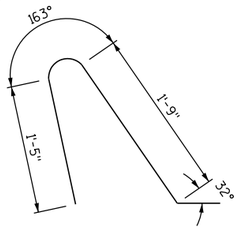
SECTION R-R THRU PARAPET



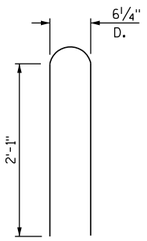
S401



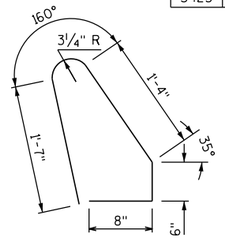
S503



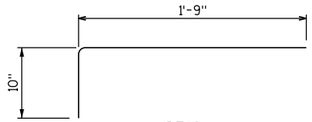
S513



S514



S516



S518

BENDING DIAGRAMS

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-45-50 REHAB

DRAWN BY DRJ | PLANS CK'D. BNS

PARAPET DETAILS

SHEET 8 OF 8

284

B-45-50_08.dgn
SCALE = 1:6
4/10/2013

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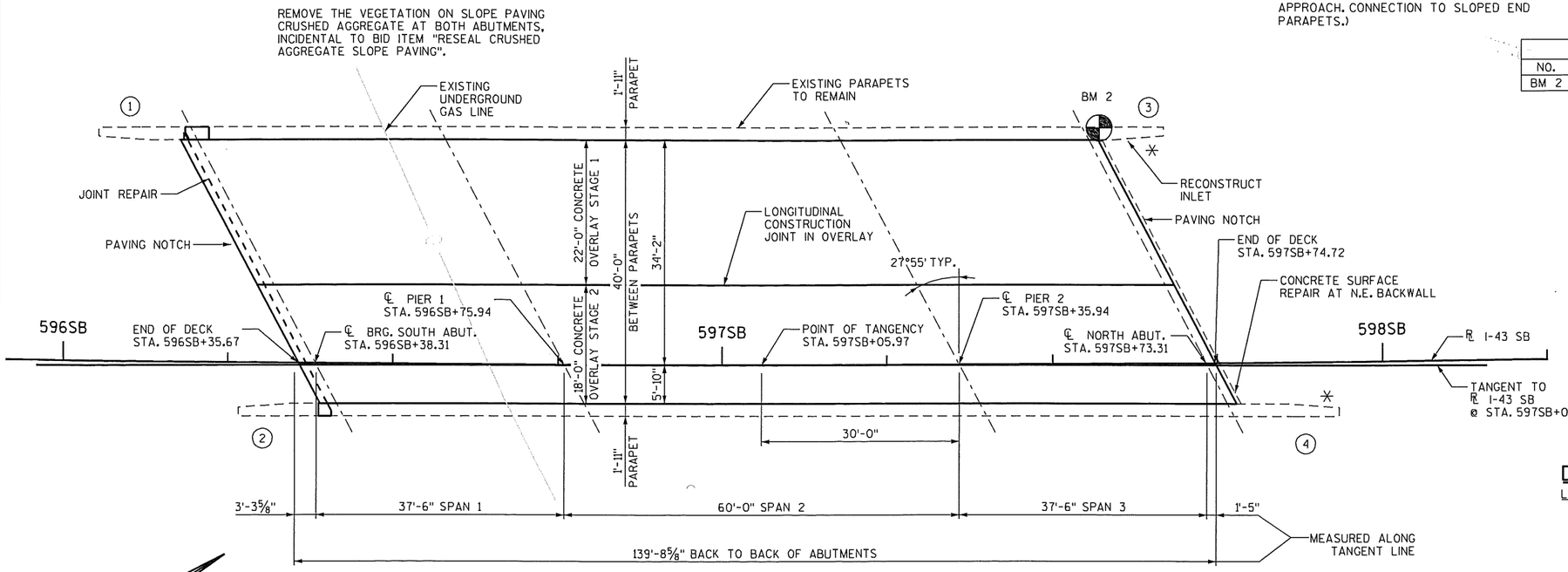
8

STATE PROJECT NUMBER
1450-16-70

○ - INDICATES WING NUMBER

✳ - INDICATES LOCATION OF PROVISION FOR NEW THRIE BEAM ATTACHMENT AT WINGS (SEE SDD. STEEL THRIE BEAM STRUCTURE APPROACH. CONNECTION TO SLOPED END PARAPETS.)

BENCHMARKS ⊕			
NO.	STA./OFFSET	DESCRIPTION	ELEV.
BM 2	597SB+57.25, 35.80'LT.	DISK ON NW CORNER B-45-51	671.97



PLAN

(REHAB - CONCRETE OVERLAY ON EXISTING THREE SPAN PRESTRESSED CONCRETE GIRDER)

DESIGN DATA

LIVE LOAD

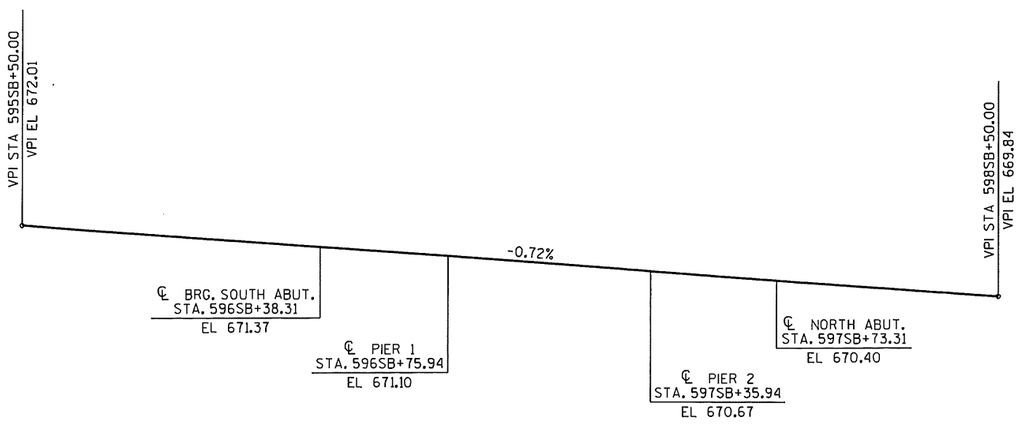
INVENTORY RATING : HS-14
OPERATING RATING : HS-24
MAX STD. PERMIT VEHICLE LOAD = 160 KIPS

TRAFFIC DATA:

A.A.D.T. (2012) = 24,900
A.A.D.T. (2032) = 28,211

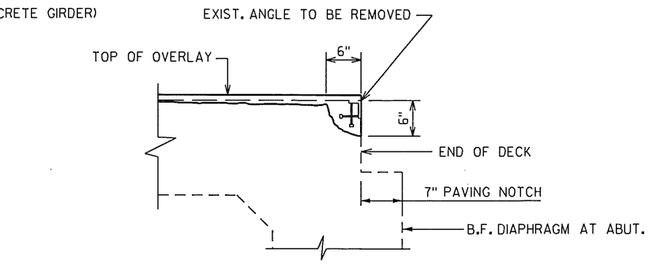
ULTIMATE DESIGN STRESSES:

CONCRETE MASONRY — SUPERSTRUCTURE —— f'c = 4,000 P.S.I.
ALL OTHER —— f'c = 3,500 P.S.I.
HIGH STRENGTH BAR STEEL REINFORCEMENT GRADE 60 —— f'y = 60,000 P.S.I.



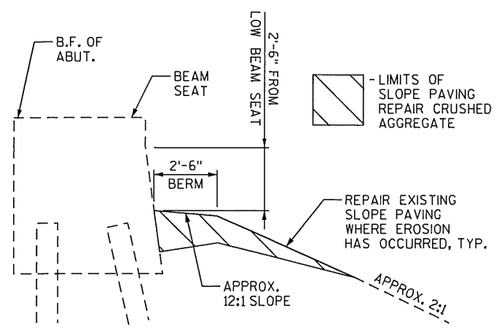
PROFILE GRADE LINE - I-43 SB

(R/L I-43 SB)



SECTION AT END OF SLAB - NORTH ABUTMENT

CONCRETE OVERLAY



SLOPE PAVING AT ABUTMENTS

LIST OF DRAWINGS

1. GENERAL PLAN
2. CROSS SECTION, QUANTITIES & NOTES
3. STRIP SEAL EXPANSION JOINT
4. STRIP SEAL EXPANSION JOINT DETAILS 1
5. STRIP SEAL EXPANSION JOINT DETAILS 2
6. BEARING REPLACEMENT DETAILS
7. PARAPET AND DECK REMOVAL DETAILS
8. PARAPET DETAILS

WISCONSIN
YOON-MOON CHUN
E-39076
WHITEFISH BAY
WIS.
PROFESSIONAL ENGINEER

4-10-2013

STRUCTURES DESIGN CONTACTS

BRIDGE OFFICE:
WILLIAM DREHER (608) 266-8489
CONSULTANT:
YOONMOON CHUN (262) 821-1171

NO.	DATE	REVISION	BY

KSA K. Singh & Associates, Inc.
Engineers, Scientists and Environmental Management Consultants

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

ACCEPTED William C. Dreher KAR 04/17/13
CHIEF STRUCTURES DESIGN ENGINEER DATE

STRUCTURE B-45-51 REHAB

I-43 SB OVER LAKE DRIVE

COUNTY	TOWN/~~CITY/VILLAGE~~
OZAUKEE	PORT WASHINGTON

DESIGN SPEC. REHABILITATION N/A

DESIGNED BY	DESIGN CK'D.	DRAWN BY	PLANS CK'D.
DRJ	BNS	DRJ	BNS

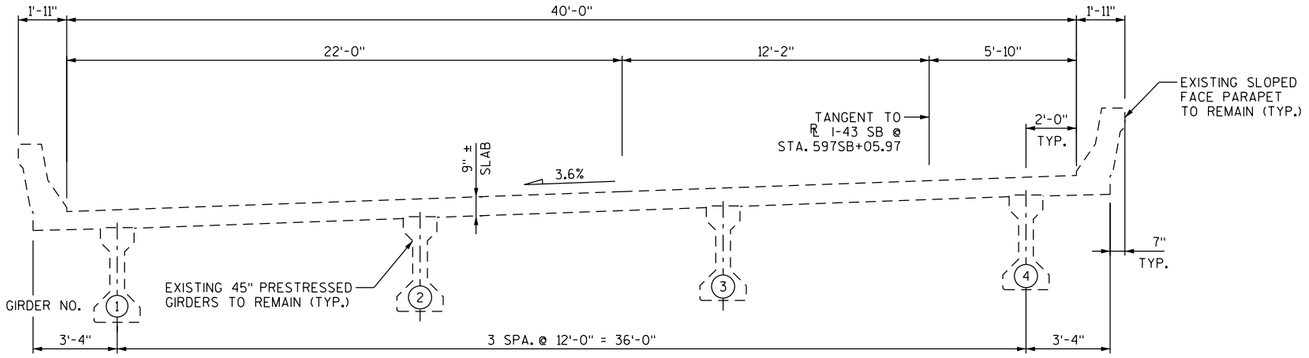
GENERAL PLAN

SHEET 1 OF 8
285

8

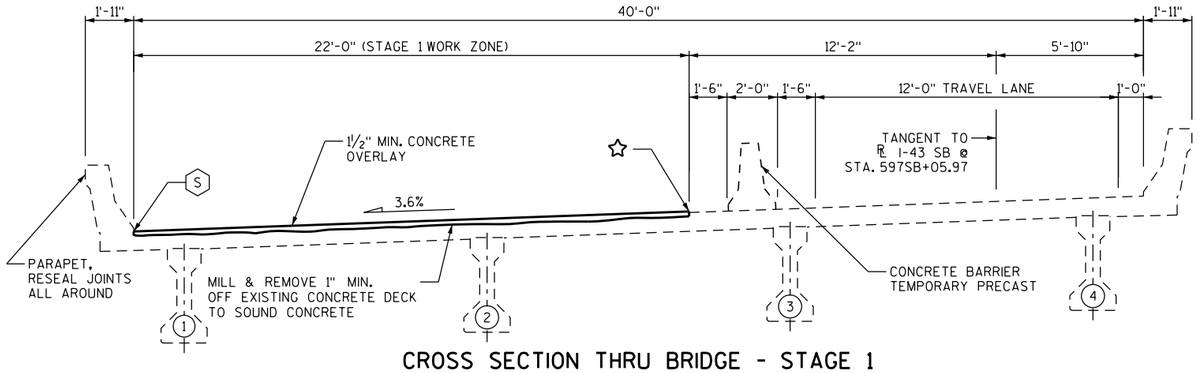
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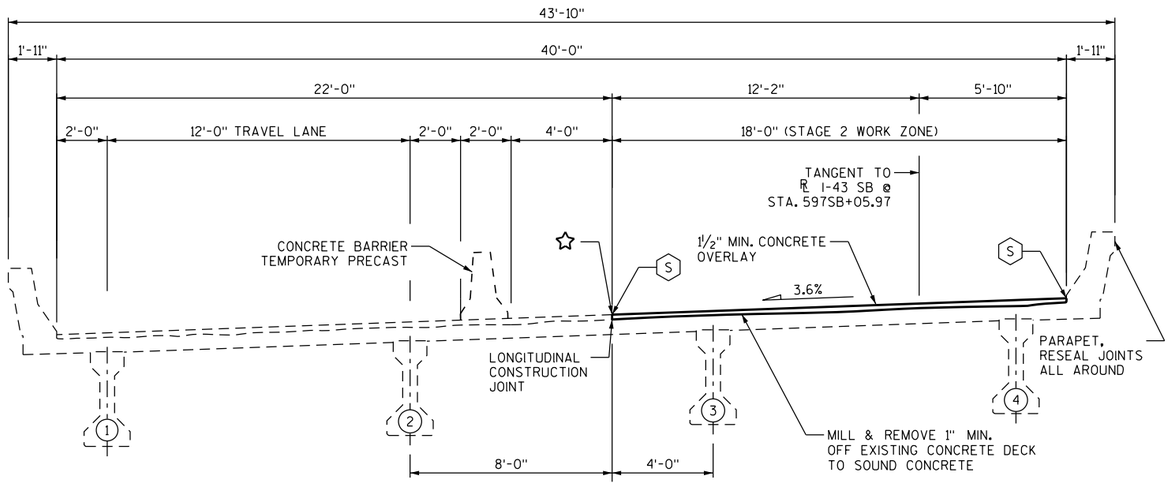
CROSS SECTION THRU EXISTING BRIDGE

(LOOKING NORTH)
MEASURED NORMAL TO TANGENT LINE



CROSS SECTION THRU BRIDGE - STAGE 1

(LOOKING NORTH)
MEASURED NORMAL TO TANGENT LINE



CROSS SECTION THRU BRIDGE - STAGE 2

(LOOKING NORTH)
MEASURED NORMAL TO TANGENT LINE

TOTAL ESTIMATED QUANTITIES

	ITEM NO.	BID ITEMS	UNIT	TOTAL
	203.0210.S.07	ABATEMENT OF ASBESTOS CONTAINING MATERIAL STRUCTURE B-45-51 REHAB	LS	1
	203.0225.S.07	DEBRIS CONTAINMENT STRUCTURE B-45-51 REHAB	LS	1
	502.3100.07	EXPANSION DEVICE STRUCTURE B-45-51 REHAB	LS	1
	502.3200	PROTECTIVE SURFACE TREATMENT	SY	762
	502.5005	MASONRY ANCHORS TYPE L NO. 5 BARS	EACH	93
	505.0605	BAR STEEL REINFORCEMENT HS COATED BRIDGES	LB	1,960
	505.0905	BAR COUPLERS NO. 5	EACH	3
	505.0906	BAR COUPLERS NO. 6	EACH	9
	505.0908	BAR COUPLERS NO. 8	EACH	6
	506.7000.S.07	BEARING REPLACEMENT STRUCTURE B-45-51 REHAB	EACH	4
	509.0301	PREPARATION DECKS TYPE 1	SY	62
	509.0302	PREPARATION DECKS TYPE 2	SY	25
	509.0500	CLEANING DECKS	SY	625
	509.1000	JOINT REPAIR	SY	20
**	509.1500	CONCRETE SURFACE REPAIR	SF	5
	509.2000	FULL-DEPTH DECK REPAIR	SY	5
	509.2500	CONCRETE MASONRY OVERLAY DECKS	CY	66
	604.9010.S	SLOPE PAVING REPAIR CRUSHED AGGREGATE	CY	20
	604.9015.S	RESEAL CRUSHED AGGREGATE SLOPE PAVING	SY	455
	SPV.0090.01	CLEANING PARAPETS	LF	335
	SPV.0090.02	CRACK SEALING EPOXY SPECIAL	LF	465

** AS PER DIRECTION BY THE ENGINEER

GENERAL NOTES

DRAWINGS SHALL NOT BE SCALED.

DIMENSIONS OF EXISTING BRIDGE MEMBERS SHOWN ARE BASED ON ORIGINAL PLANS.

ELEVATIONS SHOWN ON THIS PLAN ARE REFERENCED TO BM#2, A DISK ON THE TOP OF THE NW WING OF B-45-51, ELEV. 671.97.

THIS STRUCTURE WILL REHABILITATE THE EXISTING STRUCTURE, B-45-51, A THREE SPAN, 139.1' LONG, PRESTRESSED CONCRETE GIRDER BRIDGE SET ON CONCRETE ABUTMENTS AND MULTI-COLUMN PIERS.

THERE MAY BE UTILITY INSTALLATIONS WITHIN THE PROJECT AREA THAT ARE NOT SHOWN.

A MINIMUM OF 1" CONCRETE SHALL BE REMOVED FROM THE ENTIRE BRIDGE DECK UNDER THE BID ITEM "CLEANING DECKS".

EXISTING PARAPET INSIDE FACES AND TOPS SHALL BE GIVEN A LIGHT SAND BLASTING. PARAPET JOINTS SHALL BE CLEANED AND RE-SEALED WITH NON-STAINING, GRAY NON-BITUMINOUS JOINT SEALER. INCLUDE IN BID ITEM "CLEANING PARAPETS".

THE MINIMUM OVERLAY THICKNESS IS 1½" PLACED ABOVE THE DECK SURFACE AFTER CLEANING. THE EXPECTED AVERAGE OVERLAY THICKNESS IS 2" BASED ON THE NEW PROFILE GRADE LINE. IF THE EXPECTED AVERAGE OVERLAY THICKNESS IS EXCEED BY MORE THAN ½", CONTACT THE STRUCTURES DESIGN SECTION.

THE "CONCRETE MASONRY OVERLAY DECKS" QUANTITY IS BASED ON THE EXPECTED AVERAGE OVERLAY THICKNESS OF 2" PLUS AN ADDITIONAL ½" TO ACCOUNT FOR VARIATIONS IN THE DECK SURFACE.

ANY EXCAVATION REQUIRED TO COMPLETE THE OVERLAY OR PAVING BLOCK AT THE ABUTMENTS IS TO BE CONSIDERED INCIDENTAL TO THE BID ITEM "CONCRETE MASONRY OVERLAY DECKS".

CONCRETE BARRIER TEMPORARY PRECAST IS INCLUDED IN THE ROAD APPROACH QUANTITIES.

VARIATIONS TO THE NEW PROFILE GRADE LINE OVER ¼" MUST BE SUBMITTED BY THE FIELD ENGINEER TO THE STRUCTURES DESIGN SECTION FOR REVIEW.

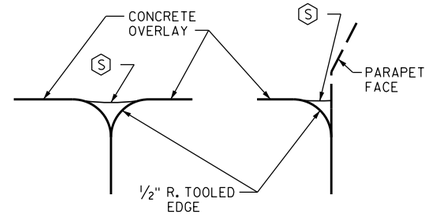
APPLY PROTECTIVE SURFACE TREATMENT TO THE TOP OF DECK AND INSIDE FACES AND TOPS OF PARAPETS, INCLUDING PARAPETS ON ABUTMENT WINGS.

☆ USE BAR COUPLING SYSTEM FOR TRANSVERSE STEEL ACROSS THE LONG. CONST. JOINT AT THE DIAPHRAGM AND PAVING BLOCK AT S. ABUT. FOR DETAILS SEE SHEET 5.

UTILIZE EXISTING BAR STEEL REINFORCEMENT WHERE SHOWN AND EXTEND 24 BAR DIAMETERS INTO NEW WORK, UNLESS SPECIFIED OTHERWISE.

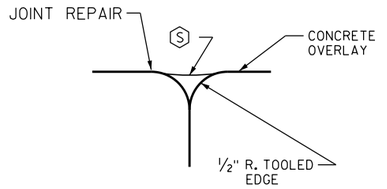
BAR STEEL REINFORCEMENT SHALL BE EMBEDDED 2" CLEAR UNLESS OTHERWISE SHOWN OR NOTED.

THE FIRST OR FIRST TWO DIGITS OF THE BAR MARK SIGNIFIES THE BAR SIZE.



LONGITUDINAL JOINT AT ℄

JOINT AT PARAPET



TRANSVERSE JOINT AT ABUTMENTS

JOINT DETAILS

(S) — CRACK SEALING EPOXY JOINTS. SEE JOINT DETAILS ABOVE.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-45-51 REHAB

DRAWN BY DRJ | PLANS CK'D. BNS

CROSS SECTION, QUANTITIES & NOTES

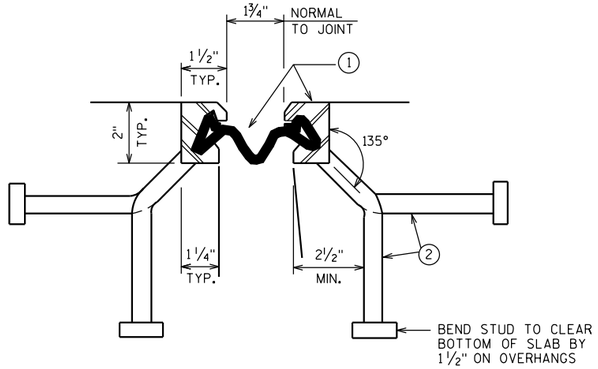
SHEET 2 OF 8
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B-45-51_02.dgn
SCALE = 1:16
4/10/2013

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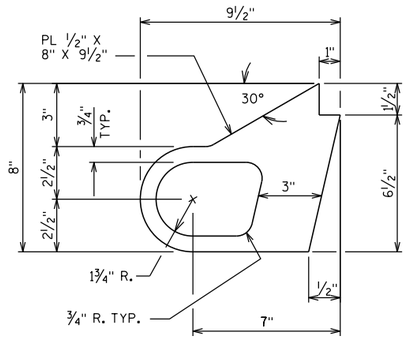
8

STATE PROJECT NUMBER
1450-16-70



SECTION THRU JOINT

EXTERIOR GIRDER TO EDGE OF DECK & AT PARAPETS



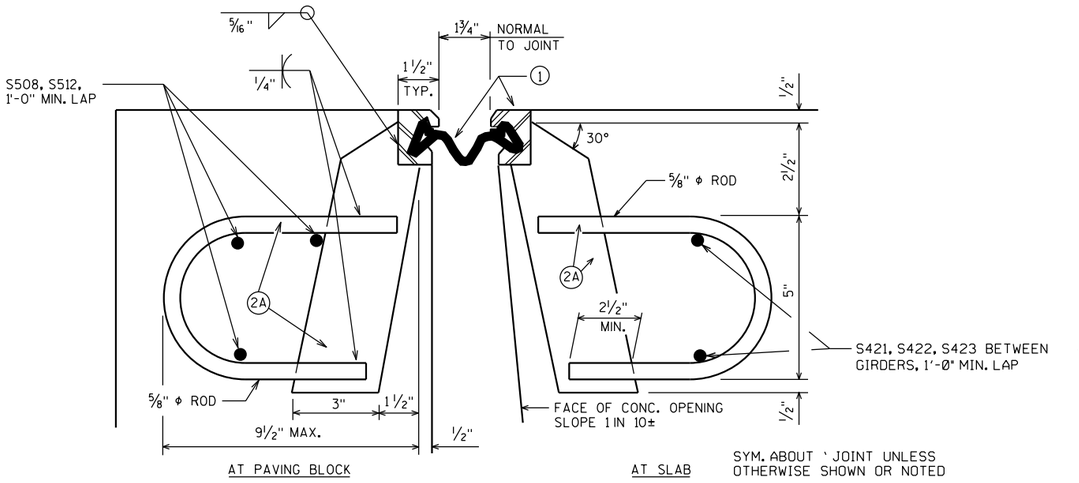
ALTERNATE STRIP SEAL ANCHOR

LEGEND

1. NEOPRENE STRIP STEAL (4 - INCH) & STEEL EXTRUSIONS. SET JOINT OPENING AT 1¾-INCH. MEASURED NORMAL TO ℄ OF ABUTMENTS.
2. STUDS ⅝" ϕ x 6⅜" LONG AT 6" ALTERNATE CENTERS. WELD TO EXTRUSIONS & BEND AS SHOWN AFTER WELDING.

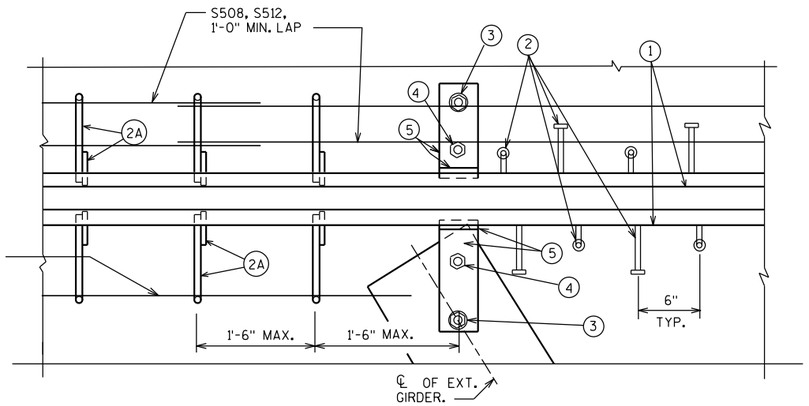
2A. ½" THICK ANCHOR PLATE WITH ⅝" ϕ ROD (OR ALTERNATE STRIP SEAL ANCHOR). WELD ROD TO ANCHOR PLATE, WELD ANCHOR PL. TO NO. 1 AT 1'-6" CTRS. BETWEEN GIRDERS.

3. ¾" ϕ THREADED ROD WITH 2 NUTS AND WASHERS. FOR STEEL GIRDERS WELD THREADED ROD TO TOP FLANGE OR ATTACH BY BOLTING THRU FLANGE. ON ABUTMENT SIDE GROUT THREADED ROD INTO FIELD DRILLED HOLES IN ABUTMENT BACKWALL AS SHOWN.
4. ¾" ϕ THREADED ROD WITH NUT. TACK WELD NUT TO NO. 5.
5. FABRICATE SUPPORT FROM 3" x ½" BAR AS SHOWN OR EQUIVALENT. ONE PER GIRDER PER SIDE. SHOP OR FIELD WELD TO NO. 1. IF FIELD WELDED, COVER WELDED AREAS WITH EPOXY-COATING MATERIAL. PROVIDE 1 ½" ϕ HOLE FOR NO. 3 & 1" ϕ HOLE FOR NO. 4.
6. GALVANIZED PLATE ⅜" x 10½" x 2'-0".
7. ¾" ϕ x 1½" STAINLESS STEEL SOCKET FLAT HEAD SCREWS WITH ANTI-SEIZE LUBRICANT. RECESS 1/16" BELOW PLATE SURFACE.
8. ¾" ϕ x 4" GALVANIZED HEX HEAD BOLT. BEND 45°.
9. ¾" ϕ x 2¼" GALVANIZED THREADED COUPLING.
10. 1" x 5" SLOTTED CSK. HOLE FOR NO. 7. SLOT PARALLEL TO DIRECTION OF MOVEMENT.



SECTION THRU JOINT

ROADWAY TRAFFIC AREA BETWEEN EXTERIOR GIRDERS.



PART PLAN

8

8

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STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-45-51 REHAB

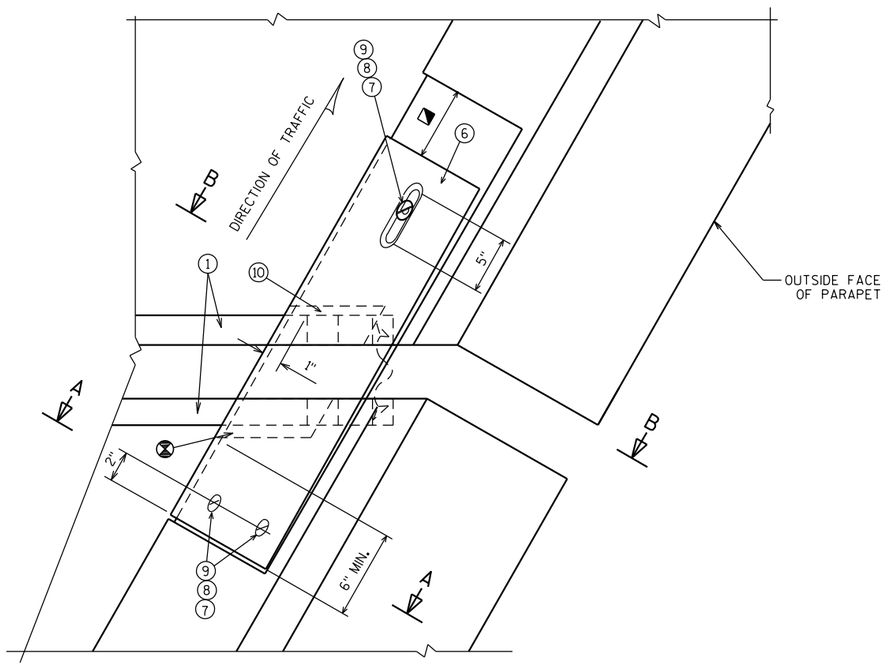
DRAWN BY	DRJ	PLANS CK'D.	BNS

STRIP SEAL EXPANSION JOINT

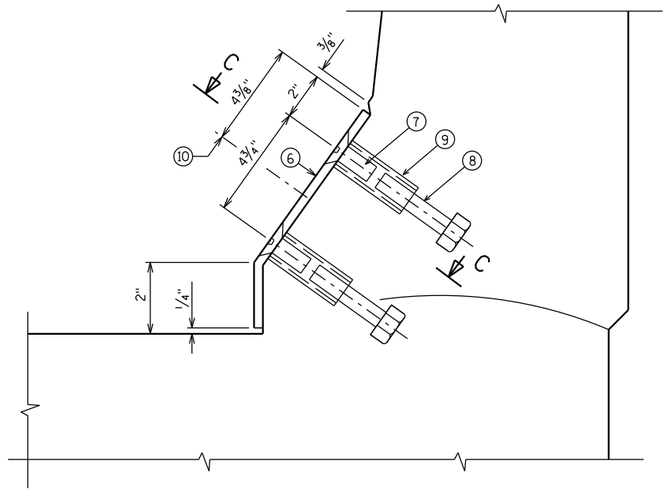
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PLAN AT PARAPET



SECTION A-A

NOTES

ONE FIELD SPLICE PERMITTED IN STEEL EXTRUSIONS. IF USED, DETAILS SHALL BE SUBMITTED FOR APPROVAL. NO SPLICING PERMITTED IN NEOPRENE STRIP SEAL.

AFTER FABRICATION, BUT BEFORE SHIPMENT, STRAIGHTEN STEEL EXTRUSIONS SUCH THAT THEY SHALL BE FREE FROM WARP, TWIST & SWEEP.

FABRICATOR SHALL PROVIDE MEANS OF KEEPING GALVANIZED EXTRUSIONS CLEAN & SMOOTH DURING SHIPMENT AND PRIOR TO APPLYING LUBRICANT ADHESIVE FOR NEOPRENE GLAND INSTALLATION.

SANDBLAST PLATES & EXTRUSIONS AFTER FABRICATION IN ACCORDANCE WITH SSPC SP. #6 "COMMERCIAL BLAST CLEANING". AFTER BLAST CLEANING, THE PLATES & EXTRUSIONS SHALL BE HOT DIPPED GALVANIZED.

ANCHOR SYSTEM NO. 8 & NO. 9 SHALL CONFORM TO ASTM A307 & SHALL BE GALVANIZED IN ACCORDANCE WITH ASTM A153 CLASS C & D.

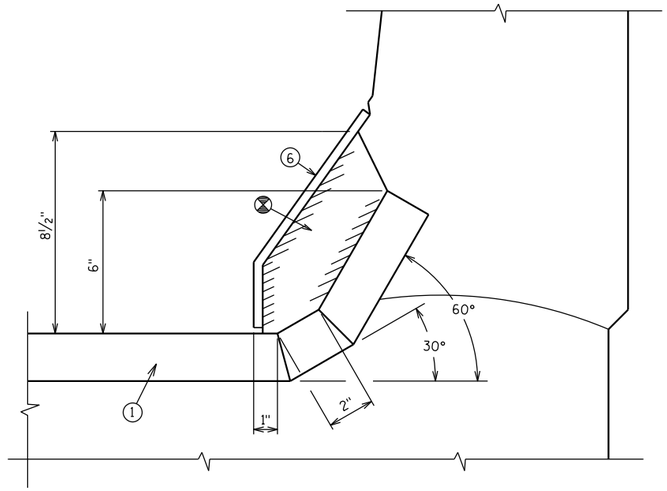
STRIP SEAL EXPANSION JOINT ASSEMBLY, INCLUDING PARAPET PLATES, ANCHOR STUDS, & HARDWARE, CONNECTIONS AND FIELD DRILLING, WILL BE PAID FOR AT THE LUMP SUM PRICE BID FOR "EXPANSION DEVICE B-45-51 REHAB".

SALVAGE AND REUSE EXISTING BAR STEEL REINFORCEMENT WHERE POSSIBLE AND BEND INTO NEW WORK.

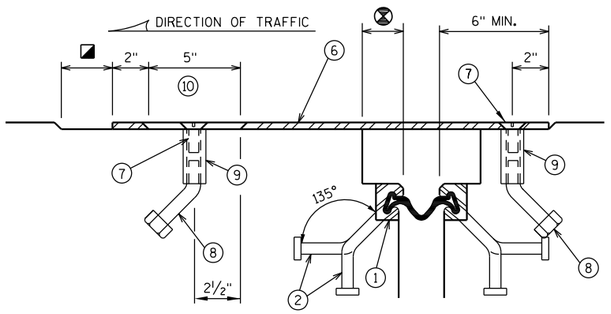
REMOVE EXISTING PARAPET, PLATES, AND WING TO 1½" BELOW NEW STEEL EXTRUSION. INSTALL NEW PLATES TO MATCH EXISTING PARAPET.

ALL NEW TRANSVERSE STEEL SHALL BE PLACED PARALLEL TO THE JOINT.

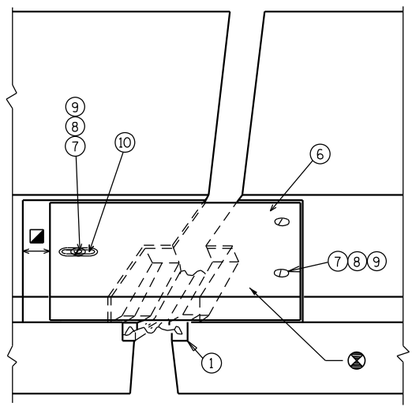
REFER TO SHEET 3 FOR LEGEND.



SECTION B-B



SECTION C-C



VIEW OF PARAPET PLATES FROM ROADWAY

LEGEND

- ⊗ BLOCK OUT CONCRETE 2" EACH SIDE FOR JOINT OPENING
- ◪ JOINT OPENING DIM. ALONG SKEW PLUS ½"

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STATE OF WISCONSIN
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STRUCTURE B-45-51 REHAB

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STRIP SEAL EXPANSION JOINT DETAILS 1

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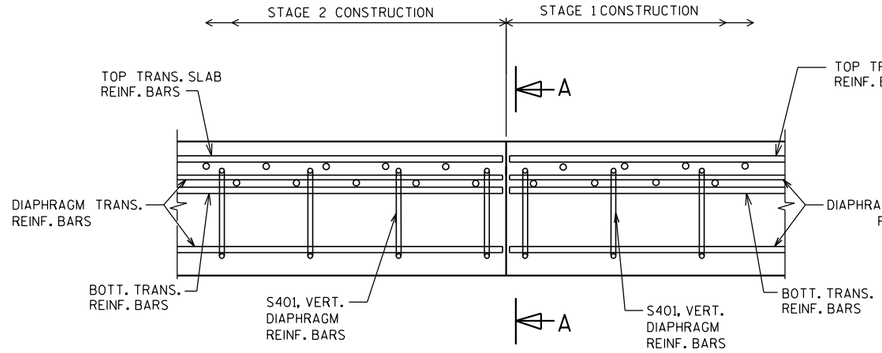
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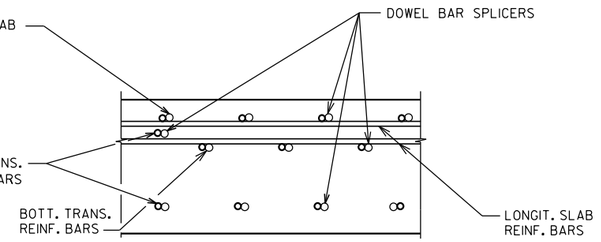
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SECTION THRU DIAPHRAGM



SECTION A-A

NOTES

STEEL SPLICE (COUPLER) ASSEMBLY SHALL BE AN APPROVED TYPE AND SHALL DEVELOP IN TENSION AT LEAST 125% OF THE YIELD STRENGTH OF THE SPLICED REINFORCEMENT BARS.

DOWEL BAR SPLICERS SHALL BE OF MINIMUM 60 ksi YIELD STRENGTH, AND HAVE TENSILE STRENGTH AREA EQUAL OR GREATER THAN THAT OF THE LAPPED REINFORCEMENT BARS.

DOWEL BAR SPLICERS SHALL MEET THE DEFORMATION REQUIREMENTS FOR STANDARD ASTM DEFORMED REINFORCING BARS.

FOR DOWEL BAR SPLICERS, ALL REINFORCEMENT BARS SHALL BE LAPPED AND TIED TO THE SPLICER BARS.

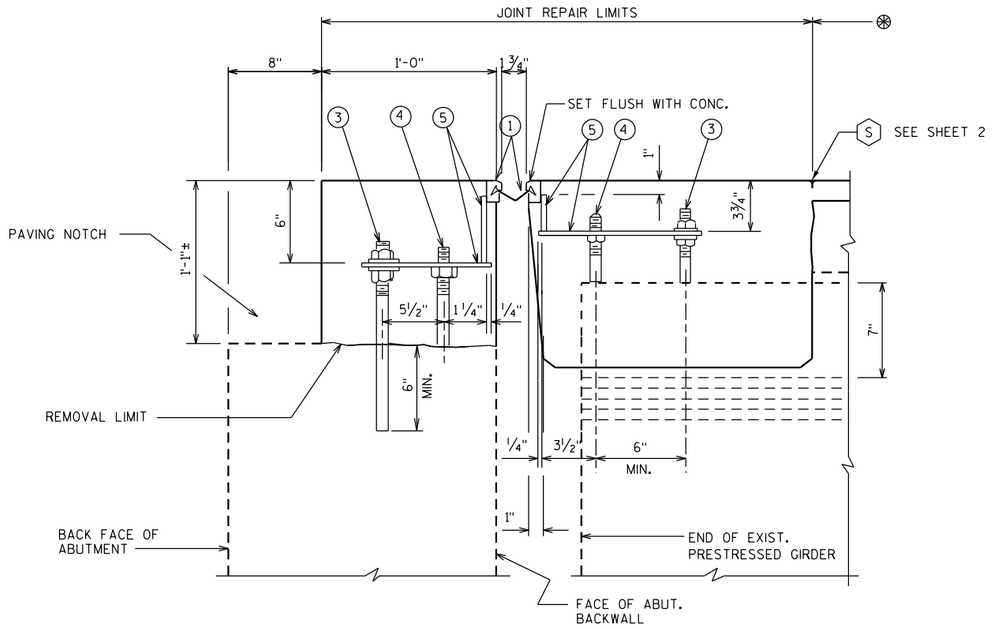
SPLICER (COUPLER) ASSEMBLY IN THE SLAB SHALL BE EPOXY COATED IN ACCORDANCE WITH THE REQUIREMENTS FOR REINFORCEMENT BARS.

OTHER SYSTEMS OF SIMILAR DESIGN MAY BE SUBMITTED TO THE ENGINEER FOR APPROVAL. APPROVAL SHALL BE BASED ON CERTIFIED TEST RESULTS FROM AN APPROVED TESTING LABORATORY THAT THE PROPOSED SPLICER (COUPLER) ASSEMBLY SATISFIES THE FOLLOWING REQUIREMENT:

MINIMUM CAPACITY = 1.25 X fy X AREA OF SPLICED REINFORCEMENT BAR.

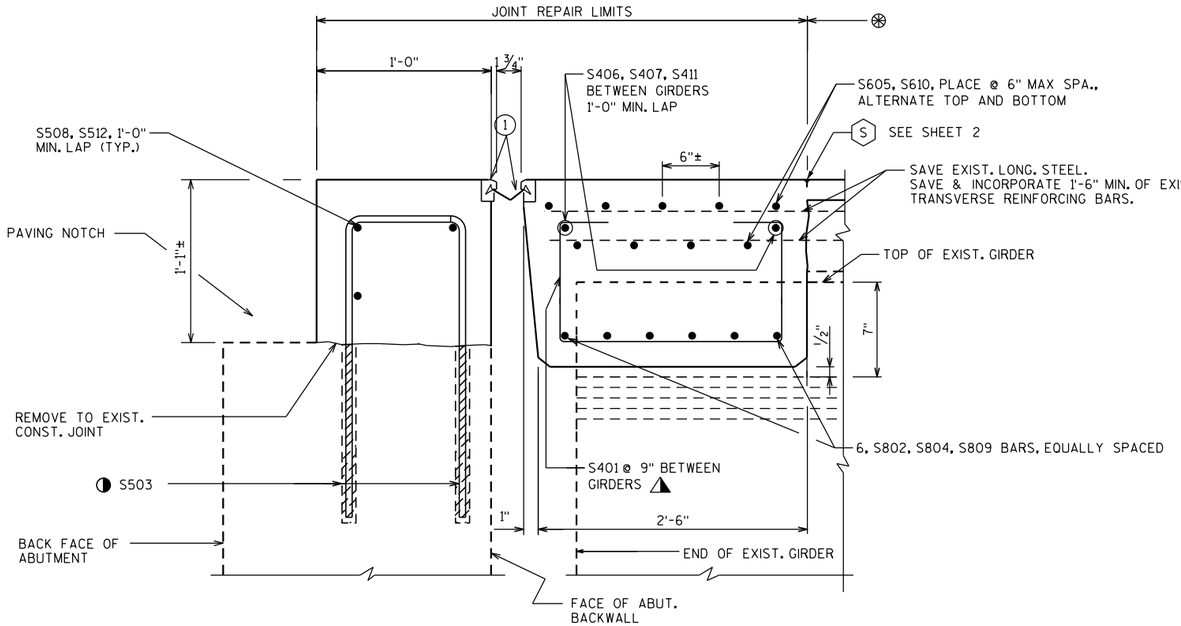
WHERE fy = YIELD STRENGTH OF SPLICED REINFORCEMENT BARS

REFER TO SHEET 3 FOR LEGEND.



TYPICAL SECTION THRU JOINT AT S. ABUTMENT

NORMAL TO ℄ EXPANSION JOINT



TYPICAL SECTION THRU PAVING BLOCK AT S. ABUTMENT

NORMAL TO ℄ EXPANSION JOINT

LEGEND

△ PARALLEL TO ℄ OF GIRDER

⊛ REMOVE ENTIRE EXISTING CONCRETE DIAPHRAGM, APPROX. 2'-6" FROM ℄ EXIST. EXPANSION JOINT TO FRONT OF EXIST. DIAPHRAGM.

◑ REMOVE EXISTING VERTICAL REINFORCING BARS DURING REMOVAL OF PAVING BLOCK. REPLACE WITH "MASONRY ANCHORS TYPE L NO. 5 BARS" SPACED AT 1'-0" AND EMBEDDED 1'-6" MINIMUM. PROVIDE A MINIMUM PULLOUT CAPACITY OF 19 KIPS. TURN HORIZONTAL LEG AS NECESSARY TO FIT.

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STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-45-51 REHAB

DRAWN BY DRJ | PLANS CK'D. BNS

STRIP SEAL EXPANSION JOINT DETAILS 2

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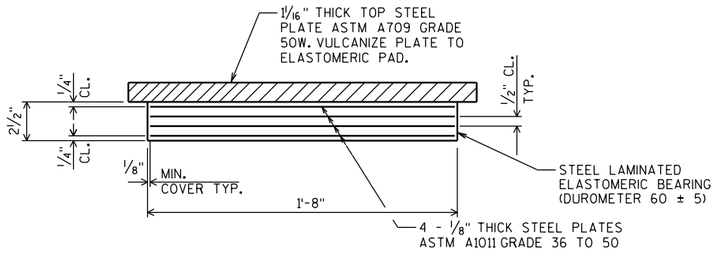
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4/10/2013

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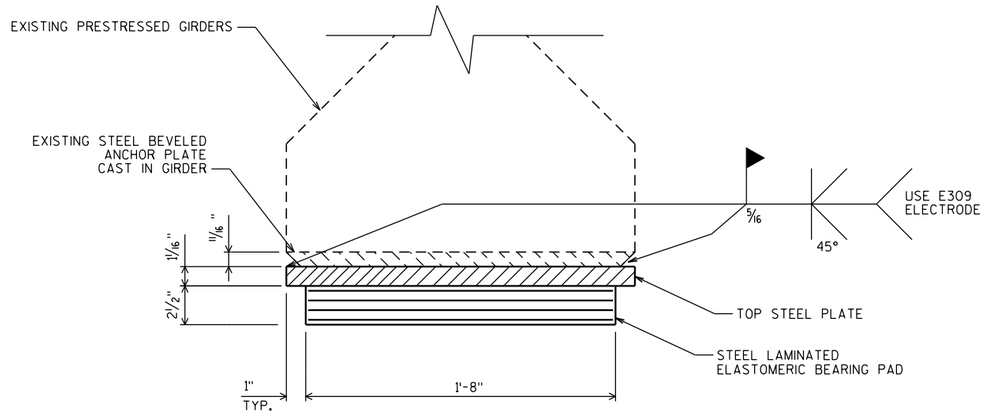
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SECTION THRU ELASTOMERIC BEARING



END VIEW

NOTES

ALL MATERIAL USED FOR BEARINGS SHALL BE PAID FOR AT THE UNIT PRICE BID FOR "BEARING REPLACEMENT STRUCTURE B-45-51 REHAB".

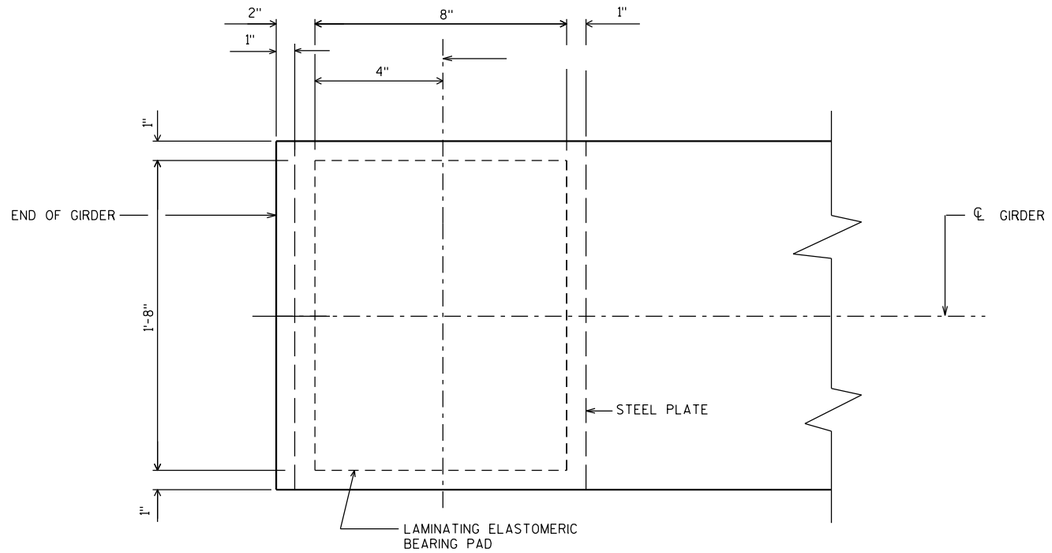
ON BEARING REPLACEMENTS, COMPRESSION LOAD AND ADHESION TESTS WILL BE WAIVED WHERE BEARINGS ARE DETAILED TO MEET HEIGHT REQUIREMENTS.

ALL STRUCTURAL STEEL PLATES SHALL BE FLAT ROLLED WITH ALL SURFACES SMOOTH AND FREE FROM WARP AND ALL EDGES SMOOTH, STRAIGHT, AND VERTICAL.

ALL PLATE CUTS SHALL BE MACHINE OR MACHINE FLAME CUTS.

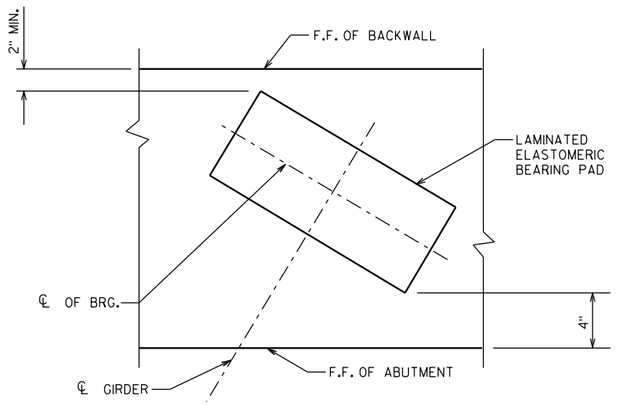
ELASTOMER MATERIAL PROPERTIES SHALL CONFORM TO WISDOT STANDARD.

REMOVE EXISTING EXPANSION BEARINGS & EXISTING ANCHOR BOLTS FLUSH WITH CONCRETE BEARING SURFACE & GRIND SMOOTH.



PLAN VIEW

(TYP. S. ABUTMENT)



CLEARANCE DIAGRAM

(TYP. S. ABUTMENT)

8

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STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-45-51 REHAB

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BEARING REPLACEMENT DETAILS

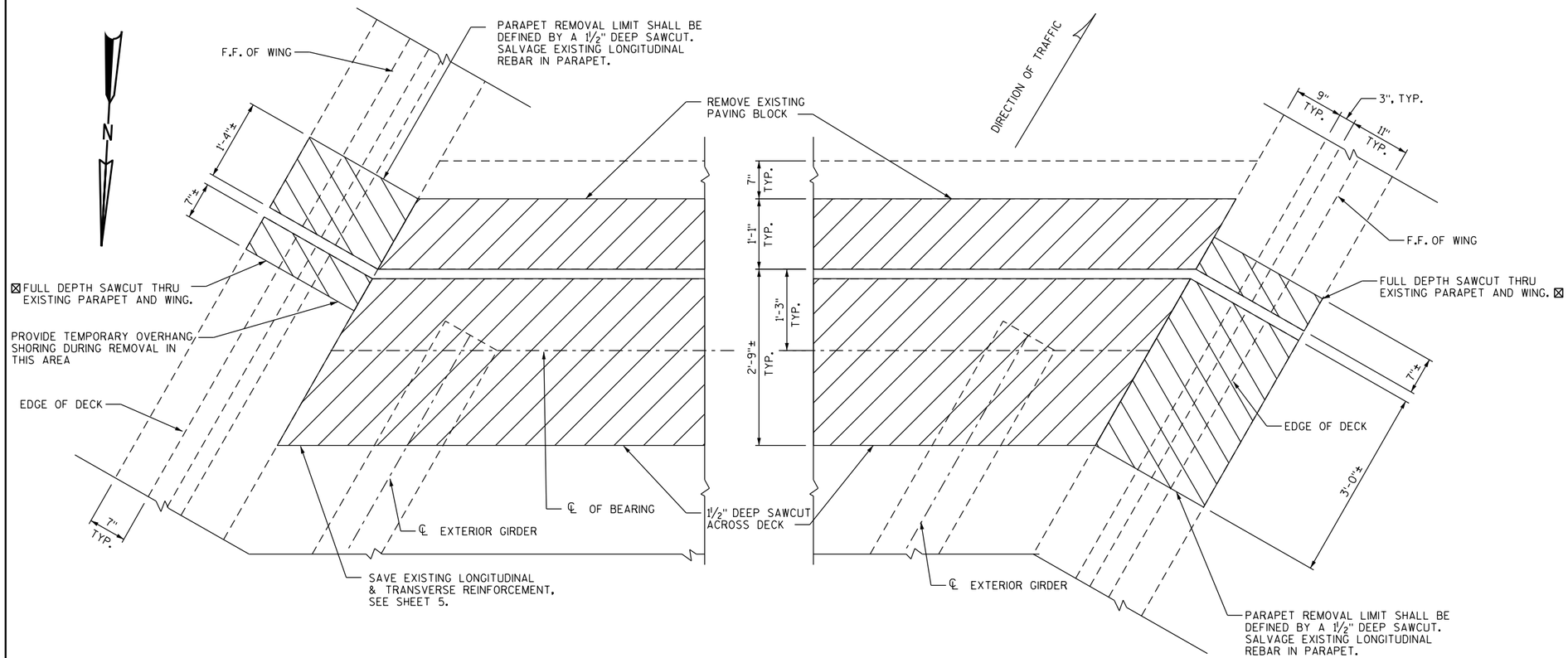
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B-45-51_06.dgn
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REMOVAL PLAN

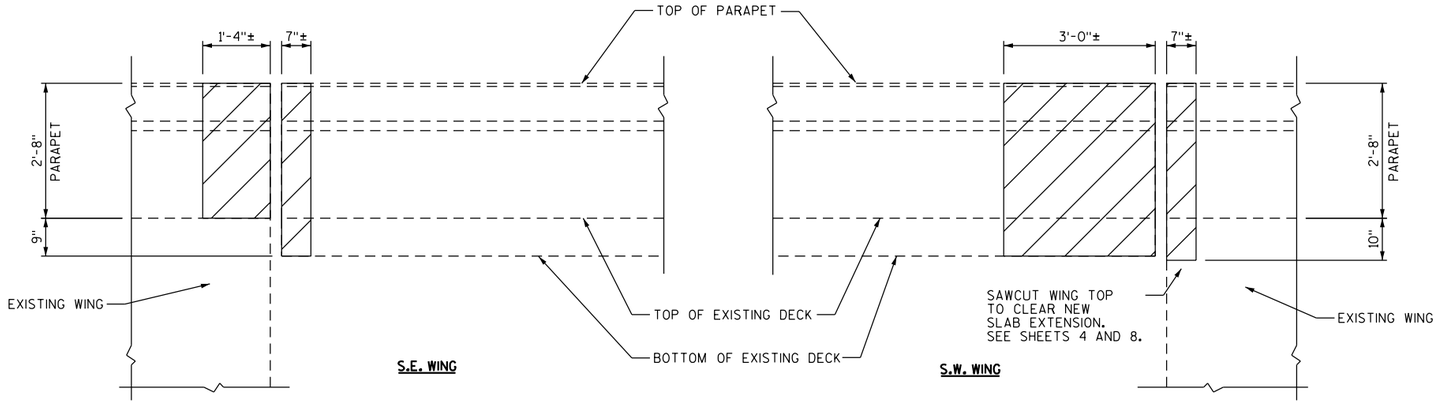
SOUTH ABUTMENT

LEGEND

F.F. - FRONT FACE

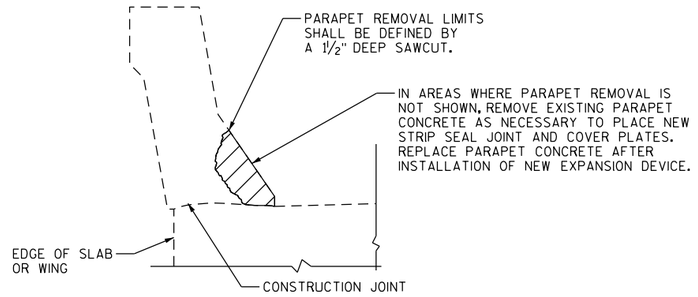
⊠ - COAT EXPOSED BAR STEEL WITH EPOXY IN ACCORDANCE WITH SUBSECTION 505.2.4.2 OF THE STANDARD SPECIFICATIONS.

▨ - MINIMUM REMOVAL LIMITS (AT JOINT REPAIR)



PARAPET ELEVATION

(LOOKING AT OUTSIDE FACE OF PARAPET)



PARAPET REMOVAL LIMITS

8

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STRUCTURE B-45-51 REHAB

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PARAPET & DECK REMOVAL DETAILS

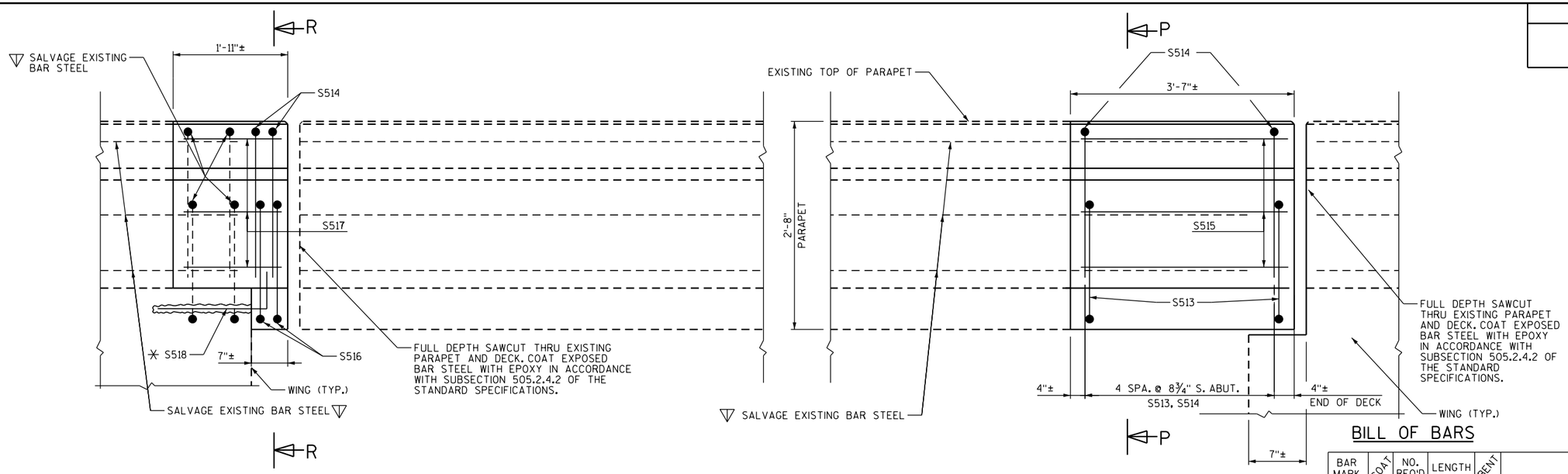
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S.E. WING

PARAPET ELEVATION

(LOOKING AT OUTSIDE FACE OF PARAPET)

S.W. WING

BILL OF BARS

1,960 LBS.

BAR MARK	COAT	NO. REQ'D	LENGTH	BENT	LOCATION
S401	X	46	4'-8"	X	DIAPH.-STIRRUP-VERT.
S802	X	12	11'-8"		DIAPH.-TRANS.
S503	X	92	2'-10"	X	PAVING BLOCK-MASONRY ANCHOR-VERT.
✡ S804	X	6	8'-1"		DIAPH.-TRANS.-STG. 1
✡ S605	X	9	26'-2"		DECK END-TRANS.-STG. 1
S406	X	4	11'-8"		DIAPH.-TRANS.
S407	X	2	9'-4"		DIAPH.-TRANS.-STG. 1
S508	X	9	9'-0"		PAVING BLOCK-TRANS.-STG. 1
✡ S809	X	6	3'-7"		DIAPH.-TRANS.-STG. 2
✡ S610	X	9	20'-2"		DECK END-TRANS.-STG. 2
S411	X	2	3'-7"		DIAPH.-TRANS.-STG. 2
S512	X	9	7'-7"		PAVING BLOCK-TRANS.-STG. 2
S513	X	5	4'-9"	X	PARAPET LOWER STIRRUP-VERT.
S514	X	7	5'-0"	X	PARAPET UPPER STIRRUP-VERT.
S515	X	5	3'-3"		PARAPET @ S.W. WING-LONGIT.
S516	X	2	4'-9"	X	PARAPET LOWER STIRRUP-VERT.
S517	X	5	1'-7"		PARAPET @ S.E. WING-LONGIT.
S518	X	1	2'-6"	X	S.E. WING UNDER PARAPET-TYPE L-HORIZ.
S519	X	1	2'-8"		PARAPET @ S.W. WING-LONGIT.
S520	X	1	1'-0"		PARAPET @ S.E. WING-LONGIT.
S421	X	4	11'-8"		EXPANSION DEVICE- HORIZ. BETWEEN GIRDERS
S422	X	2	9'-4"		EXPANSION DEVICE- HORIZ. BETWEEN GIRDERS-STG. 1
S423	X	2	3'-7"		EXPANSION DEVICE- HORIZ. BETWEEN GIRDERS-STG. 2

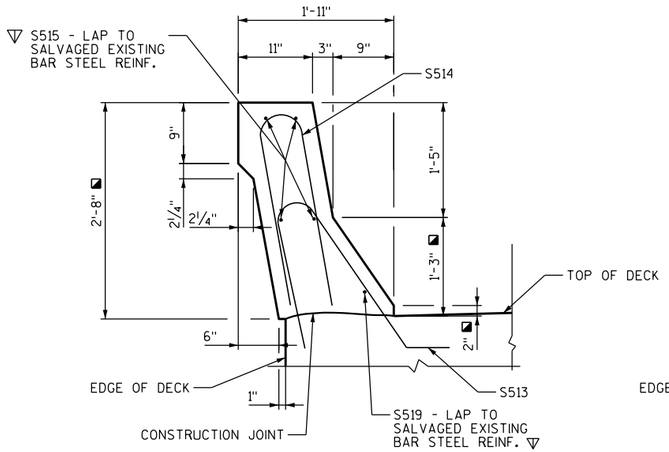
LEGEND

✡ BAR COUPLERS USED. BAR LENGTH COMPUTED TO ℄ OF LONGITUDINAL JOINT & SHALL BE MODIFIED TO THE BAR COUPLER MANUFACTURERS RECOMMENDATIONS.

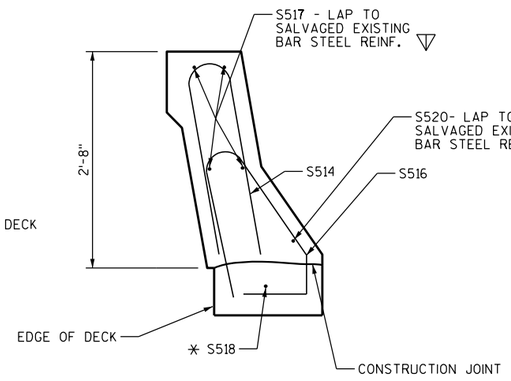
▽ IF EXISTING BAR STEEL REINFORCEMENT IS DAMAGED. INSTALL MASONRY ANCHORS TYPE L NO. 5 BARS NEAR LOCATION OF DAMAGED BARS. MASONRY ANCHORS IF REQUIRED SHALL BE INCLUDED IN THE BID ITEM "JOINT REPAIR".

✳ MASONRY ANCHORS TYPE L NO. 5 BARS SHALL DEVELOP A MINIMUM PULLOUT CAPACITY OF 19 KIPS. EMBED BARS 1'-6" MIN. ANCHOR HOLES SHALL BE 4" CLEAR MIN. TO FACE OF EXISTING CONCRETE.

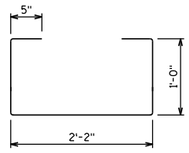
◥ REDUCE DIMENSION AS REQUIRED TO MATCH NEW PARAPET TOP WITH EXISTING PARAPET TOP.



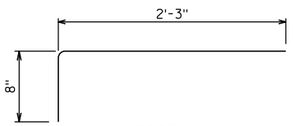
SECTION P-P THRU PARAPET



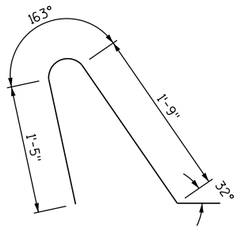
SECTION R-R THRU PARAPET



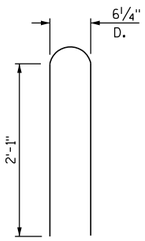
S401



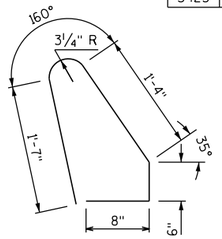
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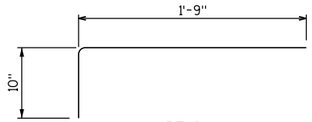
S513



S514



S516



S518

BENDING DIAGRAMS

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-45-51 REHAB

DRAWN BY DRJ | PLANS CK'D. BNS

PARAPET DETAILS

SHEET 8 OF 8

292

B-45-51_08.dgn
SCALE = 1:6
4/10/2013

8

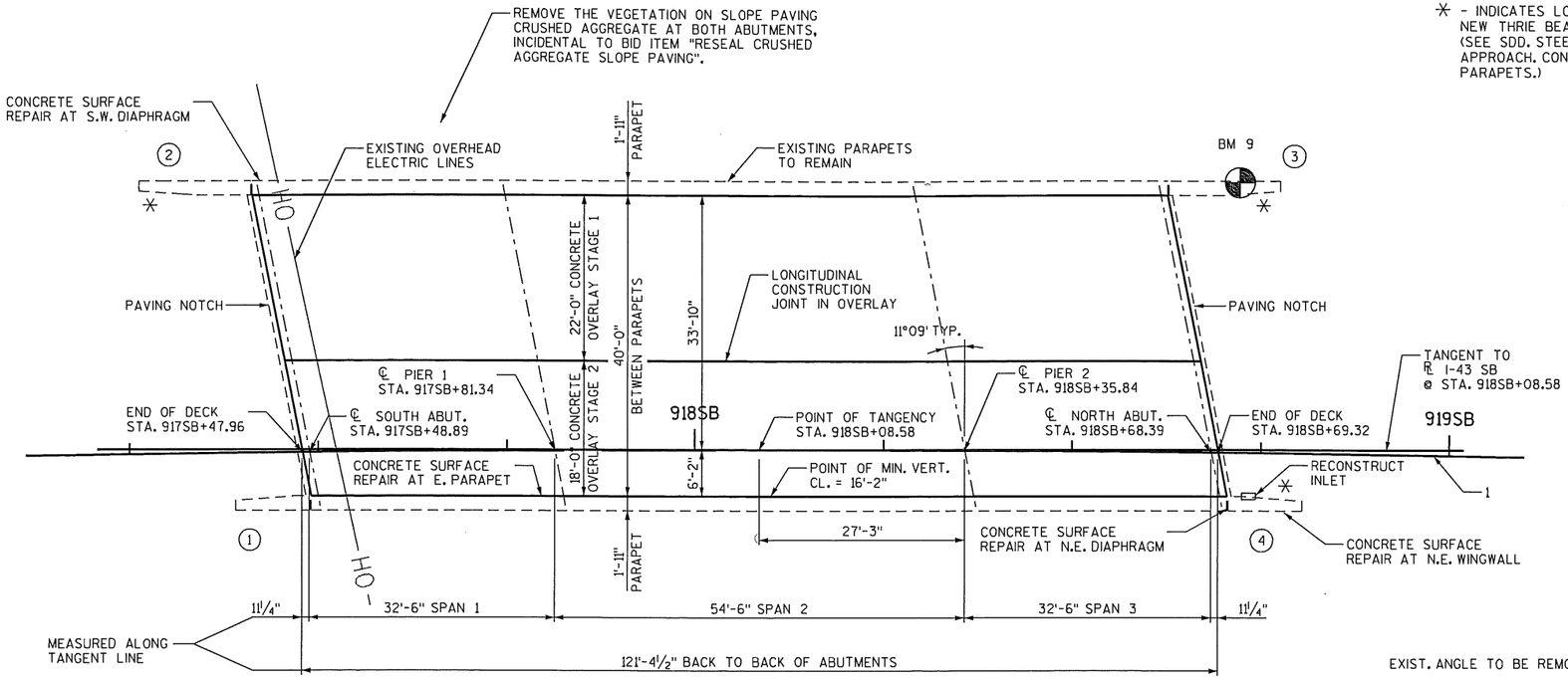
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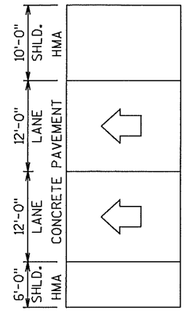
STATE PROJECT NUMBER
1450-16-70

○ - INDICATES WING NUMBER

✳ - INDICATES LOCATION OF PROVISION FOR NEW THRIE BEAM ATTACHMENT AT WINGS (SEE SDD. STEEL THRIE BEAM STRUCTURE APPROACH. CONNECTION TO SLOPED END PARAPETS.)

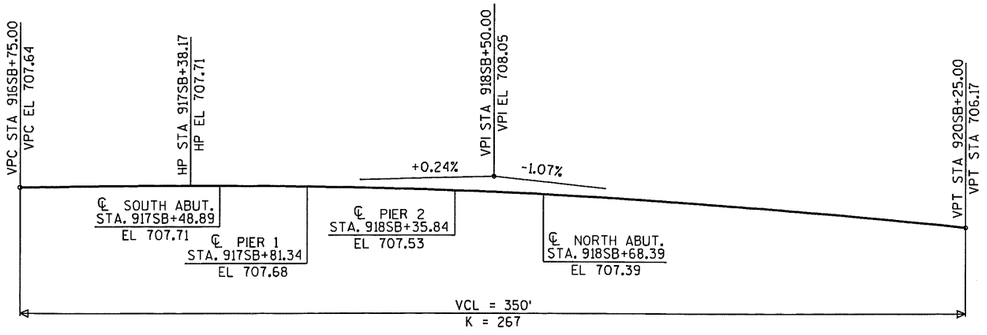
BENCHMARKS ⊕			
NO.	STA./OFFSET	DESCRIPTION	ELEV.
BM 9	918SB+71.83 , 35.92'LT.	DISK ON NW CORNER B-45-57	711.46





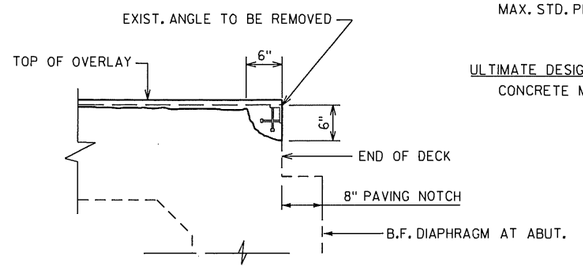
PLAN

(REHAB - CONCRETE OVERLAY ON EXISTING THREE SPAN PRESTRESSED CONCRETE GIRDER)



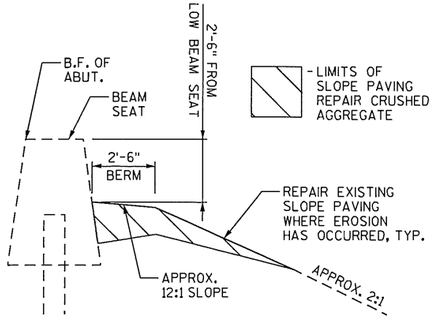
PROFILE GRADE LINE - I-43 SB

(R/L I-43 SB)



SECTION AT END OF SLAB

CONCRETE OVERLAY



SLOPE PAVING AT ABUTMENTS

DESIGN DATA

LIVE LOAD

INVENTORY RATING : HS-17
OPERATING RATING : HS-29
MAX. STD. PERMIT VEHICLE LOAD = 190 KIPS

TRAFFIC DATA;

A.A.D.T. (2012) = 22,500
A.A.D.T. (2032) = 28,211

ULTIMATE DESIGN STRESSES;

CONCRETE MASONRY — SUPERSTRUCTURE —— f'c = 4,000 P.S.I.
ALL OTHER —— f'c = 3,500 P.S.I.

LIST OF DRAWINGS

1. GENERAL PLAN
2. CROSS SECTION, QUANTITIES & NOTES

YOON-MOON CHUN E-39076 WHITEFISH BAY WIS. PROFESSIONAL ENGINEER
4-10-2013

STRUCTURES DESIGN CONTACTS

BRIDGE OFFICE:
WILLIAM DREHER (608) 266-8489
CONSULTANT:
YOONMOON CHUN (262) 821-1171

NO.	DATE	REVISION	BY

KSA K. Singh & Associates, Inc.
Engineers, Scientists and Environmental Management Consultants

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

ACCEPTED William C. Dreher KAR 04/17/13
CHIEF STRUCTURES DESIGN ENGINEER DATE

STRUCTURE B-45-57 REHAB

I-43 SB OVER JAY ROAD

COUNTY	TOWN ~~CITY/VILLAGE~~
OZAUKEE	BELGIUM

DESIGN SPEC. REHABILITATION N/A

DESIGNED BY	DESIGN CK'D.	DRAWN BY	PLANS CK'D.
DRJ	BNS	DRJ	BNS

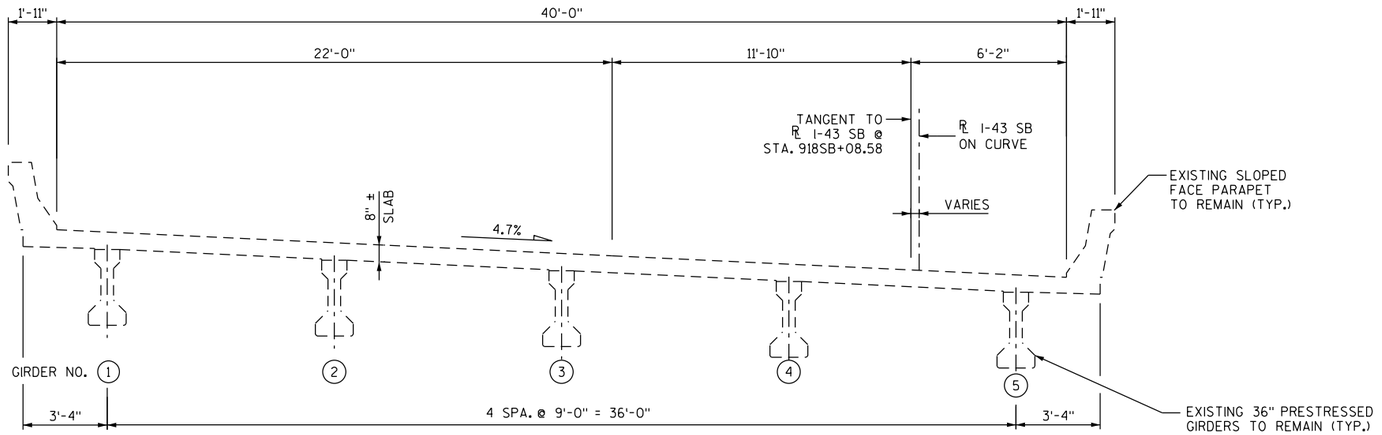
GENERAL PLAN

SHEET 293 2

B-45-57_01.dgn
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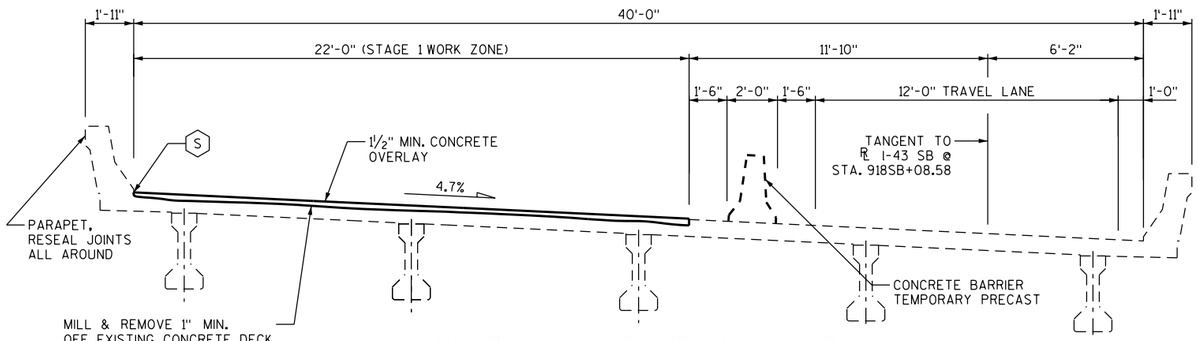
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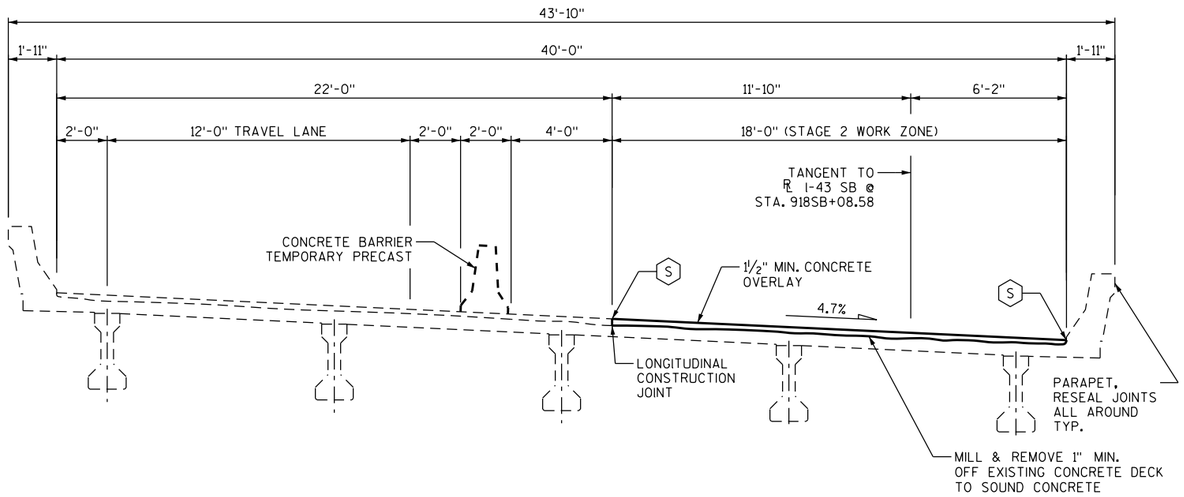
CROSS SECTION THRU EXISTING BRIDGE

(LOOKING NORTH)
MEASURED ALONG TANGENT LINE



CROSS SECTION THRU BRIDGE - STAGE 1

(LOOKING NORTH)
MEASURED ALONG TANGENT LINE



CROSS SECTION THRU BRIDGE - STAGE 2

(LOOKING NORTH)
MEASURED ALONG TANGENT LINE

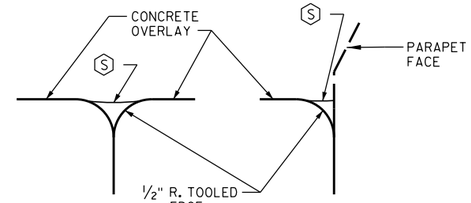
STATE PROJECT NUMBER

1450-16-70

TOTAL ESTIMATED QUANTITIES

	ITEM NO.	BID ITEMS	UNIT	TOTAL
	203.0210.S.08	ABATEMENT OF ASBESTOS CONTAINING MATERIAL STRUCTURE B-45-57 REHAB	LS	1
	203.0225.S.08	DEBRIS CONTAINMENT STRUCTURE B-45-57 REHAB	LS	1
	502.3200	PROTECTIVE SURFACE TREATMENT	SY	664
	509.0301	PREPARATION DECKS TYPE 1	SY	54
	509.0302	PREPARATION DECKS TYPE 2	SY	22
	509.0500	CLEANING DECKS	SY	540
*	509.1500	CONCRETE SURFACE REPAIR	SF	20
	509.2000	FULL-DEPTH DECK REPAIR	SY	5
	509.2500	CONCRETE MASONRY OVERLAY DECKS	CY	49
	604.9010.S	SLOPE PAVING REPAIR CRUSHED AGGREGATE	CY	20
	604.9015.S	RESEAL CRUSHED AGGREGATE SLOPE PAVING	SY	320
	SPV.0090.01	CLEANING PARAPETS	LF	295
	SPV.0090.02	CRACK SEALING EPOXY SPECIAL	LF	365

* AS PER DIRECTION BY THE ENGINEER



LONGITUDINAL JOINT AT ℄

JOINT AT PARAPET

JOINT DETAILS

(S) — CRACK SEALING EPOXY JOINTS. SEE JOINT DETAILS ABOVE.

GENERAL NOTES

DRAWINGS SHALL NOT BE SCALED.

DIMENSIONS OF EXISTING BRIDGE MEMBERS SHOWN ARE BASED ON ORIGINAL PLANS.

ELEVATIONS SHOWN ON THIS PLAN ARE REFERENCED TO BM#9, A DISK ON THE TOP OF THE NW WING OF B-45-57, ELEV. 711.46.

THIS STRUCTURE WILL REHABILITATE THE EXISTING STRUCTURE, B-45-57, A THREE SPAN, 121.3'LONG, PRESTRESSED CONCRETE GIRDER BRIDGE SET ON CONCRETE ABUTMENTS AND MULTI-COLUMN PIERS.

THERE MAY BE UTILITY INSTALLATIONS WITHIN THE PROJECT AREA THAT ARE NOT SHOWN.

A MINIMUM OF 1" CONCRETE SHALL BE REMOVED FROM THE ENTIRE BRIDGE DECK UNDER THE BID ITEM "CLEANING DECKS".

THE MINIMUM OVERLAY THICKNESS IS 1½" PLACED ABOVE THE DECK SURFACE AFTER CLEANING. THE EXPECTED AVERAGE OVERLAY THICKNESS IS 2" BASED ON THE NEW PROFILE GRADE LINE. IF THE EXPECTED AVERAGE OVERLAY THICKNESS IS EXCEED BY MORE THAN ½", CONTACT THE STRUCTURES DESIGN SECTION.

THE "CONCRETE MASONRY OVERLAY DECKS" QUANTITY IS BASED ON THE EXPECTED AVERAGE OVERLAY THICKNESS OF 2" PLUS AN ADDITIONAL ½" TO ACCOUNT FOR VARIATIONS IN THE DECK SURFACE.

EXISTING PARAPET INSIDE FACES AND TOPS SHALL BE GIVEN A LIGHT SAND BLASTING. PARAPET JOINTS SHALL BE CLEANED AND RE-SEALED WITH NON-STAINING, GRAY NON-BITUMINOUS JOINT SEALER. INCLUDE IN BID ITEM "CLEANING PARAPETS".

ANY EXCAVATION REQUIRED TO COMPLETE THE OVERLAY OR PAVING BLOCK AT THE ABUTMENTS IS TO BE CONSIDERED INCIDENTAL TO THE BID ITEM "CONCRETE MASONRY OVERLAY DECKS".

CONCRETE BARRIER TEMPORARY PRECAST IS INCLUDED IN THE ROAD APPROACH QUANTITIES.

VARIATIONS TO THE NEW PROFILE GRADE LINE OVER ¼" MUST BE SUBMITTED BY THE FIELD ENGINEER TO THE STRUCTURES DESIGN SECTION FOR REVIEW.

APPLY PROTECTIVE SURFACE TREATMENT TO THE TOP OF DECK AND INSIDE FACES AND TOPS OF PARAPETS, INCLUDING PARAPETS ON ABUTMENT WINGS.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-45-57 REHAB

DRAWN BY DRJ | PLANS CK'D. BNS

CROSS SECTION, QUANTITIES & NOTES

SHEET 2 OF 2
294

B-45-57_02.dgn
SCALE = 1:6
4/10/2013

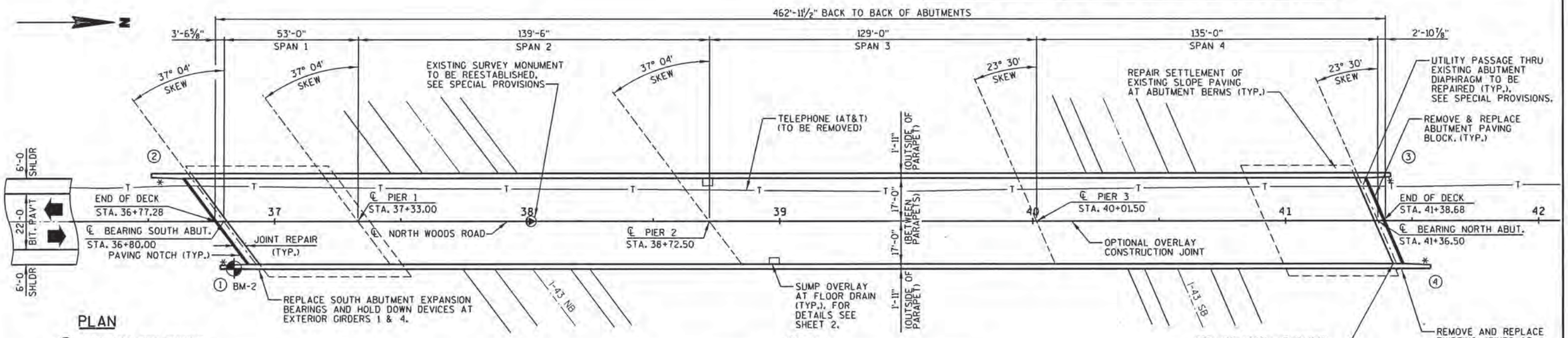
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BENCHMARKS ⊕ NGVD 29			
NO.	STA.	DESCRIPTION	ELEV.
2	36+84.1, 18.6' RT	DISK ON SE CORNER OF STRUCTURE	818.55

STATE PROJECT NUMBER

1450-16-70



PLAN

(REHAB - CONCRETE OVERLAY ON EXISTING FOUR SPAN STEEL DECK GIRDER)

○ - INDICATES WING NUMBER

* - INDICATES LOCATION OF PROVISION FOR NEW THRIE BEAM ATTACHMENT AT WINGS (SEE SDD STEEL THRIE BEAM STRUCTURE APPROACH. CONNECTION TO SLOPED END PARAPETS).

Ⓢ - CRACK SEALING EPOXY. SEE SHEET 2 FOR JOINT DETAILS. ESTIMATED QUANTITY FOR CRACK SEALING EPOXY INCLUDES OPTIONAL OVERLAY CONSTRUCTION JOINT. QUANTITY AT OPTIONAL LONGITUDINAL CONSTRUCTION JOINT WILL NOT BE PAID FOR IF THE JOINT IS NOT USED.

⬡ - INDICATES GIRDER NUMBER

LIST OF DRAWINGS

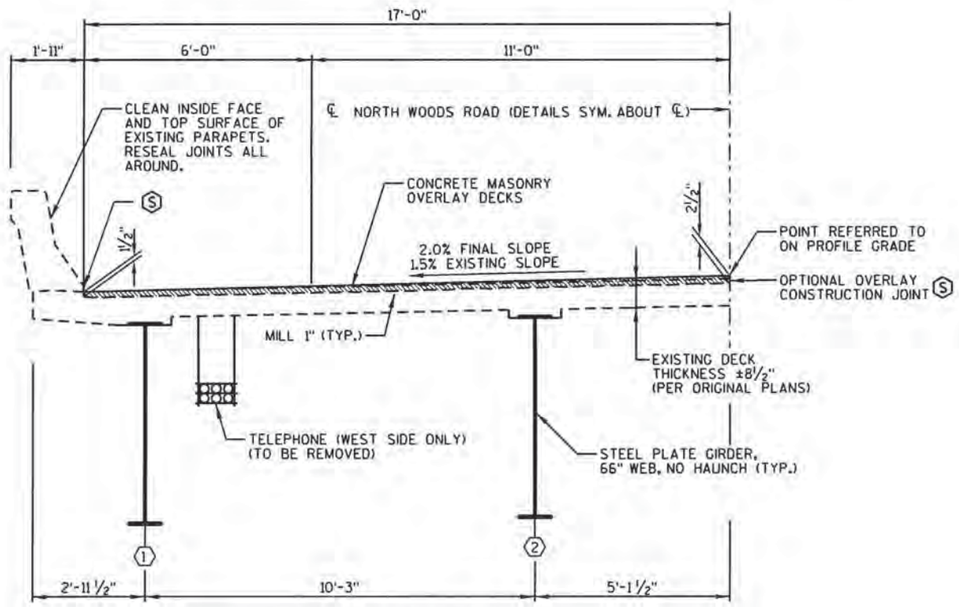
1. GENERAL PLAN & CROSS SECTION
2. STRUCTURE QUANTITIES, NOTES, PROFILE & DETAILS
3. EXPANSION BEARINGS
4. HOLD DOWN DEVICE
5. PARAPET & DECK REMOVAL DETAILS
6. STRIP SEAL EXPANSION JOINT
7. STRIP SEAL EXPANSION JOINT & PARAPET DETAILS

DESIGN DATA

LIVE LOAD:
INVENTORY RATING : HS-22
OPERATIONAL RATING : HS-36
MAX. STD. PERMIT VEHICLE LOAD: 200 KIPS

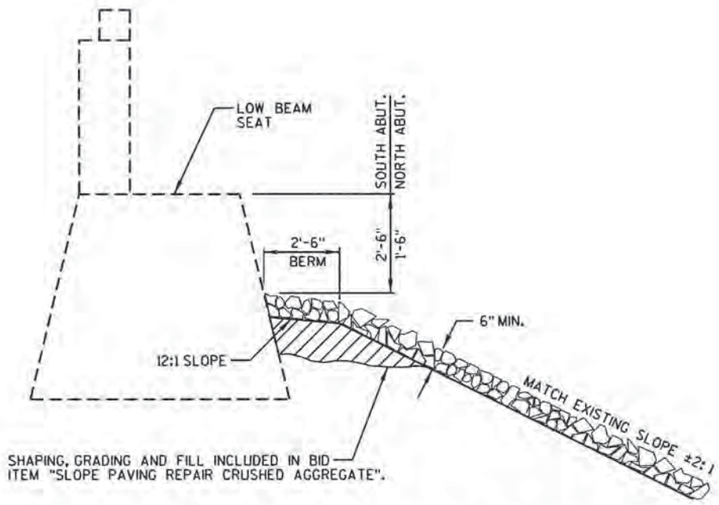
TRAFFIC DATA:
A.A.D.T. (2012) < 100
A.A.D.T. (2032) = 150

ULTIMATE DESIGN STRESSES:
CONCRETE MASONRY OVERLAY DECKS ——— f'c = 4,000 P.S.I.
BAR STEEL REINFORCEMENT HS COATED BRIDGES— fy = 60,000 P.S.I.



HALF SECTION - EXISTING BRIDGE

(LOOKING NORTH)



CROSS SECTION THRU ABUTMENTS
SLOPE PAVING CRUSHED AGGREGATE

(SOUTH ABUTMENT SHOWN)

WISCONSIN
LEAH J. RHODES
E-41726
BARABOO
WI
PROFESSIONAL ENGINEER

Leah J. Rhodes 4-11-13

DESIGN CONTACT:
LEAH RHODES
(608) 355-8945

BRIDGE OFFICE CONTACT:
WILLIAM DREHER
(608) 266-8489

NO.	DATE	REVISION	BY

MSA PROFESSIONAL SERVICES
TRANSPORTATION • MUNICIPAL DEVELOPMENT • ENVIRONMENTAL
1230 South Boulevard Baraboo, WI 53913
608-356-2771 1-800-362-4505 Fax: 608-356-2770

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
ACCEPTED William C. Dreher KAR 04/19/13
CHIEF STRUCTURES DESIGN ENGINEER — DATE

STRUCTURE B-45-59 REHAB

NORTH WOODS ROAD OVER I-43

COUNTY	TOWN/~~CITY/VILLAGE~~
OZAUKEE	SAUKVILLE

DESIGN SPEC. REHABILITATION - N/A

DESIGNED BY	DESIGN CK'D.	DRAWN BY	PLANS CK'D.
LJM	DHW	CAR/RLR	LJM

GENERAL PLAN & CROSS SECTION

SHEET 1 OF 7

FILE= B-45-59-01.DGN
DATE= 4/11/2013

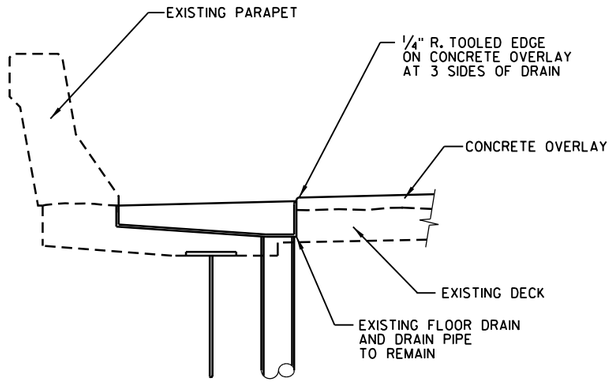
STRUCTURE ESTIMATED QUANTITIES

	ITEM NUMBER	BID ITEM	UNIT	SOUTH ABUT.	PIER 1	PIER 2	PIER 3	NORTH ABUT.	SUPER	TOTAL
	203.0210.S.09	ABATEMENT OF ASBESTOS CONTAINING MATERIAL STRUCTURE B-45-59 REHAB	LS	-	-	-		-	-	1
	203.0225.S.09	DEBRIS CONTAINMENT STRUCTURE B-45-59 REHAB	LS	-	-	-	-	-	-	1
	502.3100.09	EXPANSION DEVICE STRUCTURE B-45-59 REHAB	LS	-	-	-	-	-	-	1
	502.3200	PROTECTIVE SURFACE TREATMENT	SY	-	-	-		-	2150	2150
	502.5005	MASONRY ANCHORS TYPE L NO. 5 BARS	EACH	87	-	-	-	77	-	164
	505.0605	BAR STEEL REINFORCEMENT HS COATED BRIDGES	LB	-	-	-	-	-	3230	3230
	506.7000.S.09	BEARING REPLACEMENT STRUCTURE B-45-59 REHAB	EACH	2	-	-	-	1	-	3
	509.0301	PREPARATION DECKS TYPE 1	SY	-	-	-	-	-	80	80
	509.0302	PREPARATION DECKS TYPE 2	SY	-	-	-	-	-	30	30
	509.0500	CLEANING DECKS	SY	-	-	-	-	-	1710	1710
	509.1000	JOINT REPAIR	SY	-	-	-	-	-	35	35
*	509.1500	CONCRETE SURFACE REPAIR	SF	-	3	-	-	-	-	3
	509.2500	CONCRETE MASONRY OVERLAY DECKS	CY	-	-	-	-	-	139	139
	517.1800.S.09	STRUCTURE REPAINTING RECYCLED ABRASIVE STRUCTURE B-45-59 REHAB	LS	-	-	-	-	-	-	1
	517.4500.S.09	NEGATIVE PRESSURE CONTAINMENT AND COLLECTION OF WASTE MATERIALS, STRUCTURE B-45-59 REHAB	LS	-	-	-	-	-	-	1
	517.6001.S	PORTABLE DECONTAMINATION FACILITY	EACH	-	-	-	-	-	-	1
	604.9010.S	SLOPE PAVING REPAIR CRUSHED AGGREGATE	CY	13	-	-	-	1	-	14
	SPV.0060.01	CLEANING AND PAINTING BEARINGS	EACH	2	4	4	4	3	-	17
	SPV.0060.02	MASONRY ANCHORS TYPE S 1 1/2-INCH	EACH	8	-	-	-	2	-	10
	SPV.0090.01	CLEANING PARAPETS	LF	-	-	-	-	-	970	970
	SPV.0090.02	CRACK SEALING EPOXY SPECIAL	LF	-	-	-	-	-	1460	1460
◇	SPV.0105.10	AT&T TELEPHONE DUCT REMOVAL STRUCTURE B-45-59 REHAB	LS	-	-	-	-	-	-	1
	SPV.0105.12	AT&T TELEPHONE ABUTMENT PENETRATION REPAIR STRUCTURE B-45-59 REHAB	LS	-	-	-	-	-	-	1
		NON-BID ITEMS								
		BRIDGE SEAT PROTECTION	EACH	1	-	-	-	1	-	2

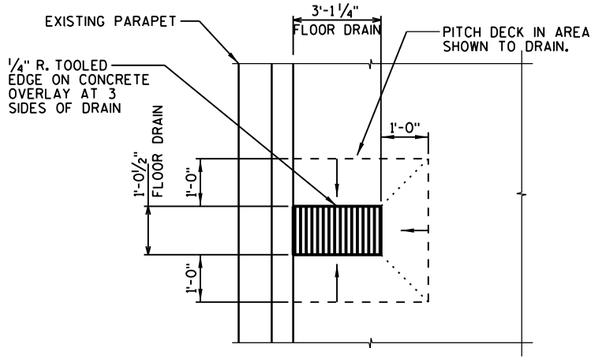
LEGEND

◇ - NON-PARTICIPATING BID ITEMS - CATEGORY 0140.

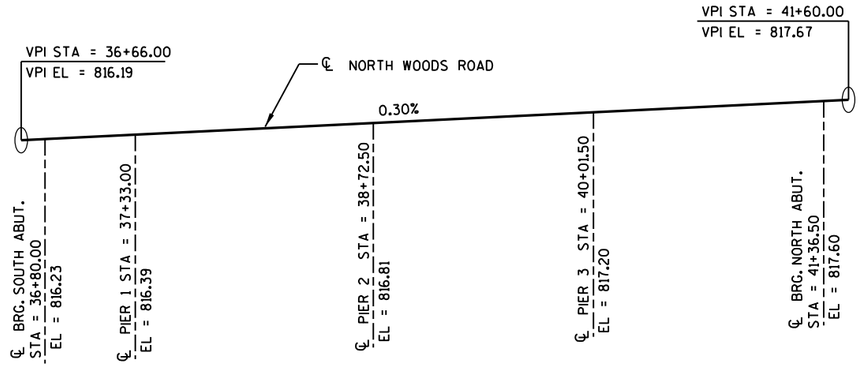
* - CONCRETE SURFACE REPAIR ON SUBSTRUCTURE UNITS AS DIRECTED BY THE FIELD ENGINEER.



SECTION THRU FLOOR DRAIN



PLAN AT FLOOR DRAIN



NEW PROFILE GRADE - NORTH WOODS ROAD

GENERAL NOTES

DRAWINGS SHALL NOT BE SCALED.

THE FIRST DIGIT OF A THREE DIGIT BAR MARK SIGNIFIES THE BAR SIZE.

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

DIMENSIONS OF EXISTING BRIDGE MEMBERS SHOWN ARE BASED ON ORIGINAL STRUCTURE PLANS.

THIS STRUCTURE WILL REHABILITATE THE EXISTING STRUCTURE, B-45-59, A FOUR SPAN, 462'-11½" LONG, STEEL DECK GIRDER SET ON A CONCRETE SILL ABUTMENT AT THE SOUTH END, A MULTI-COLUMN ABUTMENT WITH A DEADMAN ANCHOR AT THE NORTH END, AND MULTI-COLUMN PIERS.

THE LOCATIONS OF EXISTING UTILITY INSTALLATIONS AS SHOWN ON THE PLANS ARE APPROXIMATE.

AT THE ABUTMENTS AND WINGWALLS ALL EXCAVATED VOLUME BELOW THE ROADWAY SUBGRADE OR PAVEMENT APPROACH SLAB NOT OCCUPIED BY THE NEW STRUCTURE SHALL BE BACKFILLED WITH BACKFILL STRUCTURE. THE EXCAVATION AND BACKFILL STRUCTURE WILL BE INCLUDED IN THE BID ITEM "CONCRETE MASONRY OVERLAY DECKS".

A MINIMUM OF 1" OF CONCRETE SHALL BE REMOVED FROM THE ENTIRE BRIDGE DECK UNDER THE BID ITEM "CLEANING DECKS".

THE MINIMUM OVERLAY THICKNESS IS 1½" PLACED ABOVE THE DECK SURFACE AFTER CLEANING. THE EXPECTED AVERAGE OVERLAY THICKNESS IS 2" BASED ON THE NEW PROFILE GRADE LINE. IF THE EXPECTED AVERAGE OVERLAY THICKNESS WILL BE EXCEEDED BY MORE THAN ½", CONTACT THE STRUCTURES DESIGN SECTION BEFORE OVERLAY PLACEMENT.

THE "CONCRETE MASONRY OVERLAY DECKS" QUANTITY IS BASED ON THE EXPECTED AVERAGE OVERLAY THICKNESS OF 2" PLUS AN ADDITIONAL ½" TO ACCOUNT FOR VARIATIONS IN THE DECK SURFACE.

VARIATIONS TO THE NEW PROFILE GRADE LINE OVER ¼" MUST BE SUBMITTED BY THE FIELD ENGINEER TO THE STRUCTURES DESIGN SECTION FOR REVIEW.

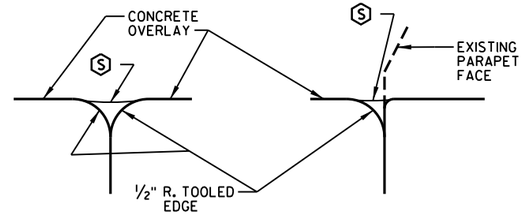
EXISTING PARAPET TOP AND INSIDE FACES SHALL BE GIVEN A LIGHT SANDBLASTING. PARAPET JOINTS SHALL BE CLEANED AND RE-SEALED WITH NON-STAINING, GRAY, NON-BITUMINOUS JOINT SEALER. INCLUDE IN BID ITEM "CLEANING PARAPETS".

ALL EXPOSED STEEL SHALL BE CLEANED AND PAINTED. PAINT EXPOSED STEEL AT BEARING REPLACEMENTS.

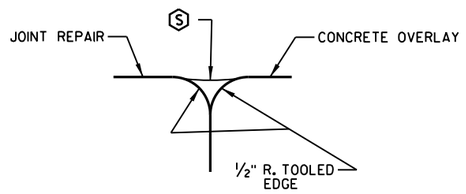
CLEAN AND PAINT ALL BEARINGS THAT ARE NOT BEING REPLACED AT ABUTMENTS AND PIERS. SEE SPECIAL PROVISIONS FOR "CLEANING AND PAINTING BEARINGS".

APPLY BRIDGE SEAT PROTECTION, PER SUBSECTION 502.3.12 OF THE STANDARD SPECIFICATIONS, TO THE TOP SURFACE OF BOTH ABUTMENTS, INCLUDING THE SURFACE BELOW BEARINGS TO BE REPLACED.

APPLY PROTECTIVE SURFACE TREATMENT TO THE TOP OF DECK AND INSIDE FACES AND TOPS OF PARAPETS, INCLUDING PARAPETS ON ABUTMENT WINGS.



LONGITUDINAL JOINT AT ℄ JOINT AT PARAPETS



TRANSVERSE JOINT AT ABUTMENTS

JOINT DETAILS

Ⓢ — CRACK SEALING EPOXY.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-45-59 REHAB

DRAWN BY CAR/RLR | PLANS CK'D. LJM

STRUCTURE QUANTITIES, NOTES, PROFILE & DETAILS

SHEET 2 OF 7
296

STATE PROJECT NUMBER
1450-16-70

8

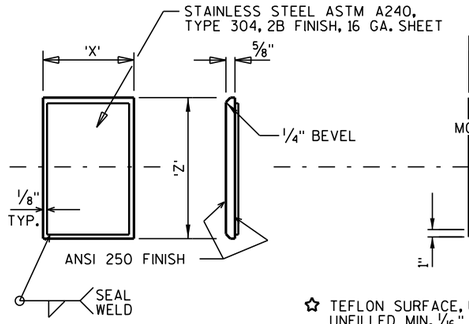
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DATE= 4/15/2013

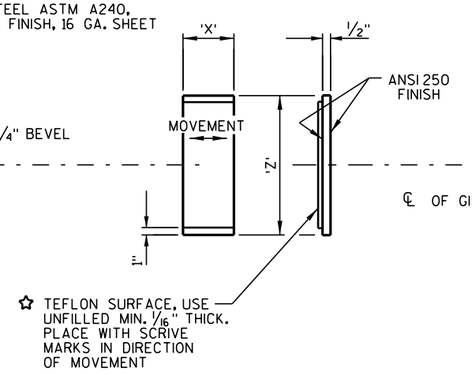
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STATE PROJECT NUMBER

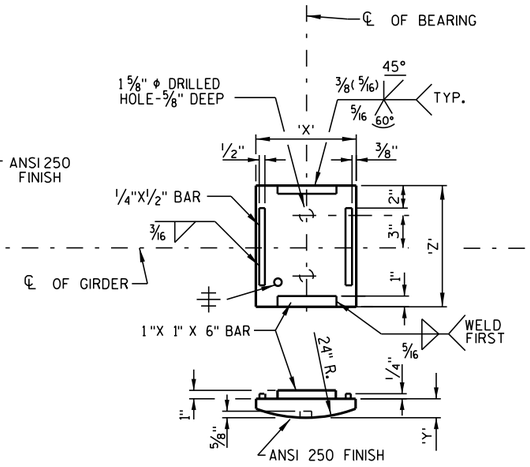
1450-16-70



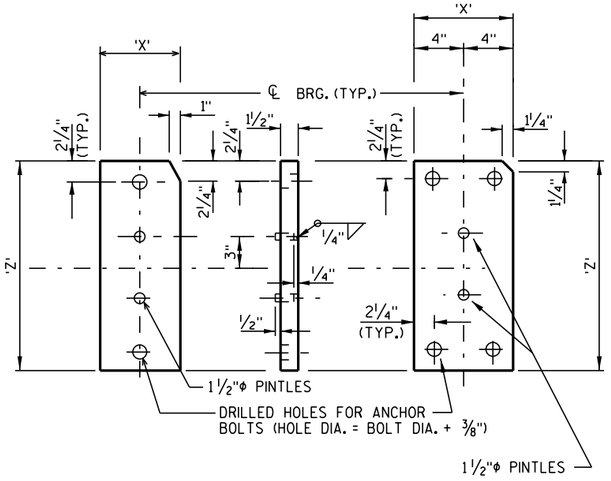
TOP PLATE "A"



TEFLON SURFACE ON PLATE "B"



ROCKER PLATE "C"



TYPE I TYPE II

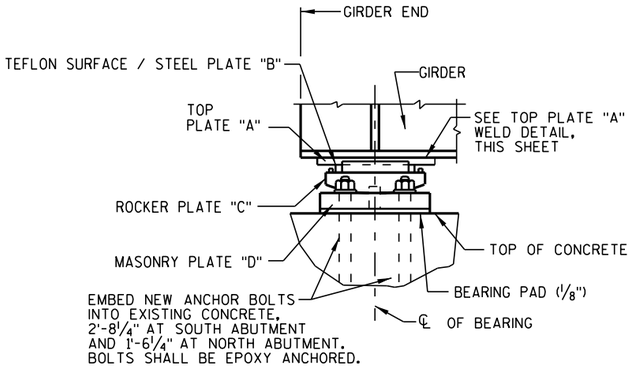
MASONRY PLATE "D"

EXPANSION BEARING PLATES

(SKEW NOT SHOWN)

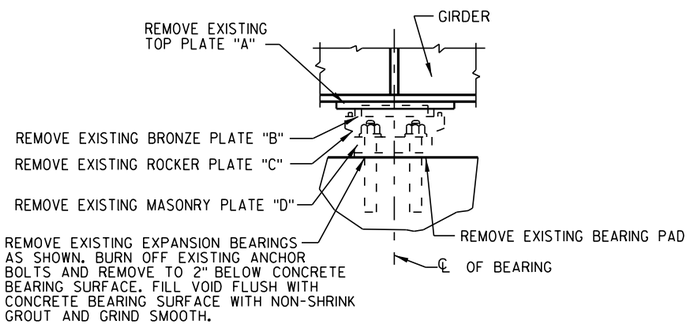
TOP PLATE "A" WELD DETAIL

LOCATION	PLATE "A"		PLATE "B"		PLATE "C"			PLATE "D"		PLATE "D" TYPE	ANCHOR BOLT SIZE	NO. OF BRG'S REQ'D.
	'X'	'Z'	'X'	'Z'	'X'	'Y'	'Z'	'X'	'Z'			
SOUTH ABUT.	9"	1'-0"	5"	1'-0"	7"	1 7/16"	1'-2 1/4"	8"	2'-7"	II	1 1/2" ϕ	2
NORTH ABUT.	1'-1"	1'-6"	9"	1'-6"	11"	1 15/16"	1'-8 1/4"	9"	2'-9"	I	1 1/2" ϕ	1



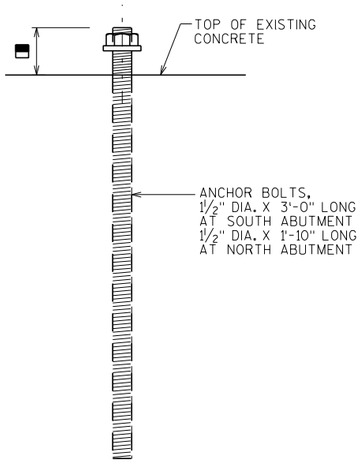
NEW EXPANSION BEARING ASSEMBLY

(HOLD DOWN DEVICE NOT SHOWN)



EXISTING EXPANSION BEARING REMOVAL

(HOLD DOWN DEVICE NOT SHOWN)



ANCHOR BOLT DETAIL

BEARING NOTES

ALL BEARINGS ARE SYMMETRICAL ABOUT ℄ OF GIRDER AND ℄ OF BEARING, EXCEPT FOR CORNER CLIPS.

ANCHOR BOLTS, NUTS AND WASHERS SHALL BE GALVANIZED IN ACCORDANCE WITH ASTM A153, CLASS C.

ROCKER PLATE "C" AND MASONRY PLATE "D" SHALL BE GALVANIZED. TOP PLATE "A" AND STEEL PLATE "B" SHALL BE SHOP PAINTED. USE A WELDABLE PRIMER ON TOP PLATE "A". DO NOT PAINT STAINLESS STEEL OR TEFLON SURFACES.

ALL MATERIAL IN BEARINGS, EXCLUDING STAINLESS STEEL SHEET, TEFLON SURFACE, PINTLES, ANCHOR BOLTS, NUTS AND WASHERS SHALL CONFORM TO ASTM A709 GRADE 50W.

ALL MATERIAL IN BEARINGS, EXCLUDING ANCHOR BOLTS, WASHERS AND NUTS, SHALL BE PAID FOR AT THE UNIT PRICE BID FOR "BEARING REPLACEMENT STRUCTURE B-45-59 REHAB", EACH. ANCHOR BOLTS, WASHERS AND NUTS SHALL BE PAID FOR AS "MASONRY ANCHORS TYPE S 1 1/2-INCH" AND SHALL BE EPOXY ANCHORED.

ALL FINISHED SURFACES SHALL BE MACHINE FINISHED BY AN AUTOMATIC PROCESS.

ALL PLATE CUTS SHALL BE MACHINE OR MACHINE FLAME CUTS.

ALL STRUCTURAL STEEL BEARING PLATES SHALL BE FLAT ROLLED STEEL PLATES WITH ALL SURFACES SMOOTH AND FREE FROM WARP AND ALL EDGES SMOOTH, STRAIGHT AND VERTICAL.

PROVIDE 1/8" THICK BEARING PAD SAME SIZE AS PLATE "D" FOR EACH BEARING.

ANCHOR BOLTS SHALL BE FULLY THREADED. CHAMFER TOP OF ANCHOR BOLTS PRIOR TO THREADING. PROVIDE ONE STANDARD WROUGHT WASHER AND ONE HEX NUT PER BOLT. PROJECT ANCHOR BOLTS, MASONRY PLATE "D" THICKNESS PLUS 2 1/4", ABOVE TOP OF EXISTING CONCRETE.

CHAMFER TOP OF PINTLES 1/8". DRILL HOLES FOR ALL PINTLES IN MASONRY PLATE "D" FOR A DRIVING FIT.

STEEL PINTLES SHALL CONFORM TO ASTM A449 OR MATERIAL OF EQUIVALENT YIELD STRENGTH & ELONGATION.

ANCHOR BOLTS, NUTS AND WASHERS SHALL CONFORM TO ASTM A709 GRADE 36, OR MATERIAL OF EQUIVALENT YIELD STRENGTH AND ELONGATION.

AT INSTALLATION, ENSURE STAINLESS STEEL SLIDING FACE OF THE UPPER ELEMENT AND THE TFE SLIDING FACE OF THE LOWER ELEMENT HAVE THE SURFACE FINISH SPECIFIED AND ARE CLEAN AND FREE OF ALL DUST, MOISTURE, OR ANY OTHER FOREIGN MATTER.

REPLACE SOUTH ABUTMENT COMPLETE BEARING ASSEMBLIES, INCLUDING HOLD DOWN DEVICES, AT EXTERIOR GIRDERS 1 AND 4 ONLY. REPLACE NORTH ABUTMENT EXPANSION BEARING AT EAST EXTERIOR GIRDER 4.

☆ BOND STEEL PLATE "B" AND TEFLON WITH ADHESIVE MATERIAL MEETING FEDERAL SPECIFICATION MMM-A-134, FEP FILM OR EQUAL.

╪ PROVIDE A METHOD FOR HANDLING ROCKER PLATE "C" DURING GALVANIZING.

◨ PROJECT ANCHOR BOLTS PLATE "D" THICKNESS + 2 1/4" ABOVE TOP OF EXISTING CONCRETE.

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DEPARTMENT OF TRANSPORTATION

STRUCTURE B-45-59 REHAB

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EXPANSION BEARINGS

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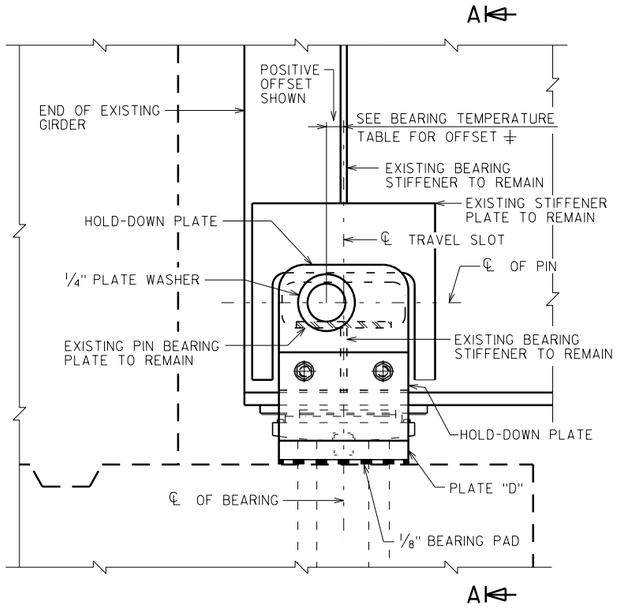
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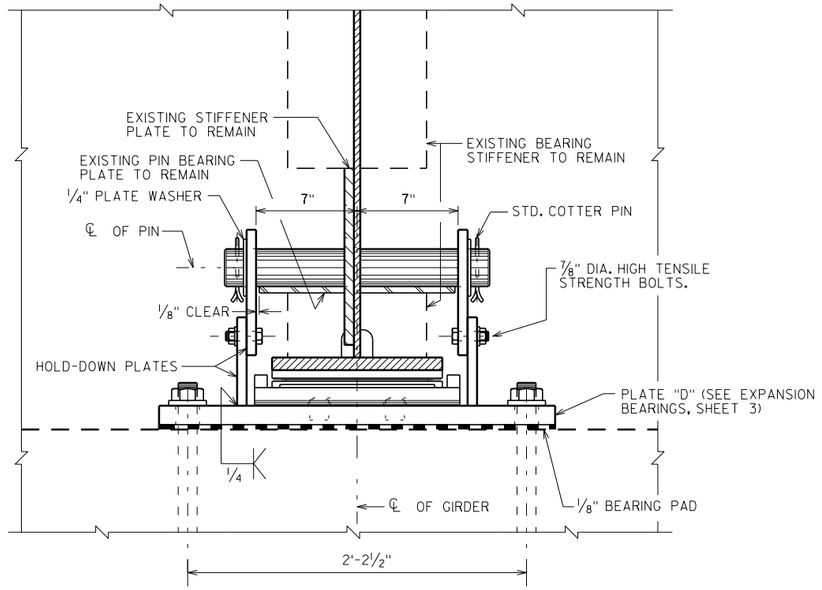
B-45-59-03_BRG.dgn 4/9/2013 8:15:59 AM RRABSKA

STATE PROJECT NUMBER

1450-16-70



ELEVATION



SECTION A-A

PERMANENT HOLD DOWN DEVICE

HOLD DOWN DEVICE NOTES

ALL HOLD-DOWN DEVICES ARE SYMMETRICAL ABOUT ℄ OF GIRDER AND ℄ OF BEARING.

ALL STRUCTURAL STEEL PLATES SHALL BE FLAT ROLLED STEEL PLATES 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.

THE MATERIAL FOR THE HOLD-DOWN PLATES SHALL CONFORM TO ASTM A709 GRADE 50W.

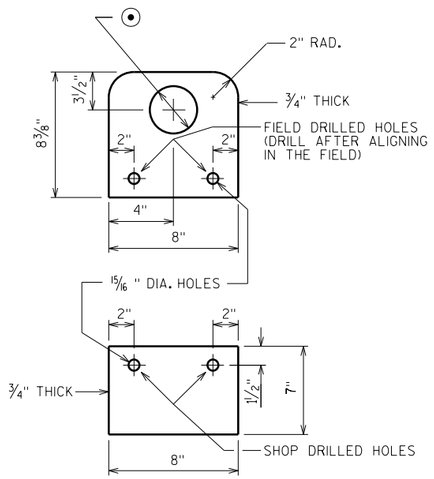
ALL MATERIAL IN HOLD DOWN DEVICES, WHICH INCLUDES HOLD-DOWN PLATES, HIGH TENSILE STRENGTH BOLTS, PINS AND PLATE WASHERS, SHALL BE INCLUDED IN THE UNIT PRICE BID FOR "BEARING REPLACEMENT STRUCTURE B-45-59 REHAB", EACH.

⊙ HOLES FOR PIN IN HOLD-DOWN PLATES AND PLATE WASHERS SHALL BE AS STATED IN STANDARD SPECIFICATION 506.3.17.

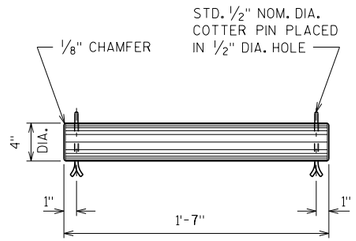
± OFFSET IS MEASURED ALONG ℄ GIRDER. A POSITIVE OFFSET INDICATES THAT THE PIN SHALL BE INSTALLED CLOSER TO THE ABUTMENT BACKWALL. A NEGATIVE OFFSET INDICATES THAT THE PIN SHALL BE INSTALLED CLOSER TO THE SPAN.

BEARING TEMPERATURE TABLE

SHADED UNDERSIDE OF DECK TEMP. (°F)	PIN OFFSET FROM ℄ TRAVEL SLOT (IN.) ±
85°	- ⅝
75°	- ½
65°	- ¼
55°	- ⅛
45°	0
35°	⅛
25°	¼
15°	½
5°	⅝

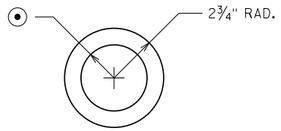


HOLD-DOWN PLATES



PIN DETAIL

COLD ROLLED STEEL OR CARBON STEEL FORGING.



¼" PLATE WASHER

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DEPARTMENT OF TRANSPORTATION

STRUCTURE B-45-59 REHAB

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HOLD DOWN DEVICE

SHEET 4 OF 7

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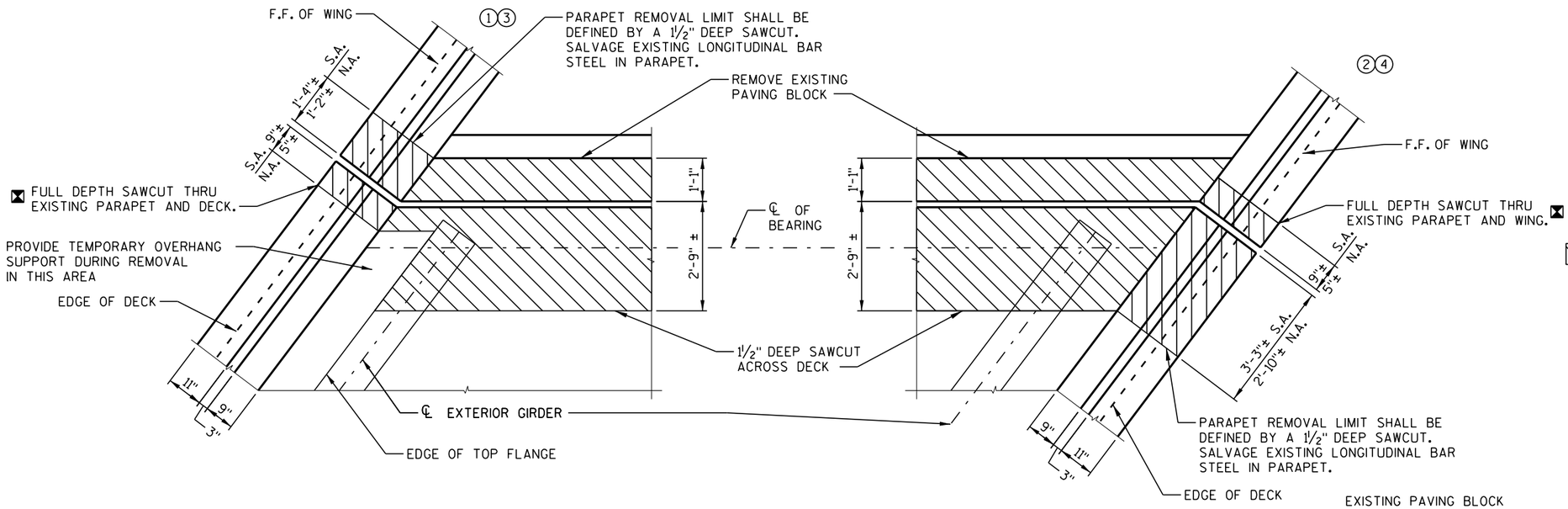
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STATE PROJECT NUMBER

1450-16-70



REMOVAL PLAN

LEGEND

F.F. - FRONT FACE

S.A. - SOUTH ABUTMENT

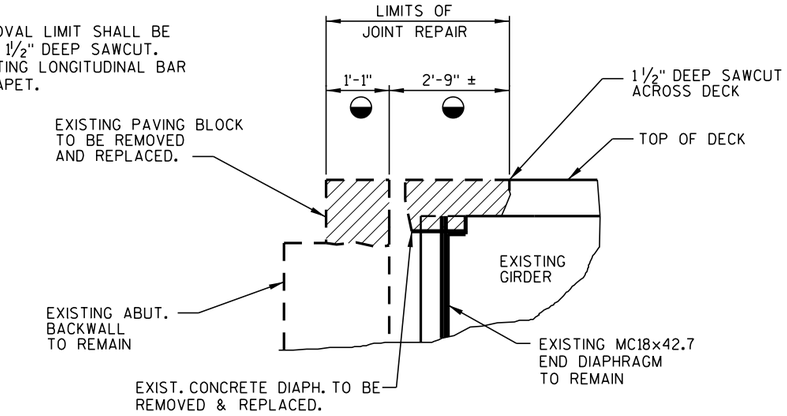
N.A. - NORTH ABUTMENT

◯ - INDICATES WING NUMBER

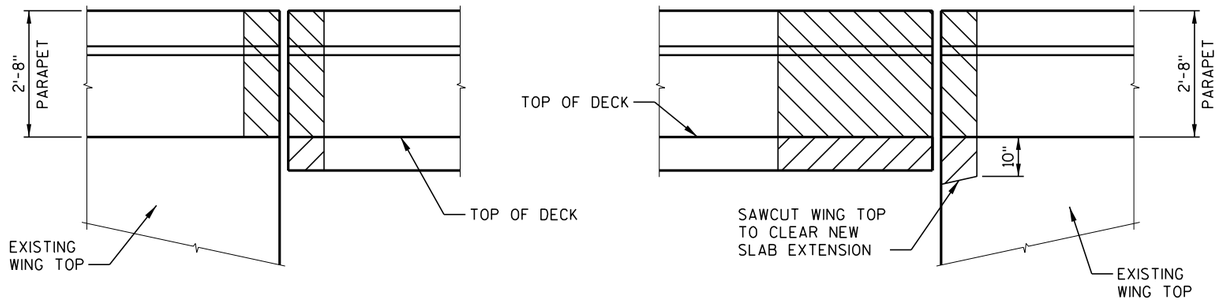
⊠ - COAT EXPOSED BAR STEEL WITH EPOXY IN ACCORDANCE WITH SUBSECTION 505.2.4.2 OF THE STANDARD SPECIFICATIONS.

▨ - MINIMUM REMOVAL LIMITS (AT JOINT REPAIR)

◒ - DIMENSION GIVEN NORMAL TO ℄ OF ABUTMENT



JOINT REMOVAL DETAIL

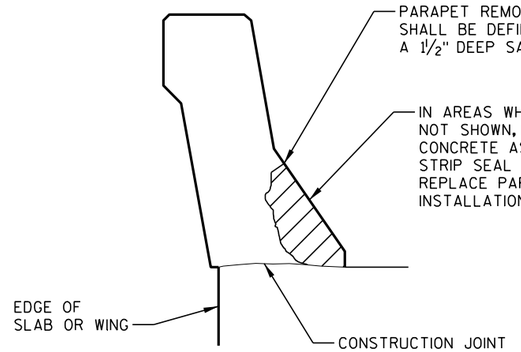


WINGS 1 & 3

WINGS 2 & 4

PARAPET ELEVATION

(LOOKING AT OUTSIDE FACE OF PARAPET)



PARAPET REMOVAL LIMITS

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STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-45-59 REHAB

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PARAPET & DECK REMOVAL DETAILS

SHEET 5 OF 7

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FILE= B-45-59-05.DGN
DATE= 4/9/2013

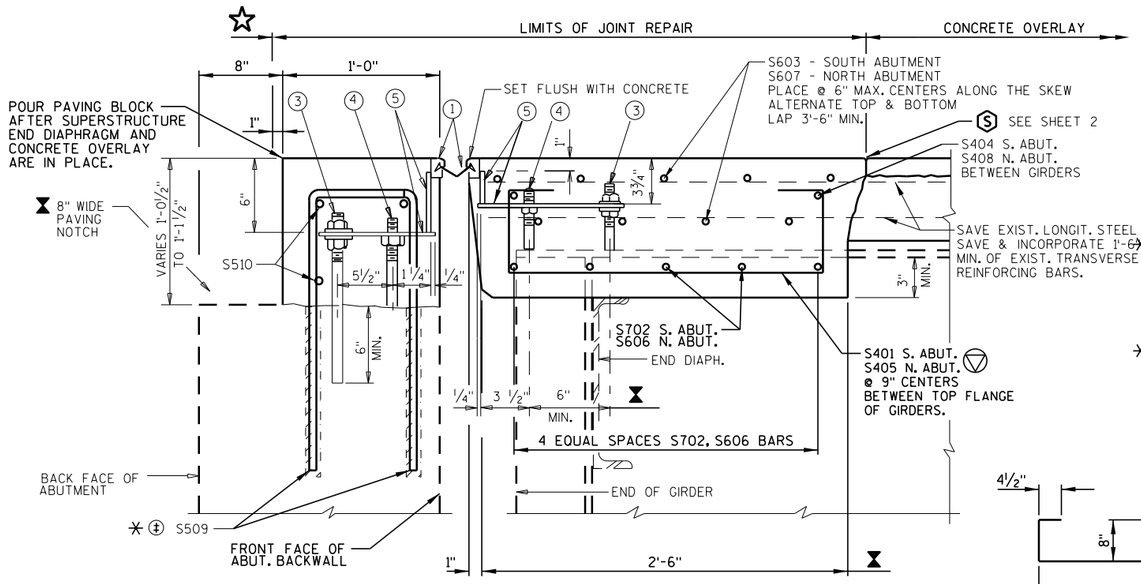
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STATE PROJECT NUMBER

1450-16-70



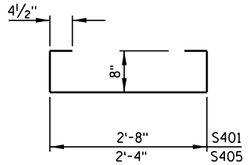
SECTION THRU JOINT AT ABUTMENT

BILL OF BARS (COATED) 3230 LBS.

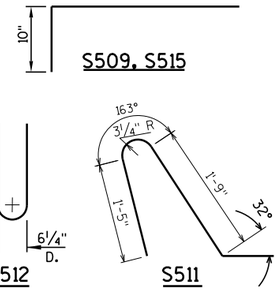
MARK	NO. REQ'D	LENGTH	BENT	LOCATION
S401	39	4-5	X	DIAPH. @ SOUTH ABUT. - STIRRUP - VERT.
S702	15	11-3		DIAPH. @ SOUTH ABUT. - BETWEEN GIRDERS - TRANS.
S603	18	24-7		DECK END @ SOUTH ABUT. - ABOVE DIAPHRAGM - TRANS.
S404	12	11-3		DIAPH. @ SOUTH ABUT. & THRU STRIP SEAL - TRANS.
S405	39	4-1	X	DIAPH. @ NORTH ABUT. - STIRRUP - VERT.
S606	15	9-10		DIAPH. @ NORTH ABUT. - BETWEEN GIRDERS - TRANS.
S607	18	21-7		DECK END @ NORTH ABUT. - ABOVE DIAPHRAGM - TRANS.
S408	12	9-10		DIAPH. @ NORTH ABUT. & THRU STRIP SEAL - TRANS.
S509	162	3-1	X	ABUTMENT BACKWALL TOP - TYPE L - VERT.
S510	39	7-6		ABUTMENT BACKWALL TOP - TRANS.
S511	10	4-9	X	PARAPET LOWER STIRRUP - VERT.
S512	14	5-0	X	PARAPET UPPER STIRRUP - VERT.
S513	5	3-3		PARAPET @ WING 2 - LONGIT.
S514	4	4-5	X	PARAPET @ WINGS 1 & 3 LOWER STIRRUP - VERT.
S515	2	2-9	X	WINGS 1 & 3 UNDER PARAPET - TYPE L - HORIZ.
S516	5	2-9		PARAPET @ WING 4 - LONGIT.
S517	4	1-11		PARAPET @ WING 1 - LONGIT.
S518	4	1-5		PARAPET @ WING 3 - LONGIT.

DIMENSIONS IN BENDING DETAILS ARE OUT TO OUT OF BAR.

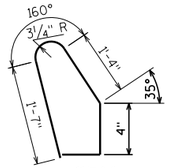
EPOXY COAT ALL BAR STEEL.



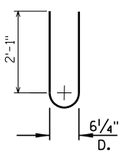
S401, S405



S509, S515



S514

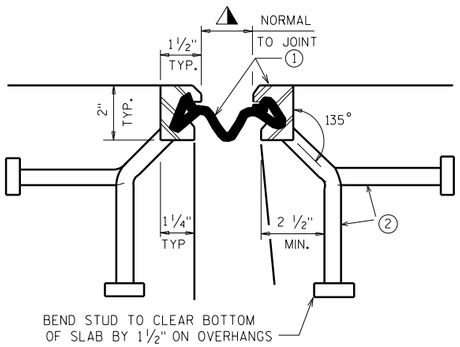


S512

S511

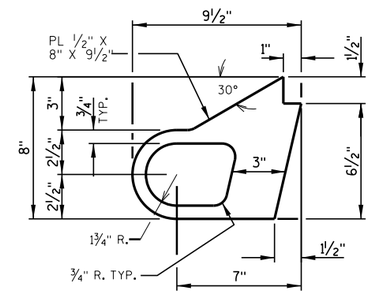
LEGEND

- (‡) · REMOVE EXISTING VERTICAL REINFORCING BARS DURING REMOVAL OF PAVING BLOCK. REPLACE WITH "MASONRY ANCHORS TYPE L NO. 5 BARS" SPACED AT 1'-0".
- (✳) · MASONRY ANCHORS TYPE L NO. 5 BARS SHALL DEVELOP A MINIMUM PULLOUT CAPACITY OF 19 KIPS. EMBED BAR 1'-6" MINIMUM. ANCHOR HOLES SHALL BE 4" CLEAR MIN. TO FACE OF EXISTING CONCRETE. TURN 10" HORIZONTAL LEG OF S509 BARS AS NECESSARY TO FIT.
- (▽) · DIMENSION IS GIVEN NORMAL TO ℄ OF GIRDER.
- (⧗) · DIMENSION IS GIVEN NORMAL TO THE ℄ OF ABUTMENT.
- (☆) · BACK FACE OF EXISTING PAVING BLOCK.

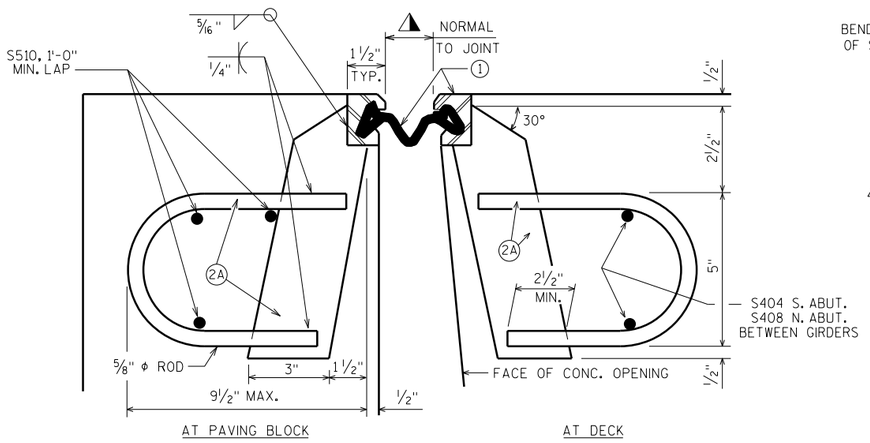


SECTION THRU JOINT

EXTERIOR GIRDER TO EDGE OF DECK & AT PARAPETS



ALTERNATE STRIP SEAL ANCHOR



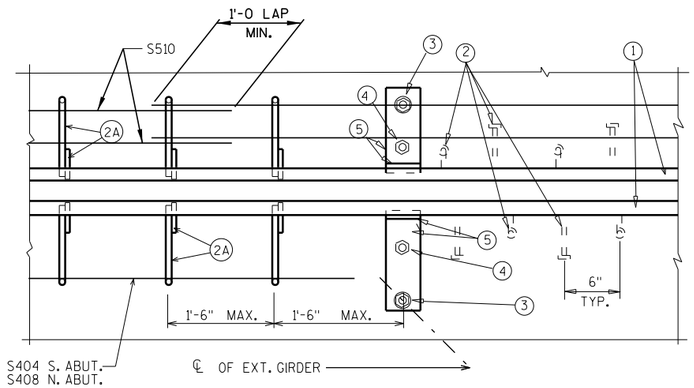
SECTION THRU JOINT

ROADWAY TRAFFIC AREA BETWEEN EXTERIOR GIRDERS.

NORTH ABUTMENT TEMPERATURE TABLE

SHADED UNDERSIDE DECK TEMP. (°F)	JOINT OPENING (IN.)
85°	1¼
75°	1⅜
65°	1⅝
55°	1¾
45°	2
35°	2⅛
25°	2⅜
15°	2½
5°	2¾

A SMALL JOINT OPENING DUE TO A HIGH TEMPERATURE AT TIME OF CONSTRUCTION MAY REQUIRE NEOPRENE STRIP SEAL INSTALLATION INTO STEEL EXTRUSIONS PRIOR TO SETTING THE EXPANSION JOINT.



PART PLAN

LEGEND

① NEOPRENE STRIP SEAL (4 - INCH) & STEEL EXTRUSIONS. SET JOINT OPENING AT 1¾" FOR SOUTH ABUTMENT. SEE TABLE FOR NORTH ABUTMENT JOINT OPENING. JOINT OPENING MEASURED NORMAL TO ℄ OF ABUTMENTS.

② STUDS ⅝" ø X 6⅜" LONG AT 6" ALTERNATE CENTERS. WELD TO EXTRUSIONS & BEND AS SHOWN AFTER WELDING.

2A ½" THICK ANCHOR PLATE WITH ⅝"ø ROD OR ALTERNATE STRIP SEAL ANCHOR. WELD ROD TO ANCHOR PLATE, WELD ANCHOR PLATE TO NO. 1 AT 1'-6" CTRS. BETWEEN GIRDERS.

③ ¾" ø THREADED ROD WITH 2 NUTS AND PLATE WASHERS. FIELD WELD THREADED ROD TO TOP FLANGE OR ATTACH BY BOLTING THRU FLANGE. ON ABUTMENT SIDE, GROUT THREADED ROD INTO FIELD DRILLED HOLES IN ABUTMENT BACKWALL AS SHOWN.

④ ¾"ø 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" ø HOLE FOR NO. 3 & 1" ø HOLE FOR NO. 4.

⑥ GALVANIZED PLATE ⅜" × 10½" × 2'-0" LONG WITH HOLES FOR #7. BEND AS SHOWN.

⑦ ¾" ø × 1½" STAINLESS STEEL SOCKET FLAT HEAD SCREWS WITH ANTI-SEIZE LUBRICANT. PLACE IN COUNTERSUNK HOLE. RECESS 1/16" BELOW PLATE SURFACE.

⑧ ¾" ø × 4" GALV. HEX HEAD BOLT. BEND 45°.

⑨ ¾" ø × 2¼" GALV. THREADED COUPLING.

⑩ 1" x 5" SLOTTED COUNTERSUNK HOLE FOR #7. SLOT PARALLEL TO DIRECTION OF MOVEMENT.

NOTES

SEE SHEET 5 FOR REMOVAL LIMITS.

ONE FIELD SPLICE PERMITTED IN STEEL EXTRUSIONS. IF USED, DETAILS SHALL BE SUBMITTED FOR APPROVAL. NO SPLICING IN NEOPRENE STRIP SEAL.

AFTER FABRICATION, BUT BEFORE SHIPMENT, STRAIGHTEN STEEL EXTRUSIONS SUCH THAT THEY SHALL BE FREE FROM WARP, TWIST & SWEEP.

FABRICATOR SHALL PROVIDE MEANS OF KEEPING GALVANIZED EXTRUSIONS CLEAN & SMOOTH DURING SHIPMENT AND PRIOR TO APPLYING LUBRICANT ADHESIVE FOR NEOPRENE GLAND INSTALLATION.

SANDBLAST PLATES & EXTRUSIONS AFTER FABRICATION IN ACCORDANCE WITH SSPC SP. #6 "COMMERCIAL BLAST CLEANING". AFTER BLAST CLEANING, THE PLATES & EXTRUSIONS SHALL BE HOT DIPPED GALVANIZED.

ANCHOR SYSTEM 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 PARAPET PLATES, ANCHOR STUDS & HARDWARE, CONNECTIONS AND FIELD DRILLING, WILL BE PAID FOR AT THE LUMP SUM PRICE BID FOR "EXPANSION DEVICE STRUCTURE B-45-59 REHAB".

ALL NEW TRANSVERSE STEEL SHALL BE PLACED PARALLEL TO THE JOINT.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-45-59 REHAB

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STRIP SEAL EXPANSION JOINT

SHEET 6 OF 7
300

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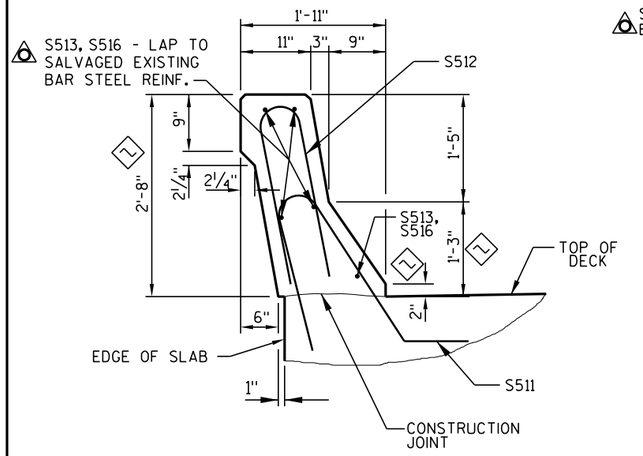
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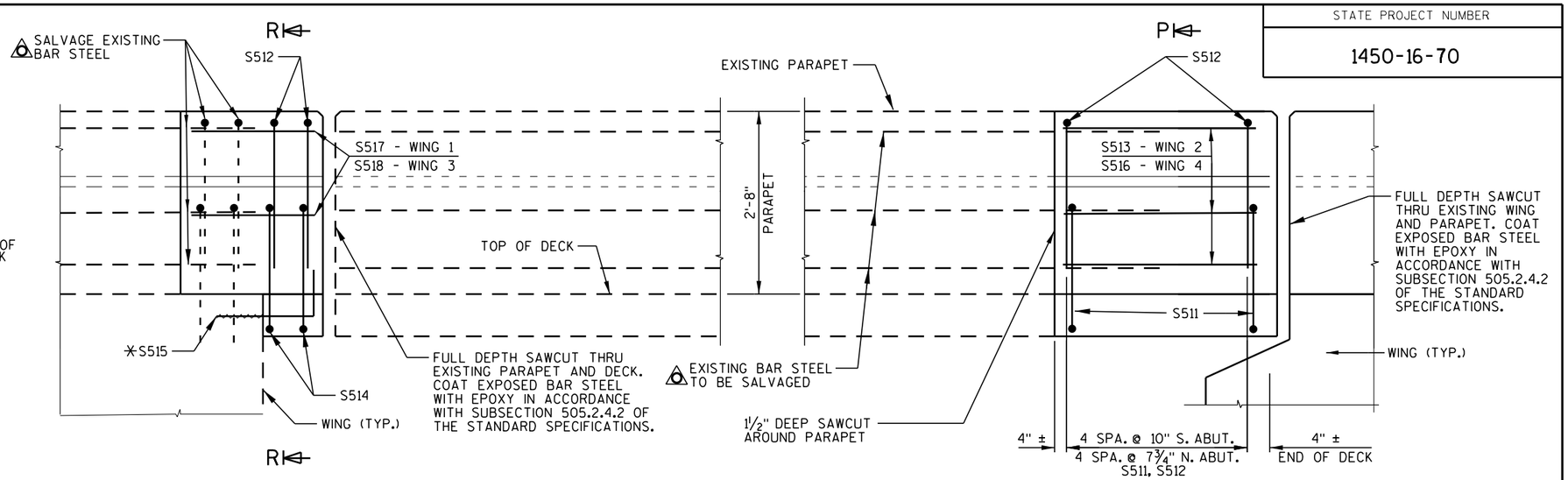
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STATE PROJECT NUMBER

1450-16-70



SECTION P-P THRU PARAPET

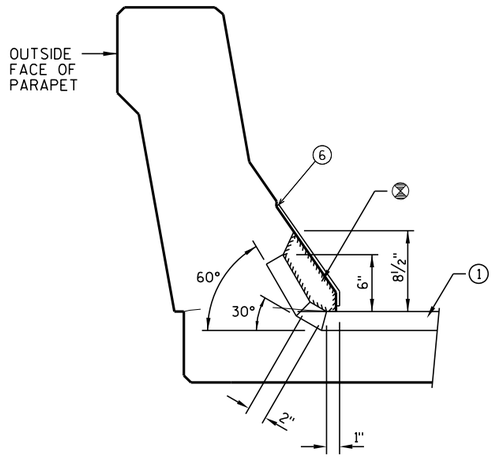


WINGS 1 & 3

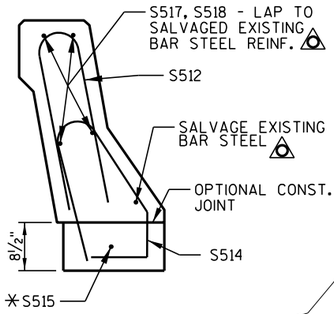
WINGS 2 & 4

PARAPET ELEVATION

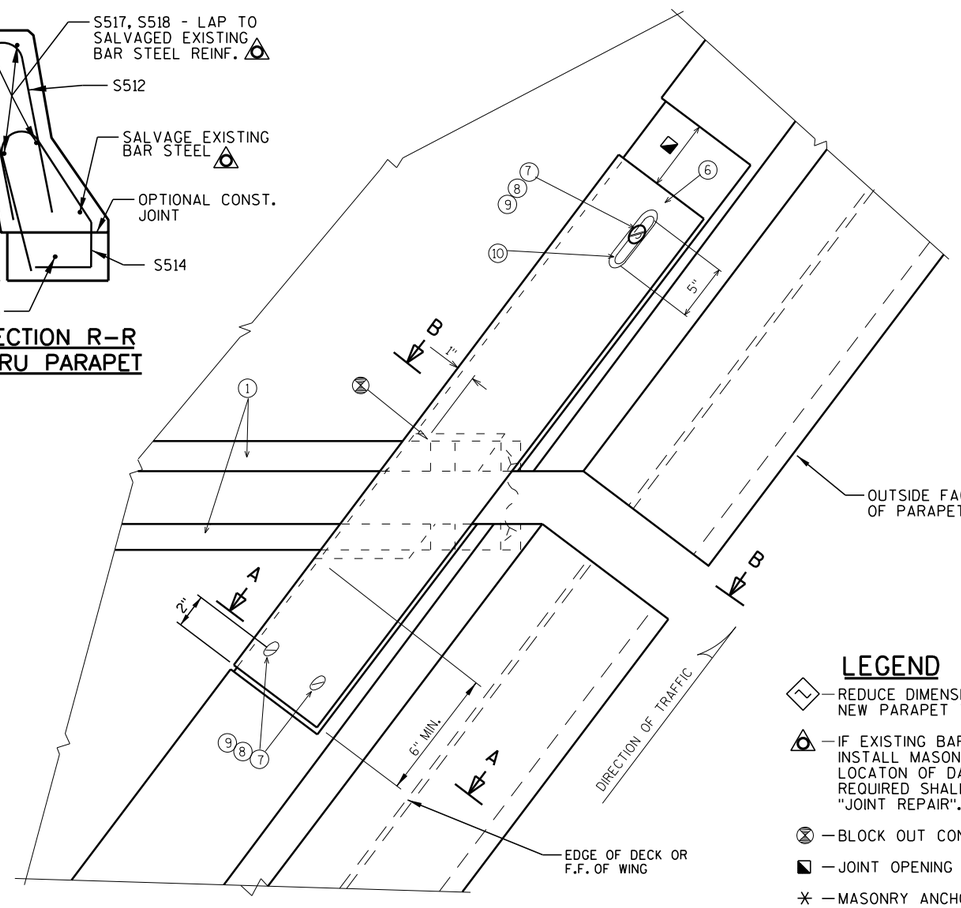
(LOOKING AT OUTSIDE FACE OF PARAPET)



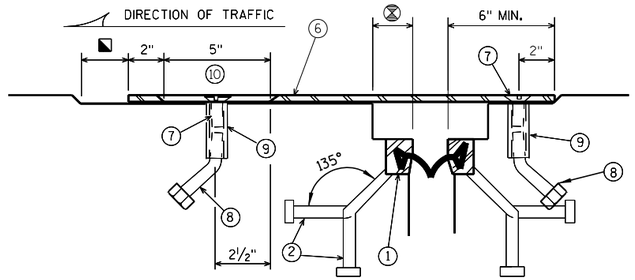
SECTION B-B



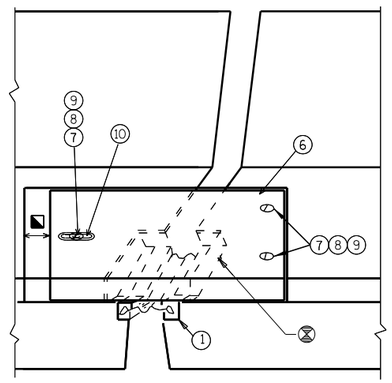
SECTION R-R THRU PARAPET



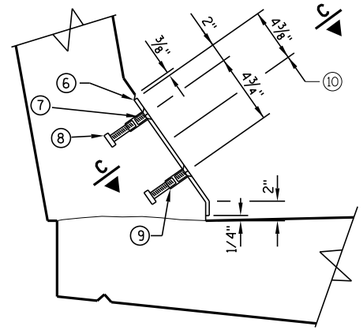
PLAN AT PARAPET



SECTION C-C



VIEW OF PARAPET PLATES FROM ROADWAY



SECTION A-A

NOTES

SEE SHEET 5 FOR REMOVAL LIMITS.

SEE SHEET 6 FOR LEGEND.

LEGEND

- REDUCE DIMENSION AS REQUIRED TO MATCH NEW PARAPET TOP WITH EXISTING PARAPET TOP.
- IF EXISTING BAR STEEL REINFORCEMENT IS DAMAGED, INSTALL MASONRY ANCHORS TYPE L NO. 5 BARS NEAR LOCATON OF DAMAGED BARS. MASONRY ANCHORS IF REQUIRED SHALL BE INCLUDED IN THE BID ITEM "JOINT REPAIR". ✳
- BLOCK OUT CONCRETE 2" EACH SIDE OF JOINT OPENING.
- JOINT OPENING DIMENSION ALONG SKEW PLUS ½".
- ✳ MASONRY ANCHORS TYPE L NO. 5 BARS SHALL DEVELOP A MININUM PULLOUT CAPACITY OF 19 KIPS. EMBED BAR 1'-6" MIN. ANCHOR HOLES SHALL BE 4" CLEAR MIN. TO FACE OF EXISTING CONCRETE.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-45-59 REHAB

DRAWN BY RLR | PLANS CK'D. LJM

STRIP SEAL EXPANSION JOINT & PARAPET DETAILS

SHEET 7 OF 7

301

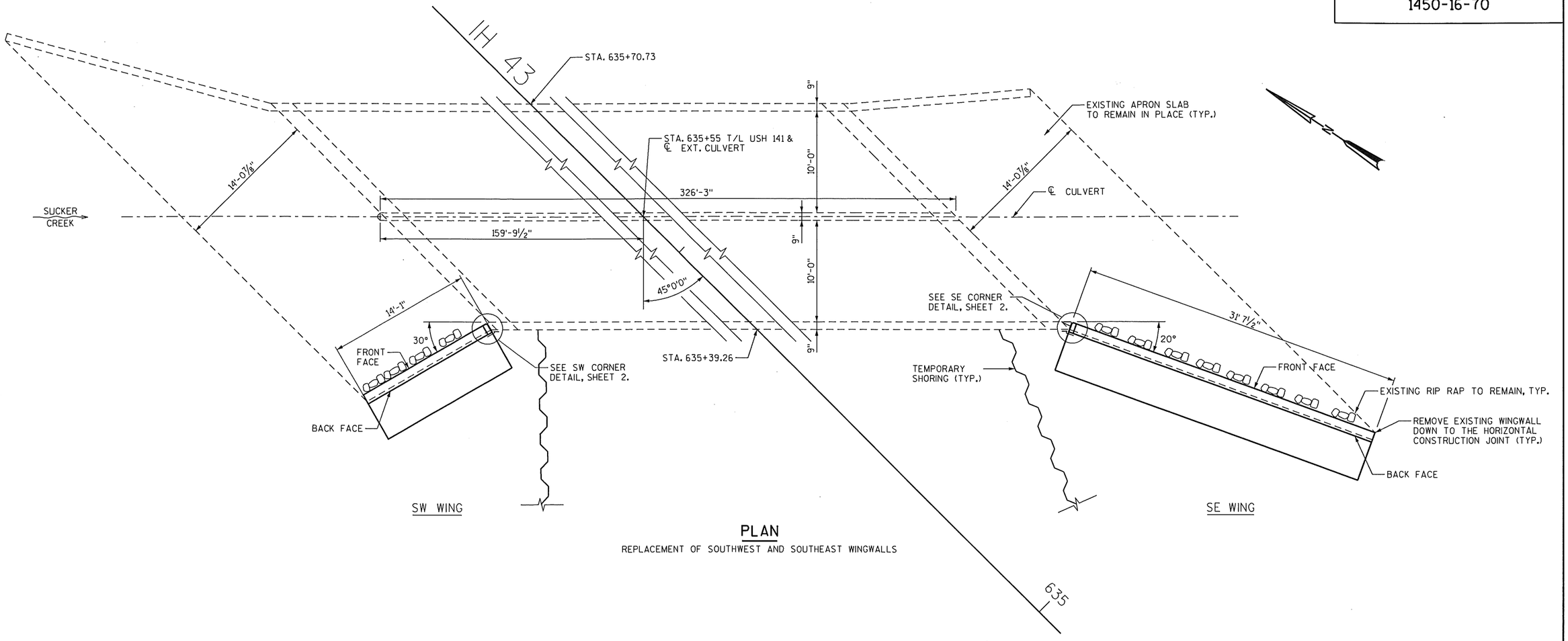
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DATE= 4/9/2013

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B-45-59-07 STRPSEAL2.dgn 4/9/2013 8:16:03 AM RRABSKA

STATE PROJECT NUMBER
1450-16-70



PLAN

REPLACEMENT OF SOUTHWEST AND SOUTHEAST WINGWALLS

LIST OF DRAWINGS

1. GENERAL PLAN
2. WINGWALL REPLACEMENT

TOTAL ESTIMATED QUANTITIES

ITEM NO.	BID ITEMS	UNIT	TOTAL
203.0200.10	REMOVING OLD STRUCTURE STA. 635+55.00	LS	1
206.2000.10	EXCAVATION FOR STRUCTURES CULVERTS B-45-64 REHAB	LS	1
206.6000.S	TEMPORARY SHORING	SF	450
210.0100	BACKFILL STRUCTURE	CY	30
504.0100	CONCRETE MASONRY CULVERTS	CY	20
505.0610	BAR STEEL REINFORCEMENT HS COATED CULVERTS	LB	2,220
509.1500	CONCRETE SURFACE REPAIR	SF	5
516.0500	RUBBERIZED MEMBRANE WATERPROOFING	SY	10
SPV.0090.03	EXPANDING WATERSTOP	LF	46
SPV.0105.02	DEBRIS CONTAINMENT MODIFIED STRUCTURE B-45-64 REHAB	LS	1
	NON-BID ITEMS		
	PREFORMED JOINT FILLER	SIZE	¾"

DESIGN DATA

ULTIMATE DESIGN STRESSES:

CONCRETE MASONRY ALL OTHER ———— f'c = 3,500 P.S.I.

HIGH STRENGTH BAR STEEL REINFORCEMENT GRADE 60 ———— f'y = 60,000 P.S.I.

GENERAL NOTES

DIMENSIONS ARE BASED ON ORIGINAL PLANS.

STRUCTURE BACKFILL REQUIRED BEHIND ALL NEW WINGWALLS.

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

WISCONSIN
YOON-MOON CHUN
E-39076
WHITEFISH BAY
WIS.
PROFESSIONAL ENGINEER

Yoon-Moon Chun
4-15-2013

STRUCTURES DESIGN CONTACTS
BRIDGE OFFICE:
WILLIAM DREHER (608) 266-8489
CONSULTANT:
YOONMOON CHUN (262) 821-1171

NO.	DATE	REVISION	BY

K. Singh & Associates, Inc.
Engineers, Scientists and Environmental Management Consultants

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

ACCEPTED William C. Dreher KAR 04/17/13
CHIEF STRUCTURES DESIGN ENGINEER DATE

STRUCTURE B-45-64 REHAB

I-43 OVER SUCKER CREEK

COUNTY	TOWN ~~CITY/VILLAGE~~
OZAUKEE	PORT WASHINGTON

DESIGN SPEC. REHABILITATION N/A

DESIGNED BY	DESIGN CK'D.	DRAWN BY	PLANS CK'D.
DRJ	BNS	DRJ	BNS

GENERAL PLAN

SHEET 1 OF 2
302

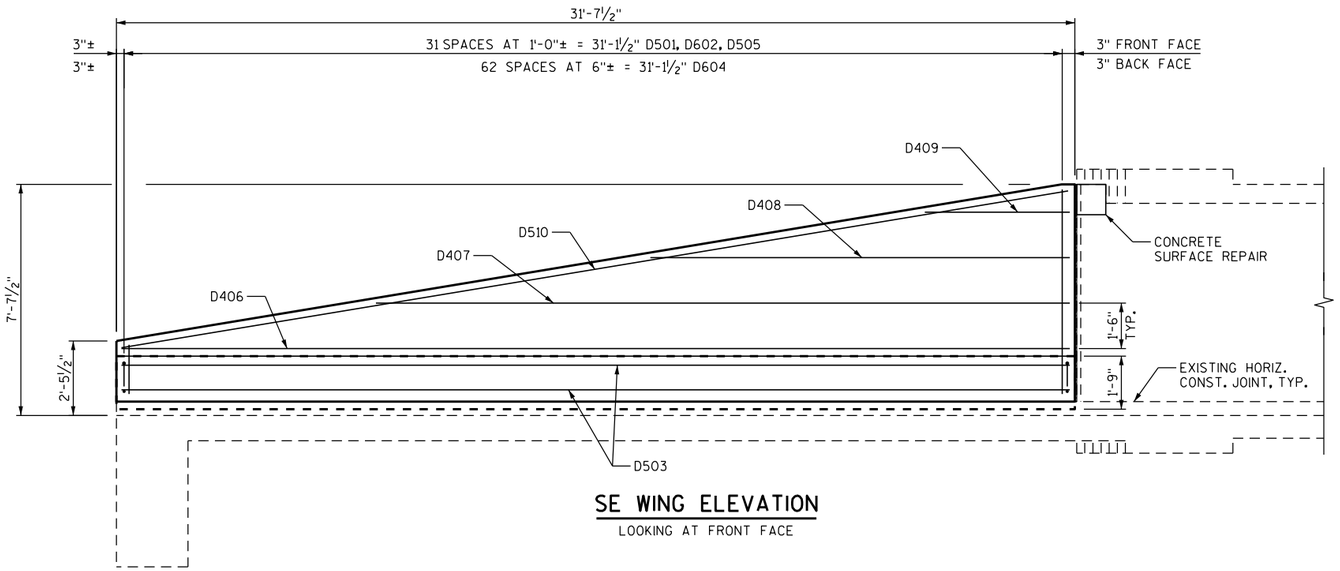
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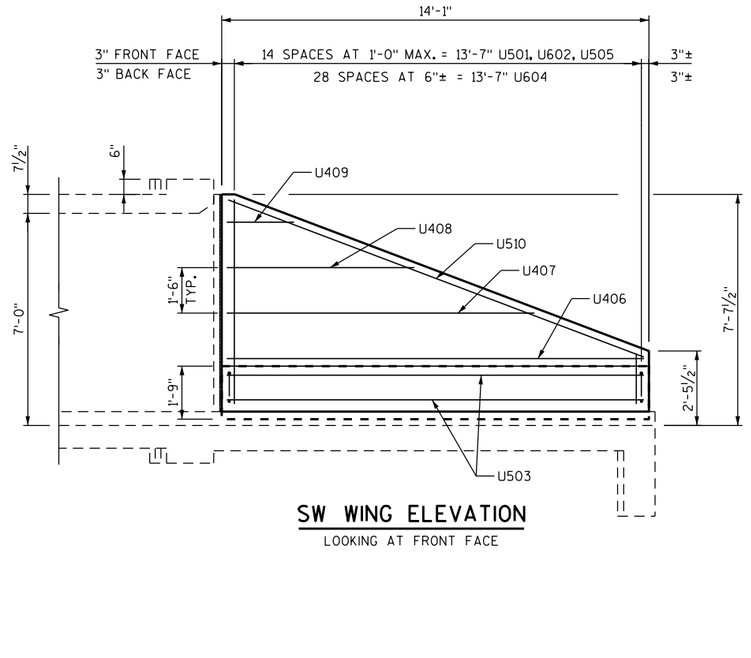
STATE PROJECT NUMBER

1450-16-70



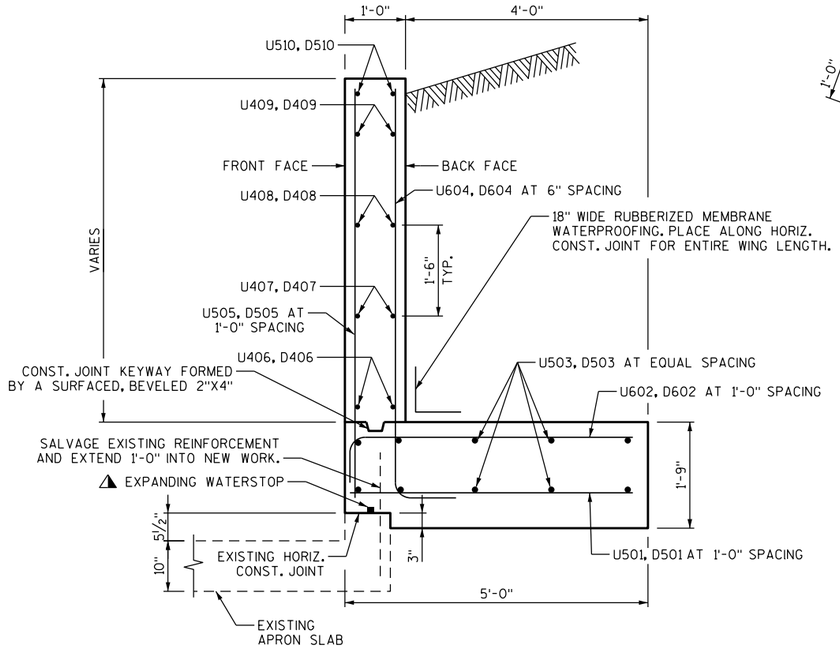
SE WING ELEVATION

LOOKING AT FRONT FACE



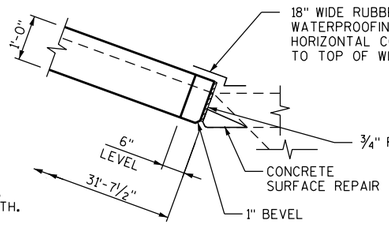
SW WING ELEVATION

LOOKING AT FRONT FACE

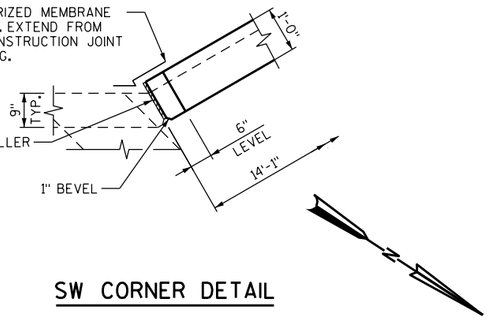


SECTION THRU WING

⚠ SEE SPECIAL PROVISIONS FOR ACCEPTED MANUFACTURERS, AND INSTALLATION SPECIFICATIONS.



SE CORNER DETAIL



SW CORNER DETAIL

BAR SERIES TABLE

BAR MARK	NO. REQ'D	LENGTHS FOR EACH SERIES
U604	1 SERIES OF 29	2'-5" TO 7'-7"
U505	1 SERIES OF 15	1'-7" TO 6'-9"
D604	1 SERIES OF 63	2'-5" TO 7'-7"
D505	1 SERIES OF 32	1'-7" TO 6'-9"

BUNDLE AND TAG EACH SERIES SEPARATELY.



U602, D602, U604, D604

BILL OF BARS

THE FIRST OR FIRST TWO DIGITS OF THE BAR MARK SIGNIFIES THE BAR SIZE.
BAR DIMENSIONS ARE OUT TO OUT OF BAR.

2,220 LBS

BAR MARK	COAT	NO. REQ'D	LENGTH	BENT	BAR SERIES	LOCATION
U501	X	15	4'-8"			FOOTING-HORIZ.
U602	X	15	5'-6"	X		FOOTING-HORIZ.
U503	X	10	13'-9"			FOOTING-HORIZ.
U604	X	29	5'-0"	X	*	WING-B.F.-VERT.
U505	X	15	4'-2"		*	WING-F.F.-VERT.
U406	X	2	13'-9"			WING-HORIZ.
U407	X	2	10'-2"			WING-HORIZ.
U408	X	2	6'-2"			WING-HORIZ.
U409	X	2	2'-3"			WING-HORIZ.
U510	X	2	14'-8"			WING-TOP-HORIZ.

BAR MARK	COAT	NO. REQ'D	LENGTH	BENT	BAR SERIES	LOCATION
D501	X	32	4'-8"			FOOTING-HORIZ.
D602	X	32	5'-6"	X		FOOTING-HORIZ.
D503	X	10	31'-4"			FOOTING-HORIZ.
D604	X	63	5'-0"	X	*	WING-B.F.-VERT.
D505	X	32	4'-2"		*	WING-F.F.-VERT.
D406	X	2	31'-4"			WING-HORIZ.
D407	X	2	22'-11"			WING-HORIZ.
D408	X	2	13'-10"			WING-HORIZ.
D409	X	2	4'-9"			WING-HORIZ.
D510	X	2	31'-8"			WING-TOP-HORIZ.

* LENGTH SHOWN FOR BAR IS AN AVERAGE LENGTH AND SHOULD ONLY BE USED FOR BAR WEIGHT CALCULATIONS. SEE BAR SERIES TABLE FOR ACTUAL LENGTHS.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-45-64 REHAB

DRAWN BY: DRJ | PLANS CK'D.: BNS

WINGWALL REPLACEMENT

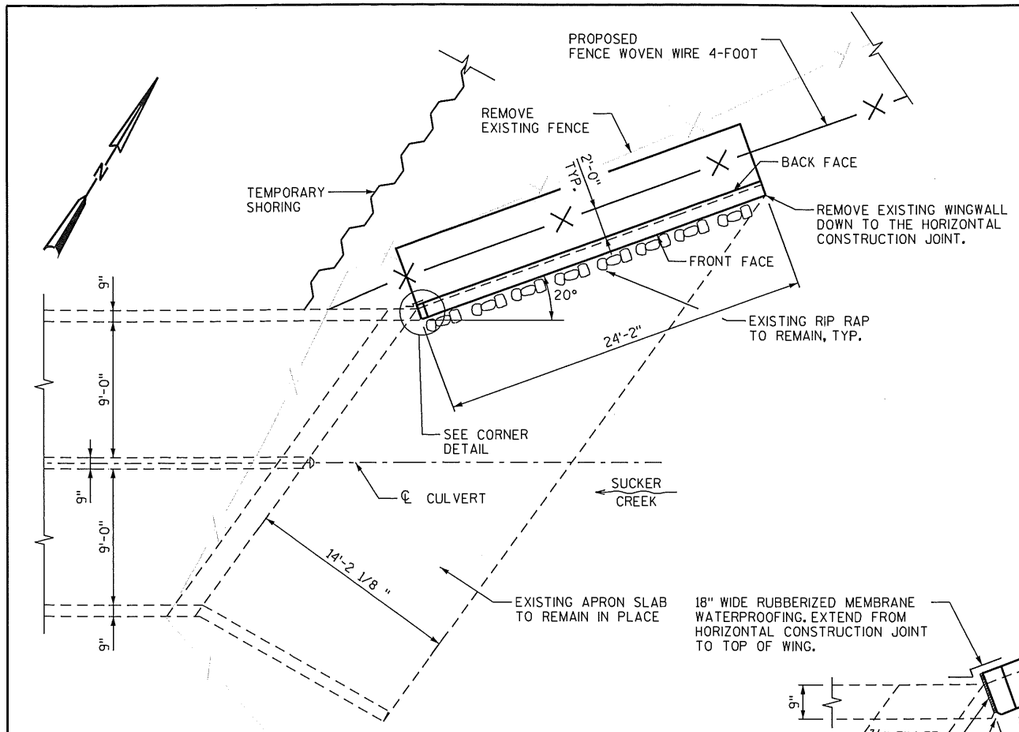
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4/15/2013

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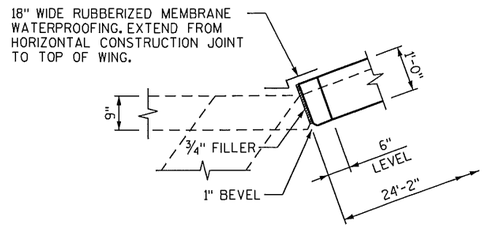
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STATE PROJECT NUMBER
1450-16-70



PLAN

REPLACEMENT OF NORTHEAST WINGWALL



TOTAL ESTIMATED QUANTITIES

ITEM NO.	BID ITEMS	UNIT	TOTAL
203.0200.11	REMOVING OLD STRUCTURE STA. 678+75.00	LS	1
206.2000.11	EXCAVATION FOR STRUCTURES CULVERTS B-45-66 REHAB	LS	1
206.6000.S	TEMPORARY SHORING	SF	240
210.0100	BACKFILL STRUCTURE	CY	20
504.0100	CONCRETE MASONRY CULVERTS	CY	11
505.0610	BAR STEEL REINFORCEMENT HS COATED CULVERTS	LB	1,180
516.0500	RUBBERIZED MEMBRANE WATERPROOFING	SY	5
SPV.0090.03	EXPANDING WATERSTOP	LF	25
SPV.0105.03	DEBRIS CONTAINMENT MODIFIED STRUCTURE B-45-66 REHAB	LS	1
	NON-BID ITEMS		
	PREFORMED JOINT FILLER	SIZE	3/4"

BILL OF BARS

1,180 LBS.

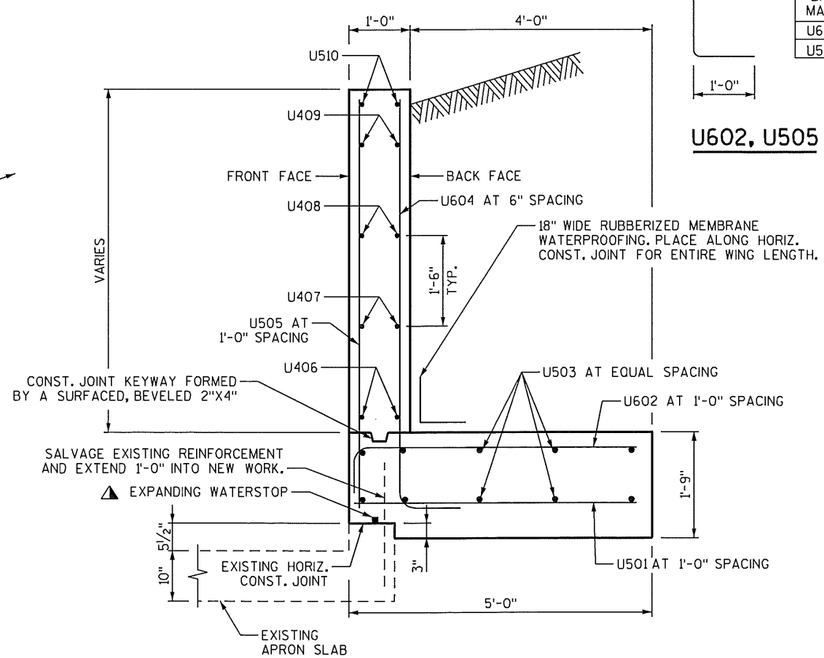
THE FIRST OR FIRST TWO DIGITS OF THE BAR MARK SIGNIFIES THE BAR SIZE.
BAR DIMENSIONS ARE OUT TO OUT OF BAR.

BAR MARK	COAT	NO. REQ'D	LENGTH	BENT	BAR SERIES	LOCATION
U501	X	25	4'-8"			FOOTING-HORIZ.
U602	X	25	5'-6"	X		FOOTING-HORIZ.
U503	X	10	23'-10"			FOOTING-HORIZ.
U604	X	49	5'-0"	X	*	WING-B.F.-VERT.
U505	X	25	4'-2"		*	WING-F.F.-VERT.
U406	X	2	23'-10"			WING-HORIZ.
U407	X	2	17'-7"			WING-HORIZ.
U408	X	2	10'-9"			WING-HORIZ.
U409	X	2	3'-10"			WING-HORIZ.
U510	X	2	24'-5"			WING-TOP-HORIZ.

* LENGTH SHOWN FOR BAR IS AN AVERAGE LENGTH AND SHOULD ONLY BE USED FOR BAR WEIGHT CALCULATIONS. SEE BAR SERIES TABLE FOR ACTUAL LENGTHS.

BAR SERIES TABLE

BAR MARK	NO. REQ'D	LENGTHS FOR EACH SERIES
U604	1 SERIES OF 49	2'-5" TO 7'-7"
U505	1 SERIES OF 25	1'-7" TO 6'-9"



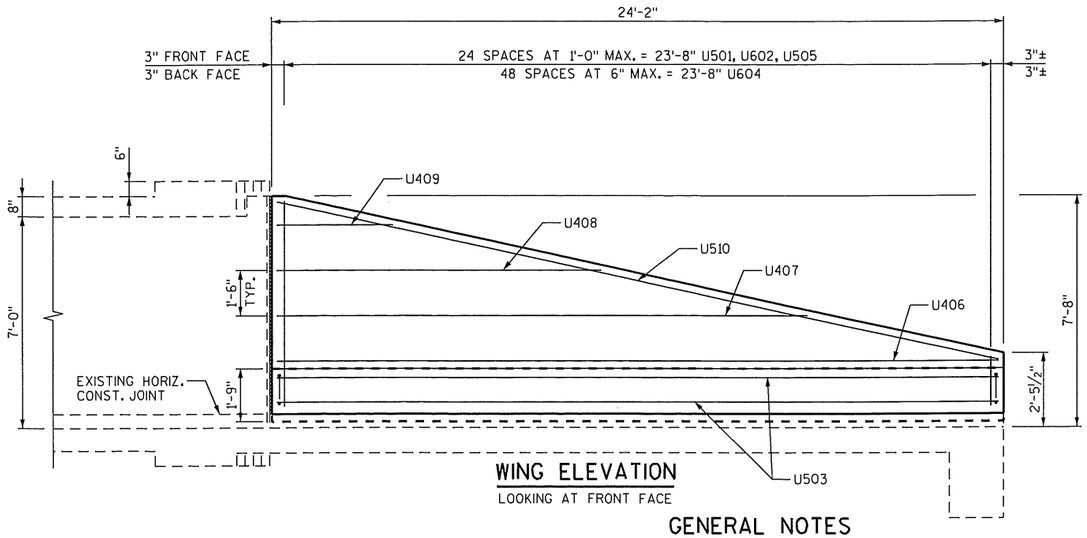
SECTION THRU WING

⚠ SEE SPECIAL PROVISIONS FOR ACCEPTED MANUFACTURERS, AND INSTALLATION SPECIFICATIONS.

1'-0"

U602, U505

CORNER DETAIL



WING ELEVATION

LOOKING AT FRONT FACE

GENERAL NOTES

DIMENSIONS ARE BASED ON ORIGINAL PLANS.

STRUCTURE BACKFILL REQUIRED BEHIND ALL NEW WINGWALLS.

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

DESIGN DATA

ULTIMATE DESIGN STRESSES:

CONCRETE MASONRY ALL OTHER —— f'c = 3,500 P.S.I.

HIGH STRENGTH BAR STEEL REINFORCEMENT GRADE 60 —— f'y = 60,000 P.S.I.

WISCONSIN
YOON-MOON CHUN
E-39076
WHITEFISH BAY WIS.
PROFESSIONAL ENGINEER
Yoon-Moon Chun
4-15-2013

LIST OF DRAWINGS

1. WINGWALL REPLACEMENT

NO.	DATE	REVISION	BY

K. Singh & Associates, Inc.
Engineers, Scientists and Environmental Management Consultants

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

ACCEPTED William C. Dreher KAR 04/17/13
CHIEF STRUCTURES DESIGN ENGINEER DATE

STRUCTURE B-45-66 REHAB

I-43 OVER SUCKER CREEK

COUNTY	TOWN/~~CITY/VILLAGE~~
OZAUKEE	BELGIUM

DESIGN SPEC. REHABILITATION N/A

DESIGNED BY	DESIGN CK'D.	DRAWN BY	PLANS CK'D.
DRJ	BNS	DRJ	BNS

WINGWALL REPLACEMENT

SHEET 1 OF 1
304

STRUCTURES DESIGN CONTACTS

BRIDGE OFFICE:
WILLIAM DREHER (608) 266-8489
CONSULTANT:
YOONMOON CHUN (262) 821-1171

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EARTHWORK PROJECT I.D. 1450-16-70 (Structure B-45-33 Division 1)

STATION	Real Station	Distance	AREA (SF) Cut	AREA (SF) Salvaged/Unusable Pavement Material	AREA (SF) Fill	Incremental Vol (CY) (Unadjusted) Cut Note 1	Incremental Vol (CY) (Unadjusted) Salvaged/Unusable Pavement Material Note 2	Incremental Vol (CY) (Unadjusted) Fill Note 3	Cumulative Vol (CY) Cut 1.00 Note 1	Cumulative Vol (CY) Expanded Fill 1.25	Mass Ordinate Note 8
38+00	3800		84	0	0				0	0	0
38+50	3850	50	25	0	0	101	0	0	101	0	101
38+71	3871	21	25	0	0	20	0	0	120	0	120
B-45-33											
						120	0	0			

EARTHWORK PROJECT I.D. 1450-16-70 (Structure B-45-33 Division 2)

STATION	Real Station	Distance	AREA (SF) Cut	AREA (SF) Salvaged/Unusable Pavement Material	AREA (SF) Fill	Incremental Vol (CY) (Unadjusted) Cut Note 1	Incremental Vol (CY) (Unadjusted) Salvaged/Unusable Pavement Material Note 2	Incremental Vol (CY) (Unadjusted) Fill Note 3	Cumulative Vol (CY) Cut 1.00 Note 1	Cumulative Vol (CY) Expanded Fill 1.25	Mass Ordinate Note 8
B-45-33											
41+36	4136		29	0	1				0	0	0
41+50	4150	14	29	0	1	15	0	1	15	1	14
42+00	4200	50	22	0	3	47	0	4	62	5	57
42+50	4250	50	27	0	4	46	0	6	108	13	95
43+00	4300	50	33	0	3	56	0	6	163	21	143
43+50	4350	50	11	0	2	40	0	4	204	26	178
44+00	4400	50	6	0	0	15	0	2	219	28	191
44+30	4430	30	6	0	0	7	0	0	226	29	197
						226	0	23			

EARTHWORK PROJECT I.D. 1450-16-70 (Structure B-45-59 Dvision 1)

STATION	Real Station	Distance	AREA (SF) Cut	AREA (SF) Salvaged/Unusable Pavement Material	AREA (SF) Fill	Incremental Vol (CY) (Unadjusted) Cut Note 1	Incremental Vol (CY) (Unadjusted) Salvaged/Unusable Pavement Material Note 2	Incremental Vol (CY) (Unadjusted) Fill Note 3	Cumulative Vol (CY) Cut 1.00 Note 1	Cumulative Vol (CY) Expanded Fill 1.25	Mass Ordinate Note 8
35+50	3550		42	0	3				0	0	0
36+00	3600	50	48	0	0	83	0	2	83	3	80
36+50	3650	50	36	0	1	78	0	1	161	4	157
B-45-59											
						161	0	3			

EARTHWORK PROJECT I.D. 1450-16-70 (Structure B-45-59 Division 2)

STATION	Real Station	Distance	AREA (SF) Cut	AREA (SF) Salvaged/Unusable Pavement Material	AREA (SF) Fill	Incremental Vol (CY) (Unadjusted) Cut Note 1	Incremental Vol (CY) (Unadjusted) Salvaged/Unusable Pavement Material Note 2	Incremental Vol (CY) (Unadjusted) Fill Note 3	Cumulative Vol (CY) Cut 1.00 Note 1	Cumulative Vol (CY) Expanded Fill 1.25	Mass Ordinate Note 8
B-45-59											
41+39	4139		35	0	0				0	0	0
41+50	4150	11	35	0	0	15	0	0	15	0	15
42+00	4200	50	39	0	0	68	0	0	83	0	83
						83	0	0			

9

9

PROJECT NO: 1450-16-70 | HWY: IH 43 | COUNTY: OZAUKEE | EARTHWORK | SHEET 305 | E

EARTHWORK PROJECT I.D. 1450-16-70 (Structure B-45-42 Divison 1)

STATION	Real Station	Distance	AREA (SF) Cut	AREA (SF) Salvaged/Unusable Pavement Material	AREA (SF) Fill	Incremental Vol (CY) (Unadjusted) Cut Note 1	Incremental Vol (CY) (Unadjusted) Salvaged/Unusable Pavement Material Note 2	Incremental Vol (CY) (Unadjusted) Fill Note 3	Cumulative Vol (CY) Cut 1.00 Note 1	Cumulative Vol (CY) Expanded Fill 1.25	Mass Ordinate Note 8
35+85	3585		8	0	0				0	1	0
36+00	3600	15	8	0	0	5	0	0	0	0	0
36+50	3650	50	19	0	0	26	0	0	26	0	26
37+00	3700	50	40	0	5	55	0	5	80	6	74
37+36	3736	36	40	0	5	53	0	7	134	15	119
B-45-42											
						138	0	12			

EARTHWORK PROJECT I.D. 1450-16-70 (Structure B-45-42 Division 2)

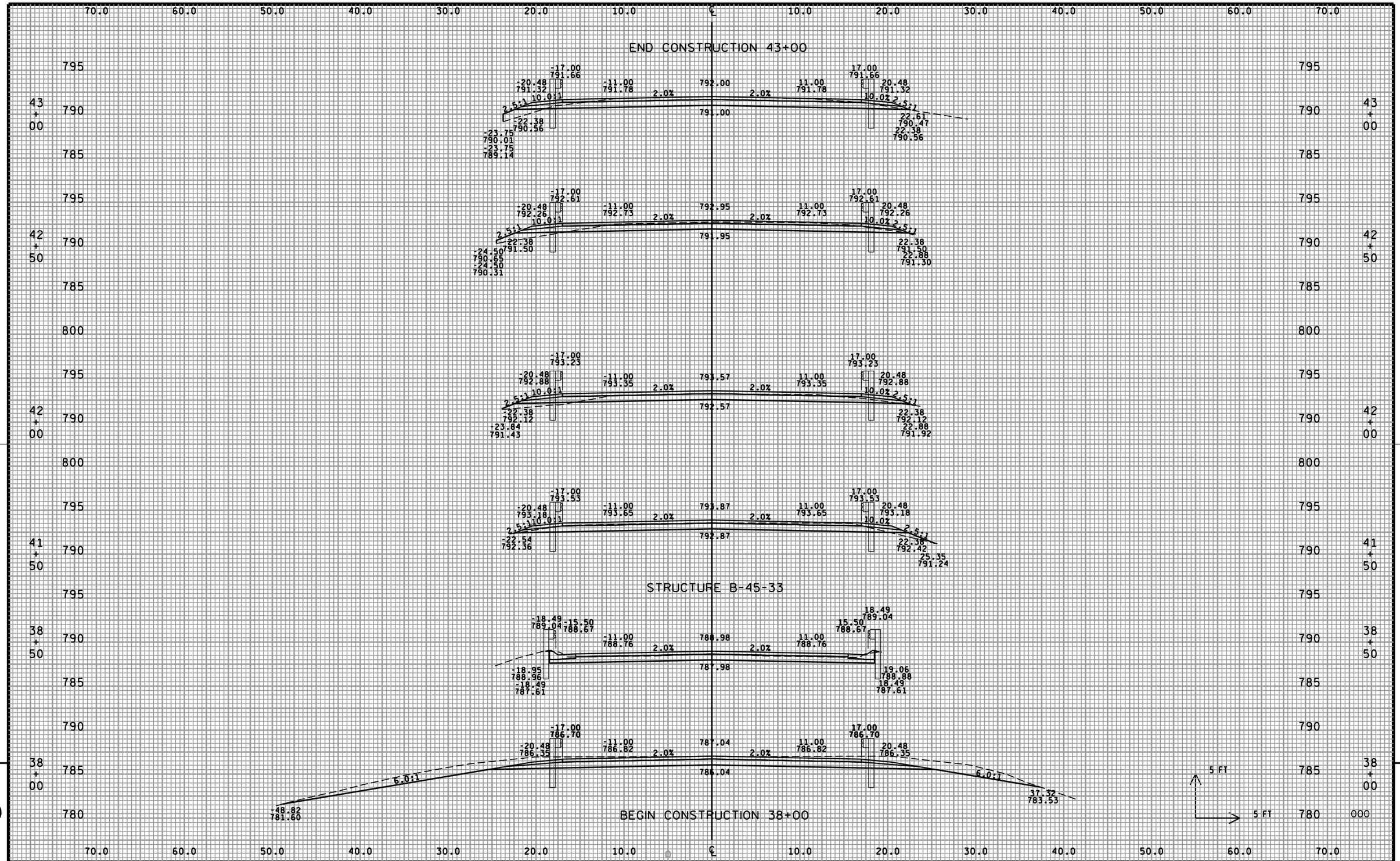
STATION	Real Station	Distance	AREA (SF) Cut	AREA (SF) Salvaged/Unusable Pavement Material	AREA (SF) Fill	Incremental Vol (CY) (Unadjusted) Cut Note 1	Incremental Vol (CY) (Unadjusted) Salvaged/Unusable Pavement Material Note 2	Incremental Vol (CY) (Unadjusted) Fill Note 3	Cumulative Vol (CY) Cut 1.00 Note 1	Cumulative Vol (CY) Expanded Fill 1.25	Mass Ordinate Note 8
B-45-42											
40+00	4000		40	0	1	0	0	0	0	0	0
40+50	4050	50	40	0	1	73	0	2	73	3	71
41+00	4100	50	17	0	1	53	0	2	126	5	121
41+33	4133	33	17	0	1	21	0	1	147	6	141
						147	0	5			

EARTHWORK PROJECT I.D. 1450-16-70 (Structure B-45-45 Division 1)

STATION	Real Station	Distance	AREA (SF) Cut	AREA (SF) Salvaged/Unusable Pavement Material	AREA (SF) Fill	Incremental Vol (CY) (Unadjusted) Cut Note 1	Incremental Vol (CY) (Unadjusted) Salvaged/Unusable Pavement Material Note 2	Incremental Vol (CY) (Unadjusted) Fill Note 3	Cumulative Vol (CY) Cut 1.00 Note 1	Cumulative Vol (CY) Expanded Fill 1.25	Mass Ordinate Note 8
39+50	3950		109	0	5				0	0	0
40+00	4000	50	93	0	8	187	0	12	187	15	172
40+50	4050	50	92	0	7	172	0	14	359	33	326
40+81	4081	31	92	0	7	107	0	8	466	43	423
B-45-45						0		0			
						466	0	35			

EARTHWORK PROJECT I.D. 1450-16-70 (Structure B-45-45 Division 2)

STATION	Real Station	Distance	AREA (SF) Cut	AREA (SF) Salvaged/Unusable Pavement Material	AREA (SF) Fill	Incremental Vol (CY) (Unadjusted) Cut Note 1	Incremental Vol (CY) (Unadjusted) Salvaged/Unusable Pavement Material Note 2	Incremental Vol (CY) (Unadjusted) Fill Note 3	Cumulative Vol (CY) Cut 1.00 Note 1	Cumulative Vol (CY) Expanded Fill 1.25	Mass Ordinate Note 8
B-45-45											
43+64	4364		118	0	2	0	0	0	0	0	0
44+00	4400	36	118	0	2	156	0	3	156	3	153
44+12	4412	12	126	0	1	54	0	1	210	4	206
44+55	4455	43	135	0	2	208	0	3	419	8	411
						419	0	6			



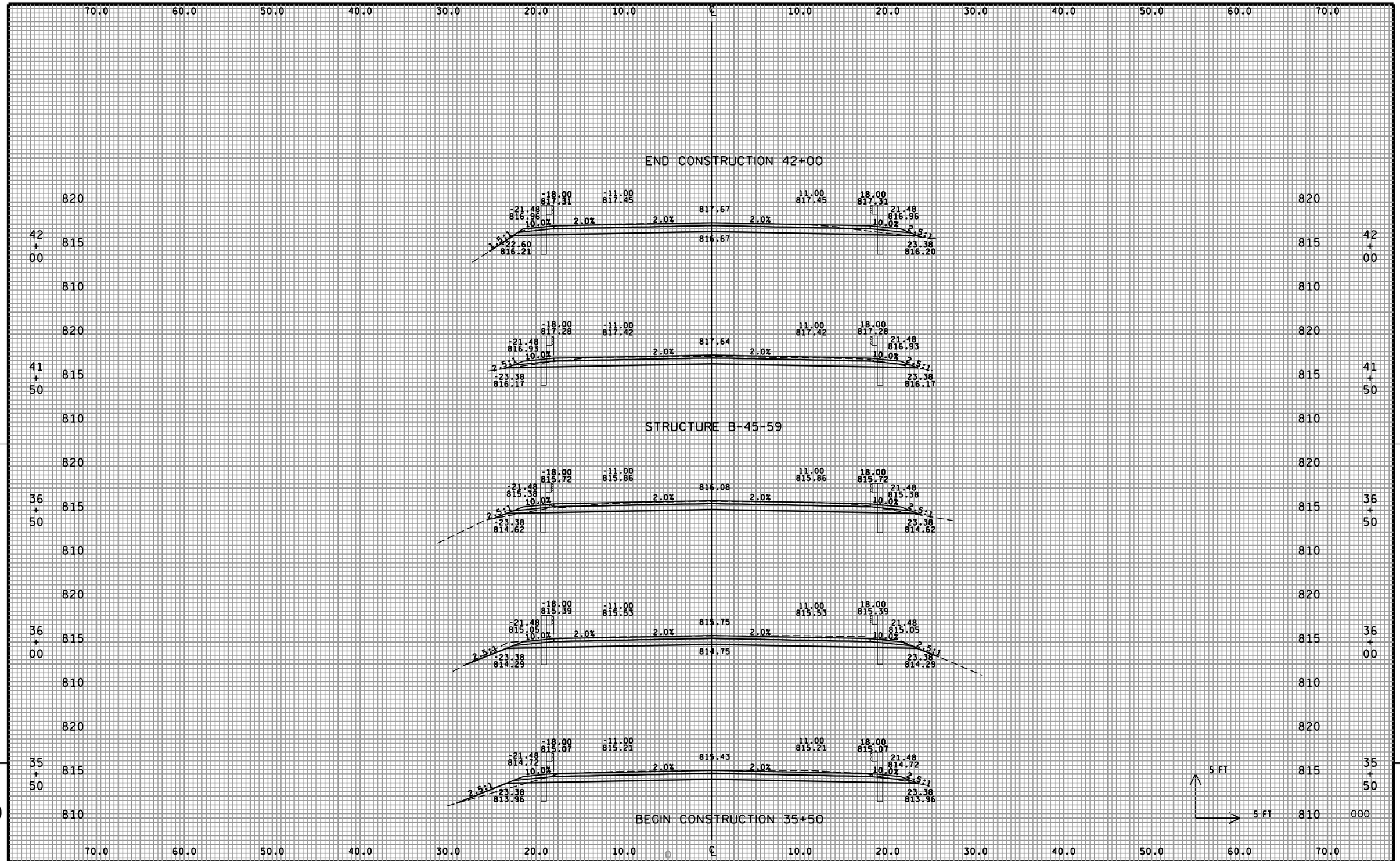
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PROJECT NO: 1450-16-70	HWY: IH 43	COUNTY: OZAUKEE	CROSS SECTIONS B-45-33 (SAUK ROAD OVER IH 43)	SHEET	E

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WISDOT/CADDS SHEET 21

rc001001.dgn 4/10/2013 1:52:58 PM jdolens



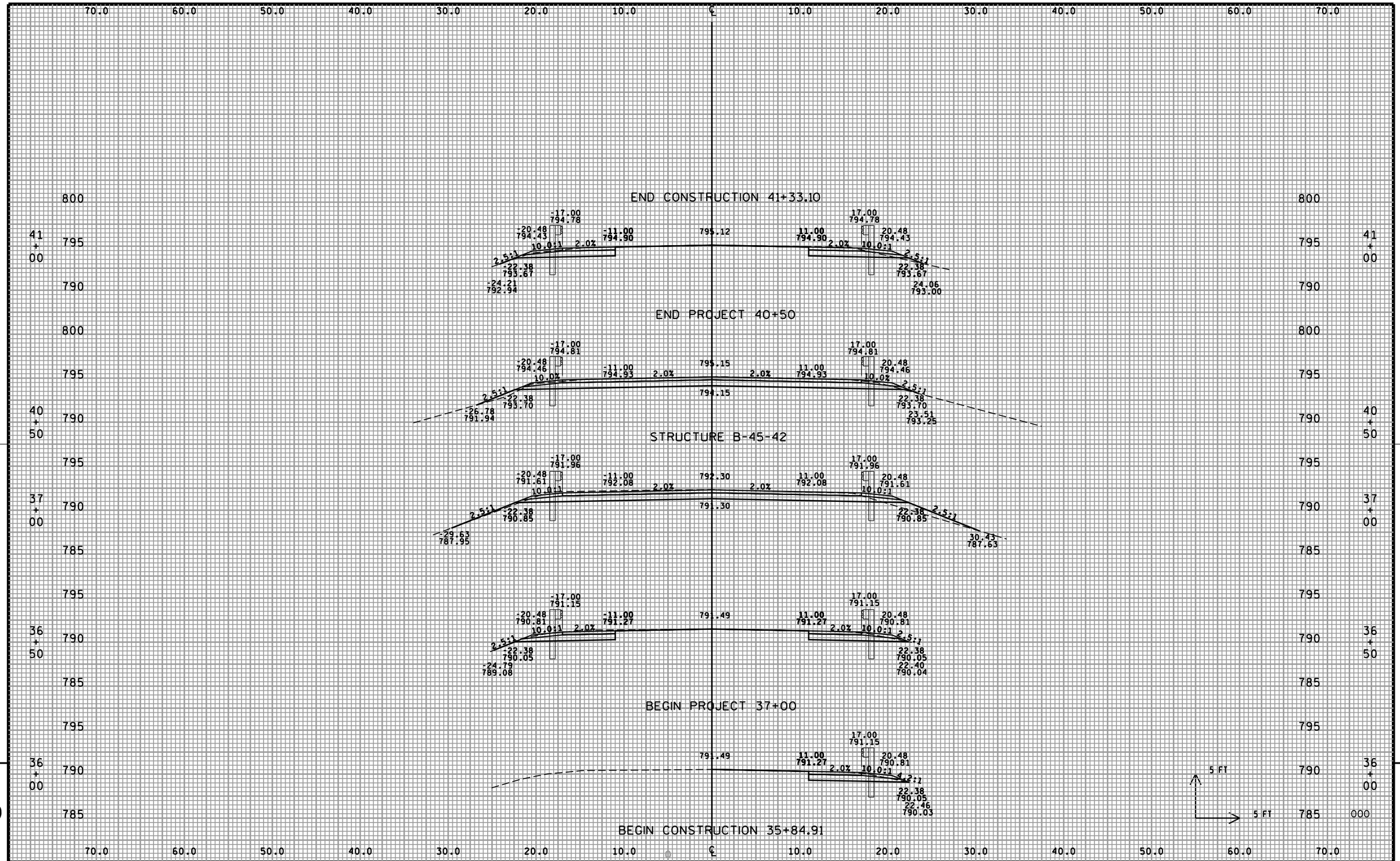
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PROJECT NO: 1450-16-70	HWY: IH 43	COUNTY: OZAUKEE	CROSS SECTIONS - B-45-59 (NORTH WOODS ROAD OVER IH 43)	SHEET	E

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WISDOT/CADDS SHEET 21

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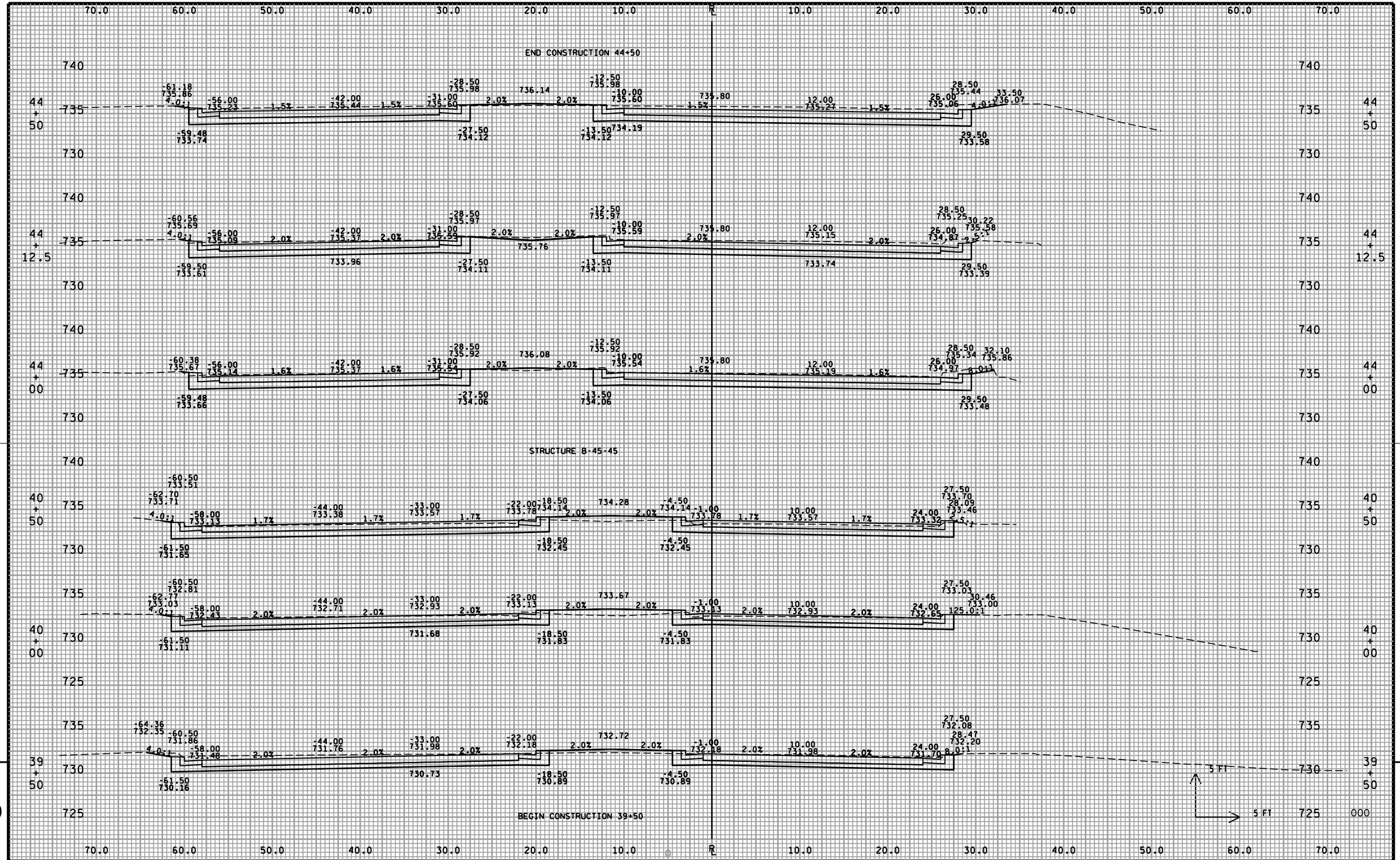


PROJECT NO: 1450-16-70	HWY: IH 43	COUNTY: OZAUKEE	CROSS SECTIONS B-45-42 (CTH B OVER IH 43)	SHEET	E

FILE NAME : P:\90s\93\00093039\CADD\Align\rc001003.dgn PLOT DATE : 4/10/2013 PLOT BY : jdolens PLOT NAME : PLOT SCALE : 1:2

WISDOT/CADDS SHEET 21

rc001003.dgn 4/10/2013 1:53:01 PM jdolens



9

PROJECT NO: 1450-16-70	HWY: IH 43	COUNTY: OZAUKEE	CROSS SECTIONS B-45-45 (WIS 32 OVER IH 43)	SHEET	E

9

FILE NAME : P:\90s\93\00093039\CADD\Align\rc001004.dgn PLOT DATE : 4/10/2013 PLOT BY : jdolens PLOT NAME : PLOT SCALE : 1:2

WISDOT/CADDS SHEET 21

rc001004.dgn 4/10/2013 1:53:03 PM jdolens

Notes

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