SWL

MAY 2014

PROJECT ID: 3888-00-70/72

WITH: N/A

COUNTY: DODGE

ORDER OF SHEETS

TOTAL SHEETS = 84

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

PLAN OF PROPOSED IMPROVEMENT

CITY OF HORICON, EAST LAKE STREET

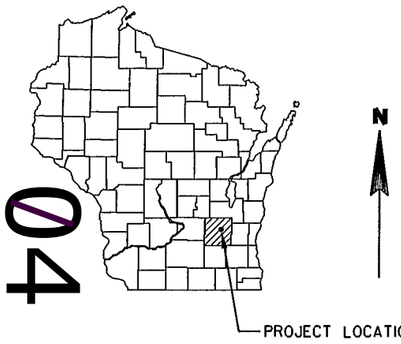
(ROCK RIVER BRIDGE B-14-0211)

LOCAL STREET
DODGE COUNTY

STATE PROJECT	FEDERAL PROJECT	
	PROJECT	CONTRACT
3888-00-70	———	—
3888-00-72	WISC 2014223	1

STATE PROJECT NUMBER

3888-00-70/72



DESIGN DESIGNATION

A.A.D.T. (2014)	=	7,100
A.A.D.T. (2034)	=	8,100
D.H.V.	=	1199
D.	=	59/41
T.	=	5.5%
DESIGN SPEED	=	30 MPH
ESALS	=	1,423,500

CONVENTIONAL SYMBOLS

PLAN

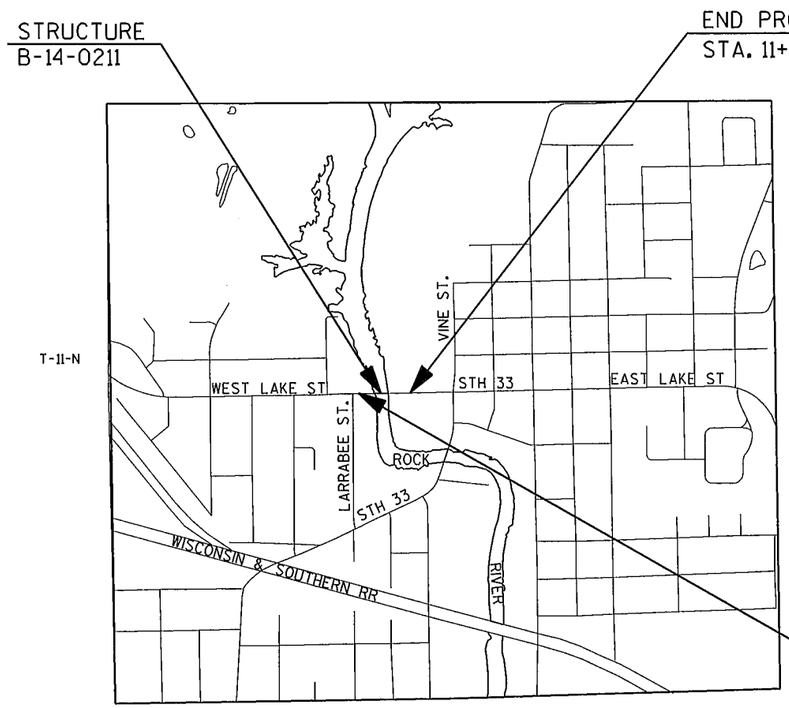
- CORPORATE LIMITS
- PROPERTY LINE (PL + 58.1)
- LOT LINE
- LIMITED HIGHWAY EASEMENT
- EXISTING RIGHT OF WAY
- PROPOSED OR NEW R/W LINE
- SLOPE INTERCEPT
- REFERENCE LINE
- EXISTING CULVERT
- PROPOSED CULVERT (Box or Pipe)
- COMBUSTIBLE FLUIDS (CAUTION)
- MARSH AREA
- WOODED OR SHRUB AREA

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



BEGIN PROJECT
STA. 8+15
Y = 721,387.23
E = 900,990.93

LAYOUT

SCALE 0 1/4 MI.

TOTAL NET LENGTH OF CENTERLINE = 0.061 MI.

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

ACCEPTED FOR CITY OF HORICON

1-28-14 DATE

MAYOR

ORIGINAL PLANS PREPARED BY:

MSA PROFESSIONAL SERVICES

TRANSPORTATION • MUNICIPAL DEVELOPMENT • ENVIRONMENTAL

1230 South Boulevard Baraboo, WI 53913
608-356-2771 1-800-362-4505 Fax: 608-355-2770
MSA PROFESSIONAL SERVICES

WISCONSIN
QUIRIN R. KLINK
E-30535
BARABOO
WI
PROFESSIONAL ENGINEER

1/23/14 Date

Signature

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

PREPARED BY

Surveyor	MSA PROFESSIONAL SERVICES, INC.
Designer	MSA PROFESSIONAL SERVICES, INC.
Management Consultant	KJOHNSON ENGINEERS, INC.
C.O. Examiner	

APPROVED FOR THE DEPARTMENT

DATE: 1/30/14 (Management Consultant Signature)

E

FILE NAME : P:\50s\59\00059023\caddWDOT\Planshts\59023_TS.dgn PLOT DATE : 1/22/2014 PLOT BY : bhalley TITLE: 59023TS.DGN PLOT SCALE : 1:10000

WISDOT/CADDS SHEET 15

59023_TS.dgn 1/22/2014 1:49:04 PM bhalley

GENERAL NOTES

INLET OFFSETS GIVEN TO THE CENTER OF STRUCTURE.

ELEVATIONS SHOWN ON THE STORM SEWER SHEETS ARE AT THE FLAG OF THE CURB.

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

ALL CURB & GUTTER RADII ARE MEASURED TO THE FACE OF CURB.

CURB & GUTTER PLAN GRADES ARE AT THE FLAG LINE UNLESS OTHERWISE NOTED.

EROSION CONTROL DEVICES AS SHOWN ON THE EROSION CONTROL SHEET ARE AT SUGGESTED LOCATIONS. THE EXACT LOCATIONS WILL BE DETERMINED BY THE ENGINEER. ALL EROSION CONTROL DEVICES SHALL BE MAINTAINED UNTIL SUCH TIME AS THE ENGINEER DETERMINES THE DEVICE IS NO LONGER NECESSARY.

THE LOCATIONS OF EXISTING PUBLIC AND PRIVATE UTILITY INSTALLATIONS AND STORM DRAINS SHOWN ON THE PLANS ARE APPROXIMATE. THERE MAY BE OTHER UTILITY INSTALLATIONS AND STORM DRAINS IN THE AREA THAT ARE NOT SHOWN.

ALL OPENINGS OR HOLES BELOW SUBGRADE RESULTING FROM REMOVALS OR ABANDONMENTS SHALL BE BACKFILLED WITH GRANULAR MATERIAL INCIDENTAL TO THE REMOVING BID ITEM.

TRANSVERSE CONCRETE JOINT DESIGN AND FIELD LAYOUT TO BE PAID FOR UNDER "CONCRETE PAVEMENT JOINT LAYOUT".

UTILITIES

TELEPHONE
AT&T WISCONSIN
ATTN: WALTER WELK
70 E. DIVISION STREET
FOND DU LAC, WI 53935
PHONE: 920-929-1016
EMAIL: ww5363@att.com

ELECTRIC & GAS
ALLIANT ENERGY
(WISCONSIN POWER & LIGHT)
ATTN: JASON HOGAN
4902 NORTH BILTMORE LANE, SUITE 1000
MADISON, WI 53718
PHONE: 608-395-7395
EMAIL: jasonhogan@alliantenergy.com

CITY OF HORICON
ELECTRIC, SANITARY SEWER
& WATERMAIN
ATTN: DAVID MAGNUSSEN,
UTILITIES MANAGER
P.O. BOX 23
HORICON, WI 53032
PHONE: 920-485-3544
EMAIL: dave@horicondpw.com

ELECTRIC & FIBER OPTIC
JOHN DEERE HORICON WORKS
ATTN: DAN MUENCHOW, FACILITIES ENGINEER
300 NORTH VINE STREET
HORICON, WI 53032
PHONE: 920-485-5845
EMAIL: MuenchowDanG@JohnDeere.com

* - NOT A MEMBER
OF DIGGERS HOTLINE.

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

WISCONSIN POWER AND LIGHT COMPANY (ALLIANT ENERGY) EMERGENCY NUMBERS:
ELECTRIC: THE 24-HOUR TOLL FREE NUMBER IS 1-800-862-6261
GAS: THE 24-HOUR TOLL FREE NUMBER IS 1-800-862-6263

ORDER OF TYPICAL SECTION & DETAIL SHEETS

1. GENERAL NOTES
2. TYPICAL SECTIONS
3. CONSTRUCTION DETAILS
4. EROSION CONTROL & SAFETY FENCE
5. PAVING DETAIL PLAN
6. STORM SEWER PLAN & PROFILE
7. WATER MAIN
8. LIFT STATION COVER
9. PERMANENT SIGNING PLAN
10. STREET LIGHTING
11. CONTROL POINT TIES

DESIGN CONTACTS

MSA PROFESSIONAL SERVICES
ATTN: QUIRIN KLINK
1230 SOUTH BOULEVARD
BARABOO, WI 53913
PHONE: 608-355-8890
FAX: 608-356-2770
EMAIL: qklink@msa-ps.com

DEPARTMENT OF NATURAL RESOURCES
ATTN: ERIC HEGGELUND
3911 FISH HATCHERY ROAD
FITCHBURG, WI 53711
PHONE: 608-275-3301
EMAIL: eric.heggelund@Wisconsin.gov

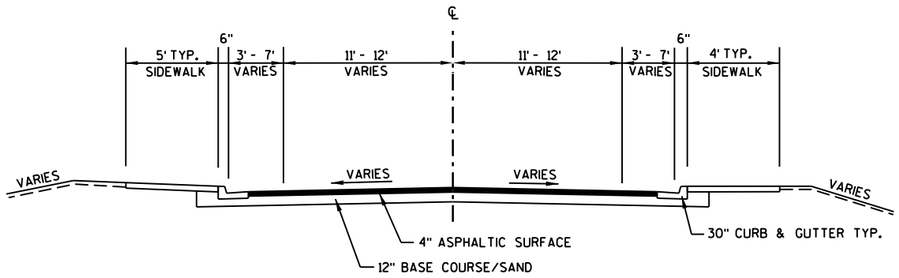
STANDARD ABBREVIATIONS

AC	ACRES
AH	AHEAD
ALUM.	ALUMINUM
A.P.	ACCESS POINT
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
EB	EASTBOUND
ET AL	AND OTHERS
EW	END WALL
EXIST or EX.	EXISTING
FT	FOOT
FT2	SQUARE FEET
GN	GRID NORTH
IN	INCH
IP	IRON PIPE
HB	HOSE BIB
MI	MILE
L	LENGTH
L	LENGTH OF CURVE
LC	LONG CHORD
LCB	LONG CHORD BEARING
MH	MANHOLE
MON	MONUMENT
N	NORTH
NB	NORTHBOUND
NO	NUMBER
PT	POINT
PC	POINT OF CURVATURE
PI	POINT OF INTERSECTION
PT	POINT OF TANGENCY
PL	PROPERTY LINE
POB	POINT OF BEGINNING
R	RADIUS
RP	RADIUS POINT
R	RANGE
RL or R/L	REFERENCE LINE
REQD	REQUIRED
RT	RIGHT
R/W	RIGHT-OF-WAY
RD	ROAD
S	SOUTH
SB	SOUTHBOUND
SQ	SQUARE
SAN	SANITARY SEWER
STD	STANDARD
STM	STORM SEWER
SEC	SECTION
SSPRC	STORM SEWER PIPE REINFORCED CONCRETE
STA	STATION
STR	STRUCTURE
T	TANGENT
TAN	TANGENT
TEMP	TEMPORARY
TLE	TEMPORARY LIMITED EASEMENT
T or TN	TOWN
TYP	TYPICAL
W	WEST
WB	WESTBOUND
WM	WATERMAIN
X	EAST GRID COORDINATE
Y	NORTH GRID COORDINATE

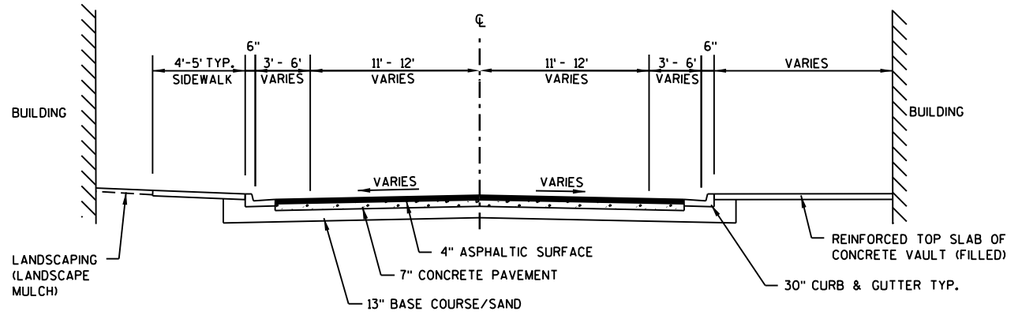
RUNOFF COEFFICIENT TABLE

	HYDROLOGIC SOIL TABLE			
	A	B	C	D
	SLOPE RANGE %	SLOPE RANGE %	SLOPE RANGE %	SLOPE RANGE %
LAND USE:	6 & OVER	6 & OVER	6 & OVER	6 & OVER
SIDE SLOPE- TURF	.25 .32	.27 .34	.28 .36	.30 .38
PAVEMENT:				
ASPHALT	.70 - .95			
CONCRETE	.80 - .95			
GRAVEL ROADS, SHOULDERS	.40 - .60			

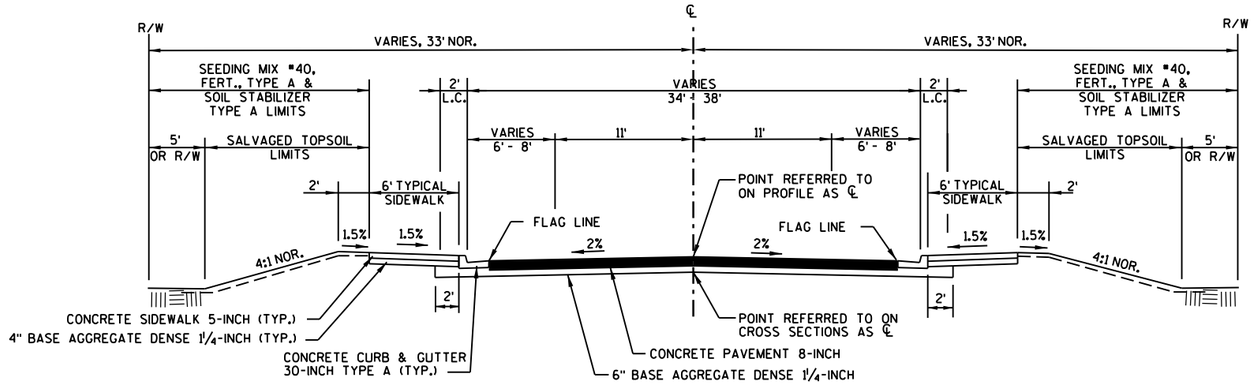
THE RUNOFF COEFFICIENTS OF SURFACE DRAINAGE AT THE PROJECT SITES WILL NOT BE CHANGED FROM BEFORE TO AFTER CONSTRUCTION. THE TOTAL AREA OF THE PROJECT IS 0.61 ACRES. THE TOTAL AREA EXPECTED TO BE DISTURBED BY CONSTRUCTION ACTIVITIES IS 0.37 ACRES.



TYPICAL EXISTING WEST APPROACH SECTION

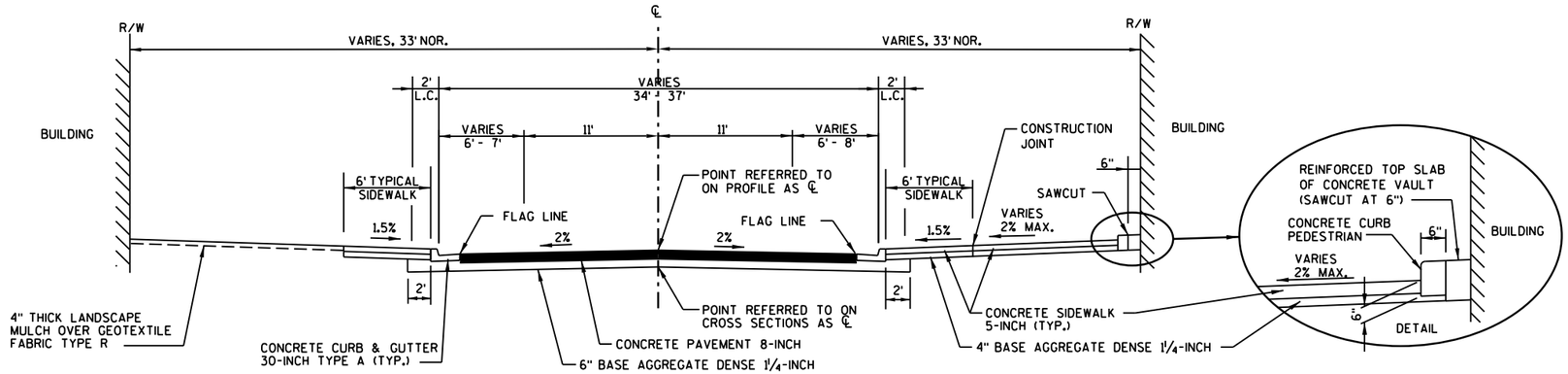


TYPICAL EXISTING EAST APPROACH SECTION



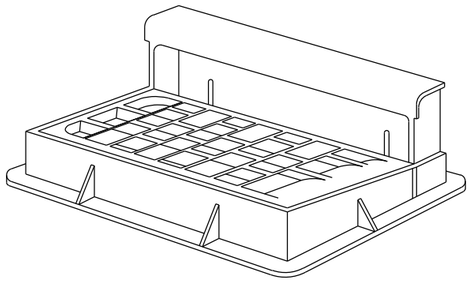
TYPICAL FINISHED WEST APPROACH SECTION

L.C. = LATERAL CLEARANCE

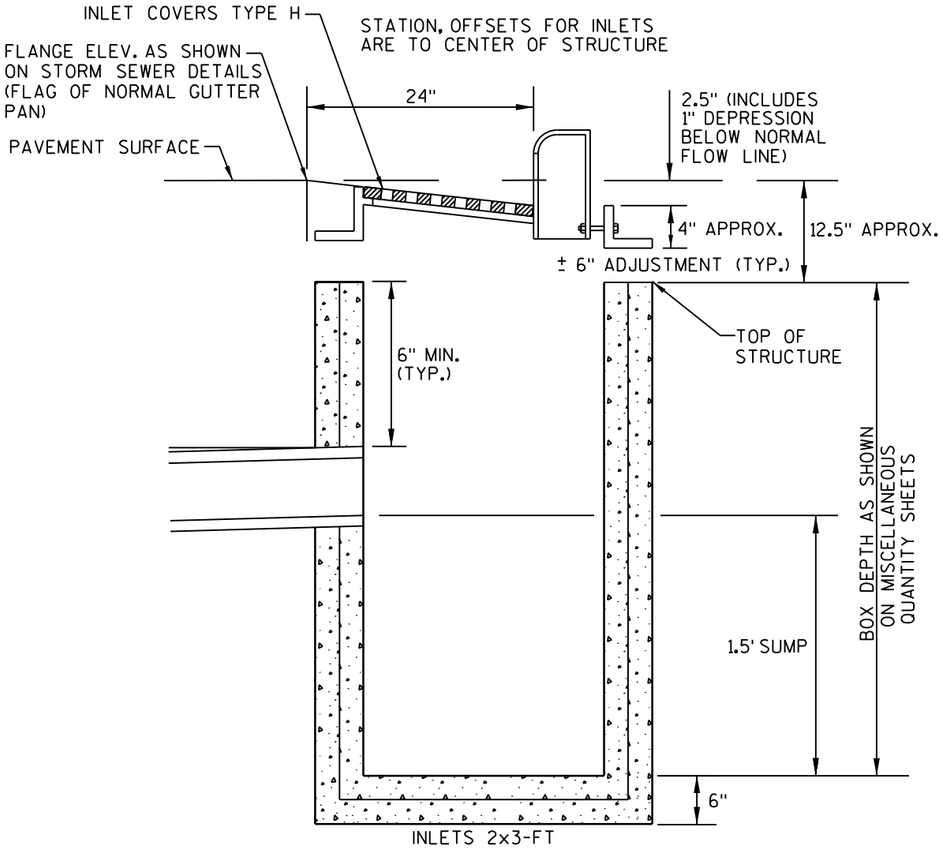


TYPICAL FINISHED EAST APPROACH SECTION

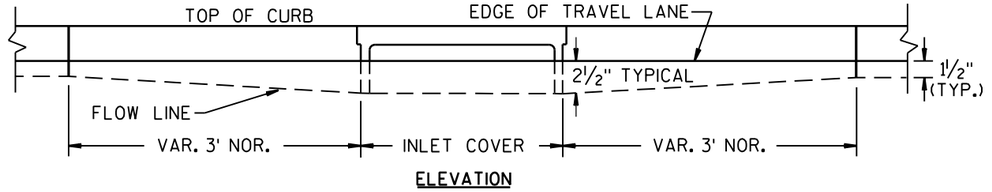
PROJECT NO: 3888-00-72	HWY: LOCAL STREET	COUNTY: DODGE	TYPICAL SECTIONS	SHEET 3	E



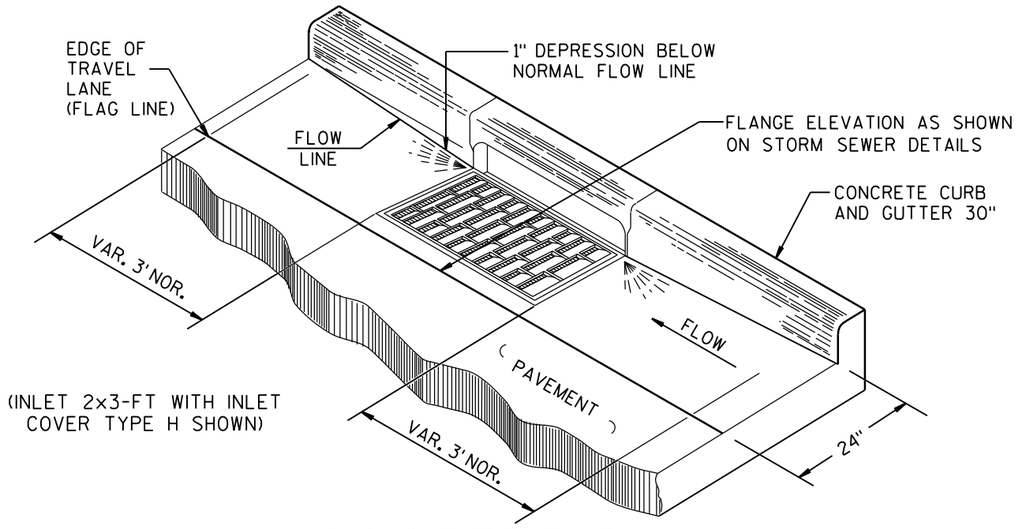
INLET COVERS TYPE "H" DETAIL



DETAIL FOR COMPUTING INLET ELEVATIONS
SCALE: NONE

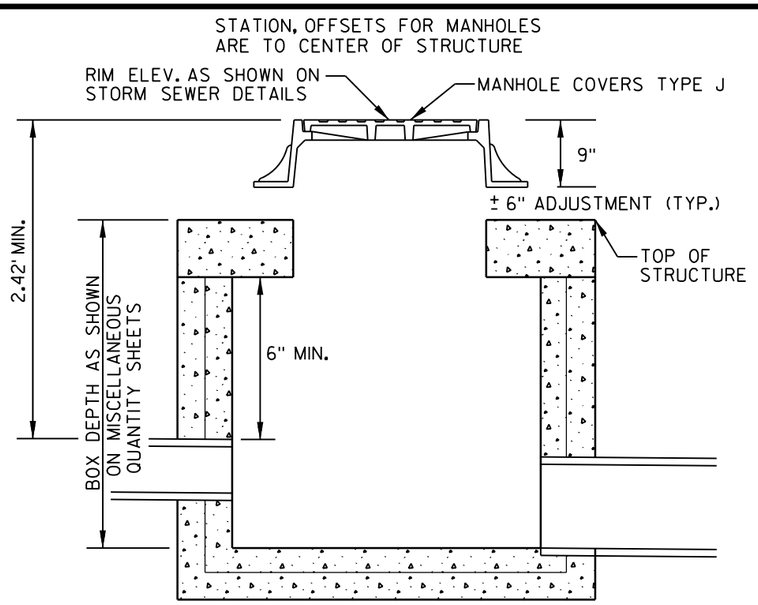


ELEVATION



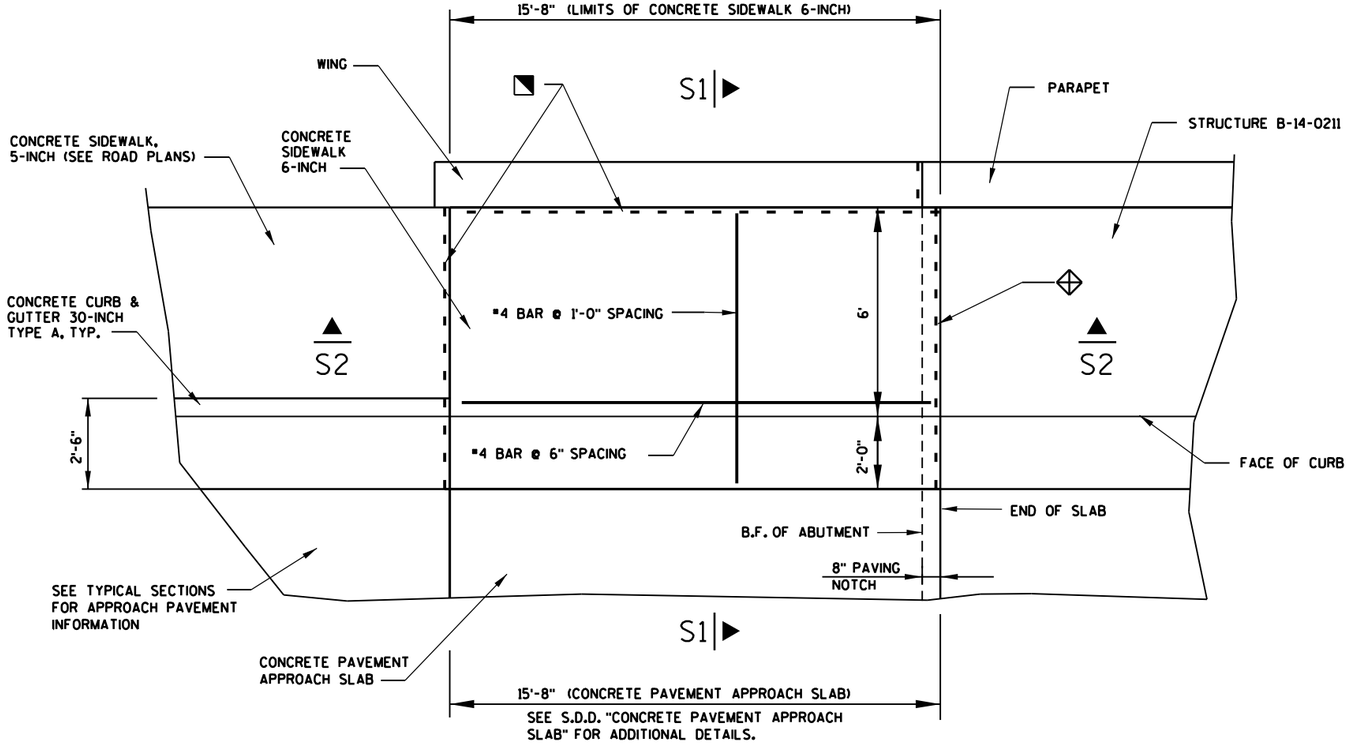
(INLET 2x3-FT WITH INLET COVER TYPE H SHOWN)

DETAIL OF CURB AT INLETS
SCALE: NONE

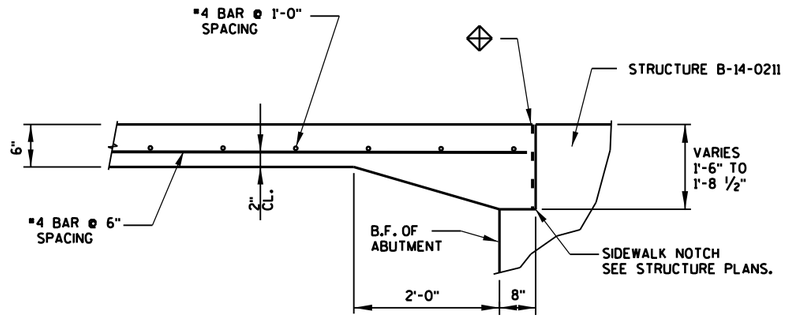


DETAIL FOR COMPUTING MANHOLE ELEVATIONS
SCALE: NONE

PROJECT NO: 3888-00-72	HWY: LOCAL STREET	COUNTY: DODGE	CONSTRUCTION DETAILS	SHEET 4	E

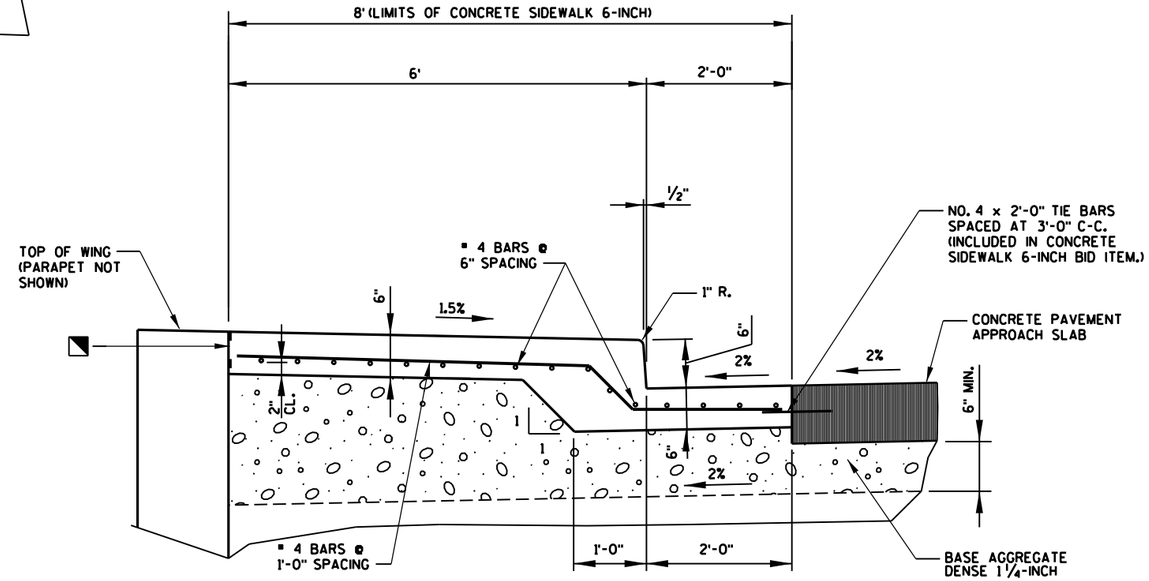


APPROACH SIDEWALK PLAN



SECTION S2 THRU SIDEWALK

PAID FOR AS "CONCRETE SIDEWALK 6-INCH



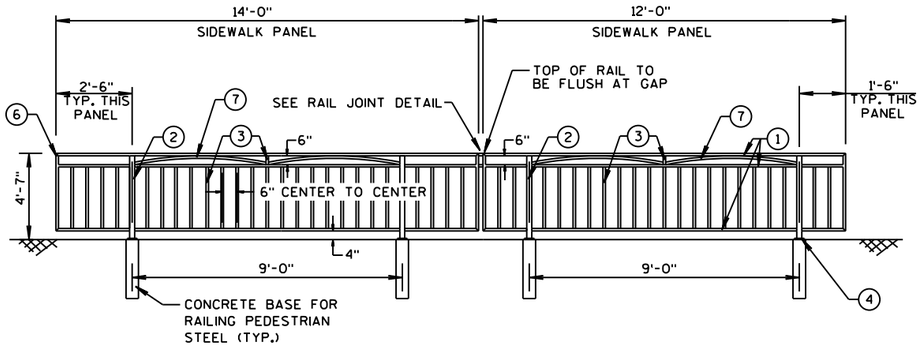
SECTION S1 THRU SIDEWALK

LEGEND

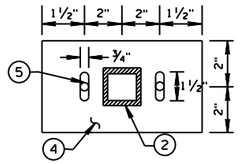
— ½" FILLER. EXTEND AS SHOWN. SEAL ALL EXPOSED HORIZ. & VERT. SURFACES OF FILLER WITH NON-STAINING, GRAY, NON-BITUMINOUS JOINT SEALER, (1" DEEP & HOLD ⅛" BELOW SURFACE OF CONCRETE), INCLUDED IN BID ITEM "CONCRETE SIDEWALK 6-INCH".

— ¾" FILLER @ B.F. OF ABUTMENT. SEAL ALL EXPOSED HORIZ. & VERT. SURFACES OF FILLER WITH NON-STAINING, GRAY, NON-BITUMINOUS JOINT SEALER, (1" DEEP & HOLD ⅛" BELOW SURFACE OF CONCRETE), INCLUDED IN BID ITEM "CONCRETE SIDEWALK 6-INCH".

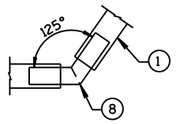
CONCRETE SIDEWALK 6-INCH DETAIL



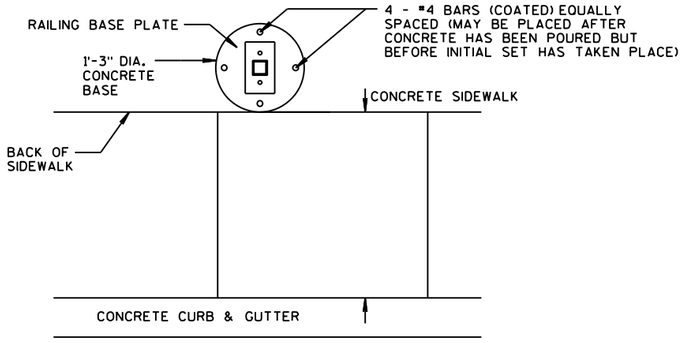
ELEVATION - RAILING PEDESTRIAN STEEL
STA. 10+79 - 11+00, LT.



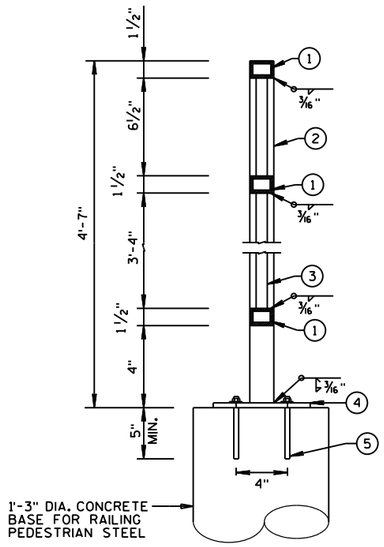
RAILING BASE PLATE



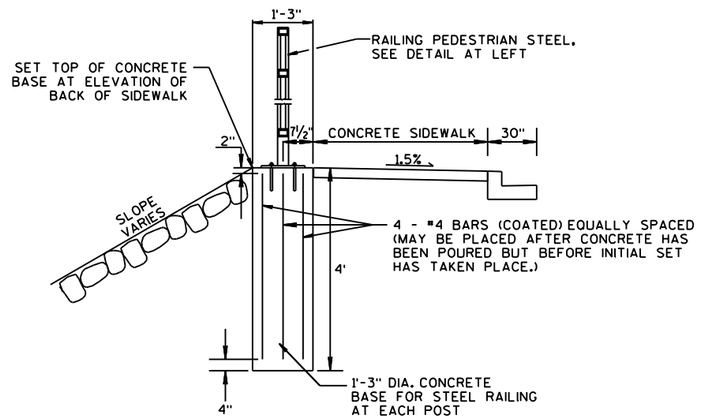
RAIL JOINT PLAN



PLAN
AT SIDEWALK



SECTION THROUGH RAILING ON CONCRETE BASE



DETAIL FOR MOUNTING RAILING PEDESTRIAN STEEL

LEGEND

(1) 2" X 1½" X 3/16" STRUCTURAL TUBING. BEVEL ENDS AT NO. 6 CONNECTIONS.

(2) 2" X 2" X 3/16" STRUCTURAL TUBING. CUT BOTTOM OF POST LEVEL. HOLD 1/16" ABOVE BASE PLATE TO ALLOW POST AND BASE PLATE TO BE WELDED TOGETHER. PLACE POST VERTICAL AND CENTERED ON BASE PLATE.

(3) BAR 1" X 1½" PICKETS. PLACE PICKETS VERTICAL, WELD TO NO. 1.

(4) BASE PLATE ½" X 4" X 7" WITH ¾" X 1½" SLOTTED HOLES FOR MASONRY ANCHORS NO. 5. WELD TO NO. 2 AS SHOWN.

(5) MASONRY ANCHORS TYPE S 5/8 INCH, STAINLESS STEEL ANCHOR BOLTS, NUTS, AND WASHERS. PULLOUT STRENGTH SHALL BE 4 KIPS. TWO REQUIRED PER POST. PLACE NORMAL TO PLATE NO. 4. EMBED 5" MIN.

(6) 2" X 1½" X 3/16" STRUCTURAL TUBING. PLACE VERTICAL. BEVEL TOP AND BOTTOM ENDS AT 45° AND WELD TO NO. 1.

(7) BAR 1" X 1". BEND TO REQUIRED RADIUS. WELD TO NO. 1, 2 & 3.

(8) RECTANGULAR SLEEVE FABRICATED FROM 3/16" PLATES. (1'-4" LONG) PROVIDE SLIDING FIT INSIDE RAIL (1) (3 REQ'D.)

GENERAL NOTES

STRUCTURAL TUBING SHALL CONFORM TO ASTM DESIGNATION A500 GRADE B. PLATES AND BARS SHALL CONFORM TO ASTM DESIGNATION A709 GRADE 36.

THE ITEM "RAILING PEDESTRIAN STEEL" SHALL INCLUDE ALL WORK SHOWN, INCLUDING CONCRETE BASES, ANCHORAGES, REINFORCING STEEL, MASONRY ANCHORS TYPE S, GALVANIZING, AND PAINTING.

FINAL LOCATIONS OF THE "RAILING POSTS", THE CONCRETE BASES FOR STEEL RAILING AND SIDEWALK ELEVATIONS SHALL BE VERIFIED PRIOR TO FABRICATION AND INSTALLATION OF RAILING.

POST BASE PLATES NO. 4 SHALL BE FLAT WITH ALL SURFACES SMOOTH AND FREE FROM WARP AND ALL EDGES SMOOTH, STRAIGHT AND VERTICAL. ALL PLATE CUTS SHALL BE MACHINE OR MACHINE FLAME CUT.

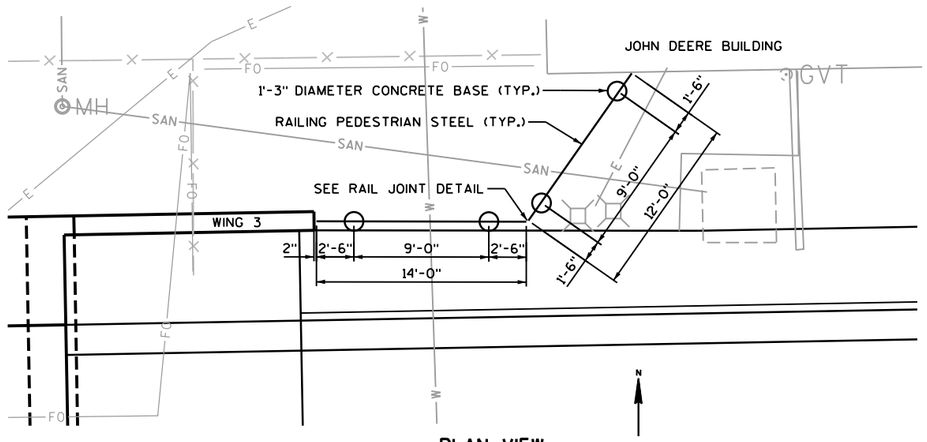
STEEL SHIMS SHALL BE PROVIDED AND USED UNDER BASE PLATES WHERE REQUIRED FOR ALIGNMENT AND SHALL BE GALVANIZED.

PLACE 1/4" ϕ VENT HOLES LOCATED IN BOTTOM OF HORIZONTAL RAILS AT RAIL POSTS AND AT LOW END OF RAILING. VENT HOLES SHALL BE DRILLED IN POST AND RAIL MEMBERS AS REQUIRED TO FACILITATE GALVANIZING.

ALL MATERIALS EXCEPT NO. 5 SHALL BE GALVANIZED AFTER FABRICATION. PRIOR TO GALVANIZING, THE STEEL RAILING SHALL BE GIVEN A NO. 6 BLAST CLEANING PER SSPC SPECIFICATIONS.

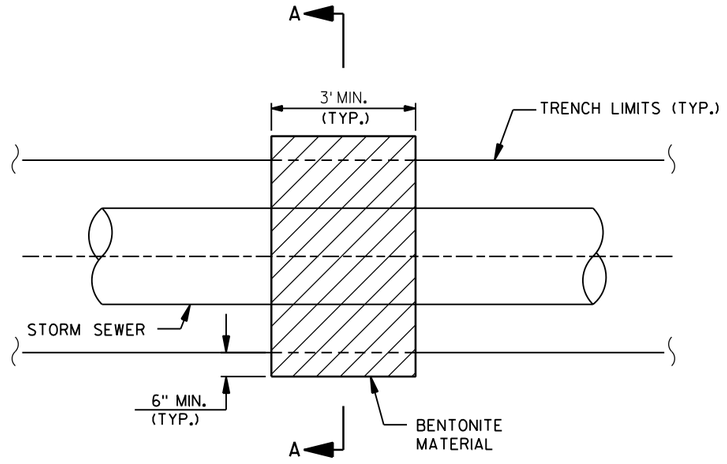
PAINT OVER GLAVANIZING WITH AN APPROVED TIE COAT AND TOP COAT AS SPECIFIED IN THE "BRIDGE RAIL SPECIAL PROVISIONS". THE FINISH COLOR SHALL BE BLACK FEDERAL STANDARD COLOR NO. 27038. AT COMPLETION OF STEEL RAILING INSTALLATION, PAINT THE TOPS OF ANCHOR BOLTS AND NUTS WITH THE TIE COAT. TOUCH-UP PAINT WITH THE TOP COAT ALL DAMAGED AREAS AND THE ANCHOR BOLTS TO THE SATISFACTION OF THE ENGINEER AT NO EXTRA COST. DO NOT PAINT ANCHORAGE NO. 5 AND SHIMS.

CAULK AROUND PERIMETER OF BASE PLATES, NO. 4 AND FILL BOLT SLOT OPENINGS IN SHIMS AND BASE PLATES WITH NON-STAINING GRAY NON-BITUMINOUS JOINT SEALER.

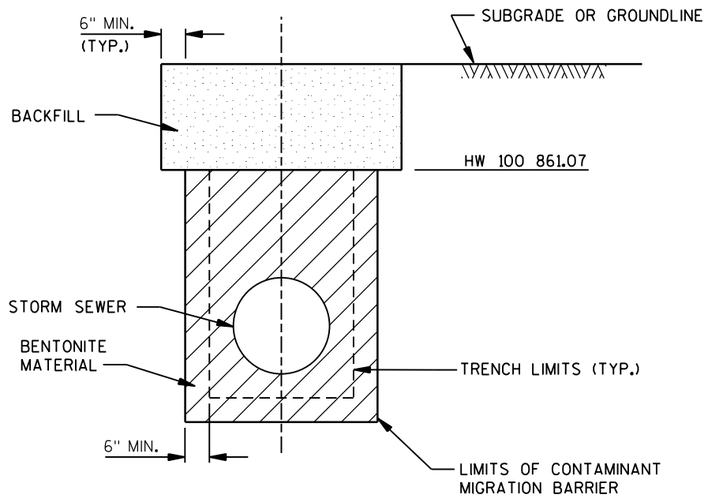


PLAN VIEW
NOT TO SCALE

PROJECT NO: 3888-00-72	HWY: LOCAL STREET	COUNTY: DODGE	CONSTRUCTION DETAILS - RAILING PEDESTRIAN STEEL	SHEET 6	E



PLAN



SECTION A-A

CONTAMINANT MIGRATION BARRIER FOR TRENCHING DETAIL

(NOT TO SCALE)

PROJECT NO: 3888-00-72	HWY: LOCAL STREET	COUNTY: DODGE	CONSTRUCTION DETAILS - CONTAMINANT MIGRATION BARRIER DETAIL	SHEET 7	E

HAZARD BUOY DETAIL
SCALE: NONE

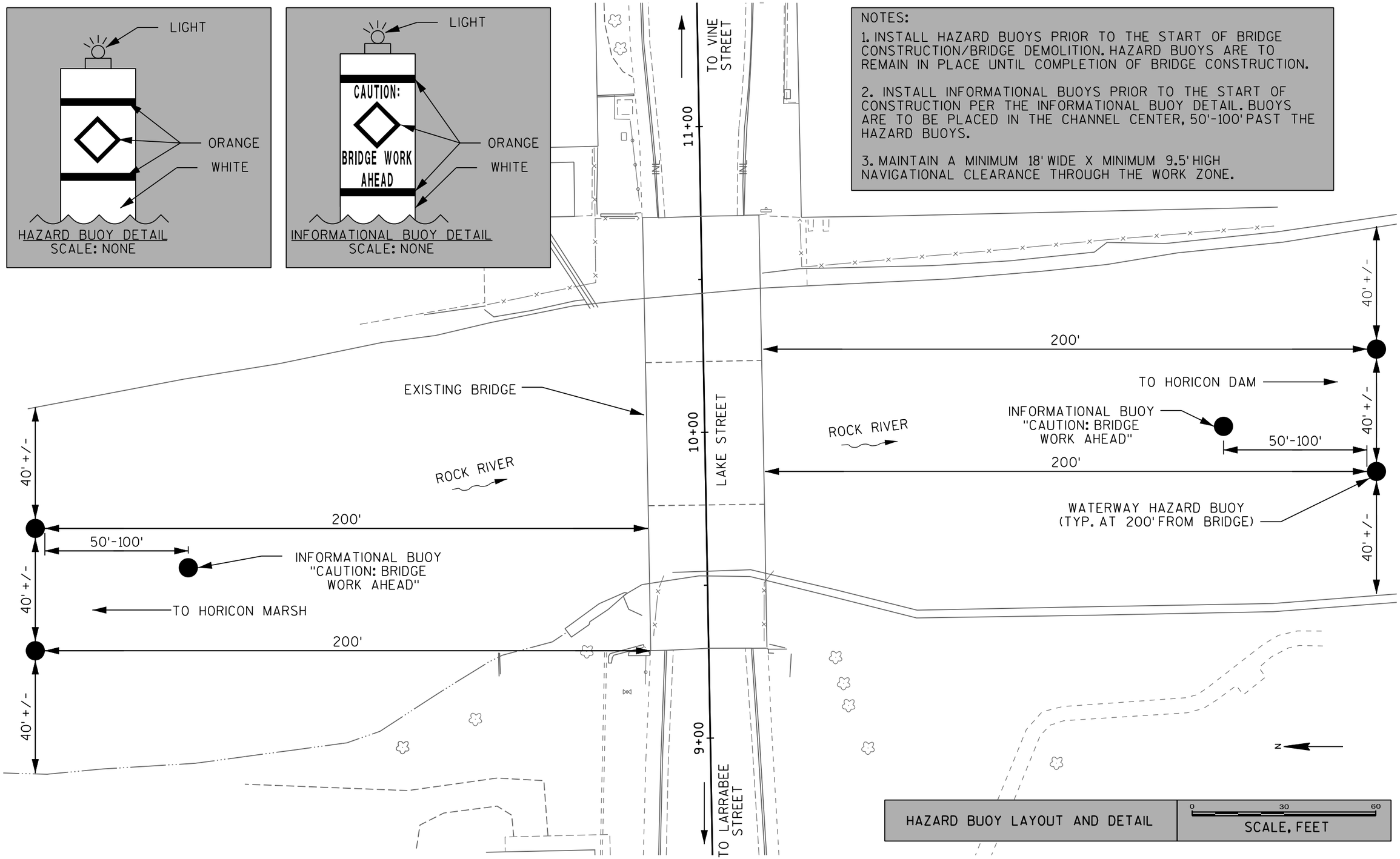
INFORMATIONAL BUOY DETAIL
SCALE: NONE

NOTES:

1. INSTALL HAZARD BUOYS PRIOR TO THE START OF BRIDGE CONSTRUCTION/BRIDGE DEMOLITION. HAZARD BUOYS ARE TO REMAIN IN PLACE UNTIL COMPLETION OF BRIDGE CONSTRUCTION.

2. INSTALL INFORMATIONAL BUOYS PRIOR TO THE START OF CONSTRUCTION PER THE INFORMATIONAL BUOY DETAIL. BUOYS ARE TO BE PLACED IN THE CHANNEL CENTER, 50'-100' PAST THE HAZARD BUOYS.

3. MAINTAIN A MINIMUM 18' WIDE X MINIMUM 9.5' HIGH NAVIGATIONAL CLEARANCE THROUGH THE WORK ZONE.



HAZARD BUOY LAYOUT AND DETAIL

0 30 60
SCALE, FEET

PROJECT NO: 3888-00-72	HWY: EAST LAKE STREET	COUNTY: DODGE	CONSTRUCTION DETAILS - HAZARD BUOY DETAIL	SHEET 8	E

FILE NAME : P:\50s\59\00059023\caddWDOT\Planshts\59023_Bouy Det.dgn PLOT DATE : 1/24/2014 PLOT BY : bhalley PLOT NAME : PLOT SCALE : 1:30

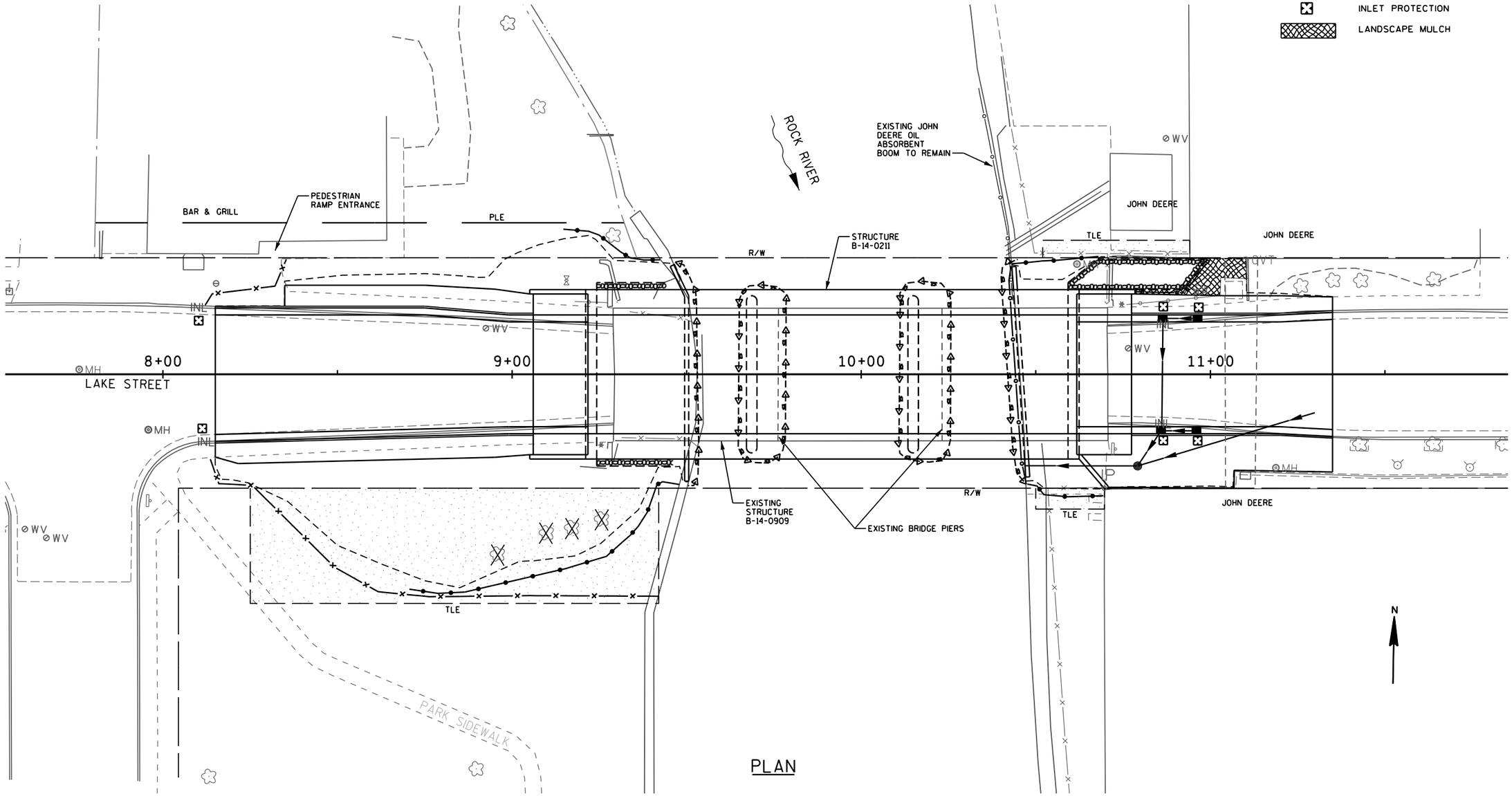
WISDOT/CADDS SHEET 42

59023_Bouy Det.dgn 1/24/2014 11:38:05 AM bhalley

2

LEGEND

- SILT FENCE
- RIP RAP
- SLOPE INTERCEPT
- TURBIDITY BARRIER
- SAFETY FENCE
- OIL ABSORBENT BOOM
- INLET PROTECTION
- LANDSCAPE MULCH



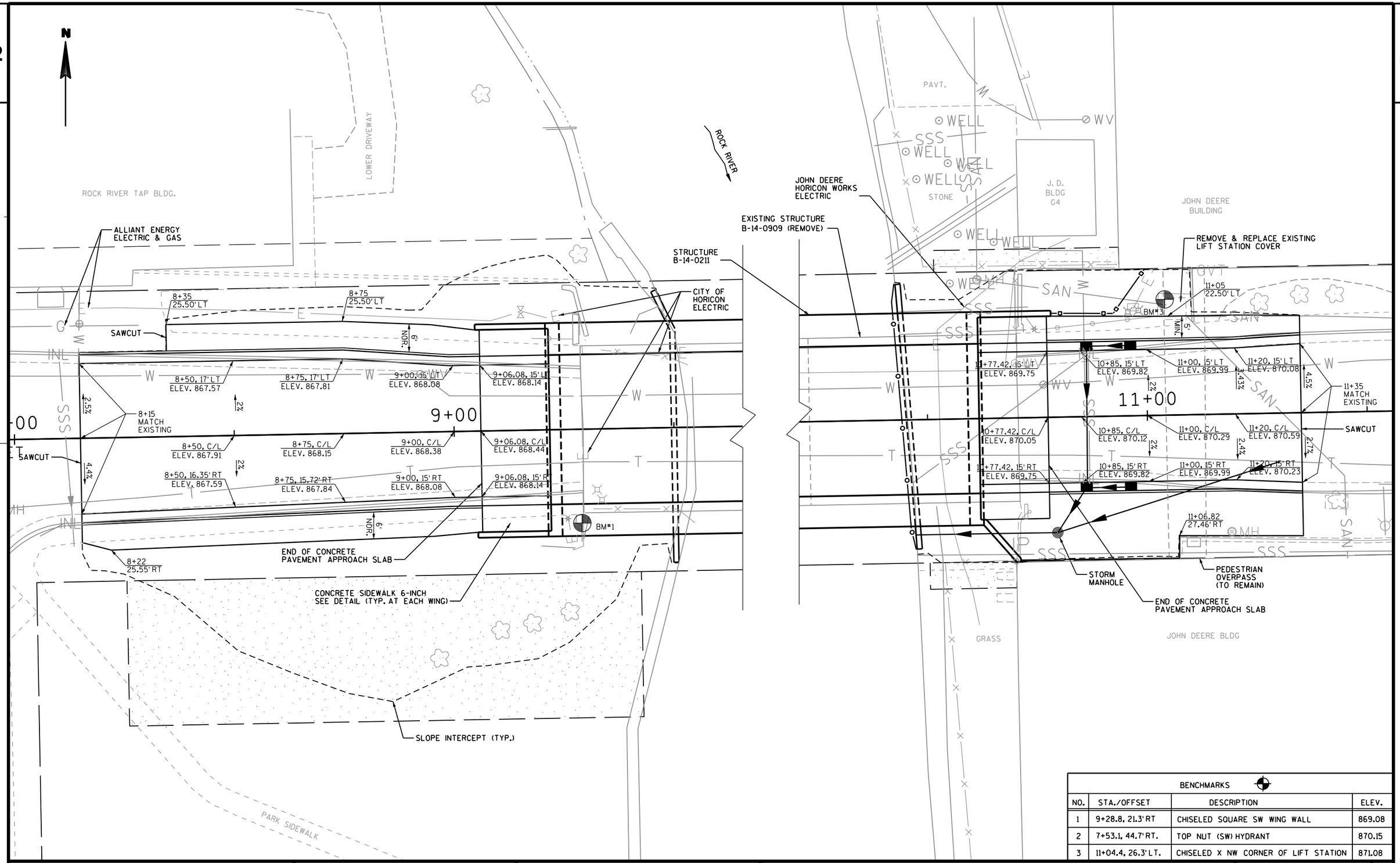
PLAN

PROJECT NO: 3888-00-72	HWY: LOCAL STREET	COUNTY: DODGE	EROSION CONTROL & SAFETY FENCE	SHEET 9	E

FILE NAME : P:\50s\59\00059023\caddWDOT\Planshts\59023_EC.dgn PLOT DATE : 1/24/2014 PLOT BY : bhalley PLOT NAME : PLOT SCALE : 1:30

WISDOT/CADDS SHEET 42

59023_EC.dgn 1/24/2014 11:39:38 AM bhalley



BENCHMARKS			
NO.	STA./OFFSET	DESCRIPTION	ELEV.
1	9+28.8, 21.3' RT	CHISELED SQUARE SW WING WALL	869.08
2	7+53.1, 44.7' RT.	TOP NUT (SW) HYDRANT	870.15
3	11+04.4, 26.3' LT.	CHISELED X NW CORNER OF LIFT STATION	871.08

PROJECT NO: 3888-00-72	HWY: LOCAL STREET	COUNTY: DODGE	PAVING DETAIL PLAN	SHEET 10	E

FILE NAME : P:\50s\59\00059023\caddWDOT\Planshts\59023_Pav Det.dgn PLOT DATE : 1/24/2014 PLOT BY : bhalley PLOT NAME : PLOT SCALE : 1:20

WISDOT/CADDS SHEET 42

59023_Pav Det.dgn 1/24/2014 11:40:45 AM bhalley

BENCHMARKS			
NO.	STA./OFFSET	DESCRIPTION	ELEV.
1	9+28.8, 21.3' RT	CHISELED SQUARE SW WING WALL	869.08
2	7+53.1, 44.7' RT.	TOP NUT (SW) HYDRANT	870.15
3	11+04.4, 26.3' LT.	CHISELED X NW CORNER OF LIFT STATION	871.08

LEGEND

PETROLEUM CONTAMINATED AREA

BEGIN PROJECT
STA. 8+15
Y = 721,387.23
X = 900,990.93

END PROJECT
STA. 11+35
Y = 721,393.05
X = 901,310.88

EXISTING INLETS TO REMAIN (BOTH SIDES OF STREET)
ALLIANT ENERGY ELECTRIC & GAS
ROCK RIVER TAP BLDG.
GRASS
ROCK RIVER
JOHN DEERE HORICON WORKS ELECTRIC
STRUCTURE B-14-0211
CITY OF HORICON ELECTRIC
EXISTING STRUCTURE B-14-0909 (REMOVE)
REMOVE STORM SEWER 8-INCH
1.2 STA. 10+86, 16.5' LT. INLET 2x3-FT. INLET COVERS TYPE H
10 L.F. – 12" STORM SEWER
1.1 STA. 10+96, 16.5' LT. INLET 2x3-FT. INLET COVERS TYPE H
JOHN DEERE BLDG
EXISTING R/W
SAWCUT
℄ ROADWAY
7+00
8+00
9+00
10+00
11+00
12+00
13+00
LAKE STREET
JOHN DEERE HORICON WORKS FIBER OPTIC
BM#1
BM#2
BM#3
12 L.F. – 12" STORM SEWER
33 L.F. – 12" STORM SEWER
REMOVE STORM SEWER 12-INCH
AT&T WISCONSIN TELEPHONE
CITY OF HORICON WATERMAIN & SANITARY SEWER
99'
STA. 10+47, 26.5' RT. OUTFALL (15") 1.6
RECONSTRUCTED RIVER WALL (SEE B-14-0211 PLANS)
EXISTING DRY-STACKED RIVER WALL (TO REMAIN)
1.7 STA. 11+30, 11.0' RT. PLUG
53 L.F. – 12" STORM SEWER
DRAINAGE TRENCH (TO REMAIN)
1.3 STA. 10+96, 16.5' RT. INLET 2x3-FT. INLET COVERS TYPE H
10 L.F. – 12" STORM SEWER
1.4 STA. 10+86, 16.5' RT. INLET 2x3-FT. INLET COVERS TYPE H
31 L.F. – 15" STORM SEWER
TEMPORARY SHORING
1.5 STA. 10+79.1, 26.5' RT. MANHOLES 4-FOOT DIAMETER MANHOLE COVERS TYPE J
LARRABEE STREET
STORM SEWER DRAINS TO RIVER (TO REMAIN)
SLOPE INTERCEPT (TYP.)
CLAUSEN BOWLING GREEN PARK
PARK SIDEWALK
JOHN DEERE BLDG
N

RIM=870.30
12 L.F.-12" SSPRC CLASS IV @ 4.3%
33 L.F.-12" SSPRC CLASS IV @ 3.5%
10 L.F.-12" SSPRC CLASS IV @ 1%
FLANGE= 869.83
FLANGE =869.94
FLANGE =869.83
867.66 (E)
867.66 (S)
866.16
867.76 (W)
866.26
866.51 (N)
866.51 (SW)
867.00 (E)
865.01
867.10 (W)
865.60
B-14-0211 WING 4 EL. 858.16
31 L.F.-15" SSPRC CLASS III @ 1.5%
53 L.F.-12" SSPRC CLASS III @ 1.5%
PLUG REQUIRED
857.96 (W)
856.20
865.99 (NE)
857.17 (E)
856.67 (W)
CONTAMINANT MIGRATION BARRIER LOCATION

870
868
866
864
862
860
858
856
854

PROJECT NO: 3888-00-72	HWY: LOCAL STREET	COUNTY: DODGE	STORM SEWER PLAN & PROFILE	SHEET 11	E

FILE NAME : P:\50s\59\00059023\caddWDOT\Planshts\SS01.dgn PLOT DATE : 1/24/2014 PLOT BY : bhalley PLOT NAME : PLOT SCALE : 1:40

WISDOT/CADDS SHEET 41

SS01.dgn 1/24/2014 11:41:40 AM bhalley

BENCHMARKS			
NO.	STA./OFFSET	DESCRIPTION	ELEV.
1	9+28.8, 21.3' RT	CHISELED SQUARE SW WING WALL	869.08
2	7+53.1, 44.7' RT.	TOP NUT (SW) HYDRANT	870.15
3	11+04.4, 26.3' LT.	CHISELED X NW CORNER OF LIFT STATION	871.08

LEGEND

PETROLEUM CONTAMINATED AREA

ROCK RIVER TAP BLDG.

ALLIANT ENERGY ELECTRIC & GAS

GRASS

ROCK RIVER

JOHN DEERE HORICON WORKS ELECTRIC

PAVT.

J. D. BLDG G4

JOHN DEERE BLDG

EXISTING WATERMAIN AT STA 11+86, LT SERVING J.D. FIRE PROTECTION BOOSTER STATION

1.2 STA. 10+86, 16.5' LT. SEE STORM SEWER PLAN & PROFILE

REMOVE AND REPLACE LIFT STATION COVER SEE DETAIL SHEET

EXISTING R/W

160 LF - WATER MAIN, 10-INCH PRE-INSULATED & SUPPORT STRUCTURE SEE DETAIL, NEXT SHEET

CITY OF HORICON ELECTRIC

ADJUST WATER VALVE BOX

7+00 8+00 9+00 10+00 11+00 12+00 13+00

LAKE STREET

℄ ROADWAY

BM#1 BM#2 BM#3

JOHN DEERE HORICON WORKS FIBER OPTIC

AT&T WISCONSIN TELEPHONE

66'

CITY OF HORICON WATERMAIN & SANITARY SEWER

REMOVE EX. UNDERDECK WATER MAIN & SUPPORT STRUCTURE

RECONSTRUCTED RIVER WALL (SEE B-14-0211 PLANS)

1- CONNECT TO EXISTING WATER MAIN
1- WATER REDUCER, 8-INCH X 10-INCH
2 - WATER BEND, 8-INCH
6 LF - WATER MAIN, 10-INCH W/ POLYWRAP
48 SF - RIGID INSULATION, 2-INCH

12" STORM SEWER – TO BE REMOVED

BEGIN PROJECT
STA. 8+15
Y = 721,387.23
X = 900,990.93

LARRABEE STREET

SLOPE INTERCEPT (TYP.)

CLAUSEN BOWLING GREEN PARK

PARK SIDEWALK

1- CONNECT TO EXISTING WATER MAIN
1- WATER REDUCER, 8-INCH X 10-INCH
2 - WATER BEND, 8-INCH
22 LF - WATER MAIN, 10-INCH W/ POLYWRAP
80 SF - RIGID INSULATION, 2-INCH

EXISTING DRY-STACKED RIVER WALL (TO REMAIN)

END PROJECT
STA. 11+35
Y = 721,393.05
X = 901,310.88

N

870 868 866 864 862 860 858 856 854

160 LF - WATER MAIN, 10-INCH PRE-INSULATED & SUPPORT STRUCTURE SEE DETAIL, NEXT SHEET

EXISTING TOP OF DECK C/L

PROPOSED TOP OF DECK C/L

1.2

STORM SEWER INLET

PROPOSED 18" CASING O.D.

PROPOSED WATER MAIN TOP

PROPOSED GIRDER BOTTOM

EXISTING WATER MAIN TOP

HIGH WATER 100 ELEV. 861.07±

PROPOSED PIERS

OBSERVED HIGH WATER ELEV. 856.79± (05-01-13)

12" STORM SEWER – TO BE REMOVED

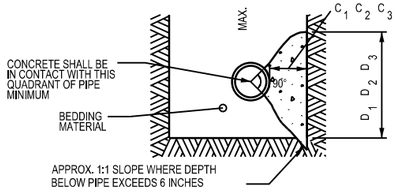
NOTES:

1. WATER PRESSURE SHALL BE MAINTAINED ON THE EAST SIDE OF THE VALVE AT STA 10+77 AT ALL TIMES. CONTRACTOR SHALL TAKE ALL NECESSARY MEASURES TO RESTRAIN THIS VALVE DURING CONNECTION.

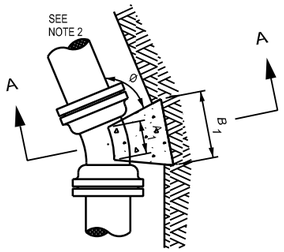
2. ALL BURIED DUCTILE IRON PIPE SHALL BE WRAPPED IN POLYWRAP. BURIED PIPE JOINTS EAST OF THE BRIDGE SHALL HAVE NITRILE GASKETS.

3. RIGID INSULATION SHALL BE INSTALLED WHEREVER COVER OVER THE PIPE IS LESS THAN 6.0'. INSTALL INSULATION WITH SIDE PROTECTION, PER THE DETAIL WHEN THE COVER IS LESS THAN 5.0'.

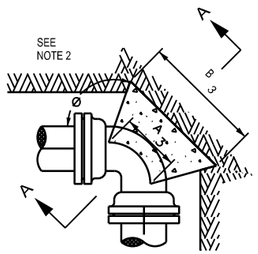
PROJECT NO: 3888-00-70	HWY: LOCAL STREET	COUNTY: DODGE	WATERMAIN PLAN & PROFILE	SHEET 12 E



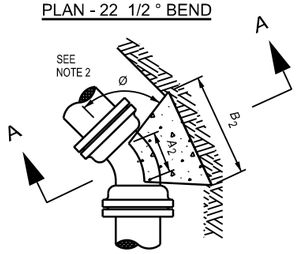
SECTION A-A



PLAN - 22 1/2 ° BEND



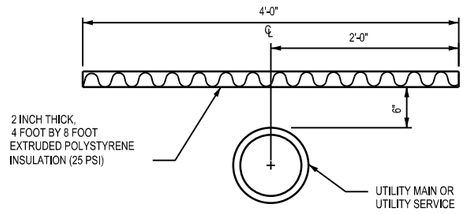
PLAN - 90° BEND



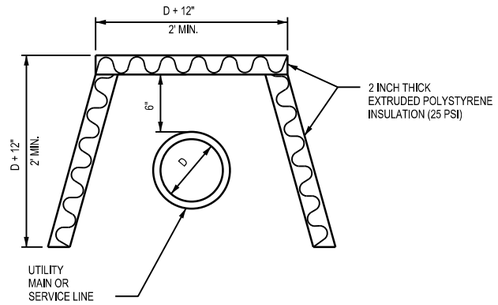
PLAN - 45° BEND

BUTTRESS DIMENSIONS						
PIPE SIZE	22 1/2 ° BENDS		45° BENDS		90° BENDS	
	B_1	D_1	B_2	D_2	B_3	D_3
6"	1'-0"	1'-0"	1'-0"	1'-0"	1'-4"	1'-2"
8"	1'-0"	1'-0"	1'-4"	1'-2"	1'-10"	1'-6"
10"	1'-2"	1'-2"	1'-7"	1'-7"	2'-3"	1'-10"
12"	1'-4"	1'-4"	1'-10"	1'-10"	2'-8"	2'-3"
16"	1'-10"	1'-8"	2'-6"	2'-4"	3'-10"	2'-10"
20"	2'-4"	2'-0"	3'-3"	2'-10"	5'-0"	3'-4"
24"	2'-10"	2'-4"	4'-0"	3'-3"	6'-4"	3'-10"

BUTTRESS FOR BENDS DETAIL
SCALE: NONE



STANDARD INSTALLATION

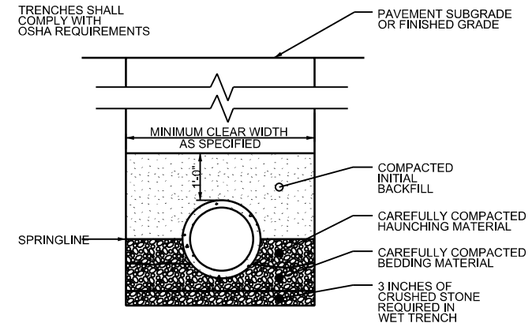


SIDE PROTECTION INSTALLATION

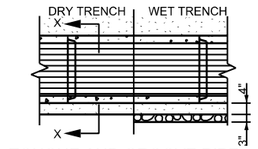
GENERAL NOTES:

1. THE SIDE PROTECTION INSTALLATION SHALL BE USED WHERE FROST WILL PENETRATE BELOW THE PIPE INVERT, OR WHEN COVER IS < 5.0' FROM TOP OF PAVEMENT TO TOP OF WATERMAIN.

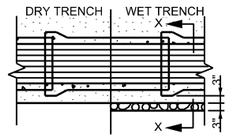
PIPE INSULATION DETAIL
SCALE: NONE



SECTION X-X



TONGUE AND GROOVE PIPE



BELL AND SPIGOT PIPE

GENERAL NOTES:

1. BEDDING AND HAUNCHING MATERIAL SHALL BE WELL-GRADED 3/4 TO 1/4 INCH CRUSHED STONE OR OTHER NONE COHESIVE MATERIAL NOT SUBJECT TO MIGRATION AND FREE OF DEBRIS, ORGANIC MATERIAL, AND LARGE STONES.
2. BEDDING MATERIAL TO BE PLACED BEFORE SETTING PIPE, 4 INCH MINIMUM UNDER BARREL WITH 3 INCH MINIMUM UNDER BELL.
3. INITIAL BACKFILL SHALL BE DENSELY COMPACTED, NON-COHESIVE FINELY DIVIDED MATERIAL FREE OF DEBRIS, ORGANIC MATERIAL, AND LARGE STONES.
4. IN ROCK OR OTHER INCOMPRESSABLE MATERIALS, THE TRENCH SHALL BE OVEREXCAVATED A MINIMUM OF 6-INCHES AND REFILLED WITH GRANULAR MATERIAL.

CLASS "B" EMBEDMENT FOR RIGID PIPE DETAIL
SCALE: NONE

NOTES:

1. JOINT - THE JOINT BETWEEN TWO STICKS OF DUCTILE IRON PIPE. FOR THE PRE-INSULATED PIPE THESE SHALL BE GRIFFEN MECH-LOK, OR EQUAL.

2. HANGER - TWO-ROD HANGERS FOR VERTICAL SUPPORT, SEE DETAIL ON NEXT SHEET.

3. ABUTMENT SEAL - SEE DETAIL ON NEXT SHEET

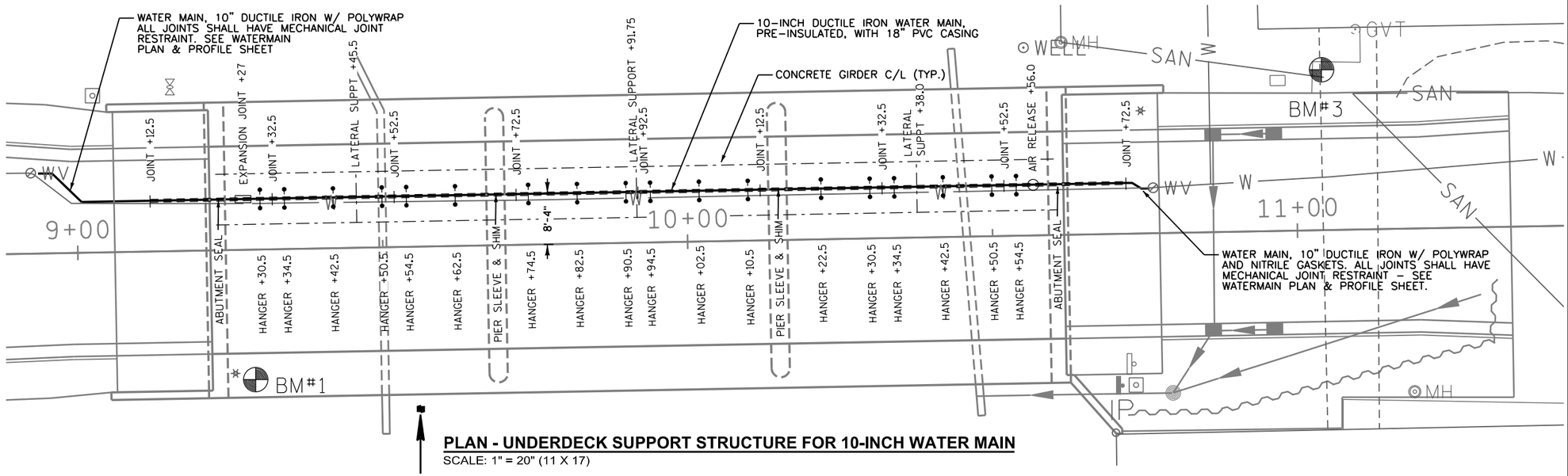
4. LATERAL BRACE - SEE DETAIL ON NEXT SHEET

5. PIER SLEEVE - CAST INTO THE PIER, A SLEEVE WITH AN 20.0" MAXIMUM INNER DIAMETER. INSTALL HDPE SHIMS TO PREVENT MOVEMENT OF THE PRE-INSULATED PIPE RELATIVE TO THE PIER SLEEVES.

6. EXPANSION JOINT - EXPANSION/CONTRACTION COUPLING RESTRAINED ON BOTH SIDES.

7. AIR RELEASE - INSTALL 3/4" CORPORATION STOP ON THE TOP OF THE DUCTILE IRON PIPE. CORP. SHALL BE ACCESSIBLE THROUGH A REMOVABLE CAP WITH SELF TAPPING SCREWS. CORP. SHALL HAVE A MINIMUM OF 3" OF INSULATION SURROUNDING IT IN A "TOP HAT" CONFIGURATION. SEE DETAIL ON NEXT SHEET.

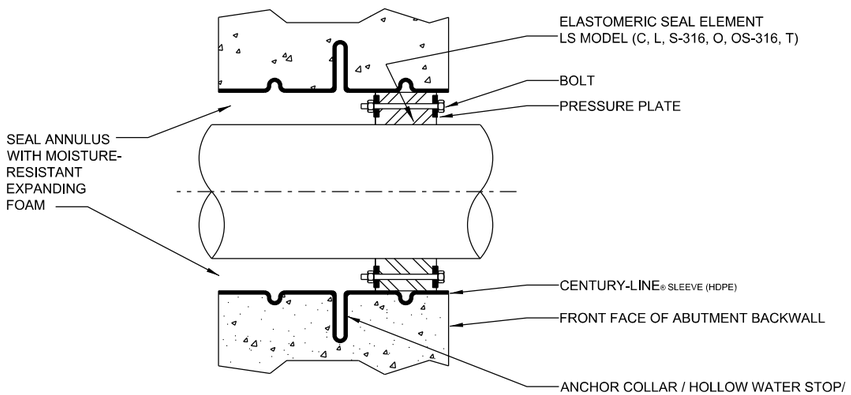
8. PRE-INSULATED PIPE SHALL BE PARALELL TO THE TOP OF BRIDGE DECK.



PLAN - UNDERDECK SUPPORT STRUCTURE FOR 10-INCH WATER MAIN
SCALE: 1" = 20" (11 X 17)

PROJECT NO: 3888-00-70	HWY: LOCAL STREET	COUNTY: DODGE	WATERMAIN DETAILS	SHEET 13	E

LINK-SEAL® MODULAR SEALS WITH CENTURY-LINE® SLEEVES
MANUFACTURED BY PIPELINE SEAL & INSULATOR, INC.
HOUSTON, TEXAS, U.S.A. TEL: 800-423-2410 E-MAIL: INFO@PSIPSI.COM



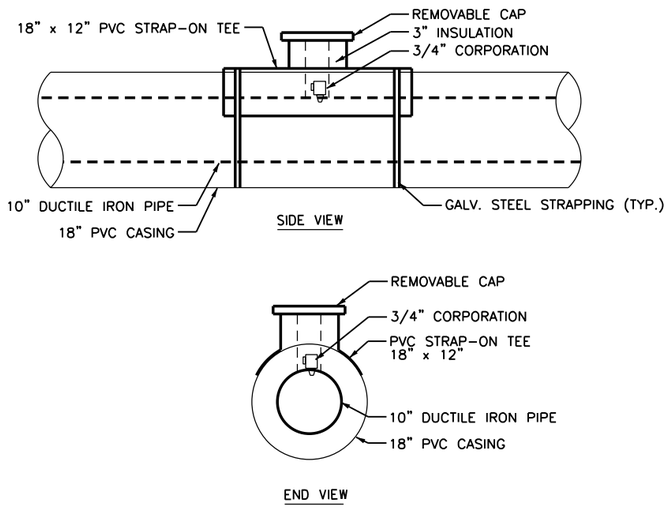
LS Model	Seal Element	Bolts/Nuts	Pressure Plate
C	EPDM (Black)	Zinc Dichromate/Organic Coated Carbon Steel Bolt	Reinforced Nylon Polymer
L	EPDM (Blue)	Zinc Dichromate/Organic Coated Carbon Steel Bolt	Reinforced Nylon Polymer
→ O	Nitrile	Zinc Dichromate/Organic Coated Carbon Steel Bolt	Reinforced Nylon Polymer
T	Silicone	Zinc Dichromate/Organic Coated Carbon Steel Bolt	Steel Zinc Dichromate
→ (C,L,O)+S-316	(see model options)	316 Stainless Steel	Reinforced Nylon Polymer

Sleeve Model	Description	Material
→ CS	Century-Line Sleeve	HDPE
WS	Steel Wall Sleeve	Steel

For more Material Property Information, see literature at www.linkseal.com

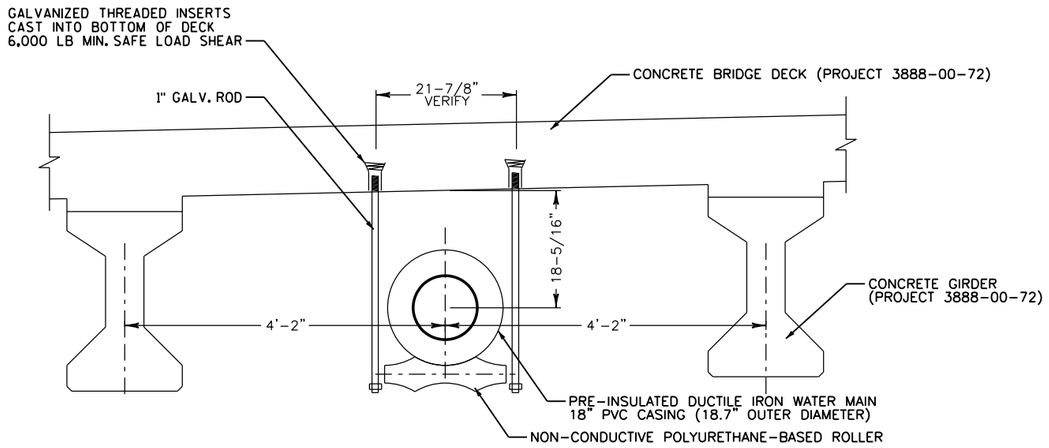
WATERMAIN SEAL AT ABUTMENT DETAIL

SCALE: NONE



AIR RELEASE VALVE DETAIL

SCALE: NONE



NOTES:

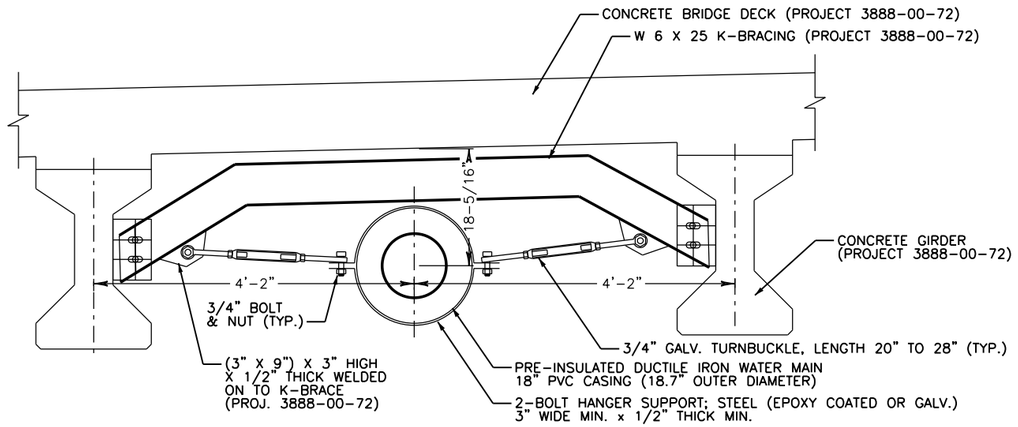
1. ALL MATERIALS SHALL BE GALVANIZED STEEL UNLESS OTHERWISE NOTED.
2. 18 ASSEMBLIES REQUIRED. SEE DETAIL ON PREVIOUS SHEET FOR LOCATIONS.

WATER MAIN HANGER SUPPORT DETAIL

LOOKING EAST
SCALE: 1" = 2'

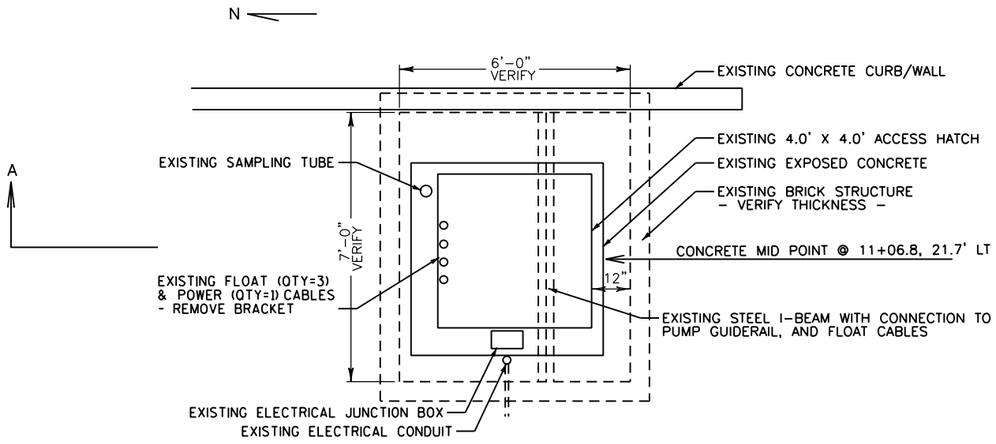
NOTES:

1. ALL MATERIALS SHALL BE GALVANIZED STEEL UNLESS OTHERWISE NOTED.
2. 3 ASSEMBLIES REQUIRED. SEE DETAIL ON PREVIOUS SHEET FOR LOCATIONS.

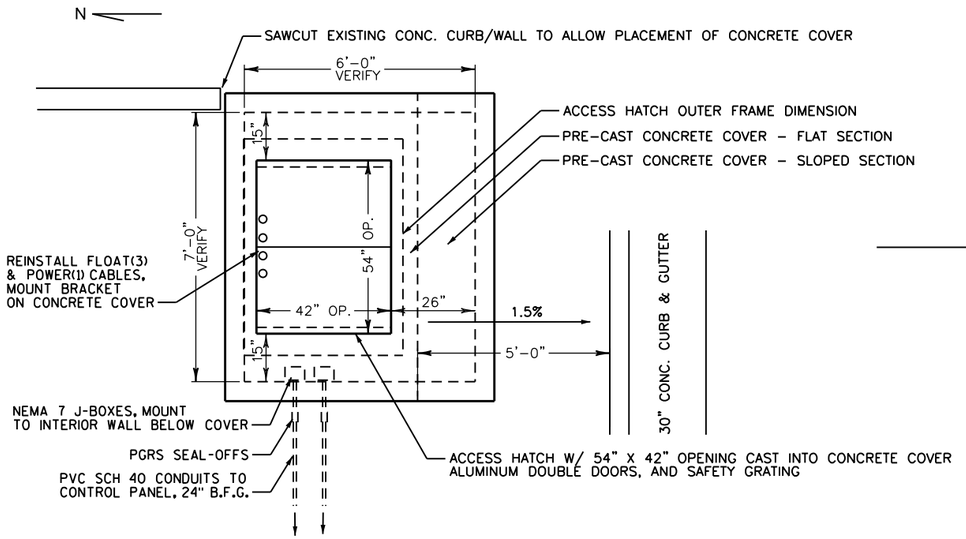


WATER MAIN LATERAL SUPPORT DETAIL

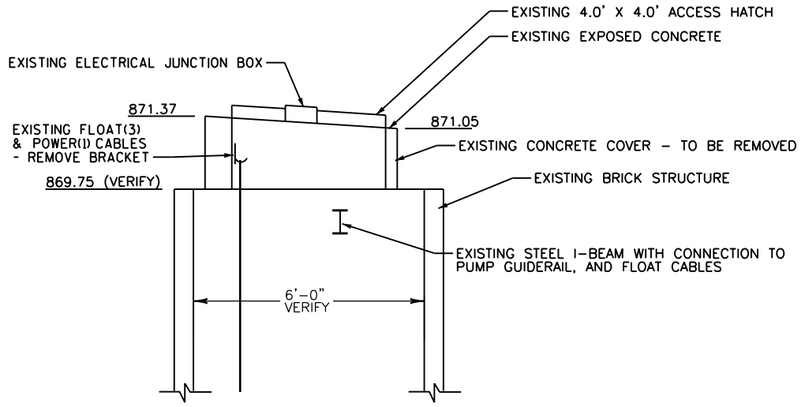
LOOKING EAST
SCALE: 1" = 2'



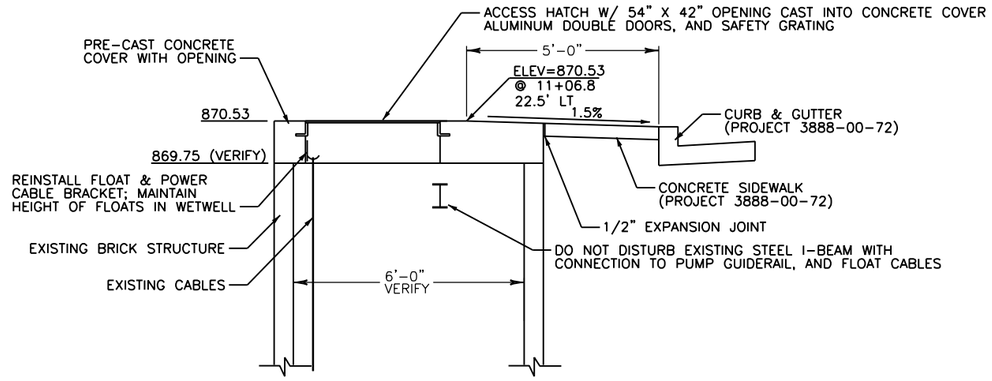
EXISTING PLAN VIEW



PROPOSED PLAN VIEW



EXISTING SECTION VIEW A-A
LOOKING EAST



PROPOSED SECTION VIEW A-A
LOOKING EAST

NOTES:

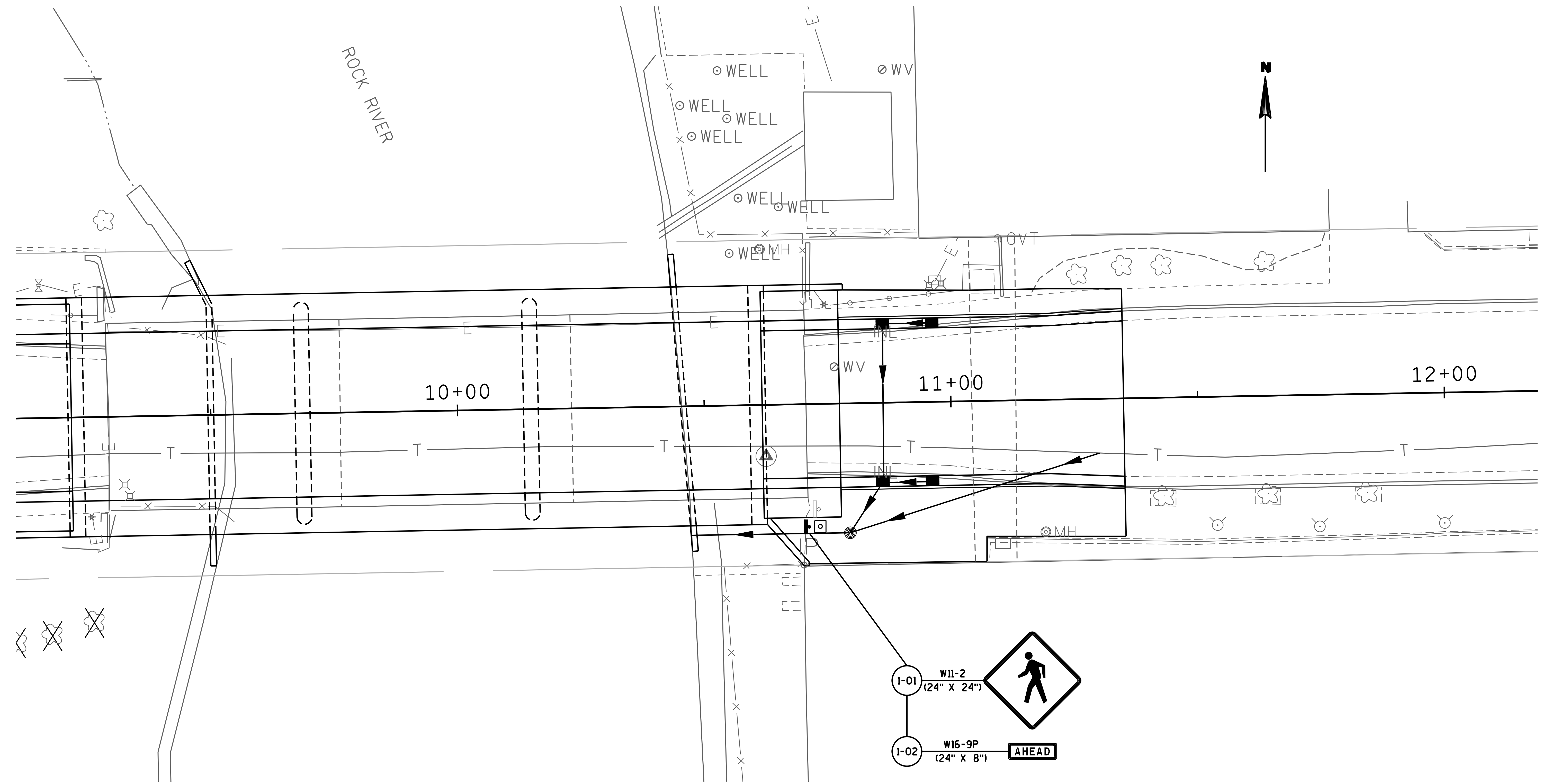
1. REMOVE THE EXISTING LIFT STATION COVER BY REMOVING THE UPPER CONCRETE SECTION. CONTRACTOR TO VERIFY ELEVATION. REPLACE WITH A NEW CONCRETE COVER. DOUBLE DOOR ALLUMINUM COVER SHALL BE CAST INTO CONCRETE COVER, WITH SAFETY GRATING.

2. CONTRACTOR TO MINIMIZE DOWN-TIME TO THE LIFT STATION. COORDINATE TIME AND DURATION OF SHUTDOWN WITH JOHN DEERE AND THE OWNER.

REMOVE AND REPLACE LIFT STATION COVER DETAIL

SCALE: 1" = 2'

PROJECT NO: 3888-00-70	HWY: LOCAL STREET	COUNTY: DODGE	LIFT STATION COVER DETAILS	SHEET 15	E

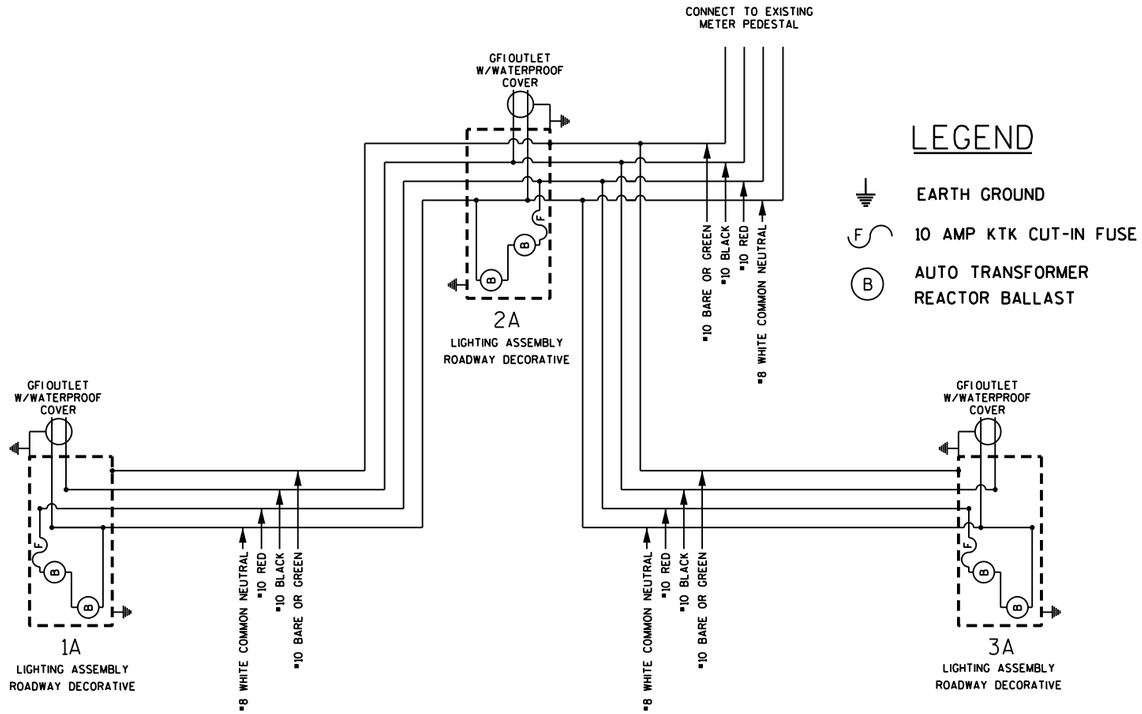


PROJECT NO:3888-00-72	HWY:LOCAL STREET	COUNTY:DODGE	PERMANENT SIGNING PLAN	SHEET 16	E

FILE NAME : P:\50s\59\00059023\caddWDOT\Planshts\59023_Sign.dgn PLOT DATE : 1/24/2014 PLOT BY : bhalley PLOT NAME : PLOT SCALE : 1:20

WISDOT/CADDS SHEET 42

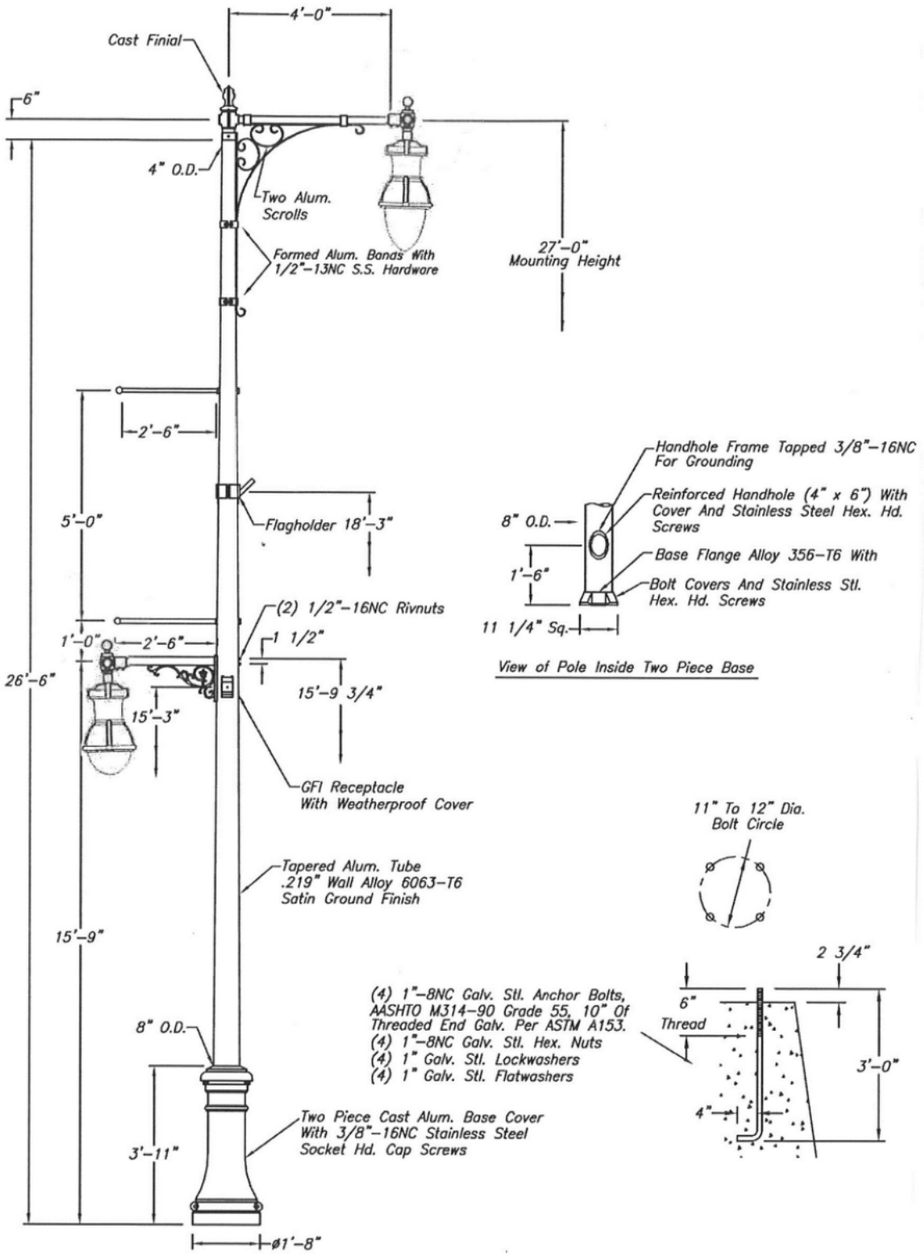
59023_Sign.dgn 1/24/2014 11:55:24 AM bhalley



LEGEND

- EARTH GROUND
- F — 10 AMP KTK CUT-IN FUSE
- B — AUTO TRANSFORMER REACTOR BALLAST

STREET LIGHTING EQUIPMENT ONE LINE ELECTRICAL DIAGRAM



LIGHTING ASSEMBLY ROADWAY DECORATIVE

2

N

ROCK RIVER TAP BLDG.

LOWER DRIVEWAY

LAKE STREET

8+00

9+00

10+00

11+00

12 L.F. CONDUIT RIGID NONMETALIC SCHEDULE 40 2-INCH

STA. 9+01.00, 26.00' LT.
CONNECT TO RELOCATED METER PEDESTAL (PEDESTAL BY OTHERS)

STA. 9+03.0, 25.5' LT.
LIGHTING ASSEMBLY ROADWAY DECORATIVE (2A) AND CONCRETE BASE TYPE 5 MODIFIED

145 L.F. CONDUIT RIGID NONMETALIC SCHEDULE 40 2-INCH

55 L.F. CONDUIT RIGID NONMETALIC SCHEDULE 40 2-INCH

STA. 8+18.5, 28.5' RT.
LIGHTING ASSEMBLY ROADWAY DECORATIVE (1A) AND CONCRETE BASE TYPE 5 MODIFIED

STA. 9+25.5, 20.0' RT.
REMOVE CONCRETE BASE, REMOVE & SALVAGE EX. LIGHTING ASSEMBLY

SEE BRIDGE B-14-0211 PLANS
FOR CONDUIT IN PARAPET

STA. 10+74.5, 20.0' LT.
REMOVE CONCRETE BASE, REMOVE & SALVAGE EX. LIGHTING ASSEMBLY

STA. 10+73.0, 25.0' RT.
LIGHTING ASSEMBLY ROADWAY DECORATIVE (3A) AND CONCRETE BASE TYPE 5 MODIFIED

15 L.F. CONDUIT RIGID NONMETALIC SCHEDULE 40 2-INCH

J. D. BLDG G4

JOHN DEERE BLDG

PARK SIDEWALK

WELL

WV

MH

INL

FO

T

E

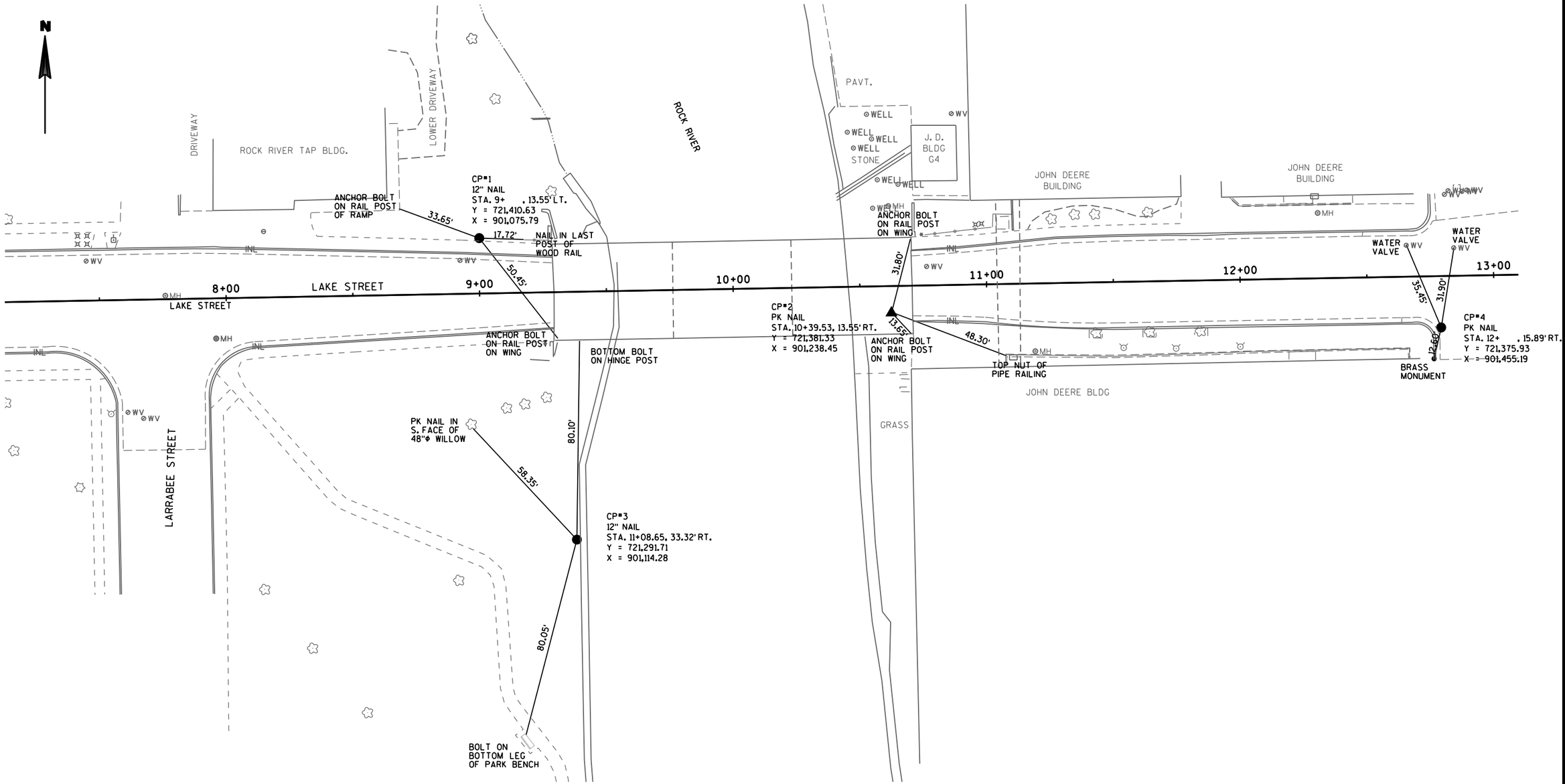
G

PROJECT NO: 3888-00-72	HWY: LOCAL STREET	COUNTY: DODGE	LIGHTING PLAN	SHEET 18	E

FILE NAME : P:\50s\59\00059023\caddWDOT\Planshts\590230LP_01.dgn PLOT DATE : 1/24/2014 PLOT BY : bhalley PLOT NAME : PLOT SCALE : 1:20

WISDOT/CADDS SHEET 42

590230LP_01.dgn 1/24/2014 12:20:14 PM bhalley



PROJECT TIES

ALL DISTANCES ARE SLOPE DISTANCES.

PROJECT NO: 3888-00-72	HWY: LOCAL STREET	COUNTY: DODGE	PROJECT CONTROL POINTS, TIES AND COORDINATES	SHEET 19	E

FILE NAME : P:\50s\59\00059023\caddWDOT\Planshts\590230_CP.dgn PLOT DATE : 1/24/2014 PLOT BY : bhalley PLOT NAME : PLOT SCALE : 1:40

WISDOT/CADDS SHEET 42

590230_CP.dgn 1/24/2014 12:01:16 PM bhalley

DATE 24MAR14 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	3888-00-70 QUANTITY	3888-00-72 QUANTITY
0010	201.0105	CLEARING	STA	1.000		1.000
0020	201.0205	GRUBBING	STA	1.000		1.000
0030	203.0600.S	REMOVING OLD STRUCTURE OVER WATERWAY WITH MINIMAL DEBRIS (STATION) 01. STA. 10+00	LS	1.000		1.000
0040	204.0100	REMOVING PAVEMENT	SY	200.000		200.000
0050	204.0150	REMOVING CURB & GUTTER	LF	228.000		228.000
0060	204.0155	REMOVING CONCRETE SIDEWALK	SY	185.000		185.000
0070	204.0170	REMOVING FENCE	LF	115.000		115.000
0080	204.0185	REMOVING MASONRY	CY	45.000		45.000
0090	204.0195	REMOVING CONCRETE BASES	EACH	2.000		2.000
0100	204.0220	REMOVING INLETS	EACH	2.000		2.000
0110	204.0245	REMOVING STORM SEWER (SIZE) 01. 8-INCH	LF	70.000		70.000
0120	204.0245	REMOVING STORM SEWER (SIZE) 02. 12-INCH	LF	75.000		75.000
0130	204.0280	SEALING PIPES	EACH	2.000		2.000
0140	204.9090.S	REMOVING (ITEM DESCRIPTION) 01. ROCK WALL	LF	124.000		124.000
0150	205.0100	EXCAVATION COMMON **P**	CY	280.000		280.000
0160	205.0501.S	EXCAVATION, HAULING, AND DISPOSAL OF PETROLEUM CONTAMINATED SOIL	TON	240.000		240.000
0170	206.1000	EXCAVATION FOR STRUCTURES BRIDGES (STRUCTURE) 01. B-14-0211	LS	1.000		1.000
0180	206.1050.S	UNDERWATER FOUNDATION INSPECTION 01. B-14-0211	EACH	2.000		2.000
0190	206.6000.S	TEMPORARY SHORING	SF	1,000.000		1,000.000
0200	210.0100	BACKFILL STRUCTURE	CY	590.000		590.000
0210	213.0100	FINISHING ROADWAY (PROJECT) 01. 3888-00-72	EACH	1.000		1.000
0220	305.0120	BASE AGGREGATE DENSE 1 1/4-INCH	TON	390.000		390.000
0230	415.0410	CONCRETE PAVEMENT APPROACH SLAB	SY	106.000		106.000
0240	415.1150.S	CONCRETE PAVEMENT FAST TRACK (INCH) 01. 8-INCH	SY	525.000		525.000
0250	502.0100	CONCRETE MASONRY BRIDGES	CY	662.000		662.000
0260	502.3200	PROTECTIVE SURFACE TREATMENT	SY	980.000		980.000
0270	503.0128	PRESTRESSED GIRDER TYPE I 28-INCH	LF	828.000		828.000
0280	505.0405	BAR STEEL REINFORCEMENT HS BRIDGES	LB	15,380.000		15,380.000
0290	505.0605	BAR STEEL REINFORCEMENT HS COATED BRIDGES	LB	56,240.000		56,240.000
0300	506.2605	BEARING PADS ELASTOMERIC NON-LAMINATED	EACH	36.000		36.000
0310	506.4000	STEEL DIAPHRAGMS (STRUCTURE) 01. B-14-0211	EACH	12.000		12.000
0320	512.0500	PILING STEEL SHEET PERMANENT DELIVERED	SF	2,480.000		2,480.000
0330	512.0600	PILING STEEL SHEET PERMANENT DRIVEN	SF	2,480.000		2,480.000
0340	516.0500	RUBBERIZED MEMBRANE WATERPROOFING	SY	25.000		25.000
0350	517.1015.S	CONCRETE STAINING MULTI-COLOR (STRUCTURE) 01. B-14-0211	SF	2,710.000		2,710.000
0360	517.1050.S	ARCHITECTURAL SURFACE TREATMENT (STRUCTURE) 01. B-14-0211	SF	2,710.000		2,710.000
0370	550.0020	PRE-BORING ROCK OR CONSOLIDATED MATERIALS	LF	385.000		385.000
0380	550.1100	PILING STEEL HP 10-INCH X 42 LB	LF	1,750.000		1,750.000
0390	601.0409	CONCRETE CURB & GUTTER 30-INCH TYPE A	LF	300.000		300.000
0400	601.0600	CONCRETE CURB PEDESTRIAN	LF	35.000		35.000
0410	602.0410	CONCRETE SIDEWALK 5-INCH	SF	2,050.000		2,050.000
0420	602.0415	CONCRETE SIDEWALK 6-INCH	SF	500.000		500.000
0430	604.0400	SLOPE PAVING CONCRETE	SY	95.000		95.000

3

DATE 24MAR14 — 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	3888-00-70 QUANTITY	3888-00-72 QUANTITY
0440	606.0100	RIPRAP LIGHT	CY	65.000		65.000
0450	608.0312	STORM SEWER PIPE REINFORCED CONCRETE CLASS III 12-INCH	LF	53.000		53.000
0460	608.0315	STORM SEWER PIPE REINFORCED CONCRETE CLASS III 15-INCH	LF	31.000		31.000
0470	608.0412	STORM SEWER PIPE REINFORCED CONCRETE CLASS IV 12-INCH	LF	65.000		65.000
0480	611.0530	MANHOLE COVERS TYPE J	EACH	1.000		1.000
0490	611.0624	INLET COVERS TYPE H	EACH	4.000		4.000
0500	611.2004	MANHOLES 4-FT DIAMETER	EACH	1.000		1.000
0510	611.3230	INLETS 2X3-FT	EACH	4.000		4.000
0520	612.0406	PIPE UNDERDRAIN WRAPPED 6-INCH	LF	185.000		185.000
0530	616.0700.S	FENCE SAFETY	LF	175.000		175.000
0540	619.1000	MOBILIZATION	EACH	1.000	0.076	0.924
0550	625.0500	SALVAGED TOPSOIL	SY	500.000		500.000
0560	628.1504	SILT FENCE	LF	180.000		180.000
0570	628.1520	SILT FENCE MAINTENANCE	LF	360.000		360.000
0580	628.1905	MOBILIZATIONS EROSION CONTROL	EACH	2.000		2.000
0590	628.1910	MOBILIZATIONS EMERGENCY EROSION CONTROL	EACH	2.000		2.000
0600	628.6005	TURBIDITY BARRIERS	SY	650.000		650.000
0610	628.6505	SOIL STABILIZER TYPE A	ACRE	0.200		0.200
0620	628.7015	INLET PROTECTION TYPE C	EACH	6.000		6.000
0630	629.0205	FERTILIZER TYPE A	CWT	0.500		0.500
0640	630.0140	SEEDING MIXTURE NO. 40	LB	12.000		12.000
0650	632.0101	TREES (SPECIES, ROOT, SIZE) 01. FLOWERING CRAB MALUS ADAMS, B&B, 1 1 1/2-INCH CAL.	EACH	3.000		3.000
0660	632.0101	TREES (SPECIES, ROOT, SIZE) 02. NIOBE WEEPING WILLOW, B&B, 1 1 1/2-INCH CAL.	EACH	1.000		1.000
0670	632.9101	LANDSCAPE PLANTING SURVEILLANCE AND CARE CYCLES	EACH	10.000		10.000
0680	634.0612	POSTS WOOD 4X6-INCH X 12-FT	EACH	1.000		1.000
0690	637.2230	SIGNS TYPE II REFLECTIVE F	SF	6.000		6.000
0700	642.5001	FIELD OFFICE TYPE B	EACH	1.000		1.000
0710	643.0100	TRAFFIC CONTROL (PROJECT) 01. 3888-00-72	EACH	1.000		1.000
0720	645.0130	GEOTEXTILE FABRIC TYPE R	SY	240.000		240.000
0730	646.0106	PAVEMENT MARKING EPOXY 4-INCH	LF	700.000		700.000
0740	650.4000	CONSTRUCTION STAKING STORM SEWER	EACH	5.000		5.000
0750	650.4500	CONSTRUCTION STAKING SUBGRADE	LF	179.000		179.000
0760	650.6500	CONSTRUCTION STAKING STRUCTURE LAYOUT (STRUCTURE) 01. B-14-0211	LS	1.000		1.000
0770	650.7000	CONSTRUCTION STAKING CONCRETE PAVEMENT	LF	179.000		179.000
0780	650.9910	CONSTRUCTION STAKING SUPPLEMENTAL CONTROL (PROJECT) 01. 3888-00-72	LS	1.000		1.000
0790	650.9920	CONSTRUCTION STAKING SLOPE STAKES	LF	106.000		106.000
0800	652.0125	CONDUIT RIGID METALLIC 2-INCH	LF	40.000		40.000
0810	652.0225	CONDUIT RIGID NONMETALLIC SCHEDULE 40 2-INCH	LF	227.000		227.000
0820	652.0325	CONDUIT RIGID NONMETALLIC SCHEDULE 80 2-INCH	LF	660.000		660.000
0830	655.0610	ELECTRICAL WIRE LIGHTING 12 AWG	LF	408.000		408.000
0840	655.0615	ELECTRICAL WIRE LIGHTING 10 AWG	LF	1,266.000		1,266.000
0850	655.0620	ELECTRICAL WIRE LIGHTING 8 AWG	LF	422.000		422.000
0860	690.0150	SAWING ASPHALT	LF	34.000		34.000
0870	690.0250	SAWING CONCRETE	LF	124.000		124.000

3

DATE 24MAR14 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	3888-00-70 QUANTITY	3888-00-72 QUANTITY
0880	715.0415	INCENTIVE STRENGTH CONCRETE PAVEMENT	DOL	500.000		500.000
0890	715.0502	INCENTIVE STRENGTH CONCRETE STRUCTURES	DOL	3,972.000		3,972.000
0900	999.1000.S	SEISMOGRAPH	LS	1.000		1.000
0910	999.1500.S	CRACK AND DAMAGE SURVEY	LS	1.000		1.000
0920	ASP.1T0A	ON-THE-JOB TRAINING APPRENTICE AT $5.00/HR	HRS	525.000		525.000
0930	ASP.1T0G	ON-THE-JOB TRAINING GRADUATE AT $5.00/HR	HRS	400.000		400.000
0940	SPV.0060	SPECIAL 01. CONNECT TO EXISTING WATER MAIN	EACH	2.000	2.000	
0950	SPV.0060	SPECIAL 02. WATER BEND, 10-INCH	EACH	4.000	4.000	
0960	SPV.0060	SPECIAL 03. WATER REDUCER 10-INCH X 8-INCH	EACH	2.000	2.000	
0970	SPV.0060	SPECIAL 04. ADJUST WATER VALVE BOX	EACH	2.000	2.000	
0980	SPV.0060	SPECIAL 05. EXPANSION JOINT 10-INCH	EACH	1.000	1.000	
0990	SPV.0060	SPECIAL 06. AIR RELEASE VALVE	EACH	1.000	1.000	
1000	SPV.0060	SPECIAL 07. CONCRETE BASE TYPE 5, MODIFIED	EACH	3.000		3.000
1010	SPV.0060	SPECIAL 08. LIGHTING ASSEMBLY ROADWAY DECORATIVE	EACH	3.000		3.000
1020	SPV.0060	SPECIAL 09. REMOVE & SALVAGE EXISTING LIGHTING ASSEMPLY	EACH	2.000		2.000
1030	SPV.0060	SPECIAL 10. CONTAMINANT MIGRATION BARRIER	EACH	2.000		2.000
1040	SPV.0060	SPECIAL 11. INTERMEDIATE STEEL DIAPHRAGM SPECIAL	EACH	3.000		3.000
1050	SPV.0070	SPECIAL 01. GROUNDWATER TREATMENT AND DISPOSAL	GAL	10,000.000		10,000.000
1060	SPV.0090	SPECIAL 01. OIL ABSORBENT BOOM	LF	65.000		65.000
1070	SPV.0090	SPECIAL 02. WATER MAIN, 10-INCH DUCTILE IRON W/POLYWRAP	LF	28.000	28.000	
1080	SPV.0090	SPECIAL 03. WATER MAIN, 10-INCH DUCTILE IRON PRE-INSULATED W/18-INCH CASING	LF	160.000	160.000	
1090	SPV.0090	SPECIAL 04. RAILING PEDESTRIAN STEEL	LF	26.000		26.000
1100	SPV.0105	SPECIAL 01. REMOVE EXISTING UNDERDECK 8-INCH WATER MAIN & SUPPORT STRUCTURE	LS	1.000	1.000	
1110	SPV.0105	SPECIAL 02. UNDERDECK SUPPORT STRUCTURE FOR 10-INCH WATER MAIN	LS	1.000	1.000	
1120	SPV.0105	SPECIAL 03. REMOVE AND REPLACE LIFT STATION COVER	LS	1.000	1.000	
1130	SPV.0105	SPECIAL 04. RAILING STEEL TYPE C3 GALVANIZED B-14-0211	LS	1.000		1.000
1140	SPV.0105	SPECIAL 05. CONCRETE PAVEMENT JOINT LAYOUT	LS	1.000		1.000
1150	SPV.0105	SPECIAL 06. REMOVING LIGHTING CONDUIT & WIRE	LS	1.000		1.000
1160	SPV.0105	SPECIAL 07. CONNECT TO EXISTING METER PEDESTAL	LS	1.000		1.000
1170	SPV.0165	SPECIAL 01. RIGID INSULATION, 2-INCH	SF	128.000	128.000	
1180	SPV.0180	SPECIAL 01. LANDSCAPE MULCH	SY	35.000		35.000

3

3

201.0105 CLEARING
201.0205 GRUBBING

STATION	-	STATION	LOCATION	CLEARING STA	GRUBBING STA
8+50	-	9+50	RT	1	1
3888-00-72 TOTALS:				1	1
PROJECT TOTALS:				1	1

204.0100 REMOVING PAVEMENT

STATION	-	STATION	LOCATION	SY
10+71	-	11+35	EAST APPROACH ONLY	200
3888-00-72 TOTAL:				200
PROJECT TOTAL:				200

204.0150 REMOVING CURB AND GUTTER

STATION	-	STATION	LOCATION	LF
8+15	-	9+29	LT & RT	228
3888-00-72 TOTAL:				228
PROJECT TOTAL:				228

204.0155 REMOVING CONCRETE SIDEWALK

STATION	-	STATION	LOCATION	SY
8+35	-	9+29	LT	67
8+15	-	9+29	RT	53
10+71	-	11+35	LT	31
10+71	-	11+35	RT*	34
3888-00-72 TOTAL:				185
PROJECT TOTAL:				185

* BASED ON A 6 FOOT WIDE SECTION. THE REMAINING PORTION OF SIDEWALK AND VAULT TOP SLAB IS INCLUDED IN BID ITEM REMOVING MASONRY

204.0170 REMOVING FENCE

STATION	-	STATION	LOCATION	TYPE	LF
9+18	-	9+27	LT	WOOD RAIL	9
9+30	-	9+55	RT & LT	CHAIN LINK	45
10+71	-	10+71	LT	CHAIN LINK	15
10+76	-	11+00	LT	WOOD RAIL	26
11+02	-	11+11	LT	HAND RAIL	20
3888-00-72 TOTAL:					115
PROJECT TOTAL:					115

204.0185 REMOVING MASONRY

STATION	-	STATION	LOCATION	C.Y.
10+71	-	11+07	RT	45
3888-00-72 TOTAL:				45
PROJECT TOTAL:				45

NOTE: INCLUDES REMOVAL OF EXISTING WALLS AND CEILING OF (CURRENTLY FILLED) UNDERGROUND VAULT FOR STORM SEWER INSTALLATIONS. EXISTING WALL THICKNESS WAS ASSUMED 18 INCHES THICK.

REMOVING LIGHTING SYSTEM

STATION	LOCATION	LOCATION	(204.0195) REMOVING CONCRETE BASES EACH	(SPV.0060.09) REMOVE & SALVAGE EXISTING LIGHTING ASSEMBLY EACH	(SPV.0105.06) REMOVING LIGHTING CONDUIT & WIRE LS
9+25.5	20'	RT	1	1	-
10+74.5	20'	LT	1	1	-
3888-00-72 TOTALS:			2	2	1
PROJECT TOTALS:			2	2	1

204.0220 REMOVING INLETS
204.0245.01 REMOVING STORM SEWER 8-INCH
204.0245.02 REMOVING STORM SEWER 12-INCH
204.0280 SEALING PIPES

				STORM SEWER			
STATION	-	STATION	LOCATION	INLETS EACH	8-INCH LF	12-INCH LF	SEALING PIPES EACH
10+44	-	10+79	LT	--	70	--	--
10+45	-	10+90		--	--	75	--
10+79			20' LT	--	--	--	1
10+79			25' LT	--	--	--	1
10+86	-	10+86	15' RT	1	--	--	--
10+86	-	10+86	15' LT	1	--	--	--
3888-00-72 TOTALS:				2	70	75	2
PROJECT TOTALS:				2	70	75	2

205.0100 EXCAVATION COMMON

STATION	-	STATION	EX. COMMON C.Y.	FILL C.Y. (1)	EXP. FILL C.Y. (1,2)	WASTE C.Y. (1)
8+15	-	11+35	280	119	155	125
3888-00-72 TOTALS:			280	119	155	125
PROJECT TOTALS:			280	119	155	125

(1) - NOT A BID ITEM - FOR INFORMATIONAL PURPOSES ONLY.
(2) - FILL EXPANSION FACTOR 1.30

205.0501.S EXCAVATION, HAULING, AND DISPOSAL OF PETROLEUM CONTAMINATED SOIL
SPV.0070.01 GROUNDWATER TREATMENT AND DISPOSAL

STATION	LOCATION	SOIL TON	TREATMENT GAL
UNDISTRIBUTED	EAST APPROACH	240	10,000
3888-00-72 TOTALS:		240	10,000
PROJECT TOTALS:		240	10,000

NOTE: IF REQ'D.

206.6000.S TEMPORARY SHORING

STATION	-	STATION	LOCATION	TEMPORARY SHORING SF
10+72	-	11+33	RT	1000
3888-00-72 TOTAL:				1000
PROJECT TOTAL:				1000

NOTE: FOR STORM SEWER CONSTRUCTION, AS REQUIRED.

305.0120 BASE AGGREGATE DENSE 1 1/4-INCH

STATION	-	STATION	LOCATION	TON
8+15	-	9+21	LT & RT	225
10+62	-	11+35	LT & RT	165
3888-00-72 TOTAL:				390
PROJECT TOTAL:				390

415.1150.S CONCRETE PAVEMENT FAST TRACK, 8-INCH
415.0410 CONCRETE PAVEMENT APPROACH SLAB
650.7000 CONSTRUCTION STAKING CONCRETE PAVEMENT

STATION	-	STATION	CONCRETE PAVEMENT, FAST TRACK 8-INCH SY	CONCRETE PAVEMENT APPROACH SLAB SY	STAKING LF
8+15	-	9+06	330	--	91
10+77	-	11+35	195	--	58
9+06	-	9+21	--	53	15
10+62		10+77	--	53	15
3888-00-72 TOTALS:			525	106	179
PROJECT TOTALS:			525	106	179

601.0409 CONCRETE CURB AND GUTTER 30-INCH TYPE A
601.0600 CONCRETE CURB PEDESTRIAN

STATION	-	STATION	CURB LF	PEDESTRIAN CURB LF
8+15	-	9+06	180	---
10+77	-	11+35	120	---
10+71	-	11+06	---	35
3888-00-72 TOTALS:			300	35
PROJECT TOTALS:			300	35

602.0410 CONCRETE SIDEWALK 5-INCH
602.0415 CONCRETE SIDEWALK 6-INCH

STATION	-	STATION	5-INCH SF	6-INCH SF
8+15	-	9+06	980	--
10+77	-	11+35	1070	--
9+06	-	9+21	--	250
10+62	-	10+77	--	250
3888-00-72 TOTALS:			2050	500
PROJECT TOTALS:			2050	500

ALL ITEMS SHOWN ON THIS SHEET ARE INCLUDED IN CATEGORY 0010

608.0312 STORM SEWER PIPE REINFORCED CONCRETE CLASS III 12-INCH
608.0315 STORM SEWER PIPE REINFORCED CONCRETE CLASS III 15-INCH
608.0412 STORM SEWER PIPE REINFORCED CONCRETE CLASS IV 12-INCH
SPV.0060.10 CONTAMINANT MIGRATION BARRIER

STRUCTURE	-	STRUCTURE	CLASS III 12-INCH LF (2)	CLASS III 15-INCH LF	CLASS IV 12-INCH LF	BARRIER EACH	JOINT TIES EACH (1)
1.1	-	1.2	--	--	10	--	--
1.2	-	1.4	--	--	33	--	--
1.3	-	1.4	--	--	10	--	--
1.4	-	1.5	--	--	12	--	--
1.5	-	1.6	--	31	--	1	6
1.5	-	1.7	53	--	--	1	--
3888-00-72 TOTALS:			53	31	65	2	6
PROJECT TOTALS:			53	31	65	2	6

(1) - FOR INFORMATION ONLY - NOT A BID ITEM.
(2) - INCLUDES PLUG AT LOCATION 1.7.

628.6005 TURBIDITY BARRIER

LOCATION	SY
WEST BANK	75
WEST PIERS	240
EAST PIERS	255
EAST BANK	80
3888-00-72 TOTAL:	650
PROJECT TOTAL:	650

645.0130 GEOTEXTILE FABRIC TYPE R

STATION	-	STATION	LOCATION	SY
10+78	-	11+04	LT	32
UNDISTRIBUTED				3
3888-00-72 TOTAL:				35
PROJECT TOTAL:				35

NOTE: ADDITIONAL QUANTITIES LISTED ON BRIDGE B-14-0211 PLAN

611.0530 MANHOLE COVERS TYPE J
611.0624 INLET COVERS TYPE H
611.2004 MANHOLES 4-FT DIAMETER
611.3230 INLETS 2x3-FT
650.4000 CONSTRUCTION STAKING STORM SEWER

STRUCTURE	STATION	LOCATION	FLANGE/ RIM ELEV	TOS ELEV	INVERT ELEV	DEPTH FT (1)	MANHOLE COVER TYPE J EACH	INLET COVER TYPE H EACH	MANHOLE 4-FT DIA EACH	INLET 2x3 EACH	STAKING STORM SEWER EACH
1.1	10+96	16.5' LT	869.94	868.90	867.76	2.64	--	1	--	1	1
1.2	10+86	16.5' LT	869.83	868.79	867.66	2.63	--	1	--	1	1
1.3	10+96	16.5' RT	869.94	868.90	867.10	3.30	--	1	--	1	1
1.4	10+86	16.5' RT	869.83	868.79	866.51	3.78	--	1	--	1	1
1.5	10+79.1	26.5' RT	870.30	869.05	856.67	12.38	1	--	1	--	1
3888-00-72 TOTALS:							1	4	1	4	5
PROJECT TOTALS:							1	4	1	4	5

(1) - DEPTH INCLUDES 1.5' SUMP IN INLETS ONLY.

628.7015 INLET PROTECTION TYPE C

STRUCTURE	STATION	LOCATION	TYPE C EACH
EXISTING	8+12	LT & RT	2
1.2 & 1.4	10+86	LT & RT	2
1.1 &1.3	10+96	LT & RT	2
3888-00-72 TOTAL:			6
PROJECT TOTAL:			6

646.0106 PAVEMENT MARKING EPOXY 4-INCH

STATION	-	STATION	DESCRIPTION	LF
8+00	-	11+50	DOUBLE YELLOW C/L	700
3888-00-72 TOTAL:				700
PROJECT TOTAL:				700

616.0700.S SAFETY FENCE

STATION	-	STATION	LOCATION	SAFETY FENCE LF
8+12	-	8+35	LT	30
8+12	-	9+40	RT	145
3888-00-72 TOTAL:				175
PROJECT TOTAL:				175

632.0101.01 FLOWERING CRAB MALUS ADAMS, B&B, 1 1/2-INCH CAL.
632.0101.02 NIOBE WEEPING WILLOW, B&B, 1 1/2-INCH CAL.
632.9101 LANDSCAPE PLANTING SURVEILLANCE AND CARE CYCLES

LOCATION	632.0101.01 FLOWERING CRAB EACH	632.0201.01 WEEPING WILLOW EACH	632.9101 CARE CYCLES EACH
PROJECT 3888-00-72	3	1	10
3888-00-72 TOTALS:	3	1	10
PROJECT TOTALS:	3	1	10

625.0500 SALVAGED TOPSOIL
628.6505 SOIL STABILIZER TYPE A
629.0205 FERTILIZER TYPE A
630.0140 SEEDING MIXTURE NO. 40
SPV.0180.01 LANDSCAPE MULCH

STATION	-	STATION	TOPSOIL SY	STABILIZER ACRE	FERTILIZER CWT	SEEDING #40 LB	LANDSCAPE MULCH SY
8+15	-	9+40	420	0.15	0.4	10	--
10+45	-	11+35	25	0.03	0.05	1	--
10+78	-	11+04	--	--	--	--	32
UNDISTRIBUTED			55	0.02	0.05	1	3
3888-00-72 TOTALS:			500	0.2	0.5	12	35
PROJECT TOTALS:			500	0.2	0.5	12	35

634.0612 POSTS WOOD 4x6-INCH x 12-FT
637.2230 SIGNS TYPE II REFLECTIVE F

STATION	LOCATION	SIGN CODE	SIGNS REFECTIVE SF	WOOD POSTS EACH	COMMENTS
10+71	25' RT	W11-2	4.0	1	
10+71	25' RT	W16-9P	2.0	---	SAME POST AS SIGN W11-2
3888-00-72 TOTALS:			6.0	1	
PROJECT TOTALS:			6.0	1	

650.4500 CONSTRUCTION STAKING SUBGRADE
650.9920 CONSTRUCTION STAKING SLOPE STAKES

STATION	-	STATION	SUBGRADE LF	SLOPE STAKES LF
8+15	-	9+21	106	106
10+62	-	11+35	73	--
3888-00-72 TOTALS:			179	106
PROJECT TOTALS:			179	106

628.1504 SILT FENCE
628.1520 SILT FENCE MAINTENANCE

STATION	-	STATION	LOCATION	FENCE LF	MAINT. LF
8+70	-	9+48	RT	90	180
9+15	-	9+42	LT	30	60
10+45	-	10+62	LT	20	40
10+47	-	10+70	RT	25	50
UNDISTRIBUTED				15	30
3888-00-72 TOTALS:				180	360
PROJECT TOTALS:				180	360

ALL ITEMS SHOWN ON THIS SHEET ARE INCLUDED IN CATEGORY 0010

3

LIGHTING CONDUIT & WIRE

STATION	TO STATION	(652.0225) CONDUIT RIGID NONMETALIC SCHEDULE 40 2-INCH LF	(655.0610) ELECTRICAL WIRE LIGHTING 12 AWG LF	(655.0615) ELECTRICAL WIRE LIGHTING 10 AWG LF	(655.0620) ELECTRICAL WIRE LIGHTING 8 AWG LF	(SPV.0105.07) CONNECT TO EXISTING METER PEDESTAL LS
CONNECT TO EX. PEDESTAL		-	-	-	-	1
9+01	9+03	12	-	66	22	-
POLE 2A		-	136	-	-	-
9+03.00	10+73	70	-	735	245	-
POLE 3A		-	136	-	-	-
POLE 1A		-	-	-	-	-
8+18.5	9+03	145	-	465	155	-
POLE 2A		-	136	-	-	-
3888-00-72 TOTALS:		227	408	1,266	422	1
PROJECT TOTALS:		227	408	1,266	422	1

SPV.0090.01 OIL ABSORBENT BOOM

STATION	BOOM LF
10+44	65
3888-00-72 TOTAL:	65
PROJECT TOTAL:	65

SPV.0090.04 RAILING PEDESTRIAN STEEL

STATION	-	STATION	LOCATION	LF
10+79	-	11+00	LT	26
3888-00-72 TOTAL:				26
PROJECT TOTAL:				26

690.0150 SAWING ASPHALT
690.0250 SAWING CONCRETE

LOCATION	LOCATION	ASPHALT LF	CONCRETE LF
8+15		34	4
8+35	LT	--	6
10+71 - 11+35	RT	--	69
11+35		--	45
3888-00-72 TOTALS:		34	124
PROJECT TOTALS:		34	124

3888-00-72
EARTHWORK TABLE

STATION	DISTANCE	END AREAS (S.F.) CUT	END AREAS (S.F.) FILL	VOLUME (C.Y.) CUT	VOLUME (C.Y.) FILL	ADJ. FILL	WASTE
8+15		6	0				
	35			41	0	0	41
8+50		58	0				
	25			51	15	20	31
8+75		52	33				
	10			19	16	20	(1)
8+85		51	51				
	44			83	83	108	(25)
9+29		51	51				
10+71		40	2				
	14			21	1	1	20
10+85		40	2				
	15			22	3	4	18
11+00		39	8				
	9			12	1	2	10
11+09		31	0				
	26			31	0	0	31
11+35		33	0				
TOTAL				280	119	155	125

LIGHTING UNITS

STRUCTURE	STATION	LOCATION		(SPV.0060.07) CONCRETE BASE TYPE 5 MODIFIED EACH	(SPV.0060.08) LIGHTING ASSEMBLY ROADWAY DECORATIVE EACH
1A	8+18.5	28.5'	RT	1	1
2A	9+03	25.5'	LT	1	1
3A	10+73	25.0'	RT	1	1
3888-00-72 TOTALS:				3	3
PROJECT TOTALS:				3	3

SPV.0060.01 CONNECT TO EXISTING WATER MAIN
SPV.0060.02 WATER BEND, 10-INCH
SPV.0060.03 WATER REDUCER, 10-INCH X 8-INCH
SPV.0060.04 ADJUST WATER VALVE BOX
SPV.0060.05 EXPANSION JOINT, 10-INCH
SPV.0060.06 AIR RELEASE VALVE
SPV.0105.03 REMOVE AND REPLACE LIFT STATION COVER

STATION	LOCATION	CONNECT TO MAIN EACH	BEND 10-INCH EACH	REDUCER 10 X 8 EACH	ADJUST VALVE BOX EACH	EXPANSION JOINT EACH	AIR RELEASE VALVE EACH	LIFT STATION COVER LS
8+92	13' LT	--	--	--	1	--	--	--
8+93	13' LT	--	--	1	--	--	--	--
8+94	13' LT	1	--	--	--	--	--	--
8+96	13' LT	--	1	--	--	--	--	--
9+01	8' LT	--	1	--	--	--	--	--
9+27	8' LT	--	--	--	--	1	--	--
10+56	8' LT	--	--	--	--	--	1	--
10+73	8' LT	--	1	--	--	--	--	--
10+75	7' LT	--	1	--	--	--	--	--
10+76	7' LT	--	--	1	--	--	--	--
10+77	7' LT	1	--	--	1	--	--	--
11+07	24' LT	--	--	--	--	--	--	1
3888-00-70 TOTALS:		2	4	2	2	1	1	1
PROJECT TOTALS:		2	4	2	2	1	1	1

SPV.0090.02 WATER MAIN, 10-INCH DUCTILE IRON W/ POLYWRAP
SPV.0090.03 WATER MAIN, 10-INCH DUCTILE IRON PRE-INSULATED W/ 18-INCH CASING
SPV.0105.01 REMOVE EXISTING UNDERDECK 8-INCH WATER MAIN AND SUPPORT STRUCTURE
SPV.0105.02 UNDERDECK SUPPORT STRUCTURE FOR 10-INCH WATER MAIN
SPV.0165.01 RIGID INSULATION, 2-INCH

FROM STATION	LOCATION	TO STATION	LOCATION	10-INCH MAI LF	PRE-INSULATED 10-INCH MAIN LF	INSULATION SF	REMOVE UNDERDECK LS	UNDERDECK SUPPORT LS
8+94	13' LT	9+12	8' LT	22	--	--	--	--
8+96	8' LT	9+12	8' LT	--	--	80	--	--
9+12	8' LT	10+72	8' LT	--	160	--	--	--
9+23	8' LT	10+61	8' LT	--	--	--	--	1
9+29	7' LT	10+21	7' LT	--	--	--	1	--
10+72	8' LT	10+76	7' LT	6	--	--	--	--
10+72	8' LT	10+80	8' LT	--	--	48	--	--
3888-00-70 TOTALS:				28	160	128	1	1
PROJECT TOTALS:				28	160	128	1	1

ALL ITEMS SHOWN ON THIS SHEET ARE INCLUDED IN CATEGORY 0010 UNLESS OTHERWISE NOTED.

R/W PROJECT NUMBER	SHEET NUMBER	TOTAL SHEETS
3888-00-01		
FEDERAL PROJECT NUMBER	4.01	1

PLAT OF RIGHT-OF-WAY REQUIRED FOR

CITY OF HORICON, EAST LAKE STREET

(ROCK RIVER BRIDGE B-14-0211)

LOCAL STREET — DODGE COUNTY

CONSTRUCTION PROJECT NUMBER
3888-00-72

CONVENTIONAL ABBREVIATIONS

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

CURVE DATA

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

CONVENTIONAL SYMBOLS

FOUND IRON PIPE/PIN (1/2" UNLESS NOTED)
R/W MONUMENT ● =(SET) ▲ =(SET)
R/W STANDARD
SIGN
SECTION CORNER MONUMENT
SECTION CORNER SYMBOL
FEE (HATCH VARIES)
TEMPORARY LIMITED EASEMENT
PERMANENT LIMITED EASEMENT
R/W BOUNDARY POINT (RWB20)
PARCEL NUMBER (02)
UTILITY PARCEL NUMBER (92)
SIGN NUMBER (OFF PREMISE) (21-1)
BUILDING

PROPOSED R/W LINE
EXISTING H.E. LINE
PROPERTY LINE
LOT & TIE LINES
SLOPE INTERCEPTS
CORPORATE LIMITS
NO ACCESS (BY PREVIOUS ACQUISITION/CONTROL)
NO ACCESS (BY ACQUISITION)
NO ACCESS (BY STATUTORY AUTHORITY)
SECTION LINE
QUARTER LINE
SIXTEENTH LINE
EXISTING CENTERLINE
PROPOSED REFERENCE LINE
PARALLEL OFFSET

CONVENTIONAL UTILITY SYMBOLS

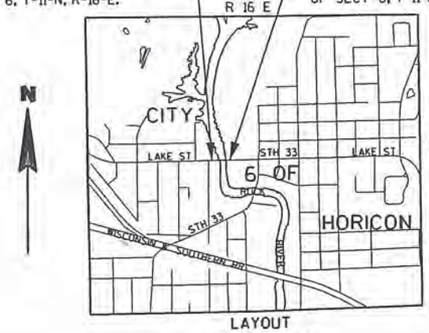
WATER —W—
GAS —G—
TELEPHONE —T—
OVERHEAD TRANSMISSION LINES —OH—
ELECTRIC —E—
CABLE TELEVISION —TV—
FIBER OPTIC —FO—
SANITARY SEWER —SAN—
STORM SEWER —SS—

	NON COMPENSABLE	COMPENSABLE
POWER POLE	○	●
TELEPHONE POLE	⌀	⌀
TELEPHONE PEDESTAL	⌧	⌧
ELECTRIC TOWER	⊠	

POINT NUMBER	STATION	OFFSET
T01	8+25.00	32.61' RT.
T02	8+25.00	65.61' RT.
T03	9+42.00	32.61' RT.
T04	9+42.00	65.61' RT.
T05	10+50.00	32.61' RT.
T06	10+50.00	38.61' RT.
T07	10+69.65	32.61' RT.
T08	10+69.65	38.61' RT.
T09	10+52.00	33.39' LT.
T10	10+52.00	38.39' LT.
T11	10+94.10	33.39' LT.
T12	10+94.10	38.39' LT.

BEGIN RELOCATION ORDER
STATION 8+15.00
2,190.06' EAST OF AND 40.06' NORTH OF THE WEST QUARTER CORNER OF SECT 6, T-11-N, R-16-E.

END RELOCATION ORDER
STATION 11+35.00
2,510.01' EAST OF AND 45.88' NORTH OF THE WEST QUARTER CORNER OF SECT 6, T-11-N, R-16-E.



LAYOUT
SCALE 0 1/4 MI.
TOTAL NET LENGTH OF CENTERLINE = 0.061 MI.

NOTE:
OTHER UTILITY LINES LOCATED WITHIN THE PROJECT LIMITS ARE WITHIN THE EXISTING RIGHT OF WAY.

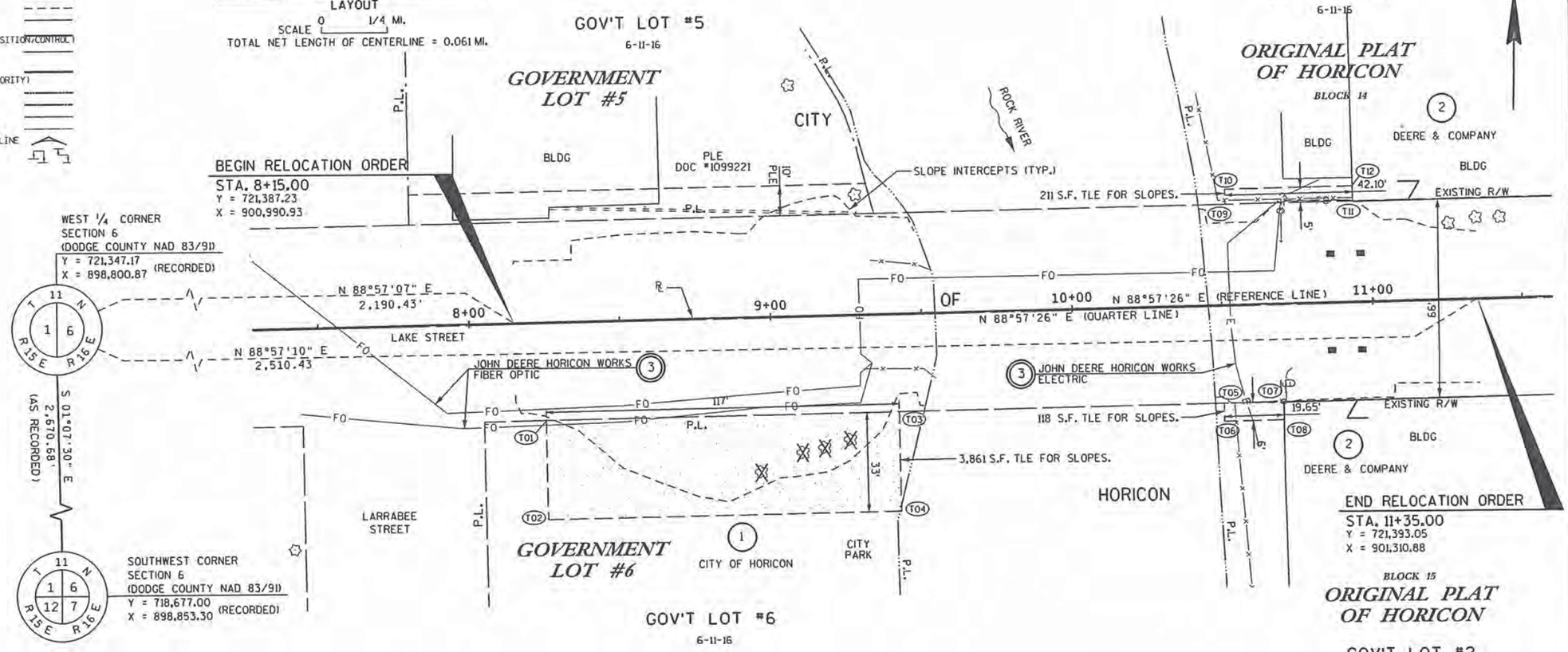
SCHEDULE OF LANDS & INTERESTS REQUIRED

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

PARCEL NUMBER	OWNER	INTEREST REQUIRED	TLE S.F.
1	CITY OF HORICON	TLE	3,861
2	DEERE & COMPANY	TLE	329
3	JOHN DEERE HORICON WORKS	TEMP. RELEASE OF RIGHTS	N/A

NOTE:
EXISTING HIGHWAY R/W ESTABLISHED FROM EXISTING SECTION CORNERS AND IRONS LOCATED IN THE FIELD.

SCALE, FEET 0 20 40



NOTES

POSITIONS SHOWN ON THIS PLAT ARE WISCONSIN COUNTY COORDINATES, DODGE COUNTY NAD 83 (2011) IN US SURVEY FEET. VALUES SHOWN ARE GRID COORDINATES, GRID BEARINGS AND GRID DISTANCES. GRID DISTANCES MAY BE USED AS GROUND DISTANCES.

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

ORIGINAL PLAT PREPARED 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
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WISCONSIN GREGORY P. RHINEHART S-1478 FRIENDSHIP, WI LAND SURVEYOR

NAME: Gregory P. Rhinehart
DATE: OCTOBER 28, 2013

REVISION DATE

APPROVED FOR THE CITY OF HORICON
DATE: 10/29/13 (Signature)

E

LEGEND

PETROLEUM CONTAMINATED AREA

★ - CONCRETE APPROACH SLAB

◔ - LOCATION OF FORMER VAULT (CURRENTLY FILLED)

BENCHMARKS			
NO.	STA./OFFSET	DESCRIPTION	ELEV.
1	9+28.8, 21.3' RT	CHISELED SQUARE SW WING WALL	869.08
2	7+53.1, 44.7' RT.	TOP NUT (SW) HYDRANT	870.15
3	11+04.4, 26.3' LT.	CHISELED X NW CORNER OF LIFT STATION	871.08

EXISTING INLETS TO REMAIN (BOTH SIDES OF STREET)

ALLIANT ENERGY ELECTRIC & GAS

STREET LIGHT

SAVE TREE

ROOF DRAIN PIPE (TO REMAIN)

JOHN DEERE HORICON WORKS ELECTRIC

STRUCTURE B-14-0211

CITY OF HORICON ELECTRIC

EXISTING STRUCTURE B-14-0909 (REMOVE)

SERIES OF EXISTING JOHN DEERE MONITORING WELLS (DO NOT DISTURB)

CHAIN LINK FENCE (REMOVED BY OTHERS PRIOR TO CONST.)

TLE FOR SLOPES

REMOVE & REPLACE LIFT STATION COVER

LANDSCAPING (TO REMAIN)

EXISTING R/W

SAWCUT

℄ ROADWAY

LAKE STREET

JOHN DEERE HORICON WORKS FIBER OPTIC

STREET LIGHT

BM#1

BM#2

BM#3

PILING STEEL SHEET PERMANENT (SEE B-14-0211 PLANS)

TLE FOR SLOPES

EXISTING DRY-STACKED RIVER WALL (TO REMAIN)

STORM SEWER DRAINS TO RIVER (TO REMAIN)

SLOPE INTERCEPT (TYP.)

STORM MANHOLE

STREET LIGHT

OVERHEAD ENCLOSED WALKWAY (TO REMAIN) MINIMUM VERTICAL CLEARANCE ± 15.4' AT SOUTH SIDE.

CHAIN LINK FENCE (REMOVED BY OTHERS PRIOR TO CONST.)

AT&T WISCONSIN TELEPHONE

CITY OF HORICON WATERMAIN & SANITARY SEWER

DRAINAGE TRENCH (TO REMAIN)

REMOVE EXISTING STRUCTURE B-14-0909, STA. 10+00 ℄
3-SPAN STEEL DECK GIRDER BRIDGE
28.0 FT. CLEAR ROADWAY WIDTH
38.0 FT. CLEAR OVERALL WIDTH (5 FT. SIDEWALKS)
145.3 FT. OVERALL LENGTH
NO SKEW

BEGIN PROJECT
STA. 8+15
Y = 721,387.23
X = 900,990.93

END PROJECT
STA. 11+35
Y = 721,393.05
X = 901,310.88

STA. 9+91.8, STRUCTURE B-14-0211, REQ'D
THREE SPAN PRESTRESSED CONCRETE GIRDER BRIDGE
34.0 FT. CLEAR ROADWAY WIDTH
48.5 FT. OVERALL WIDTH
141.3 FT. OVERALL LENGTH
NO SKEW

EXISTING STRUCTURE
EXISTING ℄ PROFILE
FINISHED ℄ PROFILE

0.42%
VPI STA = 8+15.00
VPI EL = 867.59
CURVE LEN = 0.00
STA = 8+00.00
EL = 867.52

0.94%
VPC STA = 10+85.00
VPC EL = 870.12

VPI STA = 11+25.00
VPI EL = 870.50
CURVE LEN = 80.00
K = 45.98

2.68%
VPT STA = 11+65.00
VPT EL = 871.57
STA = 11+70.00
EL = 871.71

HIGH WATER 100 ELEV. 861.07±

ORDINARY WATER ELEV. 855.30± (PER 1948 ORIG. BRIDGE PLANS)

STREAMBED ELEV. 845.12±

OBSERVED HIGH WATER ELEV. 856.79± (05-01-13)

EARTHWORK SUMMARY	
STA. 8+15 - STA. 11+35	
EXC. COMMON	280 C.Y.
FILL	119 C.Y.
FILL EXPANSION	30%
WASTE	125 C.Y.

7+00	7+50	8+00	8+50	9+00	9+50	10+00	10+50	11+00	11+50	12+00	12+50	13+00
871.20	868.72	867.52 / 867.52	867.74 / 867.91	868.32 / 868.38	868.97 / 868.85	869.48 / 869.32	869.93 / 869.78	870.24 / 870.29	871.18 / 871.19	872.50	874.07	875.51

872 870 868 866 864 862 860 858 856

PROJECT NO: 3888-00-72 | HWY: LOCAL STREET | COUNTY: DODGE | PLAN & PROFILE - LAKE STREET | SHEET E

FILE NAME : P:\50s\59\00059023\caddWDOT\Plansht\Panp01.dgn | PLOT DATE : 1/24/2014 | PLOT BY : bhalley | PLOT NAME : | PLOT SCALE : 1:40

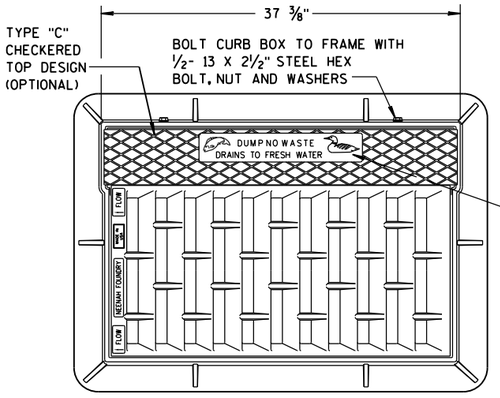
WISDOT/CADDS SHEET 30

Panp01.dgn 1/24/2014 12:03:48 PM bhalley

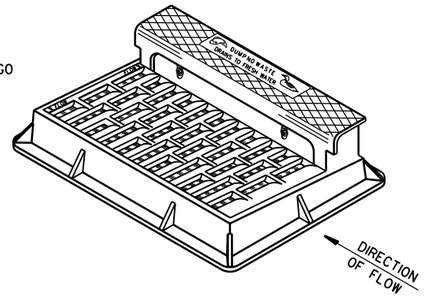
Standard Detail Drawing List

08A05-19A	INLET COVERS TYPE A, H, A-S, H-S & Z
08A05-19D	INLET COVER TYPE BW, MANHOLE COVERS, TYPE K, J, J-S, L & M
08B09-01	MANHOLES 3-FT, 4-FT, 5-FT, 6-FT, 7-FT AND 8-FT DIAMETER
08C07-01	INLETS 2X2-FT, 2X2.5-FT, 2X3-FT AND 2.5X3-FT
08D01-17	CONCRETE CURB, CONCRETE CURB AND GUTTER AND TIES
08E09-06	SILT FENCE
08E10-02	INLET PROTECTION TYPE A, B, C AND D
08E11-02	TURBIDITY BARRIER
08F04-07	JOINT TIES FOR CONCRETE PIPE AND CONCRETE COLLAR DETAIL
09B02-07	CONDUIT
09C02-06	CONCRETE BASES, TYPES 1, 2 & 5
12A03-10	NAME PLATE (STRUCTURES)
13B02-06	CONCRETE PAVEMENT APPROACH SLAB
13C01-16	CONCRETE PAVEMENT LONGITUDINAL JOINTS AND TIES
13C13-08	URBAN DOWELED CONCRETE PAVEMENT
13C18-02A	CONCRETE PAVEMENT JOINTING
13C18-02B	CONCRETE PAVEMENT STEEL REINFORCEMENT
13C18-02C	CONCRETE PAVEMENT JOINT TIES
13C18-02D	CONCRETE PAVEMENT JOINTING AT UTILITY FIXTURES
14A02-01	TREE PLANTING DETAIL
15C02-05A	BARRICADES AND SIGNS FOR MAINLINE CLOSURES
15C02-05B	BARRICADES AND SIGNS FOR MAINLINE CLOSURES
15C06-06	SIGNING & MARKING FOR TWO LANE BRIDGES
15C08-16A	PAVEMENT MARKING (MAINLINE)
15C12-04	TRAFFIC CONTROL FOR LANE CLOSURE (SUITABLE FOR MOVING OPERATIONS)
15D30-01	TRAFFIC CONTROL, SIDEWALK CLOSURE

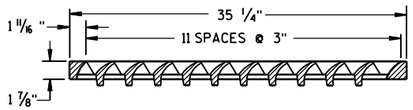
6

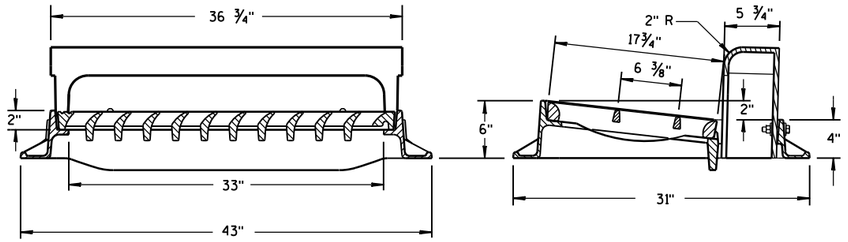


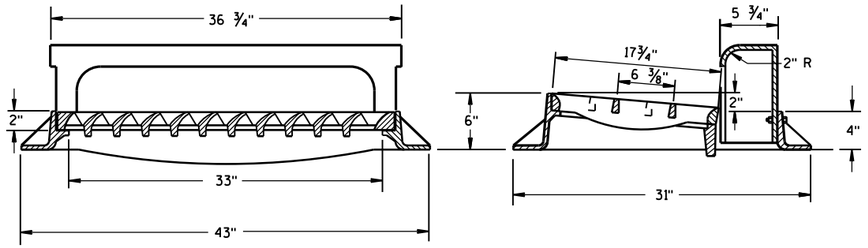
NOTE:
GRATE IS REVERSIBLE.



NOTE: CURB BOX HEIGHT ADJUSTABLE 6" TO 9"

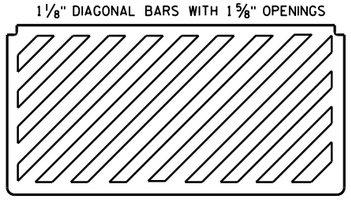






TYPE "H"

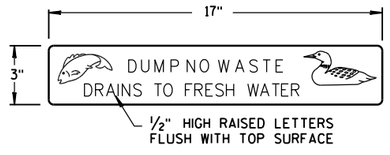
NOTE: EITHER CASTING IS ACCEPTABLE



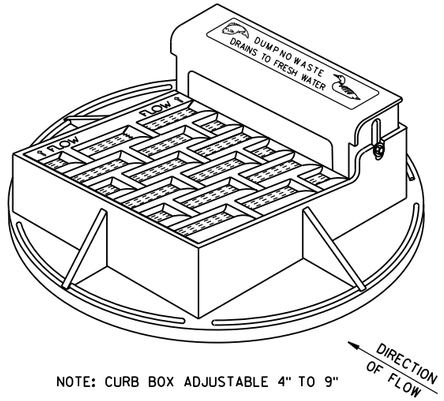
SPECIAL GRATE FOR TYPE "H" COVER

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

(NOTED AS TYPE H-S ON DRAINAGE TABLE)

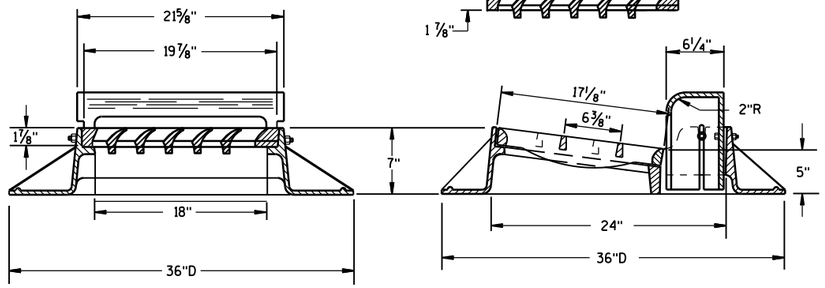


LOGO DETAIL



NOTE: CURB BOX ADJUSTABLE 4" TO 9"

NOTE:
GRATE IS REVERSIBLE.



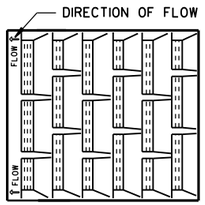
TYPE "A"

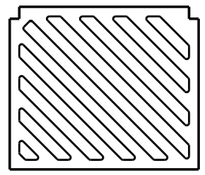
GENERAL NOTES

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

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

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

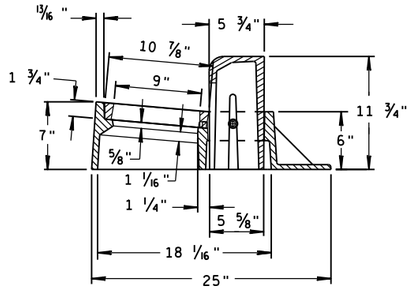


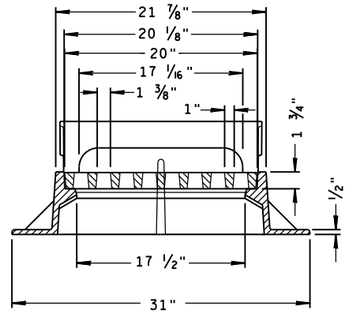


SPECIAL GRATE FOR TYPE "A" COVER

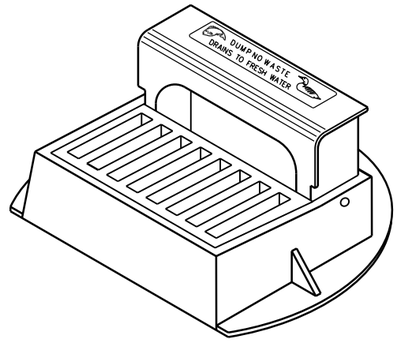
(MEASURES 19 3/4" X 17" X 1 7/8")

(NOTED AS TYPE A-S ON DRAINAGE TABLE)





TYPE "Z"



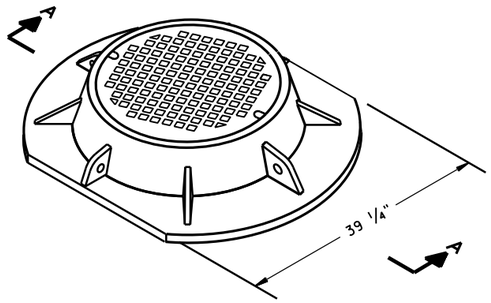
INLET COVERS
TYPE A, H, A-S, H-S & Z

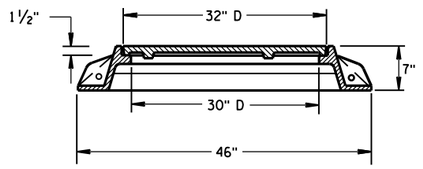
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

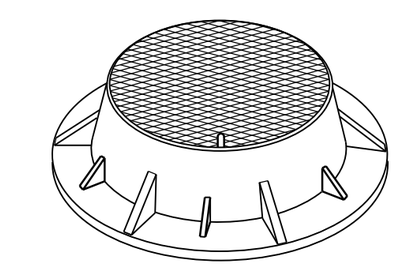
6

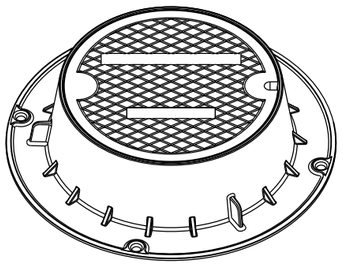
S.D.D. 8 A 5-19a

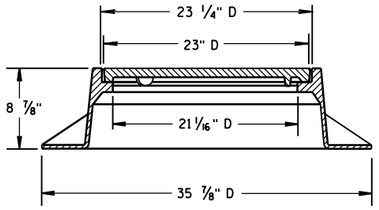


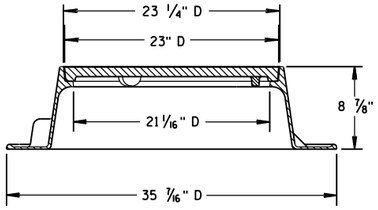


SECTION A-A
TYPE "K"









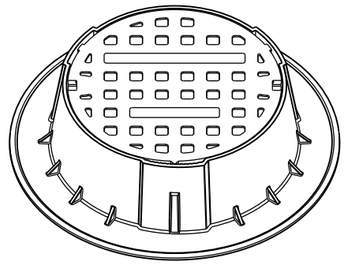
TYPE "J"
NOTE: EITHER CASTING IS ACCEPTABLE

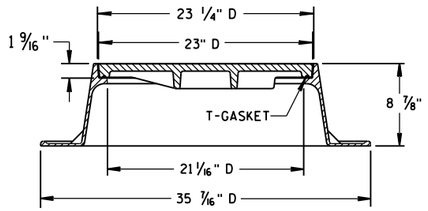
GENERAL NOTES

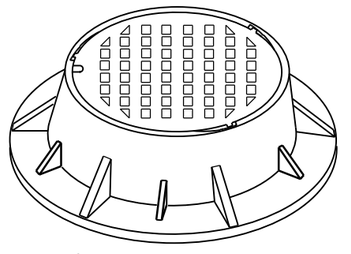
DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.

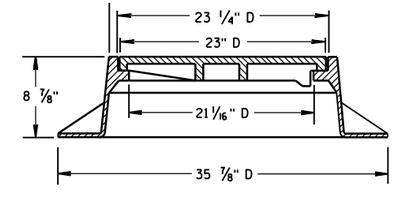
DETAIL DRAWINGS FOR PROPOSED ALTERNATE DESIGNS FOR MANHOLE COVERS SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL PROVIDING THAT SUCH ALTERNATE DESIGNS MAKE PROVISION FOR EQUIVALENT CAPACITY AND STRENGTH.

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

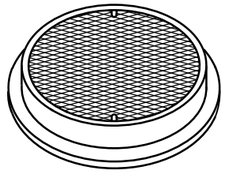


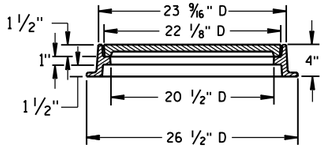




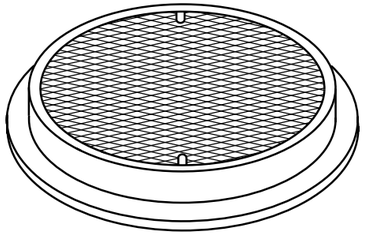


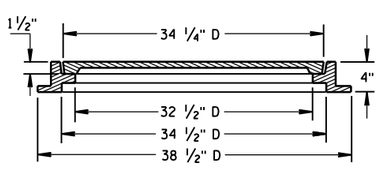
TYPE "J" SPECIAL
TYPE "B" NON-ROCKING SELF-SEAL LID
(NOTED AS TYPE J-S ON THE DRAINAGE TABLE)
NOTE: EITHER CASTING IS ACCEPTABLE



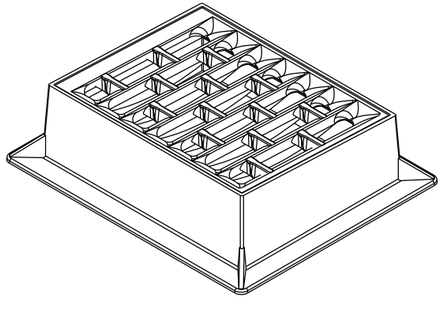


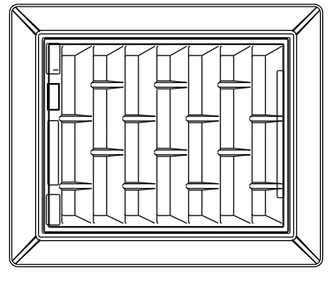
TYPE "L"

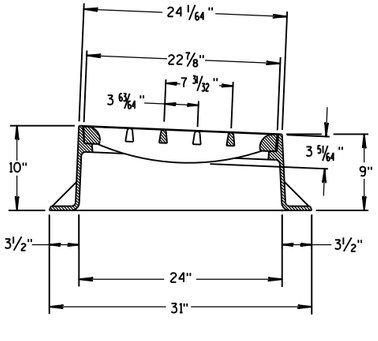


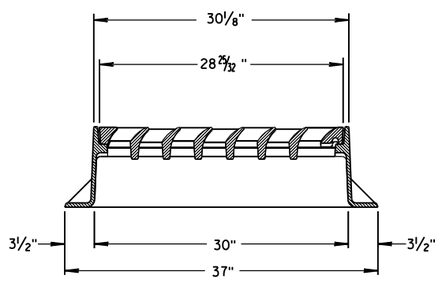


TYPE "M"









INLET COVER TYPE "BW"

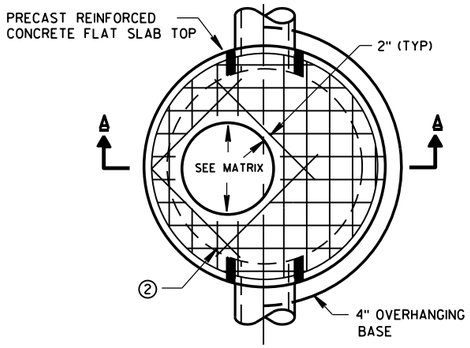
INLET COVER TYPE BW
MANHOLE COVERS, TYPE K, J, J-S, L & M

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

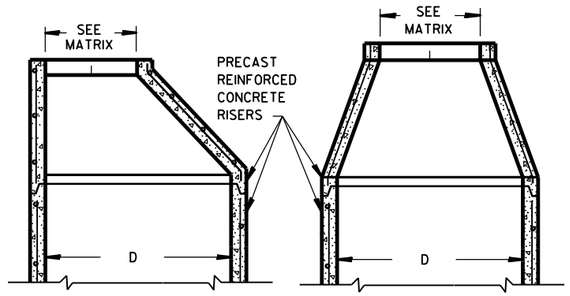
APPROVED
11/27/2013
DATE
/S/ Jerry H. Zogg
ROADWAY STANDARDS DEVELOPMENT ENGINEER
FHWA

6

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

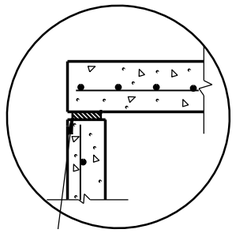


PLAN VIEW CIRCULAR OPENING

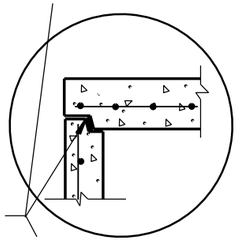


OPTIONAL PRECAST REINFORCED CONCRETE ECCENTRIC TOP

OPTIONAL PRECAST REINFORCED CONCRETE CONCENTRIC TOP

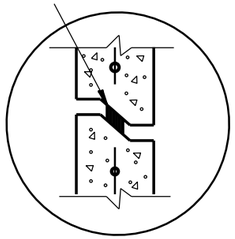


TOP WITH PLAIN END JOINT



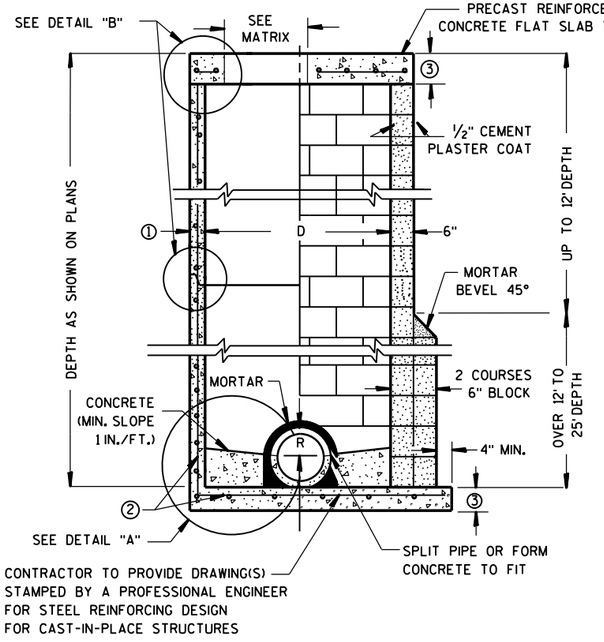
JOINTS TO BE SEALED WITH A BUTYL RUBBER SEAL PER SEALANT MANUFACTURERS RECOMMENDATIONS CONFORMING TO ASTM C990 (TYP)

TOP WITH TONGUE AND GROOVE JOINT



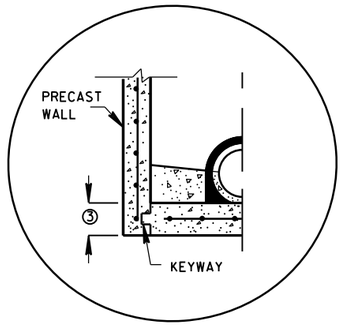
RISER WITH TONGUE AND GROOVE JOINT

DETAIL "B"

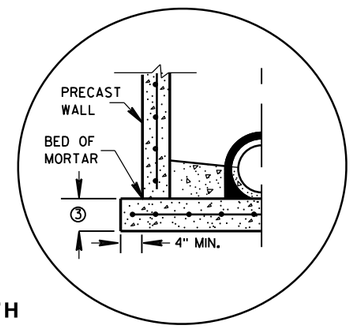


PRECAST REINFORCED CONCRETE WITH MONOLITHIC BASE

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

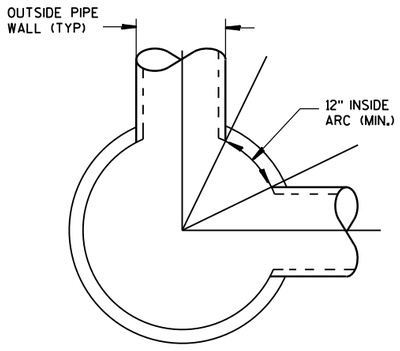


PRECAST REINFORCED CONCRETE WITH INTEGRAL BASE OPTION



SEPARATE PRECAST REINFORCED CONCRETE BASE OPTION

DETAIL "A"



DETAIL "C"

GENERAL NOTES

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

MANHOLE COVER OPENING MATRIX

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

PIPE MATRIX

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

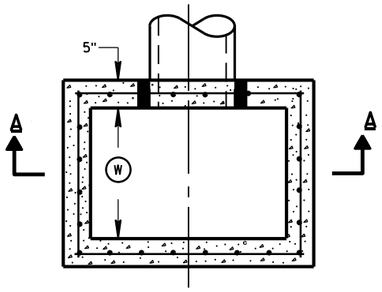
MANHOLES 3-FT, 4-FT, 5-FT, 6-FT, 7-FT AND 8-FT DIAMETER

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

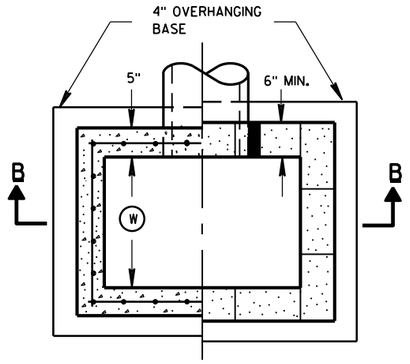
APPROVED
6/5/2012 — DATE
/S/ Jerry H. Zogg — ROADWAY STANDARDS DEVELOPMENT ENGINEER
FHWA

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

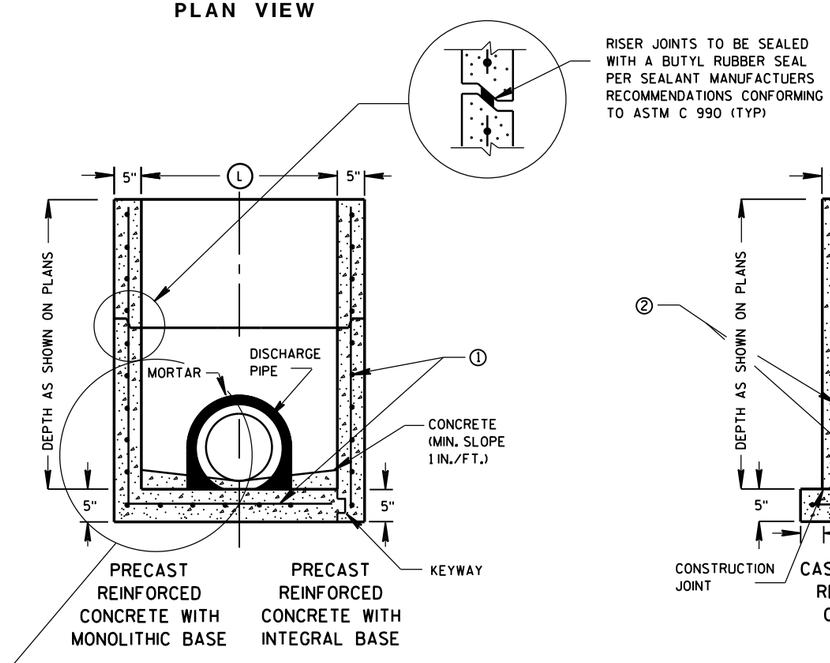
6
S.D.D. 8 B 9-1



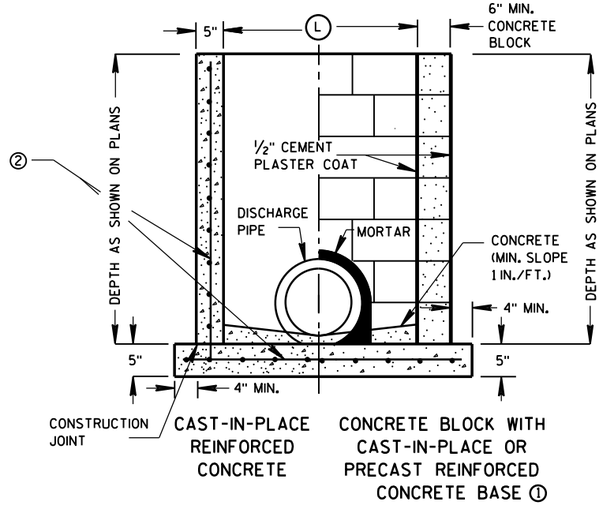
PLAN VIEW



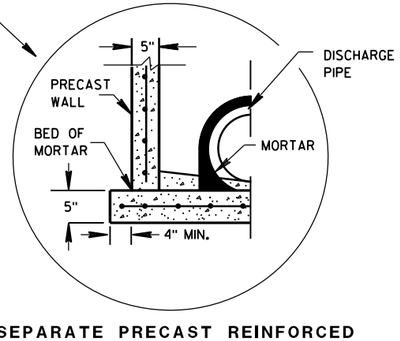
PLAN VIEW



SECTION A-A



SECTION B-B



SEPARATE PRECAST REINFORCED CONCRETE BASE OPTION

GENERAL NOTES

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

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

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

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

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

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

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

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

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

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

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

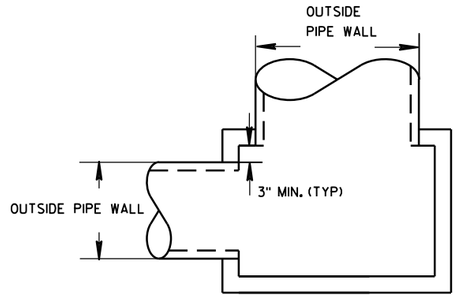
② CONTRACTOR TO PROVIDE DRAWING(S) STAMPED BY A PROFESSIONAL ENGINEER FOR STEEL REINFORCING DESIGN FOR CAST-IN-PLACE STRUCTURES.

INLET COVER MATRIX

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

PIPE MATRIX

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



DETAIL "A"

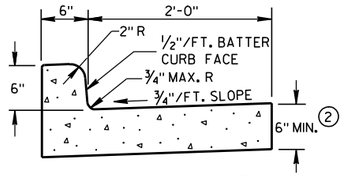
INLETS 2X2-FT, 2X2.5-FT, 2X3-FT AND 2.5X3-FT

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

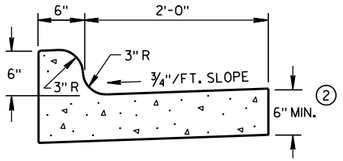
APPROVED
6/5/2012
DATE
FHWA

/S/ Jerry H. Zogg
ROADWAY STANDARDS DE
ENGINEER

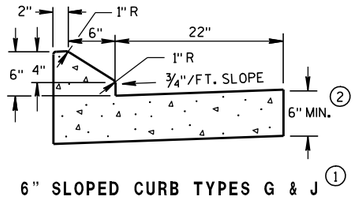
6
S.D.D. 8 C 7-1



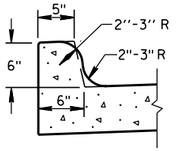
TYPES A & D (1)



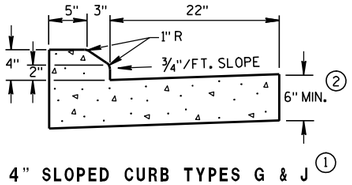
TYPES K & L (1)



6" SLOPED CURB TYPES G & J (1)

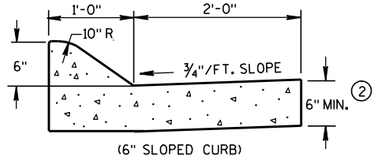


OPTIONAL CURB SHAPE FOR TYPES K & L (1)

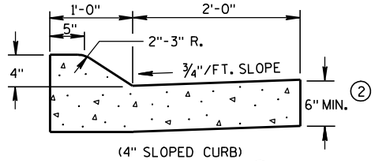


4" SLOPED CURB TYPES G & J (1)

CONCRETE CURB & GUTTER 30"

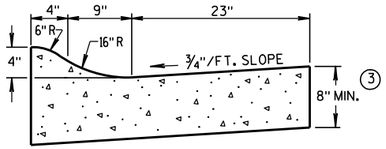


(6" SLOPED CURB)



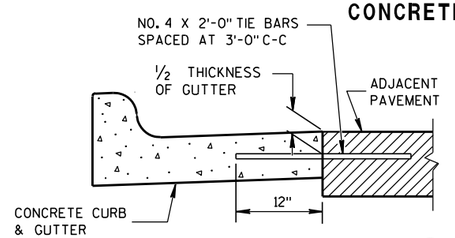
(4" SLOPED CURB)

TYPES A & D (1)

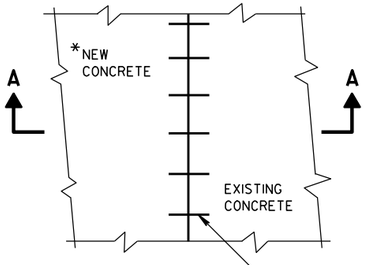


4" SLOPED CURB TYPES R & T (1) (4)

CONCRETE CURB & GUTTER 36"

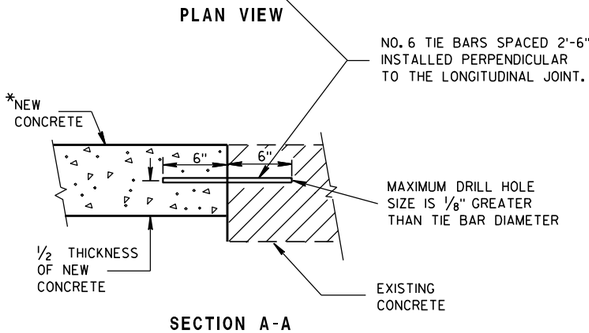


TYPICAL TIE BAR LOCATION (1)



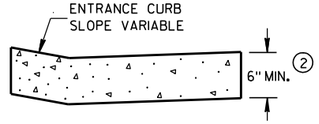
*NEW CURB & GUTTER, SURFACE DRAINS, CONCRETE PAVEMENT OR OTHER NEW CONCRETE.

PLAN VIEW

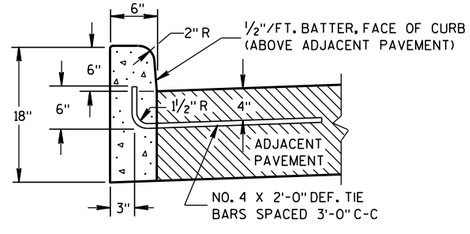


SECTION A-A

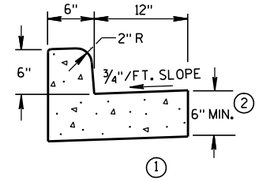
TIE BARS DRILLED INTO EXISTING PAVEMENT



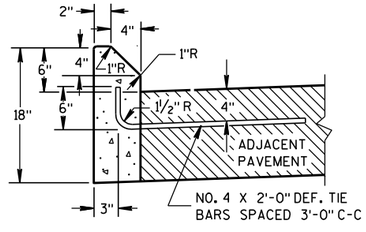
DRIVEWAY ENTRANCE CURB
(WHEN DIRECTED BY THE ENGINEER)



(1)
TYPES A & D

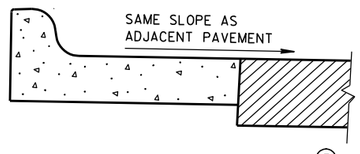


(1)
TYPES A & D
CONCRETE CURB & GUTTER 18"



(1)
TYPES G & J

CONCRETE CURB



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.

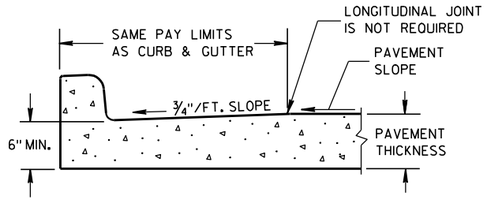
(1) TIE BARS ARE REQUIRED FOR CURB AND GUTTER TYPES A, G, K AND R.

(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.

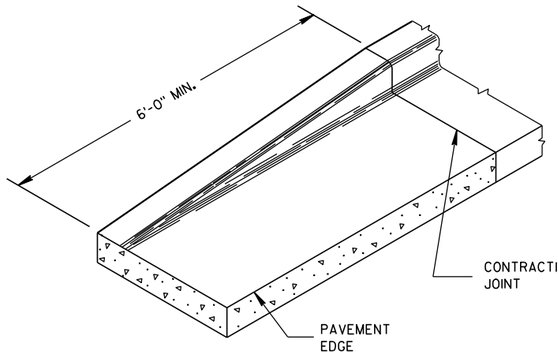
(3) THE BOTTOM OF CURB AND GUTTER MAY BE CONSTRUCTED EITHER LEVEL OR PARALLEL TO THE SLOPE OF THE SUBGRADE OR BASE AGGREGATE PROVIDED A 8" MINIMUM GUTTER THICKNESS IS MAINTAINED.

(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



END SECTION CURB & GUTTER

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

6

S.D.D. 8 D 1-17

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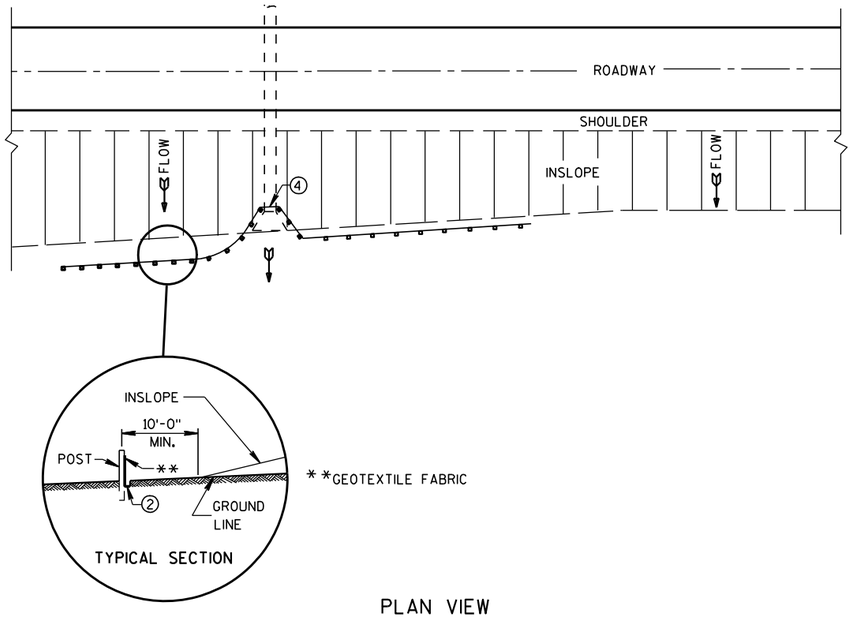
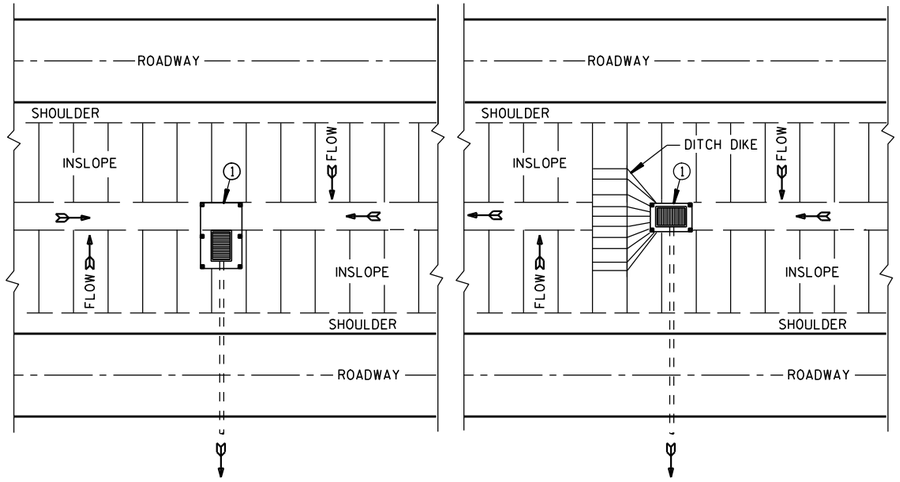
S.D.D. 8 D 1-17



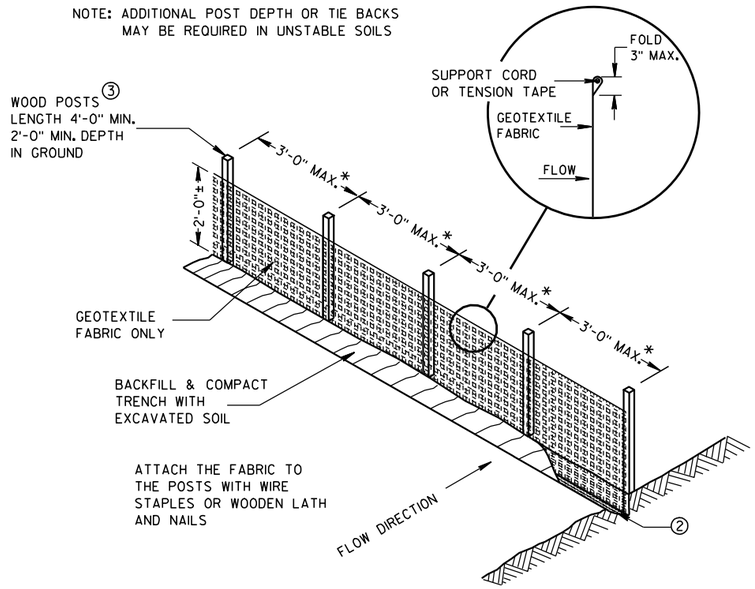
PLAN VIEW

TYPICAL APPLICATION OF SILT FENCE



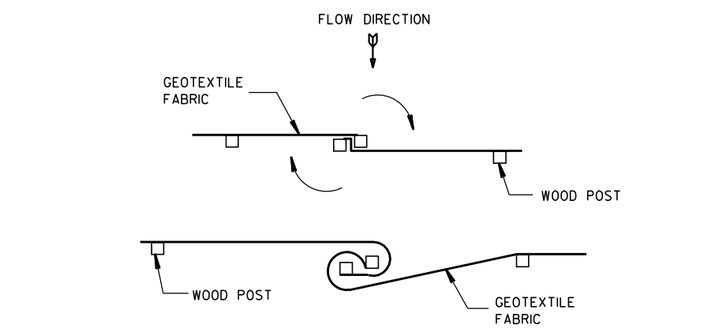
PLAN VIEW

SILT FENCE AT MEDIAN SURFACE DRAINS

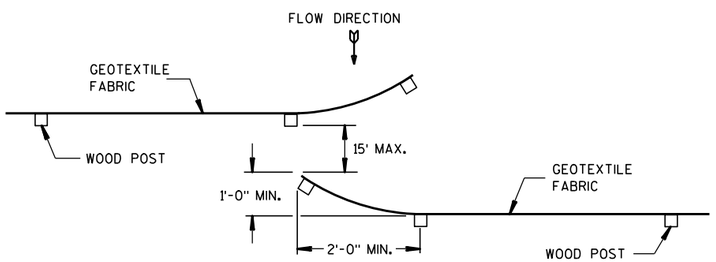


*NOTE: 8'-0" POST SPACING ALLOWED IF A WOVEN GEOTEXTILE FABRIC IS USED.

SILT FENCE



TWIST METHOD



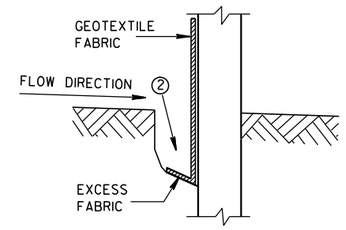
HOOK METHOD

JOINING TWO LENGTHS OF SILT FENCE 5

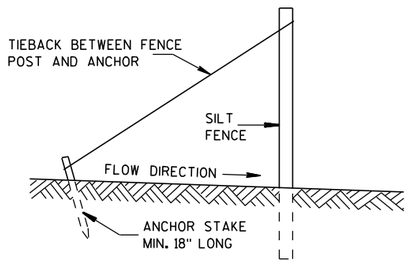
GENERAL NOTES

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

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



TRENCH DETAIL



SILT FENCE TIE BACK

(WHEN REQUIRED BY THE ENGINEER)

SILT FENCE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

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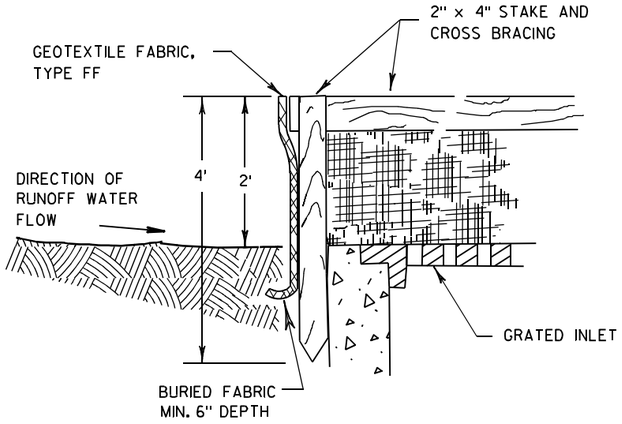
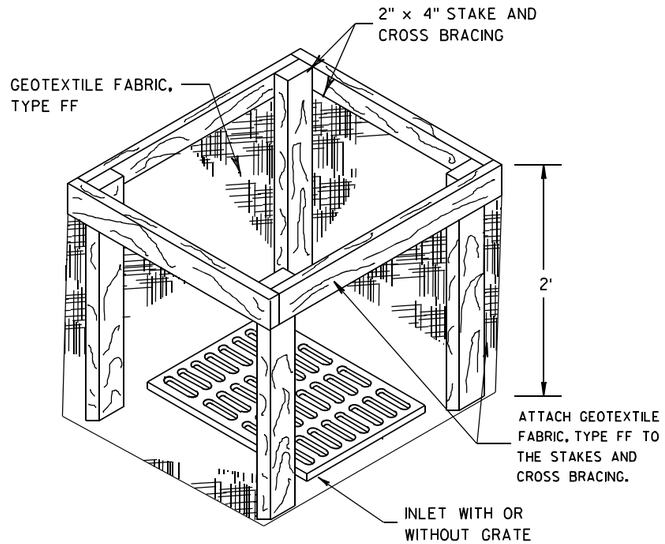
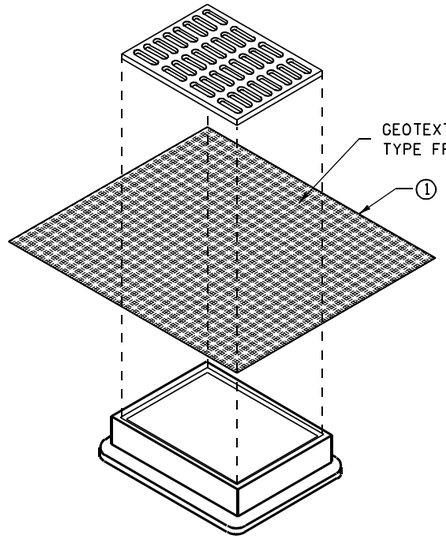
S.D.D. 8 E 9-6



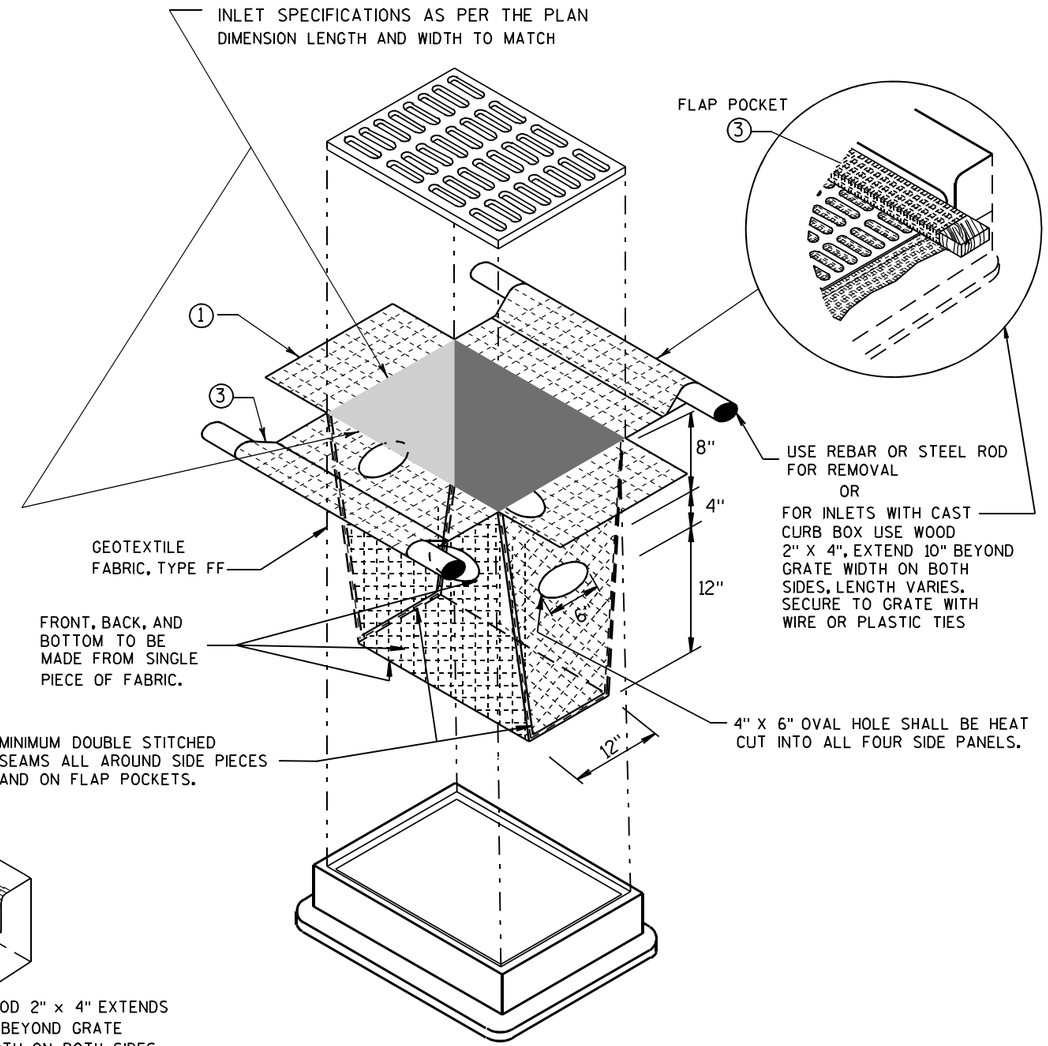


INLET PROTECTION, TYPE A



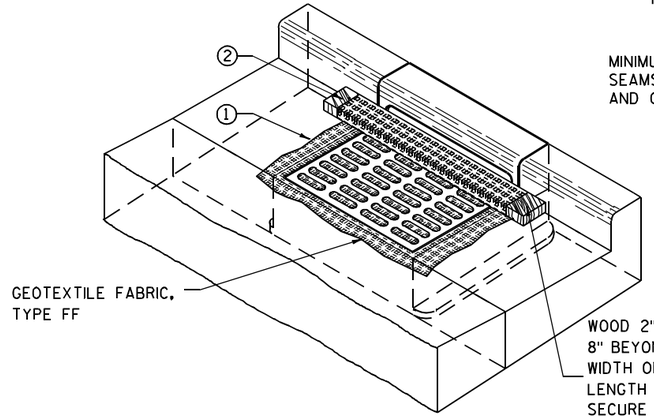
INLET PROTECTION, TYPE B
(WITHOUT CURB BOX)

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



INLET PROTECTION, TYPE D

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



INLET PROTECTION, TYPE C (WITH CURB BOX)

GENERAL NOTES

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

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

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

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

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

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

INSTALLATION NOTES

TYPE B & C

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

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

TYPE D

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

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

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

INLET PROTECTION
TYPE A, B, C, AND D

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

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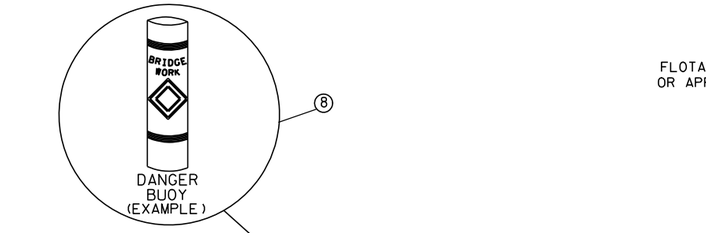
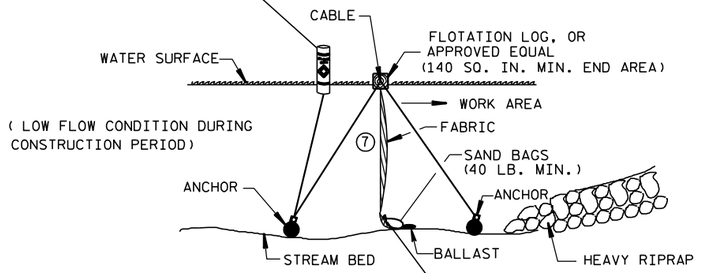
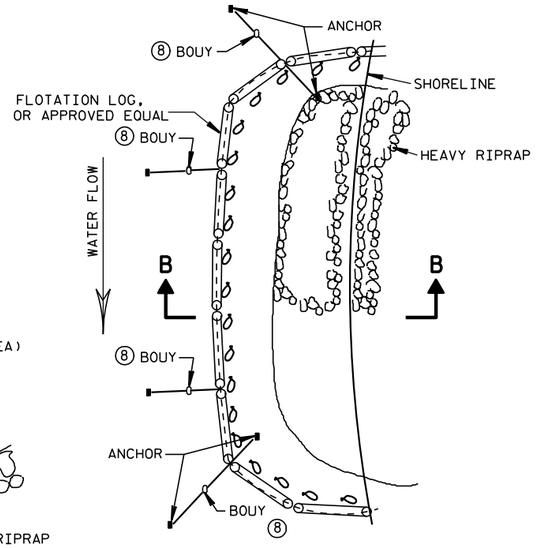
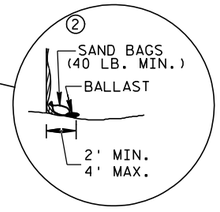
S.D.D. 8 E 10-2



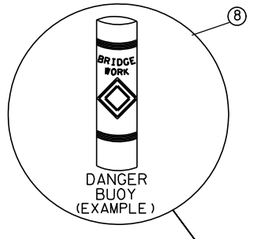


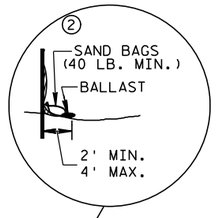


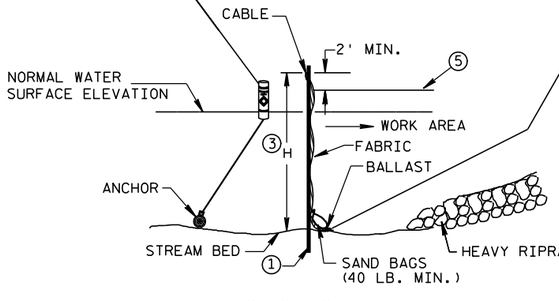
SECTION B-B



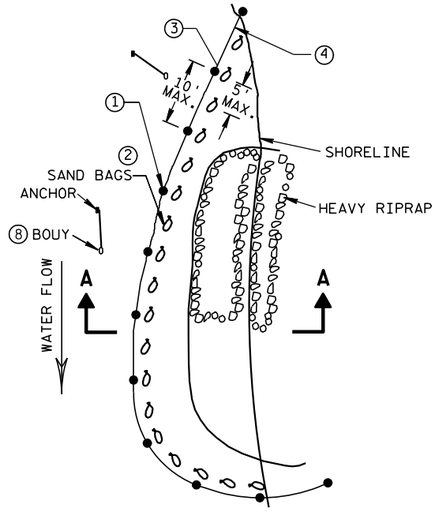
TURBIDITY BARRIER FLOAT ALTERNATIVE
CAUTION - SEE NOTE 6







SECTION A-A



PLAN VIEW

TURBIDITY BARRIER STANDARD POST INSTALLATION

TURBIDITY BARRIER PLACEMENT DETAILS

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.

TURBIDITY BARRIER MAY BE REMOVED AT THE ENGINEERS DISCRETION, WHEN PERMANENT EROSION CONTROL MEASURES HAVE BEEN ESTABLISHED.

① DRIVEN STEEL POSTS, PIPES, OR CHANNELS. LENGTH SHALL BE SUFFICIENT TO SECURELY SUPPORT BARRIER AT HIGH WATER ELEVATIONS.

② SANDBAGS TO BE USED AS ADDITIONAL BALLAST WHEN ORDERED BY THE ENGINEER TO MEET ADVERSE FIELD CONDITIONS. SPACE AS APPROPRIATE FOR SITE CONDITIONS.

③ WHEN BARRIER HEIGHT, H, EXCEEDS 8 FT., POST SPACING MAY NEED TO BE DECREASED.

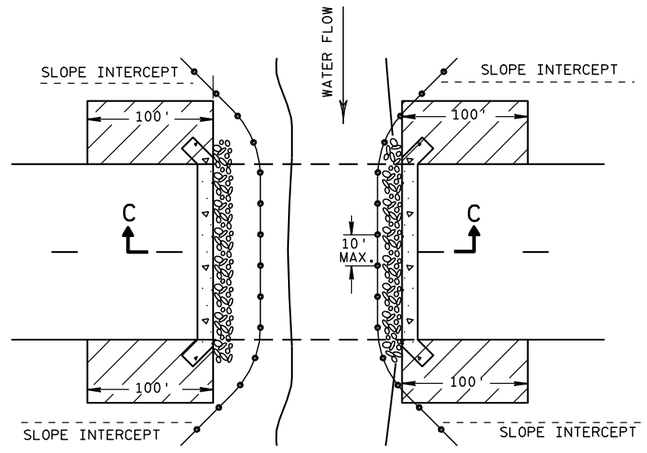
④ IN WATERWAYS SUBJECT TO FLUCTUATING WATER ELEVATIONS, PROVISIONS SHOULD BE MADE TO ALLOW THE WATER TO EQUALIZE ON EACH SIDE OF THE BARRIER. THIS MAY BE ACCOMPLISHED BY LEAVING A PORTION OF THE BARRIER OPEN ON THE UPSTREAM END.

⑤ ESTIMATED HIGH WATER ELEVATION DURING CONSTRUCTION PERIOD. MIMIMUM BARRIER HEIGHT SHALL BE 2'GREATER THAN EITHER THE 02 ELEVATION OR THE ESTIMATED HIGH WATER ELEVATION DURING CONSTRUCTION, WICHEVER IS GREATER.

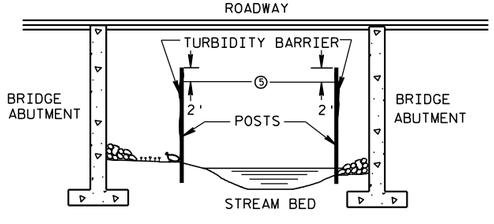
⑥ FLOAT ALTERNATIVE WILL ONLY BE ALLOWED WITH WRITTEN APPROVAL OF THE ENGINEER, AND IS MEANT FOR LOCATIONS WHERE BED ROCK PREVENTS THE INSTALLATION OF POSTS.

⑦ ALLOW SUFFICIENT SLACK VERTICALLY AND HORIZONTALLY SO THAT SEDIMENT BUILD UP WILL NOT SEPARATE OR LOWER THE TURBIDITY BARRIER.

⑧ USE AS DIRECTED BY COAST GUARD OR DNR PERMIT WHEN WORKING IN NAVIGABLE WATERWAYS.



PLAN VIEW



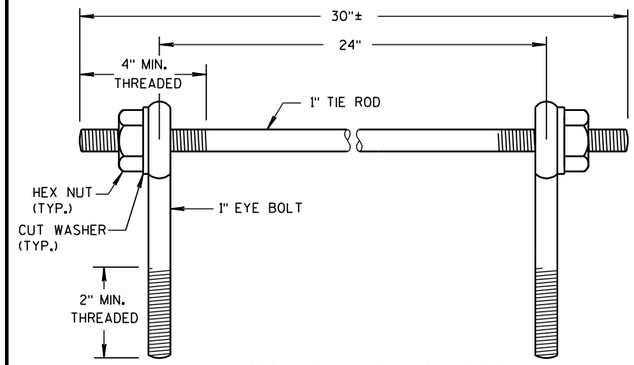
SECTION C-C

TURBIDITY BARRIER DETAIL SHOWING TYPICAL PLACEMENT AT STRUCTURES

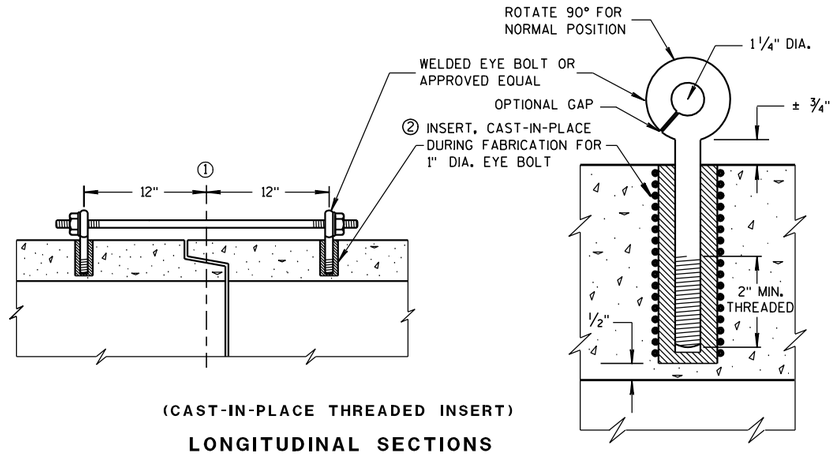
TURBIDITY BARRIER

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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



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.

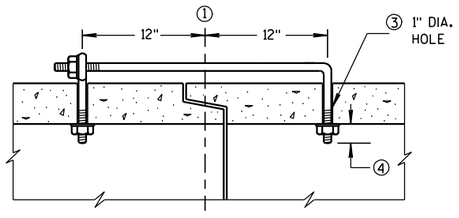
② THE INSIDE OF THE THREADED INSERTS SHALL BE CLEAN TO ALLOW THE INSERTION OF THREADED EYE BOLTS.

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

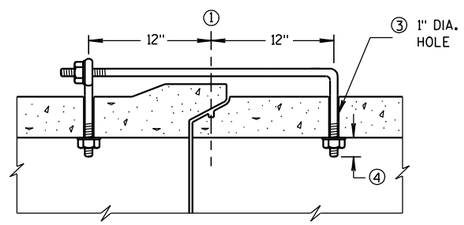
④ BOLT PROJECTION INSIDE OF PIPE SHALL NOT EXCEED 2 INCHES.

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)

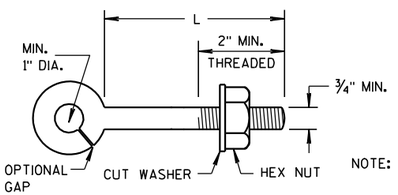


(MODIFIED BELL PIPE)

LONGITUDINAL SECTION

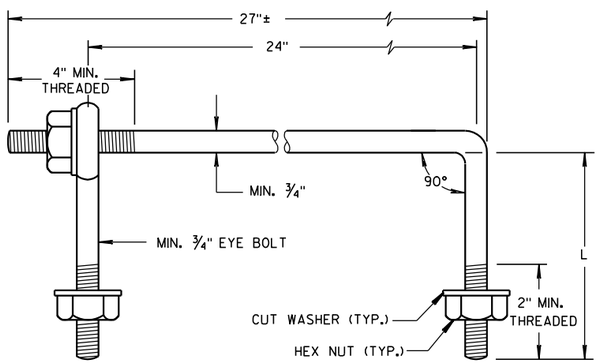
EYE BOLT DIMENSION TABLE

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

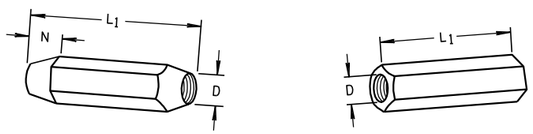
(JOINT TIES FOR 18" TO 66" DIA. CONCRETE PIPE)

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

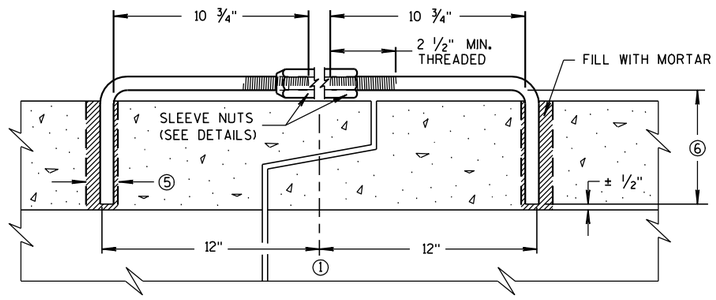
DIMENSIONS SHOWN ARE IN INCHES



TAPERED PLAIN

RIGHT AND LEFT THREADS

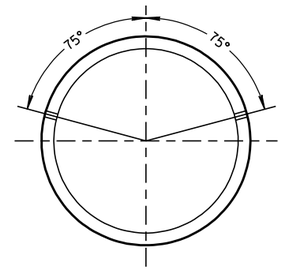
SLEEVE NUTS



LONGITUDINAL SECTION

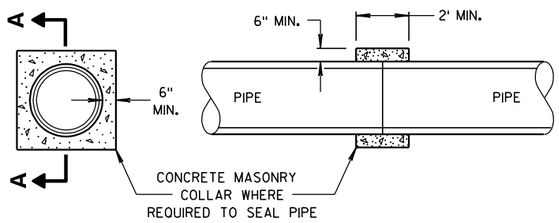
(JOINT TIES FOR 12" TO 108" DIA. CONCRETE PIPE)

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
37
FHWA

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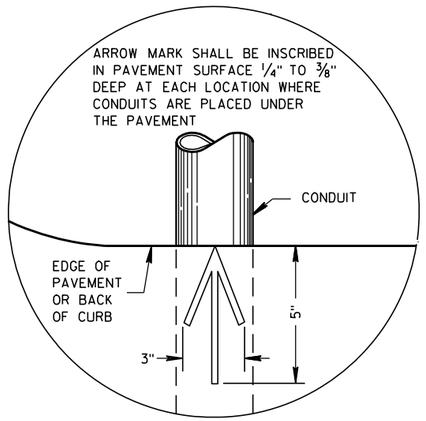
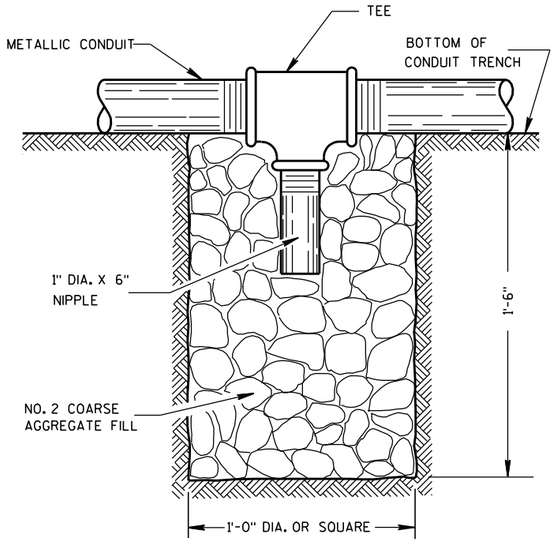


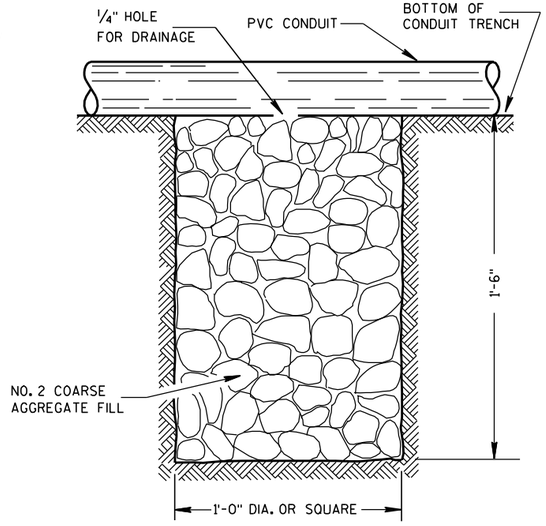
PLAN VIEW

ARROW MARK



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

DRAIN SUMP FOR METALLIC CONDUIT



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

DRAIN SUMP FOR PVC CONDUIT

GENERAL NOTES

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

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

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

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

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

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

ALL METALLIC CONDUIT RACEWAY ENDS SHALL BE REAMED AND THREADED.

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

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

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

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

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

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

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

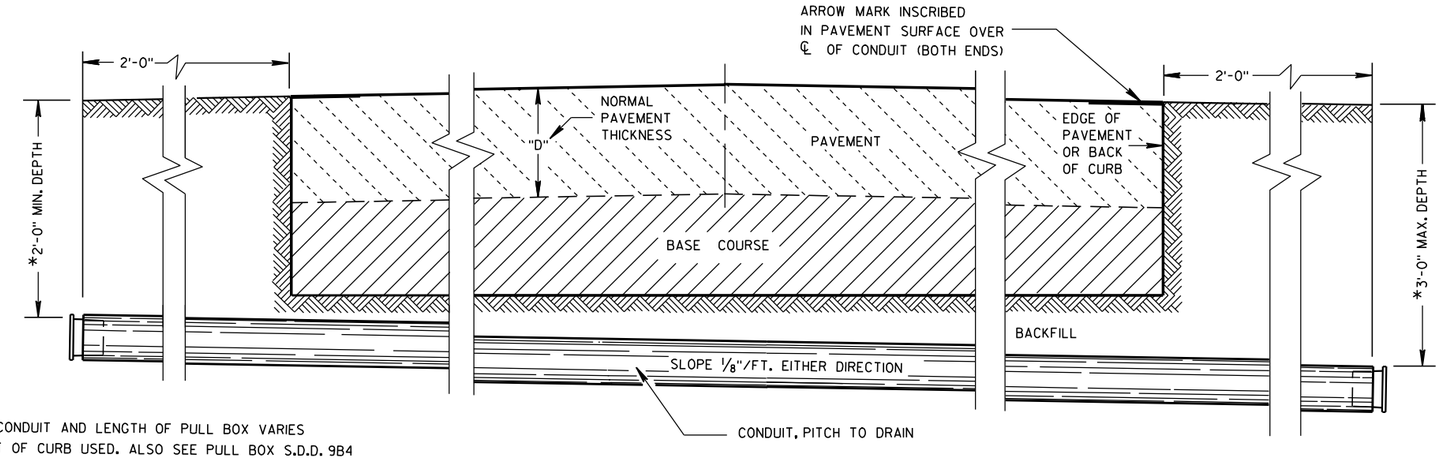
PRIOR TO CONDUIT ACCEPTANCE, CONDUIT CAPS OR PLUGS SHALL BE REMOVED, AND THE CAPS, PLUGS AND CONDUIT ENDS SHALL BE THOROUGHLY CLEANED AND THEN THE CAPS OR PLUGS REINSTALLED TO ENSURE THAT THE CAPS OR PLUGS CAN BE EASILY REMOVED IN THE FUTURE.

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

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

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

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



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

SIDE ELEVATION

DETAIL FOR CONDUIT UNDER PAVED HIGHWAYS

CONDUIT

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

10/23/03 — DATE

/S/ Balu Ananthanarayanan — STATE ELECTRICAL ENGI

FHWA

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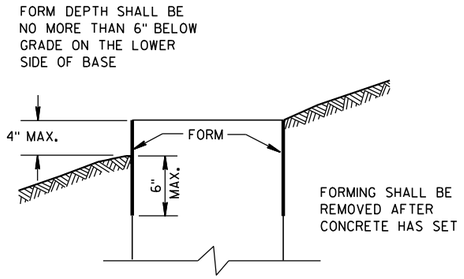


FORMING DETAIL

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

GENERAL NOTES

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

BASES SHALL BE EXCAVATED BY USE OF A CIRCULAR AUGER.

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

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

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

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

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

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

GENERAL NOTES (CONTINUED)

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

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

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

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

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

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

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

WASHERS AND LOCK WASHERS ARE REQUIRED ON ALL ANCHOR RODS.

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

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

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

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

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

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

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

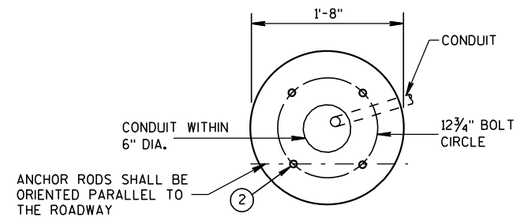
(4) (6) NO. 6 X 6'-8" BAR STEEL REINFORCEMENT.

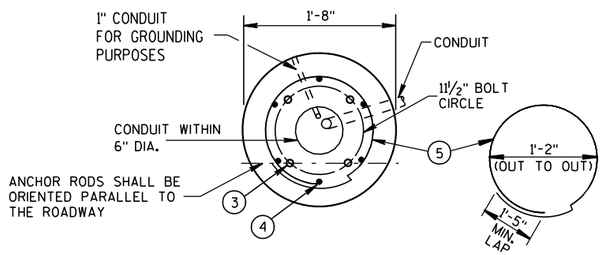
(5) (7) NO. 4 X 5'-1" BAR STEEL REINFORCEMENT @ 1'-0" C-C.

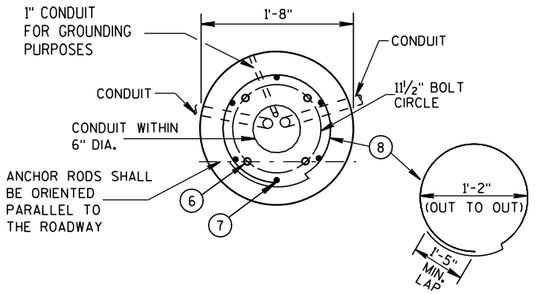
(6) (4) 1" DIA. X 3'-6" ANCHOR RODS.

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

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

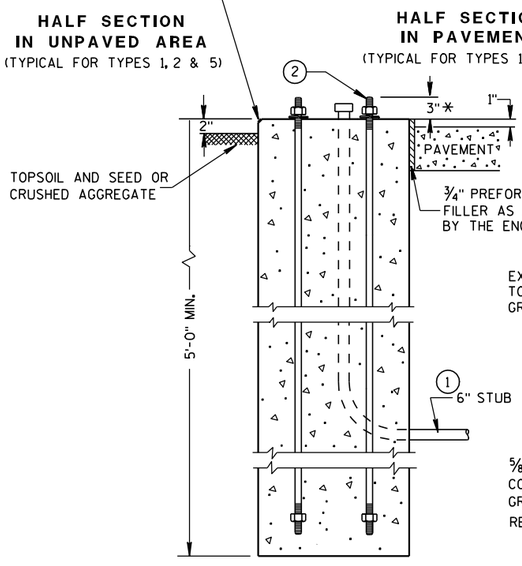






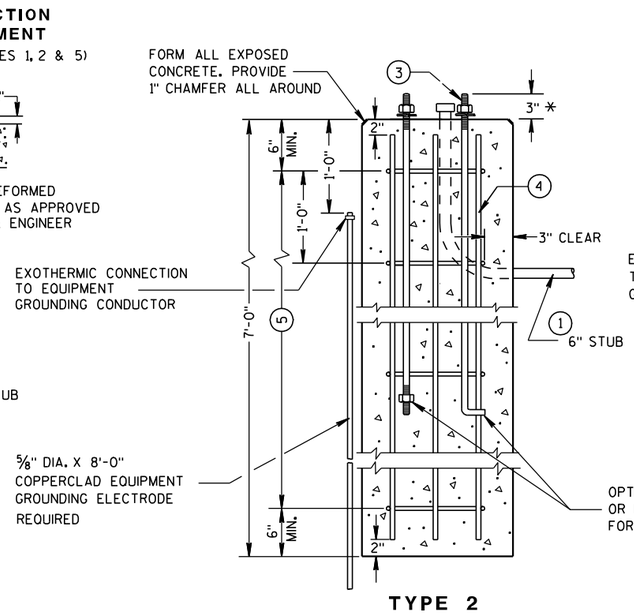
FORM ALL EXPOSED CONCRETE. PROVIDE 1" CHAMFER ALL AROUND

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

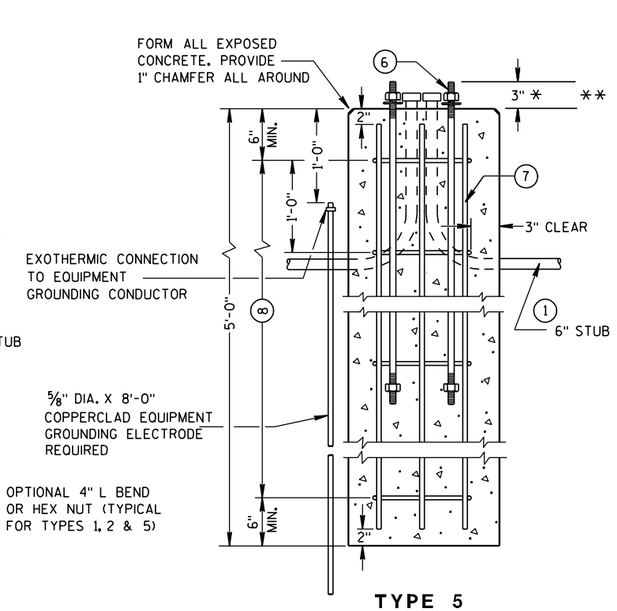


HALF SECTION IN PAVEMENT
(TYPICAL FOR TYPES 1, 2 & 5)

TYPE 1



TYPE 2



TYPE 5

CONCRETE BASES

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

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

CONCRETE BASES, TYPES 1, 2 & 5

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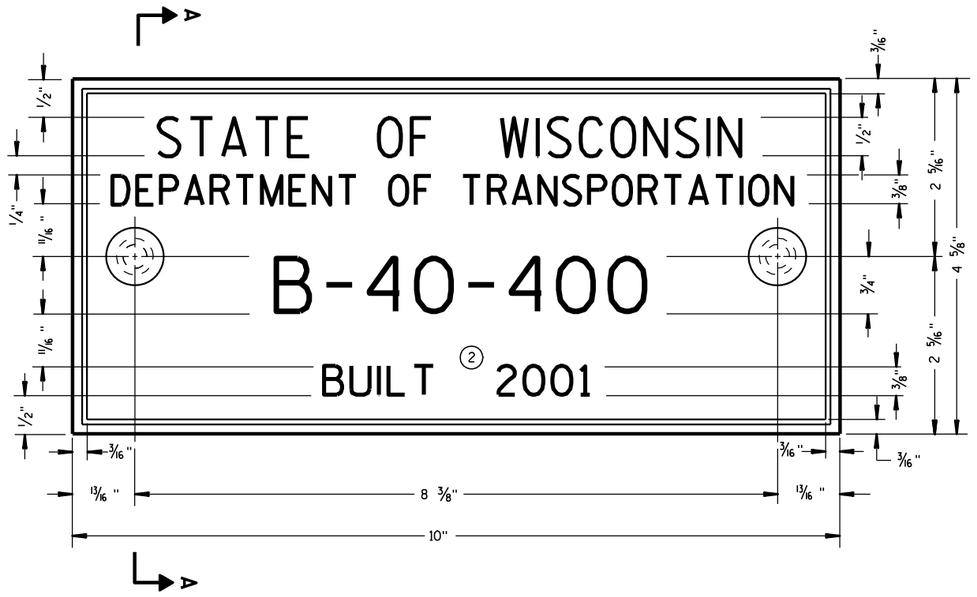
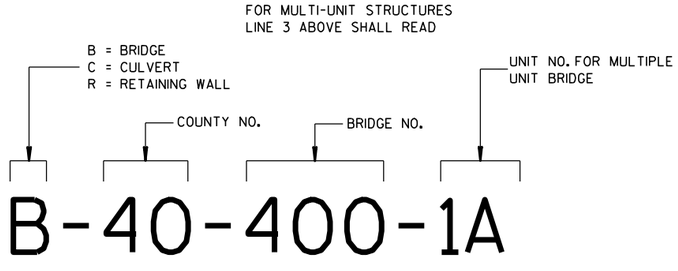


TYPICAL NAME PLATE
(BRIDGES, CULVERTS, AND RETAINING WALLS)



NUMBERING DESIGNATION
MULTI-UNIT STRUCTURES

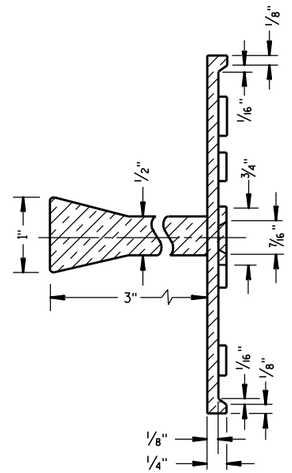
GENERAL NOTES

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

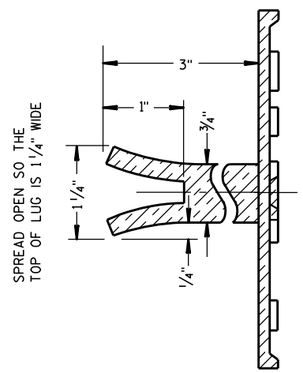
THE BRIDGE NUMBER AND YEAR BUILT SHOWN ON THIS DRAWING ARE EXAMPLES ONLY. SEE CONSTRUCTION PLANS FOR INDIVIDUAL NUMBERING AND YEAR BUILT.

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

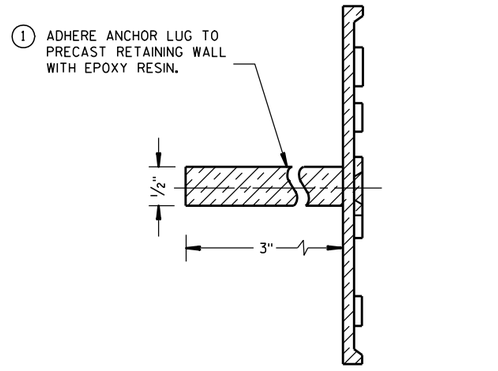
(2) REHABILITATION OF AN EXISTING STRUCTURE SHOULD USE THE DATE OF ORIGINAL STRUCTURE CONSTRUCTION.



SECTION A-A



ALTERNATE LUG



ALTERNATE LUG
(FOR ATTACHMENT TO PRECAST STRUCTURES)

NAME PLATE (STRUCTURES)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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3/26/10 DATE

/S/ Scot Beck CHIEF STRUCTURAL DEVELOPMENT ENGINEER

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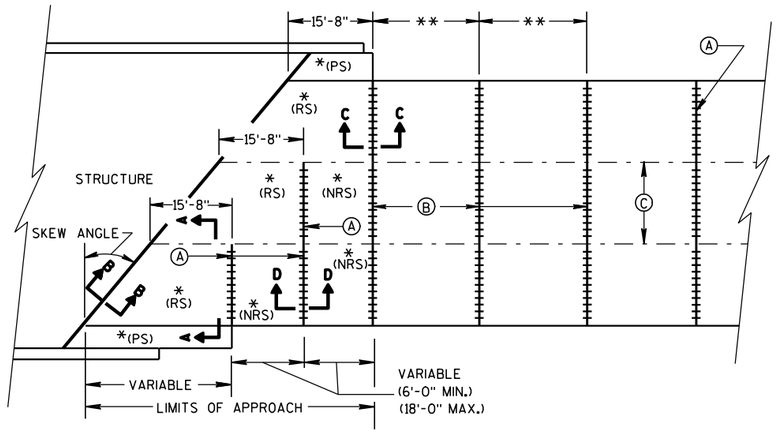
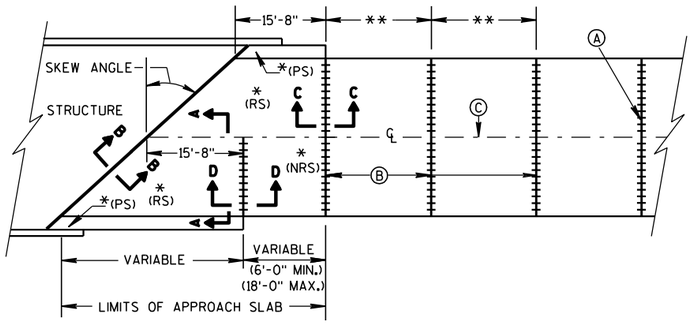
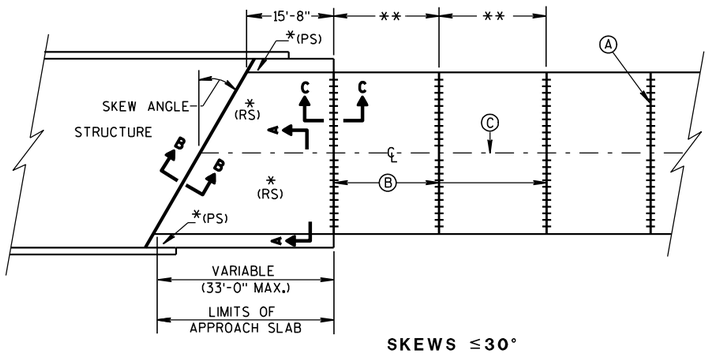


SKEWED APPROACH
(PAVEMENT MORE THAN 2 LANES)



SKEWS >30°
(PAVEMENT WIDTH ≤30')



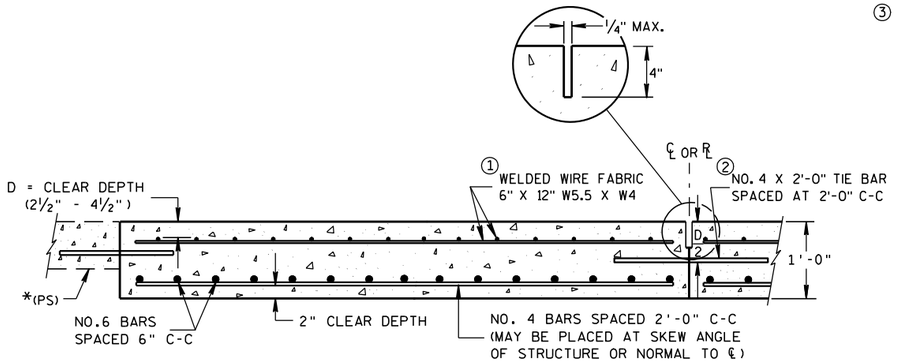
SKEWS ≤30°
(PAVEMENT WIDTH ≤30')

APPROACH SLAB AND ADJACENT PAVEMENT

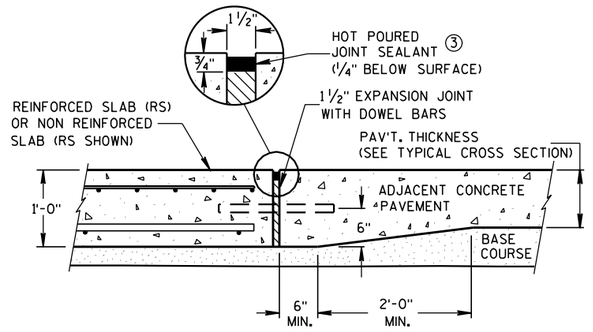
*(RS) = REINFORCED CONCRETE SLAB
*(PS) = PAVED CONCRETE SHOULDER: CONCRETE PAVEMENT, OR CONCRETE SURFACE DRAIN
(SEE DETAILS ELSEWHERE IN THE PLAN)
*(NRS) = NON-REINFORCED CONCRETE SLAB

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

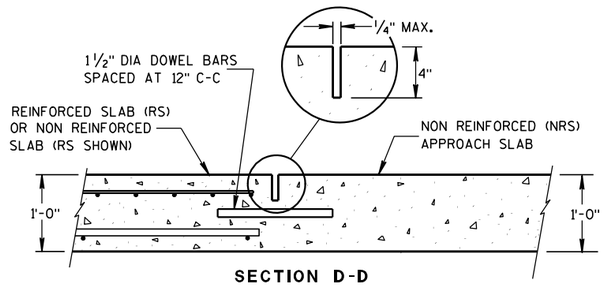
(A) STANDARD CONTRACTION JOINT NORMAL TO ℄ OR ℄
(B) 1½" EXPANSION JOINT WITH DOWEL BARS NORMAL TO ℄ OR ℄
(C) STANDARD LONGITUDINAL JOINT AND TIE BARS.



SECTION A-A
REINFORCEMENT POSITIONING DETAIL



SECTION C-C
TRANSITION DETAIL
APPROACH SLAB TO ADJACENT PAVEMENT



SECTION D-D
CONTRACTION JOINT

GENERAL NOTES

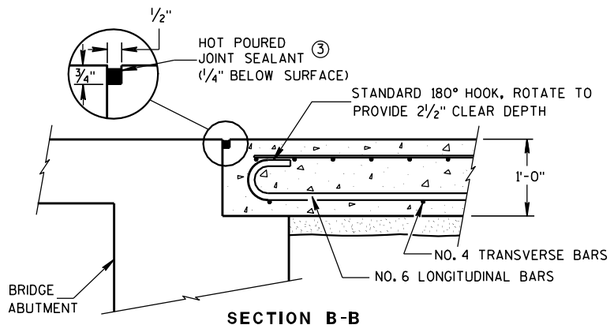
APPROACH SLABS ABUTTING AN HMA PAVEMENT OVER BASE COURSE DO NOT NEED TO BE DOWELED.

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

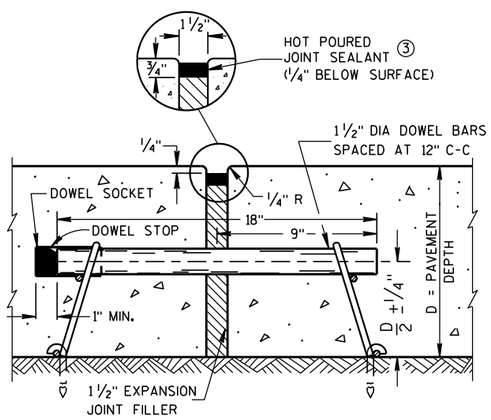
1 THE CONTRACTOR MAY USE NO. 4 BARS SPACED AT 2'-0" C-C IN BOTH THE LONGITUDINAL AND TRANSVERSE DIRECTIONS FOR TOP REINFORCEMENT AS AN ALTERNATIVE TO THE WELDED WIRE FABRIC.

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

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



SECTION B-B
BEND DETAIL
BOTTOM REINFORCEMENT



EXPANSION JOINT

CONCRETE PAVEMENT APPROACH SLAB

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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12/11/2009 — DATE
/S/ Deb Bischoff — PAVEMENT POLICY & DE — NEER
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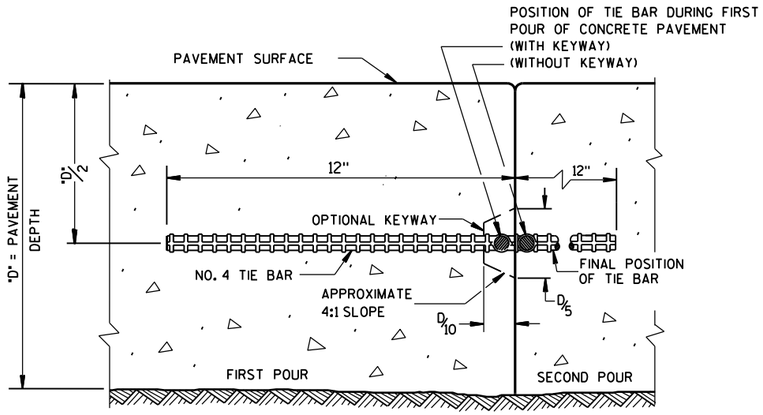
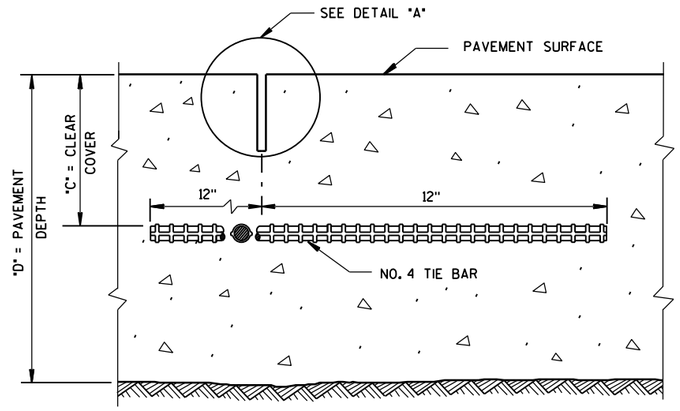


CONSTRUCTION JOINT



SAWED JOINT

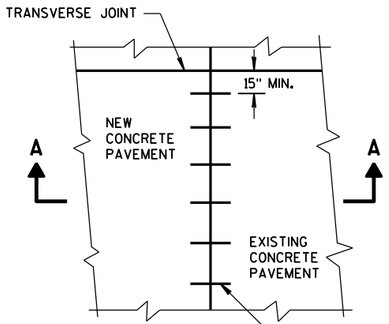
GENERAL NOTES

DO NOT SEAL OR FILL LONGITUDINAL JOINTS.

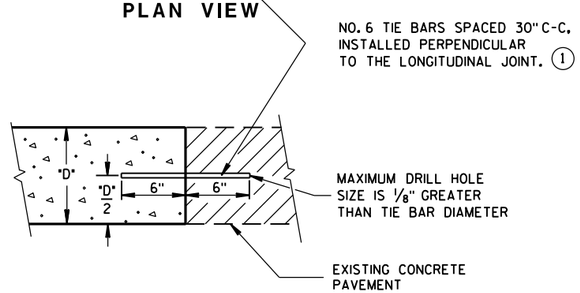
CREATE A LONGITUDINAL JOINT FOR PAVEMENT WIDTHS GREATER THAN 15 FEET.

CORRELATE LONGITUDINAL JOINTS WITH LANE LINES WHEN POSSIBLE.

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

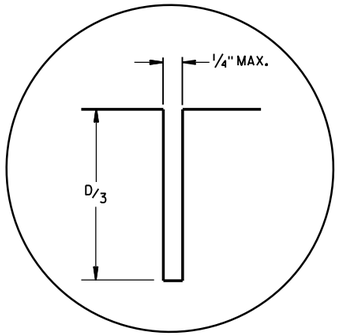


PLAN VIEW



SECTION A-A

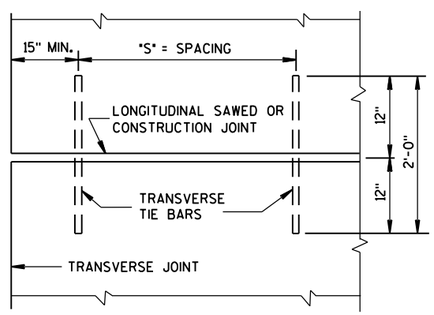
LONGITUDINAL CONSTRUCTION JOINT TIE BARS ANCHORED INTO EXISTING PAVEMENT



DETAIL "A"

TIE BAR TABLE

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

5-3-2013
DATE

/S/ Deb Bischoff
PAVEMENT POLICY & DE

ENGINEER

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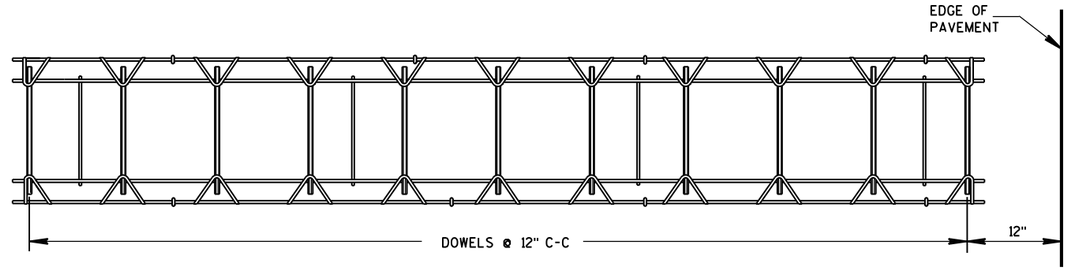
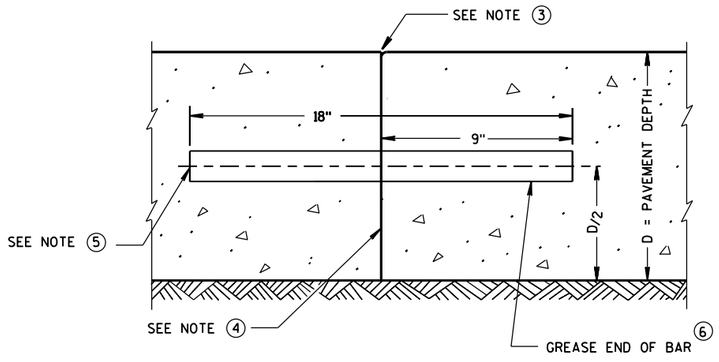


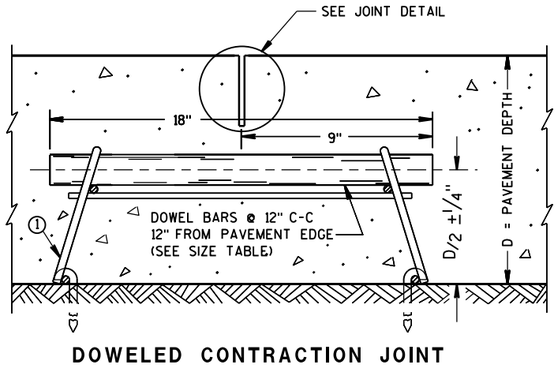
PLAN VIEW

SIDE VIEW

CONTRACTION JOINT DOWEL ASSEMBLY ①



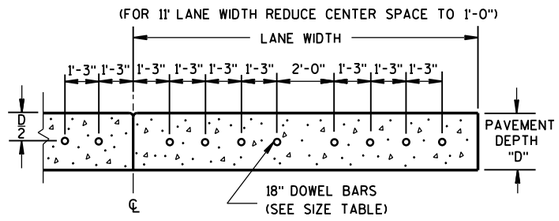
TRANSVERSE CONSTRUCTION JOINT



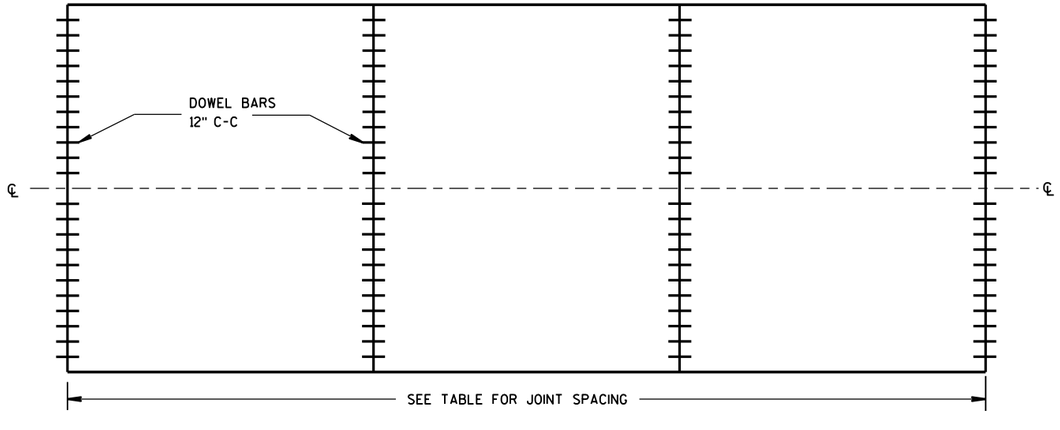
DOWELED CONTRACTION JOINT

PAVEMENT DEPTH, DOWEL BAR SIZE AND JOINT SPACING TABLE

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



DRILLED DOWEL BAR CONSTRUCTION JOINT ⑦



CONTRACTION JOINT LOCATIONS

GENERAL NOTES

CONTRACTION JOINTS

CONSTRUCT TRANSVERSE 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, LOCATE THE OUTER MOST DOWEL BAR SO THAT THE CENTER OF THE BAR IS A MINIMUM OF 6 INCHES AND A MAXIMUM OF 18 INCHES FROM THE LONGITUDINAL JOINT AND THE FREE EDGE OF PAVEMENT.

CONSTRUCTION JOINTS

LOCATE CONSTRUCTION JOINTS A MINIMUM OF 6 FEET FROM THE NEAREST CONTRACTION JOINT AND ALIGN PARALLEL TO CONTRACTION JOINTS.

① **OBTAIN THE ENGINEER'S APPROVAL FOR THE USE OF ALTERNATIVE DESIGNS OF THE DOWEL ASSEMBLY. USE MECHANICAL DOWEL BAR INSERTERS OR DOWEL ASSEMBLIES WHEN CONSTRUCTING CONTRACTION JOINTS.**

② 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.

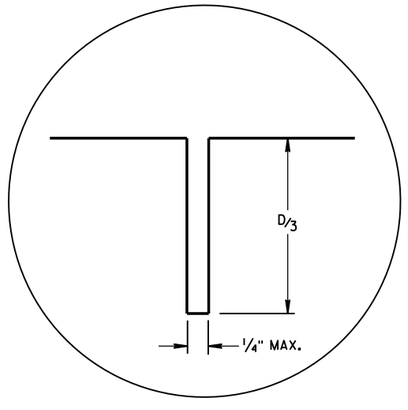
③ FORM OR SAW CONSTRUCTION JOINTS. PROVIDE A ¼-INCH RADIUS AT FORMED JOINTS.

④ PROVIDE A SMOOTH VERTICAL FACE FOR THE ENTIRE DEPTH OF THE PAVEMENT WHEN FORMING CONSTRUCTION JOINTS.

⑤ INSTALL DOWEL BARS AT CONSTRUCTION JOINTS BY FORMING OR DRILLING. INSTALL FORMED DOWEL BARS 12 INCHES C-C AND 12 INCHES FROM PAVEMENT EDGE. REMOVE EXCESS CONCRETE FROM THE FREE END OF THE DOWEL BAR IF DOWEL BARS ARE FORMED THROUGH A HEADER BOARD. INSTALL DRILLED DOWEL BARS ACCORDING TO *DRILLED DOWEL BAR CONSTRUCTION JOINT* DETAIL.

⑥ APPLY A THIN UNIFORM COATING OF SURFACE TREATMENT TO THE FREE END OF DOWEL BARS TO PREVENT BONDING.

⑦ ANCHOR DOWEL BARS INTO DRILLED HOLES WITH AN EPOXY. MAXIMUM DRILLED HOLE SIZE IS ⅛-INCH GREATER THAN DOWEL BAR DIAMETER, 9 INCHES IN LENGTH.



JOINT DETAIL

URBAN DOWELED CONCRETE PAVEMENT

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
5/3/2013 DATE
/S/ Deb Bischoff
PAVEMENT POLICY & DE ENGINEER
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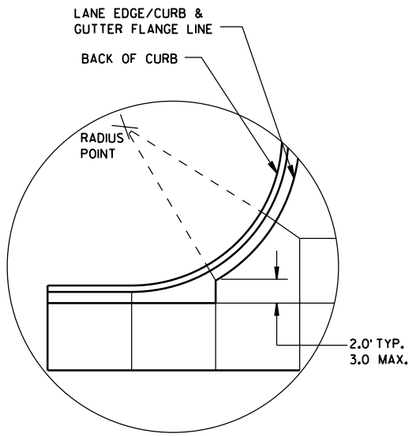
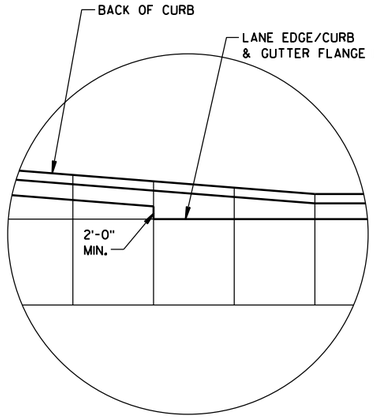
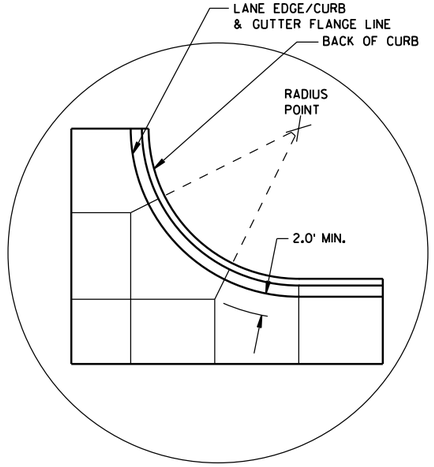


DETAIL "A"



DETAIL "B"



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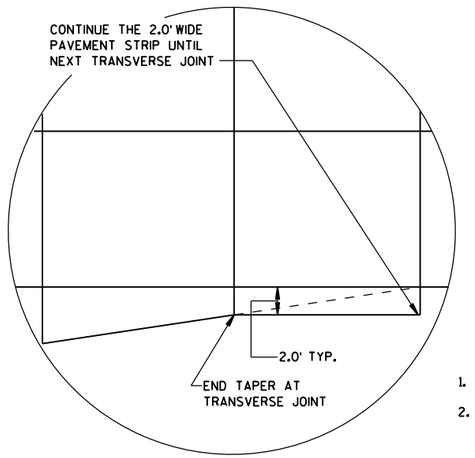


DETAIL "D"

GENERAL NOTES

THE PRIMARY ROADWAY CONTROLS THE TRANSVERSE JOINT PATTERN.

ALIGN NEW JOINTS WITH EXISTING JOINTS OR CRACKS.

CONSTRUCT TRANSVERSE JOINTS PERPENDICULAR TO THE ROADWAY.

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

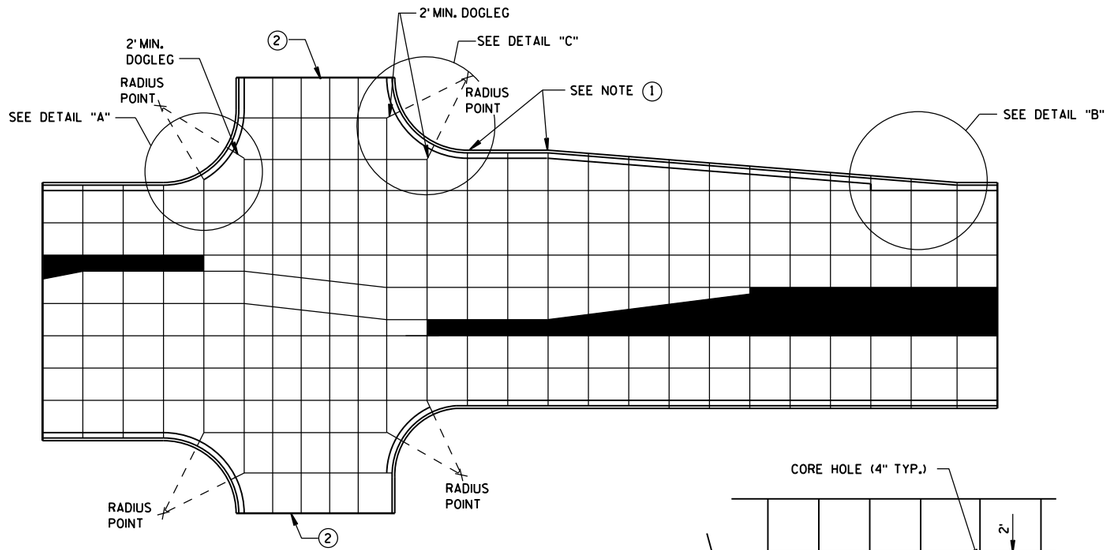
AVOID SLABS LESS THAN 2 FEET WIDE OR GREATER THAN 15 FEET WIDE.

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

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

CORRELATE LONGITUDINAL JOINTS WITH LANE LINES WHEN POSSIBLE.

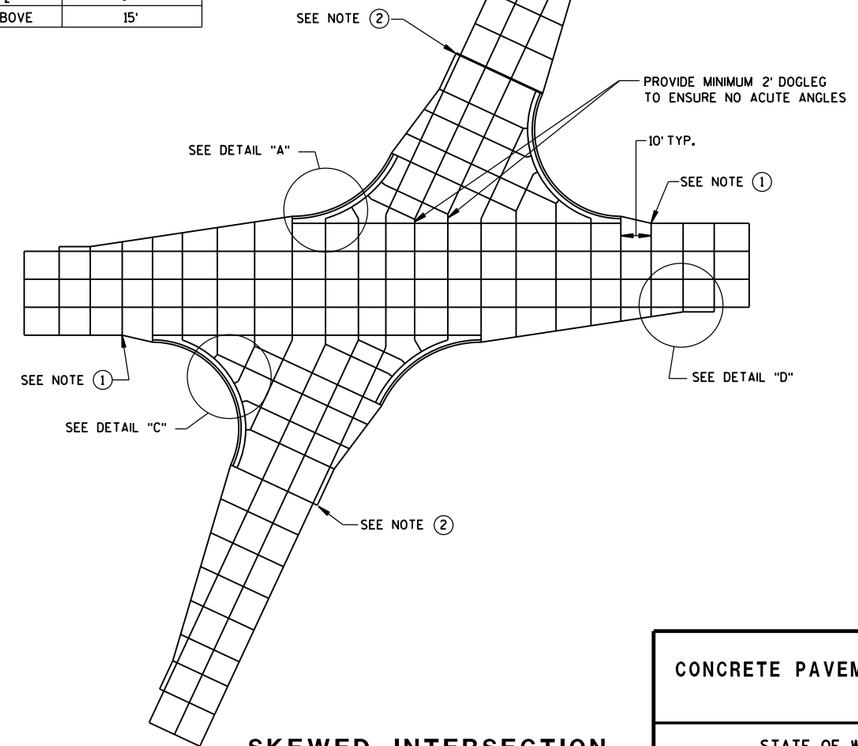
1. PROVIDE TRANSVERSE JOINTS AT ALL PAVEMENT WIDTH CHANGES.
2. CONSTRUCT DOWELED EXPANSION JOINT ON THE SIDE ROAD OF AN INTERSECTION IF THE SIDE ROAD IS CONCRETE PAVEMENT AND GREATER THAN 300 FEET IN LENGTH. ALIGN EXPANSION JOINT WITH EDGE OF RADIUS.
3. THE ENGINEER MAY APPROVE SLIGHT VARIATIONS FROM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



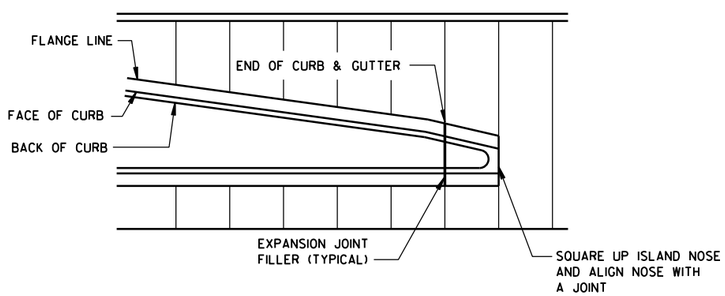
STANDARD INTERSECTION

PAVEMENT DEPTH AND JOINT SPACING TABLE

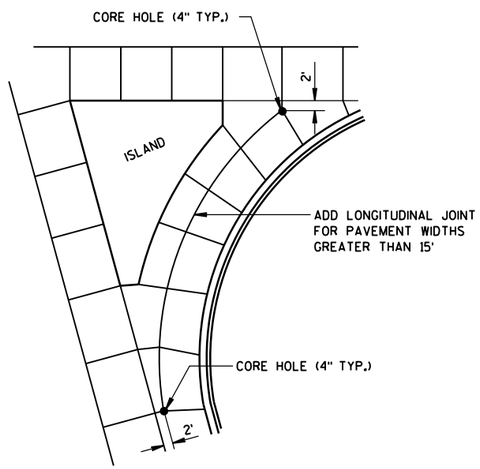
PAVEMENT DEPTH (D)	CONTRACTION JOINT SPACING
6", 6½"	12'
7", 7½"	14'
8" & ABOVE	15'



SKEWED INTERSECTION



APPROACH TO MEDIAN



LARGE RIGHT TURN

CONCRETE PAVEMENT JOINTING

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOR

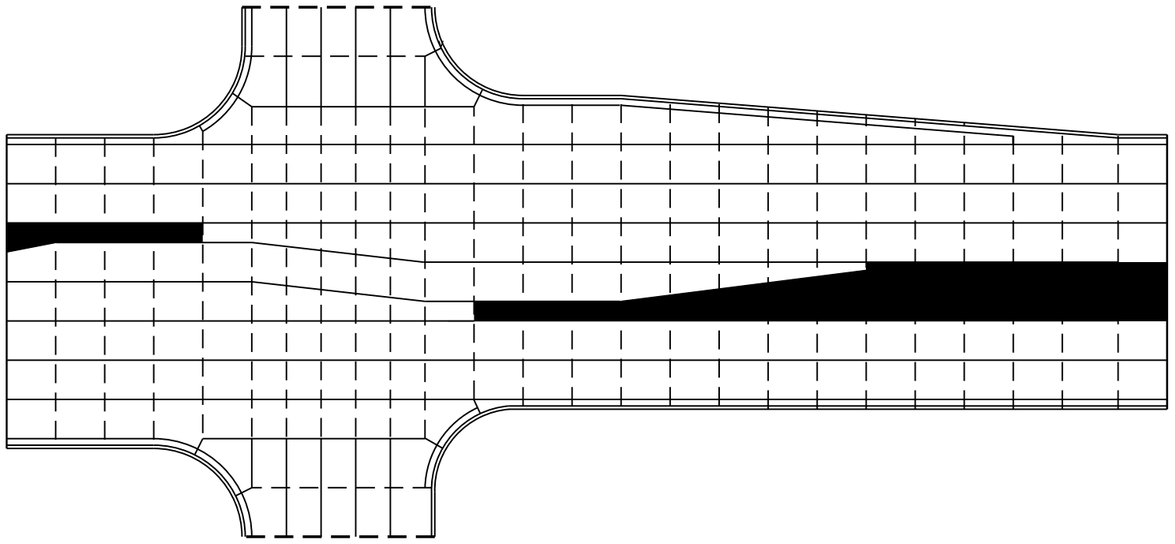
6
S.D.D. 13 C 18-2a

LEGEND

POTENTIAL DOWELED EXPANSION JOINT

DOWELED JOINT

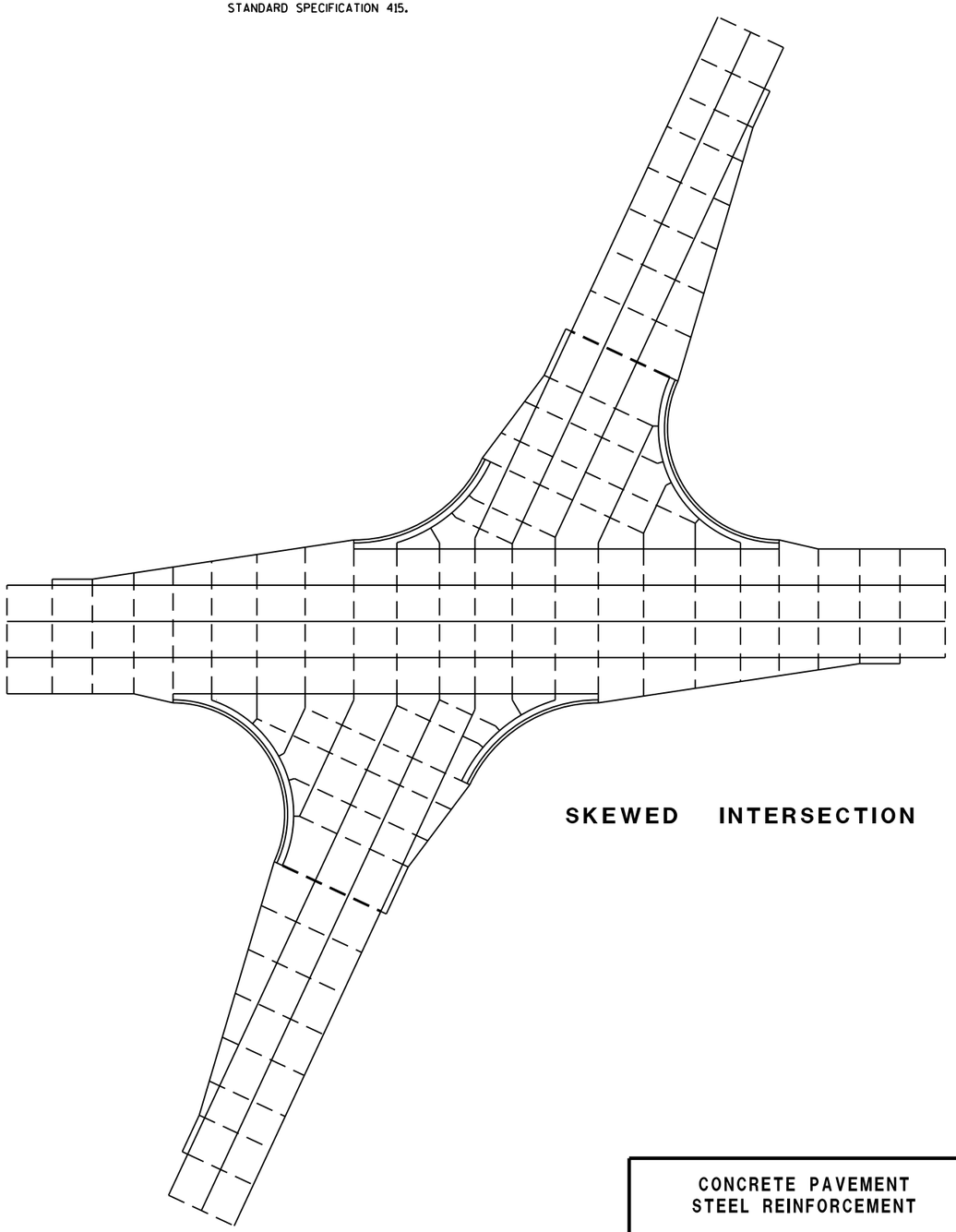
TIED JOINT



STANDARD INTERSECTION

GENERAL NOTES

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



SKEWED INTERSECTION

CONCRETE PAVEMENT
STEEL REINFORCEMENT

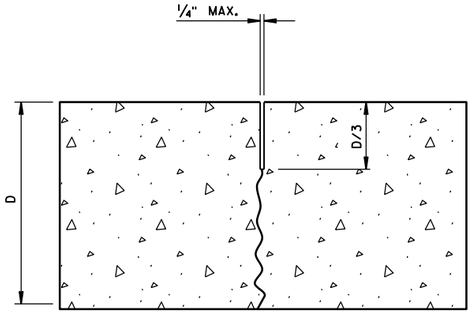
STATE OF WISCONSIN
DEPARTMENT OF TRANSPOR

6

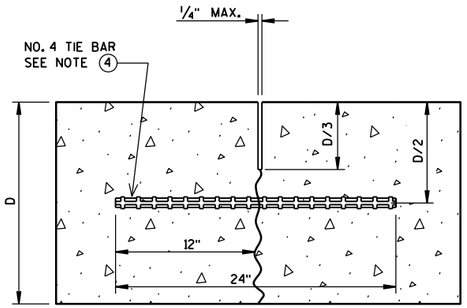
S.D.D. 13 C 18-2b

6

S.D.D. 13 C 18-2b



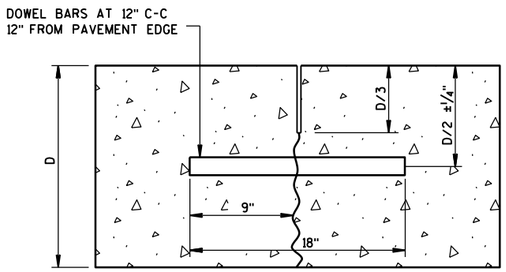
UNDOWELED-TRANSVERSE



TIED LONGITUDINAL

GENERAL NOTES

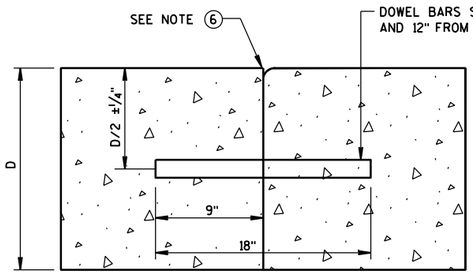
1. USE DOWELED EXPANSION JOINTS ON SIDE ROADS AT INTERSECTIONS (TO ISOLATE THE SIDE ROAD FROM THE THROUGH STREET) IF THE SIDE ROAD IS CONCRETE PAVEMENT AND GREATER THAN 300 FEET IN LENGTH.
2. SPACE CONTRACTION JOINTS IN ACCORDANCE WITH 13C4, 13C11 OR 13C13.
3. LOCATE CONSTRUCTION JOINTS A MINIMUM OF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



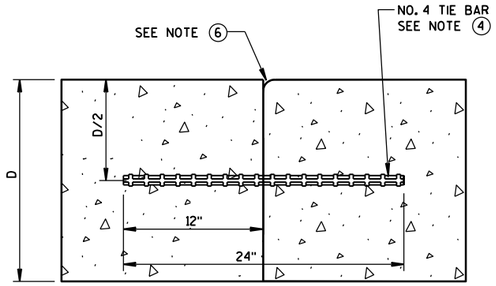
DOWELED-TRANSVERSE

CONTRACTION JOINTS

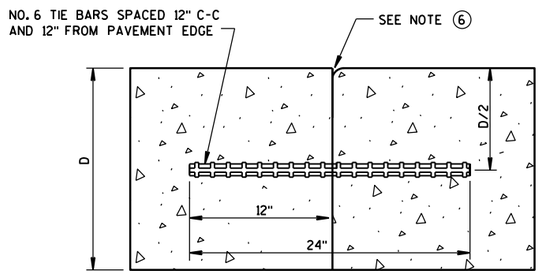
SEE NOTE (2)



DOWELED TRANSVERSE

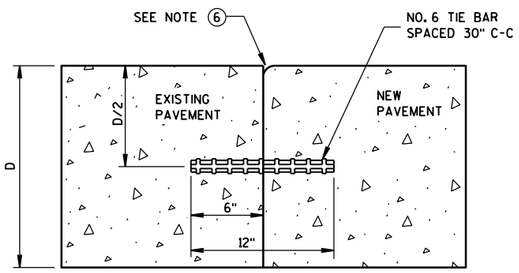


TIED LONGITUDINAL



TIED TRANSVERSE

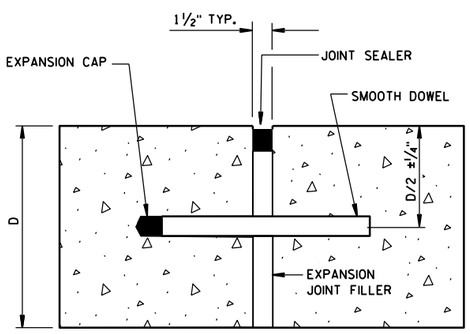
(FOR USE ON NON-DOWELED PAVEMENTS ONLY)



TIED LONGITUDINAL TO EXISTING

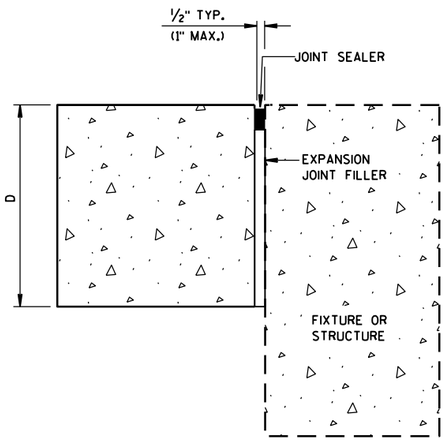
CONSTRUCTION JOINTS

SEE NOTE (5)



DOWELED-TRANSVERSE

SEE NOTE (1)



UNTIED-LONGITUDINAL

EXPANSION JOINTS

CONCRETE PAVEMENT
JOINT TYPES

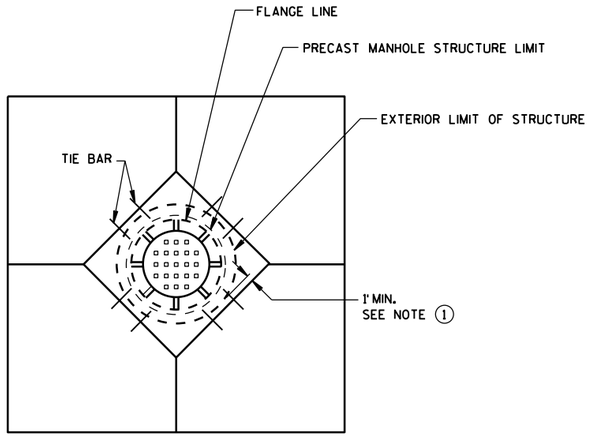
STATE OF WISCONSIN
DEPARTMENT OF TRANSPOI

6

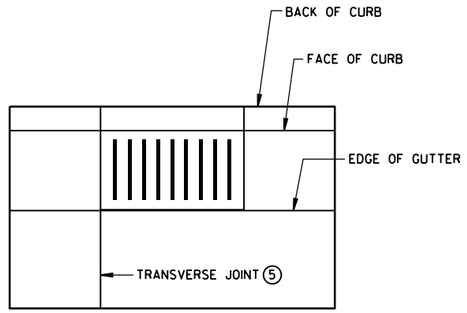
S.D.D. 13 C 18-2c

6

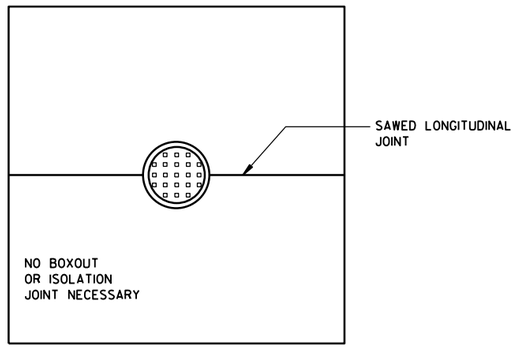
S.D.D. 13 C 18-2c



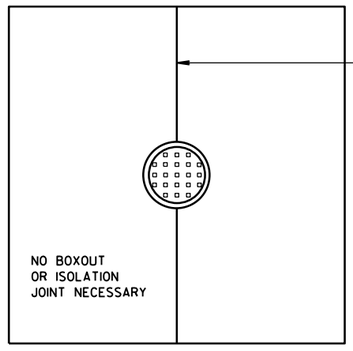
DIAGONAL MANHOLE BOXOUT FOR CONSTRUCTION JOINTS



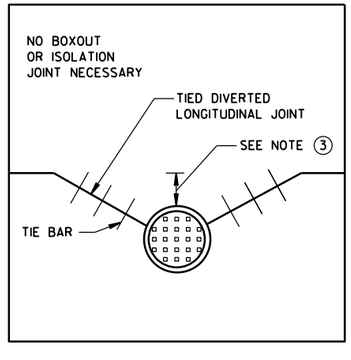
INLET WITH TRANSVERSE JOINT



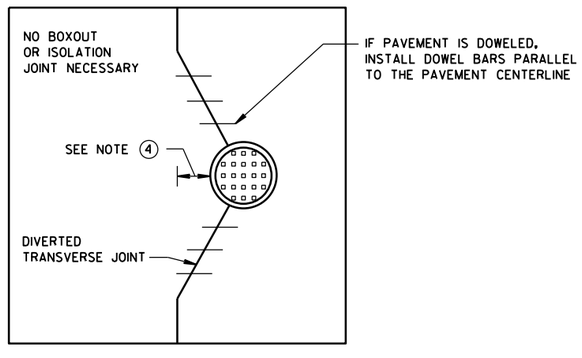
MANHOLE WITH LONGITUDINAL JOINT



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 2 FEET OR LESS, DIVERT THE LONGITUDIAL JOINT AT A 2:1 TAPER RATE TO THE CENTER OF THE MANHOLE. IF THE DISTANCE IS GREATER THAN 2 FEET, DO NOT DIVERT THE JOINT AND SAW AS NORMAL. PLACE REBAR REINFORCEMENT AROUND THE MANHOLE.

(4) IF DISTANCE FROM THE EDGE OF THE MANHOLE TO THE NEAREST TRANSVERSE JOINT IS 4 FEET OR LESS, REDIRECT JOINT TO INTERSECT THE CENTER OF THE MANHOLE. IF DISTANCE IS GREATER THAN 4 FEET, DO NOT DIVERT THE JOINT AND SAW AS NORMAL. PLACE REBAR REINFORCEMENT AROUND THE MANHOLE.

(5) ALIGN TRANSVERSE JOINT WITH ONE EDGE OF INLET WHEN PRACTICAL.

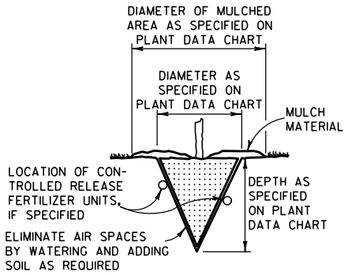
CONCRETE PAVEMENT JOINTING AT UTILITY FIXTURES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

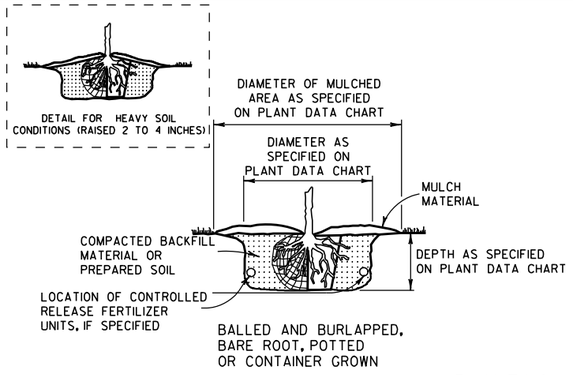
APPROVED
5-3-2013 DATE
/S/ Deb Bischoff PAVEMENT POLICY & DE
NEER
FHWA

6

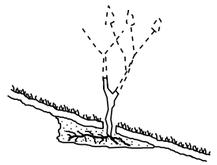
S.D.D. 13 C 18-2d



MACHINE MOVED

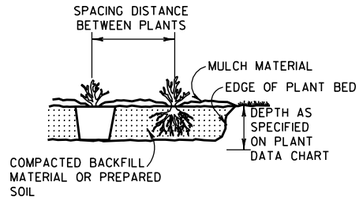


BALLED AND BURLAPPED, BARE ROOT, POTTED OR CONTAINER GROWN



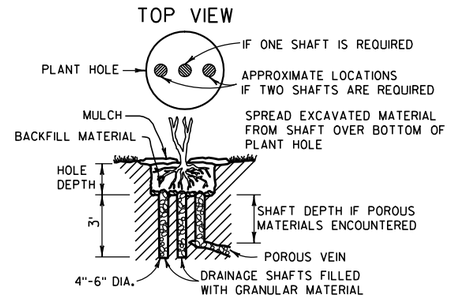
ACCOMMODATE ROOTS (SMOOTH AND STAGHORN SUMAC)

NOTE:
1) ENGINEER SHALL REQUIRE 3 SLITS IN POT TO SPEED DETERIORATION
2) METAL, PLASTIC OR OTHER NONDEGRADABLE POTS SHALL BE REMOVED PRIOR TO PLANTING



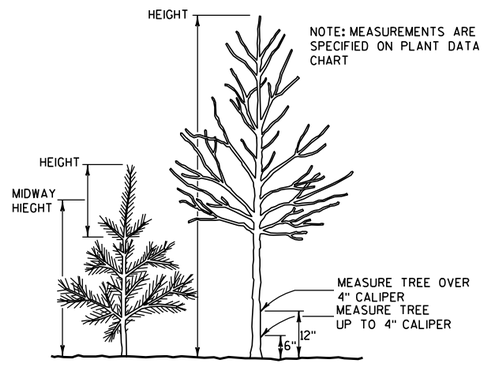
PREPARED BED (BARE ROOT AND POTTED)

PLANTING

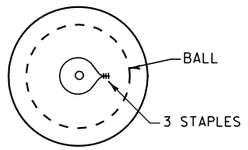


NOTE:
DRAINAGE SHAFT AS SPECIFIED ON PLANT DATA CHART

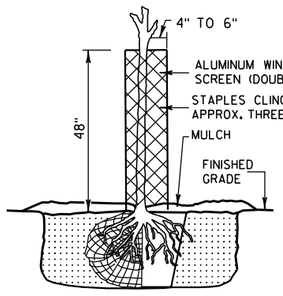
DRAINING



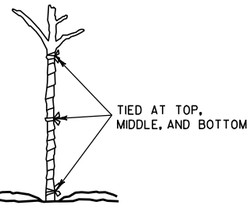
MEASURING



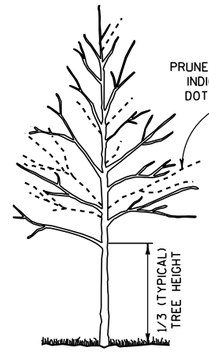
TOP VIEW



RODENT PROTECTION



WRAPPING

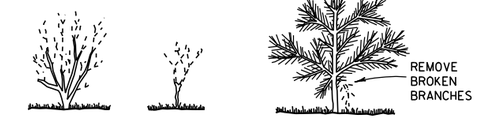


TALL DECIDUOUS TREES (ASH, MAPLE, LINDEN, OAK)

SINGLE STEMMED LOW DECIDUOUS TREES (CRABS AND OTHER SINGLE STEM TYPE)

MULTI-STEMMED LOW DECIDUOUS TREES OR LARGE SHRUBS (HAWTHORN, SERVICEBERRY)

NOTE: WHEN PRUNING, PRESERVE CHARACTER AND SHAPE OF TREE. AVOID LEAVING STUBS - REMOVE BRANCH OR TWIG BACK TO THE NEAREST CROTCH
1) PRUNE TO REMOVE DEAD AND BROKEN BRANCHES
2) PRUNE TO REMOVE BRANCHES THAT TOUCH OR ARE TOO CLOSE TO OTHER BRANCHES

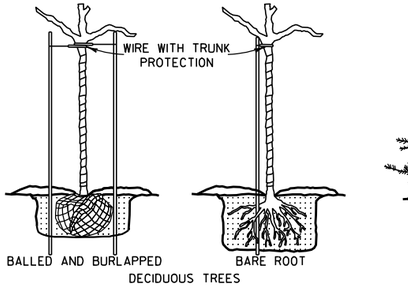


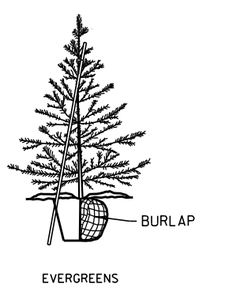
SHRUBS (GRAY DOGWOOD ARROWWOOD VIBURNUM)

SUMAC

TREE TYPE EVERGREENS (PINE, SPRUCE, FIR) EVERGREENS USUALLY ARE NOT PRUNED

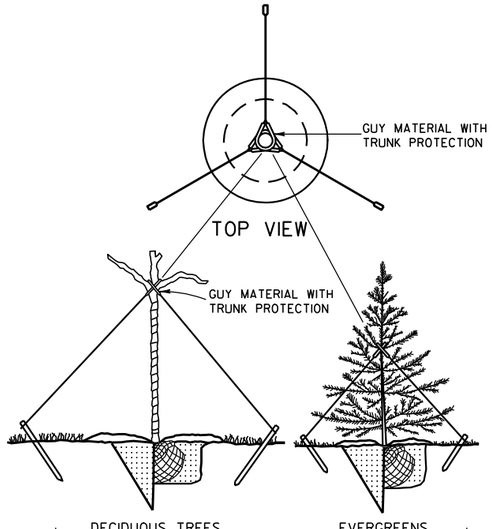
PRUNING



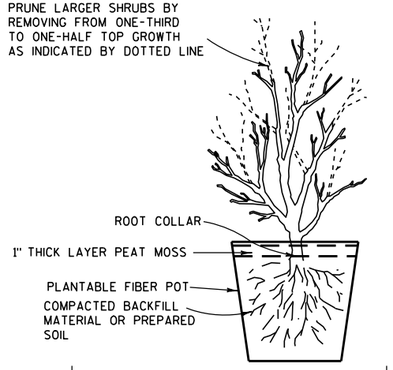


NOTE: BRACING STAKE
1) SHALL BE DRIVEN INTO THE GROUND AS CLOSE TO THE TREE AS POSSIBLE WITHOUT DAMAGING THE BRANCHES.
2) MAY BE DRIVEN AT SUCH AN ANGLE THAT IT DOES NOT PENETRATE THE BALL OR POT.
3) SHALL NOT PROTRUDE ABOVE THE TOP OF THE TREE; AND
4) SHALL HAVE A HOLE NEAR THE TOP TO HOLD THE WIRE IN PLACE.

BRACING



GUYING



POTTING

NOTES

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

BRACING, WRAPPING, GUYING, RODENT PROTECTION, FERTILIZER AND MULCH SHALL BE USED ONLY WHEN SPECIFIED ON THE PLANT DATA CHART (PART OF PLAN) OR SPECIAL PROVISIONS.

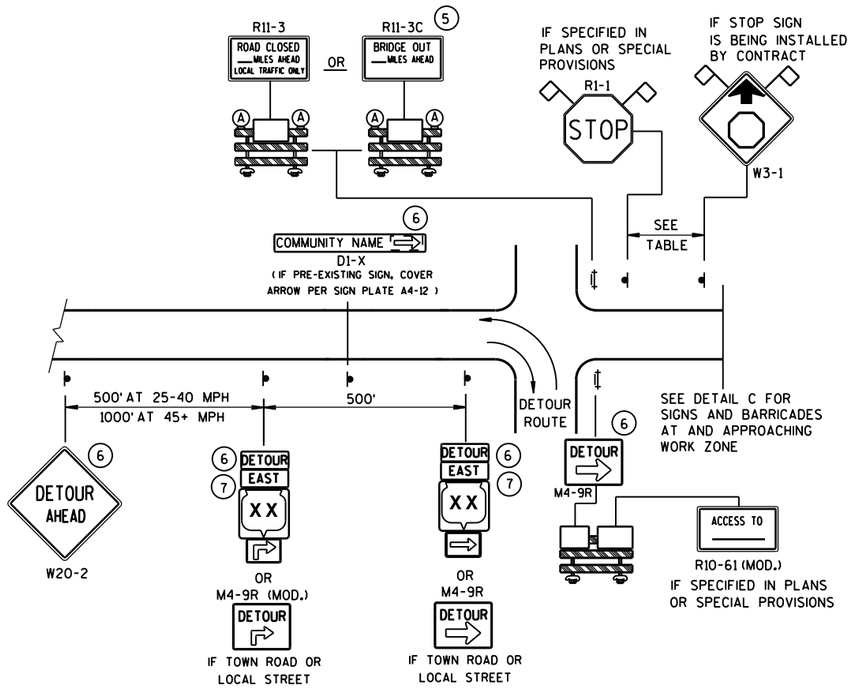
TREE PLANTING DETAIL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
4/11/94
DATE
/S/ Rory L. Rhinesmith
CHIEF METHODS DEVELOPMENT ENGINEER
FHWA

6

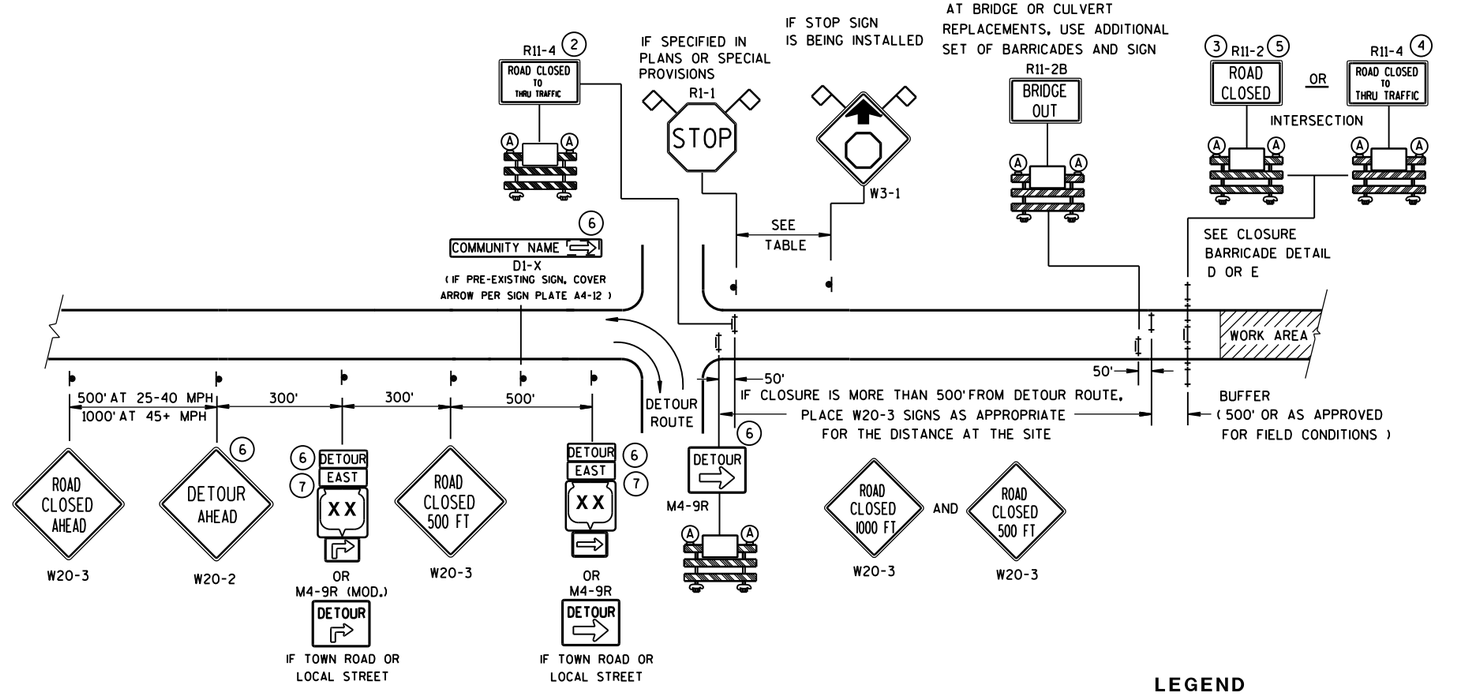
S.D.D. 14 A 2-1



DETAIL A

MAINLINE CLOSURE WITH POSTED DETOUR

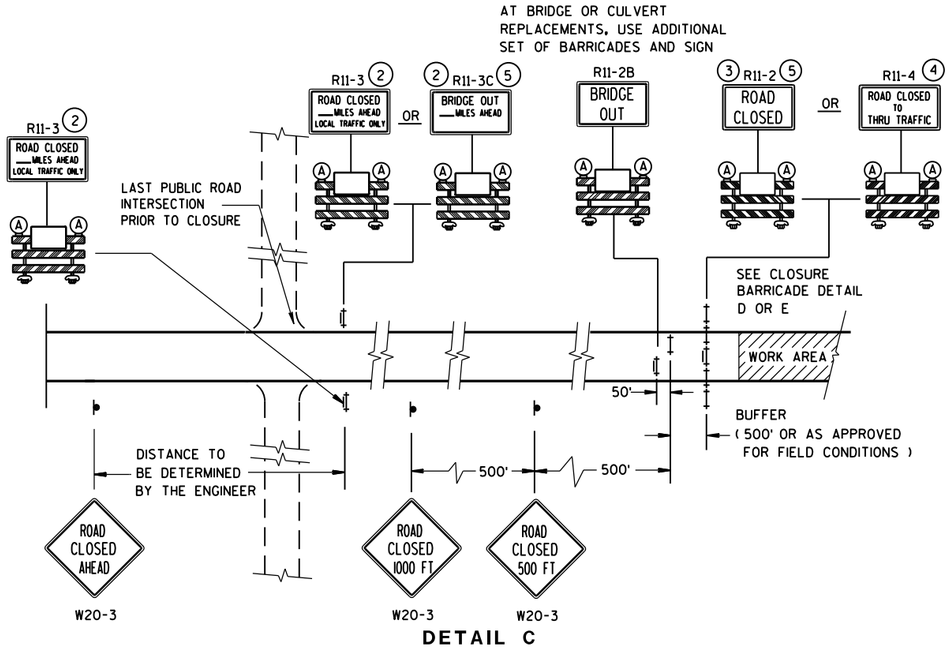
WORK ZONE GREATER THAN ½ MILE FROM DETOUR ROUTE (1000 FEET IF URBAN)



DETAIL B

MAINLINE CLOSURE WITH POSTED DETOUR

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



DETAIL C

MAINLINE CLOSURE, NO POSTED DETOUR

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

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

LEGEND

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

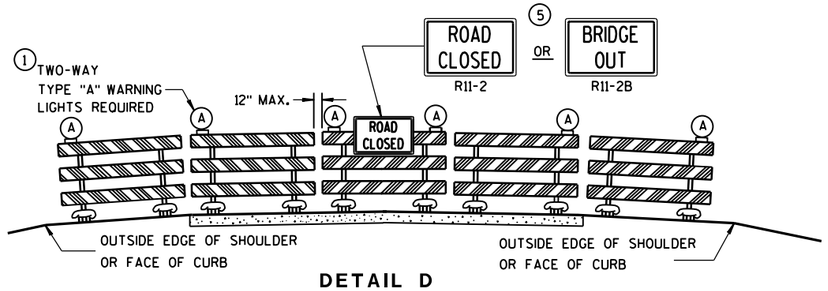
BARRICADES AND SIGNS FOR MAINLINE CLOSURES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

FHWA

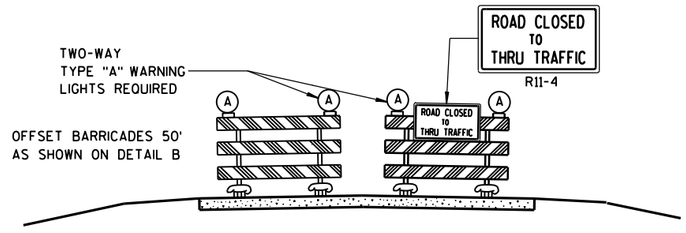
6
S.D.D. 15 C 2-5a



DETAIL D

ROAD CLOSURE BARRICADE DETAIL

APPROACH VIEW



DETAIL E

LANE CLOSURE BARRICADE DETAIL

APPROACH VIEW

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

GENERAL NOTES

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

BARRICADES AND SIGNS FOR MAINLINE CLOSURES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

8/2013 DATE

/S/ Travis Feltes
STATE TRAFFIC ENGINEER

DESIGN

FHWA

6

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

GENERAL NOTES

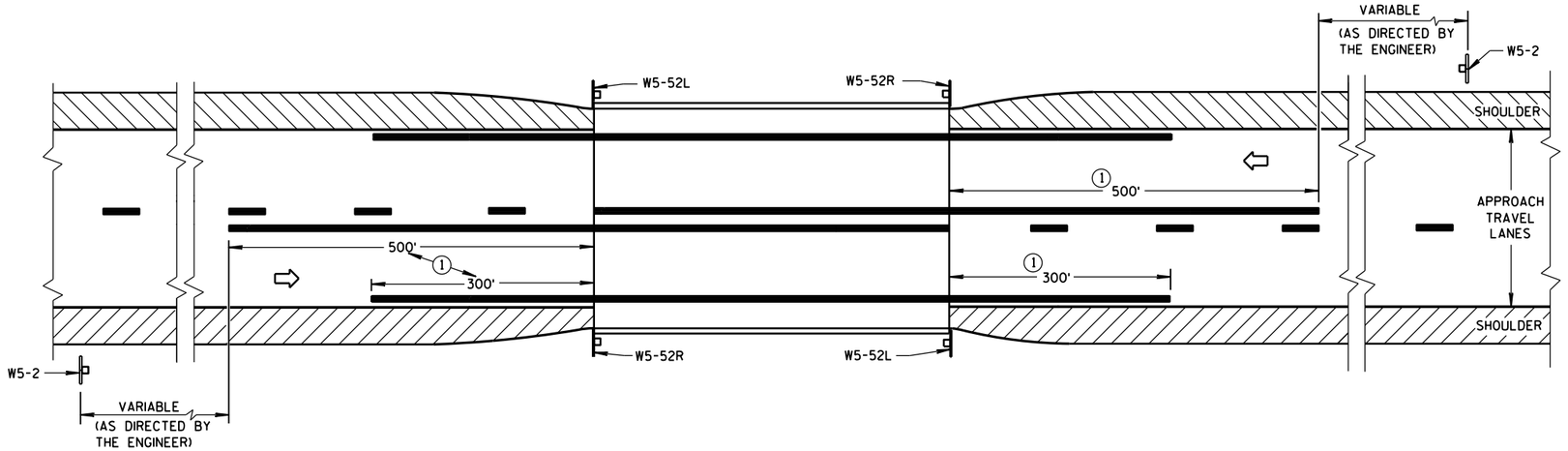
DETAILS OF TRAFFIC CONTROL DEVICES AND INSTALLATION NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS, THE SPECIAL PROVISIONS, AND THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES.

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 F REFLECTIVE SHEETING.

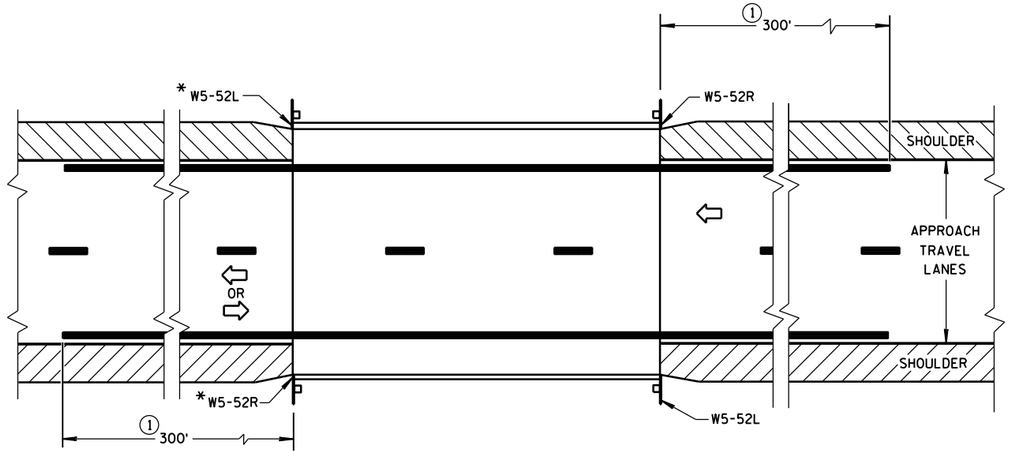
(3) LOCATE OBJECT MARKER POST(S) BEHIND GUARDRAIL WHEN PRESENT.



SITUATION 1

WARRANTING CRITERIA:

BRIDGE WIDTH IS AT LEAST 18 FEET BUT LESS THAN 24 FEET

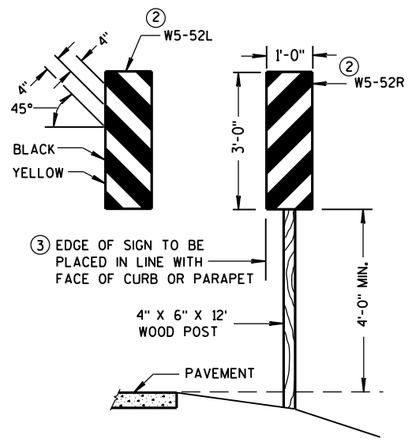


*OMIT ON ONE-WAY TRAVELLED WAYS

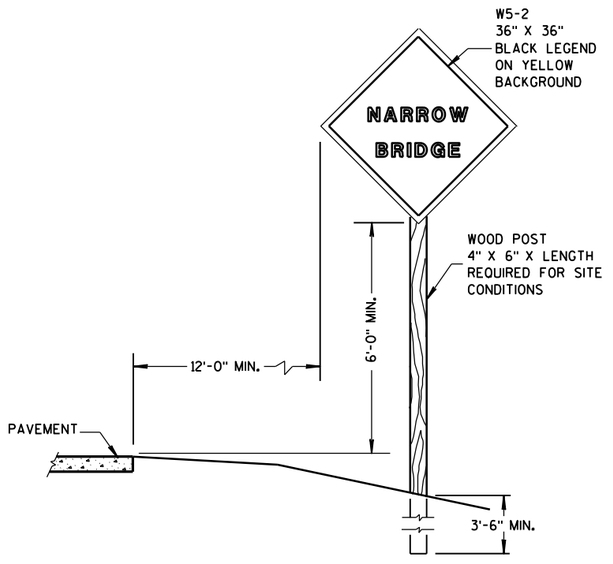
SITUATION 2

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



SIGN PLACEMENT

SIGNING & MARKING
FOR TWO LANE BRIDGES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

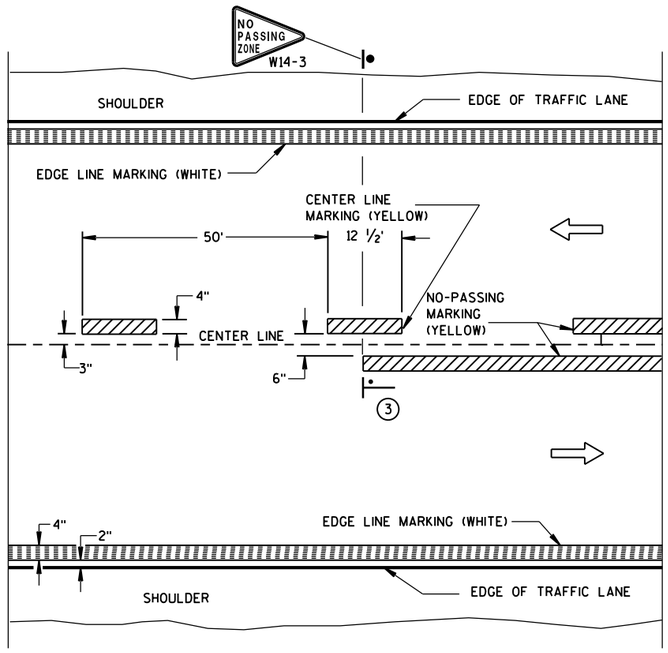
3/4/2013 — DATE

/S/ Travis Feltes — STATE TRAFFIC ENGINEER

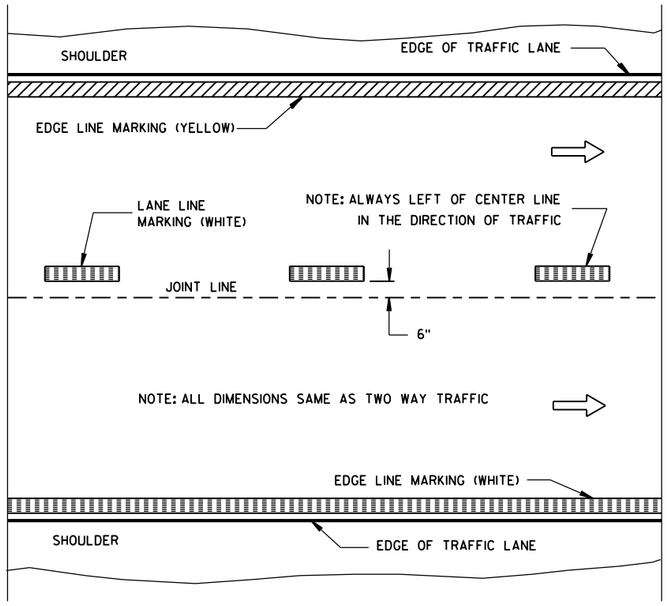
FHWA

6

S.D.D. 15 C 6-6

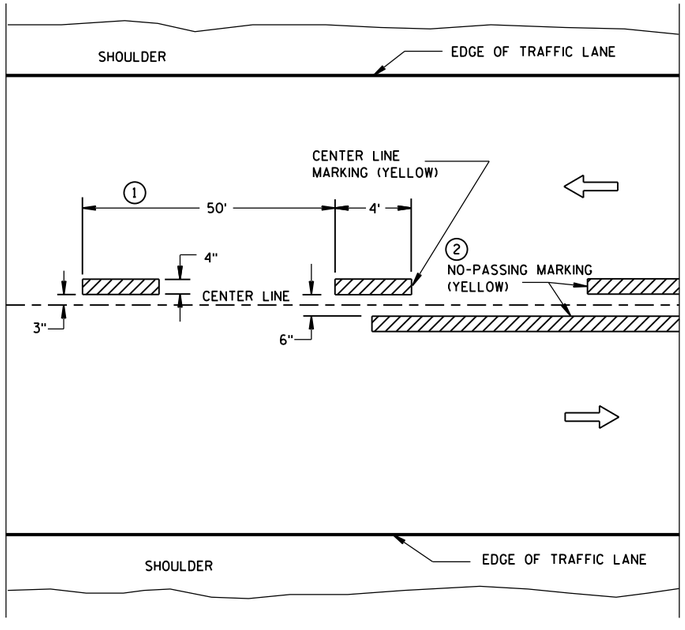


TWO WAY TRAFFIC

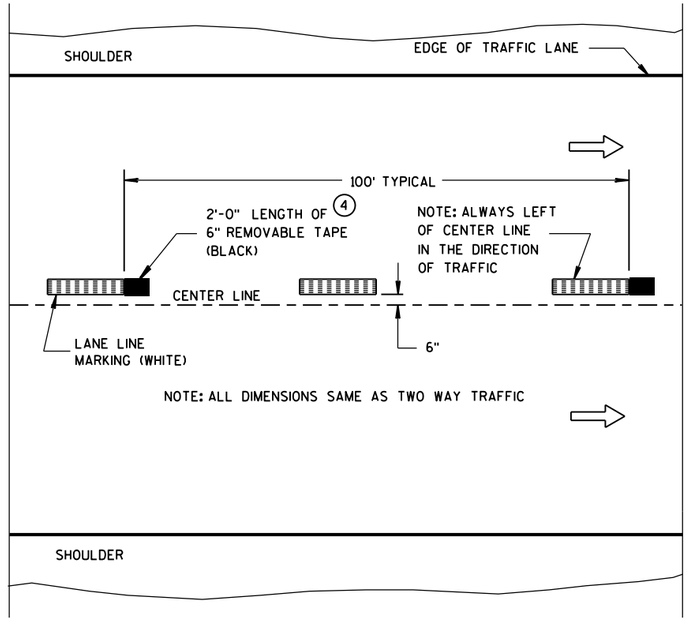


ONE WAY TRAFFIC

PERMANENT PAVEMENT MARKING



TWO WAY TRAFFIC



ONE WAY TRAFFIC

TEMPORARY (INTERMEDIATE) PAVEMENT MARKING

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

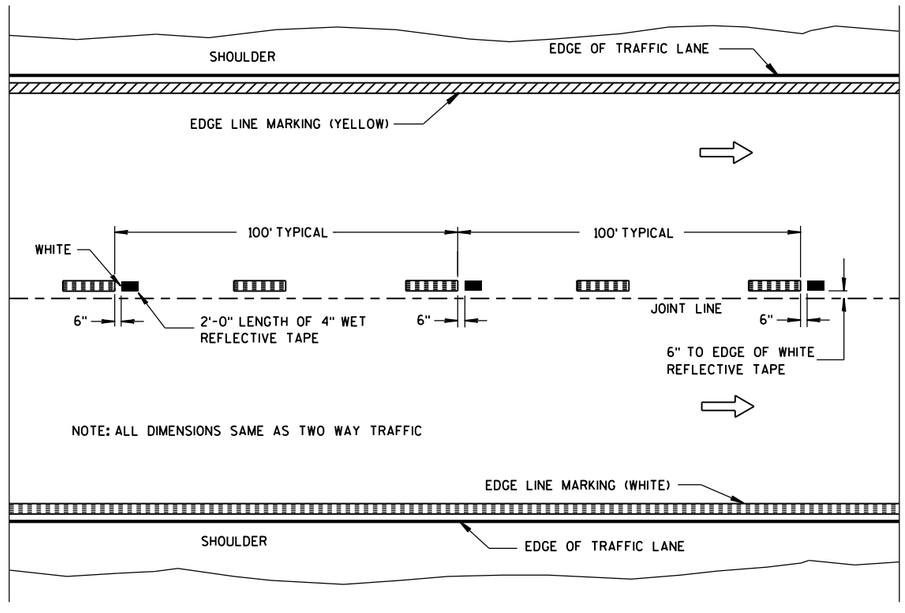
GENERAL NOTES

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

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

NOTE

ARROW SYMBOL (⇨) SHOWS DIRECTION OF TRAVEL



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

LEGEND

"T" MARKING

POST MOUNTED SIGN

PAVEMENT MARKING (MAINLINE)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

6

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

6

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

LEGEND

SIGN ON PORTABLE OR PERMANENT SUPPORT

DIRECTION OF TRAFFIC

WORK AREA

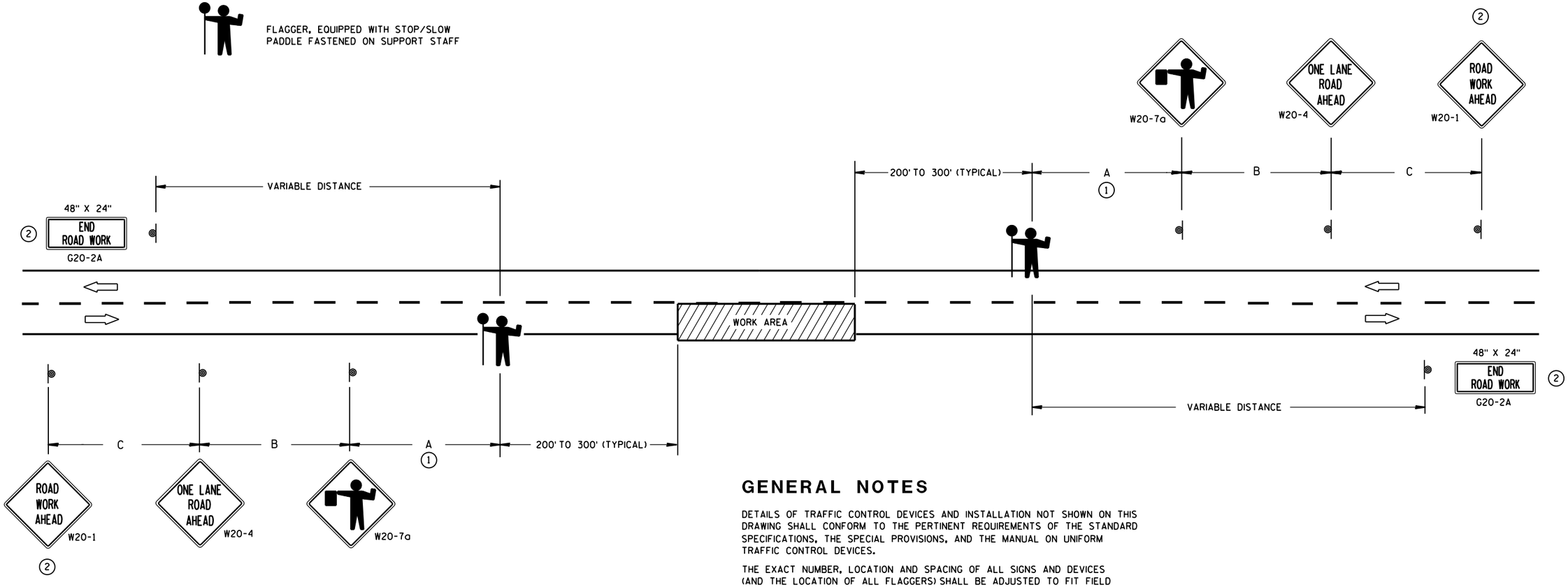
FLAGGER, EQUIPPED WITH STOP/SLOW PADDLE FASTENED ON SUPPORT STAFF

SIGN SPACING TABLE

SPEED LIMIT	SIGN SPACING A,B,C
25-35 MPH	200'
35-40 MPH	350'
45-55 MPH	500'

BE PREPARED TO STOP
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, COVER OR REMOVE ALL TEMPORARY TRAFFIC CONTROL SIGNS.

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

TRAFFIC CONTROL FOR LANE CLOSURE (SUITABLE FOR MOVING OPERATIONS)

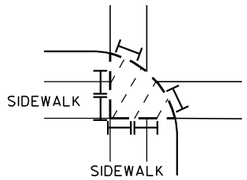
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

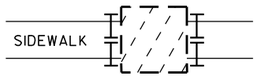
APPROVED
8/2013 — DATE
/S/ Travis Feltes — STATE TRAFFIC ENGINEER
FHWA

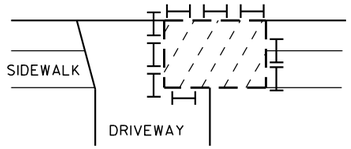
6

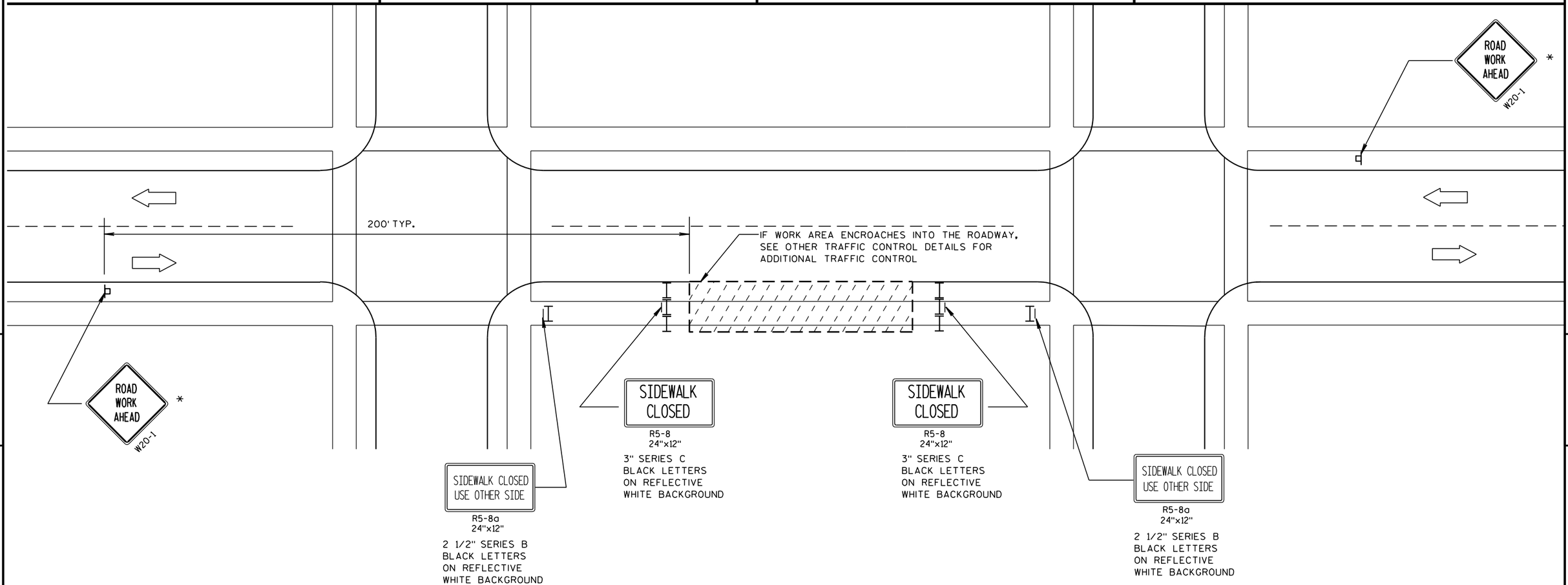
S.D.D. 15 C 12-4

WARNING OF LOCALIZED SIDEWALK WORK AREAS









LEGEND

- POST MOUNTED SIGN
- TYPE II BARRICADE WITH/WITHOUT SIGN (ALL WITH ONE WARNING LIGHT, TYPE A, LOW-INTENSITY FLASHING)
- WORK AREA
- DIRECTION OF TRAFFIC FLOW

GENERAL NOTES :

ALL SIGNS ARE 48"x48" UNLESS OTHERWISE NOTED. IF NECESSARY DUE TO SPACE CONSTRAINTS, 36"x36" SIGNS MAY BE USED INSTEAD OF 48"x48" SIGNS, IF APPROVED BY DISTRICT TRAFFIC UNIT.

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

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

* "ROAD WORK AHEAD" SIGNS ARE NOT REQUIRED IF THE SIDEWALK CLOSURE OCCURS WITHIN A LARGER WORK ZONE WHERE ADVANCE WARNING SIGNS ARE ALREADY PRESENT, OR IF THE WORK AREA AND EQUIPMENT ARE MORE THAN 2 FEET BEHIND THE CURB.

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

TRAFFIC CONTROL, SIDEWALK CLOSURE

TRAFFIC CONTROL, SIDEWALK CLOSURE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

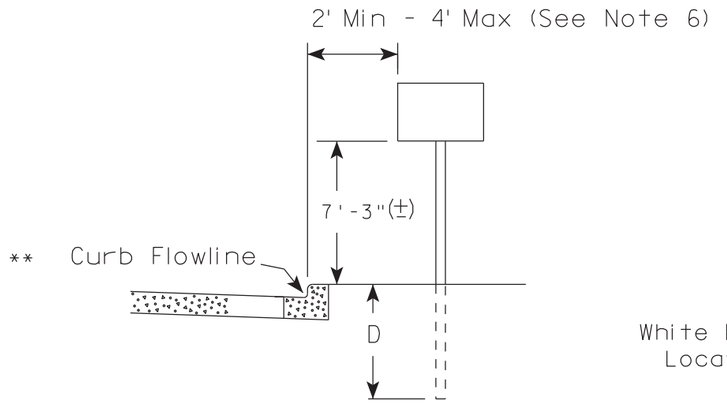
6

S.D.D. 15 D 30-1

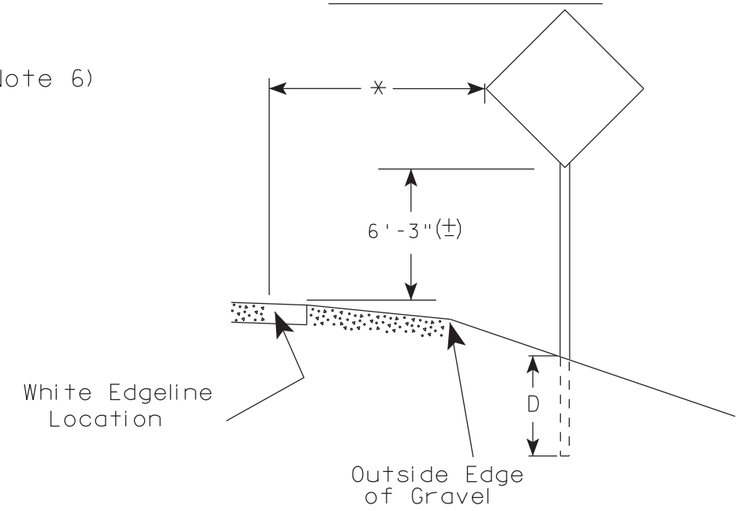
6

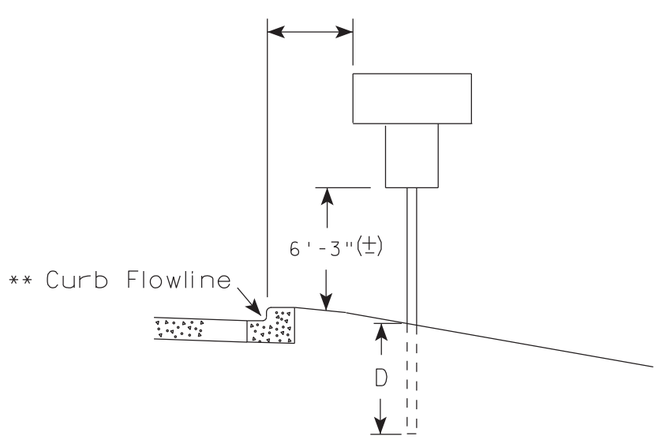
S.D.D. 15 D 30-1

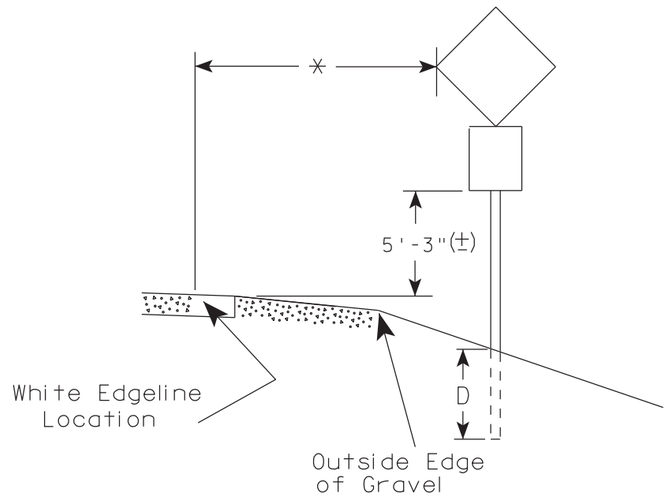
URBAN AREA



RURAL AREA (See Note 2)







** The existence of curb and gutter does not in itself mandate the vertical clearance illustrated. That height is typically measured where there is sidewalk adjacent to the roadway or parking is permitted. In the absence of sidewalk vertical clearance is measured from the top of the curb. Offset of signs is measured from the flow line.

* 6 feet from edge of a paved shoulder or 12 feet from the edge of pavement (edge line location) or 2 feet from outside edge of gravel, whichever is greater unless directed by project engineer.

GENERAL NOTES

1. Signs wider than 4 feet, 20 sq.ft or larger, shall be mounted on multiple posts. Refer to plate A4-4.
2. If signs are mounted on barrier wall, see A4-10 sign plate.
3. For expressways and freeways, mounting height is 7'- 3" (±) or 6'-3" (±) depending upon existence of a sub-sign.
4. Minimum mounting height for J assemblies (A4-5) is 7'-3" (±) or 6'-3" (±) per urban or rural detail respectively.
5. Minimum mounting height for signs mounted on traffic signal poles is 5'- 3" (±).
6. Offset distance shall be consistent with existing signs or consistent throughout length of project.
7. The (±) tolerance for mounting height is 3 inches.
8. Folding stop signs (R1-1F) shall be mounted at a height of 5'-3" (±) or as directed by the Engineer.
9. The Double Arrow sign (W12-1) shall be mounted at a height of 2'-3" (±). The Chevron sign (W1-8), Roundabout Chevron panel (R6-4B), Enhanced Reference Markers, Clearance Markers (W5-52), Mile Markers (D10 series) & End of Rod Markers (W5-56 & W5-56A) shall be mounted at a height of 4'-3" (+).

POST EMBEDMENT DEPTH

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

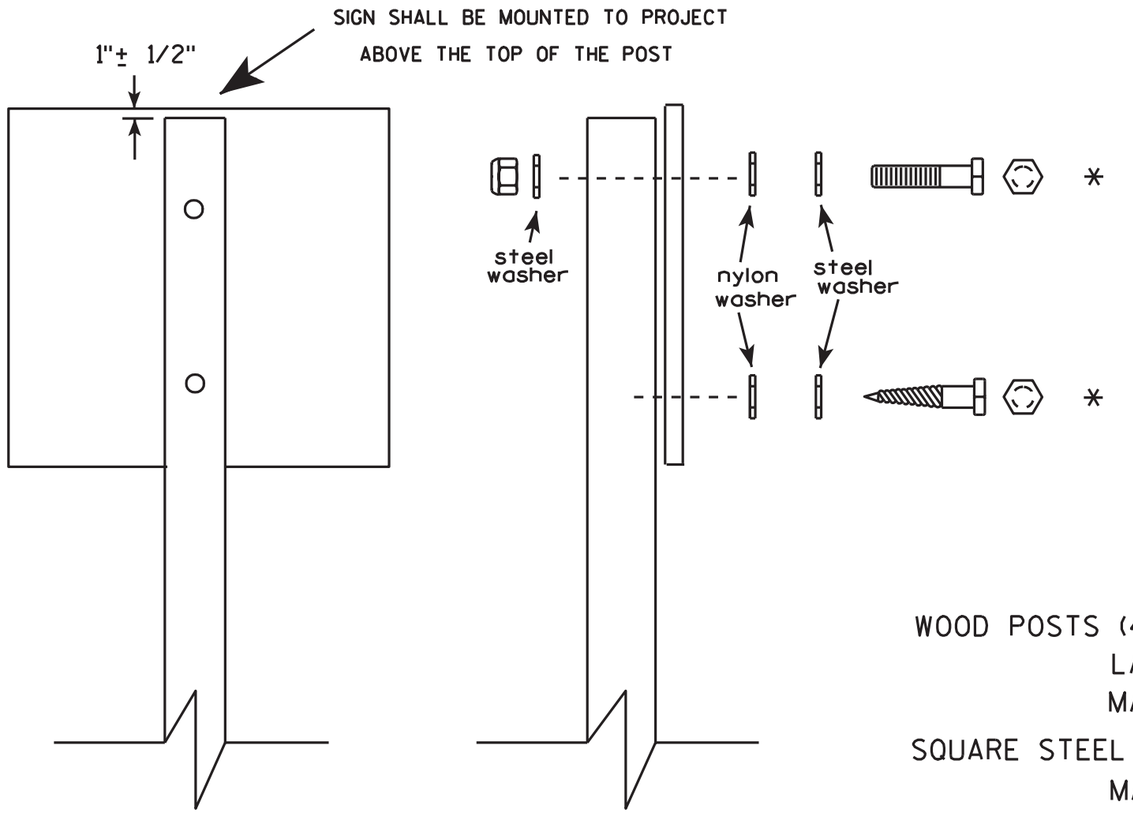
TYPICAL INSTALLATION OF PERMANENT TYPE II SIGNS ON SINGLE POSTS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

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

PROJECT NO:	HWY:	COUNTY:		SHEET NO:	E



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

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

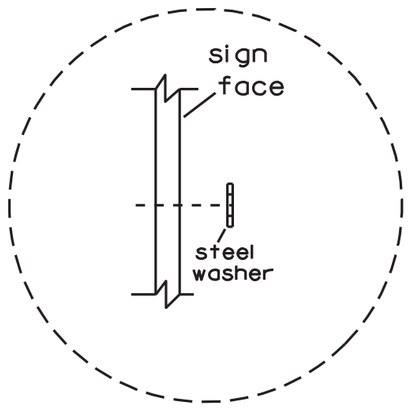
b. Electro-galvanized in accordance with ASTM Designation : B 633, TYPE III, SC 3.

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

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

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

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



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

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

ATTACHMENT OF SIGNS TO POSTS

WISCONSIN DEPT OF TRANSPORTATION

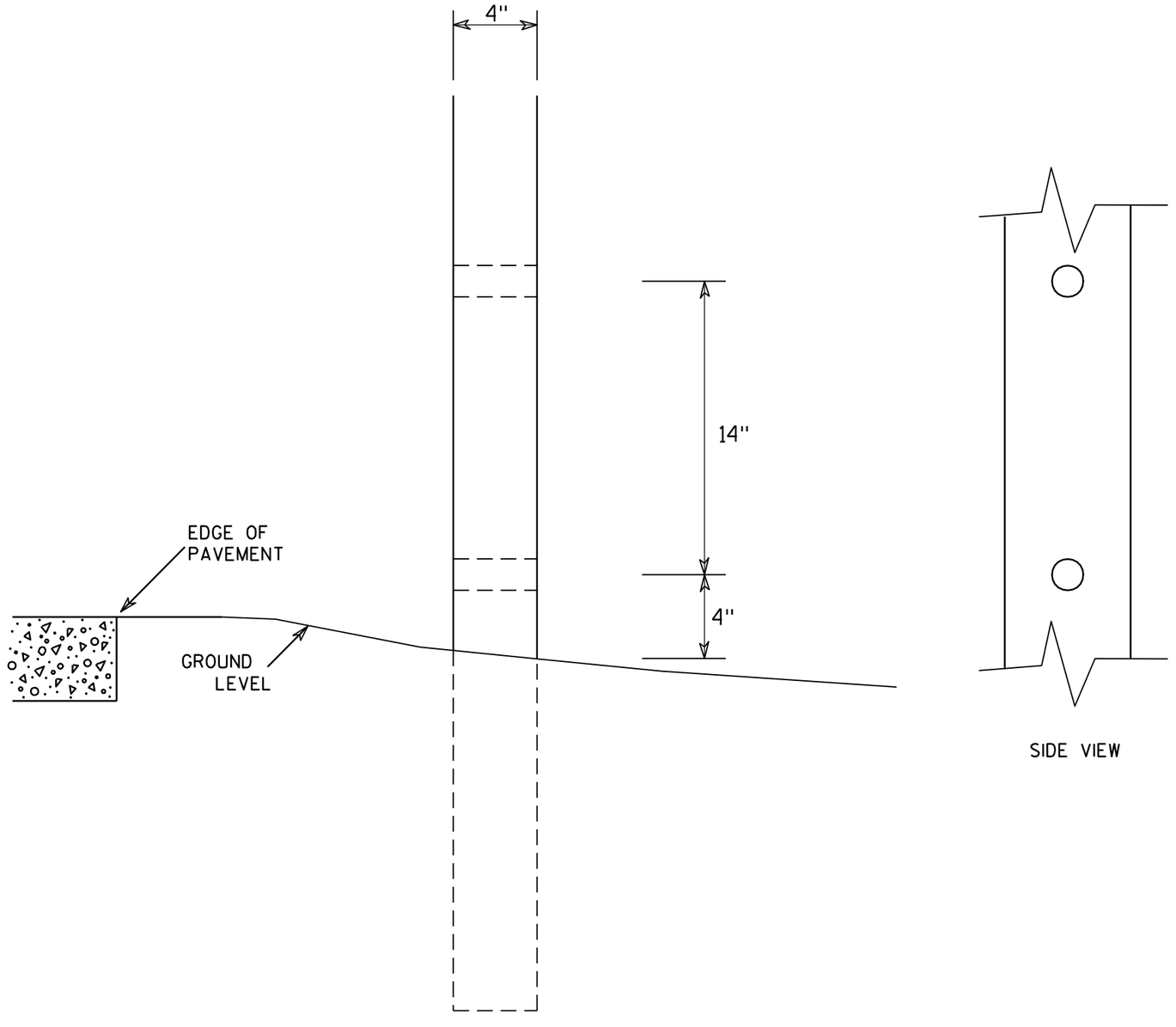
APPROVED Matthew R Rauch
for State Traffic Engineer

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

PROJECT NO:

SHEET NO: 56 E

FILE NAME : C:\Users\PROJECTS\tr_stdplate\A48.DGN PLOT DATE : 23-MAR-2010 10:15 PLOT BY : ditjph
WISDOT/CADDS SHEET 42



SIDE VIEW

GENERAL NOTES

1. All 4 x 6 Wood Posts shall be modified by having two 1½" diameter holes drilled perpendicular to the roadway centerline.

7

7

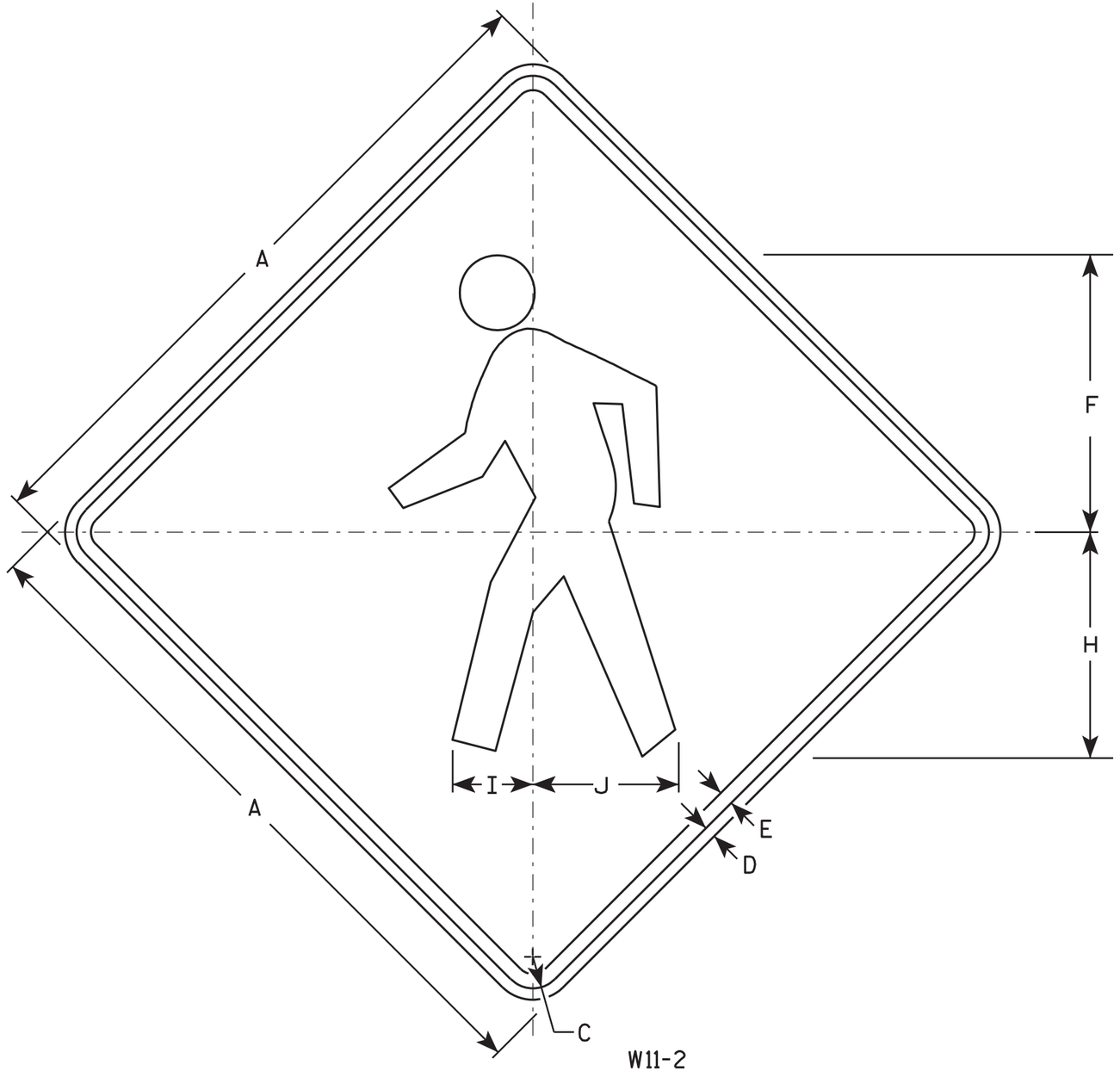
4 X 6 WOOD POST MODIFICATIONS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Chester J Spang for State Traffic Engineer

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

PROJECT NO:	HWY:	COUNTY:		SHEET NO: 57	E



W11-2

NOTES

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

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	24		1 1/8	3/8	1/2	9 3/4		7 7/8	2 7/8	5 1/8																	4.0
2S	30		1 3/8	1/2	5/8	12 1/8		9 7/8	3 1/2	6 3/8																	6.25
2M	36		1 5/8	5/8	3/4	14 1/2		11 7/8	4 1/4	7 5/8																	9.0
3	36		1 5/8	5/8	3/4	14 1/2		11 7/8	4 1/4	7 5/8																	9.0
4	48		2 1/4	3/4	1	19 3/8		15 3/4	5 5/8	10 1/4																	16.0
5																											

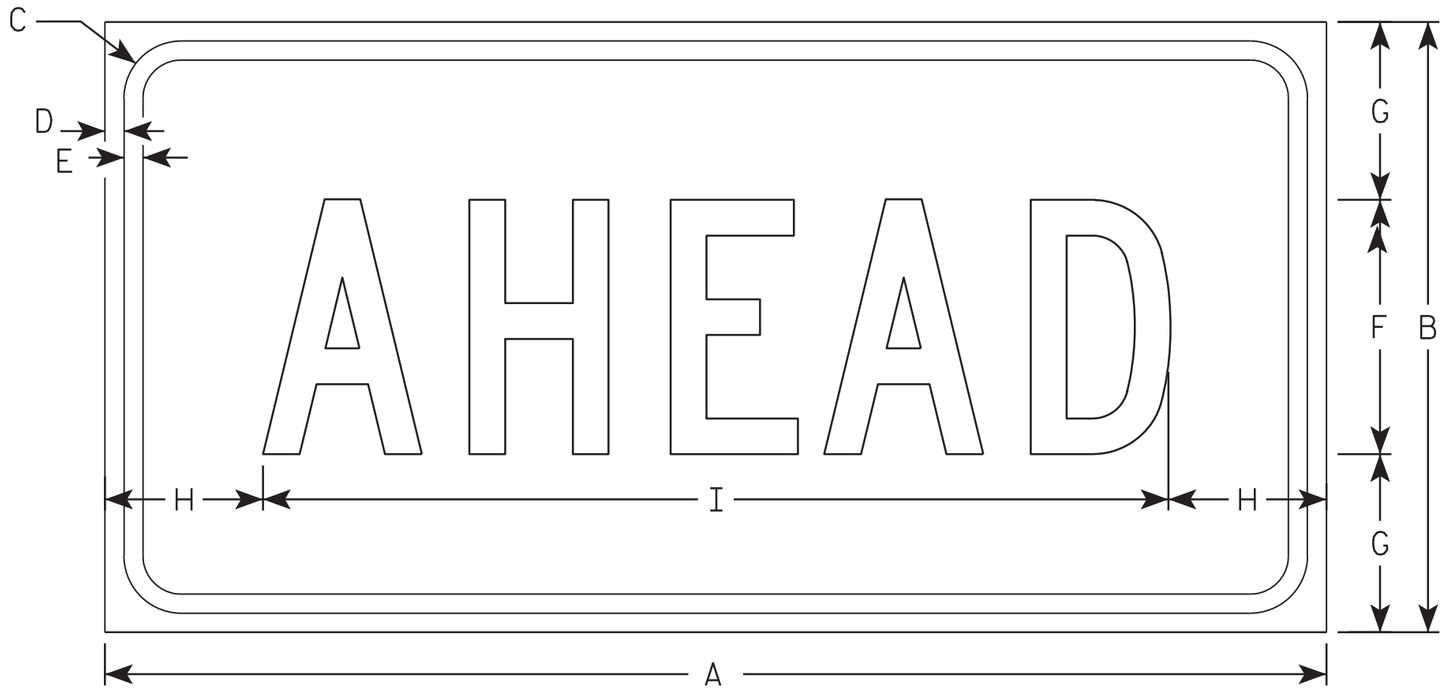
STANDARD SIGN
W11-2

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 6/7/10 PLATE NO. W11-2.7

PROJECT NO:	HWY:	COUNTY:		SHEET NO: 58	E



W16-9P

NOTES

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

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2S	24	12	1 1/8	3/8	3/8	5	3 1/2	3 1/8	17 3/4																		2.0
2M	30	18	1 1/8	3/8	1/2	7	5 1/2	2 3/4	24 1/2																		3.75
3	30	18	1 1/8	3/8	1/2	7	3 1/2	2 3/4	24 1/2																		3.75
4	48	24	1 3/8	1/2	5/8	10	7	6 1/8	35 3/4																		8.0
5																											

STANDARD SIGN
W16-9P

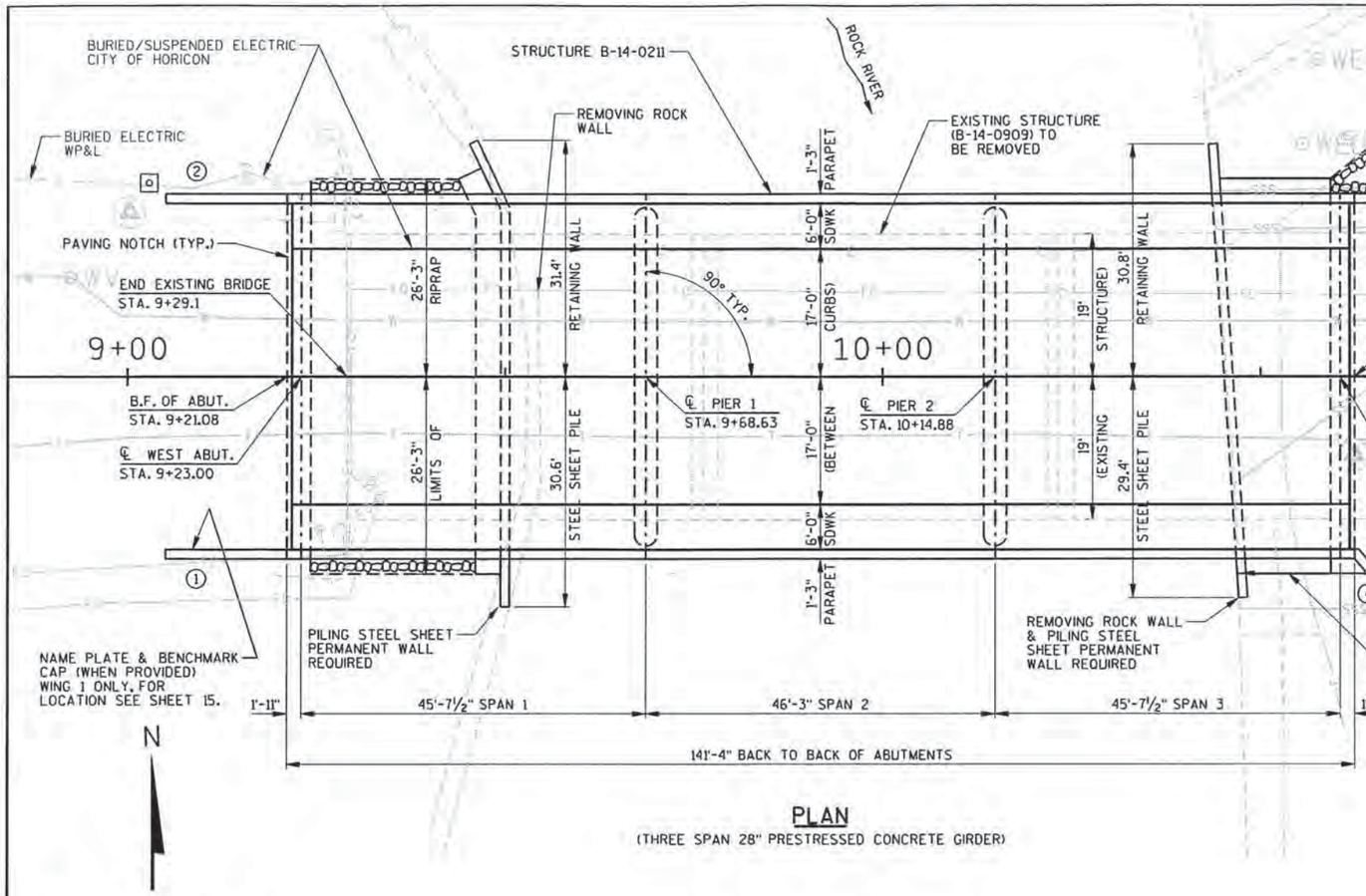
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 12/28/10 PLATE NO. W16-9P.6

PROJECT NO: | HWY: | COUNTY: | SHEET NO: 59 | E

FILE NAME : C:\Users\PROJECTS\tr_stdplate\W169P.DGN PLOT DATE : 28-DEC-2010 13:39 PLOT BY : dotsja PLOT NAME : PLOT SCALE : 2.979524:1.000000



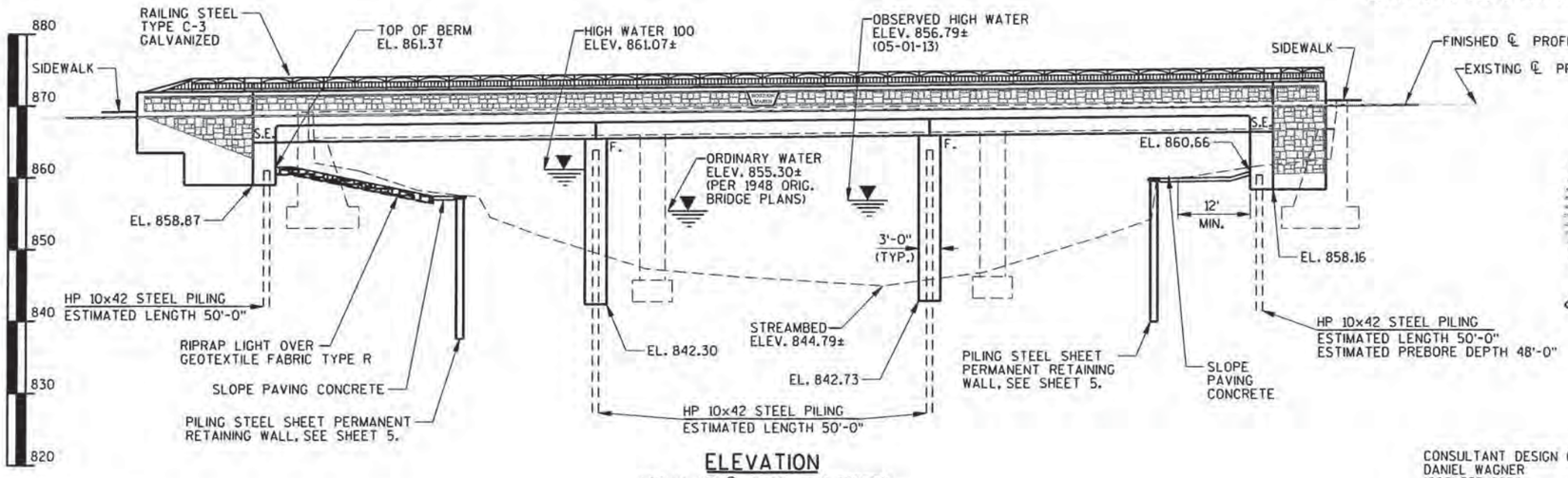
PLAN

(THREE SPAN 28" PRESTRESSED CONCRETE GIRDER)

◯ - INDICATES WING NUMBER

⊡ - LIGHT STANDARD & BASE - SEE ROAD PLANS

UTILITIES NOTED AS BURIED/SUSPENDED ARE SUSPENDED FROM & UNDER EXISTING BRIDGE B-14-0909.



ELEVATION

(NORMAL TO ℄ EAST LAKE STREET)

STATE PROJECT NUMBER

3888-00-72

BENCHMARKS ✣ NAVD 88

NO.	STA./OFFSET	DESCRIPTION	ELEV.
1	9+28.8, 21.3'RT	CHISELED SQUARE SW WING WALL	869.08
2	7+53.1, 44.7'RT.	TOP NUT (SW) HYDRANT	870.15
3	11+04.4, 26.3'LT.	CHISELED X NW CORNER OF LIFT STATION	871.08

DESIGN DATA

LIVE LOAD:

DESIGN LOADING : HL-93
INVENTORY RATING FACTOR : 1.24
OPERATIONAL RATING FACTOR : 1.60

TRAFFIC DATA:

A.A.D.T. (2014) = 7100
A.A.D.T. (2034) = 8100
R.D.S. = 30 MPH

WISCONSIN STANDARD PERMIT VEHICLE (WIS-SPV) = 250 KIPS.

STRUCTURE IS DESIGNED FOR A FUTURE WEARING SURFACE OF 20 POUNDS PER SQUARE FOOT.

ULTIMATE DESIGN STRESSES:

CONCRETE MASONRY, SLAB — 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.

28-INCH PRESTRESSED GIRDERS
CONCRETE MASONRY — f'_c = 8,000 P.S.I.
STRANDS - 0.60" ϕ WITH AN ULTIMATE TENSILE STRENGTH OF — f_y = 270,000 P.S.I.

PILING STEEL HP — f_y = 50,000 P.S.I.

FOUNDATION DATA:

EAST ABUTMENT TO BE SUPPORTED ON PILING STEEL HP 10-INCH x 42 LB. SET IN PREBORED HOLES. PREBORE HOLES 1'-0" INTO SOUND AND UNWEATHERED BEDROCK. CASE HOLES AND FILL LOWER 3'-0" WITH CONCRETE USING A TREMIE. SET PILING WITHOUT DRIVING INTO FRESH CONCRETE. PULL CASINGS AND BACKFILL HOLES WITH GROUT SLURRY. ESTIMATED PILE LENGTHS AT EAST ABUTMENT 50'-0".

WEST ABUTMENT AND PIERS TO BE SUPPORTED ON PILING STEEL HP 10-INCH x 42 LB. DRIVEN TO A REQUIRED DRIVING RESISTANCE OF 180 TONS PER PILE AS DETERMINED BY THE MODIFIED GATES DYNAMIC FORMULA. ESTIMATED PILE LENGTHS ARE 50'-0" AT WEST ABUTMENT AND AT BOTH PIERS.

THE FACTORED AXIAL RESISTANCE OF PILES IN COMPRESSION USED FOR DESIGN IS THE REQUIRED DRIVING RESISTANCE MULTIPLIED BY A RESISTANCE FACTOR OF 0.5 USING MODIFIED GATES TO DETERMINE DRIVEN PILE CAPACITY.

HYDRAULIC DATA:

100 YEAR FREQUENCY

DRAINAGE AREA	455 SQ. MI.
Q_{100}	3,790 C.F.S.
VELOCITY	3.35 F.P.S.
WATERWAY AREA	1,131 SQ. FT.
HIGH WATER $_{100}$ ELEVATION	861.07 ±
ROADWAY OVERFLOW DESIGN FREQUENCY	N/A
SCOUR CRITICAL CODE	5
Q_{100} REGULATORY	4,300 C.F.S.
HIGH WATER $_{100}$ REGULATORY	861.69 ±
Q_2 (2200 C.F.S.)	858.81 ±

LIST OF DRAWINGS

WISCONSIN
DANIEL H. WAGNER
E-19220
BARABOO, WI
PROFESSIONAL ENGINEER

Daniel H. Wagner
1-24-2014

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 02/26/14
CHIEF STRUCTURES DESIGN ENGINEER DATE

STRUCTURE B-14-0211

EAST LAKE STREET OVER ROCK RIVER

COUNTY DODGE ~~TOWN/CITY/VILLAGE~~ HORICON

DESIGN SPEC. AASHTO LRFD DESIGN SPEC.

DESIGNED BY	JRS	DESIGN CK'D.	DHW	DRAWN BY	RLR	PLANS CK'D.	DHW

GENERAL PLAN

SHEET 1 OF 20
60

CONSULTANT DESIGN CONTACT:
DANIEL WAGNER
(608) 355-8952

BRIDGE OFFICE CONTACT:
WILLIAM DREHER
(608) 266-8489

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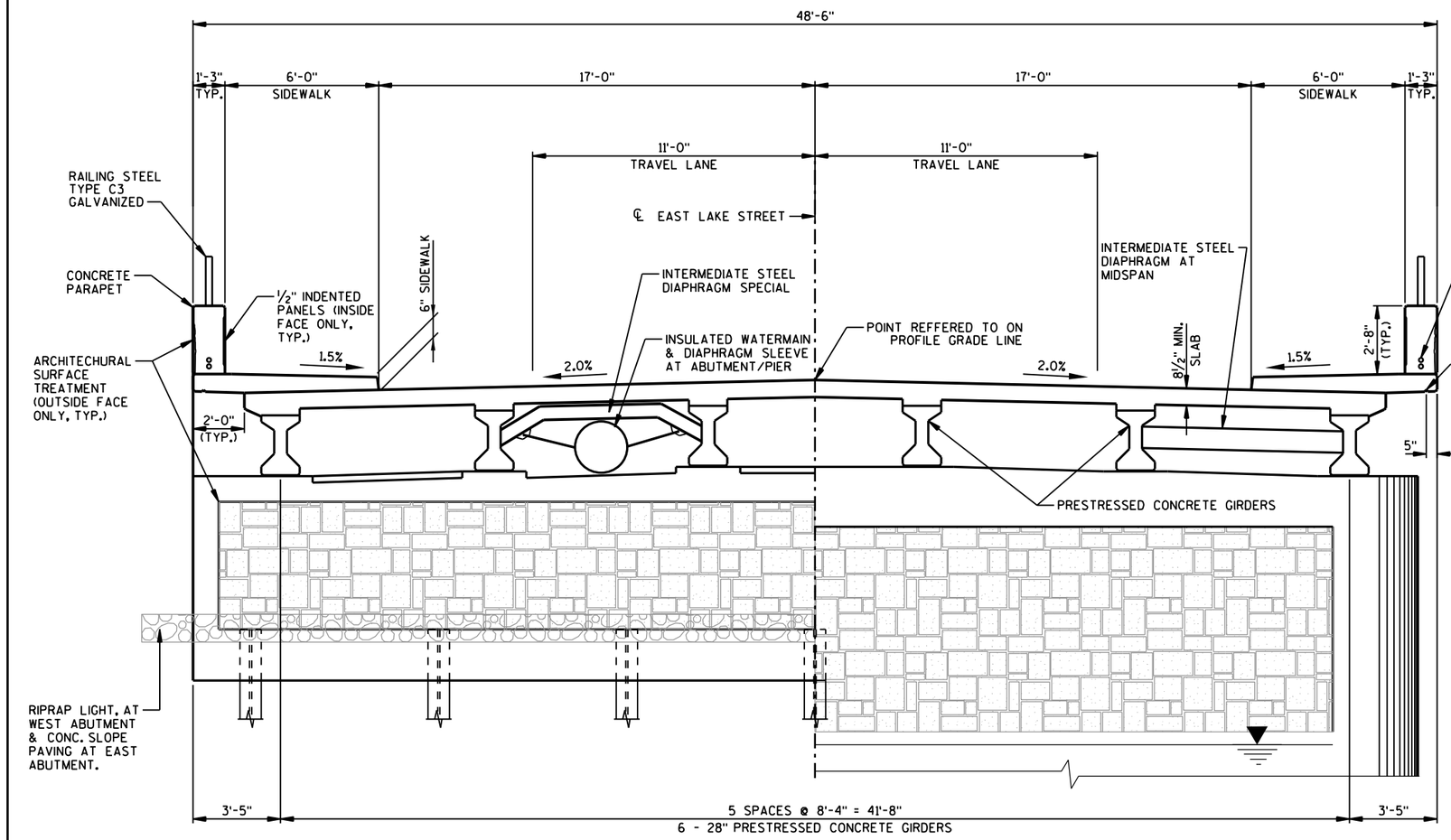
FILE= 59023_01_GENPLAN.DGN
DATE= 1/24/2014

STATE PROJECT NUMBER

3888-00-72



AT ABUTMENT

CROSS SECTION THRU BRIDGE

(LOOKING EAST)

AT PIER

(PILING NOT SHOWN)

GENERAL NOTES

DRAWINGS SHALL NOT BE SCALED.

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

THE FIRST DIGIT OF A THREE DIGIT BAR MARK SIGNIFIES THE BAR SIZE.

THE EXISTING GROUNDLINE SHALL BE THE UPPER LIMITS OF "EXCAVATION FOR STRUCTURES" FOR THE ABUTMENTS AND PIERS.

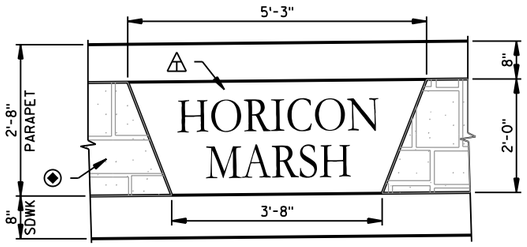
THIS STRUCTURE WILL REPLACE EXISTING BRIDGE, B-14-0909, A 145.3 FOOT LONG, THREE SPAN, STEEL DECK GIRDER BRIDGE SET ON CONCRETE ABUTMENTS AND PIERS FOUNDED ON TIMBER PILING.

AT THE ABUTMENTS ALL EXCAVATED VOLUME 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.

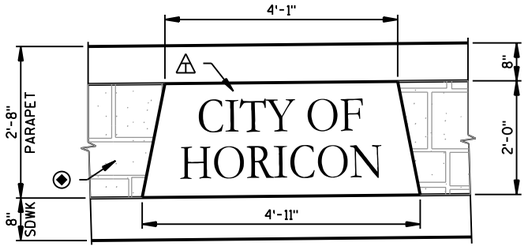
ELEVATIONS SHOWN ON THIS PLAN ARE REFERENCED TO USGS NAVD 88 DATUM.

PROTECTIVE SURFACE TREATMENT SHALL BE APPLIED TO THE TOP OF SLAB, FACE AND TOP OF SIDEWALK, INSIDE AND TOP OF PARAPETS, AND SIDEWALK AND SLAB OVERHANGS.

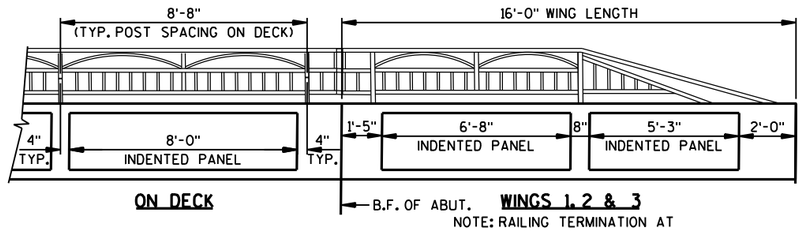
THE MINIMUM CONCRETE HAUNCH AT THE EDGE OF THE GIRDER FLANGES SHALL BE 1¼". THE HAUNCH CONCRETE QUANTITY IS BASED ON AN AVERAGE HAUNCH DEPTH OF 2⅜" WHICH IS THE MAXIMUM HAUNCH QUANTITY FOR WHICH THE CONTRACTOR WILL BE PAID.



NAME DETAIL - SOUTH SIDE OF BRIDGE



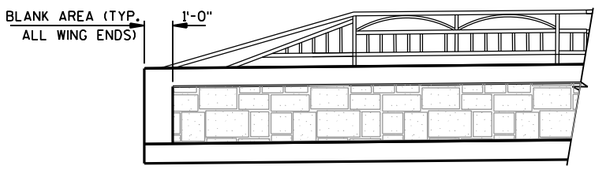
NAME DETAIL - NORTH SIDE OF BRIDGE



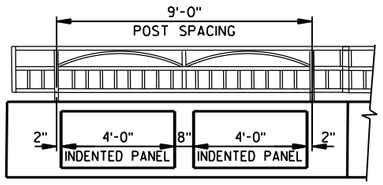
ON DECK

WINGS 1, 2 & 3

NOTE: RAILING TERMINATION AT WING 3 IS FULL HEIGHT



PARAPET END DETAIL



WING 4

PARAPET PANEL LAYOUT

(PANELS AT TRAFFIC FACE OF PARAPET)

PANEL NOTES:

PANELS INDENTED 1" TYPICAL. SEE SHEET 15, SECTION A-A THRU PARAPET ON BRIDGE, FOR ADDITIONAL DETAILS.

NOTES:

1. ARCHITECTURAL SURFACE TREATMENT LIMITS. PATTERN SHOWN FOR ARCHITECTURAL SURFACE TREATMENT IS REPRESENTATIVE ONLY AND DOES NOT MATCH PATTERN TO BE UTILIZED. SEE SPECIAL PROVISION FOR PATTERN.
2. CONCRETE STAINING MULTI-COLOR SHALL BE APPLIED TO ALL ARCHITECTURAL SURFACE TREATMENT.

LEGEND

◈ – ARCHITECTURAL SURFACE TREATMENT ON F.F. OF ABUTMENT & WINGS, ON PIERS AND ON EXTERIOR FACES OF PARAPETS.

⚠ – LETTER STYLE FOR "NAME DETAIL" SHALL BE "GARAMOND BOLD", RECESSED ¾-INCH, 7" HIGH AND 6" WIDE WITH 2½" LINE SPACING GAP. CENTER ON MOUNTING AREA. NAME DETAIL TO BE PLACED AT THE CENTER OF SPAN 2 ON THE OUTSIDE FACE OF EACH PARAPET AS SHOWN AND AS APPROVED BY THE ENGINEER AND HORICON DPW. LETTERS TO BE STAINED BLACK. MOUNTING AREA OF LETTERS TO BE RECESSED ½" FROM TOP AND BOTTOM RIBBON OF PARAPET. CAST A TEST PANEL FOR APPROVAL OF ENGINEER AND HORICON DPW PRIOR TO USE ON BRIDGE. (NAME DETAIL INCLUDED IN BID ITEM "ARCHITECTURAL SURFACE TREATMENT").

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-14-0211

DRAWN BY RLR | PLANS CK'D. DHW

CROSS SECTION, NOTES & A.S.T. DETAILS

SHEET 7 OF 20
61

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FILE= 59023_02_BRXSEC.DGN
DATE= 2/19/2014

59023_02_BRXSEC.dgn 2/19/2014 9:08:15 AM RRABSKA

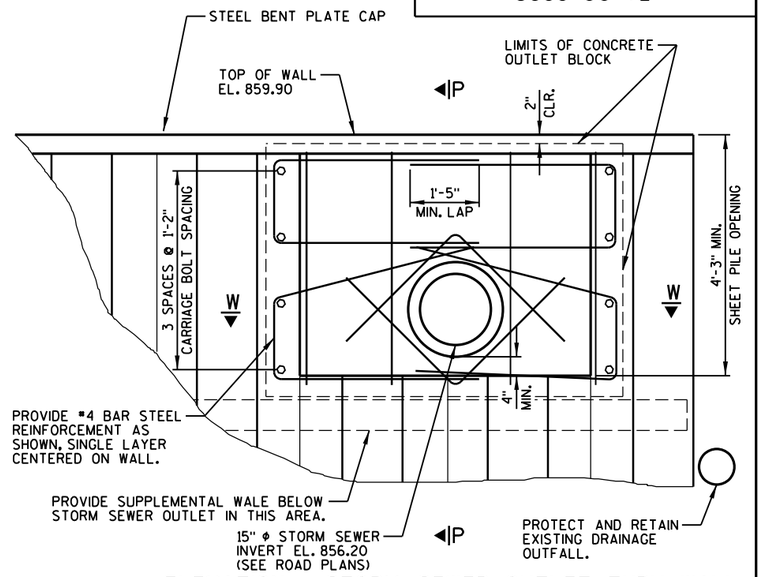
STATE PROJECT NUMBER

3888-00-72

TOTAL ESTIMATED QUANTITIES

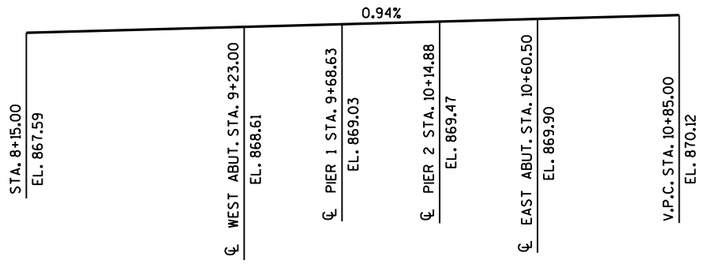
ITEM NUMBER	BID ITEM	UNIT	WEST ABUT.	PIER 1	PIER 2	EAST ABUT.	SUPER	TOTAL
203.0600.S.01	REMOVING OLD STRUCTURE OVER WATERWAY WITH MINIMAL DEBRIS STATION 10+00	LS	-	-	-	-	-	1
204.9090.S	REMOVING ROCK WALL	LF	63	-	-	61	-	124
206.1000.01	EXCAVATION FOR STRUCTURES BRIDGES (B-14-0211)	LS	-	-	-	-	-	1
206.1050.S	UNDERWATER FOUNDATION INSPECTION B-14-0211	EACH	-	1	1	-	-	2
210.0100	BACKFILL STRUCTURE	CY	240	-	-	350	-	590
502.0100	CONCRETE MASONRY BRIDGES	CY	55	117	117	68	305	662
502.3200	PROTECTIVE SURFACE TREATMENT	SY	-	-	-	-	980	980
503.0128	PRESTRESSED GIRDER TYPE I 28-INCH	LF	-	-	-	-	828	828
505.0405	BAR STEEL REINFORCEMENT HS BRIDGES	LB	2970	4440	4440	3530	-	15380
505.0605	BAR STEEL REINFORCEMENT HS COATED BRIDGES	LB	2075	65	65	2295	51740	56240
506.2605	BEARING PADS ELASTOMERIC NON-LAMINATED	EACH	-	-	-	-	36	36
506.4000.01	STEEL DIAPHRAGMS B-14-0211	EACH	-	-	-	-	12	12
512.0500	PILING STEEL SHEET PERMANENT DELIVERED	SF	1260	-	-	1220	-	2480
512.0600	PILING STEEL SHEET PERMANENT DRIVEN	SF	1260	-	-	1220	-	2480
516.0500	RUBBERIZED MEMBRANE WATERPROOFING	SY	12	-	-	13	-	25
517.1015.S.01	CONCRETE STAINING MULTI-COLOR B-14-0211	SF	280	640	670	440	680	2710
517.1050.S.01	ARCHITECTURAL SURFACE TREATMENT B-14-0211	SF	280	640	670	440	680	2710
550.0020	PRE-BORING ROCK OR CONSOLIDATED MATERIALS	LF	-	-	-	385	-	385
550.1100	PILING STEEL HP 10-INCH x 42 LB	LF	450	450	450	400	-	1750
604.0400	SLOPE PAVING CONCRETE	SY	18	-	-	77	-	95
606.0100	RIPRAP LIGHT	CY	45	-	-	20	-	65
612.0406	PIPE UNDERDRAIN WRAPPED 6-INCH	LF	105	-	-	80	-	185
645.0130	GEOTEXTILE FABRIC TYPE R	SY	150	-	-	55	-	205
652.0125	CONDUIT RIGID METALLIC 2-INCH	LF	-	-	-	-	40	40
652.0325	CONDUIT RIGID NONMETALLIC SCHEDULE 80 2-INCH	LF	-	-	-	-	660	660
SPV.0060.11	INTERMEDIATE STEEL DIAPHRAGM SPECIAL	EACH	-	-	-	-	3	3
SPV.0105.04	RAILING STEEL TYPE C3 GALVANIZED B-14-0211	LS	-	-	-	-	-	1
	NON-BID ITEMS							
	PREFORMED FILLER	SIZE	-			-	-	½", ¾", 2" ŦŦ
	CORK FILLER	SIZE	-			-	-	¾"

ŦŦ - FILLER MAY BE MULTIPLE LAYERS OF MATERIAL WITH NO LAYER LESS THAN 1/2" THICK. SECURE LAYERS TOGETHER BEFORE PLACEMENT.

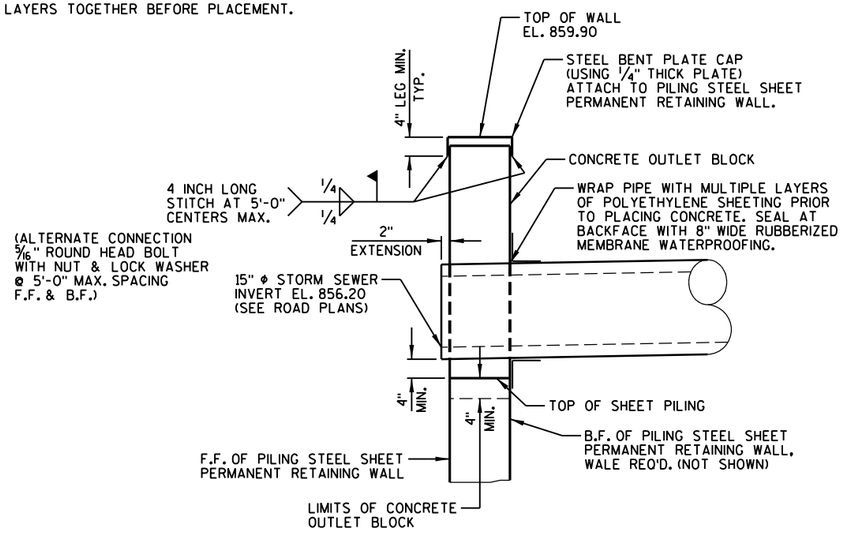


ELEVATION - STORM SEWER OUTLET THRU WALL

SEE SHEET 5 FOR LOCATION
NEAR SOUTH END OF EAST
PILING STEEL SHEET PERMANENT RETAINING WALL

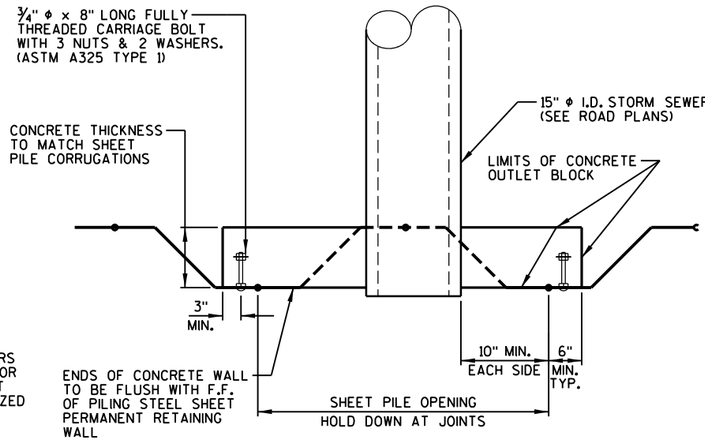


PROFILE GRADE LINE - EAST LAKE STREET



SECTION P-P THRU WALL

(BAR STEEL REINFORCEMENT NOT SHOWN)



SECTION W-W THRU WALL

(BAR STEEL REINFORCEMENT NOT SHOWN)

NOTE:

ALL ITEMS SHOWN ARE INCLUDED IN THE BID ITEM "PILING STEEL SHEET PERMANENT DRIVEN".

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-14-0211

DRAWN BY RLR | PLANS CK'D. DHW

PROFILE, QUANTITIES AND DETAILS

SHEET 3 OF 20
62

8

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59023_03_QUANPROF.dgn 2/25/2014 1:59:44 PM RRABSKA

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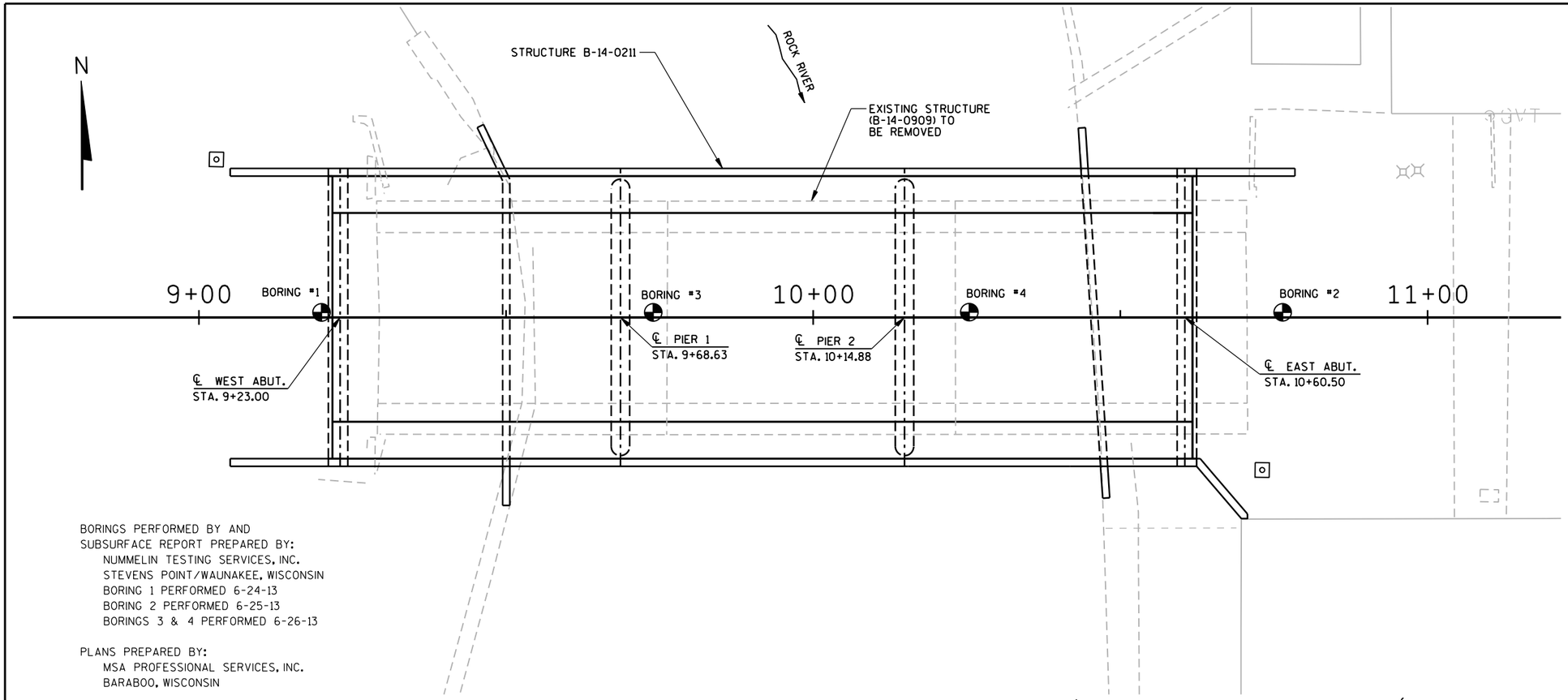
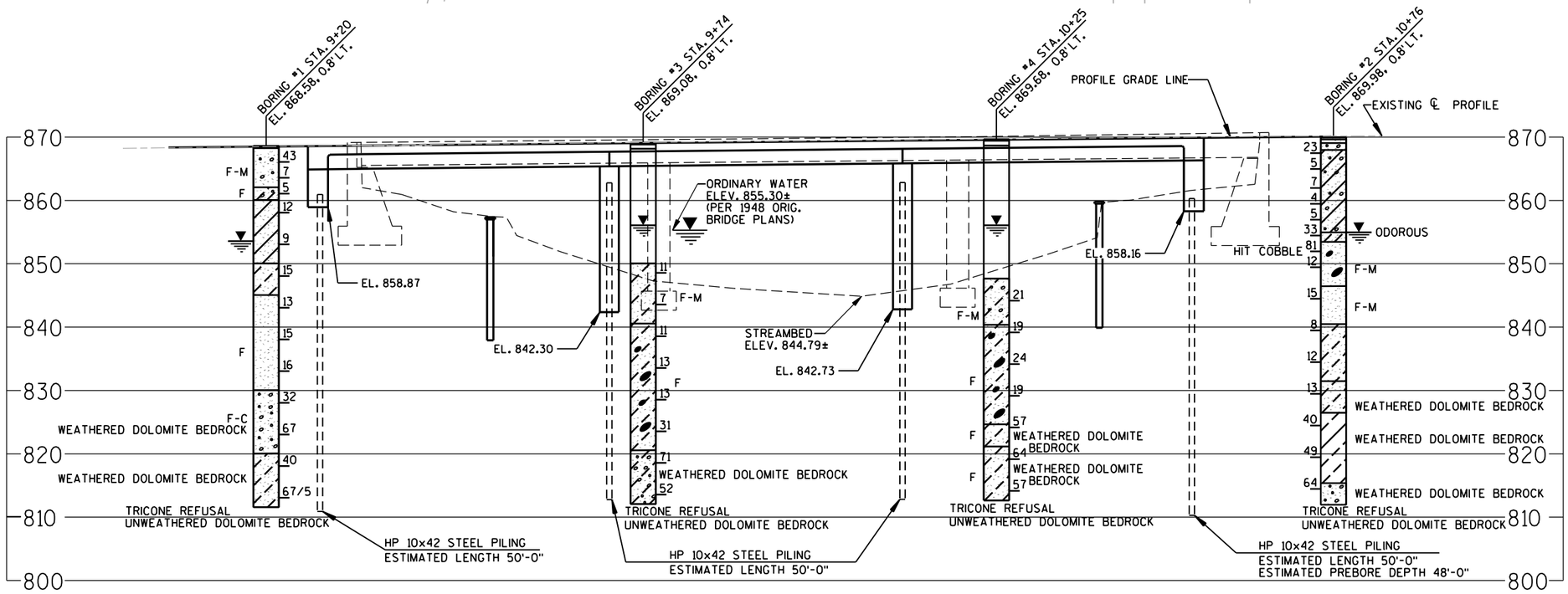
DATE= 2/25/2014



BORINGS PERFORMED BY AND
SUBSURFACE REPORT PREPARED BY:
NUMMELIN TESTING SERVICES, INC.
STEVENS POINT/WAUNAKEE, WISCONSIN
BORING 1 PERFORMED 6-24-13
BORING 2 PERFORMED 6-25-13
BORINGS 3 & 4 PERFORMED 6-26-13

PLANS PREPARED BY:
MSA PROFESSIONAL SERVICES, INC.
BARABOO, WISCONSIN



STATE PROJECT NUMBER

3888-00-72

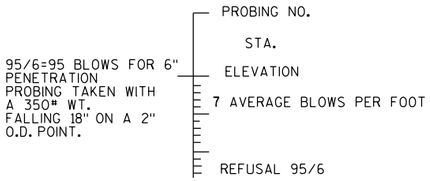
ABBREVIATIONS

F — FINE M — MEDIUM C — COARSE
WS — WEATHERED SO — SOUND

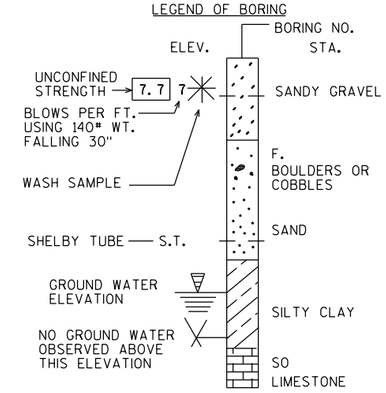
MATERIAL SYMBOLS

TOPSOIL, SILT, SANDSTONE
SAND, PEAT, LIMESTONE
GRAVEL, CLAY, IGNEOUS ROCK

LEGEND OF PROBING



LEGEND OF BORING



UNLESS OTHERWISE SPECIFIED, THE BLOWS PER FOOT AT THE LOCATIONS INDICATED ARE BASED ON DRIVING A 2" O.D. X 1.4" I.D. SPLIT SPOON SAMPLER WITH A 140# HAMMER HAVING A FREE FALL OF 30". THE BLOW COUNT IS TAKEN IN UNDISTURBED SOIL IMMEDIATELY BELOW A CASED OR OPEN HOLE ELIMINATING SIDE FRICTION ON THE DRIVE PIPE.

SUBSURFACE EXPLORATION FOR FOUNDATION DESIGN AND BIDDERS INFORMATION

TO OBTAIN RELATIVE DATA CONCERNING THE CHARACTER OF MATERIAL IN AND UPON WHICH THE FOUNDATION MIGHT BE BUILT, BORINGS AND/OR SOUNDINGS WERE MADE AT POINTS APPROXIMATELY AS INDICATED ON THIS DRAWING. THE DATA PRESENTED HEREIN REPRESENTS THE FINDINGS OF THE SUBSURFACE EXPLORATIONS MADE. HOWEVER, BECAUSE THE DEPTHS INVESTIGATED ARE LIMITED AND THE AREA OF THE BORINGS AND/OR SOUNDINGS IS VERY SMALL IN RELATION TO THE ENTIRE AREA, THE WISCONSIN DEPARTMENT OF TRANSPORTATION DOES NOT WARRANT CONDITIONS BELOW THE DEPTHS INVESTIGATED OR THAT THE CLASSIFICATION OF MATERIAL ENCOUNTERED IN THESE INVESTIGATIONS IS NECESSARILY TYPICAL OF THE ENTIRE SITE.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-14-0211

DRAWN BY RLR PLANS CK'D. DHW

SUBSURFACE EXPLORATION

SHEET 4 OF 20
63

8

8

59023_04_SOILSEXP.dgn 2/19/2014 9:09:38 AM RRABSKA

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DATE=2/19/2014

STATE PROJECT NUMBER

3888-00-72

N

BURIED/SUSPENDED ELECTRIC
CITY OF HORICON

BURIED ELECTRIC
WP&L

STRUCTURE B-14-0211

STA. 9+46.35
31.4' LT.
EL. 857.50

EXISTING WALL TO
BE REMOVED

STA. 9+50.6
22.5' LT.
EL. 857.50

ROCK RIVER

EXISTING STRUCTURE
(B-14-0909) TO
BE REMOVED

SLOPE PAVING
CONCRETE

STA. 10+43.1
30.8' LT.
EL. 859.9

BURIED ELECTRIC
JOHN DEERE

BURIED/SUSPENDED FIBER OPTIC
JOHN DEERE

RIPRAP LIGHT

EXISTING PEDESTRIAN
OVERPASS
(TO REMAIN)

PAVING NOTCH (TYP.)

END EXISTING BRIDGE
STA. 9+29.1

31'-4⅝"
PILING STEEL SHEET PERMANENT RETAINING WALL

90° TYP.

30'-9⅞"
PILING STEEL SHEET PERMANENT RETAINING WALL

BURIED/SUSPENDED WATERMAIN
CITY OF HORICON

9+00

10+00

11+00

B.F. OF ABUT.
STA. 9+21.08

℄ PIER 1
STA. 9+68.63

℄ PIER 2
STA. 10+14.88

B.F. OF ABUT.
STA. 10+62.42

END EXISTING BRIDGE
STA. 10+70.63

℄ EAST LAKE STREET

℄ WEST ABUT.
STA. 9+23.00

30'-7½"
PILING STEEL SHEET PERMANENT RETAINING WALL

29'-5¼"
PILING STEEL SHEET PERMANENT RETAINING WALL

℄ EAST ABUT.
STA. 10+60.50

BURIED/SUSPENDED TELEPHONE
AT&T

EXISTING STORM SEWER
DRAIN TO REMAIN

○ - INDICATES WING NUMBER

RIPRAP LIGHT

SLOPE PAVING
CONCRETE

STA. 9+50.6
30.6' RT.
EL. 857.50

STA. 10+47.1
29.4' RT.
EL. 859.9

ACCOMMODATE PROPOSED STORM SEWER
OUTFALL WITH CUTOUT OPENING ON WALL.
SEE SHEET 3 FOR DETAILS.

PLAN

880
870
860
850
840
830
820

HIGH WATER 100
ELEV. 861.07±

OBSERVED HIGH WATER
ELEV. 856.79±
(05-01-13)

EXISTING ℄ PROFILE

EL. 857.50

ORDINARY WATER
ELEV. 855.30±
(PER 1948 ORIG.
BRIDGE PLANS)

FINISHED GRADE
EL. 854.50

EL. 859.90
NOR.

FINISHED GRADE
EL. 855.20

REMOVING
ROCK
WALL

REMOVING ROCK
WALL

STREAMBED
ELEV. 844.79±

FOR DETAILS OF SLOPE PAVING CONCRETE
& RIPRAP LIGHT SEE SHEET 20.

REQUIRED TIP
EL. 837.50

PILING STEEL SHEET
PERMANENT
RETAINING WALL
WITH STEEL CAP

PILING STEEL SHEET
PERMANENT
RETAINING WALL
WITH STEEL CAP

REQUIRED TIP
EL. 839.90
NOR.

FOR SLOPE PAVING CONCRETE
DETAILS SEE SHEET 20.

ELEVATION

(NORMAL TO ℄ EAST LAKE STREET)

NOTES

CONSTRUCT SHEET PILE RETAINING WALL WITH PILING STEEL SHEET PERMANENT.

USE UNPAINTED SHEETING.

PROVIDE WALING BETWEEN CORNERS AND ENDS OF WALL SUFFICIENT TO HOLD WALLS ON LINE. USE BOLTED WALING CONNECTIONS, SPACED AT 5'-0" MAX. PROVIDE STEEL BENT PLATE CAP ATTACHED OVER TOP OF WALL. SEE SHEET 3.

MINIMUM SECTION MODULUS OF SHEETING IS 12.0 INCHES CUBED PER LINEAL FOOT OF WALL LENGTH.

MINIMUM SHEET PILE NOMINAL THICKNESS IS 0.250 INCHES.

NOMINAL HEIGHT OF SHEET PILE SECTION IS TO BE BETWEEN 9.00 INCHES AND 12.25 INCHES. USE SAME SECTION THROUGHOUT.

MINIMUM YIELD STRENGTH TO BE 39 KSI.

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PILING STEEL SHEET PERMANENT DETAILS

SHEET 5 OF 20
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FILE= 59023_05_SHTPILE.dgn
DATE= 2/19/2014

59023_05_SHTPILE.dgn 2/19/2014 9:10:20 AM RRABSKA

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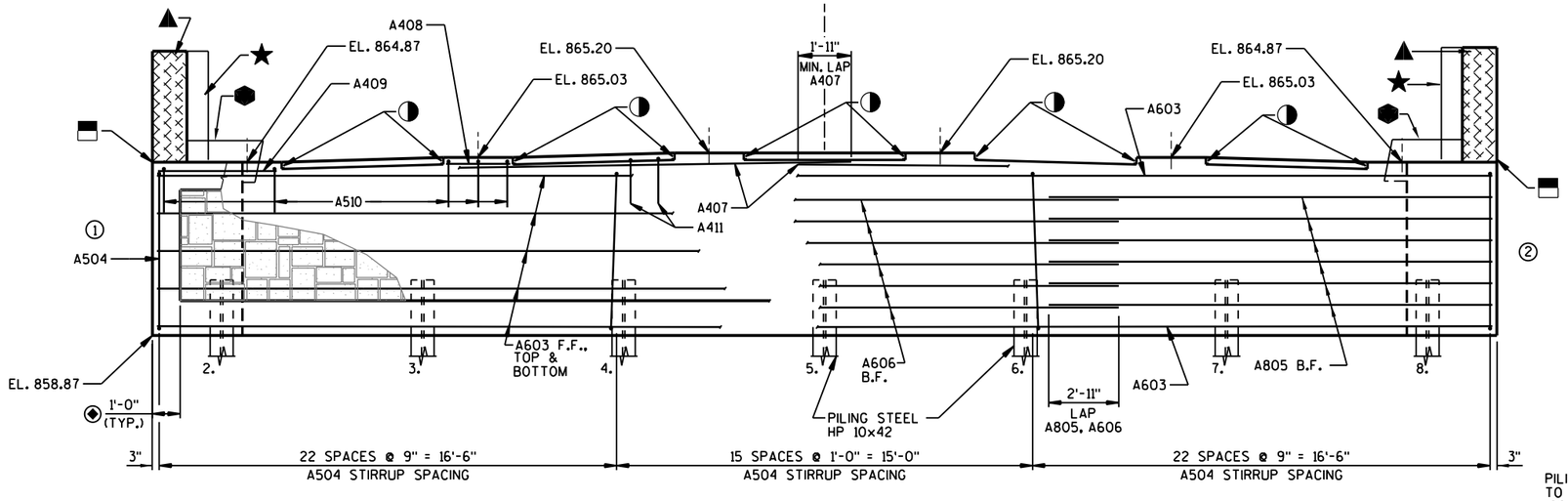
FOR WING ELEVATIONS AND DETAILS SEE SHEET 7.

BUILD BEAM SEATS LEVEL, SLOPE AREAS BETWEEN BEAM SEATS.

℄ EAST LAKE STREET DETAILS & BARSTEEL REINF. SYM. ABOUT THIS LINE

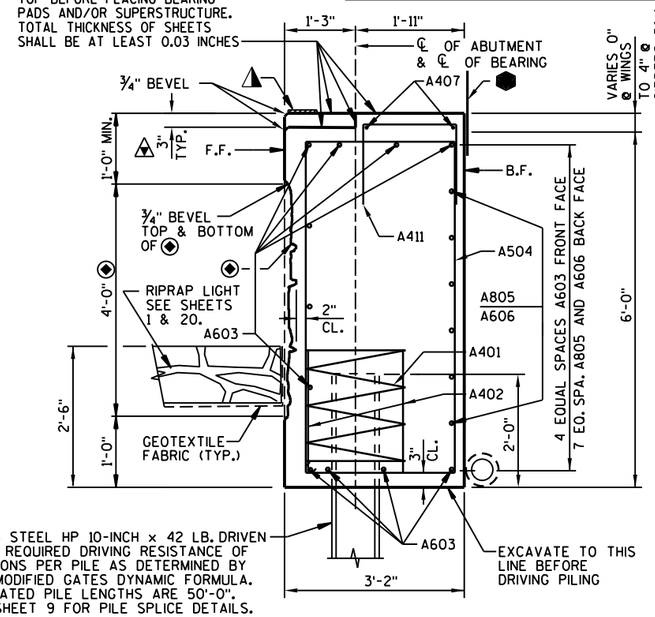


FRONTFACE BARSTEEL REINF.

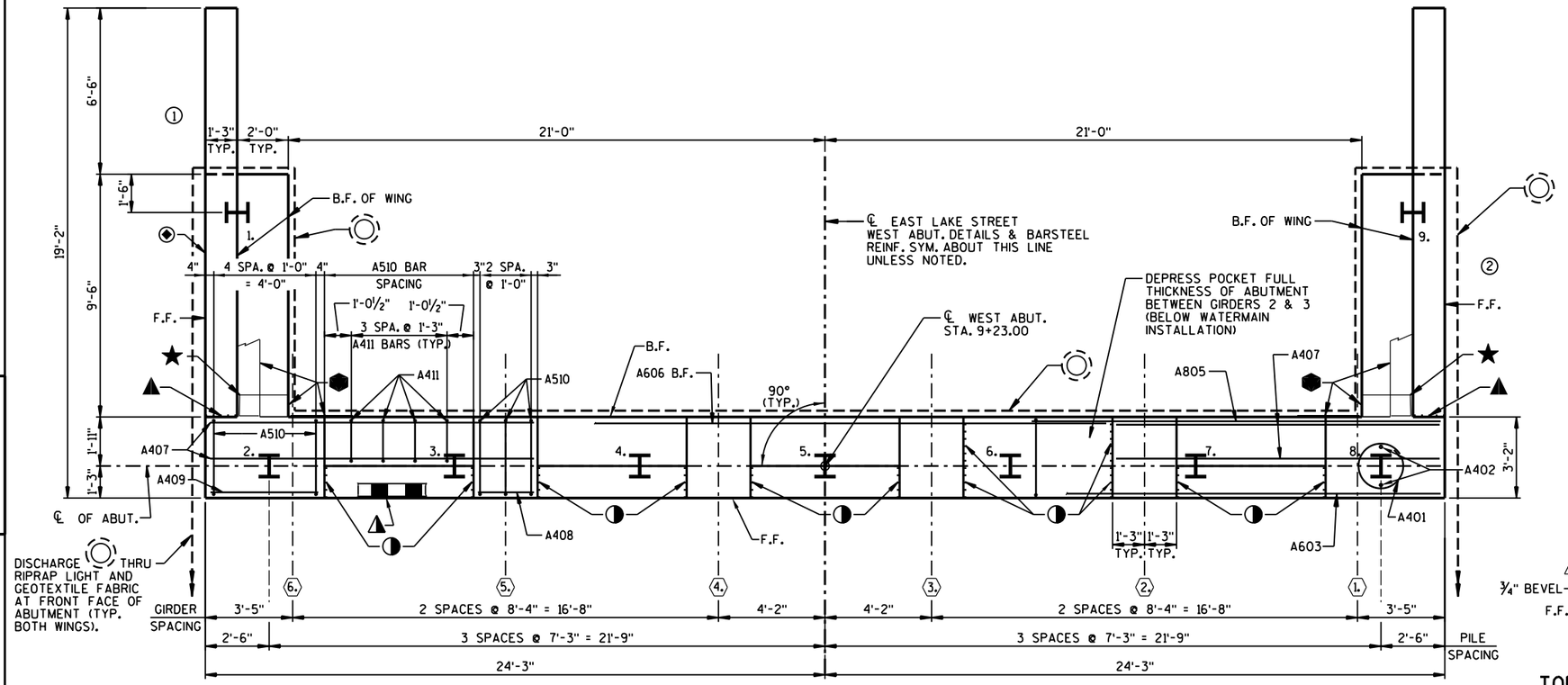
BACKFACE BARSTEEL REINF.

ELEVATION
(LOOKING WEST)

STEEL TROWEL TOP SURFACE OF ABUTMENT. PLACE MULTIPLE LAYERS OF POLYETHYLENE SHEETS OVER ENTIRE ABUTMENT TOP BEFORE PLACING BEARING PADS AND/OR SUPERSTRUCTURE. TOTAL THICKNESS OF SHEETS SHALL BE AT LEAST 0.03 INCHES



TYPICAL SECTION THRU ABUTMENT



PLAN

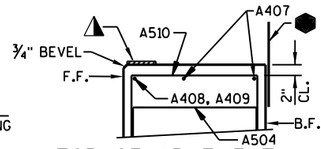
LEGEND

- ◯ – INDICATES WING NUMBER.
- ⬡ – INDICATES GIRDER NUMBER.
- ▬ – CONSTRUCTION JOINT ON WING FORMED BY BEVELED 2x6. PLACE ⬢ ON B.F. OF WING. POUR CONCRETE ABOVE THIS JOINT AFTER DECK IS IN PLACE.
- ◈ – ARCHITECTURAL SURFACE TREATMENT ON F.F. OF ABUTMENT & WINGS. FOR LIMITS ON WINGS 1 & 2 SEE SHEET 7, WINGS 3 & 4 SEE SHEET 11.
- △ – SEMI-EXPANSION POCKET. CONSTRUCT 3" DEEPER THAN SURROUNDING BEAM SEATS AND BACKWALL.
- ◑ – ¾" CORK FILLER (SIDE VERTICAL FACES ONLY).
- ▲ – ½" PREFORMED JOINT FILLER EXTEND AS SHOWN. SEAL ALL EXPOSED HORIZ. & VERT. SURFACES OF FILLER WITH NON-STAINING GRAY, NON-BITUMINOUS JOINT SEALER. (1" DEEP & HOLD ⅛" BELOW SURFACE OF CONC.).
- ◭ – 4"x ¾" PREFORMED JOINT FILLER, EXTEND FULL LENGTH OF ABUTMENT.
- ★ – VERTICAL 18" WIDE RUBBERIZED MEMBRANE WATERPROOFING. EXTEND FROM BRIDGE SEAT TO TOP OF WINGS.
- ⬢ – HORIZONTAL 18" WIDE RUBBERIZED MEMBRANE WATERPROOFING. EXTEND BETWEEN WING TOPS AND ALONG WING CONSTRUCTION JOINT.
- ◎ – PIPE UNDERDRAIN WRAPPED 6-INCH. EXTEND THRU RIPRAP LIGHT AND GEOTEXTILE FABRIC. SLOPE 0.5% MIN. TO SUITABLE DRAINAGE. PROVIDE RODENT PROTECTION AT ENDS OF PIPE.

F.F.– FRONT FACE

B.F.– BACK FACE

CL. – CLEAR



TOP OF ABUTMENT ℄ BEARING SEATS
SEE PLAN FOR REINF. SPACING

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WEST ABUTMENT

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DATE= 2/19/2014

59023_06_ABUT-W.dgn 2/19/2014 9:11:02 AM RRABSKA

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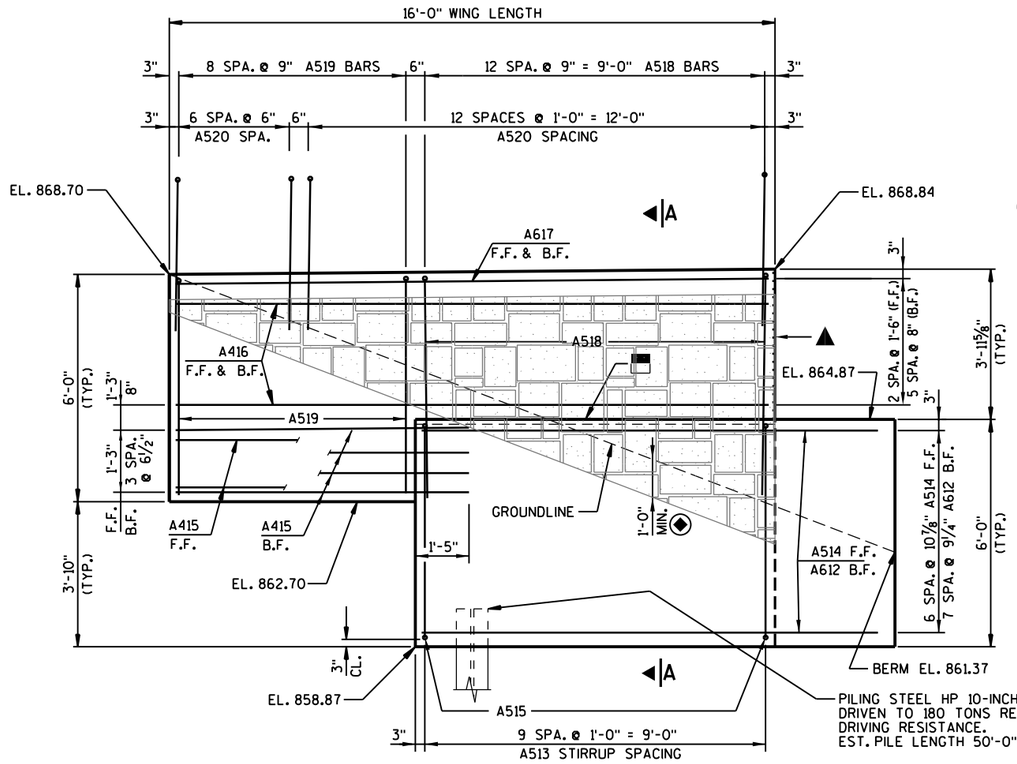
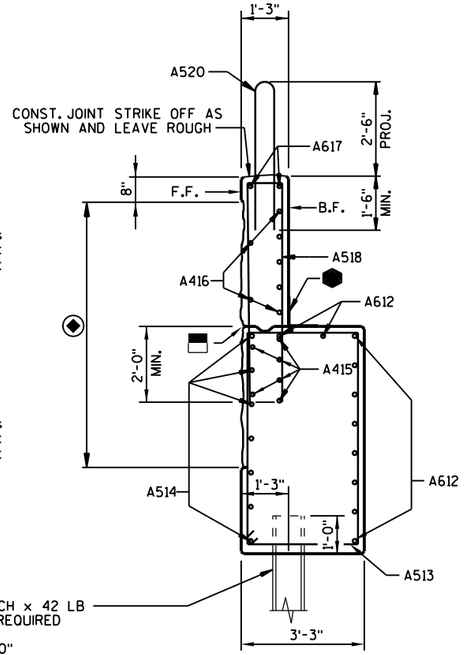
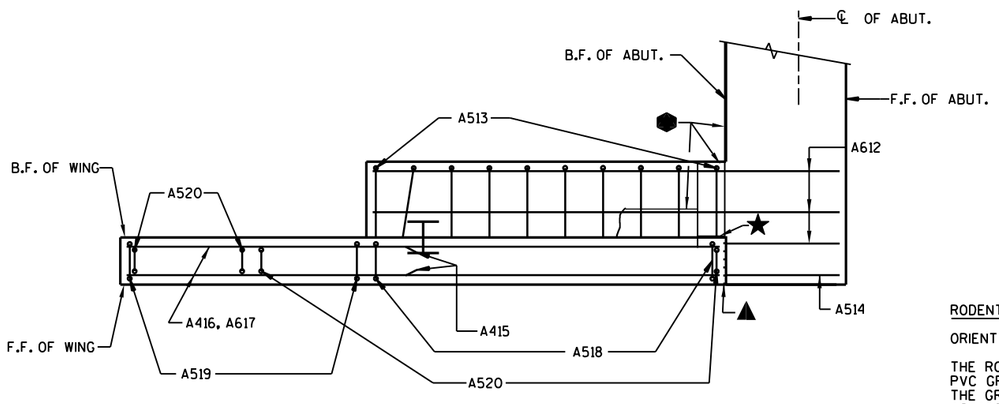
3888-00-72



ELEVATION - WING 1



SECTION A-A THRU WING 1



PLAN - WING 1

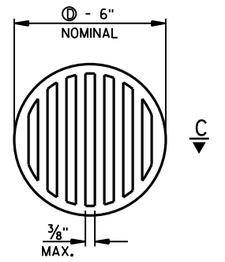
SEE SHEET 6 LEGEND FOR DESCRIPTION OF

NOTE:
WING 1 SHOWN
WING 2 SIMILAR

RODENT SHIELD NOTES:

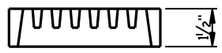
ORIENT SHIELD SO SLOTS ARE VERTICAL.

THE RODENT SHIELD SHALL BE A PVC GRATE SIMILAR TO THIS DETAIL. THE GRATE IS COMMERCIALLY AVAILABLE AS A FLOOR STRAINER.
A PIPE COUPLING IS REQUIRED FOR THE ATTACHEMENT OF THIS SHIELD TO THE PIPE UNDERDRAIN. THE SHIELD SHALL BE FASTENED TO THE PIPE COUPLING WITH TWO OR MORE NO. 10 x 1-INCH STAINLESS STEEL SHEET METAL SCREWS. THE RODENT SHIELD SHALL BE INCLUDED IN THE BID ITEM "PIPE UNDERDRAIN WRAPPED 6-INCH".



RODENT SHIELD

Ⓓ - DIMENSIONS ARE APPROXIMATE. THE GRATE IS SIZED TO FIT INTO A PIPE COUPLING.



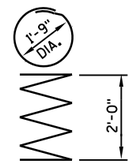
SECTION C-C

BILL OF BARS (WEST ABUTMENT)

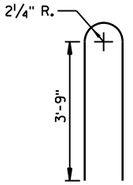
UNCOATED 2970 LBS.
COATED 2075 LBS.

MARK	NUMBER REQUIRED COATED	NUMBER REQUIRED UNCOATED	LENGTH	BENT	LOCATION
A401	-	7	28'-0"	X	AT BODY PILES - 1 PER PILE 7 SPIRAL WRAPS
A402	-	14	2'-3"		AT BODY PILES - 2 PER PILE - VERT.
A603	-	11	48'-2"		ABUT. BODY - F.F., TOP & BOTTOM - HORIZ.
A504	-	60	16'-6"	X	ABUT. BODY - STIRRUPS - VERT.
A805	-	12	16'-0"		ABUT. BODY - B.F. @ WINGS - HORIZ.
A606	-	6	22'-0"		ABUT. BODY - B.F. @ CENTER - HORIZ.
A407	-	4	25'-2"		ABUT. TOP - B.F. SEMI-EXP. POCKET - HORIZ.
A408	-	4	2'-2"		ABUT. TOP - F.F. - GIRDERS 2 - 5 - HORIZ.
A409	-	2	4'-3"		ABUT. TOP - F.F. - GIRDERS 1 & 6 - HORIZ.
A510	-	22	5'-11"	X	ABUT. TOP - GIRDER SEATS - VERT.
A411	-	20	4'-9"	X	ABUT. TOP - B.F. SEMI-EXP. POCKET - VERT.
A612	20	-	11'-5"		WINGS - BOTTOM - B.F. & TOP - HORIZ.
A513	20	-	17'-1"	X	WINGS - BOTTOM - STIRRUP - VERT.
A514	14	-	12'-4"		WINGS - BOTTOM - F.F. - HORIZ.
A415	12	-	7'-9"		WINGS - TOP & BOTTOM - F.F. & B.F. - HORIZ.
A416	14	-	15'-8"		WINGS - TOP - F.F. & B.F. - HORIZ.
A617	4	-	15'-8"		WINGS - TOP - F.F. & B.F. - HORIZ.
A518	26	-	12'-2"	X	WINGS - TOP - TIES - VERT.
A519	18	-	11'-10"	X	WINGS - TOP - TIES - VERT.
A520	40	-	8'-2"	X	WINGS - TOP - PARAPET STIRRUP - VERT.

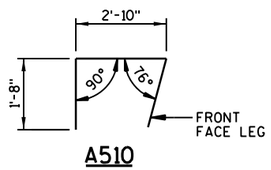
DIMENSIONS IN BENDING DETAILS ARE OUT TO OUT OF BAR.



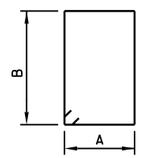
A401



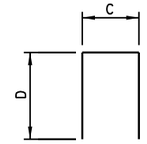
A520



A510



MARK	A	B
A504	2'-7"	5'-4"
A513	2'-8"	5'-7"



MARK	C	D
A411	1'-7"	1'-8"
A518	8"	5'-10"
A519	8"	5'-8"

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STRUCTURE B-14-0211

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WEST ABUTMENT DETAILS

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FILE= 59023_07_ABUTDET.DGN
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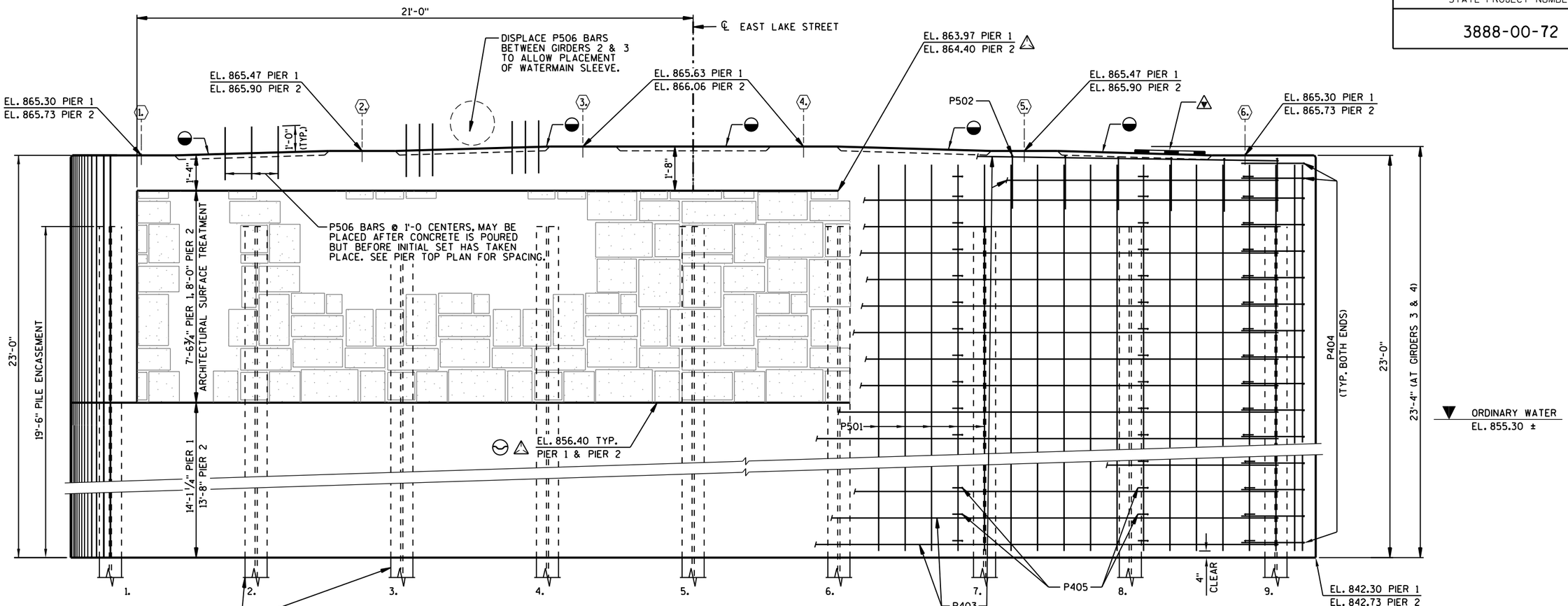
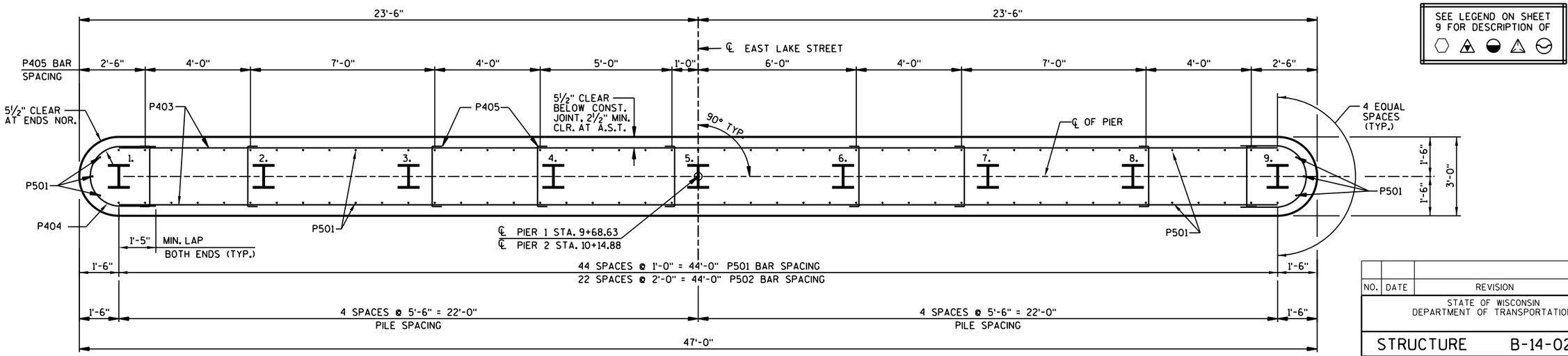


ELEVATION
(LOOKING EAST)



PLAN
(ARCHITECTURAL SURFACE TREATMENT NOT SHOWN)

SEE LEGEND ON SHEET 9 FOR DESCRIPTION OF

NOTES
ELEVATIONS SHOWN ARE GIVEN AT ℄ OF PIERS.
BEARING SEATS TO BE LEVEL.

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PIERS

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FILE= 59023_08_PIER.DGN
DATE= 2/19/2014

59023_08_PIER.dgn 2/19/2014 9:12:09 AM RRABSKA

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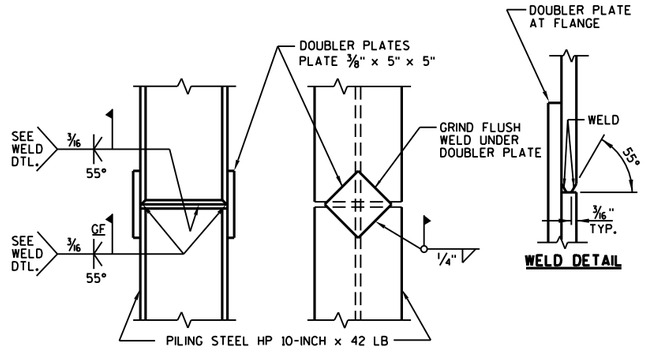
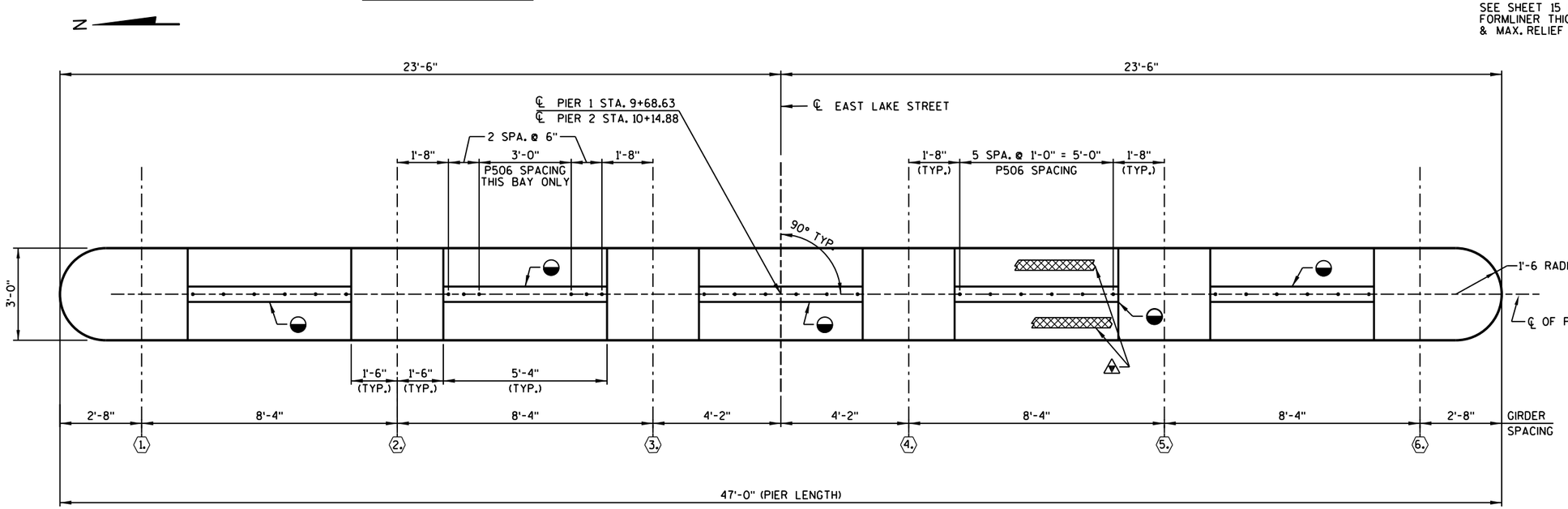


WELD DETAIL

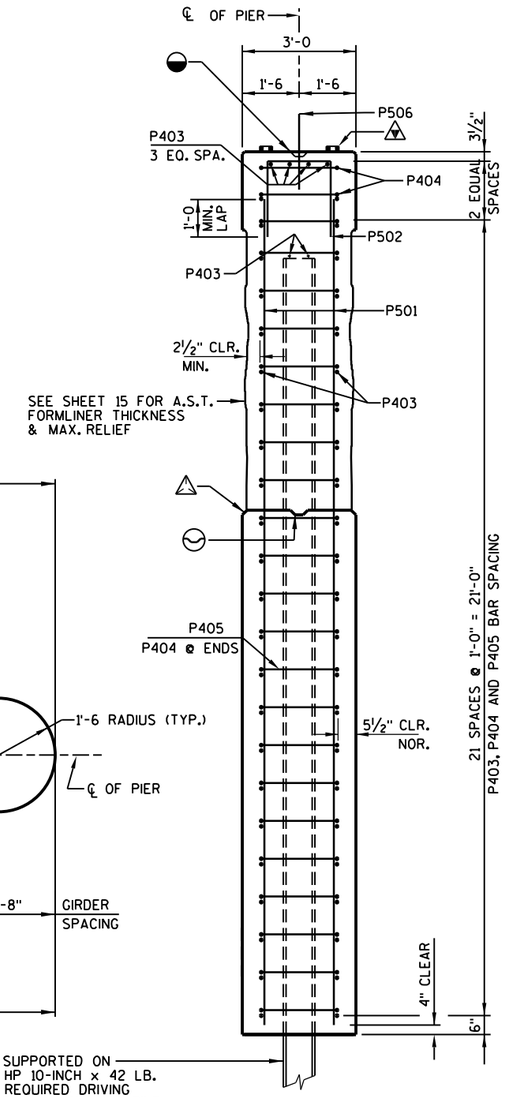
PILE SPLICE DETAILS

LEGEND

- ⬡ - INDICATES GIRDER NUMBER.
- ◬ - 4"x 3/4" PREFORMED FILLER BETWEEN GIRDERS.
- ◒ - KEYED CONSTRUCTION JOINT FORMED BY BEVELED 2x6.
- ⊖ - OPTIONAL CONST. JOINT WITH BEVELED 2x6 x 42'-0" LONG KEYWAY.
- A.S.T. - ARCHITECTURAL SURFACE TREATMENT.
- ◬ - 1½" BEVEL ALL AROUND EDGES OF ARCHITECTURAL SURFACE TREATMENT.



PIER TOP PLAN



PIERS TO BE SUPPORTED ON PILING STEEL HP 10-INCH x 42 LB. DRIVEN TO A REQUIRED DRIVING RESISTANCE OF 180 TONS PER PILE AS DETERMINED BY THE MODIFIED GATES DYNAMIC FORMULA. ESTIMATED PILE LENGTHS ARE 50'-0"

TYPICAL SECTION THRU PIER

(PIER 1 SHOWN, PIER 2 SIMILAR)

BILL OF BARS (1 PIER)

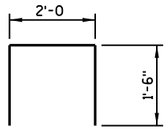
COATED 65 LBS.
UNCOATED 4440 LBS.

MARK	NO. REQ'D.	LENGTH	BENT	LOCATION
P501	96	22'-4"		PIER - VERT - VERT.
P502	23	4'-9"	X	PIER - STIRRUPS - TOP - VERT.
P403	52	44'-0"		PIER - TOP & SIDES - HORIZ.
P404	48	6'-0"	X	PIER - AT ENDS - HORIZ.
P405	207	2'-8"	X	PIER - TIES - HORIZ.
© P506	30	2'-0"		PIER - DOWELS @ TOP - VERT.

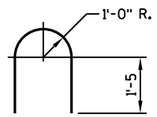
© - THESE BARS SHALL BE EPOXY COATED.

BAR MARKS FOR PIER 1 (WEST PIER) ARE SHOWN.

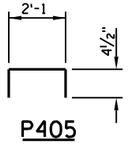
LABEL AND BUNDLE PIER 2 (EAST PIER) BARS WITH E MARK (E501 THRU E506).



P502



P404



P405

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
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STRUCTURE B-14-0211

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PIER DETAILS

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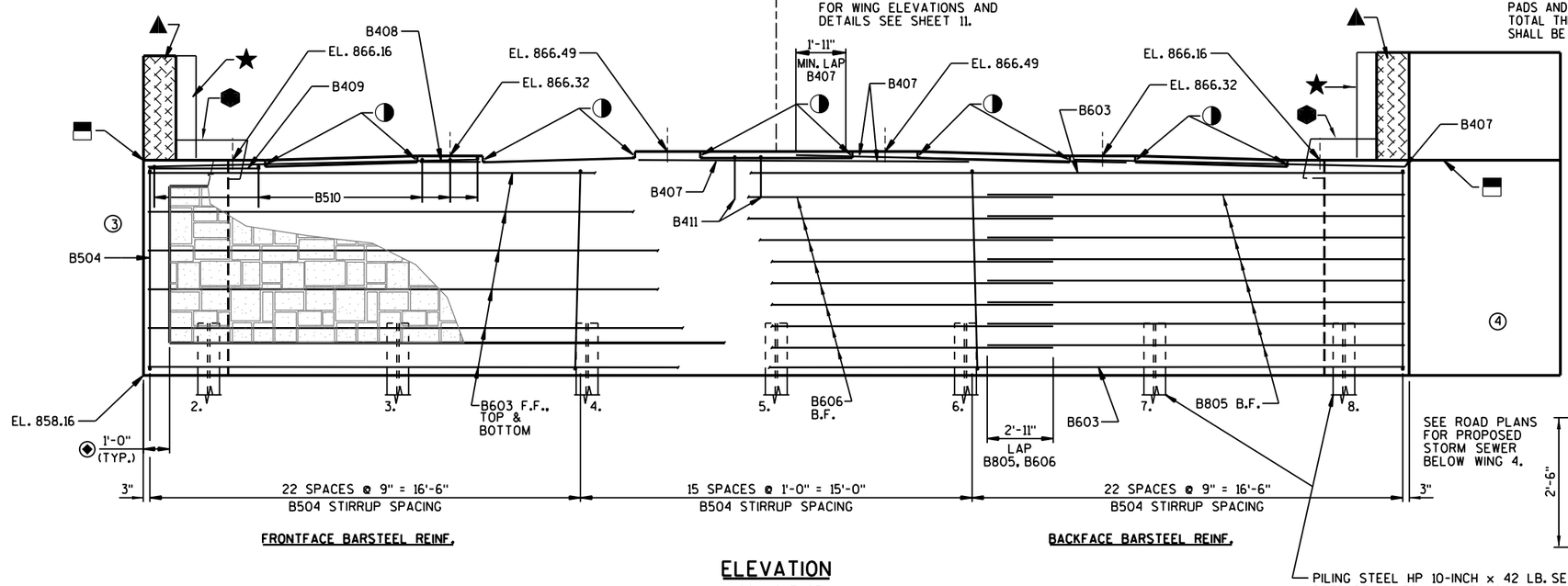
BUILD BEAM SEATS LEVEL, SLOPE AREAS BETWEEN BEAM SEATS.

℄ EAST LAKE STREET ABUT. BODY BARSTEEL REINF. SYM. ABOUT THIS LINE. FOR WING ELEVATIONS AND DETAILS SEE SHEET 11.

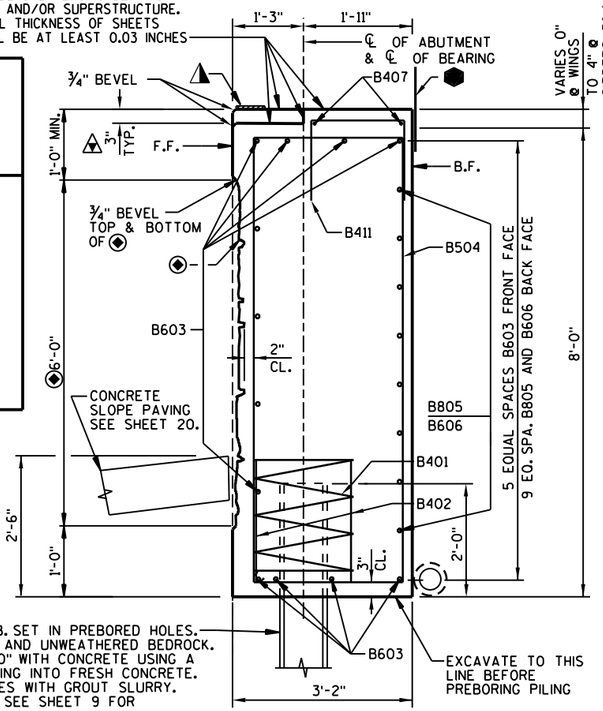
STEEL TROWEL TOP SURFACE OF ABUTMENT. PLACE MULTIPLE LAYERS OF POLYETHYLENE SHEETS OVER ENTIRE ABUTMENT TOP BEFORE PLACING BEARING PADS AND/OR SUPERSTRUCTURE. TOTAL THICKNESS OF SHEETS SHALL BE AT LEAST 0.03 INCHES



ELEVATION

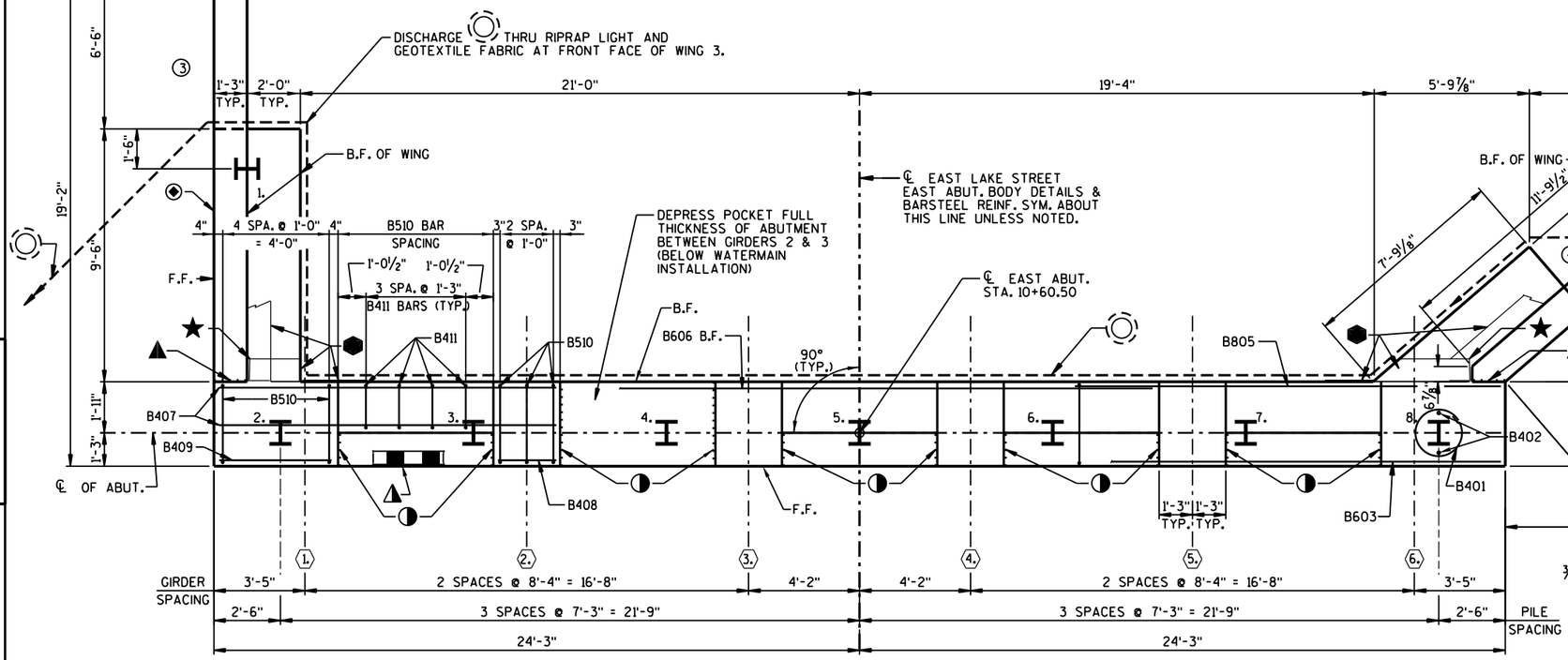
(LOOKING EAST)

SEE ROAD PLANS FOR PROPOSED STORM SEWER BELOW WING 4.

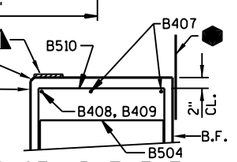


PILING STEEL HP 10-INCH x 42 LB. SET IN PREBORED HOLES. PREBORE HOLES 1'-0 INTO SOUND AND UNWEATHERED BEDROCK. CASE HOLES AND FILL LOWER 3'-0" WITH CONCRETE USING A TREMIE. SET PILING WITHOUT DRIVING INTO FRESH CONCRETE. PULL CASINGS AND BACKFILL HOLES WITH GROUT SLURRY. ESTIMATED PILE LENGTHS 50'-0". SEE SHEET 9 FOR PILE SPLICE DETAILS.

TYPICAL SECTION THRU ABUTMENT



PLAN



TOP OF ABUTMENT @ BEARING SEATS

SEE PLAN FOR REINF. SPACING

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STRUCTURE B-14-0211

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EAST ABUTMENT

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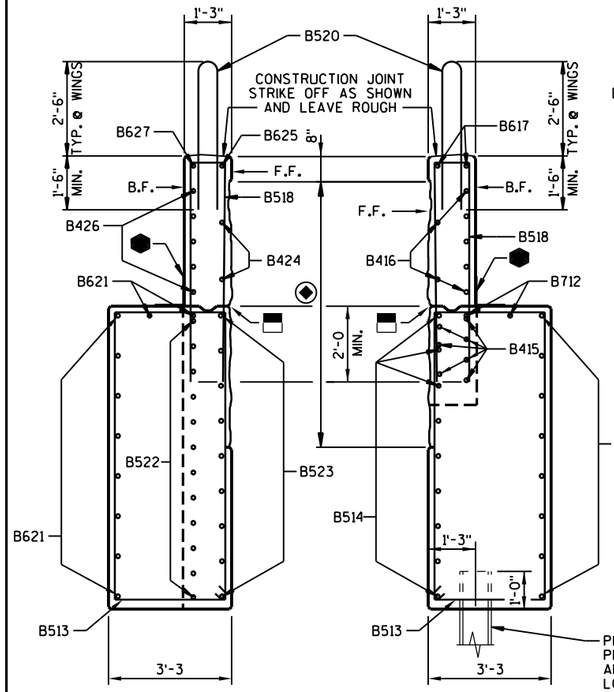
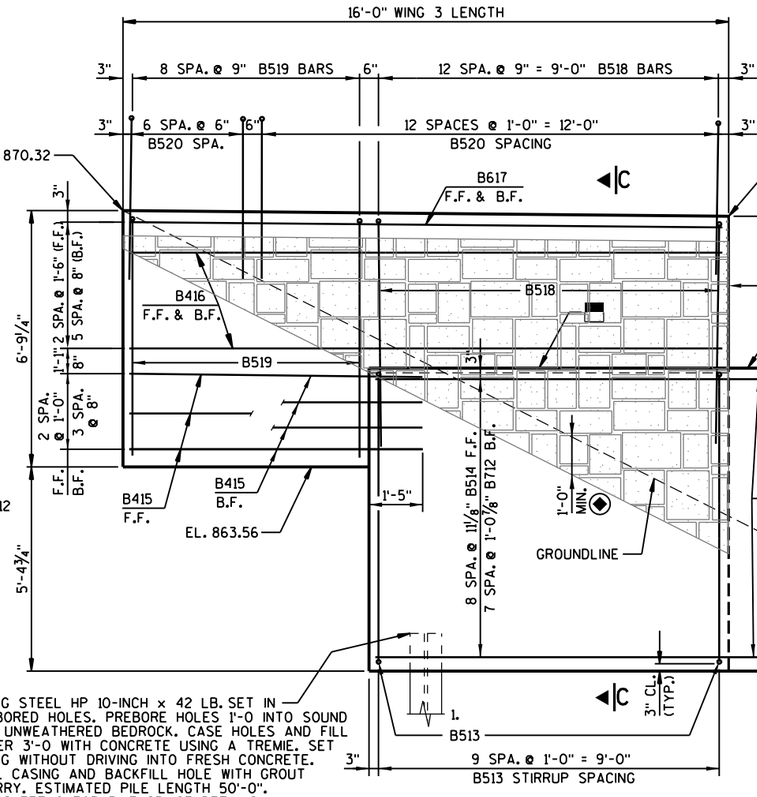
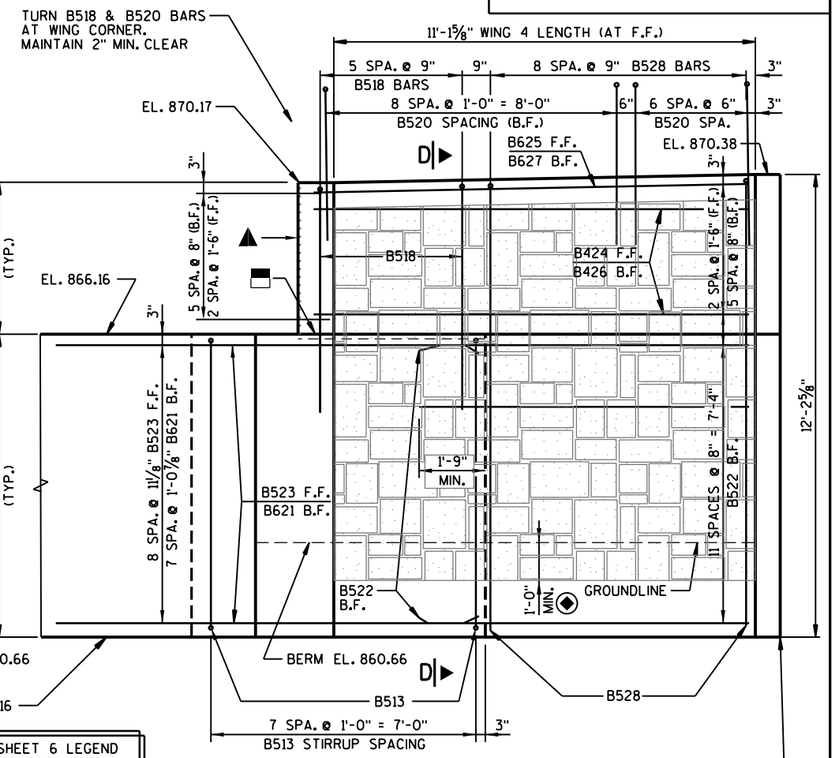


SECTION D-D
THRU WING 4

SECTION C-C
THRU WING 3



ELEVATION - WING 3



ELEVATION - WING 4

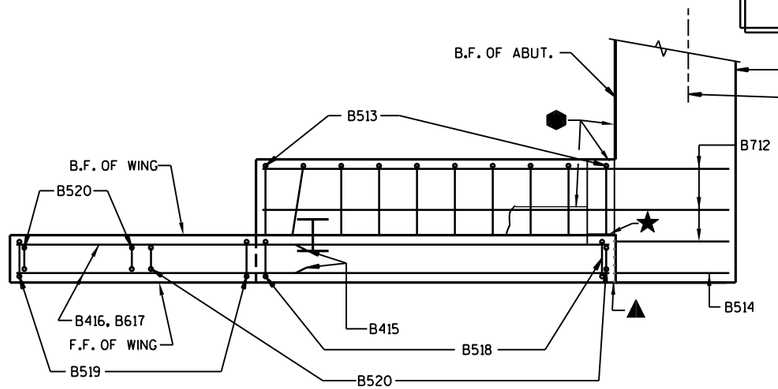
EXTEND WING 4 TO CORNER OF EXISTING BUILDING PLACE 2" THICK x 12" FILLER FULL HEIGHT FROM BOTTOM OF WING TO TOP OF PARAPET BETWEEN WING & BUILDING. LINE BACK SIDE OF CONTACT AREA WITH 4'-0" WIDE STRIP OF GEOTEXTILE FABRIC TYPE R PRIOR TO BACKFILLING. SEAL ALL EXPOSED HORIZ. & VERT. SURFACES OF FILLER WITH NON-STAINING GRAY, NON-BITUMINOUS JOINT SEALER. (1" DEEP & HOLD ⅛" BELOW SURFACE OF CONC.).

SEE SHEET 6 LEGEND FOR DESCRIPTION OF

BILL OF BARS (SOUTH ABUTMENT) UNCOATED 3530 LBS. COATED 2295 LBS.

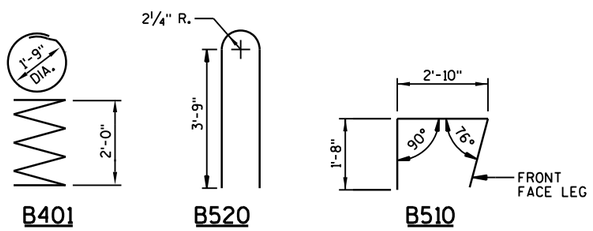
MARK	NUMBER REQUIRED COATED	NUMBER REQUIRED UNCOATED	LENGTH	BENT	LOCATION
B401	-	7	28'-0"	X	AT BODY PILES - 1 PER PILE 7 SPIRAL WRAPS
B402	-	14	2'-3"		AT BODY PILES - 2 PER PILE - VERT.
B603	-	12	48'-2"		ABUT. BODY - F.F., TOP & BOTTOM - HORIZ.
B504	-	60	20'-6"	X	ABUT. BODY - STIRRUPS - VERT.
B805	-	16	16'-0"		ABUT. BODY - B.F. @ WINGS - HORIZ.
B606	-	8	22'-0"		ABUT. BODY - B.F. @ CENTER - HORIZ.
B407	-	4	25'-2"		ABUT. TOP - B.F. SEMI-EXP. POCKET - HORIZ.
B408	-	4	2'-2"		ABUT. TOP - F.F. - GIRDERS 2 - 5 - HORIZ.
B409	-	2	4'-3"		ABUT. TOP - F.F. - GIRDERS 1 & 6 - HORIZ.
B510	-	22	5'-11"	X	ABUT. TOP - GIRDER SEATS - VERT.
B411	-	20	4'-9"	X	ABUT. TOP - B.F. SEMI-EXP. POCKET - VERT.
B712	10	-	12'-4"		WING 3 - BOTTOM - B.F. & TOP - HORIZ.
B513	18	-	21'-1"	X	WINGS - BOTTOM - STIRRUP - VERT.
B514	9	-	12'-4"		WING 3 - BOTTOM - F.F. - HORIZ.
B415	7	-	7'-9"		WING 3 - TOP - F.F. & B.F. - HORIZ.
B416	7	-	15'-8"		WING 3 - TOP - F.F. & B.F. - HORIZ.
B617	2	-	15'-8"		WING 3 - TOP - F.F. & B.F. - HORIZ.
B518	19	-	12'-4"	X	WINGS - TOP - TIES - VERT.
B519	9	-	13'-4"	X	WING 3 - TOP - TIES - VERT.
B520	36	-	8'-2"	X	WINGS - TOP - PARAPET STIRRUP - VERT.
B621	10	-	9'-10"		WING 4 - BOTTOM - B.F. & TOP - HORIZ.
B522	12	-	9'-0"		WING 4 - BOTTOM - B.F. - HORIZ.
B523	9	-	13'-3"		WING 4 - BOTTOM - F.F. - HORIZ.
B424	2	-	11'-2"		WING 4 - TOP - F.F. - HORIZ.
B625	1	-	11'-2"		WING 4 - TOP - F.F. - HORIZ.
B426	5	-	11'-9"		WING 4 - TOP - B.F. - HORIZ.
B627	1	-	11'-9"		WING 4 - TOP - B.F. - HORIZ.
B528	9	-	24'-0"	X	WING 4 - TIES - VERT.

DIMENSIONS IN BENDING DETAILS ARE OUT TO OUT OF BAR.



PLAN - WING 3

PLAN - WING 4



B401 B520 B510

MARK	A	B
B504	2'-7"	7'-4"
B513	2'-8"	7'-7"

MARK	C	D
B411	1'-7"	1'-8"
B518	8"	5'-11"
B519	8"	6'-5"
B528	8"	11'-9"

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STRUCTURE B-14-0211

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EAST ABUTMENT DETAILS

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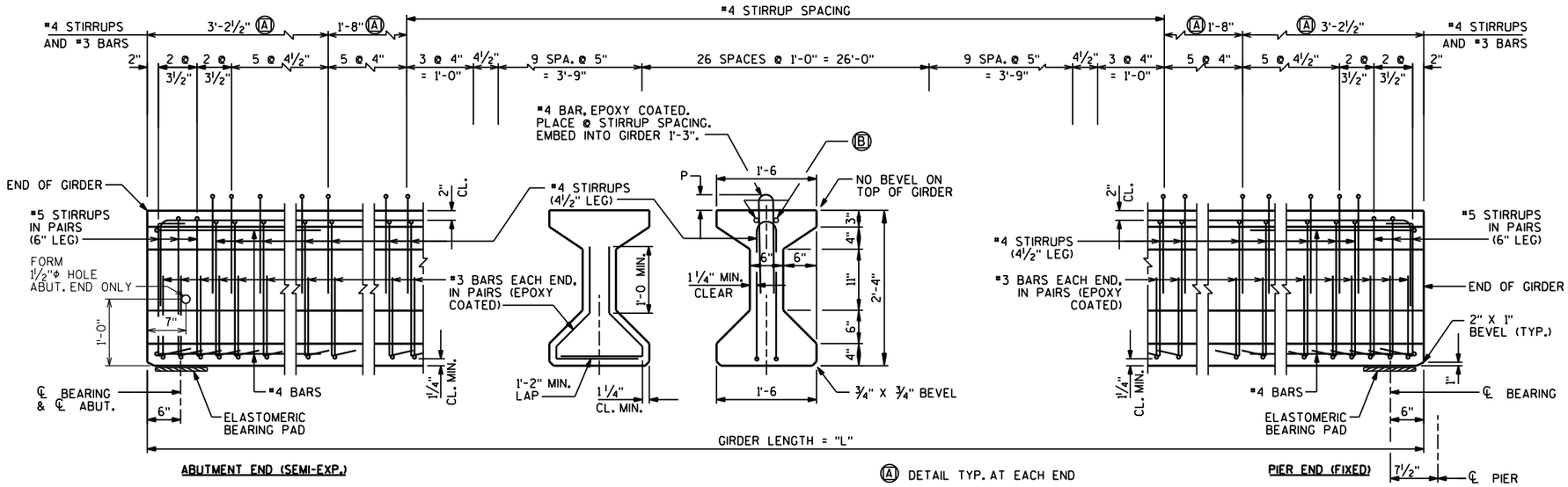


Ⓐ DETAIL TYP. AT EACH END

Ⓑ 2-#7 BARS BEND DOWN 16 BAR DIA. AT ENDS

SIDE VIEW & TYP. SECTION

NOTES

TOP OF GIRDER TO BE ROUGH FLOATED AND BROOMED TRANSVERSELY, EXCEPT THE OUTSIDE 2" OF GIRDER, WHICH SHALL RECEIVE A SMOOTH FINISH. AN APPROVED CONCRETE SEALER SHALL BE APPLIED TO ALL SMOOTH SURFACES INCLUDING THE OUTSIDE 2" OF THE TOP FLANGE.

THE GIRDERS SHALL BE PROVIDED WITH A SUITABLE LIFTING DEVICE FOR HANDLING AND ERECTING THE GIRDERS.

PRESTRESSING STRANDS SHALL BE 0.6"Φ - 7 WIRE LOW-RELAXATION STRANDS WITH AN ULTIMATE STRENGTH OF 270,000 psi.

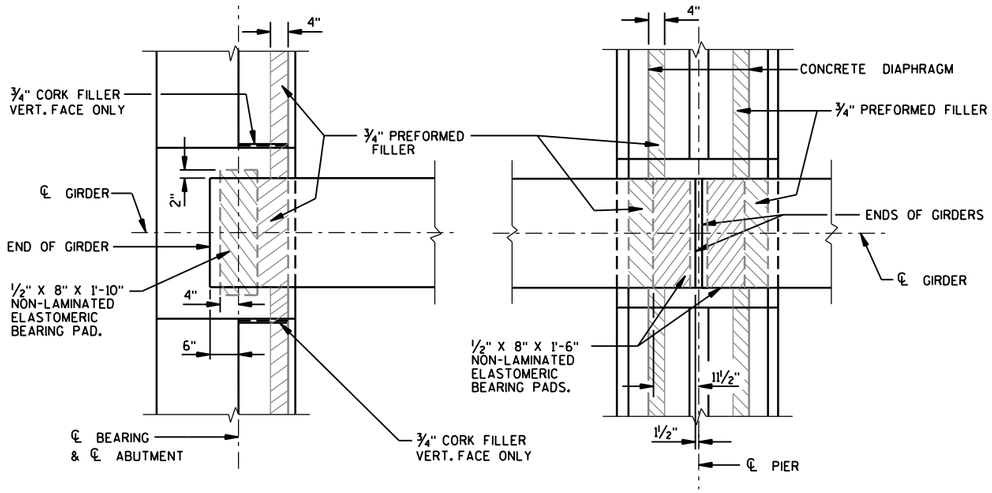
STRANDS SHALL BE FLUSH WITH THE END OF GIRDER. ENDS OF STRANDS SHALL BE COATED WITH NON-BITUMINOUS JOINT SEALER.

FOR DIAPHRAGM INSERT & CONNECTION DETAILS SEE "STEEL DIAPHRAGM" SHEET.

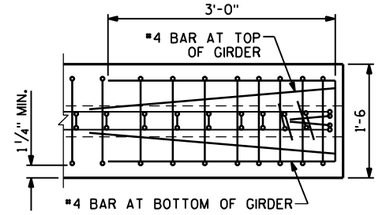
ALL GIRDERS SHALL BE CAST FULL LENGTH AS SHOWN.

SPACING SHOWN FOR #4 STIRRUPS IS FOR GRADE 60 REINFORCEMENT.

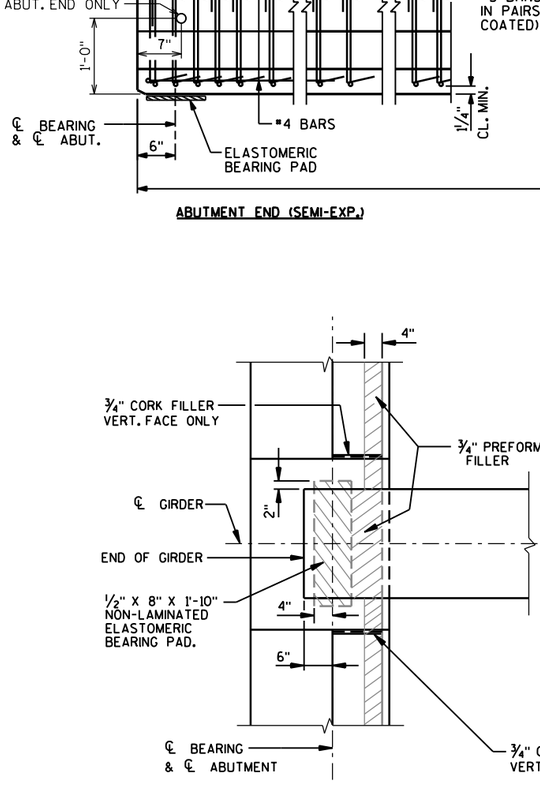
AN ALTERNATE EQUIVALENT OF WELDED WIRE FABRIC (WWF) ASTM A497 MAY BE SUBSTITUTED FOR THE STIRRUP REINFORCEMENT SHOWN, UPON APPROVAL OF THE STRUCTURES DEVELOPMENT SECTION.



BEARING PAD DETAIL

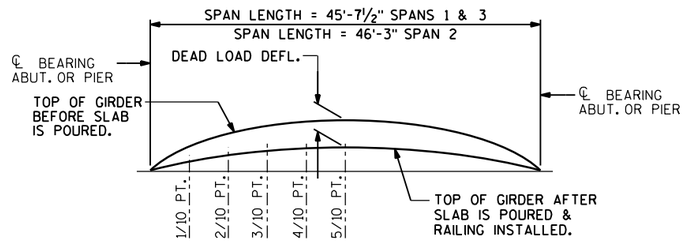


PLAN VIEW OF GIRDER ENDS

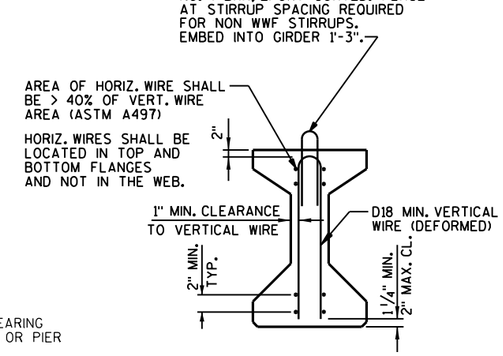


TYP. STRAND PATTERN

THE THEORETICAL INITIAL CAMBER VALUE AT THE TIME OF STRAND RELEASE AT MIDSPAN IS 1 1/8". THIS VALUE IS NOT TO BE USED IN DETERMINING 'T'. USE ACTUAL GIRDER SHOTS. THIS VALUE IS FOR INFORMATIONAL PURPOSES ONLY.



DEAD LOAD DEFLECTION DIAGRAM



SECTION THRU GIRDER

SHOWING WELDED WIRE FABRIC (WWF) STIRRUPS ASTM A497 (Fy = 70 Ksi)

⁂ MINIMUM CYLINDER STRENGTH OF CONCRETE @ TIME OF TRANSFER OF PRESTRESS FORCE.

GIRDER DATA

SPAN	GIRDER	GIRDER LENGTH "L"	DEAD LOAD DEFL. (IN.) 1/10	2/10	3/10	4/10	5/10	6/10	7/10	8/10	9/10	CONC. STRGTH. f'c (p.s.i.)	"P" IST ⅓ OF GIRDER	"P" MID ⅓ OF GIRDER	"P" END ⅓ OF GIRDER	DIA. OF STRAND (IN.)	DRAPED PATTERN TOTAL NO. OF STRANDS	f'ci (P.S.I.) ⁂	(IN.) "A"	"B" MIN.	"B" MAX.	"C"	UNDRAPED PATTERN TOTAL NO. OF STRANDS	f'ci (P.S.I.) ⁂
1,2,3	INT. 2-5	46'-0"	0.16	0.31	0.43	0.50	0.53	0.50	0.43	0.31	0.16	8,000	6"	6"	6"	0.60	-	-	-	-	-	-	10	6,800
1,2,3	EXT. 1, 6	46'-0"	0.12	0.22	0.30	0.36	0.38	0.36	0.30	0.22	0.12	8,000	6"	6"	6"	0.60	-	-	-	-	-	-	10	6,800

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28" PRESTRESSED GIRDER DETAILS

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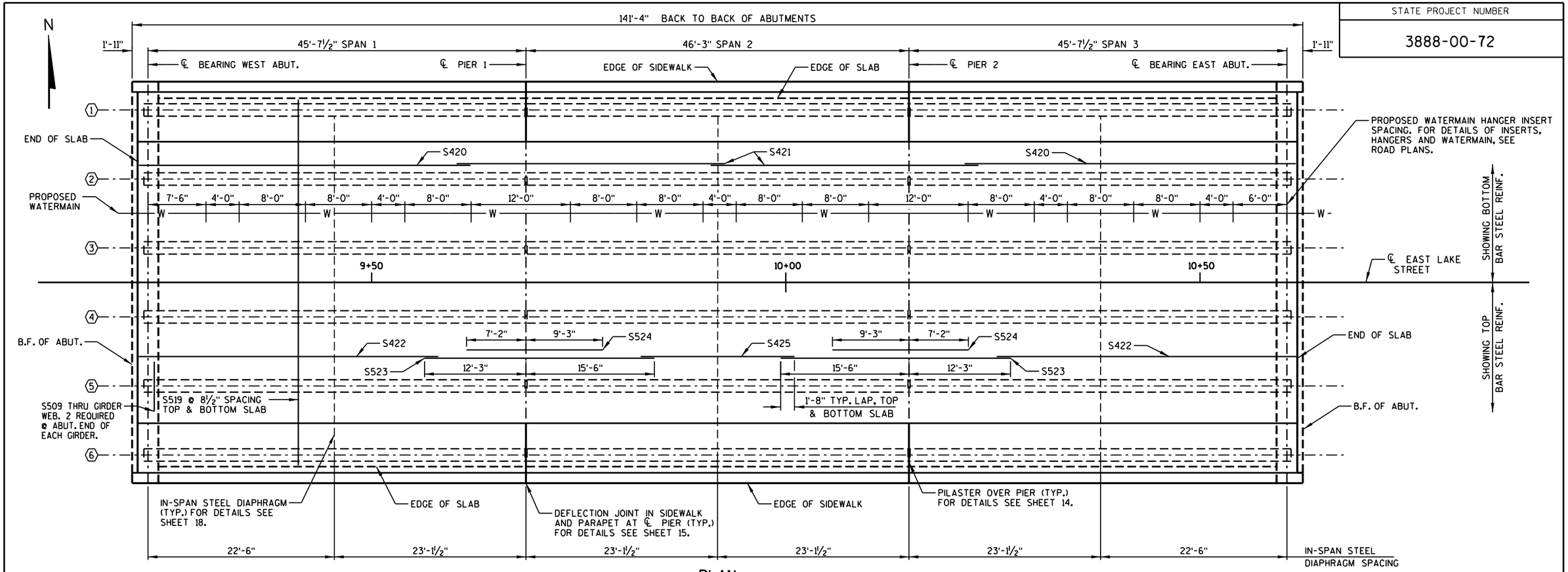


PLAN

TOP OF SLAB ELEVATIONS ℗ ℄ OF GIRDERS

LOCATION	SPAN POINT	SOUTH SLAB EDGE	C/L GIRDER 6	C/L GIRDER 5	C/L GIRDER 4	C/L EAST LAKE STREET	C/L GIRDER 3	C/L GIRDER 2	C/L GIRDER 1	NORTH SLAB EDGE
W. ABUT.	1	868.16	868.19	868.36	868.52	868.61	868.52	868.36	868.19	868.16
	1.1	868.20	868.23	868.40	868.56	868.65	868.56	868.40	868.23	868.20
	1.2	868.25	868.27	868.44	868.61	868.69	868.61	868.44	868.27	868.25
	1.3	868.29	868.32	868.48	868.65	868.73	868.65	868.48	868.32	868.29
	1.4	868.33	868.36	868.53	868.69	868.78	868.69	868.53	868.36	868.33
	1.5	868.37	868.40	868.57	868.74	868.82	868.74	868.57	868.40	868.37
	1.6	868.42	868.45	868.61	868.78	868.86	868.78	868.61	868.45	868.42
	1.7	868.46	868.49	868.66	868.82	868.91	868.82	868.66	868.49	868.46
	1.8	868.50	868.53	868.70	868.86	868.95	868.86	868.70	868.53	868.50
	1.9	868.55	868.57	868.74	868.91	868.99	868.91	868.74	868.57	868.55
PIER 1	2	868.59	868.62	868.78	868.95	869.03	868.95	868.78	868.62	868.59
	2.1	868.63	868.66	868.83	868.99	869.08	868.99	868.83	868.66	868.63
	2.2	868.68	868.70	868.87	869.04	869.12	869.04	868.87	868.70	868.68
	2.3	868.72	868.75	868.91	869.08	869.16	869.08	868.91	868.75	868.72
	2.4	868.76	868.79	868.96	869.12	869.21	869.12	868.96	868.79	868.76
	2.5	868.81	868.83	869.00	869.17	869.25	869.17	869.00	868.83	868.81
	2.6	868.85	868.88	869.04	869.21	869.29	869.21	869.04	868.88	868.85
	2.7	868.89	868.92	869.09	869.26	869.34	869.26	869.09	868.92	868.89
	2.8	868.94	868.97	869.13	869.30	869.38	869.30	869.13	868.97	868.94
	2.9	868.98	869.01	869.18	869.34	869.43	869.34	869.18	869.01	868.98
PIER 2	3	869.02	869.05	869.22	869.39	869.47	869.39	869.22	869.05	869.02
	3.1	869.07	869.10	869.26	869.43	869.51	869.43	869.26	869.10	869.07
	3.2	869.11	869.14	869.30	869.47	869.55	869.47	869.30	869.14	869.11
	3.3	869.15	869.18	869.35	869.51	869.60	869.51	869.35	869.18	869.15
	3.4	869.20	869.22	869.39	869.56	869.64	869.56	869.39	869.22	869.20
	3.5	869.24	869.27	869.43	869.60	869.68	869.60	869.43	869.27	869.24
	3.6	869.28	869.31	869.48	869.64	869.73	869.64	869.48	869.31	869.28
	3.7	869.32	869.35	869.52	869.69	869.77	869.69	869.52	869.35	869.32
	3.8	869.37	869.40	869.56	869.73	869.81	869.73	869.56	869.40	869.37
	3.9	869.41	869.44	869.60	869.77	869.85	869.77	869.60	869.44	869.41
E. ABUT.	4	869.45	869.48	869.65	869.81	869.90	869.81	869.65	869.48	869.45

GENERAL NOTES

⬡ - INDICATES GIRDER NUMBER

SEE SHEET 14 FOR TRANSVERSE AND LONGITUDINAL BAR SPACING.

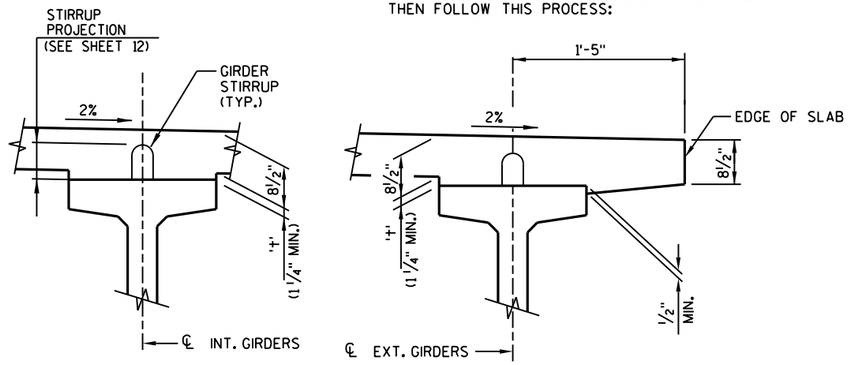
TO DETERMINE '†', ELEV. OF TOP OF GIRDERS AT ℄ OF SUBSTRUCTURE UNITS & AT 1/10 POINTS OF EACH SPAN SHALL BE TAKEN. TO DETERMINE THE TOP OF SLAB ELEVATION FOR POINT REFERRED USE TABLE ON THIS SHEET AND ADJUST FOR CROSS SLOPE OVER GIRDER. THEN FOLLOW THIS PROCESS:

TOP OF SLAB ELEV. AT FINAL GRADE
- TOP OF GIRDER ELEVATION
+ DEADLOAD DEFLECTION (SEE SHEET 12)
- SLAB THICKNESS

= HAUNCH HEIGHT '†'

IF 1¼" MINIMUM HAUNCH HEIGHT '†' CANNOT BE MAINTAINED, THE GRADE LINE MAY BE REVISED BY THE ENGINEER AT THE OPTION OF THE CONTRACTOR. THE PLAN SLAB THICKNESS SHALL BE HELD. MAX. HAUNCH HEIGHT EQUALS "STIRRUP PROJECTION" MINUS 3".

NOTE: AN AVERAGE HAUNCH ("†") OF 2⅜" WAS USED IN THE QUANTITY "CONCRETE MASONRY BRIDGES."



SLAB HAUNCH DETAIL

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STRUCTURE B-14-0211

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SUPERSTRUCTURE

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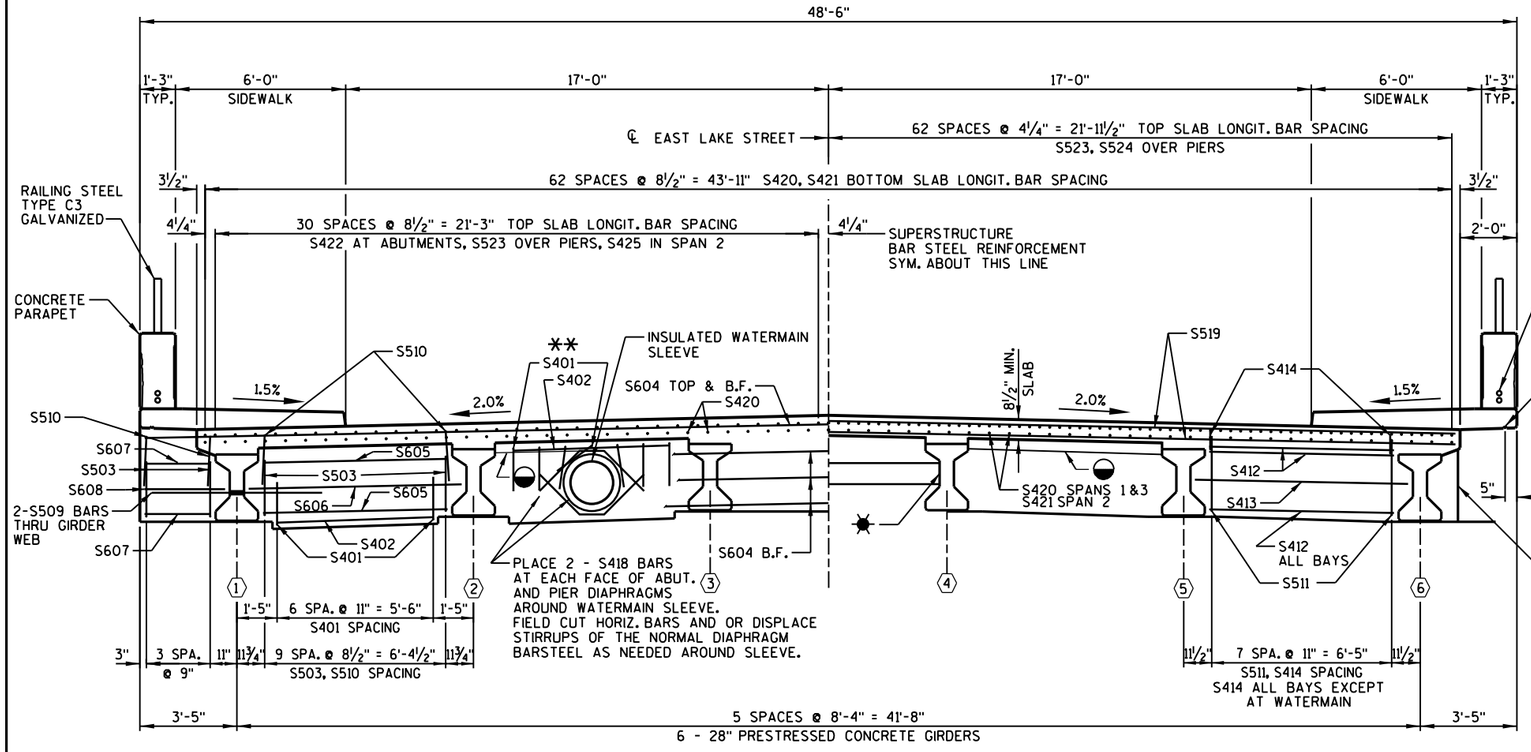
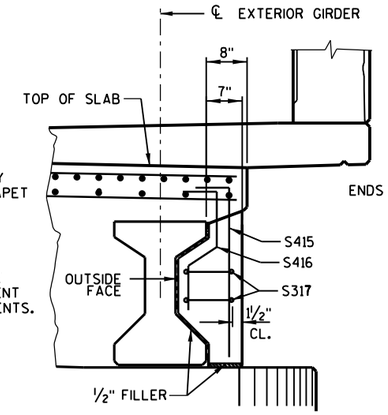


AT ABUTMENT

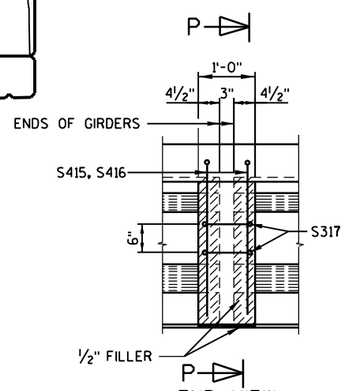
AT PIER

CROSS SECTION THRU BRIDGE

(LOOKING EAST)

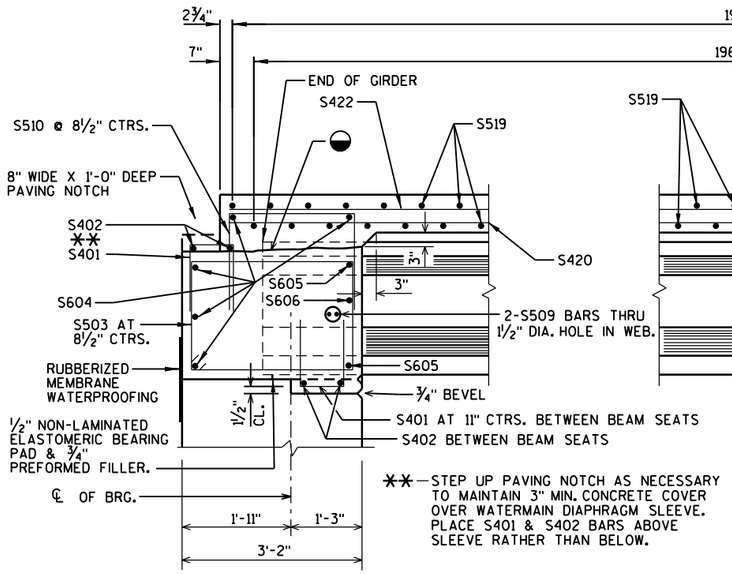


SECTION P-P

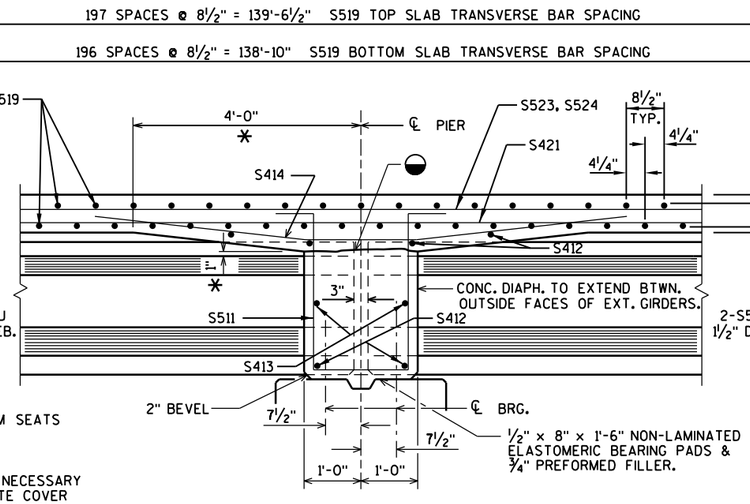


END VIEW

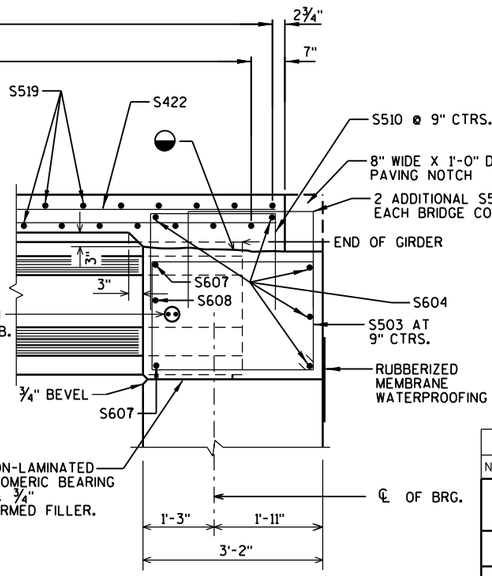
PILASTER DETAILS AT PIERS



ABUTMENT DIAPHRAGM - INT. BAYS



PIER DIAPHRAGM



ABUTMENT DIAPHRAGM - ENDS

PART LONGITUDINAL SECTION

LEGEND

F.F. - FRONT FACE

B.F. - BACK FACE

⬡ - INDICATES GIRDER NUMBER

✱ - FOR DETAILS OF IN-SPAN STEEL DIAPHRAGMS AND DIAPHRAGM INSERTS, SEE SHEET 18. FOR LAYOUT AND SPACING OF STEEL DIAPHRAGMS, SEE PLAN, SHEET 13.

◒ - OPTIONAL CONSTRUCTION JOINT (TYP. ALL BAYS).

✱ — BETWEEN GIRDERS 2 & 3 ELIMINATE DECK THICKENING AND HOLD 8½" DECK. PROVIDE 3" x 3" FILLET SIMILAR TO ABUTMENT FACE

** — STEP UP PAVING NOTCH AS NECESSARY TO MAINTAIN 3" MIN. CONCRETE COVER OVER WATERMAIN DIAPHRAGM SLEEVE. PLACE S401 & S402 BARS ABOVE SLEEVE RATHER THAN BELOW.

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STRUCTURE B-14-0211

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SUPERSTRUCTURE SECTIONS & DETAILS

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FILE= 59023_BRXSEC_02.DGN
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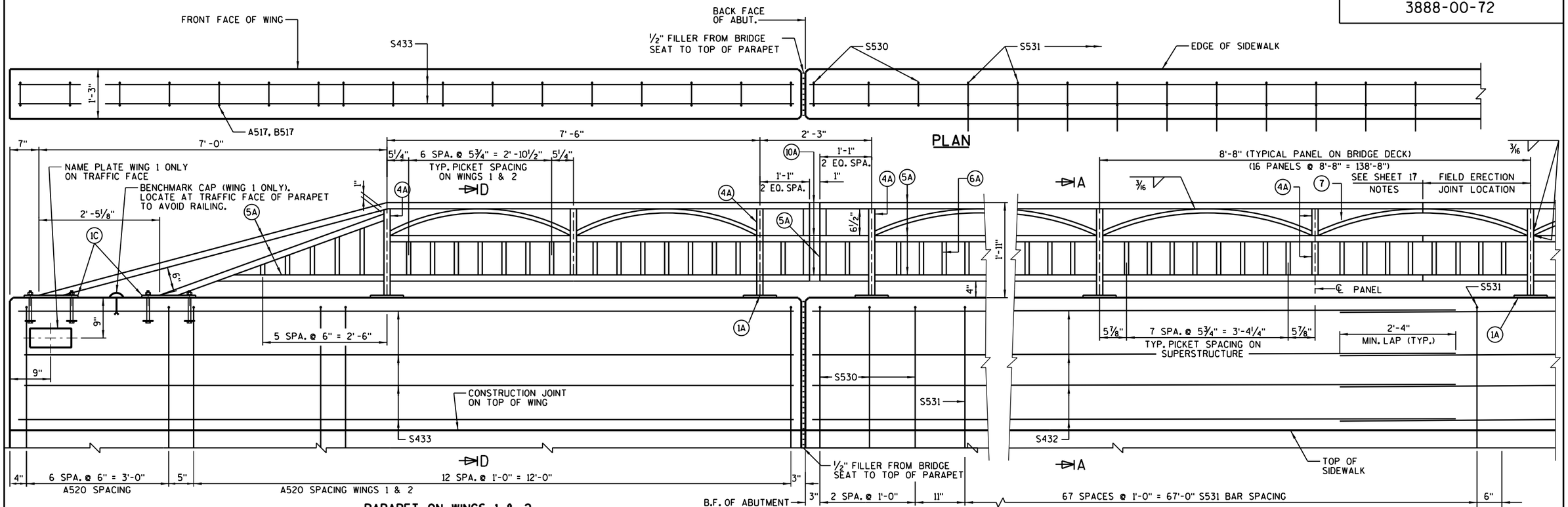


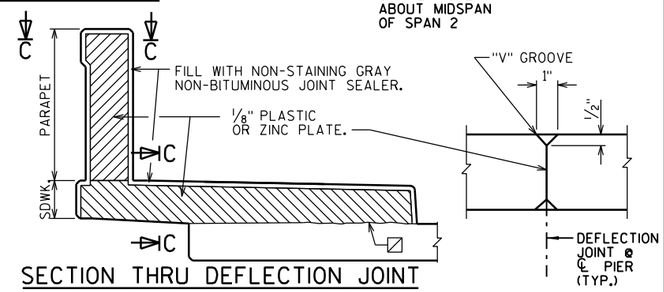
PARAPET ON WINGS 1 & 2

NOTE:
FOR LEGEND AND RAILING DETAILS, SEE SHEET 17.

PART ELEVATION OF PARAPET

LOOKING AT TRAFFIC FACE
(PANEL INDENTS NOT SHOWN)

PARAPET ON BRIDGE

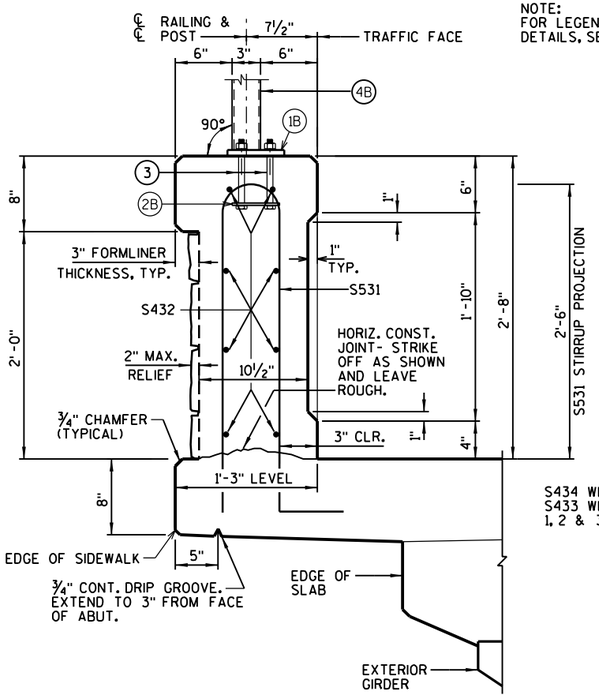


SECTION THRU DEFLECTION JOINT

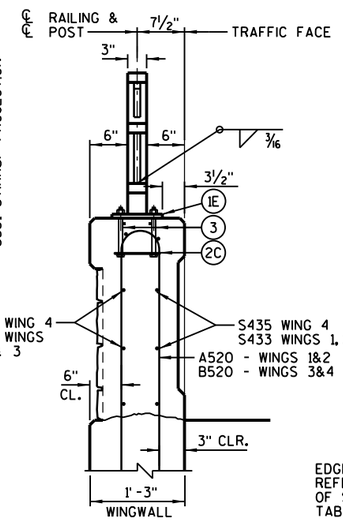
(SHOWING DEFLECTION JOINT IN PARAPET AND SIDEWALK.)

SECTION C-C

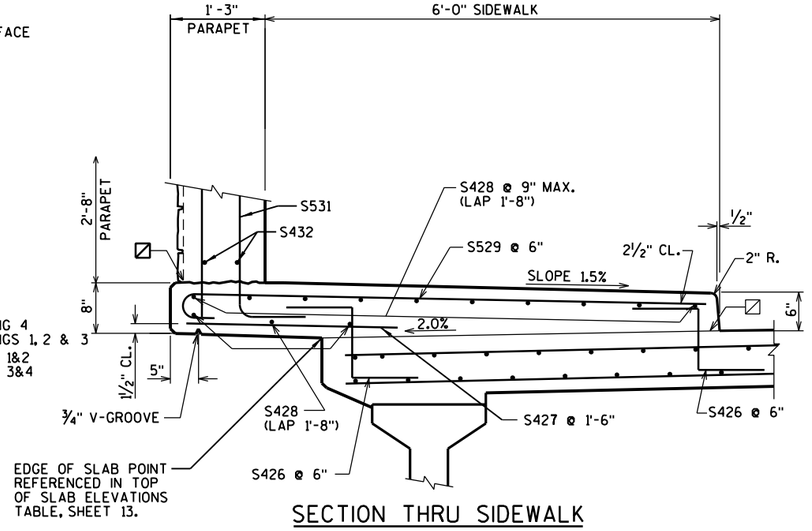
WHEN PARAPETS ARE POURED CONTINUOUSLY FROM END TO END, THEY SHALL BE SEPARATED AT THE DEFLECTION JOINTS BY A PIECE OF ⅛" ZINC OR PLASTIC PLATE CUT AS SHOWN IN SECTION B-B BY SHADED AREA. IF CONSTRUCTION JOINTS IN PARAPETS ARE USED AT THE DEFLECTION JOINTS, ONE SIDE OF JOINT SHALL BE COATED WITH AN APPROVED LIQUID BOND BREAKER AND PLATE SEPARATORS MAY BE OMITTED.



SECTION A-A THRU PARAPET ON BRIDGE



SECTION D-D



SECTION THRU SIDEWALK

☑ - CONSTRUCTION JOINT STRIKE OFF AS SHOWN AND LEAVE ROUGH.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
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STRUCTURE B-14-0211

DRAWN BY RLR | PLANS CK'D. DHW

SIDEWALK, PARAPET & RAILING

SHEET 15 OF 20
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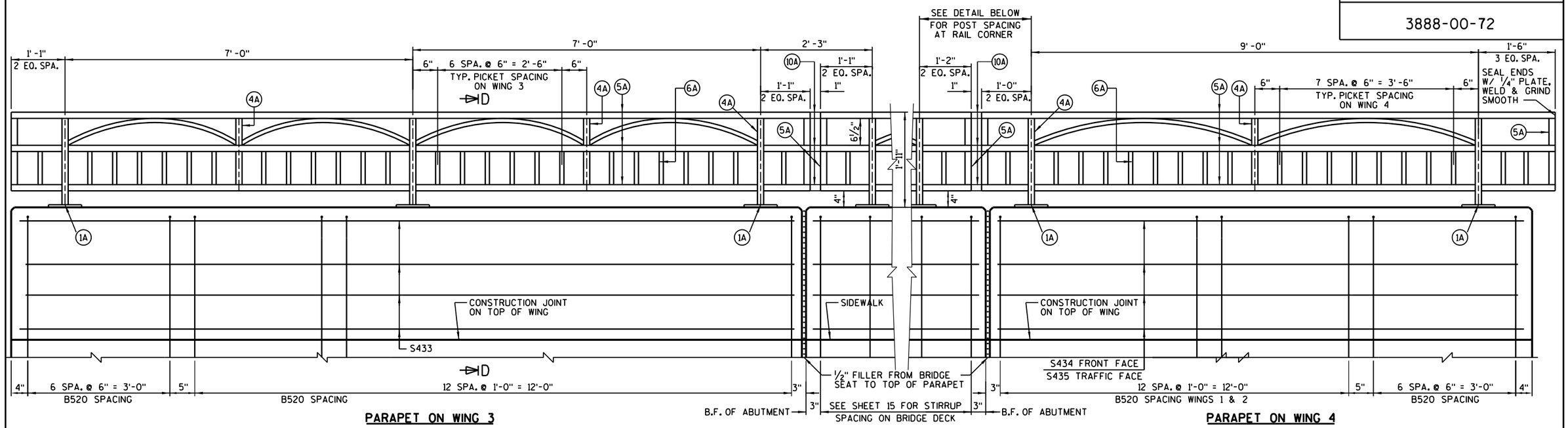


PARAPET ON WING 3

PARAPET ON WING 4

NOTE:
FOR LEGEND AND RAILING DETAILS, SEE SHEET 17.
FOR SECTION D-D SEE SHEET 15.

PART ELEVATION OF PARAPET

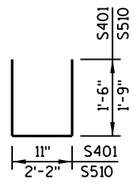
LOOKING AT TRAFFIC FACE
(PANEL INDENTS NOT SHOWN)

BILL OF BARS (COATED) 51,740 LBS.

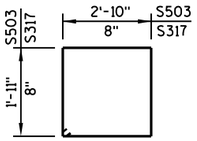
MARK	NUMBER REQUIRED	LENGTH	BENT	LOCATION
S401	70	3'-9"	X	ABUT. DIAPH. - S.E. SEAT - STIRRUP - VERT.
S402	20	5'-6"		ABUT. DIAPH. - S.E. SEAT - TRANS.
S503	116	10'-1"	X	ABUT. DIAPH. - STIRRUP - VERT.
S604	10	48'-2"		ABUT. DIAPH. - B.F. & TOP - TRANS.
S605	20	6'-6"		ABUT. DIAPH. - INT. BAY - TRANS.
S606	10	7'-6"		ABUT. DIAPH. - INT. BAY - TRANS.
S607	8	2'-4"		ABUT. DIAPH. - ENDS - TRANS.
S608	4	2'-10"		ABUT. DIAPH. - ENDS - TRANS.
S509	24	6'-0"		ABUT. DIAPH. - THRU GIRDER WEB - TRANS.
S510	124	5'-5"	X	ABUT. DIAPH. - TOP STIRRUP - VERT.
S511	80	7'-8"	X	PIER DIAPH. - STIRRUP - VERT.
S412	60	6'-6"		PIER DIAPH. - TRANS.
S413	20	7'-6"		PIER DIAPH. - TRANS.
S414	64	9'-5"	X	PIER DIAPH. - LONGIT.
S415	8	3'-4"	X	PILASTER @ PIER - VERT.
S416	8	3'-0"	X	PILASTER @ PIER - VERT.
S317	8	3'-1"	X	PILASTER @ PIER - STIRRUP - HORIZ.
S418	16	4'-9"	X	PIER & ABUT. DIAPH. - AROUND WATERMAIN - TRANS.
S519	395	44'-2"		SLAB - TOP & BOTTOM - TRANS.
S420	126	40'-0"		SLAB - BOTTOM @ ABUTS. & SPANS 1 & 3 - LONGIT.
S421	126	32'-4"		SLAB - BOTTOM - SPAN 2 - LONGIT.
S422	128	36'-2"		SLAB - TOP @ ABUTS. & SPANS 1 & 3 - LONGIT.
S523	128	27'-9"		SLAB - TOP - OVER PIERS - LONGIT.
S524	122	16'-5"		SLAB - TOP - OVER PIERS - LONGIT.
S425	64	18'-7"		SLAB - TOP - SPAN 2 - LONGIT.
S426	1124	2'-6"	X	SIDEWALK - INTO SLAB - VERT.
S427	190	2'-10"		SIDEWALK - BOTTOM - TRANS.
S428	156	23'-10"		SIDEWALK - TOP & BOTTOM - LONGIT.
S529	562	7'-4"	X	SIDEWALK - TOP - TRANS.
S530	12	8'-10"	X	PARAPET STIRRUP - OVER ABUT. - VERT.
S531	272	6'-8"	X	PARAPET STIRRUP - INTO SIDEWALK - VERT.
S432	96	24'-2"		PARAPET ON BRIDGE - LONGIT.
S433	24	15'-7"		PARAPET ON WINGS 1, 2 & 3 - LONGIT.
S434	4	11'-0"		PARAPET ON WING 4 - F.F. - LONGIT.
S435	4	11'-9"		PARAPET ON WING 4 - B.F. - LONGIT. (TRAFFIC FACE)

EPOXY COAT ALL SUPERSTRUCTURE & PARAPET BARSTEEL.

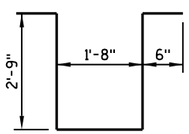
DIMENSIONS IN BENDING DETAILS ARE OUT TO OUT OF BAR.



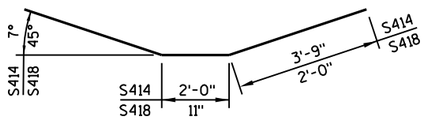
S401, S510



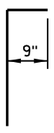
S503, S317
(STIRRUP)



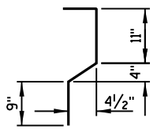
S511
(STIRRUP)



S414, S418



S415



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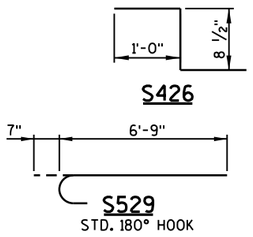
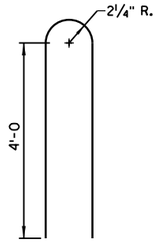
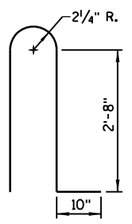


S426

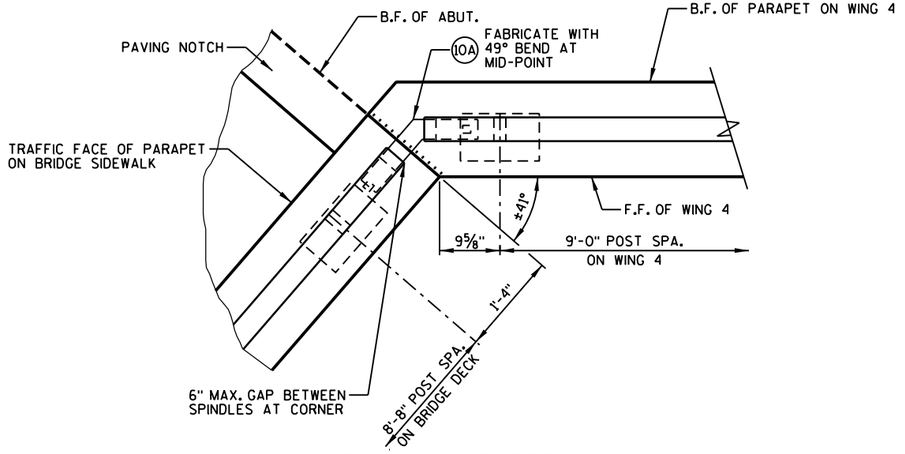
S529
STD. 180° HOOK



S530



S531



RAIL CORNER DETAIL @ WING 4

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-14-0211

DRAWN BY RLR | PLANS CK'D. DHW

SUPERSTRUCTURE, PARAPET & RAILING DETAILS

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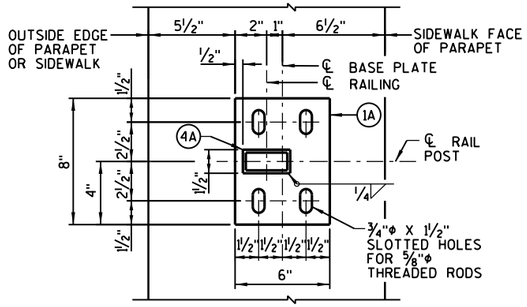
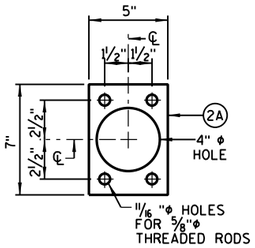
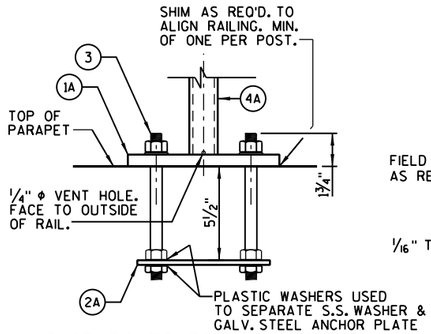


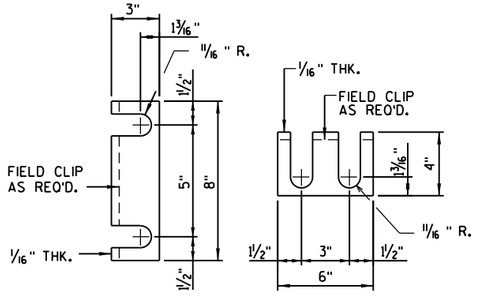
TYPICAL RAIL POST BASE PLATE



ANCHOR PLATE

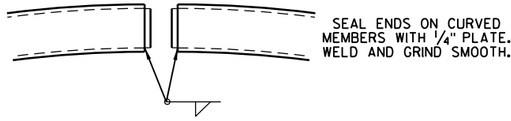


ANCHOR BOLTS FOR RAIL POSTS

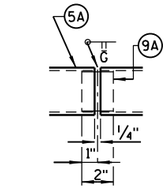


RAIL POST SHIM DETAIL
(2 SETS PER POST)

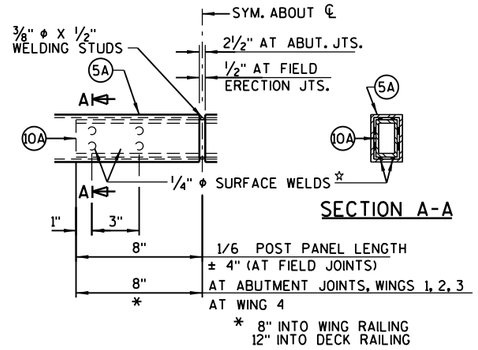
RAIL POST DETAILS



CURVED RAIL JOINT DETAIL



SHOP RAIL SPLICE DETAIL
(LOCATION MUST BE SHOWN ON SHOP DRAWINGS)



FIELD ERECTION JOINT DETAIL
☆MIN. ⅝" FLAT SURFACE DIA. PUNCHINGS OR STUDS MAY BE USED AS AN ALTERNATE.

JOINT DETAILS

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LEGEND

(1A) PLATE ⅝" X 6" X 8" WITH ¾" X 1½" SLOTTED HOLES.

(1C) PLATE ⅝" X 8" X 1'-1" WITH ¾" X 1½" SLOTTED HOLES.

(2A) ¼" X 5" X 7" ANCHOR PLATE WITH 11⁄16 " Φ HOLES FOR THREADED RODS NO. 3.

(2C) ¼" X 2½" X 7¼" ANCHOR PLATE WITH 11⁄16 " Φ HOLES FOR THREADED RODS NO. 3.

(3) ⅝" DIA. X 9" LONG, TYPE 316 STAINLESS STEEL THREADED RODS (MIN. TENSILE STRENGTH = 70 KSI) WITH NUT AND WASHERS OF SAME ALLOY GROUP. (ALTERNATE RAIL POST ANCHORAGE: 4 EQUIVALENT STAINLESS STEEL CONCRETE MASONRY ANCHORS TYPE S ⅝-INCH. EMBED 7" IN CONCRETE FOR RAIL POSTS. EMBED 5" IN CONCRETE FOR END RAILS.)

(4A) STRUCTURAL TUBING 3" X 1½" X 3⁄16". PLACE VERTICAL. PLACE NORMAL TO GRADE LINE. WELD TO NO. 1 & 5.

(5A) STRUCTURAL TUBING 3" X 1½" X 3⁄16" RAILS. WELD TO NO. 1 & NO. 4.

(6A) BAR 1" X 1" PICKETS. WELD TO NO. 5. PLACE NORMAL TO HORIZONTAL RAILS NO. 5.

(7) BAR 1" X 1". BEND TO REQUIRED RADIUS. WELD TO NO. 4 & 5.

(9A) RECTANGULAR SLEEVE FABRICATED FROM 3⁄16" PLATES. PROVIDE "SLIDING FIT".

(10A) RECTANGULAR SLEEVE FABRICATED FROM 3⁄16" PLATES. (1'-4" ℄ FIELD ERECTION JTS.) (1'-4" ℄ ABUTMENT JOINTS). AT WING 4 FABRICATE WITH BEND, SEE SHEET 16.

NOTES

BID ITEM SHALL BE "RAILING STEEL TYPE C3 GALVANIZED B-14-0211", WHICH SHALL INCLUDE ALL STEEL ITEMS SHOWN, GALVANIZING, AND PAINTING.

POST BASE PLATES SHALL BE FLAT WITH ALL SURFACES SMOOTH AND FREE FROM WARP AND ALL EDGES SMOOTH, STRAIGHT AND VERTICAL. ALL PLATE CUTS SHALL BE MACHINE OR MACHINE FLAME CUTS.

NO. 1, 2, 6, 7, 9 AND NO. 10 SHALL CONFORM TO THE REQUIREMENTS OF A.S.T.M. A709 GRADE 36. STRUCTURAL TUBING SHALL CONFORM TO THE REQUIREMENTS OF A.S.T.M. A500 GRADE B.

ANCHORAGES SHALL BE ACCURATELY PLACED TO PROVIDE CORRECT ALIGNMENT OF RAILING. SET NORMAL TO GRADE.

CUT BOTTOM OF POST TO MAKE POST VERTICAL IN TRANSVERSE DIRECTION AND NORMAL TO GRADE LINE.

STEEL SHIMS SHALL BE PROVIDED & USED UNDER BASE PLATES WHERE REQUIRED FOR ALIGNMENT AND SHALL BE GALVANIZED.

CAULK AROUND PERIMETER OF BASE PLATES, NO. 1, AND FILL BOLT SLOT OPENINGS IN SHIMS AND BASE PLATES WITH NON-STAINING GRAY NON-BITUMINOUS JOINT SEALER.

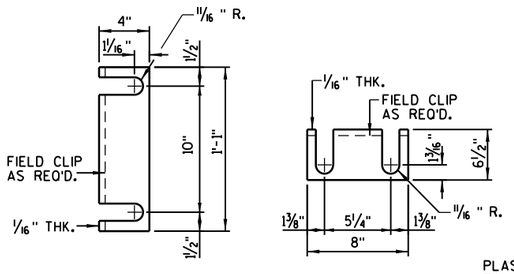
VENT HOLES SHALL BE DRILLED IN POST AND RAIL MEMBERS AS REQUIRED TO FACILITATE GALVANIZING AND DRAINAGE.

RAILING ON THE SLAB SHALL BE FABRICATED IN LENGTHS THAT INCLUDE 3 OR 4 POSTS.

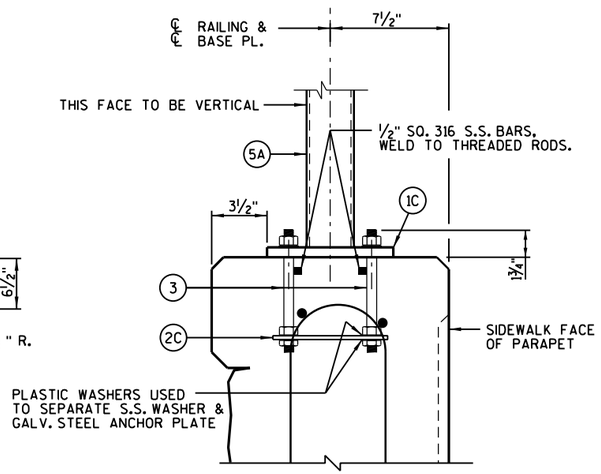
ALL MATERIAL EXCEPT NO. 3 SHALL BE GALVANIZED AFTER FABRICATION. PRIOR TO GALVANIZING, THE STEEL RAILING SHALL BE GIVEN A NO. 6 BLAST CLEANING PER SSPC SPECIFICATIONS.

PAINT OVER GALVANIZING WITH AN APPROVED TIE COAT AND TOP COAT AS SPECIFIED IN THE "BRIDGE SPECIAL PROVISIONS". THE FINISH COLOR SHALL BE BLACK FEDERAL STANDARD COLOR NO. 27038. AT COMPLETION OF STEEL RAILING INSTALLATION, PAINT THE TOPS OF ANCHOR BOLTS AND NUTS WITH THE TIE COAT. TOUCH-UP PAINT WITH THE TOP COAT ALL DAMAGED AREAS AND THE ANCHOR BOLTS TO THE SATISFACTION OF THE ENGINEER AT NO EXTRA COST. DO NOT PAINT ANCHORAGE (NO. 2 & 3) & SHIMS.

ANCHOR PLATES NO. 2 ARE NOT REQUIRED WHEN TYPE S ANCHORS ARE USED.

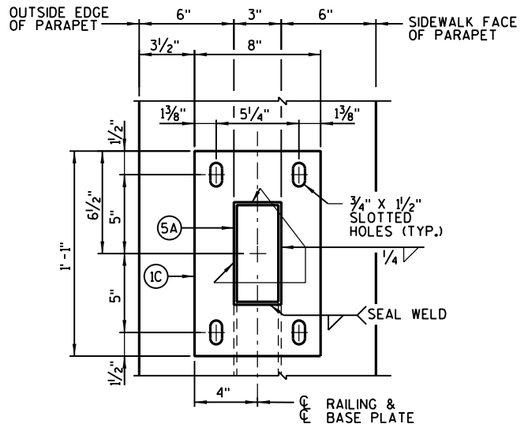


END RAIL SHIM DETAIL
(2 SETS PER POST)

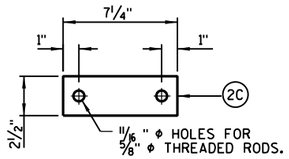


ANCHOR BOLTS FOR END RAIL

END RAIL DETAILS



END RAIL BASE PLATE



END RAIL ANCHOR PLATE
FOR END RAIL BASE PLATES
2 REQ'D. PER END RAIL BASE PLATE

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-14-0211

DRAWN BY RLR | PLANS CK'D. DHW

RAILING DETAILS

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FILE= 59023_17_RAILDET.DGN
DATE= 2/19/2014

59023_17_RAILDET.dgn 2/19/2014 9:28:17 AM RRABSKA

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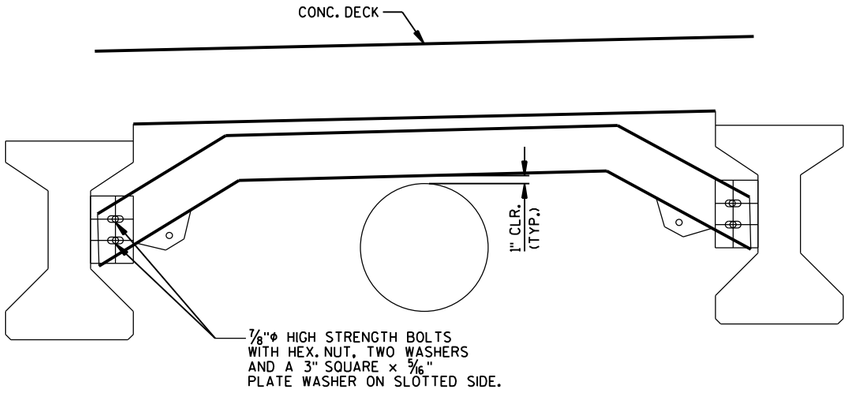
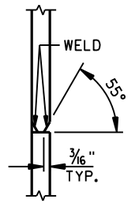
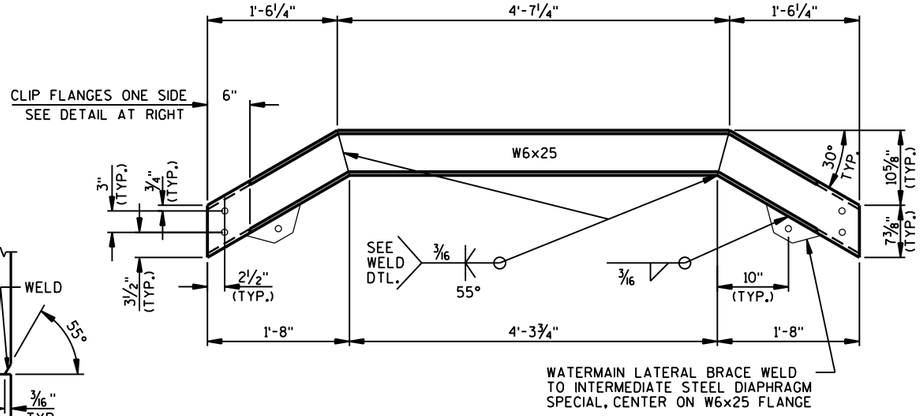


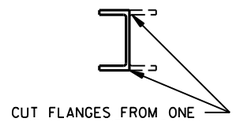
PART TRANSVERSE SECTION INTERMEDIATE STEEL DIAPHRAGM SPECIAL AT WATERMAIN



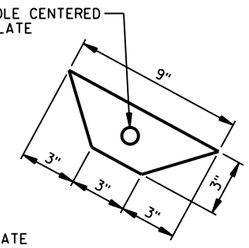
WELD DETAIL
(W6x25)



INTERMEDIATE STEEL DIAPHRAGM SPECIAL



FLANGE CLIPPING DETAIL



WATERMAIN LATERAL BRACE
2 PER DIAPHRAGM

NOTES

ALL DIAPHRAGM MATERIAL NOT EMBEDDED IN THE CONCRETE GIRDER SHALL BE PAID FOR AT THE UNIT PRICES BID FOR "STEEL DIAPHRAGMS B-14-0211" AND "INTERMEDIATE STEEL DIAPHRAGM SPECIAL", EACH.

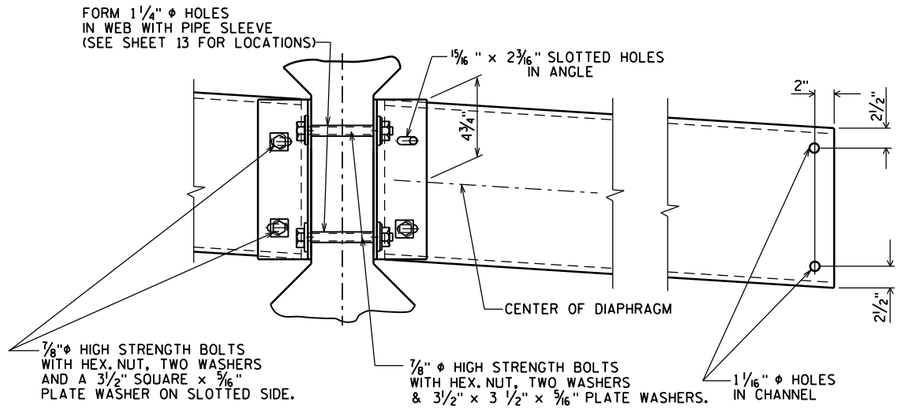
EACH DIAPHRAGM BETWEEN GIRDERS SHALL CONSTITUTE ONE UNIT.

ALL DIAPHRAGM STRUCTURAL STEEL SHALL BE ASTM A709 GRADE 36.

ALL BOLTS, NUTS AND WASHERS SHALL BE ASTM A325 TYPE 1.

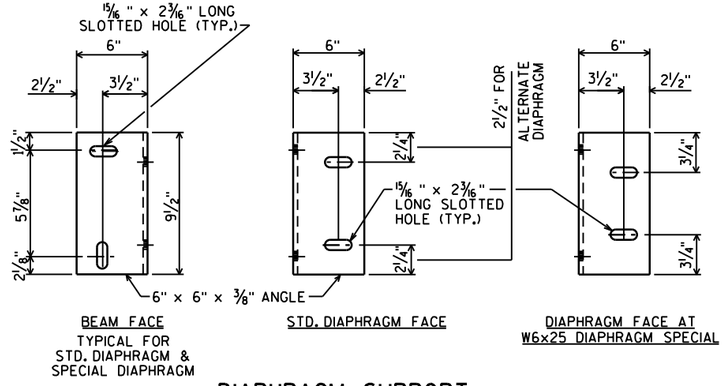
ALL DIAPHRAGM STRUCTURAL STEEL SHOWN SHALL BE HOT-DIPPED GALVANIZED. ALL BOLTS, NUTS AND WASHERS SHALL BE HOT-DIPPED GALVANIZED IN ACCORDANCE WITH ASTM A153 CLASS C. GALVANIZED NUTS SHALL BE TAPPED OVERSIZE IN ACCORDANCE WITH THE REQUIREMENTS OF ASTM A563 AND SHALL MEET THE REQUIREMENTS OF SUPPLEMENTARY REQUIREMENT S1 OF ASTM A563, LUBRICANT AND TEST FOR COATED NUTS.

SEE SHEET 13 FOR LOCATION OF DIAPHRAGMS.



DETAIL B

(FOR CONTINUOUS LINE OF DIAPHRAGMS)

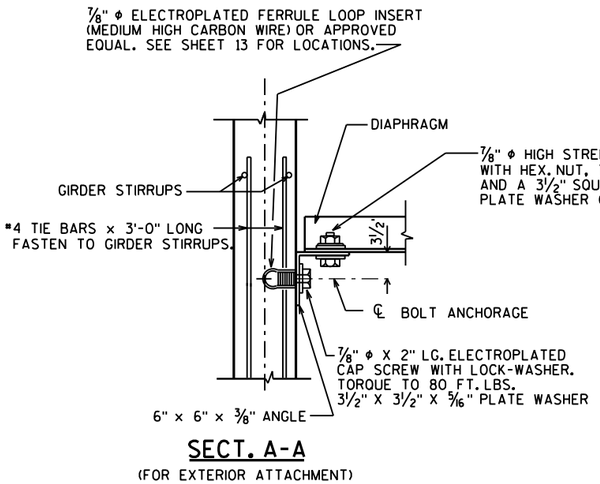


BEAM FACE
TYPICAL FOR STD. DIAPHRAGM & SPECIAL DIAPHRAGM

STD. DIAPHRAGM FACE

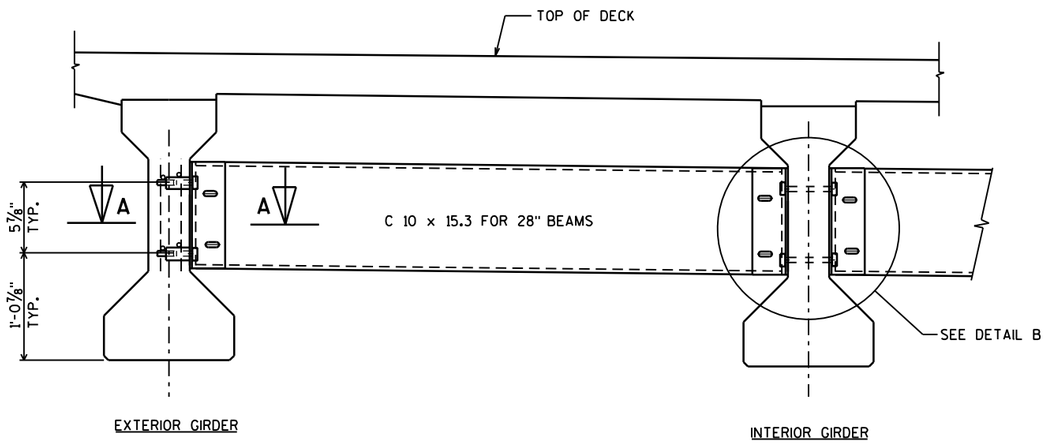
DIAPHRAGM FACE AT W6x25 DIAPHRAGM SPECIAL

DIAPHRAGM SUPPORT



SECT. A-A

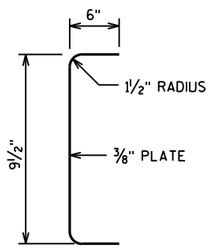
(FOR EXTERIOR ATTACHMENT)



EXTERIOR GIRDER

INTERIOR GIRDER

PART TRANSVERSE SECTION AT DIAPHRAGM



SECTION THRU ALTERNATE DIAPHRAGM

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-14-0211

DRAWN BY RLR | PLANS CK'D. DHW

STEEL DIAPHRAGM

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FILE= 59023_18_STLDIA.DGN
DATE= 2/19/2014

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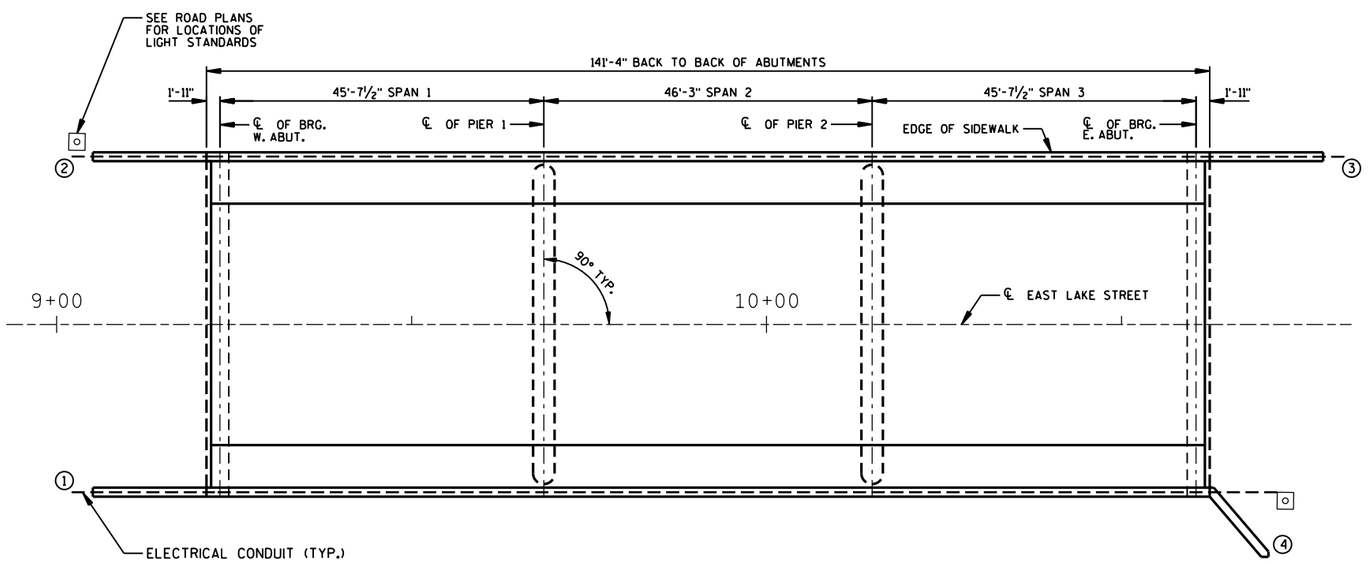
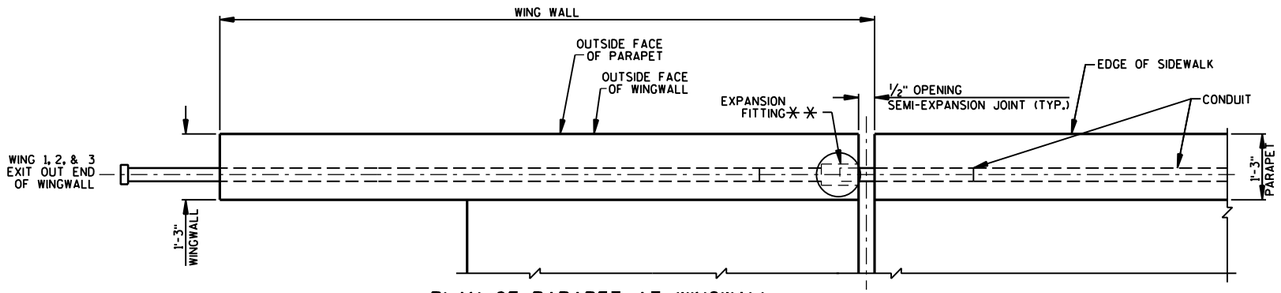
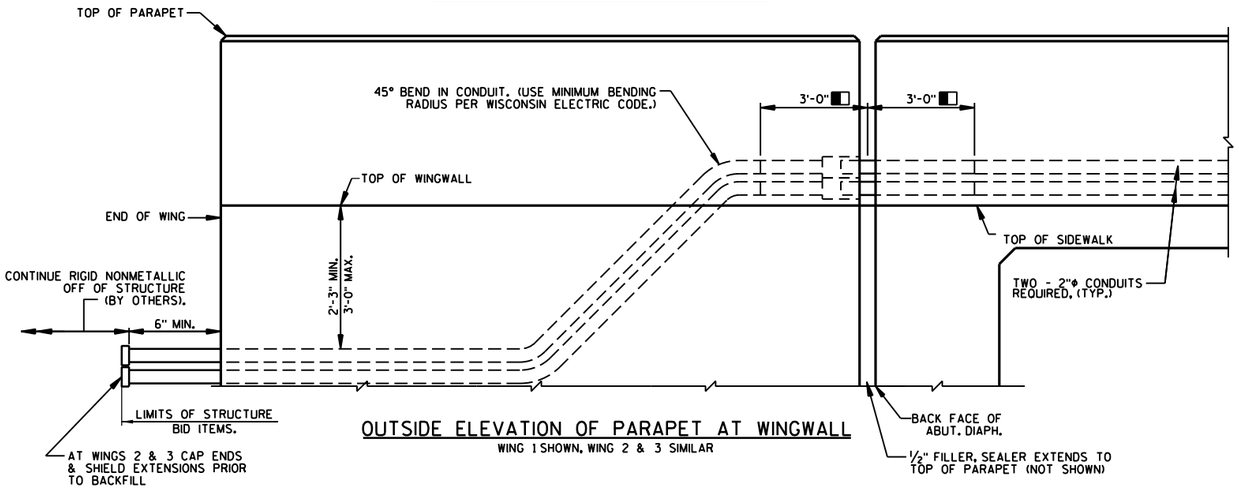
3888-00-72



PLAN



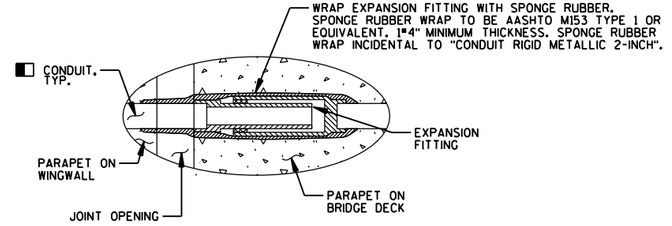
PLAN OF PARAPET AT WINGWALL



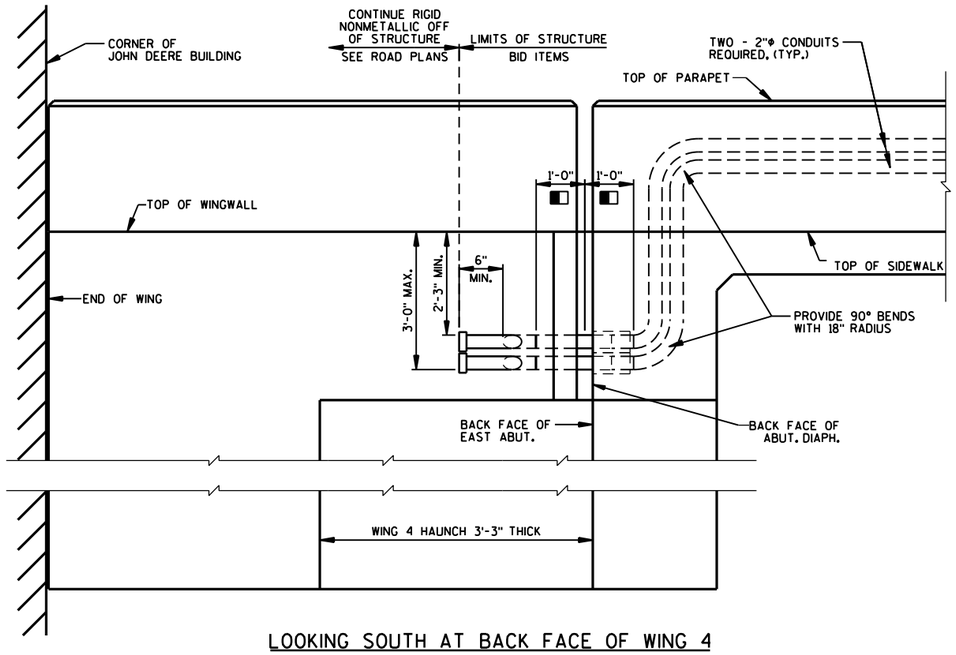
OUTSIDE ELEVATION OF PARAPET AT WINGWALL

WING 1 SHOWN, WING 2 & 3 SIMILAR

N



EXPANSION FITTING DETAIL



LOOKING SOUTH AT BACK FACE OF WING 4

NOTES

BID ITEMS SHALL BE:
"CONDUIT RIGID METALLIC 2-INCH".
"CONDUIT RIGID NONMETALLIC SCHEDULE 80 2-INCH"

EXPANSION FITTINGS, ANGLES AND ADAPTER FITTINGS TO BE INCLUDED IN THE BID ITEM "CONDUIT RIGID METALLIC 2-INCH".

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

APPROVED MANUFACTURER OR EQUIVALENT - EXPANSION FITTING:
O-Z/GEDNEY TYPE AX-200 AND BONDING JUMPER (4" TOTAL CONDUIT MOVEMENT).

JUNCTION BOX REQUIREMENTS: NONE

CONDUIT REQUIREMENTS: USE 2"ϕ CONDUIT

** EXPANSION FITTING REQUIREMENTS
- USE AN APPROVED EXPANSION FITTING AT EACH SEMI EXPANSION JOINT.
- POSITION MOVABLE END OF CONDUIT INSIDE EXPANSION FITTING TO ALLOW FOR EXPANSION/CONTRACTION MOVEMENT OF 1/2" EACH WAY. INSTALL EXPANSION FITTING AND CONDUIT EXACTLY PARALLEL TO BRIDGE MOVEMENT.

POSITION CONDUITS VERTICALLY TO ENSURE DRAINAGE OF CONDENSATE.

BRIDGE CONTRACTOR TO PROVIDE A PULL WIRE IN ALL CONDUIT FOR FUTURE CABLE INSTALLATION BY OTHERS AS PROVIDED IN THE STANDARD SPECIFICATIONS OR SPECIAL PROVISIONS.

LEGEND

○ INDICATES WING NUMBER.

■ USE 2" DIA. RIGID NONMETALLIC CONDUIT EXCEPT AT EXPANSION FITTING. AT EXPANSION FITTING USE RIGID METALLIC CONDUIT EXTENDING 3'-0" EACH SIDE OF THE JOINT OPENING AT WINGS 1, 2, & 3 AND 1'-0" EACH SIDE OF JOINT OPENING AT WING 4.

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STATE OF WISCONSIN
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STRUCTURE B-14-0211

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ELECTRICAL CONDUIT PLAN & DETAILS

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FILE= 59023_19_CONDUIT.DGN
DATE= 2/19/2014

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STATE PROJECT NUMBER

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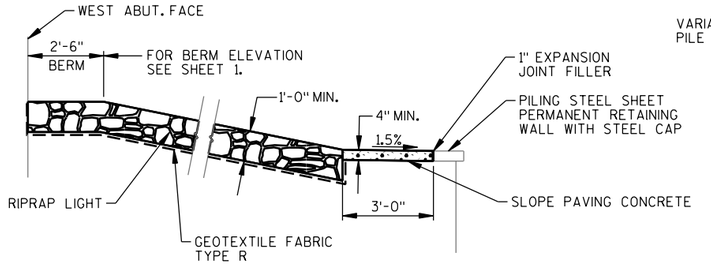
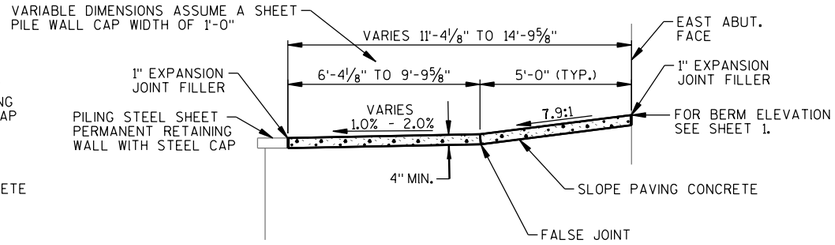
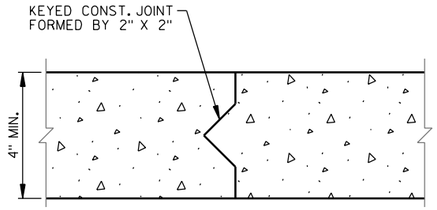


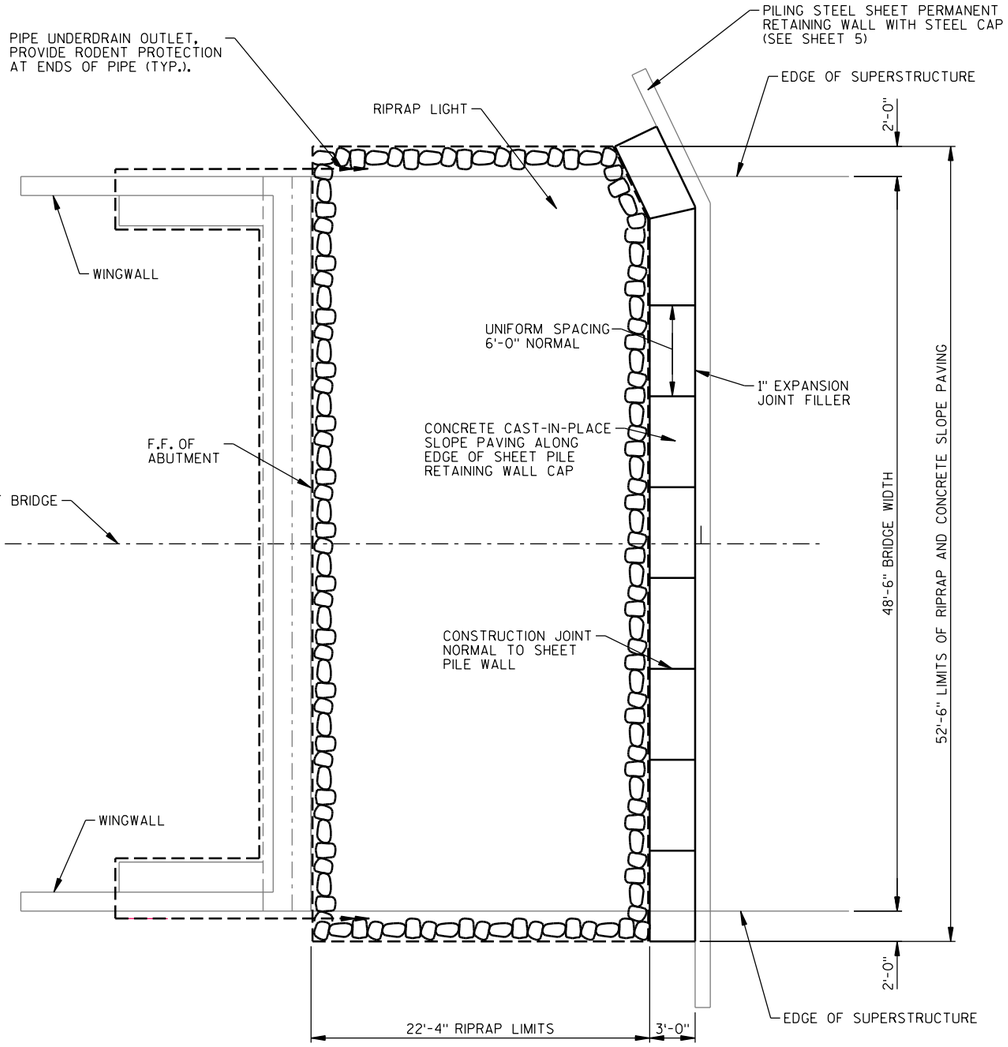
WEST ABUTMENT TYPICAL LONGITUDINAL SECTION



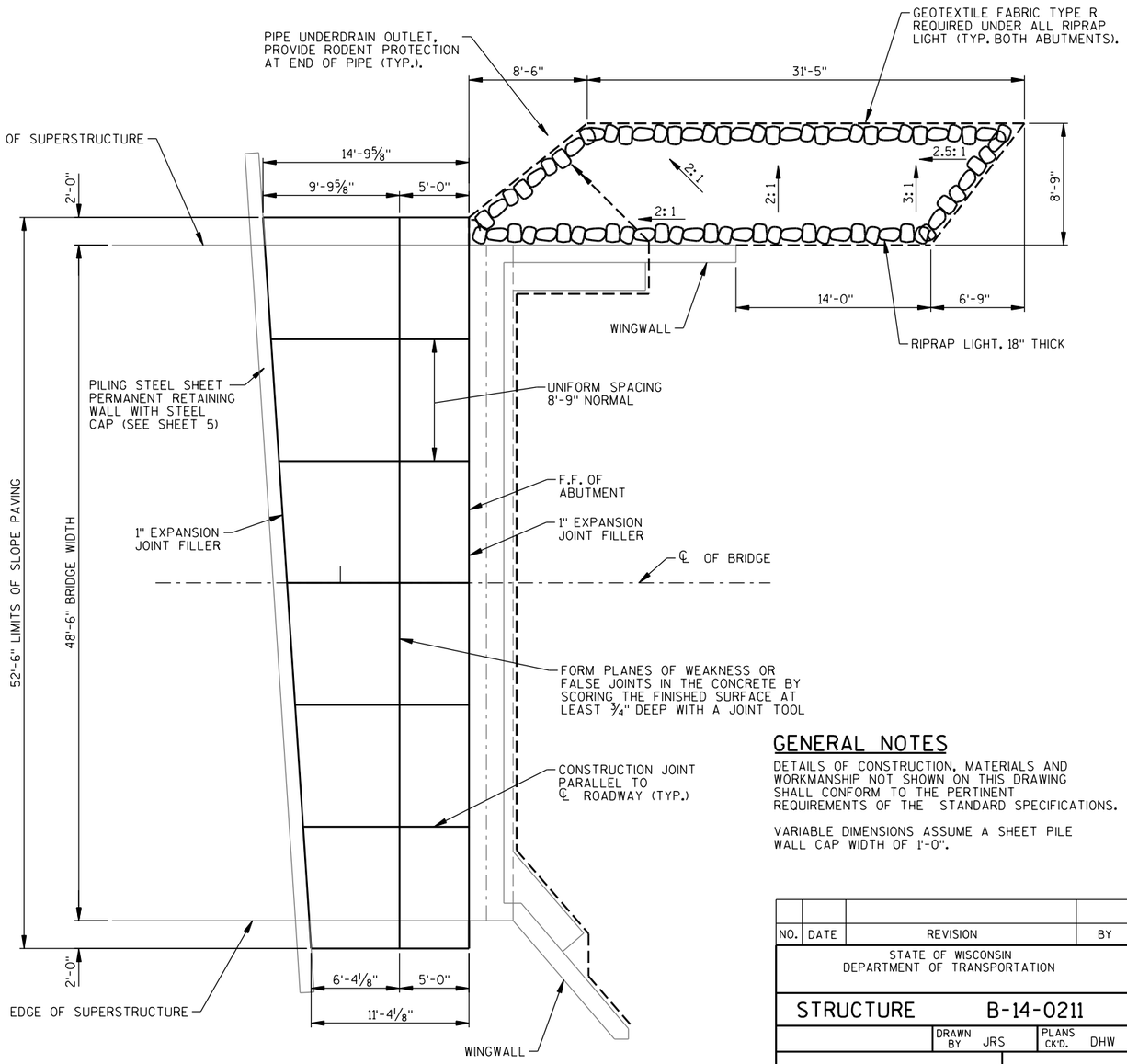
EAST ABUTMENT TYPICAL LONGITUDINAL SECTION



CONSTRUCTION JOINT



WEST ABUTMENT PLAN - RIPRAP AND SLOPE PAVING CONCRETE



EAST ABUTMENT PLAN - RIPRAP AND SLOPE PAVING CONCRETE

GENERAL NOTES

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

VARIABLE DIMENSIONS ASSUME A SHEET PILE WALL CAP WIDTH OF 1'-0".

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-14-0211

DRAWN BY JRS | PLANS CK'D. DHW

RIPRAP & SLOPE PAVING

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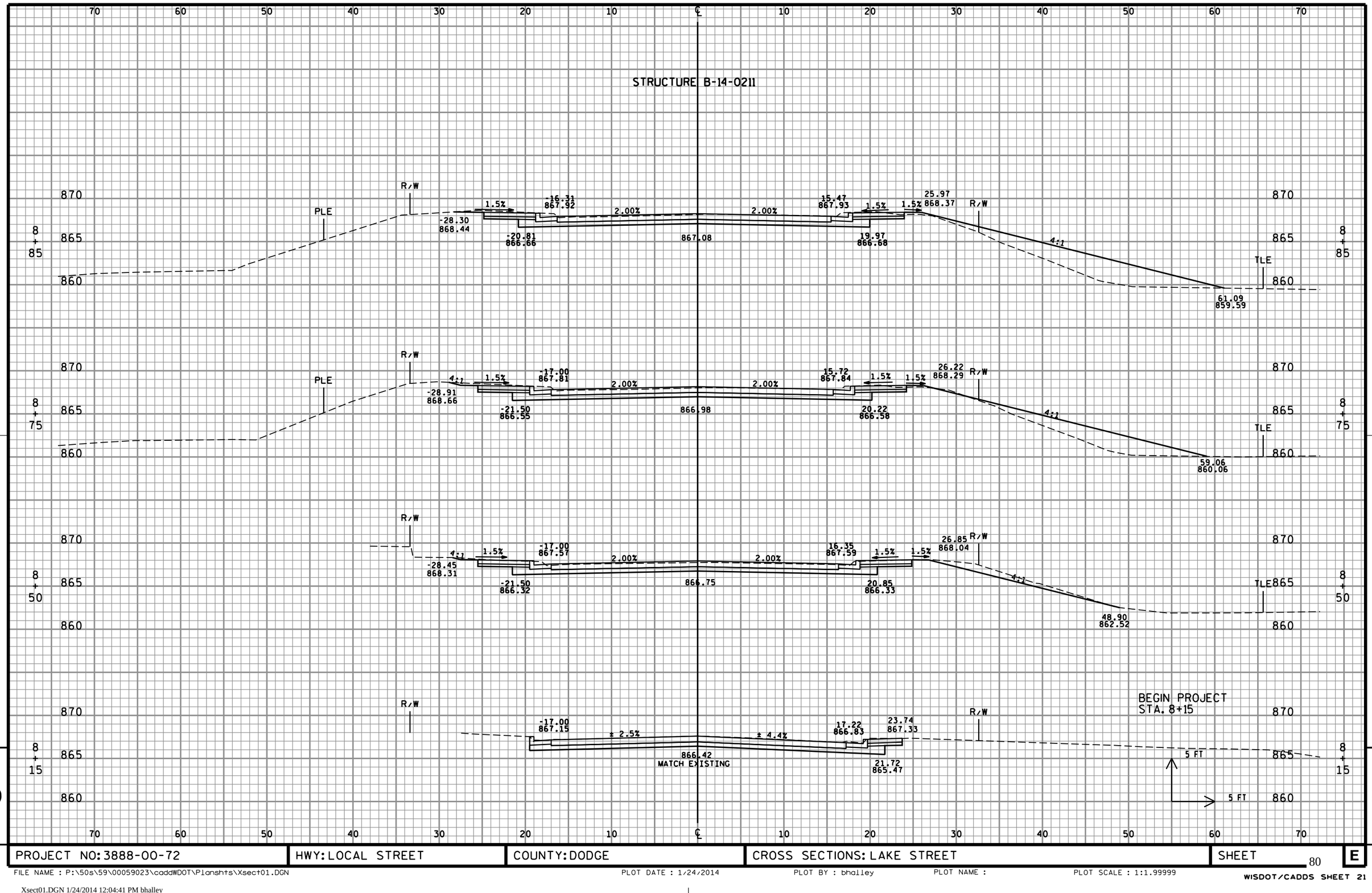
STRUCTURE B-14-0211



PROJECT NO: 3888-00-72	HWY: LOCAL STREET	COUNTY: DODGE	CROSS SECTIONS: LAKE STREET	SHEET	E

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WISDOT/CADDS SHEET 21

Xsect01.DGN 1/24/2014 12:04:41 PM bhalley

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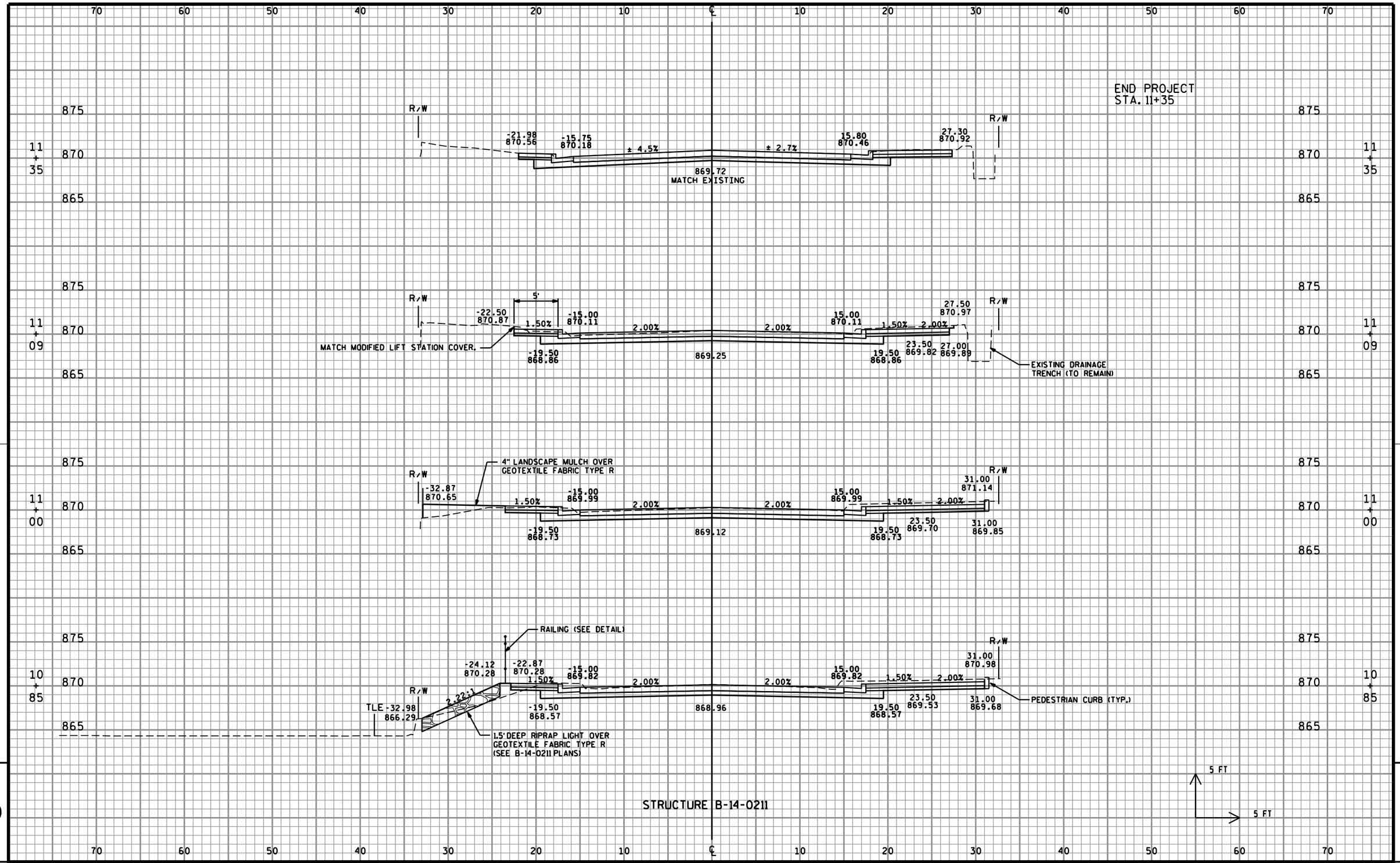
Place Sheet Numbers



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WISDOT/CADDS SHEET 21

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Notes

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