

TOTAL SHEETS = 138



A.A.D.T.	2019	=	7800
A.A.D.T.	2039	=	8500
D.H.V.	2039	=	910
D.D.		=	59/41
T.		=	3.7%
DESIGN SPEED		=	30 MPH
FSAL S		=	950.000

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

PROFILE
GRADE LINE
ORIGINAL GROUND
MARSH OR ROCK PROFILE
(To be noted as such)
SPECIAL DITCH

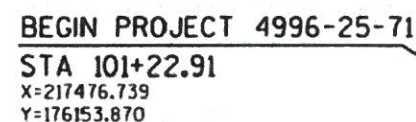
GRADE ELEVATION

CULVERT (Profile View)

UTILITIES
ELECTRIC
FIBER OPTIC
GAS
SANITARY SEWER
STORM SEWER
TELEPHONE
WATER
UTILITY PEDESTAL
POWER POLE
TELEPHONE POLE

C SHEBOYGAN, PENNSYLVANIA AVE
SHEBOYGAN RIVER BRIDGE
LOC STR
SHEBOYGAN COUNTY

4996-25-71



T-15-N

END PROJECT 4996-25-71
STA 108+53.74

R-23-E

LAYOUT

SCALE 0 .2 MI.

TOTAL NET LENGTH OF CENTERLINE = 0.138 MI.

COORDINATES ON THE PLAN ARE REFERENCED TO
SHEBOYGAN COUNTY COORDINATES NAD 1983 (2011).
ELEVATIONS SHOWN ON THIS PLAN ARE REFERENCED
TO THE INTERNATIONAL GREAT LAKES DATUM (IGLD) 19

STATE PROJECT	FEDERAL PROJECT	
	PROJECT	CONTRACT
4996-25-71	WISC 2019174	1

10/30/12 R. J. Szymanski
(Date) CITY ENGINEER

ORIGINAL PLANS PREPARED BY
KAPUR & ASSOCIATES, INC.
CONSULTING ENGINEERS
MILWAUKEE, WISCONSIN
414.751.7200



10/29/18

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

PREPARED BY	
Surveyor	Kapur & Associates, Inc.
Designer	Kapur & Associates, Inc.
Management Consultant	JT Engineering, Inc.

APPROVED FOR THE DEPARTMENT
DATE: 10/30/10 
(Management Consultant Signature)

UTILITY CONTACTS

AT&T WISCONSIN COMMUNICATION LINE
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70 E DIVISION STREET
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CB1461@ATT.COM

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4421 TOWER DRIVE
SHEBOYGAN, WI 53081
(920) 459-6331
(920) 948-2052 CELL
JOEKOCHAN@ALLIANTENERGY.COM

CHARTER COMMUNICATIONS COMMUNICATION LINE
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2312 CONTINENTAL DRIVE
WEST BEND, WI 53095
(262) 306-8756 EXT. 20702
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MICHAEL.WILLMAS@SHEBOYGANWI.GOV

CITY OF SHEBOYGAN FIBER OPTIC
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CITY OF SHEBOYGAN SANITARY
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2026 NEW JERSEY AVENUE
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PAETEC COMMUNICATIONS, LLC COMMUNICATION LINE
MARY FISHER
13936 BISHOPS DRIVE
BROOKFIELD, WI 53005
(262) 792-7938
MARY.B.FISHER@WINDSTREAM.COM

SHEBOYGAN WATER UTILITY WATER
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72 PARK AVENUE
SHEBOYGAN, WI 53081
(920) 459-3806
THOMASTRACEY@SHEBOYGANWATER.ORG

WISCONSIN PUBLIC SERVICE CORPORATION GAS/PETROLEUM
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933 S WILDWOOD AVENUE
SHEBOYGAN, WI 53081
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GREEN BAY, WI 54313
(920) 360-3784
JEREMIAH.SCHIEFELBEIN@WI.GOV



GENERAL NOTES

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

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

THE EARTHWORK YARDAGE IS ESTIMATED BY EXPANDING THE FILL VOLUME. AN EXPANSION FACTOR OF 1.25 IS USED.

THE LOCATION AND LIMITS OF EBS (EXCAVATION BELOW SUBGRADE), IF REQUIRED, WILL BE DETERMINED BY THE ENGINEER. SUCH EBS SHALL NOT BE USED TO BALANCE YARDAGE.

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

TOPSOIL SHALL NOT BE PLACED UNTIL APPROVED BY ENGINEER.

EROSION CONTROL FEATURES AS SHOWN IN THE PLANS ARE AT SUGGESTED LOCATIONS. EXACT LOCATIONS WILL BE DETERMINED BY THE ENGINEER.

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

BROKEN CONCRETE CONTAINING RE-BAR SHALL NOT BE USED AS RIPRAP OR HEAVY RIPRAP.

ALL OPENINGS OR HOLES BELOW SUBGRADE RESULTING FROM REMOVALS SHALL BE BACKFILLED WITH BACKFILL GRANULAR GRADE 2 MATERIAL. BACKFILL GRANULAR GRADE 2 MATERIAL IS INCIDENTAL TO REMOVALS.

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

REMOVAL OF STEEL REINFORCEMENT IN CONCRETE PAVEMENT IS INCIDENTAL TO THE REMOVING PAVEMENT BID ITEM.

RUNOFF COEFFICIENT TABLE

	HYDROLOGIC SOIL GROUP											
	A			B			C			D		
	SLOPE RANGE (PERCENT)			SLOPE RANGE (PERCENT)			SLOPE RANGE (PERCENT)			SLOPE RANGE (PERCENT)		
LAND USE	0-2	2-6	6 & OVER	0-2	2-6	6 & OVER	0-2	2-6	6 & OVER	0-2	2-6	6 & OVER
ROW CROPS	0.08	0.16	0.22	0.12	0.20	0.27	0.15	0.24	0.33	0.19	0.28	0.38
	0.22	0.30	0.38	0.26	0.34	0.44	0.30	0.37	0.50	0.34	0.41	0.56
MEDIAN STRIP- TURF	0.19	0.20	0.24	0.19	0.22	0.26	0.20	0.23	0.30	0.20	0.25	0.30
	0.24	0.26	0.30	0.25	0.28	0.33	0.26	0.30	0.37	0.27	0.32	0.40
SIDE SLOPE- TURF			0.25			0.27			0.28			0.30
			0.32			0.34			0.36			0.38
PAVEMENT:												
ASPHALT	.70 - .95											
CONCRETE	.80 - .95											
BRICK	.70 - .80											
DRIVES, WALKS	.75 - .85											
ROOFS	.75 - .95											
GRAVEL ROADS, SHOULDERS	.40 - .60											

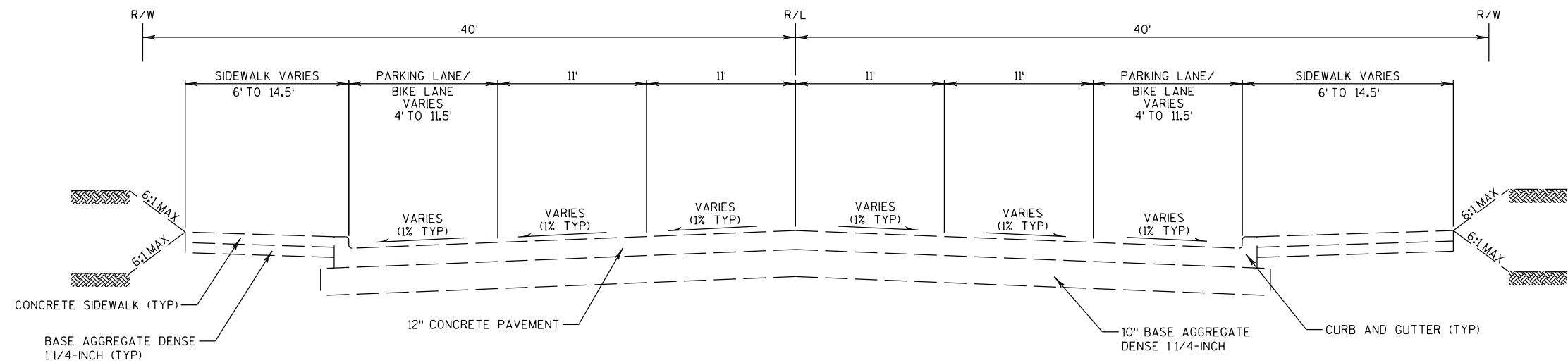
TOTAL PROJECT AREA = 1.3 ACRES
DISTURBED PROJECT AREA = 0.6 ACRES

DESIGN INDEX

- TITLE
- GENERAL NOTES AND UTILITY CONTACTS
- TYPICAL SECTIONS
- CONSTRUCTION DETAILS
- REMOVAL PLAN
- PLAN DETAILS
- PAVING GRADES
- EROSION CONTROL PLAN
- STORM SEWER PLAN
- SANITARY SEWER
- SIGNING PLAN
- LIGHTING PLANS
- PAVEMENT MARKING
- TRAFFIC CONTROL
- DETOUR PLAN

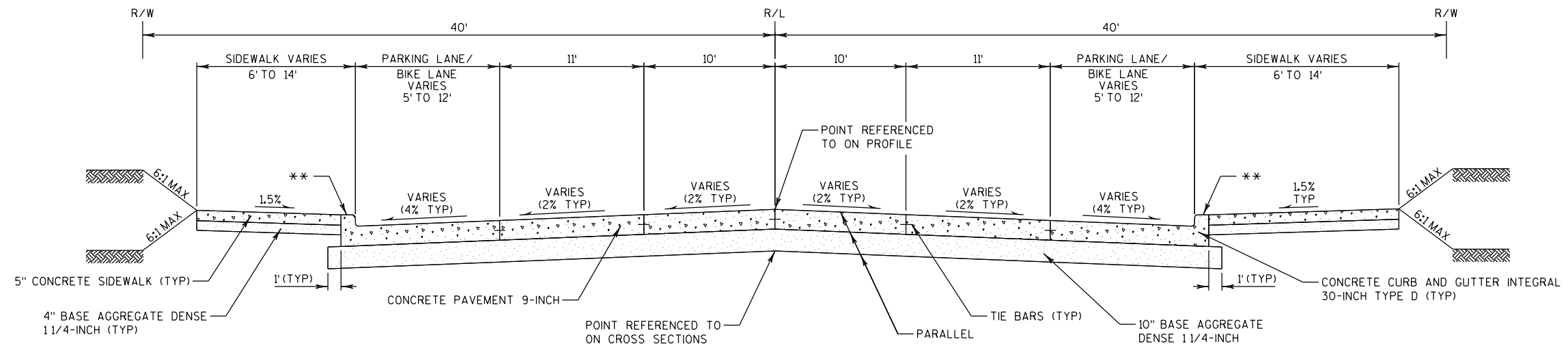
STANDARD ABBREVIATIONS

<	ANGLE	NC	NORMAL CROWN OR NO CHANGE
ADT	AVERAGE DAILY TRAFFIC	NO	NUMBER
AC	ACRE	NW OR N/W	NORMAL WATER
AE, AEW	APRON ENDWALL	OBLIT	OBLITERATE
AGG	AGGREGATE	OD	OUTSIDE DIAMETER
AH	AHEAD	PAVT	PAVEMENT
ASPH	ASPHALTIC	PC	POINT OF CURVATURE
BC	BACK OF CURB	PCC	POINT OF COMPOUND CURVE
BF	BACK FACE	PE	PRIVATE ENTRANCE
BIT	EXISTING BITUMINOUS	PGL	PROFILE GRADE LINE
BM	BENCH MARK	PI	POINT OF INTERSECTION
BEG	BEGIN	PL	PROPERTY LINE
BK	BACK	PLE	PERMANENT LIMITED EASEMENT
C & G	CURB AND GUTTER	PRC	POINT OF REVERSE CURVE
CABC	CRUSHED AGGREGATE BASE COURSE	PROJ	PROJECT
CB	CATCH BASIN	PSI	POUNDS PER SQUARE INCH
CMCP	CORRUGATED METAL CULVERT PIPE	PT	POINT OF TANGENCY
CMP	CORRUGATED METAL PIPE	PVC	POLYVINYL CHLORIDE
CP	CULVERT PIPE	PT	POINT OF TANGENCY
CY	CUBIC YARD	PAV'T	PAVEMENT
CL OR C/L	CENTER LINE	PCC	PORTLAND CEMENT CONCRETE
CO	COUNTY	R	RADIUS OR RANGE
CONC	CONCRETE	RC	REVERSE CURVE
CONST	CONSTRUCTION	RCCP	REINFORCED CONCRETE CULVERT PIPE
CR	CREEK	RCHCPC	REINFORCED CONCRETE HORIZONTAL ELLIPTICAL CULVERT PIPE
CTH	COUNTY TRUNK HIGHWAY	RCPSS	REINFORCED CONCRETE PIPE STORM SEWER
CWT	HUNDRED WEIGHT	RHF	RIGHT HAND FORWARD
D	DEGREE OF CURVE	R/L	REFERENCE LINE
Δ	DELTA	R/W	RIGHT OF WAY
DHV	DESIGN HOUR VOLUME	RD	ROAD
DIA	DIAMETER	RDWY	ROADWAY
DISCH	DISCHARGE	REL	RELOCATE
E	EAST	REM	REMAINING
EA	EACH	REQD	REQUIRED
EB	EASTBOUND	RO	RUN OFF LENGTH
EBS	EXCAVATION BELOW SUBGRADE	RT	RIGHT
EL, ELEV	ELEVATION	RW	RETAINING WALL
ELEC	ELECTRIC(AL), ELEC CABLE	S	SOUTH
EMB	EMBANKMENT	SALV	SALVAGED
ESALS	EQUIVALENT SINGLE AXEL LOADS	SAN	SANITARY
ESMT	EASEMENT	SB	SOUTHBOUND
EW	ENDWALL	SDD	STANDARD DETAIL DRAWINGS
EXC	EXCAVATION	SE	SUPERELEVATION
EXIST	EXISTING BITUMINOUS	SEC	SECTION
EXP	EXPANSION	SF	SQUARE FOOT (FEET)
FC	FACE OF CURB	S/L	SURVEY LINE
FE	FIELD ENTRANCE	SHLDR	SHOULDER(S)
FF	FACE TO FACE	SHR	SHRINKAGE
F/L, FL	FLOW LINE	SPECS	SPECIFICATIONS
FERT	FERTILIZER	SS	STORM SEWER
FHWA	FEDERAL HIGHWAY	STA	STATION
FT	FOOT (FEET)	STH	STATE TRUNK HIGHWAY
G	GAS	STR	STRUCTURE
GN	GRID NORTH	SW	SIDEWALK
H	HOUSE	SY	SQUARE YARD
HMA	HOT MIX ASPHALT	TAN	TANGENT
HORZ	HORIZONTAL	TEL	TELEPHONE
HP	HIGH POINT	T	(TRUCKS) PERCENT OF
HR	HANDICAP RAMP	TC	TOP OF CURB
HYD	HYDRANT	TAN	TANGENT
I	INTERSECTION ANGLE	TEMP	TEMPORARY
ID	INSIDE DIAMETER	TL OR T/L	TRANSIT LINE
INL	INLET	TLE	TEMPORARY LIMITED EASEMENT
INTER	INTERSECTION	TYP	TYPICAL
INV	INVERT	UG	UNDERGROUND (CABLE)
IP	IRON PIPE	UNCL	UNCLASSIFIED
JT	JOINT	VAR	VARIABLE
K	RATE OF VERTICAL CURVATURE	VCL	VERTICAL CURVE LENGTH
L	LENGTH OF CURVE	VPC	VERTICAL POINT OF CURVATURE
LB	POUND	VPCC	VERTICAL POINT OF COMPOUND CURVE
LC	LONG CHORD OF CURVE	VPI	VERTICAL POINT OF INTERSECTION
LP	LOW POINT	VPRC	VERTICAL POINT OF REVERSE CURVE
LF	LINEAR FOOT(FEET)	VPT	VERTICAL POINT OF TANGENCY
LHF	LEFT HAND FORWARD	VLV	VALVE
LS	LUMP SUM	VOL	VOLUME
LT	LEFT	W	WEST
M	MARSH	WB	WESTBOUND
MATL	MATERIAL	WV	WATER VALVE
MP	MARKER POST	X	EASTING OR EAST GRID COORDINATE
MAX	MAXIMUM	Y	NORTHING OR NORTH GRID COORDINATE
MGAL	1000 GALLONS	YD	YARD
MH	MANHOLE		
MIN	MINIMUM		
ML OR M/L	MATCH LINE		
N	NORTH		
NB	NORTHBOUND		



TYPICAL EXISTING SECTION

PENNSYLVANIA AVENUE
STA 101+22 TO STA 103+36
STA 107+35 TO STA 108+53



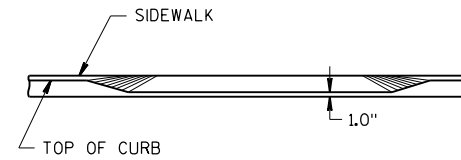
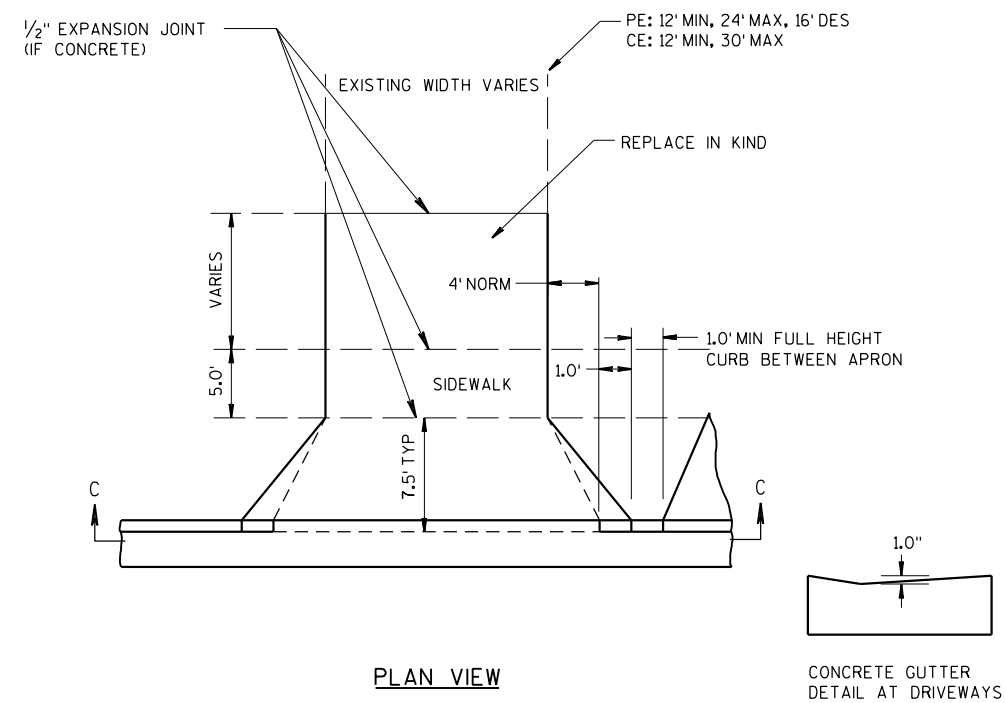
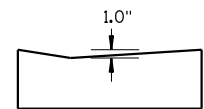
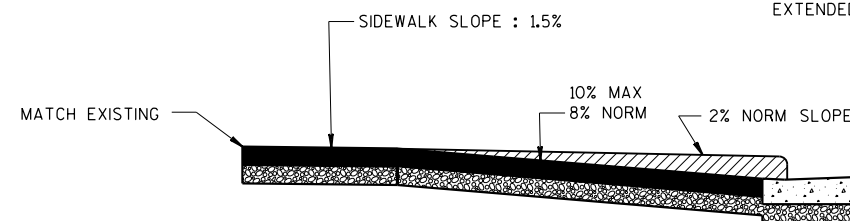
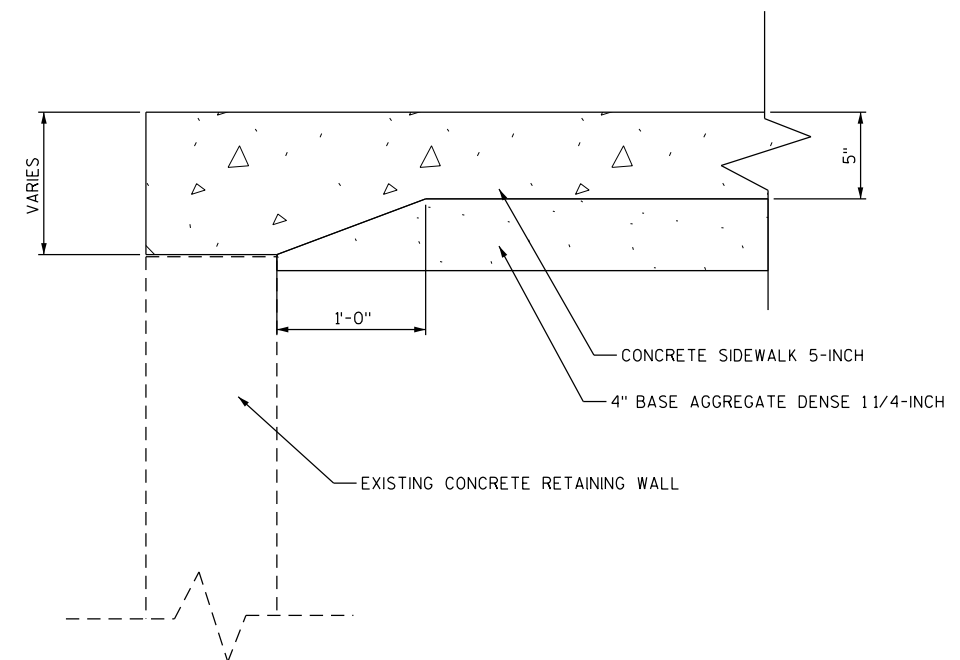
TYPICAL PROPOSED SECTION

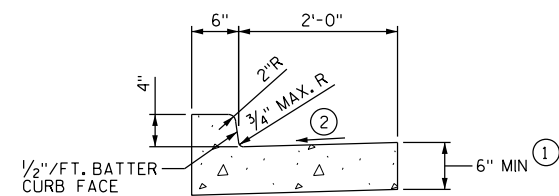
PENNSYLVANIA AVENUE
STA 101+22 TO STA 103+36 *
STA 107+35 TO STA 108+53 *

- * CONCRETE PAVEMENT APPROACH SLAB FROM STA 103+21 TO STA 103+36 AND STA 107+35 TO STA 107+50
- ** STA 101+85 TO STA 103+35
4" CURB HEIGHT SEE CONSTRUCTION DETAILS AND PLAN DETAILS

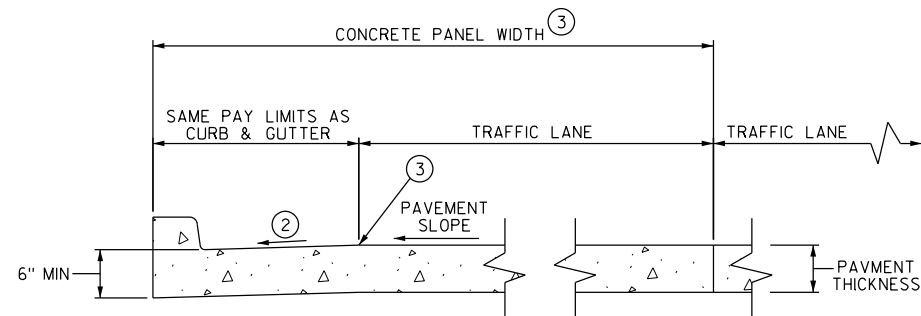
NOTES:

DRIVEWAY APRONS BEHIND CURB SHALL BE CONCRETE.

CONCRETE - 7" CONCRETE DRIVEWAY OVER
6" BASE AGGREGATE DENSE 1 1/4-INCH**SECTION C-C****PLAN VIEW****CONCRETE GUTTER
DETAIL AT DRIVEWAYS**NOTE:
MAX 14% ALGEBRAIC DIFFERENCE
BETWEEN TANGENT GRADES
EXTENDED IN FILLS**PROFILE VIEW****URBAN DRIVEWAY DETAIL****SIDEWALK ABOVE RETAINING WALL**APPROX. STA 102+50 TO STA 103+17 LT
NOT TO SCALE



CURB & GUTTER DIMENSIONS



PARTIAL SECTION OF PAVEMENT WITH INTEGRAL CURB & GUTTER

CONCRETE CURB & GUTTER INTEGRAL 30-INCH TYPE D 4-INCH CURB

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.

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.

- ① 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.
- ② USE 4% GUTTER CROSS SLOPE UNLESS OTHERWISE NOTED IN THE PLANS.
- ③ INCLUDE LONGITUDINAL JOINT AND TIE BARS ALONG LANE EDGE WHEN CONCRETE PANEL WIDTH EXCEEDS THE MAXIMUM WIDTH PER TABLE BELOW. LONGITUDINAL JOINT(S) ARE NOT ALLOWED WITHIN TRAFFIC LANES AND BIKE LANES. LONGITUDINAL JOINT MAY BE SAWED.

PAVEMENT THICKNESS
AND MAXIMUM CONCRETE
PANEL WIDTH TABLE

PAVEMENT THICKNESS	MAXIMUM PANEL WIDTH
LESS THAN 10"	12'
10" & ABOVE	15'

NOTES

- 1) SEE DETOUR PLAN FOR FIXED MESSAGE SIGN LOCATIONS.
- 2) SIGNS SHALL HAVE BLACK NON -REFLECTIVE MESSAGE ON ORANGE FLUORESCENT REFLECTIVE BACKGROUND. SHEETING AND BASE MATERIAL PER SPEC 637 & 643. REFERENCE: "WISDOT STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION," LATEST EDITION.
- 3) SIGNS SHALL HAVE 6" CAPITAL LETTERS, SERIES "B".
- 4) SIGNS SHALL HAVE A 1" BLACK BORDER WITH 3" CORNER RADIUS.
- 5) CONTRACTOR SHALL SUBMIT SHOP DRAWINGS TO ENGINEER FOR REVIEW PRIOR TO MANUFACTURING.
- 6) AFTER SIGNS HAVE BEEN LOCATED IN THE FIELD, BUT PRIOR TO INSTALLATION, THE ENGINEER SHALL VERIFY EACH SIGN LOCATION.
- 7) SIGNS SHALL BE MOUNTED ON 4"x6" WOODEN POST SUPPORTS, WITH 2 HOLES PER STATE PLATE A4-11.



DETOUR PLAN FIXED MESSAGE SIGNS



NOTE: ANCHOR PLATE NOT REQUIRED
WHEN TYPE S ANCHORS ARE USED.



FIELD ERECTION JOINT DETAIL

☆ MIN. 5/8" FLAT SURFACE DIA. PUNCHINGS OR STUDS MAY BE USED AS AN ALTERNATE.

- (1a) PLATE $\frac{5}{8}$ " X 6" X 8" WITH 3 $\frac{3}{4}$ " X $1\frac{1}{2}$ " SLOTTED HOLES.
- (1C) PLATE $\frac{5}{8}$ " X 8" X 1'-1" WITH 3 $\frac{3}{4}$ " X $1\frac{1}{2}$ " SLOTTED HOLES.
- (2A) $\frac{1}{4}$ " X 5" X 7" ANCHOR PLATE WITH $1\frac{1}{16}$ " : HOLES FOR THR'D. RODS NO. 3.
- (2C) $\frac{1}{4}$ " X $2\frac{1}{2}$ " X $7\frac{1}{4}$ " ANCHOR PLATE WITH $1\frac{1}{16}$ " : HOLES FOR THR'D. RODS NO. 3.
- (3) $\frac{3}{8}$ " 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 $\frac{5}{8}$ "-inch, embed 7" in concrete for rail posts. EMBED 5" in concrete FOR END RAILS.)
- (4A) STRUCTURAL TUBING 3' X $1\frac{1}{2}$ " X $\frac{3}{16}$ ". PLACE VERTICAL. WELD TO NO. 1 & 5.
- (5A) STRUCTURAL TUBING 3' X $1\frac{1}{2}$ " X $\frac{3}{16}$ " RAILS. WELD TO NO. 1 & NO. 4. INSIDE OF TUBE TO BE PAINTED AT ALL FIELD ERECTION & EXPANSION JOINTS.
- (6A) BAR 1" X 1" PICKETS. WELD TO NO. 5. PLACE VERTICAL.
- (6C) BAR 1" X $1\frac{1}{2}$ " PICKETS. WELD TO NO. 11. PLACE VERTICAL.
- (7) BAR 1" X 1". BEND TO REQUIRED RADIUS. WELD TO NO. 4 & 5.
- (9A) RECTANGULAR SLEEVE FABRICATED FROM $\frac{3}{16}$ " PLATES. PROVIDE "SLIDING FIT".
- (10A) RECTANGULAR SLEEVE FABRICATED FROM $\frac{3}{16}$ " PLATES. (1'-4" @ FIELD ERECTION JTS.) (1'-4" @ STRIP SEAL EXP. JTS.)
- (11A) BAR $2\frac{1}{2}$ " X 1" X $\frac{1}{2}$ ".
- (12) $\frac{1}{2}$ " DIA. STAINLESS STEEL BOLT WITH NUT AND LOCKWASHER.

BID ITEM FOR RAILING SHALL BE "RAILING STEEL PEDESTRIAN TYPE C3", WHICH SHALL INCLUDE ALL STEEL ITEMS SHOWN.

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.

ALL PLATES, BARS, AND RECTANGULAR SLEEVES SHALL CONFORM TO ASTM A709 GRADE 36. ALL STRUCTURAL TUBING SHALL CONFORM TO ASTM 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 BOTH TRANSVERSE AND LONGITUDINAL DIRECTION.

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.

ALL JOINTS AND RECESSES IN CONCRETE PARAPET ARE TO BE VERTICAL.

ALL MATERIAL (EXCEPT NO. 3 & 12) 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 "SPECIAL PROVISIONS". THE RAILING SHALL BE PAINTED FEDERAL COLOR NO. 27038, BLACK.

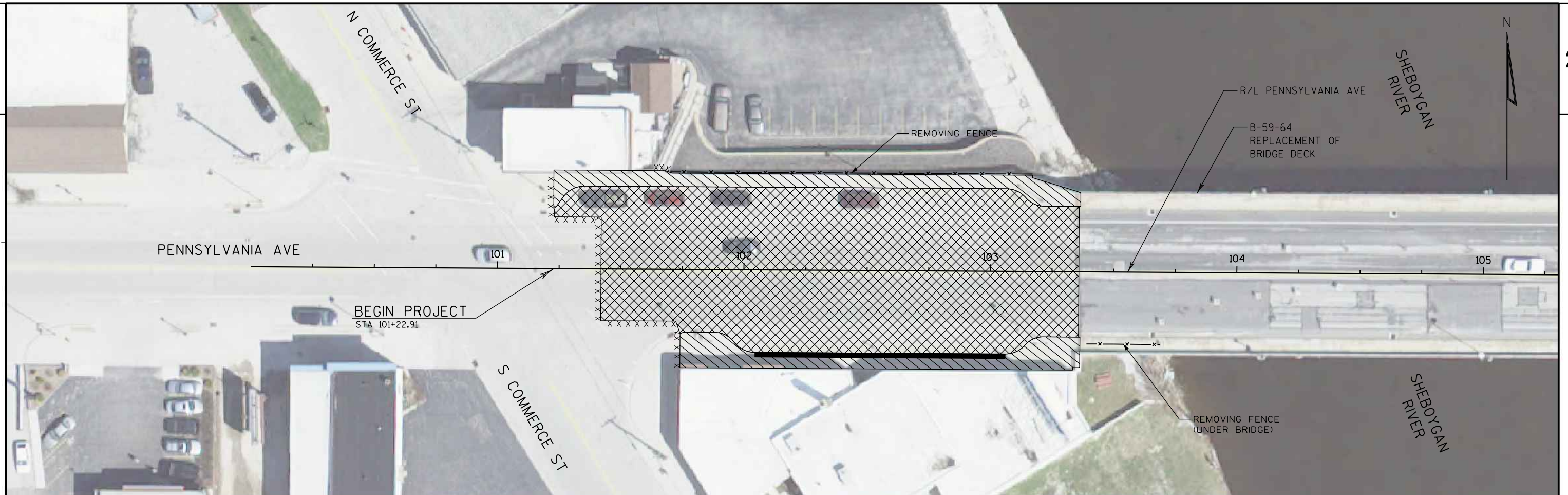
VENT HOLES SHALL BE DRILLED IN POST AND RAIL MEMBERS AS REQUIRED TO FACILITATE GALVANIZING AND DRAINAGE.

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

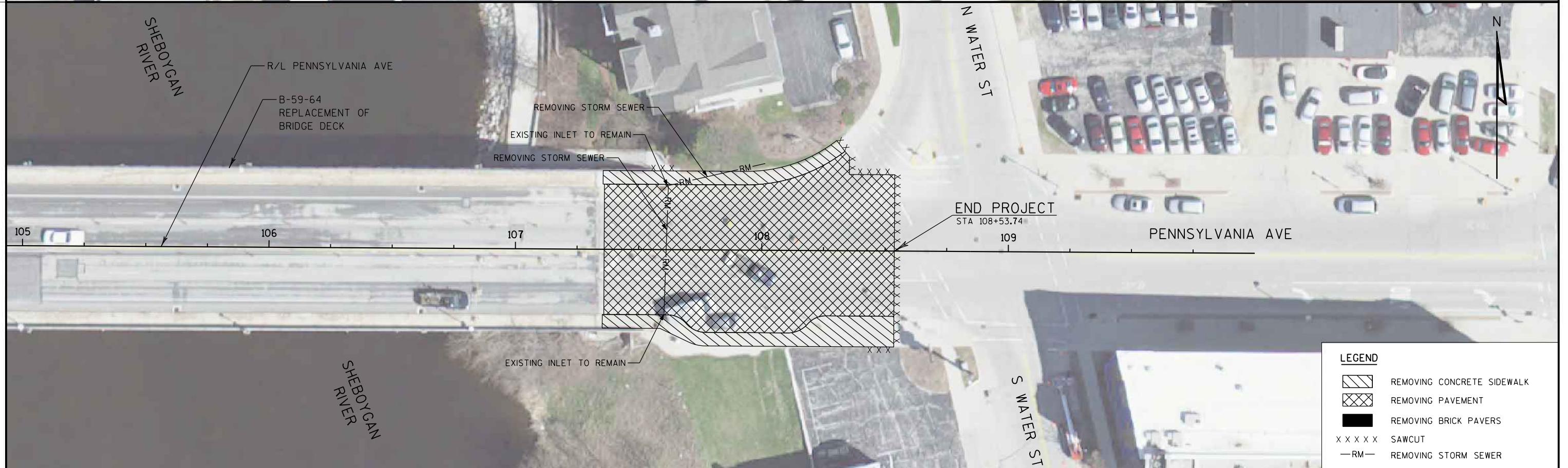
TOUCH-UP PAINTING TO BE DONE AT COMPLETION OF STEEL RAILING INSTALLATION TO THE SATISFACTION OF THE ENGINEER AT NO EXTRA COST.

RAILING STEEL
PEDESTRIAN TYPE C3

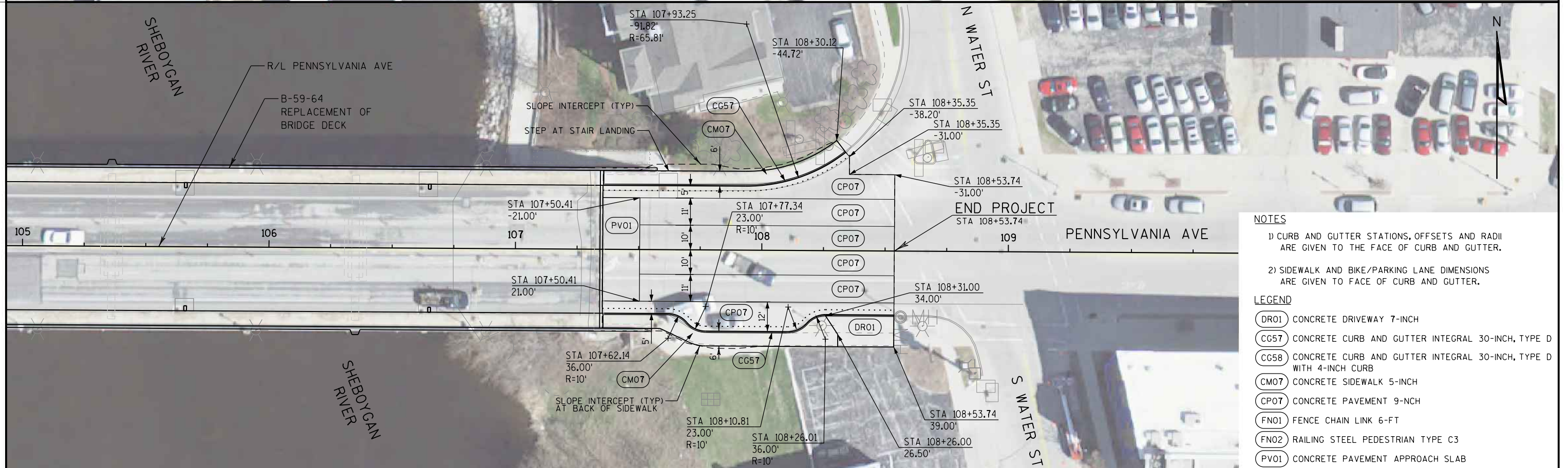
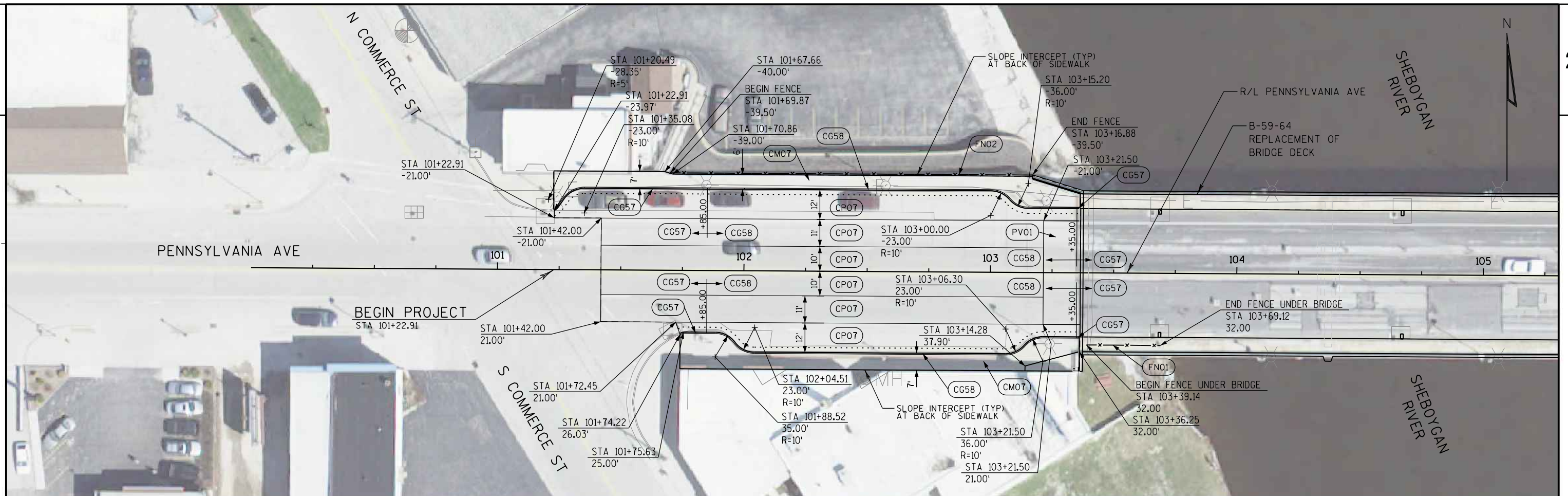
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LEGEND	
	REMOVING CONCRETE SIDEWALK
	REMOVING PAVEMENT
	REMOVING BRICK PAVERS
	SAWCUT
	REMOVING STORM SEWER

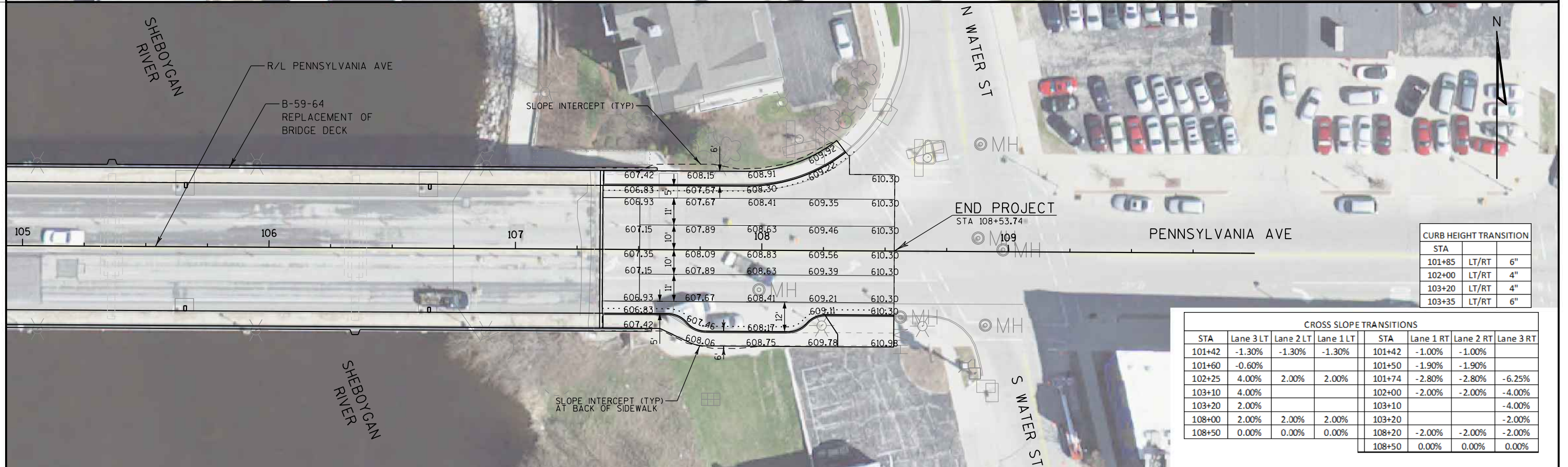
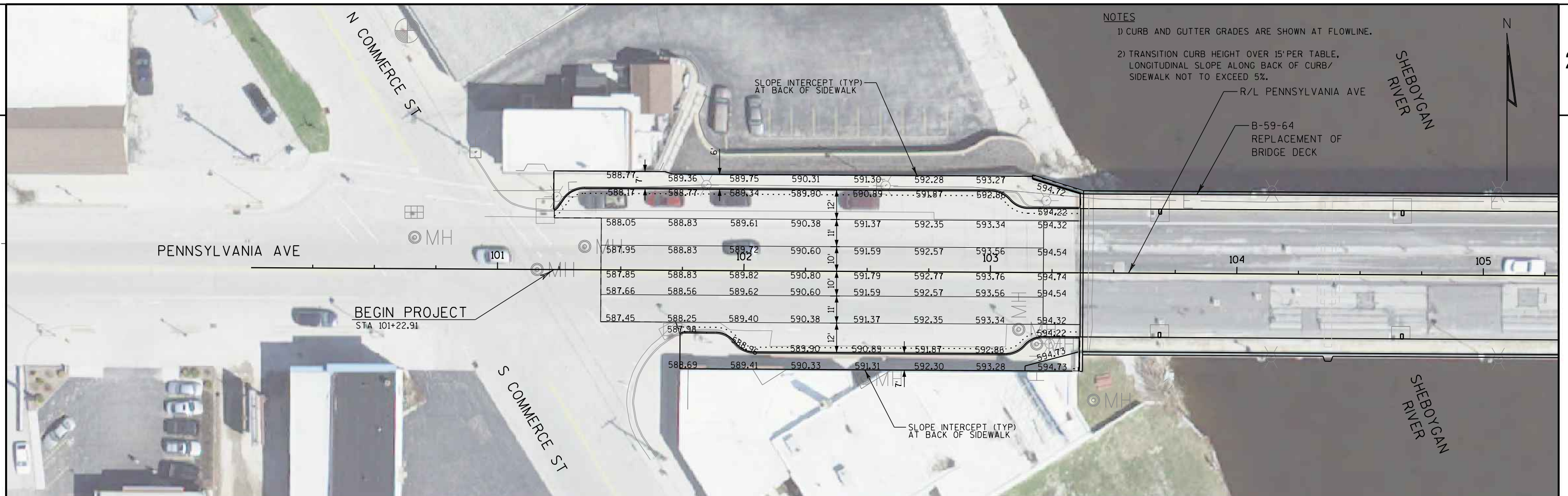


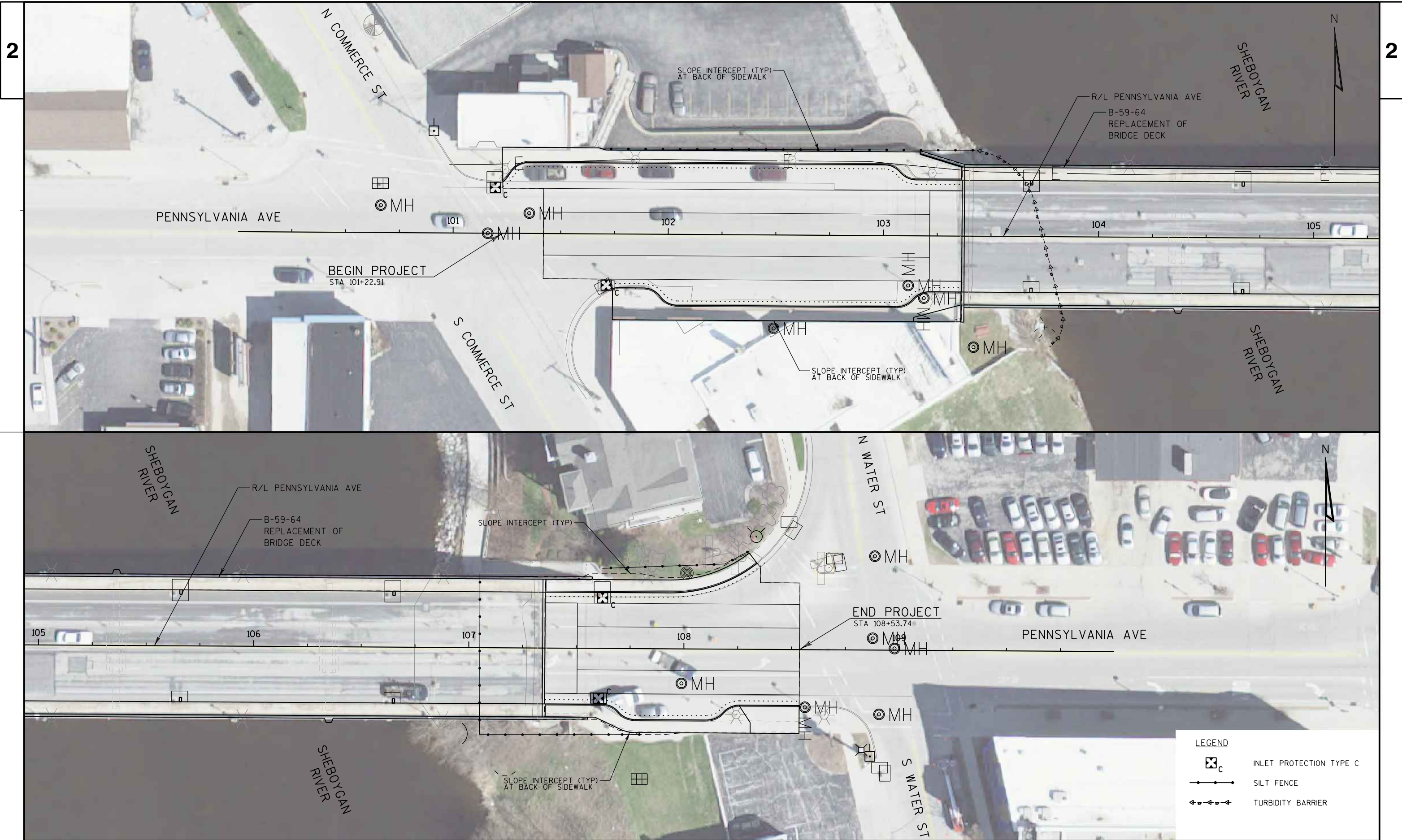
NOTES

- 1) CURB AND GUTTER STATIONS, OFFSETS AND RADII ARE GIVEN TO THE FACE OF CURB AND GUTTER.
- 2) SIDEWALK AND BIKE/PARKING LANE DIMENSIONS ARE GIVEN TO FACE OF CURB AND GUTTER.

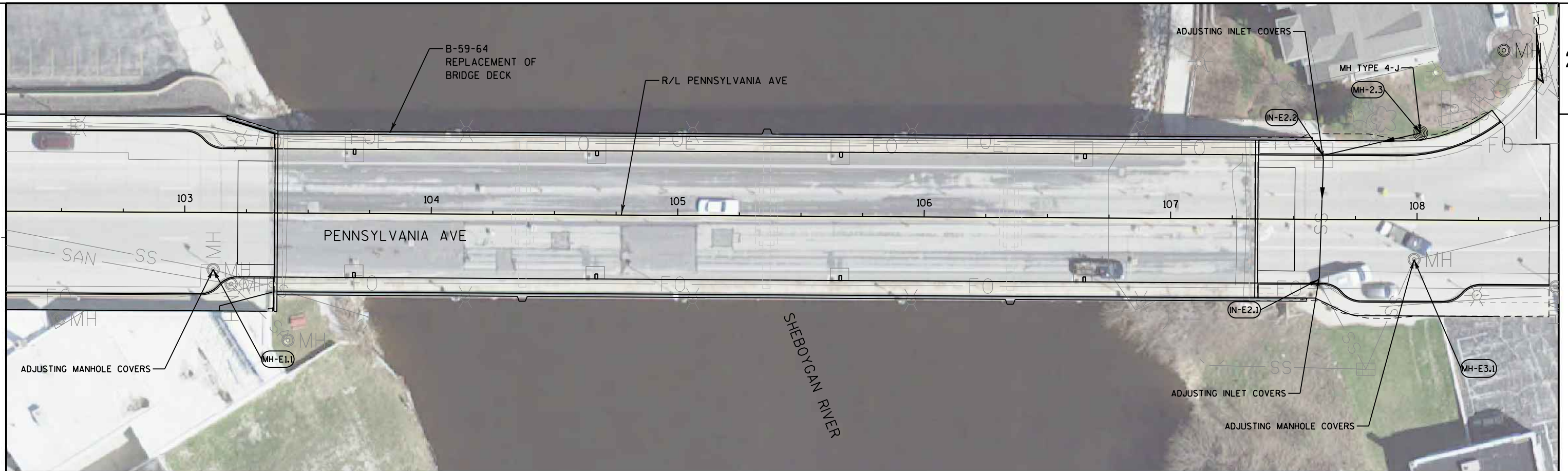
LEGEND

- DR01 CONCRETE DRIVEWAY 7-INCH
- CG57 CONCRETE CURB AND GUTTER INTEGRAL 30-INCH, TYPE D
- CG58 CONCRETE CURB AND GUTTER INTEGRAL 30-INCH, TYPE D WITH 4-INCH CURB
- CM07 CONCRETE SIDEWALK 5-INCH
- CP07 CONCRETE PAVEMENT 9-INCH
- FN01 FENCE CHAIN LINK 6-FT
- FN02 RAILING STEEL PEDESTRIAN TYPE C3
- PV01 CONCRETE PAVEMENT APPROACH SLAB

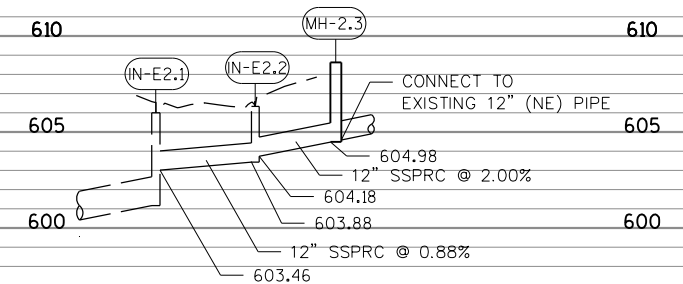


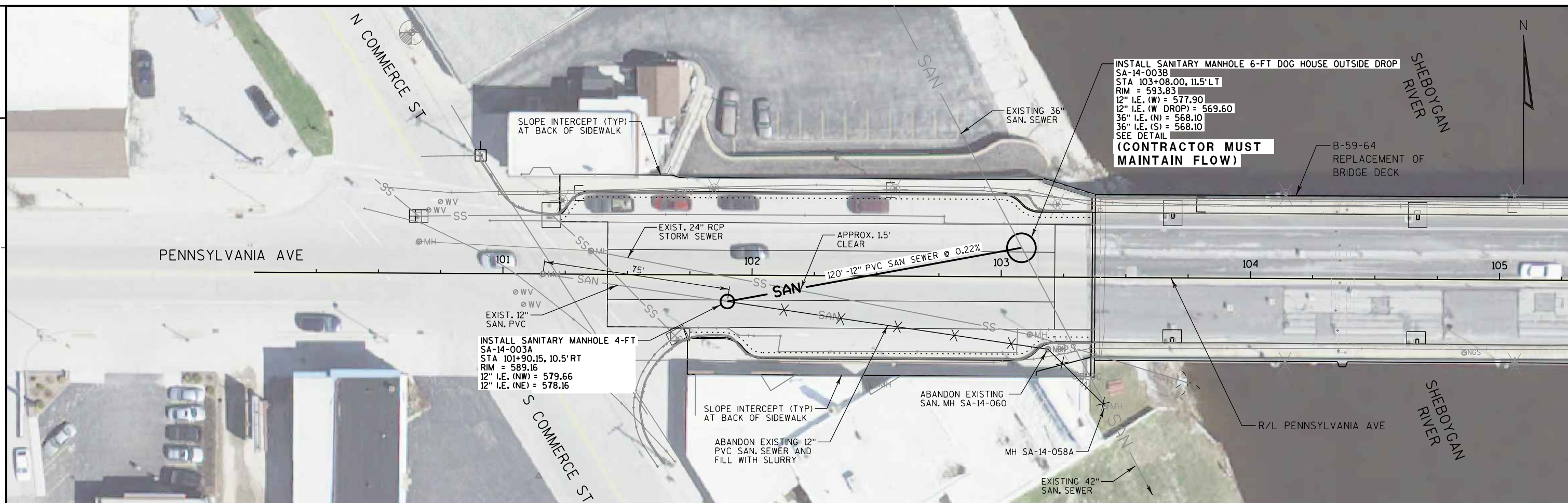
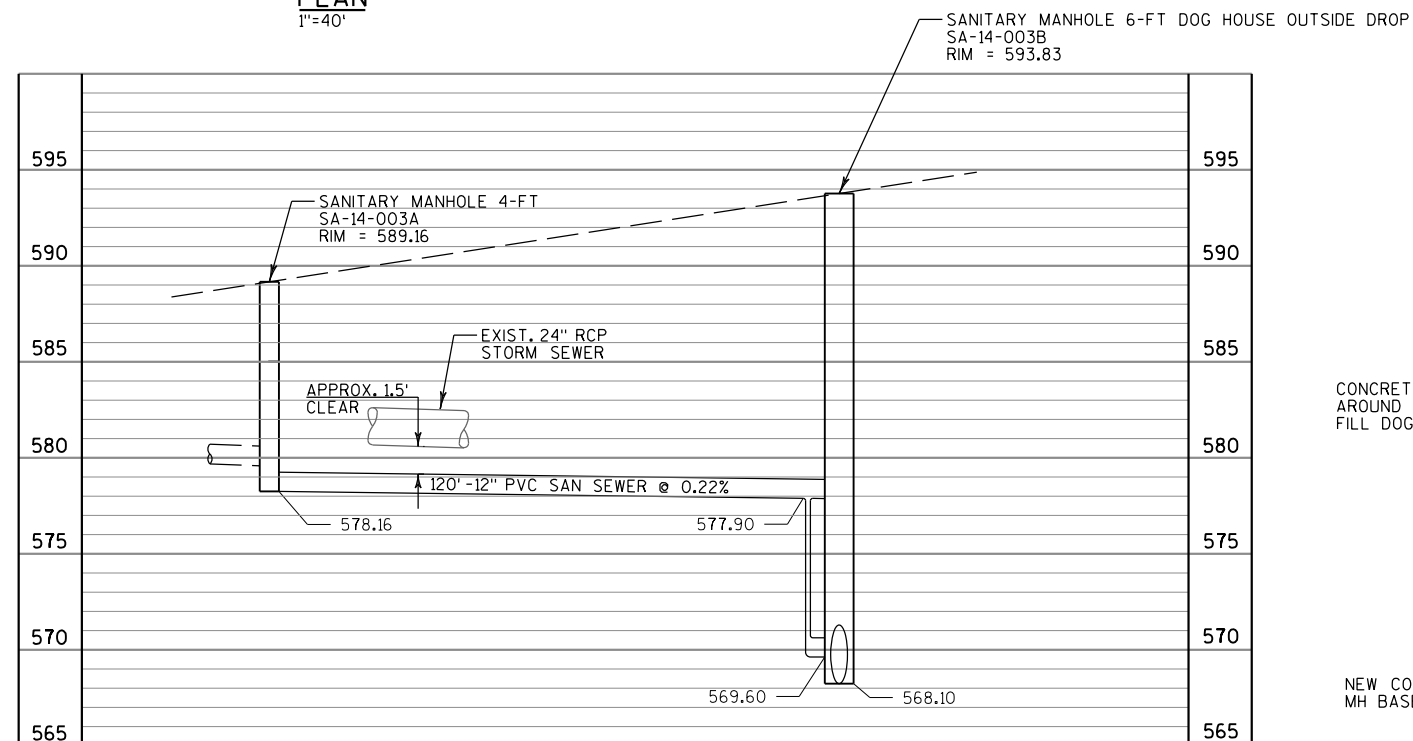
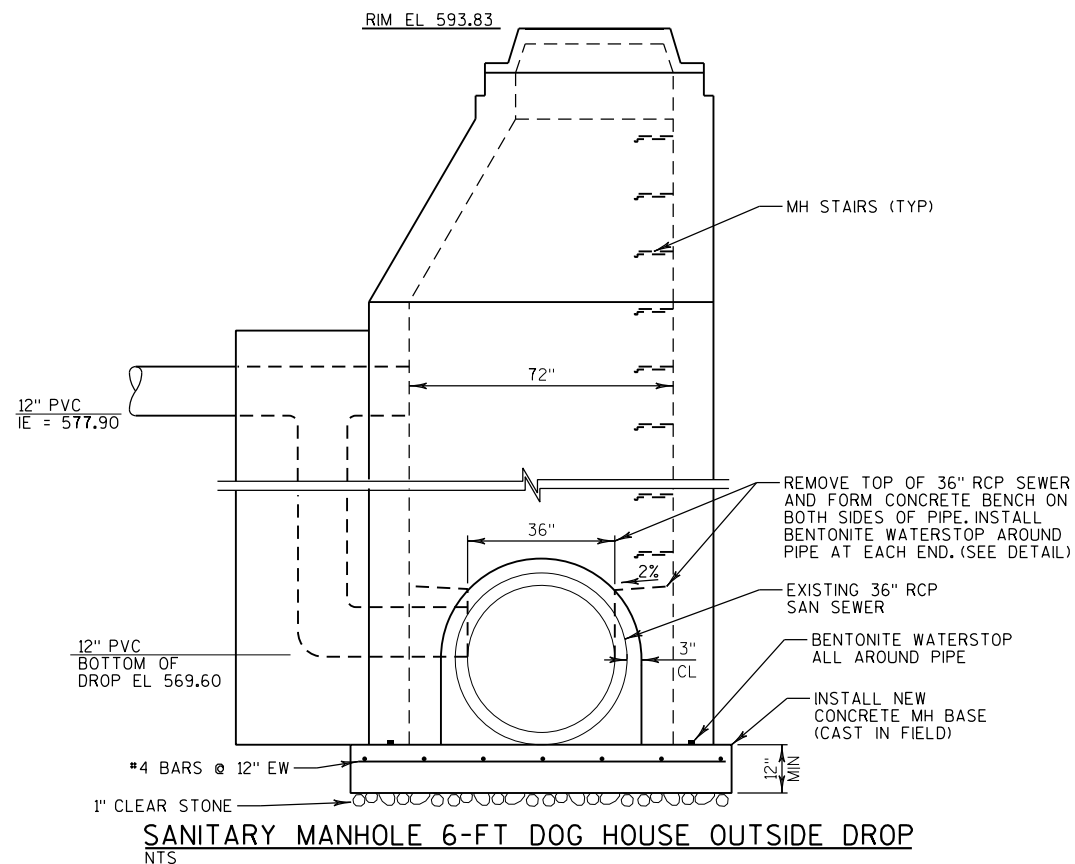
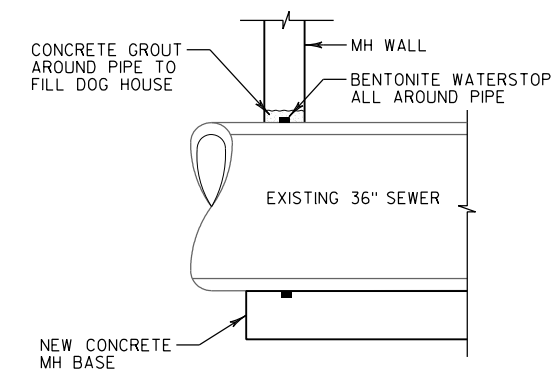


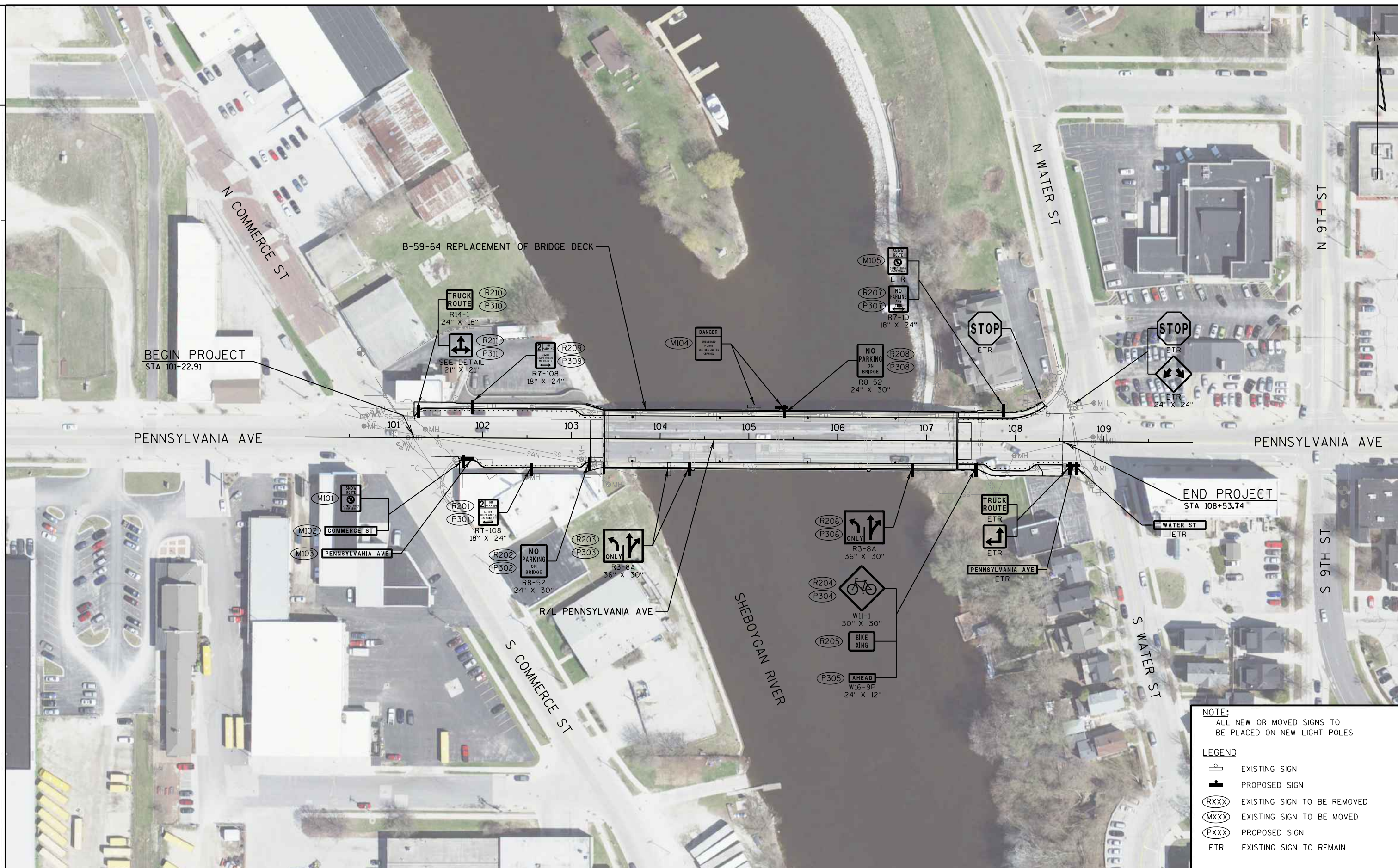
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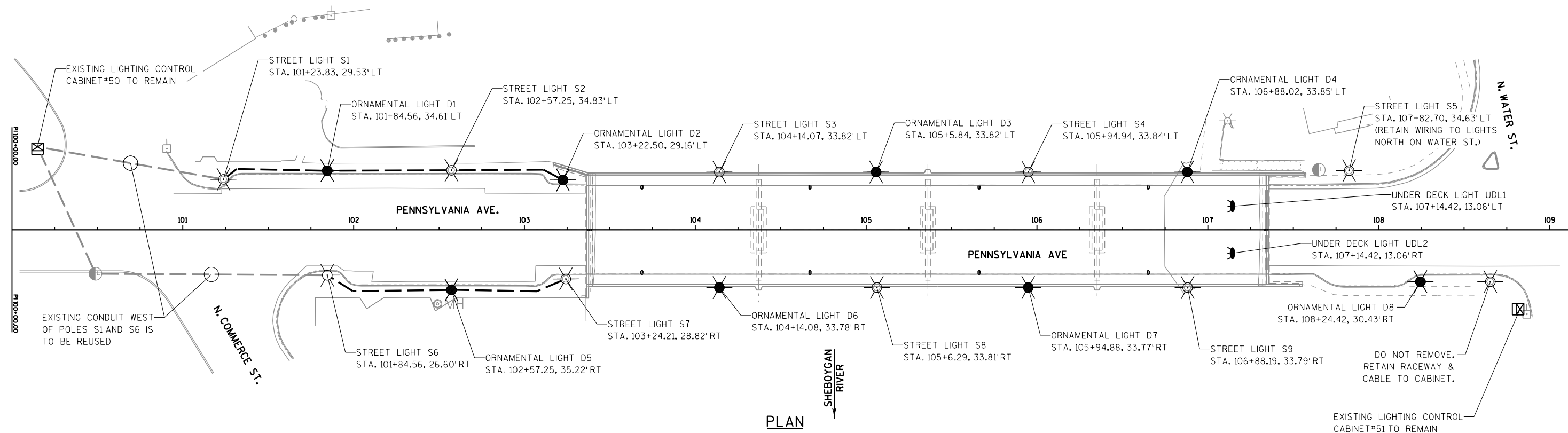


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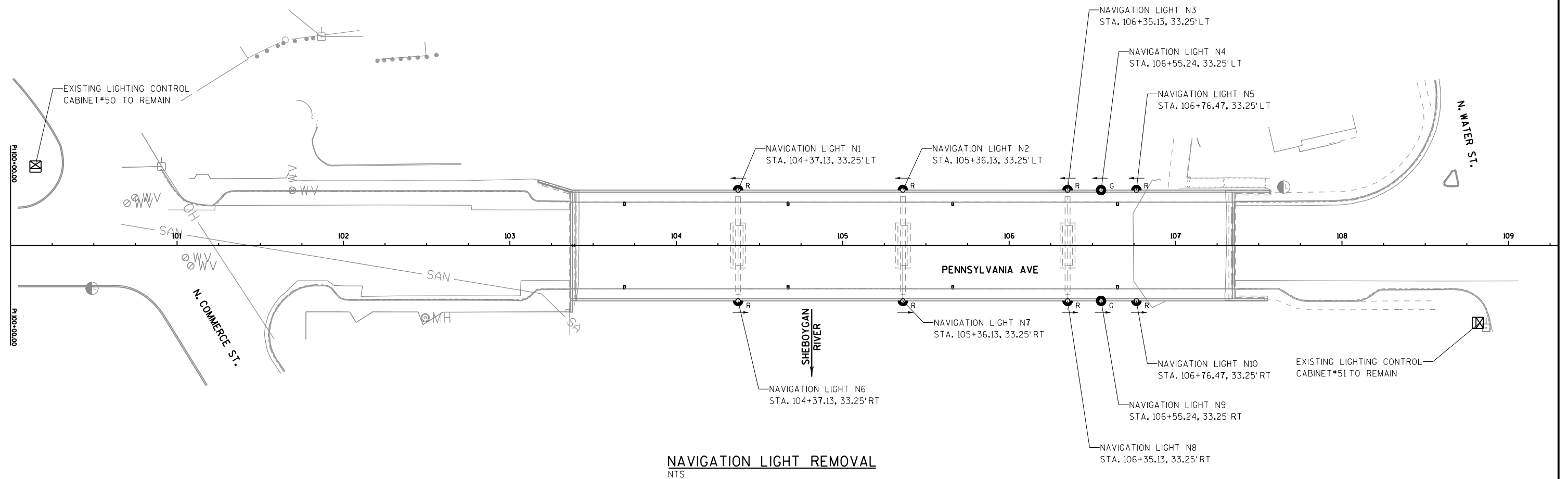
PLAN
1"=40'PROFILE
SCALE: HOR. 1"=40'
VERT. 1"=10'BENTONITE WATER STOP DETAIL
NTS





LEGEND

- — — CABLE IN CONDUIT - SIZE AS NOTED
- ✱ EXISTING ORNAMENTAL LIGHTING UNIT
- ⊙ EXISTING STREET LIGHTING UNIT
- ⊠ LIGHTING CONTROL CABINET
- PULL BOX
- ⌋ UNDER DECK LIGHTING UNIT

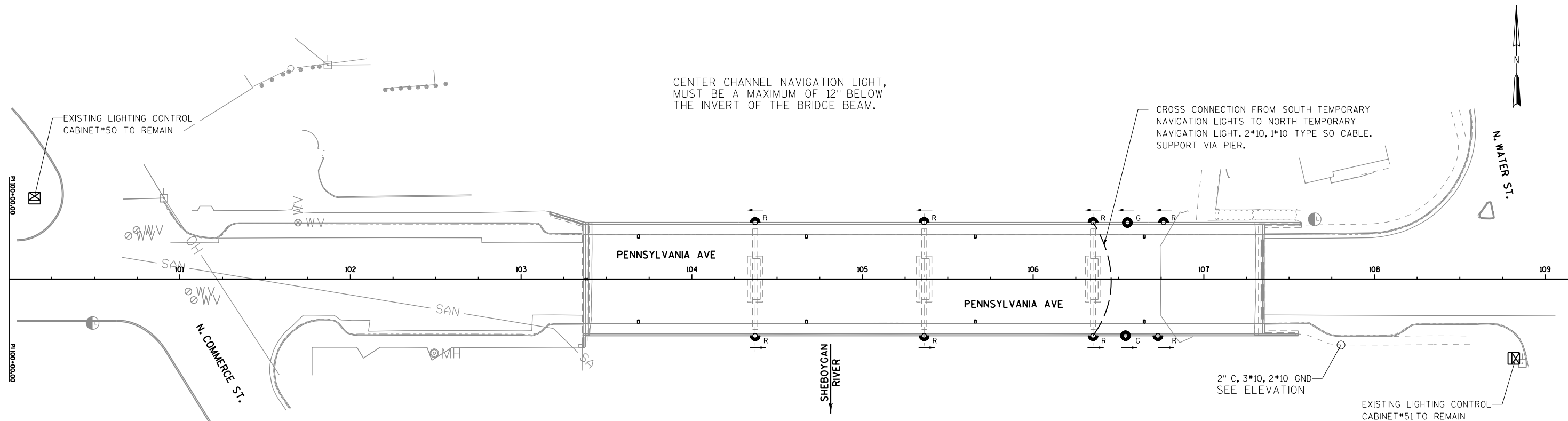


LEGEND

- 180° FIXTURE
- 360° FIXTURE
- R = RED
- G = GREEN
- CABLE IN CONDUIT - SIZE AS NOTED
- ⊙ PULL BOX
- ⊠ LIGHTING CONTROL CABINET

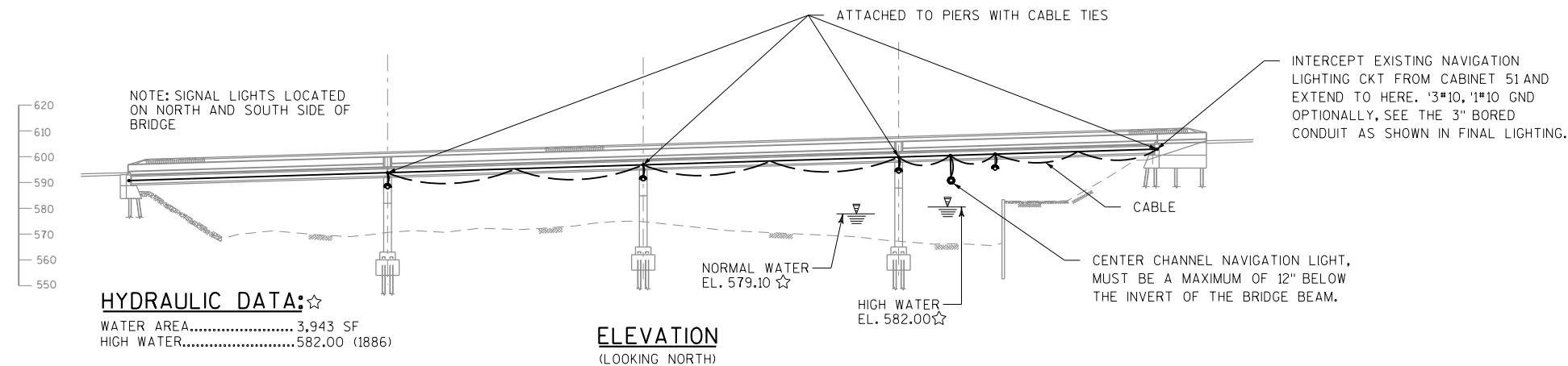
NOTE

1. NAVIGATION LIGHT SYSTEM SHALL REMAIN OPERATIONAL FOR THE ENTIRE DURATION OF THIS CONTRACT. LIGHTS CAN BE ORIGINAL, TEMPORARY, FINAL OR COMBINATION.
2. NAVIGATION LIGHTS POWERED FROM LCC#51

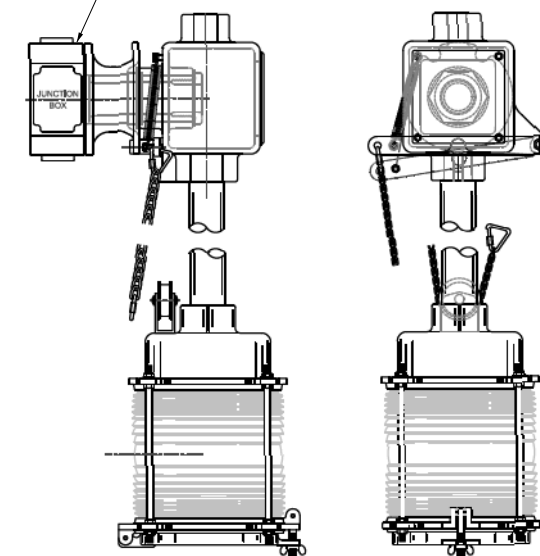


TEMPORARY NAVIGATION LIGHTING-PLAN

NTS



JUNCTION BOX NOT REQUIRED FOR NAVIGATION LIGHTING. CONNECT NAVIGATION LIGHT TO SUPPORT CABLE VIA U-BOLTS. A WOOD SPACER CAN BE USED TO HELP U-BOLT SECURE TO SUPPORT CABLES.



NAVIGATION LIGHTS

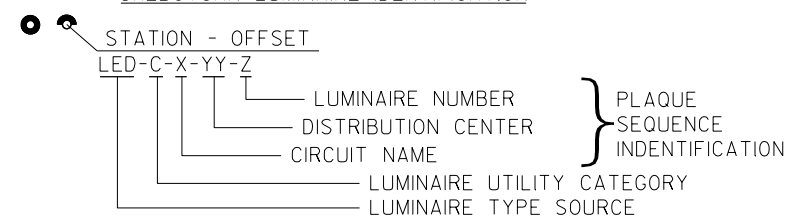
NOTE

NAVIGATION LIGHT SYSTEM SHALL REMAIN OPERATIONAL FOR THE ENTIRE DURATION OF THIS CONTRACT. LIGHTS CAN BE ORIGINAL, TEMPORARY, FINAL OR COMBINATION.

LEGEND

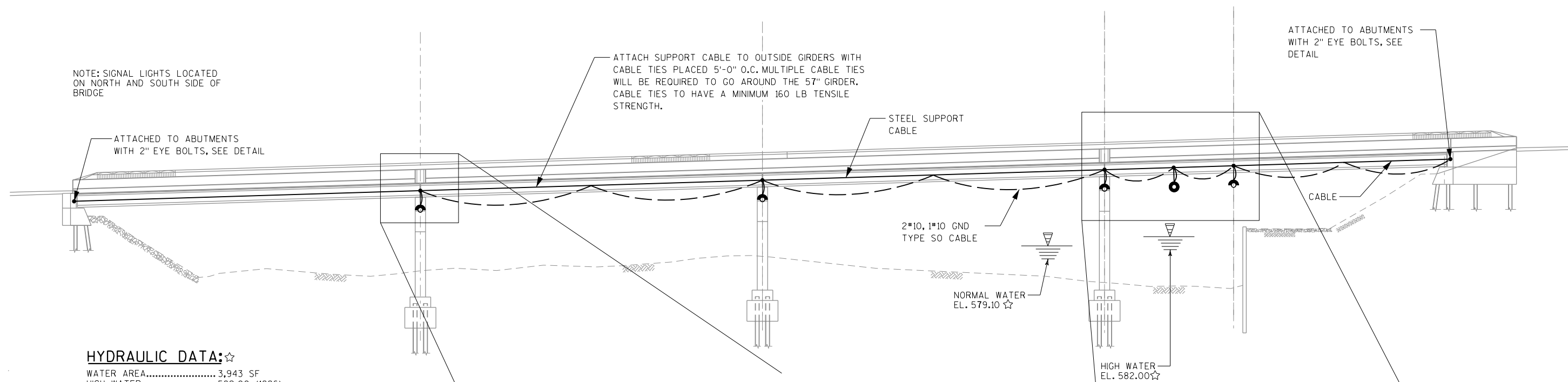
- 180° FIXTURE
- 360° FIXTURE
- R = RED
- G = GREEN
- CABLE IN CONDUIT - SIZE AS NOTED
- Ⓛ PULL BOX, POLYMER CONCRETE 11"x17"x24"D
- ⓧ LIGHTING CONTROL CABINET

SHEBOYGAN LUMINAIRE IDENTIFICATION



NOTE

1. NAVIGATION LIGHT SYSTEM SHALL REMAIN OPERATIONAL FOR THE ENTIRE DURATION OF THIS CONTRACT.

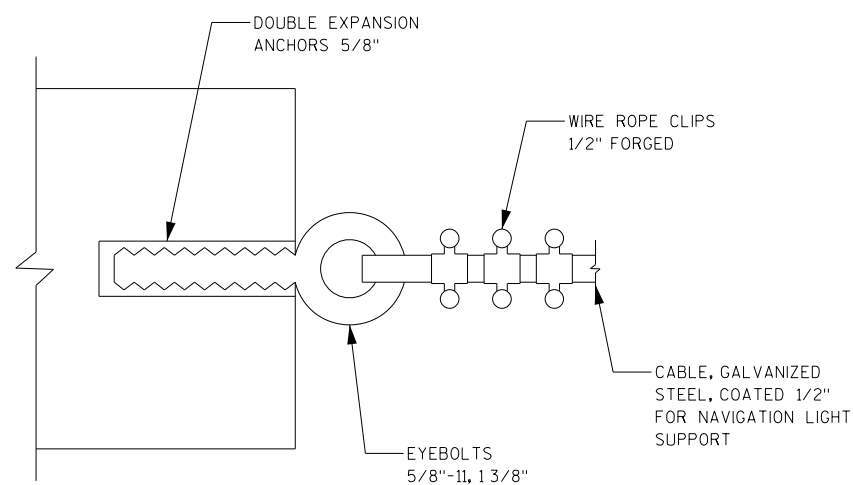


HYDRAULIC DATA:☆

WATER AREA.....3,943 SF
HIGH WATER.....582.00 (1886)

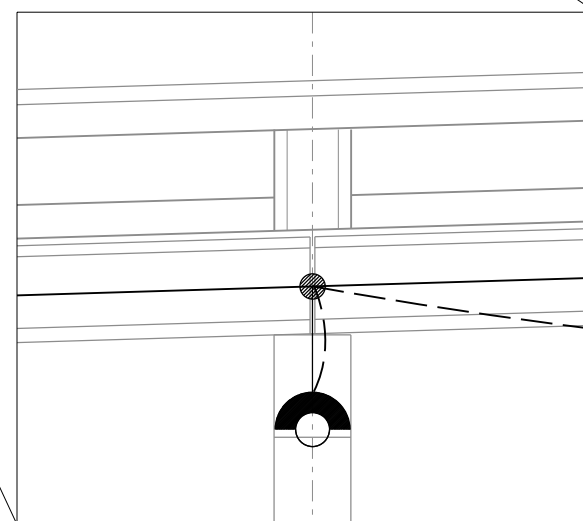
TEMPORARY LIGHTING TIE ON DETAIL

SOUTH SIDE SHOWN - SIMILAR FOR NORTH SIDE



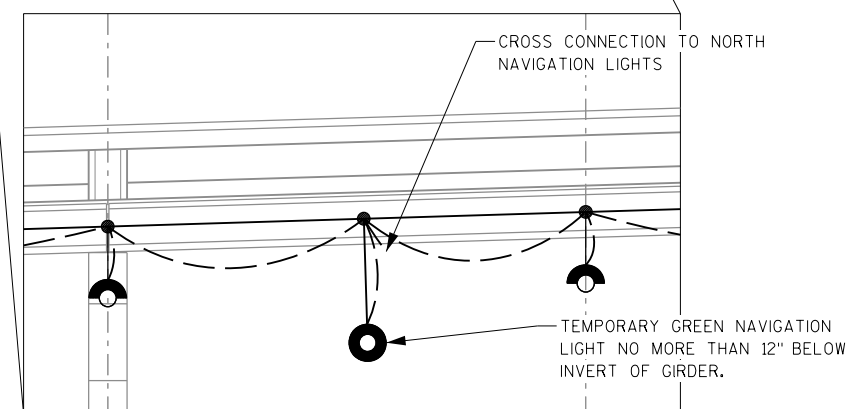
EYE BOLT DETAIL

REMOVE EYEBOLT AND TEMPORARY NAVIGATION LIGHTING SYSTEM AFTER NEW PERMANENT NAVIGATION LIGHTS ARE OPERATIONAL. PLUG UP EXPANSION ANCHORS WITH NON-SHRINK GROUT.



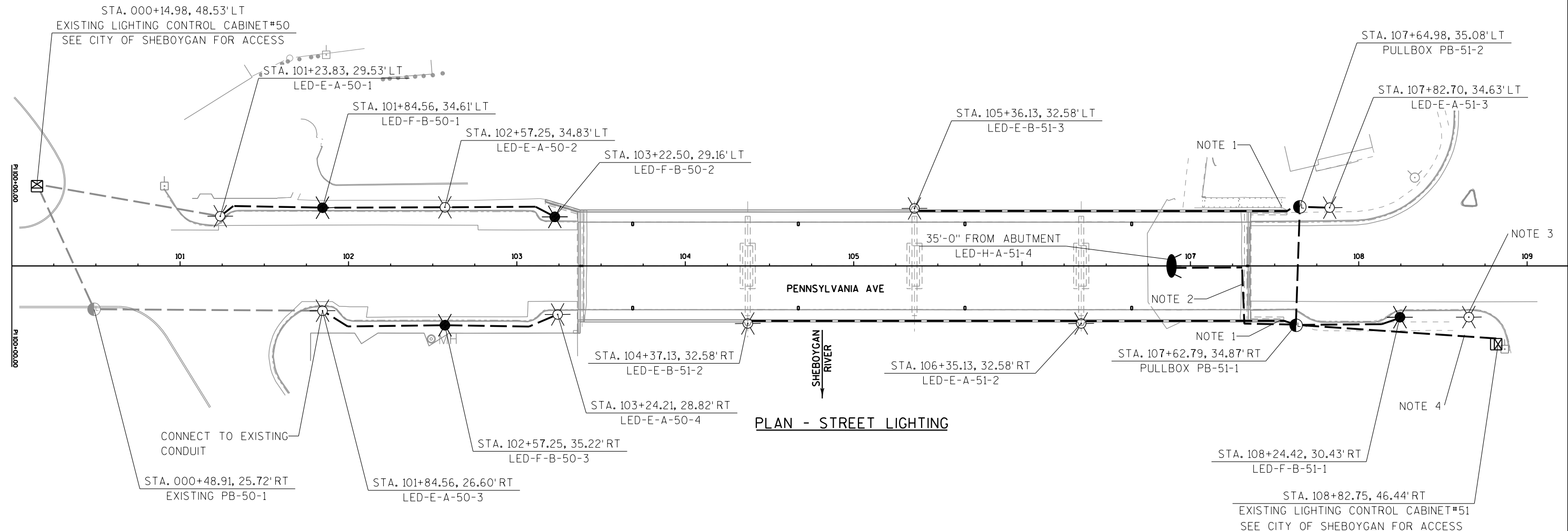
PIER SUPPORT NAVIGATION LIGHT CONNECTION

SOUTH ELEVATION - NORTH ELEVATION SIMILAR EXCEPT OPPOSITE HAND



CABLE HUNG NAVIGATION LIGHT CONNECTION

SOUTH ELEVATION - NORTH ELEVATION SIMILAR EXCEPT OPPOSITE HAND

**LEGEND**

— — — CABLE IN CONDUIT - SIZE AS NOTED



PROPOSED SINGLE ORNAMENTAL LIGHTING UNIT



PROPOSED STREET LIGHTING UNIT



LIGHTING CONTROL CABINET



PULL BOX, POLYMER CONCRETE 11"x17"x24"D



UNDERDECK LUMINAIRE

SHEBOYGAN LUMINAIRE IDENTIFICATION

STATION - OFFSET

LED-C-X-YY-Z

LUMINAIRE NUMBER

DISTRIBUTION CENTER

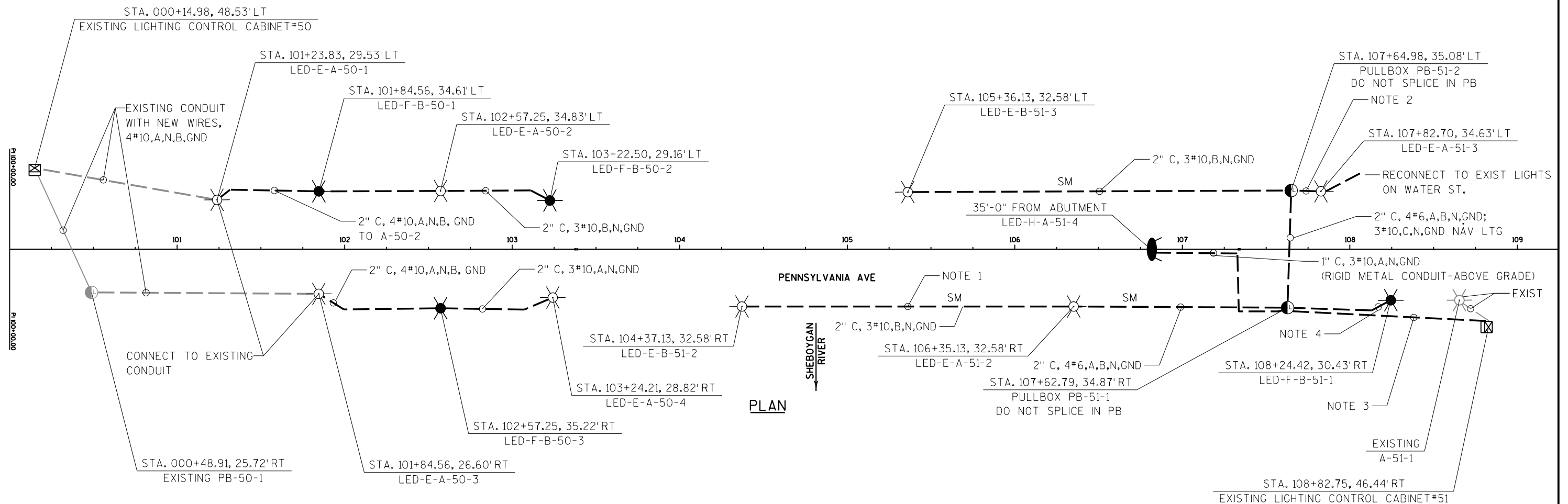
CIRCUIT NAME

LUMINAIRE UTILITY CATEGORY

LUMINAIRE TYPE SOURCE

PLAQUE
SEQUENCE
IDENTIFICATION**NOTES**

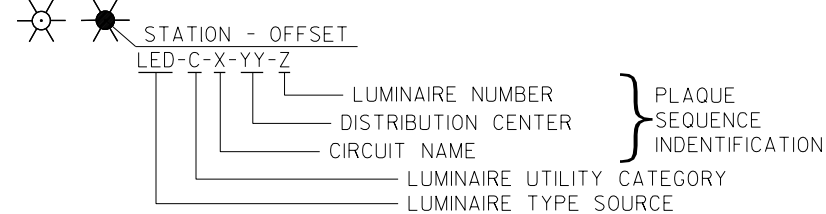
1. FOR ELECTRICAL CONDUIT SIZE AND JUNCTION BOX LOCATIONS ON BRIDGE, SEE BRIDGE STRUCTURAL PLANS.
2. ROUTE 1" SCH 40 PVC BELOW GRADE AND ALONG FACE OF ABUTMENT, FROM PB TO BEFORE ELBOWING TO VERTICAL AT ABUTMENT. CHANGE RACEWAY TO RIGID GALV STEEL BEFORE ELBOW AND ROUTE UP ABUTMENT TO BRIDGE UNDERDECK. SECURE CONDUIT AND LUMINAIRE TO BRIDGE UNDER DECK VIA INSERTS. SEE SPV FOR LED TYPE H LUMINAIRE FOR U-CHANNEL CONCRETE INSERTS.
3. EXISTING POLE & RACEWAY TO LIGHTING CABINET TO REMAIN. ID: A-51-1
4. BORE 3"C FROM PB-51-1 TO THE SIDE OF CABINET #51 AND CONDUIT LET INTO THE EXISTING CABINET. CAUTION GAS LINE UNDER DRIVEWAY. CHECK FOR OTHER UTILITIES.



LEGEND

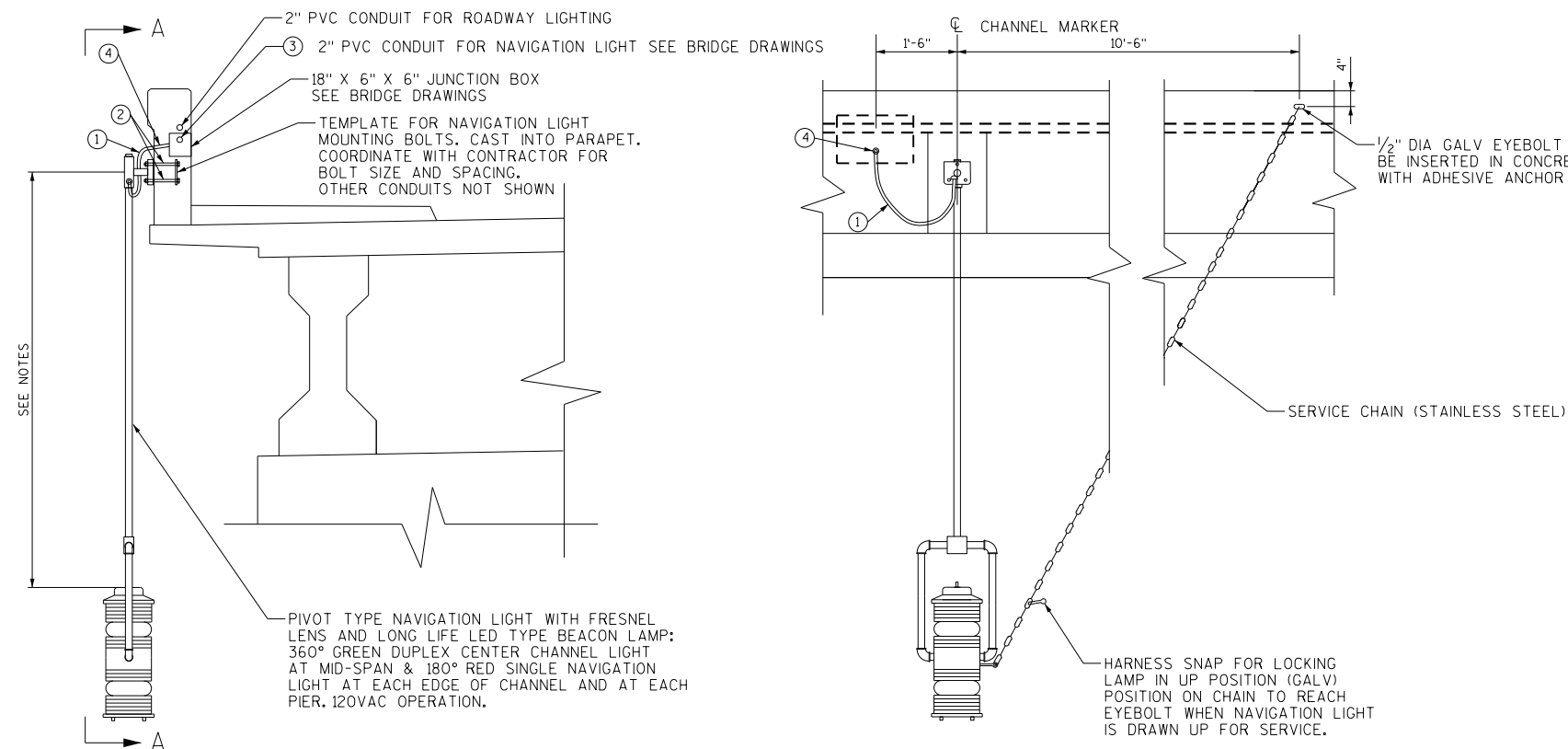
- — — CABLE IN CONDUIT - SIZE AS NOTED
- ☼ PROPOSED SINGLE ORNAMENTAL LIGHTING UNIT
- ☼ PROPOSED STREET LIGHTING UNIT
- ☒ LIGHTING CONTROL CABINET
- PULL BOX, POLYMER CONCRETE 11"x17"x24"D
- UNDER DECK LIGHTING UNIT
- SM STRUCTURE MOUNTED, SEE STRUCTURAL DWG

SHEBOYGAN LUMINAIRE IDENTIFICATION



NOTES

- FOR ELECTRICAL CONDUIT SIZE AND JUNCTION BOX LOCATIONS ON BRIDGE, SEE BRIDGE STRUCTURAL PLANS.
- 2"C, 4#6, A, B, N, GND (CABINET TO POLE A-51-2, SEE NOTE 3) + 3#10, B, N, GND (BACK TO POLE B-51-3). DO NOT SPLICE IN PULLBOX (PB). SPLICE IN POLE A-51-3. EXTEND A/B CKT TO LIGHTS ON WATER ST.
- BORE 3"C. CAUTION GAS LINE IN DRIVEWAY. COORDINATE ALL UTILITIES. TOTAL 8#6, 12#10. 4#6, A, B, N, GND TO POLE A-51-2; 4#6, A, B, N, GND TO POLE A-51-3; 3#10, B, N, GND TO POLE B-51-1; 3#10, A, N, GND LUMINAIRE A-51-4; 3#10, C, N, GND TO NORTH NAV LIGHTS; 3#10, D, N, GND TO SOUTH NAV LIGHTS. CONDUIT INTO SIDE OF LIGHTING CONTROL CABINET #51. REARRANGE INTERIOR AS NECESSARY. REARRANGEMENT INCIDENTAL TO 3" BORED CONDUIT.
- 2"C, 3#10, B, N, GND.



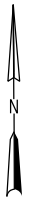
CROSS SECTION AT NAVIGATION LIGHTING

LEGEND

- ① TYPE SO FLEXIBLE CABLE 16/3-FOR EXTRA HARD USAGE, WITH WATERTIGHT CONNECTOR WITH GLAND NUT AND NEOPRENE BUSHING SIZED TO FIT CABLE USED, ONE REQD. AT EACH END.
 - ② ANCHOR BOLTS - 1/2" X 9" LONG, WITH HEX NUT AND 2 WASHERS. THREAD 3" AND GALVANIZE 4" OF BOLT AND WASHERS.
 - ③ 2" DIAMETER RIGID PVC CONDUIT WITH THREE #10 AWG, 1 #10 GND TYPE U.S.E.
 - ④ 2" DIAMETER RIGID METALLIC CONDUIT FROM JUNCTION BOX, EXTENDING 2-INCHES BEYOND FACE OF PARAPET.
- 180° FIXTURE
360° FIXTURE
R = RED
G = GREEN
- CABLE IN CONDUIT - SIZE AS NOTED
PULL BOX, POLYMER CONCRETE, 11"x17"x24"D
LIGHTING CONTROL CABINET

NOTE

NAVIGATION LIGHT SYSTEM SHALL REMAIN OPERATIONAL FOR THE ENTIRE DURATION OF THIS CONTRACT. LIGHTS CAN BE ORIGINAL, TEMPORARY, FINAL, OR COMBINATION.

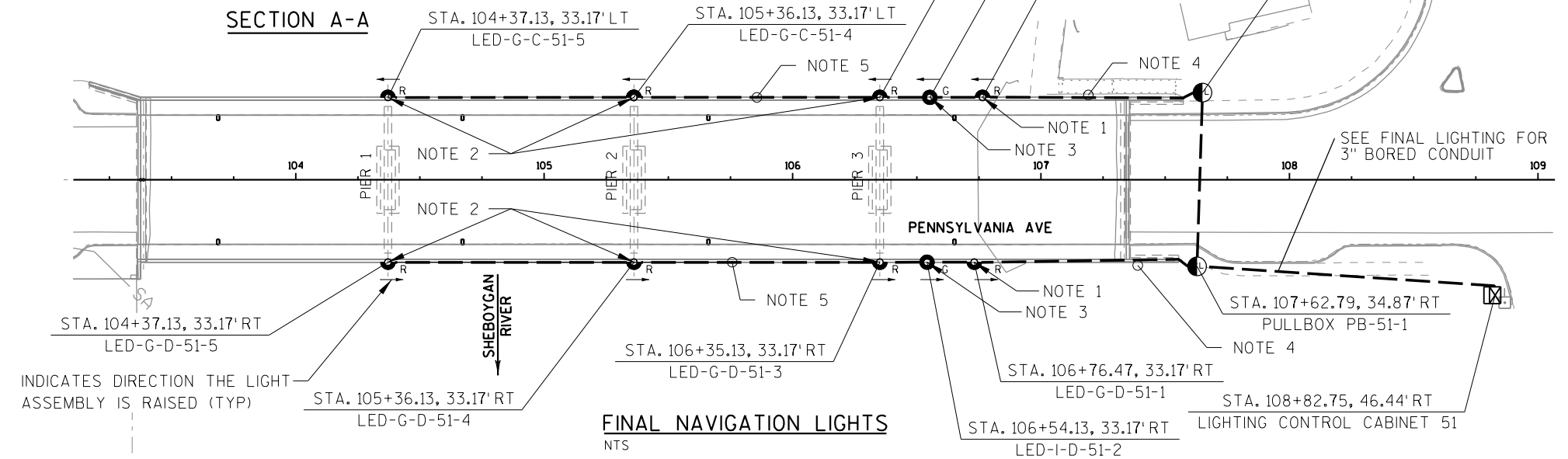


SHEBOYGAN LUMINAIRE IDENTIFICATION

STATION - OFFSET
LED-C-X-YY-Z

LUMINAIRE NUMBER
DISTRIBUTION CENTER
CIRCUIT NAME
LUMINAIRE UTILITY CATEGORY
LUMINAIRE TYPE SOURCE

PLAQUE
SEQUENCE
IDENTIFICATION

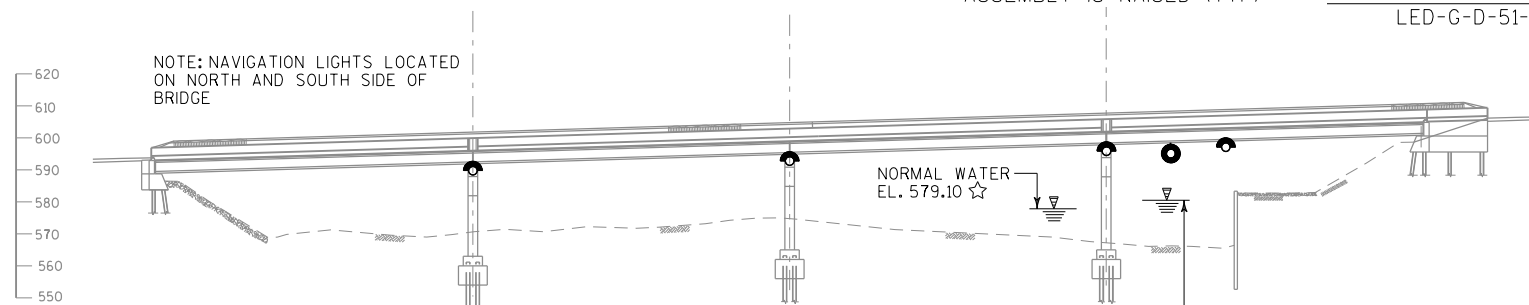


FINAL NAVIGATION LIGHTS

NTS

NOTES

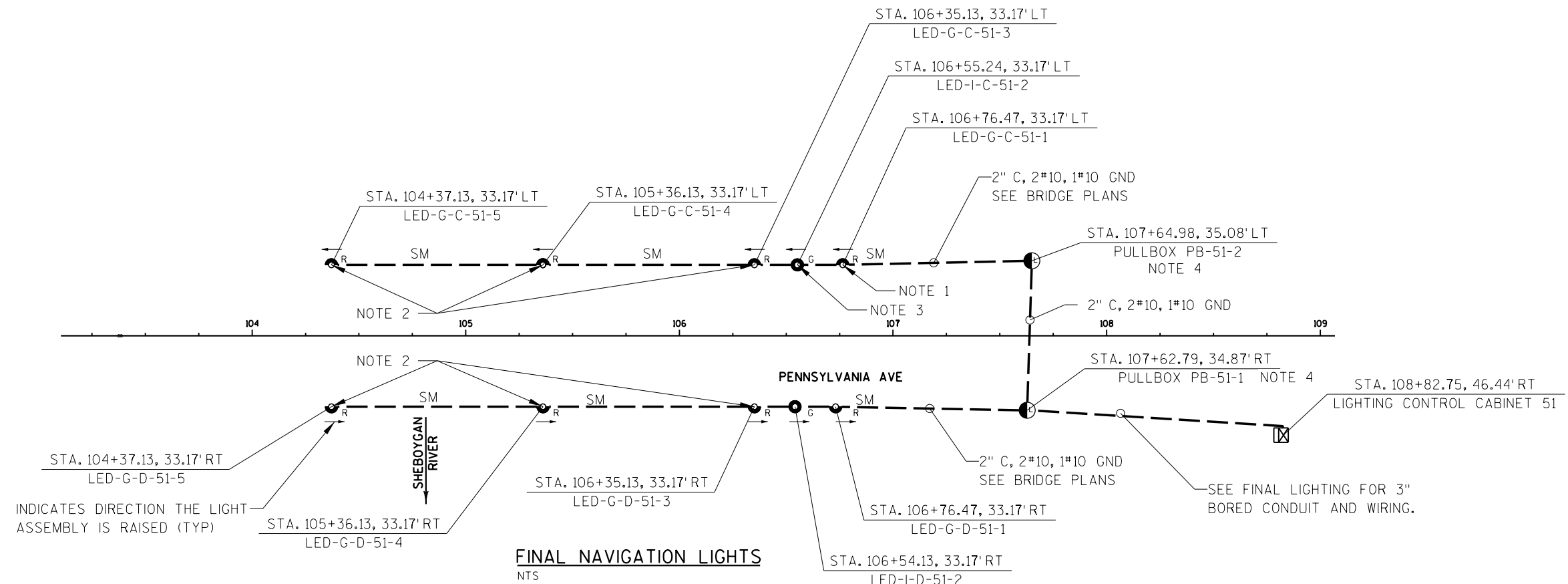
1. RED, 180 DEGREE NAVIGATION LIGHTS MOUNTED ON BRIDGE 2'-0" WEST OF THE SHORE AND 30" DOWN FROM JUNCTION BOX.
2. RED, 180 DEGREE NAVIGATION LIGHTS MOUNTED AT CENTER LINE OF PIERS AND 30" DOWN FROM JUNCTION BOX.
3. GREEN, 360 DEGREE NAVIGATION LIGHTS MOUNTED AT CENTER OF CHANNEL, BEING MID POINT BETWEEN THE RED SHORE NAVIGATION LIGHT AND PIER 1'S RED NAVIGATION LIGHT AND 75" DOWN FROM JUNCTION BOX.
4. 2" CONDUIT, 2*10, 1*10 GROUND TO EACH PARAPET FROM EAST END. POWER FROM LIGHTING CABINET NO. 51. SEE BRIDGE DETAIL.
5. FOR ELECTRICAL CONDUIT SIZE AND JUNCTION BOX LOCATIONS IN BRIDGE, REFER TO STRUCTURAL PLANS



HYDRAULIC DATA: ☆

WATER AREA.....3,943 SF
HIGH WATER.....582.00 (1886)

ELEVATION
(LOOKING NORTH)



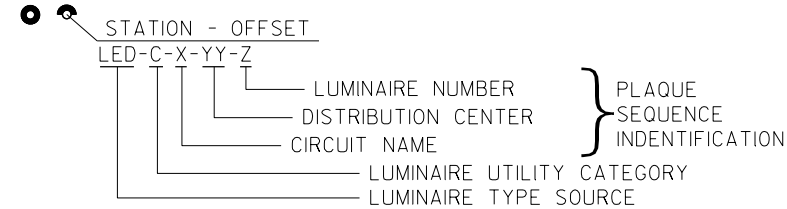
LEGEND

- | | |
|--------------|--|
| 180° FIXTURE | CABLE IN CONDUIT - SIZE AS NOTED |
| 360° FIXTURE | PULL BOX, POLYMER CONCRETE 11"x17"x24"D |
| R = RED | LIGHTING CONTROL CABINET |
| G = GREEN | SM STRUCTURE MOUNTED, SEE STRUCTURAL DWG |

NOTE

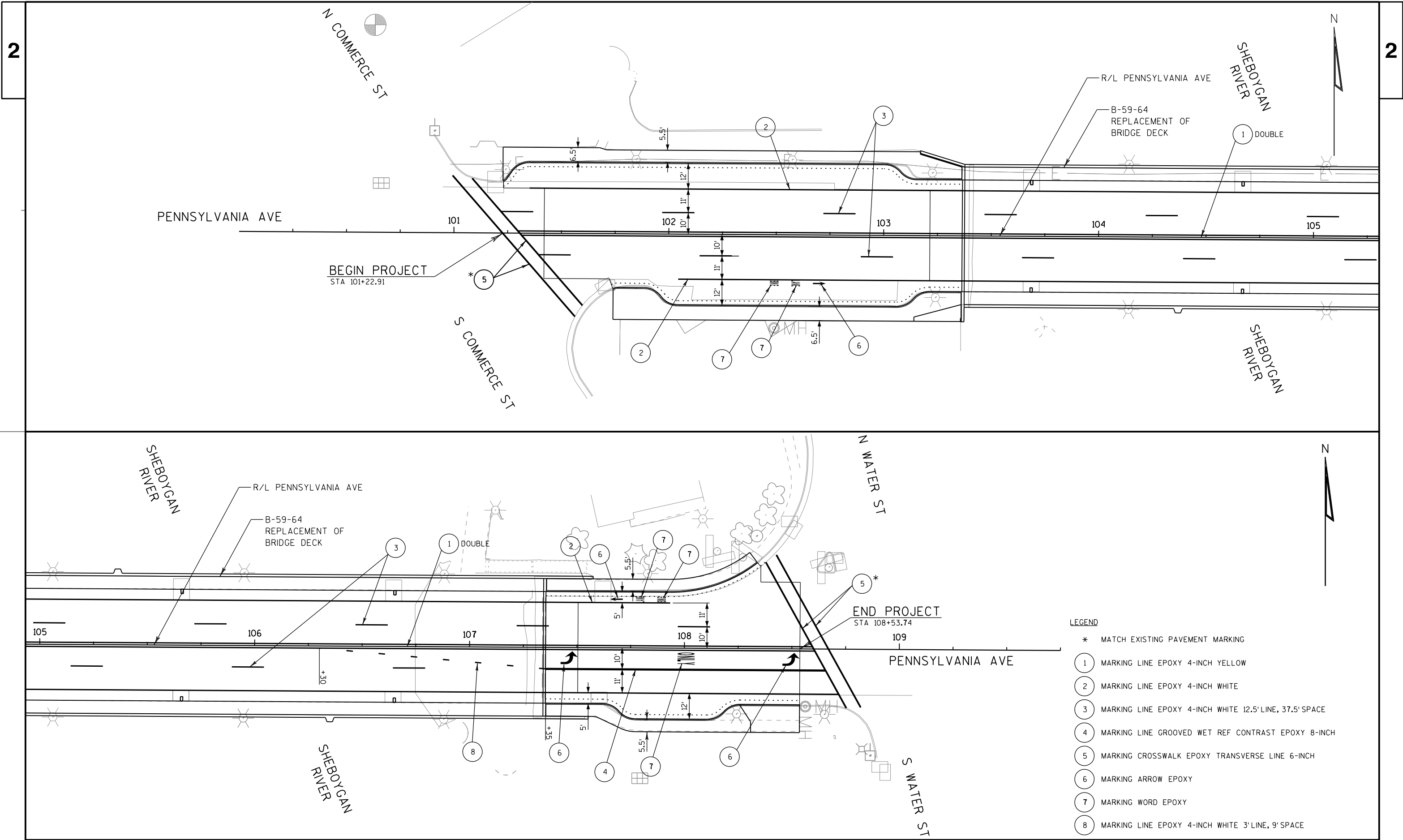
ALL NAVIGATION LIGHTS SHALL REMAIN OPERATIONAL FOR THE ENTIRE DURATION OF THIS CONTRACT.

SHEBOYGAN LUMINAIRE IDENTIFICATION



NOTES

1. RED, 180 DEGREE NAVIGATION LIGHTS MOUNTED ON BRIDGE 2'-0" WEST OF THE SHORE AND 30" DOWN FROM JUNCTION BOX.
2. RED, 180 DEGREE NAVIGATION LIGHTS MOUNTED AT CENTER LINE OF PIERS AND 30" DOWN FROM JUNCTION BOX.
3. GREEN, 360 DEGREE NAVIGATION LIGHTS MOUNTED AT CENTER OF CHANNEL, BEING MID POINT BETWEEN THE RED SHORE NAVIGATION LIGHT AND PIER 1'S RED NAVIGATION LIGHT AND 75" DOWN FROM JUNCTION BOX.
4. NAV AND STREET LIGHTING SHARE PB-51-1 AND PB-51-2. CLEARLY IDENTIFY CIRCUITS WITH PERMANENT TIE-WRAP MARKERS.





CONSTRUCTION

- REPLACE STRUCTURE B-59-64 DECK
- RECONSTRUCT ROADWAY APPROACHES
- REPLACE STORM SEWER
- REPLACE STREET AND NAVIGATIONAL LIGHTING
- REPLACE CITY FIBER OPTIC
- RECONSTRUCT SANITARY SEWER

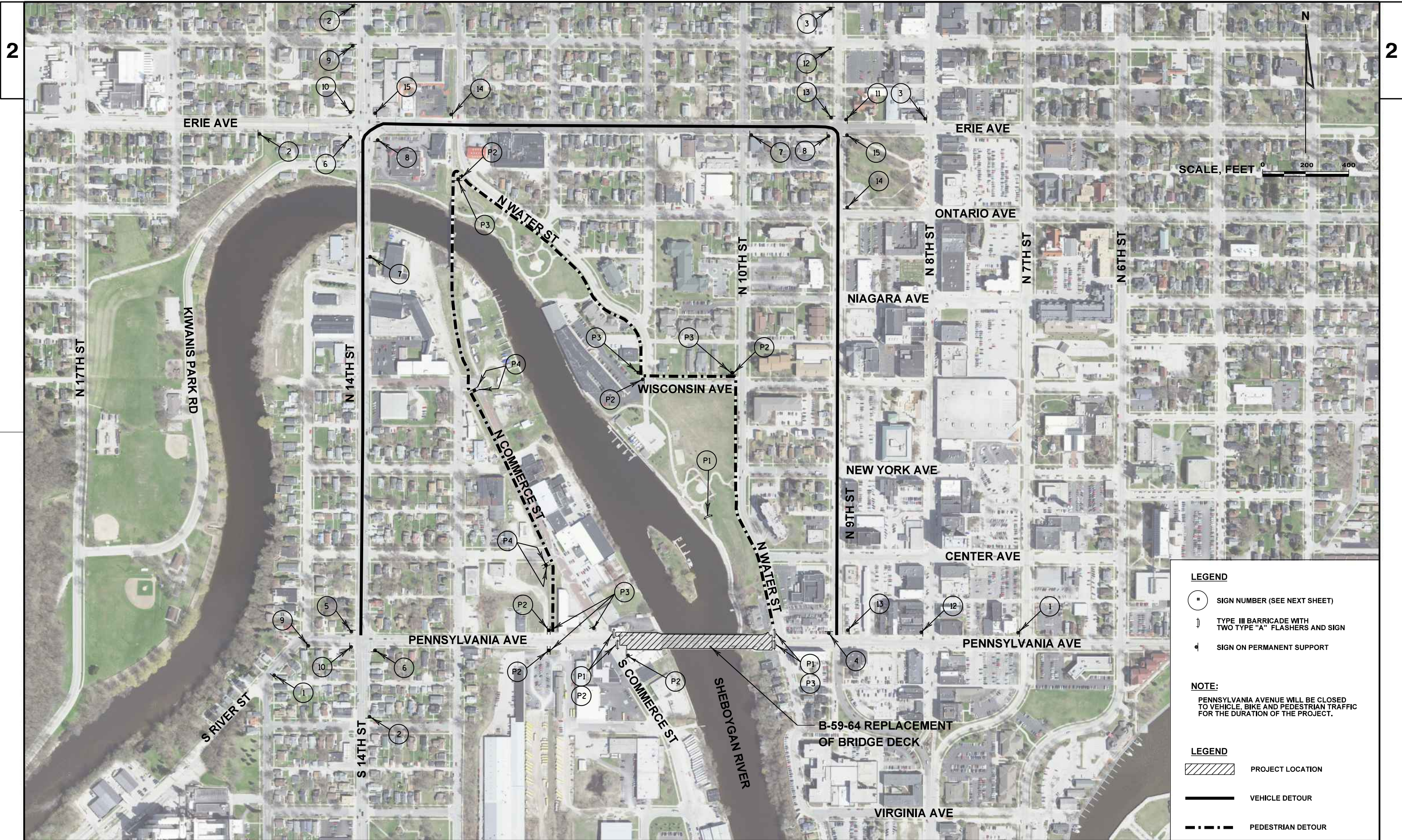
TRAFFIC

- PENNSYLVANIA AVE CLOSED TO THRU TRAFFIC (SEE DETOUR ROUTE)
- COMMERCE STREET OPEN TO TRAFFIC
- WATER STREET OPEN TO TRAFFIC
- MAINTAIN PEDESTRIAN ACCESS TO 1045 AND 1054 PENN AVE

SCALE, FEET 0 200 400

LEGEND

WORKZONE



PROJECT NO: 4996-25-71

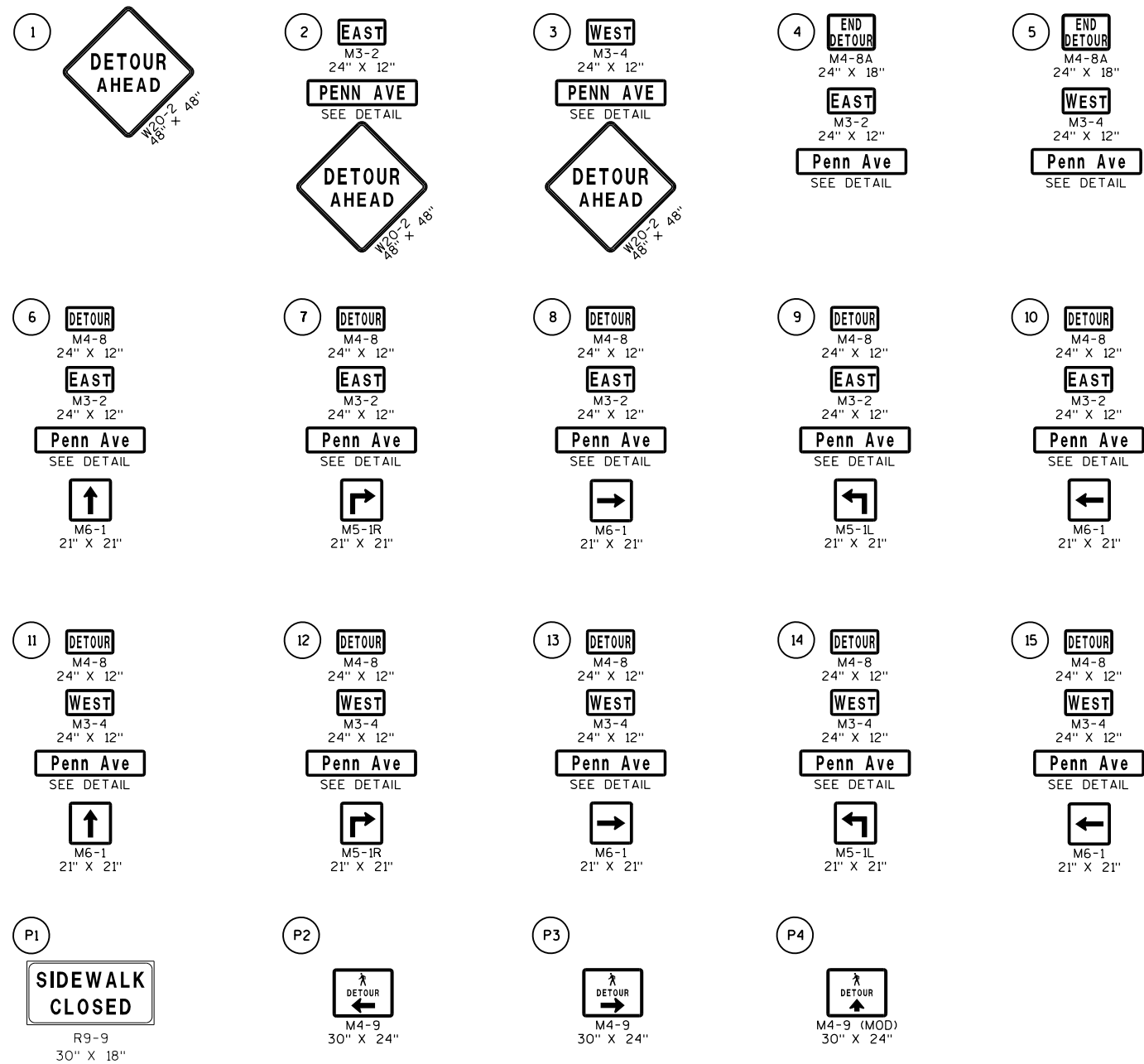
HWY: PENNSYLVANIA AVENUE

COUNTY: SHEBOYGAN

DETOUR ROUTE

SHEET

E



Estimate Of Quantities

4996-25-71

Line	Item	Item Description	Unit	Total	Qty
0002	203.0600.S	Removing Old Structure Over Waterway With Minimal Debris (station) 01. 105+36.13	LS	1.000	1.000
0004	204.0100	Removing Pavement	SY	2,124.000	2,124.000
0006	204.0155	Removing Concrete Sidewalk	SY	452.000	452.000
0008	204.0170	Removing Fence	LF	177.000	177.000
0010	204.0195	Removing Concrete Bases	EACH	9.000	9.000
0012	204.0245	Removing Storm Sewer (size) 01. 12-Inch	LF	90.000	90.000
0014	204.0250	Abandoning Manholes	EACH	1.000	1.000
0016	204.0291.S	Abandoning Sewer	CY	4.700	4.700
0018	205.0100	Excavation Common	CY	983.000	983.000
0020	205.0501.S	Excavation, Hauling, and Disposal of Petroleum Contaminated Soil	TON	1.700	1.700
0022	206.1000	Excavation for Structures Bridges (structure) 01. B-59-64	LS	1.000	1.000
0024	210.1500	Backfill Structure Type A	TON	372.000	372.000
0026	213.0100	Finishing Roadway (project) 01. 4996-25-71	EACH	1.000	1.000
0028	305.0120	Base Aggregate Dense 1 1/4-Inch	TON	1,744.000	1,744.000
0030	415.0090	Concrete Pavement 9-Inch	SY	1,823.000	1,823.000
0032	415.0410	Concrete Pavement Approach Slab	SY	140.000	140.000
0034	415.5110.S	Concrete Pavement Joint Layout 01. 4996-25-71	LS	1.000	1.000
0036	416.0170	Concrete Driveway 7-Inch	SY	34.000	34.000
0038	416.0610	Drilled Tie Bars	EACH	22.000	22.000
0040	416.0620	Drilled Dowel Bars	EACH	53.000	53.000
0042	502.0100	Concrete Masonry Bridges	CY	1,000.000	1,000.000
0044	502.3100	Expansion Device (structure) 01. B-59-64	LS	1.000	1.000
0046	502.3200	Protective Surface Treatment	SY	2,865.000	2,865.000
0048	502.4205	Adhesive Anchors No. 5 Bar	EACH	766.000	766.000
0050	505.0600	Bar Steel Reinforcement HS Coated Structures	LB	253,700.000	253,700.000
0052	506.2610	Bearing Pads Elastomeric Laminated	EACH	16.000	16.000
0054	506.4000	Steel Diaphragms (structure) 01. B-59-64	EACH	28.000	28.000
0056	506.7050.S	Removing Bearings (structure) 01. B-59-64	EACH	16.000	16.000
0058	509.1500	Concrete Surface Repair	SF	90.000	90.000
0060	511.1200	Temporary Shoring (structure) 01. B-59-64	SF	20.000	20.000
0062	513.7016	Railing Steel Type C3	LF	866.000	866.000
0064	514.0445	Floor Drains Type GC	EACH	8.000	8.000
0066	514.2625	Downspout 6-Inch	LF	50.000	50.000
0068	516.0500	Rubberized Membrane Waterproofing	SY	56.000	56.000
0070	517.1010.S	Concrete Staining (structure) 01. B-59-64	SF	5,703.000	5,703.000
0072	517.1050.S	Architectural Surface Treatment (structure) 01. B-59-64	SF	3,898.000	3,898.000
0074	601.0452	Concrete Curb & Gutter Integral 30-Inch Type D	LF	307.000	307.000

Estimate Of Quantities

4996-25-71

Line	Item	Item Description	Unit	Total	Qty
0076	602.0410	Concrete Sidewalk 5-Inch	SF	3,912.000	3,912.000
0078	604.0600	Slope Paving Select Crushed Material	SY	200.000	200.000
0080	606.0300	Riprap Heavy	CY	94.000	94.000
0082	608.0312	Storm Sewer Pipe Reinforced Concrete Class III 12-Inch	LF	90.000	90.000
0084	611.0530	Manhole Covers Type J	EACH	1.000	1.000
0086	611.2004	Manholes 4-FT Diameter	EACH	1.000	1.000
0088	611.8110	Adjusting Manhole Covers	EACH	2.000	2.000
0090	611.8115	Adjusting Inlet Covers	EACH	2.000	2.000
0092	616.0206	Fence Chain Link 6-FT	LF	30.000	30.000
0094	616.0700.S	Fence Safety	LF	250.000	250.000
0096	618.0100	Maintenance And Repair of Haul Roads (project) 01. 4996-25-01	EACH	1.000	1.000
0098	619.1000	Mobilization	EACH	1.000	1.000
0100	624.0100	Water	MGAL	14.400	14.400
0102	625.0100	Topsoil	SY	70.000	70.000
0104	628.1504	Silt Fence	LF	494.000	494.000
0106	628.1520	Silt Fence Maintenance	LF	494.000	494.000
0108	628.1905	Mobilizations Erosion Control	EACH	4.000	4.000
0110	628.1910	Mobilizations Emergency Erosion Control	EACH	2.000	2.000
0112	628.2006	Erosion Mat Urban Class I Type A	SY	70.000	70.000
0114	628.6005	Turbidity Barriers	SY	244.000	244.000
0116	628.7015	Inlet Protection Type C	EACH	5.000	5.000
0118	628.7570	Rock Bags	EACH	25.000	25.000
0120	629.0205	Fertilizer Type A	CWT	0.050	0.050
0122	630.0140	Seeding Mixture No. 40	LB	2.000	2.000
0124	630.0200	Seeding Temporary	LB	2.000	2.000
0126	634.0818	Posts Tubular Steel 2x2-Inch X 18-FT	EACH	1.000	1.000
0128	637.2230	Signs Type II Reflective F	SF	49.500	49.500
0130	638.2102	Moving Signs Type II	EACH	5.000	5.000
0132	638.2602	Removing Signs Type II	EACH	11.000	11.000
0134	642.5201	Field Office Type C	EACH	1.000	1.000
0136	643.0420	Traffic Control Barricades Type III	DAY	5,148.000	5,148.000
0138	643.0705	Traffic Control Warning Lights Type A	DAY	10,296.000	10,296.000
0140	643.0900	Traffic Control Signs	DAY	22,968.000	22,968.000
0142	643.0920	Traffic Control Covering Signs Type II	EACH	10.000	10.000
0144	643.1000	Traffic Control Signs Fixed Message	SF	70.000	70.000
0146	643.5000	Traffic Control	EACH	1.000	1.000
0148	645.0120	Geotextile Type HR	SY	200.000	200.000
0150	646.1020	Marking Line Epoxy 4-Inch	LF	3,226.000	3,226.000

Estimate Of Quantities

4996-25-71

Line	Item	Item Description	Unit	Total	Qty
0152	646.3545	Marking Line Grooved Wet Ref Contrast Epoxy 8-Inch	LF	125.000	125.000
0154	646.5020	Marking Arrow Epoxy	EACH	6.000	6.000
0156	646.5120	Marking Word Epoxy	EACH	5.000	5.000
0158	646.7420	Marking Crosswalk Epoxy Transverse Line 6-Inch	LF	320.000	320.000
0160	650.4000	Construction Staking Storm Sewer	EACH	1.000	1.000
0162	650.4500	Construction Staking Subgrade	LF	220.000	220.000
0164	650.6500	Construction Staking Structure Layout (structure) 01. B-59-64	LS	1.000	1.000
0166	650.7000	Construction Staking Concrete Pavement	LF	220.000	220.000
0168	650.8500	Construction Staking Electrical Installations (project) 01. 4996-25-71	LS	1.000	1.000
0170	650.9910	Construction Staking Supplemental Control (project) 01. 4996-25-71	LS	1.000	1.000
0172	650.9920	Construction Staking Slope Stakes	LF	220.000	220.000
0174	652.0110	Conduit Rigid Metallic 1-Inch	LF	45.000	45.000
0176	652.0125	Conduit Rigid Metallic 2-Inch	LF	208.000	208.000
0178	652.0135	Conduit Rigid Metallic 3-Inch	LF	130.000	130.000
0180	652.0210	Conduit Rigid Nonmetallic Schedule 40 1-Inch	LF	198.000	198.000
0182	652.0225	Conduit Rigid Nonmetallic Schedule 40 2-Inch	LF	1,730.000	1,730.000
0184	652.0235	Conduit Rigid Nonmetallic Schedule 40 3-Inch	LF	708.000	708.000
0186	652.0615	Conduit Special 3-Inch	LF	130.000	130.000
0188	653.0220	Junction Boxes 18x6x6-Inch	EACH	16.000	16.000
0190	653.0222	Junction Boxes 18x12x6-Inch	EACH	5.000	5.000
0192	654.0105	Concrete Bases Type 5	EACH	5.000	5.000
0194	655.0610	Electrical Wire Lighting 12 AWG	LF	1,760.000	1,760.000
0196	655.0615	Electrical Wire Lighting 10 AWG	LF	10,208.000	10,208.000
0198	655.0625	Electrical Wire Lighting 6 AWG	LF	2,628.000	2,628.000
0200	657.0322	Poles Type 5-Aluminum	EACH	8.000	8.000
0202	657.6005	Anchor Assemblies Light Poles on Structures	EACH	3.000	3.000
0204	690.0250	Sawing Concrete	LF	222.000	222.000
0206	715.0415	Incentive Strength Concrete Pavement	DOL	546.900	546.900
0208	715.0502	Incentive Strength Concrete Structures	DOL	6,000.000	6,000.000
0210	999.1500.S	Crack and Damage Survey	LS	1.000	1.000
0212	ASP.1T0A	On-the-Job Training Apprentice at \$5.00/HR	HRS	2,000.000	2,000.000
0214	ASP.1T0G	On-the-Job Training Graduate at \$5.00/HR	HRS	1,320.000	1,320.000
0216	SPV.0060	Special 30. Sanitary Manhole 4-Ft	EACH	1.000	1.000
0218	SPV.0060	Special 31. Sanitary Manhole 6-Ft Dog House Outside Drop	EACH	1.000	1.000
0220	SPV.0060	Special 32. Sanitary Manhole Covers Type J Special	EACH	2.000	2.000
0222	SPV.0060	Special 33. Internal Chimney Seal	EACH	2.000	2.000
0224	SPV.0060	Special 40. Adjusting Water Valve Box	EACH	1.000	1.000

Estimate Of Quantities

4996-25-71

Line	Item	Item Description	Unit	Total	Qty
0226	SPV.0060	Special 51. Clean and Coat Concrete Beam Ends	EACH	16.000	16.000
0228	SPV.0060	Special 52. Embedded Galvanic Anodes	EACH	45.000	45.000
0230	SPV.0060	Special 81. Removing Light Poles Arms & Luminaires	EACH	17.000	17.000
0232	SPV.0060	Special 82. Removing Navigation Lights	EACH	10.000	10.000
0234	SPV.0060	Special 83. Removing Underdeck Lights	EACH	2.000	2.000
0236	SPV.0060	Special 84. Lamp Disposal High Intensity Discharge	EACH	17.000	17.000
0238	SPV.0060	Special 85. Luminaire Utility LED Type E	EACH	8.000	8.000
0240	SPV.0060	Special 86. Luminaire Utility LED Type F and Pole	EACH	4.000	4.000
0242	SPV.0060	Special 87. Luminaire Utility LED Type G	EACH	8.000	8.000
0244	SPV.0060	Special 88. Luminaire Utility LED Type H	EACH	1.000	1.000
0246	SPV.0060	Special 89. Luminaire Utility LED Type I	EACH	2.000	2.000
0248	SPV.0060	Special 90. Polymer Concrete Pull Box	EACH	2.000	2.000
0250	SPV.0090	Special 01. Railing Steel Pedestrian Type C3	LF	147.000	147.000
0252	SPV.0090	Special 02. Concrete Curb & Gutter Integral 30-Inch Type D 4-Inch Head	LF	304.000	304.000
0254	SPV.0090	Special 30. PVC Sanitary Sewer 12-Inch	LF	120.000	120.000
0256	SPV.0090	Special 81. Navigation Light Power Cable	LF	905.000	905.000
0258	SPV.0105	Special 50. Crack and Damage Survey-Modular Block Wall	LS	1.000	1.000
0260	SPV.0105	Special 51. Stairs Protection	LS	1.000	1.000
0262	SPV.0165	Special 01. Removing Brick Pavers	SF	200.000	200.000
0264	SPV.0165	Special 50. Fiber Wrap Reinforcing Non-Structural	SF	130.000	130.000
0266	SPV.0165	Special 51. PPC Beam Surface Repair	SF	32.000	32.000
0268	SPV.0180	Special 50. Clean Abutment Seat	SY	14.000	14.000
0270	SPV.0195	Special 001. Excavation, Hauling and Disposal of PCB Contaminated Soil	TON	237.000	237.000

REMOVING PAVEMENT

				204.0100 REMOVING PAVEMENT SY
STATION	-	STATION	OFFSET	LOCATION
101+23	-	103+36	RL	PENN AVE
107+35	-	108+54	RL	PENN AVE
PROJECT 4996-25-71 TOTAL				2,124

REMOVING FENCE

				204.0170 REMOVING FENCE LF	NOTE
STATION	-	STATION	OFFSET	LOCATION	
101+70	-	103+17	LT	PENN AVE	147
103+39	-	103+69	RT	PENN AVE	30
PROJECT 4996-25-71 TOTAL				177	UNDER BRIDGE

FINISHING ROADWAY

		213.0100 FINISHING ROADWAY PROJECT ID 4996-25-71 EACH
LOCATION		
PROJECT 4996-25-71		1
PROJECT 4996-25-71 TOTAL		1

REMOVING STORM SEWER

					204.0245.01 REMOVING STORM SEWER 12-INCH
STATION	OFFSET	-	STATION	OFFSET	LOCATION
107+60	25' RT	-	107+61	25' LT	PENN AVE
107+61	25' LT	-	108+01	35' LT	PENN AVE
PROJECT 4996-25-71 TOTAL					90

REMOVING SIDEWALK

				204.0155 REMOVING SIDEWALK SY	SPV.0165.01 REMOVING BRICK PAVERS SF
STATION	-	STATION	OFFSET	LOCATION	
101+23	-	103+36	LT	PENN AVE	161
101+74	-	103+36	RT	PENN AVE	138
107+35	-	108+34	RT	PENN AVE	57
107+35	-	108+54	LT	PENN AVE	96
PROJECT 4996-25-71 TOTAL				452	200

AGGREGATE ITEMS

			305.0120 BASE AGGREGATE DENSE 1 1/4-INCH TON
STATION		OFFSET	LOCATION
101+23	-	103+36	RL
107+35	-	108+54	RL
UNDISTRIBUTED			159
PROJECT 4996-25-71 TOTAL			1,744

CONCRETE PAVEMENT ITEMS

		415.0900 CONCRETE PAVEMENT 9-INCH SY	415.0410 CONCRETE PAVEMENT APPROACH SLAB SY	416.0170 CONCRETE DRIVEWAY 7-INCH SY	416.0610 DRILLED TIE BARS EACH	416.0620 DRILLED DOWEL BARS EACH
STATION	OFFSET	LOCATION				
101+23	-	103+36	RL	PENN AVE	1,189	--
103+21	-	103+36	RL	PENN AVE	--	70
107+35	-	107+50	RL	PENN AVE	--	70
107+35	-	108+54	RL	PENN AVE	634	--
108+38	-	108+54	RT	PENN AVE	--	34
PROJECT 4996-25-71 TOTAL					1,823	140

ALL ITEMS ARE CATEGORY 0010 UNLESS OTHERWISE SPECIFIED.

EARTHWORK SUMMARY										
From/To Station	Location	205.0100 Excavation Common (1)		Salvaged/ Unusable Pavement Material (2)	Available Material (3)	Expanded EBS Backfill (4)	Unexpanded Fill	Expanded Fill (5)	Mass Ordinate +/- (6)	Waste
		Cut (2)	EBS Excavation			Factor 1.30		Factor 1.25		
101+42.00 to 108+53.73	PENNSYLVANIA AVENUE	933	0	575	358	0	0	0	358	358
	UNDISTRIBUTED	0	50	0	0	65	0	0	-65	-65
Grand Total		933	50	575	358	65	0	0	293	293
Total Excavation Common		983								

NOTES:

1) Common Excavation is the sum of the Cut and EBS Excavation columns.

2) Salvaged/Unsuable Pavement Material is included in Cut.

3) Available Material = Cut - Salvaged/Unusable Pavement Material

4) Expanded EBS Backfill expansion factor = 1.30. Expanded EBS Backfill = EBS Excavation * Expansion Factor

5) Expanded Fill expansion factor = 1.25. Expanded Fill = Unexpanded Fill * Expansion Factor

6) The Mass Ordinate + or - Qty calculated for the Division. Plus quantity indicates an excess of material within the Division. Minus indicates a shortage of material within the Division.

CONCRETE CURB & GUTTER

			601.0452	SPV.0090.02	
			CONCRETE CURB & GUTTER INTEGRAL 30-INCH TYPE D	CONCRETE CURB & GUTTER INTEGRAL 30-INCH TYPE D 4-INCH HEAD	
STATION	OFFSET	LOCATION	LF	LF	NOTE
101+23 - 101+85	LT	PENN AVE	66	--	
101+74 - 101+85	RT	PENN AVE	13	--	
101+85 - 103+35	LT	PENN AVE	--	152	INCLUDES TRANSITIONS
101+85 - 103+35	RT	PENN AVE	--	152	INCLUDES TRANSITIONS
103+35 - 103+37	LT	PENN AVE	2	--	
103+35 - 103+37	RT	PENN AVE	2	--	
107+35 - 108+33	LT	PENN AVE	102	--	
107+35 - 108+38	RT	PENN AVE	122	--	
PROJECT 4996-25-71 TOTAL			307	304	

CONCRETE PAVEMENT JOINT LAYOUT

		415.5110.S CONCRETE PAVEMENT JOINT LAYOUT
LOCATION		LS
PROJECT 4996-25-71		1
PROJECT 4996-25-71 TOTAL		1

CONCRETE SIDEWALK

		602.0410 CONCRETE SIDEWALK 5-INCH SF	
STATION	OFFSET	LOCATION	
101+23 - 103+36	LT	PENN AVE	1,380
101+74 - 103+36	RT	PENN AVE	1,369
107+35 - 108+33	LT	PENN AVE	547
107+35 - 108+38	RT	PENN AVE	616
PROJECT 4996-25-71 TOTAL			3,912

ALL ITEMS ARE CATEGORY 0010 UNLESS OTHERWISE SPECIFIED.

STORM SEWER PIPE

608.0312 STORM SEWER PIPE REINFORCED CONCRETE CLASS III 12-INCH										
STATION	OFFSET	STATION	OFFSET	LOCATION	FROM STR	TO STR	INLET ELEV	DISCH ELEV	PIPE SLOPE	LF
107+60	25' RT	- 107+61	25' LT	PENN AVE	IN-E2.1	IN-E2.1	603.46	603.88	0.88%	50
107+61	25' LT	- 108+01	35' LT	PENN AVE	IN-E2.2	MH-2.3	604.18	604.98	2.00%	40
PROJECT 4996-25-71 TOTAL										90

ADJUSTING COVERS

611.8110 ADJUSTING MANHOLE COVERS					611.8115 ADJUSTING INLET COVERS	
STRUCTURE NO.	STATION	OFFSET	LOCATION	PROPOSED RIM ELEVATION	EACH	EACH
MH-E1.1	103+12	23' RT	PENN AVE	593.73	1	--
IN-E2.1	107+60	26' RT	PENN AVE	607.12	--	1
IN-E2.2	107+61	26' LT	PENN AVE	607.15	--	1
MH-E3.1	107+99	16' RT	PENN AVE	608.54	1	--
PROJECT 4996-25-71 TOTAL					2	2

STORM SEWER STRUCTURES

611.0530 MANHOLES COVERS TYPE J								611.2004 MANHOLES 4-FT DIAMTER	
STRUCTURE NO.	STATION	OFFSET	LOCATION	RIM OR FLOW ELEV	INLET ELEV	STRUCTURE DEPTH	EACH	EACH	
MH-2.3	108+01	35' LT	PENN AVE	608.95	604.18	3.52	1	1	
PROJECT 4996-25-71 TOTAL							1	1	

MOBILIZATION

619.1000 MOBILIZATION	
LOCATION	EACH
PROJECT 4996-25-71	1
PROJECT 4996-25-71 TOTAL	1

FENCE

616.0206 FENCE CHAIN LINK 6-FT				616.0700.S FENCE SAFETY		SPV.0090.01 RAILING STEEL PEDESTRIAN TYPE C3		NOTE
STATION	OFFSET	LOCATION	LF	LF	LF	LF	LF	
101+70	- 103+17	39.5' LT	PENN AVE	--	--	147		
103+39	- 103+69	32' RT	PENN AVE	30	--	--		Under Bridge
UNDISTRIBUTED				--	250	--		
PROJECT 4996-25-71 TOTAL				30	250	147		

WATER

624.0100 WATER MGAL	
LOCATION	
AGGREGATE COMPACTION	3.5
EARTHWORK COMPACTION	3.7
DUST CONTROL	7.2
PROJECT 4996-25-71 TOTAL	14.4

ALL ITEMS ARE CATEGORY **0010** UNLESS OTHERWISE SPECIFIED.

RESTORATION							
			625.0100 TOPSOIL	628.2006 EROSION MAT URBAN CLASS I TYPE A	629.0205 FERTILIZER TYPE A	630.0140 SEEDING MIXTURE NO. 40	630.0200 SEEDING TEMPORARY
STATION	OFFSET	LOCATION	SY	SY	CWT	LB	LB
107+35 - 108+54	RL	PENN AVE	56	56	0.04	1.0	1.5
UNDISTRIBUTED			14	14	0.01	1.0	0.5
PROJECT 4996-25-71 TOTAL			70	70	0.05	2.0	2.0

SILT FENCE				
			628.1504 SILT FENCE	628.1520 SILT FENCE MAINTENANCE
STATION	OFFSET	LOCATION	LF	LF
101+70 - 103+45	LT/RT	PENN AVE	175	175
107+05 - 107+80	LT/RT	PENN AVE	150	150
107+60 - 108+30	LT	PENN AVE	70	70
UNDISTRIBUTED			99	99
PROJECT 4996-25-71 TOTAL			494	494

MOBILIZATIONS EROSION CONTROL		
		628.1905 MOBILIZATIONS EROSION CONTROL
		628.1910 MOBILIZATIONS EMERGENCY EROSION CONTROL
LOCATION	EACH	EACH
UNDISTRIBUTED	4	2
PROJECT 4996-25-71 TOTAL		4

ROCK BAGS	
LOCATION	628.7570 ROCK BAGS EACH
UNDISTRIBUTED	25
PROJECT 4996-25-71 TOTAL	

INLET PROTECTION			
			628.7015 INLET PROTECTION TYPE C
STATION	OFFSET	LOCATION	EACH
101+20	25' LT	PENN AVE	1
101+68	25' RT	PENN AVE	1
107+60	25' RT	PENN AVE	1
107+60	25' LT	PENN AVE	1
UNDISTRIBUTED			1
PROJECT 4996-25-71 TOTAL			5

TURBIDITY BARRIER			
			628.6005 TURBIDITY BARRIER
STATION	OFFSET	LOCATION	SY
103+45 - 103+85	RT	PENN AVE	244
PROJECT 4996-25-71 TOTAL			244

ALL ITEMS ARE CATEGORY 0010 UNLESS OTHERWISE SPECIFIED.

PERMANENT SIGNING

		634.0818			637.2230		
		POSTS TUBULAR			SIGNS		
		STEEL 2X2-INCH			TYPE II		
		X 18-FT			REFLECTIVE F		
SIGN NO.	SIGN CODE	W	x	H	EACH	SF	NOTE
P301	R7-108	18	x	24	--	3.00	On new light pole
P302	R8-52	24	x	30	--	5.00	On new light pole
P303	R3-8A	36	x	30	--	7.50	On new light pole
P304	W11-1	30	x	30	1	6.25	
P305	W16-9P	24	x	12	--	2.00	On post with P304
P306	R3-8A	36	x	30	--	7.50	On new light pole
P307	R7-1D	18	x	24	--	3.00	On new light pole
P308	R8-52	24	x	30	--	5.00	On new light pole
P309	R7-108	18	x	24	--	3.00	On new light pole
P310	R14-1	24	x	18	--	3.00	On new light pole
P311	ARROWS	21	x	21	--	3.06	On new light pole
PROJECT 4996-25-71 TOTAL					1	48.31	

MOVING SIGNS

		638.2102 MOVING SIGNS TYPE II		NOTE
SIGN NO.	MESSAGE	EACH		
M101	SNOW ROUTE	1		On new light pole
M102	COMMERCE ST	1		On new light pole
M103	PENNSYLVANIA AVE	1		On new light pole
M104	DANGER	1		On new light pole
M105	SNOW ROUTE	1		On new light pole
PROJECT 4996-25-71 TOTAL		5		

REMOVING SIGNS

		638.2602 REMOVING SIGNS TYPE II	
SIGN NO.	SIGN CODE	EACH	
R201	R7-2D	1	
R202	R8-52	1	
R203	R3-8A	1	
R204	W11-1	1	
R205	BIKE XING	1	
R206	R3-8A	1	
R207	R7-1D	1	
R208	R8-52	1	
R209	R7-2D	1	
R210	R14-1	1	
R211	ARROWS	1	
PROJECT 4996-25-71 TOTAL		11	

FIELD OFFICE TYPE C

		642.5201 FIELD OFFICE TYPE C	
LOCATION		EACH	
PROJECT 4996-25-71		1	
PROJECT 4996-25-71 TOTAL		1	

TRAFFIC CONTROL COVERING SIGNS

643.0920 TRAFFIC CONTROL COVERING SIGNS TYPE II			
LOCATION	EACH	NUMBER OF CYCLES	NUMBER OF SIGNS
UNDISTRIBUTED	10	1	10
PROJECT 4996-25-71 TOTAL		10	

TRAFFIC CONTROL

		643.0420 TRAFFIC CONTROL BARRICADES TYPE III		643.0705 TRAFFIC CONTROL WARNING LIGHTS TYPE A		643.0900 TRAFFIC CONTROL SIGNS		643.1000 TRAFFIC CONTROL FIXED MESSAGE SIGNS		643.5000 TRAFFIC CONTROL
LOCATION	DURATION DAYS	EACH	DAYS	EACH	DAYS	EACH	DAYS	SF		EACH
PROJECT 4996-25-71	180	26	4,680	52	9,360	116	20,880	70.0	--	--
UNDISTRIBUTED			468		936		2,088	--		1
PROJECT 4996-25-71 TOTAL			5,148		10,296		22,968	70.0		1

ALL ITEMS ARE CATEGORY 0010 UNLESS OTHERWISE SPECIFIED.

PAVEMENT MARKING												
STATION	LOCATION	646.1020		646.3545		646.5020		646.5120			646.7420	
		MARKING LINE EPOXY 4-INCH		MARKING LINE GROOVED		MARKING		MARKING			MARKING CROSSWALK	
		(WHITE)	(YELLOW)	(WHITE)	(WHITE)	(WHITE)	(TYPE 2)	(BIKE LANE)	(ONLY)	(BIKE)	(LANE)	(WHITE)
		LF	LF	LF	LF	LF	(WHITE)	(WHITE)	(WHITE)	(WHITE)	(WHITE)	LF
							EACH	EACH	EACH	EACH	EACH	
101+23 - 108+53	PENN AVE	1400	1460	300	66	125	2	4	1	2	2	320
PROJECT 4996-25-71 TOTAL		1,400	1,460	300	66	125	2	4	1	2	2	320

SAWCUTS

STATION	OFFSET	LOCATION	690.0250
			SAWING CONCRETE LF
101+23	LT	PENN AVE	19
101+23 - 101+42	LT	PENN AVE	19
101+42	LT/RT	PENN AVE	42
101+42 - 101+72	RT	PENN AVE	30
101+65 - 101+70	LT	PENN AVE	5
101+72 - 101+74	RT	PENN AVE	5
101+74	RT	PENN AVE	14
107+55 - 107+65	LT	PENN AVE	10
108+30 - 108+35	LT	PENN AVE	8
108+35	LT	PENN AVE	7
108+35 - 108+54	LT	PENN AVE	19
108+42 - 108+54	RT	PENN AVE	22
108+54	LT/RT	PENN AVE	22
PROJECT 4996-25-71 TOTAL			222

CONSTRUCTION STAKING

LOCATION	650.4000	650.4500	650.6500	650.7000	650.8500	650.9910	650.9920
	CAT 0010	CAT 0010	CAT 0020	CAT 0010	CAT 0010	CAT 0010	CAT 0010
	CONSTRUCTION	CONSTRUCTION	CONSTRUCTION	CONSTRUCTION	CONSTRUCTION	CONSTRUCTION	CONSTRUCTION
	STAKING	STAKING	STAKING	STAKING	STAKING	STAKING	STAKING
	STORM	SUBGRADE	STRUCTURE	CONCRETE	ELECTRICAL	SUPPLEMENTAL	SLOPE
	SEWER		LAYOUT	PAVEMENT	INSTALLATIONS	CONTROL	STAKES
			B-59-64		4996-25-71	4996-25-71	
	EACH	LF	LS	LF	LS	LS	LF
STA 0+79 - STA 1+53	--	84	--	84	--	--	84
STA 2+47 - STA 3+83	1	136	--	136	--	--	136
PROJECT 4198-05-71	--	--	1	--	1	1	--
PROJECT 4996-25-71 TOTAL	1	220	1	220	1	1	220

ALL ITEMS ARE CATEGORY 0010 UNLESS OTHERWISE SPECIFIED.

LIGHTING REMOVALS

		204.0195 REMOVAL OF CONCRETE BASES	SPV 0060.81 REMOVING LIGHT POLES ARMS & LUMINAIRES	SPV 0060.82 REMOVING NAVIGATION LIGHTS	SPV 0060.83 REMOVING UNDER DECK LIGHTS	SPV 0060.84 LAMP DISPOSAL HIGH INTENSITY DISCHARGE	REMARKS
IDENTIFICATION	STA	EACH	EACH	EACH	EACH	EACH	
UDL1	STA. 107+14.42, 13.06' LT	--	--	--	1	--	
UDL2	STA. 107+14.42, 13.06' LT	--	--	--	1	--	
D8	STA. 108+24.42, 30.43'RT	1	1	--	--	1	
S5	STA. 107+82.70, 34.63' LT	1	1	--	--	1	
N10	STA. 106+76.47, 33.17' RT	--	--	1	--	--	
N9	STA. 106+54.13, 33.17' RT	--	--	1	--	--	
N8	STA. 106+35.13, 33.17' RT	--	--	1	--	--	
N7	STA. 105+36.13, 33.17' RT	--	--	1	--	--	
N6	STA. 104+37.13, 33.17' RT	--	--	1	--	--	
N5	STA. 106+76.47, 33.17' LT	--	--	1	--	--	
N4	STA. 106+55.24, 33.17' LT	--	--	1	--	--	
N3	STA. 106+35.13, 33.17' LT	--	--	1	--	--	
N2	STA. 105+36.13, 33.17' LT	--	--	1	--	--	
N1	STA. 104+37.13, 33.17' LT	--	--	1	--	--	
S10	STA. 101+23.83, 29.53' LT	1	1	--	--	1	
D1	STA. 101+84.56, 34.61' LT	1	1	--	--	1	
S2	STA. 102+57.25, 34.83' LT	1	1	--	--	1	
D2	STA.103+22.50, 29.16' LT	1	1	--	--	1	
S6	STA. 101+84.56, 26.60' RT	1	1	--	--	1	
D5	STA. 102+57.25, 35.22' RT	1	1	--	--	1	
S7	STA. 103+24.21, 28.82' RT	1	1	--	--	1	
S3	STA. 104+14.07, 33.82' LT	--	1	--	--	1	
D3	STA. 105+5.84, 33.82' LT	--	1	--	--	1	
S4	STA. 105+94.94, 33.84' LT	--	1	--	--	1	
D4	STA. 106+88.02, 33.85' LT	--	1	--	--	1	
D6	STA. 104+14.08, 33.78' RT	--	1	--	--	1	
S8	STA. 105+6.29, 33.81' RT	--	1	--	--	1	
D7	STA. 105+94.88, 33.77' RT	--	1	--	--	1	
S9	STA. 106+88.19, 33.79' RT	--	1	--	--	1	
TOTAL		9	17	10	2	17	

TEMPORARY NAVIGATION LIGHTING CABLE

		652.0210* CONDUIT RIGID NONMETALLIC SCHEDULE 40 1 -INCH	655.0615* ELECTRICAL WIRE LIGHTING 10 AWG	SPV.0090.81 NAVIGATION LIGHT POWER CABLE	
FROM	TO	LF	LF	LF	REMARKS
CABINET 51	EAST ABUTMENT	123	520	--	
EAST ABUTMENT	D-51-1**	--	--	107	
D-51-1**	D-51-2**	--	--	42	
D-51-2**	D-51-3**	--	--	42	
D-51-3**	D-51-4**	--	--	132	
D-51-4**	D-51-5**	--	--	132	
D-51-3**	C-51-3**	--	--	102	
C-51-3**	C-51-2**	--	--	42	
C-51-2**	C-51-1**	--	--	42	
C-51-3**	C-51-4**	--	--	132	
C-51-4**	C-51-5**	--	--	132	
TOTALS		123	520	905	

* = ADDITIONAL QUANTITIES SHOWN ELSEWHERE
** = IDENTIFICATION SEQUENCE IDENTIFIES FIXTURE LOCATION AS SHOWN IN FINAL NAVIGATION LIGHTING PLAN & QUANTITIES.

LIGHTING AND MISCELLANEOUS - FINAL STREET & NAVIGATION LIGHTING

DESCRIPTION	LOCATION	654.0105	655.0610	657.0322	SPV.0060.85	SPV.0060.86	SPV.0060.87	SPV.0060.88	SPV.0060.89	SPV.0060.90	REMARKS
		CONCRETE	ELECTRICAL	POLES	LUMINAIRE	LUMINAIRE	LUMINAIRE	LUMINAIRE	LUMINAIRE	POLYMER	
		BASES	WIRE	TYPE 5-	UTILITY	UTILITY	UTILITY	UTILITY	UTILITY	CONCRETE	
		TYPE 5	LIGHTING	ALUMINUM	LED	LED	LED	LED	LED	PULL BOX	
		EACH	LF	EACH	EACH	AND POLE	EACH	EACH	EACH	EACH	
						EACH					
A-50-1	STA. 101+23.83, 29.53' LT	1	160	1	1	--	--	--	--	--	STREET
B-50-1	STA. 101+84.56, 34.61' LT	--	120	--	--	1	--	--	--	--	STREET
A-50-2	STA. 102+57.25, 34.83' LT	1	160	1	1	--	--	--	--	--	STREET
B-50-2	STA. 103+22.50, 29.16' LT	--	120	--	--	1	--	--	--	--	STREET
A-50-3	STA. 101+84.56, 26.60' RT	1	160	1	1	--	--	--	--	--	STREET
B-50-3	STA. 102+57.25, 35.22' RT	--	120	--	--	1	--	--	--	--	STREET
A-50-4	STA. 103+24.21, 28.82' RT	1	160	1	1	--	--	--	--	--	STREET
B-51-2	STA. 104+37.13, 32.58' RT	1	160	1	1	--	--	--	--	--	STREET
A-51-2	STA. 106+35.13, 32.58' RT	--	160	1	1	--	--	--	--	--	STREET
PB-51-1	STA. 107+62.79, 34.87' RT	--	--	--	--	--	--	--	--	1	
B-51-1	STA. 108+24.42, 30.43' RT	--	120	--	--	1	--	--	--	--	STREET
A-51-1	EXISTING NO WORK	--	--	--	--	--	--	--	--	--	STREET
PB-51-2	STA. 107+64.98, 35.08' LT	--	--	--	--	--	--	--	--	1	
A-51-4	35'-0" FROM ABUTMENT	--	--	--	--	--	--	1	--	--	UNDERDECK
B-51-3	STA. 105+36.13, 32.58' LT	--	160	1	1	--	--	--	--	--	STREET
A-51-3	STA. 107+82.70, 34.63' LT	--	160	1	1	--	--	--	--	--	STREET
C-51-1	STA. 106+76.47, 33.17' LT	--	--	--	--	--	1	--	--	--	NAVIGATION
C-51-2	STA. 106+55.24, 33.17' LT	--	--	--	--	--	--	--	1	--	NAVIGATION
C-51-3	STA. 106+35.13, 33.17' LT	--	--	--	--	--	1	--	--	--	NAVIGATION
C-51-4	STA. 105+36.13, 33.17' LT	--	--	--	--	--	1	--	--	--	NAVIGATION
C-51-5	STA. 104+37.13, 33.17' LT	--	--	--	--	--	1	--	--	--	NAVIGATION
D-51-1	STA. 106+76.47, 33.17' RT	--	--	--	--	--	1	--	--	--	NAVIGATION
D-51-2	STA. 106+54.13, 33.17' RT	--	--	--	--	--	--	--	1	--	NAVIGATION
D-51-3	STA. 106+35.13, 33.17' RT	--	--	--	--	--	1	--	--	--	NAVIGATION
D-51-4	STA. 105+36.13, 33.17' RT	--	--	--	--	--	1	--	--	--	NAVIGATION
D-51-5	STA. 104+37.13, 33.17' RT	--	--	--	--	--	1	--	--	--	NAVIGATION
TOTALS		5	1760	8	8	4	8	1	2	2	

ALL ITEMS ARE CATEGORY 0010 UNLESS OTHERWISE SPECIFIED.

PROJECT NUMBER: 4996-25-71	HWY: PENNSYLVANIA AVENUE	COUNTY: SHEBOYGAN	MISCELLANEOUS QUANTITIES	SHEET NO:	E
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LIGHTING - WIRE AND CONDUIT - FINAL STREET & NAVIGATION LIGHTING

		652.0110 CONDUIT RIGID METALLIC 1 -INCH	652.0210* CONDUIT RIGID NONMETALLIC SCHEDULE 40 1 -INCH	652.0225 CONDUIT RIGID NONMETALLIC SCHEDULE 40 2 -INCH	652.0615 CONDUIT SPECIAL 3 -INCH	655.0615* ELECTRICAL WIRE LIGHTING 10 AWG	655.0625 ELECTRICAL WIRE LIGHTING 6 AWG	
FROM	TO	LF	LF	LF	LF	LF	LF	REMARKS
CABINET #50	A-50-1	--	--	EXISTING	--	488	--	
A-50-1	B-50-1	--	--	65	--	288	--	
B-50-1	A-50-2	--	--	80	--	348	--	
A-50-2	B-50-2	--	--	75	--	246	--	
CABINET #50	PB-50-1	--	--	EXISTING	--	388	--	
PB-50-1	A-50-3	--	--	EXISTING	--	608	--	
A-50-3	B-50-3	--	--	85	--	368	--	
B-50-3	A-50-4	--	--	75	--	246	--	
CABINET #51	PB-51-1	--	--	--	130	1644	1096	NAV & ST LTG
PB-51-1	B-51-1	--	--	68	--	225	--	
PB-51-1	B-51-2	--	--	30	--	--	148	
PB-51-1	B-51-2	--	--	SM	--	--	528	
A-51-2	B-51-2	--	--	SM	--	636	--	
PB-51-1	PB-51-2	--	--	75	--	246	328	NAV & ST LTG
PB-51-2	A-51-3	--	--	25	--	96	128	NAV & ST LTG
A-51-3	WATER ST	--	--	10	--	--	400	RECONNECT
PB-51-2	B-51-3	--	--	40	--	141	--	
PB-51-2	B-51-3	--	--	SM	--	636	--	
PB-51-1	A-51-4	45	75	--	--	366	--	NOTE 1
PB-51-1	NAV D-51-1	--	--	30	--	111	--	
PB-51-1	NAV D-51-1	--	--	SM	--	231	--	
NAV D-51-1	NAV D-51-2	--	--	SM	--	111	--	
NAV D-51-2	NAV D-51-3	--	--	SM	--	111	--	
NAV D-51-3	NAV D-51-4	--	--	SM	--	336	--	
NAV D-51-4	NAV D-51-5	--	--	SM	--	336	--	
PB-51-1	PB-51-2	--	--	75	--	246	--	
PB-51-2	NAV C-51-1	--	--	30	--	111	--	
PB-51-2	NAV C-51-1	--	--	SM	--	231	--	
NAV C-51-1	NAV C-51-2	--	--	SM	--	111	--	
NAV C-51-2	NAV C-51-3	--	--	SM	--	111	--	
NAV C-51-3	NAV C-51-4	--	--	SM	--	336	--	
NAV C-51-4	NAV C-51-5	--	--	SM	--	336	--	
TOTAL		45	75	763	130	9688	2628	

* = ADDITIONAL QUANTITIES SHOWN ELSEWHERE
SM = STRUCTURAL MOUNT. SEE STRUCTURAL QUANTITIES.
NOTE 1: SEE SPV FOR TYPE H LUMINAIRE FOR RACEWAY SUPPORT

CRACK AND DAMAGE SURVEY

	999.1500.S	SPV.0105.50
	CRACK AND	CRACK AND
	DAMAGE	DAMAGE SURVEY
	SURVEY	MODULAR
		BLOCK WALL
LOCATION	LS	LS
1045 PENNSYLVANIA AVENUE	1	--
1054 PENNSYLVANIA AVENUE	--	1
PROJECT 4996-25-71 TOTAL	1	1

EXCAVATION, HUALING AND DISPOSAL OF CONTAMINATED

			205.0501.S	SPV.0195.01
			CAT 0030	CAT 0030
			EXCAVATION, HAULING	EXCAVATION, HAULING
			AND DISPOSAL OF	AND DISPOSAL OF
			PETROLEUM	POLYCHLORINATED
			CONTAMINATED SOIL	BIPHENY LES (PCB)
				CONTAMINATED SOIL
STATION	OFFSET	LOCATION	TON	TON
103+35 - 103+75	LT/RT	PENN AVE	--	160
107+00 - 107+35	LT/RT	PENN AVE	--	77
108+00 - 108+50	RT	PENN AVE	1.7	--
PROJECT 4996-25-71 TOTAL			1.7	237

SANITARY SEWER

					SPV.0060.30	SPV.0060.31	SPV.0060.32	SPV.0060.33	SPV.0090.30
					CAT 0030	CAT 0030	CAT 0030	CAT 0030	CAT 0030
					SANITARY	SANITARY MANHOLE	SANITARY MANHOLE	INTERNAL	PVC SANITARY
					MANHOLE	6-FT DOG HOUSE	COVERS TYPE J	CHIMNEY	SEWER
					4-FT	OUTSIDE DROP	SPECIAL	SEAL	12-INCH
STATION	OFFSET	STATION	OFFSET	LOCATION	PROPOSED RIM	EACH	EACH	EACH	LF
					ELEVATION				
101+90	10.5' RT			PENN AVE	589.16	1	--	1	--
101+90	10.5' RT -	103+08	11.5' LT	PENN AVE	--	--	--	--	120
103+08	11.5' LT			PENN AVE	593.83	--	1	1	--
PROJECT 4996-25-71 TOTAL						1	1	2	120

ABANDONING SANITARY SEWER

					204.0250	204.0291.S
					CAT 0030	CAT 0030
					ABANDONING	ABANDONING
					MANHOLES	SEWER
STATION	OFFSET	STATION	OFFSET	LOCATION	EACH	CY
101+90	10.5' RT -	103+19	29.0' RT	PENN AVE	--	3.8
103+19	29.0' RT			PENN AVE	1	--
103+19	29.0' RT -	103+42	51.6' RT	PENN AVE	--	0.9
PROJECT 4996-25-71 TOTAL					1	4.7

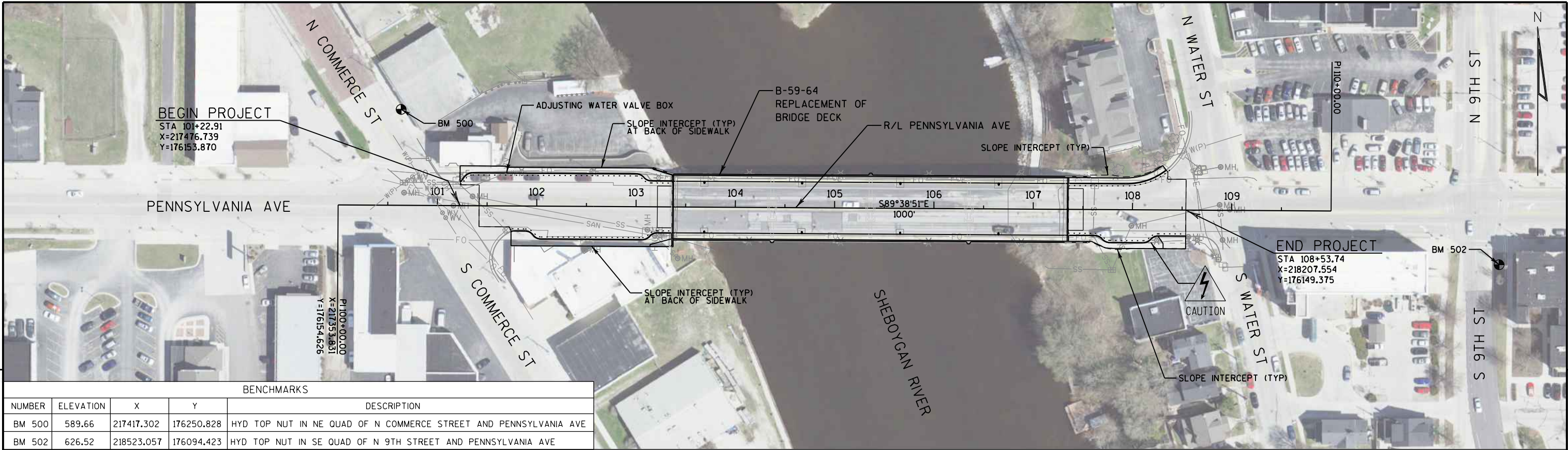
MAINTENANCE AND REPAIR OF
HAUL ROADS

	618.0100
	CAT 0030
	MAINTENANCE AND
	REPAIR OF HAUL ROADS
	PROJECT I.D. 4996-25-71
LOCATION	EACH
PROJECT 4996-25-71	1
PROJECT 4996-25-71 TOTAL	1

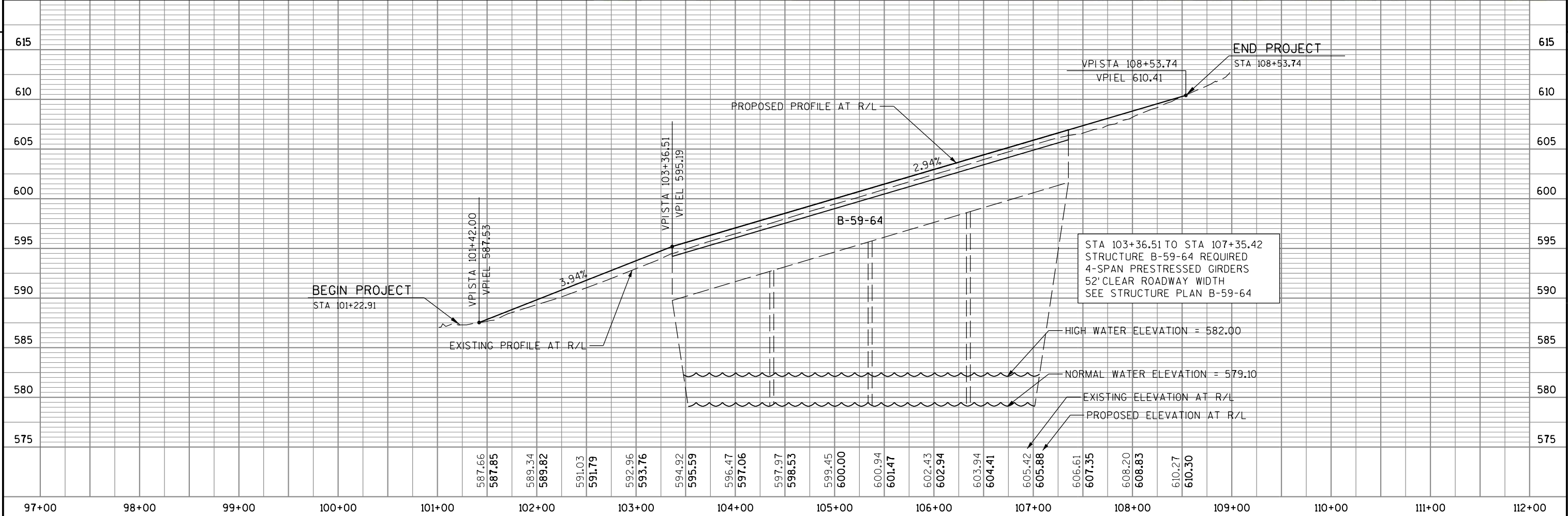
ADJUSTING WATER VALVE BOX

			SPV.0060.40
			CAT 0030
			ADJUSTING
			WATER
			VALVE BOX
STATION	OFFSET	LOCATION	EACH
101+69	33' LT	PENN AVE	1
PROJECT 4996-25-71 TOTAL			1

ALL ITEMS ARE CATEGORY 0010 UNLESS OTHERWISE SPECIFIED.

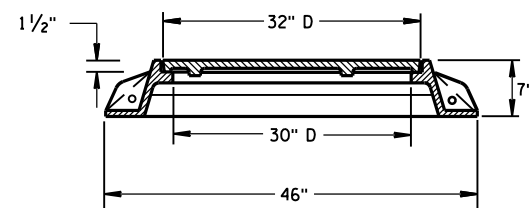
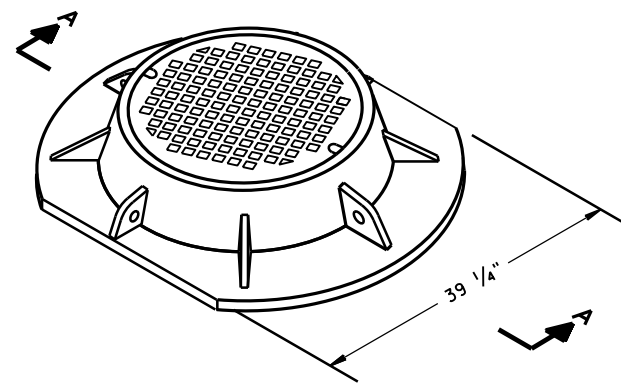


BENCHMARKS				
NUMBER	ELEVATION	X	Y	DESCRIPTION
BM 500	589.66	217417.302	176250.828	HYD TOP NUT IN NE QUAD OF N COMMERCE STREET AND PENNSYLVANIA AVE
BM 502	626.52	218523.057	176094.423	HYD TOP NUT IN SE QUAD OF N 9TH STREET AND PENNSYLVANIA AVE

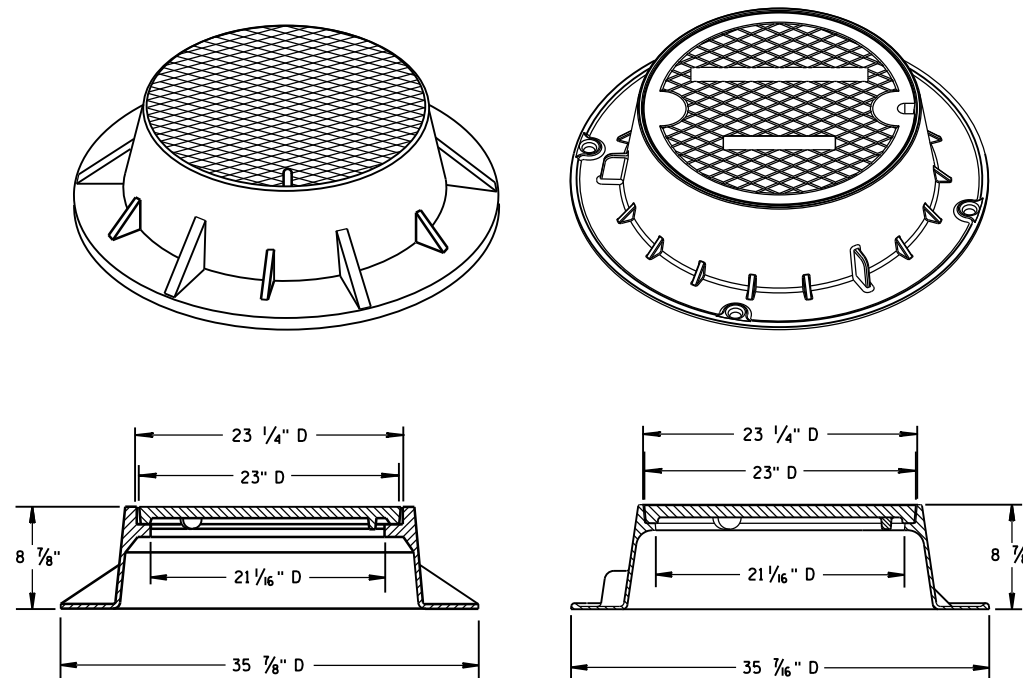


Standard Detail Drawing List

08A05-19D	INLET COVER TYPE BW, MANHOLE COVERS, TYPE K, J, J-S, L & M
08B09-02	MANHOLES 3-FT, 4-FT, 5-FT, 6-FT, 7-FT AND 8-FT DIAMETER
08D01-20A	CONCRETE CURB & GUTTER
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
09B02-10	CONDUIT
09C02-07	CONCRETE BASES, TYPES 1, 2, 5, & 6
09E01-14D	POLE MOUNTINGS FOR LIGHTING UNITS, TYPE 5 (30 FEET)
09E01-14G	HARDWARE DETAILS FOR POLE MOUNTINGS
10A01-03	ELECTRICAL HANDHOLE WIRING
12A03-10	NAME PLATE (STRUCTURES)
13B02-08A	CONCRETE PAVEMENT APPROACH SLAB
13C01-19	CONCRETE PAVEMENT LONGITUDINAL JOINTS AND TIES
13C18-06A	CONCRETE PAVEMENT JOINTING
13C18-06B	CONCRETE PAVEMENT STEEL REINFORCEMENT
13C18-06C	CONCRETE PAVEMENT JOINT TYPES
13C18-06D	CONCRETE PAVEMENT JOINT TYPES AT UTILITY FIXTURES
13C18-06F	CONCRETE PAVEMENT JOINTING AND STEEL REINFORCEMENT IN ROUNDABOUTS
15B03-15A	FENCE CHAIN LINK
15B03-15B	FENCE CHAIN LINK
15C02-06A	BARRICADES AND SIGNS FOR MAINLINE CLOSURES
15C02-06B	BARRICADES AND SIGNS FOR MAINLINE CLOSURES
15C02-06C	DETOUR SIGNING FOR MAINLINE CLOSURES
15C03-05	BARRICADES AND SIGNS FOR SIDEROAD CLOSURES
15C07-14A	PAVEMENT MARKING SYMBOLS
15C07-14B	PAVEMENT MARKING WORDS
15C07-14C	PAVEMENT MARKING ARROWS
15C07-14E	PAVEMENT MARKING FOR BIKE LANES
15C08-19A	LONGITUDINAL MARKING (MAINLINE)
15C08-19C	PAVEMENT MARKING (TURN LANES)
15C29-06A	BICYCLE LANE MARKING
15C33-03	STOP LINE AND CROSSWALK PAVEMENT MARKING
15D38-02A	TEMPORARY TRAFFIC CONTROL SIGN MOUNTING
15D38-02B	ATTACHMENT OF SIGNS TO POSTS

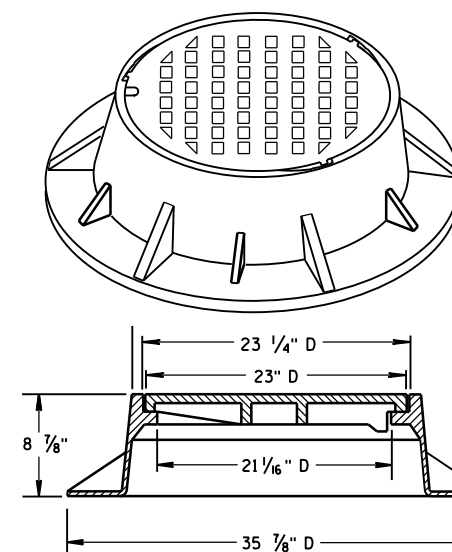
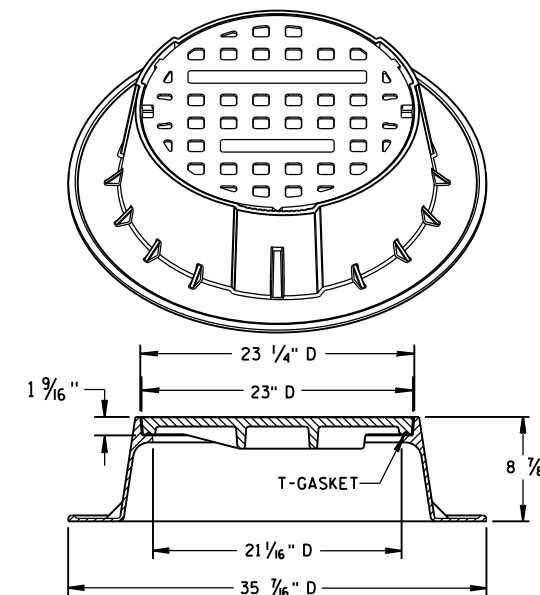


SECTION A-A
TYPE "K"



TYPE "J"

NOTE: EITHER CASTING IS ACCEPTABLE

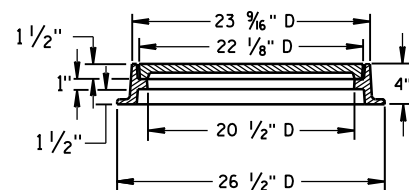
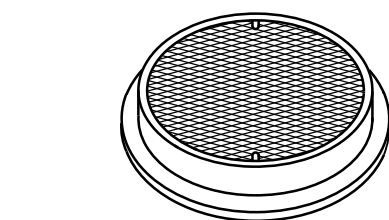


TYPE "J" SPECIAL

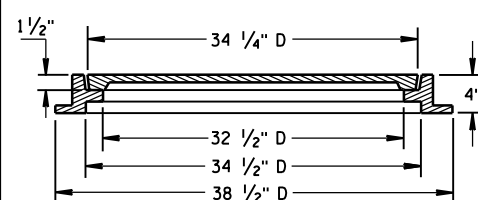
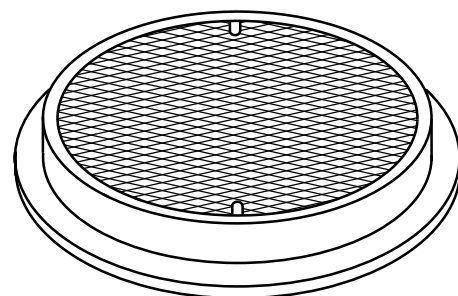
TYPE "B" NON-ROCKING SELF-SEAL LID

(NOTED AS TYPE J-S ON THE DRAINAGE TABLE)

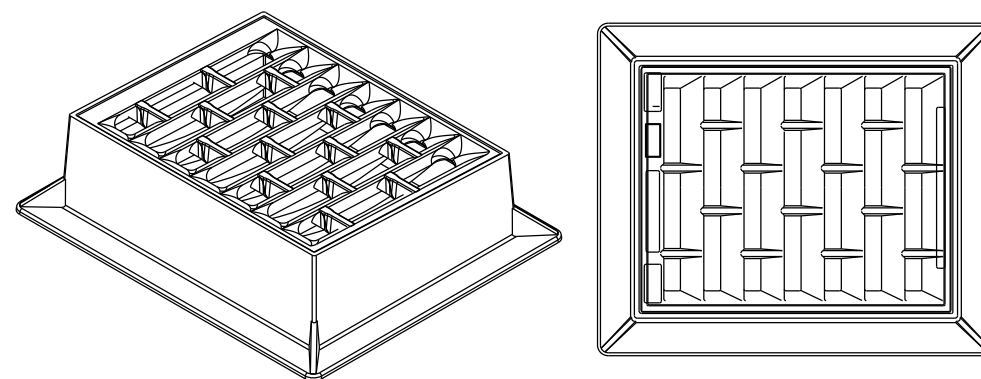
NOTE: EITHER CASTING IS ACCEPTABLE



TYPE "L"



TYPE "M"



INLET COVER TYPE "BW"

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.

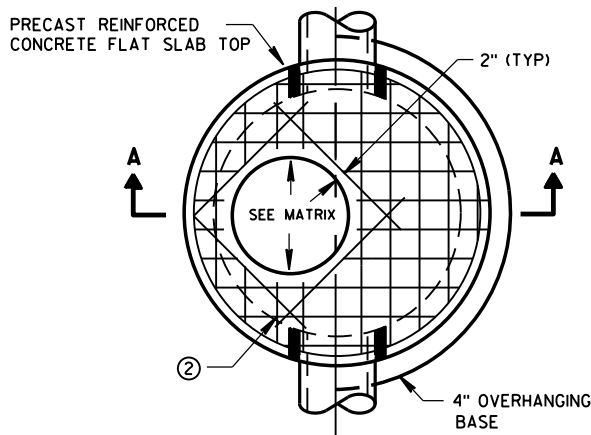
ROUND FRAMES AND COVERS SHALL HAVE CONTINUOUSLY MACHINED BEARING SURFACES TO PREVENT ROCKING AND RATTLING.

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

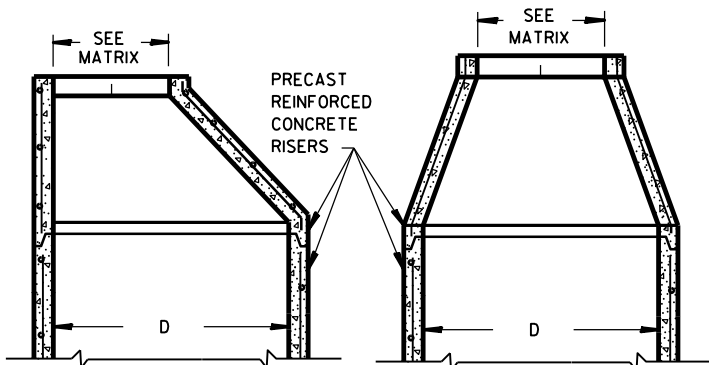
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
11/27/2013
DATE
FHWA

/S/ Jerry H. Zogg
ROADWAY STANDARDS DEVELOPMENT
ENGINEER

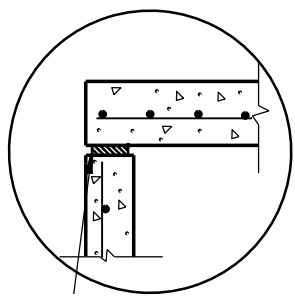


PLAN VIEW CIRCULAR OPENING

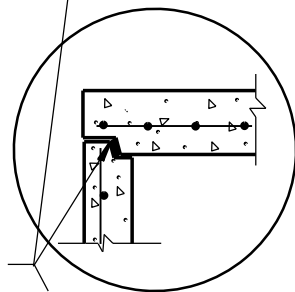


OPTIONAL PRECAST REINFORCED CONCRETE ECCENTRIC TOP

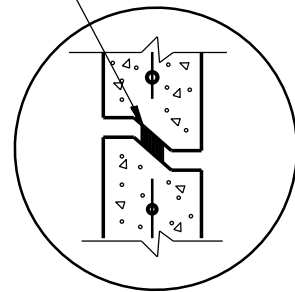
OPTIONAL PRECAST REINFORCED CONCRETE CONCENTRIC TOP



TOP WITH PLAIN END JOINT



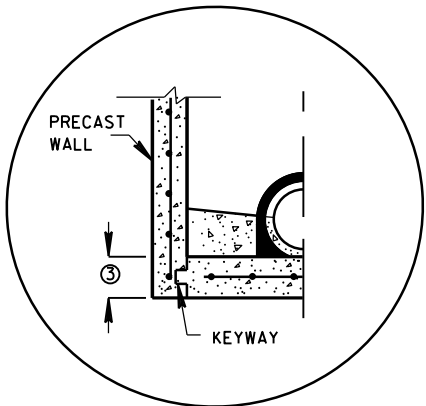
TOP WITH TONGUE AND GROOVE JOINT



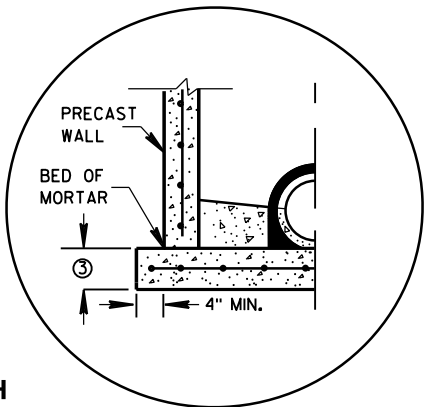
RISER WITH TONGUE AND GROOVE JOINT

DETAIL "B"

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

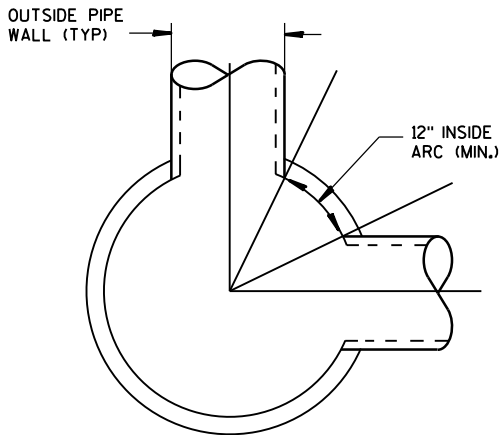


PRECAST REINFORCED CONCRETE WITH INTEGRAL BASE OPTION

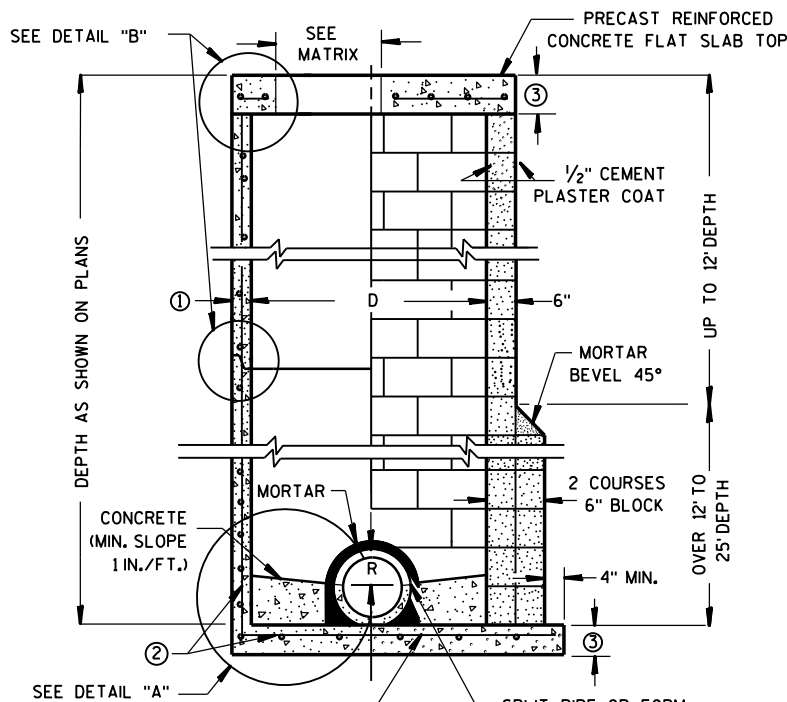


SEPARATE PRECAST REINFORCED CONCRETE BASE OPTION

DETAIL "A"



DETAIL "C"



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

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

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

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 FOUNDATION 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.

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 1/2" 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 PERMITTED 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

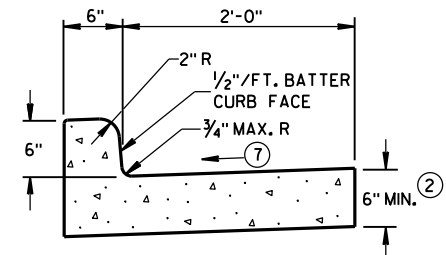
PIPE MATRIX

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

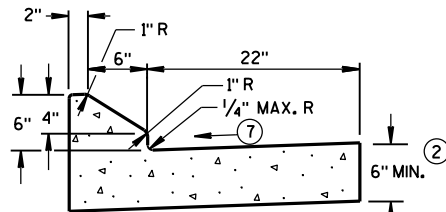
MANHOLES 3-FT, 4-FT, 5-FT, 6-FT, 7-FT AND 8-FT DIAMETER

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

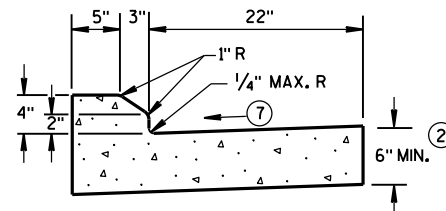
APPROVED
DATE: Sept., 2016
FOR: /S/ Rodney Taylor
ROADWAY STANDARDS DEVELOPMENT UNIT SUPERVISOR
FHWA



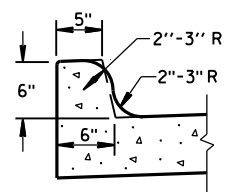
TYPES A^① & D



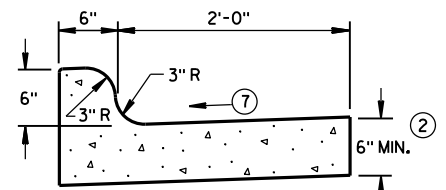
6" SLOPED CURB TYPES G^① & J



4" SLOPED CURB TYPES G^① & J

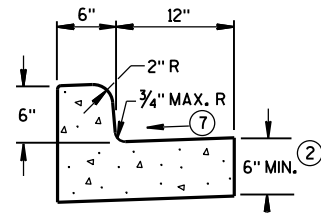


TYPES K^① & L
(OPTIONAL CURB SHAPE)



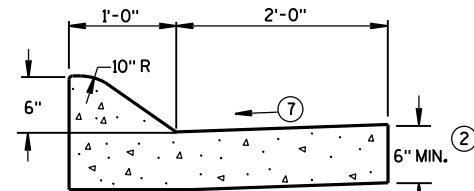
TYPES K^① & L

CONCRETE CURB & GUTTER 30"

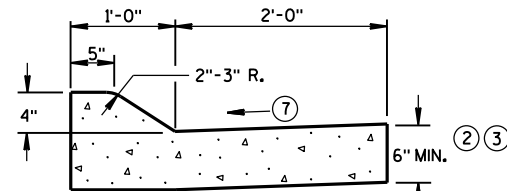


TYPES A^① & D

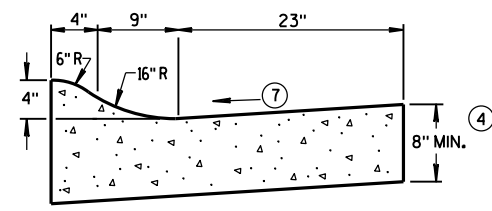
CONCRETE CURB & GUTTER 18"



6" SLOPED CURB TYPES A^① & D

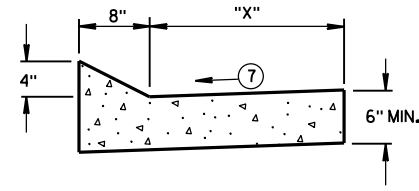


4" SLOPED CURB TYPES A^① & D



4" SLOPED CURB TYPES R^① & T^⑤

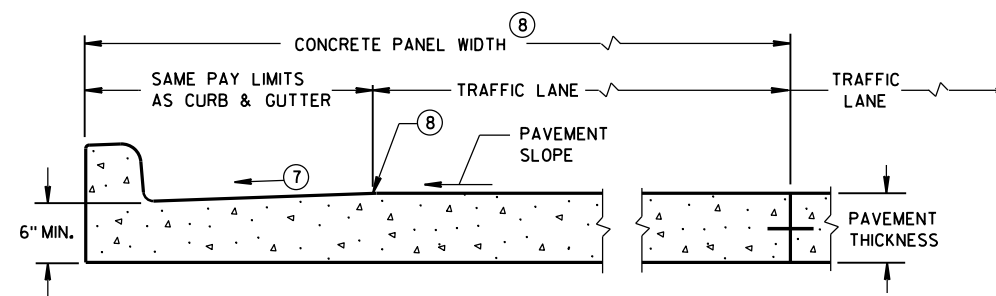
CONCRETE CURB & GUTTER 36"



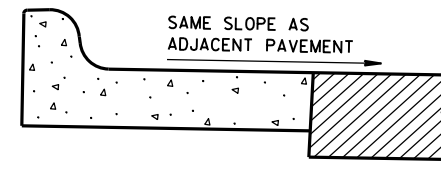
TYPES TBT & TBTT^①

CONCRETE CURB & GUTTER

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



PARTIAL SECTION OF PAVEMENT
WITH INTEGRAL CURB & GUTTER



REVERSE SLOPE GUTTER^⑥
(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.

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

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

- ① TIE BARS ARE REQUIRED FOR CURB AND GUTTER TYPES A, G, K, R AND TBTT.
- ② THE BOTTOM OF CURB AND GUTTER MAY BE CONSTRUCTED EITHER LEVEL OR PARALLEL TO THE SLOPE OF THE SUBGRADE OR BASE AGGREGATE PROVIDED A 6" MINIMUM GUTTER THICKNESS IS MAINTAINED.
- ③ USE 8" MINIMUM GUTTER THICKNESS WHEN USED WITH AN ADJACENT CONCRETE TRUCK APRON PLACED BEHIND BACK OF CURB.
- ④ 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.
- ⑤ THE FACE OF CURB IS 6" FROM THE BACK OF CURB.
- ⑥ WHEN REVERSE SLOPE GUTTER IS REQUIRED, THE LOCATION(S) WILL BE SHOWN ELSEWHERE IN THE PLAN.
- ⑦ USE 4% GUTTER CROSS SLOPE UNLESS OTHERWISE NOTED IN THE PLANS.
- ⑧ INCLUDE LONGITUDINAL JOINT AND TIE BARS ALONG LANE EDGE WHEN CONCRETE PANEL WIDTH EXCEEDS THE MAXIMUM WIDTH PER TABLE BELOW. LONGITUDINAL JOINT(S) ARE NOT ALLOWED WITHIN TRAFFIC LANES AND BIKE LANES. LONGITUDINAL JOINT MAY BE SAWED.

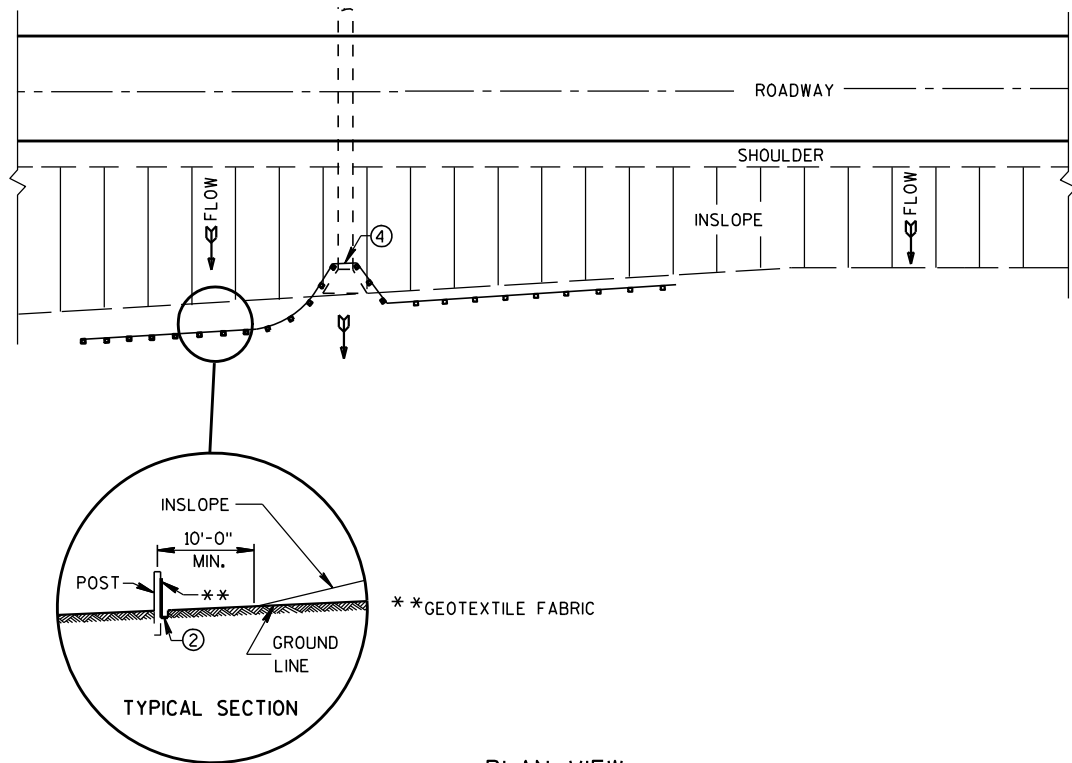
PAVEMENT THICKNESS AND MAXIMUM CONCRETE PANEL WIDTH TABLE

PAVEMENT THICKNESS	MAXIMUM PANEL WIDTH
LESS THAN 10"	12'
10" & ABOVE	15'

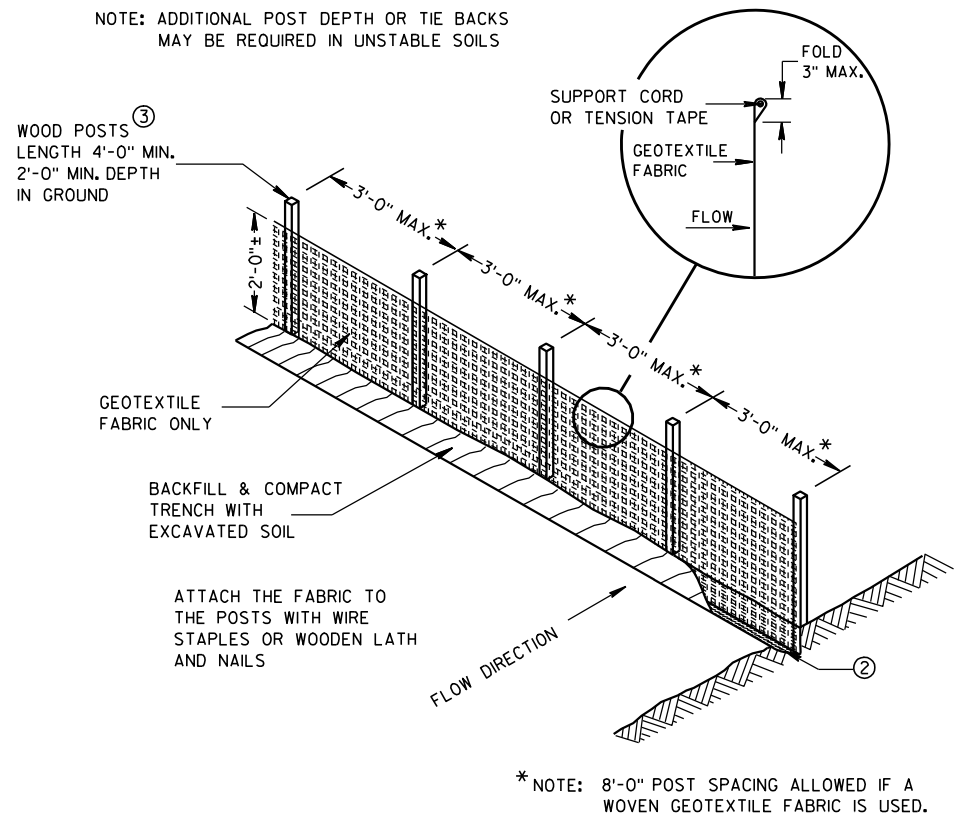
* BIKE LANE IS NOT SHOWN.

CONCRETE CURB & GUTTER

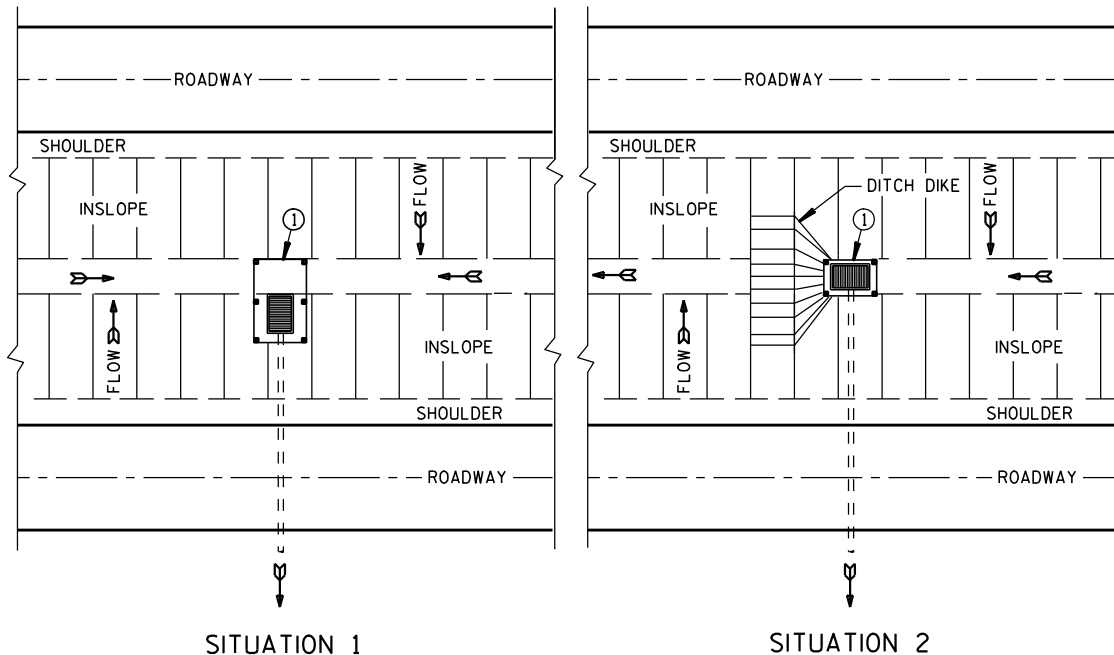
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



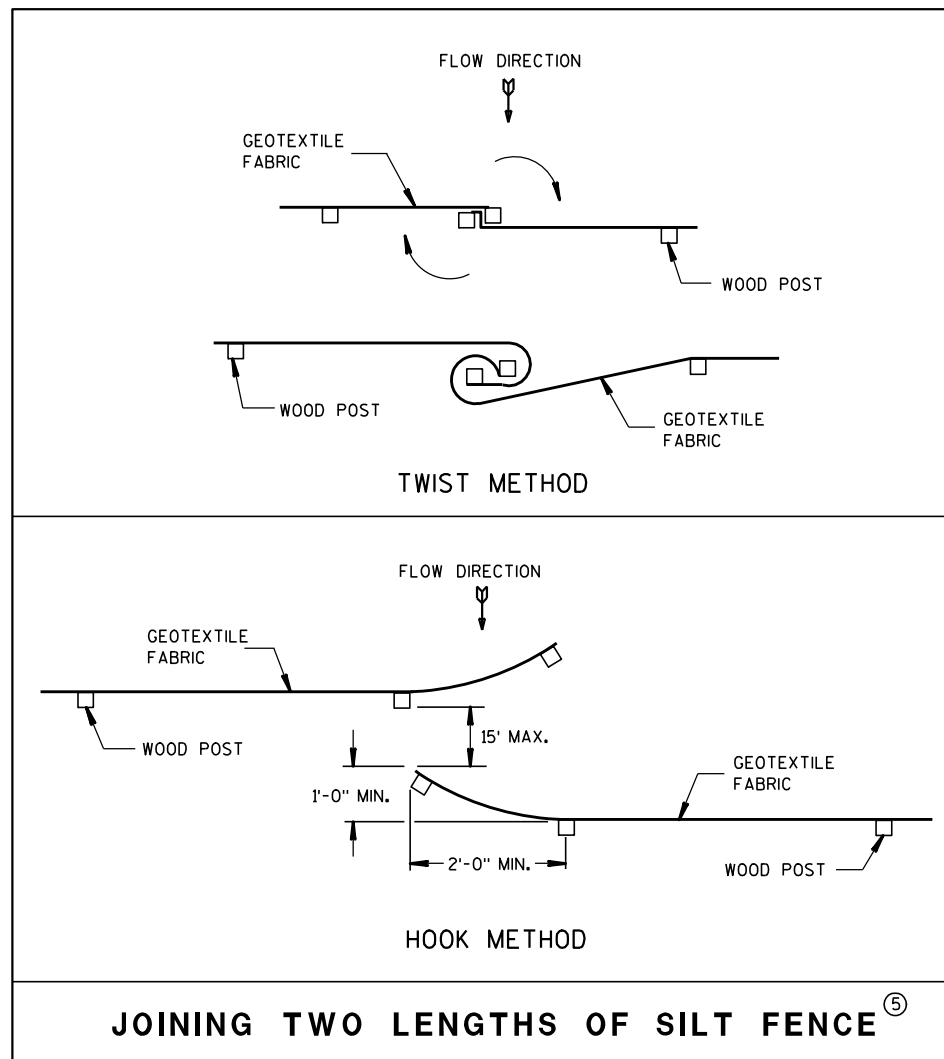
PLAN VIEW
TYPICAL APPLICATION OF SILT FENCE



SILT FENCE



PLAN VIEW
SILT FENCE AT MEDIAN SURFACE DRAINS

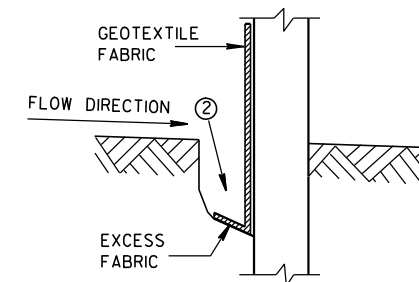


JOINING TWO LENGTHS OF SILT FENCE ⑤

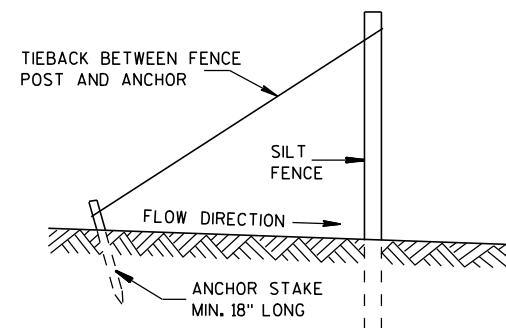
GENERAL NOTES

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 1 1/8" X 1 1/8" 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

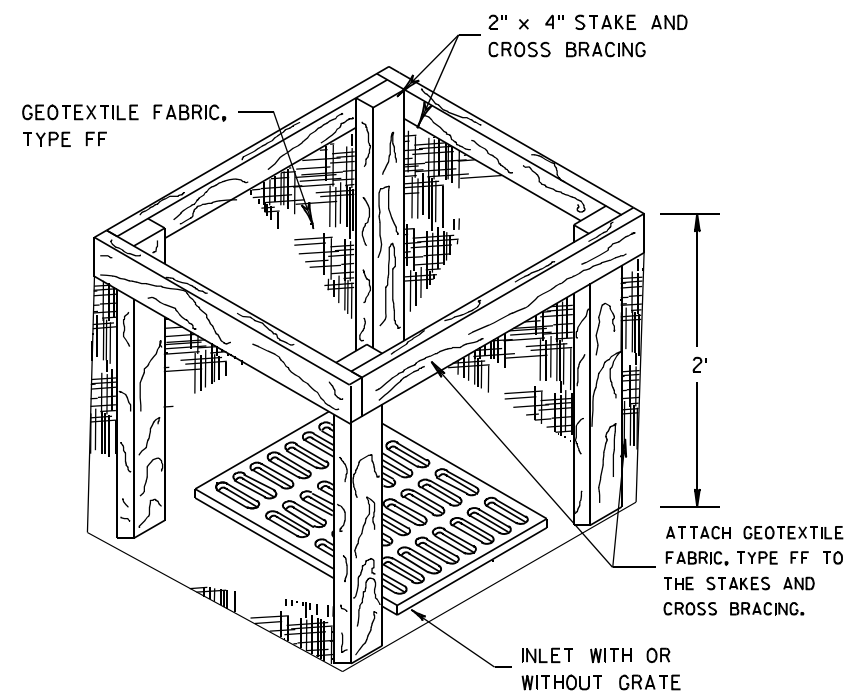
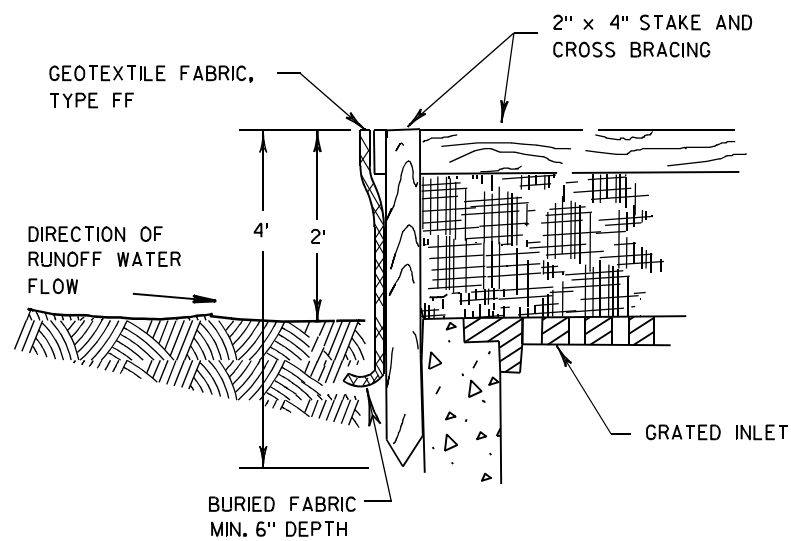


SILT FENCE TIE BACK
(WHEN REQUIRED BY THE ENGINEER)

SILT FENCE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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



INLET PROTECTION, TYPE A

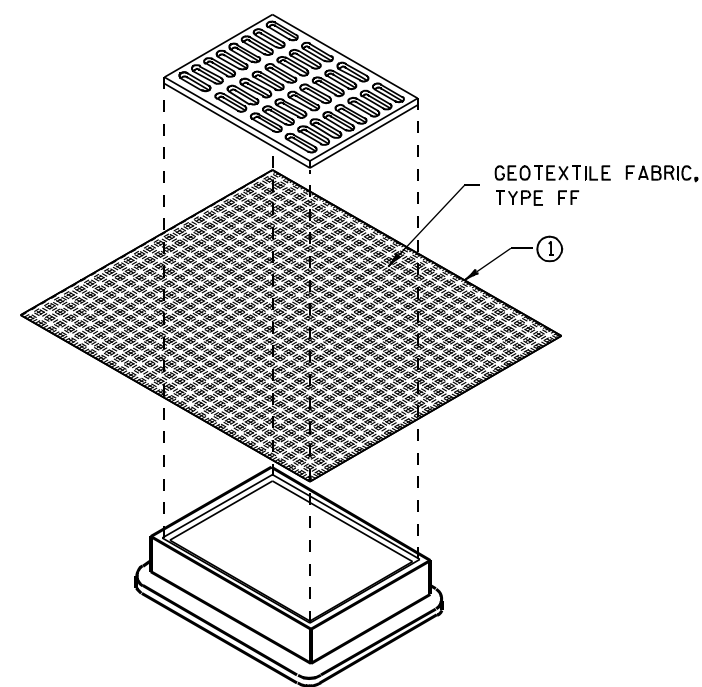
GENERAL NOTES

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.

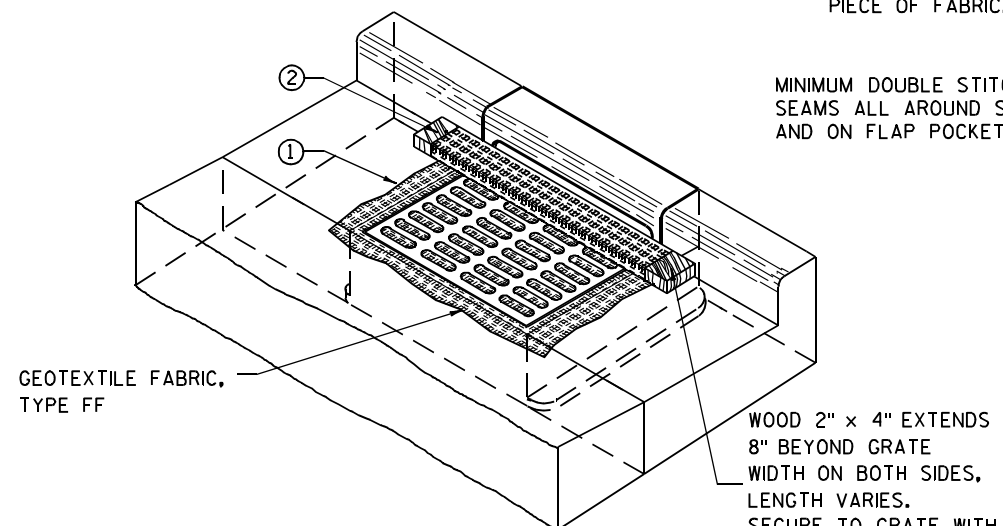
WHEN REMOVING OR MAINTAINING INLET PROTECTION, CARE SHALL BE TAKEN SO THAT THE SEDIMENT TRAPPED ON THE GEOTEXTILE FABRIC DOES NOT FALL INTO THE INLET. ANY MATERIAL FALLING INTO THE INLET SHALL BE REMOVED IMMEDIATELY.

- 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.



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

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



INLET PROTECTION, TYPE C (WITH CURB BOX)

INSTALLATION NOTES

TYPE B & C

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

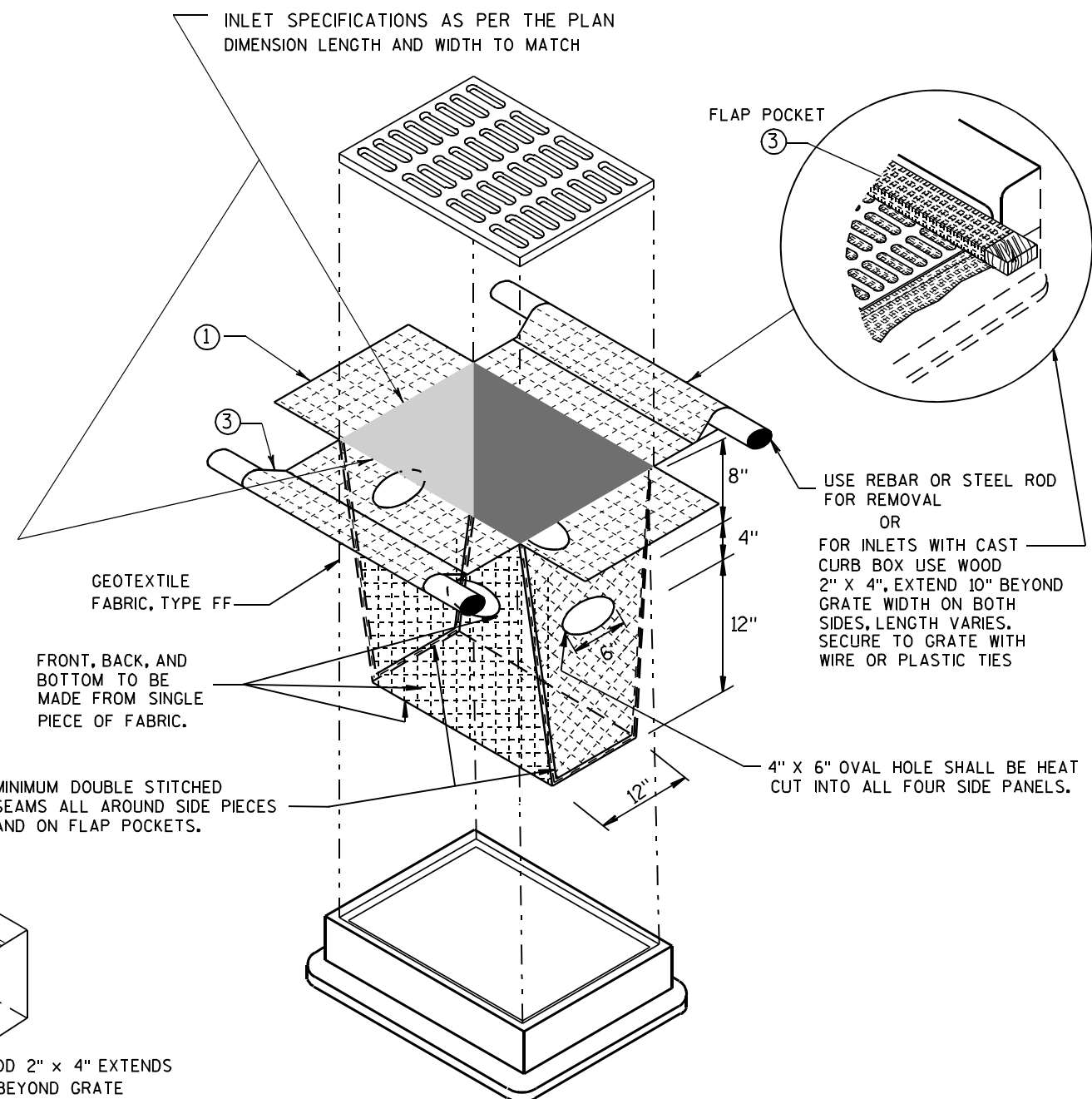
THE CONTRACTOR SHALL DEMONSTRATE A METHOD OF MAINTENANCE, USING A SEWN FLAP, HAND HOLDS OR OTHER METHOD TO PREVENT ACCUMULATED SEDIMENT FROM ENTERING THE INLET.

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.



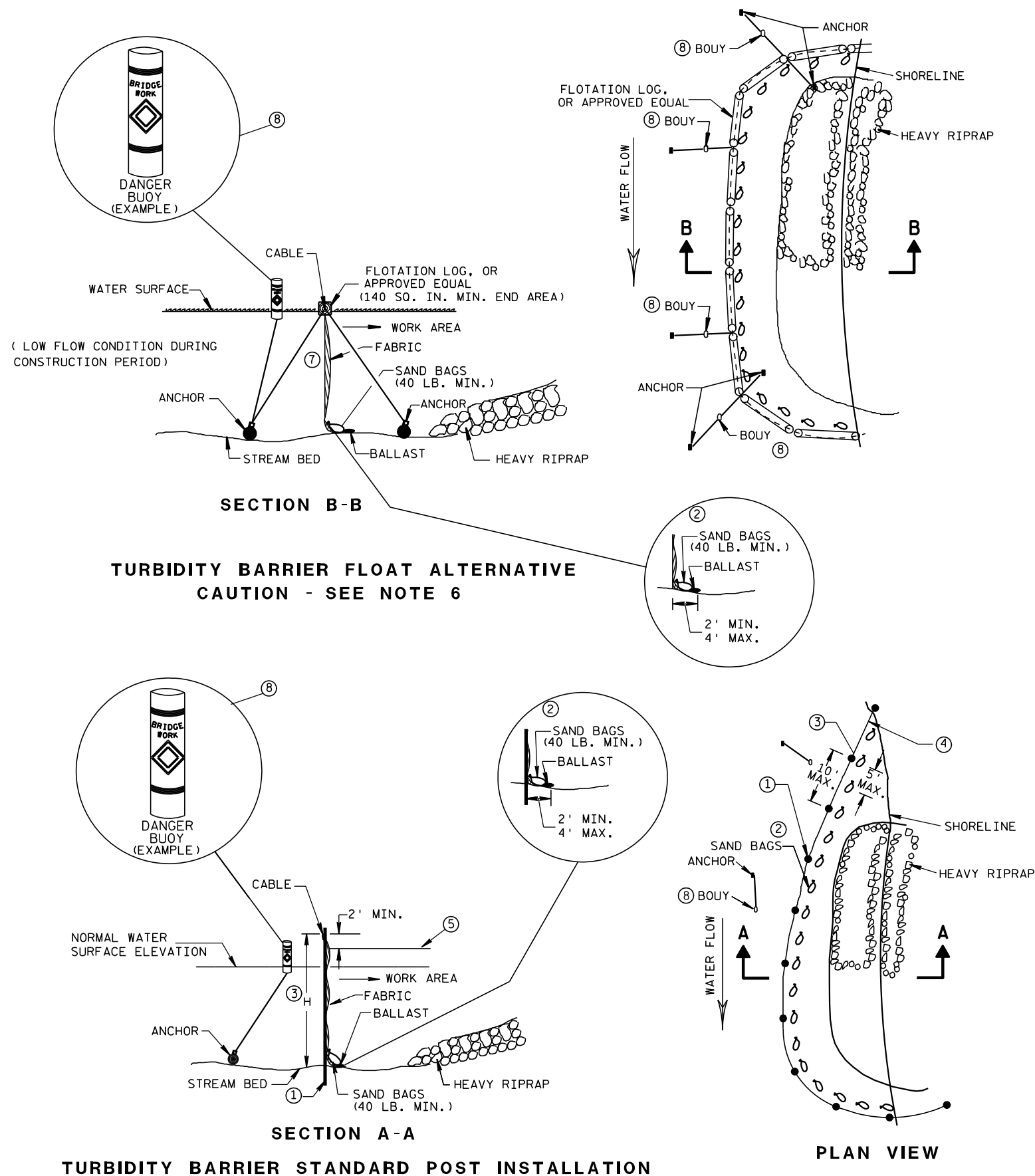
INLET PROTECTION, TYPE D

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

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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

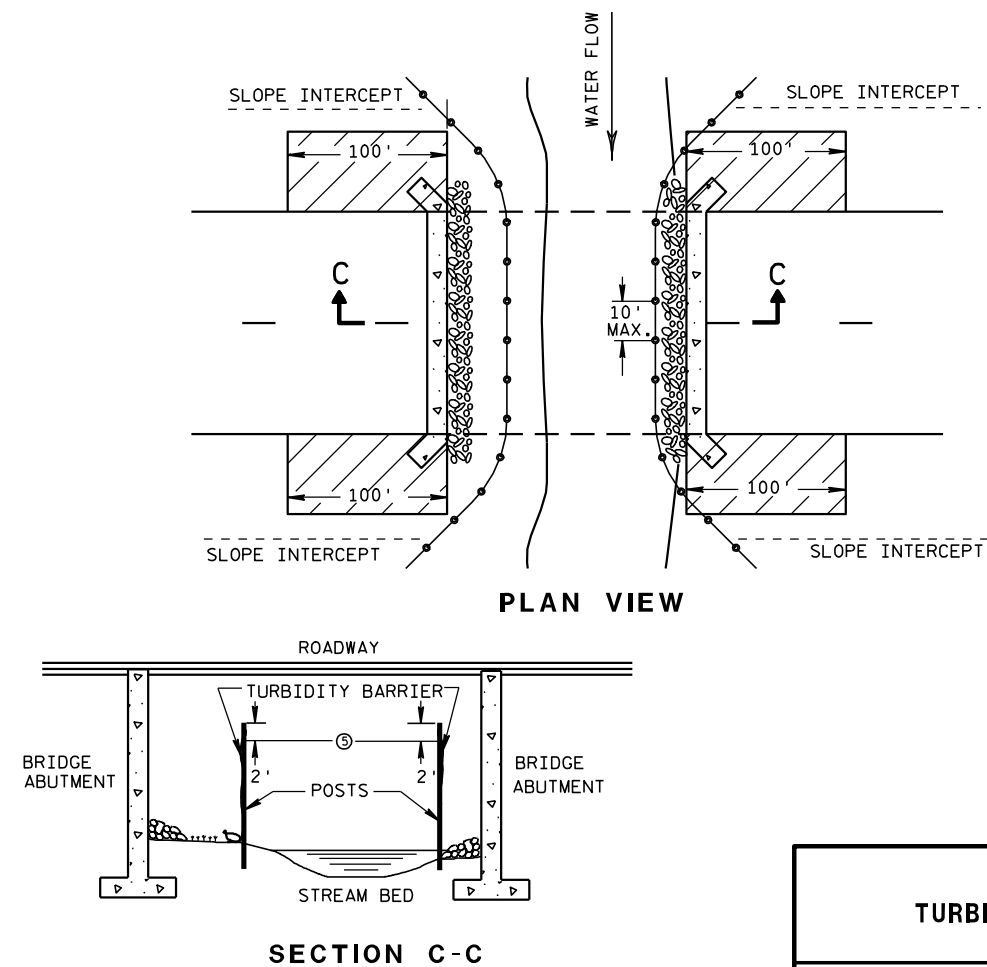


GENERAL NOTES

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. MINIMUM BARRIER HEIGHT SHALL BE 2' GREATER THAN EITHER THE 02 ELEVATION OR THE ESTIMATED HIGH WATER ELEVATION DURING CONSTRUCTION, WHICHEVER 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.



TURBIDITY BARRIER DETAIL SHOWING TYPICAL PLACEMENT AT STRUCTURES

TURBIDITY BARRIER

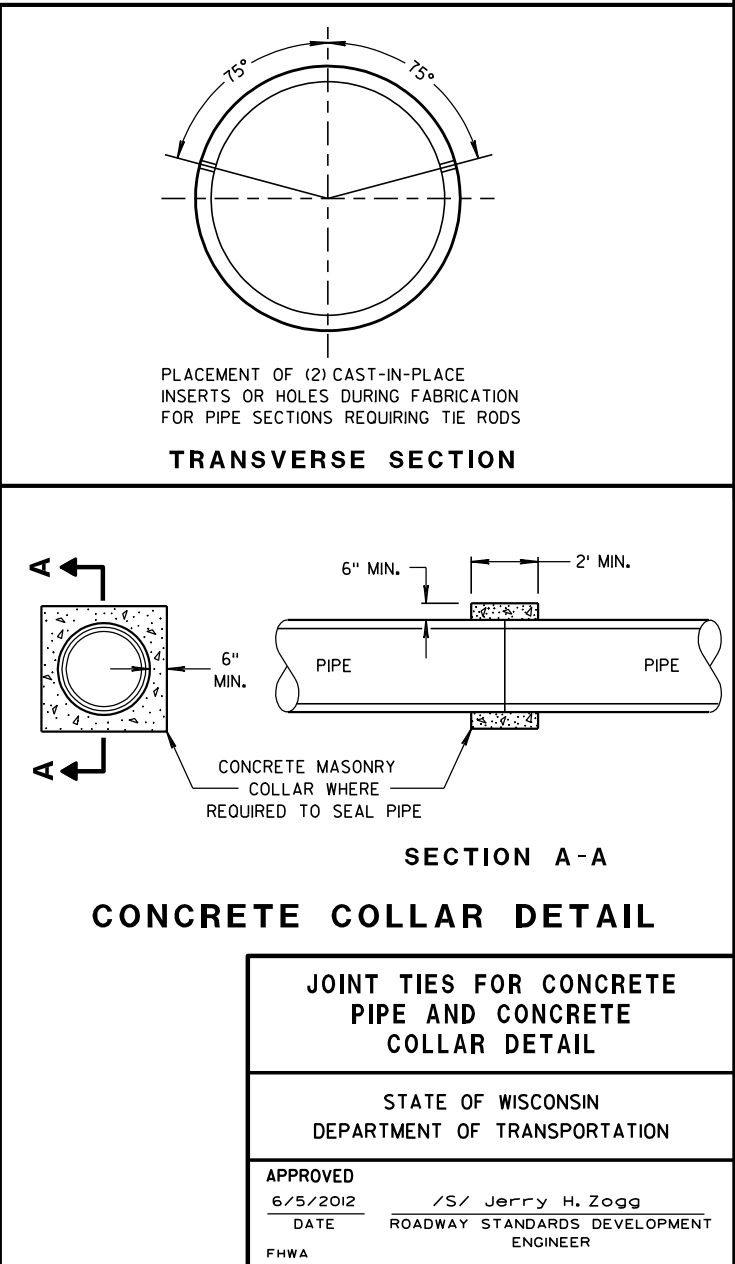
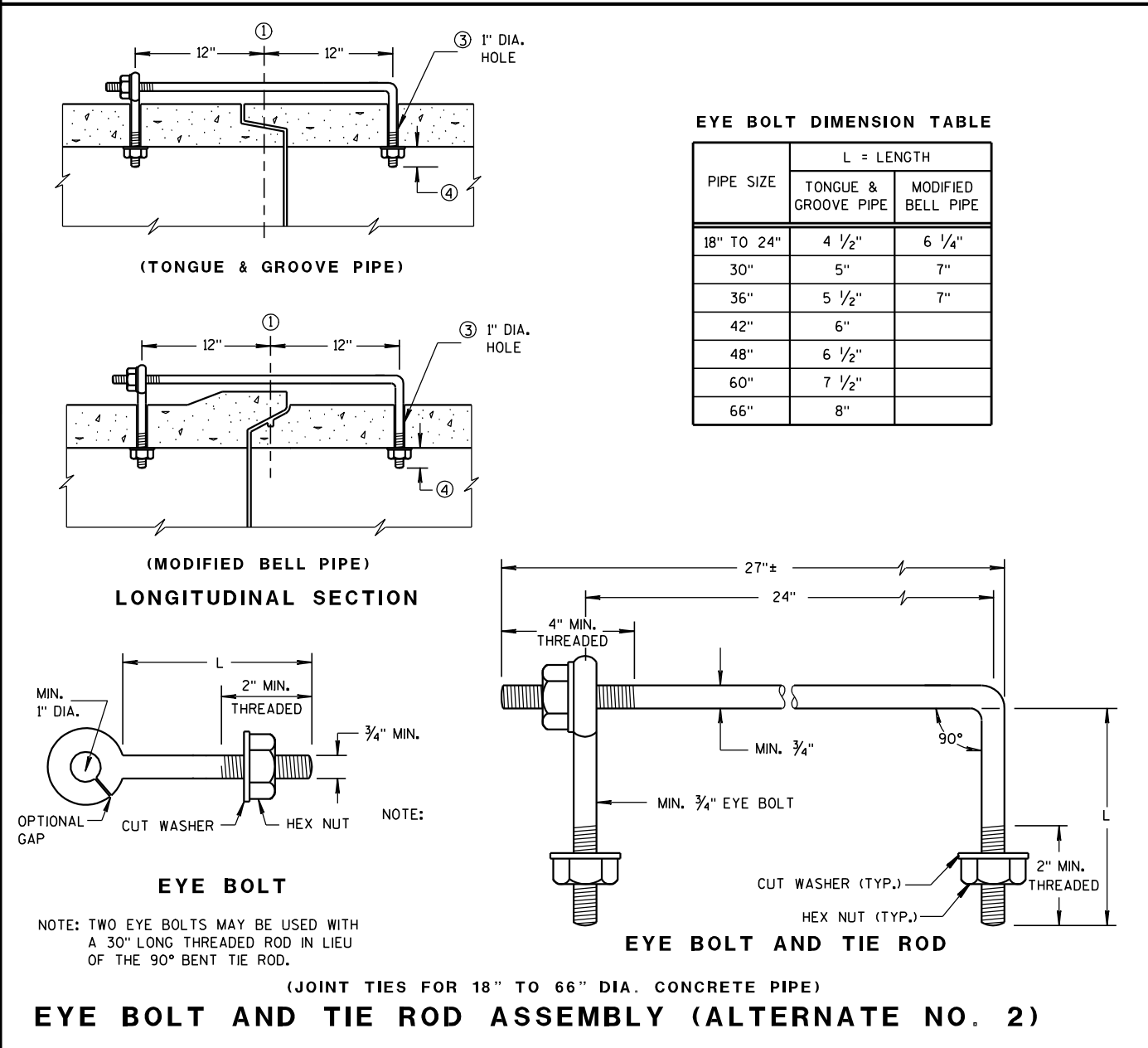
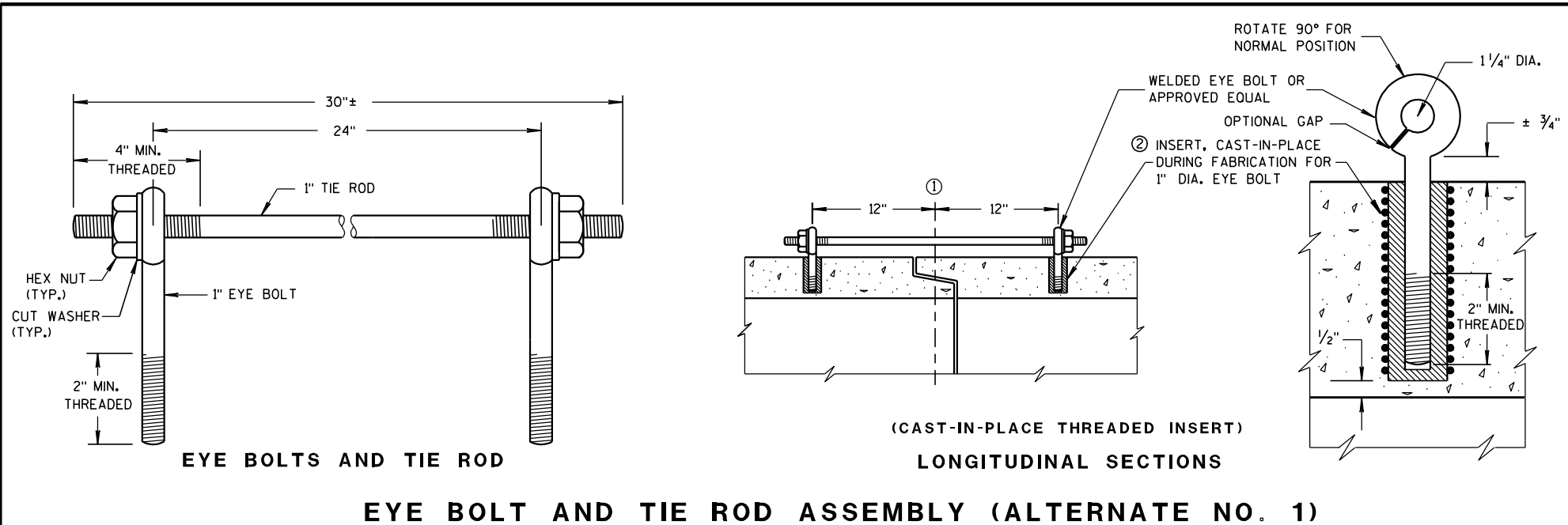
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

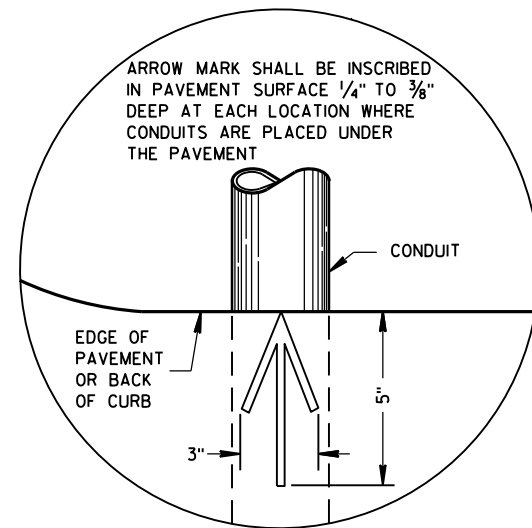
APPROVED

6/04/02
DATE

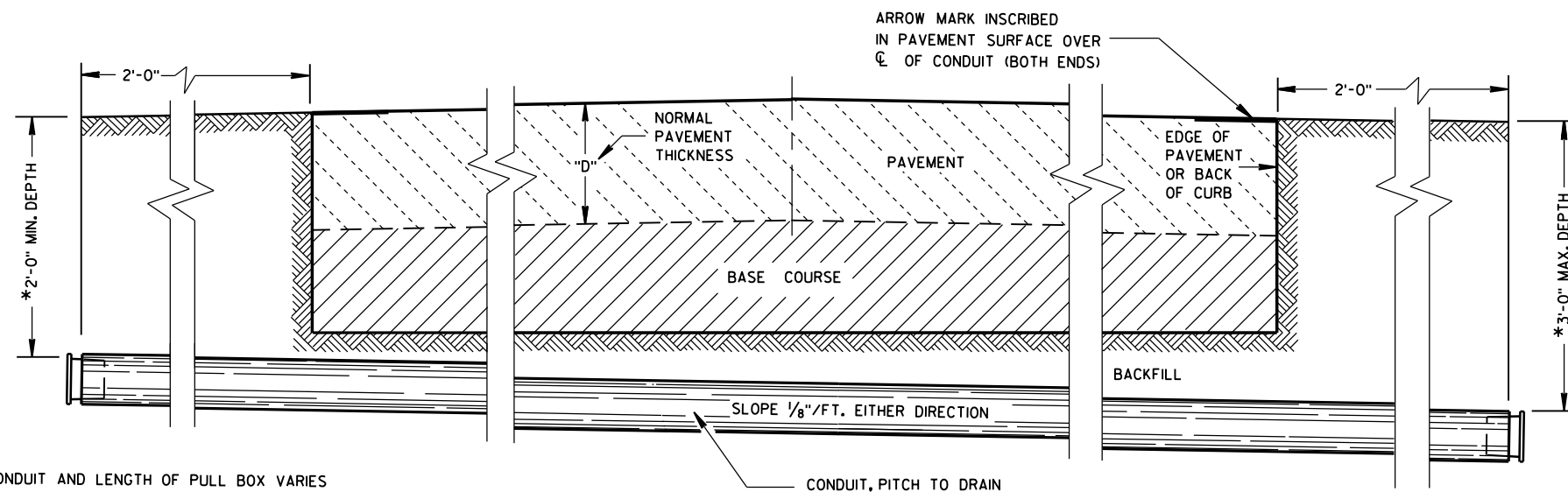
FHWA

/S/ Beth Canestra
CHIEF ROADWAY DEVELOPMENT ENGINEER





PLAN VIEW
ARROW MARK



SIDE ELEVATION
DETAIL FOR CONDUIT UNDER PAVED HIGHWAYS

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

GENERAL NOTES

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

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

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

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

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

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

ALL METALLIC CONDUIT RACEWAY ENDS SHALL BE REAMED AND THREADED.

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

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

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

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

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

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

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

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

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

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

TRACER WIRE SHALL BE INSTALLED AS STATED IN THE STANDARD SPECIFICATION, ITEM 652.3.1.1.

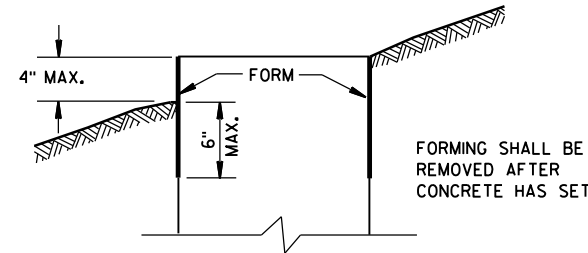
ALL CONDUIT RUNS SHALL BE STRAIGHT (WITHOUT BENDS) FROM PULL BOX TO PULL BOX, PULL BOX TO BASE AND BASE TO BASE AS SHOWN ON THE PLANS.

CONDUIT

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
March, 2017 /S/ Ahmet Demirbilek
DATE STATE ELECTRICAL ENGINEER
FHWA

FORM DEPTH SHALL BE NO MORE THAN 6" BELOW GRADE ON THE LOWER SIDE OF BASE



FORMING DETAIL

QUANTITY REQUIREMENTS	CONCRETE BASE TYPE		
	1	2	5 & 6
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 1, TYPE 2, TYPE 5, AND TYPE 6 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 OF THE STANDARD SPECIFICATIONS.

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.

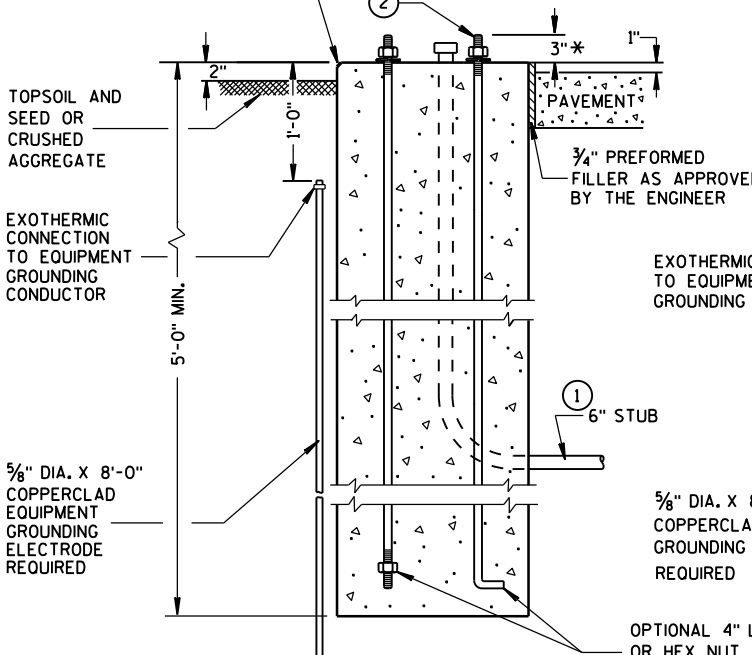
ANCHOR RODS SHALL BE INSTALLED WITH MISALIGNMENTS OF LESS THAN 1:40 FROM VERTICAL.

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).

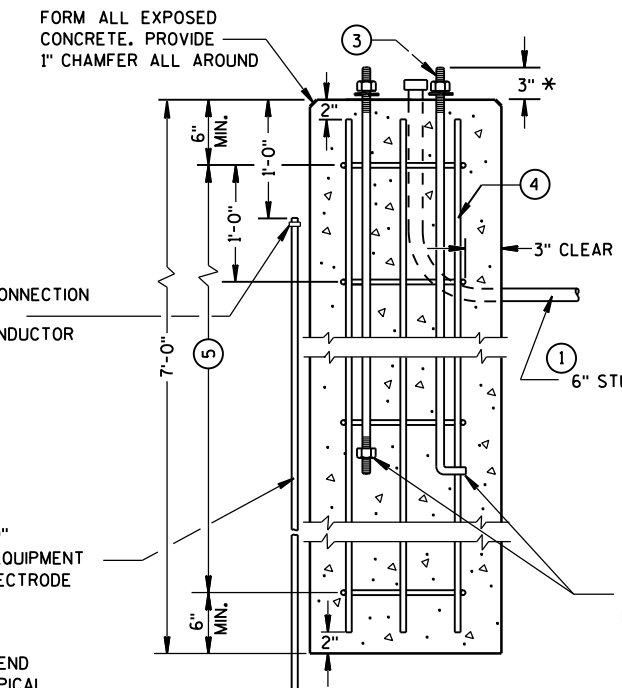
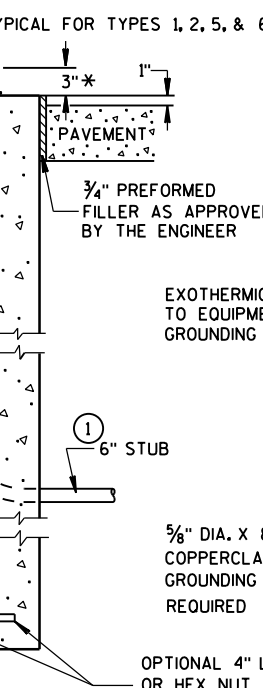
- 1 THE MINIMUM DEPTH OF CONDUIT EXITING THE CONCRETE BASE AND INSTALLED BELOW THE TRAVELED WAY SHALL BE 24 INCHES. THE MINIMUM DEPTH OF CONDUIT EXITING THE CONCRETE BASE THAT IS NOT INSTALLED BELOW THE TRAVELED WAY SHALL BE 18 INCHES. THE MAXIMUM DEPTH OF ALL CONDUIT SHALL BE 36 INCHES EXCEPT WITH WRITTEN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

HALF SECTION IN UNPAVED AREA (TYPICAL FOR TYPES 1, 2, 5, & 6)



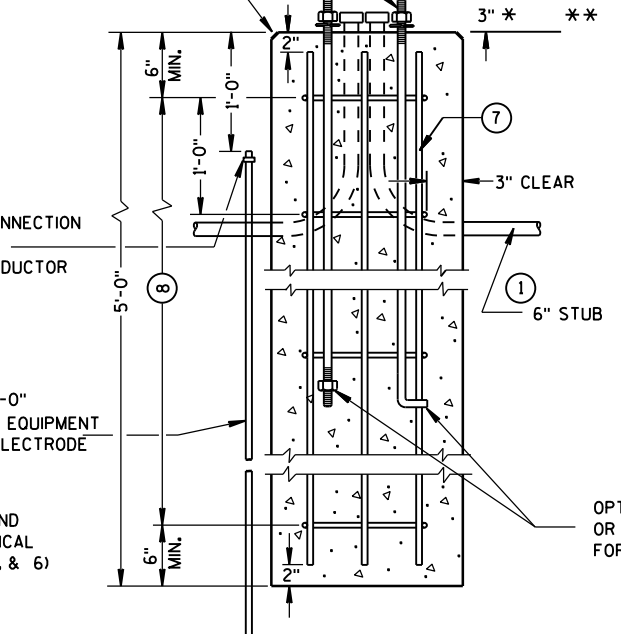
TYPE 1

HALF SECTION IN PAVEMENT (TYPICAL FOR TYPES 1, 2, 5, & 6)



TYPE 2

FORM ALL EXPOSED CONCRETE. PROVIDE 1" CHAMFER ALL AROUND



TYPE 5 & 6

CONCRETE BASES

* ANY ANCHOR ROD PROJECTION SHORTER THAN 2 3/4" OR LONGER THAN 3 1/4" SHALL REQUIRE THE BASE TO BE REMOVED AND REPLACED AT THE CONTRACTORS EXPENSE.

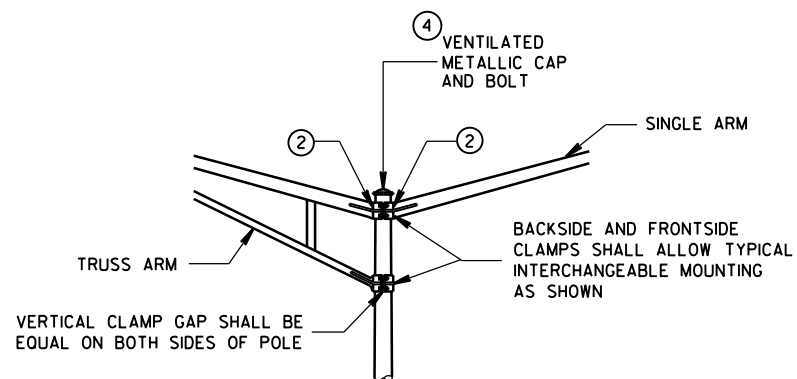
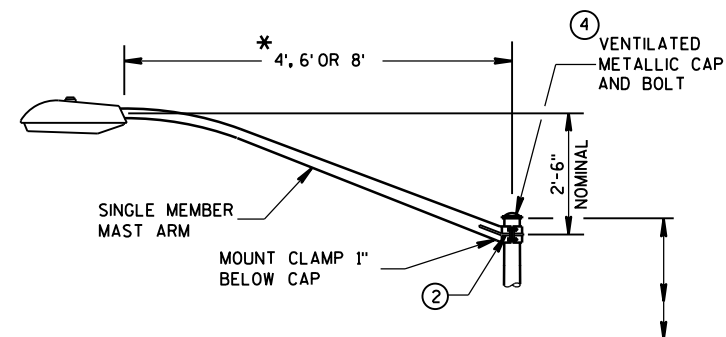
** FOR NONBREAKAWAY INSTALLATIONS, 4 1/2" ± ANCHOR ROD PROJECTION WITH THE USE OF LEVELING NUTS. RODENT SCREEN REQUIRED.

CONCRETE BASES,
TYPES 1, 2, 5, & 6

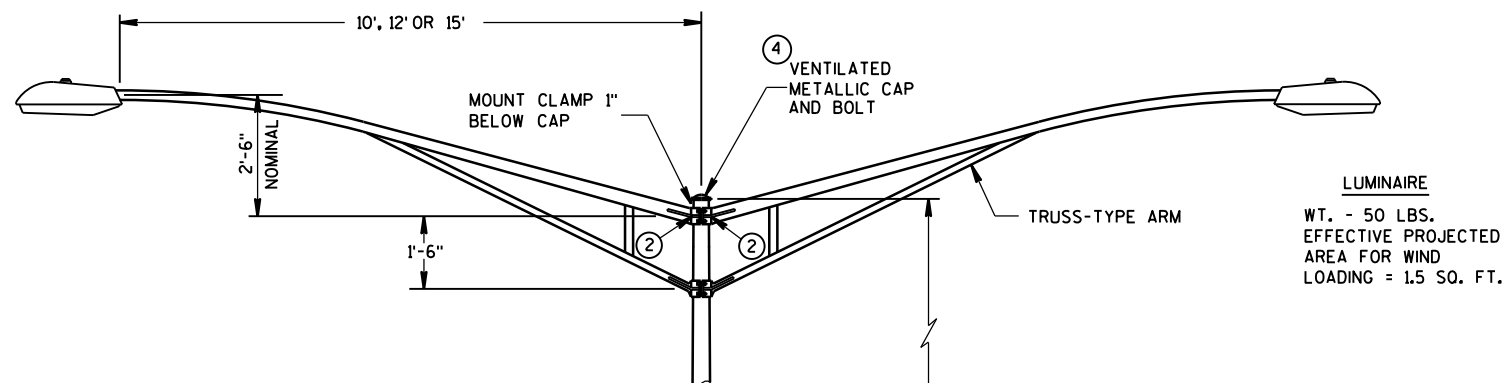
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

* RISE FOR 4' ARM SHALL BE 2'-0".

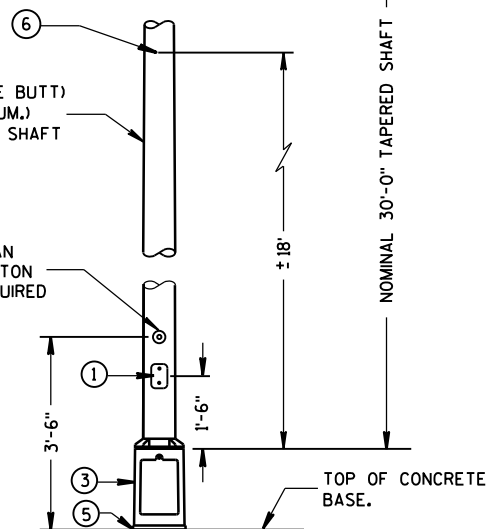


INTERCHANGEABLE MOUNTING DETAIL



ROUND SHAFT 8" O.D. (POLE BUTT)
X 3.8" (STEEL) OR 4.5" (ALUM.)
O.D. TOP FOR TAPERED 30' SHAFT

PEDESTRIAN
PUSH BUTTON
WHEN REQUIRED



TYPE 5 POLE MOUNTING CONFIGURATION
(MAXIMUM LOAD)
LIGHTING ONLY

GENERAL NOTES

DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE CONTRACT.
ALL TYPE 5 POLE MOUNTINGS SHALL BE DESIGNED TO INCLUDE TWIN 15' ARMS WITH LUMINAIRES.

POLES SHALL BE GALVANIZED STEEL OR ALUMINUM, AS CALLED FOR IN THE CONTRACT.

TYPE 5 ALUMINUM POLES SHALL BE CONSTRUCTED OF 6063-T6 ALUMINUM ALLOY. SLEEVING INSIDE THE POLE IS NOT ACCEPTABLE.

THE TYPE 5 ALUMINUM POLES SHALL HAVE A MINIMUM WALL THICKNESS OF 0.188".

TYPE 5 STEEL POLES SHALL HAVE A MINIMUM WALL THICKNESS OF U.S. STANDARD 11 GAGE (.1196").

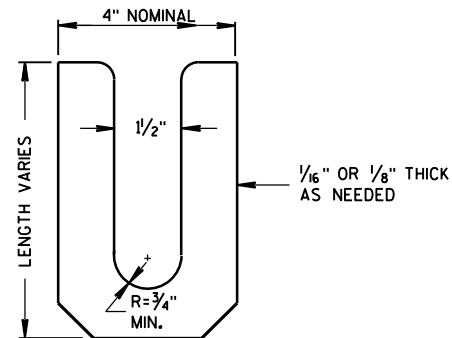
THE SLIPFITTER END OF THE LUMINAIRE MAST ARM SHALL BE A NOMINAL $2\frac{3}{8}$ INCHES IN OUTSIDE DIAMETER. THE STRAIGHT PORTION OF THE SLIPFITTER END OF THE LUMINAIRE ARM SHALL BE A NOMINAL 12 INCHES IN LENGTH.

WHEN TRANSFORMER BASES ARE USED, WIRE CONECTIONS SHALL BE MADE IN THE TRANSFORMER BASE.

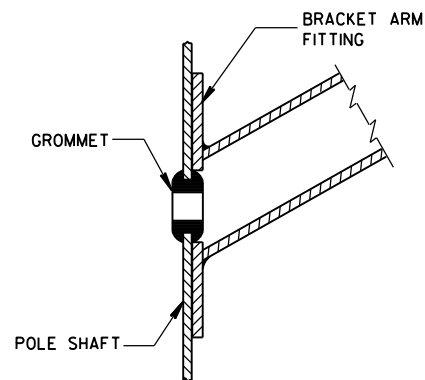
- ① 4" x 6" REINFORCED HANDHOLE & COVER ASSEMBLY WITH 2 (TWO) $\frac{1}{4}$ " x $\frac{3}{4}$ " - 20 TPI HEX HEAD STAINLESS STEEL BOLTS.
- ② GROMMETS, 1" CHASE NIPPLES OR 1" CLOSE CONDUIT NIPPLES WITH BUSHINGS SHALL BE PROVIDED FOR $1\frac{1}{8}$ " HOLE IN POLE SHAFT FOR WIRING.
- ③ CAST ALUMINUM TRANSFORMER BASE, WHEN REQUIRED.
- ④ FURNISH AND INSTALL VENTILATED, CAST, METALLIC (ALUMINUM ALLOY) CAPS. FASTEN CAPS WITH ONE (1) $\frac{1}{4}$ " x $\frac{3}{4}$ " - 20 TPI STAINLESS STEEL, HEX HEAD BOLT.
- ⑤ SHIMMING, IF NEEDED, SHALL BE LOCATED BETWEEN THE CONCRETE FOUNDATION AND THE TRANSFORMER BASE.
- ⑥ INTERNAL DUMBBELL-TYPE VIBRATION DAMPER.

POLE MONTINGS FOR
LIGHTING UNITS, TYPE 5
(30 FEET)

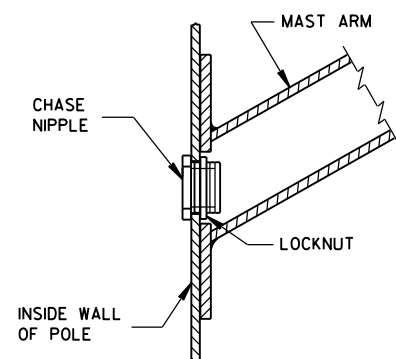
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



LEVELING SHIM
SHALL BE ALUMINUM



TYPICAL APPLICATION OF GROMMET IN POLE SHAFT



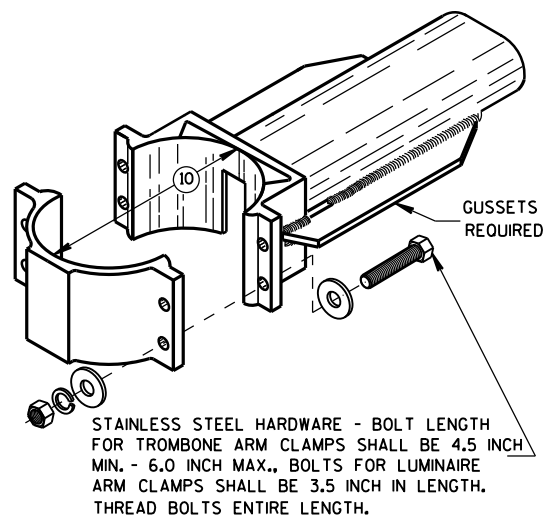
TYPICAL APPLICATION OF CHASE NIPPLE IN POLE SHAFT

GENERAL NOTES

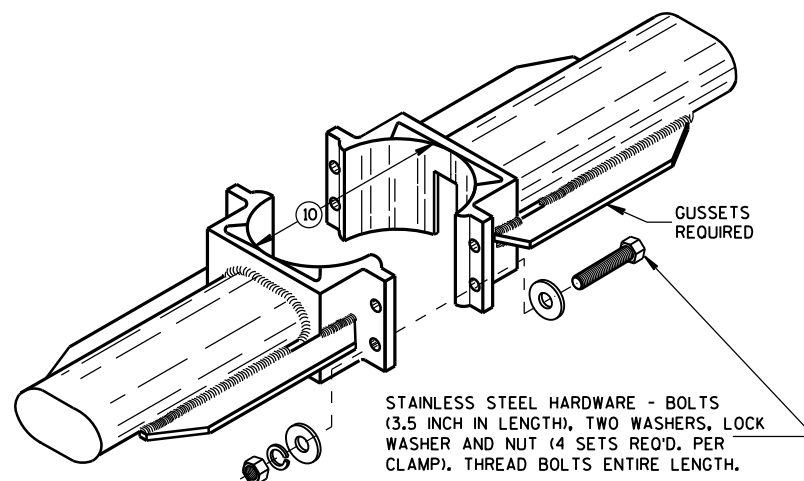
CLAMP BOLT-NUT TIGHTENING TORQUE SHALL BE INDICATED BY INDENT STAMPING (1/2 INCH NUMERALS AND LETTERS) OR WEATHERPROOF PRINTING ON THE INSIDE OF THE CLAMP THAT IS WELDED TO THE ARM MEMBER.

- ⑩ 4.5" I.D. FOR LUMINAIRE MAST ARM CLAMP.
6.625" I.D. FOR TROMBONE MAST ARM CLAMP.
- ⑪ INDIVIDUAL BASE PLATE ANCHOR ROD COVERS. (4 REQUIRED)
- ⑫ BASE PLATE SLOTTED TO ACCEPT 11" THROUGH 12" BOLT
CIRCLE USING 1" DIAMETER ANCHOR RODS.
- ⑬ LEVELING SHIMS, DESIGNED FOR THE PURPOSE, SHALL BE USED WHEN PLUMBING
POLES. THE USE OF WASHERS IN LIEU OF PROPER LEVELING SHIMS IS NOT
ACCEPTABLE. LEVELING SHIMS SHALL BE USED ONLY BETWEEN THE TOP OF THE
CONCRETE BASE AND A METALLIC BASE PLATE.

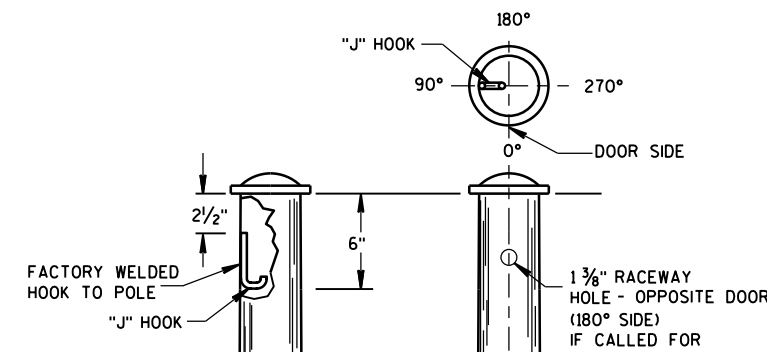
SHIMS SHALL BE LONG ENOUGH AND WIDE ENOUGH TO COMPLETELY COVER THE
AREA UNDER THE LENGTH AND WIDTH OF THE BASE MOUNTING FLANGE.



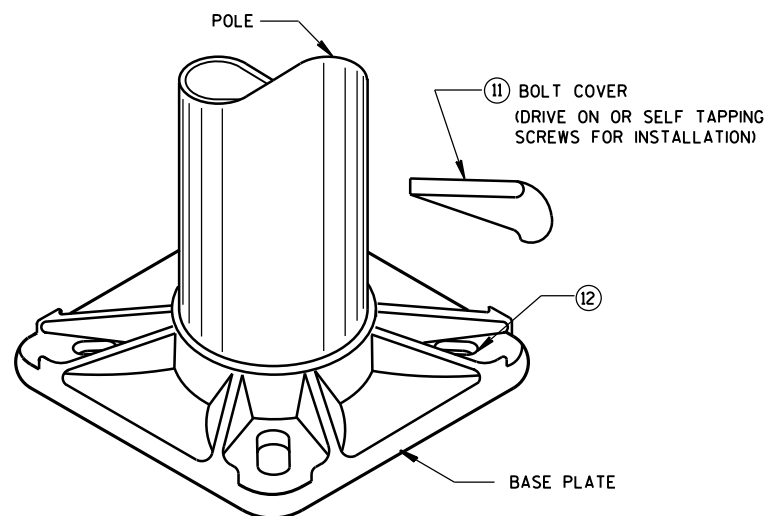
TYPICAL TROMBONE MAST ARM AND SINGLE LUMINAIRE MAST ARM MOUNTING CLAMP



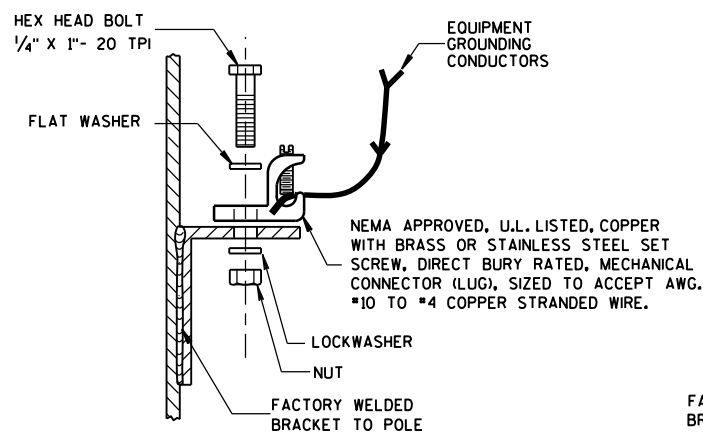
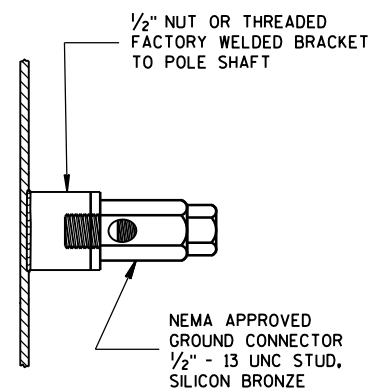
TYPICAL LUMINAIRE MAST ARM (DOUBLE) MOUNTING BRACKETS



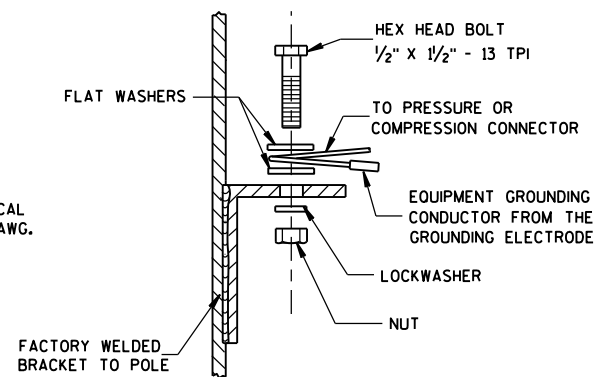
TYPICAL "J" HOOK LOCATION



BASE PLATE



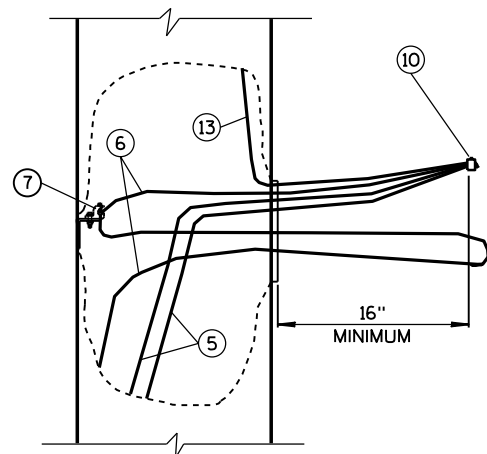
TYPICAL GROUNDING CONNECTIONS
NUT, BOLT AND WASHERS SHALL
BE STAINLESS STEEL



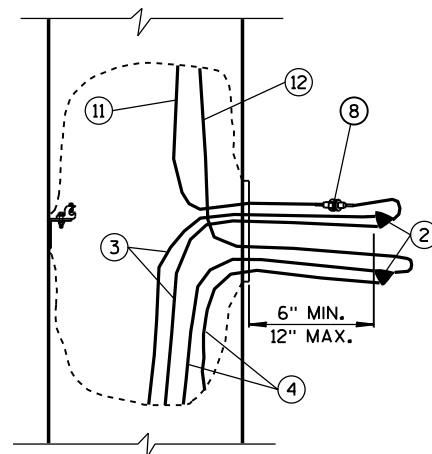
HARDWARE DETAILS FOR POLE MOUNTINGS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

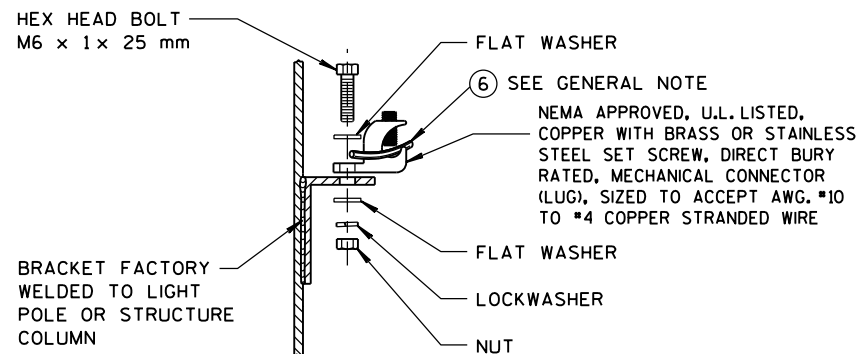
APPROVED
Feb. 2015
DATE /S/ Ahmet Demirbilek
STATE ELECTRICAL ENGINEER
FHWA



EQUIPMENT GROUNDING
CONDUCTOR SLACK



UNGROUND CONDUCTOR SLACK
(AND GROUNDED NEUTRAL SLACK
IN GROUNDED NEUTRAL SYSTEM)



HANDHOLE GROUNDING LUG

(NUT, BOLT, WASHERS, AND LOCK WASHERS
SHALL BE STAINLESS STEEL)

CONDUCTOR COLOR CODES

KEY	CONDUCTOR	COLOR
3	UNGROUND LINE WIRE	*
4	GROUNDED LINE WIRE	WHITE
5	SYSTEM GROUNDING LINE WIRE	GREEN
6	GROUNDING ELECTRODE CONDUCTOR	BARE
11	UNGROUND POLE WIRE	*
12	GROUNDED POLE WIRE	WHITE
13	EQUIPMENT GROUNDING POLE WIRE	GREEN

* FOLLOW COLOR CODING SHOWN IN THE PLANS.
WHERE THE PLANS DO NOT SHOW COLOR CODING,
USE BLACK FOR SINGLE LUMINAIRE POLES; BLACK
AND RED FOR TWIN LUMINAIRE POLES.



1 POLE (1P)



2 POLE (2P)

FUSE ASSEMBLIES

GENERAL NOTES

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

USE THIS DETAIL IN CONJUNCTION WITH THE ELECTRICAL DETAILS FOR THE
APPLICATION, WHICH MAY BE A LIGHT POLE, SIGN BRIDGE, ETC.

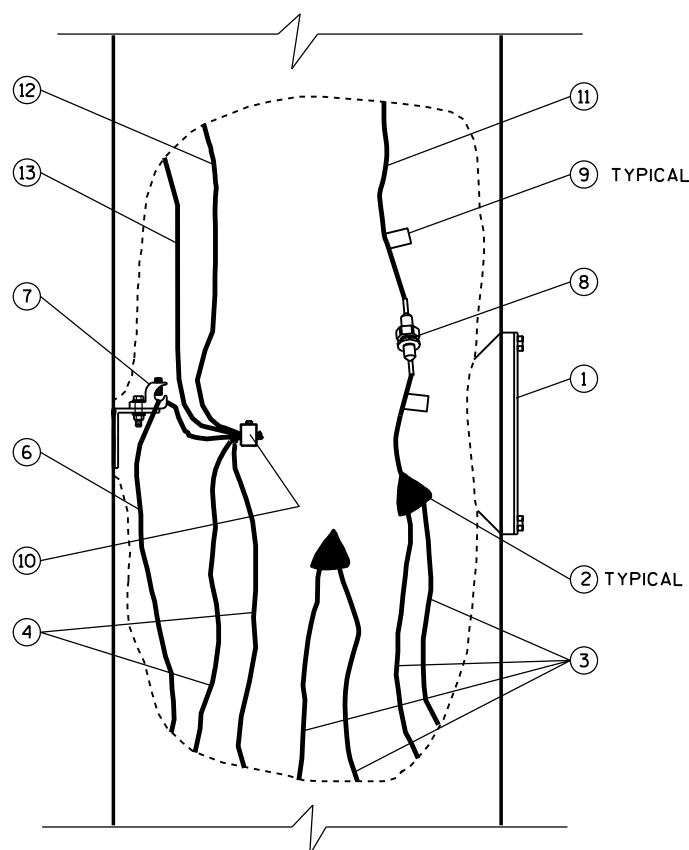
THE GROUNDING ELECTRODE CONDUCTOR SHALL BE CONTINUOUS WITHOUT
SPICES FROM THE GROUNDING ELECTRODE THROUGH THE HANDHOLE GROUNDING
LUG TO THE CONNECTOR.

THREE POLE WIRES ARE SHOWN FOR A SINGLE LUMINAIRE LIGHT POLE.
THREE ADDITIONAL POLE WIRES REQUIRED FOR TWIN LUMINAIRE LIGHT POLES
ARE OMITTED FROM THE DRAWING FOR CLARITY. IN THE TWIN POLE CASE,
BUNDLE EACH SET OF THREE WIRES WITH A NYLON CABLE TIE.

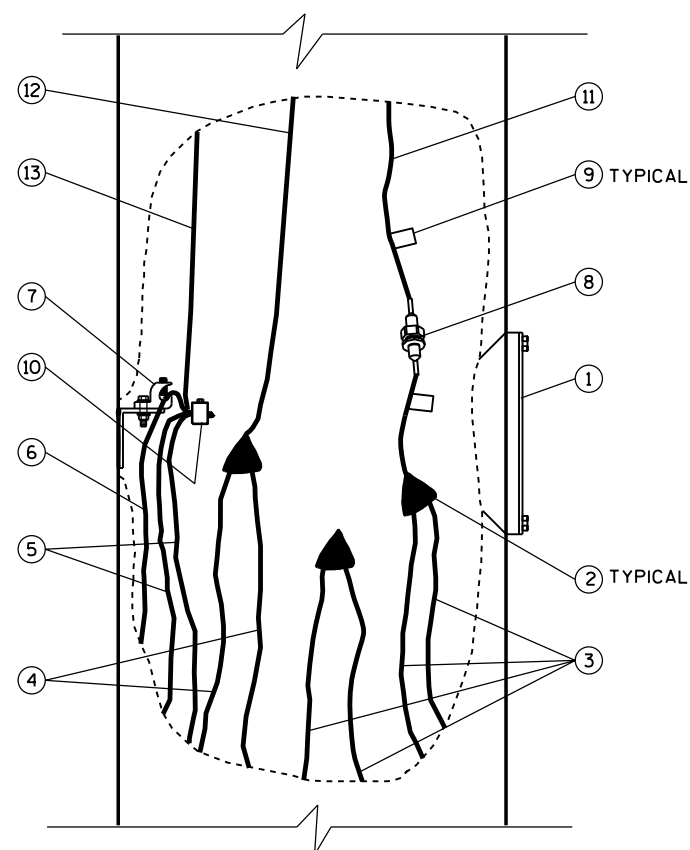
IN 3-PHASE SYSTEMS, THERE WILL BE ONE MORE UNGROUNDED LINE WIRE,
WHICH IS OMITTED FROM THE DRAWING FOR CLARITY.

CIRCUIT TAGS SHALL BE INSTALLED ONLY WHERE REQUIRED IN THE SPECIAL
PROVISIONS.

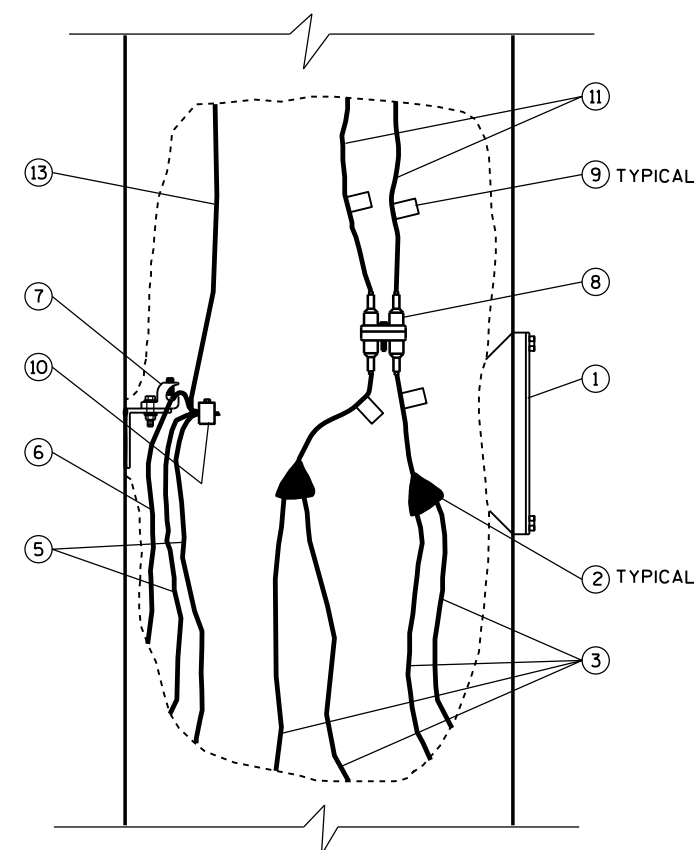
TYPICAL CONDUCTOR SLACK AT HANDHOLES



CUTAWAY HANDHOLE DETAIL
GROUNDED NEUTRAL SYSTEMS
1-φ



CUTAWAY HANDHOLE DETAIL
ISOLATED NEUTRAL SYSTEMS
1-φ SHOWN; 3-φ WYE SIMILAR
(SEE GENERAL NOTE)



CUTAWAY HANDHOLE DETAIL
PHASE-TO-PHASE SYSTEMS
1-φ SHOWN; 3-φ DELTA SIMILAR
(SEE GENERAL NOTE)

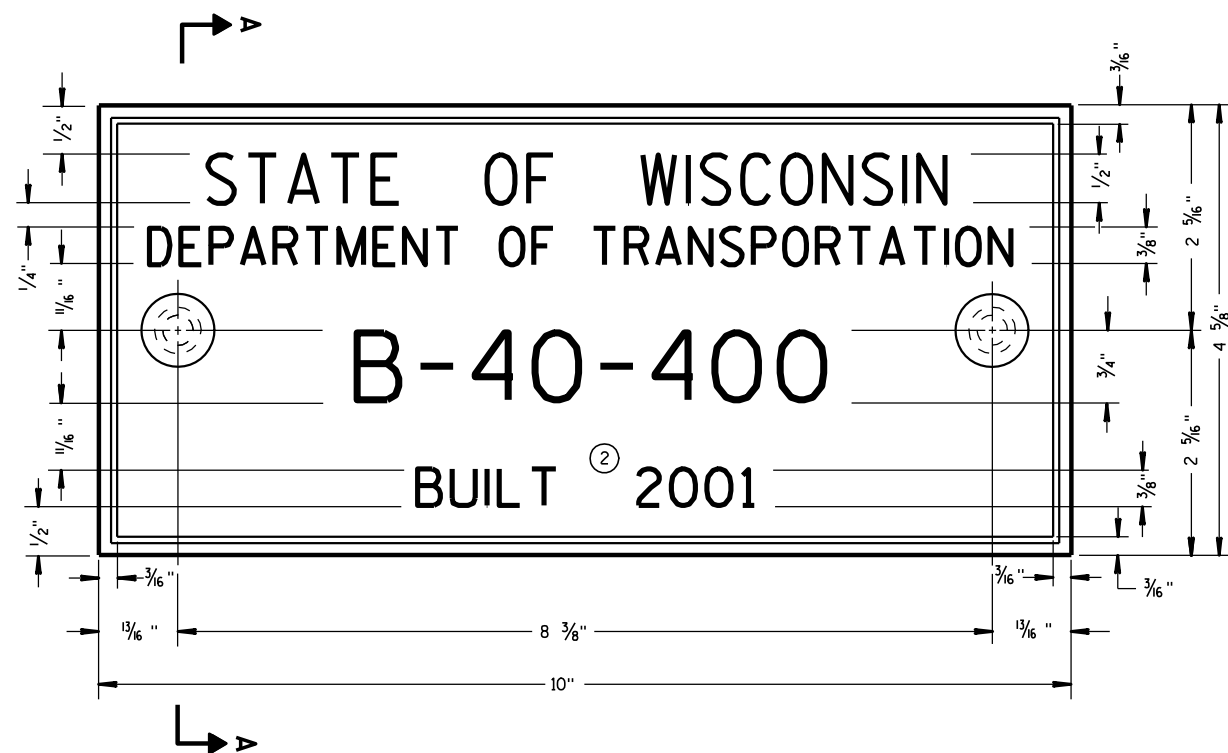
- HANDHOLE AND COVER
- INSULATED SPLICE
- UNGROUND LINE WIRE
- GROUNDED LINE WIRE
- SYSTEM GROUNDING LINE WIRE
- GROUNDING ELECTRODE CONDUCTOR
- HANDHOLE GROUNDING LUG
- FUSE ASSEMBLY, 1P OR 2P AS REQUIRED
- CIRCUIT TAG (SEE GENERAL NOTE)
- REVERSIBLE PRESSURE OR COMPRESSION
GROUNDING CONNECTOR (NOT INSULATED)
- UNGROUND POLE WIRE
- GROUNDED POLE WIRE
- EQUIPMENT GROUNDING POLE WIRE

ELECTRICAL HANDHOLE WIRING

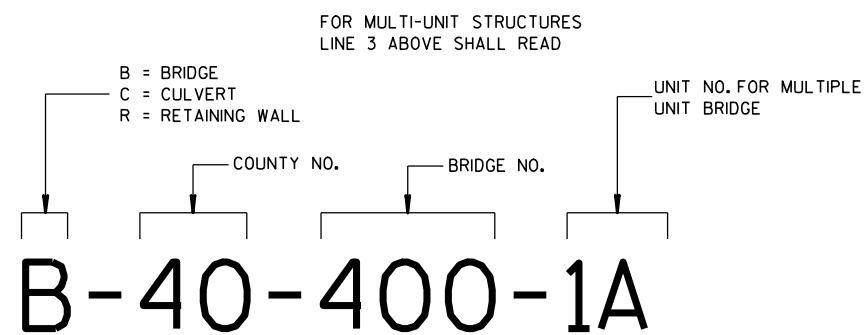
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
Sept. 2014 /S/ Ahmet Demirelek
DATE STATE ELECTRICAL ENGINEER
FHWA

NOTE: REQUIRED CONDUCTOR SLACK NOT SHOWN ON "CUTAWAY HAND HOLE" DETAILS FOR
DRAWING CLARITY, SEE "TYPICAL CONDUCTOR SLACK AT HANDHOLES" ON THIS SHEET.



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



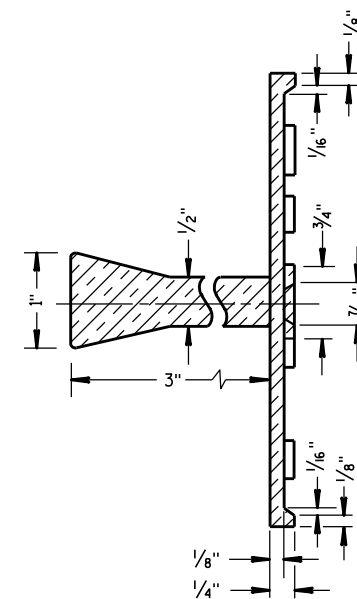
**NUMBERING DESIGNATION
MULTI-UNIT STRUCTURES**

GENERAL NOTES

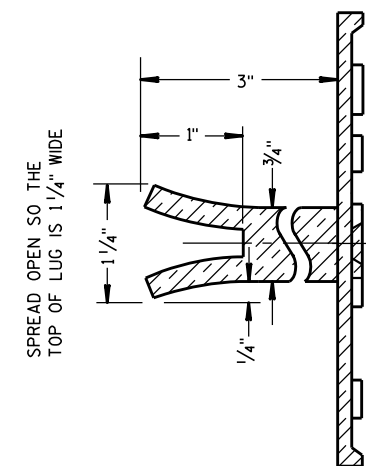
NAME PLATES TO BE INSTALLED ON BRIDGES, CULVERTS, AND RETAINING WALLS SHALL CONFORM TO THE REQUIREMENTS OF SECTION 502.3.11 OF THE STANDARD SPECIFICATIONS.

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.

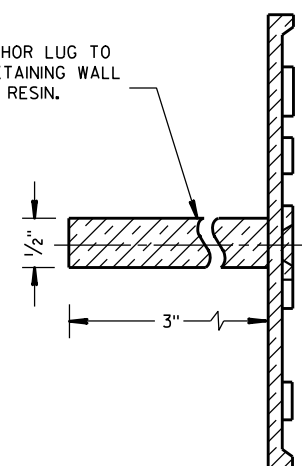


SECTION A-A



ALTERNATE LUG

- ① ADHERE ANCHOR LUG TO PRECAST RETAINING WALL WITH EPOXY RESIN.



ALTERNATE LUG
(FOR ATTACHMENT TO PRECAST STRUCTURES)

**NAME PLATE
(STRUCTURES)**

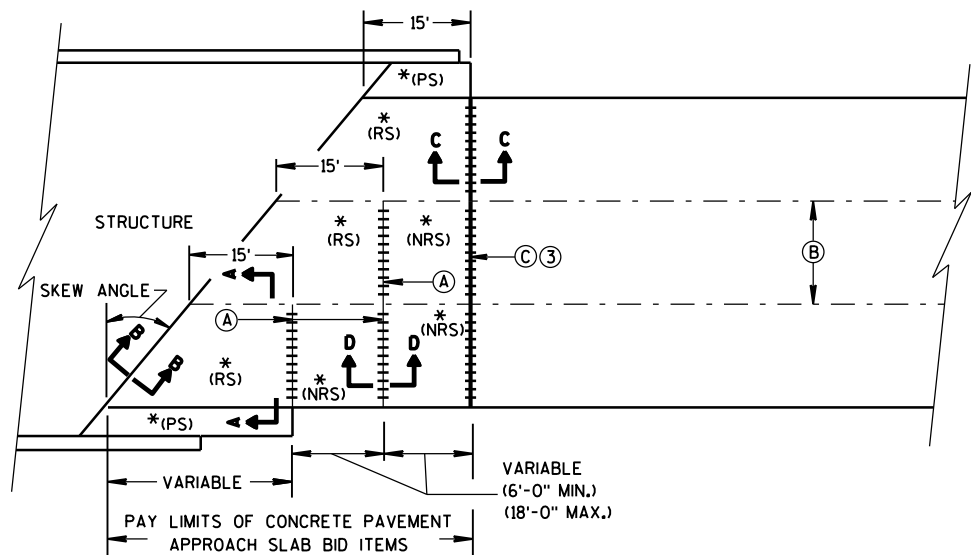
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

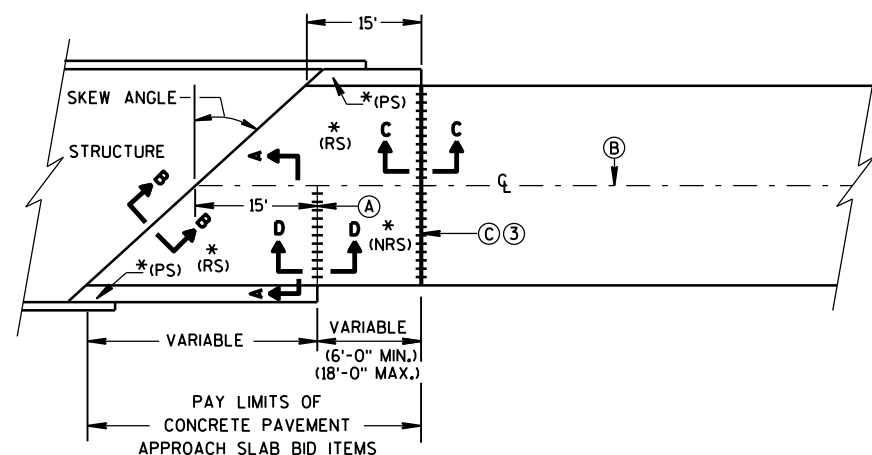
3/26/10
DATE

FHWA

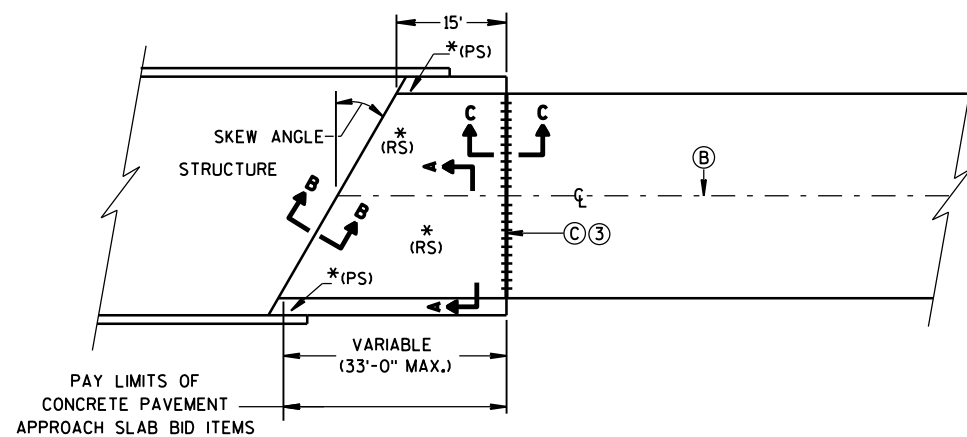
/S/ Scot Becker
CHIEF STRUCTURAL DEVELOPMENT ENGINEER



**SKewed APPROACH
(PAVEMENT MORE THAN 2 LANES)**



**SKews > 20°
(PAVEMENT WIDTH ≤ 30')**

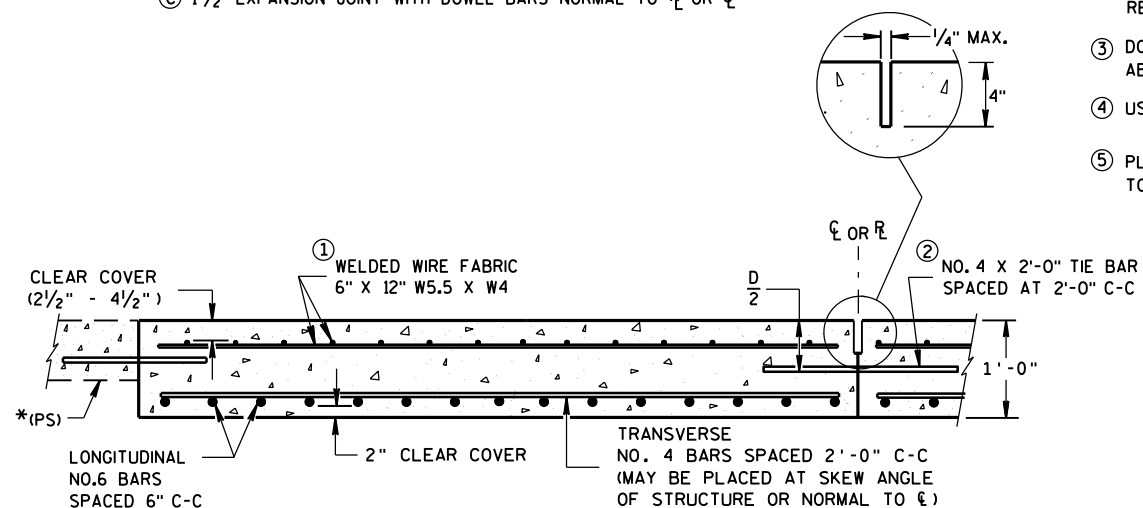


**SKews ≤ 20°
(PAVEMENT WIDTH ≤ 30')
APPROACH SLAB AND ADJACENT PAVEMENT**

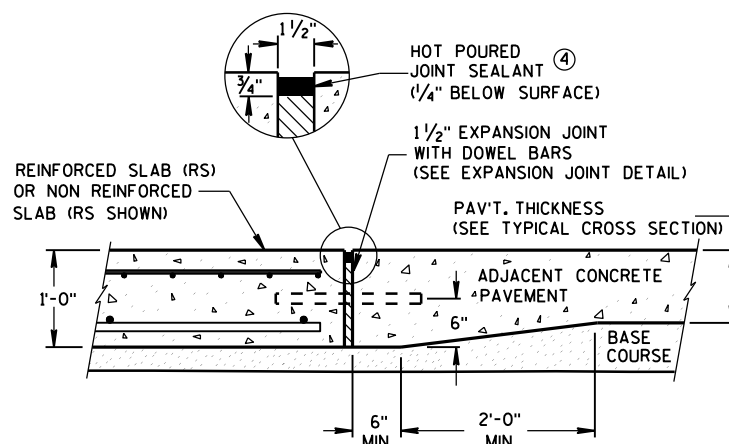
* (RS) = REINFORCED CONCRETE SLAB
* (PS) = PAVED CONCRETE SHOULDER OR CONCRETE DRAINAGE SLAB
(SEE DETAILS ELSEWHERE IN THE PLAN)
* (NRS) = NON-REINFORCED CONCRETE SLAB

*** STANDARD DOWEL BAR DIAMETER
(SEE SDD 13C11, & SDD 13C13)

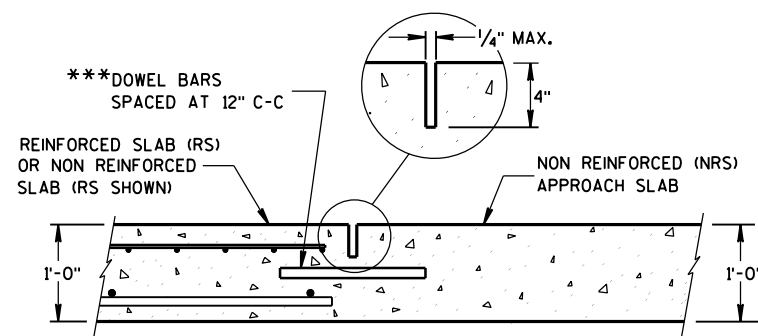
- (A) STANDARD CONTRACTION JOINT NORMAL TO ℓ OR ℓ_c
(B) STANDARD LONGITUDINAL JOINT WITH TIE BARS.
(C) 1½" EXPANSION JOINT WITH DOWEL BARS NORMAL TO ℓ OR ℓ_c



**SECTION A-A
REINFORCEMENT POSITIONING DETAIL**



**SECTION C-C
TRANSITION DETAIL
APPROACH SLAB TO ADJACENT PAVEMENT**



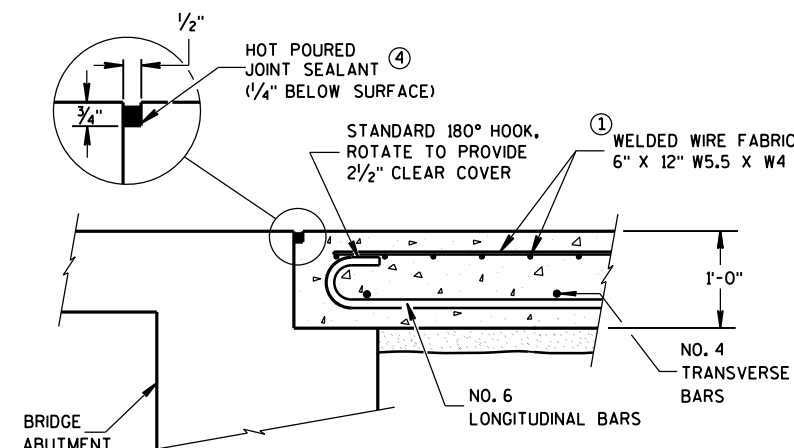
**SECTION D-D
CONTRACTION JOINT**

GENERAL NOTES

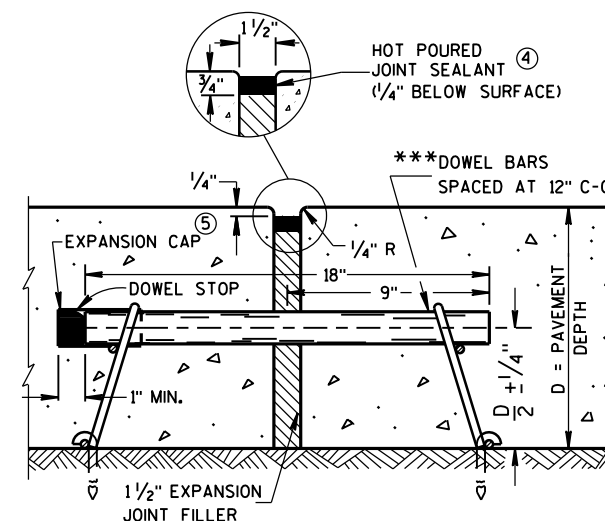
THE CONTRACTOR MAY SPLICE NO. 6 BARS IN THE APPROACH SLAB FOR SKEWED STRUCTURES ONLY. STAGGER SPLICES WITH A MAXIMUM OF ONE SPLICE PER BAR. THE LENGTH OF LAP IS 20 INCHES.

TACK WELD DOWEL BARS TO THE BASKETS ON ALTERNATE ENDS.

- 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.
- THE CONTRACTOR MAY OMIT TIE BARS BETWEEN REINFORCED SLABS WHERE SLAB REINFORCEMENT BARS EXTEND ACROSS THE CENTERLINE OR REFERENCE LINE.
- DO NOT CONSTRUCT AN EXPANSION JOINT OR INSTALL DOWEL BARS WHEN ABUTTING AN HMA PAVEMENT.
- USE A JOINT SEALANT MEETING THE REQUIREMENTS OF ASTM D6690.
- PLACE EXPANSION CAP ON THE END OF THE DOWEL THAT IS NOT TACK WELDED TO THE BASKET. DO NOT FORCE DOWEL BAR PAST THE DOWEL STOP.



**SECTION B-B
BEND DETAIL
BOTTOM REINFORCEMENT**



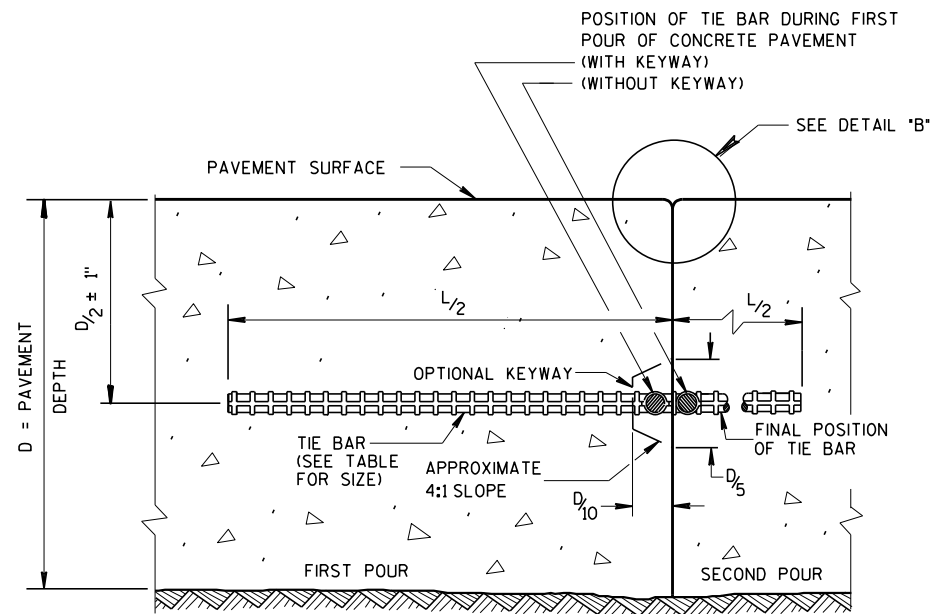
EXPANSION JOINT DETAIL

**CONCRETE PAVEMENT
APPROACH SLAB**

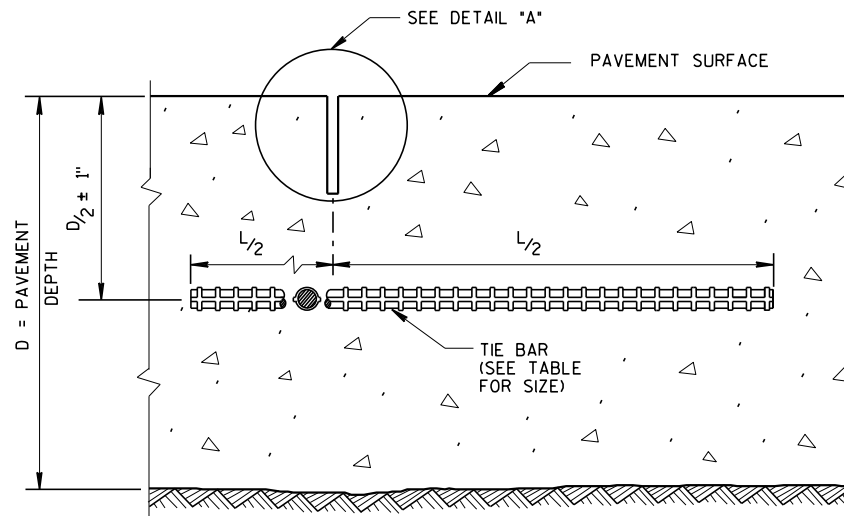
**STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION**

APPROVED
June, 2015
DATE
FWHA

/S/ Peter Kemp, P.E.
PAVEMENT SUPERVISOR



CONSTRUCTION JOINT



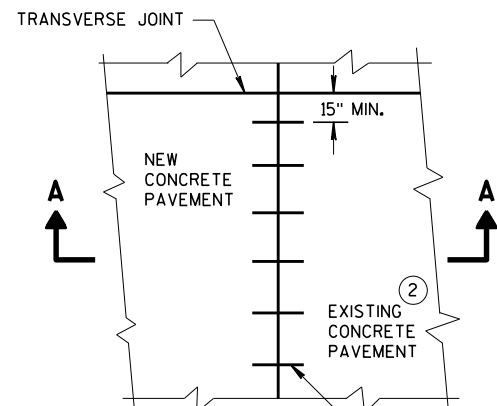
SAWED JOINT

GENERAL NOTES

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

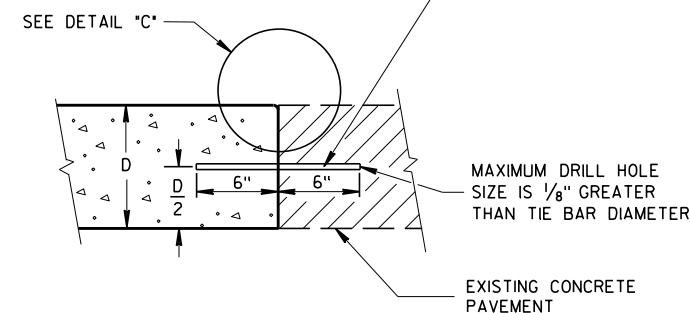
CORRELATE LONGITUDINAL JOINTS WITH LANE LINES WHEN POSSIBLE.

- ① ANCHOR TIE BARS INTO DRILLED HOLES WITH AN EPOXY.
- ② PAVEMENT THAT WAS IN PLACE PRIOR TO THE CONTRACT.

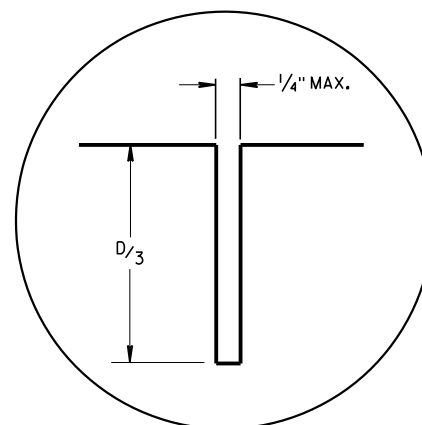


PLAN VIEW

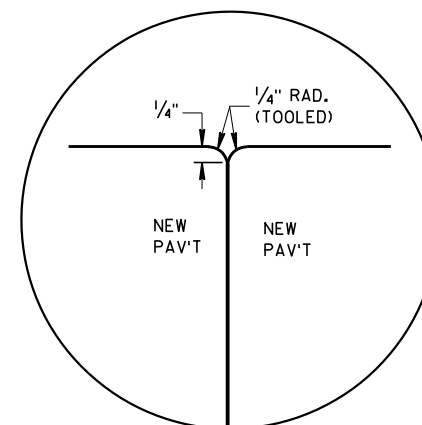
NO. 6 TIE BARS SPACED 30" C-C, INSTALLED PERPENDICULAR TO THE LONGITUDINAL JOINT. ①



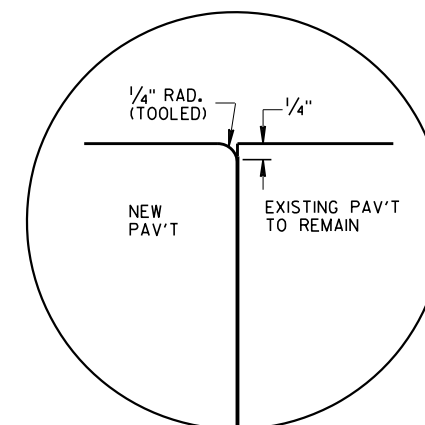
SECTION A-A
LONGITUDINAL CONSTRUCTION JOINT
TIE BARS ANCHORED
INTO EXISTING PAVEMENT



DETAIL "A"



DETAIL "B"



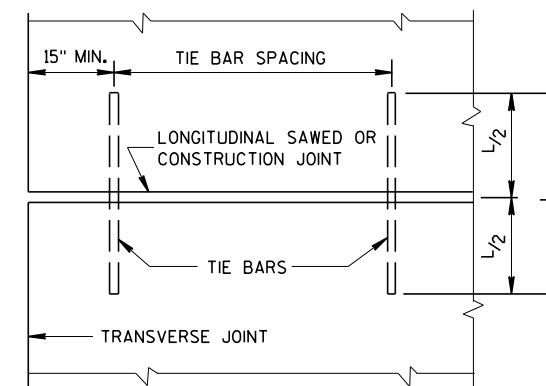
DETAIL "C"

TIE BAR TABLE

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

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

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

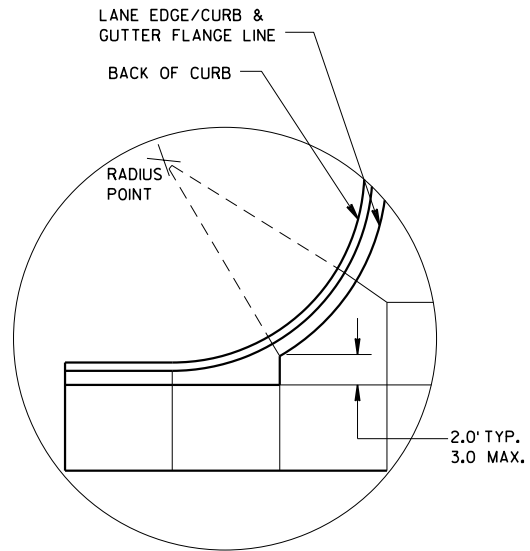


PLAN VIEW
SHOWING LOCATION OF TIE BARS

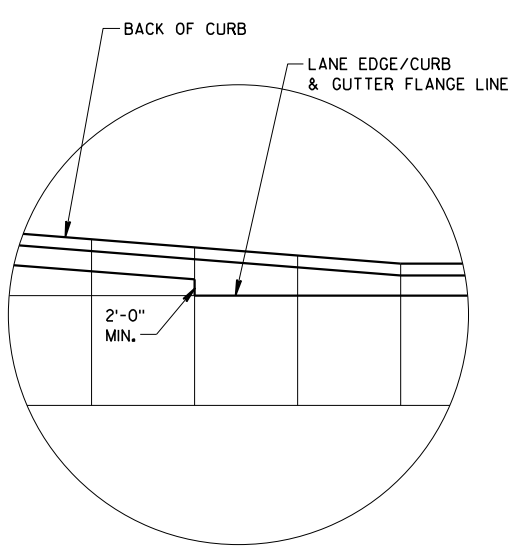
CONCRETE PAVEMENT
LONGITUDINAL JOINTS AND TIES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

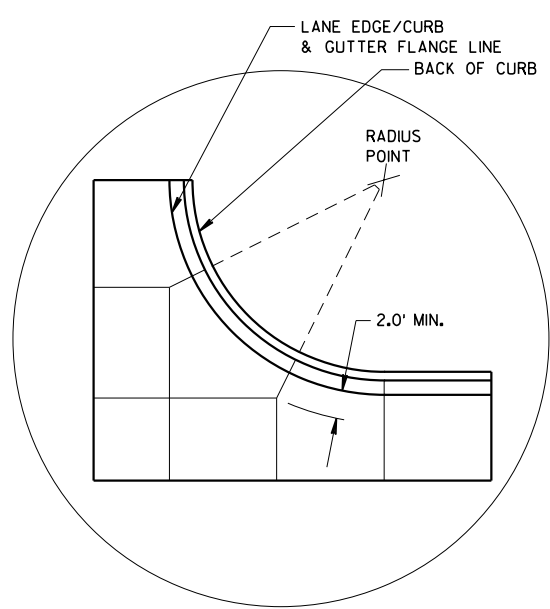
APPROVED
March 2018 /S/ Peter Kemp, P.E.
DATE PAVEMENT SUPERVISOR
FHWA



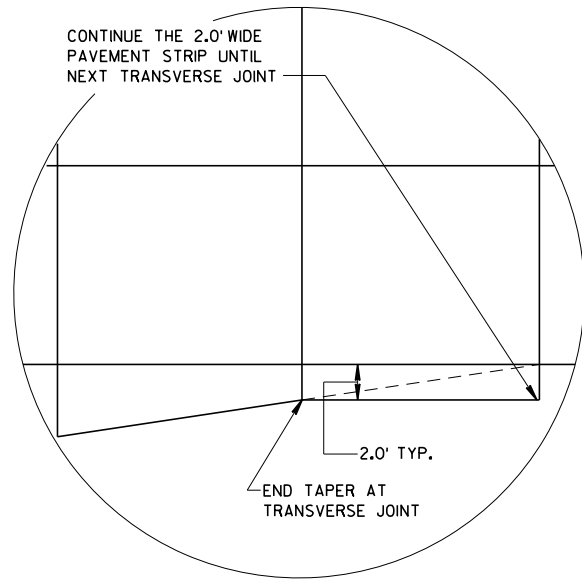
DETAIL "A"



DETAIL "B"



DETAIL "C"



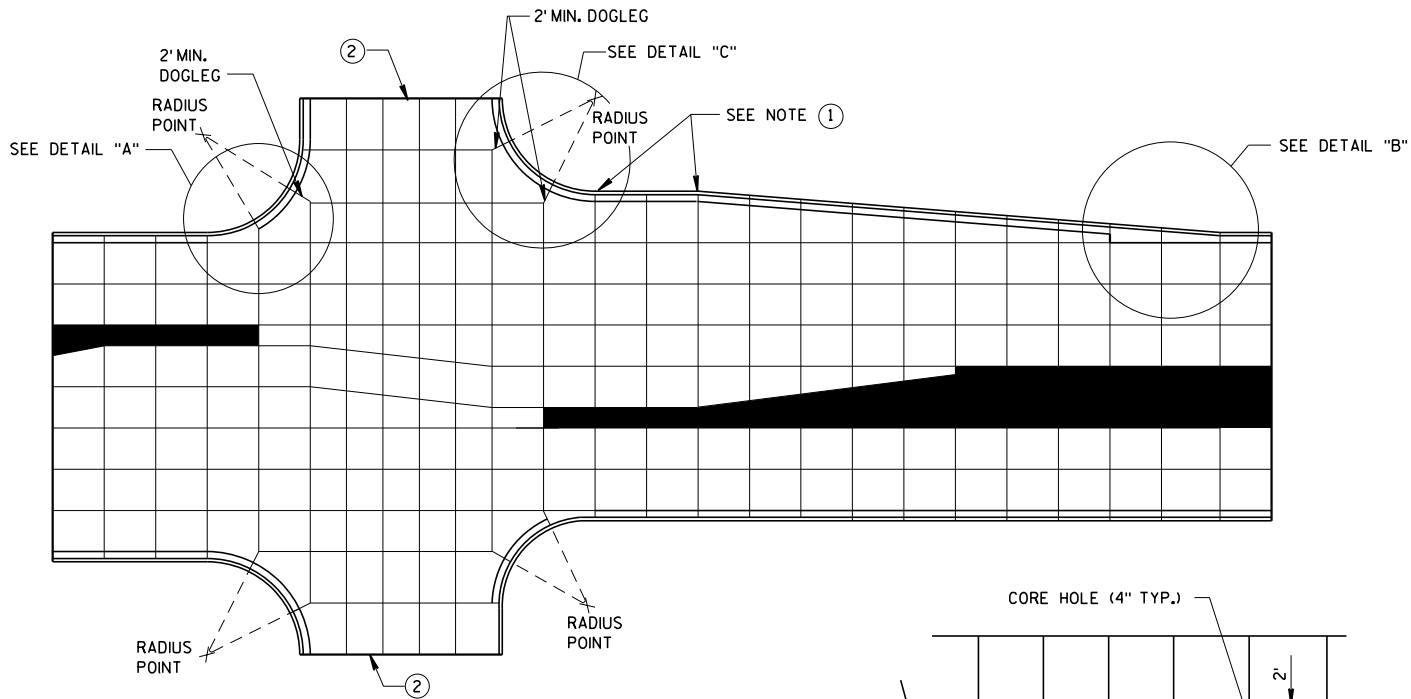
DETAIL "D"

GENERAL NOTES

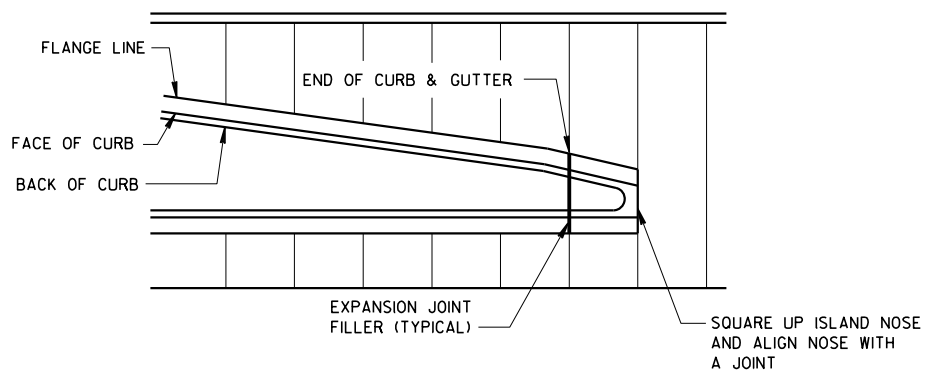
- THE PRIMARY ROADWAY CONTROLS THE TRANSVERSE JOINT PATTERN.
- ALIGN NEW JOINTS WITH EXISTING JOINTS OR CRACKS.
- CONSTRUCT TRANSVERSE JOINTS PERPENDICULAR TO THE ROADWAY.
- ADJUST TRANSVERSE JOINTS TO ALIGN WITH UTILITY FIXTURES (E.G. MANHOLES AND INLETS) IN THE PAVEMENT STRUCTURE WHEN POSSIBLE. WATER VALVES DO NOT REQUIRE JOINT ADJUSTMENT.
- AVOID SLABS LESS THAN 2 FEET WIDE OR GREATER THAN 15 FEET WIDE.
- SEE TABLE FOR TRANSVERSE JOINT SPACING. JOINT SPACING SPECIFIED IS MAXIMUM AND ACTUAL SPACING CAN BE ADJUSTED TO ACCOMMODATE INTERSECTIONS.
- AVOID ANGLES LESS THAN 60° BY DOGLEGGING JOINTS THROUGH CURVE RADIUS POINTS. USE 90° ANGLES WHEN POSSIBLE.
- CORRELATE LONGITUDINAL JOINTS WITH LANE LINES WHEN POSSIBLE.
1. PROVIDE TRANSVERSE JOINTS AT ALL PAVEMENT WIDTH CHANGES.
 2. CONSTRUCT DOWELED EXPANSION JOINT ON THE SIDE ROAD OF AN INTERSECTION IF THE SIDE ROAD IS CONCRETE PAVEMENT AND GREATER THAN 300 FEET IN LENGTH. ALIGN EXPANSION JOINT WITH EDGE OF RADIUS.
 3. THE ENGINEER MAY APPROVE SLIGHT VARIATIONS FROM THESE JOINTING DETAILS.

PAVEMENT DEPTH AND JOINT SPACING TABLE

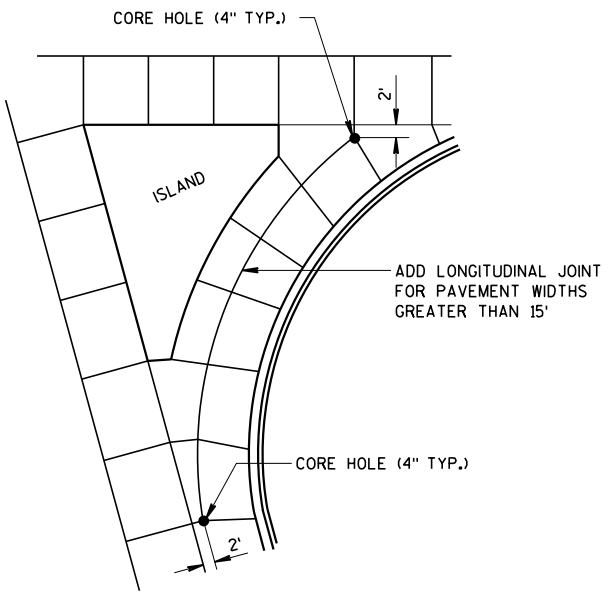
PAVEMENT DEPTH (D)	CONTRACTION JOINT SPACING
6", 6 1/2"	12'
7", 7 1/2"	14'
8" & ABOVE	15'



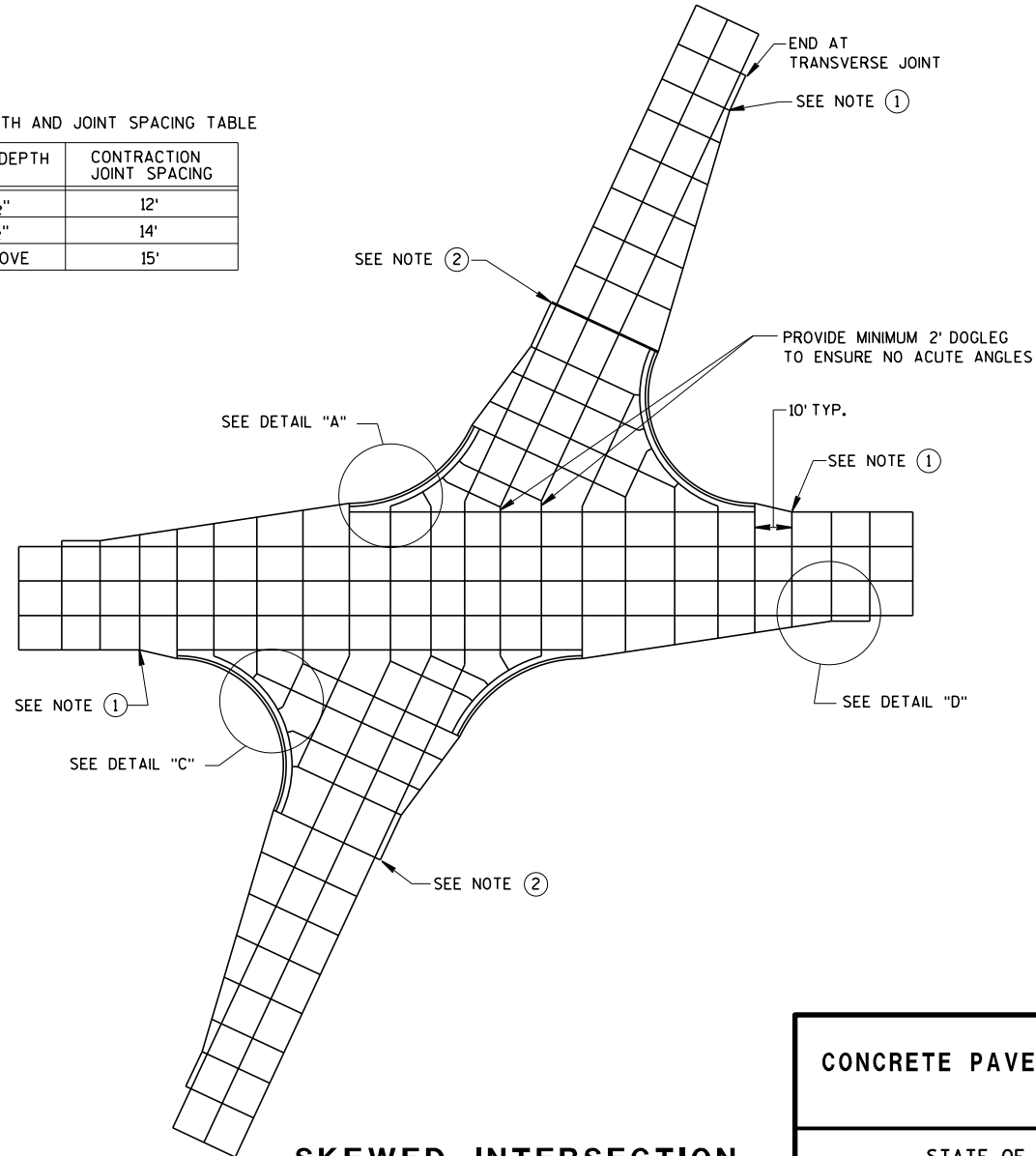
STANDARD INTERSECTION



APPROACH TO MEDIAN



LARGE RIGHT TURN



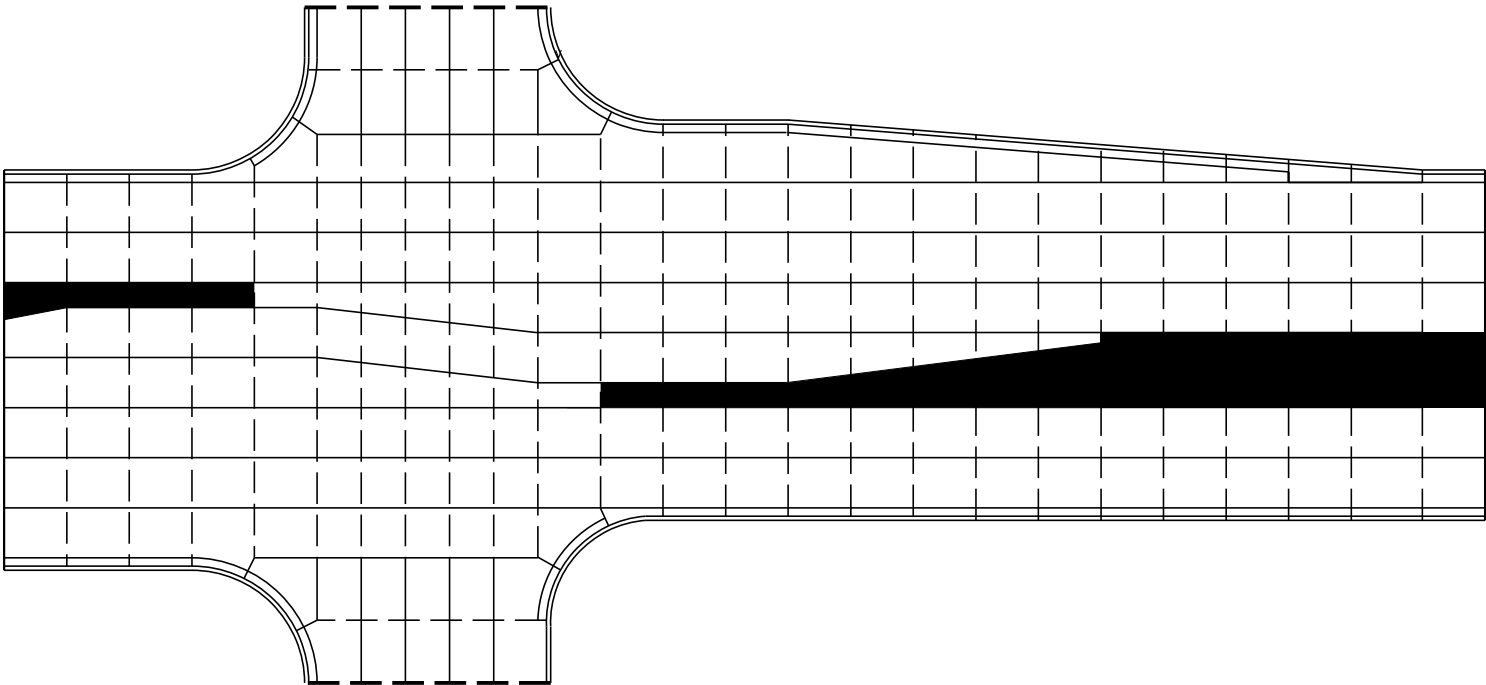
SKEWED INTERSECTION

CONCRETE PAVEMENT JOINTING

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

LEGEND

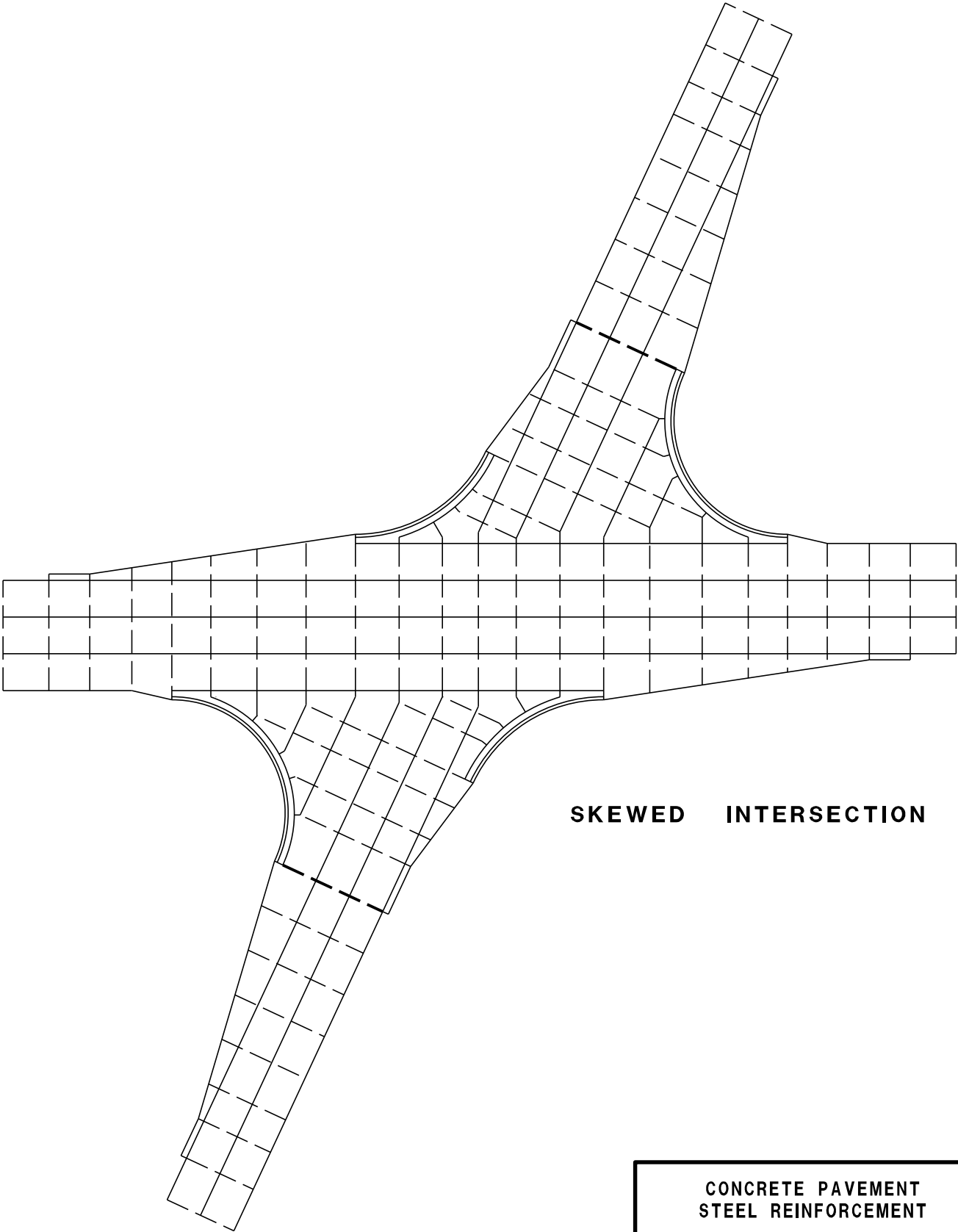
- POTENTIAL DOWELED EXPANSION JOINT
- DOWELED JOINT
- TIED JOINT



STANDARD INTERSECTION

GENERAL NOTES

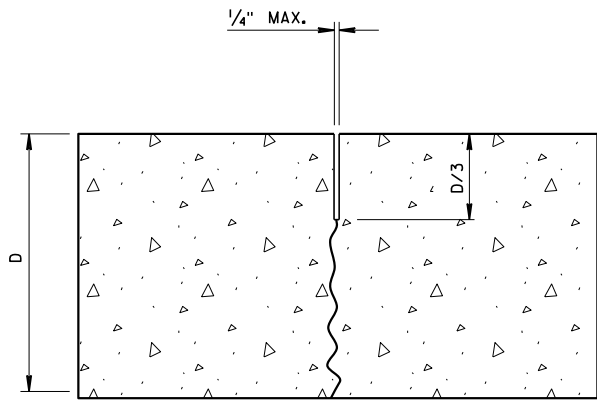
USE AN EXPANSION JOINT FILLER MEETING THE REQUIREMENTS OF STANDARD SPECIFICATION 415.



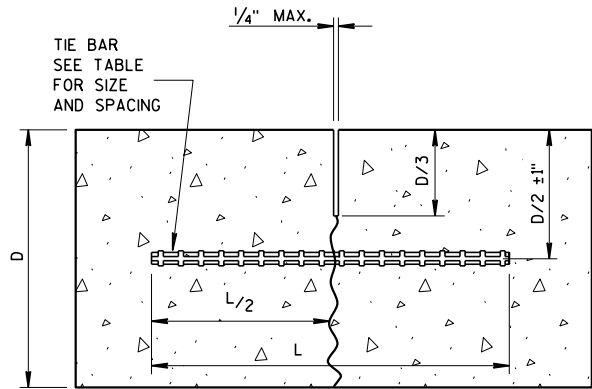
SKEWED INTERSECTION

CONCRETE PAVEMENT
STEEL REINFORCEMENT

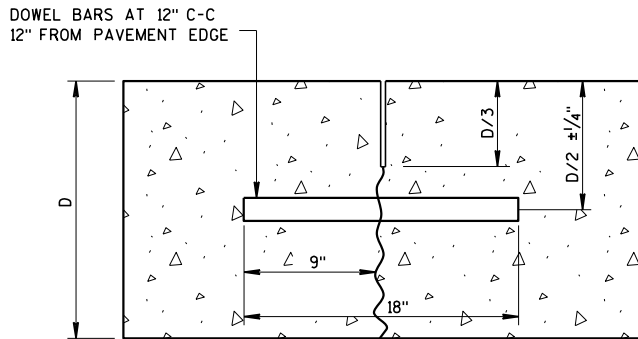
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



UNDOWELED-TRANSVERSE



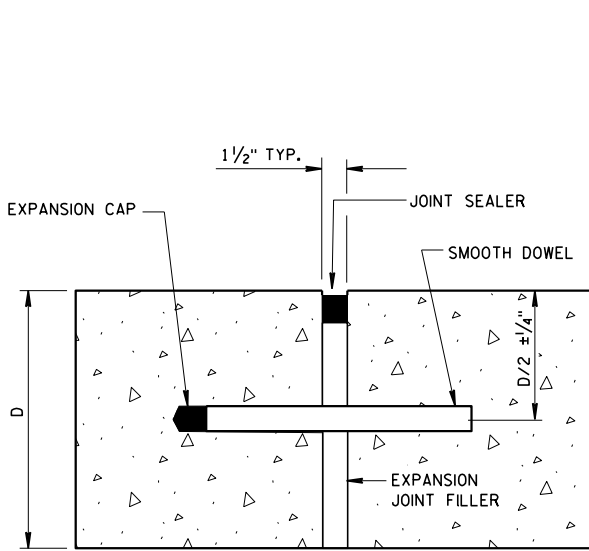
TIED LONGITUDINAL



DOWELED-TRANSVERSE

CONTRACTION JOINTS

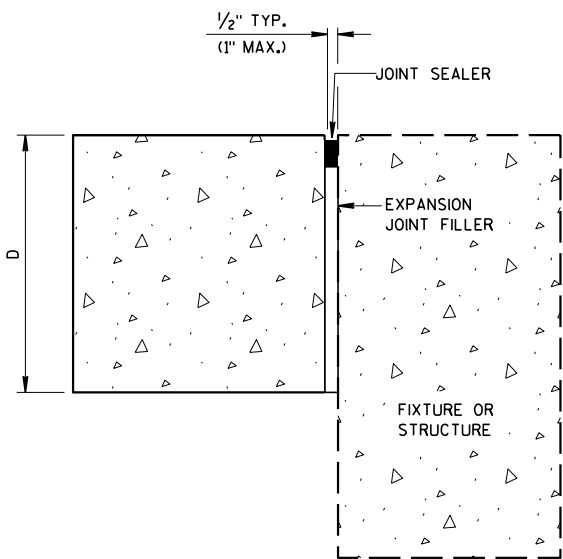
SEE NOTE ②



DOWELED-TRANSVERSE

SEE NOTE ①

EXPANSION JOINTS



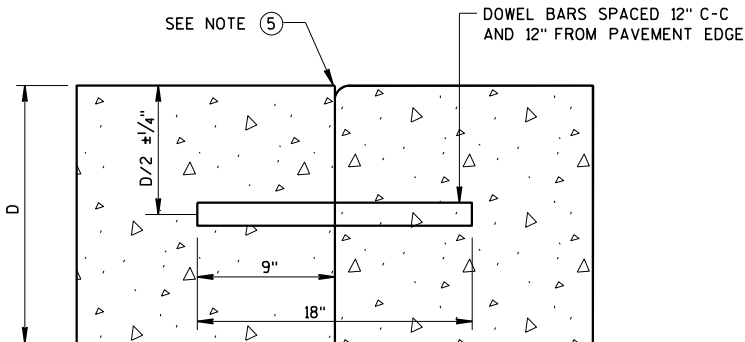
UNTIED-LONGITUDINAL

TIE BAR TABLE

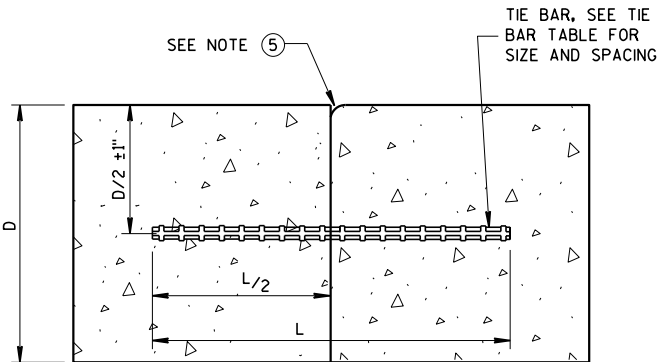
PAVEMENT DEPTH (D)	TIE BAR SIZE	TIE BAR LENGTH (L)	MAX. TIE BAR SPACING
< 10 1/2"	NO. 4	30"	36"
≥ 10 1/2"	NO. 5	36"	36"
	NO. 4 *	30"	24" **

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

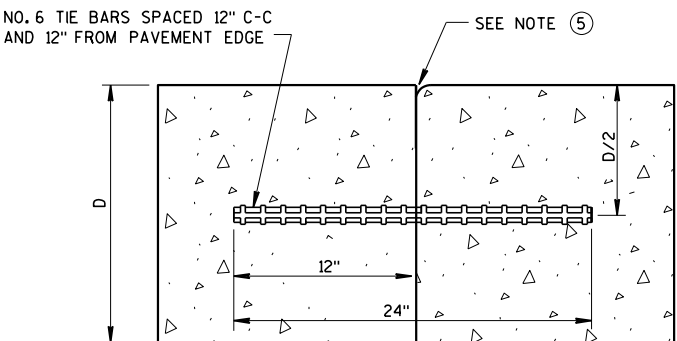
** CONFORM TO 15" MINIMUM SPACING FROM TRANSVERSE JOINTS; SPACING BETWEEN TIE BARS WILL BE 30" AT TRANSVERSE JOINTS.



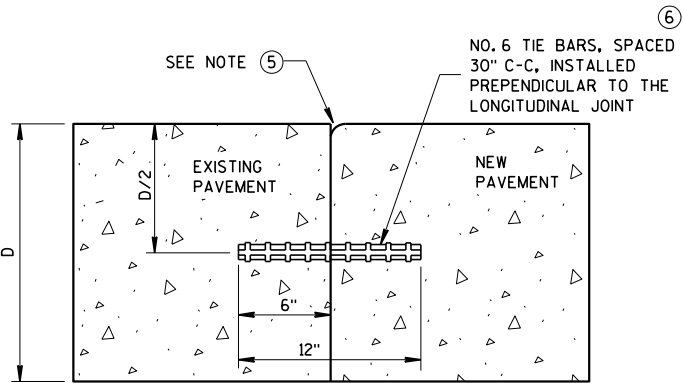
DOWELED TRANSVERSE ③



TIED LONGITUDINAL



TIED TRANSVERSE ③
(FOR USE ON NON-DOWELED PAVEMENTS ONLY)



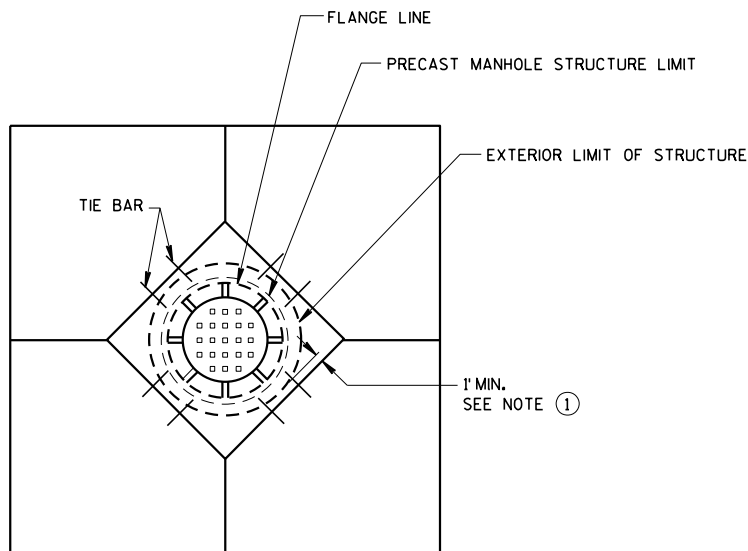
TIED LONGITUDINAL TO EXISTING

CONSTRUCTION JOINTS

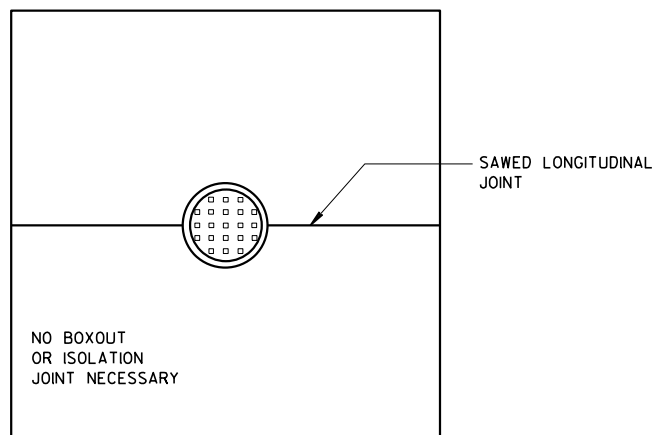
SEE NOTE ④

CONCRETE PAVEMENT
JOINT TYPES

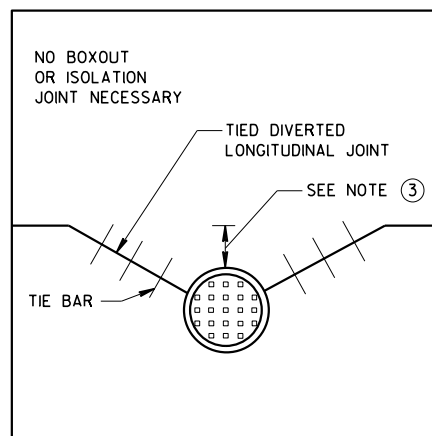
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



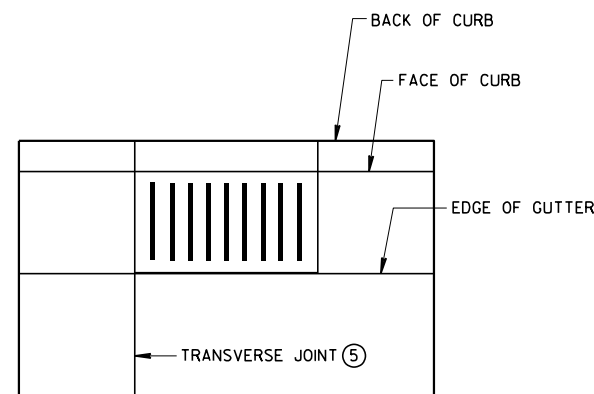
**DIAGONAL MANHOLE BOXOUT
FOR CONSTRUCTION JOINTS**



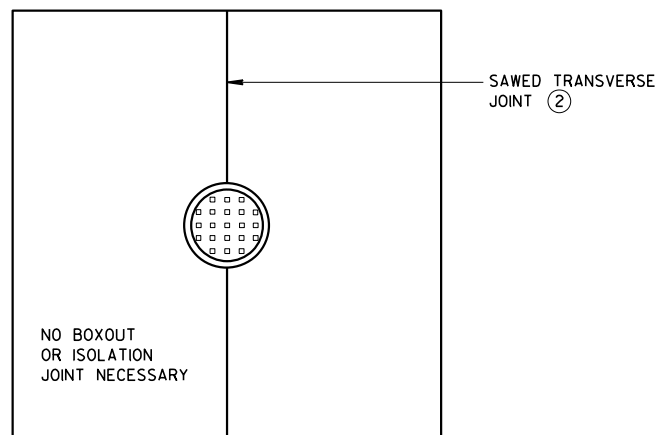
**MANHOLE WITH
LONGITUDINAL JOINT**



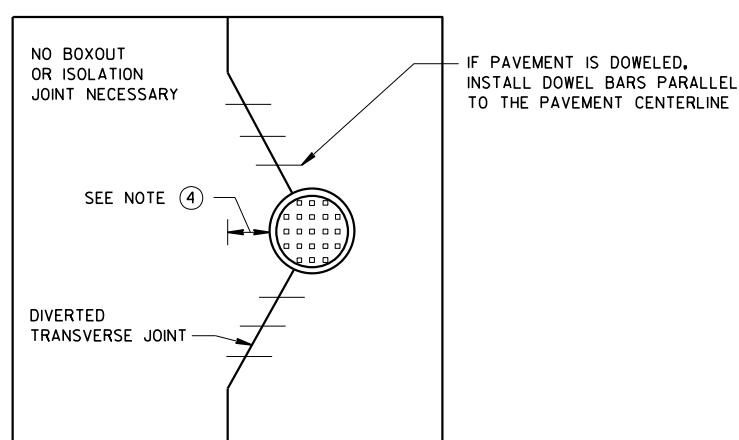
**MANHOLE WITH DIVERTED
LONGITUDINAL CONTRACTION JOINT**



**INLET WITH
TRANSVERSE JOINT**



**MANHOLE WITH
TRANSVERSE 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 LONGITUDINAL 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

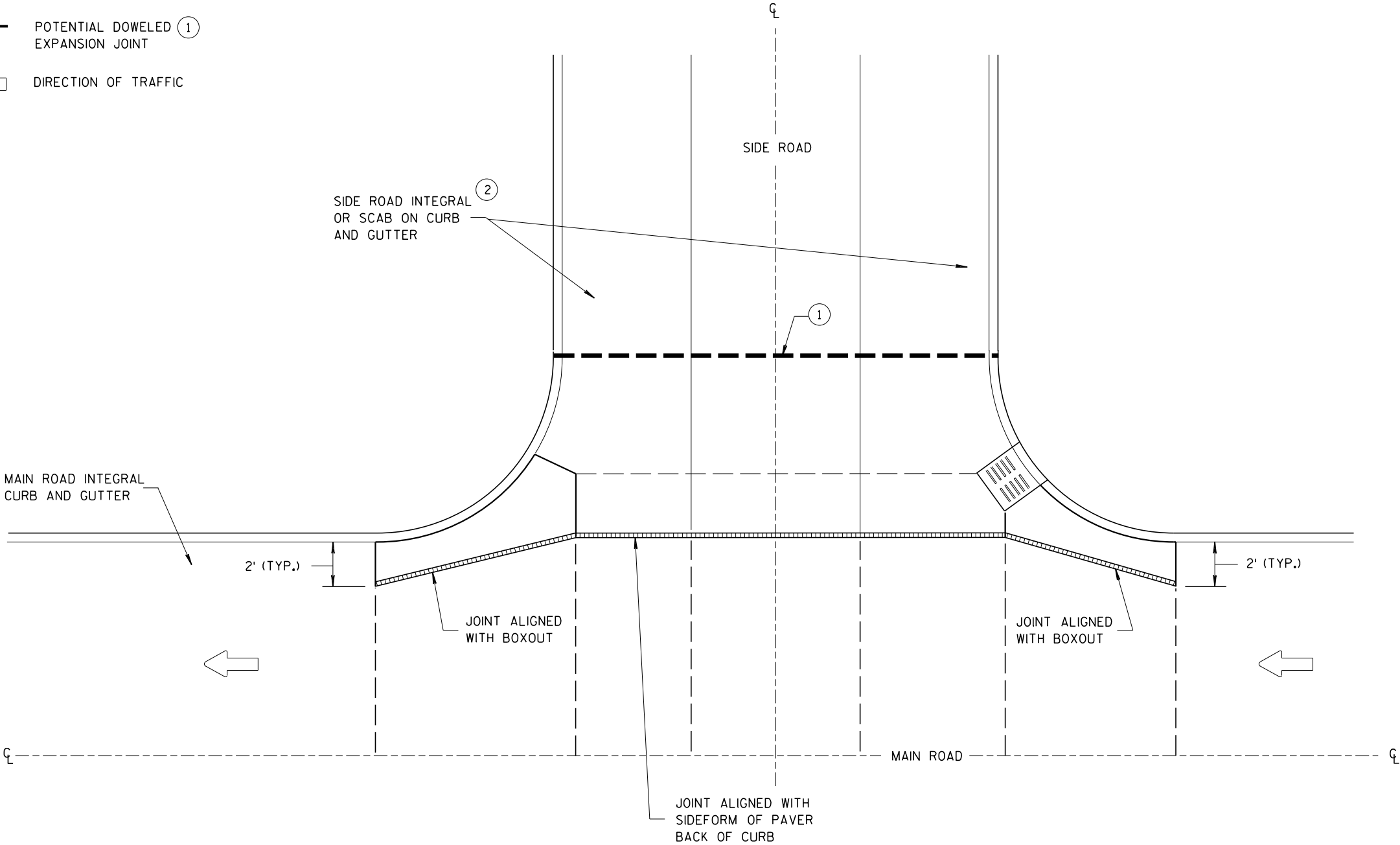
APPROVED
March 2018 /S/ Peter Kemp, P.E.
DATE PAVEMENT SUPERVISOR
FHWA

LEGEND

- DOWELED JOINT
- TIED JOINT
- ▤ TIED CONSTRUCTION JOINT/BOXOUT
- - - POTENTIAL DOWELED ① EXPANSION JOINT
- ← DIRECTION OF TRAFFIC

GENERAL NOTES

- ① 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.
- ② PROVIDE TIED JOINT AT THE FLANGE OF SCAB ON CURB IF SCAB ON CURB AND GUTTER IS USED.

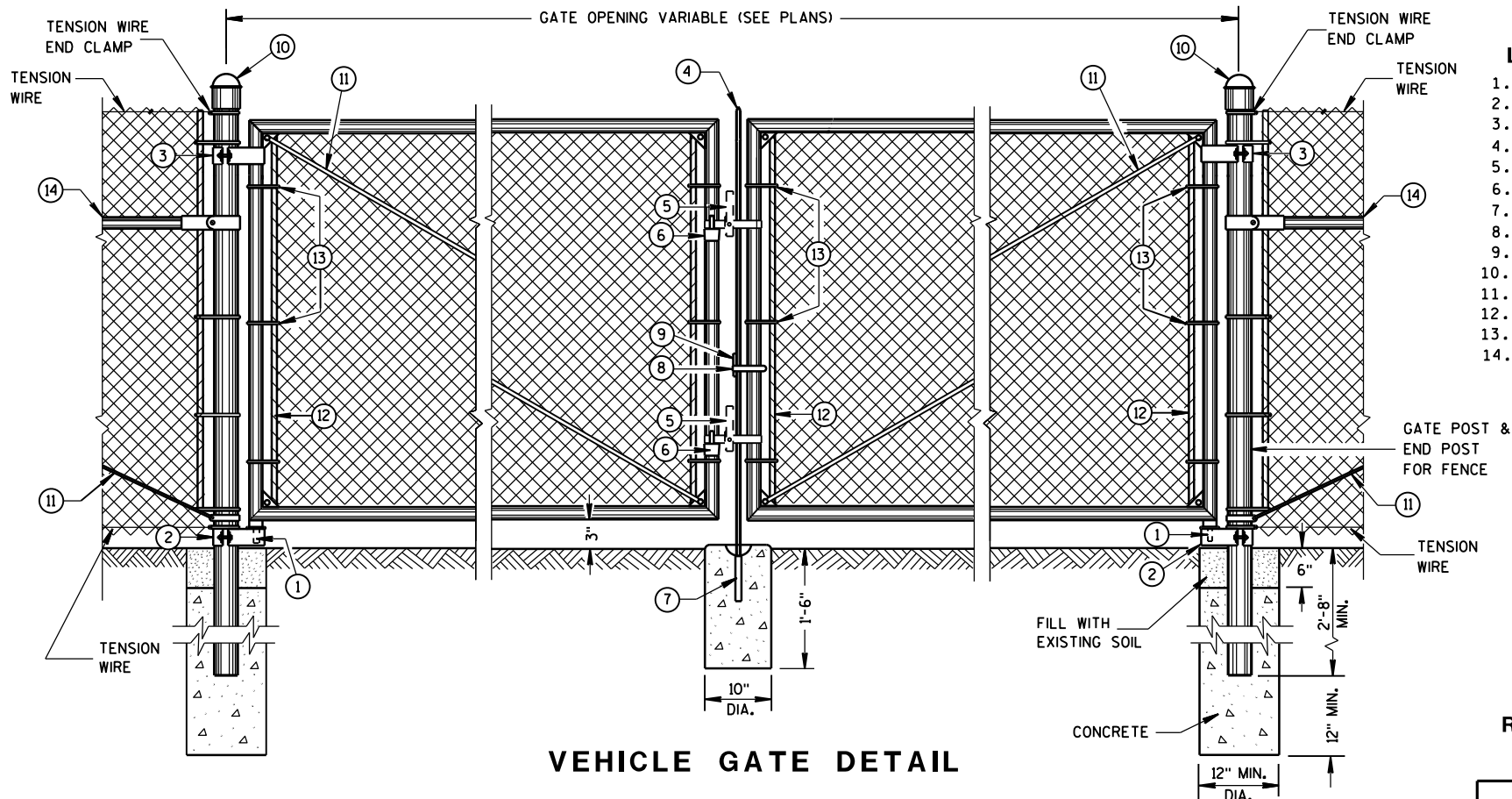


INTERSECTION BOXOUT FOR INTEGRAL CURB AND GUTTER

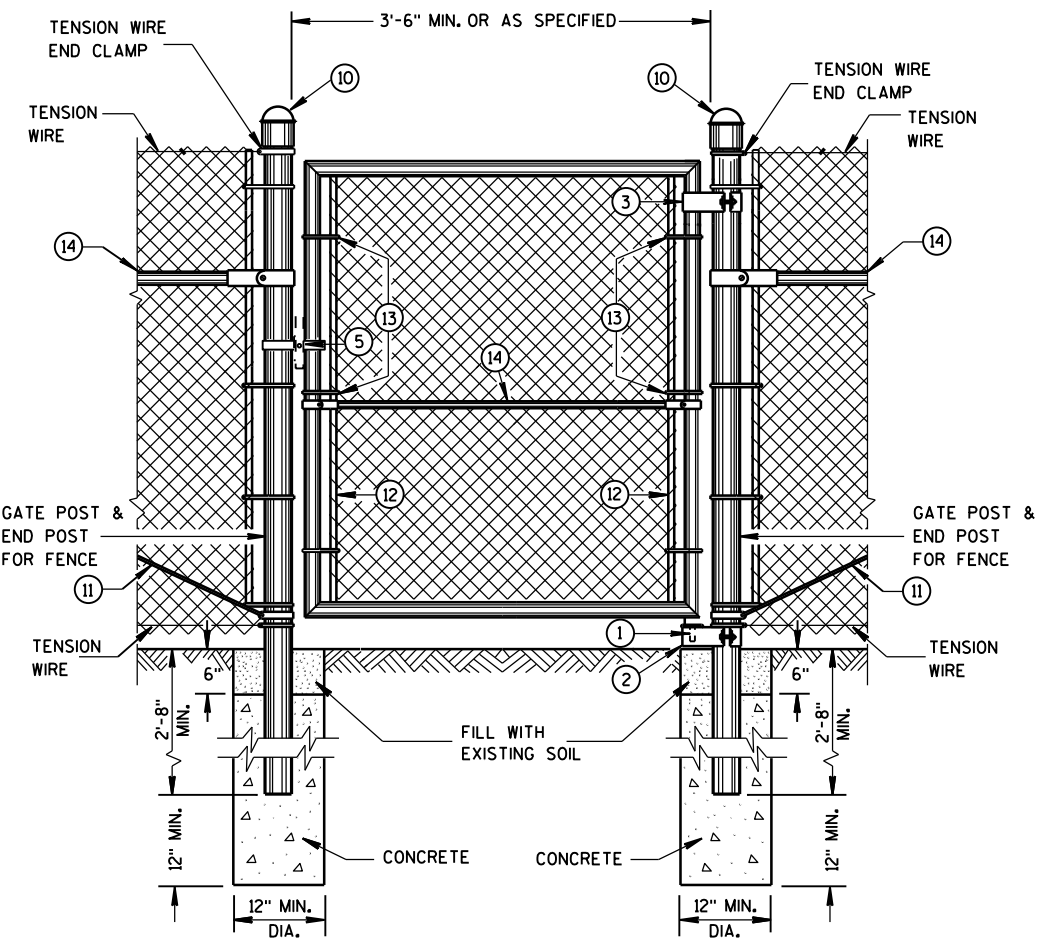
CONCRETE PAVEMENT
INTERSECTION BOXOUT FOR
INTEGRAL CURB AND GUTTER

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
March 2018 /S/ Peter Kemp, P.E.
DATE PAVEMENT SUPERVISOR
FHWA



VEHICLE GATE DETAIL



PEDESTRIAN GATE DETAIL

REQUIRED FENCE POST SIZES

USE	FABRIC HEIGHTS FEET	POST TYPE
TERMINAL POSTS **	LESS THAN OR EQUAL TO 6 FT.	SP3
	GREATER THAN OR EQUAL TO 6 FT.	SP4
LINE POSTS	LESS THAN OR EQUAL TO 6 FT.	SP2
	LESS THAN OR EQUAL TO 8 FT.	SP3
	GREATER THAN OR EQUAL TO 8 FT.	SP4
	LESS THAN OR EQUAL TO 8 FT.	FS2 OR FS2+
	GREATER THAN OR EQUAL TO 8 FT.	FS3

BRACE RAIL TYPES

USE	TYPE
BRACE RAIL	SP1 OR FS1

** INCLUDES END, CORNER, ANGLE, INTERSECTION AND INTERMEDIATE BRACED POSTS

LEGEND

1. STRAIGHT PLUG
2. BOTTOM HINGE
3. TOP HINGE
4. PLUNGER ROD
5. FULCRUM LATCH
6. FORK CATCH *
7. PLUNGER ROD CATCH
8. LOCK KEEPER GUIDE
9. LOCK KEEPER
10. DOME TOPS
11. TRUSS RODS
12. TENSION BAR
13. TENSION BANDS
14. BRACE RAIL

*NOT REQUIRED ON SINGLE SWING PEDESTRIAN GATE

GENERAL NOTES

FENCE POSTS INSTALLED ON CONCRETE WALLS SHALL BE ANCHORED INTO EMBEDDED METAL SLEEVES OR CORED HOLE BY FILLING THE ANNULAR SPACE WITH PEA GRAVEL FOLLOWED BY AN EPOXY RESIN ADHESIVE. THE EPOXY RESIN ADHESIVE SHALL CONFORM TO THE REQUIREMENTS OF AASHTO M 235, CLASS A, B OR C.

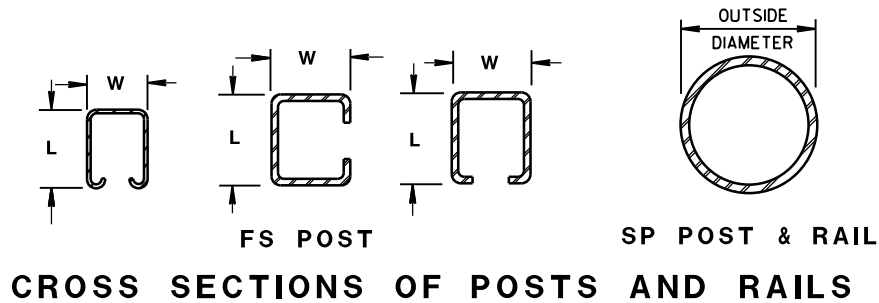
USE FENCE FABRIC KNUCKLED AT BOTH SELVAGES.

FOR LEAF GATES GREATER THAN 8 FEET WIDE, INSTALL INTERIOR VERTICAL BRACE RAIL AT 8 FOOT INTERVALS.

FOR FABRIC HEIGHTS GREATER THAN 8 FEET, INSTALL INTERIOR HORIZONTAL BRACE RAILS TO LEAF GATE.

MAXIMUM SAG FOR OUTER GATE MEMBER SHALL NOT EXCEED THE GREATER OF 1% OF THE LEAF GATE WIDTH OR 2 INCHES.

USE TYPE 2, CLASS 3, MARCELLED/CRIMPED, TENSION WIRE PER ASTM A 817.



ROLLED-FORMED STEEL FENCE POST
(2.0 OZ./SQ. FT. COATING)

POST TYPE	LENGTH (L) INCH	WIDTH (W) INCH	WEIGHT LBS/FT
FS1	1.625	1.25	1.35
FS2+	1.875	1.625	1.850
FS2	1.875	1.625	2.400
FS3	2.250	1.700	2.780

ROUND STEEL FENCE POST
(1.8 OZ./SQ. FT. COATING)

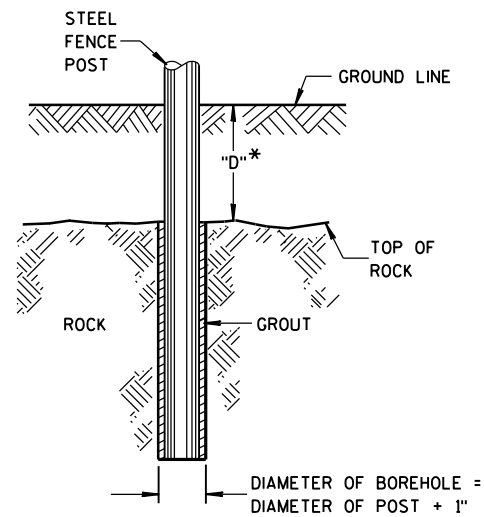
POST TYPE	OUTSIDE DIMENSION INCH	WALL THICKNESS INCH	WEIGHT LBS/FT
SP1	1.660	0.140	2.270
SP2	1.900	0.145	2.720
SP3	2.375	0.154	3.650
SP4	2.875	0.203	5.800
SP5	4.000	0.226	9.120
SP6	6.625	0.280	18.990
SP7	8.625	0.322	28.580

REQUIRED POST SIZE FOR GATES

USE	LEAF WIDTHS FEET	POST TYPE
GATES	LESS THAN OR EQUAL TO 6 FT.	SP4
	LESS THAN OR EQUAL TO 13 FT.	SP5
	LESS THAN OR EQUAL TO 18 FT.	SP6
	LESS THAN OR EQUAL TO 23 FT.	SP7

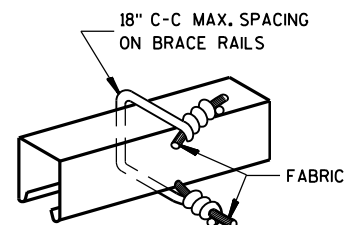
FENCE CHAIN LINK

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



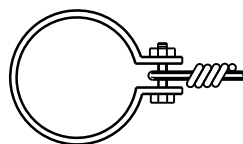
* IF "D" IS LESS THAN 2'-6",
DRILL ROCK AND INSTALL GROUT

ROCK INSTALLATION OF LINE POST

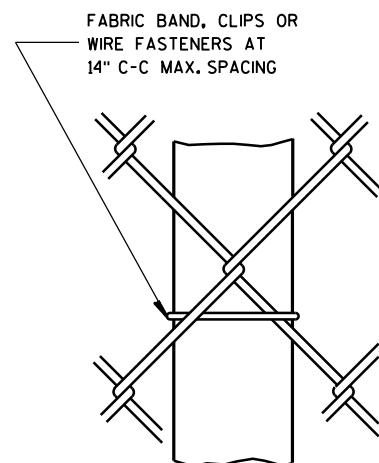


BRACE RAIL FABRIC FASTENER

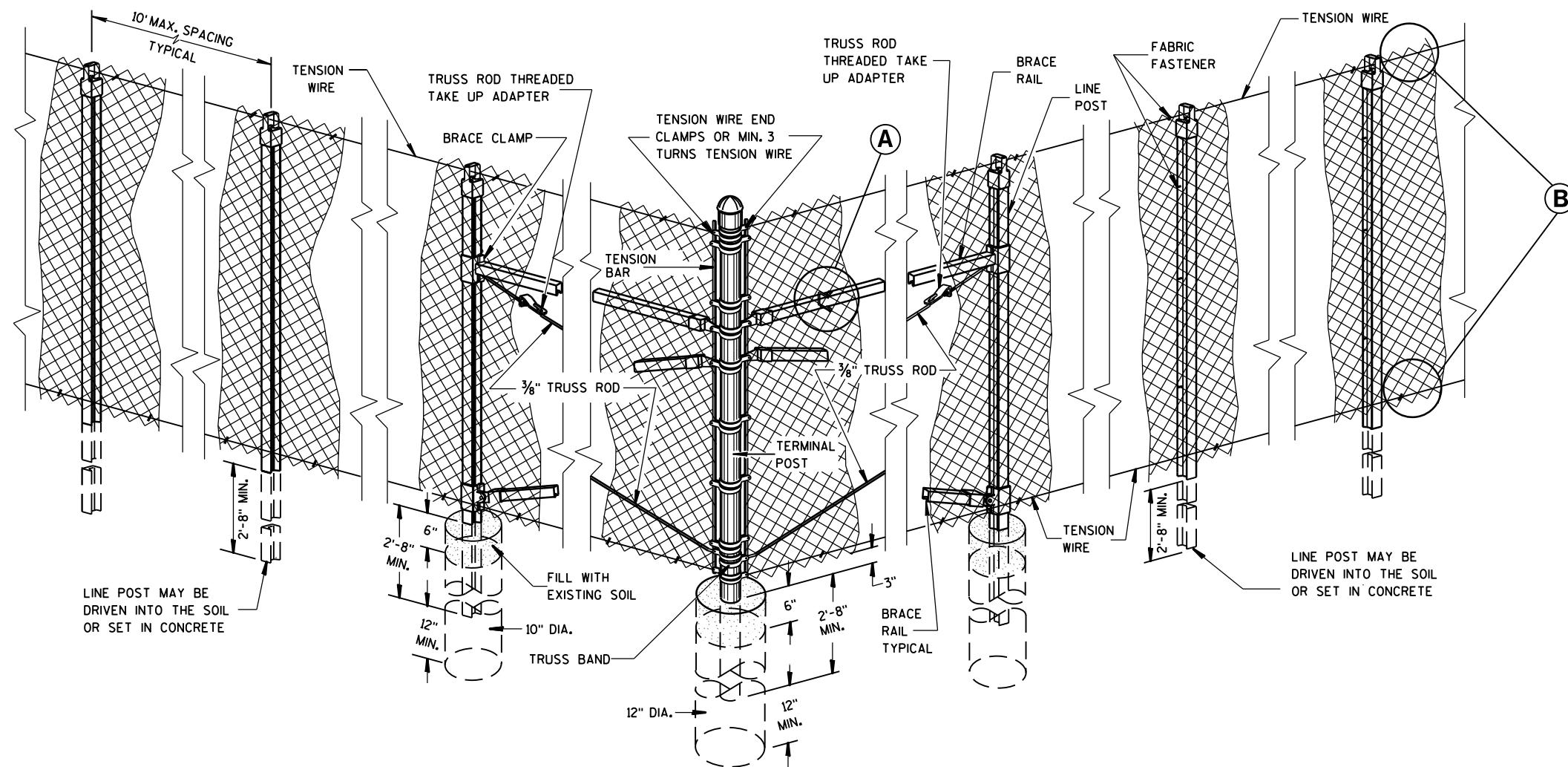
(A)



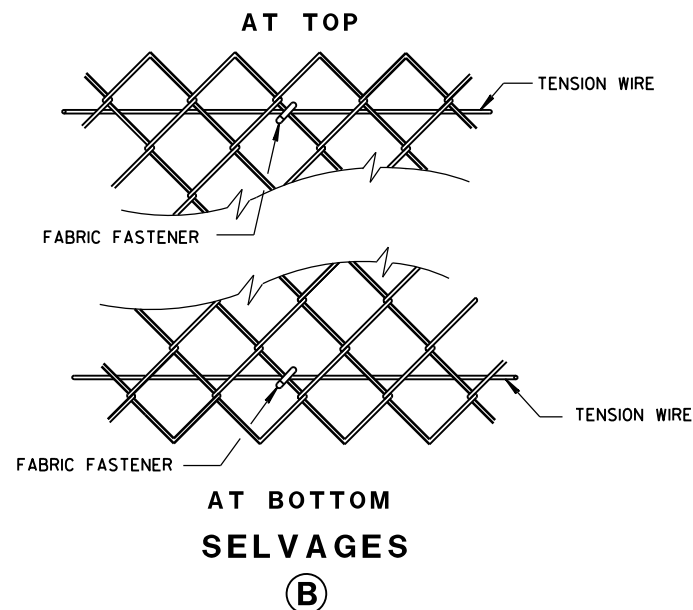
TENSION WIRE END CLAMP



LINE POST FABRIC FASTENER



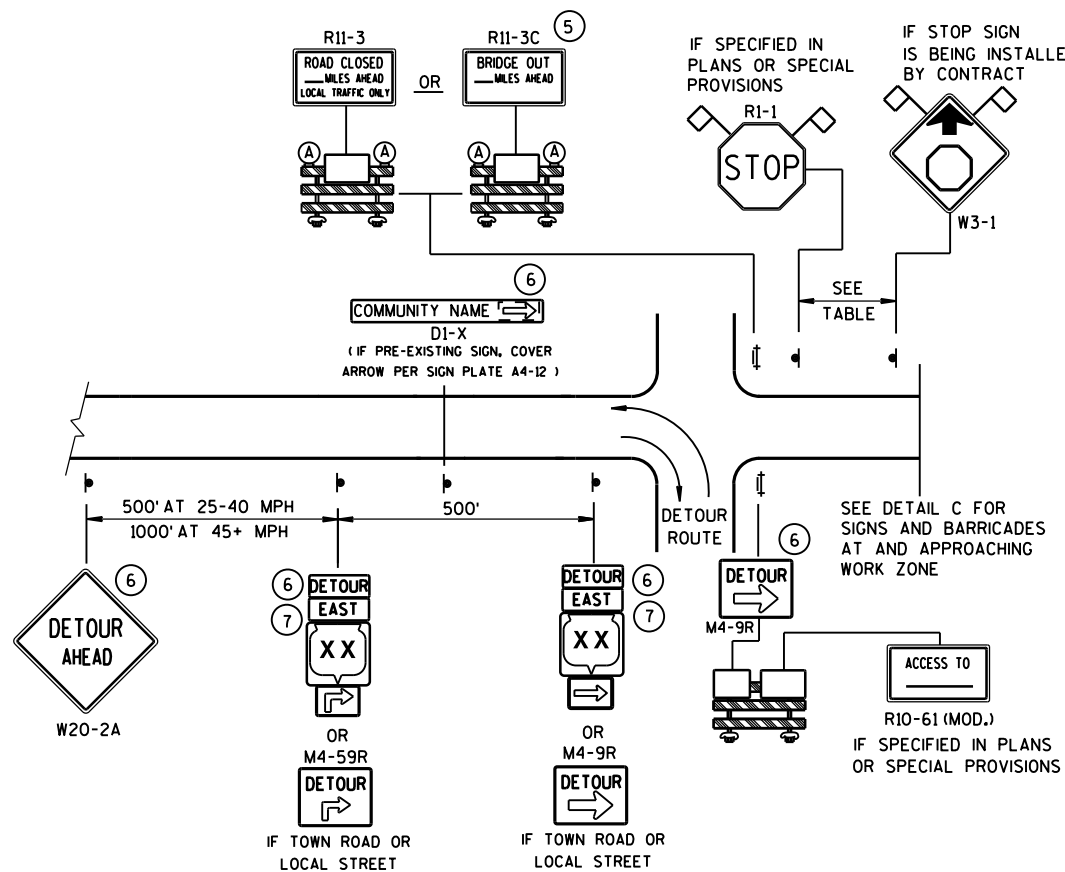
END, CORNER, ANGLE INTERSECTION & INTERMEDIATE BRACED POSTS



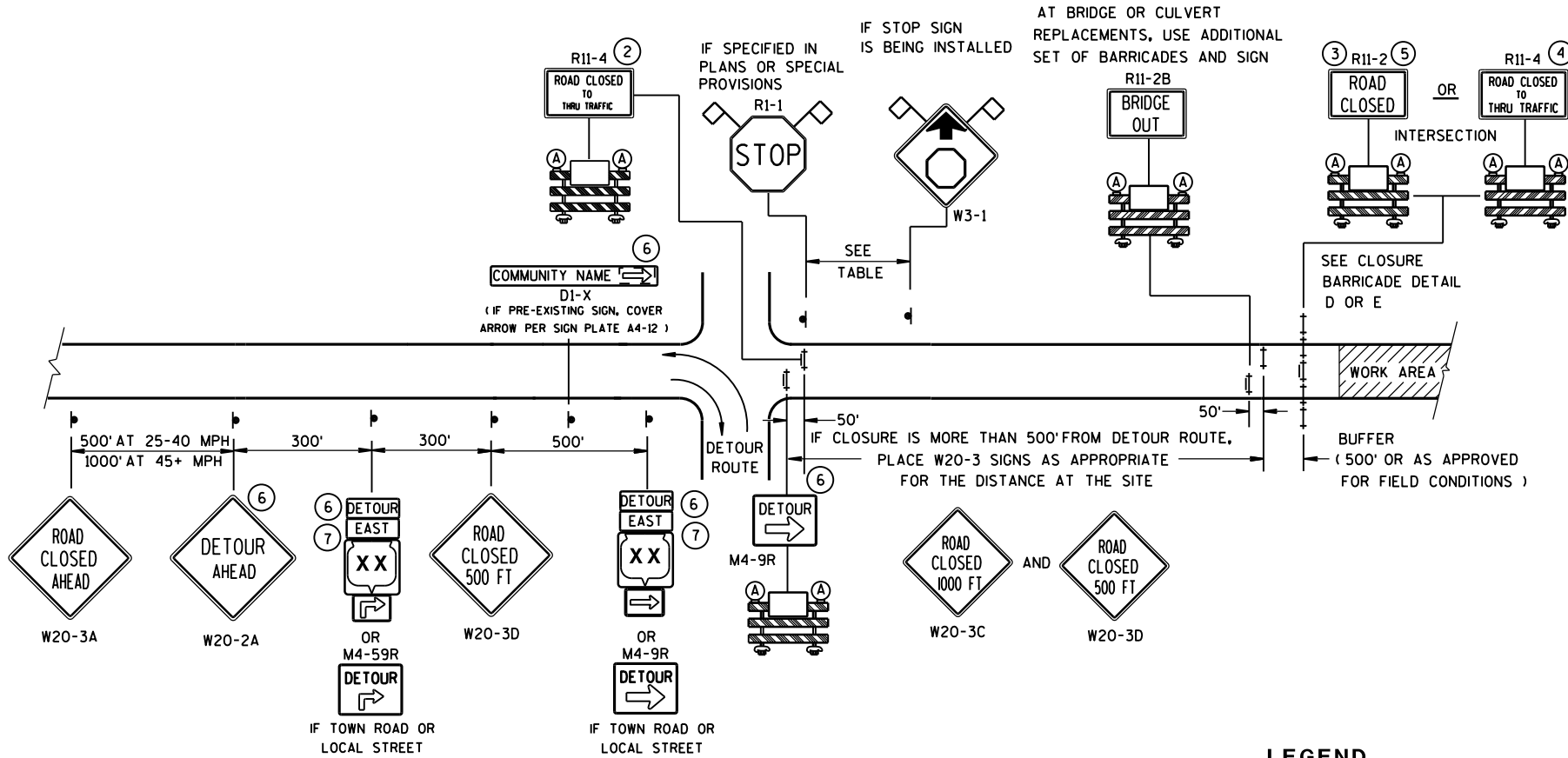
FENCE CHAIN LINK

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

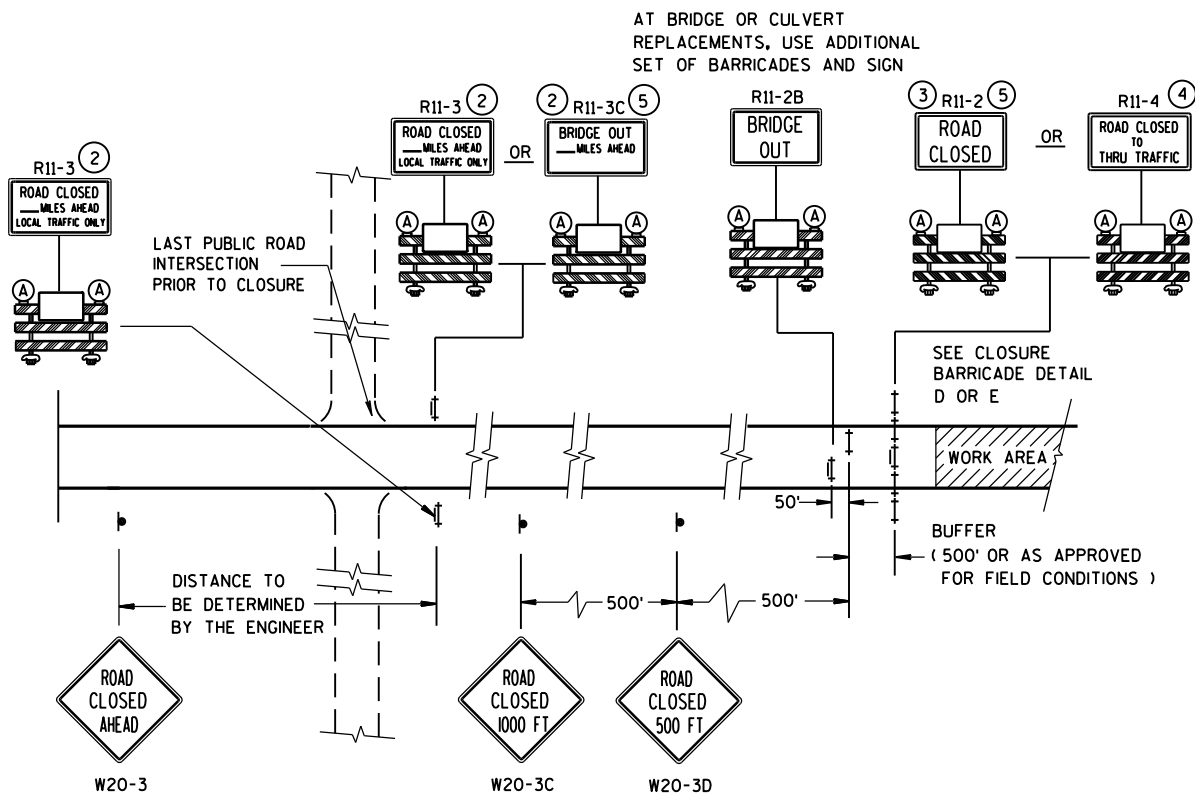
APPROVED
FEB. 2015
DATE /S/ Jerry H. Zogg
ROADWAY STANDARDS DEVELOPMENT
ENGINEER
FHWA



DETAIL A
MAINLINE CLOSURE WITH POSTED DETOUR
WORK ZONE GREATER THAN 1/2 MILE FROM DETOUR ROUTE (1000 FEET IF URBAN)



DETAIL B
MAINLINE CLOSURE WITH POSTED DETOUR
WORK ZONE LESS THAN 1/2 MILE FROM DETOUR ROUTE (1000 FEET IF URBAN)



DETAIL C
MAINLINE CLOSURE, NO POSTED DETOUR

LEGEND

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

WORK AREA

DETOUR EAST
M4-8
M3-X
XX OR XX OR XX
M1-4 M1-5A M1-6

M05-1 OR M06-1

FLAGS, 16" X 16" MIN., (ORANGE)

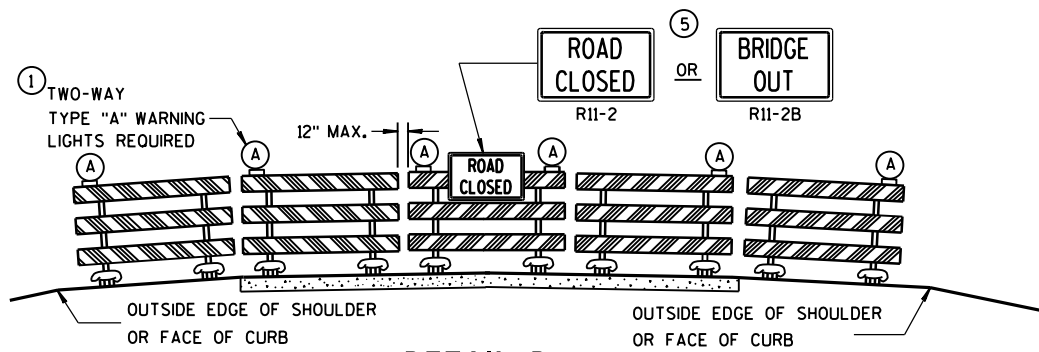
SPEED LIMIT (MPH)	"STOP AHEAD" ADVANCE WARNING DISTANCE (FT)
25	200
30	200
35	350
40	350
45	500
50	550
55	750

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

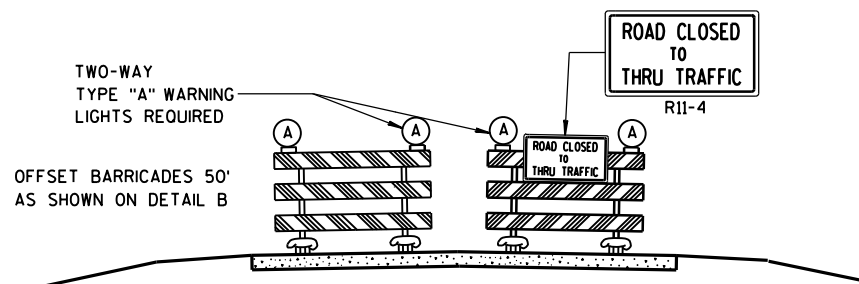
BARRICADES AND SIGNS
FOR
MAINLINE CLOSURES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

Sept. 2015 /S/ Peter Amokobe Atepe
DATE STATEWIDE WORK ZONE TRAFFIC
FHWA SAFETY ENGINEER



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:

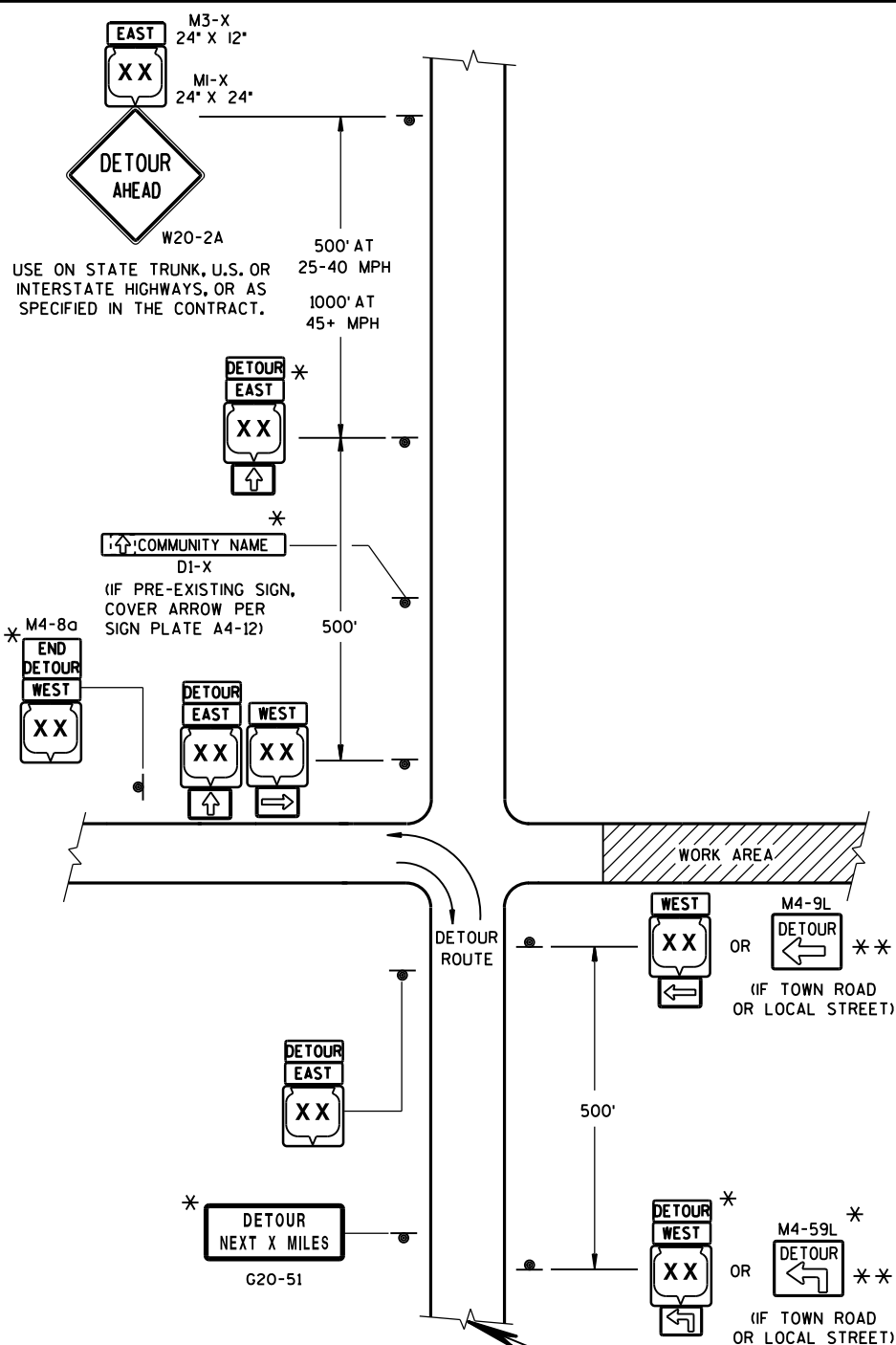
- R11-2 SHALL BE 48" X 30".
- R11-3, R11-4 AND R10-61 SHALL BE 60" X 30".
- M4-9 SHALL BE 30" X 24".
- M3-X SHALL BE 24" X 12". (36" X 18" IF NEEDED TO MATCH EXISTING SIGNS.)
- M4-8 SHALL BE 24" X 12". (30" X 15" IF NEEDED TO MATCH EXISTING SIGNS.)
- M1-4, M1-5A, AND M1-6 SHALL BE 24" X 24". (36" X 36" 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**

Sept. 2015 /S/ Peter Amokobe Atepe
DATE STATEWIDE WORK ZONE TRAFFIC
FHWA SAFETY ENGINEER



LEGEND

SIGN ON PERMANENT SUPPORT

WORK AREA

M4-8
M3-X

OR OR
MI-4 MI-5A MI-6

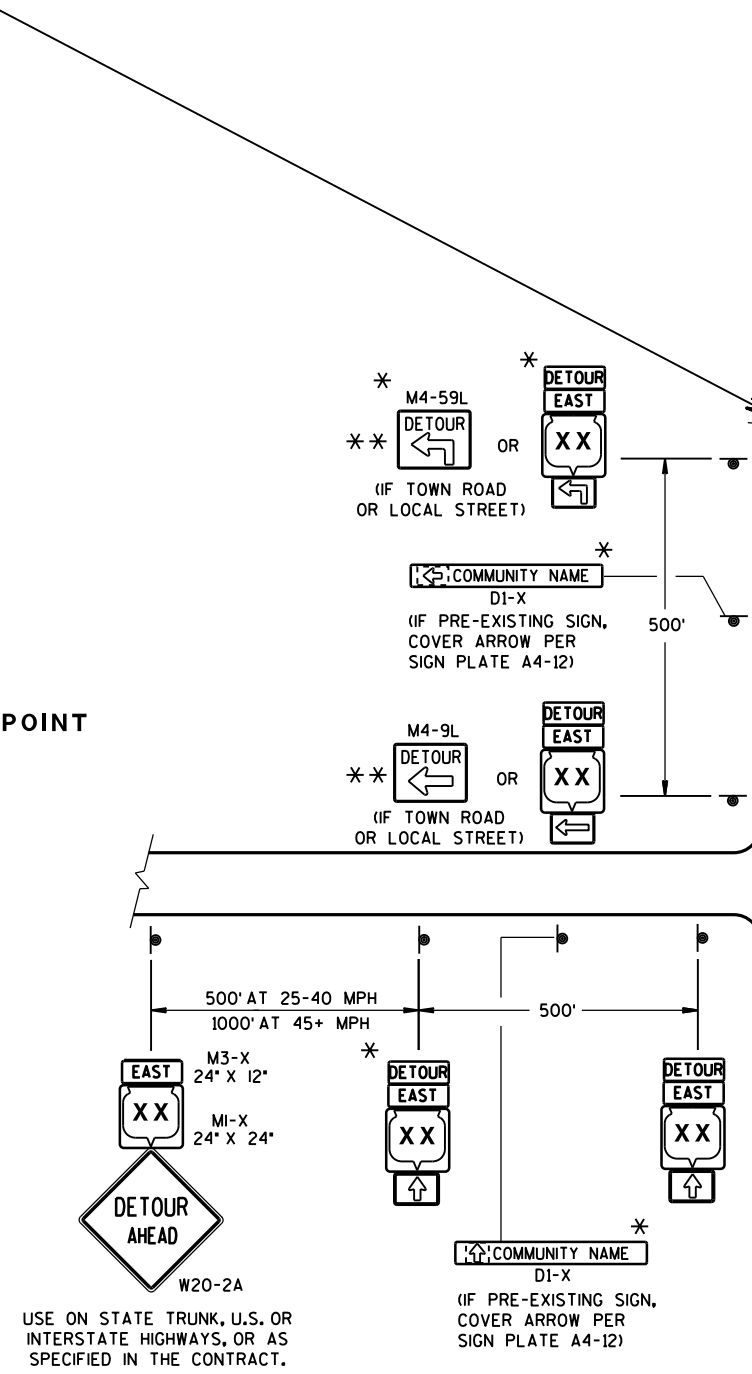
OR OR
M05-1 M06-1 M06-1

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

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

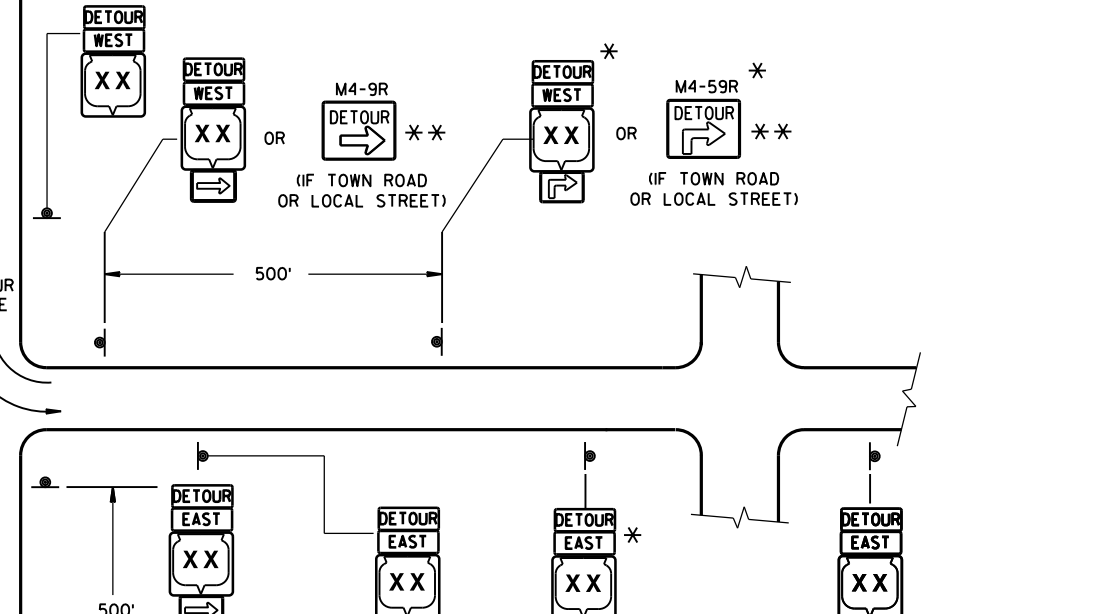
MATCH POINT

DETAIL F
DETOUR SIGNING



GENERAL NOTES

- THE EXACT NUMBER, LOCATION AND SPACING OF ALL SIGNS SHALL BE ADJUSTED TO FIT FIELD CONDITIONS AS APPROVED BY THE ENGINEER.
- IF THERE ARE EXISTING ROUTE MARKER ASSEMBLIES THAT WILL REMAIN IN PLACE, ADJUST THE LOCATION OF THE DETOUR ROUTE SIGNS TO CORRESPOND WITH THE EXISTING ASSEMBLIES. SEE SPECIFIC PROJECT DETOUR SIGNING DETAIL SHEETS, MODIFY EXISTING SIGNS WHERE POSSIBLE.
- THE SPACING BETWEEN TRAFFIC CONTROL AND DETOUR SIGNS SHOULD BE ADJUSTED TO NOT CONFLICT WITH AND TO PROVIDE A DESIRABLE MINIMUM OF 200 FEET CLEARANCE TO EXISTING SIGNS THAT WILL REMAIN IN PLACE.
- ANY SIGNS TEMPORARY OR EXISTING, WHICH CONFLICT WITH TRAFFIC CONTROL "IN USE", SHALL BE REMOVED OR COVERED AS NEEDED AND AS APPROVED BY THE ENGINEER.
- SIGNS THAT WILL BE IN PLACE LESS THAN 7 CONTINUOUS DAYS AND NIGHTS MAY BE MOUNTED ON PORTABLE SUPPORTS.
- "MO" SIGNS ARE THE SAME AS "M" SIGNS EXCEPT THE BACKGROUND IS ORANGE.
- SIGN SIZES SHALL BE AS FOLLOWS:
- M3-X SHALL BE 24" X 12". (36" X 18" IF NEEDED TO MATCH EXISTING SIGNS.)
 - M4-8 SHALL BE 24" X 12". (30" X 15" IF NEEDED TO MATCH EXISTING SIGNS.)
 - MI-4, MI-5A, AND MI-6 SHALL BE 24" X 24". (36" X 36" IF NEEDED TO MATCH EXISTING SIGNS.)
 - M05-1 AND M06-1 SHALL BE 21" X 21". (30" X 30" IF NEEDED TO MATCH EXISTING SIGNS.)
 - M4-9 SHALL BE 30" X 24".
 - M4-8a SHALL BE 24" X 18".
 - G20-51 SHALL BE 60" X 24".
 - W20-2 SHALL BE 48" X 48".
 - D1-X SHALL BE AS SHOWN ON SPECIFIC PROJECT SIGNING DETAIL SHEETS.
- * OPTIONAL SIGNS. SEE SPECIFIC PROJECT DETOUR SIGNING DETAIL SHEETS.
- ** FOR A TOWN ROAD OR LOCAL STREET DETOURED ONTO A STATE TRUNK HIGHWAY, PLACE A ROAD NAME PLAQUE ABOVE THE M4-9 SIGN AS SPECIFIED IN THE CONTRACT.

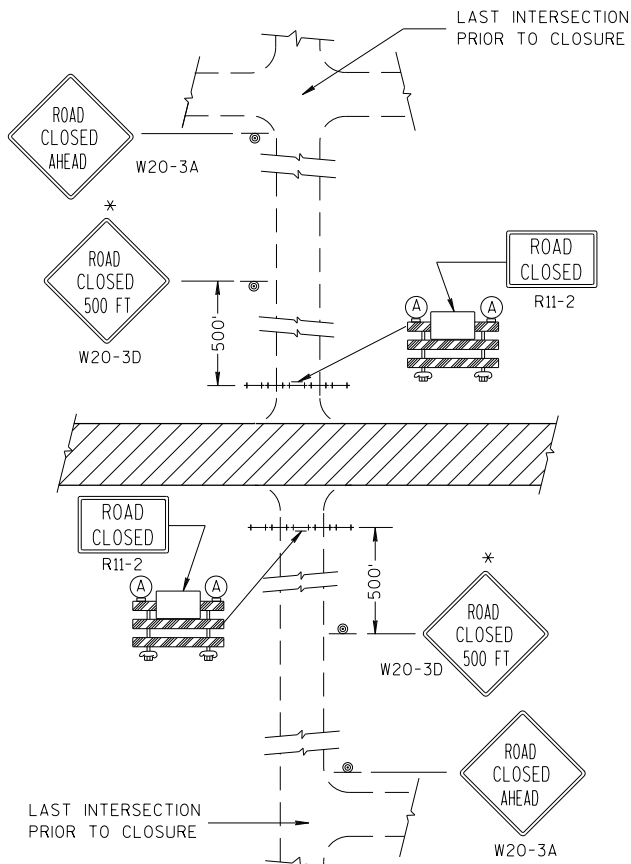


PLACE SIGNS BEYOND INTERSECTIONS WITH
STATE OR COUNTY TRUNK HIGHWAYS OR
AT 4 MILE MAXIMUM SPACING (4 BLOCKS IF
URBAN AREA.)

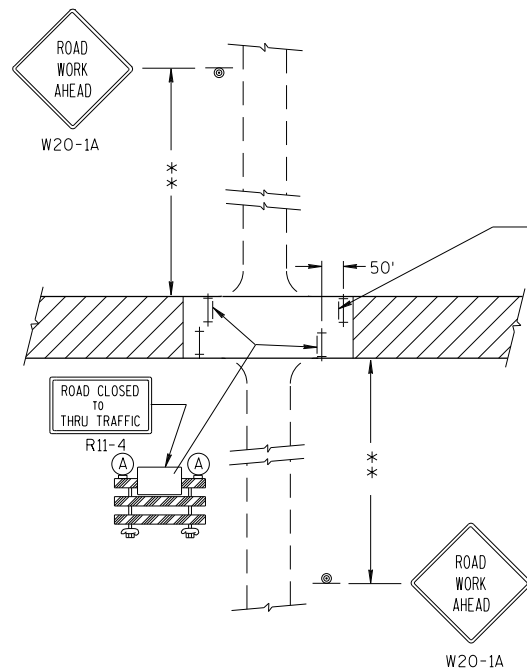
**DETOUR SIGNING FOR
MAINLINE CLOSURES**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

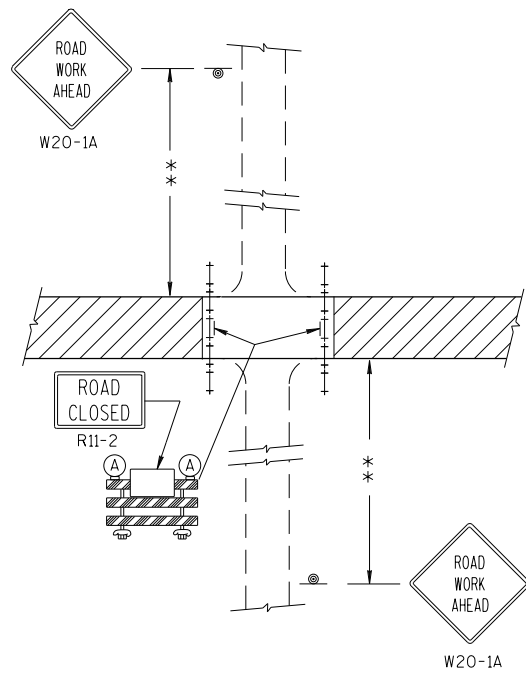
APPROVED
DATE Sept. 2015 /S/ Peter Amakobe Atepe
STATEWIDE WORK ZONE TRAFFIC
SAFETY ENGINEER
FHWA



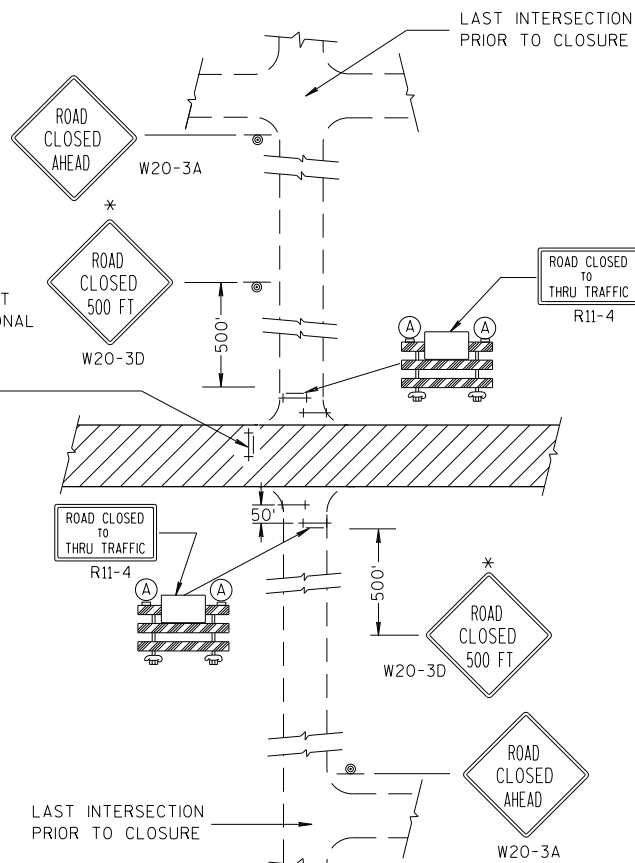
DETAIL 1
(NO ACCESS TO PROJECT)



DETAIL 3
(PUBLIC CROSS-TRAFFIC MAINTAINED. CONTRACTOR, LOCAL BUSINESS AND RESIDENT ACCESS).



DETAIL 2
(PUBLIC CROSS-TRAFFIC MAINTAINED. NO ACCESS TO PROJECT).



DETAIL 4
(CONTRACTOR, LOCAL BUSINESS AND RESIDENT ACCESS TO PROJECT)

GENERAL NOTES

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

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

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

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

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

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

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

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

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

ALL SIGNS SHALL BE 48" X 48" UNLESS OTHERWISE NOTED BELOW:

R11-2 SHALL BE 48" X 30".

R11-4 AND R11-3 SHALL BE 60" X 30".

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

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

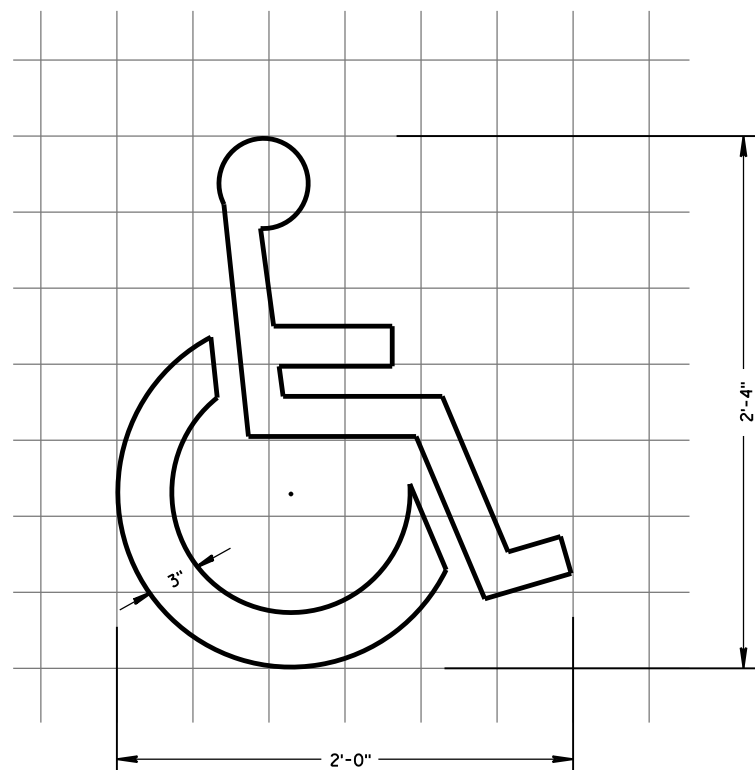
LEGEND

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

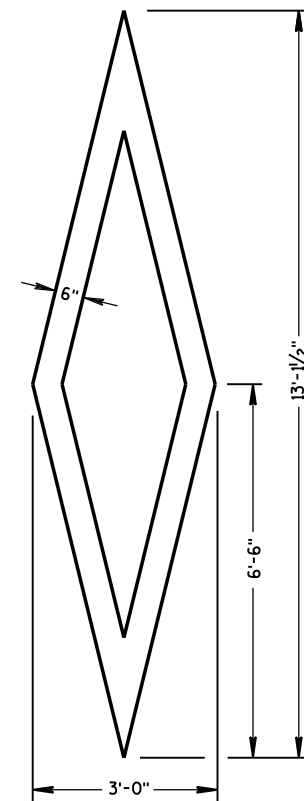
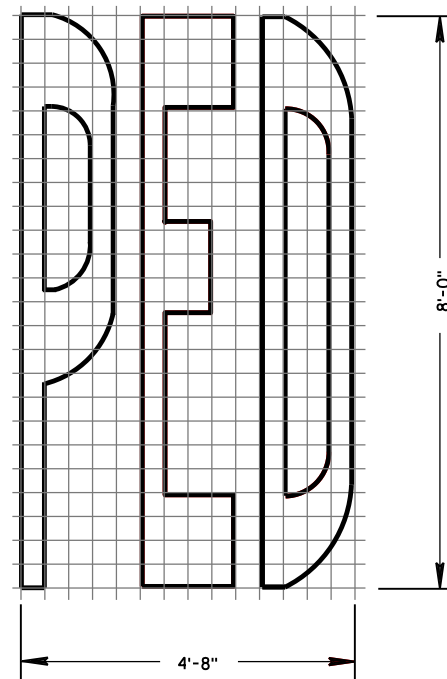
BARRICADES AND SIGNS FOR SIDEROAD CLOSURES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
7/2018
DATE
/S/ Andrew Heidtke
WORK ZONE ENGINEER
FHWA



HANDICAP SYMBOL

PREFERENTIAL
LANE SYMBOL**GENERAL NOTES**

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

PAVEMENT MARKING SYMBOLS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

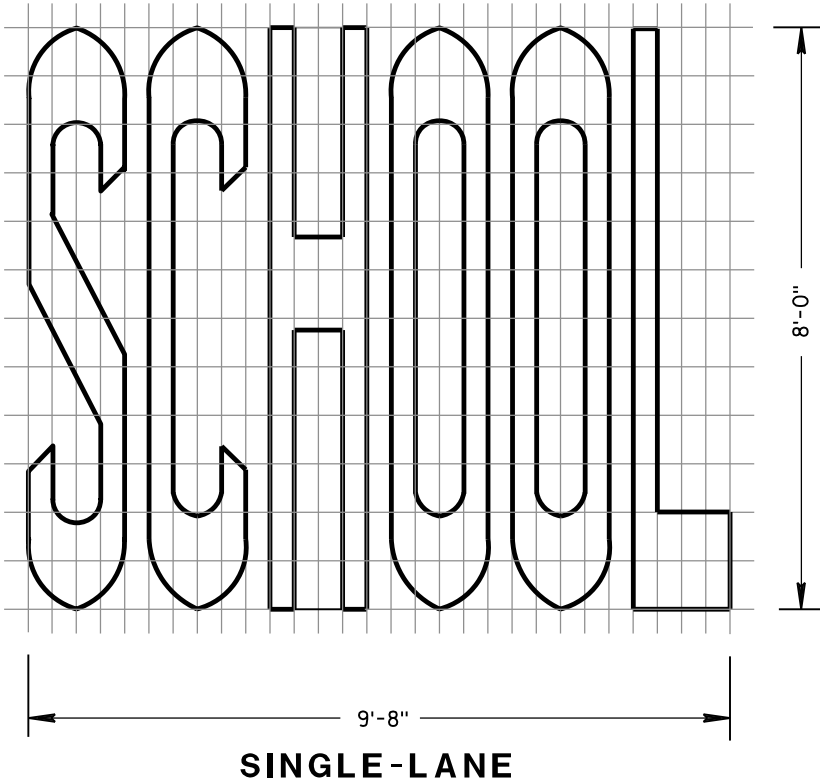
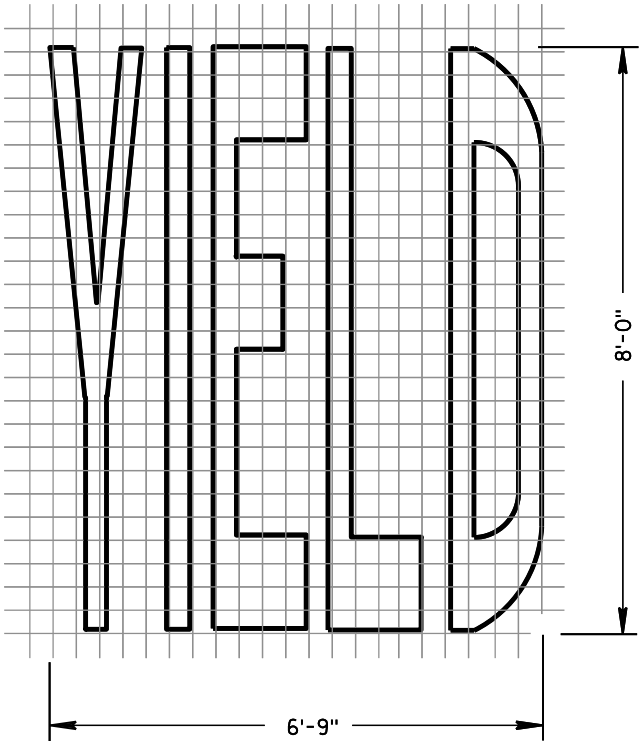
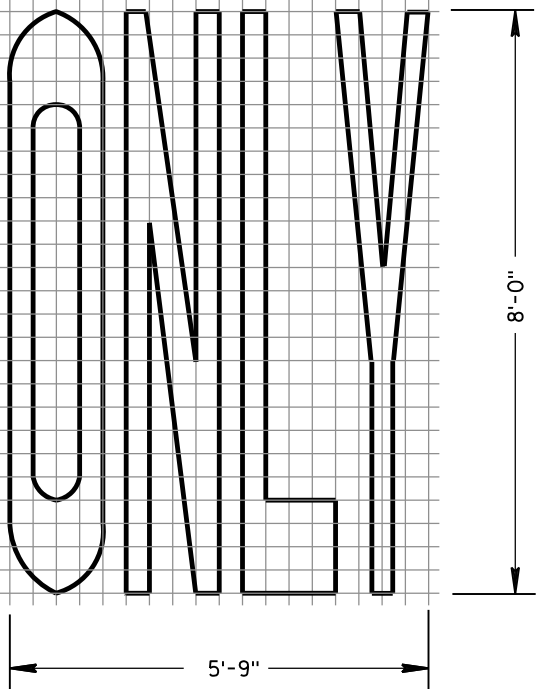
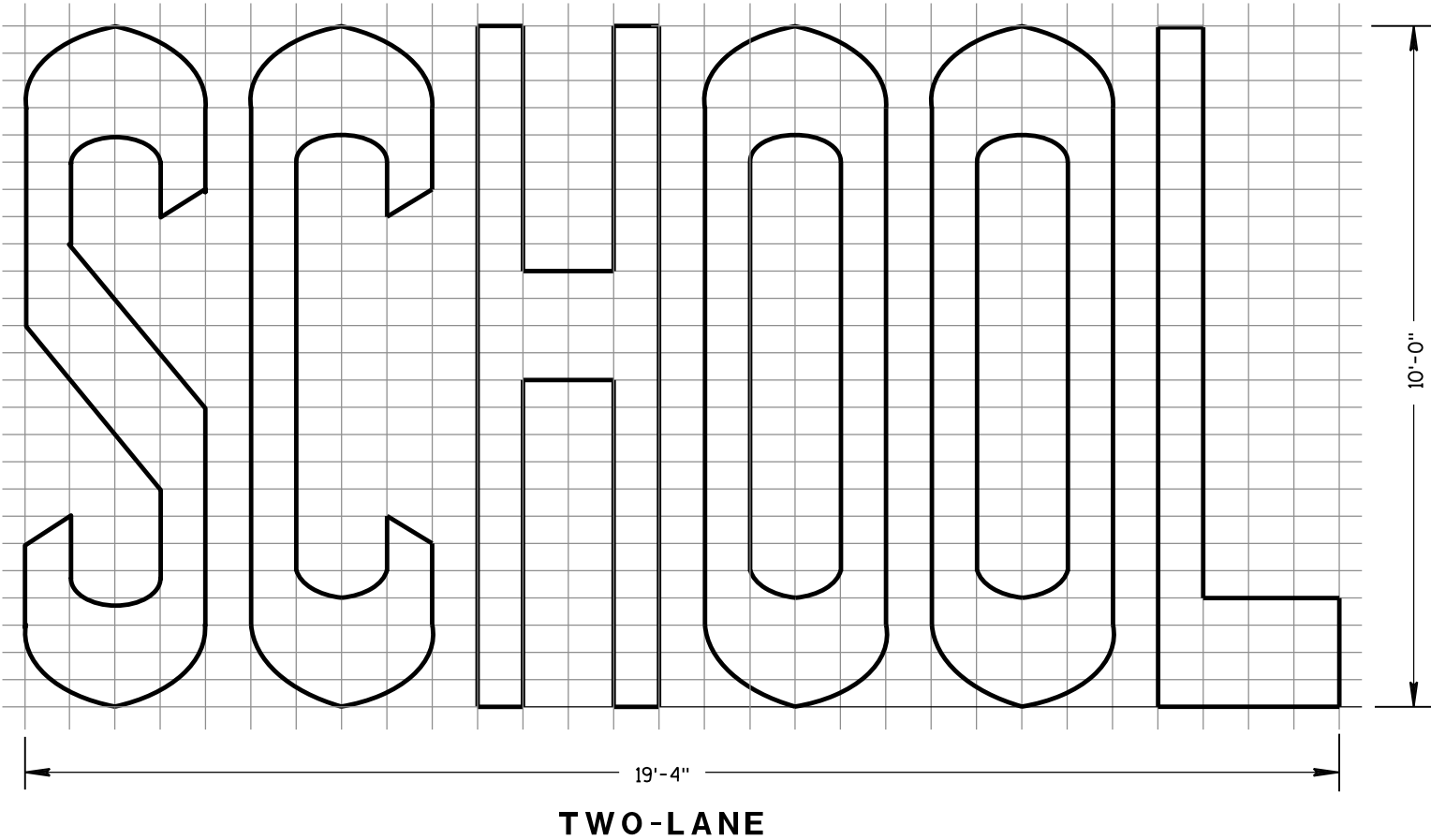
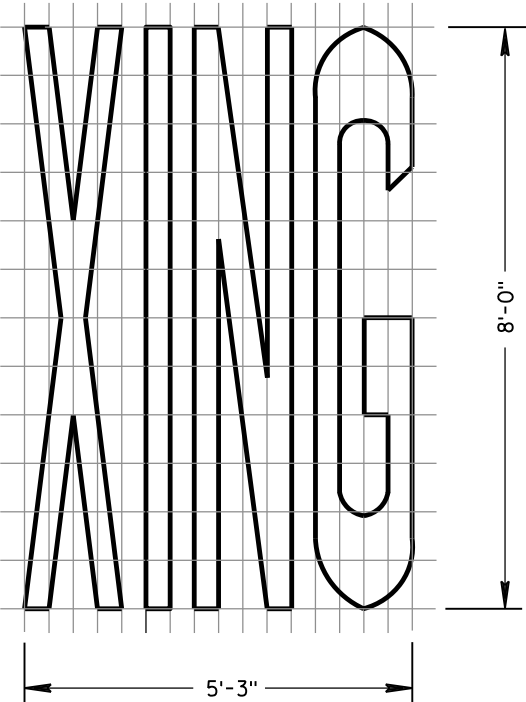
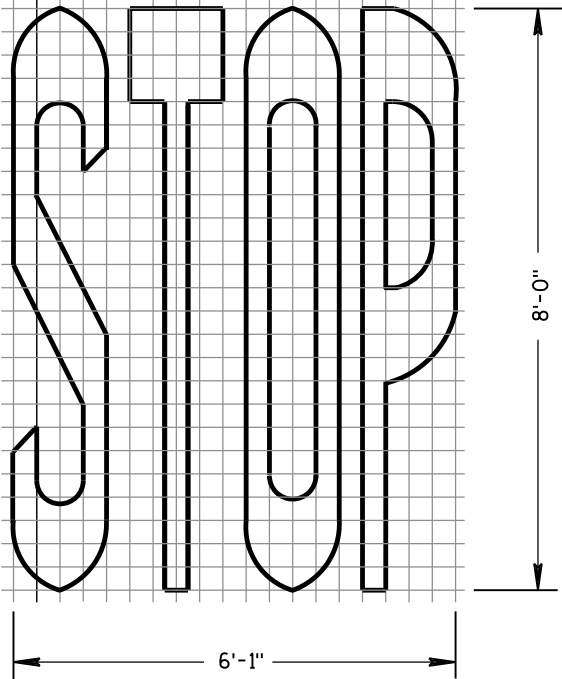
APPROVED

June 2017
DATE/S/ Matthew R. Rauch
STATE SIGNING AND MARKING ENGINEER

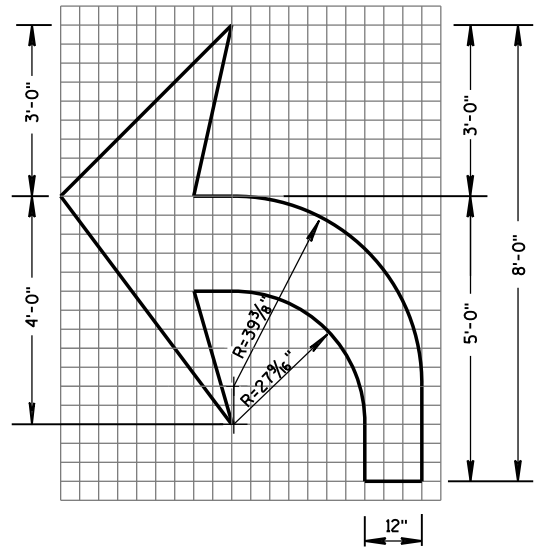
FHWA

GENERAL NOTES

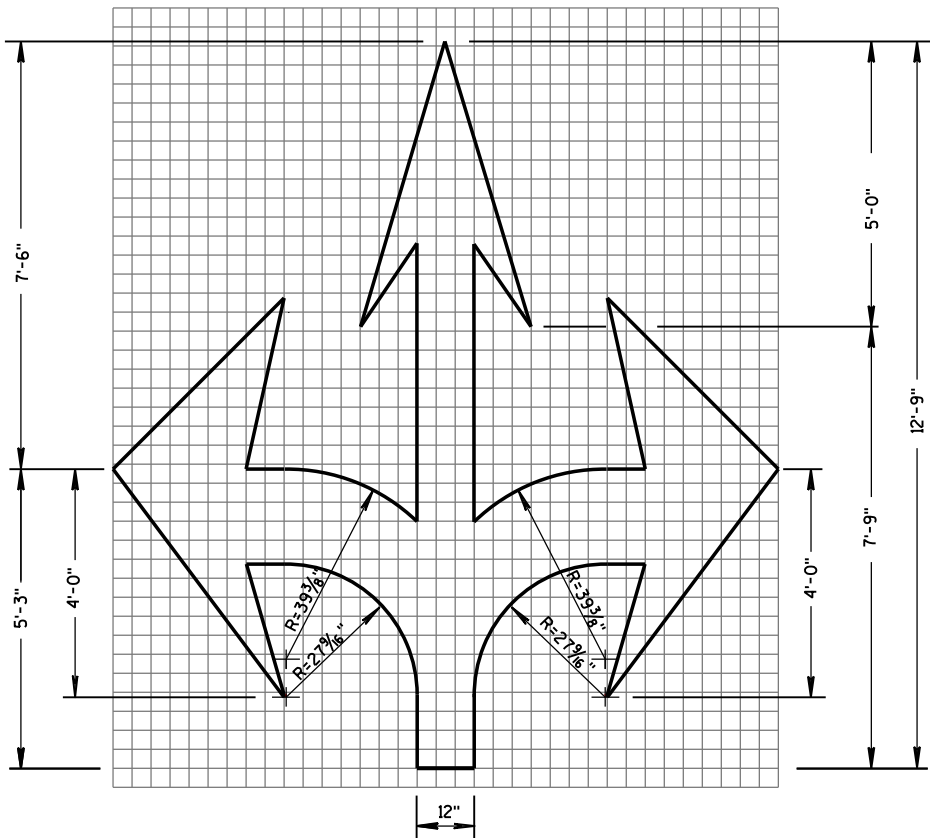
DETAILS OF INSTALLATION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND APPLICABLE SPECIAL PROVISIONS.



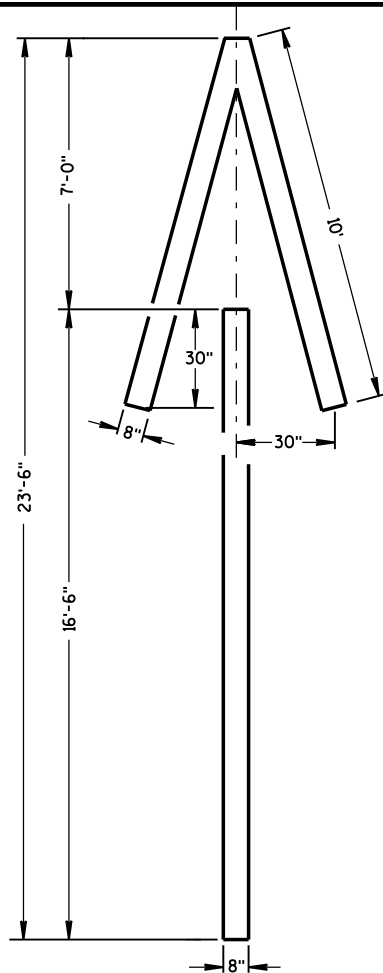
PAVEMENT MARKING WORDS	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED June 2017 DATE	/S/ Matthew R. Rauch STATE SIGNING AND MARKING ENGINEER
FHWA	



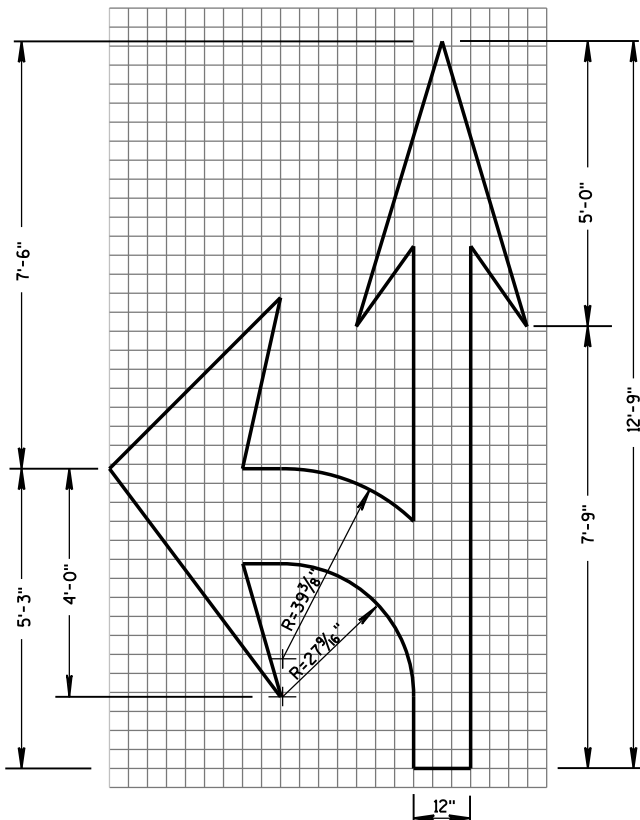
TYPE 2



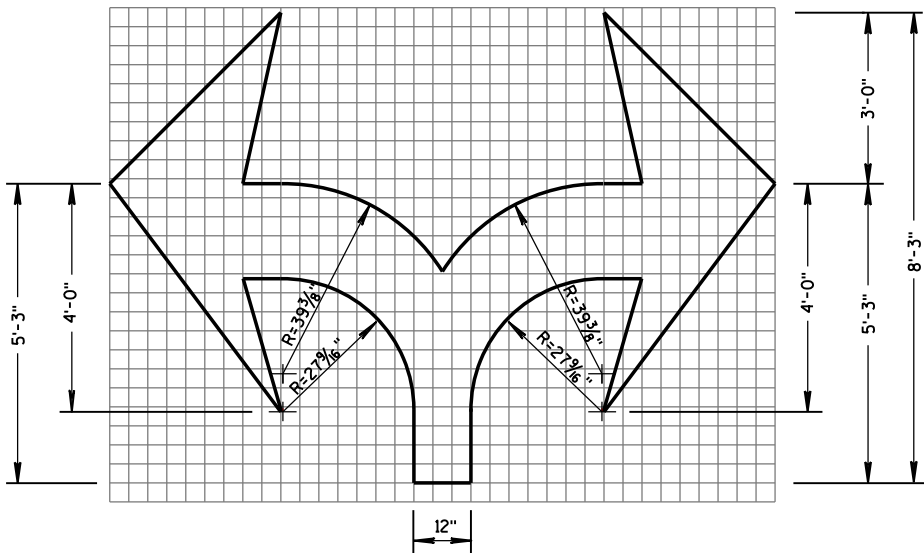
TYPE 6



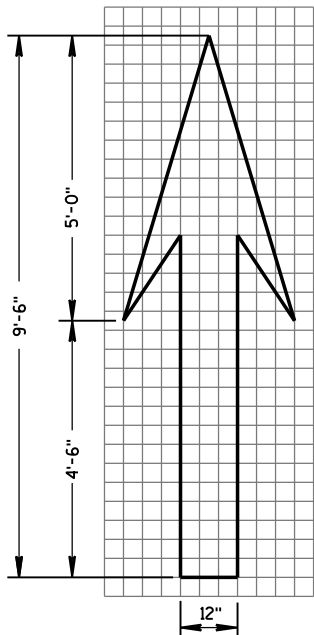
TYPE 4



TYPE 3



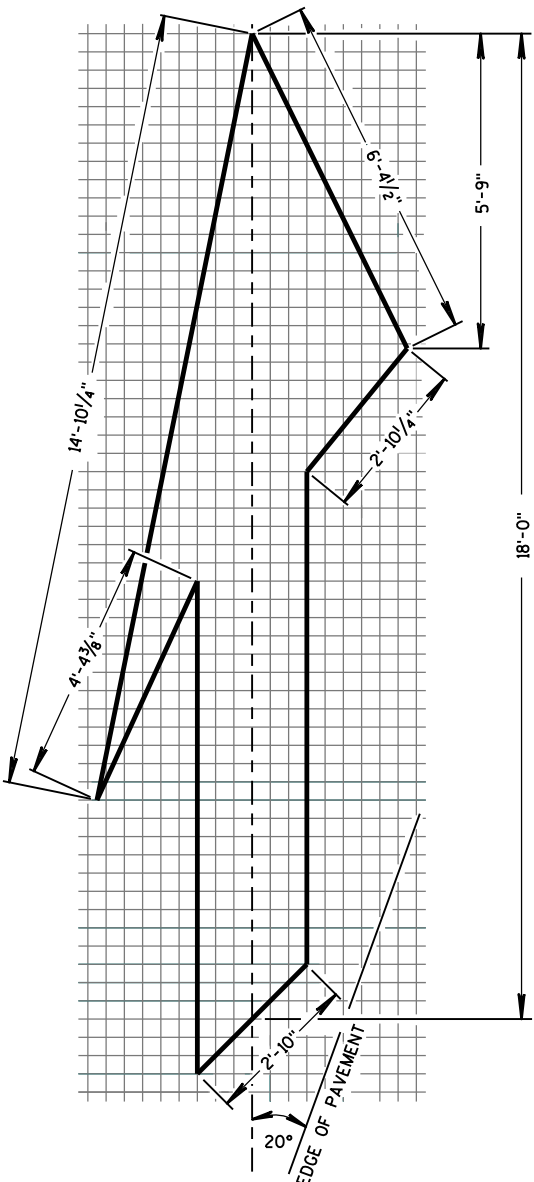
TYPE 7



TYPE 1

GENERAL NOTES

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

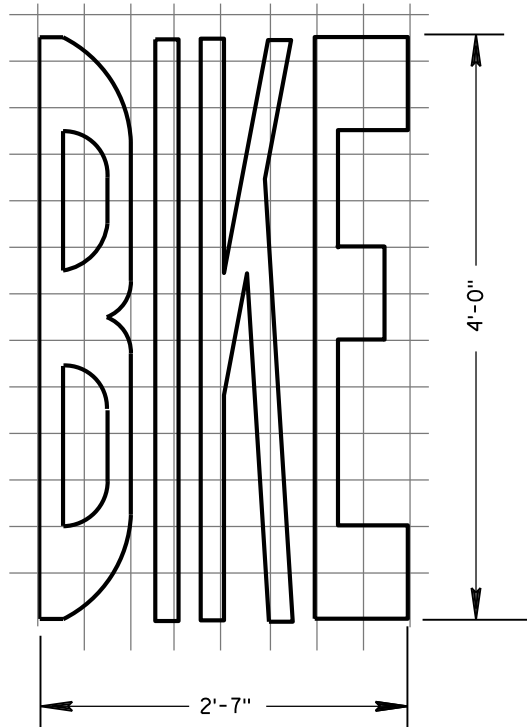


TYPE 5 LANE DROP ARROW

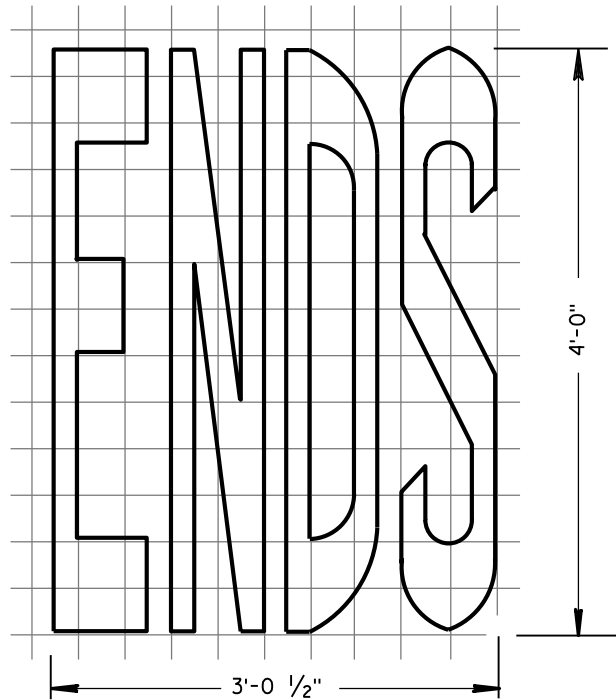
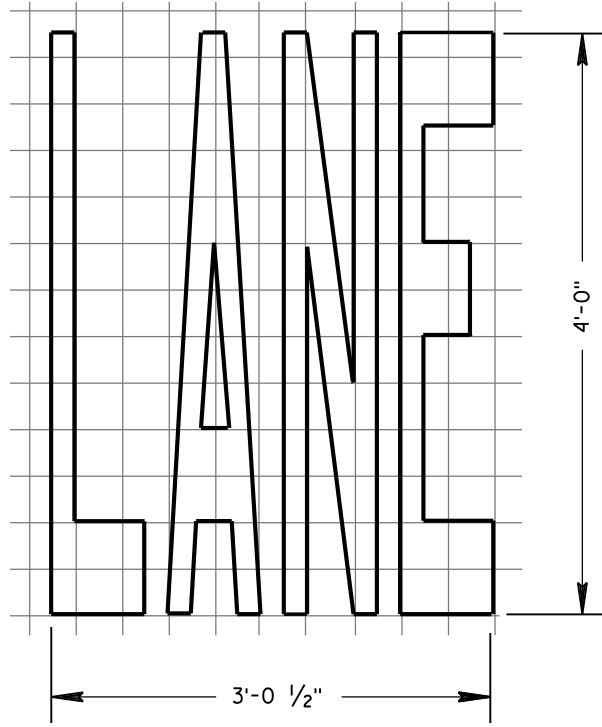
PAVEMENT MARKING ARROWS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
June 2017 /S/ Matthew R. Rauch
DATE STATE SIGNING AND MARKING ENGINEER
FHWA



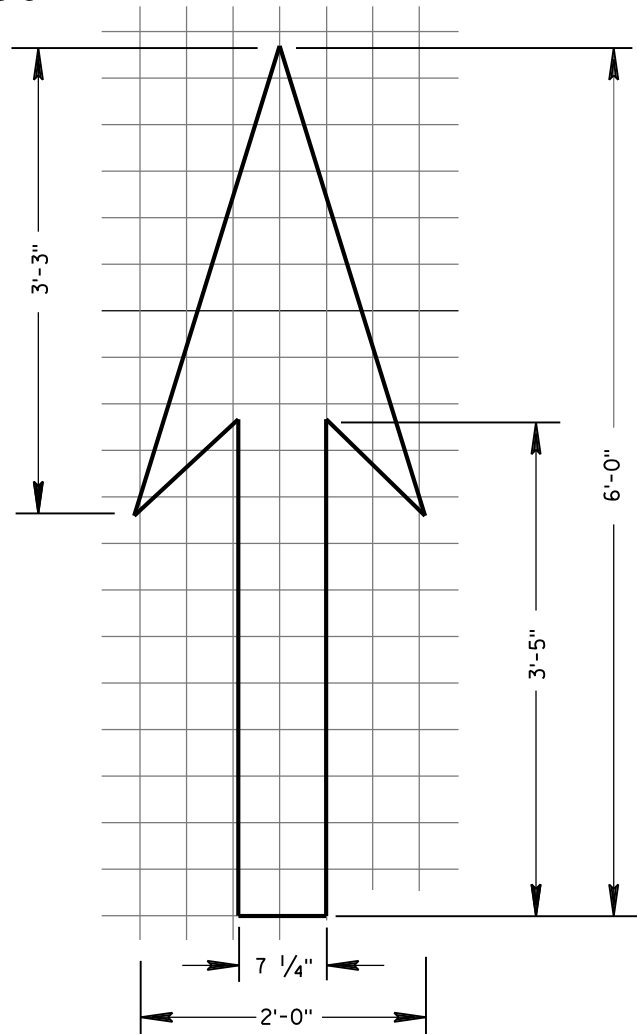
BIKE LANE WORDS



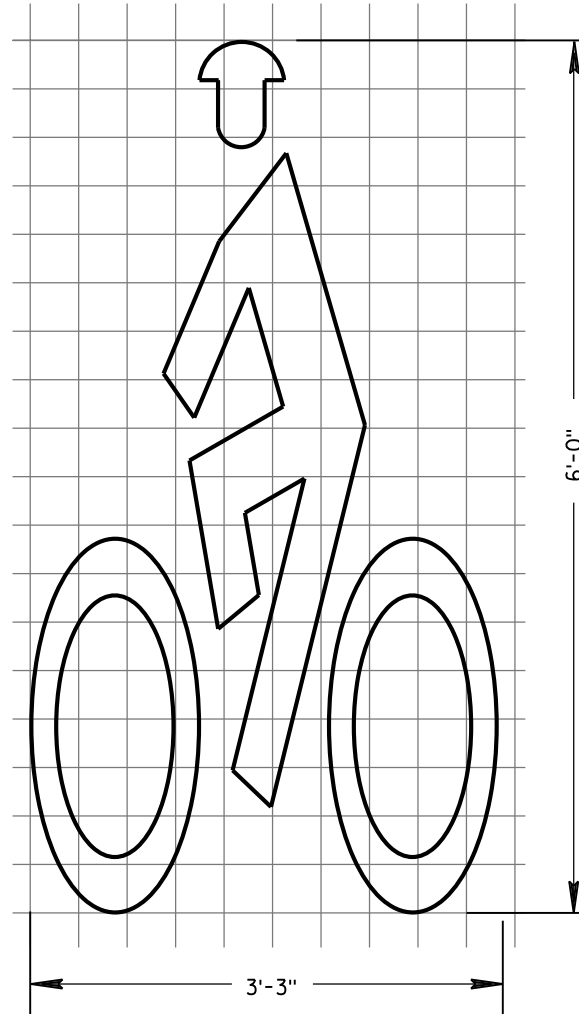
BIKE LANE WORDS

GENERAL NOTES

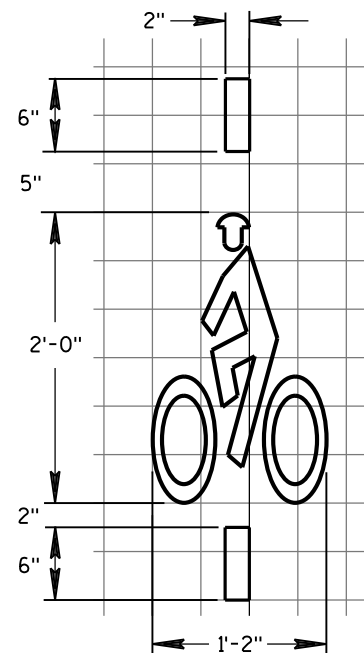
DETAILS OF INSTALLATION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND APPLICABLE SPECIAL PROVISIONS.



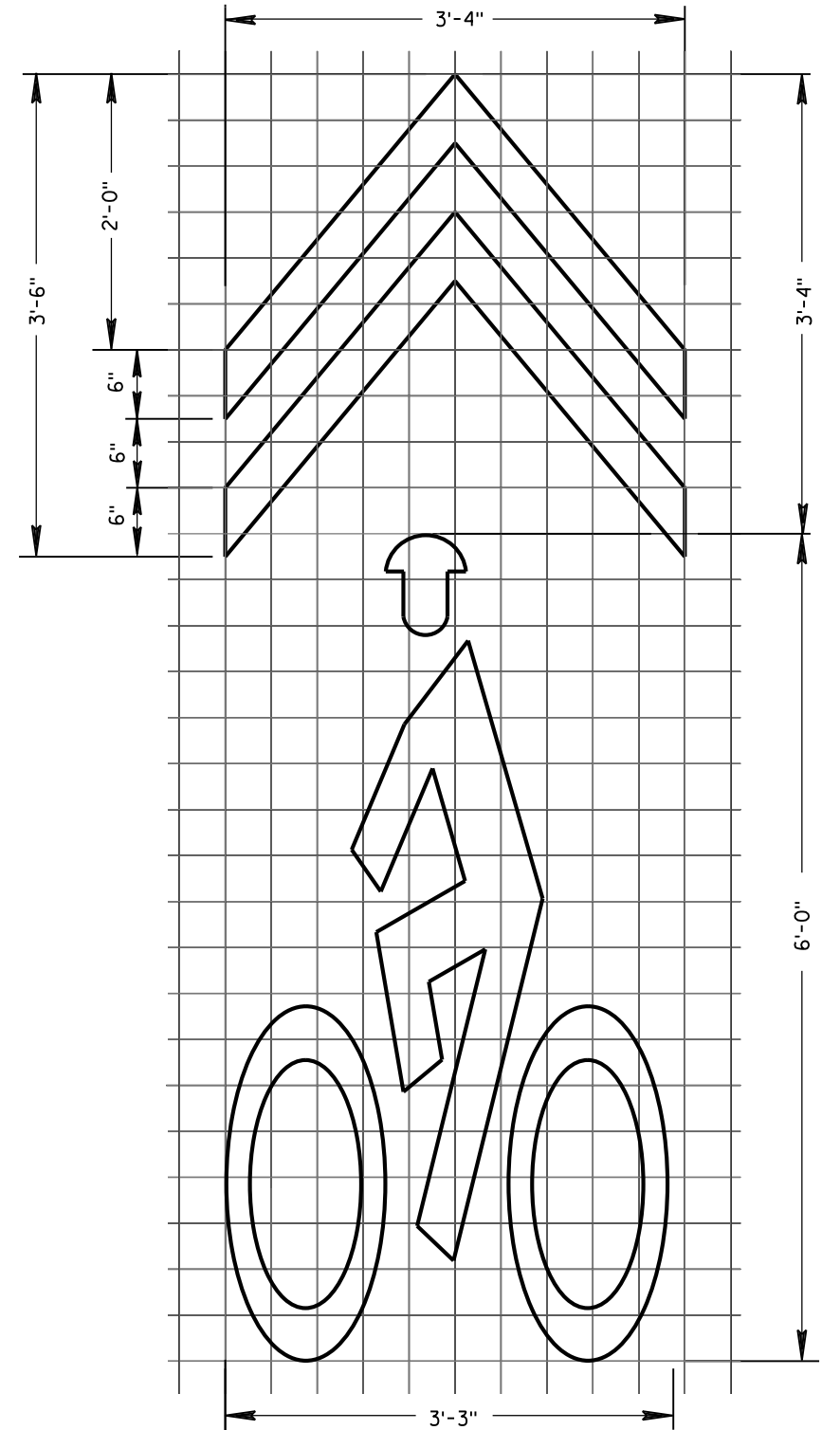
BIKE LANE ARROW



BIKE LANE SYMBOL

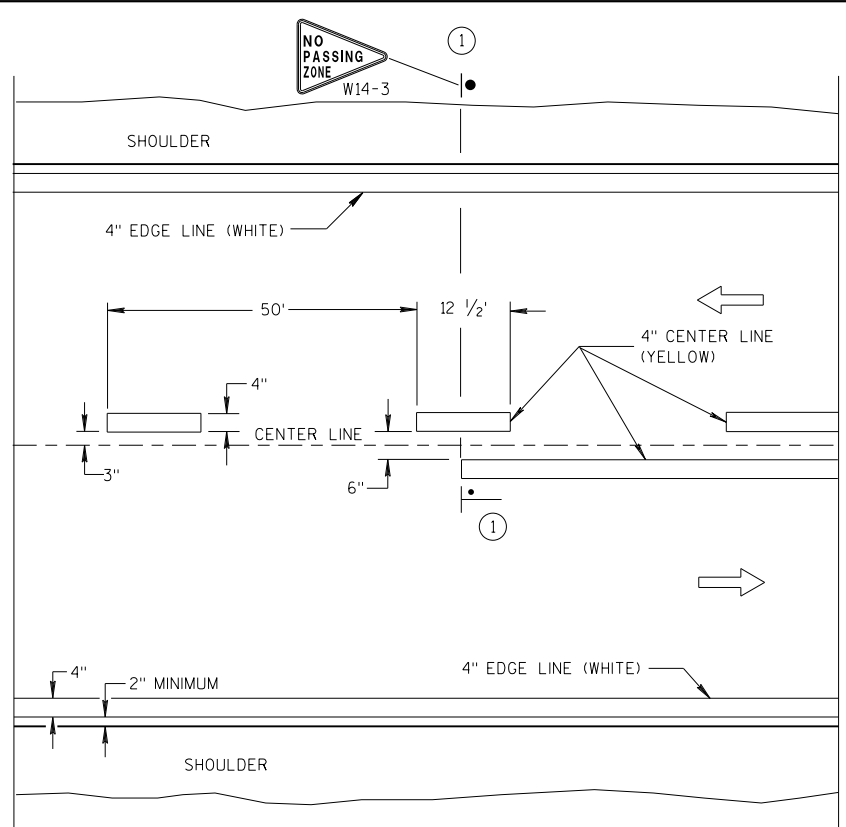


BICYCLE DETECTOR PAVEMENT MARKING

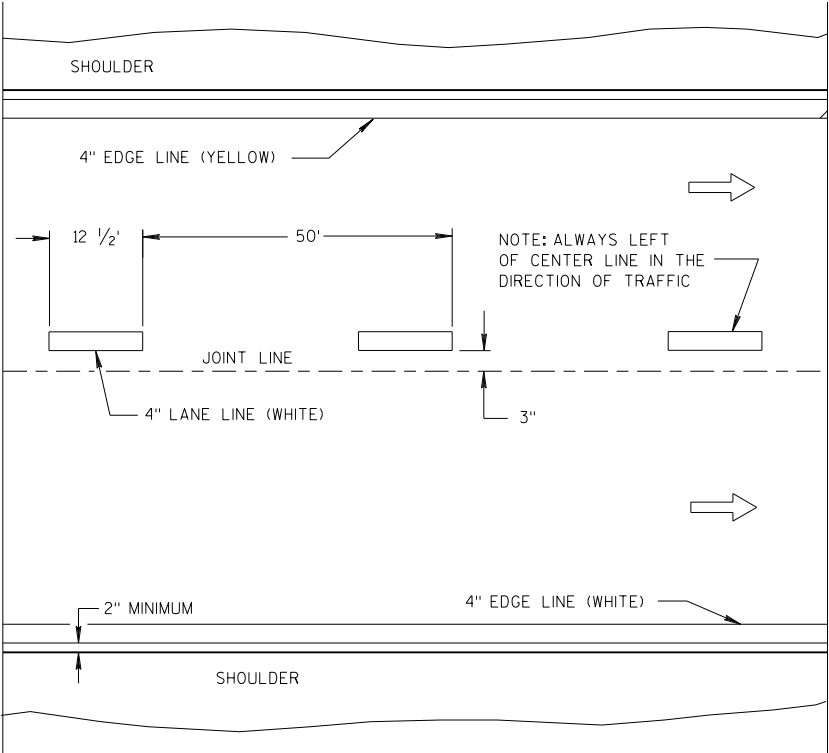


BIKE SYMBOL FOR SHARED LANE

PAVEMENT MARKING FOR BIKE LANES	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED June 2017 DATE	/S/ Matthew R. Rauch STATE SIGNING AND MARKING ENGINEER
FHWA	

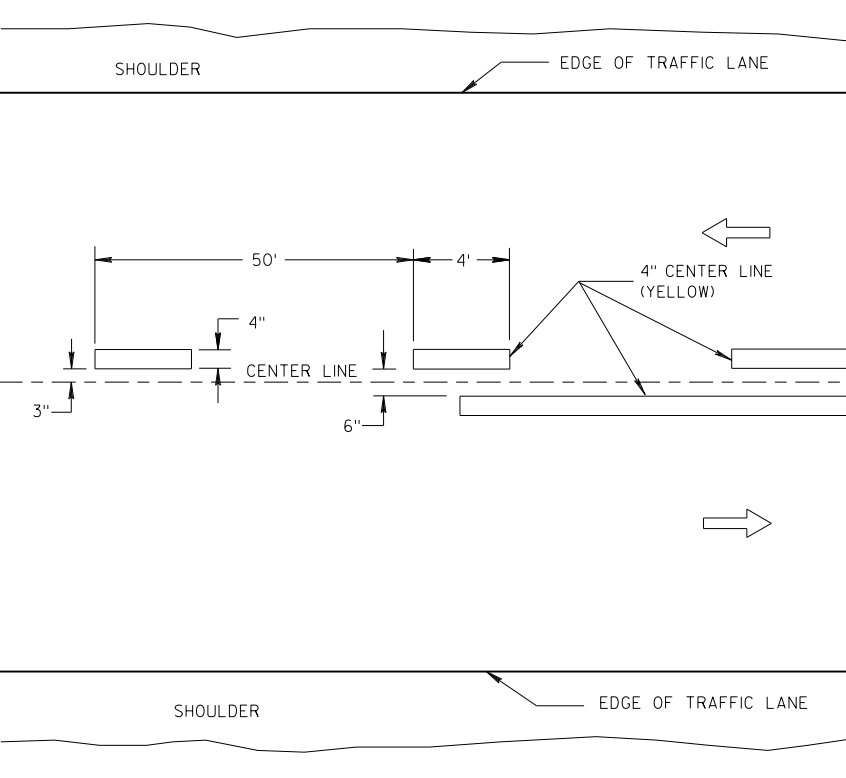


TWO WAY TRAFFIC

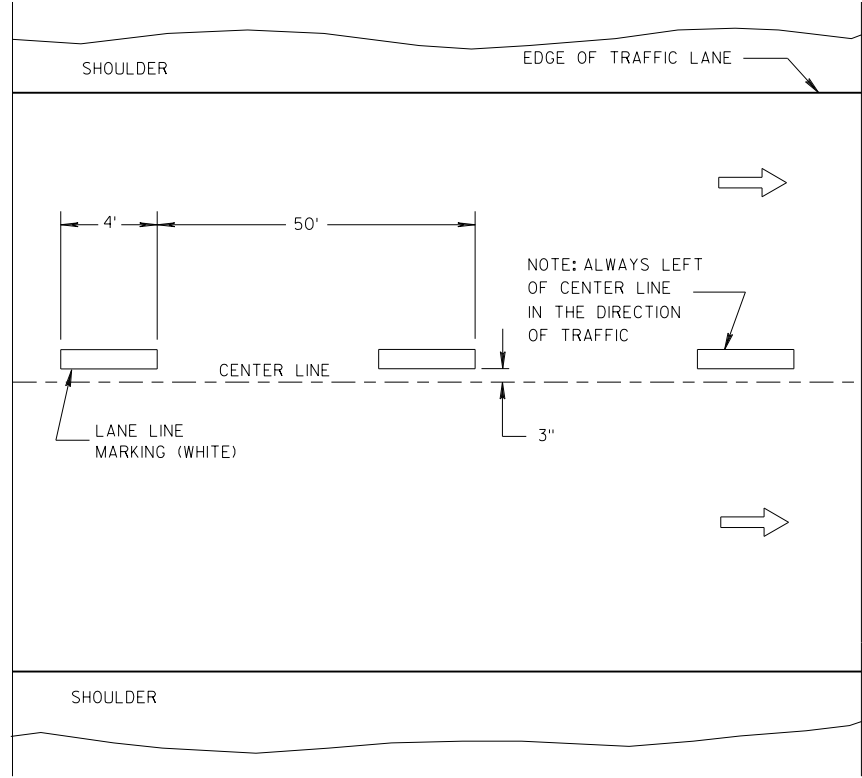


ONE WAY TRAFFIC

PERMANENT PAVEMENT MARKING



TWO WAY TRAFFIC



ONE WAY TRAFFIC

TEMPORARY PAVEMENT MARKING

GENERAL NOTES

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

① LOCATE THE NO PASSING ZONE W14-3 SIGN WITHIN 50 FEET OF THE "T" MARKING.

NOTE

ARROW SYMBOL (➡) SHOWS DIRECTION OF TRAVEL

LEGEND

- "T" MARKING
- POST MOUNTED SIGN

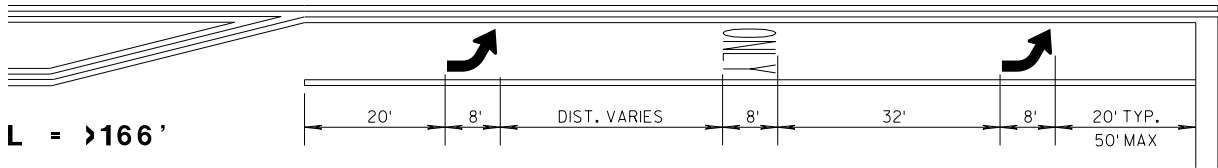
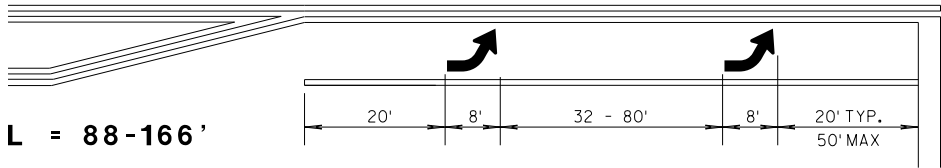
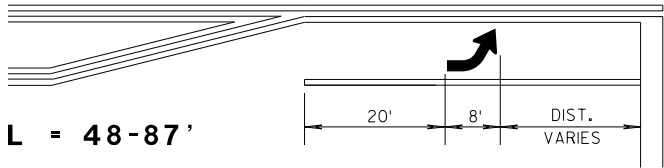
LONGITUDINAL MARKING (MAINLINE)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
7/2018 /S/ Matthew R. Rauch
DATE STATE SIGNING AND MARKING ENGINEER
FHWA

TURN LANE OPTIONS

LENGTH OF TURN BAY (L) OF 0-47' DOES NOT REQUIRE PAVEMENT MARKING ARROWS OR WORDS



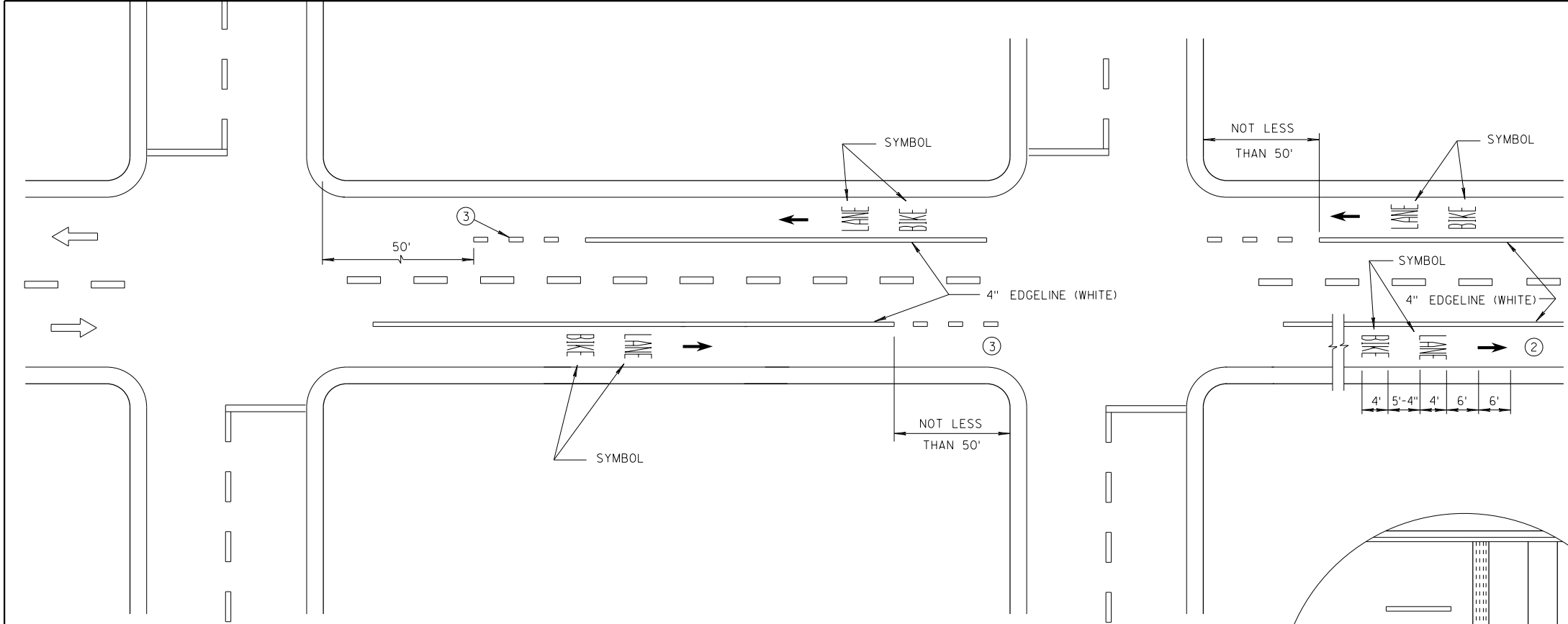
*(SEE TURN LANE OPTIONS FOR PLACEMENT OF PAVEMENT MARKING ARROWS AND WORDS)

GENERAL NOTES

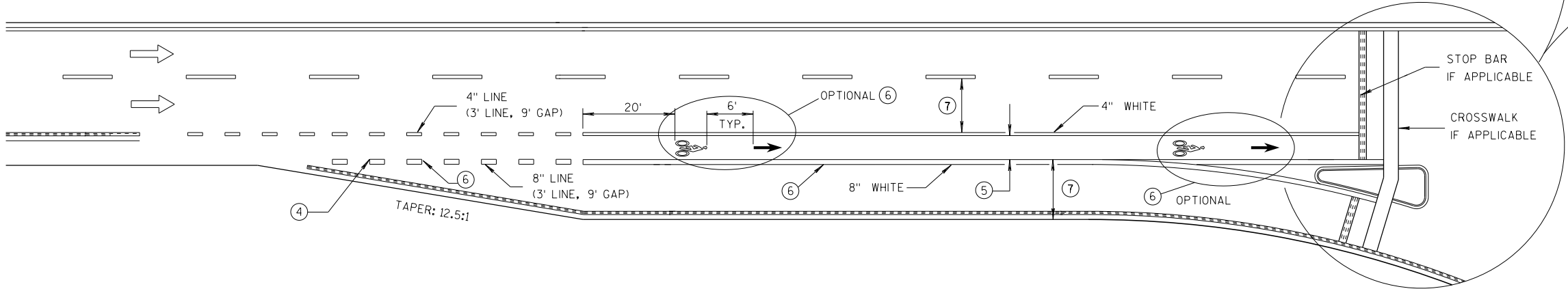
- ① 8" WHITE
- ② QUANTITY AND LOCATION OF TYPE 3 ARROW ARE THE SAME AS THE TYPE II ARROWS IN THE ADJACENT TURN LANE. FOR TURN LANES WITH A PHYSICAL SEPARATION, THE ARROWS AND ONLY MARKING ARE ELIMINATED.

→ DIRECTION OF TRAFFIC
L = LENGTH OF TURN BAY

PAVEMENT MARKING (TURN LANES)
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION



**DESIGNATED BICYCLE LANE
NO PARKING**

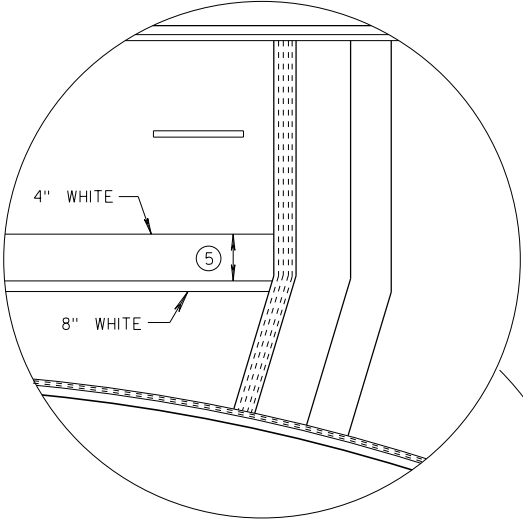


**BIKE LANE - FOR 2-LANE ROADWAYS AND 4-LANE DIVIDED ROADWAYS
(4-LANE DIVIDED WITH RIGHT TURN LANE SHOWN)**

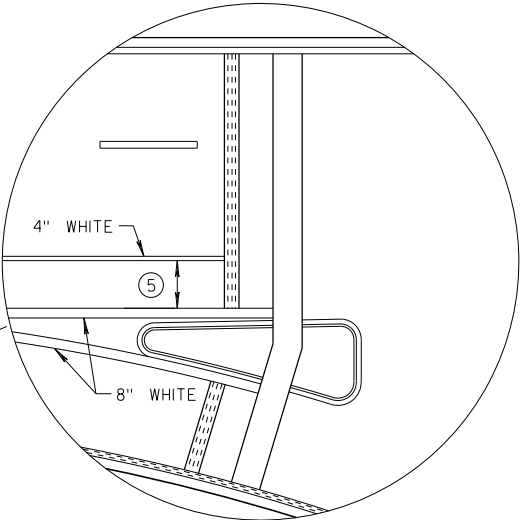
GENERAL NOTES

- ① DETAILS OF CONSTRUCTION NOT SHOWN ON THIS DRAWING SHALL CONFORM TO STANDARD SPECIFICATIONS AND SPECIAL PROVISIONS.
- ② MINIMUM OF ONE PER BLOCK. MAXIMUM OF 250 FEET.
- ③ DOTTED LINES (3' LINE, 9' GAP) SHOULD BE USED 50 FEET TO 200 FEET IN ADVANCE OF AN INTERSECTION WHERE THERE IS NO RIGHT TURN ONLY LANE AND THERE IS HEAVY RIGHT TURN TRAFFIC OR THERE IS A NEAR-SIDE BUS STOP. AT OTHER INTERSECTIONS WHERE RIGHT TURN TRAFFIC IS LIGHT TO MODERATE, A SOLID LINE CAN BE USED UP TO THE INTERSECTION.
- ④ IF SIGNED AND/OR MARKED AS A BICYCLE FACILITY INCLUDE SECOND LINE OF LINE-SPACE MARKING, OTHERWISE DO NOT.
- ⑤ BIKE ACCOMODATION IS TYPICALLY 5 FEET WIDE AND A MINIMUM OF 4 FEET FROM A LONGITUDINAL JOINT. USE 5 FEET AT 45 MPH.
- ⑥ OMIT THESE MARKINGS FOR WIDER TURN LANE APPLICATIONS (MINIMUM OF 15 FEET WIDE TURN LANE).
- ⑦ REFER TO CONTRACT PLANS FOR LANE WIDTH.

➡ DIRECTION OF TRAVEL

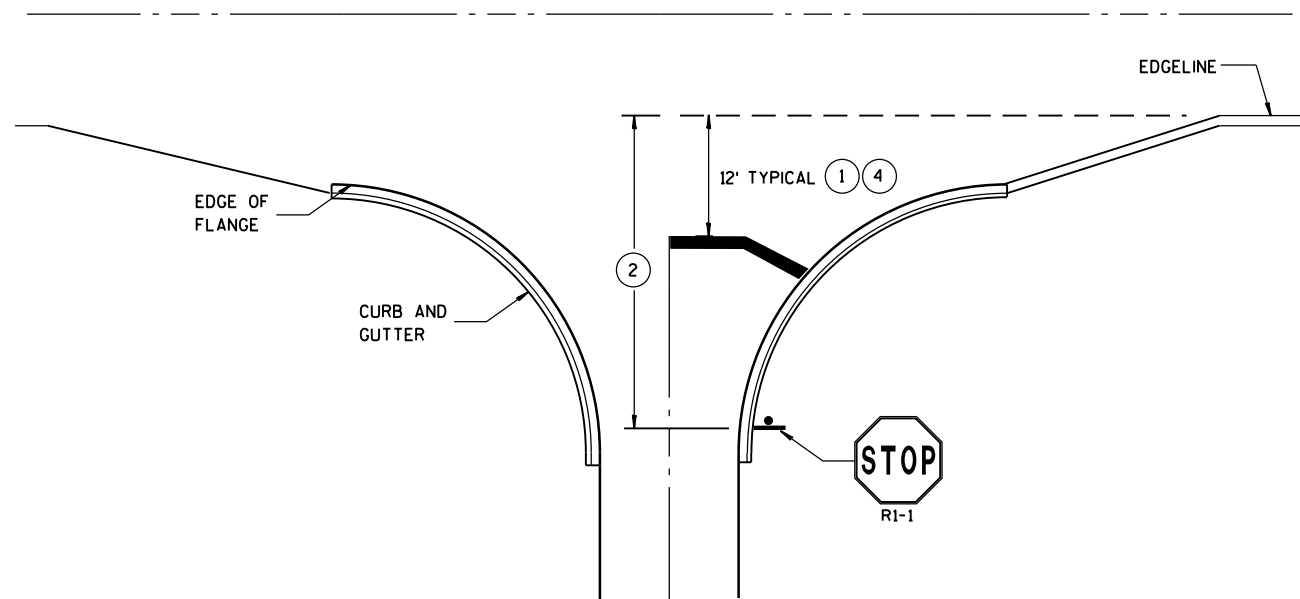


4 LANE DIVIDED WITHOUT ISLAND

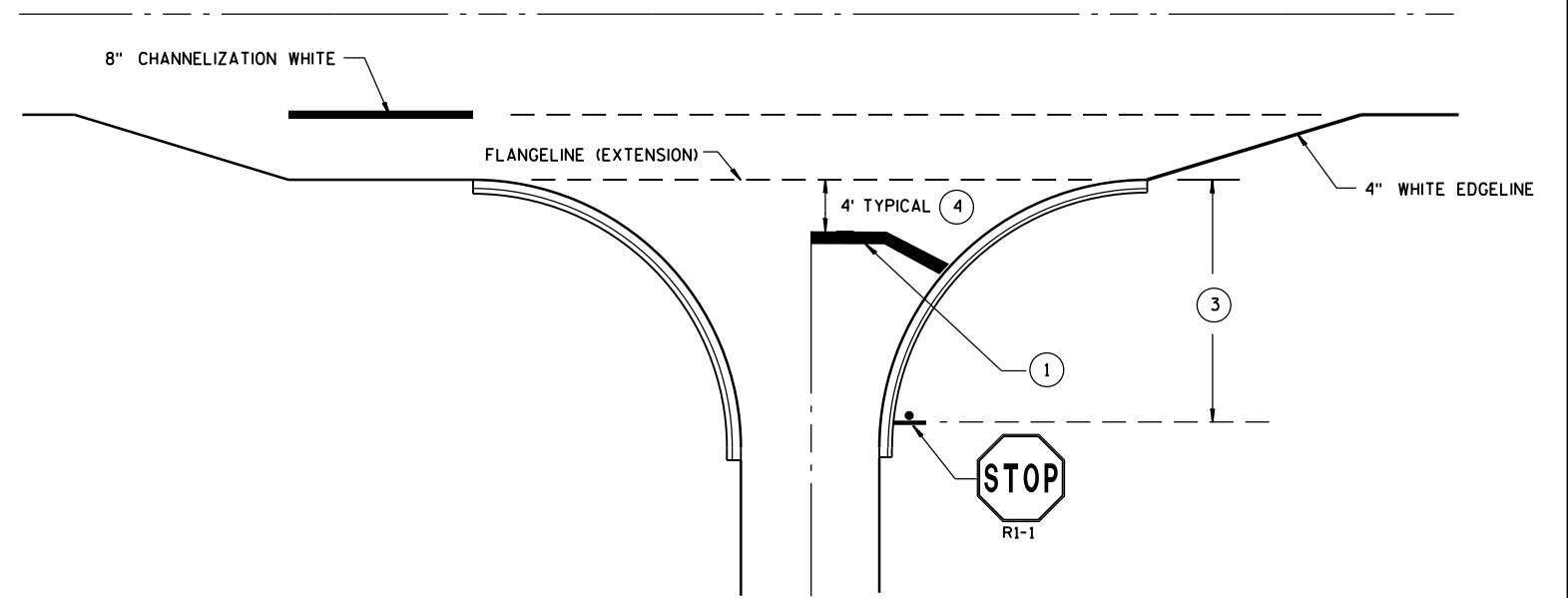


4 LANE DIVIDED WITH ISLAND

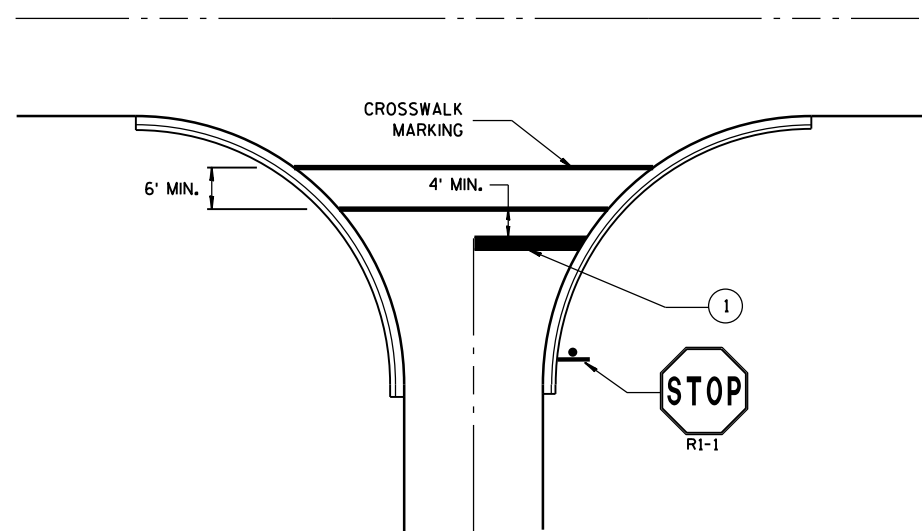
BICYCLE LANE MARKING	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED 7/2018 DATE	/S/ Matthew R. Rauch STATE SIGNING AND MARKING ENGINEER
FHWA	



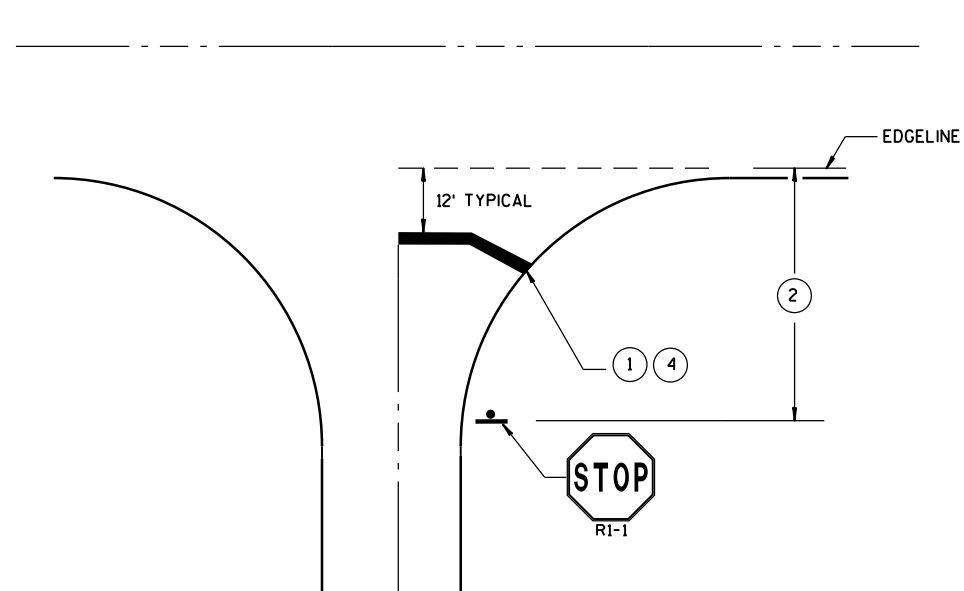
**TYPICAL STOP LINE PAVEMENT MARKING
WITH CURB AND GUTTER**



**TYPICAL STOP LINE PAVEMENT MARKING
FOR SIDEROADS WITH RIGHT TURN LANE**



**TYPICAL STOP LINE PAVEMENT MARKING
FOR SIDEROADS WITH CROSSWALK MARKING**



**TYPICAL STOP LINE PAVEMENT MARKING
WITHOUT CURB AND GUTTER**

GENERAL NOTES

STOP SIGN SHALL BE PLACED A MINIMUM OF 6 FEET TO A MAXIMUM OF 50 FEET FROM THE EDGE LINE LOCATION.

- ① 18-INCH STOP LINES MAY BE DELETED OR ADDED BY THE PROJECT ENGINEER BASED ON VISIBILITY AND SIGHT LINES.
- ② IF STOP SIGN IS LESS THAN OR EQUAL TO 40 FEET FROM THE EDGE LINE THAN NO STOP LINE IS REQUIRED.
- ③ IF STOP SIGN IS LESS THAN OR EQUAL TO 30 FEET FROM THE FLANGELINE EXTENSION THAN NO STOP LINE IS REQUIRED.
- ④ MOVE CLOSER TO EDGE OF TRAVEL LANE AS NEEDED FOR VISIBILITY AND SIGHT LINES. (NO CLOSER THAN 4 FEET).

**STOP LINE AND CROSSWALK
PAVEMENT MARKING**

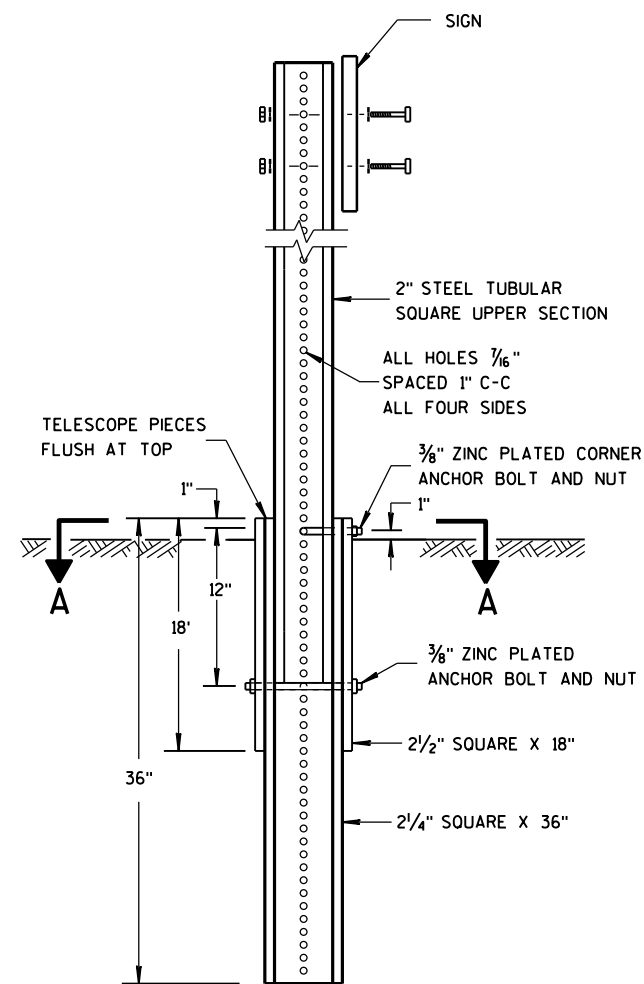
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

Sept., 2017
DATE

FHWA

/S/ Matthew R. Rauch
STATE SIGNING AND MARKING ENGINEER



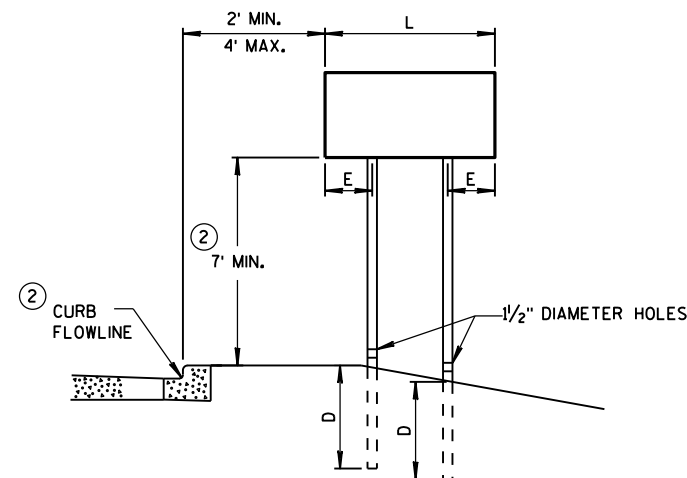
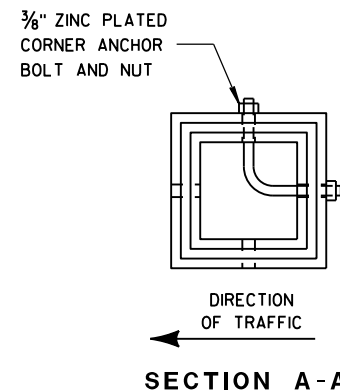
DETAIL OF TUBULAR
STEEL SIGN POST

TUBULAR STEEL POSTS

AREA OF SIGN INSTALLATION (SQ. FT.)	NUMBER OF REQUIRED TUBULAR STEEL POSTS
9 OR LESS	1
GREATER THAN 9 LESS THAN OR EQUAL TO 18	2
GREATER THAN 18 LESS THAN OR EQUAL TO 27	3

SIGNS WIDER THAN 3 FEET OR LARGER THAN 9 SQ. FT. SHALL
BE MOUNTED ON MULTIPLE POSTS (SEE ABOVE TABLE).

SIGNS LARGER THAN 27 SQ. FT. SHALL NOT BE MOUNTED
ON TUBULAR STEEL POSTS.

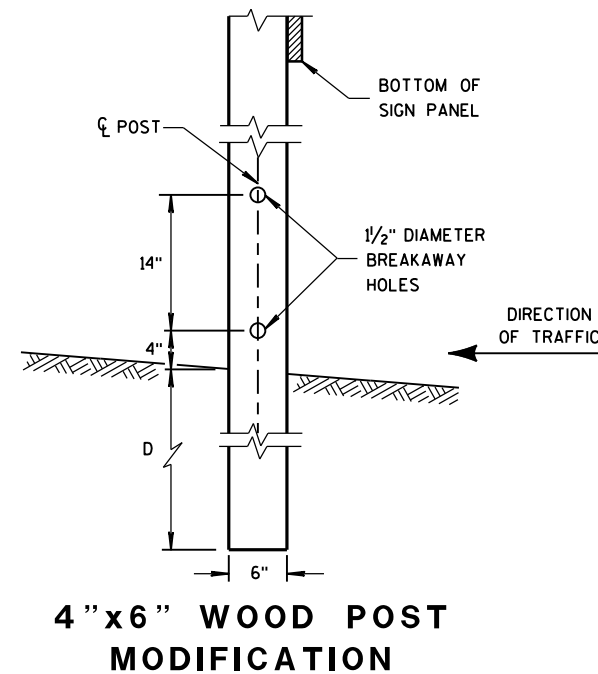


URBAN AREA

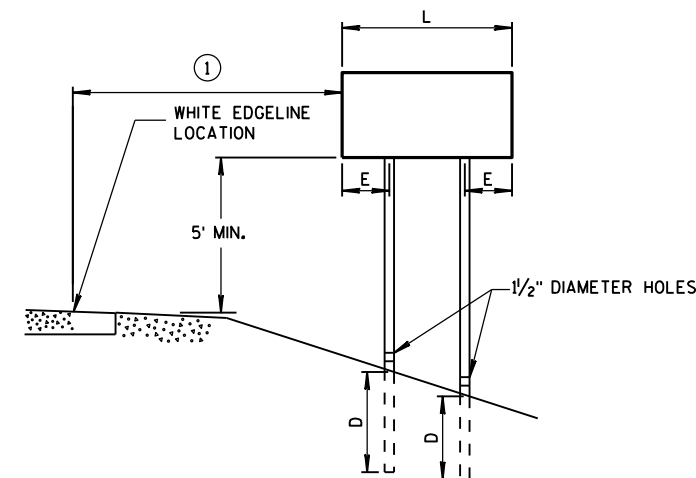
POST MOUNTING DETAIL FOR TEMPORARY TRAFFIC CONTROL FIXED MESSAGE SIGNS

WOOD POST
EMBEDMENT DEPTH

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



4 "x6 " WOOD POST
MODIFICATION



RURAL AREA

4 " X 6 " WOOD POST

POST SPACING REQUIREMENTS		NUMBER OF WOOD POSTS REQUIRED
L	E	
48" OR LESS AND LESS THAN 20 SQ. FT.	-	1
LESS THAN 60"	12"	2
60" TO 120"	L/5	2
GREATER THAN 120" LESS THAN 168"	12"	3
168" AND GREATER	12"	4

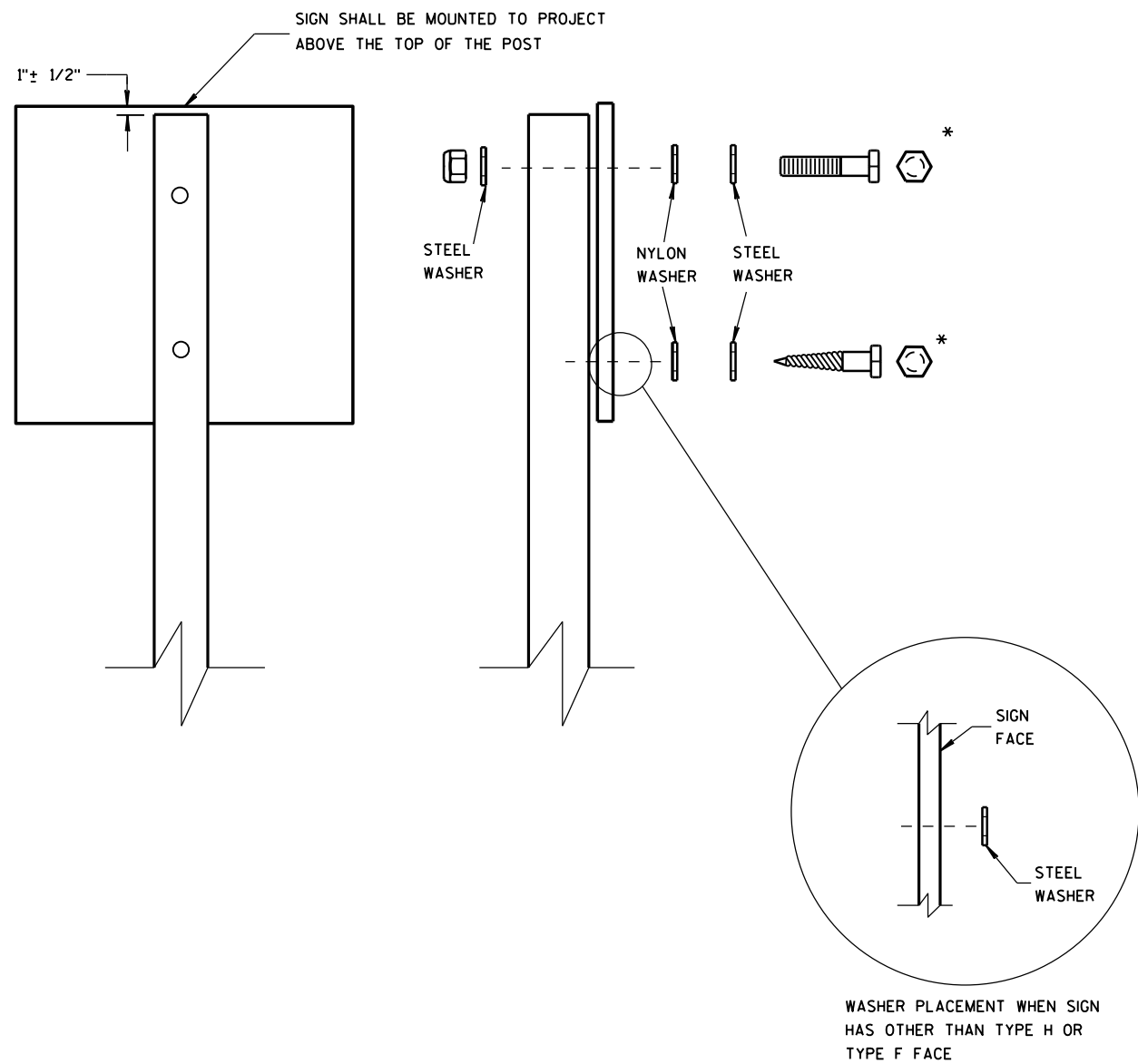
SEE NOTE ③

GENERAL NOTES

- ① 6 FEET FROM THE EDGE OF PAVEMENT (EDGE LINE LOCATION) UNLESS OTHERWISE DIRECTED BY THE PROJECT ENGINEER. LATERAL OFFSET SHOULD BE ADJUSTED TO AVOID THE DITCH FLOWLINE.
- 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. IF NO SIDEWALK AND NO PARKING, VERTICAL CLEARANCE MAY BE REDUCED TO 5 FOOT MINIMUM. OFFSET OF SIGNS IS MEASURED FROM THE CURB FLOWLINE.
- ③ FOR SIGNS REQUIRING 4 POSTS, SPACE INTERMEDIATE POSTS EVENLY.

TEMPORARY TRAFFIC CONTROL
SIGN MOUNTING

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



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.

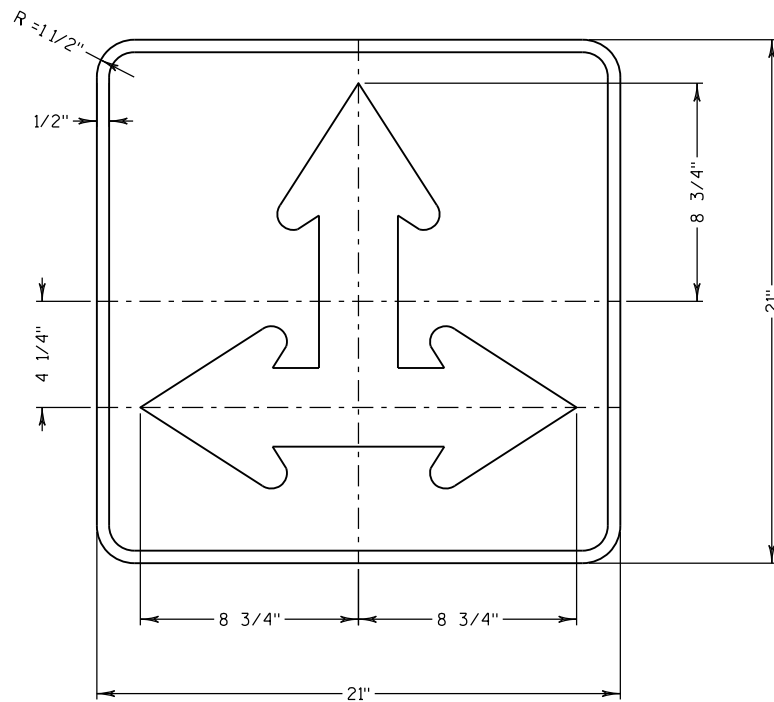
- WOOD POSTS (4" x 4" or 4" x 6")
- LAG SCREWS - 3/8" x 3"
 - MACHINE BOLTS - 5/16" x 6-1/2" OR 7" LENGTH W/ NUTS

- 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

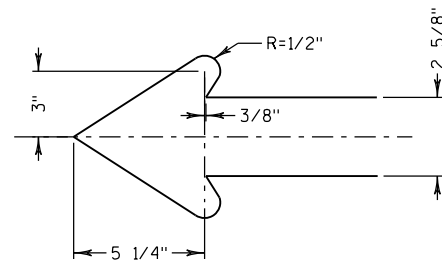
- WASHERS (ALL POSTS) -
- 1-1/4" O.D. x 3/8" I.D. x 1/16" STEEL
 - 1-1/4" O.D. x 3/8" I.D. x .080 NYLON FOR ALL TYPE H SIGNS

* 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. FOR A SINGLE POST INSTALLATION, ALL SIGNS GREATER THAN 9 SQ. FT. REQUIRE THE USE OF 3 FASTENERS.

ATTACHMENT OF SIGNS TO POSTS	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED June 2017 DATE	/S/ Andrew Heldtke WORK ZONE ENGINEER
FHWA	



P311



NOTES

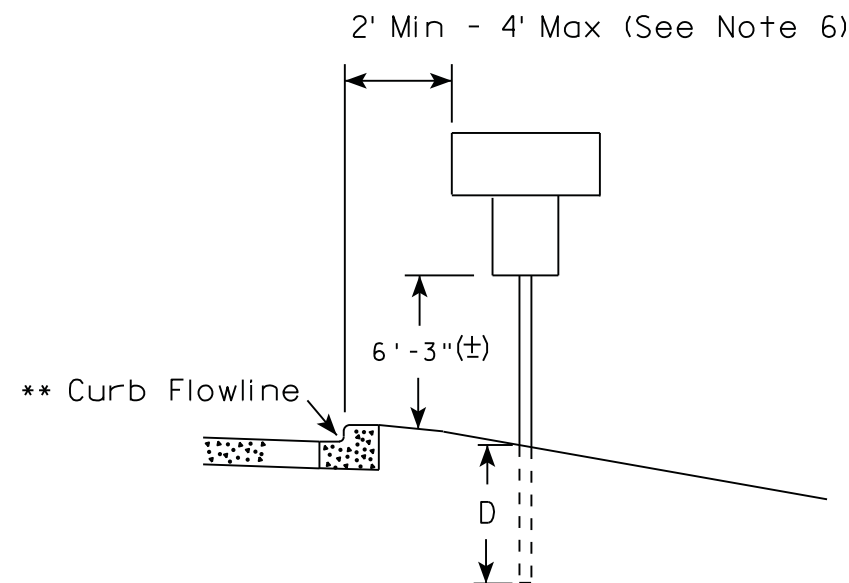
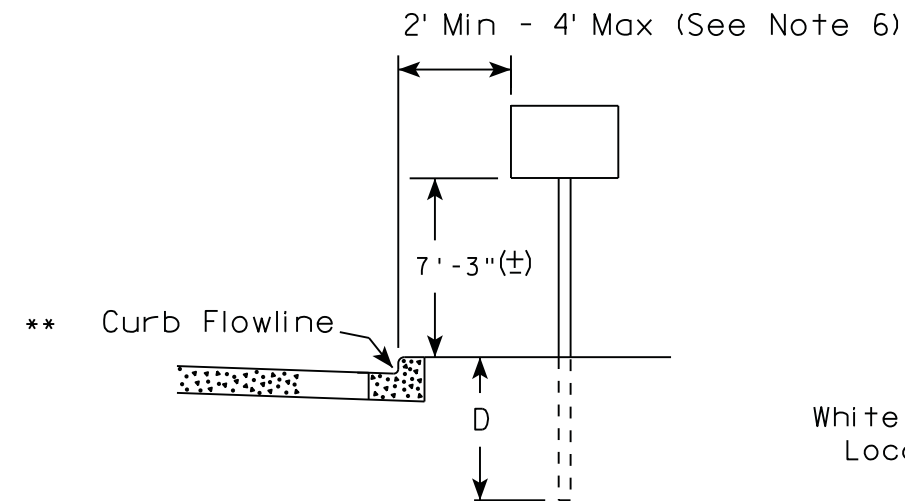
1) SIGN IS TYPE II - TYPE H REFLECTIVE

2) COLOR:

BACKGROUND - WHITE
MESSAGE - BLACK

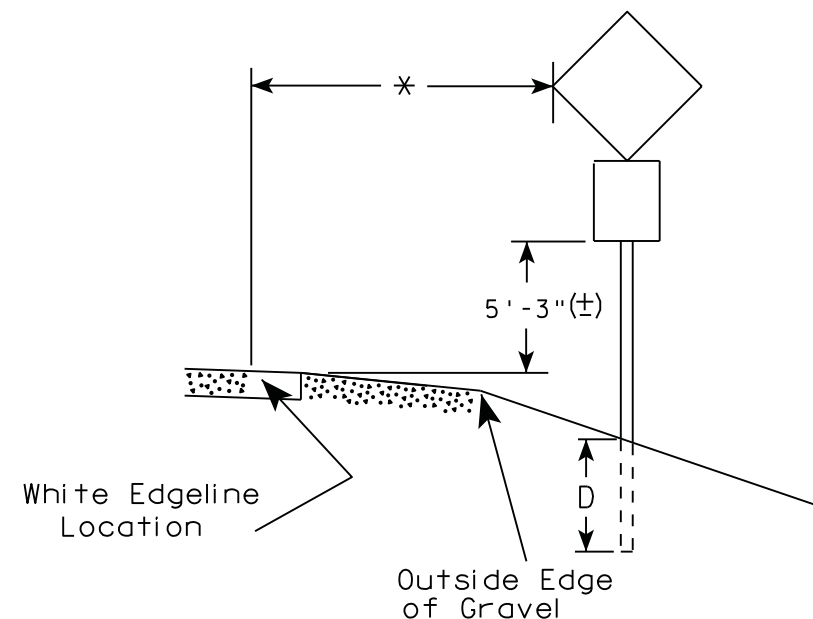
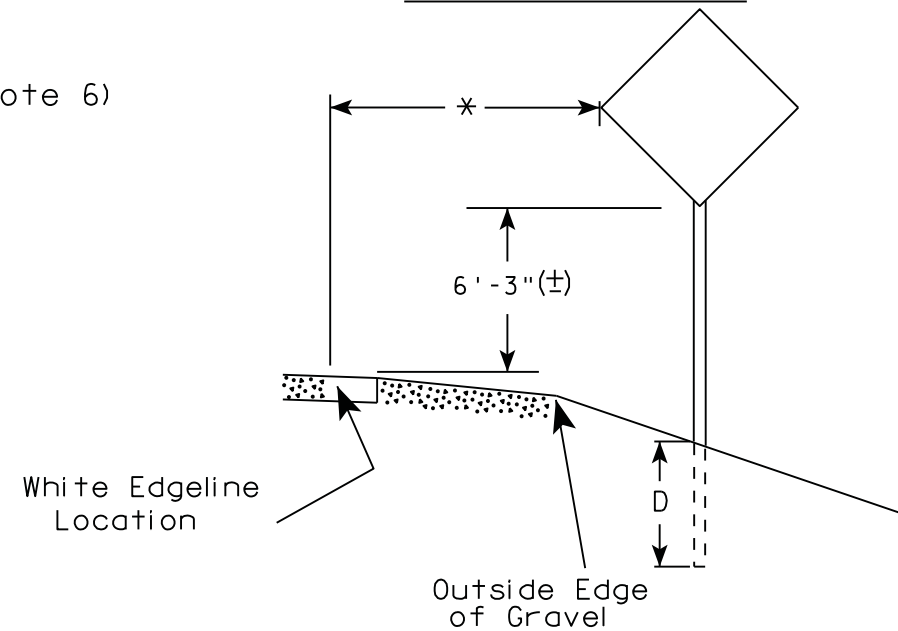
3) CORNERS MAY BE SQUARE OR ROUNDED WHEN BASE MATERIAL IS PLYWOOD BUT BORDERS SHALL BE ROUNDED AS SHOWN. WHEN BASE MATERIAL IS METAL, THE CORNERS AND BORDERS SHALL BE ROUNDED.

URBAN AREA



✱✱ 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.

RURAL AREA (See Note 2)



* 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.

POST EMBEDMENT DEPTH

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

GENERAL NOTES

1. Signs wider than 4 feet or 20 sq.ft or larger, shall be mounted on multiple posts. Refer to plate A4-4.
2. If signs are mounted on barrier wall, see A4-10 sign plate.
3. For expressways and freeways, mounting height is 7'-3" (±) or 6'-3" (±) depending upon existence of a sub-sign.
4. J-Assemblies are considered to be one sign for mounting height.
5. Minimum mounting height for signs mounted on traffic signal poles is 5'-3" (±).
6. Offset distance shall be consistent with existing signs or consistent throughout length of project.
7. The (±) tolerance for mounting height is 3 inches.
8. Folding signs shall be mounted at a height of 5'-3" (±) or as 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), In Road Object Markers (W5-54) & End of Road Markers (W5-56) shall be mounted at a height of 4'-3" (±).

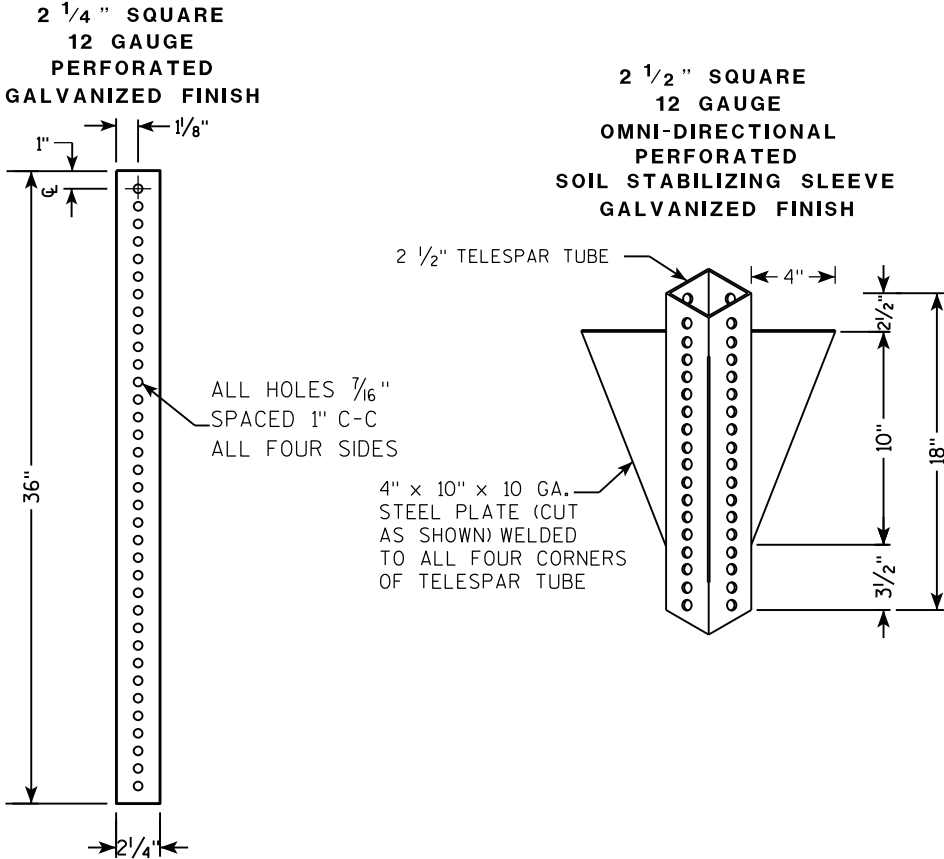
TYPICAL INSTALLATION
OF PERMANENT TYPE II
SIGNS ON SINGLE POSTS

WISCONSIN DEPT OF TRANSPORTATION

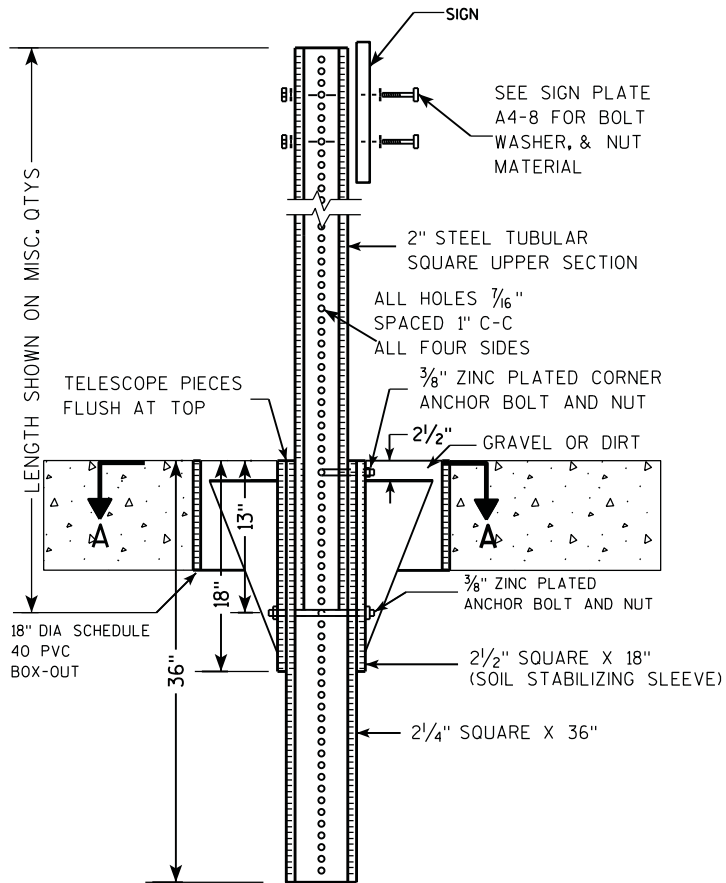
APPROVED *Matthew R. Rauch*
for State Traffic Engineer

DATE 8/21/17 PLATE NO. A4-3.21

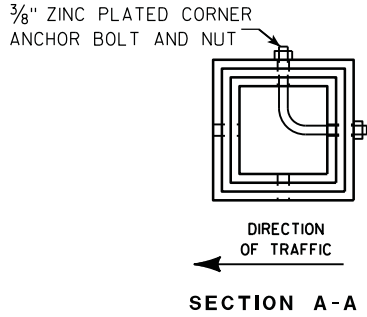
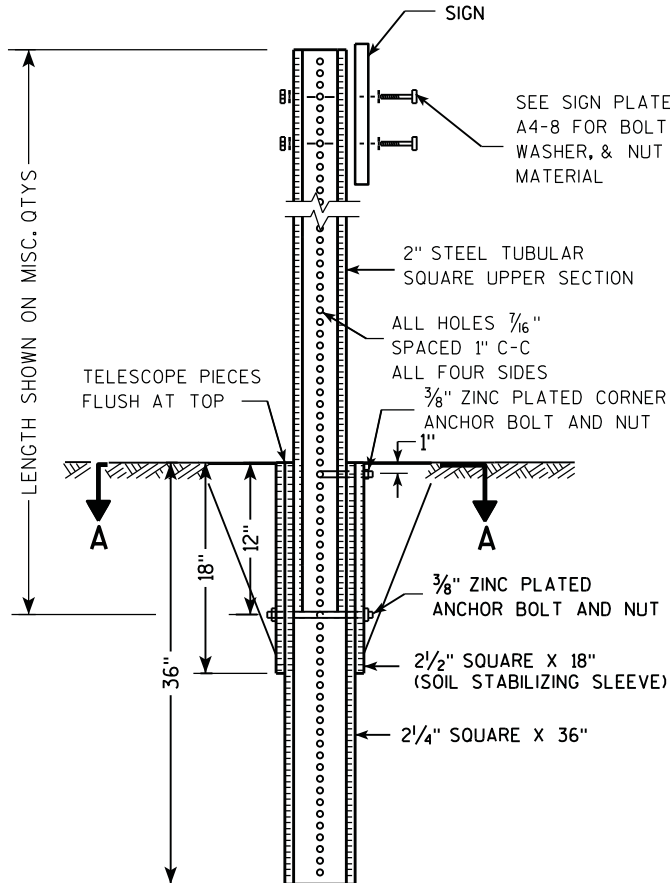
TELESCOPIC TUBING ANCHORS
TWO PIECE SYSTEM



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



DETAIL OF TUBULAR STEEL SIGN POST
(IN LOCATIONS OTHER THAN POURED CONCRETE OR ASPHALT)



Area of Sign Installation (Sq. Ft.)	Number of Required Posts
9 or less	1
Greater than 9 less than or equal to 18	2
Greater than 18 less than or equal to 27	3

Signs wider than 3 feet or larger than 9 sq. ft shall be mounted on multiple posts (see above table).

TUBULAR STEEL
SIGN POST
A4-9

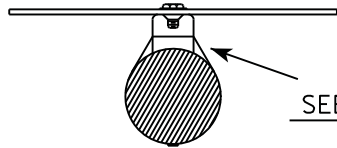
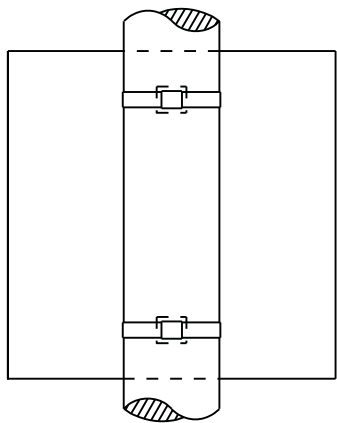
WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer

DATE 2/05/15 PLATE NO. A4-9.9

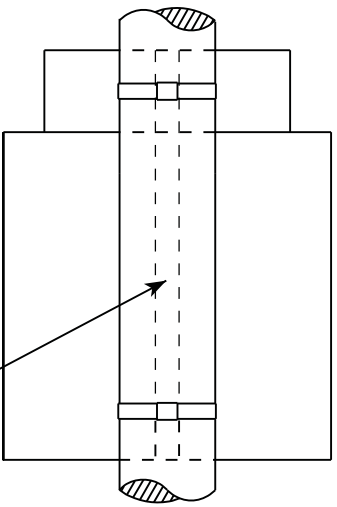
BANDING

SINGLE SIGN

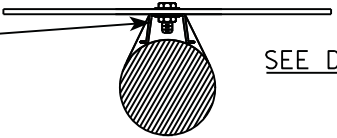


SEE DETAIL A

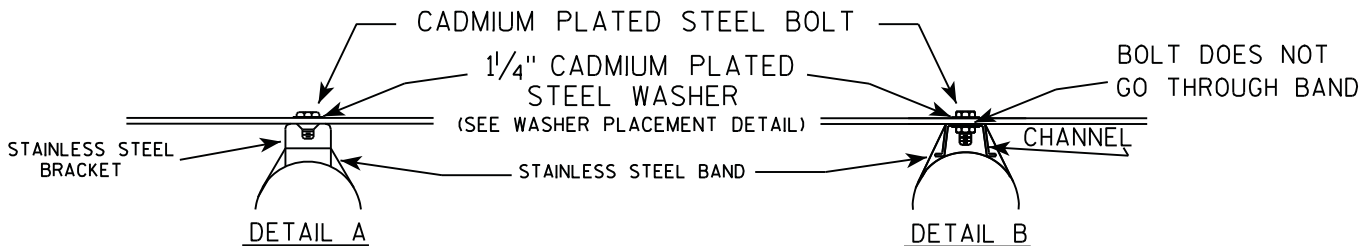
"J" ASSEMBLY



CHANNEL
SEE TYPICAL PANEL
INSTALLATION SHEET



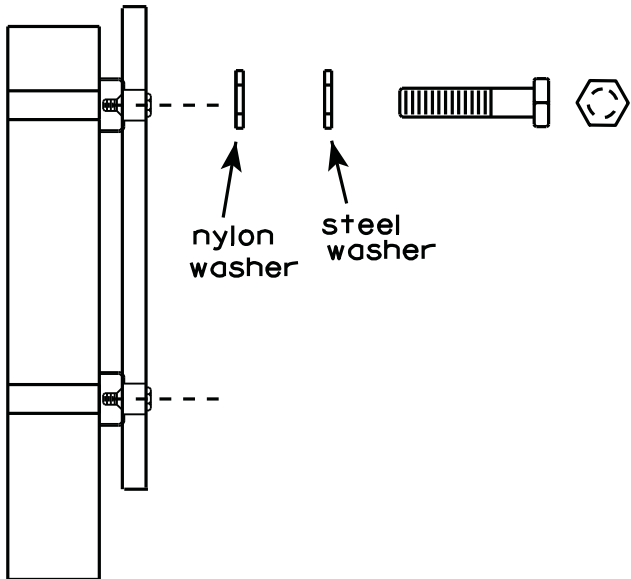
SEE DETAIL B



GENERAL NOTES

1. Any sign over 3 feet in width shall use the V-Block banding method. See A5-10 standard plate.
2. Signs 3 feet or greater in height shall have three bracket bands installed. Signs less than 3 feet in height shall have two bracket bands installed.
3. Banding and assembly bracket shall be stainless steel. All bands shall be $\frac{3}{4}$ " in width and 0.025" thickness.

WASHER PLACEMENT



nylon washer
steel washer

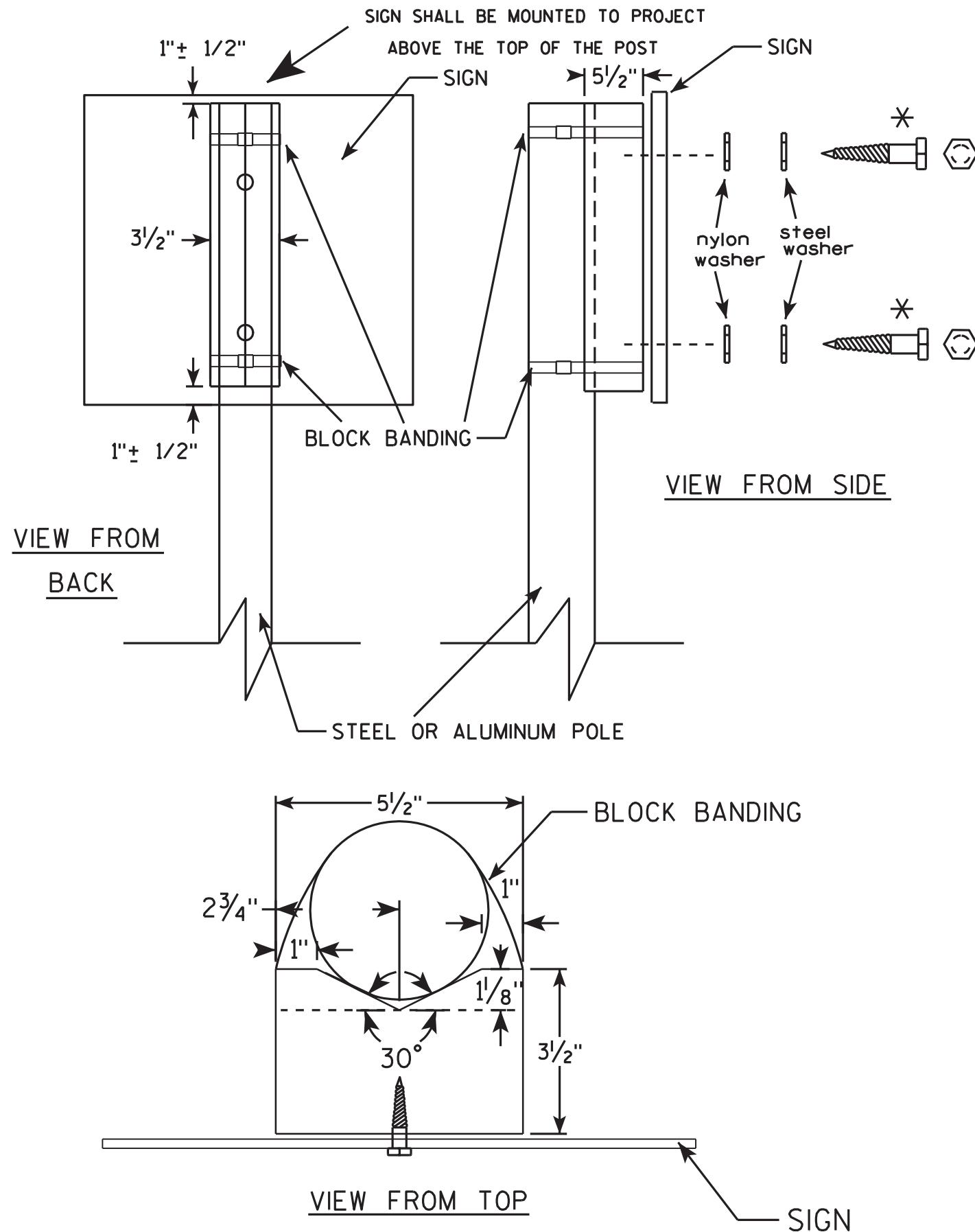
WASHERS (ALL POSTS) -
1-1/4" O.D. X $\frac{3}{8}$ " I.D. X $\frac{1}{16}$ " STEEL
1-1/4" O.D. X $\frac{3}{8}$ " I.D. X .080 NYLON
FOR ALL TYPE H SIGNS

STANDARD SIGN
SIGN BANDING DETAILS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer

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



GENERAL NOTES

1. WOOD 4"x6" POST MATERIAL SHALL CONFORM TO 507.2.2 OF THE WISDOT STANDARD SPECIFICATIONS
2. BLOCK BANDING AND CLIPS SHALL BE STAINLESS STEEL, $\frac{3}{4}$ " WIDTH AND 0.025" THICKNESS
3. SIGNS 3' OR GREATER IN HEIGHT SHALL UTILIZE 3 BLOCK BANDS. SIGNS UNDER 3' IN HEIGHT SHALL UTILIZE 2 BLOCK BANDS
4. ACTUAL NUMBER OF FASTENERS PER SIGN VARIES WITH THE SIGN AREA, BUT NORMALLY THERE ARE TWO. FOR SIGNS GREATER THAN 9 S.F. 3 FASTENERS SHALL BE USED.
5. ALL SIGN MOUNTING BOLTS AND WASHERS SHALL BE EITHER:
 - a. Hot dip or mechanically galvanized in accordance with ASTM Designation: A 153, Class D, or
 - b. Cadmium plated in accordance with ASTM Designation : B 766 TYPE 3, Class 12, or
 - c. Electro-galvanized in accordance with ASTM Designation : B 633, TYPE III, SC 3.
6. ALL BOLTS SHALL HAVE HEXAGONAL HEADS.
7. STEEL WASHERS SHALL BE $\frac{1}{4}$ " O.D. X $\frac{3}{8}$ " I.D. X $\frac{1}{16}$ "
8. NYLON WASHERS SHALL BE $\frac{1}{4}$ " O.D. X $\frac{3}{8}$ " I.D. X .080 FOR TYPE H OR TYPE F FACE SIGN

✱ LAG BOLTS SHALL BE $\frac{3}{8}$ " X $2\frac{1}{2}$ "

BLOCK BANDING DETAIL (V-BLOCK OPTION)

WISCONSIN DEPT OF TRANSPORTATION

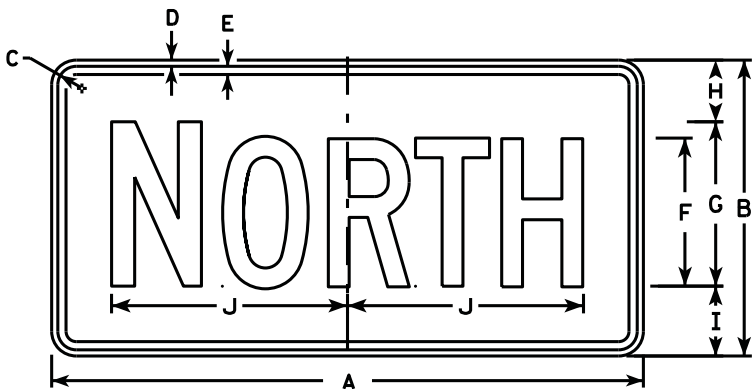
APPROVED *Matthew R. Rauch*
for State Traffic Engineer

DATE 7/12/07 PLATE NO. A5-10.1

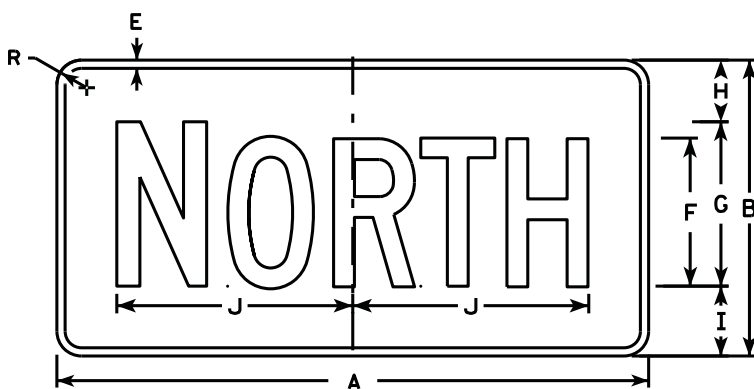
PROJECT NO:

SHEET NO:

E



M3-1
MM3-1
MP3-1



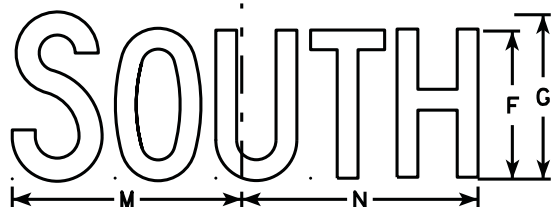
MB3-1
MK3-1
MN3-1



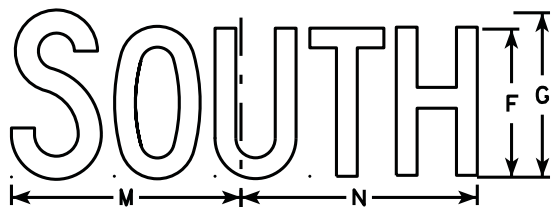
M3-2
MM3-2
MP3-2



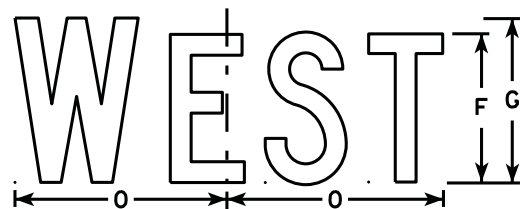
MB3-2
MK3-2
MN3-2



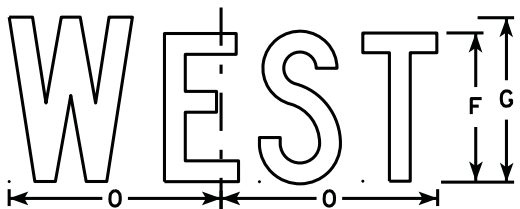
M3-3
MM3-3
MP3-3



MB3-3
MK3-3
MN3-3



M3-4
MM3-4
MP3-4



MB3-4
MK3-4
MN3-4

NOTES

1. All Signs Type II - Type H
2. Color:
Background - See note 5
Message - See note 5
3. Message Series - C
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
5. M3-1 thru M3-4 Background - White
Message - Black
MB3-1 thru MB3-4 Background - Blue
Message - White
MK3-1 thru MK3-4 Background - Green
Message - White
MM3-1 thru MM3-4 Background - White
Message - Green
MN3-1 thru MN3-4 Background - Brown
Message - White
MP3-1 thru MP3-4 Background - White
Message - Blue
6. Note the first letter of each direction is larger than the remainder of the message.

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	O	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2	24	12	1 1/8	3/8	3/8	6	7	2 1/4	2 3/4	10 1/4	7 7/8	8 3/8	10 1/4	9 3/4	8 3/4			1 1/2									2.00
3	36	18	1 1/8	3/8	1/2	9	10	3 3/4	4 1/4	14 3/8	12	12 1/8	14	14 1/8	13			1 1/2									4.5
4	36	18	1 1/8	3/8	1/2	9	10	3 3/4	4 1/4	14 3/8	12	12 1/8	14	14 1/8	13			1 1/2									4.5
5	36	18	1 1/8	3/8	1/2	9	10	3 3/4	4 1/4	14 3/8	12	12 1/8	14	14 1/8	13			1 1/2									4.5

PROJECT NO:

HWY:

COUNTY:

SHEET NO:

E

STANDARD SIGNS
M3-1 thru M3-4
SERIES

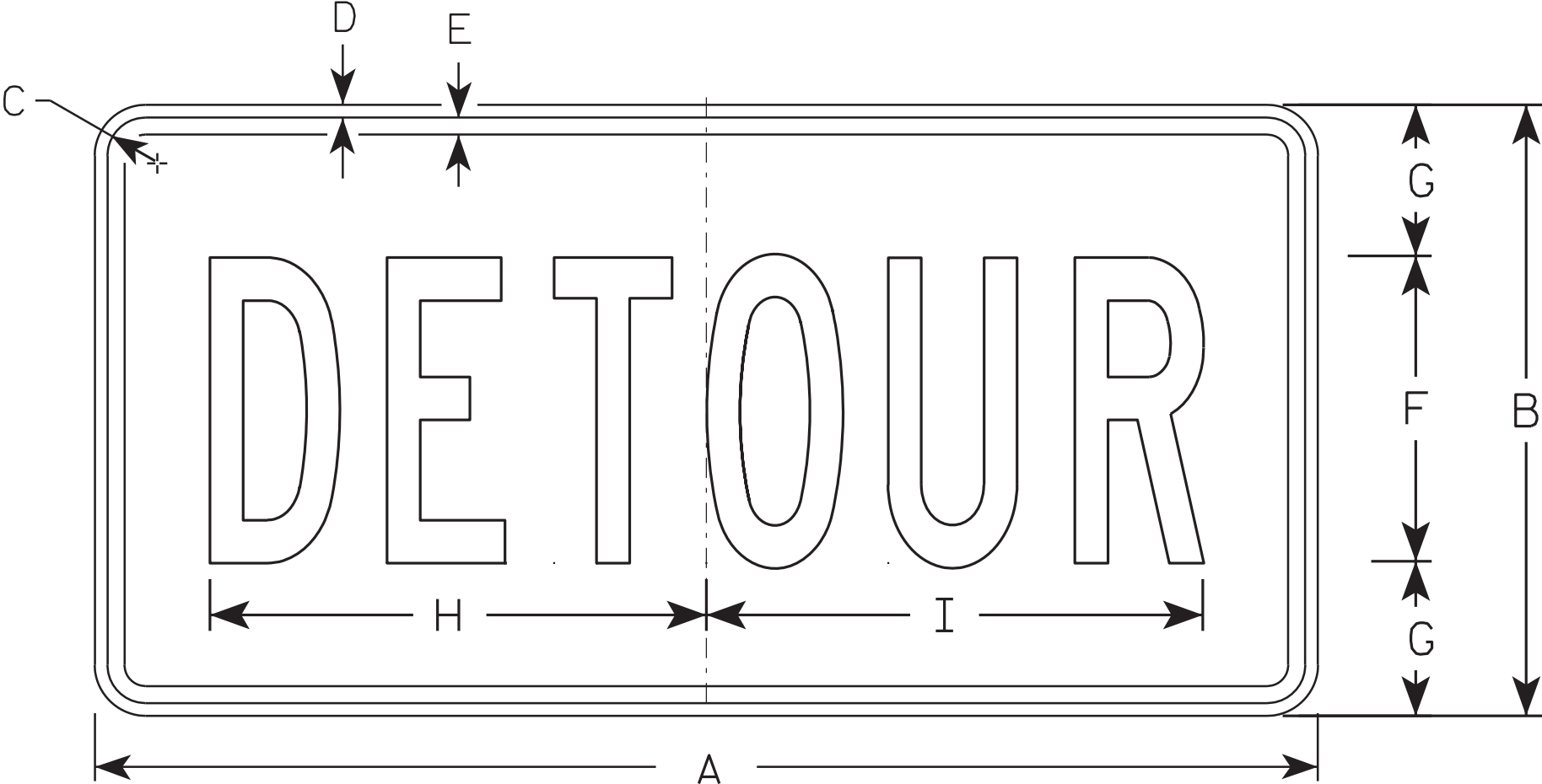
WISCONSIN DEPT OF TRANSPORTATION

APPROVED
Matthew R. Rauch
for State Traffic Engineer

DATE 10/15/15 PLATE NO. M3-1.14

NOTES

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



M4 - 8

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

STANDARD SIGN
M4 - 8

WISCONSIN DEPT OF TRANSPORTATION

APPROVED
Matthew R. Rauch
for State Traffic Engineer

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

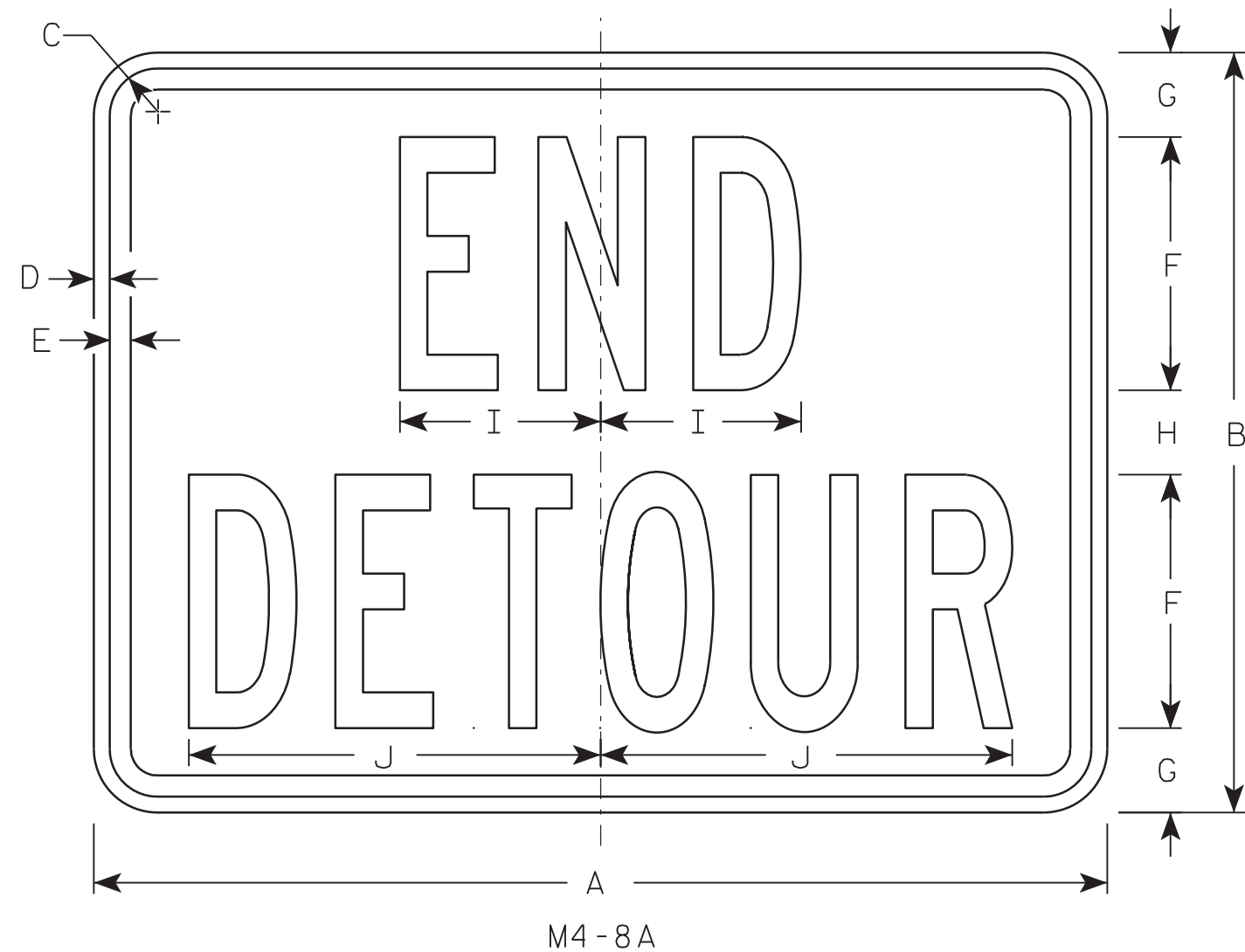
PROJECT NO:

HWY:

COUNTY:

SHEET NO:

E



NOTES

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

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

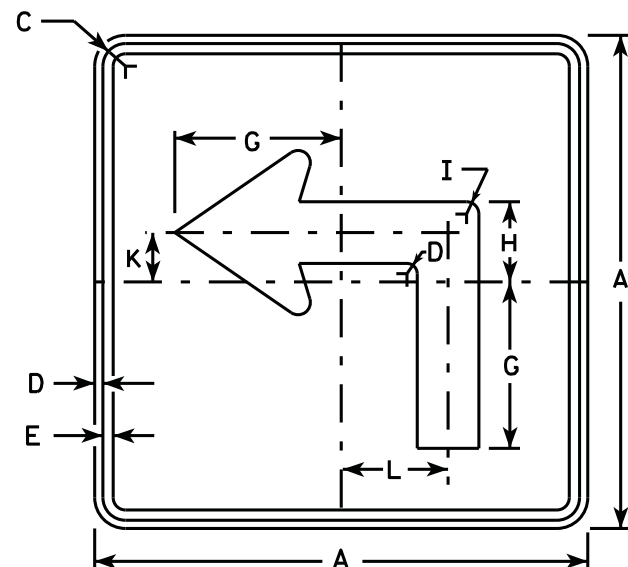
PROJECT NO:	HWY:	COUNTY:		SHEET NO:	E
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STANDARD SIGN
M4-8A

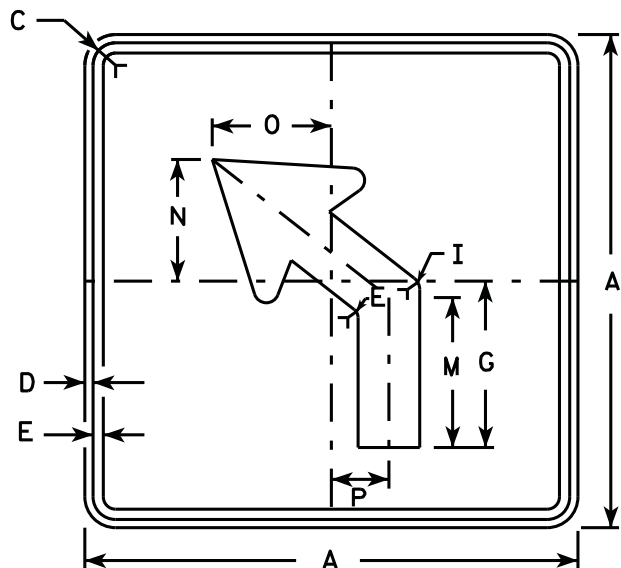
WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer

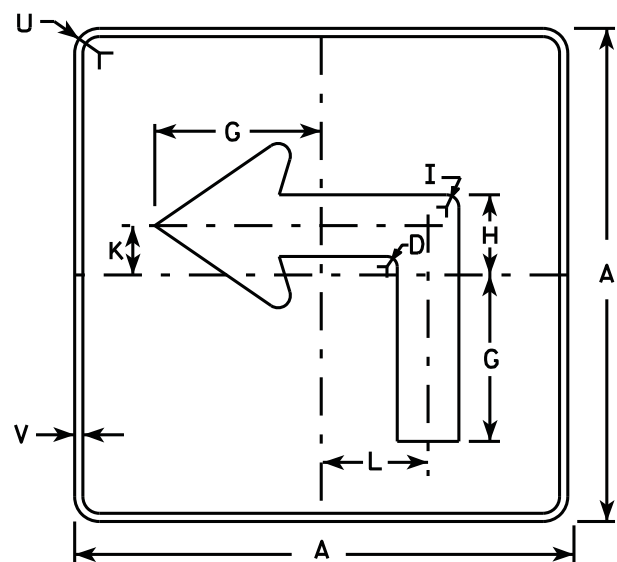
DATE 3/9/11 PLATE NO. M4-8A.2



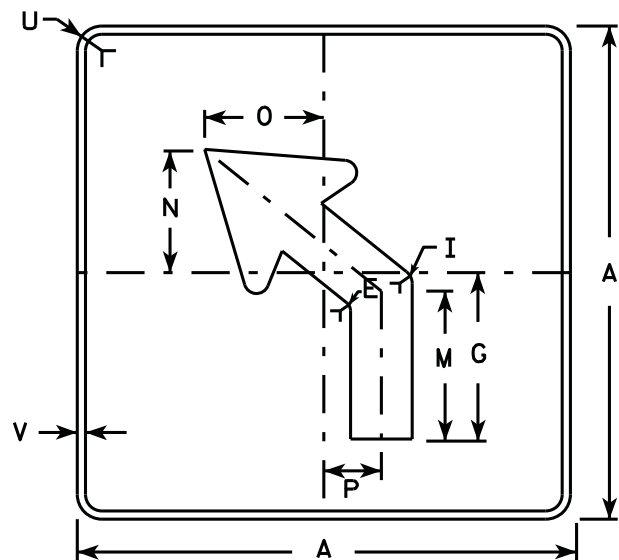
M5-1L
MM5-1L
M05-1L
MP5-1L



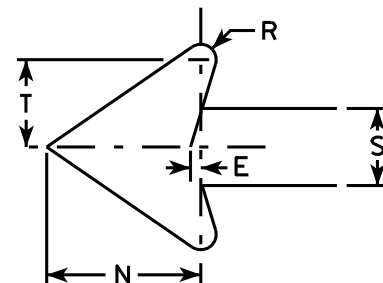
M5-2L
MM5-2L
M05-2L
MP5-2L



MB5-1L
MK5-1L
MN5-1L
MR5-1L



MB5-2L
MK5-2L
MN5-2L
MR5-2L



NOTES

- Signs are Type II - Type H reflective except as shown
- Color:
Background - See note 4
Message - See note 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.
- | | |
|-----------------|---|
| M5-1 and M5-2 | Background - White |
| | Message - Black |
| MB5-1 and MB5-2 | Background - Blue |
| | Message - White |
| MK5-1 and MK5-2 | Background - Green |
| | Message - White |
| MM5-1 and MM5-2 | Background - White |
| | Message - Green |
| MN5-1 and MN5-2 | Background - Brown |
| | Message - White |
| M05-1 and M05-2 | Background - Orange - Type F Reflective |
| | Message - Black |
| MP5-1 and MP5-2 | Background - White - Type H Reflective |
| | Message - Blue |
| MR5-1 and MR5-2 | Background - Brown |
| | Message - Yellow |
- M5-1R same as M5-1L except arrow points right.
- M5-2R same as M5-2L except arrow tilts right.

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	O	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2	21		1 1/8	3/8	3/8		7	3 3/8	5/8		2 1/8	4 1/2	6 3/8	5 1/4	5	2 1/2		1/2	2 5/8	3	1 1/2	1/2					3.06
3	30		1 3/8	1/2	5/8		10 1/8	4 7/8	7/8		3	6 1/2	9 1/8	7 1/2	7 1/4	3 1/2		3/4	3 3/4	4 1/4	1 7/8	1/2					6.25
4	30		1 3/8	1/2	5/8		10 1/8	4 7/8	7/8		3	6 1/2	9 1/8	7 1/2	7 1/4	3 1/2		3/4	3 3/4	4 1/4	1 7/8	1/2					6.25
5	30		1 3/8	1/2	5/8		10 1/8	4 7/8	7/8		3	6 1/2	9 1/8	7 1/2	7 1/4	3 1/2		3/4	3 3/4	4 1/4	1 7/8	1/2					6.25

PROJECT NO:	HWY:	COUNTY:	SHEET NO:	E
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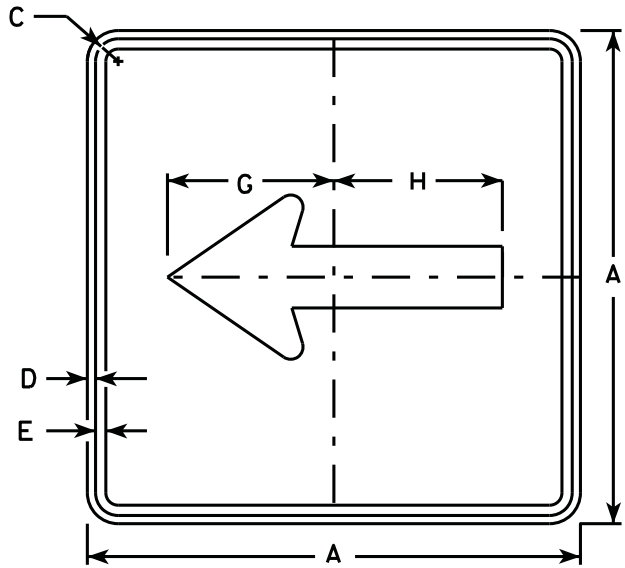
STANDARD SIGN

M5-1 & M5-2

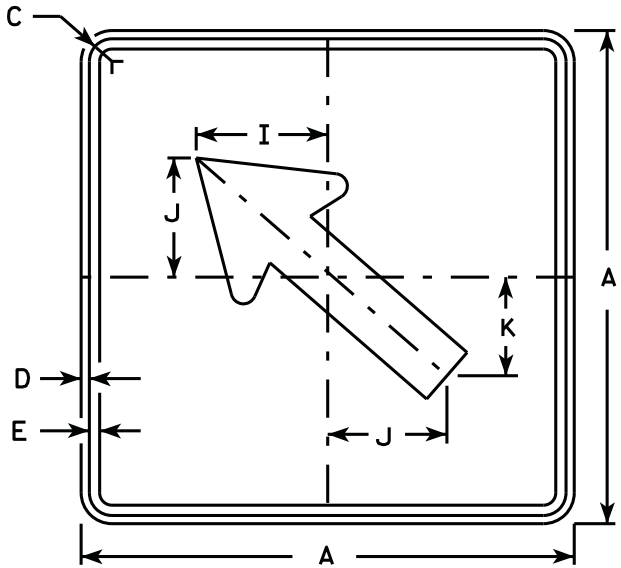
WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer

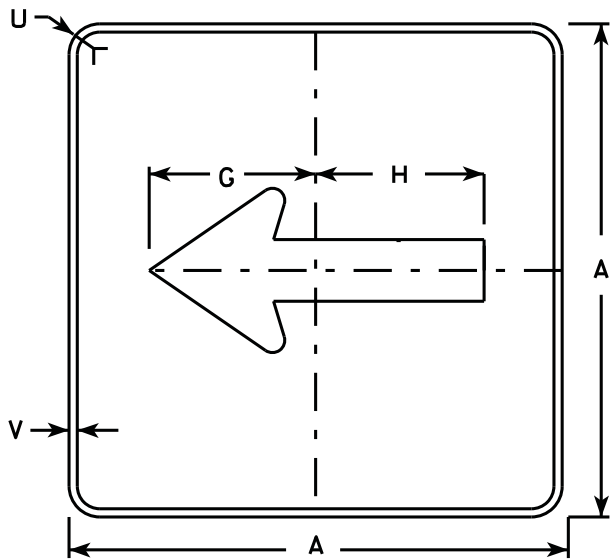
DATE 10/15/15 PLATE NO. M5-1.13



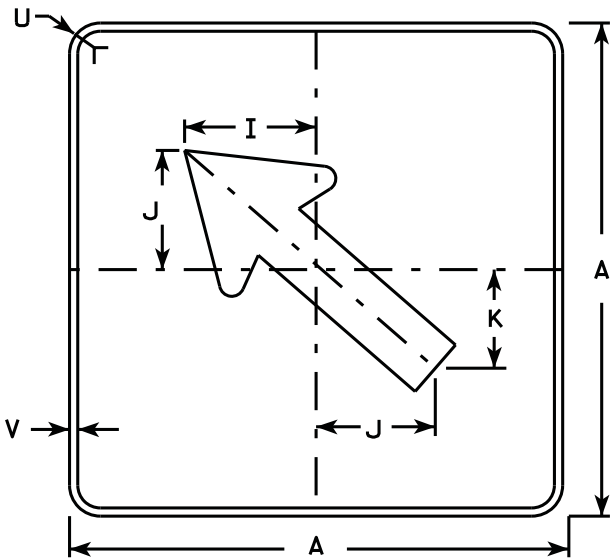
M6 - 1
MM6 - 1
M06 - 1
MP6 - 1



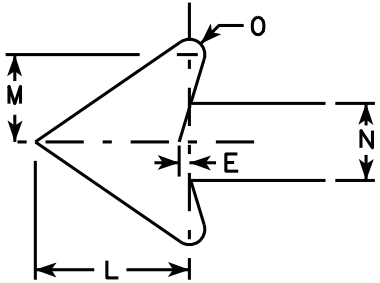
M6 - 2
MM6 - 2
M06 - 2
MP6 - 2



MB6 - 1
MK6 - 1
MN6 - 1
MR6 - 1



MB6 - 2
MK6 - 2
MN6 - 2
MR6 - 2



NOTES

- 1. Signs are Type II - Type H except as Shown
- 2. Color:
 - Background - See note 4
 - Message - See note 4
- 3. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
- 4. M6-1 and M6-2 Background - White
Message - Black
MB6-1 and MB6-2 Background - Blue
Message - White
MK6-1 and MK6-2 Background - Green
Message - White
MM6-1 and MM6-2 Background - White
Message - Green
MN6-1 and MN6-2 Background - Brown
Message - White
M06-1 and M06-2 Background - Orange - Type F Reflective
Message - Black
MP6-1 and MP6-2 Background - White
Message - Blue
MR6-1 and MR6-2 Background - Brown
Message - Yellow

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	O	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2	21		1 1/8	3/8	3/8		7 1/2	7 1/8	5 5/8	5	4 1/4	5 1/4	3	2 5/8	1/2						1 1/2	1/2					3.06
3	30		1 3/8	1/2	5/8		10 3/4	10 1/4	8	7 1/4	6	7 1/2	4 1/4	3 3/4	3/4						1 7/8	1/2					6.25
4	30		1 3/8	1/2	5/8		10 3/4	10 1/4	8	7 1/4	6	7 1/2	4 1/4	3 3/4	3/4						1 7/8	1/2					6.25
5	30		1 3/8	1/2	5/8		10 3/4	10 1/4	8	7 1/4	6	7 1/2	4 1/4	3 3/4	3/4						1 7/8	1/2					6.25

PROJECT NO:

HWY:

COUNTY:

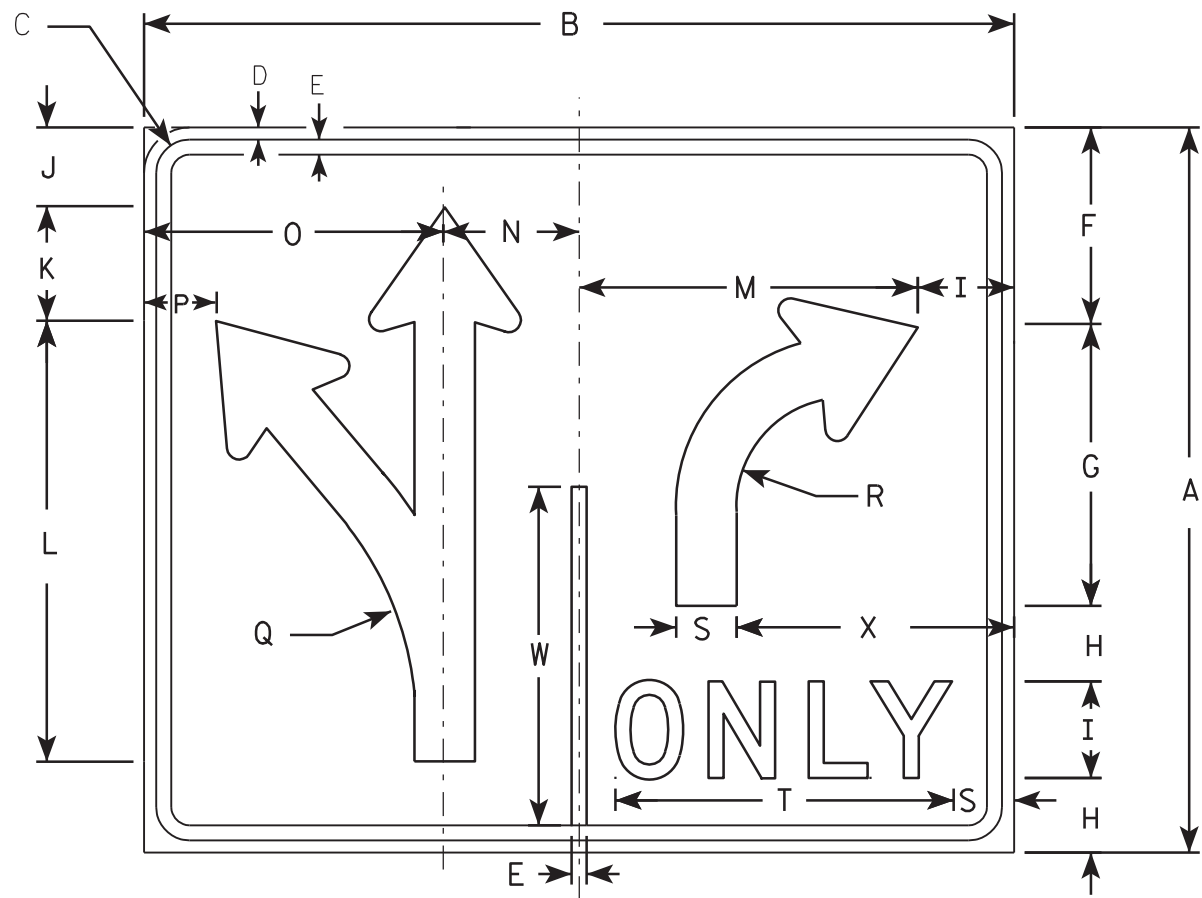
SHEET NO: E

STANDARD SIGN
M6 - 1 & M6 - 2
SERIES

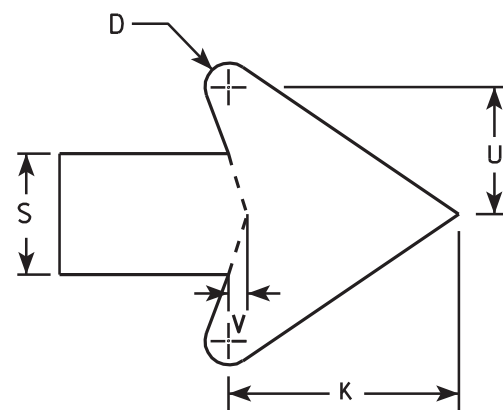
WISCONSIN DEPT OF TRANSPORTATION

APPROVED
Matthew R. Rauch
for State Traffic Engineer

DATE 10/15/15 PLATE NO. M6-1.15



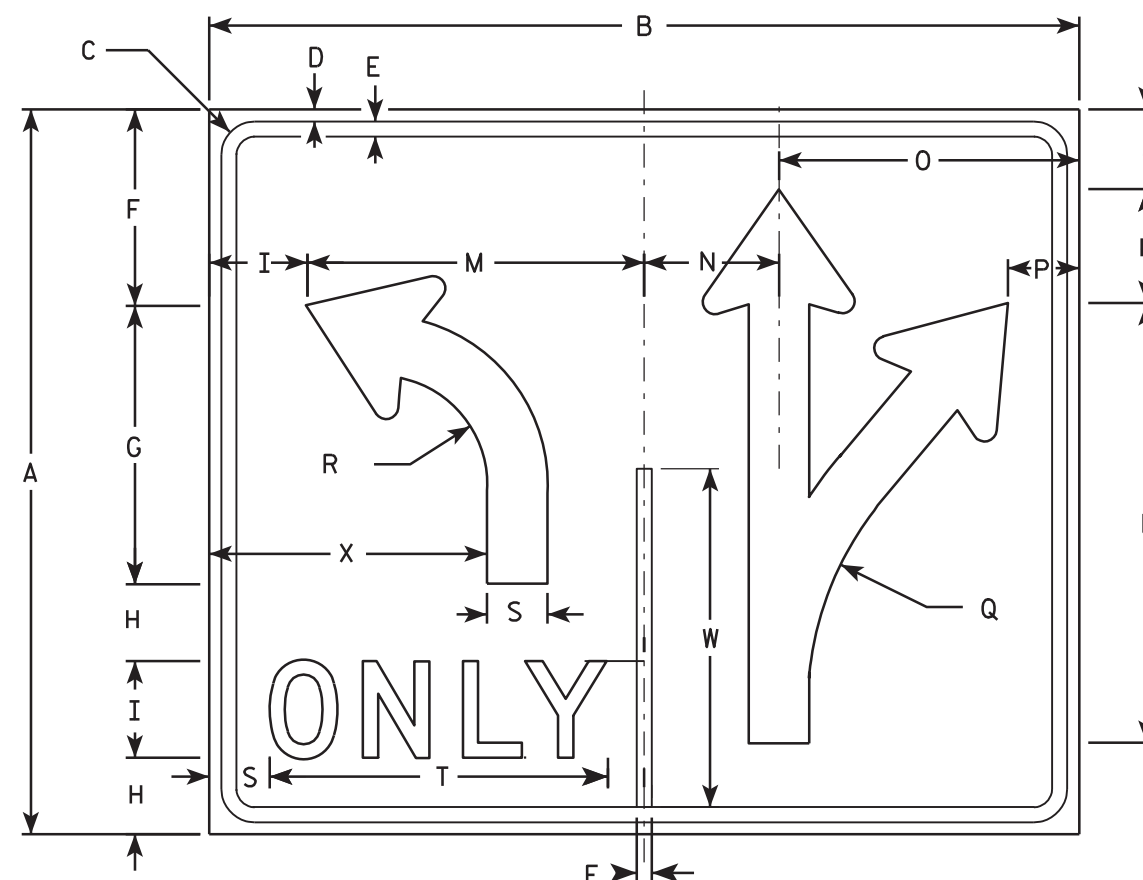
R3-8



ARROW DETAIL

NOTES

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



R3-8A

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2S	30	36	1 ³ / ₈	¹ / ₂	⁵ / ₈	8 ¹ / ₈	11 ⁵ / ₈	3 ¹ / ₈	4	3 ¹ / ₄	4 ³ / ₄	18 ¹ / ₄	14	5 ⁵ / ₈	12 ³ / ₈	3	13 ¹ / ₄	4 ¹ / ₂	2 ¹ / ₂	14	2 ⁵ / ₈	³ / ₈	14	11 ¹ / ₂			7.5
2M	30	36	1 ³ / ₈	¹ / ₂	⁵ / ₈	8 ¹ / ₈	11 ⁵ / ₈	3 ¹ / ₈	4	3 ¹ / ₄	4 ³ / ₄	18 ¹ / ₄	14	5 ⁵ / ₈	12 ³ / ₈	3	13 ¹ / ₄	4 ¹ / ₂	2 ¹ / ₂	14	2 ⁵ / ₈	³ / ₈	14	11 ¹ / ₂			7.5
3																											
4	48	54	2 ¹ / ₄	³ / ₄	1	13 ¹ / ₄	18 ¹ / ₂	5 ¹ / ₈	6	5 ¹ / ₄	7 ¹ / ₈	29 ¹ / ₈	21	8 ³ / ₈	18 ⁵ / ₈	4 ³ / ₈	21 ⁷ / ₈	7 ¹ / ₄	3 ³ / ₄	20 ⁵ / ₈	4	⁵ / ₈	22 ³ / ₈	17 ¹ / ₄			18.0
5	48	54	2 ¹ / ₄	³ / ₄	1	13 ¹ / ₄	18 ¹ / ₂	5 ¹ / ₈	6	5 ¹ / ₄	7 ¹ / ₈	29 ¹ / ₈	21	8 ³ / ₈	18 ⁵ / ₈	4 ³ / ₈	21 ⁷ / ₈	7 ¹ / ₄	3 ³ / ₄	20 ⁵ / ₈	4	⁵ / ₈	22 ³ / ₈	17 ¹ / ₄			18.0

STANDARD SIGN R3-8 & R3-8A

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer

DATE 3/18/2011 PLATE NO. R3-8.5

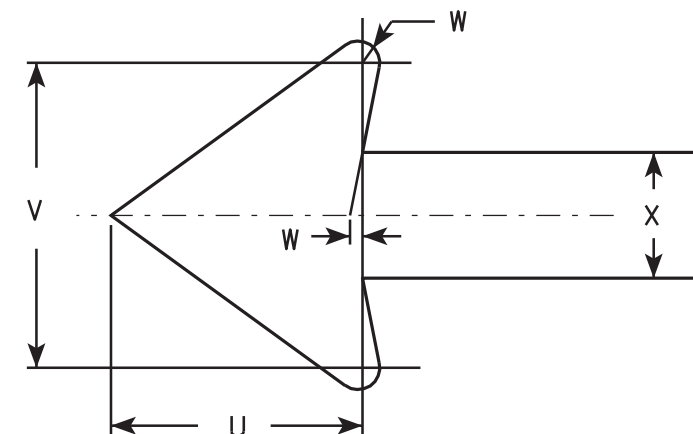
PROJECT NO: HWY: COUNTY: SHEET NO: E



R7-1

NOTES

1. Sign is Type II - Type H Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
Background - White
Message - Red
3. Message Series - See Note 5
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
5. Lines 1, 3 and 4 are series C, line 2 is series B.
6. R7-1D (double arrow)
R7-1L (left arrow)
R7-1R (right arrow)



SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	12	18	1 1/8	3/8	3/8	3	1 7/8	2	7/8	5/8	1 1/2	2 1/2	2	2	4 7/8	4 7/8	2 1/4	2 1/8	2 1/2	3 7/8	1 1/2	1 3/4	1/8	3/4			1.5
2S	18	24	1 1/8	3/8	1/2	4	2 1/2	2 1/2	1 1/4	1	2	3 1/4	2 3/4	2 5/8	7 1/8	7	2 3/4	2 5/8	3 1/8	5 7/8	2 1/4	2 5/8	1/4	1 1/8			3.0
2M	24	30	1 1/8	3/8	1/2	5	3	3	2	1 1/4	2 1/2	4	3 1/4	3 3/8	9 1/4	9 1/4	3 1/4	3 1/4	3 3/4	7 3/4	3	3 1/2	1/4	1 1/2			5.0
3	24	30	1 1/8	3/8	1/2	5	3	3	2	1 1/4	2 1/2	4	3 1/4	3 3/8	9 1/4	9 1/4	3 1/4	3 1/4	3 3/4	7 3/4	3	3 1/2	1/4	1 1/2			5.0
4																											
5																											

STANDARD SIGN R7-1

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer

DATE 3/31/2011 PLATE NO. R7-1.9

PROJECT NO: HWY: COUNTY: SHEET NO: E



NOTES

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

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

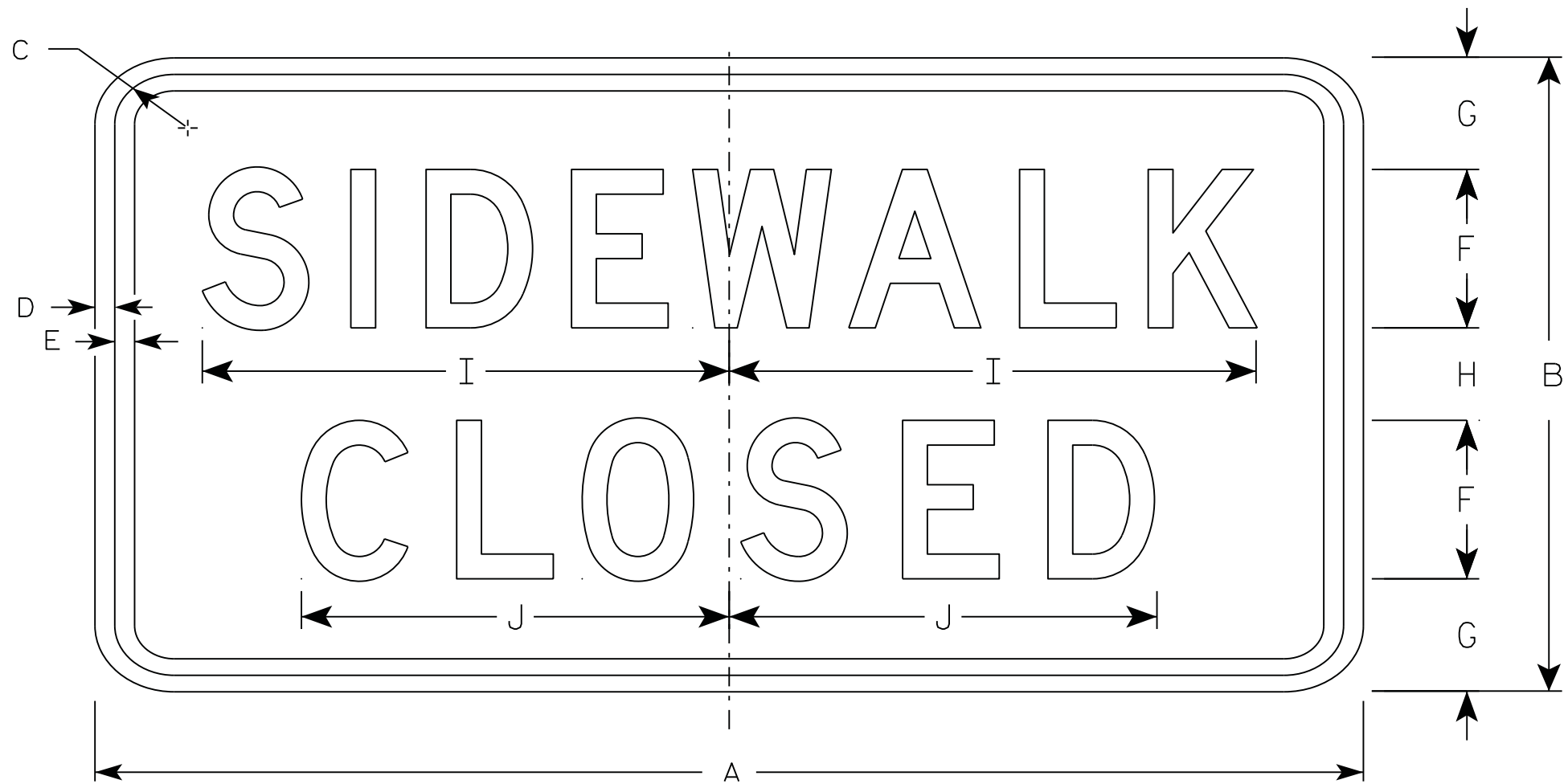
STANDARD SIGN R8-52

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer

DATE 4/1/2011 PLATE NO. R8-52.5

PROJECT NO: _____ HWY: _____ COUNTY: _____ SHEET NO: _____ E



R9-9

NOTES

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

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 ¾	½	½	3	2 ⅛	1 ¾	10	8 ⅛																	2.0
2M	24	12	1 ¾	½	½	3	2 ⅛	1 ¾	10	8 ⅛																	2.0
3	30	18	1 ¾	½	½	4	3 ½	3	12 ½	10 ¼																	3.75
4																											
5																											

PROJECT NO:

HWY:

COUNTY:

SHEET NO:

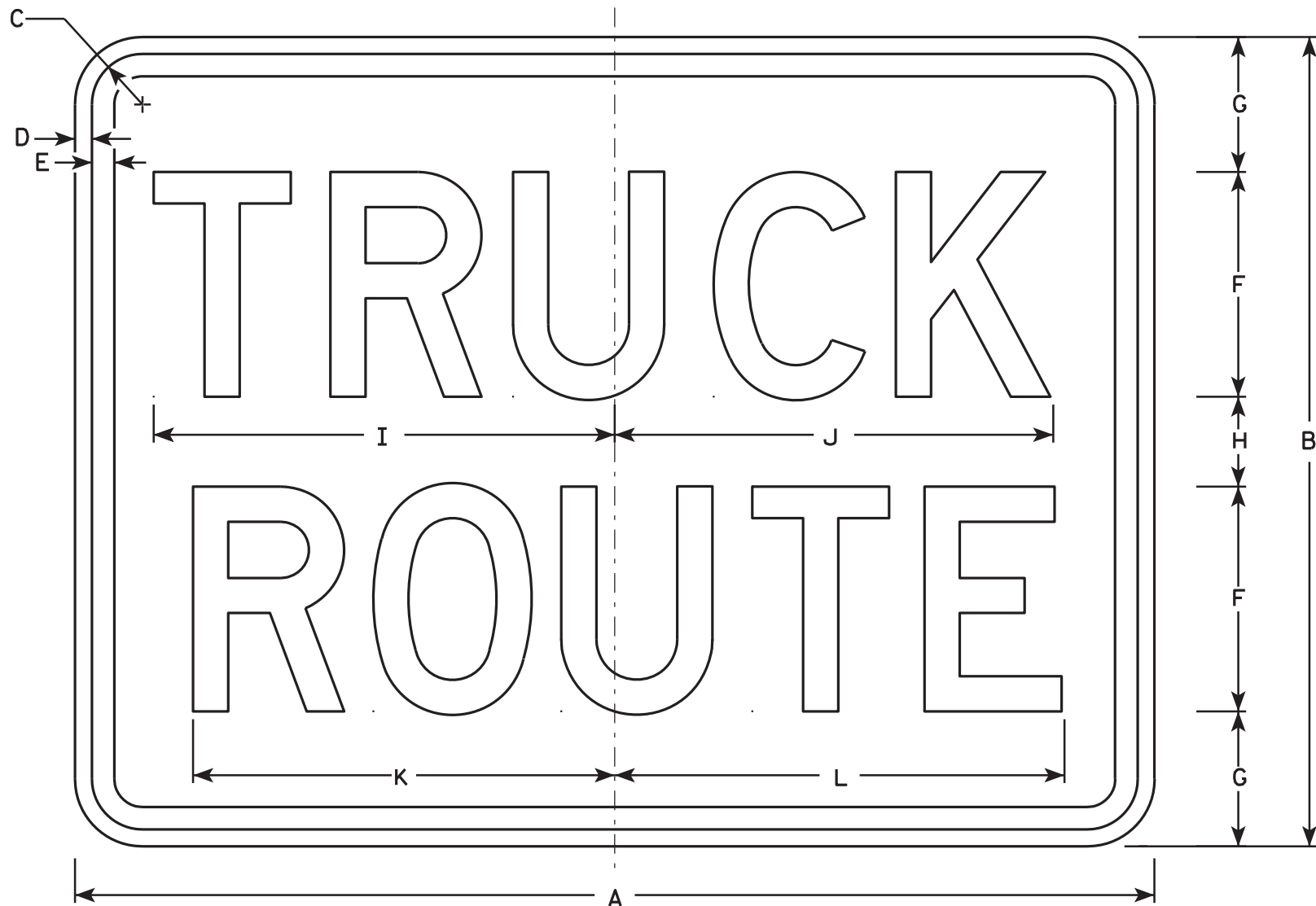
E

STANDARD SIGN
R9-9

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer

DATE 8/11/16 PLATE NO. R9-9.6



R14-1

NOTES

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

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

STANDARD SIGN
R14-1

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer

DATE 4/1/11 PLATE NO. R14-1.6

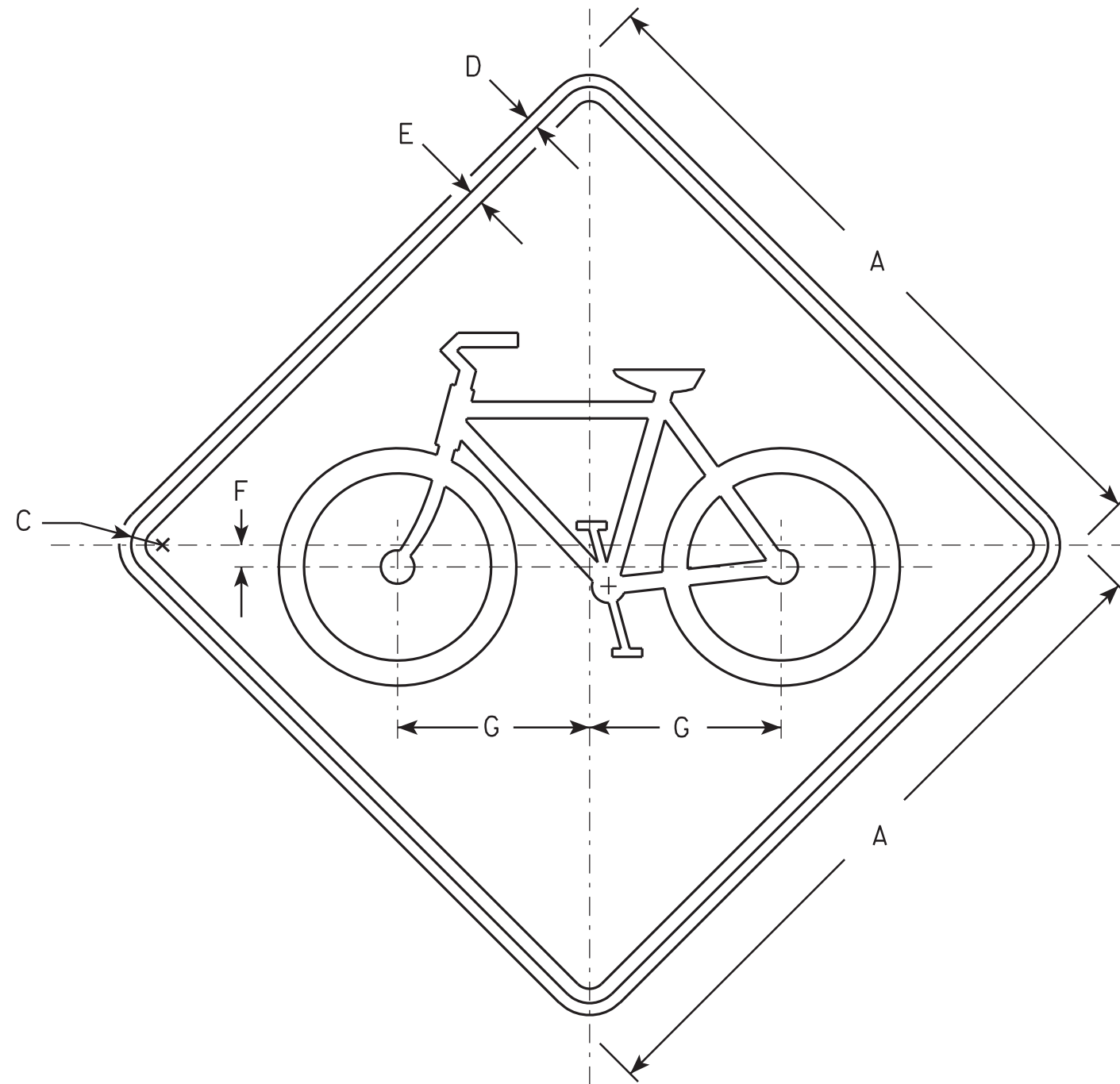
PROJECT NO:

HWY:

COUNTY:

SHEET NO:

E



W11-1

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	3/4	1/2	3/4	6 5/8																				4.0
2S	30		1 3/8	1/2	5/8	1	8 1/2																				6.25
2M	36		1 5/8	5/8	3/4	1 1/4	10																				9.0
3	36		1 5/8	5/8	3/4	1 1/4	10																				9.0
4	48		2 1/4	3/4	1	1 5/8	13 3/8																				16.0
5																											16.0

STANDARD SIGN
W11-1

WISCONSIN DEPT OF TRANSPORTATION
APPROVED *Matthew R. Rauch*
for State Traffic Engineer
DATE 12/21/10 PLATE NO. W11-1.9

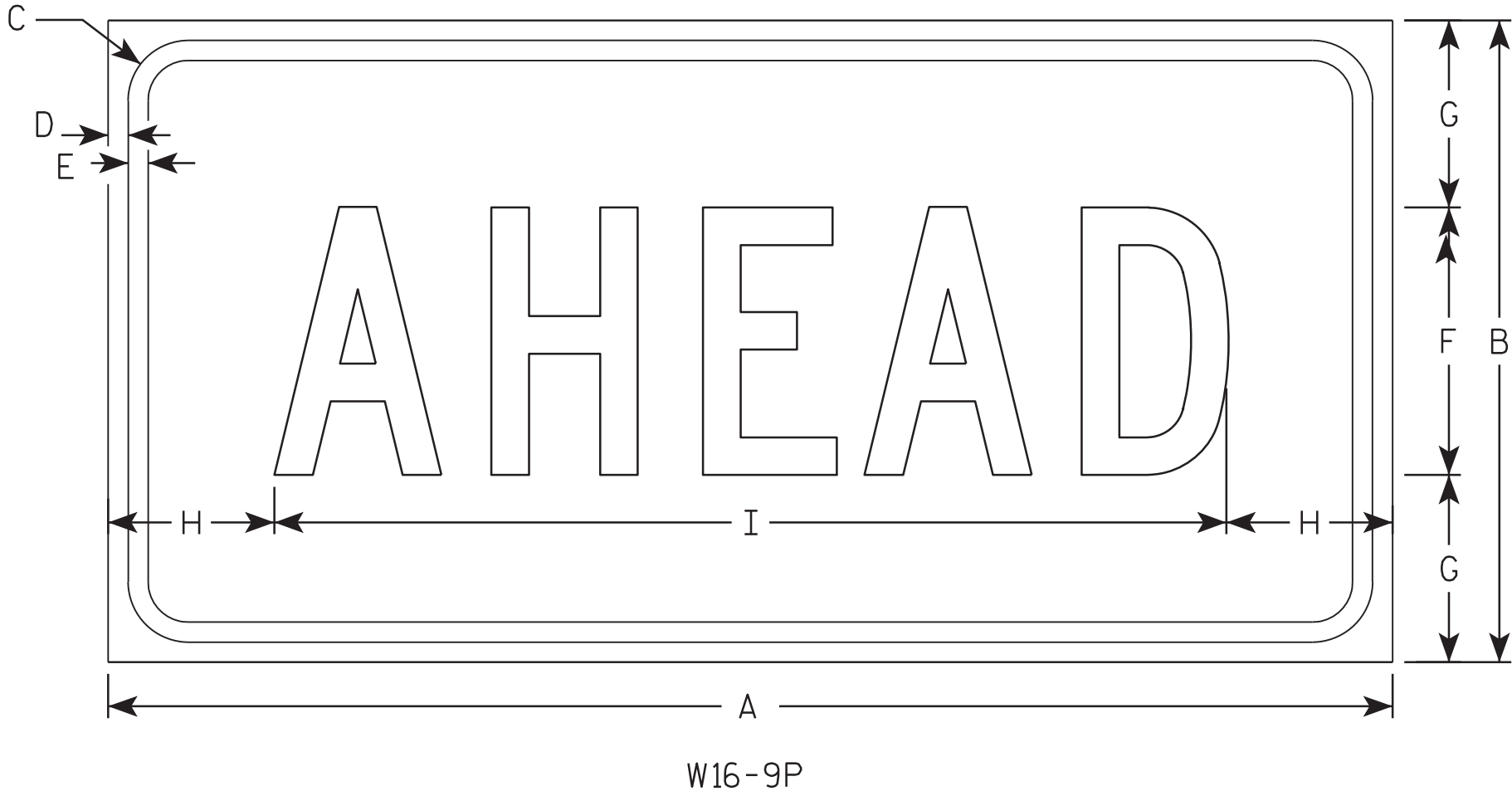
PROJECT NO: HWY: COUNTY: SHEET NO: E

7

7

NOTES

- 1. Sign is Type II - Type F Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
- 2. Color:
Background - Yellow
Message - Black
- 3. 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																											

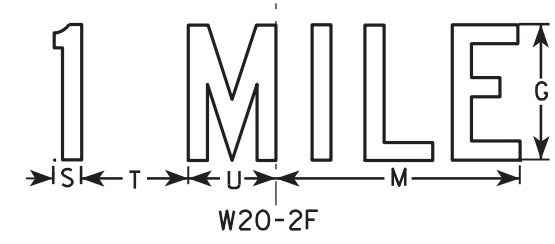
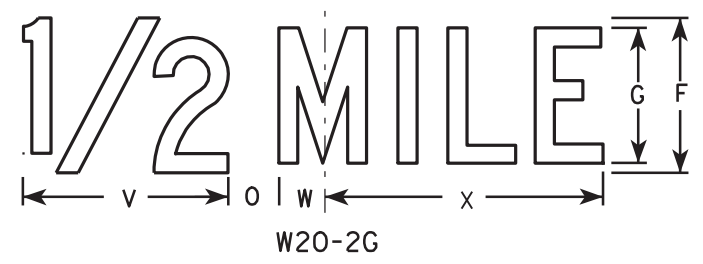
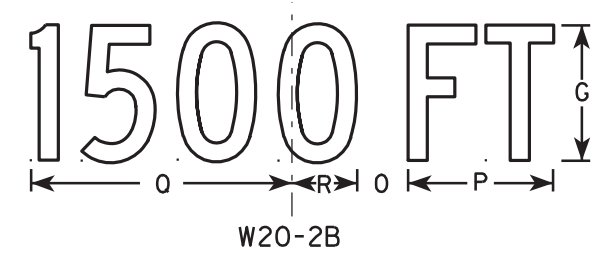
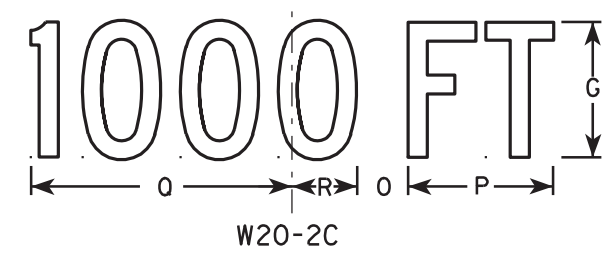
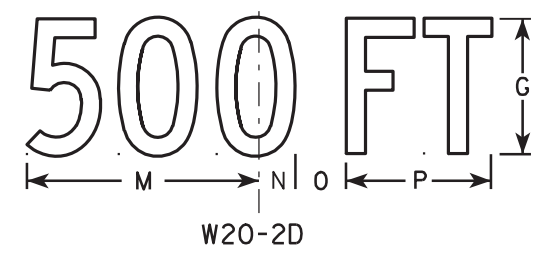
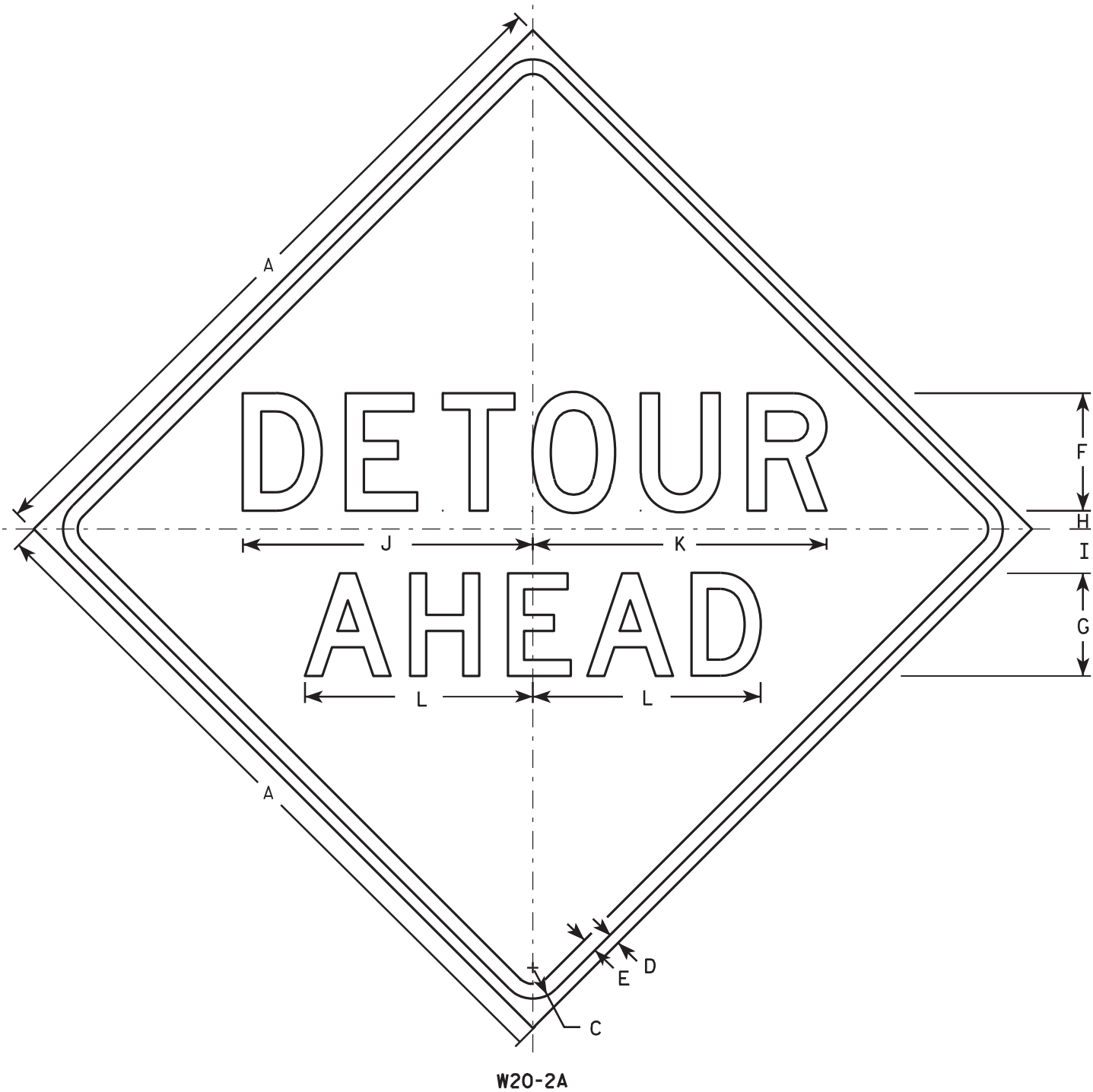
STANDARD SIGN

W16-9P

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer

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



NOTES

1. Sign is Type II - Type F Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
Background - Orange
Message - Black
3. Message Series - See note 5
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
5. Line 1 is Series D.
Line 2 is Series D for AHEAD and Series C for all other distances.

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	36		1 5/8	5/8	3/4	6	5	1	2 1/4	14 3/4	15	11 5/8	9	1 3/8	1 7/8	5 5/8	10 1/8	2 1/2	1 1/8	4 1/2	3 1/2	8	1 3/4	10 3/4			9.0
2S	48		2 1/4	3/4	1	8	7	1 1/4	3	19 3/4	20	15 1/2	12	1 7/8	2 5/8	7 1/2	13 1/2	3 3/8	1 1/2	6	4 5/8	10 5/8	2 3/8	14 3/8			16.0
2M	48		2 1/4	3/4	1	8	7	1 1/4	3	19 3/4	20	15 1/2	12	1 7/8	2 5/8	7 1/2	13 1/2	3 3/8	1 1/2	6	4 5/8	10 5/8	2 3/8	14 3/8			16.0
3	48		2 1/4	3/4	1	8	7	1 1/4	3	19 3/4	20	15 1/2	12	1 7/8	2 5/8	7 1/2	13 1/2	3 3/8	1 1/2	6	4 5/8	10 5/8	2 3/8	14 3/8			16.0
4	48		2 1/4	3/4	1	8	7	1 1/4	3	19 3/4	20	15 1/2	12	1 7/8	2 5/8	7 1/2	13 1/2	3 3/8	1 1/2	6	4 5/8	10 5/8	2 3/8	14 3/8			16.0
5	48		2 1/4	3/4	1	8	7	1 1/4	3	19 3/4	20	15 1/2	12	1 7/8	2 5/8	7 1/2	13 1/2	3 3/8	1 1/2	6	4 5/8	10 5/8	2 3/8	14 3/8			16.0

STANDARD SIGN
W20-2A,B,C,D,F & G

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer

DATE 3/18/11 PLATE NO. W20-2.6

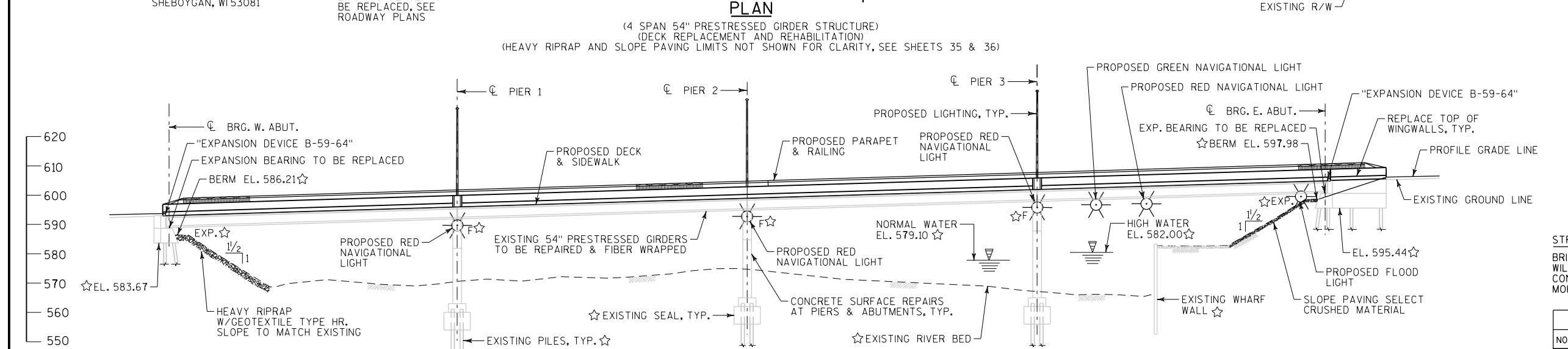
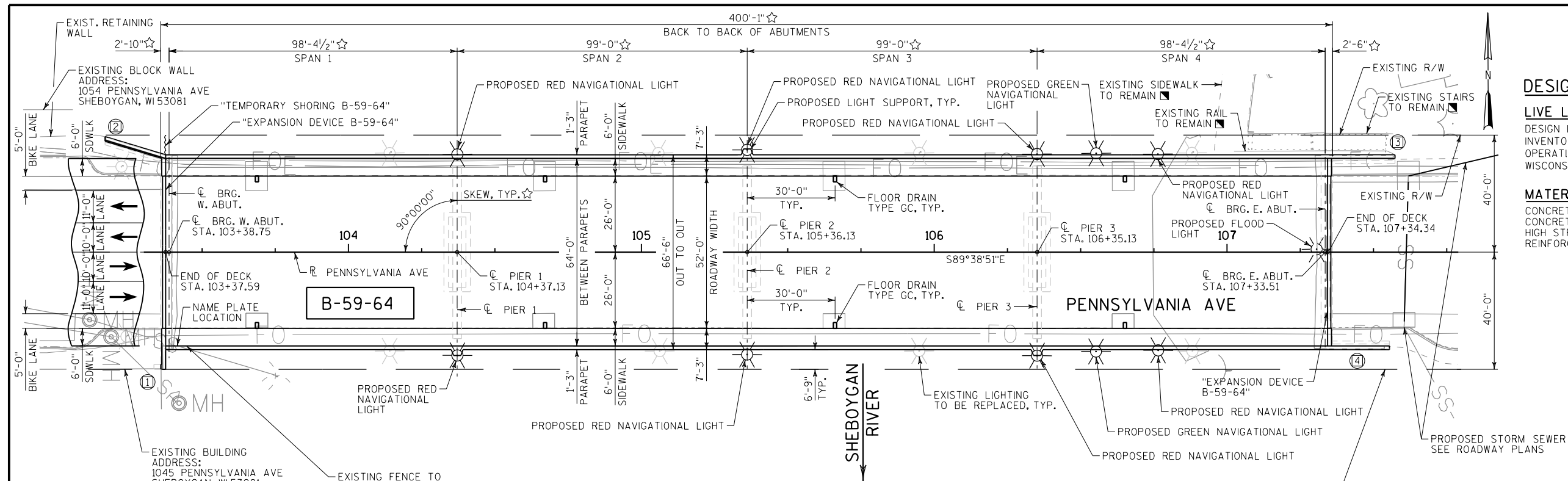
PROJECT NO:

HWY:

COUNTY:

SHEET NO:

E



TRAFFIC DATA
PENNSYLVANIA AVE
2019 ADT = 7,800
2039 ADT = 8,500
RDS = 30 MPH

LEGEND
→ DIRECTION OF TRAFFIC
■ TO BE PROTECTED DURING CONSTRUCTION
☆ TAKEN FROM AS-BUILT STRUCTURE PLANS. AS-BUILT PLANS DATED AUGUST 1, 1972 ELEVATIONS ARE TO THE INTERNATIONAL GREAT LAKES DATUM (IGLD) 1955.
ⓧ WINGWALL NUMBER

HYDRAULIC DATA: ☆
WATER AREA.....3,943 SF
HIGH WATER.....582.00 (1886)

BENCH MARK				
NO.	NORTHING	EASTING	DESCRIPTION	EL.
500	176251	217417	HYD TOP NUT IN NE QUAD OF N COMMERCE ST AND PENNSYLVANIA AVE	589.66
501	176130	216685	HYD TOP NUT IN SW QUAD OF 13TH ST AND PENNSYLVANIA AVE	615.24
502	176094	218523	HYD TOP NUT IN SE QUAD OF N 9TH ST AND PENNSYLVANIA AVE	626.52

STATE PROJECT NUMBER

4996-25-71

DESIGN DATA

LIVE LOAD:
DESIGN LOADING: HS-20
INVENTORY RATING: HS-18
OPERATING RATING: HS-30
WISCONSIN STANDARD PERMIT VEHICLE (WIS-SPV) = 210 KIPS

MATERIAL PROPERTIES:
CONCRETE MASONRY, SUPERSTRUCTUREf'c = 4,000 PSI
CONCRETE MASONRY, ALL OTHER.....f'c = 3,500 PSI
HIGH STRENGTH BAR STEEL
REINFORCEMENT GRADE 60.....fy = 60,000 PSI

LIST OF DRAWINGS

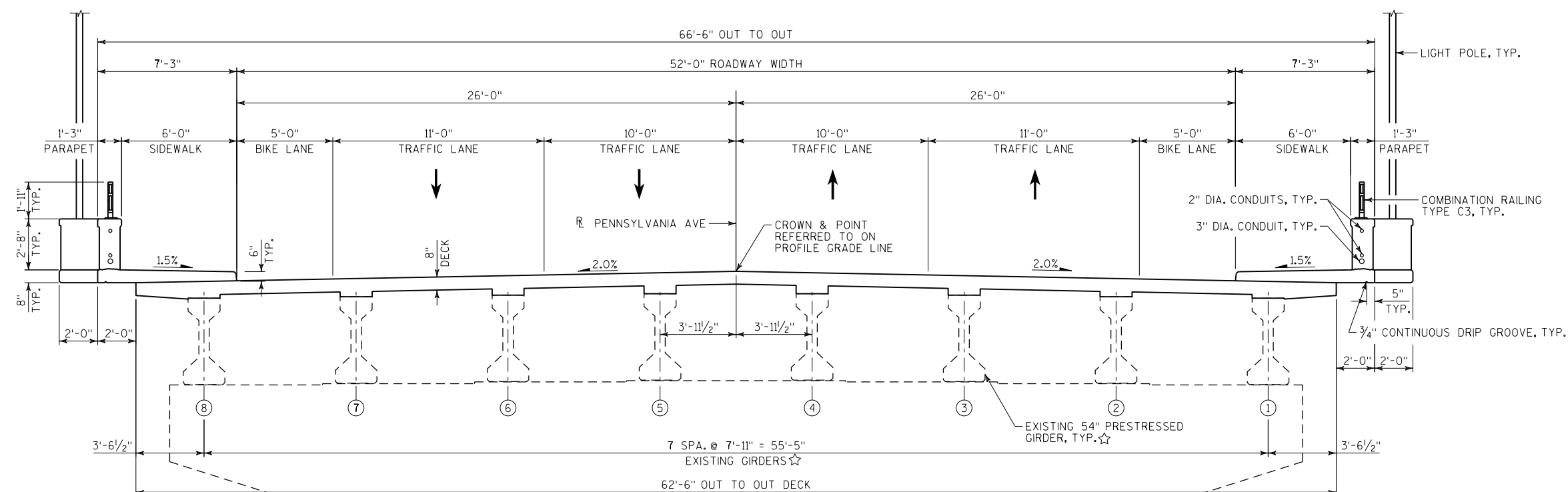
1. GENERAL PLAN & ELEVATION
2. TYPICAL SECTION & PROFILE GRADE LINE
3. GENERAL NOTES & QUANTITIES
4. REMOVAL DETAILS
5. WEST ABUTMENT
6. WEST ABUTMENT DETAILS
7. EAST ABUTMENT
8. EAST ABUTMENT DETAILS
9. EXPANSION BEARINGS
10. GIRDER REPAIR PLAN
11. CONCRETE REPAIR DETAILS
12. FRAMING PLAN
13. STEEL DIAPHRAGM
14. SUPERSTRUCTURE REINFORCEMENT
15. SUPERSTRUCTURE CROSS SECTION
16. DIAPHRAGM REINFORCEMENT
17. GIRDER & HAUNCH DETAILS
18. SIDEWALK REINFORCEMENT
19. DECK POUR SEQUENCE & BILL OF BARS
20. LIGHTING DETAILS
21. CONDUIT PLAN
22. EXPANSION JOINT DETAILS (1 OF 2)
23. EXPANSION JOINT DETAILS (2 OF 2)
24. VERTICAL FACE PARAPET ON BRIDGE
25. VERTICAL FACE PARAPET ON WINGS
26. LIGHT SUPPORT REINFORCEMENT
27. CONDUIT DETAILS (1 OF 2)
28. CONDUIT DETAILS (2 OF 2)
29. COMBINATION RAILING ON BRIDGE
30. COMBINATION RAILING ON WINGS 1 AND 2
31. COMBINATION RAILING ON WINGS 3 AND 4
32. COMBINATION RAILING DETAILS
33. FLOOR DRAIN PLAN
34. FLOOR DRAIN TYPE GC
35. HEAVY RIPRAP DETAILS
36. SLOPE PAVING DETAILS
37. GALVANIC ANODES

STRUCTURES DESIGN CONTACTS

BRIDGE OFFICE:
WILLIAM DREHER (608) 266-8489
CONSULTANT:
MOHAMMED ZAGLOUL (414) 751-7200

NO.	DATE	REVISION	BY
ORIGINAL PLANS PREPARED BY KAPUR & ASSOCIATES CONSULTING ENGINEERS 414.751.7200			
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION ACCEPTED <i>William C. Dreher</i> SDR 11/12/18 CHIEF STRUCTURES DESIGN ENGINEER DATE			
STRUCTURE B-59-64			
PENNSYLVANIA AVENUE OVER SHEBOYGAN RIVER			
COUNTY	SHEBOYGAN	CITY	SHEBOYGAN
DESIGN SPEC.	REHABILITATION	N/A	
DESIGNED BY	AJA	DESIGN CK'D.	MHZ
DRAWN BY	AJA	PLANS CK'D.	MHZ
GENERAL PLAN & ELEVATION			SHEET 1 OF 37



**LEGEND**

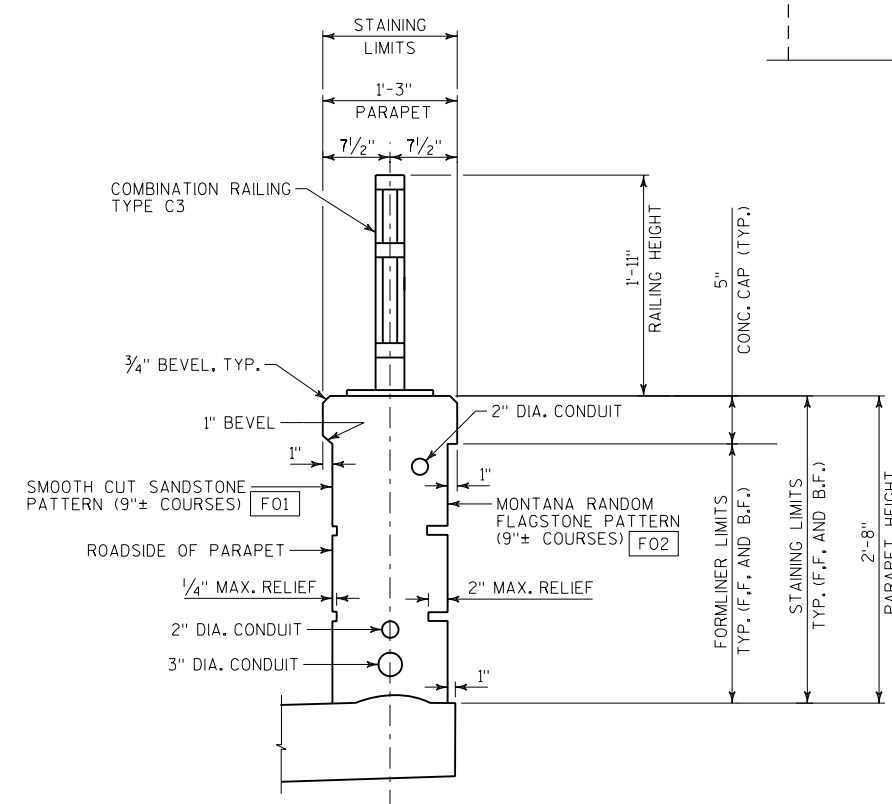
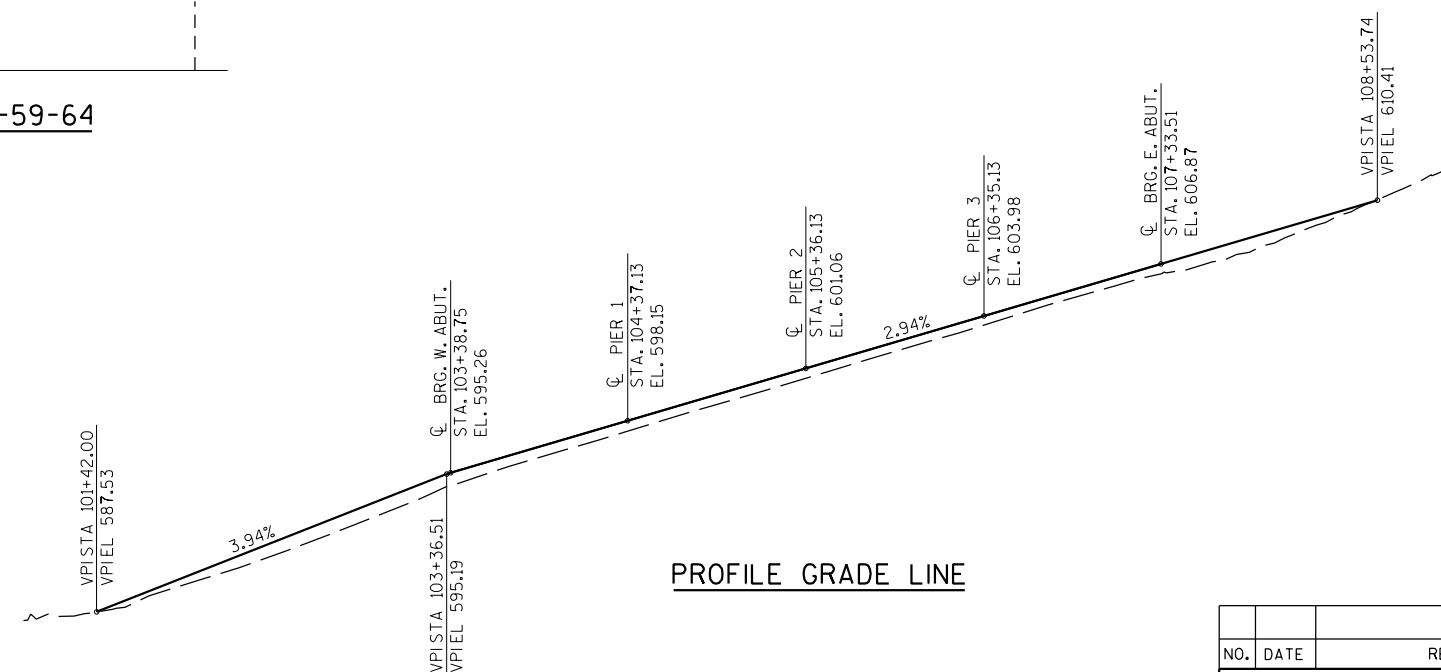
- F01** FORMLINER (CUSTOM ROCK PATTERN NO. 12017) SHALL BE A SMOOTH CUT SANDSTONE FINISH. FORMLINER IS TO BE PAID FOR UNDER BID ITEM "ARCHITECTURAL SURFACE TREATMENT". FORMLINER IS TO BE STAINED. STAIN IS TO MATCH SHERWIN WILLIAMS SW 9097 "SOFT FAWN" AND IS TO BE PAID FOR UNDER BID ITEM "CONCRETE STAINING B-59-64".
- F02** FORMLINER (CUSTOM ROCK PATTERN NO. 1303) SHALL BE A MONTANA RANDOM FLAGSTONE FINISH. FORMLINER IS TO BE PAID FOR UNDER BID ITEM "ARCHITECTURAL SURFACE TREATMENT". FORMLINER IS TO BE STAINED AND MATCH SHERWIN WILLIAMS SW 9097 "SOFT FAWN". TO BE PAID FOR UNDER BID ITEM "CONCRETE STAINING B-59-64".

☆ PER EXISTING AS-BUILT STRUCTURE PLAN

→ DIRECTION OF TRAFFIC

TYPICAL SECTION B-59-64

(LOOKING EAST)

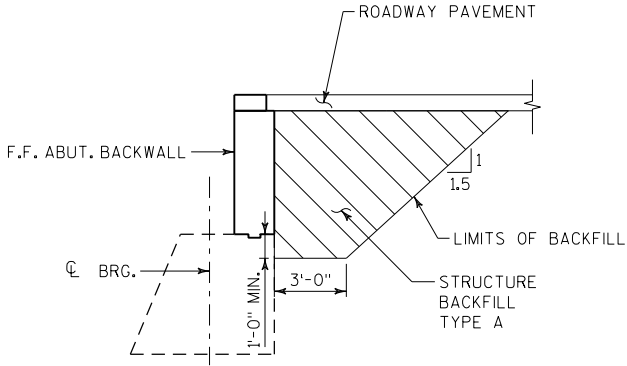
**PARAPET DETAIL****PROFILE GRADE LINE**

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-59-64			
DRAWN BY		MM	PLANS CK'D. MHZ
TYPICAL SECTION & PROFILE GRADE LINE			SHEET 2 OF 37

TOTAL ESTIMATED QUANTITIES

ITEM NO.	BID ITEMS	UNIT	WEST ABUTMENT	PIER 1	PIER 2	PIER 3	EAST ABUTMENT	SUPER.	TOTAL
203.0600.S	REMOVING OLD STRUCTURE OVER WATERWAY WITH MINIMAL DEBRIS STA. 105+36.13	LS	-	-	-	-	-	-	1
206.1000	EXCAVATION FOR STRUCTURES BRIDGES B-59-64	LS	-	-	-	-	-	-	1
210.1500	BACKFILL STRUCTURE TYPE A	TON	162	-	-	-	210	-	372
502.0100	CONCRETE MASONRY BRIDGES	CY	24	-	-	-	31	945	1,000
502.3100	EXPANSION DEVICE B-59-64	LS	-	-	-	-	-	-	1
502.3200	PROTECTIVE SURFACE TREATMENT	SY	-	-	-	-	-	2,865	2,865
502.4205	ADHESIVE ANCHORS NO. 5 BAR	EACH	222	-	-	-	250	294	766
505.0600	BAR STEEL REINFORCEMENT HS COATED STRUCTURES	LB	2,810	-	-	-	3,420	247,470	253,700
506.2610	BEARING PADS ELASTOMERIC LAMINATED	EACH	8	-	-	-	8	-	16
506.4000	STEEL DIAPHRAGMS B-59-64	EACH	-	-	-	-	-	28	28
506.7050.S	REMOVING BEARINGS, B-59-64	EACH	8	-	-	-	8	-	16
509.1500	CONCRETE SURFACE REPAIR	SF	30	10	10	10	30	-	90
511.1200	TEMPORARY SHORING B-59-64	SF	20	-	-	-	-	-	20
513.7016	RAILING STEEL TYPE C3	LF	30	-	-	-	44	792	866
514.0445	FLOOR DRAINS TYPE GC	EACH	-	-	-	-	-	8	8
514.2625	DOWNSPOUT 6-INCH	LF	-	-	-	-	-	50	50
516.0500	RUBBERIZED MEMBRANE WATERPROOFING	SY	26	-	-	-	30	-	56
517.1010.S	CONCRETE STAINING B-59-64	SF	188	-	-	-	290	5,224	5,703
517.1050.S	ARCHITECTURAL SURFACE TREATMENT B-59-64	SF	129	-	-	-	198	3,571	3,898
604.0600	SLOPE PAVING SELECT CRUSHED MATERIAL	SY	-	-	-	-	200	-	200
606.0300	RIPRAP HEAVY	CY	94	-	-	-	-	-	94
645.0120	GEOTEXTILE TYPE HR	SY	200	-	-	-	-	-	200
652.0125	CONDUIT RIGID METALLIC 2-INCH	LF	-	-	-	-	12	196	208
652.0135	CONDUIT RIGID METALLIC 3-INCH	LF	-	-	-	-	6	124	130
652.0225	CONDUIT RIGID NONMETALLIC SCHEDULE 40 2-INCH	LF	-	-	-	-	76	891	967
652.0235	CONDUIT RIGID NONMETALLIC SCHEDULE 40 3-INCH	LF	-	-	-	-	38	670	708
653.0220	JUNCTION BOXES 18X6X6-INCH	EACH	-	-	-	-	-	16	16
653.0222	JUNCTION BOXES 18X12X6-INCH	EACH	-	-	-	-	-	5	5
657.6005	ANCHOR ASSEMBLIES LIGHT POLES ON STRUCTURES	EACH	-	-	-	-	-	3	3
SPV.0060.51	CLEAN AND COAT CONCRETE BEAM ENDS	EACH	-	-	-	-	-	16	16
SPV.0060.52	EMBEDDED GALVANIC ANODES	EACH	15	5	5	5	15	-	45
SPV.0105.51	STAIRS PROTECTION	LS	-	-	-	-	-	-	1
SPV.0165.50	FIBER WRAP REINFORCING NON-STRUCTURAL	SF	-	-	-	-	-	130	130
SPV.0165.51	PPC BEAM SURFACE REPAIR	SF	-	-	-	-	-	32	32
SPV.0180.50	CLEAN ABUTMENT SEAT	SY	7	-	-	-	7	-	14
	NON BID ITEMS								
	BRIDGE SEAT PROTECTION	LS							1
	PREFORMED JOINT FILLER	SIZE							1/2"
	NAME PLATE	EACH							1

ALL ITEMS ARE CATEGORY 0020



BACKFILL LIMITS

GENERAL NOTES

DRAWINGS SHALL NOT BE SCALED.

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

THE FIRST OR FIRST TWO DIGITS OF THE BAR MARK SIGNIFIES THE BAR SIZE.

BEVEL EXPOSED EDGES OF CONCRETE 3/4" UNLESS OTHERWISE NOTED.

ALL DIMENSIONS ARE IN FEET AND INCHES UNLESS OTHERWISE NOTED.

COORDINATES ON THIS PLAN ARE REFERENCED TO SHEBOYGAN COUNTY COORDINATES NAD 1983 (2011). ALL STATIONS AND ELEVATIONS ARE IN FEET. ELEVATIONS ARE REFERENCED TO THE INTERNATIONAL GREAT LAKES DATUM (IGLD) 1955. 579.77 (IGLD) 1955 = 0.00 CITY DATUM = 581.00 NATIONAL GEODETIC VERTICAL DATUM (NGVD 29).

CONCRETE EXPANSION BOLTS AND INSERTS TO BE FURNISHED AND PLACED BY THE CONTRACTOR UNDER THE BID PRICE FOR CONCRETE MASONRY.

UTILIZE EXISTING BAR STEEL REINFORCEMENT WHERE SHOWN AND EXTEND 24 BAR DIAMETERS INTO NEW WORK, UNLESS SPECIFIED OTHERWISE.

EXPANSION JOINT ASSEMBLY, INCLUDING ANCHOR STUDS AND HARDWARE SHALL BE PAID FOR IN THE LUMP SUM PRICE BID AS "EXPANSION DEVICE B-59-64".

VARIATIONS TO THE NEW GRADE LINE OVER 1/4" MUST BE SUBMITTED BY THE FIELD ENGINEER TO THE STRUCTURES DESIGN SECTION FOR REVIEW.

ELASTOMERIC BEARING PADS NEED NOT BE INDIVIDUALLY MOLDED PROVIDED THE CUT EDGES ARE SMOOTH AND TRUE.

APPLY PROTECTIVE SURFACE TREATMENT TO THE DECK AND SIDEWALKS ON THE BRIDGE. DO NOT APPLY PROTECTIVE SURFACE TREATMENT TO LOCATIONS RECEIVING STAIN.

STAIN THE EXTERIOR FACE, INTERIOR FACE, AND THE TOP OF THE PARAPETS. STAIN IS TO MATCH SHERWIN WILLIAMS SW 9097 "SOFT FAWN".

THE COLOR OF THE FINISH TOP COAT OF THE COMBINATION TYPE C3 RAILINGS SHALL BE BLACK, (FEDERAL STANDARD COLOR NO. 27038).

DIMENSIONS SHOWN ARE BASED ON THE ORIGINAL STRUCTURE PLANS.

THE CONTRACTOR SHALL SUPPLY A NEW NAME PLATE IN ACCORDANCE WITH SECTION 502.3.11 OF THE STANDARD SPECIFICATIONS AND THE STANDARD DETAIL DRAWINGS. NAME PLATE TO SHOW ORIGINAL CONSTRUCTION YEAR.

REMOVE ANY/ALL LOOSE CONCRETE UNDER BID ITEM "CONCRETE SURFACE REPAIR". SURFACES SHALL BE BLAST CLEANED AND ANY EXPOSED STEEL SHALL BE BRUSHED CLEANED PRIOR TO THE CONCRETE SURFACE REPAIRS BEING COMPLETED. REPAIR AREAS SHALL BE VERIFIED AND APPROVED BY THE FIELD ENGINEER.

EAST ABUTMENT EXISTING SLOPE PAVING MAY INCLUDE HARD BACKFILL MATERIALS AND CONCRETE WASTE. PROPOSED SLOPE PAVING SURFACE PREPARATION MAY REQUIRE ABRASIVE CONSTRUCTION EQUIPMENT. SLOPE PAVING SURFACE PREPARATION IS INCLUDED IN THE BID ITEM 604.0600 "SLOPE PAVING SELECT CRUSHED MATERIAL".

CONTRACTOR TO PROTECT EXISTING CONCRETE STAIR CASE, CONCRETE SIDEWALK AND EXISTING STEEL PIPE RAILING AT THE BRIDGE NORTHEAST CORNER AND TO BE PAID FOR UNDER ITEM SPV.0105.51 "STAIRS PROTECTION".

THE UTILITY INFORMATION SHOWN ON THESE DRAWINGS CONCERNING TYPE AND LOCATION OF UNDERGROUND UTILITIES IS NOT GUARANTEED TO BE ACCURATE OR ALL-INCLUSIVE. THE CONTRACTOR IS RESPONSIBLE FOR MAKING HIS OWN DETERMINATION AS TO TYPE AND LOCATION OF UNDERGROUND UTILITIES AS MAY BE NECESSARY TO AVOID DAMAGE.

REPLACE HEAVY RIPRAP AT THE WEST ABUTMENT TO THE TOP OF BERM ELEVATION SHOWN. THE SLOPE IN FRONT OF WEST ABUTMENT SHALL BE COVERED WITH HEAVY RIPRAP AND GEOTEXTILE FABRIC TYPE HR TO THE EXTENT SHOWN ON HEAVY RIPRAP DETAILS.

ITEM 606.0300 "RIPRAP HEAVY" INCLUDES THE REMOVAL OF ALL EXISTING DEBRIS AND SLOPE SURFACE PREPARATION AT THE WEST ABUTMENT.

FOR NAVIGATIONAL LIGHT FURNISHING AND INSTALLATION, SEE ELECTRICAL PLANS.

CONTRACTOR TO INSTALL UNDERDECK LUMINAIRE CHANNEL INSERTS PER SPECIAL PROVISION SPV.0060.88 "LUMINAIRE UTILITY LED TYPE H".

LOCATIONS OF THE FOLLOWING BID ITEMS SHALL BE DETERMINED IN THE FIELD BY THE PROJECT ENGINEER. QUANTITIES FOR THESE BID ITEMS ARE APPROXIMATE.

- CONCRETE SURFACE REPAIR
- EMBEDDED GALVANIC ANODES
- FIBER WRAP REINFORCING NON-STRUCTURAL
- PPC BEAM SURFACE REPAIR
- RIPRAP HEAVY
- GEOTEXTILE TYPE HR

THE UPPER LIMIT OF "EXCAVATION FOR STRUCTURES BRIDGES B-59-64" SHALL BE THE EXISTING GROUNDLINE.

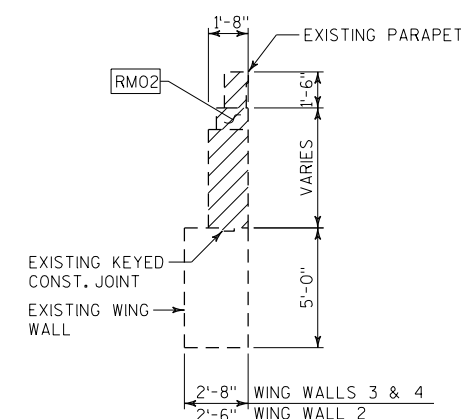
THE BACKFILL QUANTITIES ARE BASED ON THE PAY LIMITS AS SHOWN ON THE PLANS AND MAY NOT REFLECT ACTUAL PLACED QUANTITIES. "BACKFILL STRUCTURE TYPE A" REQUIRED DIRECTLY BEHIND ABUTMENTS AND ABUTMENT WINGS FOR 3 FEET. BACKFILL PLACED BEYOND PAY LIMITS OR EXCEEDING PLAN QUANTITIES SHALL BE INCIDENTAL TO EXCAVATION FOR STRUCTURES.

THE HAUNCH CONCRETE QUANTITY IS BASED ON THE AVERAGE HAUNCH SHOWN ON THE GIRDER & HAUNCH DETAILS SHEET.

STATE PROJECT NUMBER

4996-25-71

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-59-64			
DRAWN BY		MM	PLANS CK'D. MHZ
GENERAL NOTES & QUANTITIES			SHEET 3 OF 37

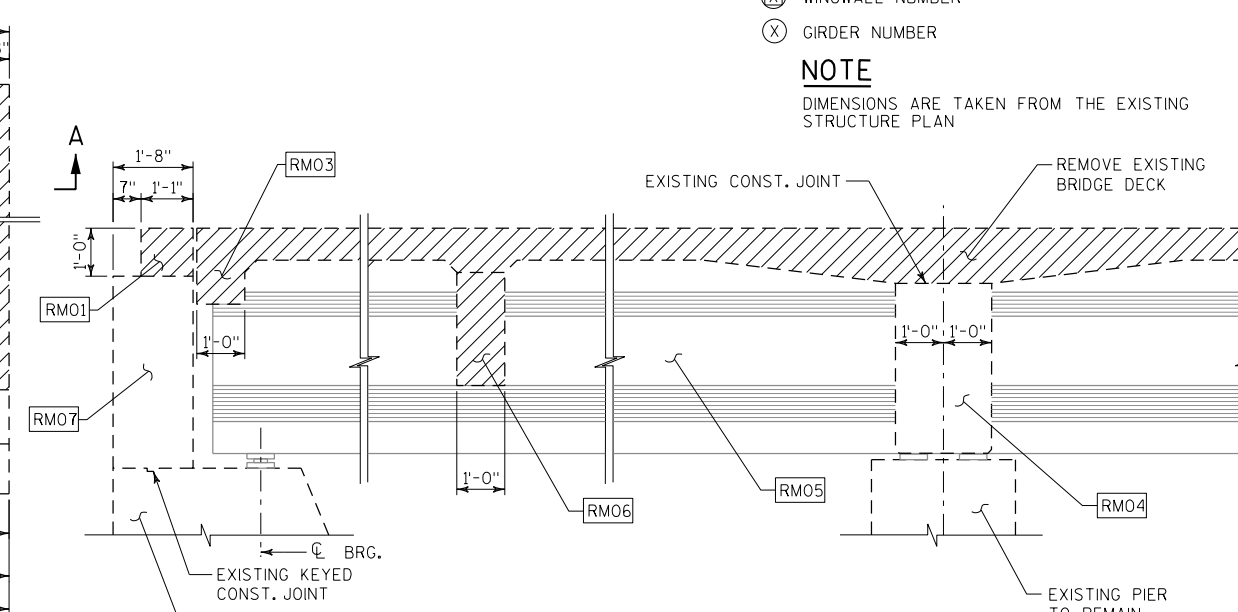


SECTION A-A

RM01	REMOVE EXISTING CONCRETE PAVING BLOCK TO EXISTING HORIZONTAL CONSTRUCTION JOINT.
RM02	REMOVE EXISTING CONCRETE WING WALL AND PARAPET TO EXISTING HORIZONTAL CONSTRUCTION JOINT
RM03	REMOVE EXISTING CONCRETE DIAPHRAGM AT ABUTMENT
RM04	EXISTING CONCRETE DIAPHRAGM AT PIER TO REMAIN
RM05	EXISTING CONCRETE GIRDERS TO REMAIN
RM06	EXISTING INTERMEDIATE CONCRETE DIAPHRAGMS TO BE REMOVED
RM07	EXISTING ABUTMENT BACKWALL TO BE REMOVED TO EXTENTS SHOWN IN PLAN VIEW

(X) GIRDER NUMBER

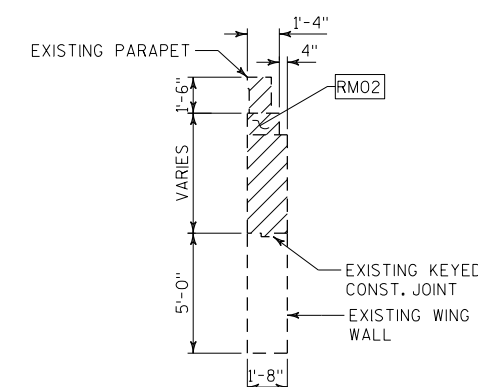
DIMENSIONS ARE TAKEN FROM THE EXISTING
STRUCTURE PLAN



PARTIAL LONGITUDINAL SECTION

(LOOKING EAST)

EAST ABUTMENT PLAN



SECTION B-B

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-59-64			
		DRAWN BY	MM
		PLANS CK'D.	MHZ
REMOVAL DETAILS		SHEET 4 OF 31	

A01 18" RUBBERIZED MEMBRANE WATERPROOFING. SEAL ALL HORIZONTAL AND VERTICAL JOINTS ON BACKFACE OF ABUTMENTS.

A03 CUT OFF EXISTING CONFLICTING REINFORCEMENT.

A04 ADHESIVE ANCHORS NO.5 BAR, EMBED 1'-6" IN CONCRETE. MINIMUM EDGE DISTANCE 4". SPACE AT 1'-0". TURN LEGS AS NECESSARY TO FIT.

A05 EXTEND EXISTING VERTICAL REINFORCEMENT A MINIMUM OF 24 BAR DIAMETERS INTO NEW WORK. EXTEND EXISTING HORIZONTAL REINFORCEMENT FULL LENGTH INTO NEW WORK

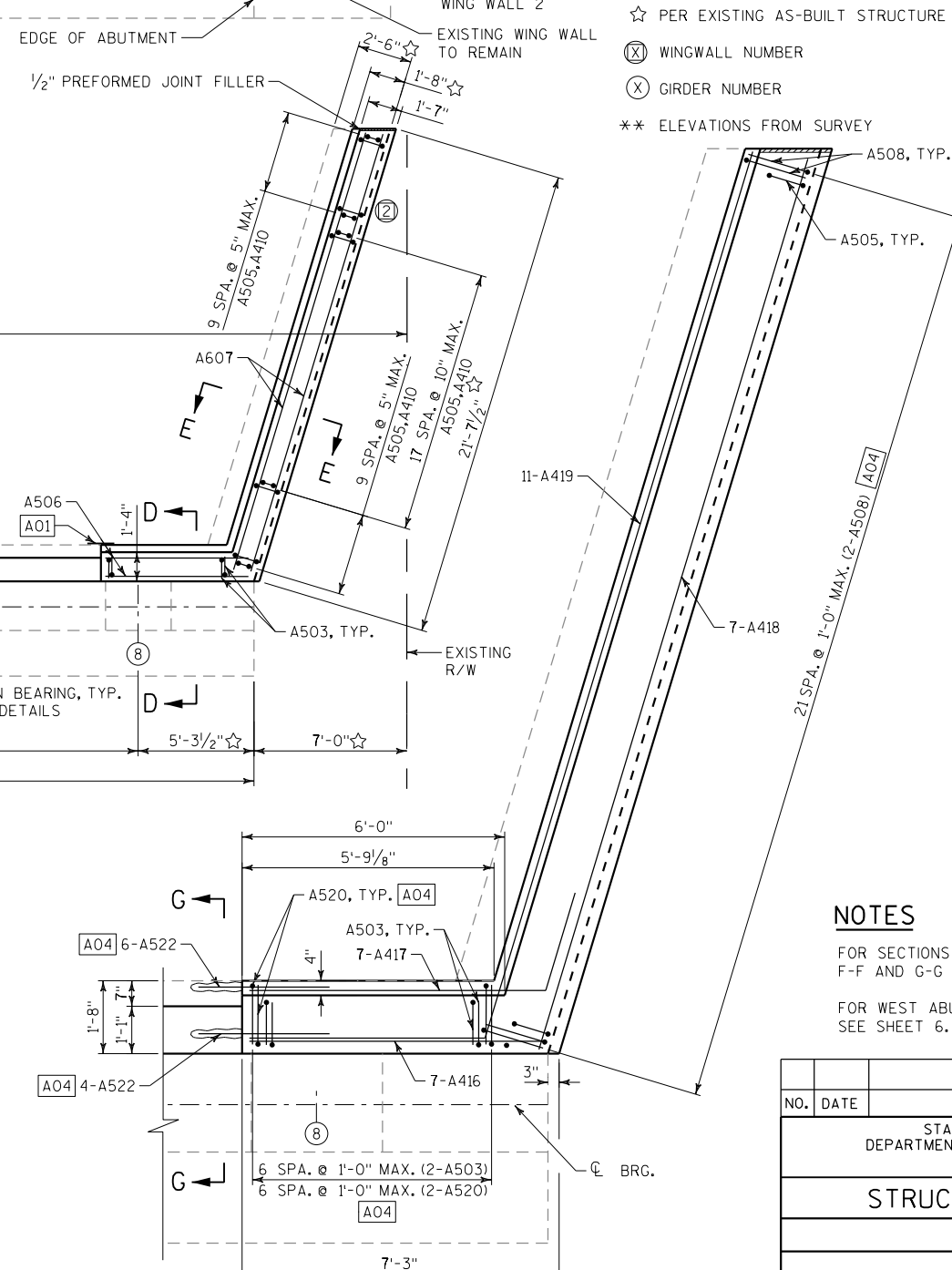
A06 ROUGHEN SURFACE OF CONCRETE 1/4" DEEP MINIMUM AT ALL AREAS WHERE NEW CONCRETE CONTACTS EXISTING CONCRETE.

** ELEVATIONS FROM SURVEY

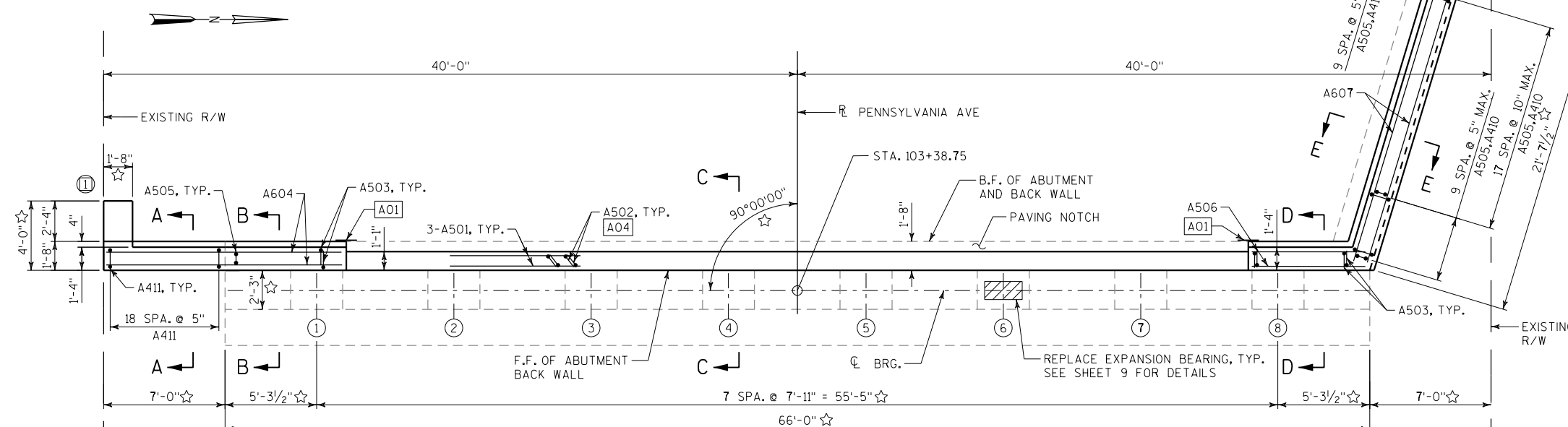
FOR SECTIONS A-A, B-B, C-C, D-D, E-E,
F-F AND G-G SEE SHEET 6.

FOR WEST ABUTMENT BILL OF BARS,
SEE SHEET 6.

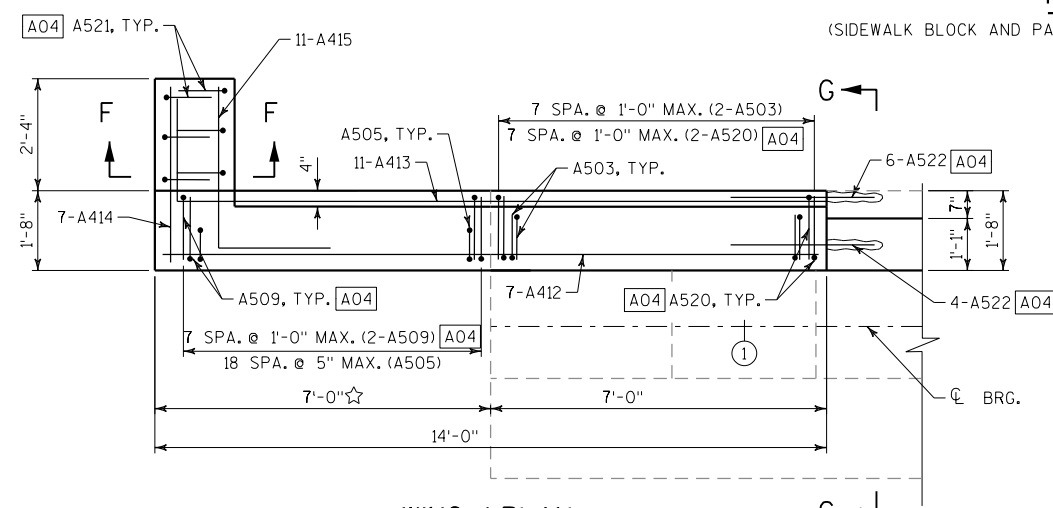
NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-59-64			
		DRAWN BY	MM
		PLANS CK'D.	MMZ
WEST ABUTMENT		SHEET 5 OF 3	



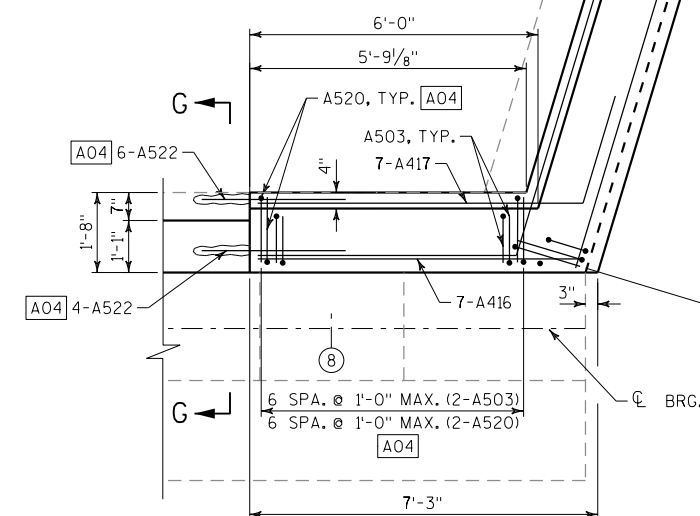
ELEVATION
(LOOKING WEST)



(SIDEWALK BLOCK AND PAVING BLOCK REINFORCEMENT SHOWN)



(WINGWALL AND BACKWALL REINFORCEMENT SHOWN)

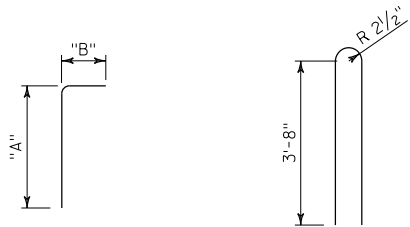


(WINGWALL AND BACKWALL REINFORCEMENT SHOWN)

BILL OF BARS

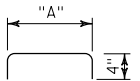
BAR MARK	COAT	NO. REQ'D.	LENGTH	BENT	BAR SERIES	LOCATION
A501	X	24	7'-6"	-	-	PAVING BLOCK - LONG.
A502	X	106	3'-4"	X	-	PAVING BLOCK - VERTICAL
A503	X	30	2'-11"	X	-	SIDEWALK BLOCK - VERTICAL
A604	X	2	13'-8"	-	-	SIDEWALK BLOCK @ WING 1 - LONG.
A505	X	56	8'-0"	X	-	WINGS PARAPET - VERT.
A506	X	2	6'-8"	-	-	SIDEWALK BLOCK @ WING 2 - LONG.
A607	X	2	21'-2"	-	-	WING 2 PARAPET BLOCK - LONG.
A508	X	44	8'-3"	X	-	WING 2 - VERT.
A509	X	16	8'-1"	X	-	WING 1 - VERT.
A410	X	37	1'-9"	X	-	WING 2 PARAPET BLOCK - VERT.
A411	X	19	1'-6"	X	-	WING 1 PARAPET BLOCK - VERT.
A412	X	7	13'-8"	-	-	ABUT. BACKWALL AND WING 1 - LONG.
A413	X	11	15'-11"	X	-	ABUT. BACKWALL AND WING 1 - LONG.
A414	X	7	3'-8"	-	-	WING 1 - LONG.
A415	X	11	5'-11"	X	-	WING 1 - LONG.
A416	X	7	6'-8"	-	-	ABUT. BACKWALL AT WING 2 - LONG.
A417	X	7	9'-4"	X	-	ABUT. BACKWALL AT WING 2 - LONG.
A418	X	7	21'-2"	-	-	WING 2 - LONG.
A419	X	11	26'-5"	X	-	WING 2 - LONG.
A520	X	30	8'-3"	X	-	ABUTMENT BACKWALL - VERT.
A521	X	6	8'-3"	X	-	WING 1 - VERT.
A522	X	20	4'-0"	-	-	ABUT. BACKWALL - DRILLED DOWEL

NOTE:
BAR DIMENSIONS ARE OUT TO OUT OF BAR, THE FIRST OR FIRST TWO DIGITS OF A BAR MARK SIGNIFIES THE BAR SIZE

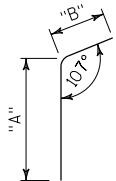


BAR MARK	DIM. "A"	DIM. "B"
A502	2'-7"	10"
A503	2'-0"	1'-0"
A508	7'-2"	1'-2"
A509	7'-2"	1'-0"
A413	13'-8"	2'-4"
A415	3'-8"	2'-4"
A520	7'-2"	1'-2"
A521	7'-2"	1'-2"

A505

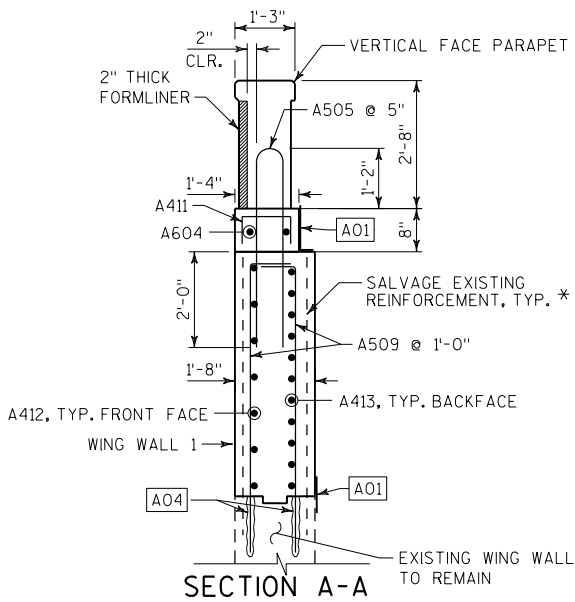


BAR MARK	DIM. "A"
A410	1'-3"
A411	1'-0"



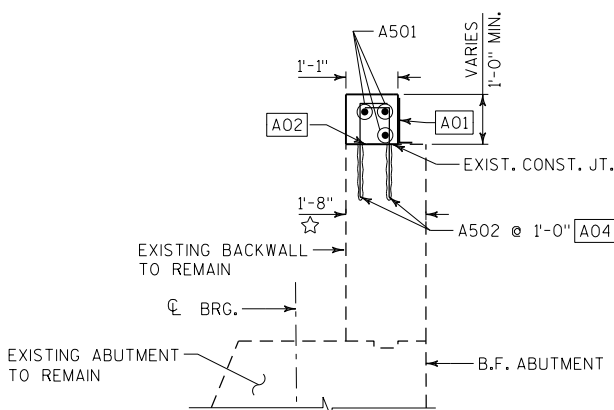
BAR MARK	DIM. "A"	DIM. "B"
A417	7'-1"	2'-4"
A419	21'-3"	5'-3"

BENDING DIAGRAMS

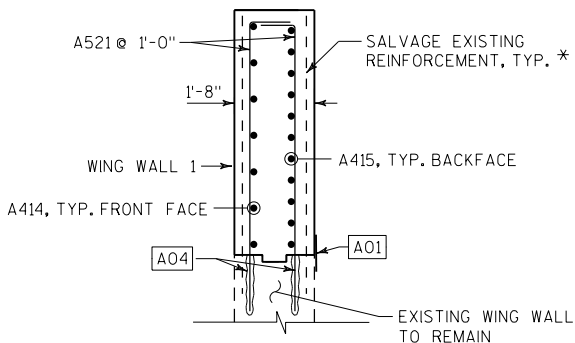


SECTION A-A

(RAILING AND PARAPET REINF. NOT SHOWN FOR CLARITY)

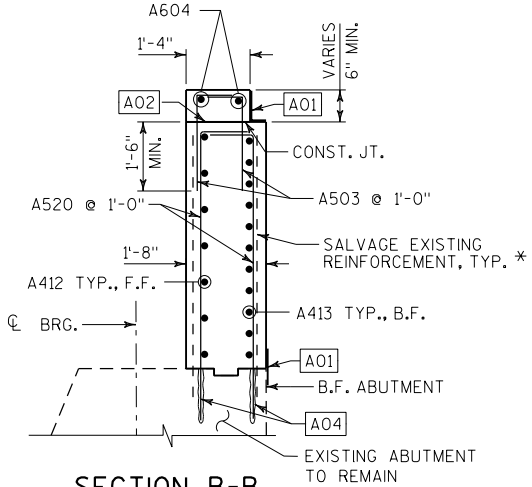


SECTION C-C

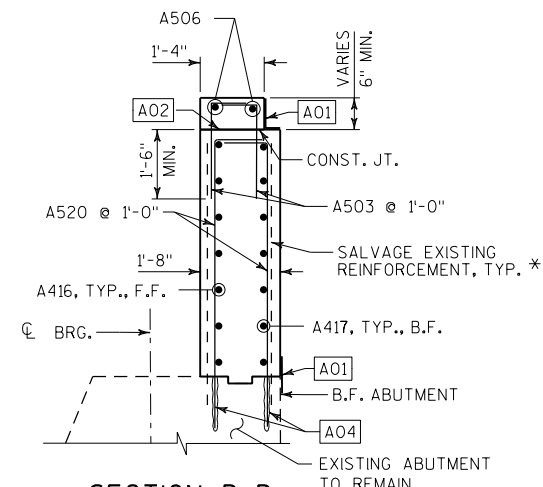


SECTION F-F

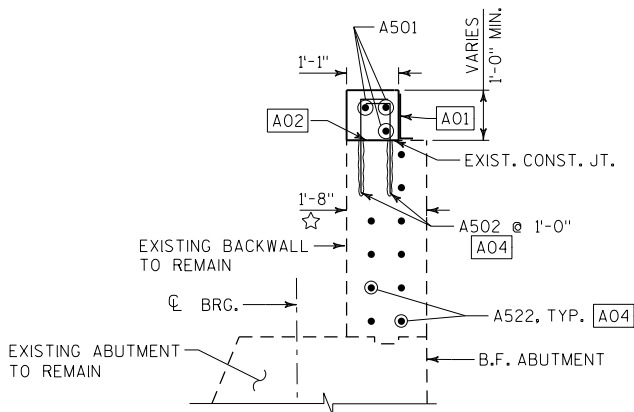
(RAILING AND PARAPET REINF. NOT SHOWN FOR CLARITY)



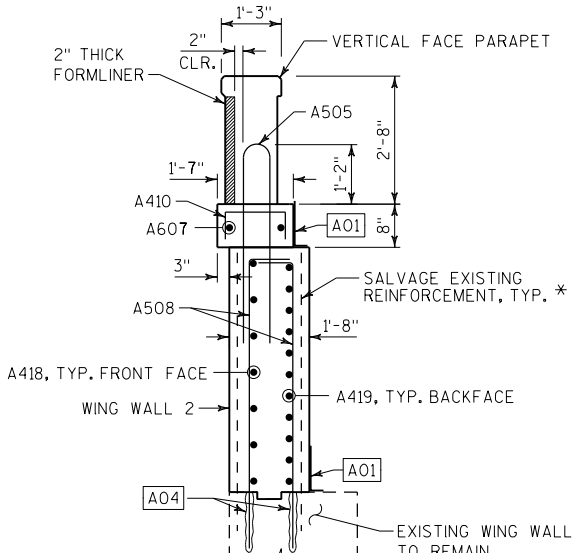
SECTION B-B



SECTION D-D



SECTION G-G



SECTION E-E

(RAILING AND PARAPET REINF. NOT SHOWN FOR CLARITY)

LEGEND

- A01 18" RUBBERIZED MEMBRANE WATERPROOFING. SEAL ALL HORIZONTAL AND VERTICAL JOINTS ON BACKFACE OF ABUTMENTS.
- A02 CONST. JOINT - POUR CONCRETE ABOVE THIS JOINT AFTER SUPERSTRUCTURE IS IN PLACE (STRIKE OFF AND LEAVE ROUGH)
- A04 ADHESIVE ANCHORS NO. 5 BAR, EMBED 1'-6" IN CONCRETE. MINIMUM EDGE DISTANCE 4". SPACE AT 1'-0". TURN LEGS AS NECESSARY TO FIT.
- ☆ PER EXISTING AS-BUILT STRUCTURE PLAN
- * EXTEND EXISTING REINFORCEMENT A MINIMUM OF 24 BAR DIAMETERS INTO NEW WORK

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-59-64			
DRAWN BY		MM	PLANS CK'D. MHZ
WEST ABUTMENT DETAILS		SHEET 6 OF 37	

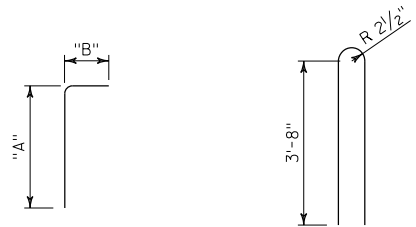


NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-59-64			
		DRAWN BY	MM
		PLANS CK'D.	MHZ
EAST ABUTMENT		SHEET 7 OF 37	

BILL OF BARS

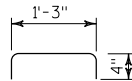
BAR MARK	COAT	NO. REQ'D.	LENGTH	BENT	BAR SERIES	LOCATION
B501	X	24	7'-6"	-	-	PAVING BLOCK - LONG.
B502	X	106	3'-4"	X	-	PAVING BLOCK - VERTICAL
B503	X	28	2'-11"	X	-	SIDEWALK BLOCK - VERTICAL
B504	X	4	6'-8"	-	-	SIDEWALK BLOCK - LONG.
B505	X	73	8'-0"	X	-	WINGS PARAPET - VERT.
B606	X	2	22'-8"	-	-	WING 3 PARAPET BLOCK - LONG.
B607	X	2	20'-9"	-	-	WING 4 PARAPET BLOCK - LONG.
B508	X	44	8'-4"	X	-	WING 4 - VERT.
B509	X	48	8'-4"	X	-	WING 3 - VERT.
B410	X	35	1'-9"	X	-	WING 4 PARAPET BLOCK - VERT.
B411	X	38	1'-9"	X	-	WING 3 PARAPET BLOCK - VERT.
B412	X	7	6'-8"	-	-	ABUT. BACKWALL AND WING 3 - LONG.
B413	X	7	8'-11"	X	-	ABUT. BACKWALL AND WING 3 - LONG.
B414	X	7	22'-8"	-	-	WING 3 - LONG.
B415	X	11	27'-11"	X	-	WING 3 - LONG.
B416	X	7	6'-8"	-	-	ABUT. BACKWALL AT WING 4 - LONG.
B417	X	11	8'-11"	X	-	ABUT. BACKWALL AT WING 4 - LONG.
B418	X	7	20'-9"	-	-	WING 4 - LONG.
B419	X	11	26'-0"	X	-	WING 4 - LONG.
B520	X	32	8'-4"	X	-	ABUTMENT BACKWALL - VERT.
B521	X	20	4'-0"	-	-	ABUT. BACKWALL - DRILLED DOWELS

NOTE:
BAR DIMENSIONS ARE OUT TO OUT OF BAR. THE FIRST OR FIRST TWO DIGITS OF A BAR MARK SIGNIFIES THE BAR SIZE



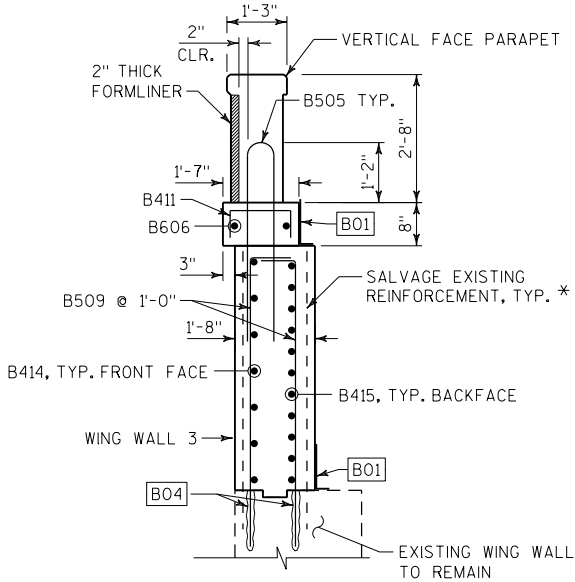
BAR MARK	DIM. "A"	DIM. "B"
B502	2'-7"	10"
B503	2'-0"	1'-0"
B508	7'-3"	1'-2"
B509	7'-3"	1'-2"
B413	6'-8"	2'-4"
B415	22'-8"	5'-4"
B417	6'-8"	2'-4"
B419	20'-9"	5'-4"
B520	7'-3"	1'-2"

B505



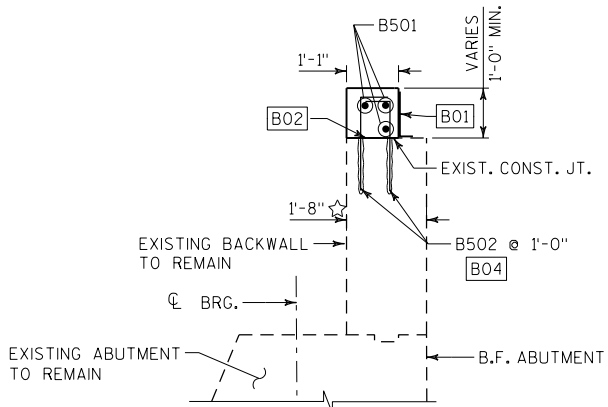
B410, B411

BENDING DIAGRAMS

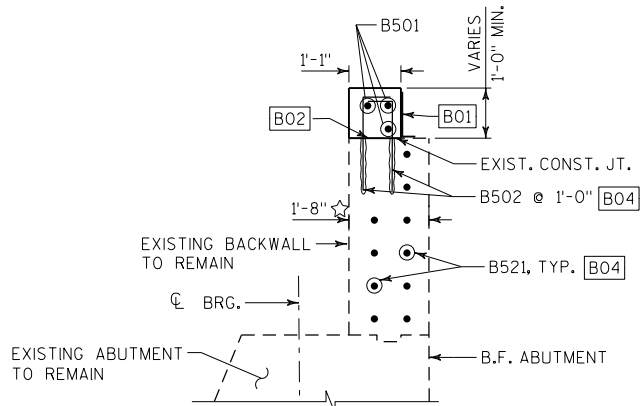


SECTION A-A

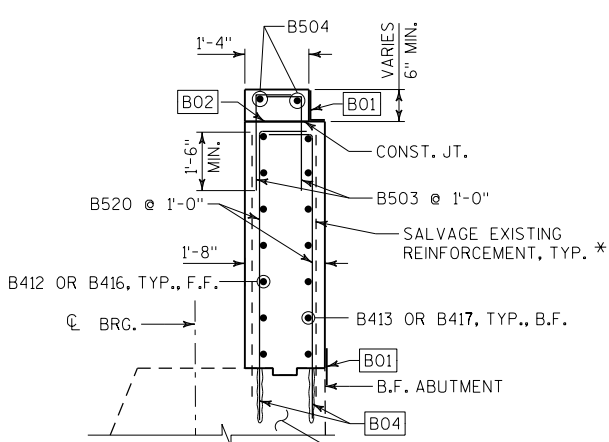
(RAILING AND PARAPET REINF. NOT SHOWN FOR CLARITY)



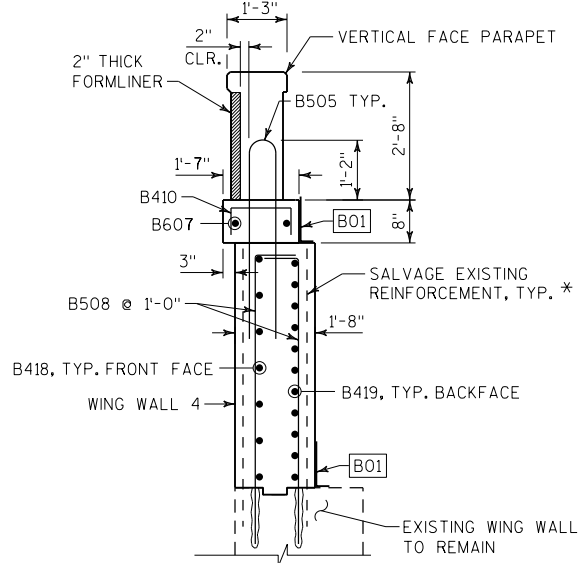
SECTION C-C



SECTION E-E



SECTION B-B



SECTION D-D

(RAILING AND PARAPET REINF. NOT SHOWN FOR CLARITY)

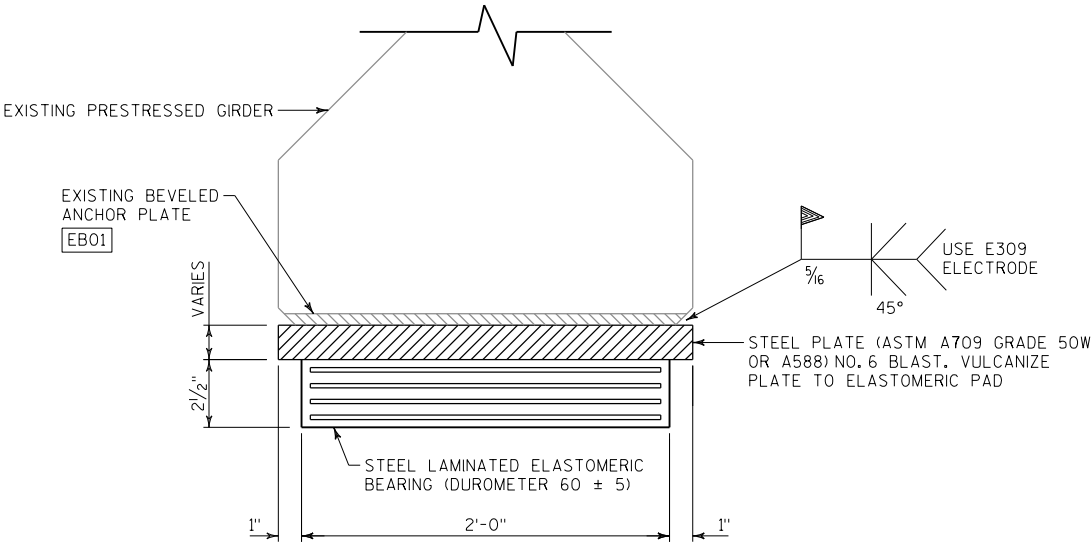
LEGEND

- [B01] 18" RUBBERIZED MEMBRANE WATERPROOFING. SEAL ALL HORIZONTAL AND VERTICAL JOINTS ON BACKFACE OF ABUTMENTS.
- [B02] CONST. JOINT - POUR CONCRETE ABOVE THIS JOINT AFTER SUPERSTRUCTURE IS IN PLACE (STRIKE OFF AND LEAVE ROUGH)
- [B04] ADHESIVE ANCHORS NO. 5 BAR, EMBED 1'-6" IN CONCRETE. MINIMUM EDGE DISTANCE 4". SPACE AT 1'-0". TURN LEGS AS NECESSARY TO FIT.
- ☆ PER EXISTING AS-BUILT STRUCTURE PLAN
- * EXTEND EXISTING REINFORCEMENT A MINIMUM OF 24 BAR DIAMETERS INTO NEW WORK

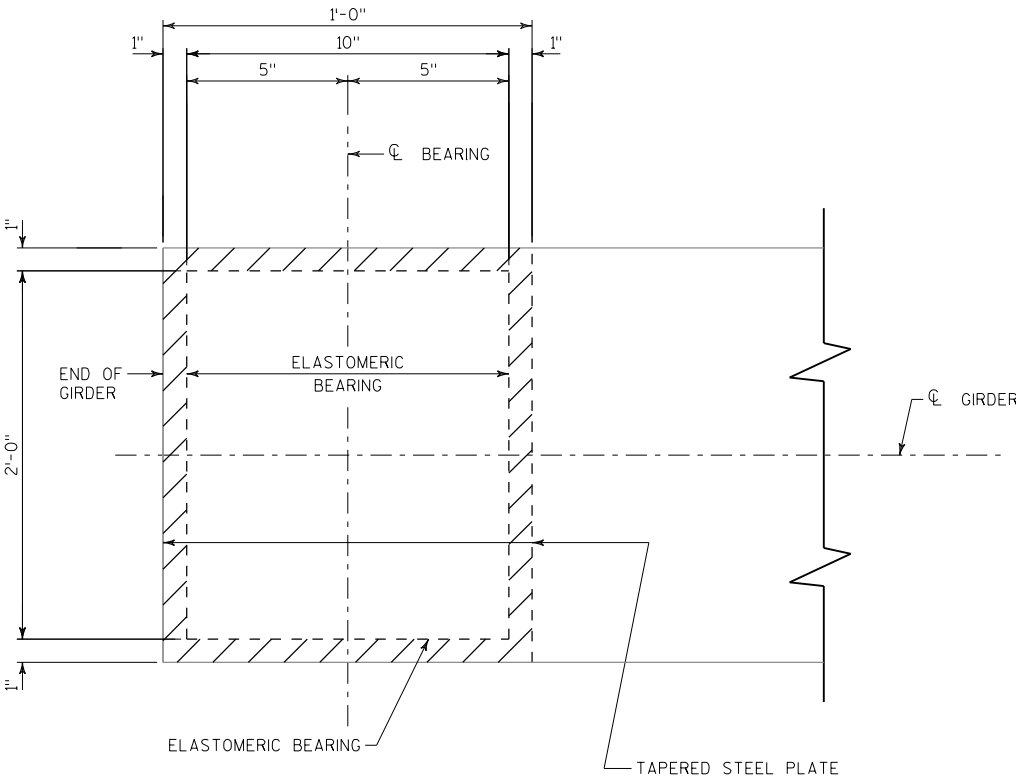
STATE PROJECT NUMBER

4996-25-71

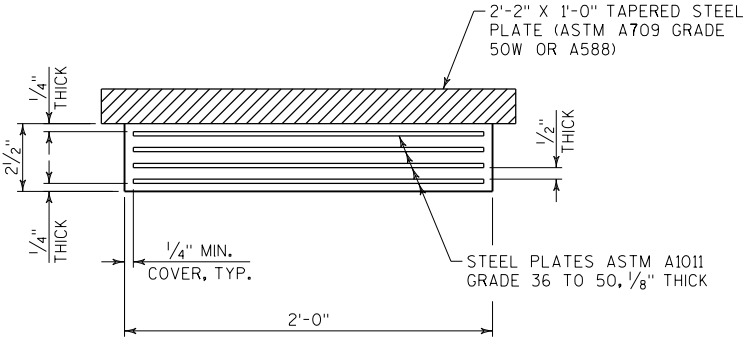
NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-59-64			
DRAWN BY		MM	PLANS CK'D. MHZ
EAST ABUTMENT DETAILS		SHEET 8 OF 37	



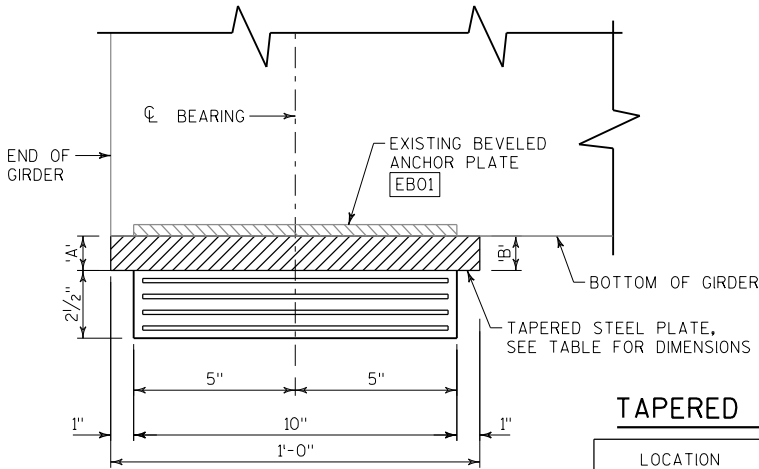
FRONT ELEVATION VIEW



PLAN VIEW



SECTION THRU ELASTOMERIC BEARING



SIDE ELEVATION VIEW
(TOP STEEL PLATE TAPERED)

TAPERED PLATE DIMENSIONS

LOCATION	DIMENSION 'A'	DIMENSION 'B'
WEST ABUTMENT	1 1/2"	1 7/8"
EAST ABUTMENT	1 5/8"	1 1/4"

LEGEND

[EB01] CLEAN EXISTING BEVELED ANCHOR PLATE FROM ANY DEPOSITS OR RUST BEFORE PLACING EXPANSION BEARINGS.

NOTES

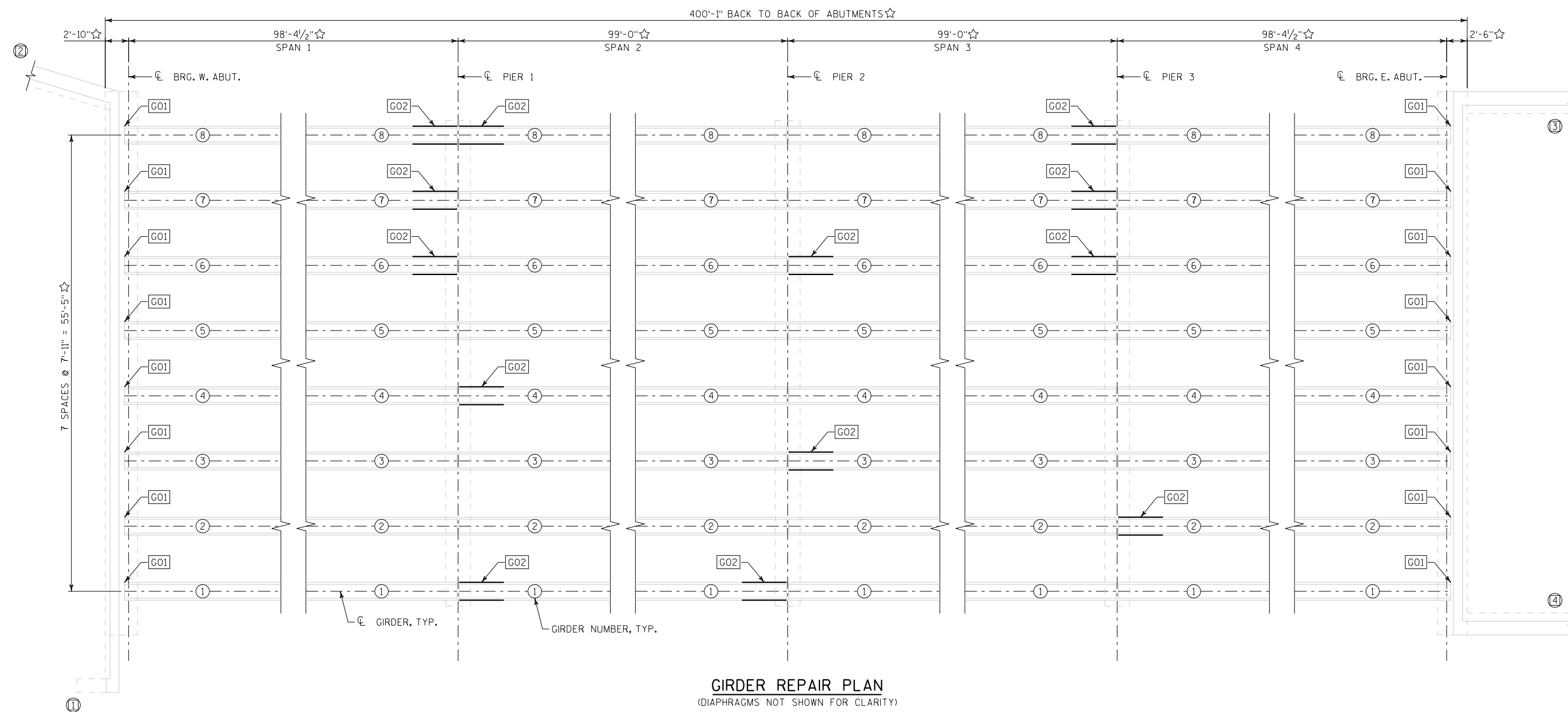
WELDING PROCEDURES SHALL BE ESTABLISHED BY THE CONTRACTOR TO RESTRICT THE MAXIMUM TEMPERATURE REACHED BY SURFACES IN CONTACT WITH ELASTOMER TO 200°F (93°C). TEMPERATURES SHALL BE CONTROLLED BY TEMPERATURE INDICATING WAX PENCILS OR OTHER SUITABLE MEANS APPROVED BY THE ENGINEER.

ALL MATERIAL USED FOR BEARINGS SHALL BE PAID FOR AT THE UNIT PRICE BID FOR "BEARING PADS ELASTOMERIC LAMINATED", EACH.

ALL STRUCTURAL STEEL PLATES SHALL BE FLAT ROLLED WITH ALL SURFACES SMOOTH AND FREE FROM WARP AND ALL EDGES SMOOTH, STRAIGHT AND VERTICAL.

ALL PLATE CUTS SHALL BE MACHINE OR MACHINE FLAME CUTS.

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-59-64			
DRAWN BY		AJA	PLANS CK'D. MHZ
EXPANSION BEARINGS			SHEET 9 OF 37

**LEGEND**

G01 "CLEAN AND COAT CONCRETE BEAM ENDS" &
"PPC BEAM SURFACE REPAIR"

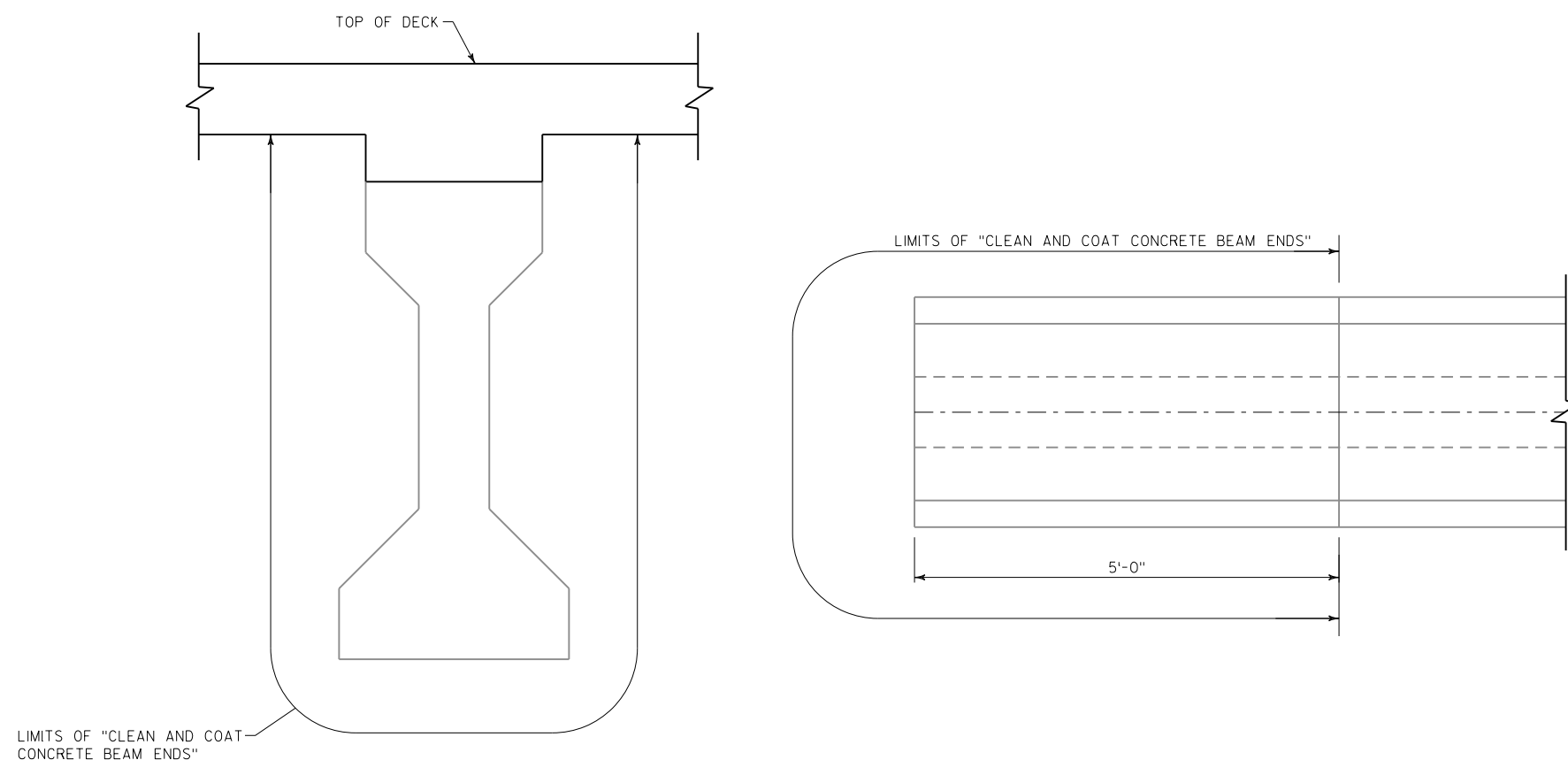
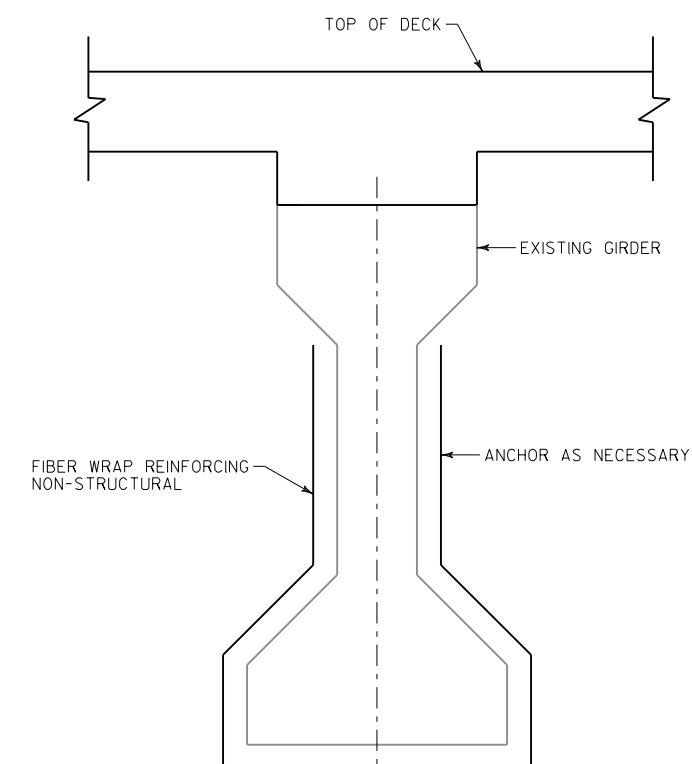
G02 FIBER WRAP REINFORCEMENT

☆ PER EXISTING AS-BUILT STRUCTURE PLAN

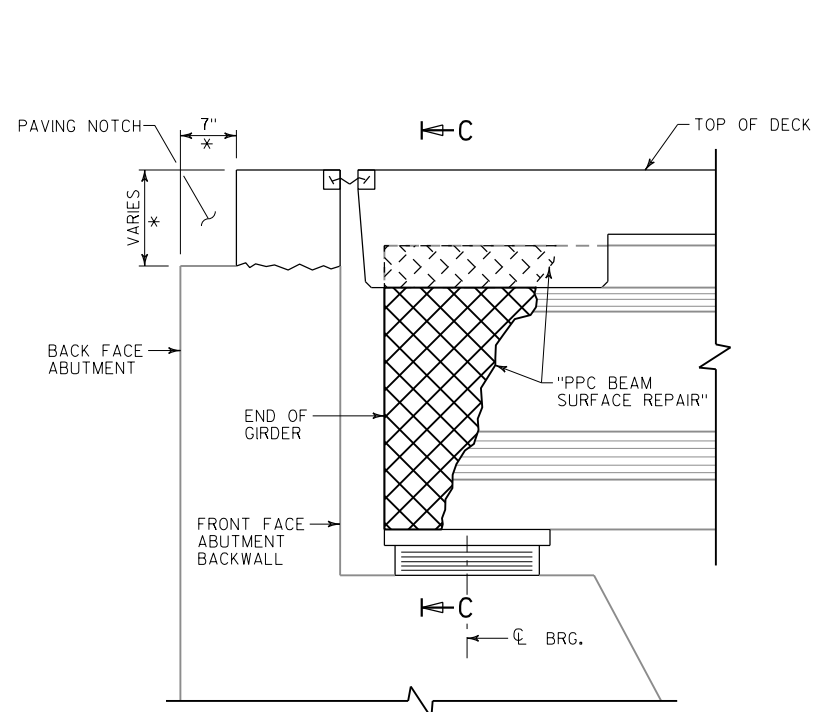
ⓧ WINGWALL NUMBER

ⓧ GIRDER NUMBER

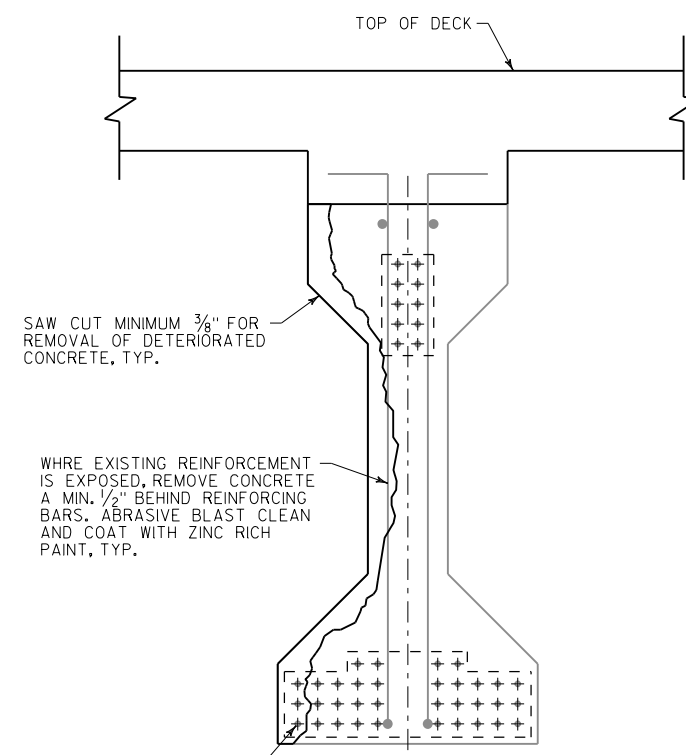
NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-59-64			
DRAWN BY		AJA	PLANS CK'D. MHZ
GIRDER REPAIR PLAN			SHEET 10 OF 37

**CLEANING AND COATING BEAM ENDS****FIBER WRAP REINFORCEMENT**

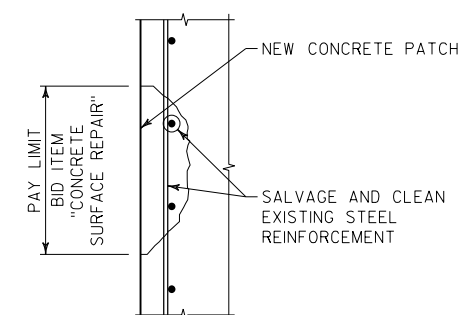
(SEE SHEET 10 FOR LOCATIONS)

**PPC BEAM SURFACE REPAIR**

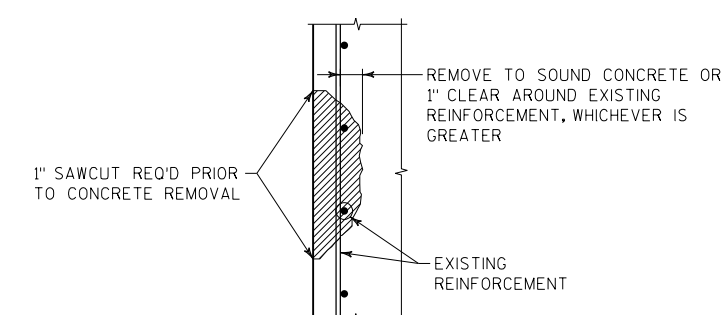
(SEE SHEET 8 FOR LOCATIONS)

**SECTION C-C**

WHERE EXISTING PRESTRESSING STRAND IS EXPOSED, REMOVE UNSOUND CONCRETE, ABRASIVE BLAST CLEAN AND COAT WITH ZINC RICH PAINT, TYP.

**TYPICAL CONCRETE SURFACE REPAIR DETAIL**

(FOR ABUTMENTS AND PIERS)

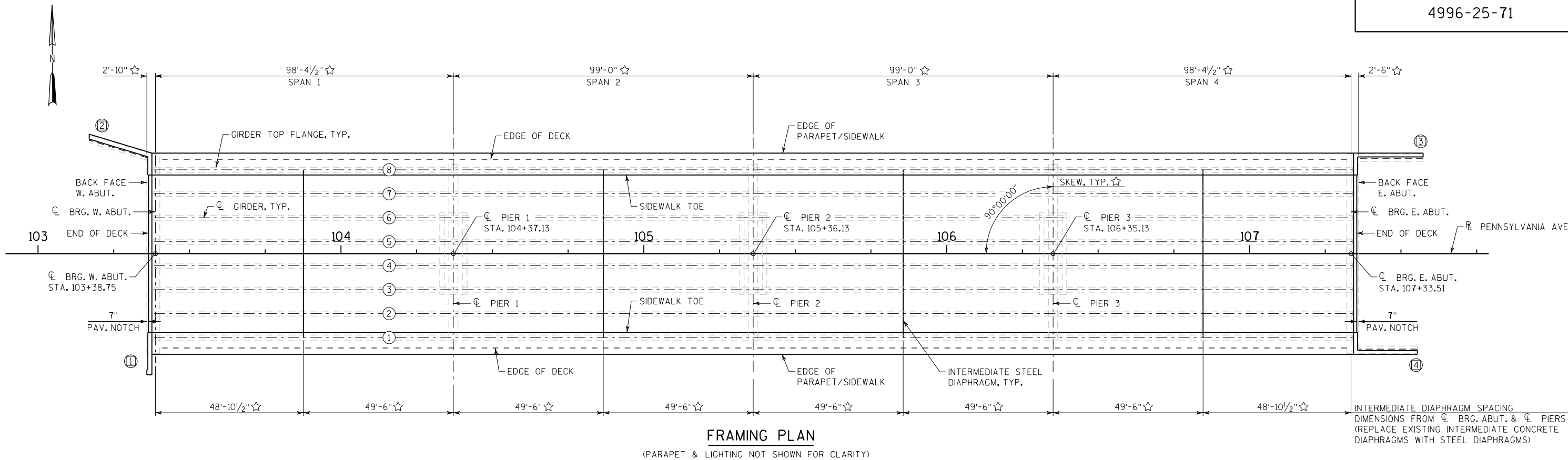
**TYPICAL CONCRETE SURFACE REMOVAL DETAIL**

(FOR ABUTMENTS AND PIERS)

LEGEND

* DIMENSION IS TAKEN NORMAL TO ϕ SUBSTRUCTURE UNITS.

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-59-64			
DRAWN BY		AJA	PLANS CK'D. MHZ
CONCRETE REPAIR DETAILS		SHEET 11 OF 37	



TOP OF DECK ELEVATIONS

LOCATION	W. ABUT. BRG.	0.1L	0.2L	0.3L	0.4L	0.5L	0.6L	0.7L	0.8L	0.9L	CL PIER 1	0.1L	0.2L	0.3L	0.4L	0.5L	0.6L	0.7L	0.8L	0.9L	CL PIER 2
NORTH EDGE OF DECK	594.63	594.92	595.21	595.50	595.79	596.08	596.37	596.66	596.95	597.24	597.53	597.82	598.11	598.40	598.69	598.98	599.28	599.57	599.86	600.15	600.44
CL GIRDER 8	594.70	594.99	595.28	595.57	595.86	596.15	596.44	596.73	597.02	597.31	597.60	597.89	598.18	598.47	598.76	599.05	599.34	599.64	599.93	600.22	600.51
NORTH SIDEWALK TOE	594.74	595.03	595.31	595.60	595.89	596.18	596.47	596.76	597.05	597.34	597.63	597.92	598.21	598.50	598.80	599.09	599.38	599.67	599.96	600.25	600.54
CL GIRDER 7	594.86	595.15	595.44	595.73	596.02	596.31	596.60	596.89	597.18	597.47	597.75	598.05	598.34	598.63	598.92	599.21	599.50	599.79	600.09	600.38	600.67
CL GIRDER 6	595.02	595.31	595.60	595.89	596.18	596.47	596.76	597.04	597.33	597.62	597.91	598.20	598.50	598.79	599.08	599.37	599.66	599.95	600.24	600.54	600.83
CL GIRDER 5	595.18	595.47	595.76	596.05	596.33	596.62	596.91	597.20	597.49	597.78	598.07	598.36	598.65	598.95	599.24	599.53	599.82	600.11	600.40	600.69	600.98
PGL/CROWN	595.26	595.55	595.83	596.12	596.41	596.70	596.99	597.28	597.57	597.86	598.15	598.44	598.73	599.02	599.32	599.61	599.90	600.19	600.48	600.77	601.06
CL GIRDER 4	595.18	595.47	595.76	596.05	596.33	596.62	596.91	597.20	597.49	597.78	598.07	598.36	598.65	598.95	599.24	599.53	599.82	600.11	600.40	600.69	600.98
CL GIRDER 3	595.02	595.31	595.60	595.89	596.18	596.47	596.76	597.04	597.33	597.62	597.91	598.20	598.50	598.79	599.08	599.37	599.66	599.95	600.24	600.54	600.83
CL GIRDER 2	594.86	595.15	595.44	595.73	596.02	596.31	596.60	596.89	597.18	597.47	597.75	598.05	598.34	598.63	598.92	599.21	599.50	599.79	600.09	600.38	600.67
SOUTH SIDEWALK TOE	594.74	595.03	595.31	595.60	595.89	596.18	596.47	596.76	597.05	597.34	597.63	597.92	598.21	598.50	598.80	599.09	599.38	599.67	599.96	600.25	600.54
CL GIRDER 1	594.70	594.99	595.28	595.57	595.86	596.15	596.44	596.73	597.02	597.31	597.60	597.89	598.18	598.47	598.76	599.05	599.34	599.64	599.93	600.22	600.51
SOUTH EDGE OF DECK	594.63	594.92	595.21	595.50	595.79	596.08	596.37	596.66	596.95	597.24	597.53	597.82	598.11	598.40	598.69	598.98	599.28	599.57	599.86	600.15	600.44

TOP OF DECK ELEVATIONS CONTINUED

LOCATION	CL PIER 2	0.1L	0.2L	0.3L	0.4L	0.5L	0.6L	0.7L	0.8L	0.9L	CL PIER 3	0.1L	0.2L	0.3L	0.4L	0.5L	0.6L	0.7L	0.8L	0.9L	E. ABUT. BRG.
NORTH EDGE OF DECK	600.44	600.73	601.02	601.31	601.61	601.90	602.19	602.48	602.77	603.06	603.35	603.64	603.93	604.22	604.51	604.80	605.09	605.38	605.67	605.96	606.25
CL GIRDER 8	600.51	600.80	601.09	601.38	601.67	601.97	602.26	602.55	602.84	603.13	603.42	603.71	604.00	604.29	604.58	604.87	605.16	605.45	605.74	606.03	606.32
NORTH SIDEWALK TOE	600.54	600.84	601.13	601.42	601.71	602.00	602.29	602.58	602.87	603.17	603.46	603.75	604.04	604.33	604.61	604.90	605.19	605.48	605.77	606.06	606.35
CL GIRDER 7	600.67	600.96	601.25	601.54	601.83	602.12	602.42	602.71	603.00	603.29	603.58	603.87	604.16	604.45	604.74	605.03	605.32	605.61	605.90	606.19	606.48
CL GIRDER 6	600.83	601.12	601.41	601.70	601.99	602.28	602.57	602.87	603.16	603.45	603.74	604.03	604.32	604.61	604.90	605.19	605.48	605.77	606.06	606.34	606.63
CL GIRDER 5	600.98	601.28	601.57	601.86	602.15	602.44	602.73	603.02	603.32	603.61	603.90	604.19	604.48	604.77	605.06	605.35	605.63	605.92	606.21	606.50	606.79
PGL/CROWN	601.06	601.36	601.65	601.94	602.23	602.52	602.81	603.10	603.39	603.69	603.98	604.27	604.56	604.85	605.13	605.42	605.71	606.00	606.29	606.58	606.87
CL GIRDER 4	600.98	601.28	601.57	601.86	602.15	602.44	602.73	603.02	603.32	603.61	603.90	604.19	604.48	604.77	605.06	605.35	605.63	605.92	606.21	606.50	606.79
CL GIRDER 3	600.83	601.12	601.41	601.70	601.99	602.28	602.57	602.87	603.16	603.45	603.74	604.03	604.32	604.61	604.90	605.19	605.48	605.77	606.06	606.34	606.63
CL GIRDER 2	600.67	600.96	601.25	601.54	601.83	602.12	602.42	602.71	603.00	603.29	603.58	603.87	604.16	604.45	604.74	605.03	605.32	605.61	605.90	606.19	606.48
SOUTH SIDEWALK TOE	600.54	600.84	601.13	601.42	601.71	602.00	602.29	602.58	602.87	603.17	603.46	603.75	604.04	604.33	604.61	604.90	605.19	605.48	605.77	606.06	606.35
CL GIRDER 1	600.51	600.80	601.09	601.38	601.67	601.97	602.26	602.55	602.84	603.13	603.42	603.71	604.00	604.29	604.58	604.87	605.16	605.45	605.74	606.03	606.32
SOUTH EDGE OF DECK	600.44	600.73	601.02	601.31	601.61	601.90	602.19	602.48	602.77	603.06	603.35	603.64	603.93	604.22	604.51	604.80	605.09	605.38	605.67	605.96	606.25

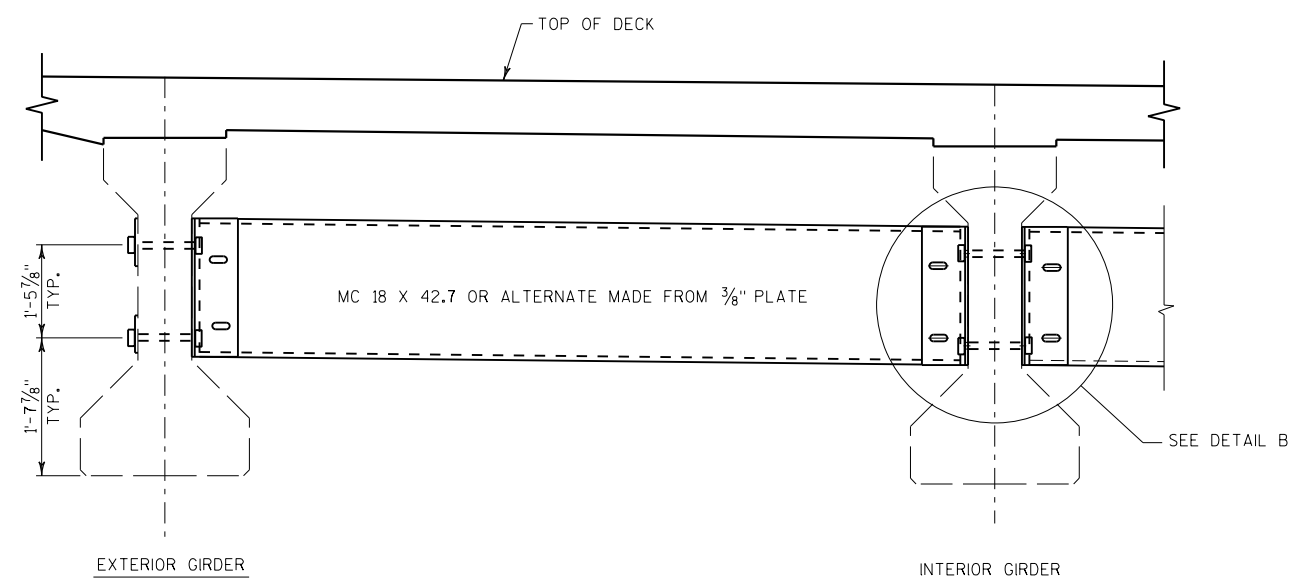
LEGEND

- ☆ PER EXISTING AS-BUILT STRUCTURE PLAN
- ⊗ WINGWALL NUMBER
- ⊗ GIRDER NUMBER

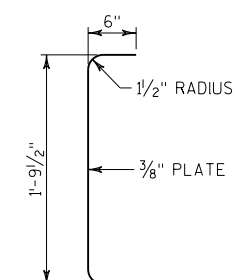
NOTE

REPLACE EXISTING INTERMEDIATE CONCRETE DIAPHRAGMS WITH NEW STEEL INTERMEDIATE DIAPHRAGMS AT EXISTING DIAPHRAGM LOCATIONS.

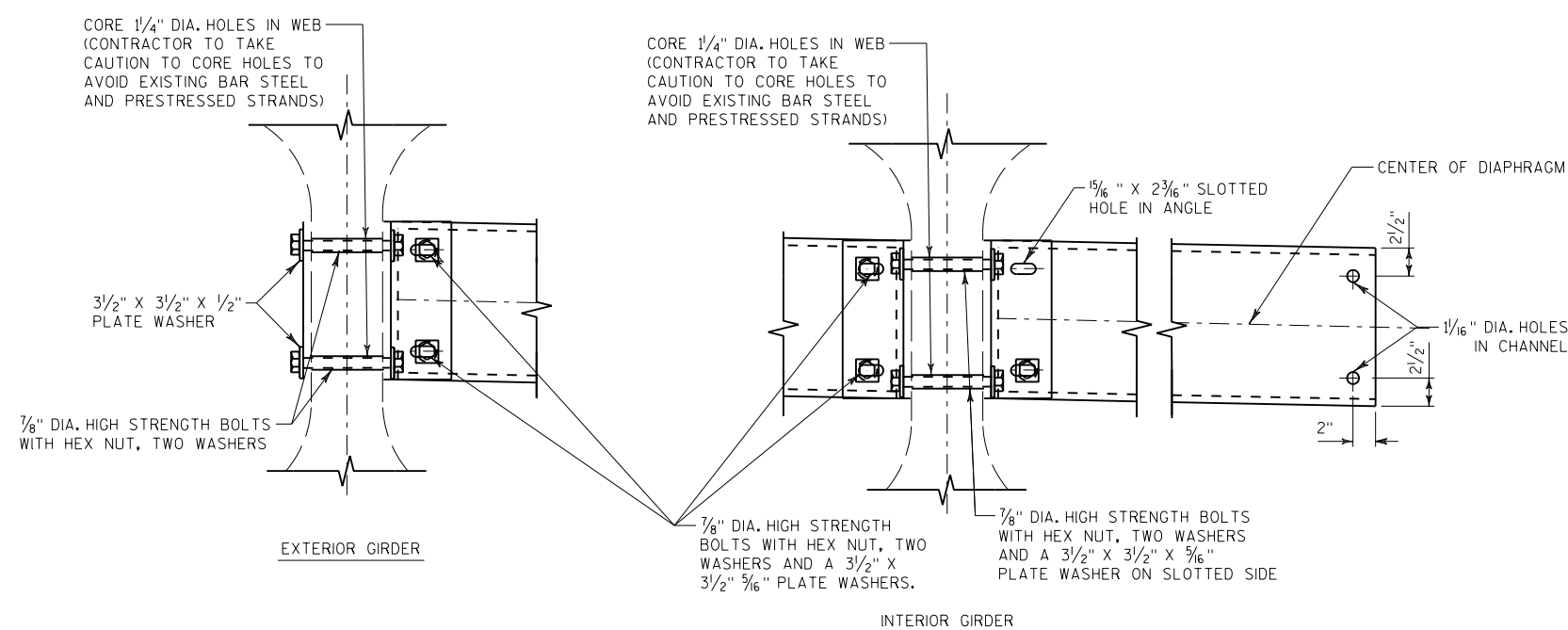
NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-59-64			
DRAWN BY		AJA	PLANS CK'D. MHZ
FRAMING PLAN			SHEET 12 OF 37



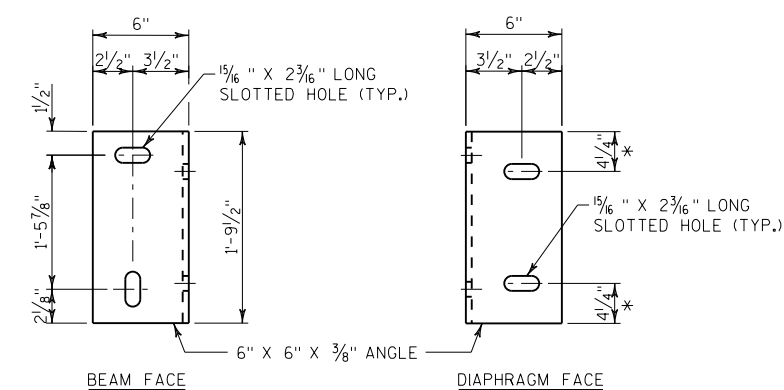
PART TRANSVERSE SECTION AT DIAPHRAGM

SECTION THRU
ALTERNATE DIAPHRAGM

* 2 1/2" FOR ALTERNATE PLATE DIAPHRAGM



DETAIL B



DIAPHRAGM SUPPORT

NOTES

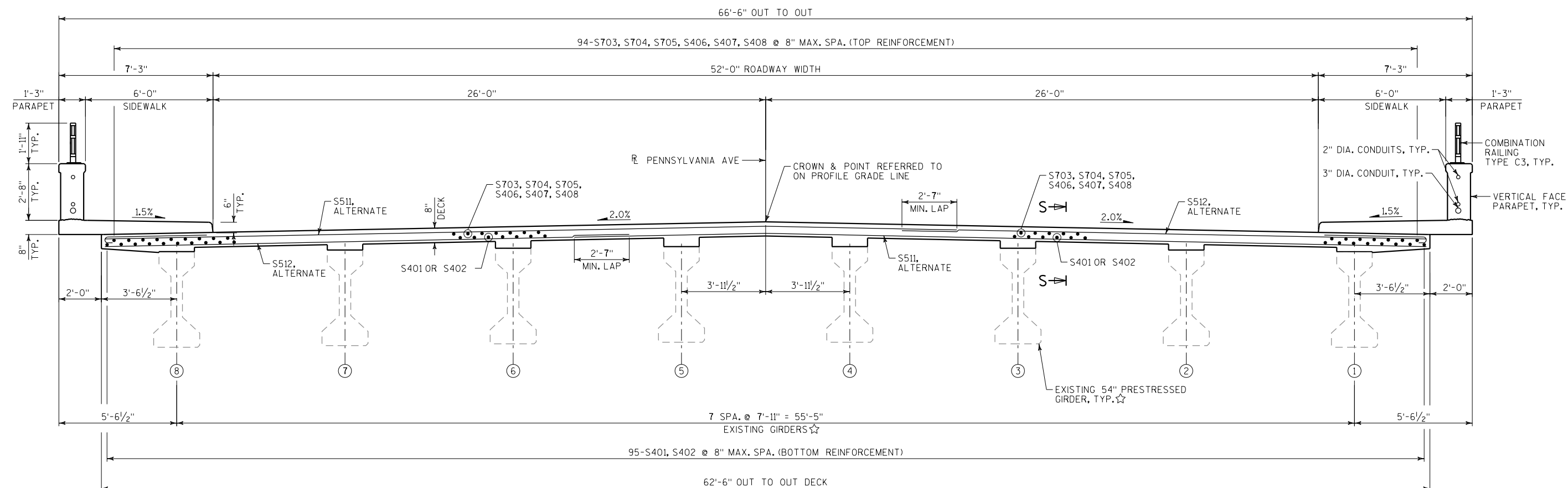
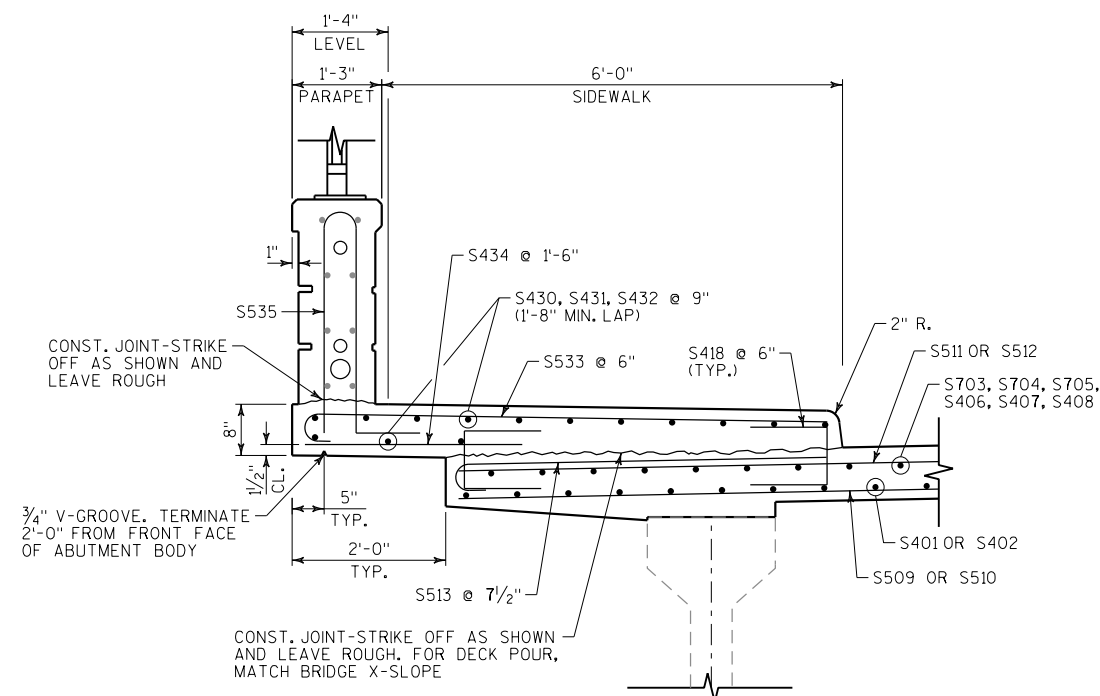
ALL DIAPHRAGM MATERIAL AND CORED HOLES SHALL BE PAID FOR AT THE UNIT PRICE BID FOR "STEEL DIAPHRAGMS B-59-64", EACH.

EACH DIAPHRAGM BETWEEN GIRDERS SHALL CONSTITUTE ONE UNIT.

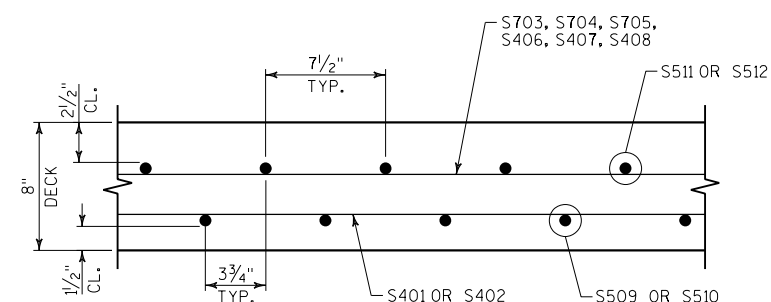
ALL DIAPHRAGM STRUCTURAL STEEL SHALL BE ASTM A709 GRADE 36. ALL BOLTS, NUTS AND WASHERS SHALL BE ASTM A325 TYPE 1.

ALL DIAPHRAGM STRUCTURAL STEEL SHOWN SHALL BE HOT-DIPPED GALVANIZED. ALL BOLTS, NUTS AND WASHERS SHALL BE HOT-DIPPED GALVANIZED IN ACCORDANCE WITH ASTM A153 CLASS C. GALVANIZED NUTS SHALL BE TAPPED OVERSIZED IN ACCORDANCE WITH THE REQUIREMENTS OF SUPPLEMENTARY REQUIREMENT S10F ASTM A563, LUBRICANT AND TEST FOR COATED NUTS

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-59-64			
DRAWN BY		AJA	PLANS CK'D. MHZ
STEEL DIAPHRAGM			SHEET 13 OF 37

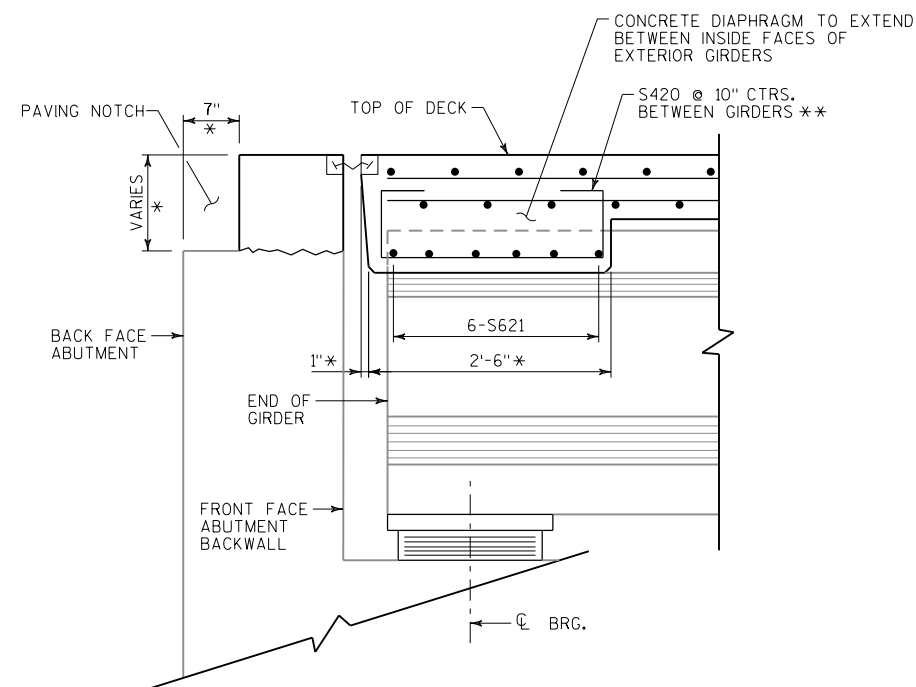
**CROSS SECTION THRU DECK**(LOOKING EAST)
(LIGHT SUPPORTS NOT SHOWN FOR CLARITY)**SIDEWALK REINFORCEMENT SECTION**

(LIGHT SUPPORT NOT SHOWN FOR CLARITY)

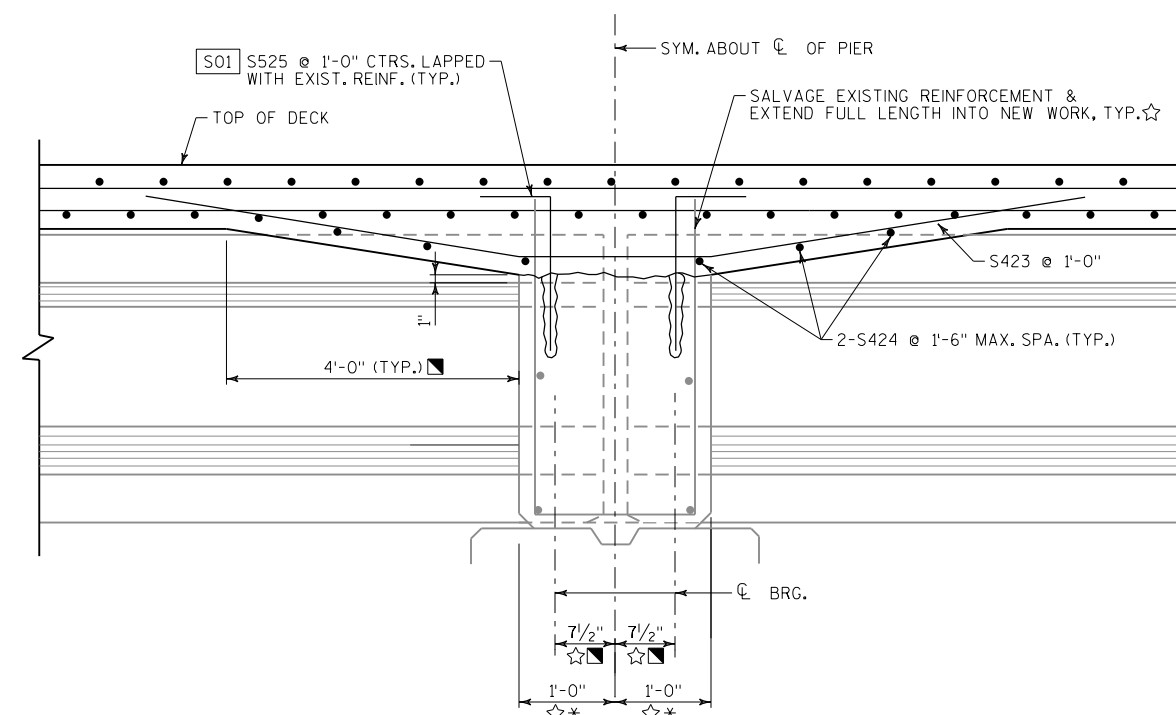
**SECTION S-S****NOTES**FOR SUPERSTRUCTURE REINFORCEMENT
PLAN, SEE SHEET 14.FOR ABUTMENT & PIER DIAPHRAGM
REINFORCEMENT, SEE SHEET 16.FOR HAUNCH REINFORCEMENT & GIRDER
DETAILS, SEE SHEET 17.FOR SIDEWALK REINFORCEMENT DETAILS,
SEE SHEET 18.FOR DECK POUR SEQUENCE & BILL OF
BARS, SEE SHEET 19.FOR DECK DRAIN LOCATIONS AND
DETAILS, SEE SHEETS 33 & 34.**LEGEND**

☆ PER EXISTING AS-BUILT STRUCTURE PLAN

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-59-64			
DRAWN BY		AJA	PLANS CK'D. MHZ
SUPERSTRUCTURE CROSS SECTION		SHEET 15 OF 37	



PART LONGITUDINAL SECTION AT ABUTMENT

PART LONGITUDINAL SECTION AT PIER
(CONC. DIAPHRAGM TO EXTEND BETWEEN INSIDE WEB FACES OF EXTERIOR GIRDERS)

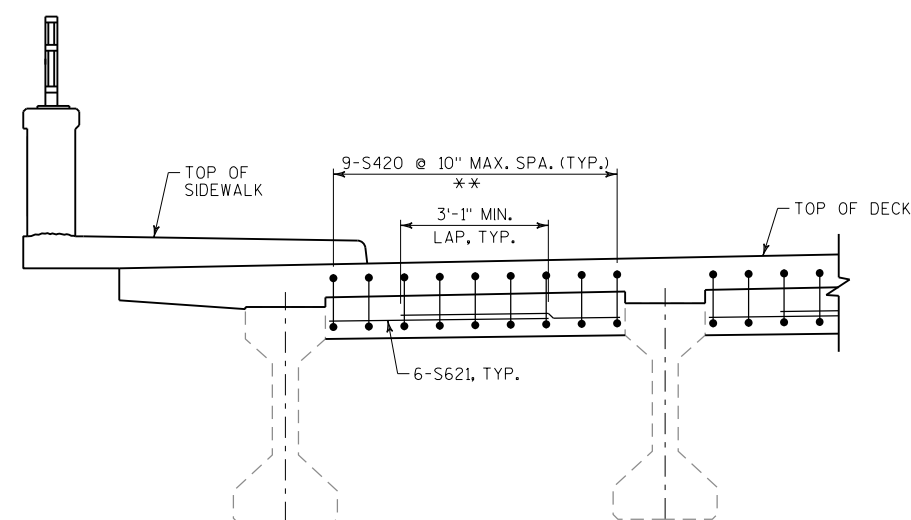
NOTES

FOR SUPERSTRUCTURE REINFORCEMENT
PLAN, SEE SHEET 14.FOR SUPERSTRUCTURE CROSS SECTION,
SEE SHEET 15.FOR HAUNCH REINFORCEMENT & GIRDER
DETAILS, SEE SHEET 17.FOR SIDEWALK REINFORCEMENT DETAILS,
SEE SHEET 18.FOR DECK POUR SEQUENCE & BILL OF
BARS, SEE SHEET 19.FOR DECK DRAIN LOCATIONS AND
DETAILS, SEE SHEETS 33 & 34.

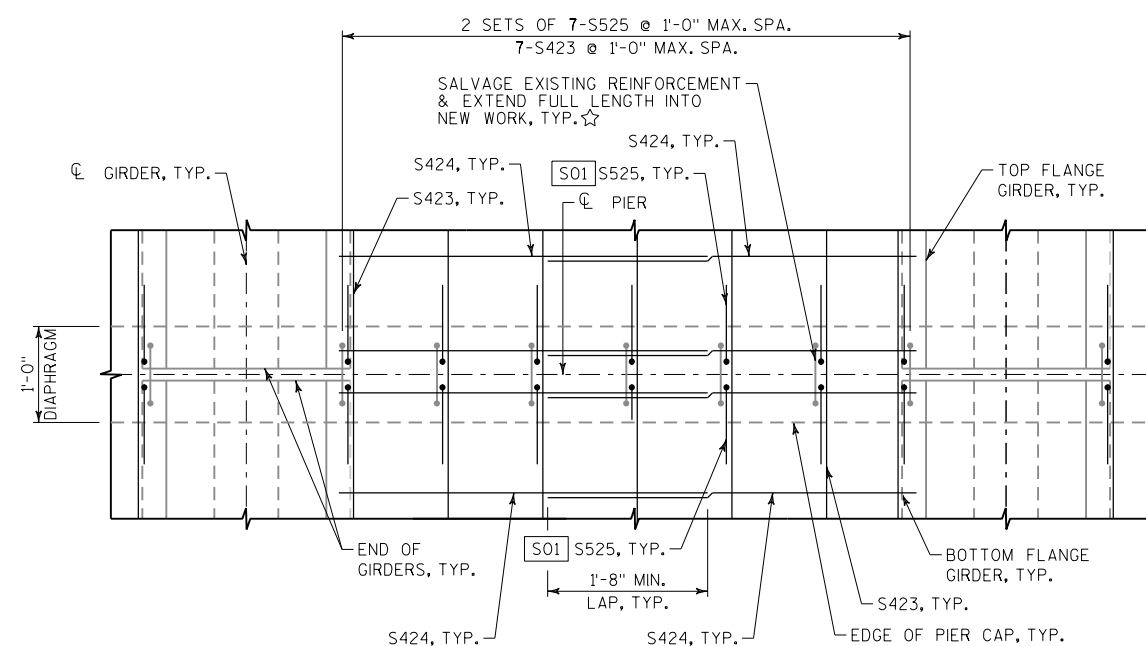
LEGEND

■ DIMENSION IS TAKEN PARALLEL TO ϕ GIRDER.* DIMENSION IS TAKEN NORMAL TO ϕ
SUBSTRUCTURE UNITS.** BARS PLACED PARALLEL TO GIRDERS SPACING
PERPENDICULAR TO ϕ GIRDERS.

☆ PER EXISTING AS-BUILT STRUCTURE PLAN

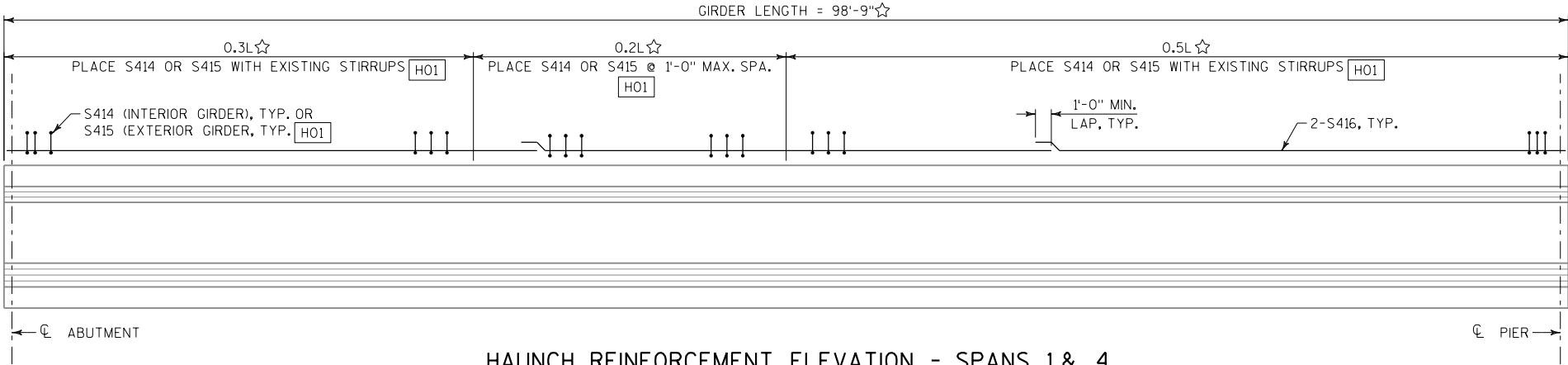
S01 NO. 5 ADHESIVE ANCHOR:
EMBED = 1'-1", MIN. EDGE DISTANCE = 4"

PART TRANSVERSE SECTION AT DIAPHRAGM EXPANSION END

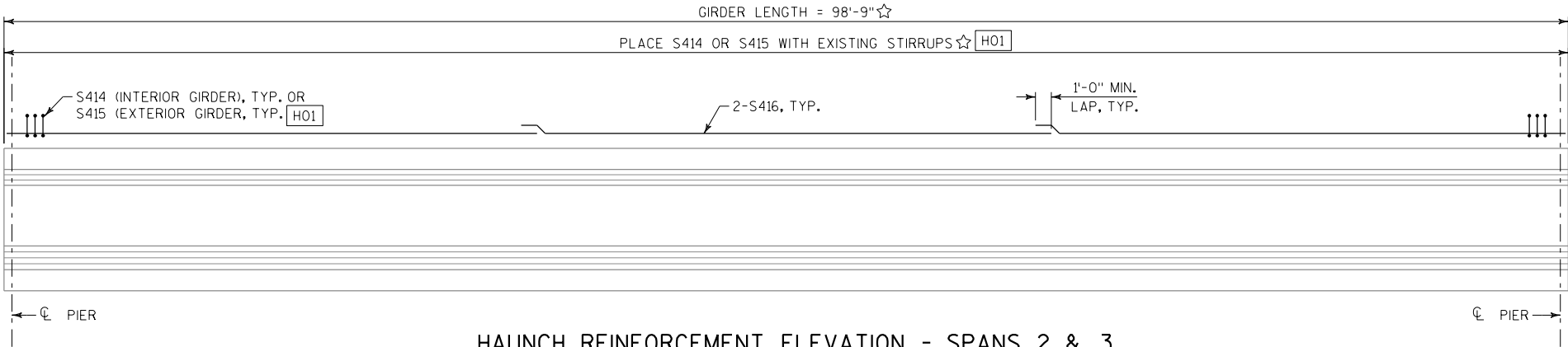


PARTIAL PLAN PIER HAUNCH

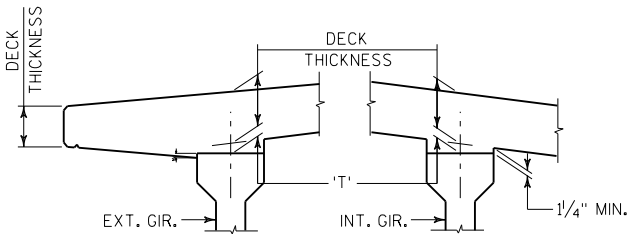
NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-59-64			
DRAWN BY		AJA	PLANS CK'D. MHZ
DIAPHRAGM REINFORCEMENT			SHEET 16 OF 37



HAUNCH REINFORCEMENT ELEVATION - SPANS 1 & 4



HAUNCH REINFORCEMENT ELEVATION - SPANS 2 & 3



DECK HAUNCH DETAIL

IF 1/4" MINIMUM HAUNCH HEIGHT AT EDGE OF GIRDER CANNOT BE MAINTAINED, THE GRADE LINE MAY BE REVISED BY THE ENGINEER AT THE OPTION OF THE CONTRACTOR. THE PLAN DECK THICKNESS SHALL BE HELD. NOTIFY THE STRUCTURES SECTION IF THE GRADE LINE IS RAISED FROM THE PLAN PROFILE BY MORE THAN 1/2" OR,

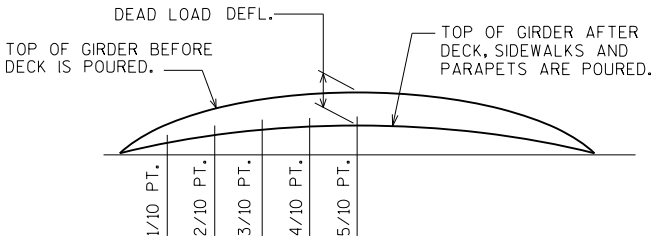
TO DETERMINE 'T', ELEV. OF TOP OF GIR'S. AT C. OF SUBSTRUCTURE UNITS & AT 1/10 POINTS OF EACH SPAN SHALL BE TAKEN. THEN FOLLOW THIS PROCESS:

TOP OF DECK ELEV. AT FINAL GRADE
- TOP OF GIRDER ELEVATION
+ DEAD LOAD DEFLECTION
- DECK THICKNESS
= HAUNCH HEIGHT 'T'

NOTE: AN AVERAGE HAUNCH ('T') OF 4 7/8" WAS USED IN THE QUANTITY "CONCRETE MASONRY BRIDGES".

GIRDER DATA		DEAD LOAD DEFL. (IN.) ***				
SPANS	GIRDER LOCATION	1/10	2/10	3/10	4/10	5/10
1 & 4	GIRDERS 1 & 8	1/2"	7/8"	1 1/4"	1 1/2"	1 1/2"
1 & 4	GIRDERS 2 & 7	1/2"	7/8"	1 1/4"	1 1/2"	1 1/2"
1 & 4	GIRDERS 3 & 6	1/2"	7/8"	1 1/4"	1 1/2"	1 5/8"
1 & 4	GIRDERS 4 & 5	1/2"	1"	1 3/8"	1 1/2"	1 5/8"
2 & 3	GIRDERS 1 & 8	1/2"	7/8"	1 1/4"	1 3/8"	1 1/2"
2 & 3	GIRDERS 2 & 7	1/2"	7/8"	1 1/4"	1 3/8"	1 1/2"
2 & 3	GIRDERS 3 & 6	1/2"	7/8"	1 1/4"	1 1/2"	1 1/2"
2 & 3	GIRDERS 4 & 5	1/2"	7/8"	1 1/4"	1 1/2"	1 1/2"

*** SEE DEAD LOAD DEFLECTION DIAGRAM. DEAD LOAD DEFLECTIONS ARE SYMMETRICAL ON GIRDERS.

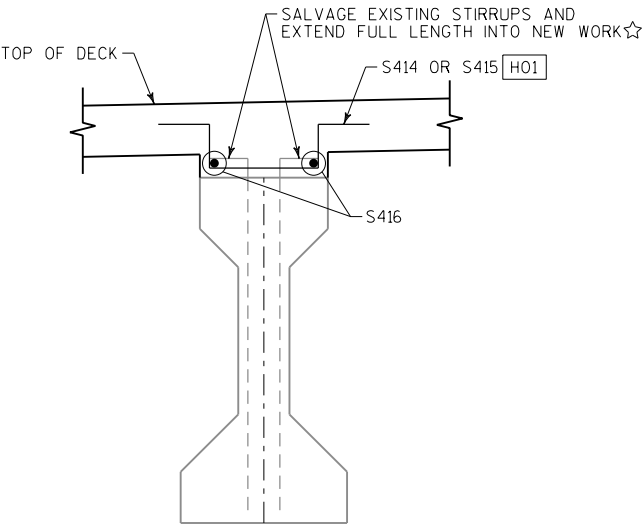


DEAD LOAD DEFLECTION DIAGRAM

LEGEND

☆ PER EXISTING AS-BUILT STRUCTURE PLAN

[H01] FIELD ORIENTATE REINFORCEMENT IN CONFLICT WITH DECK SLAB TOP REINFORCEMENT MAT AS NEEDED



HAUNCH REINFORCEMENT DETAIL

NOTES

FOR SUPERSTRUCTURE REINFORCEMENT PLAN, SEE SHEET 14.

FOR SUPERSTRUCTURE CROSS SECTION, SEE SHEET 15.

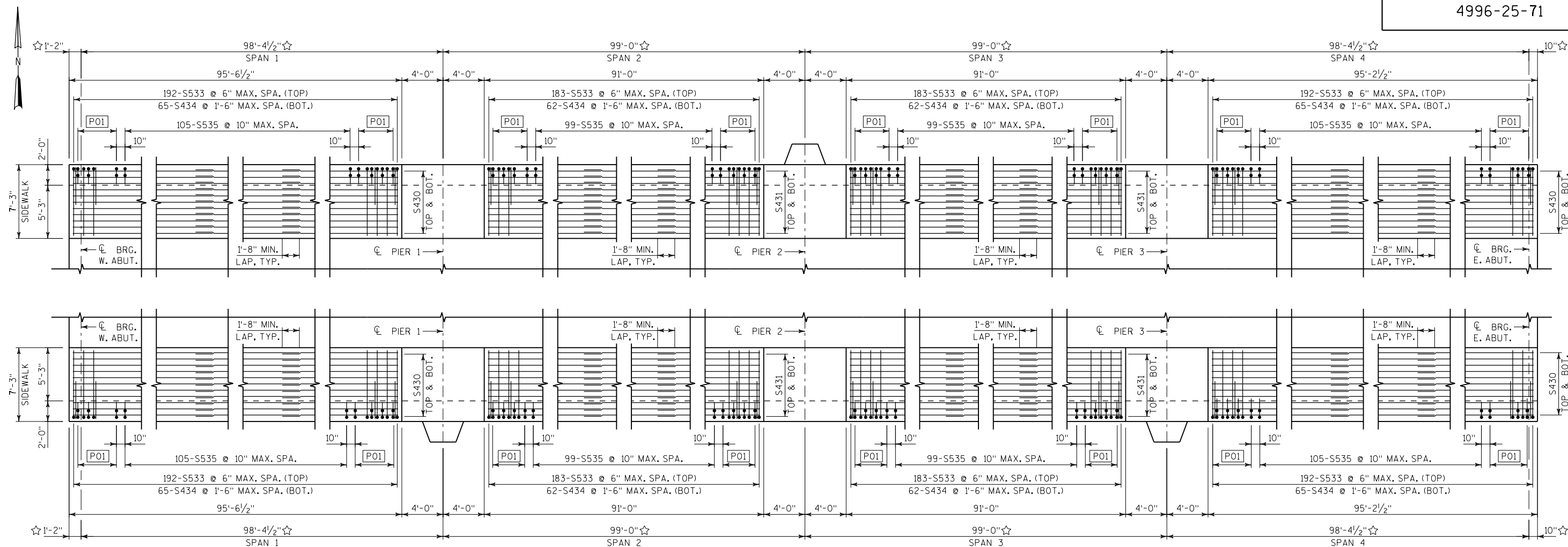
FOR ABUTMENT & PIER DIAPHRAGM REINFORCEMENT, SEE SHEET 16.

FOR SIDEWALK REINFORCEMENT DETAILS, SEE SHEET 18.

FOR DECK POUR SEQUENCE & BILL OF BARS, SEE SHEET 19.

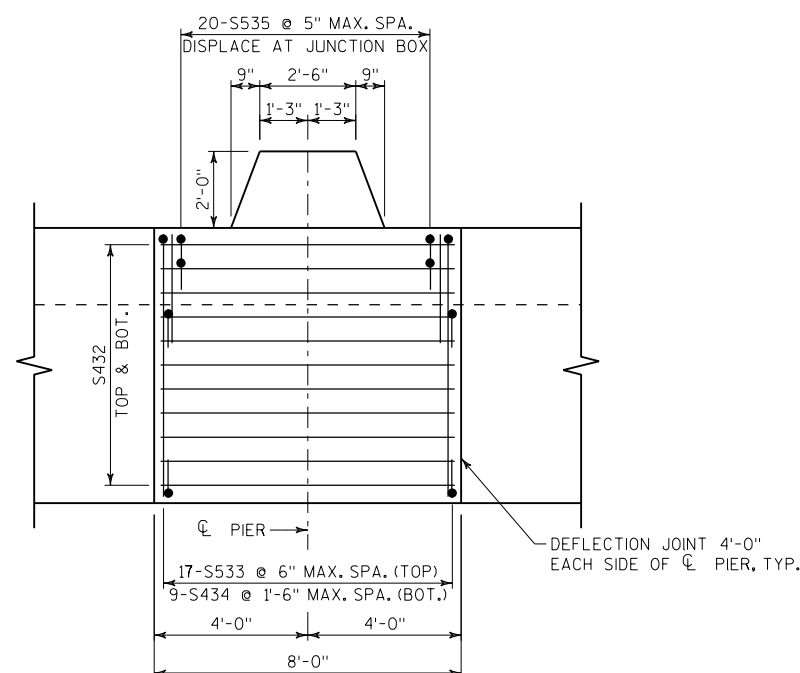
FOR DECK DRAIN LOCATIONS AND DETAILS, SEE SHEETS 33 & 34.

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-59-64			
DRAWN BY		AJA	PLANS CK'D. MHZ
GIRDER & HAUNCH DETAILS			SHEET 17 OF 37

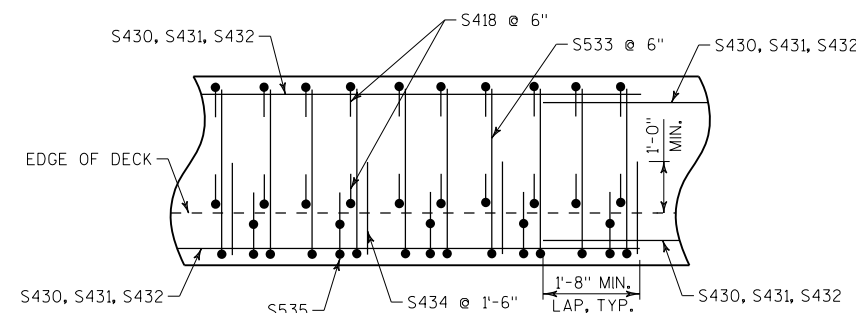


SIDEWALK REINFORCEMENT PLAN

(PARAPET NOT SHOWN FOR CLARITY)



SIDEWALK PLAN BETWEEN DEFLECTION JOINTS

(NORTH SIDE SHOWN, SOUTH SIDE SIMILAR)
(PARAPET & LIGHT SUPPORT REINFORCEMENT NOT SHOWN FOR CLARITY)

PARTIAL PLAN SIDEWALK REINFORCEMENT

(SOUTH SIDE SHOWN, NORTH SIDE SIMILAR)

LEGEND

☆ PER EXISTING AS-BUILT STRUCTURE PLAN

[P01] 9 SPA. @ 5" = 3'-9" (S535)

NOTES

FOR SUPERSTRUCTURE REINFORCEMENT PLAN, SEE SHEET 14.

FOR SUPERSTRUCTURE CROSS SECTION, SEE SHEET 15.

FOR ABUTMENT & PIER DIAPHRAGM REINFORCEMENT, SEE SHEET 16.

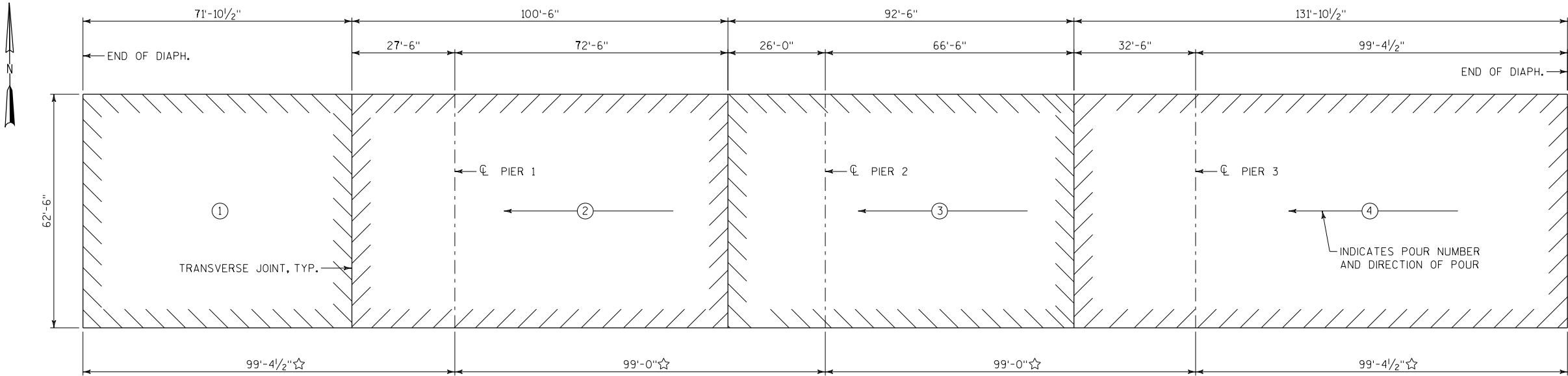
FOR HAUNCH REINFORCEMENT & GIRDER DETAILS, SEE SHEET 17.

FOR DECK POUR SEQUENCE & BILL OF BARS, SEE SHEET 19.

FOR DEFLECTION JOINT DETAIL, SEE SHEET 29.

FOR DECK DRAIN LOCATIONS AND DETAILS, SEE SHEETS 33 & 34.

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-59-64			
DRAWN BY		AJA	PLANS CK'D. MHZ
SIDEWALK REINFORCEMENT			SHEET 18 OF 37



LEGEND

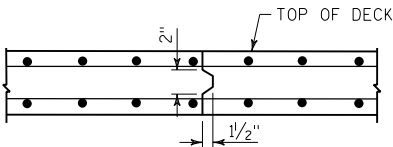
☆ PER EXISTING AS-BUILT STRUCTURE PLAN

DECK POUR SEQUENCE

BILL OF BARS

BAR MARK	CONT	NO. REQ'D.	LENGTH	BENT	BAR SERIES	LOCATION
S401	X	855	43'-0"	-	-	DECK BOTTOM - LONG.
S402	X	95	24'-5"	-	-	DECK BOTTOM - LONG.
S703	X	282	36'-0"	-	-	DECK TOP OVER ALL PIERS - LONG.
S704	X	188	59'-0"	-	-	DECK TOP OVER PIERS 1 & 3 - LONG.
S705	X	94	51'-0"	-	-	DECK TOP OVER PIER 2 - LONG.
S406	X	188	45'-0"	-	-	DECK TOP SPANS 1 & 4 - LONG.
S407	X	188	30'-9"	-	-	DECK TOP SPANS 1 & 4 - LONG.
S408	X	188	44'-10"	-	-	DECK TOP SPANS 2 & 3 - LONG.
S509	X	636	40'-0"	-	-	DECK BOTTOM - TRANS.
S510	X	636	24'-9"	-	-	DECK BOTTOM - TRANS.
S511	X	636	40'-0"	-	-	DECK TOP - TRANS.
S512	X	636	24'-9"	-	-	DECK TOP - TRANS.
S513	X	1272	5'-6"	X	-	DECK TOP OVERHANG - TRANS.
S414	X	3264	3'-9"	X	-	INTERIOR GIRDER HAUNCH - VERT.
S415	X	1088	3'-5"	X	-	EXTERIOR GIRDER HAUNCH - VERT.
S416	X	192	33'-6"	-	-	HAUNCH - LONG.
S517	X	32	5'-0"	-	-	DECK DRAIN - LONG.
S418	X	3204	2'-6"	X	-	SIDEWALK DOWELS
S420	X	126	5'-4"	X	-	ABUTMENT DIAPHRAGM - VERT.
S621	X	168	4'-6"	-	-	ABUTMENT DIAPHRAGM - TRANS.
S422	X	28	7'-7"	-	-	ABUTMENT DIAPHRAGM AT EXP. JOINT - TRANS.
S423	X	147	11'-5"	X	-	DECK HAUNCH AT PIER - LONG.
S424	X	252	3'-10"	-	-	DECK HAUNCH AT PIER - TRANS.
S525	X	294	2'-9"	X	-	PIER DIAPHRAGM ANCHORS
S430	X	168	32'-11"	-	-	SIDEWALK SPANS 1 & 4 - LONG.
S431	X	168	31'-4"	-	-	SIDEWALK SPANS 2 & 3 - LONG.
S432	X	84	7'-8"	-	-	SIDEWALK OVER PIERS - LONG.
S533	X	1602	7'-6"	X	-	SIDEWALK TOP - TRANS.
S434	X	550	2'-10"	-	-	SIDEWALK BOTTOM - TRANS.
S535	X	1096	6'-9"	X	-	PARAPET DOWELS

NOTE:
BAR DIMENSIONS ARE OUT TO OUT OF BAR, THE FIRST OR FIRST TWO DIGITS OF A BAR MARK SIGNIFIES THE BAR SIZE



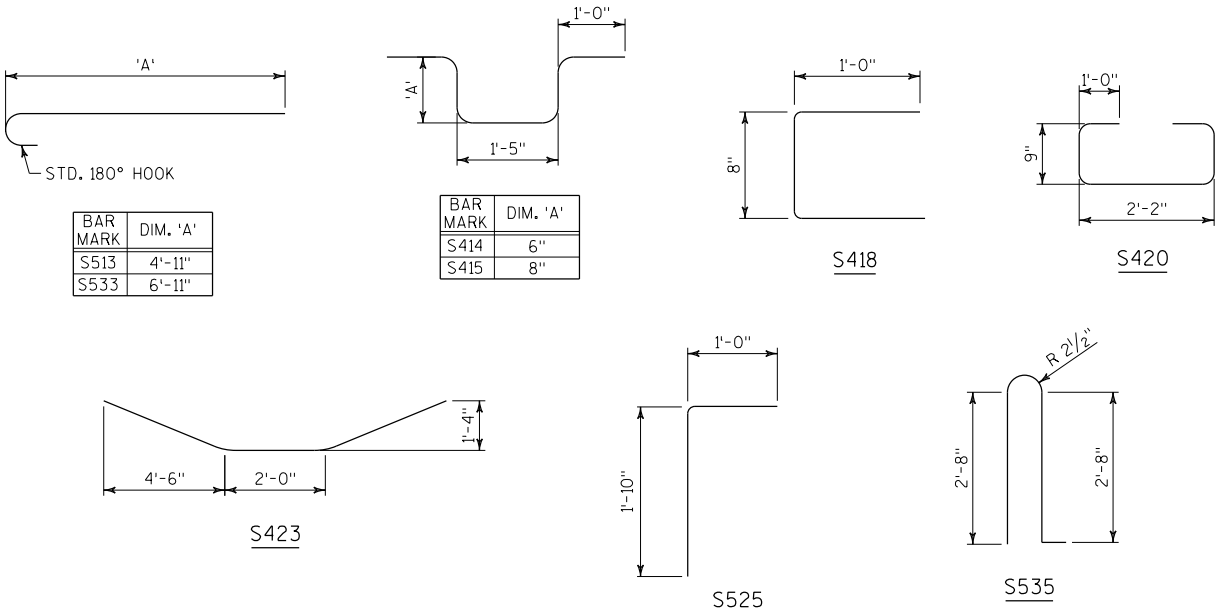
SECTION THRU TRANSVERSE JOINT

NOTES

- FOR SUPERSTRUCTURE REINFORCEMENT PLAN, SEE SHEET 14.
- FOR SUPERSTRUCTURE CROSS SECTION, SEE SHEET 15.
- FOR ABUTMENT & PIER DIAPHRAGM REINFORCEMENT, SEE SHEET 16.
- FOR HAUNCH REINFORCEMENT & GIRDER DETAILS, SEE SHEET 17.
- FOR SIDEWALK REINFORCEMENT DETAILS, SEE SHEET 18.
- FOR DECK DRAIN LOCATIONS AND DETAILS, SEE SHEETS 33 & 34.

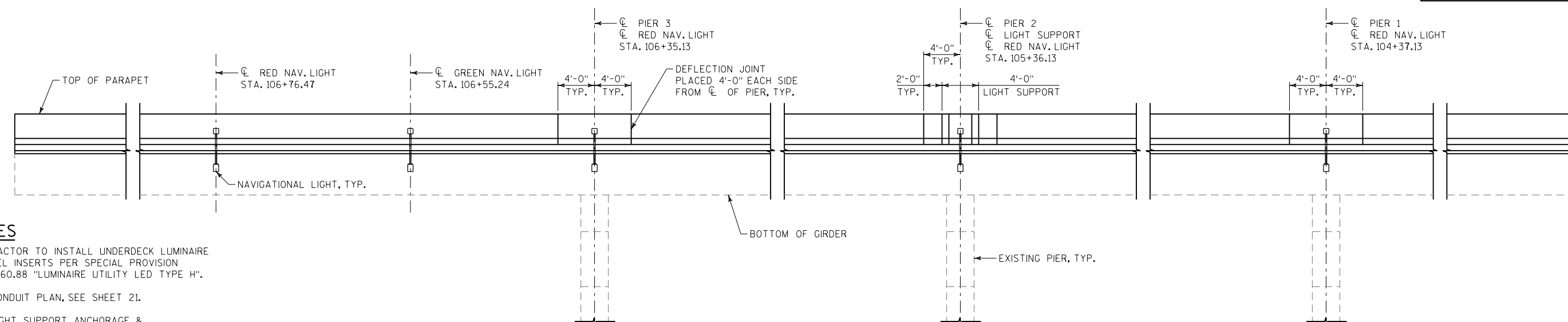
DECK POUR NOTES

- IF OPTIONAL JOINTS ARE PROVIDED, TWO OR MORE SEQUENTIAL POURS MAY BE COMBINED AND PLACED IN ONE CONTINUOUS OPERATION. TWO OR MORE ALTERNATE DECK POURS (E.G. 1 & 3) MAY BE PLACED ON THE SAME DAY.
- THE NEXT DECK POUR CAN BE MADE NO LESS THAN 72 HOURS AFTER THE PREVIOUS POUR.
- THE CONTRACTOR SHALL POUR THE ENTIRE DECK PER THE DECK POUR SEQUENCE IF REQUIRED TRANSVERSE CONSTRUCTION JOINTS ARE SHOWN ON THE PLANS. THE CONTRACTOR MAY SUBMIT AN ALTERNATE POURING SEQUENCE SUBJECT TO THE APPROVAL OF THE STRUCTURES DESIGN SECTION.



BENDING DIAGRAMS

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-59-64			
		DRAWN BY AJA	PLANS CK'D. MHZ
DECK POUR SEQUENCE & BILL OF BARS		SHEET 19 OF 37	



OUTSIDE ELEVATION NORTH SIDE OF BRIDGE

(LOOKING SOUTH)
(STREET LIGHTS NOT SHOWN FOR CLARITY)

NOTES

CONTRACTOR TO INSTALL UNDERDECK LUMINAIRE CHANNEL INSERTS PER SPECIAL PROVISION SPV.0060.88 "LUMINAIRE UTILITY LED TYPE H".

FOR CONDUIT PLAN, SEE SHEET 21.

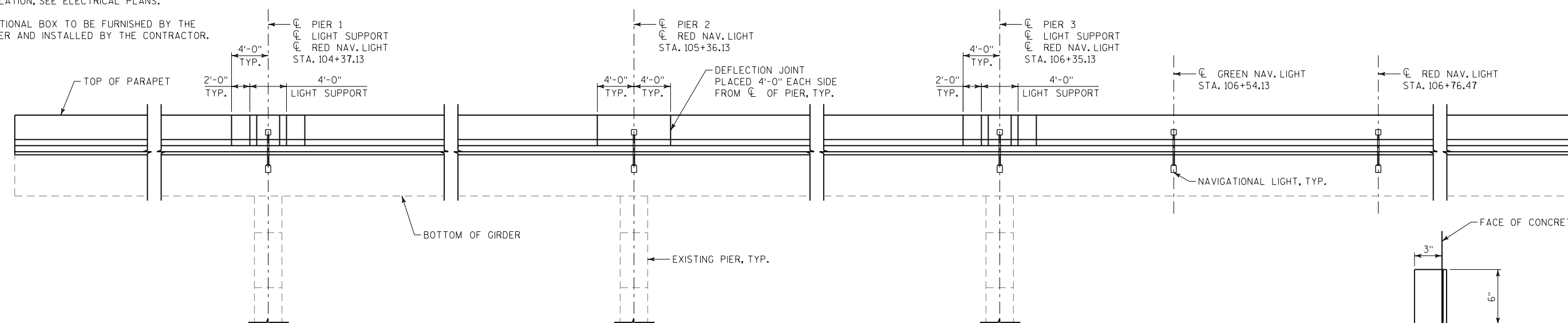
FOR LIGHT SUPPORT ANCHORAGE & REINFORCEMENT, SEE SHEET 26.

FOR CONDUIT DETAILS, SEE SHEETS 27 & 28.

FOR DEFLECTION JOINT DETAIL, SEE SHEET 29.

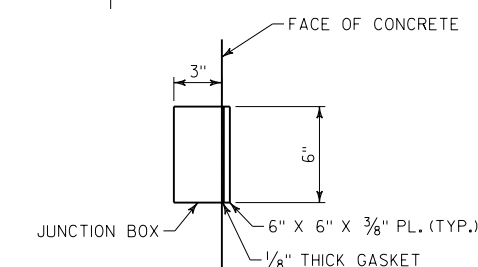
FOR NAVIGATIONAL LIGHT FURNISHING AND INSTALLATION, SEE ELECTRICAL PLANS.

NAVIGATIONAL BOX TO BE FURNISHED BY THE SUPPLIER AND INSTALLED BY THE CONTRACTOR.



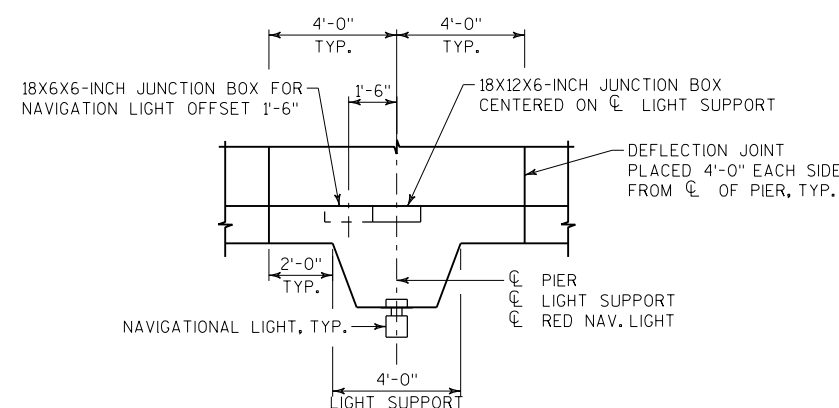
OUTSIDE ELEVATION SOUTH SIDE OF BRIDGE

(LOOKING NORTH)
(STREET LIGHTS NOT SHOWN FOR CLARITY)

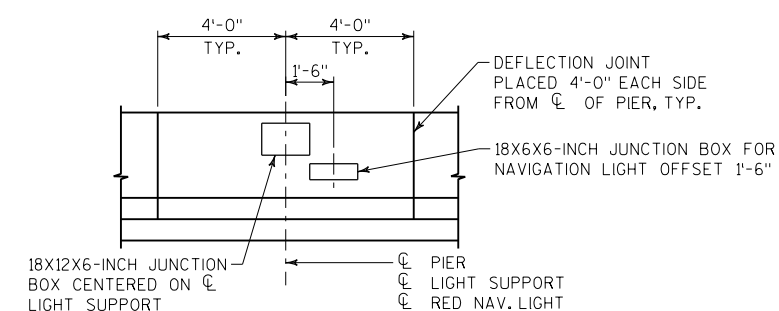


ANCHORAGE DETAIL

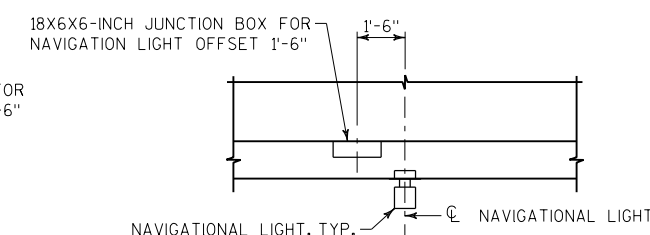
NAVIGATIONAL BOX TO BE FURNISHED BY THE SUPPLIER AND INSTALLED BY THE CONTRACTOR



PARTIAL PLAN AT LIGHT SUPPORT

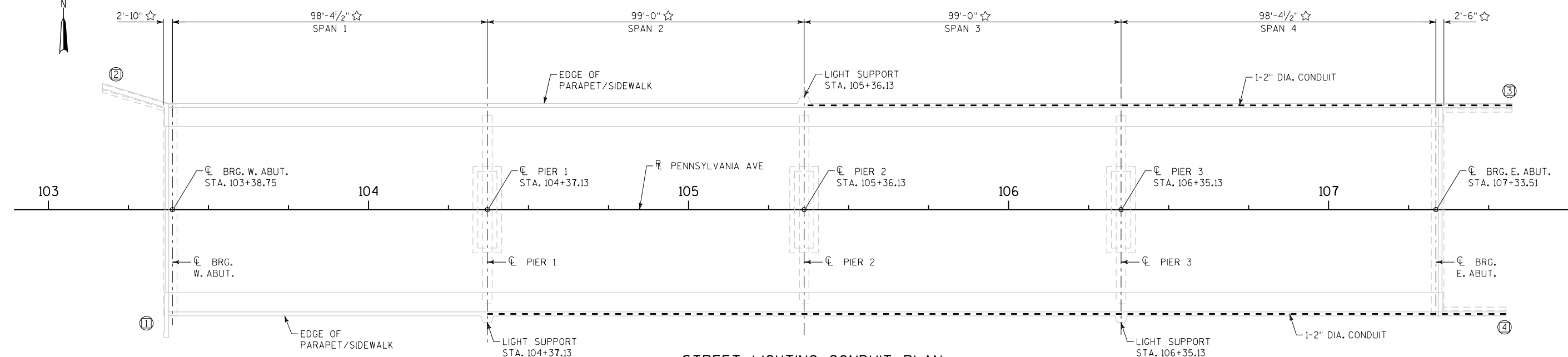


INSIDE ELEVATION AT LIGHT SUPPORT



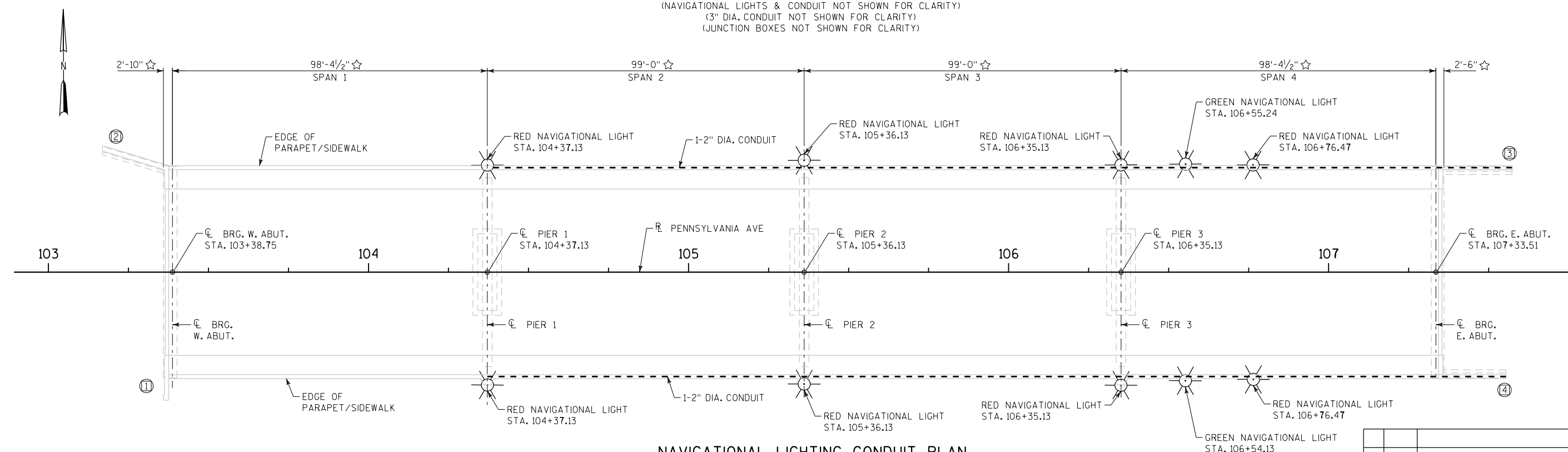
PARTIAL PLAN AT NAVIGATIONAL LIGHT

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-59-64			
DRAWN BY AJA		PLANS CK'D. MHZ	
LIGHTING DETAILS			SHEET 20 OF 37



STREET LIGHTING CONDUIT PLAN

(NAVIGATIONAL LIGHTS & CONDUIT NOT SHOWN FOR CLARITY)
 (3" DIA. CONDUIT NOT SHOWN FOR CLARITY)
 (JUNCTION BOXES NOT SHOWN FOR CLARITY)



NAVIGATIONAL LIGHTING CONDUIT PLAN

(STREET LIGHTING CONDUIT NOT SHOWN FOR CLARITY)
 (3" DIA. CONDUIT NOT SHOWN FOR CLARITY)
 (JUNCTION BOXES NOT SHOWN FOR CLARITY)

NOTES

CONTRACTOR TO INSTALL UNDERDECK LUMINAIRE CHANNEL INSERTS PER SPECIAL PROVISION SPV.0060.88 "LUMINAIRE UTILITY LED TYPE H".

3" DIA. CONDUIT TO RUN FULL LENGTH OF BRIDGE IN BOTH NORTH AND SOUTH PARAPETS. SEE SHEETS 27 & 28 FOR DETAILS.

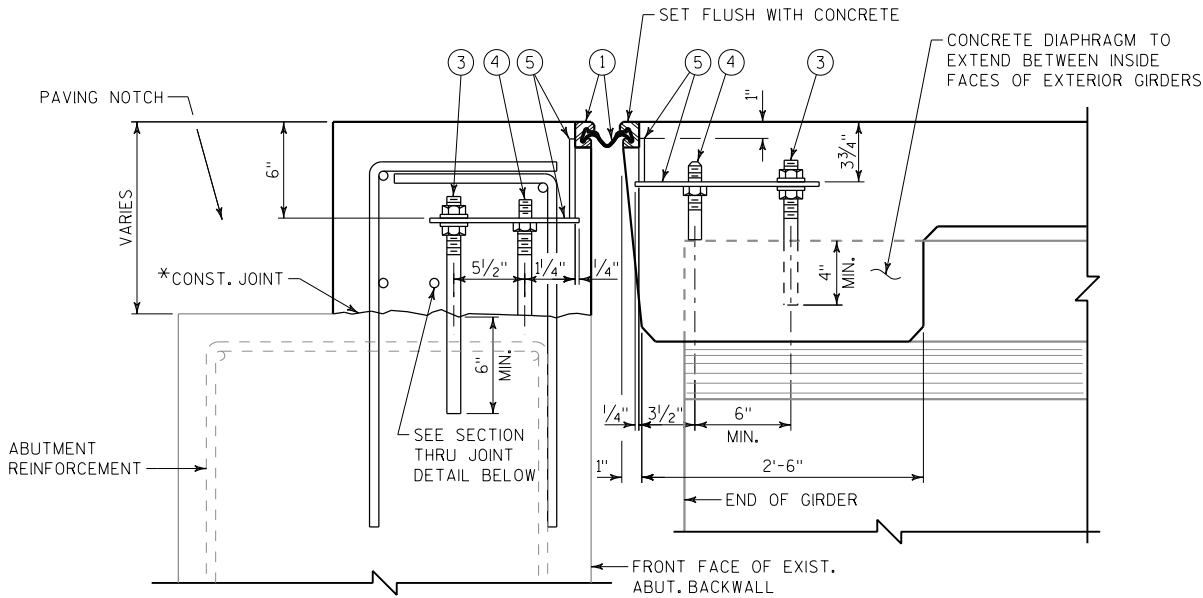
FOR METALLIC AND NONMETALLIC CONDUIT LIMITS, SEE SHEETS 27 & 28.

LEGEND

☆ PER EXISTING AS-BUILT STRUCTURE PLAN

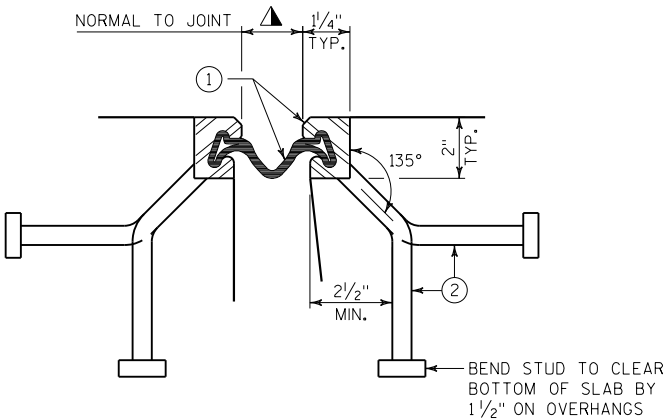
⊗ WINGWALL NUMBER

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-59-64			
DRAWN BY		AJA	PLANS CK'D. MHZ
CONDUIT PLAN			SHEET 21 OF 37



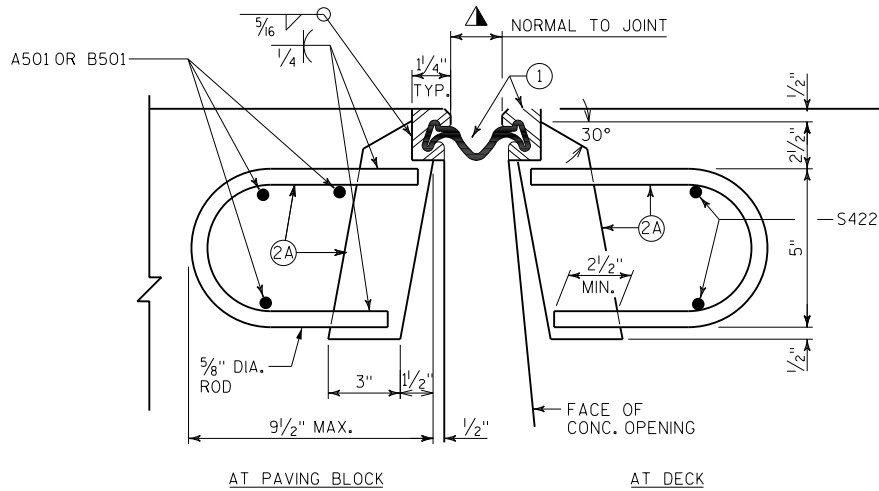
SECTION THRU JOINT AT PRESTRESSED GIRDER

NORMAL TO CL SUBSTRUCTURE



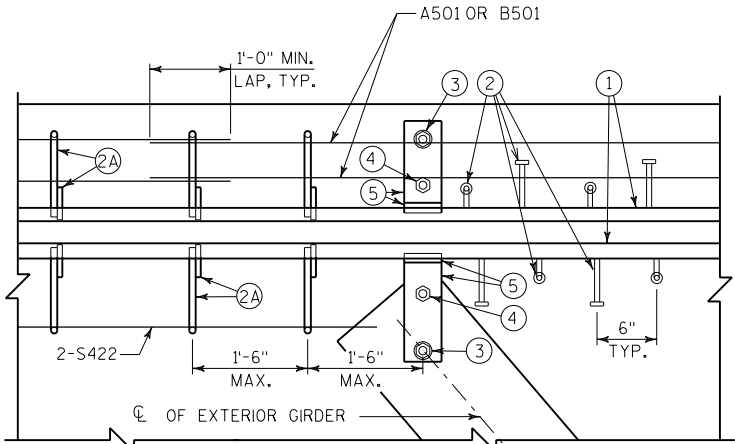
SECTION THRU JOINT

EXTERIOR GIRDER TO EDGE OF SLAB & AT PARAPETS, MEDIANS & SIDEWALKS

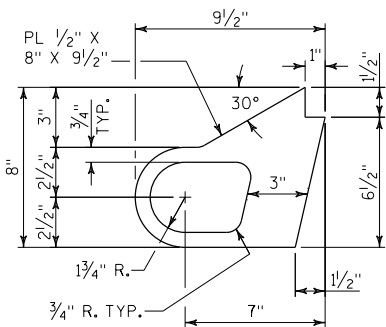


SECTION THRU JOINT

ROADWAY TRAFFIC AREA BETWEEN EXTERIOR GIRDERS.



PART PLAN



ALTERNATE STRIP SEAL ANCHOR

LEGEND

- 1 NEOPRENE STRIP SEAL (4-INCH) AND STEEL EXTRUSIONS. SET JOINT OPENING AT 1/4". JOINT OPENING GIVEN NORMAL TO JOINT.
- 2 STUDS 5/8" ϕ X 6 3/8" LONG AT 6" ALTERNATE CENTERS. WELD TO EXTRUSIONS AND BEND AS SHOWN AFTER WELDING.
- 2A 1/2" THICK ANCHOR PLATE WITH 5/8" ϕ ROD (OR ALTERNATE STRIP SEAL ANCHOR). WELD ROD TO ANCHOR PLATE, WELD ANCHOR PLATE TO NO. 1 AT 1'-6" CENTERS BETWEEN GIRDERS.
- 3 3/4" ϕ THREADED ROD WITH 2 NUTS AND PLATE WASHERS. WELD THREADED ROD TO TOP FLANGE OR ATTACH BY BOLTING THRU FLANGE. ON ABUTMENT SIDE GROUT THREADED ROD INTO FIELD DRILLED HOLES IN ABUTMENT BACKWALL AS SHOWN.
- 4 3/4" ϕ THREADED ROD WITH NUT, TACK WELD NUT TO NO. 5.
- 5 FABRICATE SUPPORT FROM 3" X 1/2" BAR AS SHOWN OR EQUIVALENT, ONE PER GIRDER PER SIDE. SHOP OR FIELD WELD TO NO. 1. IF FIELD WELDED, COVER WELDED AREAS WITH EPOXY-COATING MATERIAL. PROVIDE 1/2" ϕ HOLE FOR NO. 3 & 1" ϕ HOLE FOR NO. 4.
- 7 3/4" X 1/2" STAINLESS STEEL SOCKET FLAT HEAD SCREWS WITH ANTI-SEIZE LUBRICANT. PLACE IN COUNTERSUNK HOLE. RECESS 1/16" BELOW PLATE SURFACE.
- 8 3/4" ϕ X 4" GALVANIZED HEX HEAD BOLT, BEND 45°.
- 9 3/4" X 2 1/4" GALVANIZED THREADED COUPLING.
- 10 SIDEWALK AND MEDIAN COVER PLATE 3/8" X 2'-0" X LIMITS SHOWN. BEND DOWN FACE OF SIDEWALK AND MEDIAN WITH HOLES FOR NO. 7. GALVANIZE PLATE AFTER SLIP-RESISTANT SURFACE IS APPLIED.
- 11 1" X 5" SLOTTED COUNTERSUNK HOLE FOR NO. 7. PLACE SLOT PARALLEL TO DIRECTION OF MOVEMENT.

REFER TO SHEET 23

NOTES

ONE FIELD SPLCE PERMITTED IN STEEL EXTRUSIONS. UNLESS MORE ARE REQUIRED FOR STAGED CONSTRUCTION, HANDLING OR GALVANIZING REQUIREMENTS. IF USED, DETAILS SHALL BE SUBMITTED FOR APPROVAL. NO SPLICING PERMITTED IN NEOPRENE STRIP SEAL.

AFTER FABRICATION, BUT BEFORE SHIPMENT, STRAIGHTEN STEEL EXTRUSIONS SUCH THAT THEY SHALL BE FREE FROM WARP, TWIST AND SWEEP.

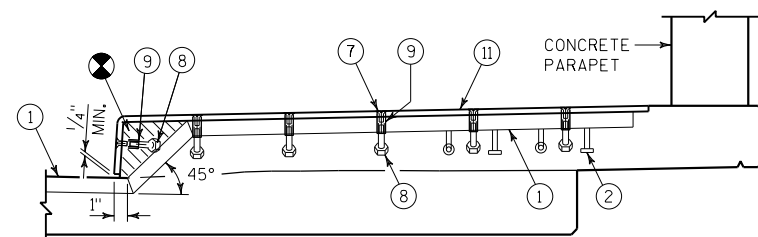
FABRICATOR SHALL PROVIDE MEANS OF KEEPING GALVANIZED EXTRUSIONS CLEAN AND SMOOTH DURING SHIPMENT AND PRIOR TO APPLYING LUBRICANT ADHESIVE FOR NEOPRENE GLAND INSTALLATION.

SANDBLAST PLATES, SUPPORTS AND EXTRUSIONS AFTER FABRICATION IN ACCORDANCE WITH SSPC SP.*6 "COMMERICAL BLAST CLEANING". AFTER BLAST CLEANING, THE PLATES, SUPPORTS AND EXTRUSIONS SHALL BE HOT DIPPED GALVANIZED. SLIP-RESISTANT SURFACE IS APPLIED TO SIDEWALK AND MEDIAN COVER PLATES BY THE MANUFACTURER AND THEN HOT DIPPED GALVANIZED TO THEIR RECOMMENDATIONS TO MAINTAIN THE INTEGRITY OF THIS SURFACE.

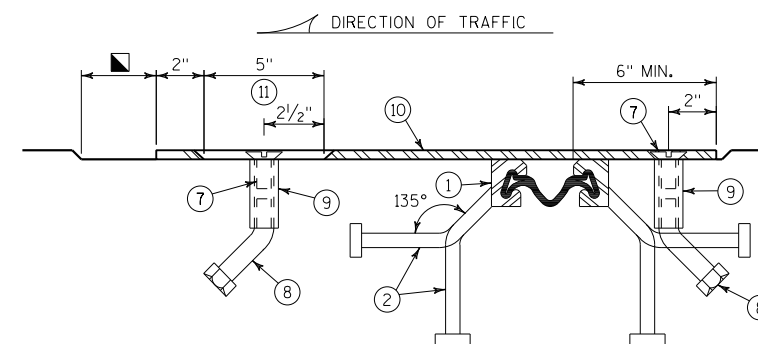
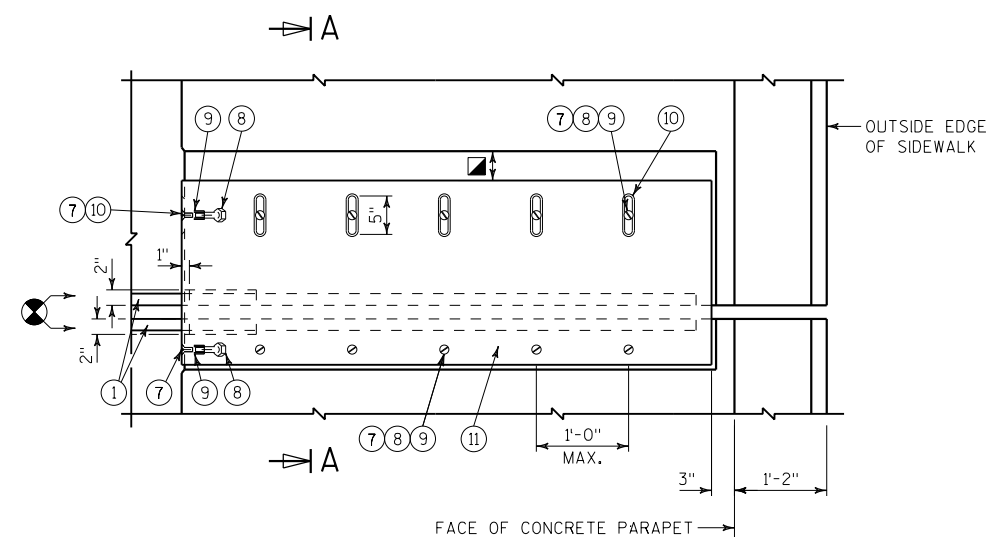
ANCHOR SYSTEM NO. 8 AND NO. 9 SHALL CONFORM TO ASTM A307 AND SHALL BE GALVANIZED IN ACCORDANCE WITH ASTM A153 CLASS C AND D.

STRIP SEAL EXPANSION JOINT ASSEMBLY, INCLUDING ANCHOR STUDS AND HARDWARE WILL BE PAID FOR AT THE LUMP SUM PRICE BID FOR "EXPANSION DEVICE B-59-64".

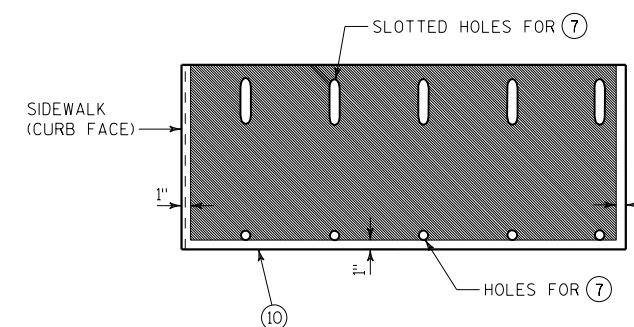
NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-59-64			
DRAWN BY		AJA	PLANS CK'D. MHZ
EXPANSION JOINT DETAILS (1 OF 2)			SHEET 22 OF 37



SECTION AT SIDEWALK
(LOOKING EAST)



SECTION A-A



**PLAN OF MEDIAN AND SIDEWALK COVER PLATE
WITH SLIP-RESISTANT SURFACE**

PLACE SLIP-RESISTANT SURFACE ON TOP WALKING SURFACE
IN SHADED AREA ONLY (NOT ON CURB FACE).

NOTE

SEE SHEET 22 FOR LEGEND

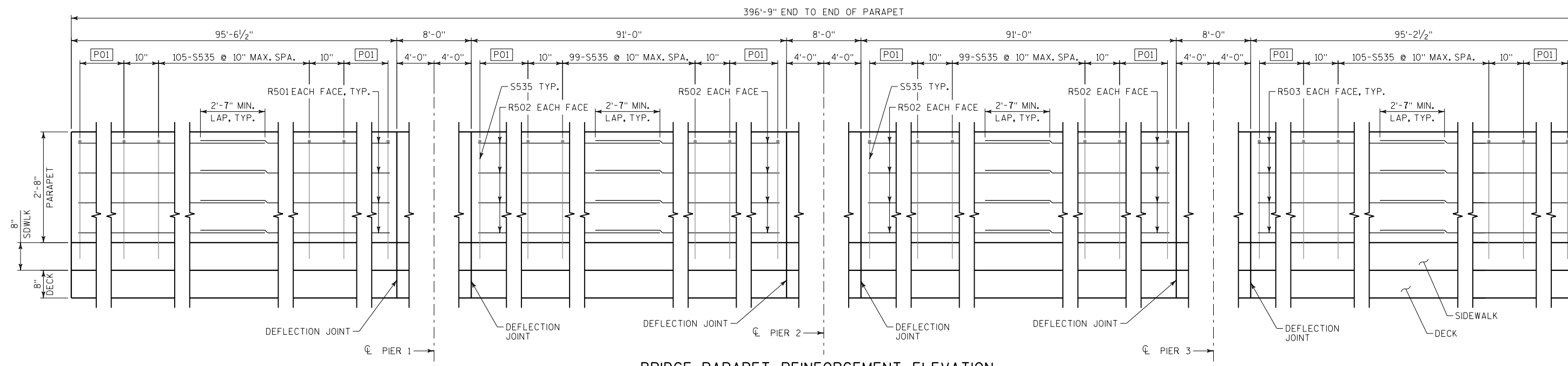
LEGEND

⊗ BLOCK OUT CONCRETE 2" EACH SIDE
OF JOINT OPENING.

▣ JOINT OPENING DIMENSION ALONG
SKEW PLUS 1/2".

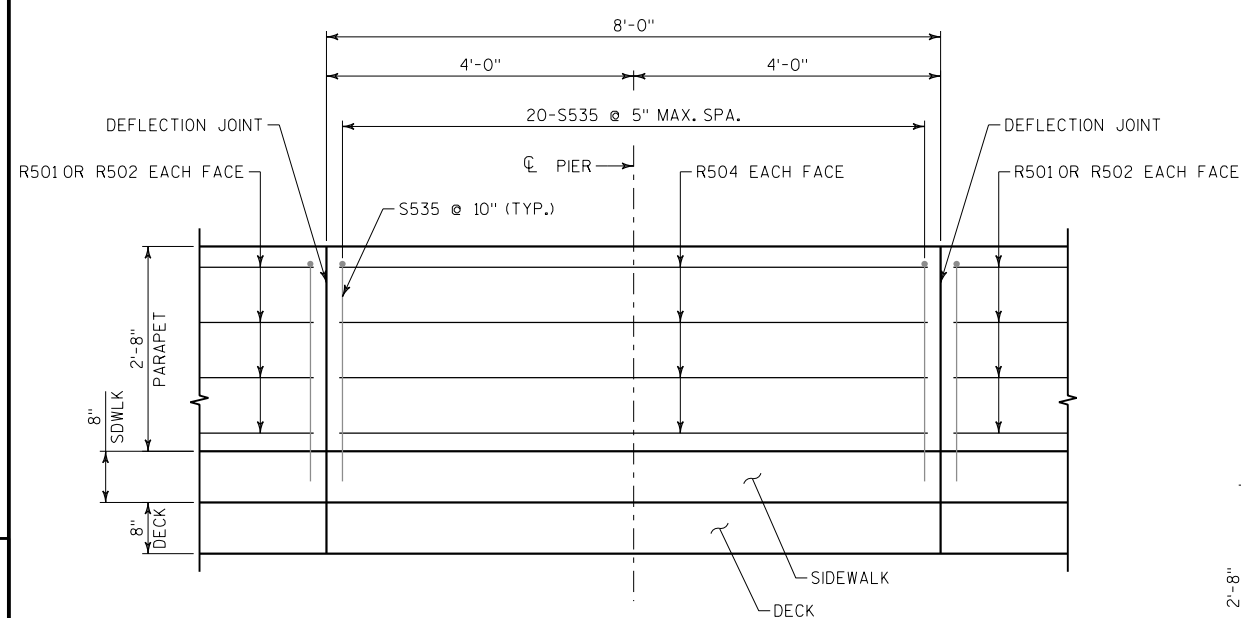
APPROVED SLIP-RESISTANT APPLIED SURFACES FOR STEEL PLATES		
PRODUCT	MANUFACTURER	CONTACT AT
SLIPNOT GRADE 2, STEEL	W. S. MOLNAR COMPANY	1-800-SLIPNOT
ALGRIP, STEEL	ROSS TECHNOLOGY CORP.	1-800-345-8170

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-59-64			
DRAWN BY		AJA	PLANS CK'D. MHZ
EXPANSION JOINT DETAILS (2 OF 2)			SHEET 23 OF 37



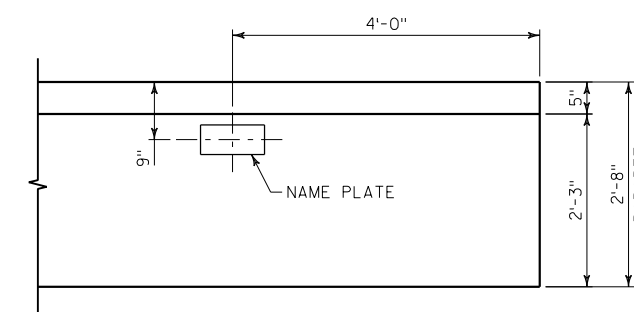
BRIDGE PARAPET REINFORCEMENT ELEVATION

(LOOKING NORTH AT SOUTH PARAPET, NORTH PARAPET SIMILAR)
(LIGHT SUPPORTS & CONDUIT NOT SHOWN FOR CLARITY)
(RAILING NOT SHOWN FOR CLARITY)



BRIDGE PARAPET REINFORCEMENT ELEVATION - OVER PIERS

(ONE PARAPET OVER PIER SHOWN, ALL PARAPETS OVER PIER ARE SIMILAR)
(LIGHT SUPPORT & CONDUIT NOT SHOWN FOR CLARITY)
(RAILING NOT SHOWN FOR CLARITY)



NAME PLATE DETAIL

(INSIDE FACE OF SOUTH PARAPET WEST END)

NOTES

FOR S535 PARAPET DOWEL SPACING, SEE SHEET 18.

FOR LIGHTING DETAILS, SEE SHEET 20.

FOR CONDUIT PLAN, SEE SHEET 21.

FOR PARAPET REINFORCEMENT BILL OF BARS, SEE SHEET 25.

FOR PARAPET REINFORCEMENT ON WINGS, SEE SHEET 25.

FOR BRIDGE PARAPET AESTHETIC DETAILS, SEE SHEET 29.

FOR RAIL POST SPACING ON BRIDGE, SEE SHEET 29.

FOR LIGHT SUPPORT REINFORCEMENT, SEE SHEET 26.

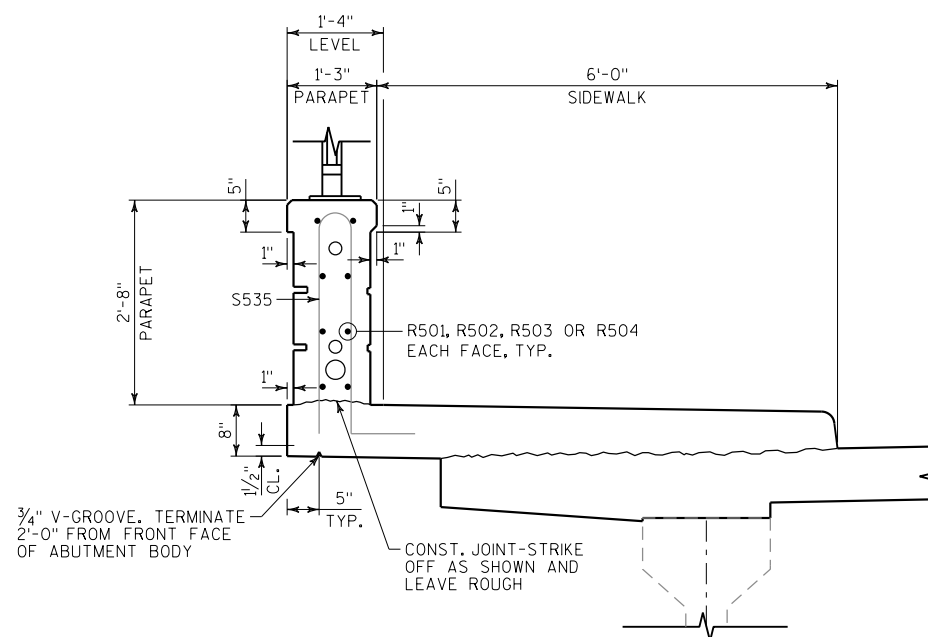
FOR CONDUIT DETAILS SEE SHEETS 27 & 28.

FOR DEFLECTION JOINT DETAIL, SEE SHEET 29.

LEGEND

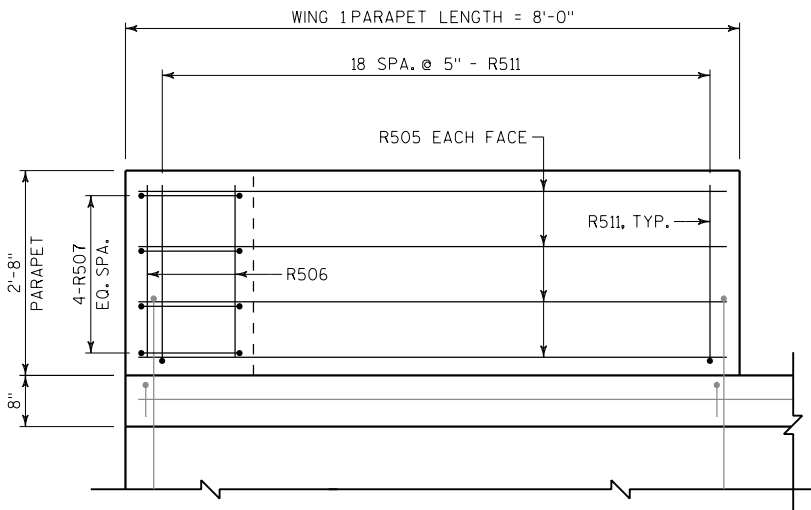
[P01] 9 SPA. @ 5" = 3'-9" (S535)

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-59-64			
DRAWN BY		AJA	PLANS CK'D. MHZ
VERTICAL FACE PARAPET ON BRIDGE			SHEET 24 OF 37

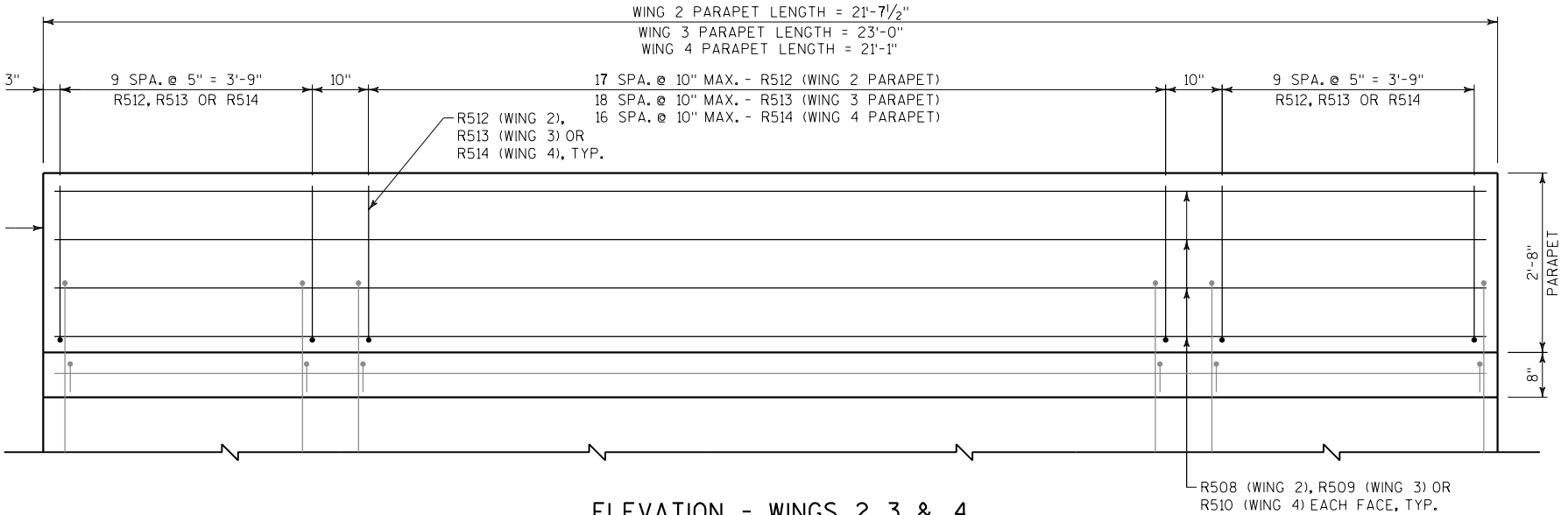


SECTION THRU PARAPET ON BRIDGE

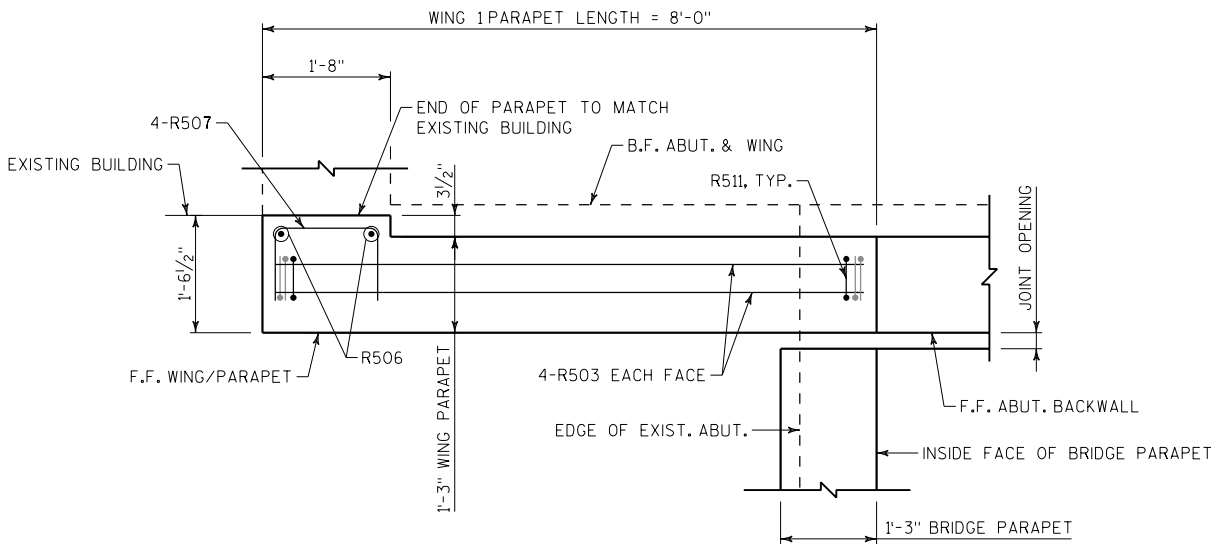
(LIGHT SUPPORT NOT SHOWN FOR CLARITY)



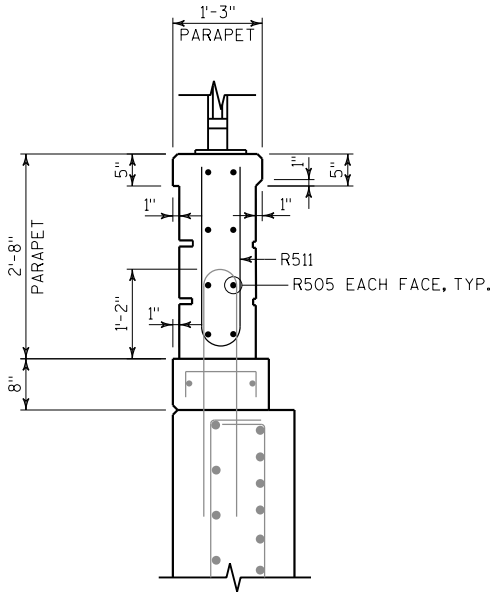
REINFORCEMENT ELEVATION - WING 1
(RAILING NOT SHOWN FOR CLARITY)



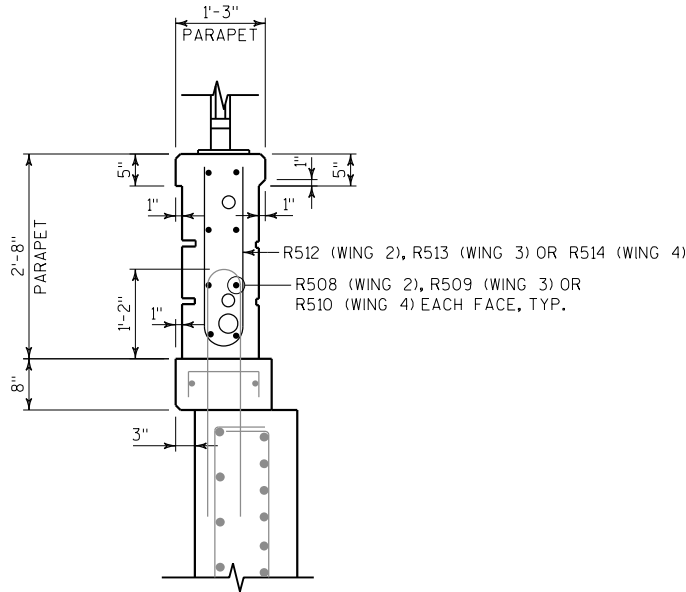
ELEVATION - WINGS 2, 3 & 4
(CONDUIT IN WINGS 3 & 4 NOT SHOWN FOR CLARITY)
(RAILING NOT SHOWN FOR CLARITY)



REINFORCEMENT PLAN - WING 1
(RAILING NOT SHOWN FOR CLARITY)



SECTION THRU PARAPET ON WING 1



SECTION THRU PARAPET ON WINGS 2, 3 & 4
(CONDUIT LOCATED IN WINGS 3 & 4 ONLY)

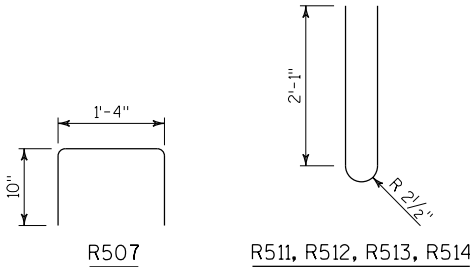
NOTES

- FOR VERTICAL WING WALL REINFORCEMENT & SPACING, SEE SHEETS 5 THRU 8.
- FOR LIGHTING DETAILS, SEE SHEET 20.
- FOR CONDUIT PLAN, SEE SHEET 21.
- FOR PARAPET REINFORCEMENT ON BRIDGE, SEE SHEET 24.
- FOR LIGHT SUPPORT REINFORCEMENT, SEE SHEET 26.
- FOR CONDUIT DETAILS SEE SHEET 27 & 28.
- FOR BRIDGE PARAPET AESTHETIC DETAILS & RAIL POST SPACING, SEE SHEET 29.
- FOR WING PARAPET AESTHETIC DETAILS, SEE SHEETS 30 & 31.
- FOR RAIL POST SPACING ON WINGS, SEE SHEETS 30 & 31.

BILL OF BARS

BAR MARK	COAT	NO. REQ'D.	LENGTH	BENT	BAR SERIES	LOCATION
R501	X	16	48'-11"	-	-	BRIDGE PARAPET SPAN 1 - LONG.
R502	X	32	46'-8"	-	-	BRIDGE PARAPET SPANS 2 & 3 - LONG.
R503	X	16	48'-9"	-	-	BRIDGE PARAPET SPAN 4 - LONG.
R504	X	48	7'-8"	-	-	BRIDGE PARAPET OVER PIERS - LONG.
R505	X	8	7'-8"	-	-	WING 1 PARAPET - LONG.
R506	X	2	2'-4"	-	-	WING 1 PARAPET - VERT.
R507	X	4	2'-9"	X	-	WING 1 PARAPET - TRANS.
R508	X	8	21'-3"	-	-	WING 2 PARAPET - LONG.
R509	X	8	22'-8"	-	-	WING 3 PARAPET - LONG.
R510	X	8	20'-9"	-	-	WING 4 PARAPET - LONG.
R511	X	19	5'-6"	X	-	WING 1 PARAPET - VERT.
R512	X	38	5'-6"	X	-	WING 2 PARAPET - VERT.
R513	X	39	5'-6"	X	-	WING 3 PARAPET - VERT.
R514	X	37	5'-6"	X	-	WING 4 PARAPET - VERT.

NOTE:
BAR DIMENSIONS ARE OUT TO OUT OF BAR, THE FIRST OR FIRST TWO DIGITS OF A BAR MARK SIGNIFIES THE BAR SIZE



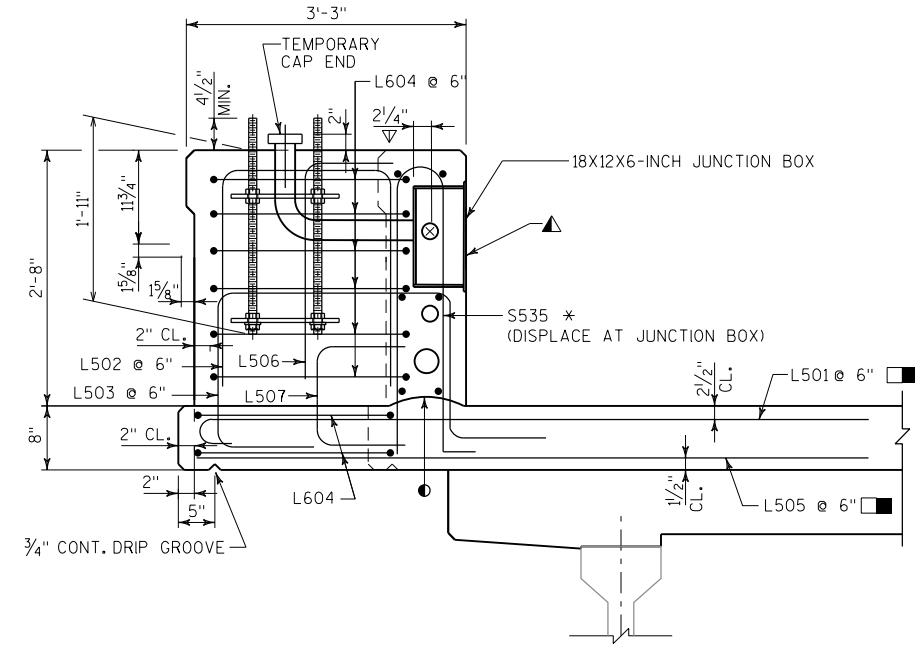
BENDING DIAGRAMS

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-59-64			
DRAWN BY		AJA	PLANS CK'D. MHZ
VERTICAL FACE PARAPET ON WINGS		SHEET 25 OF 37	

BILL OF BARS

BAR MARK	COAT	NO. REQ'D.	LENGTH	BENT	BAR SERIES	LOCATION
L501	X	36	7'-6"	X	-	LIGHT STD. - TRANS. - SIDEWALK - TOP
L502	X	12	6'-0"	X	-	LIGHT STD. - VERT. - PARAPET
L503	X	12	7'-2"	X	-	LIGHT STD. - VERT. - PARAPET
L604	X	24	10'-0"	X	-	LIGHT STD. - HORIZ. - PARAPET
L505	X	36	6'-11"	-	-	LIGHT STD. - TRANS. - SIDEWALK - BOT.
L506	X	6	3'-2"	X	-	LIGHT STD. - VERT. - PARAPET
L507	X	6	3'-4"	X	-	LIGHT STD. - VERT. - PARAPET

NOTE:
BAR DIMENSIONS ARE OUT TO OUT OF BAR, THE FIRST OR FIRST TWO DIGITS OF A BAR MARK SIGNIFIES THE BAR SIZE



SECTION A-A

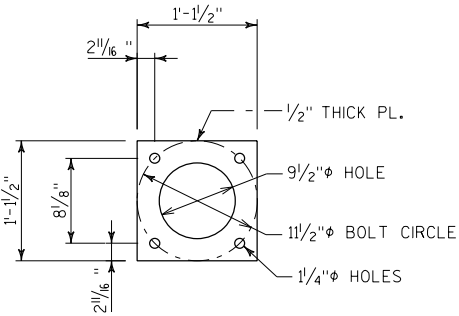
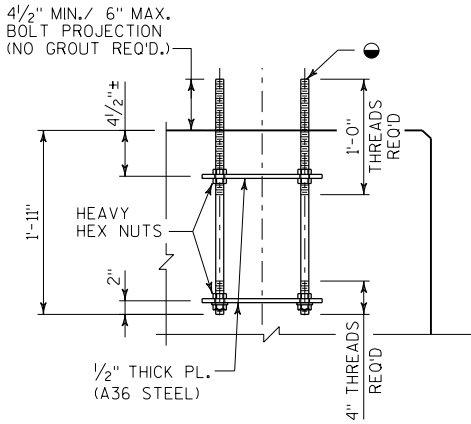
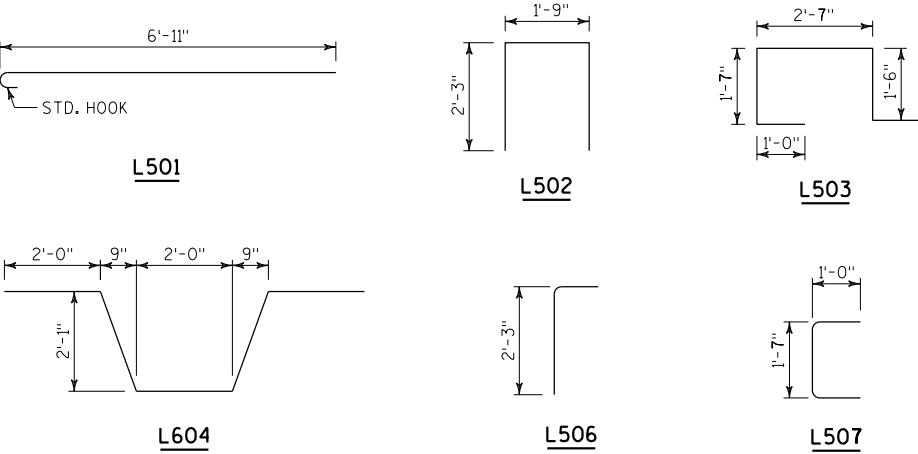


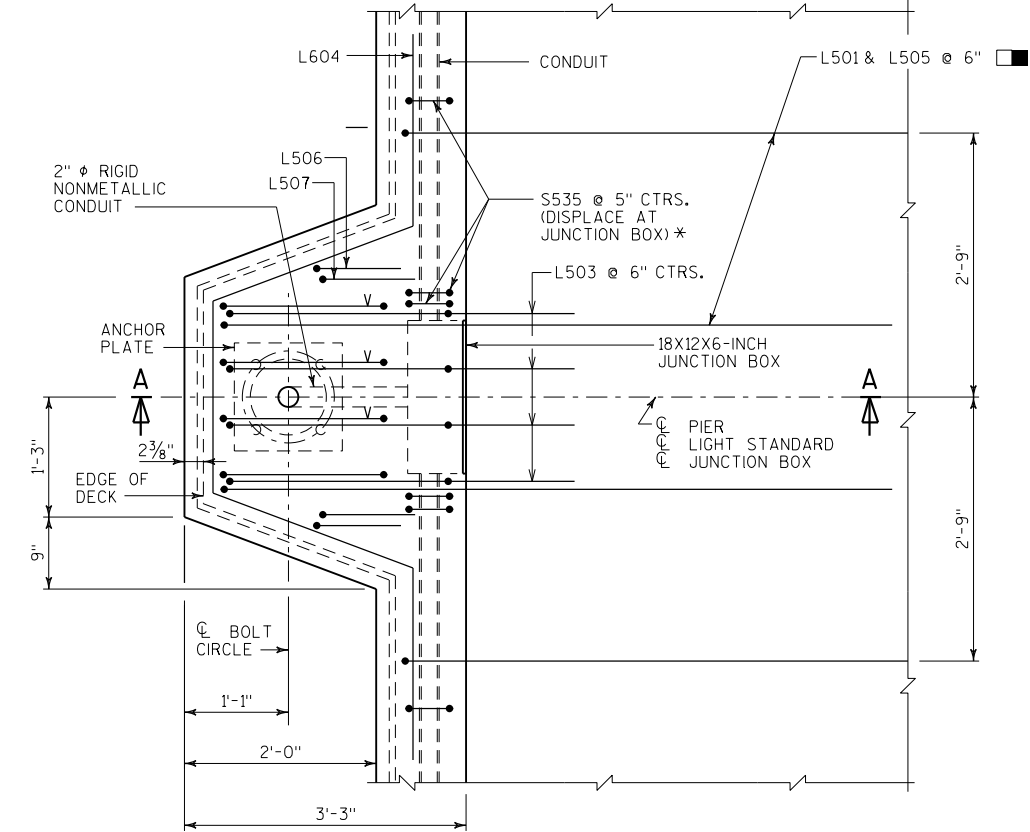
PLATE DETAIL
(6 REQ'D.)



ANCHORAGE DETAIL
(3 REQ'D.)



BENDING DIAGRAMS

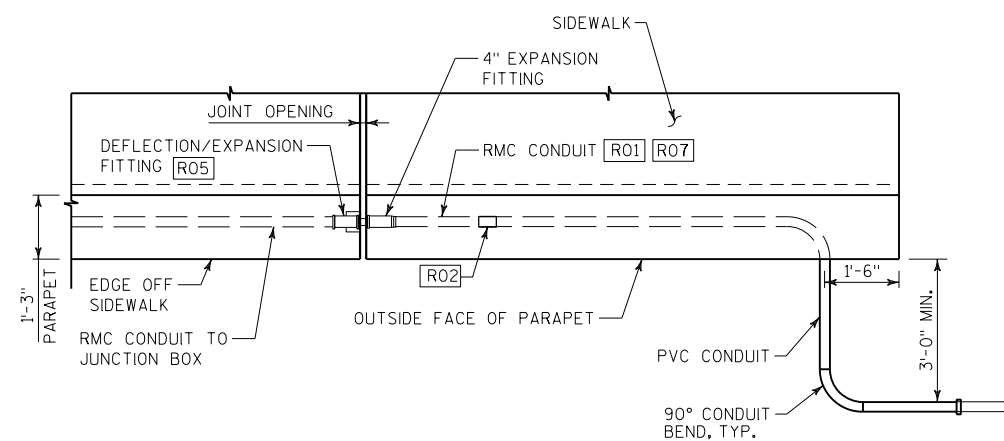


PLAN AT LIGHT BLISTER

LEGEND

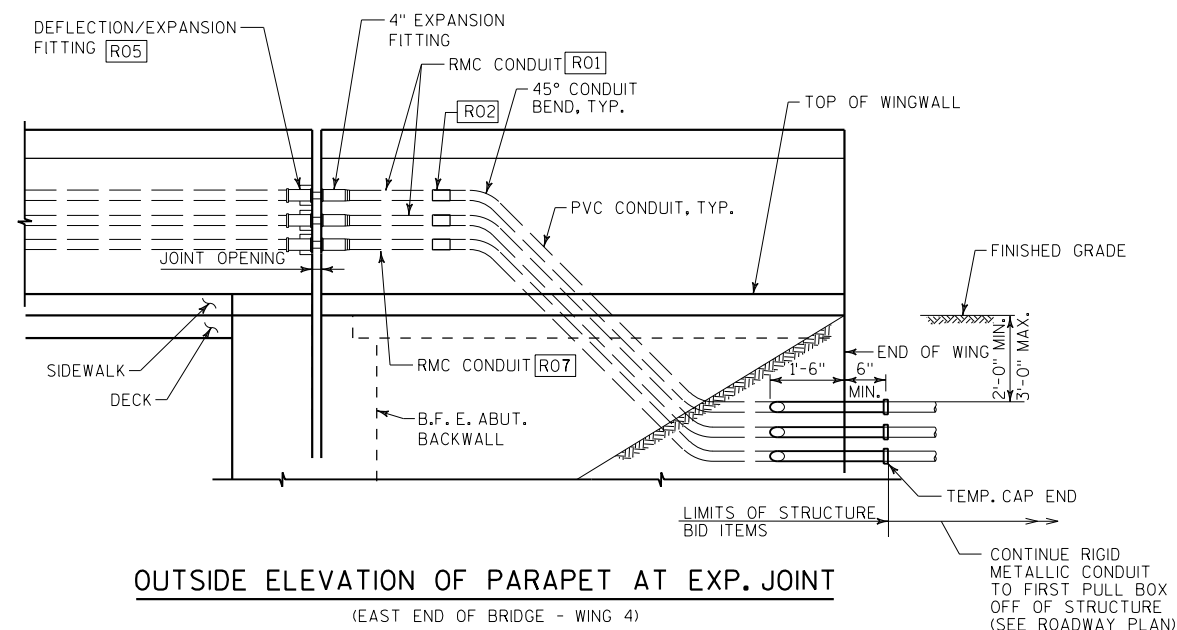
- CONSTR. JT. STRIKE OFF AS SHOWN
- ▲ CUT OUT ± 1" OF GASKET AT BOTTOM OF JUNCTION BOX COVER TO ALLOW FOR DRAINAGE. LOCATION OF JUNCTION BOX TO BE DETERMINED BY ENGINEER.
- ▽ LOCATION OF CONDUIT IS MEASURED FROM OUTSIDE EDGE OF JUNCTION BOX.
- THESE BARS ARE IN ADDITION TO STANDARD TRANSVERSE BARS IN DECK.
- 1"φ THREADED ANCHOR BOLTS
ASTM A449 OR AASHTO M 314-90 GR 55.
HOT DIP ASTM A153, CLASS C, UPPER 8" OF BOLT INCLUDING NUTS & WASHERS.
PROVIDE ENLARGED THREAD ON NUTS FOR PROPER FIT AFTER GALVANIZING.
PROVIDE DOUBLE FLAT WASHERS & NUTS.
- * SEE VERTICAL PARAPET DETAIL, SHEETS 24 & 25 FOR ADDITIONAL BAR STEEL DETAILS.

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-59-64			
DRAWN BY AJA		PLANS CK'D. MHZ	
LIGHT SUPPORT REINFORCEMENT			SHEET 26 OF 37



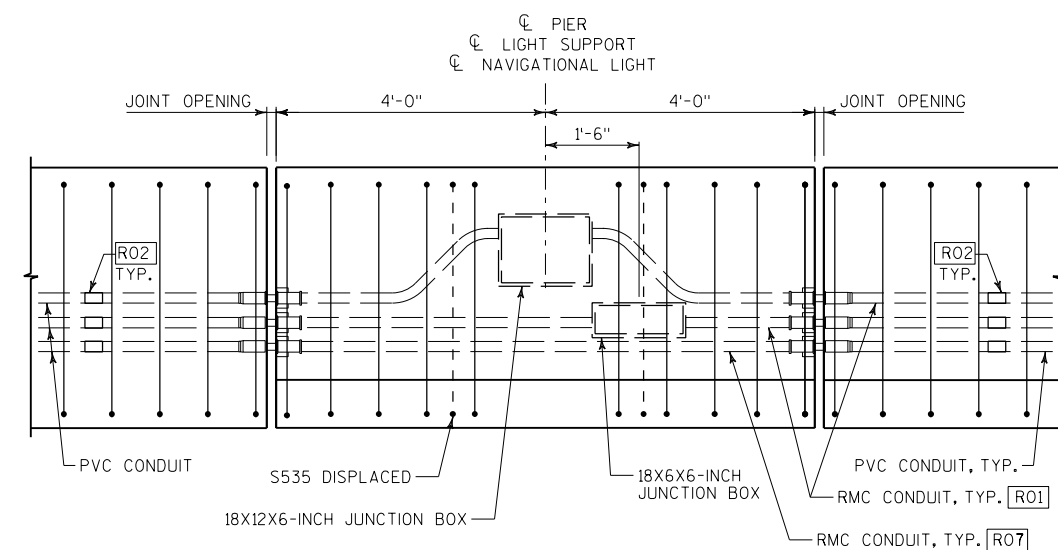
PLAN OF PARAPET AT EXP. JOINT

(EAST END OF BRIDGE - WING 4)



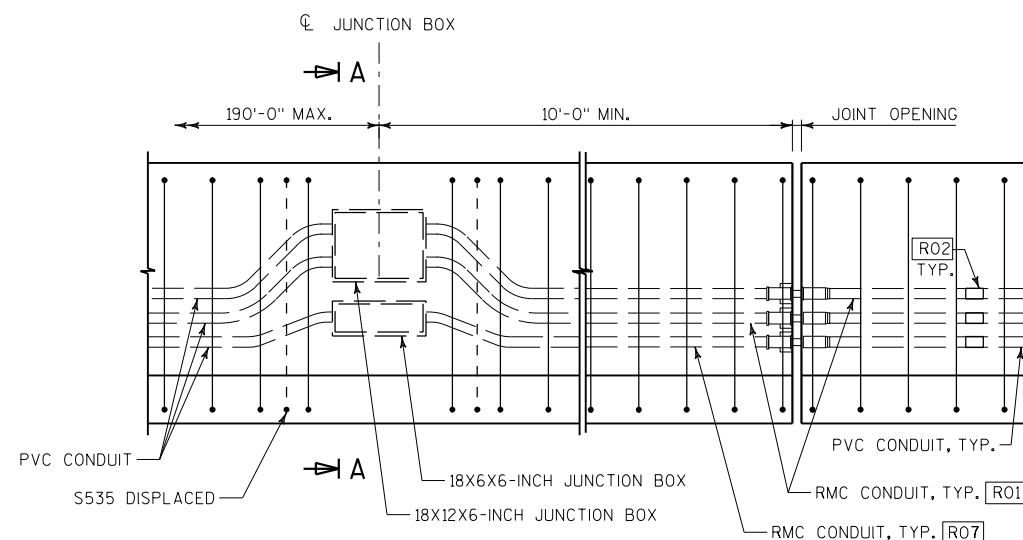
OUTSIDE ELEVATION OF PARAPET AT EXP. JOINT

(EAST END OF BRIDGE - WING 4)

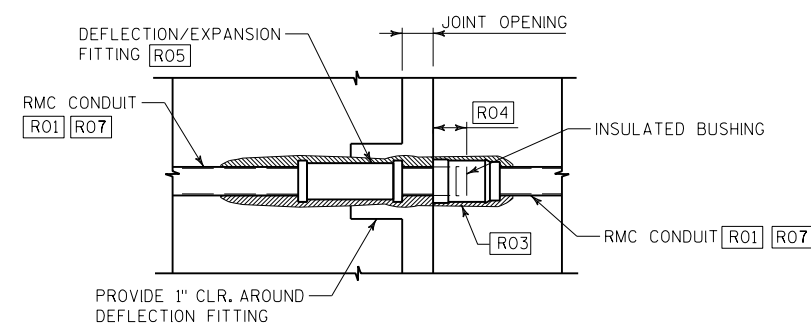


INSIDE ELEVATION AT JUNCTION BOX AT LIGHT SUPPORTS

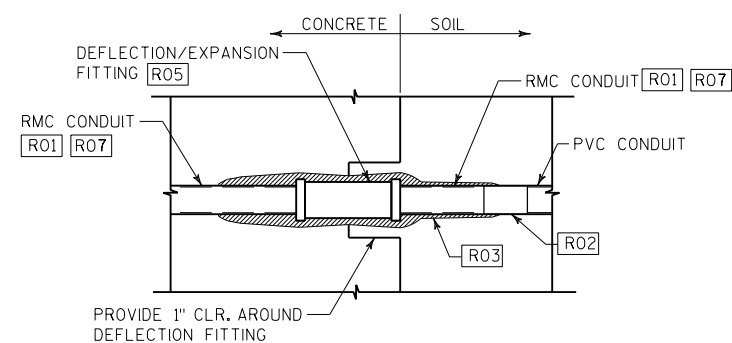
(SIDEWALK STEEL NOT SHOWN FOR CLARITY)



INSIDE ELEVATION AT JUNCTION BOX AT EXP. JOINT

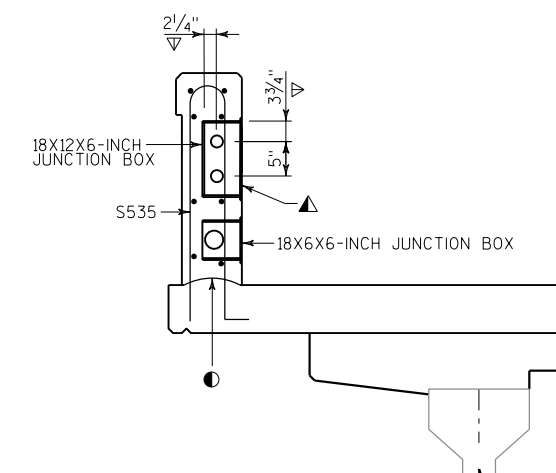
(SIDEWALK STEEL NOT SHOWN FOR CLARITY)
(EAST END OF BRIDGE)

DEFLECTION/EXPANSION AND 4" EXPANSION FITTING



DEFLECTION/EXPANSION FITTING

(CONCRETE TO SOIL FITTING)



SECTION A-A

NOTE

FOR CONDUIT DETAILS AT WEST END OF BRIDGE & EAST END OF BRIDGE (WING 3), SEE SHEET 28.

LEGEND

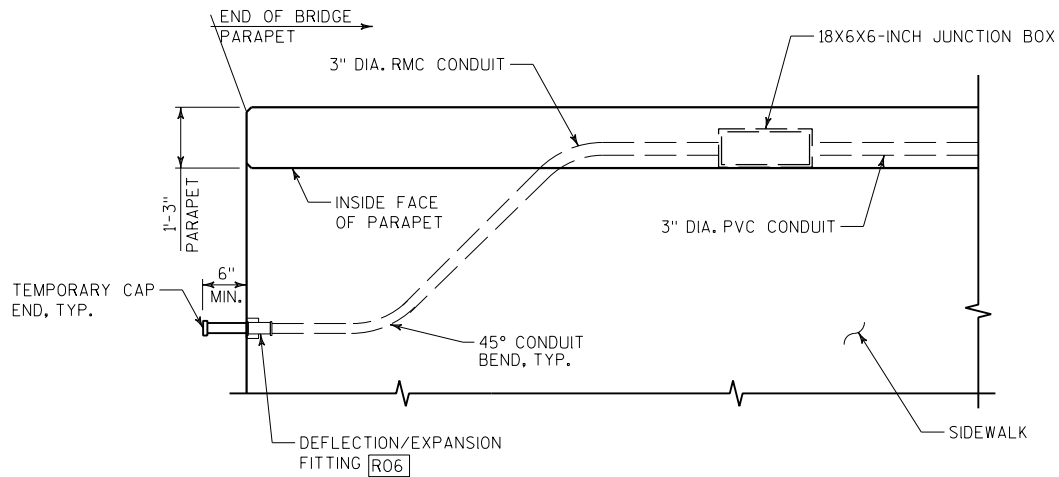
- [R01] USE 2" DIA. RIGID METALLIC (RMC) CONDUIT AT FITTINGS. PROVIDE RMC FOR 3'-0" MIN. ON EACH SIDE OF JOINT OPENING UNLESS NOTED OTHERWISE.
- [R02] NONMETALLIC CONDUIT TO METALLIC CONDUIT ADAPTER FITTING (UL OR NRTL LISTED FOR ELECTRICAL USE SHALL BE USED).
- [R03] SPONGE RUBBER WRAP TO BE AASHTO M153 TYPE 1 OR EQUIVALENT. 1/4" MINIMUM THICKNESS. PROVIDE WRAP FOR ENTIRE LENGTH OF FITTING. SPONGE RUBBER WRAP TO BE INCIDENTAL TO "CONDUIT RIGID METALLIC 2-INCH".
- [R04] POSITION MOVABLE END OF CONDUIT INSIDE EXPANSION FITTING, SUCH THAT IT WILL HAVE THE SAME ALLOWANCE FOR MOVEMENT (EXPANSION/CONTRACTION) AS THE EXPANSION DEVICE SET IN PLACE IN THE DECK BELOW IT. TAKE CARE TO INSTALL EXPANSION FITTING AND CONDUIT EXACTLY PARALLEL TO BRIDGE MOVEMENT.
- [R05] DEFLECTION/EXPANSION FITTING AND 4" EXPANSION FITTING REQUIREMENTS :
MAXIMUM 4" TOTAL CONDUIT MOVEMENT WITH BONDING JUMPER
UP TO 30 DEGREES OF ANGULAR MISALIGNMENT IN ANY
DIRECTION WITH BONDING JUMPER.
- [R07] USE 3" DIA. RIGID METALLIC (RMC) CONDUIT AT FITTINGS. PROVIDE RMC FOR 3'-0" MIN. ON EACH SIDE OF JOINT OPENING UNLESS NOTED OTHERWISE.

● CONSTR. JT. STRIKE OFF AS SHOWN

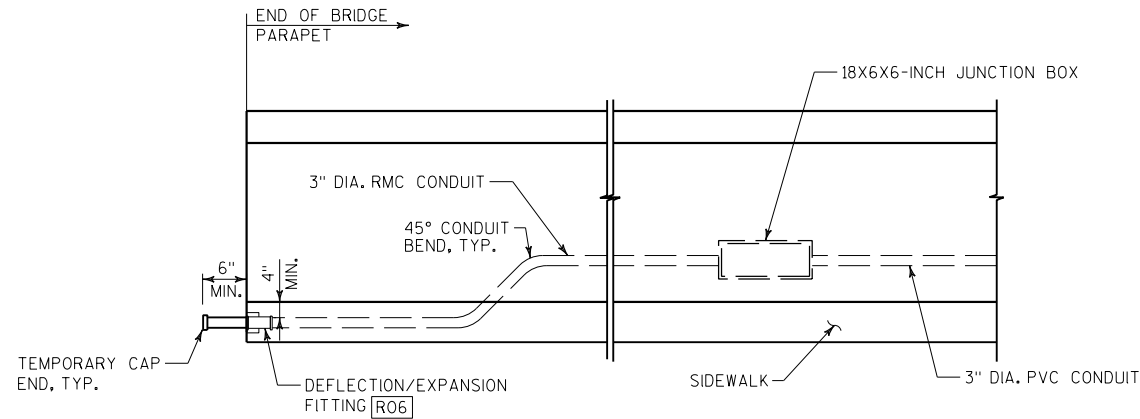
▲ CUT OUT ± 1" OF GASKET AT BOTTOM OF JUNCTION BOX COVER TO ALLOW FOR DRAINAGE. LOCATION OF JUNCTION BOX TO BE DETERMINED BY ENGINEER.

▽ LOCATION OF CONDUIT IS MEASURED FROM OUTSIDE EDGE OF JUNCTION BOX.

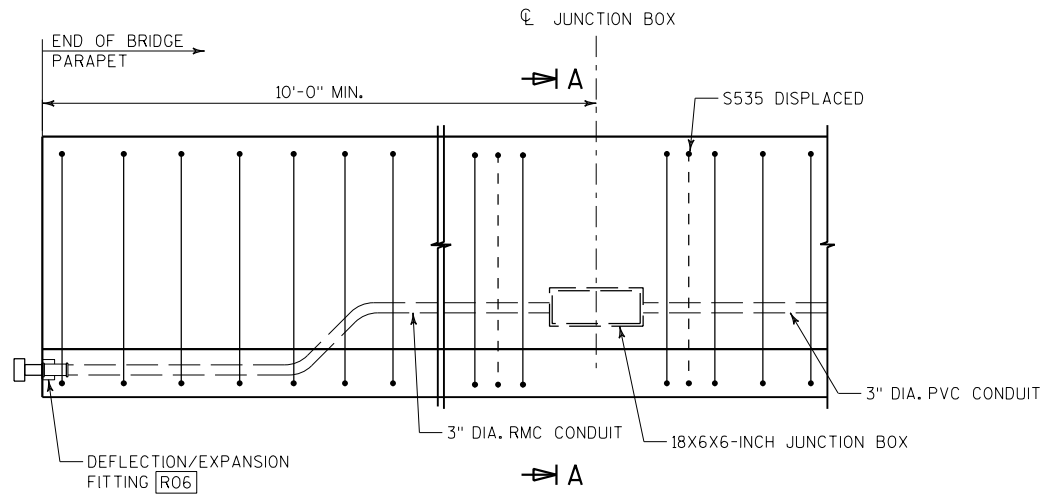
NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-59-64			
DRAWN BY		AJA	PLANS CK'D. MHZ
CONDUIT DETAILS (1 OF 2)			SHEET 27 OF 37



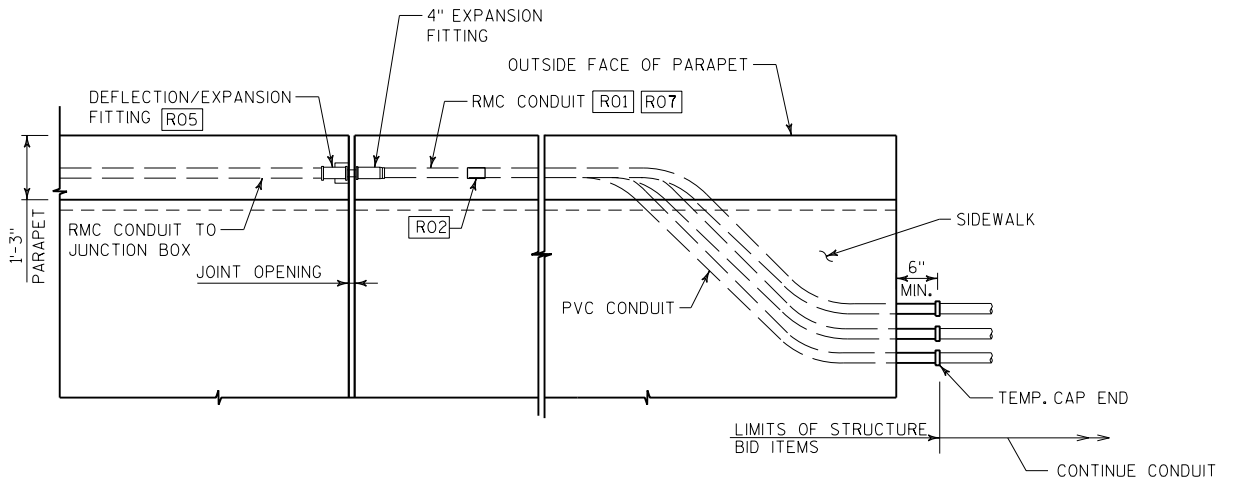
PLAN OF PARAPET AT EXP. JOINT
(WEST END OF BRIDGE)



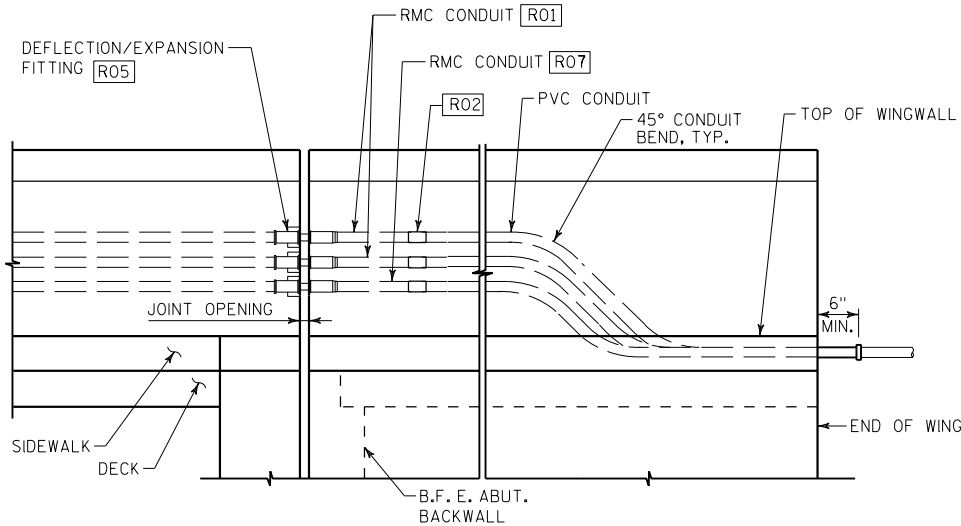
OUTSIDE ELEVATION AT JUNCTION BOX AT EXP. JOINT
(WEST END OF BRIDGE)



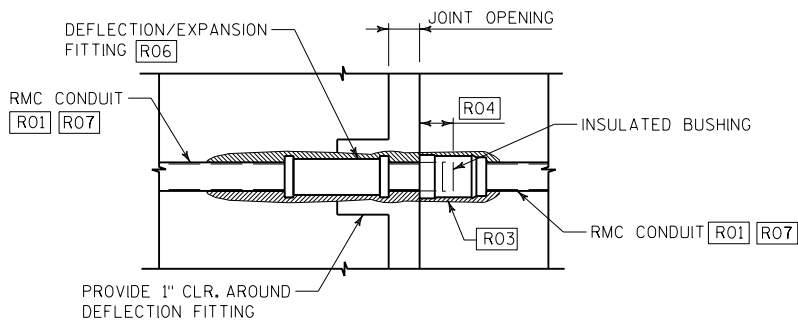
INSIDE ELEVATION AT JUNCTION BOX AT EXP. JOINT
(SIDEWALK STEEL NOT SHOWN FOR CLARITY)
(WEST END OF BRIDGE)



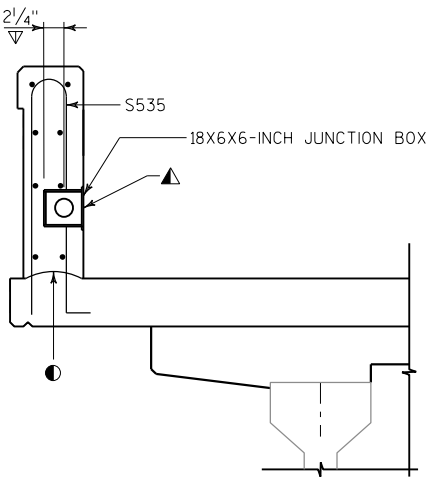
PLAN OF PARAPET AT EXP. JOINT
(EAST END OF BRIDGE - WING 3)



OUTSIDE ELEVATION OF PARAPET AT EXP. JOINT
(EAST END OF BRIDGE - WING 3)



DEFLECTION/EXPANSION AND 4" EXPANSION FITTING



SECTION A-A

NOTE

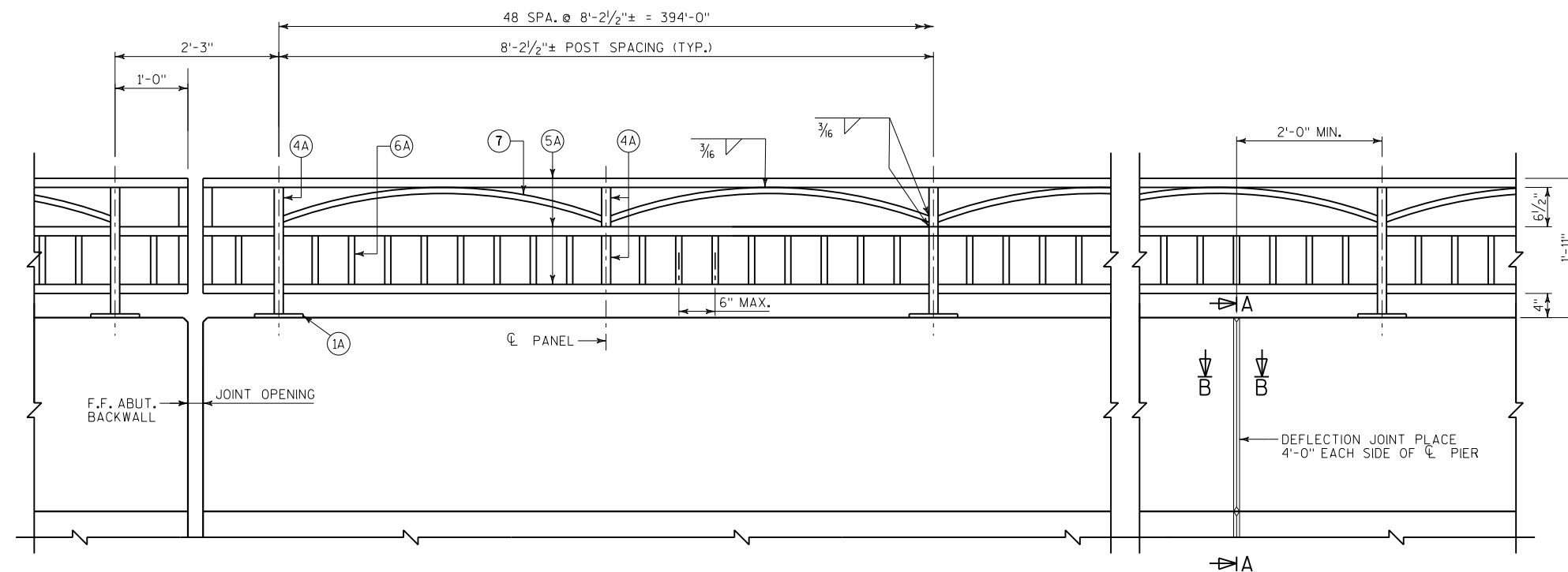
FOR CONDUIT DETAILS AT EAST END OF BRIDGE (WING 4), SEE SHEET 27.

LEGEND

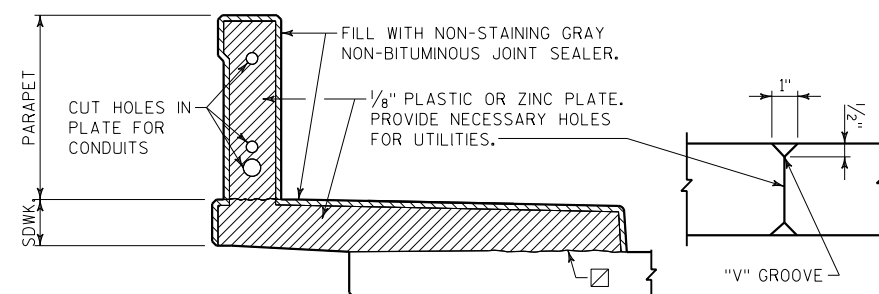
- [R01] USE 2" DIA. RIGID METALLIC (RMC) CONDUIT AT FITTINGS. PROVIDE RMC FOR 3'-0" MIN. ON EACH SIDE OF JOINT OPENING UNLESS NOTED OTHERWISE.
- [R02] NONMETALLIC CONDUIT TO METALLIC CONDUIT ADAPTER FITTING (UL OR NRTL LISTED FOR ELECTRICAL USE SHALL BE USED).
- [R03] SPONGE RUBBER WRAP TO BE AASHTO M153 TYPE 10R EQUIVALENT. 1/4" MINIMUM THICKNESS. PROVIDE WRAP FOR ENTIRE LENGTH OF FITTING. SPONGE RUBBER WRAP TO BE INCIDENTAL TO "CONDUIT RIGID METALLIC 2-INCH".
- [R04] POSITION MOVABLE END OF CONDUIT INSIDE EXPANSION FITTING, SUCH THAT IT WILL HAVE THE SAME ALLOWANCE FOR MOVEMENT (EXPANSION/CONTRACTION) AS THE EXPANSION DEVICE SET IN PLACE IN THE DECK BELOW IT. TAKE CARE TO INSTALL EXPANSION FITTING AND CONDUIT EXACTLY PARALLEL TO BRIDGE MOVEMENT.
- [R06] DEFLECTION/EXPANSION FITTING AND 4" EXPANSION FITTING REQUIREMENTS :
 - UP TO 4" CONDUIT MOVEMENT WITH BONDING JUMPER
 - UP TO 30 DEGREES OF ANGULAR MISALIGNMENT IN ANY DIRECTION WITH BONDING JUMPER.
- [R07] USE 3" DIA. RIGID METALLIC (RMC) CONDUIT AT FITTINGS. PROVIDE RMC FOR 3'-0" MIN. ON EACH SIDE OF JOINT OPENING UNLESS NOTED OTHERWISE.

- CONSTR. JT. STRIKE OFF AS SHOWN
- ▲ CUT OUT ± 1" OF GASKET AT BOTTOM OF JUNCTION BOX COVER TO ALLOW FOR DRAINAGE. LOCATION OF JUNCTION BOX TO BE DETERMINED BY ENGINEER.
- ▽ LOCATION OF CONDUIT IS MEASURED FROM OUTSIDE EDGE OF JUNCTION BOX.

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-59-64			
DRAWN BY		AJA	PLANS CK'D. MHZ
CONDUIT DETAILS (2 OF 2)			SHEET 28 OF 37



ELEVATION - BRIDGE

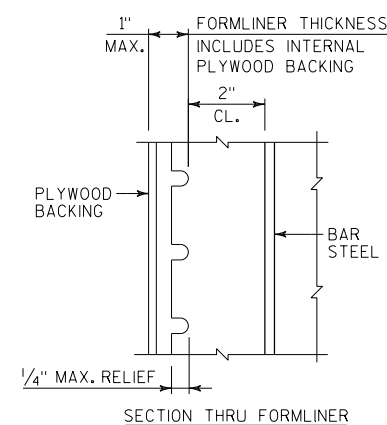


SECTION A-A

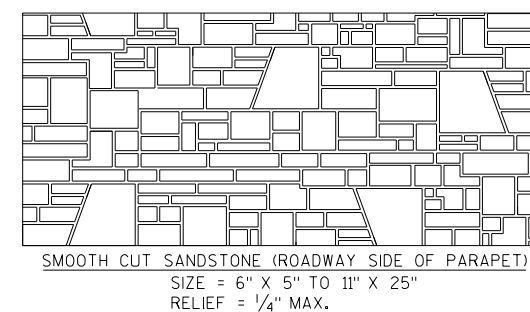
(SHOWING DEFLECTION JOINT IN PARAPET AND SIDEWALK.)

WHEN PARAPETS ARE POURED CONTINUOUSLY FROM END TO END, THEY SHALL BE SEPARATED AT THE DEFLECTION JOINTS BY A PIECE OF 1/8" ZINC OR PLASTIC PLATE CUT AS SHOWN IN SECTION B-B BY SHADED AREA. IF CONSTRUCTION JOINTS IN PARAPETS ARE USED AT THE DEFLECTION JOINTS, ONE SIDE OF JOINT SHALL BE COATED WITH AN APPROVED LIQUID BOND BREAKER AND PLATE SEPARATORS MAY BE OMITTED.

SECTION B-B

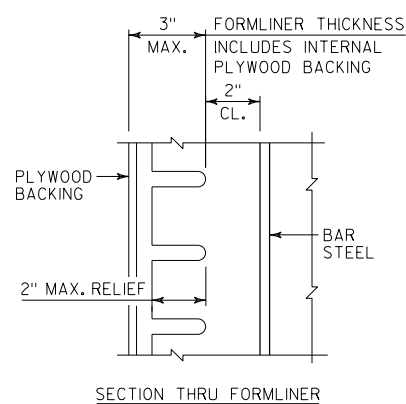


SECTION THRU FORMLINER

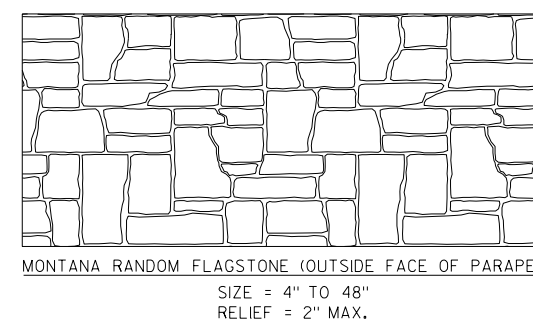


INSIDE FACE OF PARAPET FORMLINER DETAILS

FORMLINER COURSING ON PARAPETS SHALL BE PARALLEL TO TOP OF PARAPET & TO BE STAINED. STAIN IS TO MATCH SHERWIN WILLIAMS SW 9097 "SOFT FAWN". FORMLINER (CUSTOM ROCK PATTERN #12017) TO BE A SMOOTH CUT SANDSTONE FINISH

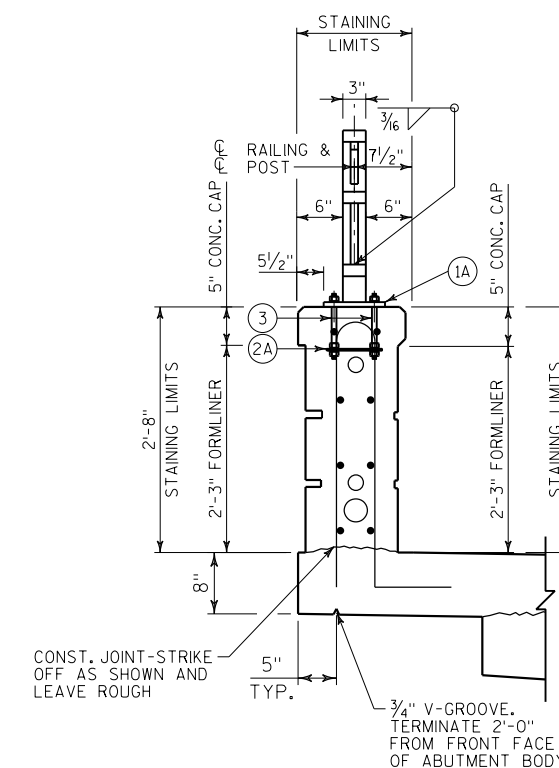


SECTION THRU FORMLINER



OUTSIDE FACE OF PARAPET FORMLINER DETAILS

FORMLINER COURSING ON PARAPETS SHALL BE PARALLEL TO TOP OF PARAPET & TO BE STAINED. STAIN IS TO MATCH SHERWIN WILLIAMS SW 9097 "SOFT FAWN". FORMLINER (CUSTOM ROCK PATTERN #1303) TO BE A MONTANA RANDOM FLAGSTONE FINISH



SECTION THRU PARAPET ON BRIDGE

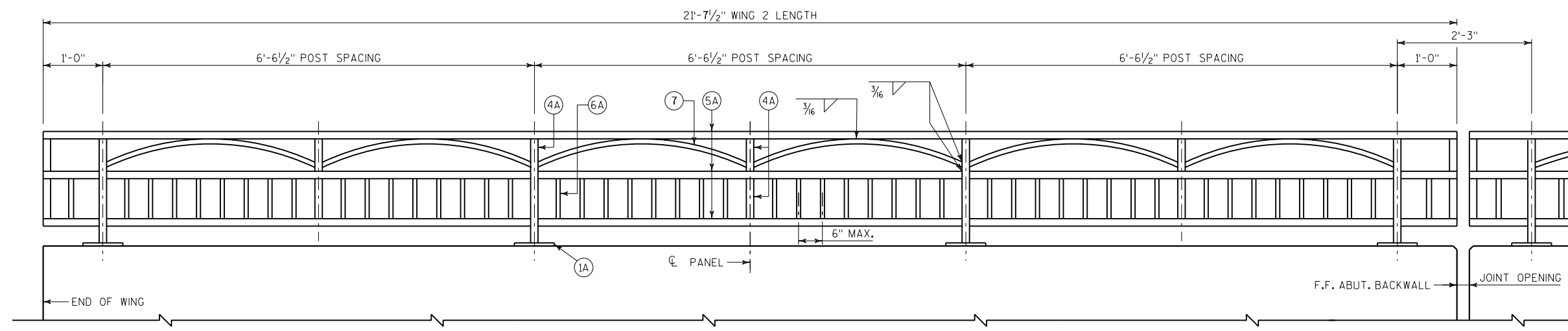
NOTES

FOR LEGEND, SEE SHEET 32.

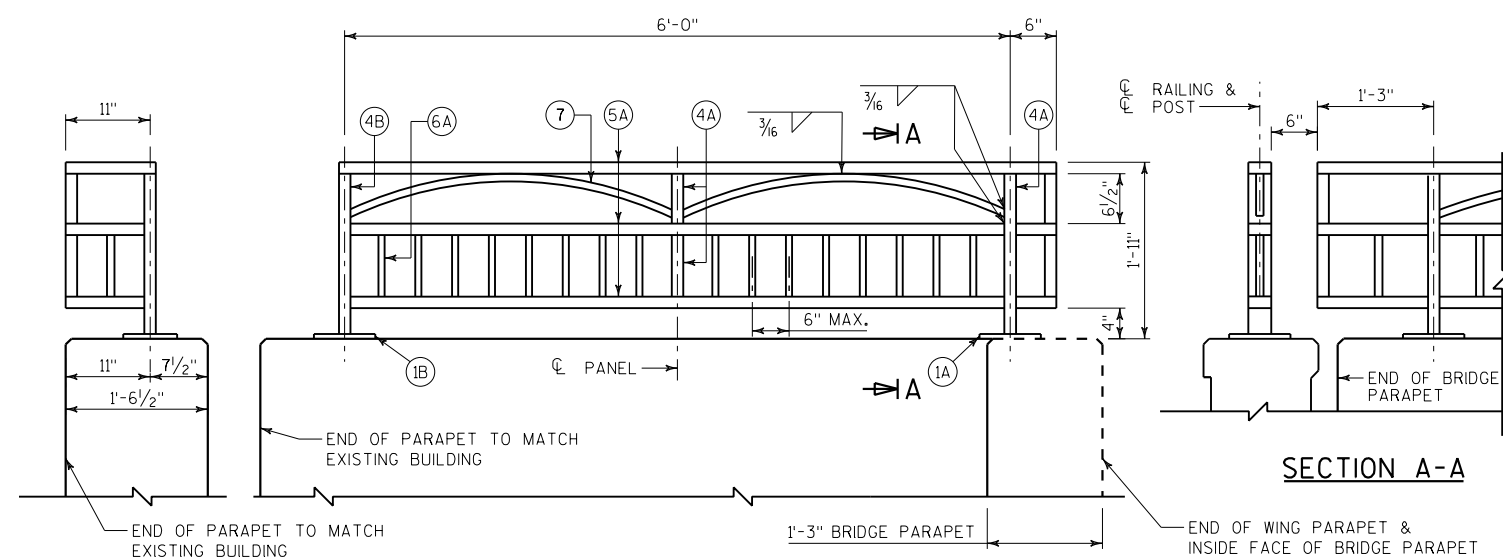
LEGEND

- ☒ HORIZ. CONST. JOINT-STRIKE OFF AS SHOWN AND LEAVE ROUGH

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-59-64			
DRAWN BY		AJA	PLANS CK'D. MHZ
COMBINATION RAILING ON BRIDGE			SHEET 29 OF 37

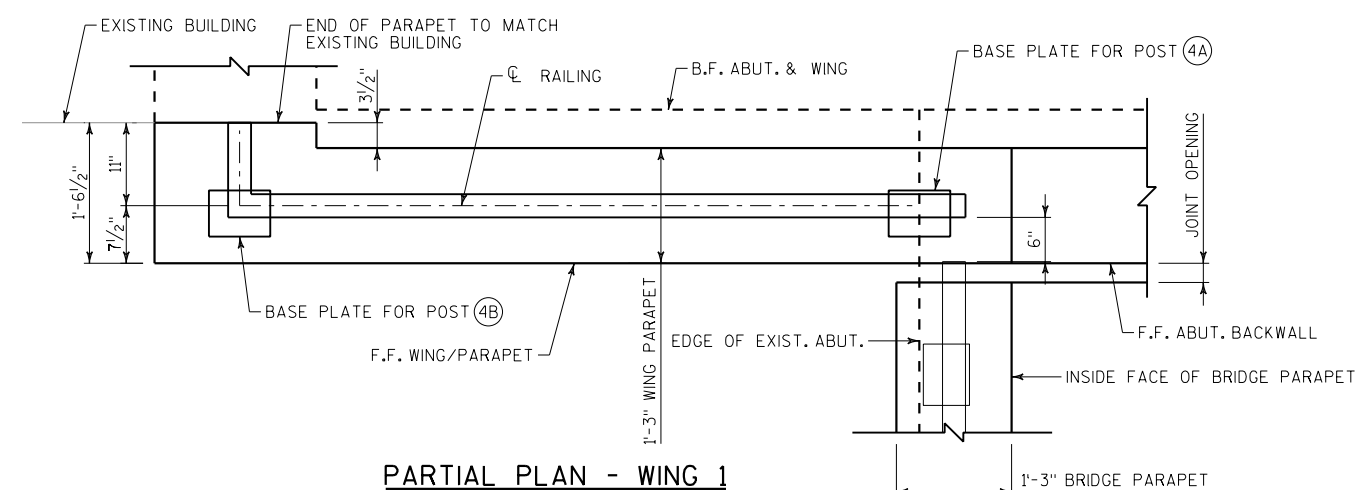


ELEVATION - WING 2

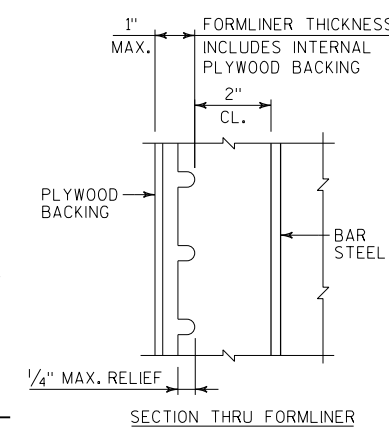


END VIEW

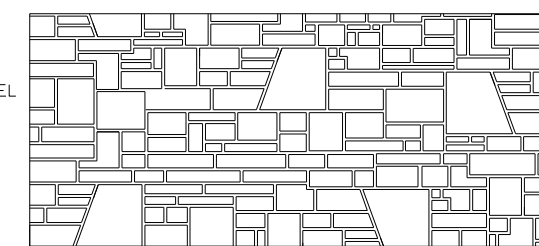
ELEVATION - WING 1



PARTIAL PLAN - WING 1

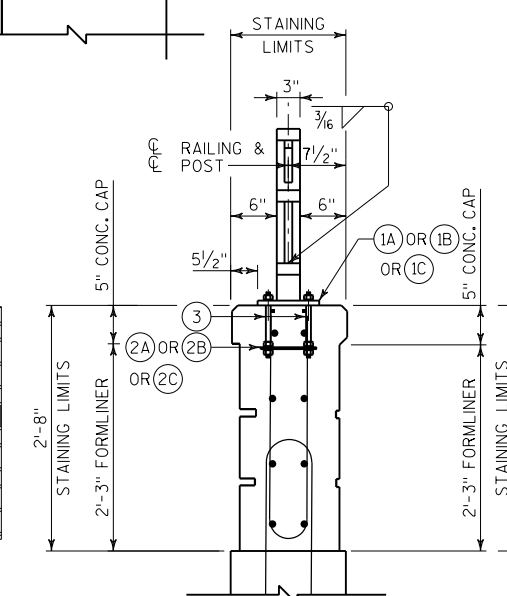


SECTION A-A

SMOOTH CUT SANDSTONE (ROADWAY SIDE OF PARAPET)
SIZE = 6" X 5" TO 11" X 25"
RELIEF = 1/4" MAX.

INSIDE FACE OF PARAPET FORMLINER DETAILS

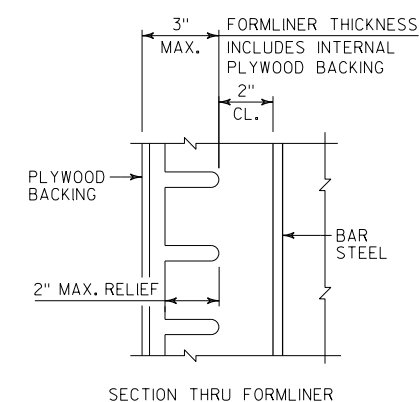
FORMLINER COURSING ON PARAPETS SHALL BE PARALLEL TO TOP OF PARAPET & TO BE STAINED. STAIN IS TO MATCH SHERWIN WILLIAMS SW 9097 "SOFT FAWN". FORMLINER (CUSTOM ROCK PATTERN #12017) TO BE A SMOOTH CUT SANDSTONE FINISH



SECTION THRU PARAPET ON WING

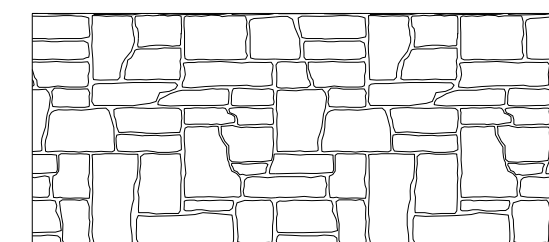
NOTES

FOR LEGEND, SEE SHEET 32.



OUTSIDE FACE OF PARAPET FORMLINER DETAILS

FORMLINER COURSING ON PARAPETS SHALL BE PARALLEL TO TOP OF PARAPET & TO BE STAINED. STAIN IS TO MATCH SHERWIN WILLIAMS SW 9097 "SOFT FAWN". FORMLINER (CUSTOM ROCK PATTERN #1303) TO BE A MONTANA RANDOM FLAGSTONE FINISH

MONTANA RANDOM FLAGSTONE (OUTSIDE FACE OF PARAPET)
SIZE = 4" TO 48"
RELIEF = 2" MAX.

NO.	DATE	REVISION	BY
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DRAWN BY		AJA	PLANS CK'D. MHZ
COMBINATION RAILING ON WINGS 1 AND 2			SHEET 30 OF 37



OUTSIDE FACE OF PARAPET FORMLINER DETAILS

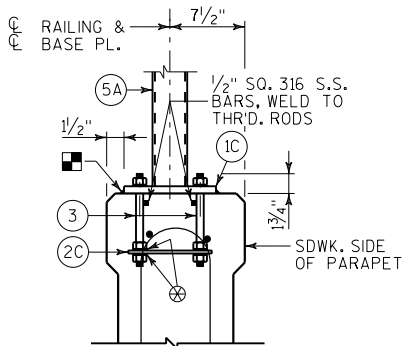
FORMLINER COURSING ON PARAPETS SHALL BE PARALLEL TO TOP OF PARAPET & TO BE STAINED. STAIN IS TO MATCH SHERWIN WILLIAMS SW 9097 "SOFT FAWN". FORMLINER (CUSTOM ROCK PATTERN #1303) TO BE A MONTANA RANDOM FLAGSTONE FINISH



NOTES

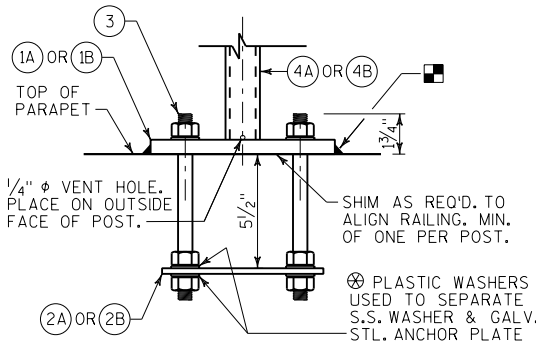
FOR LEGEND, SEE SHEET 32.

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-59-64			
DRAWN BY		AJA	PLANS CK'D. MHZ
COMBINATION RAILING ON WINGS 3 AND 4		SHEET 31 OF 3	



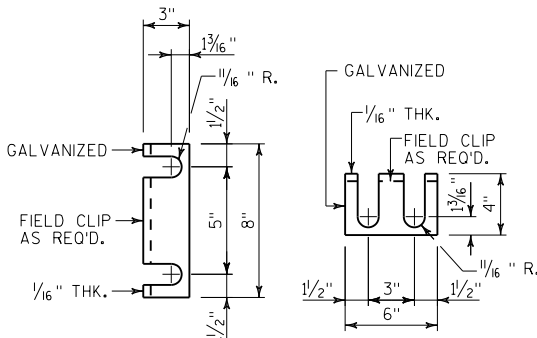
ANCHORAGE FOR END RAIL

NOTE: ANCHOR PLATES NOT REQ'D. WHEN ADHESIVE ANCHORS ARE USED.



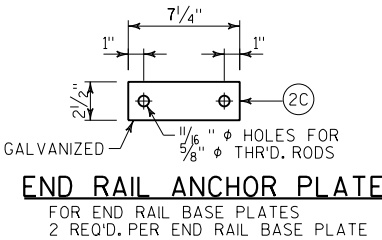
ANCHORAGE FOR RAIL POSTS

NOTE: ANCHOR PLATE NOT REQUIRED WHEN ADHESIVE ANCHORS ARE USED.



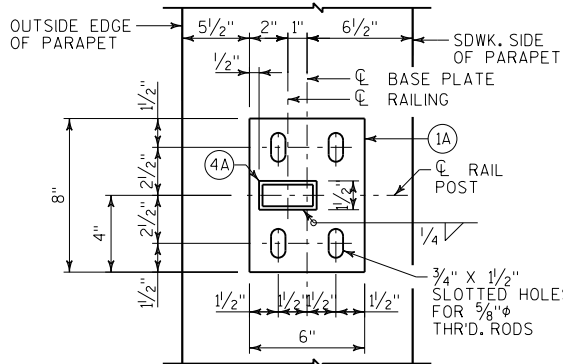
RAIL POST SHIM DETAIL

(2 SETS PER POST)

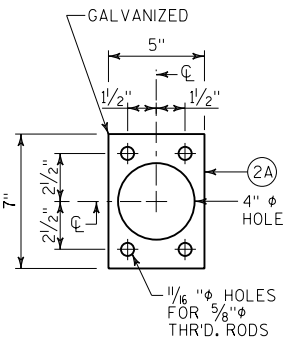


END RAIL ANCHOR PLATE

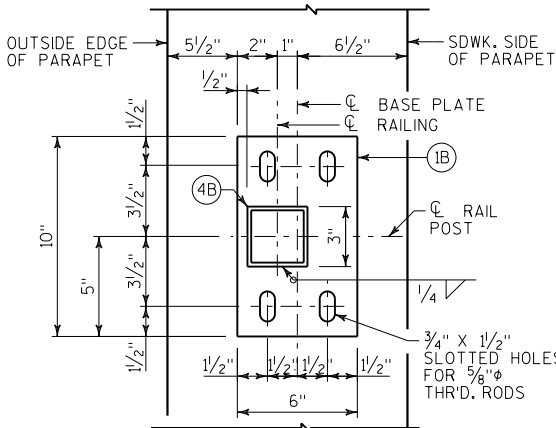
FOR END RAIL BASE PLATES
2 REQ'D. PER END RAIL BASE PLATE



TYPICAL RAIL POST 4A BASE PLATE

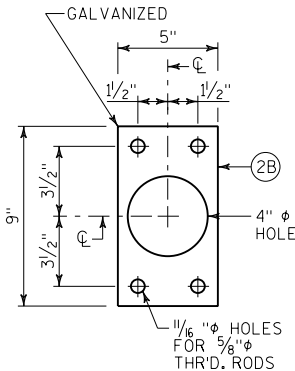


ANCHOR PLATE 4A



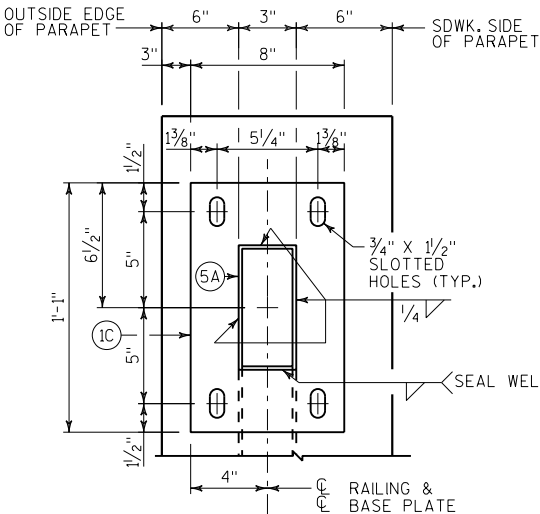
TYPICAL RAIL POST 4B BASE PLATE

(WING 1 ONLY)

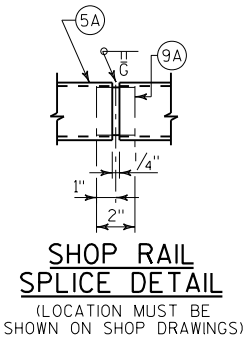


ANCHOR PLATE 4B

(WING 1 ONLY)

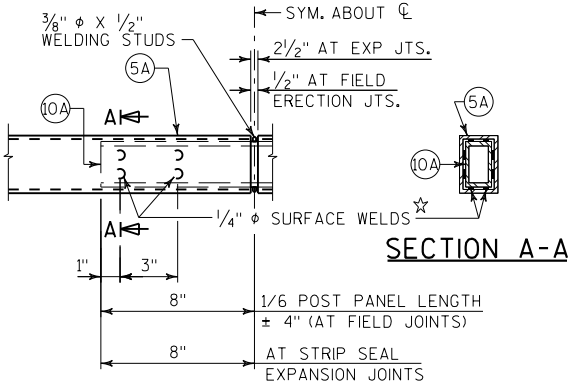


END RAIL BASE PLATE



SHOP RAIL
SPlice DETAIL

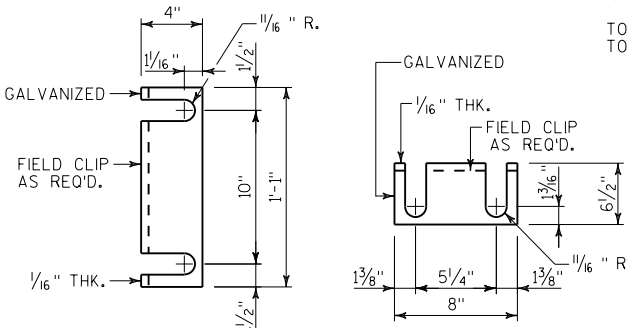
(LOCATION MUST BE SHOWN ON SHOP DRAWINGS)



SECTION A-A

FIELD ERECTION JOINT DETAIL

☆ MIN. 5/8" FLAT SURFACE DIA. PUNCHINGS OR STUDS MAY BE USED AS AN ALTERNATE.



END RAIL SHIM DETAIL

(2 SETS PER POST)

LEGEND

- 1A PLATE 5/8" X 6" X 8" WITH 3/4" X 1/2" SLOTTED HOLES.
- 1B PLATE 5/8" X 6" X 10" WITH 3/4" X 1/2" SLOTTED HOLES.
- 1C PLATE 5/8" X 8" X 1'-1" WITH 3/4" X 1/2" SLOTTED HOLES.
- 2A 1/4" X 5" X 7" ANCHOR PLATE WITH 1/16" ϕ HOLES FOR THR'D. RODS NO. 3.
- 2B 1/4" X 5" X 9" ANCHOR PLATE WITH 1/16" ϕ HOLES FOR THR'D. RODS NO. 3.
- 2C 1/4" X 2 1/2" X 7 1/4" ANCHOR PLATE WITH 1/16" ϕ HOLES FOR THR'D. RODS NO. 3.
- 3 5/8" DIA. X 9" LONG, TYPE 316 STAINLESS STEEL THREADED RODS (MIN. TENSILE STRENGTH = 70 KSI) WITH NUT AND WASHERS OF SAME ALLOY GROUP. ALTERNATIVE ANCHORAGE: CONCRETE ADHESIVE ANCHORS 5/8"-INCH. EMBED 7" IN CONCRETE FOR RAIL POSTS, EMBED 5" IN CONCRETE FOR END RAILS. ADHESIVE ANCHORS SHALL CONFORM TO SECTION 502.2.12 OF THE STANDARD SPECIFICATIONS.
- 4A STRUCTURAL TUBING 3" X 1 1/2" X 3/16". PLACE VERTICAL. WELD TO NO. 1 & 5.
- 4B STRUCTURAL TUBING 3" X 3" X 3/16". PLACE VERTICAL. WELD TO NO. 1 & 5.
- 5A STRUCTURAL TUBING 3" X 1 1/2" X 3/16" RAILS. WELD TO NO. 1 & NO. 4, INSIDE OF TUBE TO BE PAINTED AT ALL FIELD ERECTION & EXPANSION JOINTS.
- 6A BAR 1" X 1" PICKETS. WELD TO NO. 5. PLACE VERTICAL.
- 6C BAR 1" X 1 1/2" PICKETS. WELD TO NO. 11. PLACE VERTICAL.
- 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" @ STRIP SEAL EXP. JTS.)
- 11A BAR 2 1/2" X 1" X 1'-1".
- 12 1/2" DIA. STAINLESS STEEL BOLT WITH NUT AND LOCKWASHER.

RAILING NOTES

BID ITEM SHALL BE "RAILING STEEL TYPE C3 B-59-64", WHICH SHALL INCLUDE ALL STEEL ITEMS SHOWN.

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.

ALL PLATES, BARS, AND RECTANGULAR SLEEVES SHALL CONFORM TO ASTM A709 GRADE 36. ALL STRUCTURAL TUBING SHALL CONFORM TO ASTM 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 BOTH TRANSVERSE AND LONGITUDINAL DIRECTION.

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.

ALL JOINTS AND RECESSES IN CONCRETE PARAPET ARE TO BE VERTICAL.

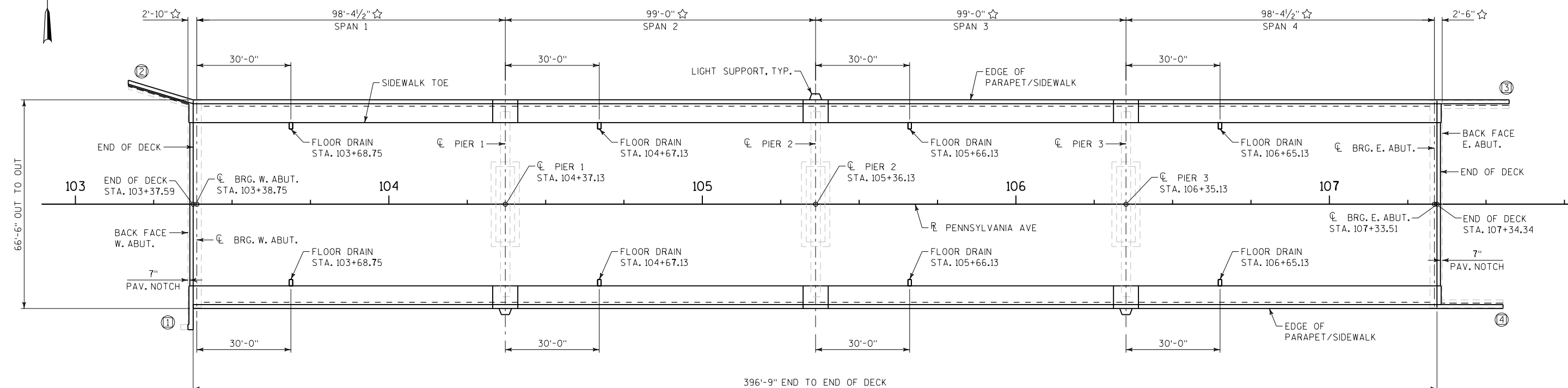
ALL MATERIAL (EXCEPT NO. 3 & 12) SHALL BE GALVANIZED AFTER FABRICATION. PRIOR TO GALVANIZING, THE STEEL RAILING SHALL BE GIVEN A NO. 6 BLAST CLEANING PER SSPC SPECIFICATIONS. PAINT OVER GALVANIZING WITH AN APPROVED TIE COAT AND TOP COAT AS SPECIFIED IN THE CONTRACT DOCUMENTS. THE RAILING SHALL BE PAINTED BLACK, FEDERAL COLOR NO. 27038.

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

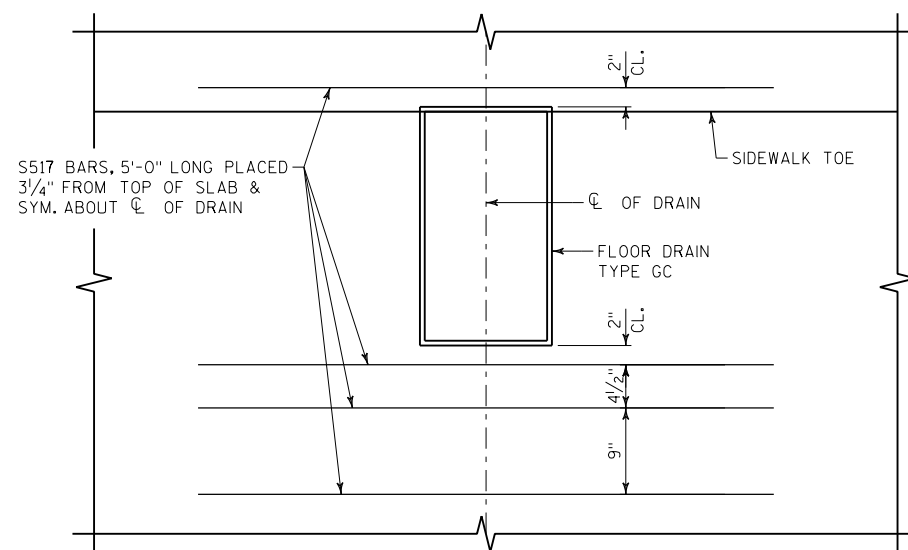
RAILING SHALL BE FABRICATED IN LENGTHS THAT INCLUDE 3 OR 4 POSTS.

TOUCH-UP PAINTING TO BE DONE AT COMPLETION OF STEEL RAILING INSTALLATION TO THE SATISFACTION OF THE ENGINEER AT NO EXTRA COST.

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-59-64			
DRAWN BY		AJA	PLANS CK'D. MHZ
COMBINATION RAILING DETAILS			SHEET 32 OF 37

**FLOOR DRAIN LOCATION PLAN**

FLOOR DRAIN STATIONS TAKEN AT CL OF DRAIN

**FLOOR DRAIN REINFORCEMENT PLAN****NOTES**

TRANSVERSE AND LONGITUDINAL SLAB BAR REINFORCEMENT TO BE CUT A MAXIMUM OF 1" CL. FROM DRAIN FRAME. DISPLACE BARS WHERE POSSIBLE.

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-59-64			
DRAWN BY		AJA	PLANS CK'D. MHZ
FLOOR DRAIN PLAN			SHEET 33 OF 37

LEGEND

☆ PER EXISTING AS-BUILT STRUCTURE PLAN

ⓧ WINGWALL NUMBER

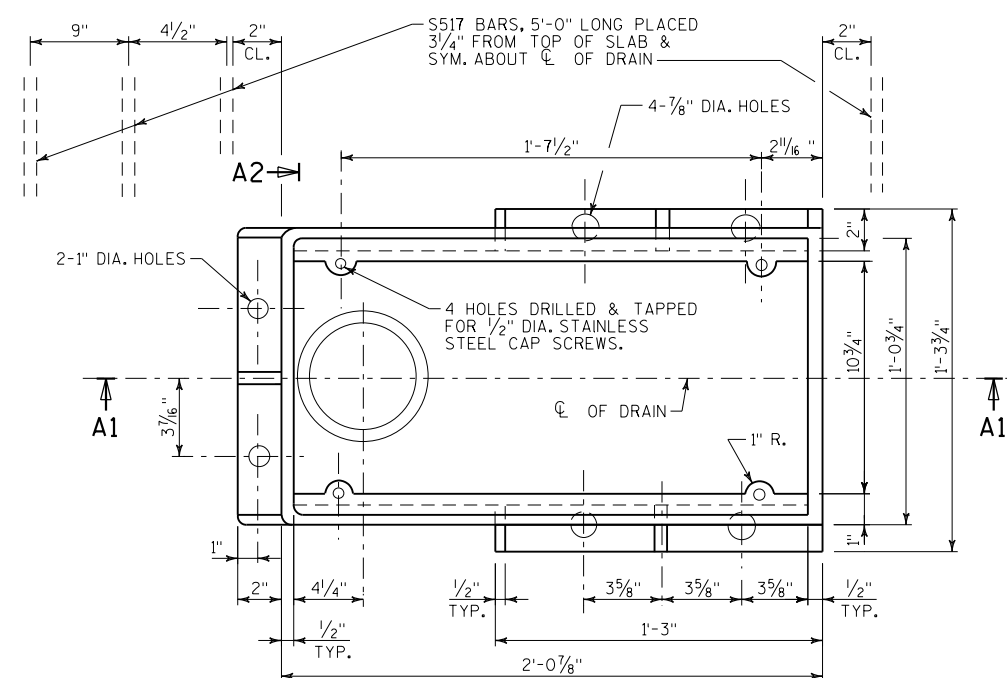
NOTES

ALL MATERIAL FOR TYPE "GC" CASTING, EXCLUDING GRATE HOLD DOWN SCREWS, SHALL BE GRAY IRON CONFORMING TO ASTM A48, CLASS 30. (APPROXIMATE WEIGHT = 225*)

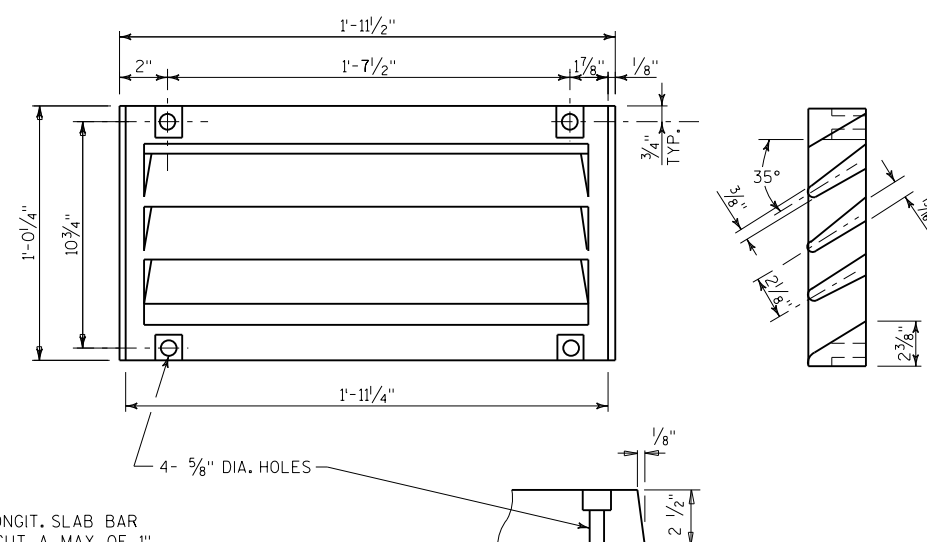
MATERIAL FOR BRACKETS SHALL CONFORM TO ASTM A36.

THE CONTRACTOR MAY PROPOSE AN ALTERNATE TYPE OF BRACKET. THE PROPOSED ALTERNATE DETAILS SHALL BE SUBMITTED AND SUBJECT TO THE APPROVAL OF THE ENGINEER.

■ FLANGED 6" DIA. DOWNSPOUTS SHALL BE REINFORCED THERMOSETTING RESIN PIPE (RTRP) OR GALVANIZED STANDARD PIPE CONFORMING TO ASTM A53.



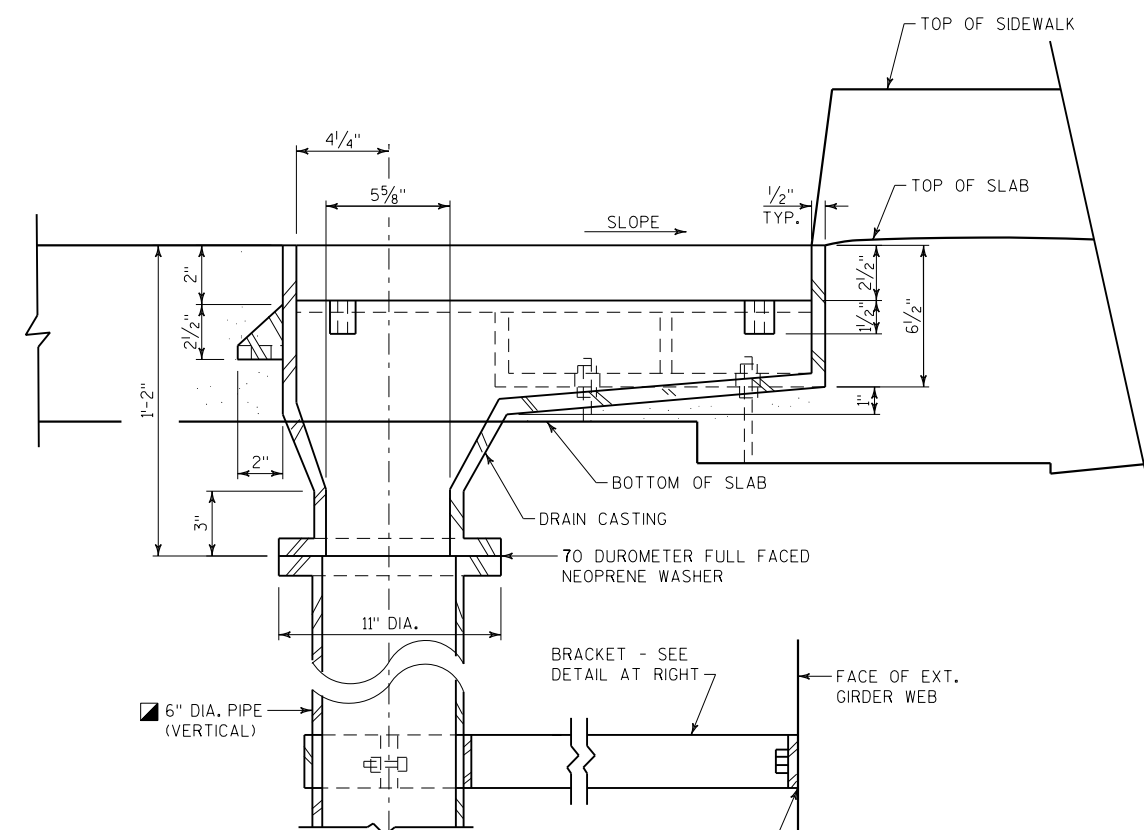
PLAN



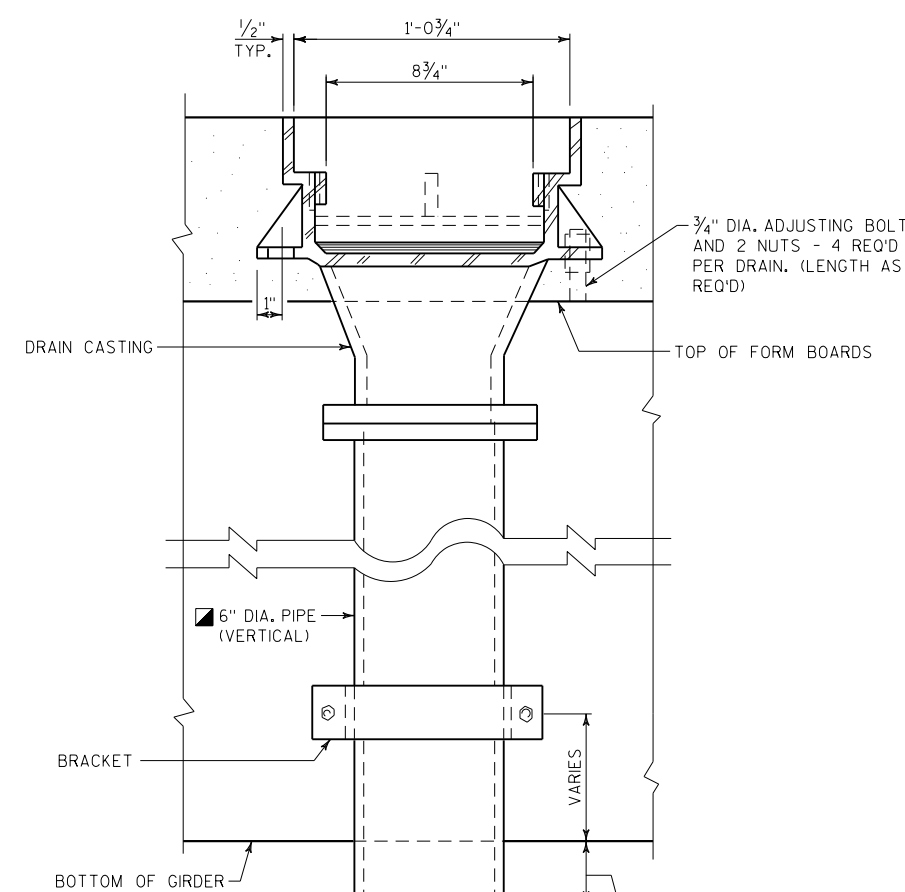
GRATE CASTING DETAIL

(ATTACH GRATE TO FRAME FOR SHIPMENT)

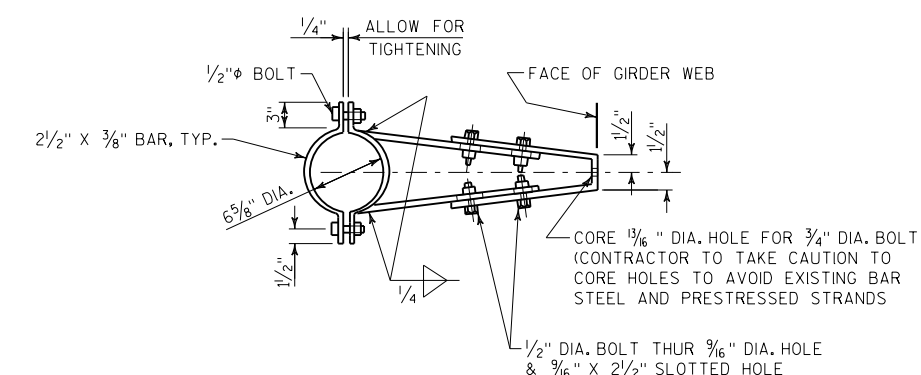
TRANS. AND LONGIT. SLAB BAR REINF. TO BE CUT A MAX. OF 1" CL. FROM DRAIN FRAME. DISPLACE BARS WHERE POSSIBLE



SECTION A1



SECTION A2

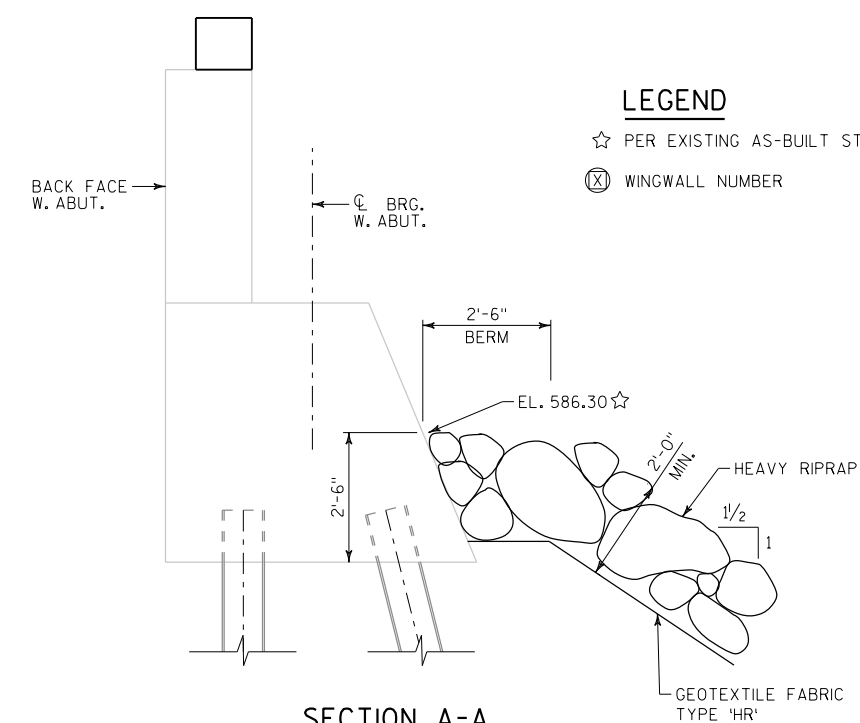
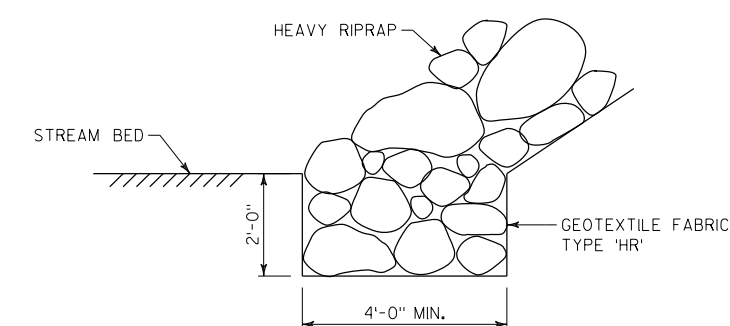
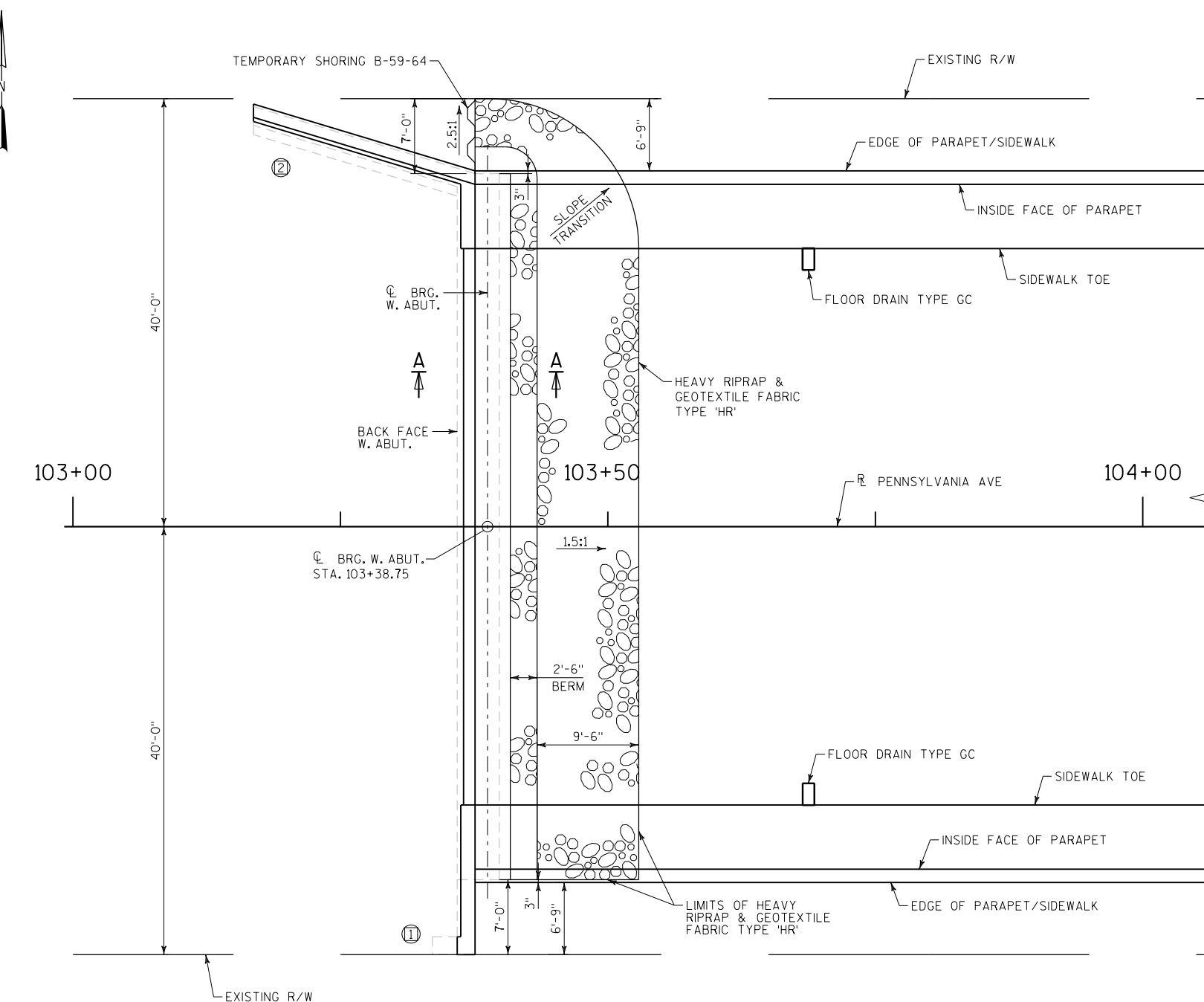


BRACKET DETAIL

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-59-64			
DRAWN BY		AJA	PLANS CK'D. MHZ
FLOOR DRAIN TYPE GC			SHEET 34 OF 37

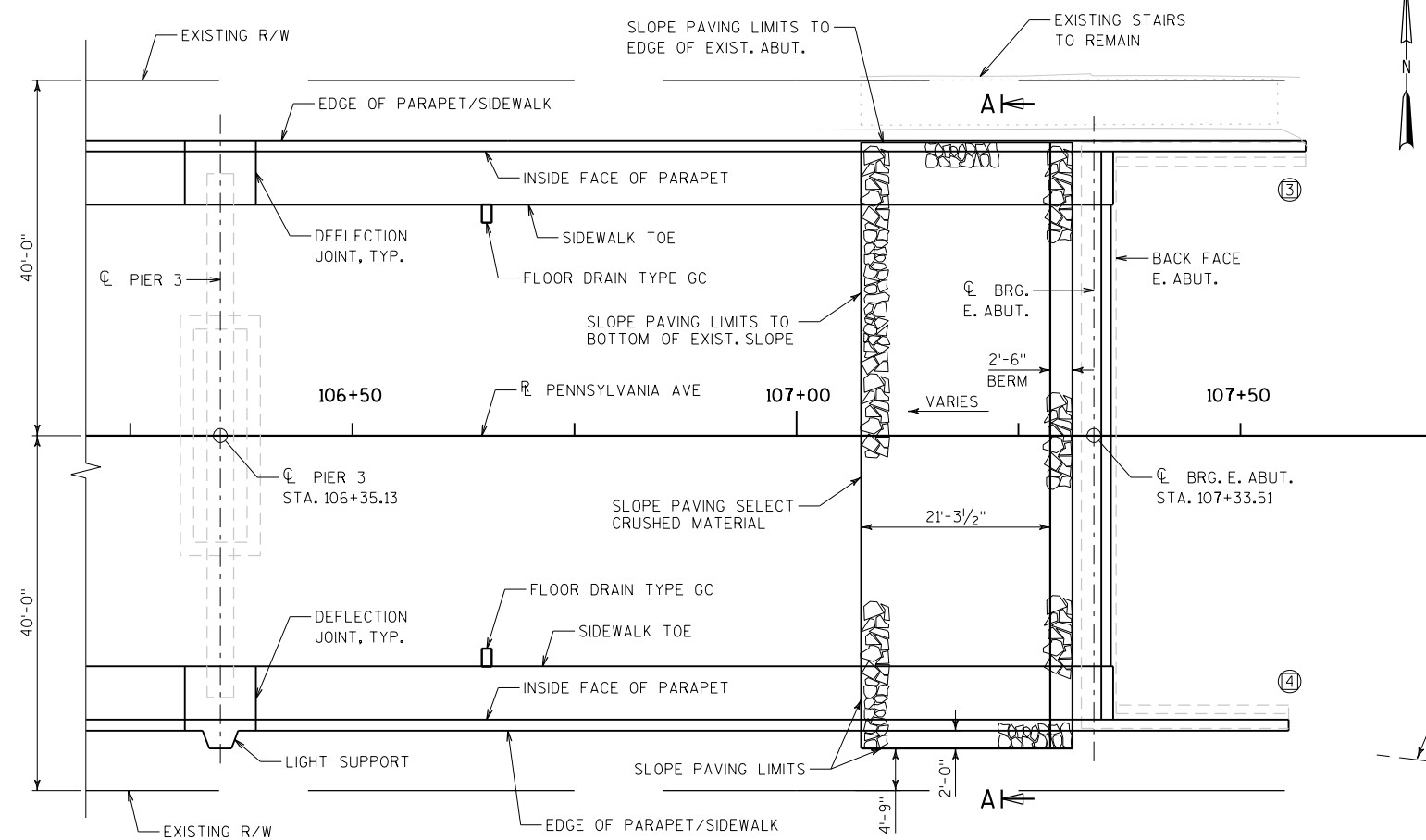
LEGEND

- ☆ PER EXISTING AS-BUILT STRUCTURE PLAN
 (X) WINGWALL NUMBER

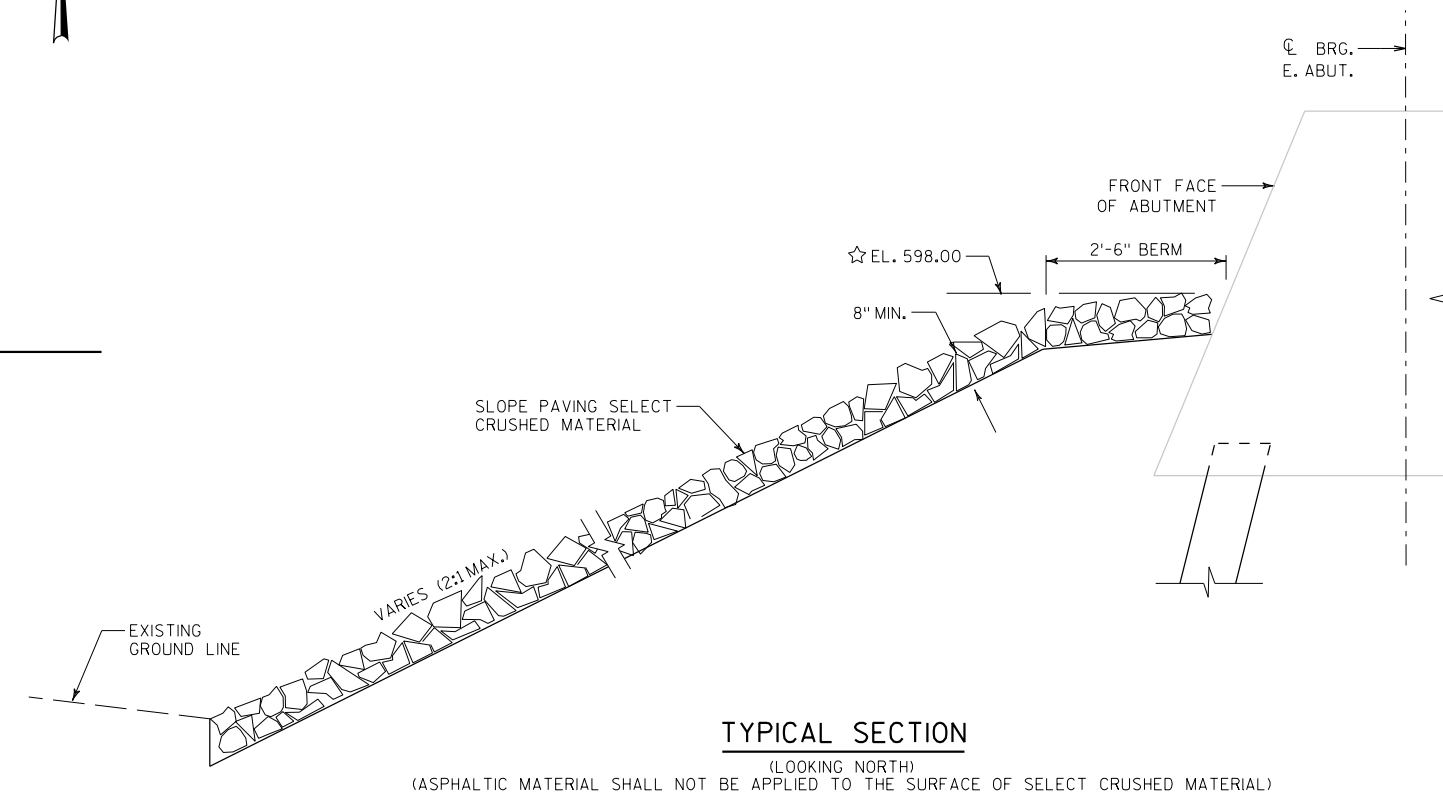
**SECTION A-A****TOE DETAIL****NOTE**

THE REMOVAL OF ALL EXISTING DEBRIS AND SLOPE SURFACE PREPARATION IS TO BE INCLUDED IN THE BID ITEM "RIPRAP HEAVY"

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-59-64			
DRAWN BY		AJA	PLANS CK'D. MHZ
HEAVY RIPRAP DETAILS			SHEET 35 OF 37



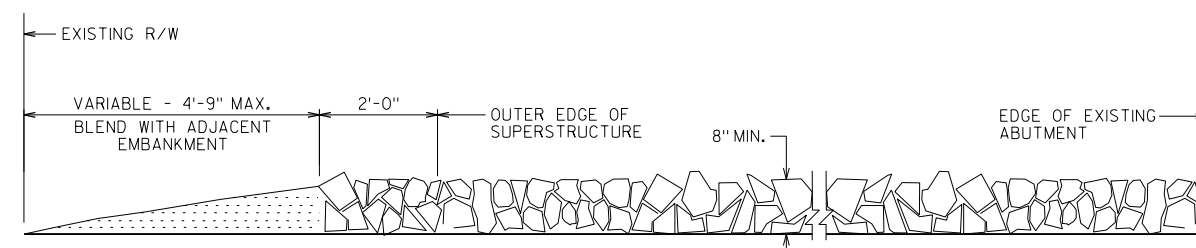
PLAN



TYPICAL SECTION

(LOOKING NORTH)

(ASPHALTIC MATERIAL SHALL NOT BE APPLIED TO THE SURFACE OF SELECT CRUSHED MATERIAL)



SECTION A-A

LEGEND

- ☆ PER EXISTING AS-BUILT STRUCTURE PLAN
 (X) WINGWALL NUMBER

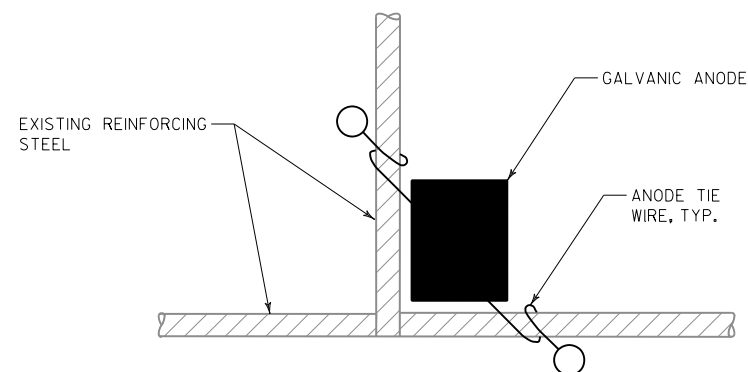
NOTES

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

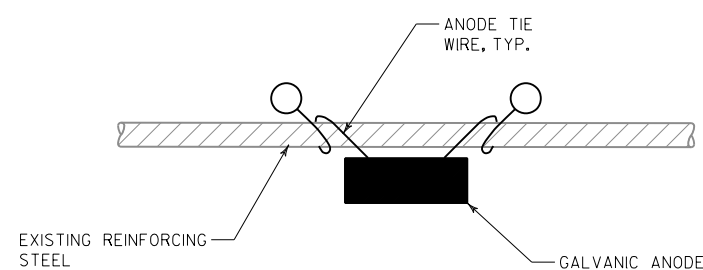
WOOD FORMS MAY BE LEFT IN PLACE WHEN OF A QUALITY ACCEPTABLE TO THE ENGINEER.

EXISTING SLOPE PAVING MAY INCLUDE HARD BACKFILL MATERIALS. PROPOSED SLOPE PAVING SURFACE PREPARATION MAY REQUIRE ABRASIVE CONSTRUCTION EQUIPMENT. SLOPE PAVING SURFACE PREPARATION IS INCLUDED IN THE BID ITEM "SLOPE PAVING SELECT CRUSHED MATERIAL".

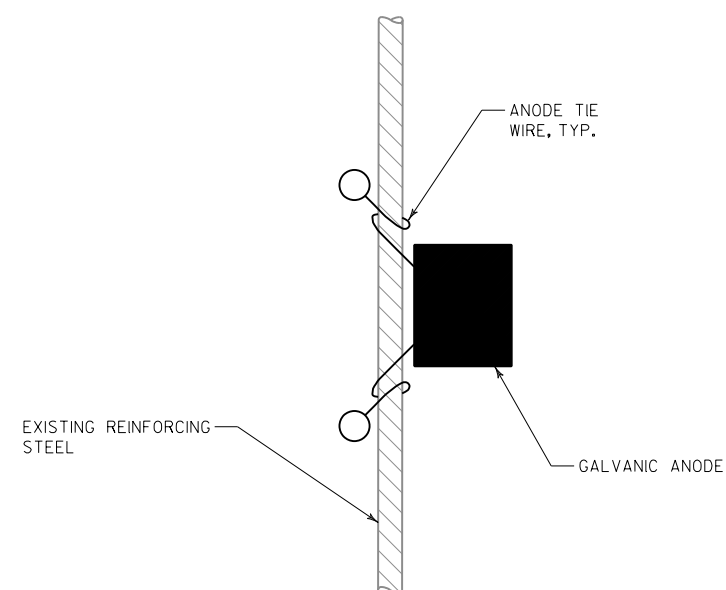
NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-59-64			
DRAWN BY		AJA	PLANS CK'D. MHZ
SLOPE PAVING DETAILS			SHEET 36 OF 37



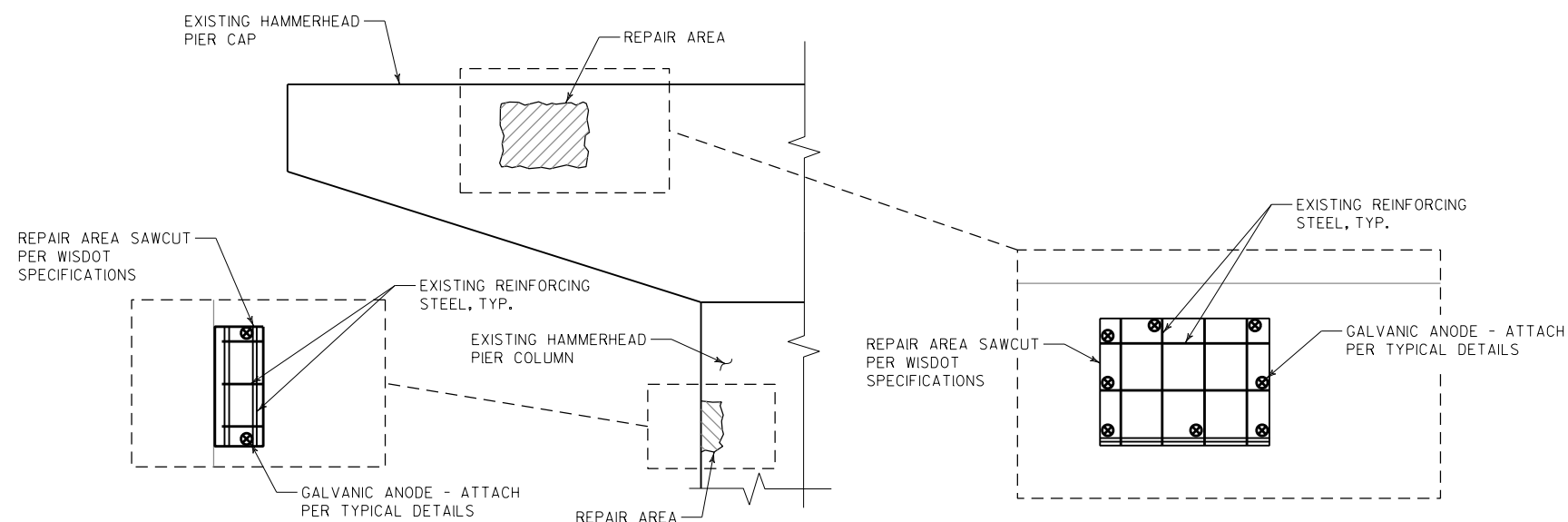
**TYPICAL INSTALLATION AT
BAR STEEL INTERSECTION**



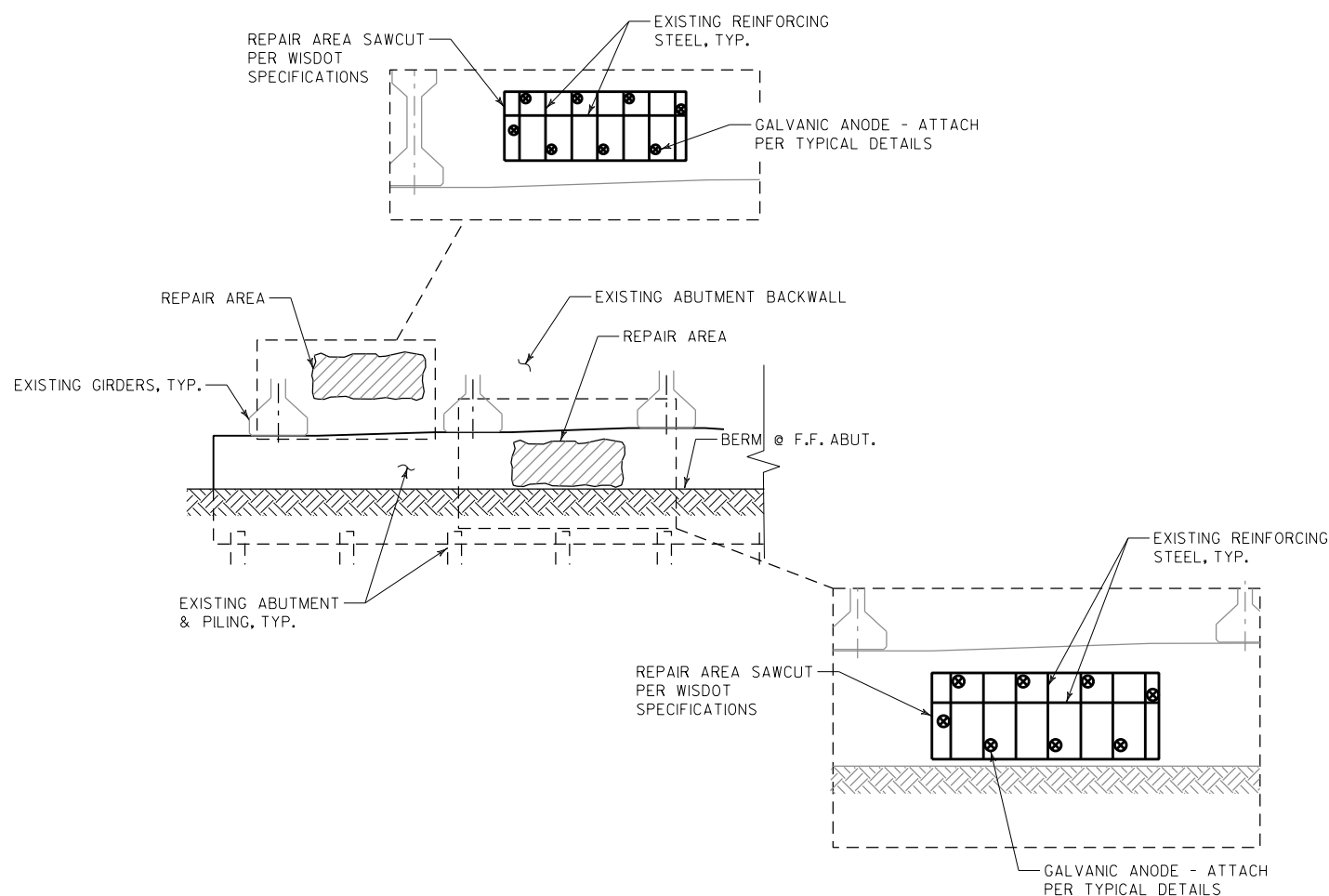
**TYPICAL INSTALLATION
BELOW BAR STEEL**



**TYPICAL INSTALLATION
BESIDE BAR STEEL**



TYPICAL PIER REPAIR DETAIL



TYPICAL ABUTMENT REPAIR DETAIL

NOTES

SEE SPECIAL PROVISION "EMBEDDED GALVANIC ANODES" FOR DESCRIPTION, MATERIALS, CONSTRUCTION, MEASUREMENT, AND PAYMENT INFORMATION.

ANODES NEAREST TO EDGE OF REPAIR TO BE WITHIN 6" OF EDGE.

AFTER PLACEMENT, GALVANIC ANODES SHOULD MAINTAIN A MINIMUM TOP COVER OF 1 1/2" AND A MINIMUM BOTTOM COVER OF 3/4".

EXISTING REINFORCING STEEL TO BE COMPLETELY CLEANED OF CORROSIVE MATERIAL PRIOR TO INSTALLATION OF GALVANIC ANODES.

ENSURE ALL EXPOSED REINFORCING STEEL IS SECURELY FASTENED TOGETHER WITH TIE WIRE TO PROVIDE GOOD CONTINUITY. SEE SPECIAL PROVISIONS.

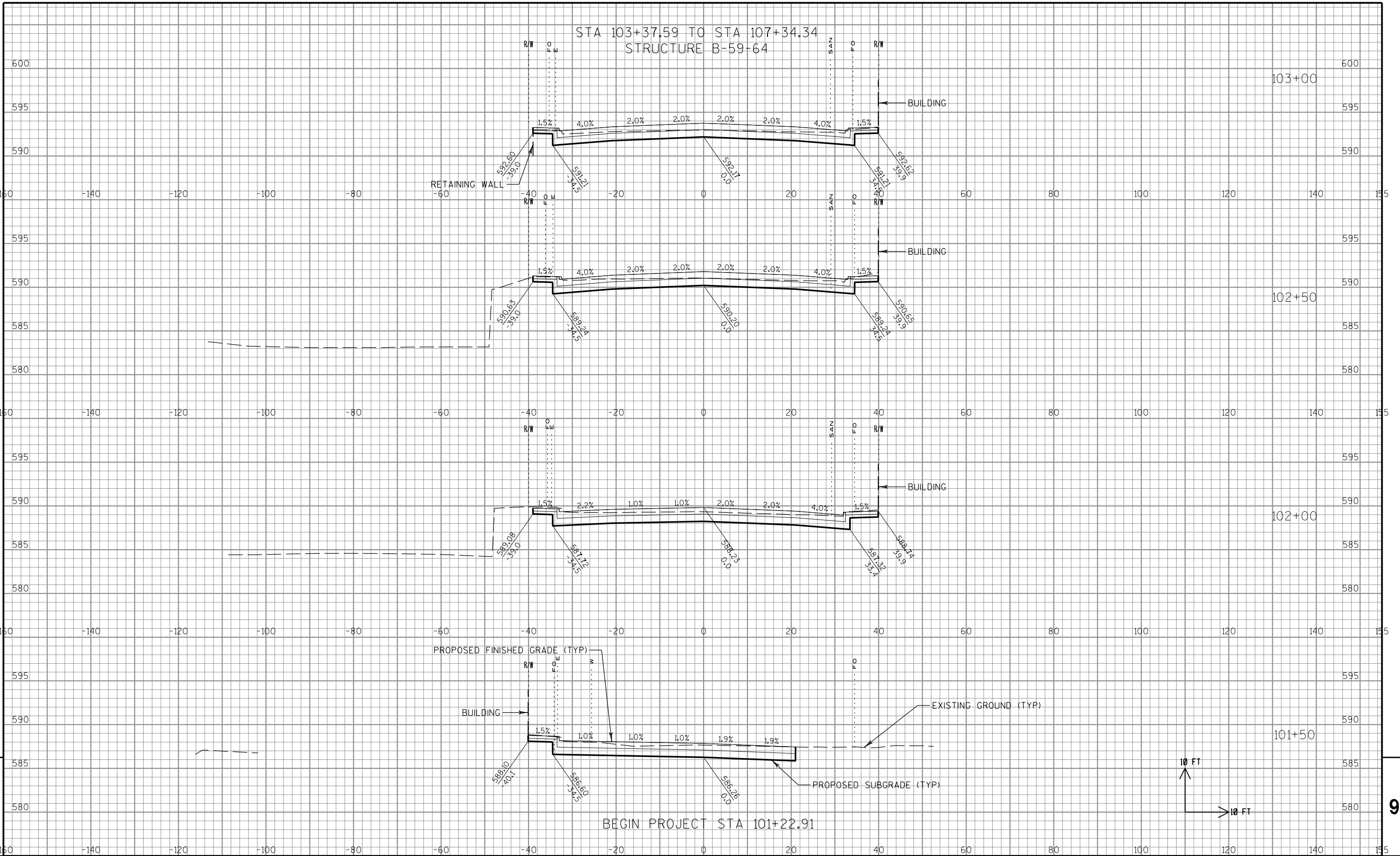
GALVANIC ANODES SHALL BE PLACED PER SPECIAL PROVISIONS "EMBEDDED GALVANIC ANODES". GALVANIC ANODES ESTIMATED QUANTITIES ON PLANS ARE BASED ON A MAXIMUM SPACING OF 24 INCHES IN EACH DIRECTION OF THE ESTIMATED "CONCRETE SURFACE REPAIR" AREA.

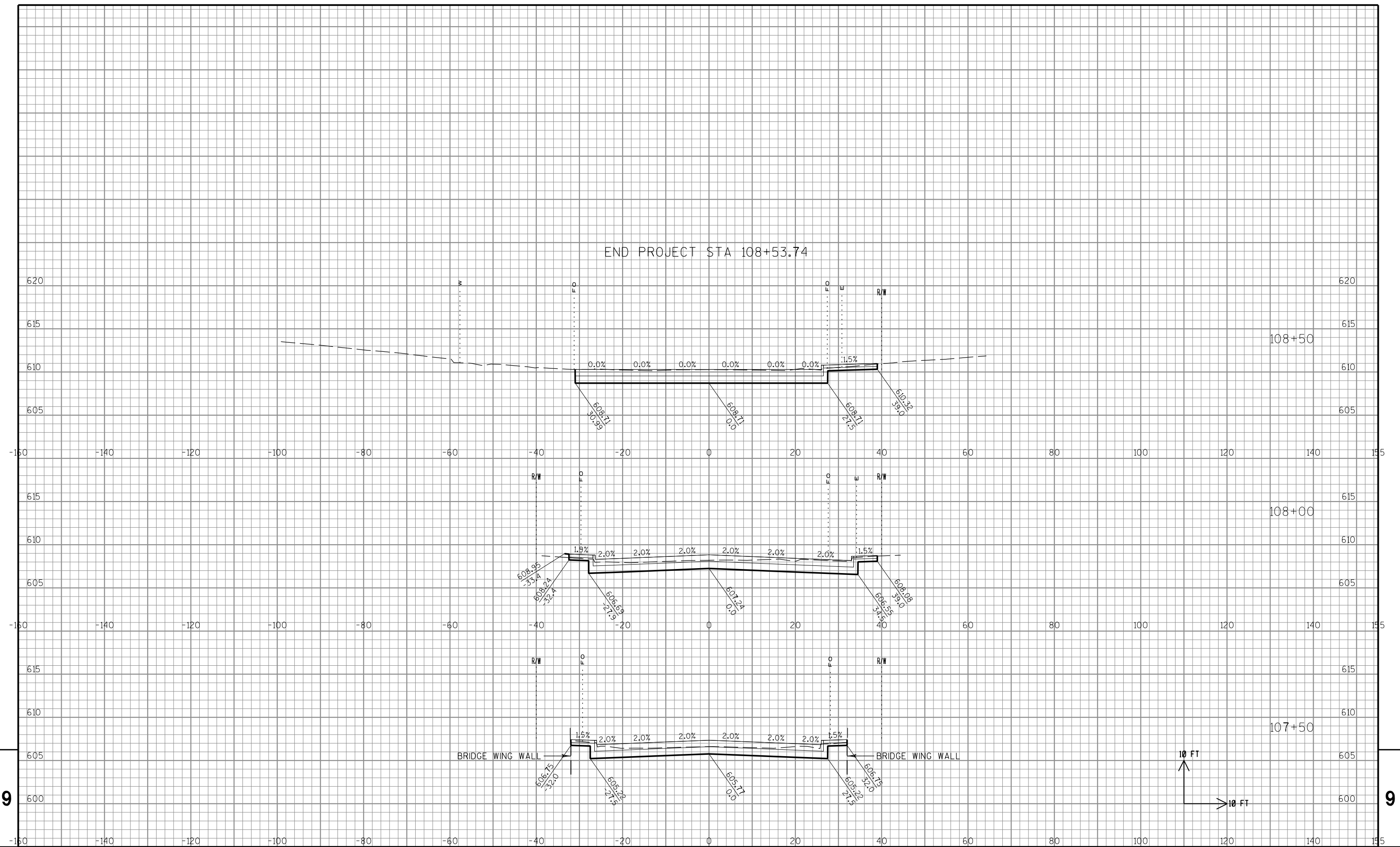
EXISTING REINFORCING BARS MAY BE CORRODED AND/OR DAMAGED DURING CONCRETE REMOVAL. PRESERVE AND INCORPORATE EXISTING REINFORCEMENT.

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-59-64			
DRAWN BY		AJA	PLANS CK'D. MHZ
GALVANIC ANODES			SHEET 37 OF 37

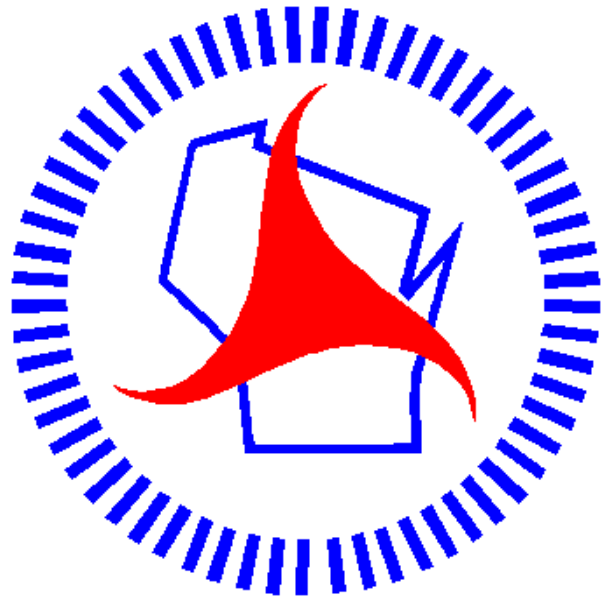
PENNSYLVANIA AVENUE

STATION	Distance (FT)	Area (SF)		Incremental Vol (CY)		Cumulative Vol (CY)		Mass Ordinate
		Cut	Fill	Cut	Fill	Cut 1.00	Expanded Fill 1.25	
101+42.		90	0	0	0	0	0	0
101+50.	8.00	83	0	26	0	26	0	26
102+00.	50.00	92	0	162	0	188	0	188
102+50.	50.00	81	0	161	0	349	0	349
103+00.	50.00	75	0	145	0	494	0	494
103+36.5	36.50	68	0	97	0	591	0	591
107+35.42		75	0	0	0	591	0	591
107+50.	14.58	62	0	37	0	628	0	628
108+00.	50.00	79	0	130	0	758	0	758
108+50.	50.00	95	0	161	0	919	0	919
108+53.73	3.73	99	0	13	0	933	0	933
				933	0			





Notes



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