

EAU
PROJECT ID: 7995-02-40
WITH: N/A
COUNTY: EAU CLAIRE

JULY 2015	
ORDER OF SHEETS	
Section No. 1	Title
Section No. 2	Typical Sections and Details
Section No. 3	Estimate of Quantities
Section No. 3	Miscellaneous Quantities
Section No. 4	Right of Way Plat
Section No. 5	Plan and Profile
Section No. 6	Standard Detail Drawings
Section No. 7	Sign Plates
Section No. 8	Structure Plans
Section No. 9	Computer Earthwork Data
Section No. 9	Cross Sections

TOTAL SHEETS = 164

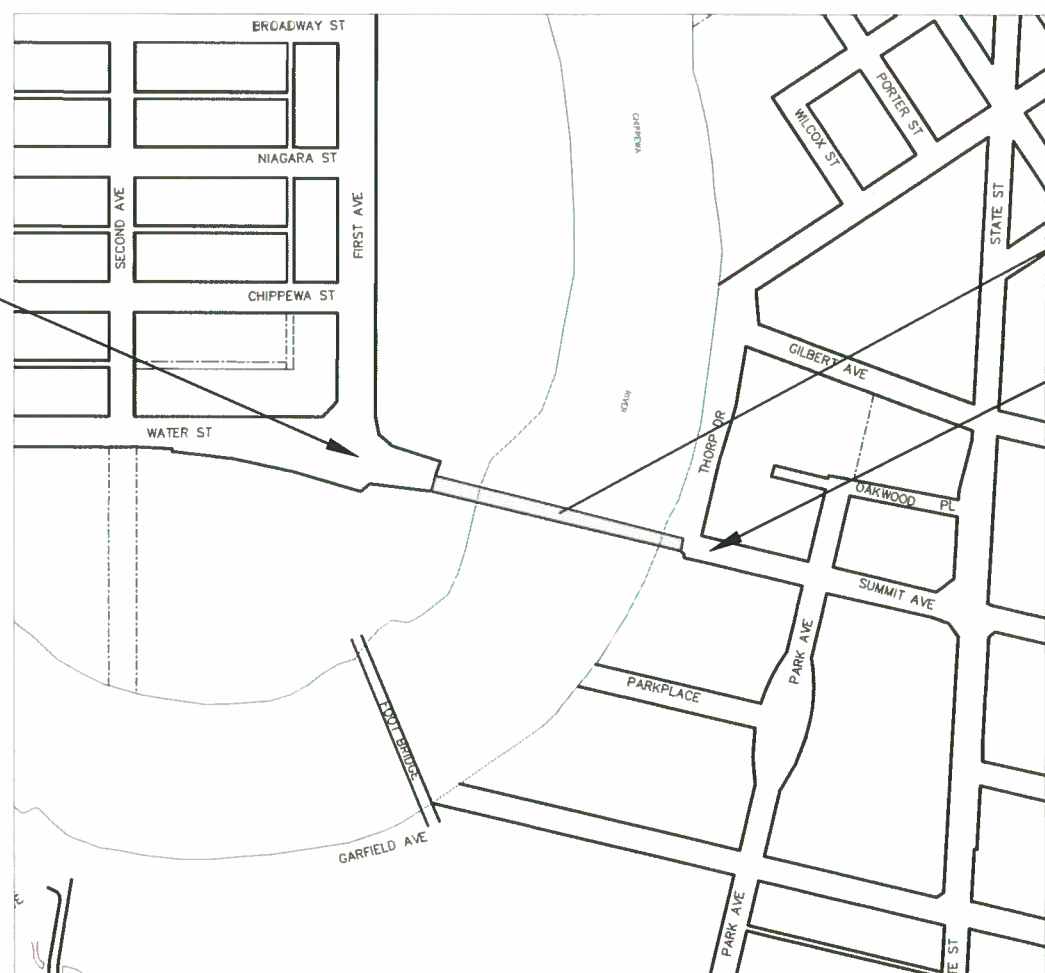


DESIGN DESIGNATION	
A.A.D.T. (2016)	= 15,300
A.A.D.T. (2036)	= 16,800
D.H.V.	= ---
D.D.	= 50/50
T.	= 3.3%
DESIGN SPEED	= 30 MPH
ESALS	= 6,095,500

CONVENTIONAL SYMBOLS	
PLAN	PROFILE
CORPORATE LIMITS	GRADE LINE
PROPERTY LINE	ORIGINAL GROUND
LOT LINE	MARSH OR ROCK PROFILE (To be noted as such)
LIMITED HIGHWAY EASEMENT	SPECIAL DITCH
EXISTING RIGHT OF WAY	GRADE ELEVATION
PROPOSED OR NEW R/W LINE	CULVERT (Profile View)
SLOPE INTERCEPT	UTILITIES
REFERENCE LINE	ELECTRIC
EXISTING CULVERT	FIBER OPTIC
PROPOSED CULVERT (Box or Pipe)	GAS
COMBUSTIBLE FLUIDS	SANITARY SEWER
MARSH AREA	STORM SEWER
WOODED OR SHRUB AREA	TELEPHONE
	WATER
	UTILITY PEDESTAL
	POWER POLE
	TELEPHONE POLE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
PLAN OF PROPOSED IMPROVEMENT
CITY OF EAU CLAIRE, WATER STREET
CHIPPEWA RIVER BRIDGE B-18-219
LOCAL STREET
EAU CLAIRE

STATE PROJECT NUMBER
7995-02-40



LAYOUT
SCALE 0 500 FT
TOTAL NET LENGTH OF CENTERLINE = 0.189 MI

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

STATE PROJECT	FEDERAL PROJECT	
	PROJECT	CONTRACT
7995-02-40	WISC 2015437	1

ACCEPTED FOR
CITY OF EAU CLAIRE

1/26/2015
(Date)

David H. My
CITY ENGINEER
(Signature & Title of Official)

ORIGINAL PLANS PREPARED BY
AYRES ASSOCIATES

JEFFREY A. ABRAMSON
32337
Eau Claire
WI
REGISTERED PROFESSIONAL ENGINEER

1-21-15

DATE:

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

PREPARED BY

Surveyor	AYRES ASSOCIATES
Designer	AYRES ASSOCIATES
Project Manager	TARA WEISS
Regional Examiner	DAN OJIBWAY
Regional Supervisor	TIM MASON

APPROVED FOR THE DEPARTMENT

DATE: 1/27/15 *[Signature]*
(Signature)

E

GENERAL NOTES

REMOVALS

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

DRAINAGE

PRIOR TO ORDERING DRAINAGE PIPES AND STRUCTURES, THE CONTRACTOR SHALL FIELD VERIFY RELATED DRAINAGE INFORMATION IN THE PLAN WITH THE ENGINEER.

INLET AND DISCHARGE ELEVATIONS FOR DRAINAGE STRUCTURES SHOWN ON THE PLAN MAY BE ADJUSTED BY THE ENGINEER TO FIT FIELD CONDITIONS.

GRADING/EROSION CONTROL

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

EXCAVATION BELOW SUBGRADE (EBS) IS NOT USED TO BALANCE EARTHWORK. EBS IS MEASURED AND PAID FOR AS EXCAVATION COMMON. EXACT LOCATIONS OF EBS WILL BE DETERMINED BY THE ENGINEER.

SEED, INSTALL EROSION MAT, MULCH AND FERTILIZE ALL SALVAGED TOPSOILED AREAS WITHIN 7 WORKING DAYS AFTER GRADING WORK IS COMPLETED.

SEED MIXTURE NO.40 SHALL BE USED THROUGHOUT THE PROJECT.

DO NOT APPLY FERTILIZER WITHIN 20 FEET OF WATER.

TRAFFIC CONTROL

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

EXISTING SIGNS THAT REQUIRE COVERING ALONG THE DETOUR ROUTES WILL BE PAID UNDER THE ITEM TRAFFIC CONTROL COVERING SIGNS. EXISTING SIGNS THAT REQUIRE COVERING RELATED TO CONSTRUCTION OPERATIONS ARE INCIDENTAL TO THE WORK.

MISCELLANEOUS

DETAILS OF CONSTRUCTION NOT SHOWN SHALL BE IN ACCORDANCE WITH THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS.

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

A SAWED JOINT WILL BE REQUIRED WHERE NEW PAVEMENT IS TO MEET AN EXISTING PAVED SURFACE.

STATIONING, DISTANCES, AND OFFSETS FOR SIGNS SHOWN IN THE PLANS ARE APPROXIMATE AND THE FINAL LOCATION OF SIGNS ARE TO BE DETERMINED BY THE ENGINEER.

TACK COAT HAS BEEN ESTIMATED AT AN APPLICATION RATE OF 0.05-0.07 GAL./S.Y. AND SHALL BE PLACED BETWEEN THE LAYERS OF ASPHALTIC PAVEMENT.

ASPHALTIC SURFACE SPECIAL WEIGHT CALCULATIONS ARE BASED ON 112 LB/SY/IN.

ALL CURB RADII ARE MEASURED TO THE FLANGE UNLESS OTHERWISE NOTED.

ELEVATIONS SHOWN ON THIS PLAN ARE REFERENCED TO THE NORTH AMERICAN VERTICAL DATUM OF 1988, 2009 ADJUSTMENT - NAVD88 (2009).

EITHER 12.5 MM OR 19.0 MM MIX MAY BE USED IN THE LOWER LAYERS. THE PAVEMENT STRUCTURE CAN BE CONSTRUCTED IN EITHER 3 OR 4 LIFTS.

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.

WISDOT DESIGN CONTACT

TARA WEISS, PE
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718 WEST CLAIREMONT AVENUE
EAU CLAIRE, WI 54701
715-836-2283
tara.weiss@dot.wi.gov

DESIGN CONTACT

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AYRES ASSOCIATES
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EAU CLAIRE, WI 54701
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abramsonj@ayresassociates.com

ORDER OF SECTION 2 SHEETS

TYPICAL SECTIONS
CONSTRUCTION DETAILS
INTERSECTION DETAILS
EROSION CONTROL
STORM SEWER AND UTILITIES
UTILITY PLAN
LANDSCAPE PLAN
PERMANENT SIGNING AND PAVEMENT MARKING
LIGHTING PLAN
TRAFFIC SIGNAL PLAN
DETOUR ROUTE

UTILITIES

CHIPPEWA VALLEY INTERNETWORKING CONSORTIUM (CINC) -
COMMUNICATION LINE
105 GARFIELD AVENUE
EAU CLAIRE, WI 54701
(715) 836-5286
ATTN: DAREN BAUER
bauerdp@uwec.edu

CITY OF EAU CLAIRE UTILITIES - ELECTRIC
203 SOUTH FARWELL STREET
EAU CLAIRE, WI 54702
(715) 839-4942
ATTN: ROSS SPITZ
ross.spltz@eauclairewi.gov

CITY OF EAU CLAIRE UTILITIES - WATER & SEWER
910 FOREST STREET
EAU CLAIRE, WI 54703
(715) 839-4920
ATTN: JEFFREY PIPPENGER
jeff.pippenger@eauclairewi.gov

XCEL ENERGY - GAS
1400 WESTERN AVENUE
P.O. BOX 8
EAU CLAIRE, WI 54702
ATTN: SCOTT SEAHOLM
(715) 737-2584
scott.j.seaholm@xcelenergy.com

XCEL ENERGY - GAS
24-HOUR EMERGENCY
(800) 895-2999

* DENOTES UTILITIES THAT ARE NOT
DIGGERS HOTLINE MEMBERS.



Dial 811 or (800)242-8511

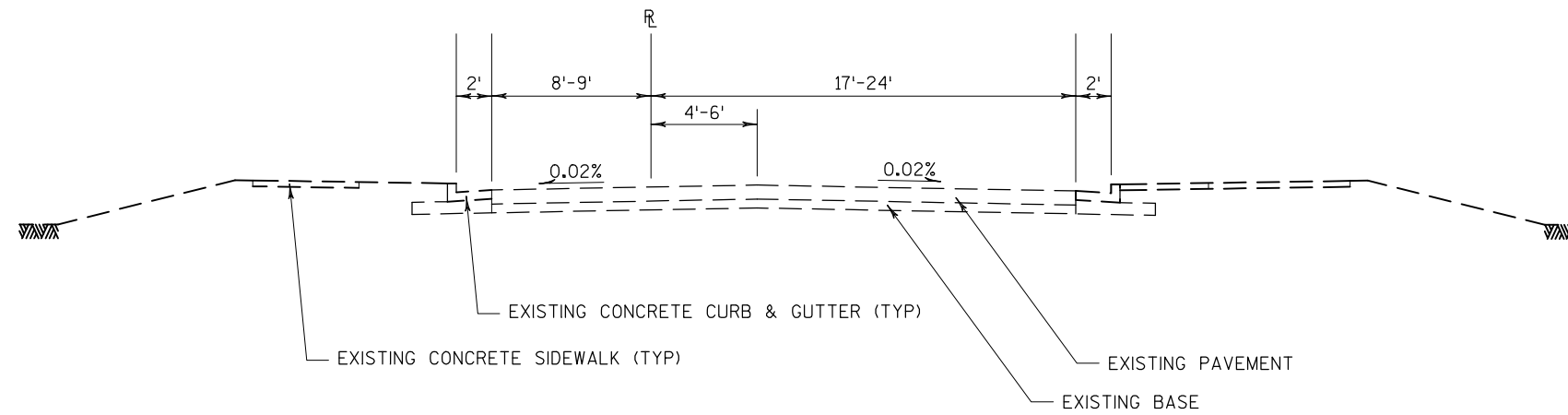
www.DiggersHotline.com

CITY OF EAU CLAIRE CONTACT

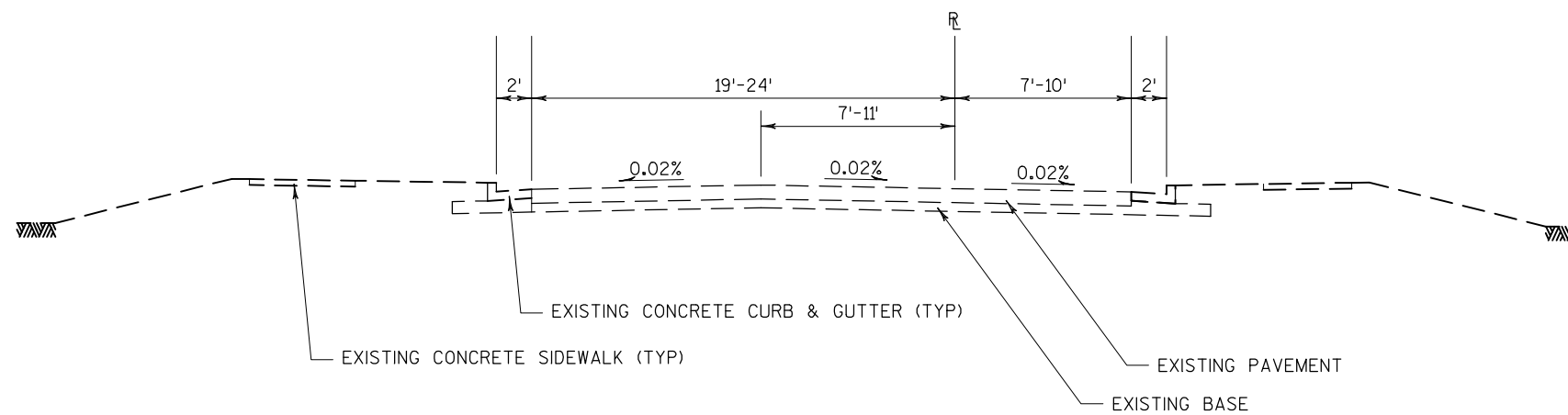
DAVE SOLBERG, PE
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203 SOUTH FARWELL STREET
EAU CLAIRE, WI 54702
715-839-4934
dave.solberg@eauclairewi.gov

DNR LIAISON

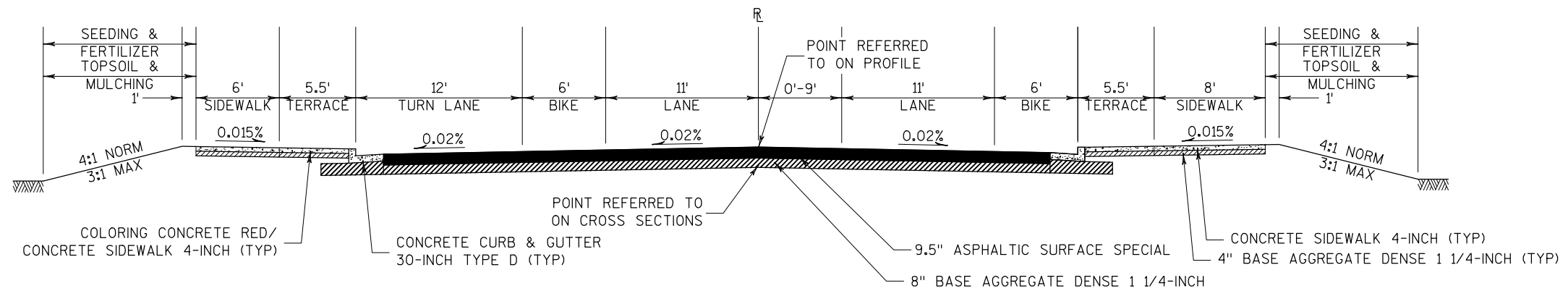
CHRIS WILLGER
DEPARTMENT OF NATURAL RESOURCES
1300 WEST CLAIREMONT
EAU CLAIRE, WI 54702
715-839-1609
christopher.j.willger@wisconsin.gov



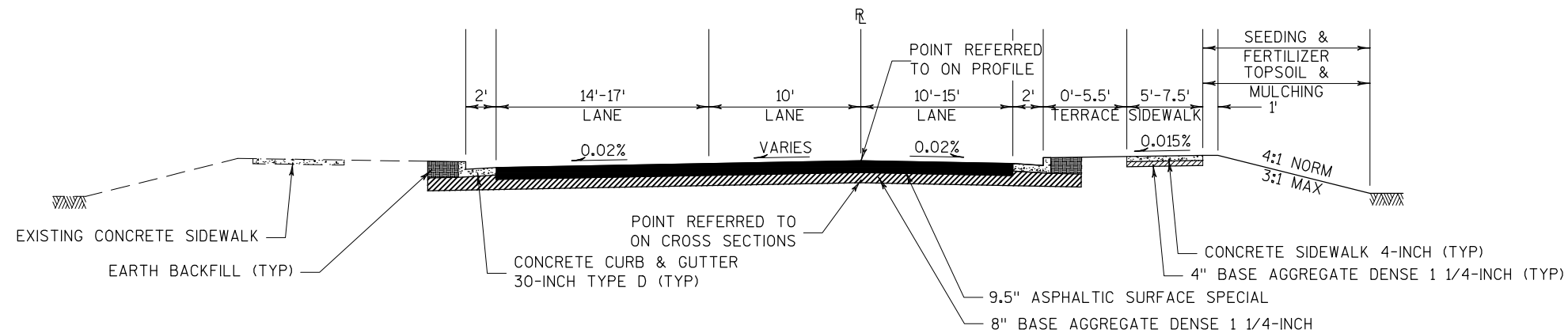
EXISTING TYPICAL SECTION
STA 11+00.00 TO STA 12+75.87



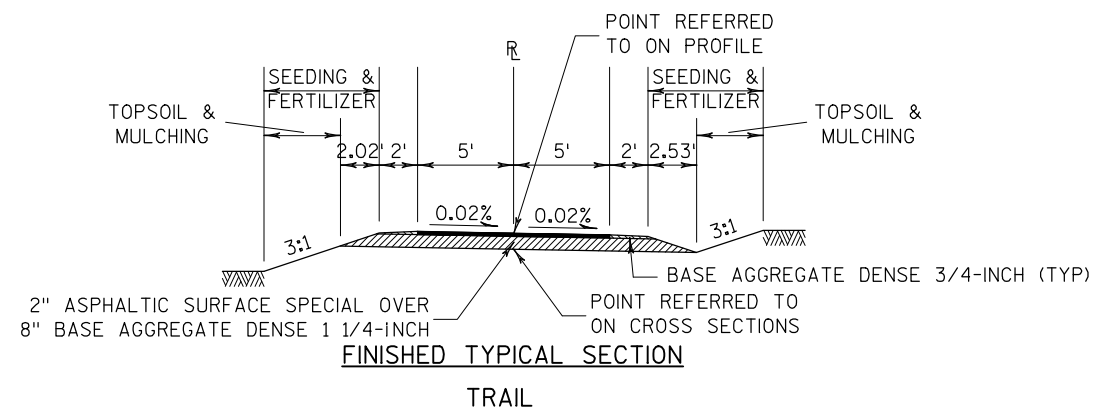
EXISTING TYPICAL SECTION
STA 19+88.37 TO STA 21+00.00



FINISHED TYPICAL SECTION
STA 11+00.00 TO STA 12+75.87



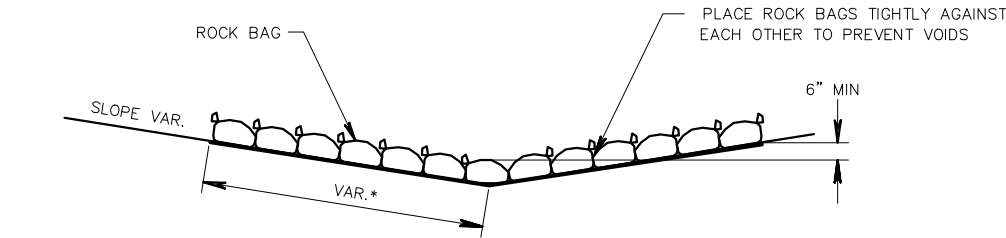
FINISHED TYPICAL SECTION
STA 19+88.37 TO STA 21+00.00



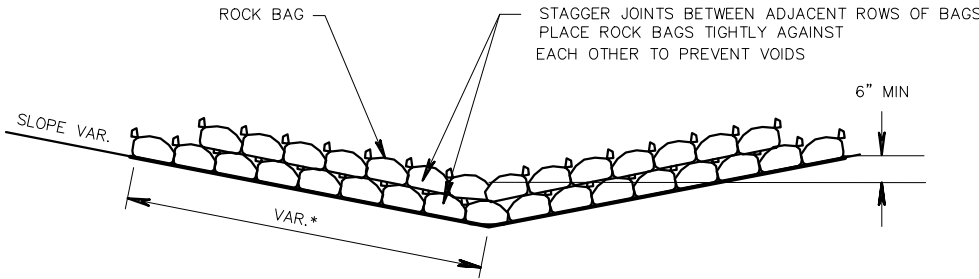
RUNOFF COEFFICIENT TABLE

	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	.08 .22	.16 .30	.22 .38	.12 .26	.20 .34	.27 .44	.15 .30	.24 .37	.33 .50	.19 .34	.28 .41	.38 .56
MEDIAN STRIP-TURF	.19 .24	.20 .26	.24 .30	.19 .25	.22 .28	.26 .33	.20 .26	.23 .30	.30 .37	.20 .27	.25 .32	.30 .40
SIDE SLOPE-TURF			.25 .32			.27 .34			.28 .36			.30 .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 = 4.83 ACRES
TOTAL AREA EXPECTED TO BE DISTURBED BY CONSTRUCTION ACTIVITIES = 2.12 ACRES



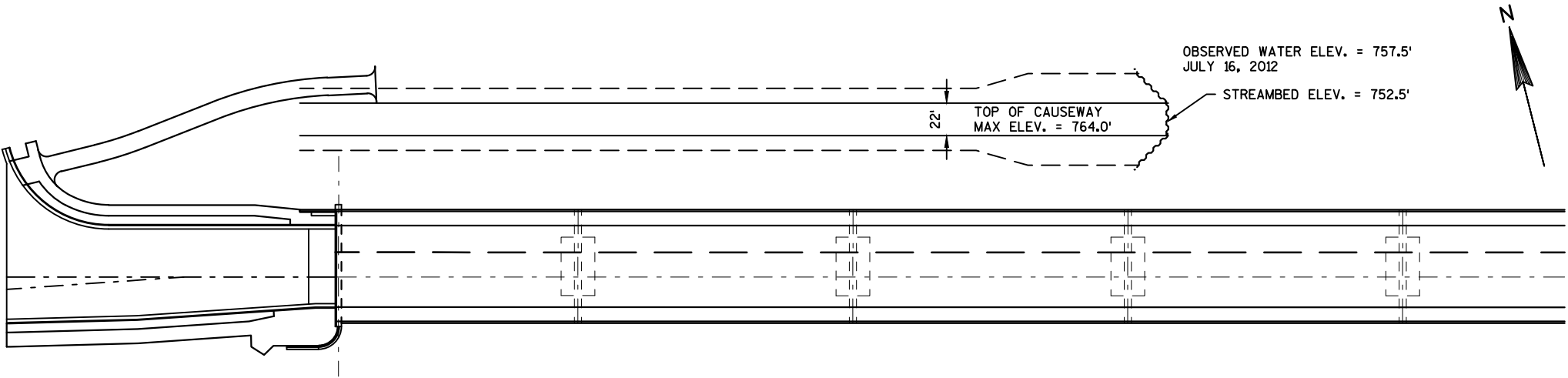
SIDE VIEW (SINGLE LAYER)



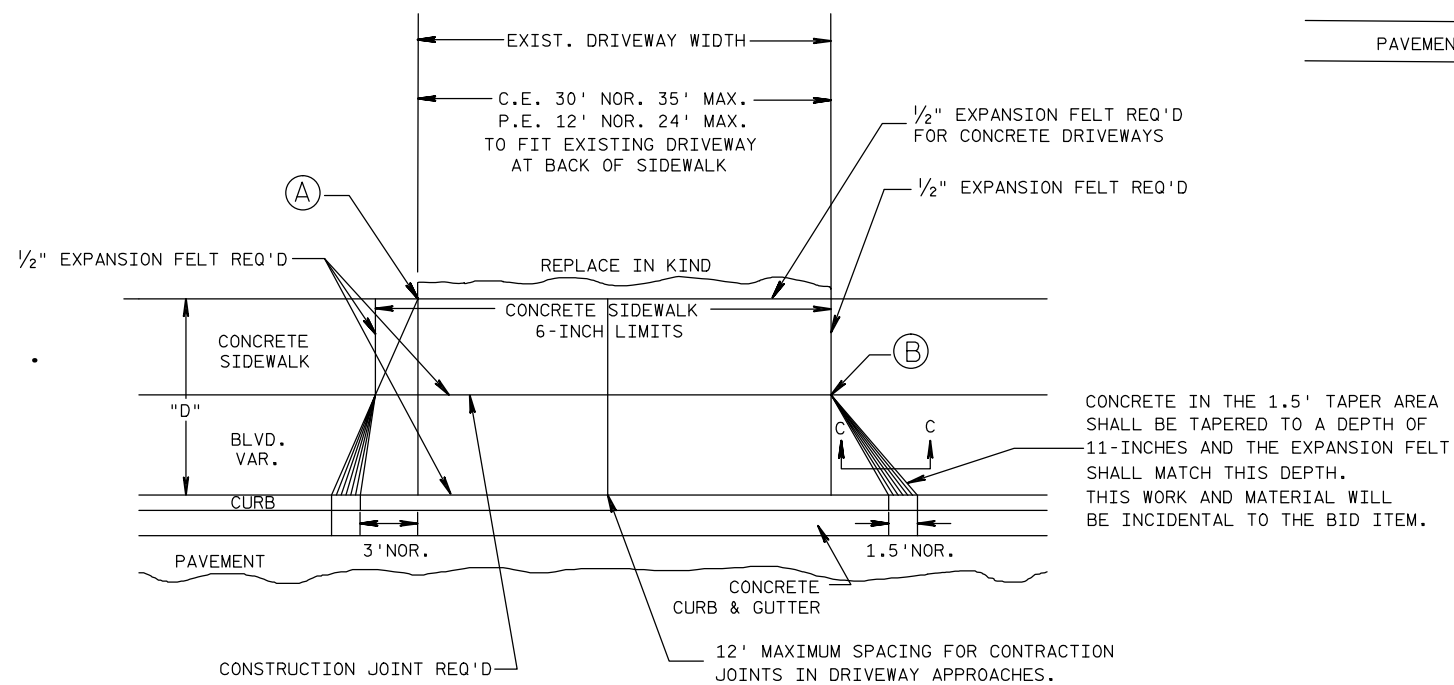
* LENGTH AND NUMBER OF BAGS MAY VARY
DEPENDING ON DESIRED DEPTH OF WATER POOL

SIDE VIEW (MULTIPLE LAYER)

ROCK BAGS (DITCH CHECK) DETAIL



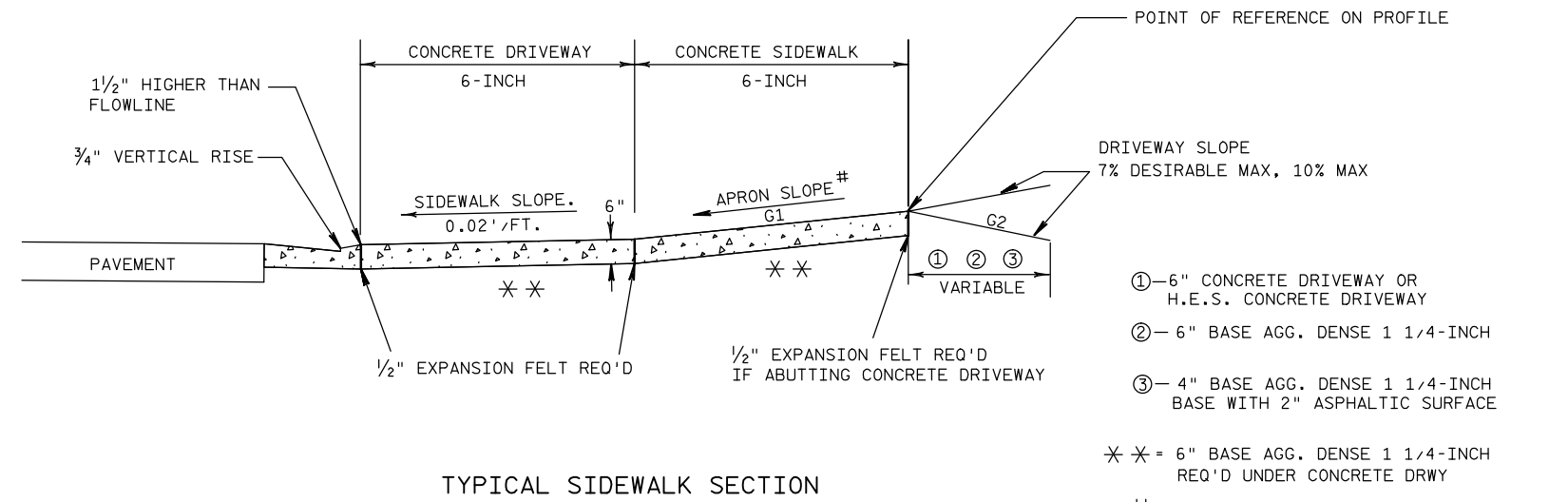
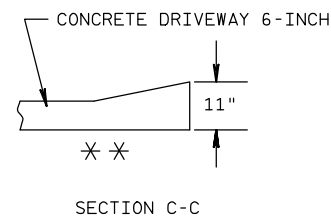
TYPICAL CAUSEWAY DETAIL



PLAN VIEW

(A) WHEN "D" IS 13' OR LESS, ALIGN
TAPER WITH BACK OF SIDEWALK

(B) WHEN "D" IS GREATER THAN
13', ALIGN TAPER WITH FRONT
OF SIDEWALK



TYPICAL SIDEWALK SECTION

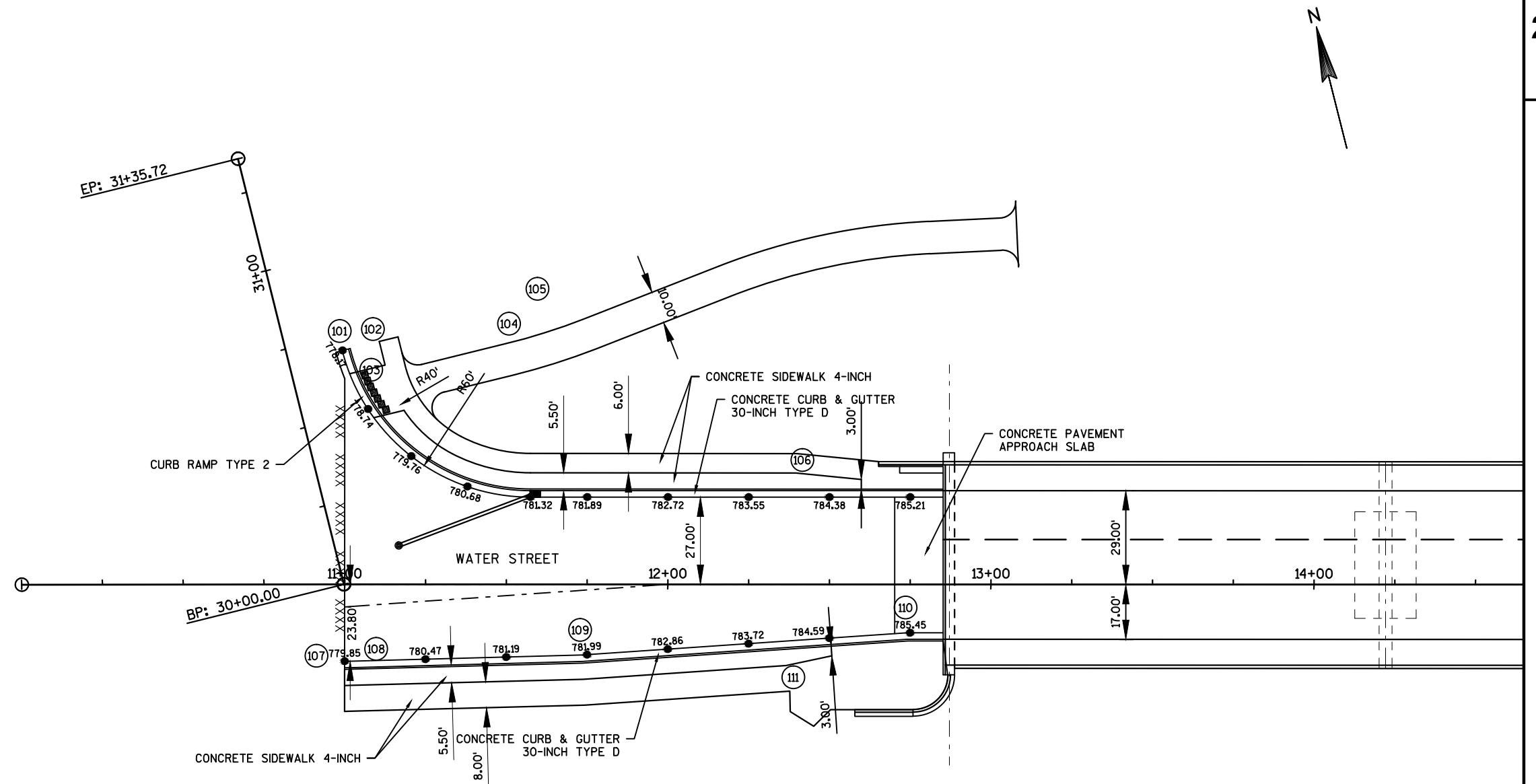
- ①—6" CONCRETE DRIVEWAY OR
H.E.S. CONCRETE DRIVEWAY
- ②—6" BASE AGG. DENSE 1 1/4-INCH
- ③—4" BASE AGG. DENSE 1 1/4-INCH
BASE WITH 2" ASPHALTIC SURFACE

#

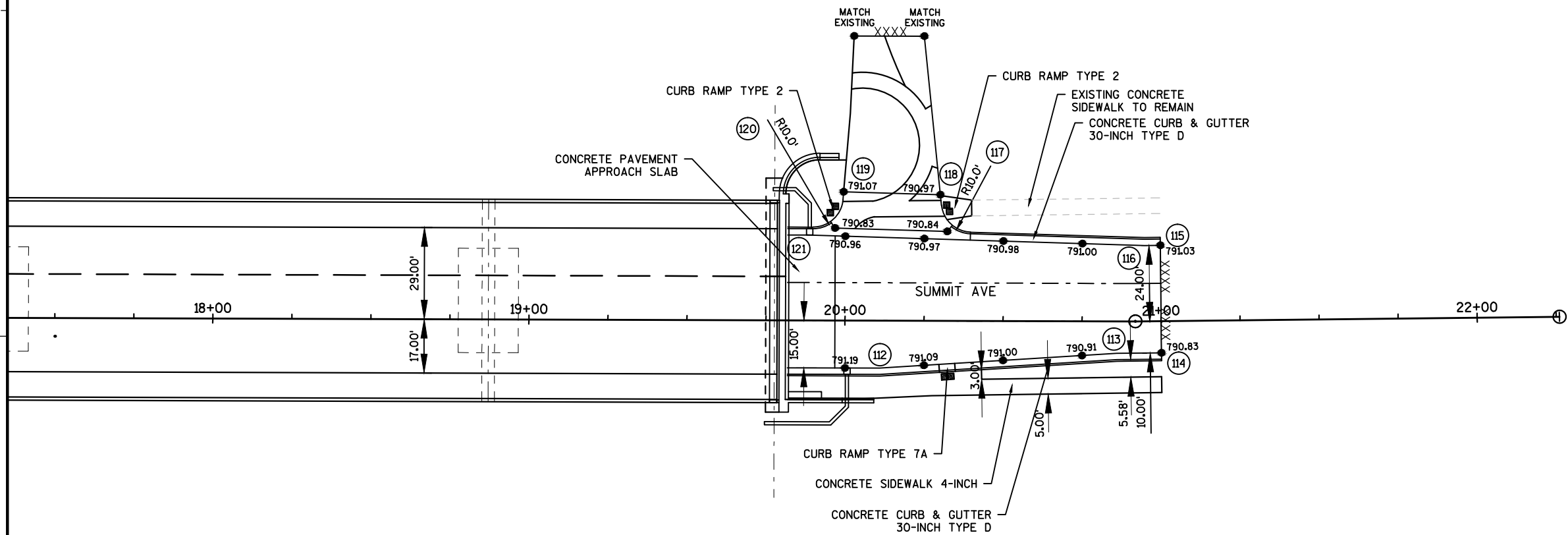
TERRACE WIDTH	APRON SLOPE (G1)		
	MIN %	DESIRABLE %	MAX %
3 FT	7.0	8.5	9.0
4 FT	5.0	7.0	9.0
5 FT	4.0	7.0	9.0
6 FT	4.0	7.0	9.0
7 FT	3.5	7.0	9.0
8 FT	3.0	7.0	9.0

NOTE: ALGEBRAIC DIFFERENCE BETWEEN TANGENT
GRADES G1 & G2 TO NOT EXCEED 15%

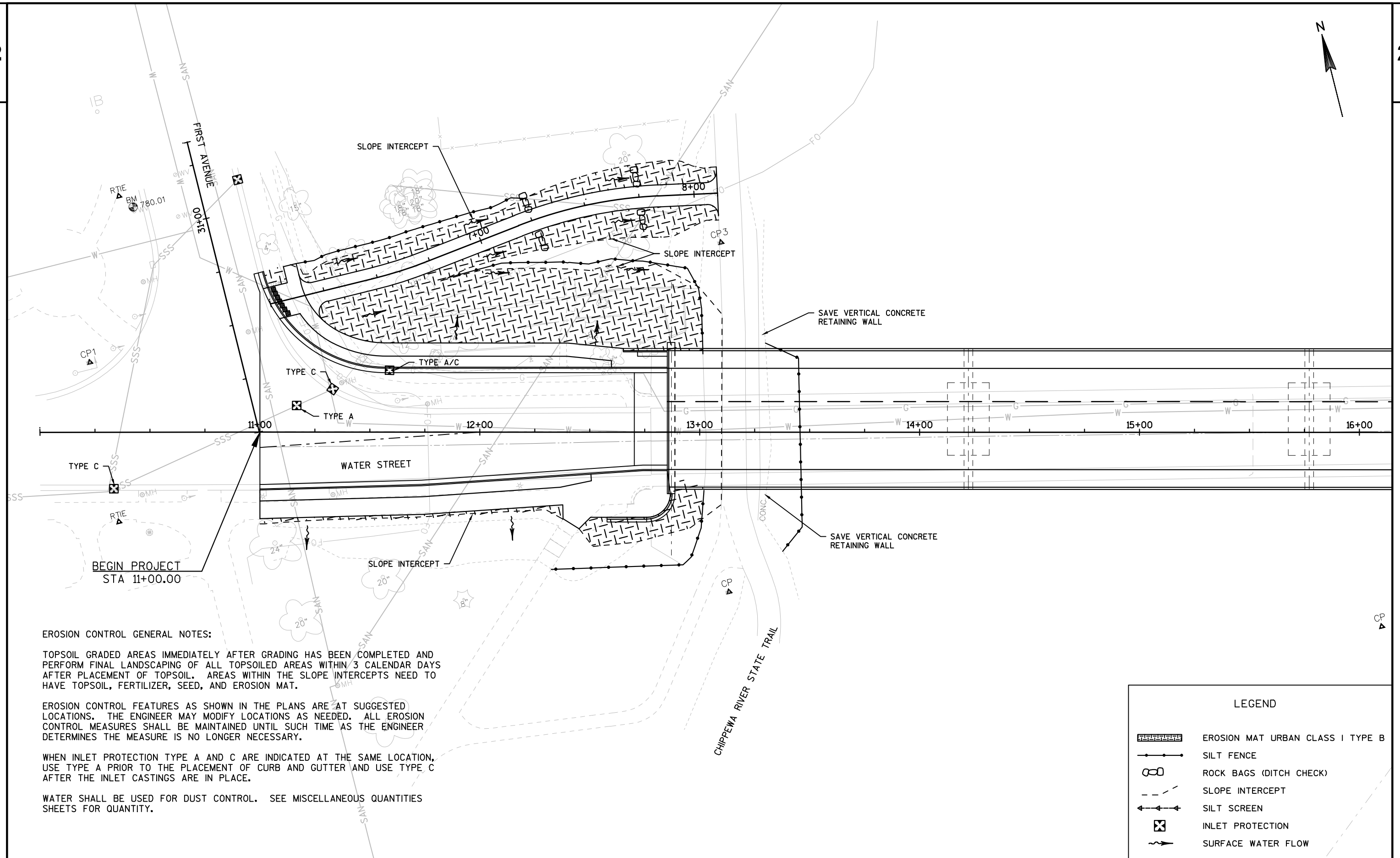
DEPRESS SIDEWALK PROFILE IF DRIVEWAY
APRON EXCEEDS MAX SLOPE

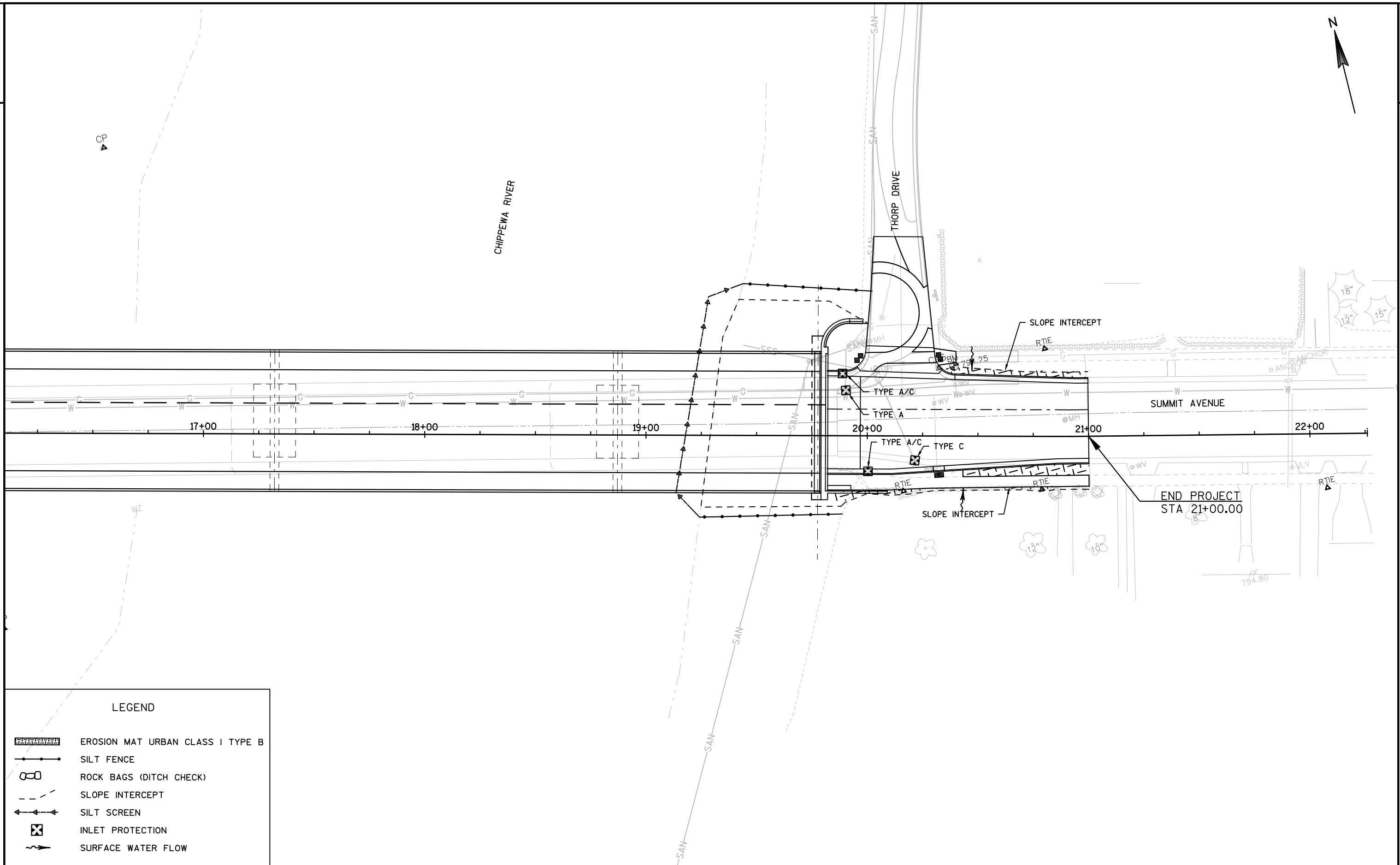


DATA TABLE							
POINT NO.	STATION	OFFSET	STATION	OFFSET	NORTHING	EASTING	RADIUS
101	10+99.38	72.33' LT	30+70.33	17.00' RT	275312.82	338935.48	---
102	11+10.67	75.16' LT	30+70.29	28.75' RT	275312.77	338947.23	---
103	11+12.86	66.31' LT	30+61.17	28.73' RT	275303.66	338947.19	---
104	11+51.69	75.90' LT	30+61.08	68.73' RT	275303.48	338987.19	40'
105	11+57.44	87.00' LT	30+70.46	77.00' RT	275312.84	338995.48	60'
106	12+40.57	34.50' LT	---	---	275241.63	339063.28	---
107	11+00.00	23.84' RT	---	---	275219.38	338912.72	---
108	11+01.69	23.80' RT	---	---	275219.00	338914.36	---
109	11+73.49	21.90' RT	---	---	275203.32	338984.45	---
110	12+36.65	25.09' RT	---	---	275185.44	339083.74	---
111	12+74.13	15.00' RT	---	---	275184.81	339044.92	---



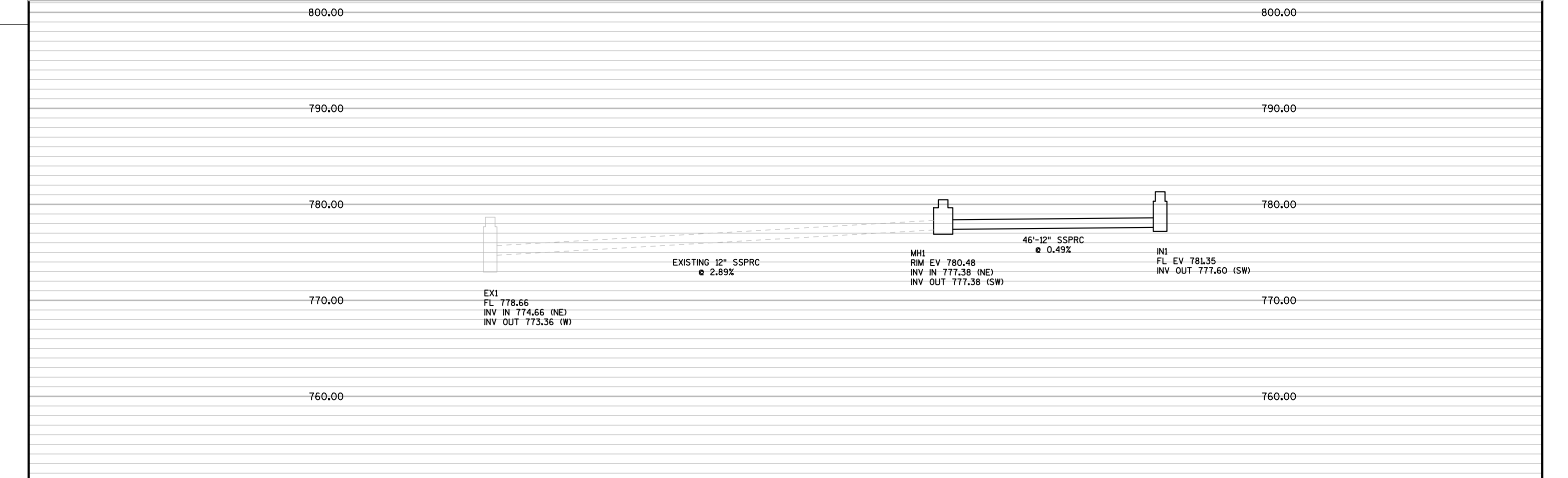
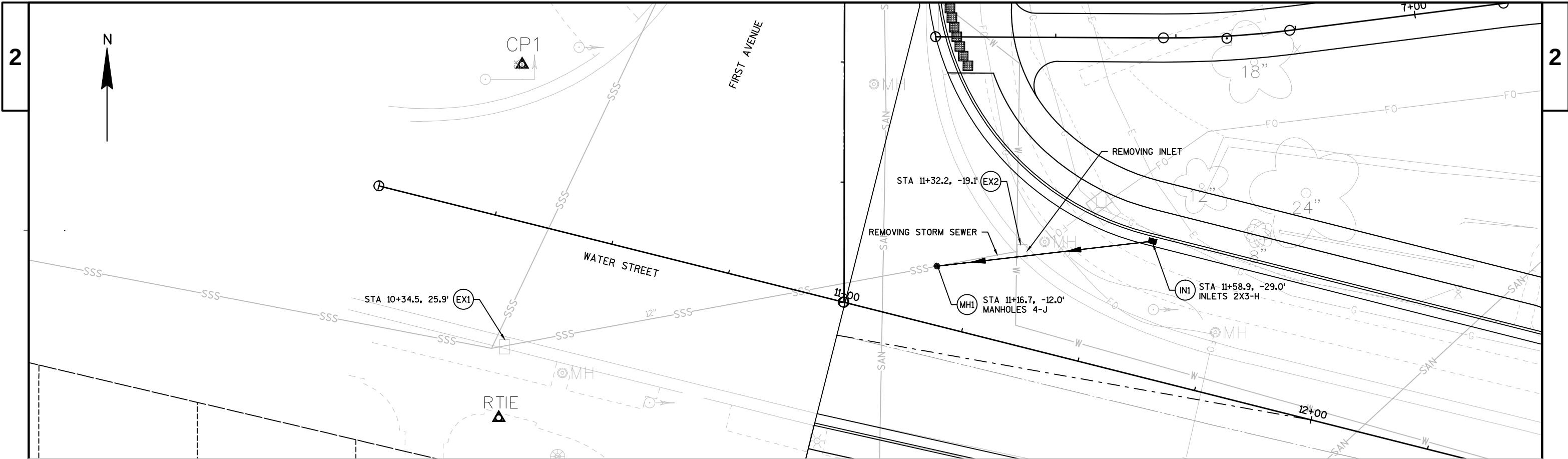
DATA TABLE					
POINT NO.	STATION	OFFSET	NORTHING	EASTING	RADIUS
112	20+11.00	15.00' RT	275005.54	339798.31	---
113	20+86.00	10.08' RT	274992.00	339872.24	---
114	21+00.00	10.00' RT	274988.74	339886.00	---
115	21+00.00	24.00' LT	275021.83	339893.83	---
116	20+95.01	24.00' LT	275022.98	339888.98	---
117	20+39.86	37.57' LT	275049.48	339839.13	10'
118	20+30.33	37.35' LT	275051.60	339829.83	---
119	20+00.19	50.00' LT	275071.22	339803.69	---
120	19+89.75	39.00' LT	275063.10	339790.88	10'
121	19+80.33	27.22' LT	275053.98	339778.87	---

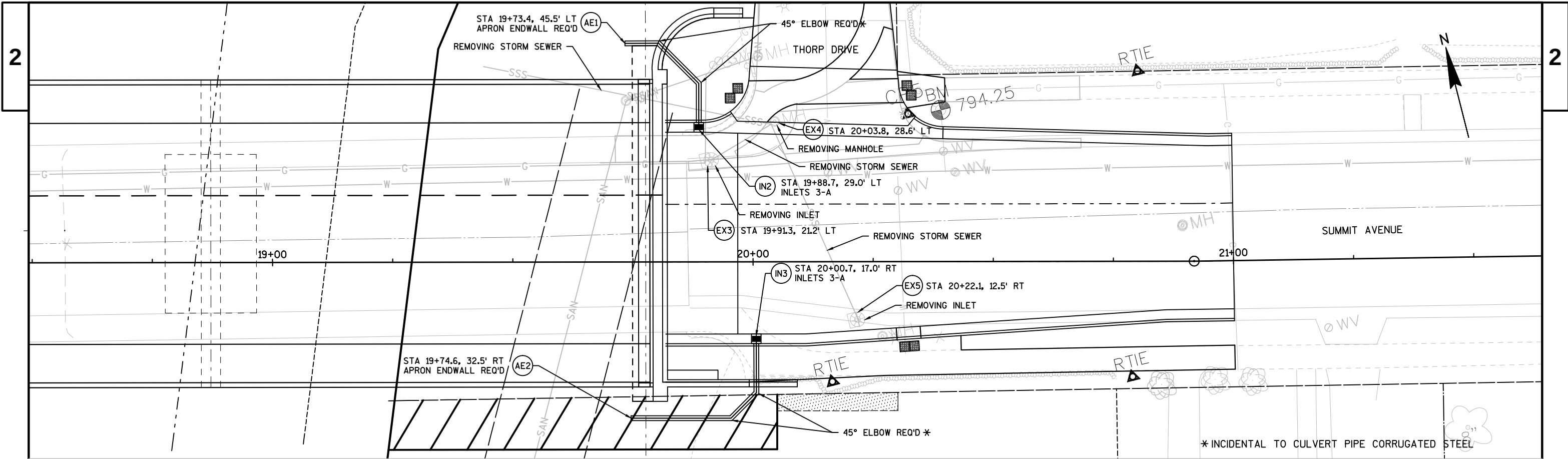


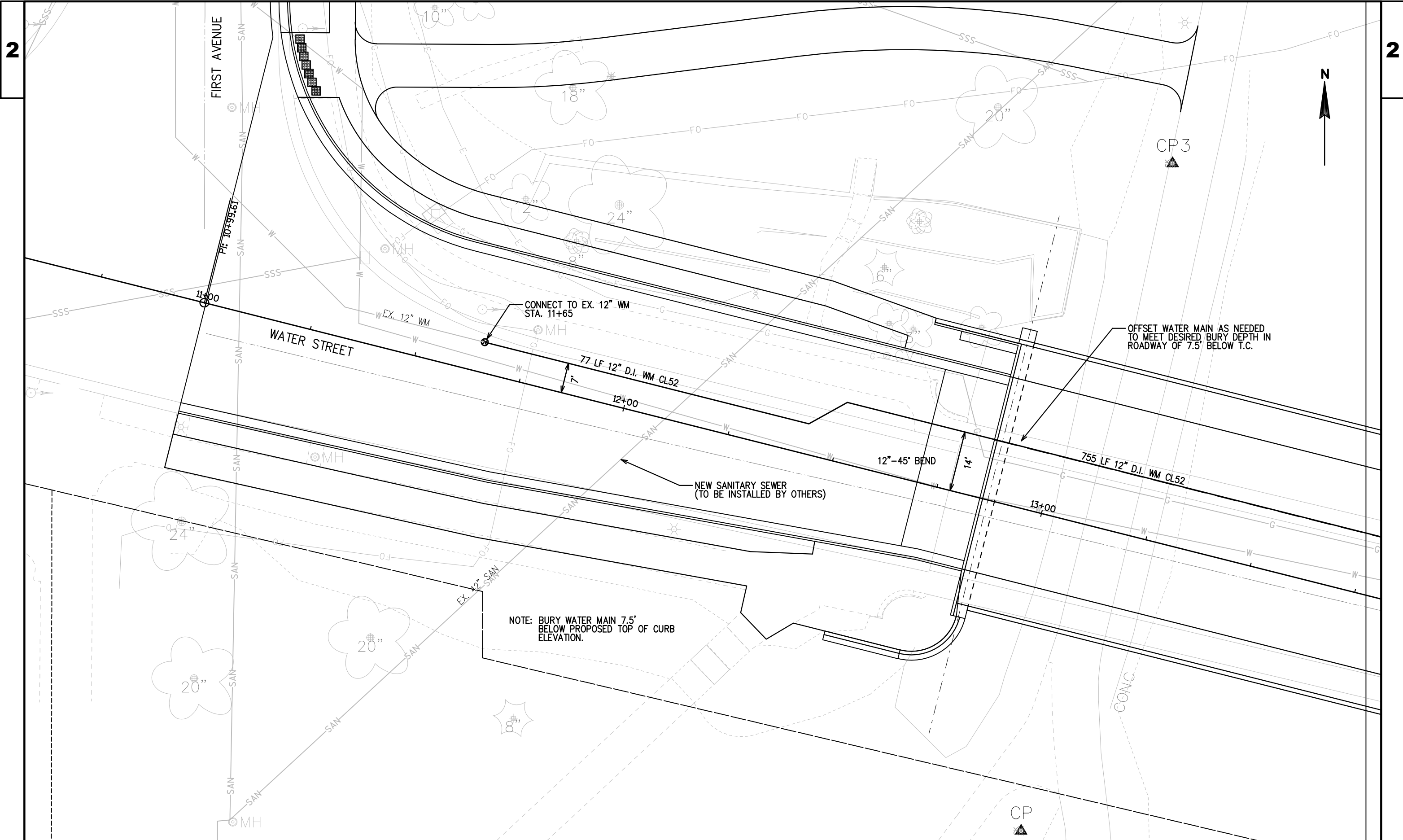


LEGEND

- EROSION MAT URBAN CLASS I TYPE B
- SILT FENCE
- ROCK BAGS (DITCH CHECK)
- SLOPE INTERCEPT
- SILT SCREEN
- INLET PROTECTION
- SURFACE WATER FLOW







GENERAL NOTES

PIPE HANGERS SHALL BE PLACED TWO (2) HANGERS PER PIPE WITH ONE (1) HANGER PLACED ADJACENT TO EVERY JOINT AND ONE (1) PLACED AT THE MIDPOINT OF THE PIPE. SPACING NOT TO EXCEED 10 FT.

HANGER LAYOUT AND PIPE LENGTHS TO BE DETERMINED BY CONTRACTOR AND ILLUSTRATED ON SHOP DRAWINGS.

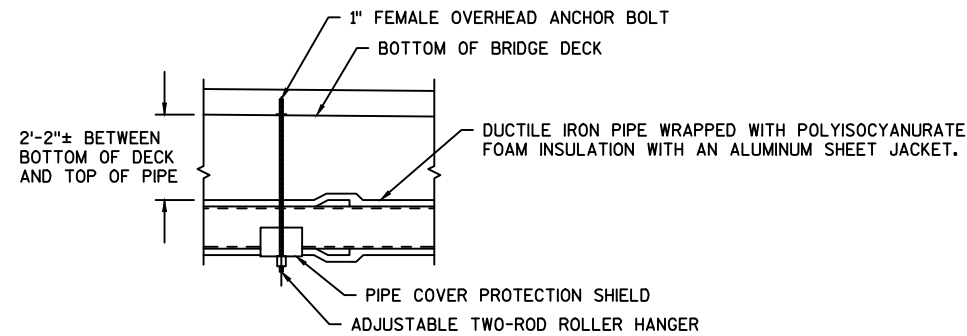
HANGERS SHALL BE ADJUSTABLE TWO-ROD ROLLER HANGER, FIGURE 260, PIPE SIZE 18 AS MANUFACTURED BY NATIONAL PIPE HANGER CORPORATION OR APPROVED EQUAL.

THERE SHALL BE A PIPE COVERING PROTECTION SHIELD, FIGURE 307 SHIELD SIZE NO. 21, AS MANUFACTURED BY NATIONAL PIPE HANGER CORPORATION OR APPROVED EQUAL.

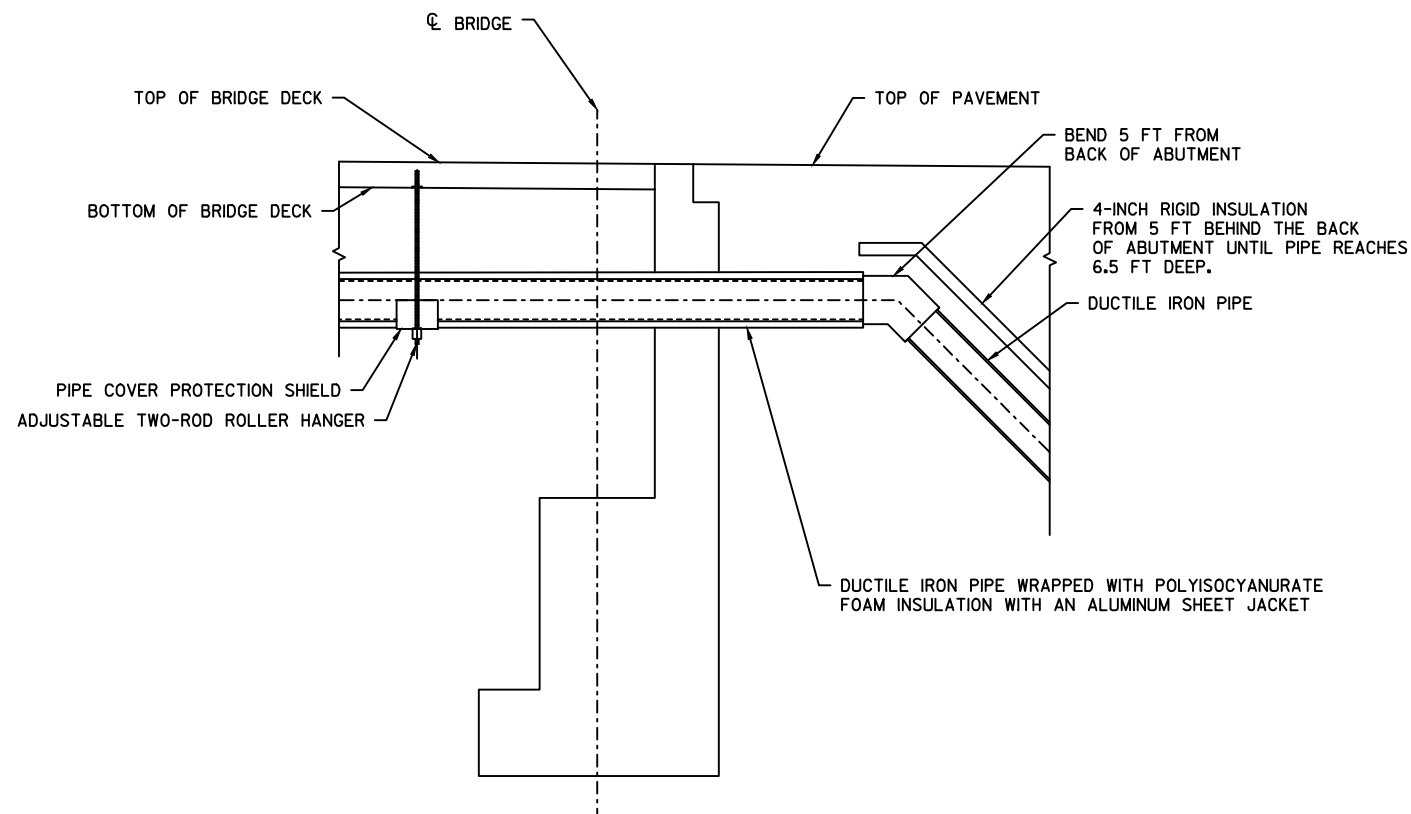
ANCHOR BOLTS SHALL BE FEMALE OVERHEAD ANCHOR BOLTS, FIGURE 561, SIZE NO. 6 AS MANUFACTURED BY NATIONAL PIPE HANGER CORPORATION OR AN APPROVED EQUAL.

ALL PIPE HANGERS, RODS, BOLTS, NUTS AND WASHERS SHALL BE GALVANIZED FINISH.

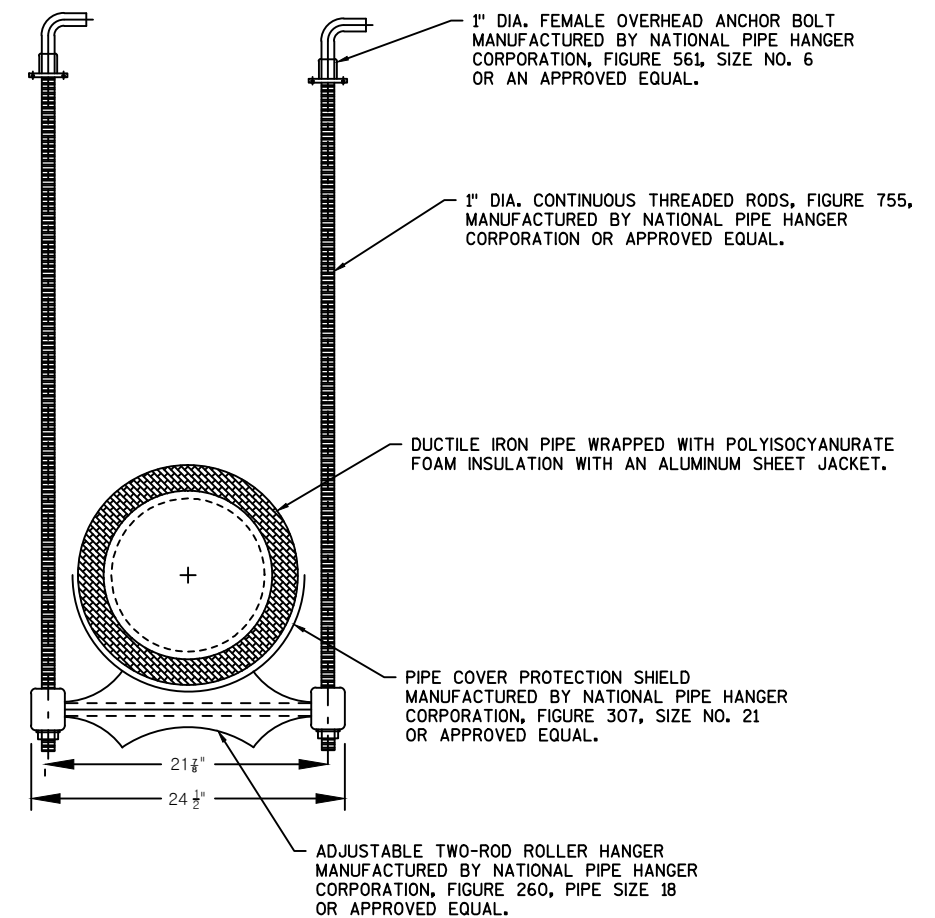
ADDITIONAL DETAIL SHOWING CROSS SECTION OF PIPE HANGER CAN BE REFERENCED ON SHEET 2 OF STRUCTURE DESIGN.



DETAIL A
PROFILE VIEW OF PIPE HANGER



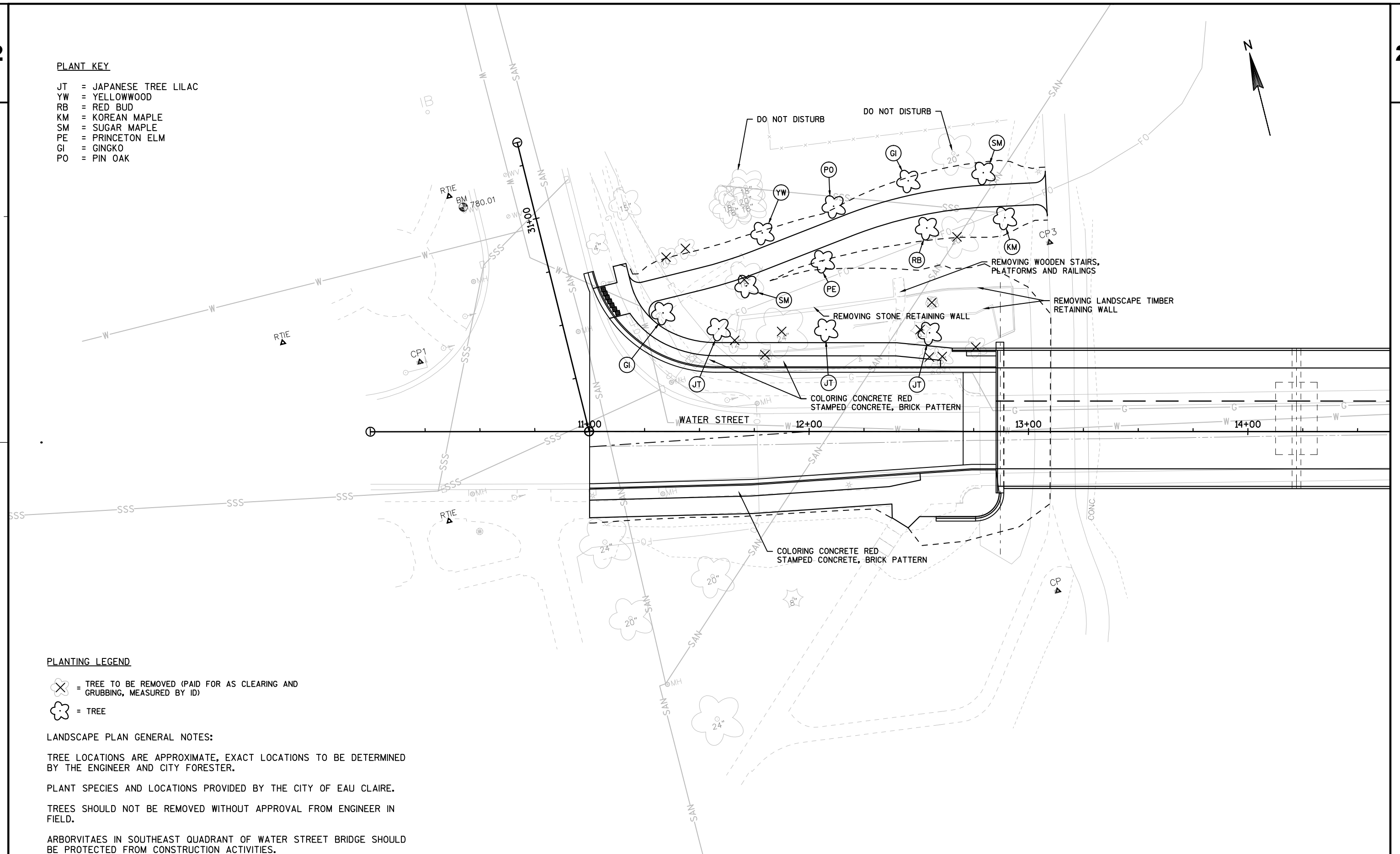
DETAIL B
CROSS SECTION AT ABUTMENT



DETAIL C
PIPE HANGER

2

JT = JAPANESE TREE LILAC
YW = YELLOWWOOD
RB = RED BUD
KM = KOREAN MAPLE
SM = SUGAR MAPLE
PE = PRINCETON ELM
GI = GINKGO
PO = PIN OAK



 = TREE TO BE REMOVED (PAID FOR AS CLEARING AND GRUBBING, MEASURED BY ID)

 = TREE

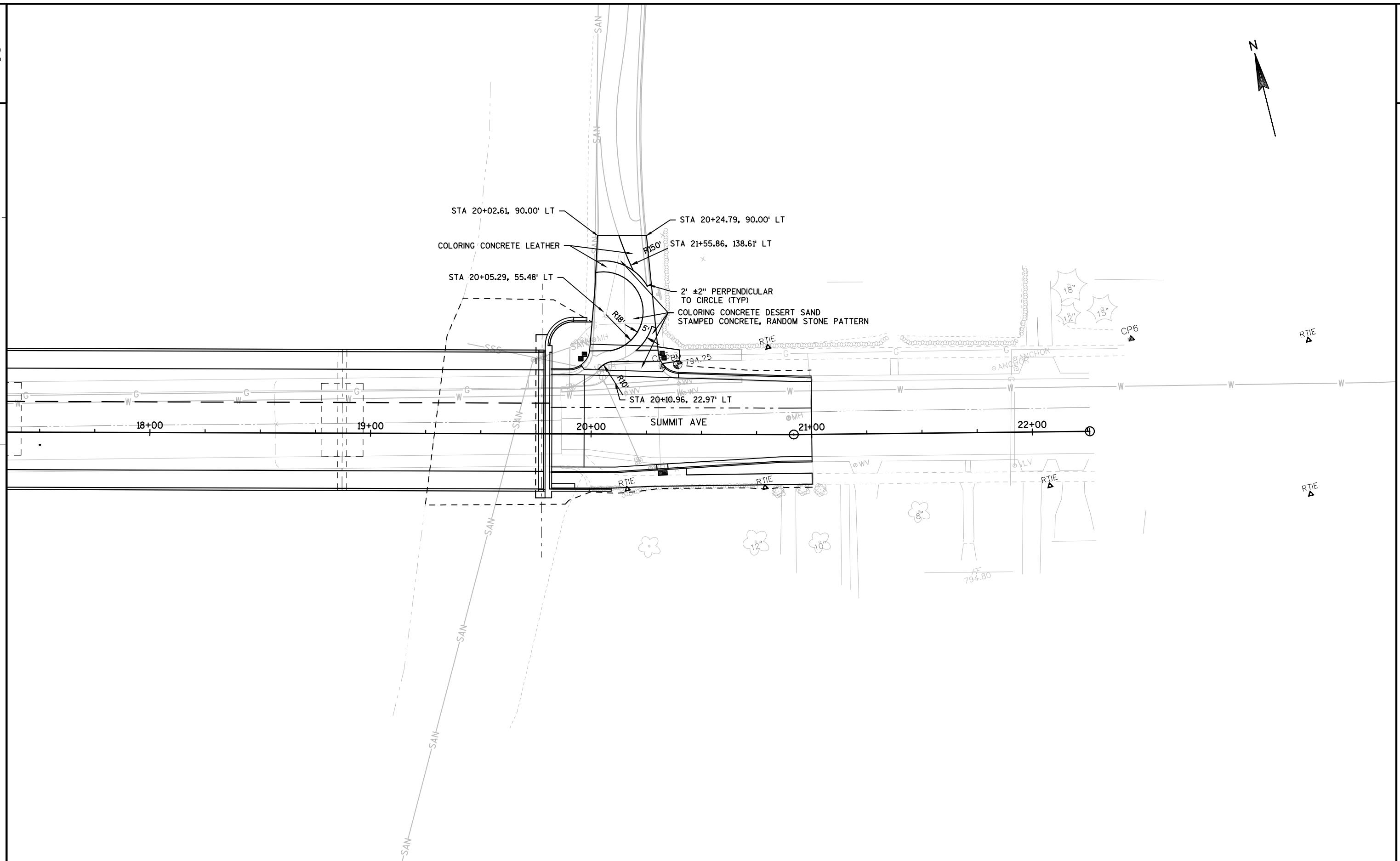
TREE LOCATIONS ARE APPROXIMATE, EXACT LOCATIONS TO BE DETERMINED BY THE ENGINEER AND CITY FORESTER.

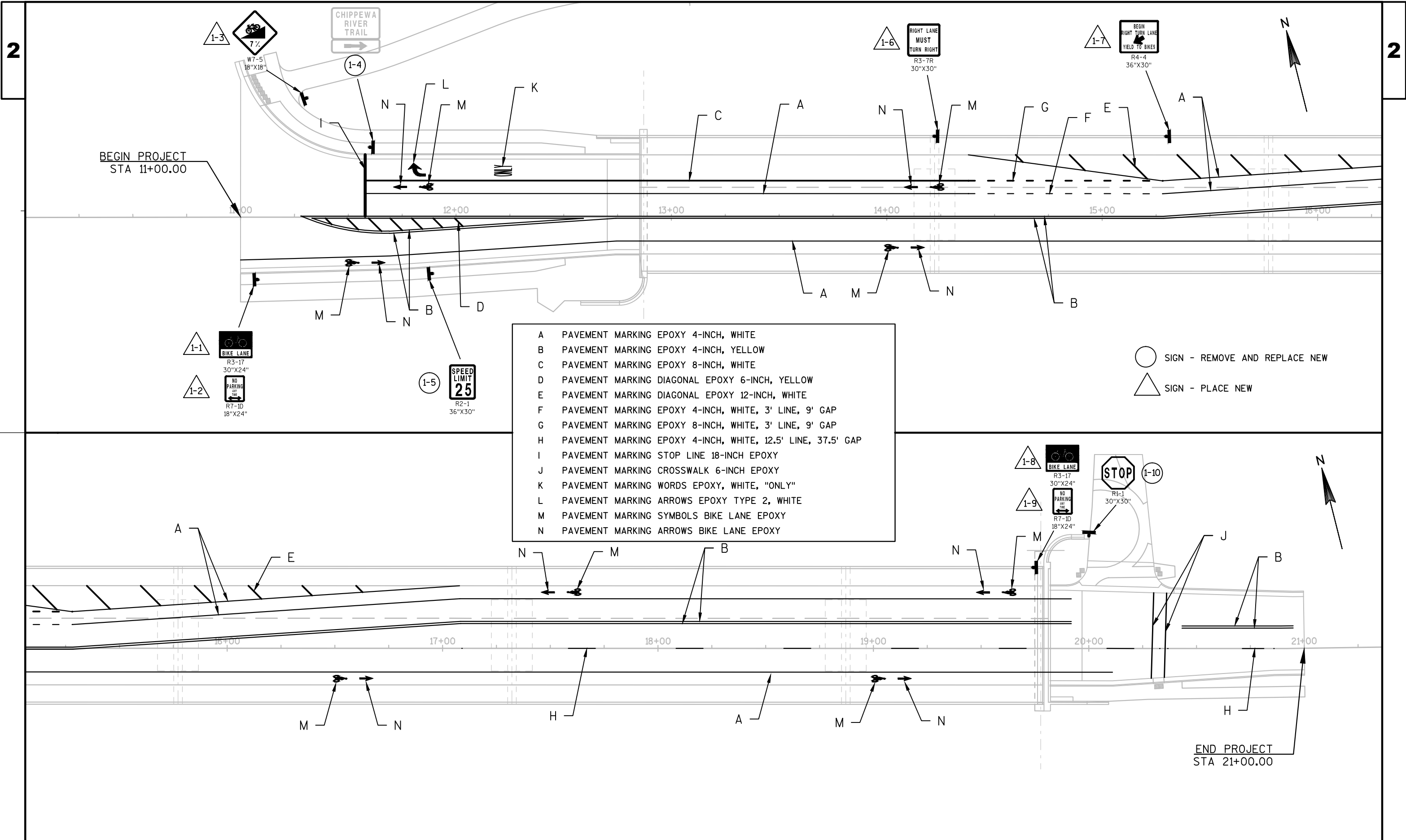
TREES SHOULD NOT BE REMOVED WITHOUT APPROVAL FROM ENGINEER IN FIELD.

ARBORVITAES IN SOUTHEAST QUADRANT OF WATER STREET BRIDGE SHOULD
BE PROTECTED FROM CONSTRUCTION ACTIVITIES.

2

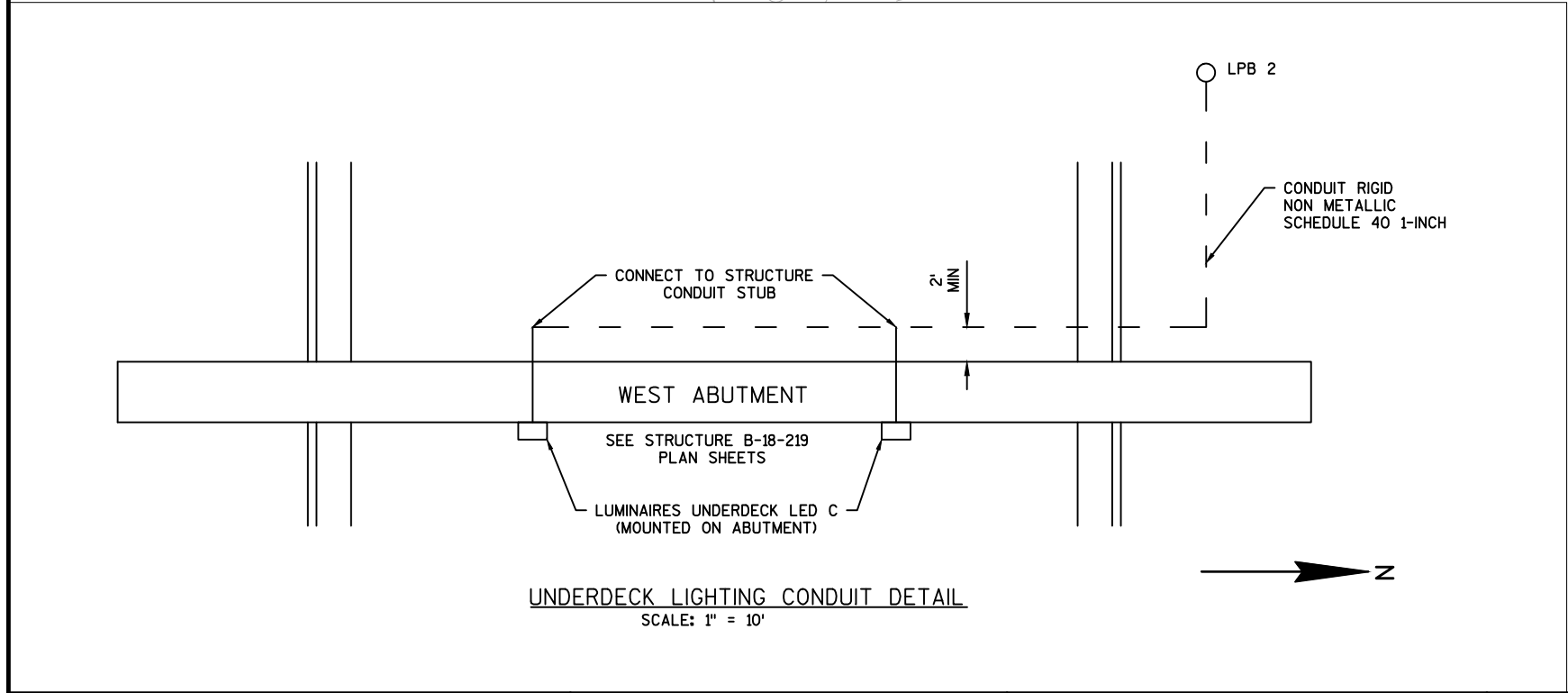
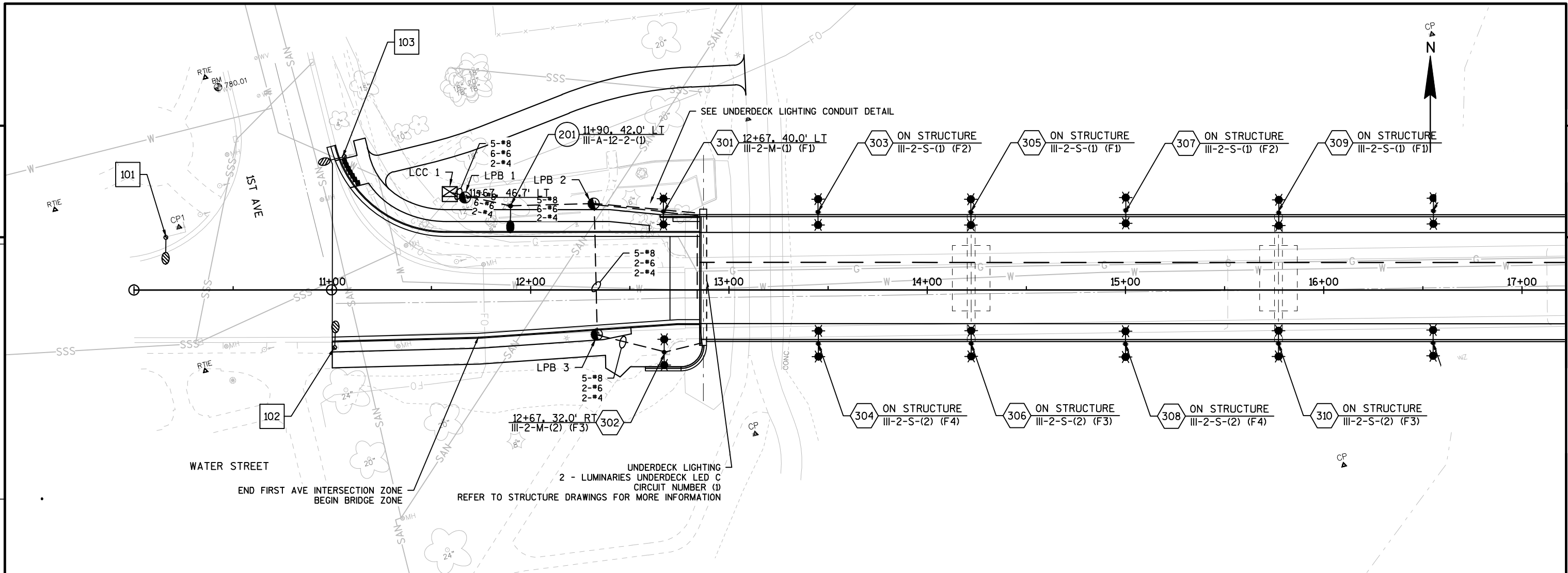
2 |





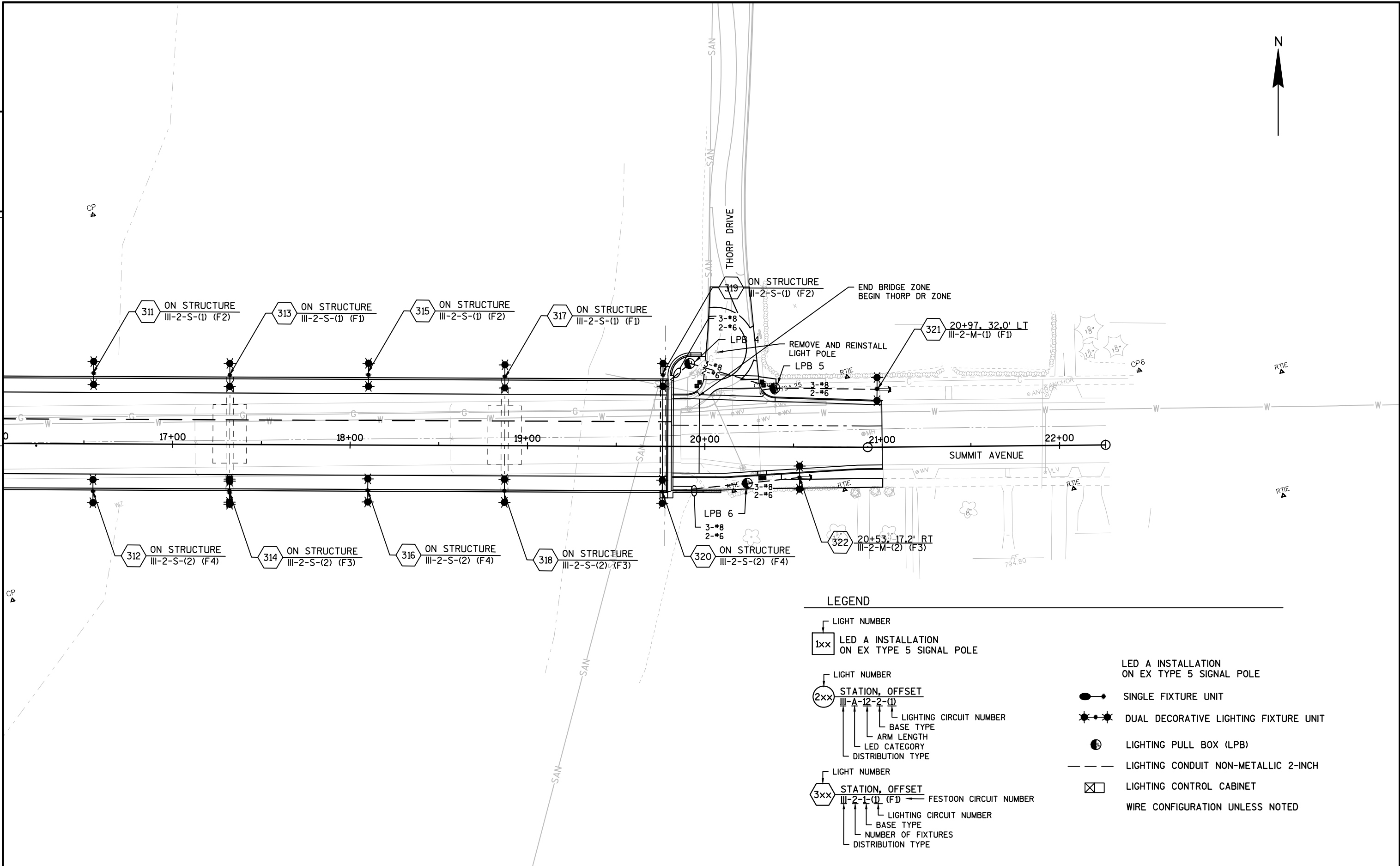
- A PAVEMENT MARKING EPOXY 4-INCH, WHITE
- B PAVEMENT MARKING EPOXY 4-INCH, YELLOW
- C PAVEMENT MARKING EPOXY 8-INCH, WHITE
- D PAVEMENT MARKING DIAGONAL EPOXY 6-INCH, YELLOW
- E PAVEMENT MARKING DIAGONAL EPOXY 12-INCH, WHITE
- F PAVEMENT MARKING EPOXY 4-INCH, WHITE, 3' LINE, 9' GAP
- G PAVEMENT MARKING EPOXY 8-INCH, WHITE, 3' LINE, 9' GAP
- H PAVEMENT MARKING EPOXY 4-INCH, WHITE, 12.5' LINE, 37.5' GAP
- I PAVEMENT MARKING STOP LINE 18-INCH EPOXY
- J PAVEMENT MARKING CROSSWALK 6-INCH EPOXY
- K PAVEMENT MARKING WORDS EPOXY, WHITE, "ONLY"
- L PAVEMENT MARKING ARROWS EPOXY TYPE 2, WHITE
- M PAVEMENT MARKING SYMBOLS BIKE LANE EPOXY
- N PAVEMENT MARKING ARROWS BIKE LANE EPOXY

○ SIGN - REMOVE AND REPLACE NEW
△ SIGN - PLACE NEW



LEGEND

1xx LIGHT NUMBER LED A INSTALLATION ON EX TYPE 5 SIGNAL POLE 2xx LIGHT NUMBER STATION, OFFSET III-A-12-2-(1) LIGHTING CIRCUIT NUMBER BASE TYPE ARM LENGTH LED CATEGORY DISTRIBUTION TYPE 3xx LIGHT NUMBER STATION, OFFSET III-2-2-(1) (F1) FESTOON CIRCUIT NUMBER LIGHTING CIRCUIT NUMBER BASE TYPE NUMBER OF FIXTURES DISTRIBUTION TYPE	LED A INSTALLATION ON EX TYPE 5 SIGNAL POLE SINGLE FIXTURE UNIT DUAL DECORATIVE LIGHTING FIXTURE UNIT LIGHTING PULL BOX (LPB) LIGHTING CONDUIT NON-METALLIC 2-INCH LIGHTING CONTROL CABINET 3-#8 4-#6 WIRE CONFIGURATION UNLESS NOTED
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LEGEND

- LIGHT NUMBER

1xx LED A INSTALLATION ON EX TYPE 5 SIGNAL POLE
- LIGHT NUMBER

2xx STATION, OFFSET

III-A-12-2-(1)

LIGHTING CIRCUIT NUMBER

BASE TYPE

ARM LENGTH

LED CATEGORY

DISTRIBUTION TYPE
- LIGHT NUMBER

3xx STATION, OFFSET

III-2-1-(1) (F1)

FESTOON CIRCUIT NUMBER

LIGHTING CIRCUIT NUMBER

BASE TYPE

NUMBER OF FIXTURES

DISTRIBUTION TYPE
- LED A INSTALLATION ON EX TYPE 5 SIGNAL POLE

SINGLE FIXTURE UNIT

DUAL DECORATIVE LIGHTING FIXTURE UNIT

LIGHTING PULL BOX (LPB)

LIGHTING CONDUIT NON-METALLIC 2-INCH

LIGHTING CONTROL CABINET

WIRE CONFIGURATION UNLESS NOTED

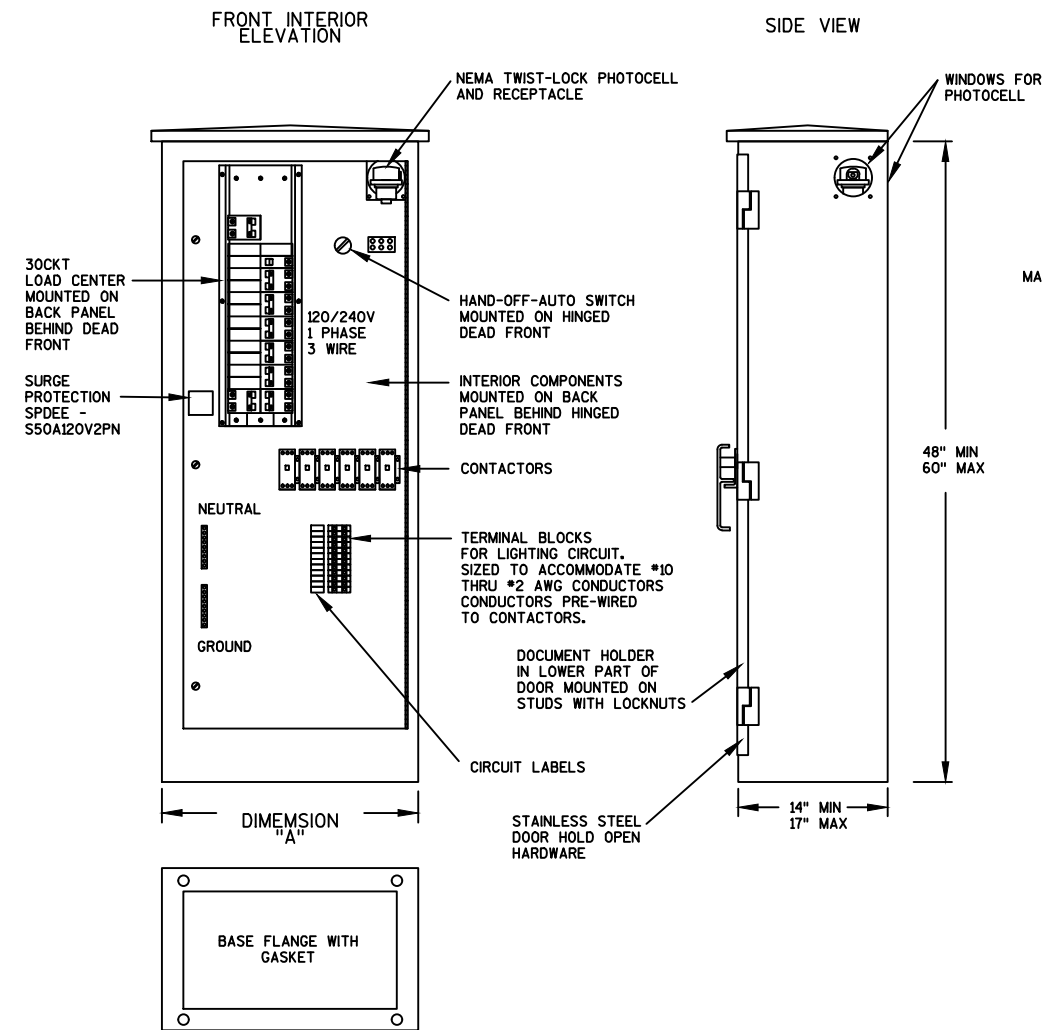
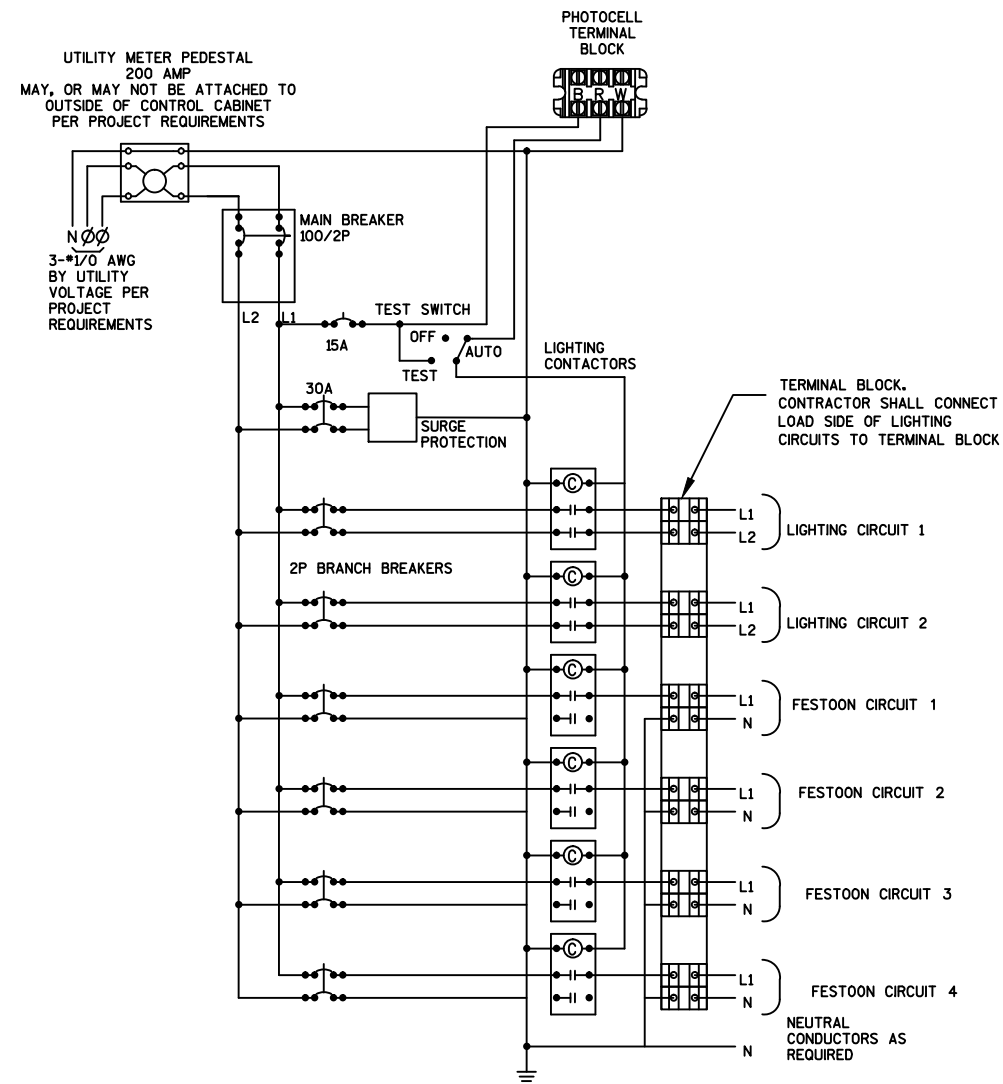


TABLE OF DIMENSIONS (INCHES)

CABINET BASE TYPE	CABINET WIDTH	DIMENSION "A"
L24	24"	24"
L30	30"	30"

LIGHTING CONTROL CABINET



GENERAL NOTES

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

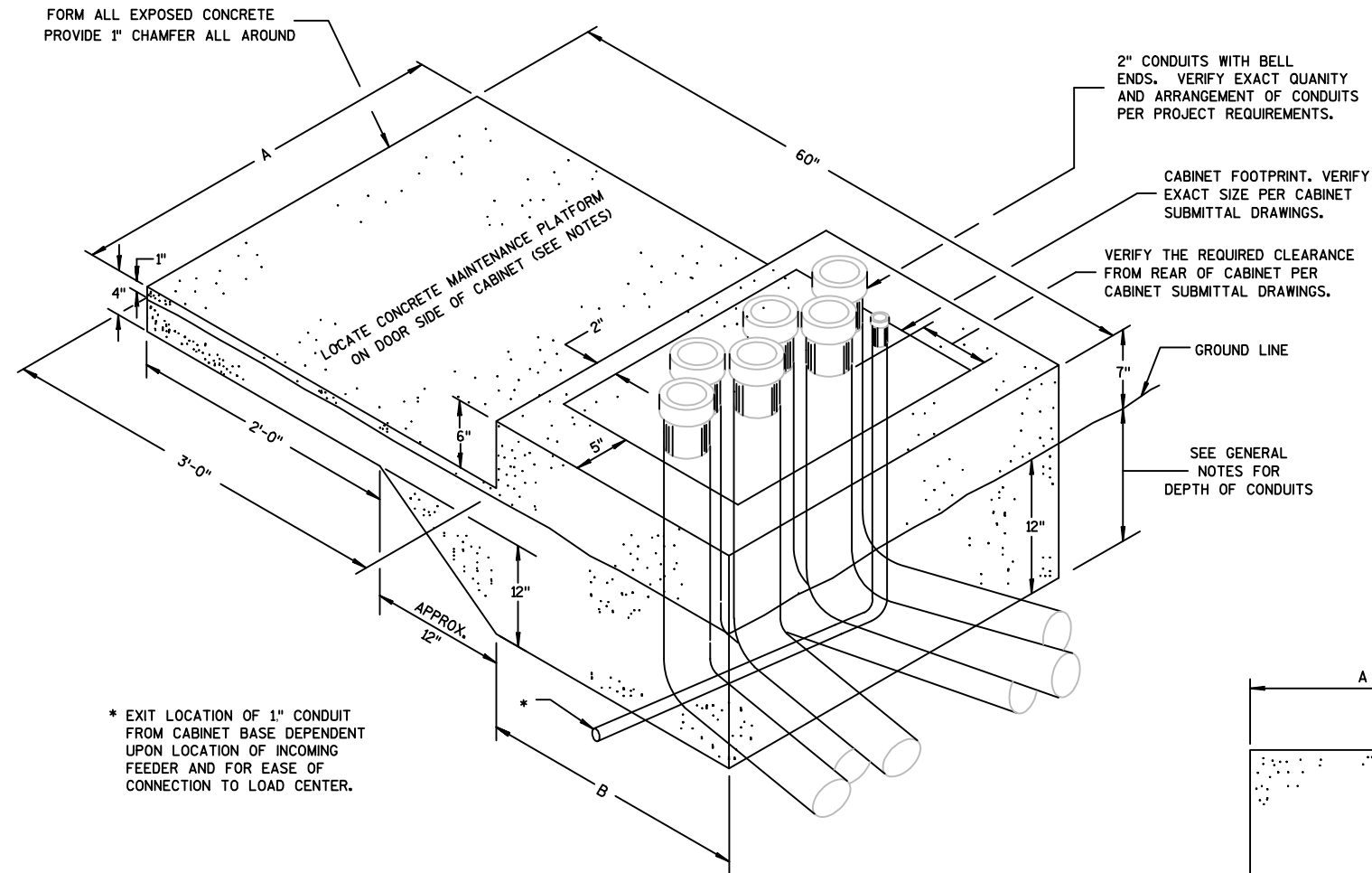
ALL INTERNAL ELECTRICAL COMPONENTS WILL BE PRE-WIRED BY THE CABINET FABRICATOR.

ALL CONDUIT ENTRIES SHALL BE SEALED WITH AN APPROPRIATE DUCT SEALING COMPOUND.

ORIENT PHOTOCELL AWAY FROM AMBIENT LIGHT SOURCES AND ONCOMING TRAFFIC HEADLIGHTS.

THE CONTRACTOR SHALL TOUCH UP ANY DAMAGE TO THE ANODIZED FINISH CAUSED BY THE INSTALLATION PROCESS. COLOR MATCH PAINT SHALL BE USED.

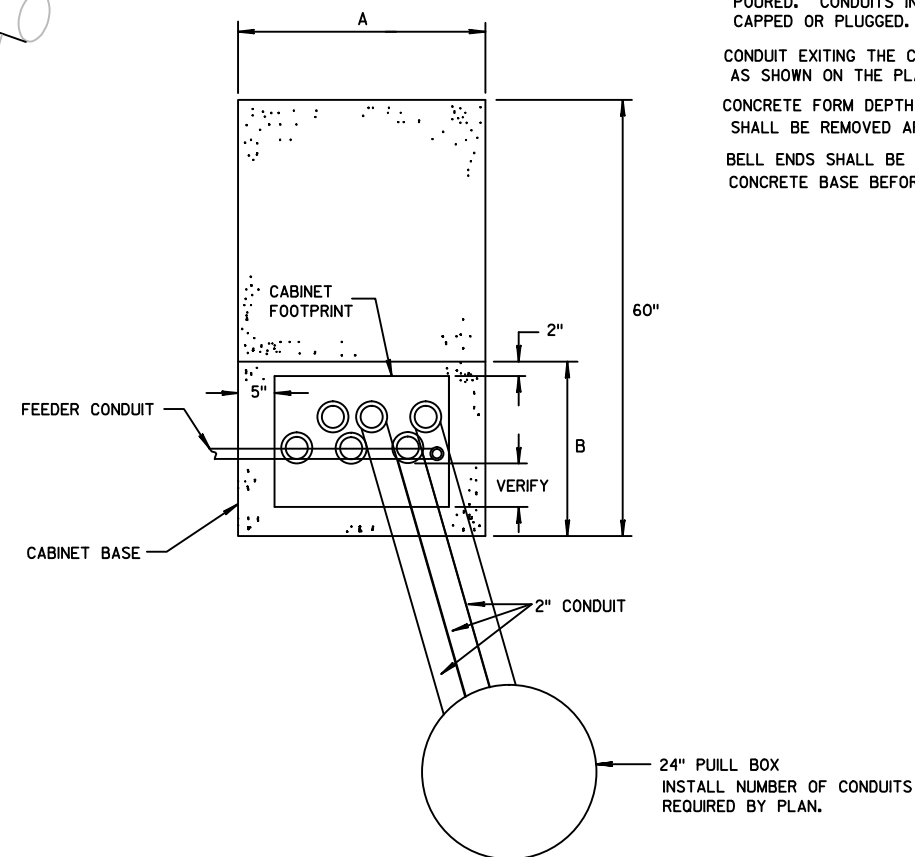
A COMPLETE LIGHTING OR ELECTRICAL PLAN SHALL BE SECURELY PLACED IN THE DOCUMENT HOLDER ATTACHED TO THE DOOR.



* EXIT LOCATION OF 1" CONDUIT FROM CABINET BASE DEPENDENT UPON LOCATION OF INCOMING FEEDER AND FOR EASE OF CONNECTION TO LOAD CENTER.

ISOMETRIC VIEW
CONCRETE LIGHTING CONTROL
CABINET BASE
(C.Y. CONCRETE = APPROX. 0.4)

CABINET WIDTH	DIMENSIONS	
	A	B
24"	34"	24"



PLAN VIEW
CONCRETE LIGHTING CONTROL CABINET BASE

GENERAL NOTES

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

INSTALL FOUR STAINLESS STEEL APPROVED CONCRETE MASONRY ANCHORS TO ANCHOR THE CABINET BASES. THE ANCHORS SHALL BE LOCATED AS DIRECTED BY THE ENGINEER TO PROPERLY ANCHOR THE CONTROL CABINET TO THE BASE.

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

CONDUIT HEIGHT ABOVE THE CONCRETE BASE SHALL BE 1 INCH.

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.

CONTROL CABINET BASE TOP SURFACE SHALL BE TROWEL FINISHED SMOOTH AND LEVEL.

MAINTENANCE PLATFORM SHALL BE FLOAT OR BROOM FINISHED AND BE LEVEL.

MAINTENANCE PLATFORMS ARE NOT REQUIRED WHEN THE SURROUNDING AREA IS PAVED.

MINIMUM BENDING RADIUS OF CONDUIT = 6 X THE DIAMETER.

ALL METALLIC CONDUIT ENDS SHALL BE REAMED AND THREADED.

CAP ALL BELOW GRADE METALLIC CONDUIT ENDS IN WHICH WIRE OR CABLE IS NOT BEING INSTALLED.

PLUG ALL BELOW GRADE NONMETALLIC CONDUIT ENDS IN WHICH WIRE OR CABLE IS NOT BEING INSTALLED.

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 BEING INSTALLED SHALL REMAIN CAPPED OR PLUGGED.

CONDUIT EXITING THE CONCRETE BASE (SIX THREE INCH) SHALL TERMINATE IN PULL BOXES AS SHOWN ON THE PLANS.

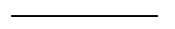
CONCRETE FORM DEPTH BELOW FINISHED GRADE SHALL BE 6" MAXIMUM. CONCRETE FORMS SHALL BE REMOVED AFTER CONCRETE HAS SET.

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

LEGEND



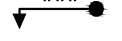
CONTROL CABINET



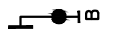
NONMETALLIC CONDUIT 2", UNLESS OTHERWISE NOTED



SIGNAL HEAD, TRAFFIC SIGNAL STANDARD, PEDESTAL BASE



SIGNAL HEAD, TRAFFIC SIGNAL POLE, TRANSFORMER BASE



PEDESTRIAN HEAD WITH PUSH BUTTON



LUMINAIRE, TRAFFIC POLE, TRANSFORMER BASE



PULL BOX, 24" X 48"



SIGNAL HEAD NUMBER



DON'T WALK INDICATOR 16"

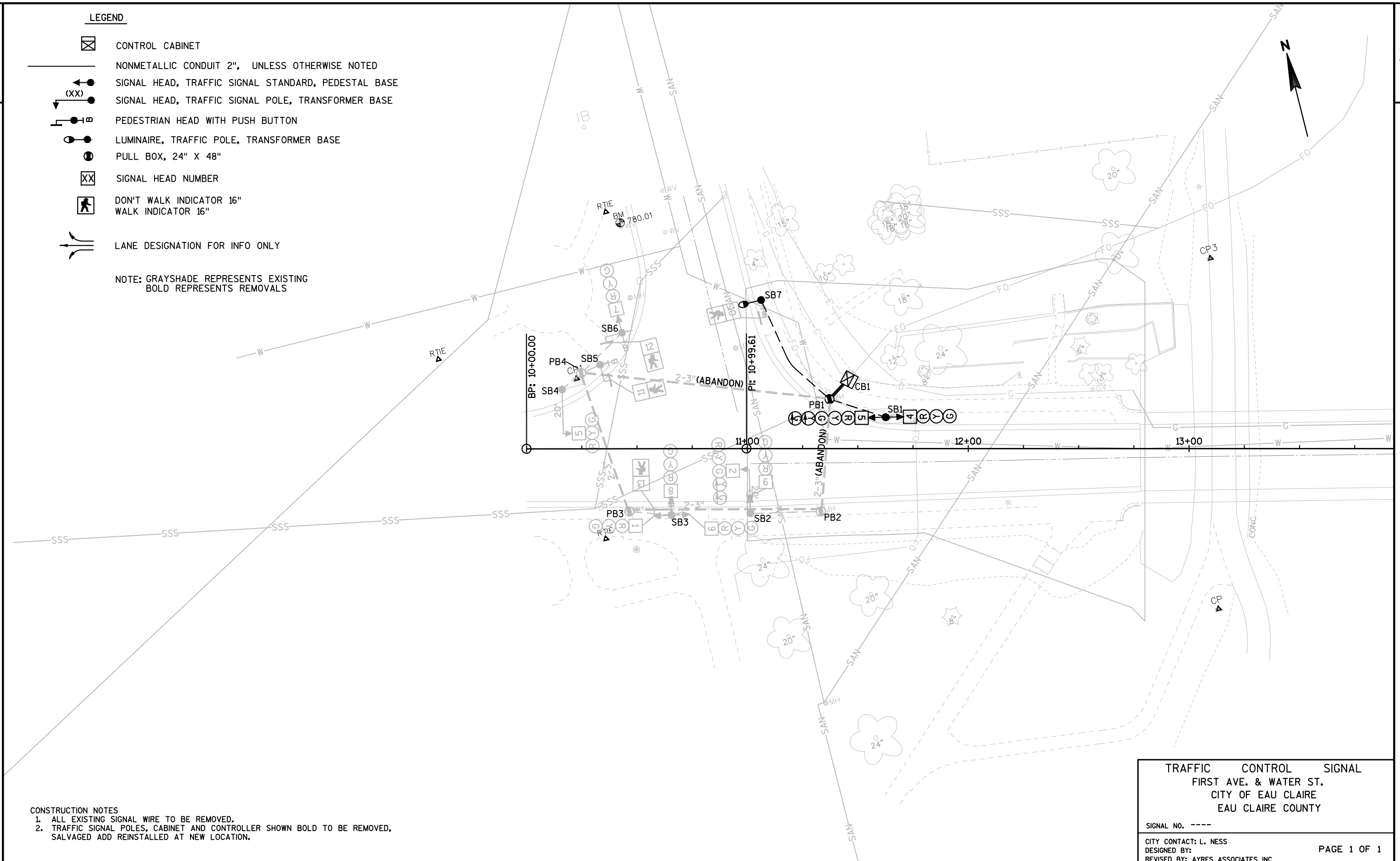


WALK INDICATOR 16"



LANE DESIGNATION FOR INFO ONLY

NOTE: GRAYSHADE REPRESENTS EXISTING
BOLD REPRESENTS REMOVALS

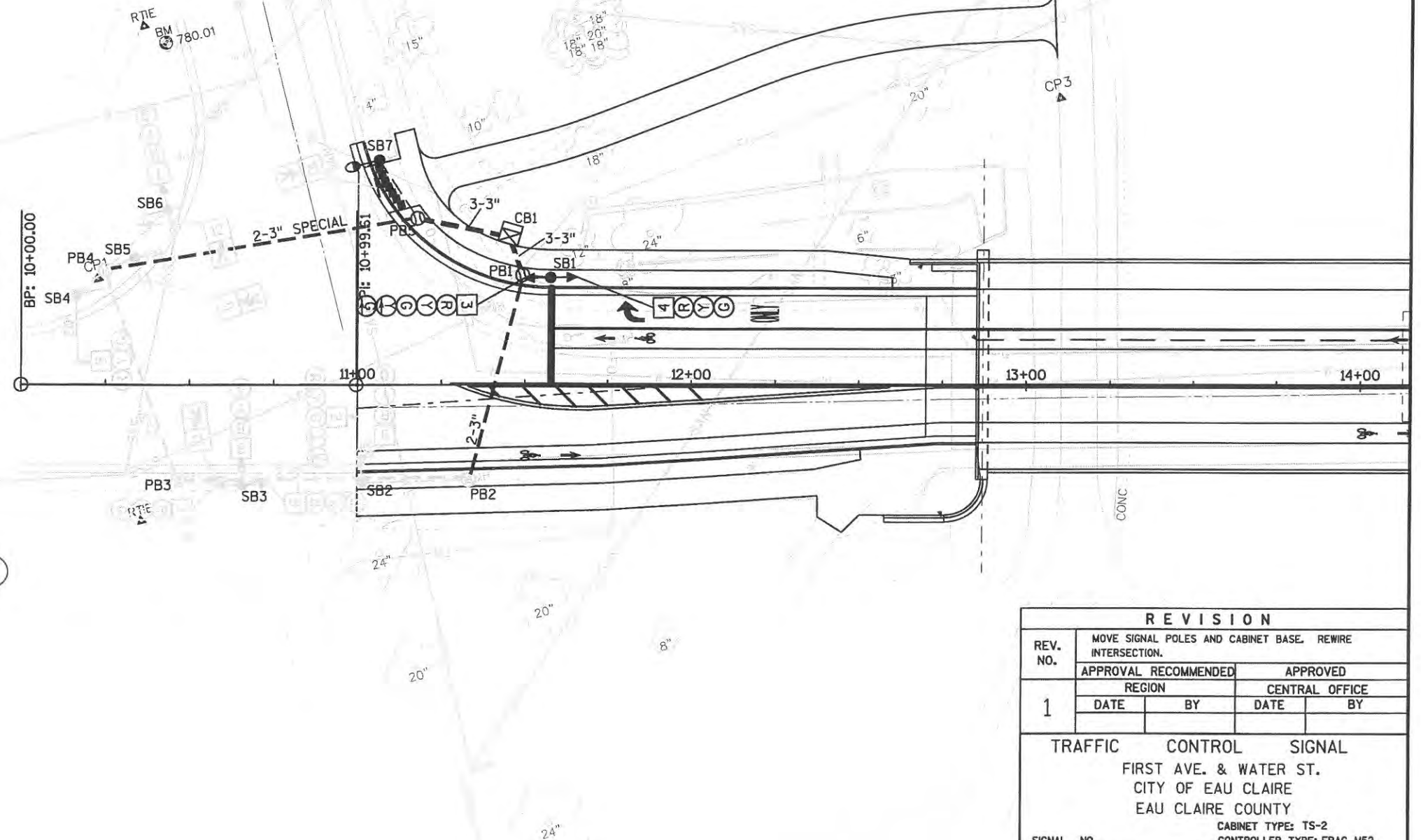


LEGEND

-  CONTROL CABINET
 NONMETALLIC CONDUIT 2", UNLESS OTHERWISE NOTED
 SIGNAL HEAD, TRAFFIC SIGNAL STANDARD, PEDESTAL BASE
 SIGNAL HEAD, TRAFFIC SIGNAL POLE, TRANSFORMER BASE
 PEDESTRIAN HEAD WITH PUSH BUTTON
 LUMINAIRE, TRAFFIC POLE, TRANSFORMER BASE
 PULL BOX, 24" X 48"
 SIGNAL HEAD NUMBER
 DON'T WALK INDICATOR 16"
 WALK INDICATOR 16"
 LANE DESIGNATION FOR INFO ONLY
 NOTE: ALL LENSES ARE 12-INCH
 GRAYSHADE REPRESENTS EXISTING



Tristan L. Hickman
2.2.2015



CONSTRUCTION NOTES

1. THE CONTRACTOR SHALL HAVE ALL PULL BOXES AND NEW CONDUIT RUNS INSPECTED 5 WORKING DAYS PRIOR TO PLACING SIGNAL CABLE INTO SYSTEM. CONTACT THE CITY OF EAU CLAIRE AT 715-839-4934 TO MAKE ARRANGEMENTS.
2. THE LOCATIONS OF EXISTING AND PROPOSED UTILITIES ARE APPROXIMATE. THERE MAY BE OTHER UTILITY INSTALLATIONS WITHIN THE VICINITY OF THE PROJECT WHICH ARE NOT SHOWN.
3. THE ENGINEER MAY ADJUST THE LOCATIONS OF ITEMS UNDER THIS CONTRACT TO AVOID CONFLICTS WITH UTILITY FACILITIES.

REVISION				
REV. NO.	MOVE SIGNAL POLES AND CABINET BASE. REWIRE INTERSECTION.			
	APPROVAL RECOMMENDED		APPROVED	
	REGION		CENTRAL OFFICE	
1	DATE	BY	DATE	BY
TRAFFIC CONTROL SIGNAL FIRST AVE. & WATER ST. CITY OF EAU CLAIRE EAU CLAIRE COUNTY				
CABINET TYPE: TS-2 CONTROLLER TYPE: EPAC M52				
CITY OF EAU CLAIRE DPW				
APPROVAL RECOMMENDED		<i>Leah Ness</i>		
DATE 01/30/15		CITY TRAFFIC ENGINEER		
APPROVED		<i>David Bay</i>		
DATE 2/2/15		CITY ENGINEER		
CITY CONTACT: L. NESS				
DESIGNED BY: AYRES ASSOCIATES INC.				
REVISED BY: AYRES ASSOCIATES INC.				

PROJECT NO: 7995-02-40

HWY: WATER STREET

COUNTY: EAU CLAIRE

TRAFFIC SIGNAL PLAN

SHEET

E

FIRST AVENUE & WATER STREET TRAFFIC SIGNAL CABLING CHART NO. 14 CABLE					
CABLE RUN	CABLE	HEAD NO.	MOVEMENT	LENS	CONDUCTOR COLOR
CABINET TO SB1	12/C	3	EB TH/LT	R	R/BK
				Y	O/BK
				G	BK/W
				←Y	BL/BK
		←G	G/BK		
		4	WB	R	R
Y	O				
G	G				
CABINET TO SB2	12/C	2	EB TH/LT	R	R/BK
				Y	O/BK
				G	BK/W
				←Y	BL/BK
		←G	G/BK		
		9	SB	R	R
Y	O				
G	G				
CABINET TO SB3	15/C	1	WB	R	R
				Y	O
				G	G
		6	EB	R	R/BK
				Y	O/BK
				G	G/BK
		9	SB	R	R/W
				Y	BL/W
				G	G/W
		13	SB PED	DW	BK
W	W				
BUTTON	W/BK				
CABINET TO SB4	5/C	5	EB	R	R
				Y	O
				G	G
CABINET TO SB5	7/C	5	WB PED	DW	BK
				W	W
				BUTTON	W/BK
CABINET TO SB6	7/C	7	SB	R	R
				Y	O
				G	G
		12	NB PED	DW	BK
				W	W
				BUTTON	W/BK
CABINET TO SB7	7/C	5	WB PED	DW	BK
				W	W
				BUTTON	W/BK

FIRST AVENUE & WATER STREET LIGHTING CABLING CHART NO. 12 UF		
CABLE	CABLE RUN	LOCATION
2/C WITH GROUND	CABINET TO SB2	SE QUADRANT
	CABINET TO SB7	NE QUADRANT

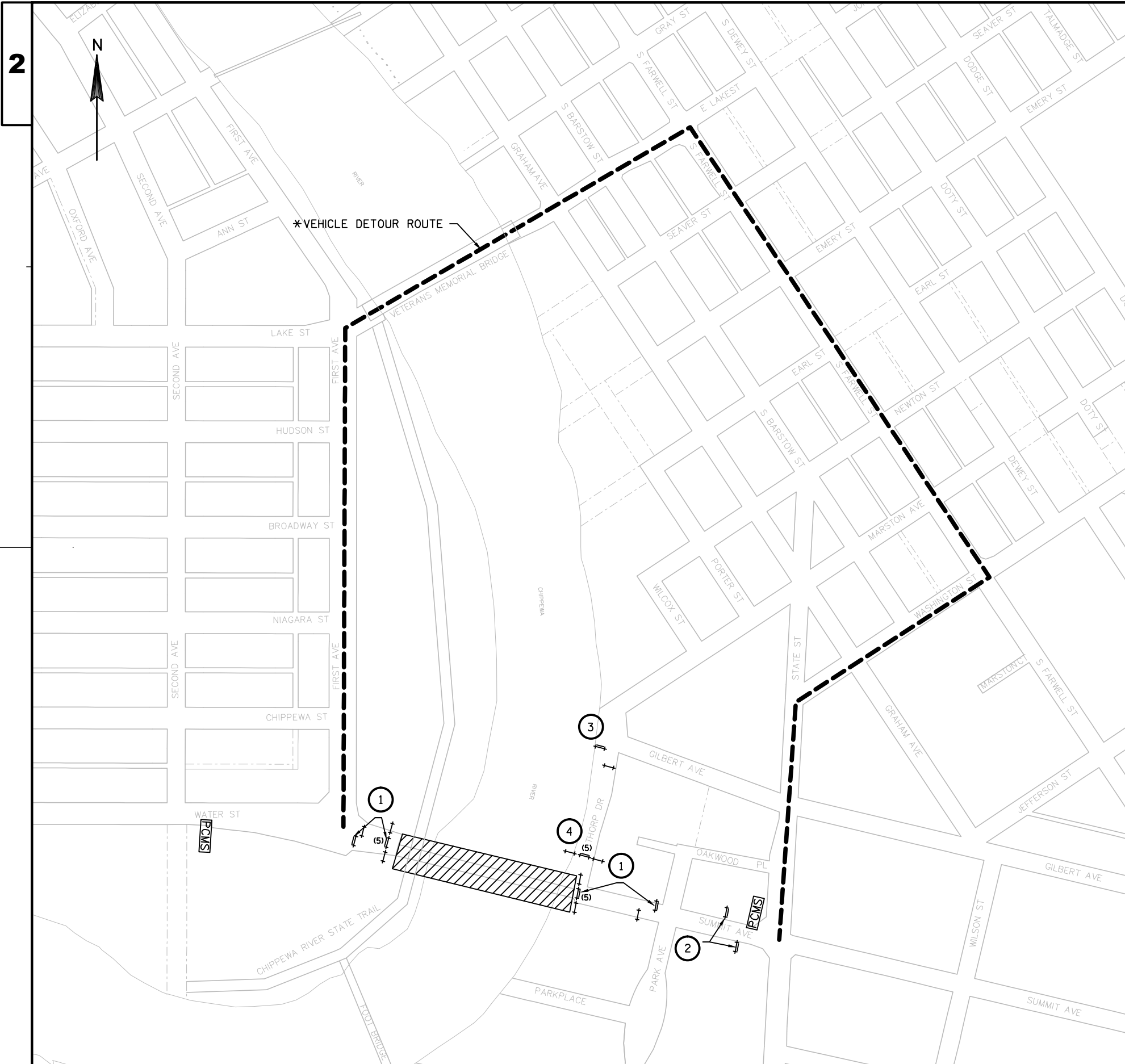
TRAFFIC CONTROL SIGNALS

FIRST AVENUE & WATER STREET
CITY OF EAU CLAIRE
EAU CLAIRE COUNTY

SIGNAL NO.

SCALE 0 5' 10' 20'

DIST. CONTACT: . PAGE 1 OF 1



**BRIDGE
OUT**

R11-2B
48" X 30"

①

**ROAD CLOSED
TO
THRU TRAFFIC**

R11-4
60" X 30"

③

**BRIDGE OUT
XX MILES AHEAD**

R11-3C
60" X 24"

②

**ROAD
CLOSED**

R11-2
48"X30"

④

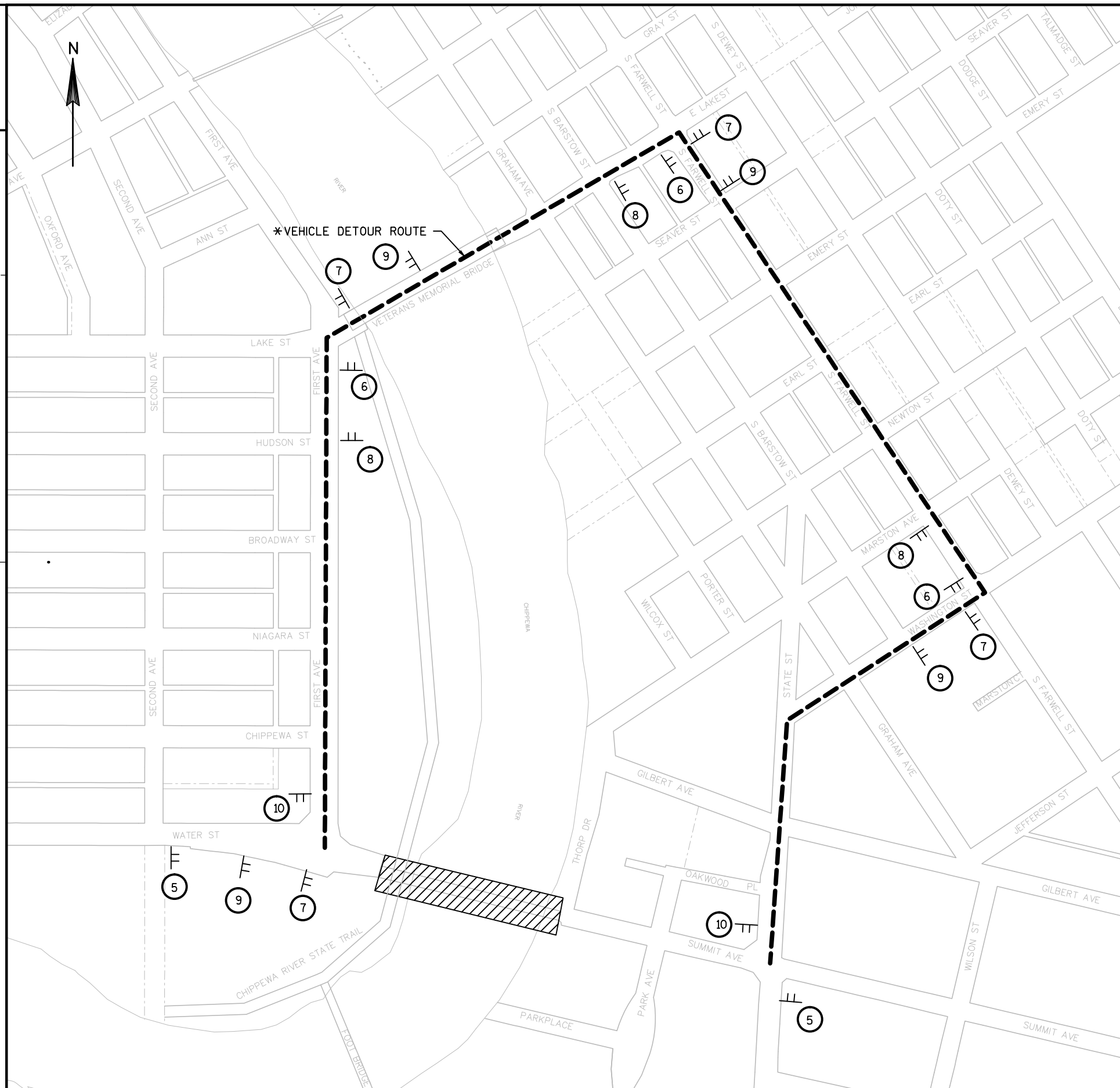
TRAFFIC CONTROL SIGNS PCMS MESSAGES		
PCMS SIGN LOCATION	PHASE 1 (3 SEC)	PHASE 2 (3 SEC)
# WATER STREET AT FIRST AVENUE	WATER STREET CLOSED	BEGINS "DATE"
# SUMMIT AVENUE AT STATE STREET	SUMMIT AVENUE CLOSED	BEGINS "DATE"

DEPLOY TRAFFIC CONTROL SIGNS PCMS 7 DAYS
PRIOR TO CLOSURE OF WATER STREET BRIDGE.

LEGEND

- ↑ TYPE III BARRICADE
- ↑ TYPE III BARRICADE WTH ATTACHED SIGN
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- ⊥ SIGN ON TEMPORARY SUPPORT
- DELINEATOR FLEXIBLE/TUBULAR MARKER
- ▨ WORK AREA
- ➔ DIRECTION OF TRAFFIC
- PCMS PORTABLE CHANGEABLE MESSAGE SIGN

* VEHICLE DETOUR PLAN PROVIDED AND SIGNED BY
THE CITY OF EAU CLAIRE. COORDINATE WITH
DAVE SOLBERG.



* FOR INFORMATION ONLY *



5

M4-8A
24"X18"

10

M4-9R
30"X24"

6

M4-9R
30"X24"

8

M4-9L
30"X24"

7

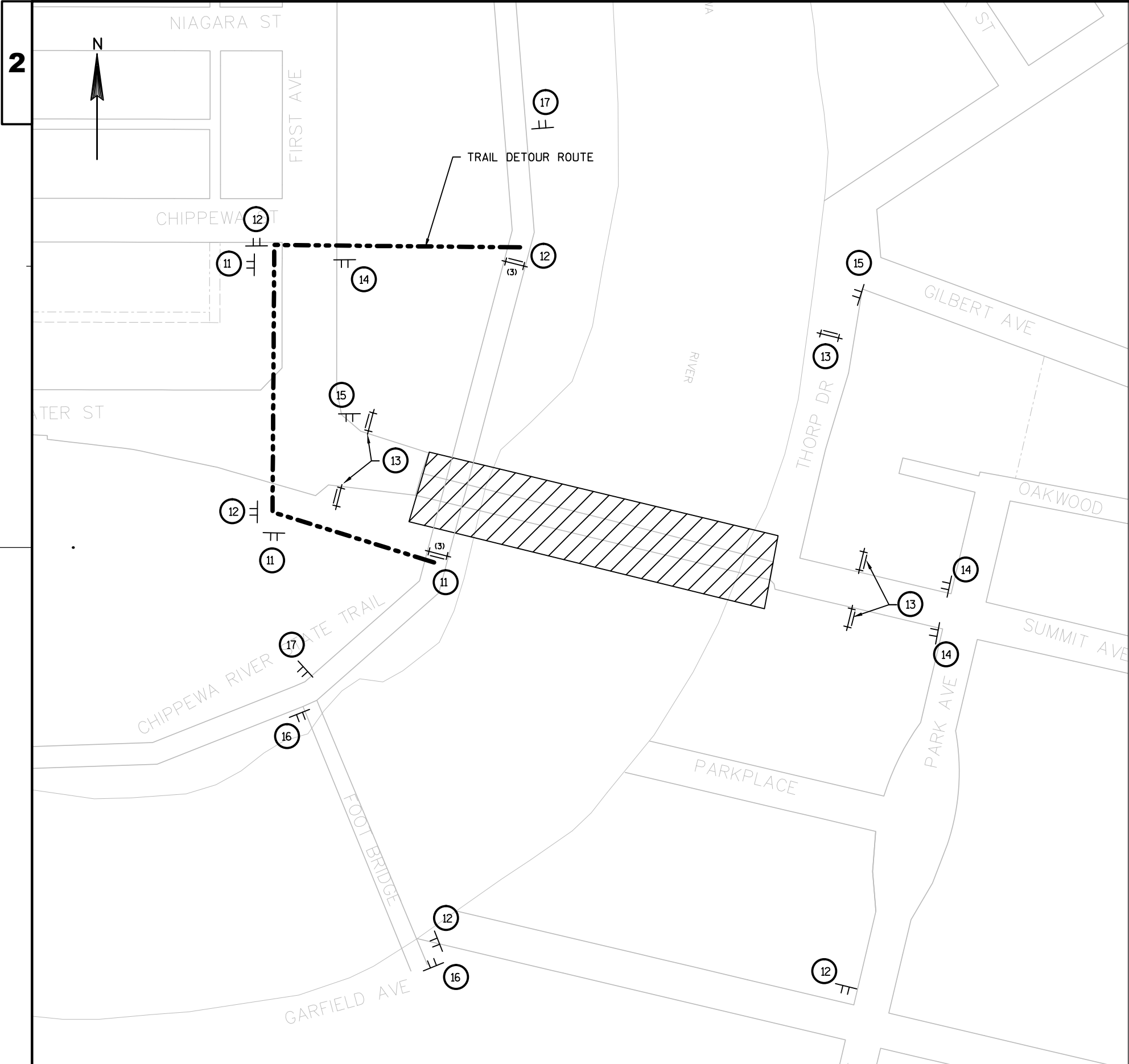
M4-9L
30"X24"

9

LEGEND

- TYPE III BARRICADE
- TYPE III BARRICADE WITH ATTACHED SIGN
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- SIGN ON TEMPORARY SUPPORT
- DELINEATOR FLEXIBLE/TUBULAR MARKER
- WORK AREA
- DIRECTION OF TRAFFIC
- PCMS PORTABLE CHANGEABLE MESSAGE SIGN

* VEHICLE DETOUR PLAN PROVIDED AND SIGNED BY
THE CITY OF EAU CLAIRE. COORDINATE WITH
DAVE SOLBERG.



SIDEWALK CLOSED

R9-9

24\"X12\"

13

SIDEWALK CLOSED AHEAD

CROSS HERE

R9-11

48\"X24\"

14

SIDEWALK CLOSED

CROSS HERE

R9-11-A

48\"X24\"

15

NO MOTOR VEHICLES

R5-3

24\"X24\"

16

END DETOUR

M4-8A

24\"X18\"

17

- LEGEND
- TYPE III BARRICADE
 - TYPE III BARRICADE WITH ATTACHED SIGN
 - TRAFFIC CONTROL DRUM
 - TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
 - SIGN ON TEMPORARY SUPPORT
 - DELINEATOR FLEXIBLE/TUBULAR MARKER
 - WORK AREA
 - DIRECTION OF TRAFFIC
 - PORTABLE CHANGEABLE MESSAGE SIGN

3

DATE 30APR15		E S T I M A T E O F Q U A N T I T I E S			
LINE		7995-02-40			
NUMBER	ITEM	ITEM DESCRIPTION	UNIT	TOTAL	QUANTITY
0010	201.0105	Clearing	STA	6.000	6.000
0020	201.0120	Clearing	ID	227.000	227.000
0030	201.0205	Grubbing	STA	6.000	6.000
0040	201.0220	Grubbing	ID	227.000	227.000
0050	203.0600.S	Removing Old Structure Over Waterway With Minimal Debris (station) 01. 17+00	LS	1.000	1.000
0060	204.0150	Removing Curb & Gutter	LF	618.000	618.000
0070	204.0155	Removing Concrete Sidewalk	SY	523.000	523.000
0080	204.0195	Removing Concrete Bases	EACH	3.000	3.000
0090	204.0210	Removing Manholes	EACH	3.000	3.000
0100	204.0220	Removing Inlets	EACH	3.000	3.000
0110	204.0245	Removing Storm Sewer (size) 01. 12-INCH	LF	152.000	152.000
0120	204.9105.S	Removing (item description) 01. LANDSCAPE TIMBER RETAINING WALL	LS	1.000	1.000
0130	204.9105.S	Removing (item description) 02. STONE RETAINING WALL	LS	1.000	1.000
0140	204.9105.S	Removing (item description) 03. WOODEN STAIRS, PLATFORMS AND RAILINGS	LS	1.000	1.000
0150	205.0100	Excavation Common	CY	1,540.000	1,540.000
0160	206.1000	Excavation for Structures Bridges (structure) 01. B-18-219	LS	1.000	1.000
0170	206.5000	Cofferdams (structure) 01. B-18-219	LS	1.000	1.000
0180	208.1100	Select Borrow	CY	313.000	313.000
0190	210.0100	Backfill Structure	CY	1,061.000	1,061.000
0200	213.0100	Finishing Roadway (project) 01. 7995-02-40	EACH	1.000	1.000
0210	305.0110	Base Aggregate Dense 3/4-Inch	TON	25.000	25.000
0220	305.0120	Base Aggregate Dense 1 1/4-Inch	TON	1,300.000	1,300.000
0230	405.0100	Coloring Concrete Red	CY	19.000	19.000
0240	415.0410	Concrete Pavement Approach Slab	SY	140.000	140.000
0250	416.0160	Concrete Driveway 6-Inch	SY	43.000	43.000
0260	455.0605	Tack Coat	GAL	255.000	255.000
0270	502.0100	Concrete Masonry Bridges	CY	3,378.000	3,378.000
0280	502.1100	Concrete Masonry Seal	CY	180.000	180.000
0290	502.3110.S	Expansion Device Modular (structure) 01. B-18-219	LS	1.000	1.000
0300	502.3200	Protective Surface Treatment	SY	5,450.000	5,450.000
0310	503.0172	Prestressed Girder Type I 72W-Inch	LF	5,528.000	5,528.000
0320	505.0405	Bar Steel Reinforcement HS Bridges	LB	196,420.000	196,420.000
0330	505.0605	Bar Steel Reinforcement HS Coated Bridges	LB	457,470.000	457,470.000
0340	506.2605	Bearing Pads Elastomeric Non-Laminated	EACH	24.000	24.000
0350	506.2610	Bearing Pads Elastomeric Laminated	EACH	16.000	16.000
0360	506.4000	Steel Diaphragms (structure) 01. B-18-219	EACH	70.000	70.000
0370	506.6000	Bearing Assemblies Expansion (structure) 01. B-18-219	EACH	40.000	40.000
0380	514.0445	Floor Drains Type GC	EACH	6.000	6.000
0390	514.2625	Downspout 6-Inch	LF	38.000	38.000
0400	516.0500	Rubberized Membrane Waterproofing	SY	48.000	48.000
0410	517.1015.S	Concrete Staining Multi-Color (structure) 01. B-18-219	SF	3,390.000	3,390.000
0420	517.1050.S	Architectural Surface Treatment (structure) 01. B-18-219	SF	7,204.000	7,204.000
0430	521.0112	Culvert Pipe Corrugated Steel 12-Inch	LF	68.000	68.000

3

DATE 30APR15		E S T I M A T E O F Q U A N T I T I E S			
LINE				7995-02-40	
NUMBER	ITEM	ITEM DESCRIPTION	UNIT	TOTAL	QUANTITY
0440	521.1012	Apron Endwalls for Culvert Pipe Steel 12-Inch	EACH	2.000	2.000
0450	550.0010	Pre-Boring Unconsolidated Materials	LF	800.000	800.000
0460	550.0500	Pile Points	EACH	226.000	226.000
0470	550.1100	Piling Steel HP 10-Inch X 42 Lb	LF	4,940.000	4,940.000
0480	550.1140	Piling Steel HP 14-Inch X 73 Lb	LF	7,210.000	7,210.000
0490	601.0409	Concrete Curb & Gutter 30-Inch Type A	LF	60.000	60.000
0500	601.0411	Concrete Curb & Gutter 30-Inch Type D	LF	569.000	569.000
0510	602.0405	Concrete Sidewalk 4-Inch	SF	6,160.000	6,160.000
0520	602.0415	Concrete Sidewalk 6-Inch	SF	1,690.000	1,690.000
0530	602.0505	Curb Ramp Detectable Warning Field Yellow	SF	52.000	52.000
0540	604.0400	Slope Paving Concrete	SY	160.000	160.000
0550	606.0300	Riprap Heavy	CY	416.000	416.000
0560	606.0500	Grouted Riprap Light	CY	8.000	8.000
0570	608.0312	Storm Sewer Pipe Reinforced Concrete Class III 12-Inch	LF	46.000	46.000
0580	611.0530	Manhole Covers Type J	EACH	1.000	1.000
0590	611.0600	Inlet Covers Type A	EACH	2.000	2.000
0600	611.0624	Inlet Covers Type H	EACH	1.000	1.000
0610	611.2004	Manholes 4-FT Diameter	EACH	1.000	1.000
0620	611.3003	Inlets 3-FT Diameter	EACH	2.000	2.000
0630	611.3230	Inlets 2x3-FT	EACH	1.000	1.000
0640	612.0406	Pipe Underdrain Wrapped 6-Inch	LF	375.000	375.000
0650	618.0100	Maintenance And Repair of Haul Roads (project) 01. 7995-02-40	EACH	1.000	1.000
0660	619.1000	Mobilization	EACH	1.000	1.000
0670	624.0100	Water	MGAL	50.000	50.000
0680	625.0500	Salvaged Topsoil	SY	5,000.000	5,000.000
0690	628.1504	Silt Fence	LF	380.000	380.000
0700	628.1520	Silt Fence Maintenance	LF	380.000	380.000
0710	628.1550	Silt Screen	LF	150.000	150.000
0720	628.1905	Mobilizations Erosion Control	EACH	6.000	6.000
0730	628.1910	Mobilizations Emergency Erosion Control	EACH	6.000	6.000
0740	628.2008	Erosion Mat Urban Class I Type B	SY	1,500.000	1,500.000
0750	628.7005	Inlet Protection Type A	EACH	6.000	6.000
0760	628.7015	Inlet Protection Type C	EACH	5.000	5.000
0770	628.7570	Rock Bags	EACH	20.000	20.000
0780	629.0205	Fertilizer Type A	CWT	4.000	4.000
0790	630.0140	Seeding Mixture No. 40	LB	100.000	100.000
0800	630.0200	Seeding Temporary	LB	150.000	150.000
0810	632.0101	Trees (species) (size) (root) 01. JAPANESE TREE LILAC, B&B, 2-INCH	EACH	3.000	3.000
0820	632.0101	Trees (species) (size) (root) 02. YELLOWWOOD, B&B, 2-INCH	EACH	1.000	1.000
0830	632.0101	Trees (species) (size) (root) 03. RED BUD, B&B, 2-INCH	EACH	1.000	1.000
0840	632.0101	Trees (species) (size) (root) 04. KOREAN MAPLE, B&B, 2-INCH	EACH	1.000	1.000
0850	632.0101	Trees (species) (size) (root) 05. SUGAR MAPLE, B&B, 2-INCH	EACH	2.000	2.000
0860	632.0101	Trees (species) (size) (root) 06. PRINCETON ELM, B&B, 2-INCH	EACH	1.000	1.000
0870	632.0101	Trees (species) (size) (root) 07. GINGKO, B&B, 2-INCH	EACH	2.000	2.000

3

DATE 30APR15		E S T I M A T E O F Q U A N T I T I E S			
LINE				7995-02-40	
NUMBER	ITEM	ITEM DESCRIPTION	UNIT	TOTAL	QUANTITY
0880	632.0101	Trees (species) (size) (root) 08. PIN	EACH	1.000	1.000
		OAK, B&B, 2-INCH			
0890	632.9101	Landscape Planting Surveillance and	EACH	13.000	13.000
		Care Cycles			
0900	634.0812	Posts Tubular Steel 2x2-Inch X 12-FT	EACH	1.000	1.000
0910	634.0814	Posts Tubular Steel 2x2-Inch X 14-FT	EACH	5.000	5.000
0920	637.2210	Signs Type II Reflective H	SF	43.500	43.500
0930	637.2230	Signs Type II Reflective F	SF	2.250	2.250
0940	638.2102	Moving Signs Type II	EACH	2.000	2.000
0950	638.2602	Removing Signs Type II	EACH	2.000	2.000
0960	638.3000	Removing Small Sign Supports	EACH	1.000	1.000
0970	642.5201	Field Office Type C	EACH	1.000	1.000
0980	643.0100	Traffic Control (project) 01. 7995-02-40	EACH	1.000	1.000
0990	643.0300	Traffic Control Drums	DAY	7,500.000	7,500.000
1000	643.0420	Traffic Control Barricades Type III	DAY	12,850.000	12,850.000
1010	643.0705	Traffic Control Warning Lights Type A	DAY	19,250.000	19,250.000
1020	643.0900	Traffic Control Signs	DAY	4,000.000	4,000.000
1030	643.0920	Traffic Control Covering Signs Type II	EACH	2.000	2.000
1040	643.1050	Traffic Control Signs PCMS	DAY	14.000	14.000
1050	643.2000	Traffic Control Detour (project) 01. 7995-02-40	EACH	1.000	1.000
1060	643.3000	Traffic Control Detour Signs	DAY	7,250.000	7,250.000
1070	645.0120	Geotextile Fabric Type HR	SY	648.000	648.000
1080	646.0106	Pavement Marking Epoxy 4-Inch	LF	4,060.000	4,060.000
1090	646.0126	Pavement Marking Epoxy 8-Inch	LF	305.000	305.000
1100	647.0166	Pavement Marking Arrows Epoxy Type 2	EACH	1.000	1.000
1110	647.0206	Pavement Marking Arrows Bike Lane Epoxy	EACH	8.000	8.000
1120	647.0306	Pavement Marking Symbols Bike Lane Epoxy	EACH	8.000	8.000
1130	647.0356	Pavement Marking Words Epoxy	EACH	1.000	1.000
1140	647.0566	Pavement Marking Stop Line Epoxy 18-Inch	LF	28.000	28.000
1150	647.0706	Pavement Marking Diagonal Epoxy 6-Inch	LF	50.000	50.000
1160	647.0726	Pavement Marking Diagonal Epoxy 12-Inch	LF	90.000	90.000
1170	647.0766	Pavement Marking Crosswalk Epoxy 6-Inch	LF	80.000	80.000
1180	650.4000	Construction Staking Storm Sewer	EACH	6.000	6.000
1190	650.4500	Construction Staking Subgrade	LF	495.000	495.000
1200	650.5000	Construction Staking Base	LF	495.000	495.000
1210	650.5500	Construction Staking Curb Gutter and	LF	629.000	629.000
		Curb & Gutter			
1220	650.6500	Construction Staking Structure Layout	LS	1.000	1.000
		(structure) 01. B-18-219			
1230	650.8500	Construction Staking Electrical	LS	1.000	1.000
		Installations (project) 01. 7995-02-40			
1240	650.9910	Construction Staking Supplemental	LS	1.000	1.000
		Control (project) 01. 7995-02-40			
1250	650.9920	Construction Staking Slope Stakes	LF	495.000	495.000
1260	652.0115	Conduit Rigid Metallic 1 1/4-Inch	LF	60.000	60.000
1270	652.0125	Conduit Rigid Metallic 2-Inch	LF	60.000	60.000
1280	652.0215	Conduit Rigid Nonmetallic Schedule 40 1 1/4-Inch	LF	2,850.000	2,850.000
1290	652.0225	Conduit Rigid Nonmetallic Schedule 40 2-Inch	LF	4,685.000	4,685.000
1300	652.0235	Conduit Rigid Nonmetallic Schedule 40 3-Inch	LF	245.000	245.000
1310	652.0615	Conduit Special 3-Inch	LF	94.000	94.000
1320	653.0140	Pull Boxes Steel 24x42-Inch	EACH	8.000	8.000

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DATE 30APR15		E S T I M A T E O F Q U A N T I T I E S			
LINE				7995-02-40	
NUMBER	ITEM	ITEM DESCRIPTION	UNIT	TOTAL	QUANTITY
1330	653.0222	Junction Boxes 18x12x6-Inch	EACH	26.000	26.000
1340	653.0905	Removing Pull Boxes	EACH	1.000	1.000
1350	654.0101	Concrete Bases Type 1	EACH	1.000	1.000
1360	654.0105	Concrete Bases Type 5	EACH	2.000	2.000
1370	654.0217	Concrete Control Cabinet Bases Type 9 Special	EACH	1.000	1.000
1380	654.0224	Concrete Control Cabinet Bases Type L24	EACH	1.000	1.000
1390	655.0230	Cable Traffic Signal 5-14 AWG	LF	417.000	417.000
1400	655.0240	Cable Traffic Signal 7-14 AWG	LF	369.000	369.000
1410	655.0260	Cable Traffic Signal 12-14 AWG	LF	145.000	145.000
1420	655.0270	Cable Traffic Signal 15-14 AWG	LF	199.000	199.000
1430	655.0515	Electrical Wire Traffic Signals 10 AWG	LF	750.000	750.000
1440	655.0610	Electrical Wire Lighting 12 AWG	LF	2,331.000	2,331.000
1450	655.0615	Electrical Wire Lighting 10 AWG	LF	1,320.000	1,320.000
1460	655.0620	Electrical Wire Lighting 8 AWG	LF	6,417.000	6,417.000
1470	655.0625	Electrical Wire Lighting 6 AWG	LF	7,376.000	7,376.000
1480	655.0630	Electrical Wire Lighting 4 AWG	LF	366.000	366.000
1490	655.0800	Loop Detector Wire	LF	24.000	24.000
1500	656.0200	Electrical Service Meter Breaker Pedestal (location) 01. FIRST AVENUE & WATER STREET	LS	1.000	1.000
1510	656.0200	Electrical Service Meter Breaker Pedestal (location) 02. LCC 1	LS	1.000	1.000
1520	657.0322	Poles Type 5-Aluminum	EACH	1.000	1.000
1530	657.0615	Luminaire Arms Single Member 4 1/2-Inch Clamp 8-FT	EACH	1.000	1.000
1540	657.6005.S	Anchor Assemblies Light Poles on Structures	EACH	18.000	18.000
1550	658.5069	Signal Mounting Hardware (location) 01. FIRST AVENUE & WATER STREET	LS	1.000	1.000
1560	659.0600	Underdeck Lighting (location) 01. 12+87	LS	1.000	1.000
1570	659.1115	Luminaires Utility LED A	EACH	4.000	4.000
1580	659.1215	Luminaires Underdeck LED C	EACH	2.000	2.000
1590	659.2124	Lighting Control Cabinets 120/240 24-Inch	EACH	1.000	1.000
1600	690.0150	Sawing Asphalt	LF	132.000	132.000
1610	690.0250	Sawing Concrete	LF	73.000	73.000
1620	715.0502	Incentive Strength Concrete Structures	DOL	21,348.000	21,348.000
1630	ASP.1T0A	On-the-Job Training Apprentice at \$5.00/HR	HRS	2,400.000	2,400.000
1640	ASP.1T0G	On-the-Job Training Graduate at \$5.00/HR	HRS	1,380.000	1,380.000
1650	SPV.0035	Special 01. COLORING CONCRETE DESERT TAN	CY	19.000	19.000
1660	SPV.0035	Special 02. COLORING CONCRETE LEATHER	CY	13.000	13.000
1670	SPV.0060	Special 01. REMOVE AND SALVAGE STREET LIGHT	EACH	8.000	8.000
1680	SPV.0060	Special 02. COFFERDAMS B-18-219 PIER 3	EACH	1.000	1.000
1690	SPV.0060	Special 03. CONCRETE BASES TYPE 1 MODIFIED	EACH	4.000	4.000
1700	SPV.0060	Special 04. DECORATIVE LIGHTING UNIT	EACH	22.000	22.000
1710	SPV.0060	Special 05. MANHOLE CASTING TYPE A LID A, B, OR C - SANITARY SEWER	EACH	3.000	3.000
1720	SPV.0060	Special 06. REMOVE AND REINSTALL LIGHT POLE	EACH	1.000	1.000
1730	SPV.0085	Special 01. FITTINGS	LB	1,011.000	1,011.000
1740	SPV.0090	Special 01. CONCRETE CURB AND GUTTER CURE AND SEAL TREATMENT	LF	629.000	629.000

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DATE 30APR15		E S T I M A T E O F Q U A N T I T I E S			
LINE					7995-02-40
NUMBER	ITEM	ITEM DESCRIPTION	UNIT	TOTAL	QUANTITY
1750	SPV.0090	Special 02. PRE-BORING CONSOLIDATED MATERIALS	LF	760.000	760.000
1760	SPV.0090	Special 03. RAILING STEEL TYPE C3 GALVANIZED B-18-219	LF	1,490.000	1,490.000
1770	SPV.0090	Special 04. ABANDON SANITARY SEWER IN PLACE	LF	90.000	90.000
1780	SPV.0090	Special 05. 12-INCH SANITARY SEWER 0'-12' DEEP, PVC SDR 26	LF	83.000	83.000
1790	SPV.0090	Special 06. 12-INCH SANITARY SEWER 24'-28' DEEP, PVC SDR 26	LF	40.000	40.000
1800	SPV.0090	Special 07. 12-INCH DUCTILE IRON WATER MAIN CLASS 52	LF	852.000	852.000
1810	SPV.0105	Special 01. REMOVE, SALVAGE, & REINSTALL TRAFFIC SIGNAL POLES & CABINET, 1ST AVE & WATER	LS	1.000	1.000
1820	SPV.0105	Special 02. TEMPORARY HAUL ROAD ACCESS FOR STRUCTURE CONSTRUCTION	LS	1.000	1.000
1830	SPV.0105	Special 03. SEISMOGRAPH/VIBRATION MONITORING	LS	1.000	1.000
1840	SPV.0105	Special 04. TEMPORARY CAUSEWAYS	LS	1.000	1.000
1850	SPV.0165	Special 01. CONCRETE SIDEWALK CURE AND SEAL TREATMENT	SF	4,635.000	4,635.000
1860	SPV.0165	Special 02. STAMPED CONCRETE	SF	2,417.000	2,417.000
1870	SPV.0195	Special 01. ASPHALTIC SURFACE SPECIAL	TON	791.000	791.000
1880	SPV.0200	Special 01. MANHOLE MASONRY - SANITARY SEWER	VF	48.120	48.120

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CLEARING AND GRUBBING

STATION TO STATION	LOCATION	201.0105	201.0120	201.0205	201.0220
		CLEARING STA	CLEARING ID	GRUBBING STA	GRUBBING ID
11+35	LT	---	10	---	10
11+44	LT	---	10	---	10
11+66	LT	---	12	---	12
11+70	LT	---	18	---	18
11+80	LT	---	8	---	8
11+87	LT	---	24	---	24
12+51	LT	---	6	---	6
12+55	LT	---	36	---	36
12+56	LT	---	8	---	8
12+61	LT	---	3	---	3
12+67	LT	---	20	---	20
12+76	LT	---	48	---	48
12+82	LT	---	24	---	24
13+00 - 17+00	LT/RT	4	---	4	---
19+00 - 21+00	LT/RT	2	---	2	---
PROJECT ID TOTALS		6	227	6	227

REMOVING CURB AND GUTTER

STATION TO STATION	LOCATION	204.0150
		LF
11+01 - 12+78	LT	212
11+00 - 12+78	RT	178
19+86 - 21+00	LT	114
19+86 - 21+00	RT	114
PROJECT ID TOTAL		618

REMOVING CONCRETE SIDEWALK

STATION TO STATION	LOCATION	204.0155
		SY
11+00 - 12+75	LT/RT	450
19+88 - 21+00	RT	73
PROJECT ID TOTAL		523

STORM SEWER REMOVALS

STRUCTURE NUMBER	STATION	OFFSET		204.0210	204.0220	204.0245.01
				REMOVING MANHOLES EACH	REMOVING INLETS EACH	REMOVING STORM SEWER 12-INCH LF
EX2	11+32.2	19.1' LT	---	1		31
EX3	19+91.3	21.2' LT	---	1		15
EX4	20+03.8	28.6' LT	1	---		61
EX5	20+22.1	12.5' RT	---	1		45
CATEGORY 0010 TOTALS				1	3	152
*PROJECT ID TOTALS				3	3	152

EARTHWORK SUMMARY

STATION TO STATION	LOCATION	205.0100		(10) SALVAGED/ UNUSABLE PAVEMENT MATERIAL	(4) AVAILABLE MATERIAL	(5) REDUCED EBS IN FILL	(6) EXPANDED EBS BACKFILL	UNEXPANDED FILL	(7) (8) EXPANDED FILL	(9) MASS ORDINATE +/-	WASTE	208.1100 SELECT BORROW
		CUT (2) CY	COMMON (1) EBS (3) CY	CY	CY	CY	CY	CY	CY	CY	CY	CY
11+00 - 12+86	WEST APPROACH	726	---	171	555	---	---	383	479	76		---
19+81 - 21+00	EAST APPROACH	382	---	101	282	---	---	---	---	282		---
6+16 - 8+11	TRAIL	181	---	---	181	---	---	74	93	89		---
UNDISTRIBUTED		---	250	---	---	200	313	---	---	---		313
SUBTOTALS		1290	250	272	1018	200	313	457	572	446	386	313
PROJECT ID TOTALS			1540									313

- 1) COMMON EXCAVATION IS THE SUM OF THE CUT AND EBS EXCAVATION COLUMNS. ITEM NUMBER 205.0100
- 2) SALVAGED/UNSUABLE PAVEMENT MATERIAL IS INCLUDED IN CUT.
- 3) EBS EXCAVATION TO BE BACKFILLED WITH SELECT BORROW.
- 4) AVAILABLE MATERIAL = CUT - SALVAGED/UNUSABLE PAVEMENT MATERIAL
- 5) REDUCED EBS IN FILL - EXCAVATED EBS MATERIAL IS USABLE IN FILLS OUTSIDE THE 1:1 SLOPE. EBS IN FILL REDUCTION FACTOR = 0.8
- 6) EXPANDED EBS BACKFILL - THIS IS TO BE FILLED WITH SELECT BORROW MATERIAL. EBS BACKFILL FACTOR = 1.25. ITEM NUMBER 208.1100
- 7) EXPANDED FILL FACTOR = 1.25
- 8) EXPANDED FILL = (UNEXPANDED FILL - ROCK* ROCK FACTOR - REDUCED EBS) * FILL FACTOR
- 9) 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.
- 10) ASSUMED EXISTING PAVEMENT DEPTH OF 9 INCHES FOR SALVAGED/UNUSABLE PAVEMENT MATERIAL QUANTITY.

REMOVING LANDSCAPE TIMBER
RETAINING WALL

PROJECT	204.9105.S.01
	LS
7995-02-40	1

REMOVING STONE RETAINING WALL

PROJECT	204.9105.S.02
	LS
7995-02-40	1

REMOVING WOODEN STAIRS,
PLATFORMS AND RAILINGS

PROJECT	204.9105.S.03
	LS
7995-02-40	1

FINISHING ROADWAY

LOCATION	213.0100
	EACH
7995-02-40	1
PROJECT ID TOTAL	1

*OTHER QUANTITIES LOCATED ELSEWHERE IN PLAN

ALL ITEMS ON THIS SHEET
ARE CATEGORY 0010 UNLESS
OTHERWISE NOTED

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BASE AGGREGATE DENSE			
		305.0110	305.0120
		3/4-INCH	1 1/4-INCH
STATION TO STATION	LOCATION	TON	TON
11+00 - 12+85	WATER ST	---	690
19+80 - 21+00	SUMMIT AVE	---	375
6+21 - 8+11	TRAIL	15	160
UNDISTRIBUTED		10	75
PROJECT ID TOTALS		25	1300

		405.0100	SPV.0035.01	SPV.0035.02
STATION TO STATION	LOCATION	RED CY	DESERT TAN CY	LEATHER CY
11+16 - 12+85	LT, TERRACE	10	---	---
11+00 - 12+85	RT, TERRACE	9	---	---
20+14	THORP DRIVE	---	19	---
20+14	THORP DRIVE	---	---	13
PROJECT ID TOTAL		19	19	13

		415.0410
STATION TO STATION	LOCATION	SY
12+70 - 12+85	WATER ST	70
19+82 - 19+97	SUMMIT ST	70
PROJECT ID TOTAL		140

		455.0605
STATION TO STATION	LOCATION	GAL
11+00 - 12+85	WATER ST	175
19+80 - 21+00	SUMMIT AVE	80
PROJECT ID TOTAL		255

STATION	LOCATION	416.0160 SY
20+14	LT	43
PROJECT ID TOTAL		43

STATION TO STATION	LOCATION	TYPE A	TYPE D
		601.0409 LF	601.0411 LF
11+01 - 12+85	LT	15	189
11+00 - 12+85	RT	15	170
19+80 - 21+00	LT	15	105
19+80 - 21+00	RT	15	105
PROJECT ID TOTAL		60	569

			602.0405	602.0415		
			4-INCH	6-INCH		
STATION	TO STATION	LOCATION	SF	SF	COMMENT	
11+06	- 12+85	LT	1233	---		
11+16	- 12+85	LT, TERRACE	785	---	COLORED	
11+00	- 12+85	RT	2282	---		
11+00	- 12+85	RT, TERRACE	740	---	COLORED	
19+80	- 20+00	LT	370	1690	THORP	DRIVE, COLORED
19+80	- 21+00	RT	750	---		
PROJECT ID TOTAL			6160	1690		

		602.0505
STATION	LOCATION	SF
6+06	TRAIL	28
20+00	LT	8
20+30	LT	8
20+32	RT	8
PROJECT ID TOTAL		52

STRUCTURE NUMBER	STATION	OFFSET	611.3003	611.3230	611.2004	611.0600	611.0624	611.0530	TOP OF STRUCTURE						521.0112	521.1012	608.0312	SLOPE	JOINT TIES		
			INLETS	MANHOLES	INLET COVERS	INLET COVERS	MANHOLE COVERS	FLOWLINE/RIM ELEV	BOX ELEV	DEPTH FT	INVERT ELEV	DISCHARGE FROM	ELEV	TO	CPCS	APRON ENDWALL	SSPRC				
			3-FT DIA. EACH	2x3-FT EACH	4-FT DIA. EACH	TYPE A EACH	TYPE H EACH								TYPE J EACH	12-INCH LF	FOR CULVERT STEEL 12-INCH EACH			CLASS III 12-INCH LF	
IN1	11+58.9	29.0' LT	---	1	---	---	1	---	781.35	780.35	2.75	---	---	777.60	MH1	---	---	46	0.49%		
MH1	11+16.7	12.0' LT	---	---	1	---	---	1	780.48	779.65	2.27	777.38	IN1	777.38	EX1	---	---	---	---		
IN2	19+88.7	29.0' LT	1	---	---	1	---	---	790.88	789.80	6.92	---	---	782.88	AE1	28	---	---	15.00%	4	
AE1	19+73.4	45.5' LT	---	---	---	---	---	---	---	---	---	778.70	IN2	---	---	---	1	---	---		
IN3	20+00.7	17.0' RT	1	---	---	1	---	---	791.15	790.07	6.92	---	---	783.15	AE2	40	---	---	8.72%	4	
AE2	19+74.6	32.5' RT	---	---	---	---	---	---	---	---	---	779.71	IN 3	---	---	---	1	---	---		
PROJECT ID TOTALS			2	1	1	2	1	1							68			2	46		

- ALL SUBSURFACE ELEVATIONS ARE PIPE FLOWLINES
- STRUCTURE DEPTH = DISTANCE FROM TOP OF BOX TO DISCHARGE ELEVATION
- TOP OF BOX ELEVATION = FLOWLINE/RIM ELEVATION - INLET COVER DEPTH - 6" ADJUSTMENT
- JOINT TIES ARE INCIDENTAL TO PIPE

ALL ITEMS ON THIS SHEET
ARE CATEGORY 0010 UNLESS
OTHERWISE NOTED

MAINTENANCE AND REPAIR OF HAUL ROADS

PROJECT	618.0100 EACH
7995-02-40	1
PROJECT ID TOTAL	1

MOBILIZATION

CATEGORY	619.1000 EACH
0010	0.1
0020	0.9
PROJECT ID TOTAL	1

WATER

LOCATION	624.0100 MGAL
BASE COMPACTION	40
DUST CONTROL	10
PROJECT ID TOTAL	50

SALVAGED TOPSOIL, FERTILIZER, & SEEDING

STATION TO STATION	LOCATION	625.0500 SALVAGED TOPSOIL SY	629.0205 FERTILIZER TYPE A CWT	630.0140 SEEDING MIXTURE NO. 40 LB	630.0200 SEEDING TEMPORARY LB
11+00 - 12+75	LT/RT	3359	2	60	90
6+21 - 8+11	LT/RT	1104	1	20	30
UNDISTRIBUTED		537	1	20	30
PROJECT ID TOTALS		5000	4	100	150

SILT FENCE

STATION TO STATION	LOCATION	628.1504 LF	628.1520 MAINTENANCE LF
11+00 - 12+75	LT	200	200
6+21 - 7+26	LT	105	105
UNDISTRIBUTED		75	75
PROJECT ID TOTALS		380	380

SILT SCREEN

STATION TO STATION	LOCATION	628.1550 LF
19+20	LT/RT	120
UNDISTRIBUTED		30
PROJECT ID TOTAL		150

EROSION MAT

STATION TO STATION	LOCATION	628.2008 URBAN CLASS I TYPE B SY
11+00 - 12+85	LT	550
20+43 - 21+00	RT	30
30+63 - 30+70	RT	10
6+21 - 8+11	RT	320
6+21 - 8+11	LT	320
UNDISTRIBUTED		270
PROJECT ID TOTAL		1500

MOBILIZATIONS EROSION CONTROL
& EMERGENCY EROSION CONTROL

LOCATION	628.1905 EACH	628.1910 EMERGENCY EACH
7995-02-40	6	6
PROJECT ID TOTALS	6	6

INLET PROTECTION

STATION	LOCATION	628.7005 TYPE A EACH	628.7015 TYPE C EACH
10+34.5	RT	1	---
11+16.7	LT	1	---
11+32.2	LT	---	1
11+58.9	LT	1	1
19+88.7	LT	1	1
19+91.3	LT	1	---
20+00.7	RT	1	1
20+22.1	RT	---	1
PROJECT ID TOTALS		6	5

ROCK BAGS

STATION	LOCATION	628.7570 EACH
7+25	LT/RT	8
7+75	LT/RT	8
UNDISTRUBTED		4
PROJECT ID TOTALS		20

TREE SUMMARAY

STATION TO STATION	632.0101.01 JAPANESE TREE LILAC B&B, 2-INCH EACH	632.0101.02 YELLOWWOOD B&B, 2-INCH EACH	632.0101.03 RED BUD B&B, 2-INCH EACH	632.0101.04 KOREAN MAPLE B&B, 2-INCH EACH	632.0101.05 SUGAR MAPLE B&B, 2-INCH EACH	632.0101.06 PRINCETON ELM B&B, 2-INCH EACH	632.0101.07 GINGKO B&B, 2-INCH EACH	632.0101.08 PIN OAK B&B, 2-INCH EACH	632.9101 LANDSCAPE PLANTING SURVEILLANCE AND CARE CYCLES EACH
11+00 - 13+00	3	1	1	1	2	1	2	1	13
PROJECT ID TOTALS	3	1	1	1	2	1	2	1	13

ALL ITEMS ON THIS SHEET
ARE CATEGORY 0010 UNLESS
OTHERWISE NOTED

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SIGNS TYPE II REFLECTIVE & POSTS WOOD

SIGN NO.	STATION	LOCATION	SIGN CODE	SIZE W X H INCHES	634.0812	634.0814	637.2210 637.2230		638.2102	638.2602	638.3000	COMMENTS
					POSTS STEEL 12-FT EACH	TUBULAR 2x2-INCH 14-FT EACH	SIGNS TYPE II REFLECTIVE H F SF SF		MOVING SIGNS TYPE II EACH	REMOVING SIGNS TYPE II EACH	REMOVING SMALL SIGN SUPPORTS EACH	
1-1	11+10	RT	R3-17	30 x 24	---	1	5.00	---	---	---	---	SIGN MOUNTED ON 1-1 POST
1-2	11+10	RT	R7-1D	18 x 24	---	---	3.00	---	---	---	---	
1-3	11+30	LT	W7-5	18 x 18	1	---	---	2.25	---	---	---	
1-4	11+60	LT	D7-95R	66 x 36	---	1	---	---	2	---	---	
1-5	11+90	RT	R2-1	36 x 30	---	1	7.50	---	---	1	---	SIGN MOUNTED TO PROPOSED STREET LIGHT
1-6	14+20	LT	R3-7R	30 x 30	---	---	6.25	---	---	---	---	
1-7	15+30	LT	R4-4	36 x 30	---	---	7.50	---	---	---	---	
1-8	19+75	LT	R3-17	30 x 24	---	1	5.00	---	---	---	---	
1-9	19+75	LT	R7-1D	18 x 24	---	---	3.00	---	---	---	---	SIGN MOUNTED ON 1-8 POST
1-10	20+00	LT	R1-1	30 x 30	---	1	6.25	---	---	1	1	
PROJECT ID TOTALS					1	5	43.50	2.25	2	2	1	

TRAFFIC CONTROL

LOCATION	PROJECT DURATION	643.0300 DRUMS		643.0420 BARRICADES TYPE III		643.0705 WARNING LIGHTS TYPE A		(1) 643.3000 DETOUR SIGNS		643.0900 SIGNS		643.1050 SIGNS PCMS	
		EACH	DAYS	EACH	DAYS	EACH	DAYS	EACH	DAYS	EACH	DAYS	EACH	DAYS
WATER STREET CLOSURE	365	0	0	23	8395	34	12410	0	0	8	2920	2	14
CHIPPEWA RIVER STATE TRAIL CLOSURE	365	0	0	9	3285	14	5110	18	6570	2	730	0	0
UNDISTRIBUTED			7500		1170		1730		680		350		
PROJECT ID TOTALS		7500		12850		19250		7250		4000		14	

(1) VEHICLE DETOUR ROUTE WILL BE PROVIDED AND SIGNED BY THE CITY OF EAU CLAIRE.

TRAFFIC CONTROL COVERING SIGNS TYPE II

SIGN DESCRIPTION	LOCATION	# OF SIGNS	# OF CYCLES	643.0920 EACH
CHIPPEWA RIVER STATE TRAILL	STATE STREET	2	1	2
PROJECT ID TOTAL				2

TRAFFIC CONTROL DETOUR

PROJECT	643.2000 EACH
7995-02-40	1
PROJECT ID TOTAL	1

PAVEMENT MARKING

STATION TO STATION	DESCRIPTION	646.0106	646.0126	647.0166	647.0206	647.0306	647.0356	647.0566	647.0706	647.0726	647.0766
		EPOXY 4-INCH LF	EPOXY 8-INCH LF	ARROWS EPOXY TYPE 2 EACH	ARROWS BIKE LANE EPOXY EACH	SYMBOLS BIKE LANE EPOXY EACH	WORDS EPOXY EACH	STOP LINE EPOXY 18-INCH LF	DIAGONAL 6-INCH	EPOXY 12-INCH	CROSSWALK EPOXY 6-INCH LF
11+00 - 21+00	PROJECT	4060	305	1	8	8	1	28	50	90	80
PROJECT ID TOTALS		4060	305	1	8	8	1	28	50	90	80

ALL ITEMS ON THIS SHEET
ARE CATEGORY 0010 UNLESS
OTHERWISE NOTED

3

CONSTRUCTION STAKING STORM SEWER			
STATION	LOCATION		650.4000 EACH
11+58.9	LT	INLET	1
11+16.7	LT	MANHOLE	1
19+73.4	LT	ENDWALL	1
19+74.6	RT	ENDWALL	1
19+88.7	LT	INLET	1
20+00.7	RT	INLET	1
PROJECT ID TOTAL			6

CONSTRUCTION STAKING STRUCTURE LAYOUT		
CATEGORY	STRUCTURE	650.6500 LS
0020	01. B-18-219	1

<u>REMOVE AND SALVAGE STREET LIGHT</u>	
PROJECT	SPV.0060.01 EACH
7995-02-40	8
PROJECT ID TOTAL	8

TEMPORARY CAUSEWAYS		
CATEGORY	PROJECT	SPV.0105.04 LS
0020	7995-02-40	1

CONSTRUCTION STAKING				
STATION TO STATION	LOCATION	650.4500 SUBGRADE LF	650.5000 BASE LF	650.9920 SLOPE STAKES LF
11+00 - 12+85	WATER ST	185	185	185
19+80 - 21+00	SUMMIT AVE	120	120	120
6+21 - 8+11	TRAIL	190	190	190
PROJECT ID TOTALS		495	495	495

CONSTRUCTION STAKING SUPPLEMENTAL CONTROL	
PROJECT	650.9910 LS
01. 7995-02-40	1

CONCRETE CURE AND SEAL TREATMENT				
STATION TO STATION	LOCATION	SPV.0090.01 C&G LF	SPV.0165.01 SIDEWALK SFT	
11+00 - 12+85	LT	204	1233	
11+00 - 12+85	RT	185	2282	
19+80 - 21+00	LT	120	370	
19+80 - 21+00	RT	120	750	
PROJECT ID TOTAL		629	4635	

STAMPED CONCRETE		
STATION TO STATION	LOCATION	SPV.0165.02 SF
11+16 - 12+85	LT, TERRACE	785
11+00 - 12+85	RT, TERRACE	740
21+14	LT, THORP DRIVE	892
PROJECT ID TOTAL		2417

CONSTRUCTION STAKING CURB GUTTER AND CURB & GUTTER		
STATION TO STATION	LOCATION	650.5500 LF
11+01 - 12+85	LT	204
11+00 - 12+85	RT	185
19+80 - 21+00	LT	120
19+80 - 21+00	RT	120
PROJECT ID TOTAL		629

SAWING			
STATION	LOCATION	690.0150 ASPHALT LF	690.0250 CONCRETE LF
11+00		98	18
11+14	LT, SIDEWALK	---	6
12+40	RT, SIDEWALK	---	8
20+14	LT, DRIVEWAY	---	31
21+00		34	10
PROJECT ID TOTALS		132	73

TEMPORARY HAUL ROAD ACCESS FOR STRUCTURE CONSTRUCTION	
PROJECT	SPV.0105.02 LS
7995-02-40	1

SEISMOGRAPH/VIBRATION MONITORING		
CATEGORY	PROJECT	SPV.0105.03 LS
0020	7995-02-40	1

ASPHALTIC SURFACE SPECIAL		
STATION TO STATION	LOCATION	SPV.0195.01 TON
11+00 - 12+75	MAINLINE	519
19+88 - 21+00	MAINLINE	233
6+21 - 8+11	TRAIL	25
UNDISTRIBUTED		15
PROJECT ID TOTAL		791

ALL ITEMS ON THIS SHEET
ARE CATEGORY 0010 UNLESS
OTHERWISE NOTED

3

3

CONDUIT				
		652.0225	652.0235	652.0615
		CONDUIT RIGID	CONDUIT RIGID	
		NONMETALLIC	NONMETALLIC	CONDUIT
		SCHEDULE 40	SCHEDULE 40	SPECIAL
		2-INCH	3-INCH	3-INCH
FROM	TO	LF	LF	LF
1ST AVENUE & WATER STREET				
CB1	PB1	--	36	--
CB1	PB5	--	81	--
PB1	PB2	--	128	--
PB4	PB5	--	--	94
PB1	SB1	9	--	--
PB5	SB7	16	--	--
TOTAL		25	245	94

REMOVING PULL BOXES		
		653.0905
LOCATION	STATION/OFFSET	EACH
1ST AVENUE & WATER STREET		
PB1	11+37, 22' LT	1
TOTAL		1

3

CONCRETE BASES					
		654.0101	654.0105	657.0217	
		CONCRETE BASES TYPE 1 EACH	CONCRETE BASES TYPE 5 EACH	CONCRETE CONTROL BASES TYPE 9 SPECIAL EACH	
BASE NO.	STATION	OFFSET			
1ST AVENUE & WATER STREET					
CB1	11+45	44' LT	--	--	1
SB1	11+57	32' LT	1	--	--
SB7	11+06	67' LT		1	--
TOTAL			1	1	1

PULL BOXES			
			653.0140
			PULL BOXES STEEL
			24x42-INCH
LOCATION	STATION	OFFSET	EACH
1ST AVENUE & WATER STREET			
PB1	11+49	33' LT	1
PB5	11+18	51' LT	1
TOTAL			2

LIGHTING WIRE			
		655.0620	655.0610
		ELECTRICAL WIRE	ELECTRICAL WIRE
		LIGHTING 8 AWG	LIGHTING 12 AWG
FROM	TO	LF	LF
1ST AVENUE & WATER STREET			
CB1	SB7	159	--
SB7	LUM.	--	135
TOTAL		159	135

REMOVING CONCRETE BASES		
		204.0195
LOCATION	STATION/OFFSET	EACH
1ST AVENUE & WATER STREET		
CB1	11+45, 32' LT	1
SB1	11+62, 14' LT	1
SB7	11+06, 67' LT	1
TOTAL		3

ALL ITEMS ON THIS SHEET ARE
CATEGORY 0010 UNLESS
OTHERWISE NOTED

3

TRAFFIC SIGNAL CABLE						
		655.0230	655.0240	655.0260	655.0270	655.0800
		CABLE TRAFFIC SIGNAL	CABLE TRAFFIC SIGNAL	CABLE TRAFFIC SIGNAL	CABLE TRAFFIC SIGNAL	LOOP DETECTOR
		5-14 AWG	7-14 AWG	12-14 AWG	15-14 AWG	WIRE
FROM	TO	LF	LF	LF	LF	LF
1ST AVENUE & WATER STREET						
CB1	SB1	--	--	26	--	--
SB1	FACE 3	19	--	--	--	--
SB1	FACE 4	23	--	--	--	--
CB1	SB2	--	--	119	--	--
SB2	FACE 2	47	--	--	--	--
SB2	FACE 9	19	--	--	--	--
CB1	SB3	--	--	--	199	--
SB3	FACE 1	19	--	--	--	--
SB3	FACE 6	19	--	--	--	--
SB3	FACE 8	19	--	--	--	--
SB3	FACE 13	15	--	--	--	--
SB3	BUTTON	--	--	--	--	6
CB1	SB4	151	--	--	--	--
SB4	FACE 5	22	--	--	--	--
CB1	SB5	--	151	--	--	--
SB5	FACE 11	15	--	--	--	--
SB5	BUTTON	--	--	--	--	6
CB1	SB6	--	165	--	--	--
SB6	FACE 7	19	--	--	--	--
SB6	FACE 12	15	--	--	--	--
SB6	BUTTON	--	--	--	--	6
CB1	SB7	--	53	--	--	--
SB7	FACE 10	15	--	--	--	--
SB7	BUTTON	--	--	--	--	6
TOTAL		417	369	145	199	24

ELECTRICAL SERVICE METER BREAKER PEDESTAL

656.0200.01	
LOCATION	LS
1ST AVENUE & WATER STREET	1
TOTAL	1

REMOVE, SALVAGE, AND REINSTALL TRAFFIC SIGNAL POLES AND CABINET

SPV.0105.01	
LOCATION	LS
1ST AVENUE & WATER STREET	1
TOTAL	1

EQUIPMENT GROUNDING CONDUCTORS

655.0515 ^ ^			
ELECTRICAL WIRE			
TRAFFIC SIGNALS			
10 AWG (GREEN)			
LOC.	TO	LOC.	LF
1ST AVENUE & WATER STREET			
CB1	-	SB1	30
SB1	-	SB2	115
SB2	-	SB3	150
SB3	-	SB4	110
SB4	-	SB5	30
SB5	-	SB6	45
SB6	-	SB7	150
SB7	-	CB1	65

TOTAL 695
^^ ADDITIONAL QUANTITIES WITH 'PULL BOX BONDING JUMPERS' SECTION

SIGNAL MOUNTING HARDWARE

658.5069.01	
LOCATION	LS
1ST AVENUE & WATER STREET	1
TOTAL	1

PULL BOX BONDING JUMPERS

655.0515 ^ ^			
ELECTRICAL WIRE			
TRAFFIC SIGNALS			
10 AWG (GREEN)			
LOC.	TO	LOC.	LF
1ST AVENUE & WATER STREET			
PB1	-	CB1	25
PB5	-	SB7	30

TOTAL 55
^^ ADDITIONAL QUANTITIES WITH 'EQUIPMENT GROUNDING CONDUCTORS' SECTION

ALL ITEMS ON THIS SHEET ARE CATEGORY 0010 UNLESS OTHERWISE NOTED

PULL BOXES STEEL 24X42-INCH

				653.0140
NUMBER	STATION	OFFSET	EACH	
LPB 1	11+67	47' LT	1	
LPB 2	12+32	44' LT	1	
LPB 3	12+32	23' RT	1	
LPB 4	19+90	41' LT	1	
LPB 5	20+40	33' LT	1	
LPB 6	20+13	28' RT	1	
TOTAL CATEGORY 0030				6

CONSTRUCTION STAKING ELECTRICAL INSTALLATIONS

		650.8500
PROJECT	L.S.	
7995-02-40	1	
TOTAL CATEGORY 0030		1

LIGHTING CONTROL CABINETS

		CONCRETE CONTROL CABINET BASES TYPE L24 654.0224	ELECTRICAL SERVICE METER BREAKER PEDESTAL (LCC 1) 656.0200	LIGHTING CONTROL CABINETS 120/240 24-INCH 659.2124
STATION	DESCRIPTION	EACH	L.S.	EACH
11+60, 52' LT	LCC 1	1	1	1
TOTAL CATEGORY 0030		1	1	1

REMOVE AND REINSTALL LIGHT POLE

			SPV.0060.06
STATION	OFFSET	EACH	
20+06	53' LT	1	
TOTAL CATEGORY 0030			1

ELECTRICAL WIRE LIGHTING AND CONDUIT RIGID NONMETALLIC SCHEDULE 40

			8 AWG 655.0620	6 AWG 655.0625	4 AWG 655.0630	2-INCH 652.0225
CATEGORY	NUMBER FROM	LENGTH (LF)	LF	LF	LF	LF
0030	LCC1 - PB1	10	80	96	32	30
0030	PB1-201	25	155	186	62	25
0030	201 - PB2	41	235	282	94	41
0030	PB2 - 301	36	126	168	0	36
0030	301-303	77	249	332	0	77
0030	303-305	77	249	332	0	77
0030	305-307	77	249	332	0	77
0030	307-309	77	249	332	0	77
0030	309-311	77	249	332	0	77
0030	311-313	77	249	332	0	77
0030	313-315	77	249	332	0	77
0030	315-317	77	249	332	0	77
0030	317-319	77	249	332	0	77
0030	319-PB4	15	63	42	0	15
0030	PB4-PB5	50	168	112	0	50
0040	PB5-321	80	258	172	0	80
0030	PB2-PB3	41	235	94	94	41
0030	PB3-302	36	210	84	84	36
0030	302-304	77	249	332	0	77
0030	304-306	77	249	332	0	77
0030	306-308	77	249	332	0	77
0030	308-310	77	249	332	0	77
0030	310-312	77	249	332	0	77
0030	312-314	77	249	332	0	77
0030	314-316	77	249	332	0	77
0030	316-318	77	249	332	0	77
0030	318-320	77	249	332	0	77
0030	320-PB6	20	78	52	0	20
0040	PB6-322	50	168	112	0	50
TOTAL CATEGORY 0030			5832	7092	366	1680
TOTAL CATEGORY 0040			426	284	0	130

ALL ITEMS ON THIS SHEET
ARE CATEGORY 0030 UNLESS
OTHERWISE NOTED

LIGHTING UNIT AND LUMINAIRE ITEMS												
CATEGORY	STATION	OFFSET	LIGHTING UNIT NUMBER	CONCRETE	ELECTRICAL	ELECTRICAL	POLES	LUMINAIRE ARMS	LUMINAIRE ARMS	LUMINAIRE ARMS	CONCRETE	DECORATIVE
				BASES	WIRE LIGHTING	WIRE LIGHTING	TYPE 5-	SINGLE MEMBER	LUMINAIRE	BASES TYPE 1	LIGHTING UNIT	
				TYPE 5 654.0105	12 AWG 655.0610	10 AWG 655.0615	ALUMINUM 657.0322	4 1/2-INCH CLAMP 8-FT 657.0615	UTILITY LED A 659.1115	MODIFIED SPV.0060.03	SPV.0060.04	
				EACH	LF	LF	EACH	EACH	EACH	EACH	EACH	EACH
0040	EX POLE	-	101	-	0	0	-	-	1	-	-	-
0040	EX POLE	-	102	-	0	0	-	-	1	-	-	-
0030	EX POLE	-	103	-	0	0	-	-	1	-	-	-
0030	11+90	42.0 LT	201	1	150	0	1	1	1	-	-	-
0030	12+67	40.0 LT	301	-	93	60	-	-	-	1	1	1
0030	12+67	32.0 RT	302	-	93	60	-	-	-	1	1	1
0030	13+40	STRUCTURE LT	303	-	93	60	-	-	-	-	-	1
0030	13+40	STRUCTURE RT	304	-	93	60	-	-	-	-	-	1
0030	14+20	STRUCTURE LT	305	-	93	60	-	-	-	-	-	1
0030	14+20	STRUCTURE RT	306	-	93	60	-	-	-	-	-	1
0030	15+00	STRUCTURE LT	307	-	93	60	-	-	-	-	-	1
0030	15+00	STRUCTURE RT	308	-	93	60	-	-	-	-	-	1
0030	15+80	STRUCTURE LT	309	-	93	60	-	-	-	-	-	1
0030	15+80	STRUCTURE RT	310	-	93	60	-	-	-	-	-	1
0030	16+55	STRUCTURE LT	311	-	93	60	-	-	-	-	-	1
0030	16+55	STRUCTURE RT	312	-	93	60	-	-	-	-	-	1
0030	17+30	STRUCTURE LT	313	-	93	60	-	-	-	-	-	1
0030	17+30	STRUCTURE RT	314	-	93	60	-	-	-	-	-	1
0030	18+10	STRUCTURE LT	315	-	93	60	-	-	-	-	-	1
0030	18+10	STRUCTURE RT	316	-	93	60	-	-	-	-	-	1
0030	18+85	STRUCTURE LT	317	-	93	60	-	-	-	-	-	1
0030	18+85	STRUCTURE RT	318	-	93	60	-	-	-	-	-	1
0030	19+75	STRUCTURE LT	319	-	93	60	-	-	-	-	-	1
0030	19+75	STRUCTURE RT	320	-	93	60	-	-	-	-	-	1
0040	20+97	32.0 LT	321	-	93	60	-	-	-	1	1	1
0040	20+42	24.5 RT	322	-	93	60	-	-	-	1	1	1
TOTAL CATEGORY 0030				1	2010	1200	1	1	2	2	20	20
TOTAL CATEGORY 0040				0	186	120	0	0	2	2	2	2

ALL ITEMS ON THIS SHEET
ARE CATEGORY 0030 UNLESS
OTHERWISE NOTED

3

REMOVING MANHOLES

STATION	LOCATION	204.0210 EACH
19+73.62	33.52' LT	1
20+01.06	42.75' LT	1
CATEGORY 0040 TOTAL		2
*PROJECT ID TOTAL		3

ABANDON SANITARY SEWER IN PLACE

STATION	LOCATION	SPV.0090.04 LF
19+60	LT/RT	90
PROJECT ID TOTAL		90

MANHOLE CASTING TYPE A LID A, B OR C - SANITARY SEWER

STATION	LOCATION	SPV.0060.05 EACH
20+01.34	70.0' LT	1
19+66	50.5' LT	1
19+56.50	32.0' RT	1
PROJECT ID TOTAL		3

12-INCH SANITARY SEWER

		0'-12' DEEP	24'-28' DEEP
		PVC SDR 26	
STATION TO STATION	LOCATION	SPV.0090.05 LF	SPV.0090.06 LF
19+56.5 - 19+66.5	LT/RT	83	---
19+66.5 - 20+01.34	LT	---	40
PROJECT ID TOTAL		83	40

12-INCH DUCTILE IRON WATER MAIN CLASS 52

STATION TO STATION	LOCATION	SPV.0090.07 LF
11+65 - 20+15	LT	852
PROJECT ID TOTAL		852

FITTINGS

PROJECT	SPV.0085.01 LB
7995-02-40	1011
PROJECT ID TOTAL	1011

MANHOLE MASONRY - SANITARY SEWER

PROJECT	SPV . 0200 . 01 VF
7995 - 02 - 40	48 . 12
PROJECT ID TOTAL	48 . 12

*OTHER QUANTITIES LOCATED ELSEWHERE IN PLAN

ALL ITEMS ON THIS SHEET
ARE CATEGORY 0040 UNLESS
OTHERWISE NOTED

3

SCHEDULE OF LANDS & INTERESTS REQUIRED

PARCEL NUMBER	OWNER(S)	INTEREST REQUIRED	R/W NEW SQ. FT.	R/W EXISTING SQ. FT.	R/W TOTAL SQ. FT.	TLE SQ. FT.
1	NINA BROBST	FEE & TLE	867	0	867	90

NOTE REGARDING RIPARIAN OWNERSHIP

THE MEANDER CORNERS SHOWN AT POINTS 105, 108, 113, 114 AND 117 CONTROL THE DIRECTION OF THE R/W LINES, BUT NOT THE R/W BOUNDARY, WHICH EXTENDS TO THE OHWM OF THE CHIPPEWA RIVER AS SHOWN. POINTS 106, 107 AND 115 WERE CALCULATED AT THE APPROXIMATE OHWM TO FACILITATE SHOWING MATHEMATICAL CLOSURES FOR THIS PLAT, BUT ARE SUBJECT TO CHANGE IN THE FUTURE DUE TO RIPARIAN RIGHTS.

TRANSPORTATION PROJECT PLAT NO: 7995-02-41 - 4.01

PART OF LOT 1, BLOCK 2 OF EAU CLAIRE LUMBER COMPANY'S 8TH ADDITION, RECORDED IN VOLUME 1 OF PLATS ON PAGE 13, BEING LOCATED IN GOVERNMENT LOT 1; AND A PART OF GOVERNMENT LOT 1; ALL OF SECTION 20, TOWNSHIP 27 NORTH, RANGE 9 WEST, CITY OF EAU CLAIRE, EAU CLAIRE COUNTY, WISCONSIN.

RELOCATION ORDER, WATER STREET, CITY OF EAU CLAIRE

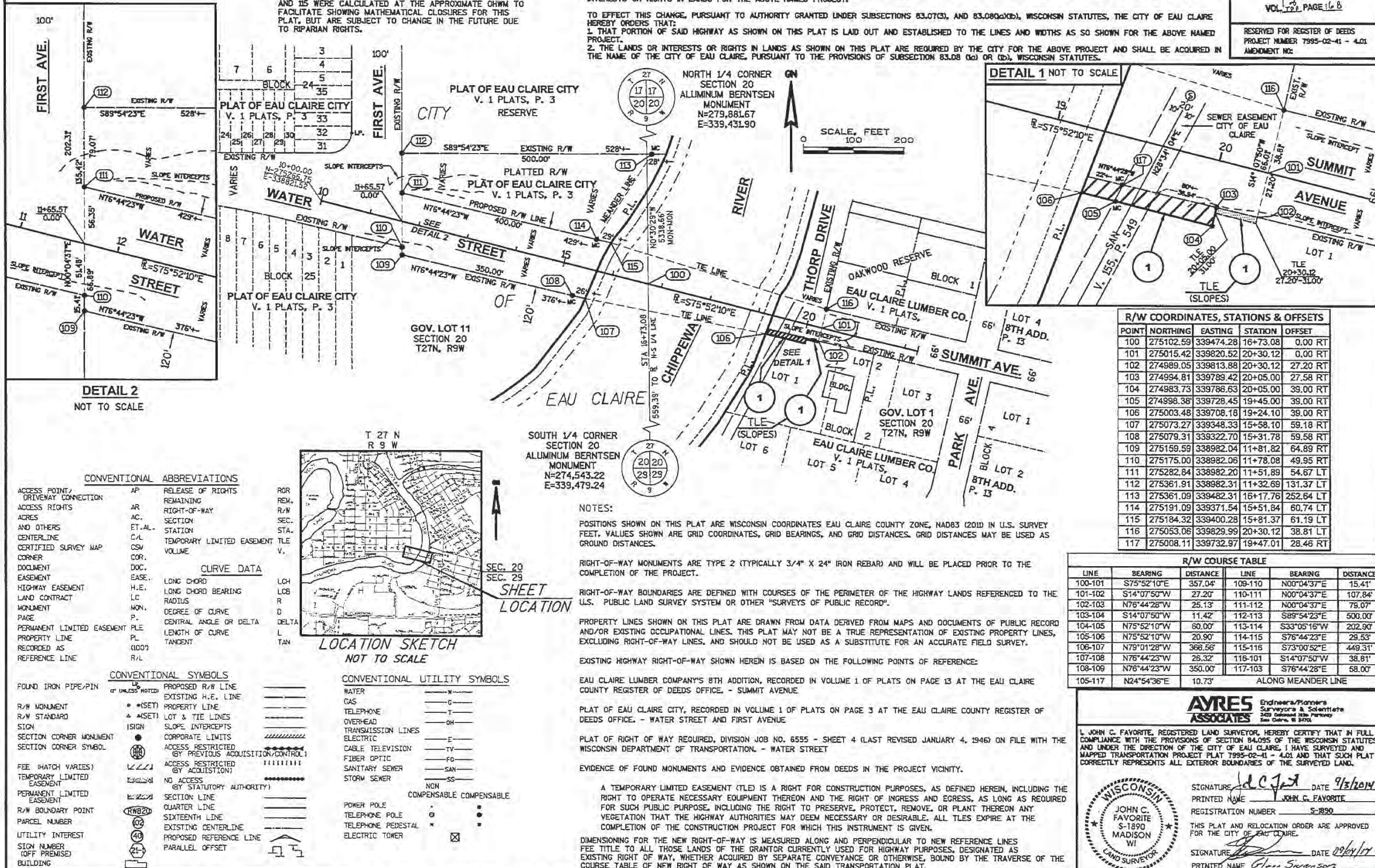
TO PROPERLY ESTABLISH, LAY OUT, WIDEN, ENLARGE, EXTEND, CONSTRUCT, RECONSTRUCT, IMPROVE, OR MAINTAIN A PORTION OF THE HIGHWAY DESIGNATED ABOVE, THE STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION DEEMS IT NECESSARY TO RELOCATE OR CHANGE SAID HIGHWAY AND ACQUIRE CERTAIN LANDS AND INTERESTS OR RIGHTS IN LANDS FOR THE ABOVE NAMED PROJECT.

TO EFFECT THIS CHANGE, PURSUANT TO AUTHORITY GRANTED UNDER SUBSECTIONS 83.07(3), AND 83.08(4)(b), WISCONSIN STATUTES, THE CITY OF EAU CLAIRE HEREBY ORDERS THAT:
1. THAT PORTION OF SAID HIGHWAY AS SHOWN ON THIS PLAT IS LAY OUT AND ESTABLISHED TO THE LINES AND WIDTHS AS SO SHOWN FOR THE ABOVE NAMED PROJECT.
2. THE LANDS OR INTERESTS OR RIGHTS IN LANDS AS SHOWN ON THIS PLAT ARE REQUIRED BY THE CITY FOR THE ABOVE PROJECT AND SHALL BE ACQUIRED IN THE NAME OF THE CITY OF EAU CLAIRE, PURSUANT TO THE PROVISIONS OF SUBSECTION 83.08 (a) OR (b), WISCONSIN STATUTES.

1104509
KATHRYN A. CHRISTENSEN
EAU CLAIRE COUNTY, WI
REGISTER OF DEEDS

RECORDED ON
09/04/2014 11:01 AM
REC FEE: \$5.00
TRANSFER FEE:
EXEMPT #
PAGES: 1
VOL. 122, PAGE 16 B

RESERVED FOR REGISTER OF DEEDS
PROJECT NUMBER 7995-02-41 - 4.01
AMENDMENT NO:



FILE NAME : U:\SURVEY\000\410639-WATER ST TOPO\RIGHT OF WAY\CSD TTP\41063900_TTP.DWG
APPRAISAL PLAT DATE : 9/2/2014

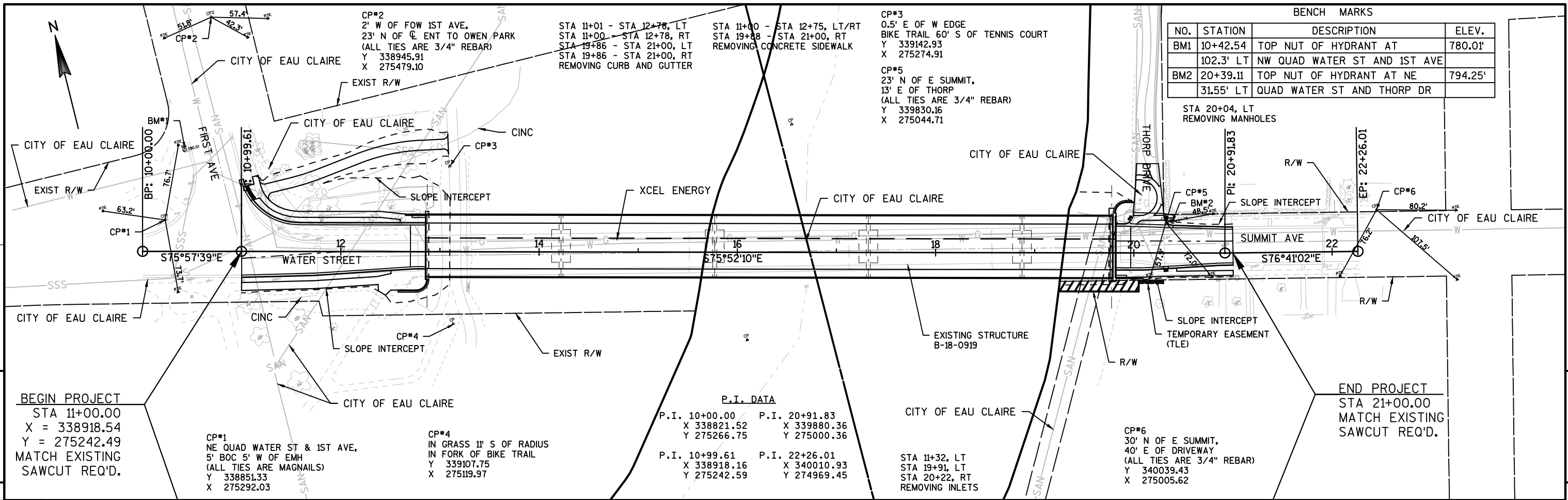
PLOT DATE : 9/3/2014 5:23 PM

PLOT BY : HOGUND, MATTHEW

PLOT NAME :

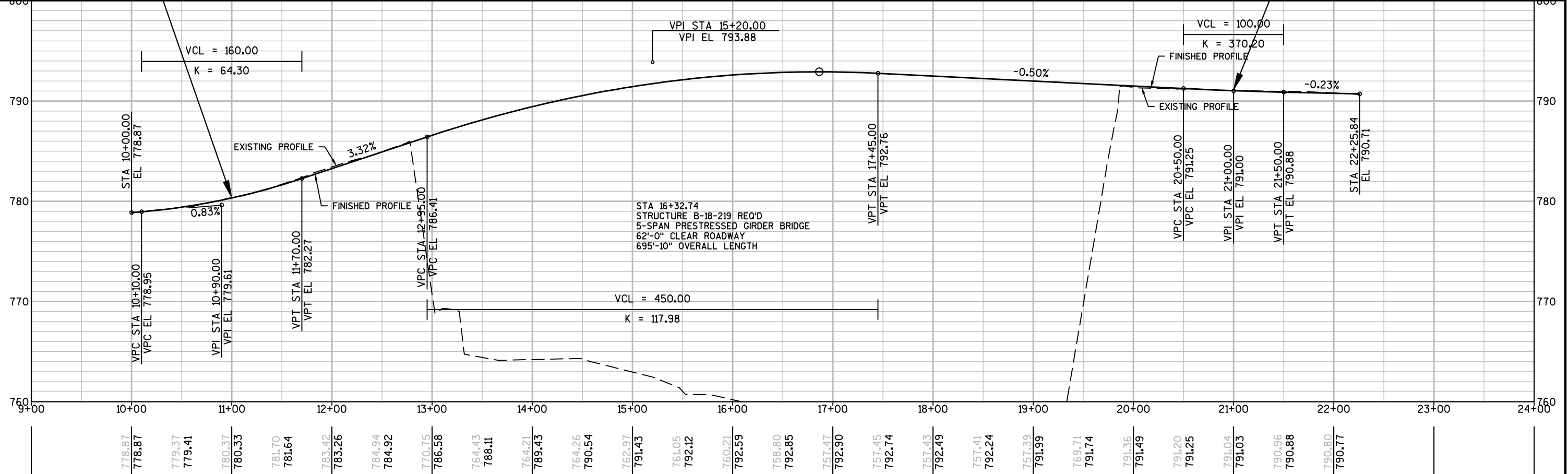
PLOT SCALE : 1"=100'

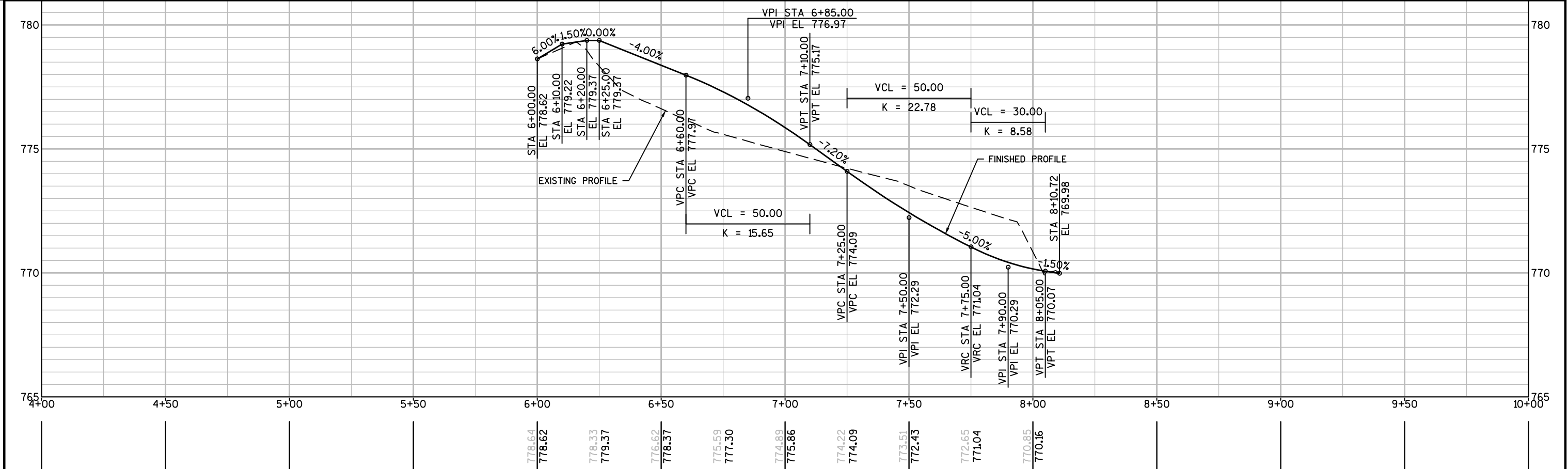
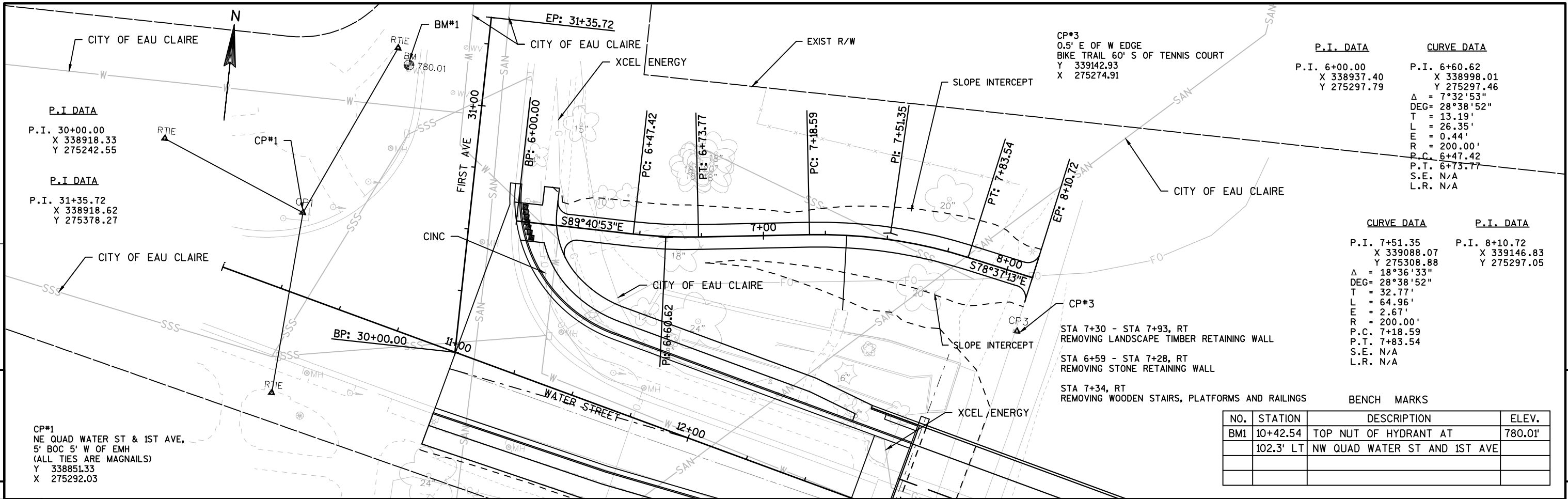
7995-02-41 4.01



BENCH MARKS			
NO.	STATION	DESCRIPTION	ELEV.
BM1	10+42.54	TOP NUT OF HYDRANT AT 102.3' LT NW QUAD WATER ST AND 1ST AVE	780.01'
BM2	20+39.11	TOP NUT OF HYDRANT AT NE 31.55' LT QUAD WATER ST AND THORP DR	794.25'

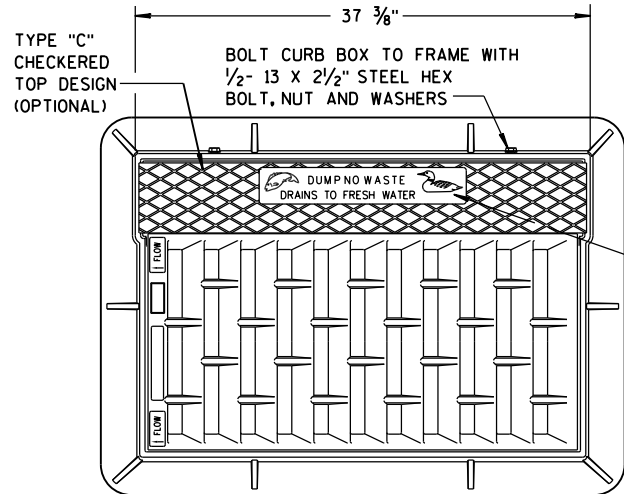
P.I. DATA			
P.I. 10+00.00	X 338821.52	P.I. 20+91.83	X 339880.36
	Y 275266.75		Y 275000.36
P.I. 10+99.61	X 338918.16	P.I. 22+26.01	X 340010.93
	Y 275242.59		Y 274969.45





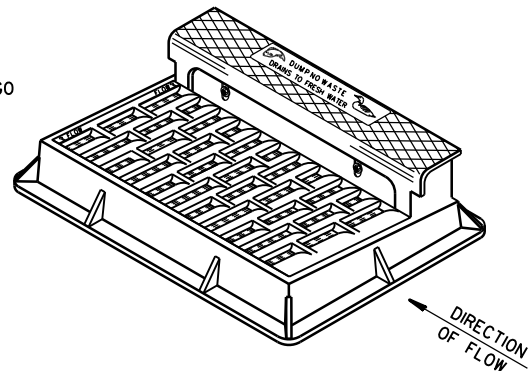
Standard Detail Drawing List

08A05-19A	INLET COVERS TYPE A, H, A-S, H-S & Z
08A05-19D	INLET COVER TYPE BW, MANHOLE COVERS, TYPE K, J, J-S, L & M
08B09-01	MANHOLES 3-FT, 4-FT, 5-FT, 6-FT, 7-FT AND 8-FT DIAMETER
08C06-01	INLETS 3-FT AND 4-FT DIAMETER
08C07-01	INLETS 2X2-FT, 2X2.5-FT, 2X3-FT AND 2.5X3-FT
08D01-17	CONCRETE CURB, CONCRETE CURB AND GUTTER AND TIES
08D05-15A	CURB RAMPS TYPES 1 AND 1-A
08D05-15B	CURB RAMPS TYPES 2 AND 3
08D05-15C	CURB RAMPS TYPES 4A AND 4A1
08D05-15D	CURB RAMPS TYPE 4B AND 4B1
08D05-15E	CURB RAMPS TYPES 5, 6, 7A, 7B & 8
08E09-06	SILT FENCE
08E10-02	INLET PROTECTION TYPE A, B, C AND D
08E12-01	SILT SCREEN
08F01-11	APRON ENDWALLS FOR CULVERT PIPE
09B02-08	CONDUIT UNDER PAVED HIGHWAYS
09B04-11	PULL BOX
09C02-07	CONCRETE BASES, TYPES 1, 2, 5, & 6
09C03-04	TRANSFORMER/PEDESTAL BASES
09C06-07	CONCRETE CONTROL CABINET BASE, TYPE 9, SPECIAL
09C14-02	CONCRETE CONTROL CABINET BASE, TYPE L
09D01-05	CABINET SERVICE INSTALLATION (METER BREAKER PEDESTAL)
09D04-01	LIGHTING CONTROL CABINET
09E01-13D	POLE MOUNTINGS FOR LIGHTING UNITS, TYPE 5 (30 FEET)
09E01-13G	HARDWARE DETAILS FOR POLE MOUNTINGS
09E03-05	NON-FREEWAY LIGHTING UNIT POLE WIRING
10A15-04A	ELECTRICAL DETAILS UNDERDECK LIGHTING
10A15-04B	ELECTRICAL DETAILS UNDERDECK LIGHTING
13B02-07A	CONCRETE BRIDGE APPROACH
14A02-01	TREE PLANTING DETAIL
15C02-05A	BARRICADES AND SIGNS FOR MAINLINE CLOSURES
15C02-05B	BARRICADES AND SIGNS FOR MAINLINE CLOSURES
15C02-05C	DETOUR SIGNING FOR MAINLINE CLOSURES
15C05-02	TRAFFIC CONTROL, ADVANCE WARNING SIGNS 40 M.P.H. OR LESS
15C07-12A	PAVEMENT MARKING SYMBOLS
15C07-12B	PAVEMENT MARKING WORDS
15C07-12C	PAVEMENT MARKING ARROWS
15C08-16A	PAVEMENT MARKING (MAINLINE)
15C08-16B	PAVEMENT MARKING (INTERSECTIONS)
15C29-03C	URBAN BICYCLE LANE MARKING
15C29-03D	URBAN BICYCLE LANE MARKING
15C29-03E	PAVEMENT MARKING FOR BIKE LANES
15C33-01	STOP LINE AND CROSSWALK PAVEMENT MARKING
15D29-03	TRAFFIC CONTROL, VEHICLE ENTRANCE/EXIT OR HAUL ROAD
15D30-01	TRAFFIC CONTROL, SIDEWALK CLOSURE

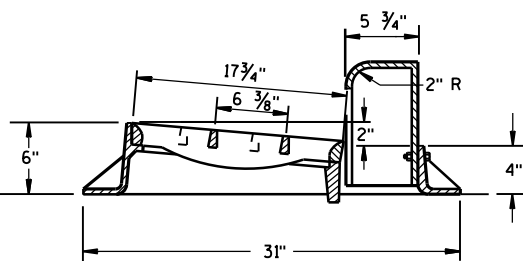
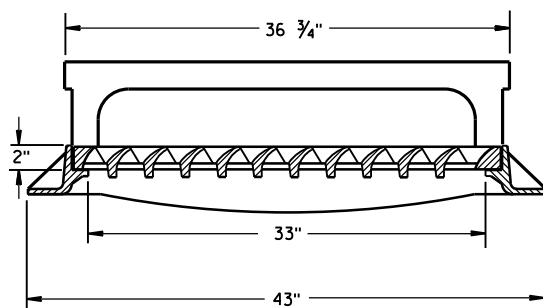
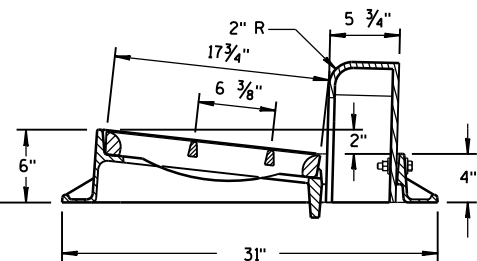
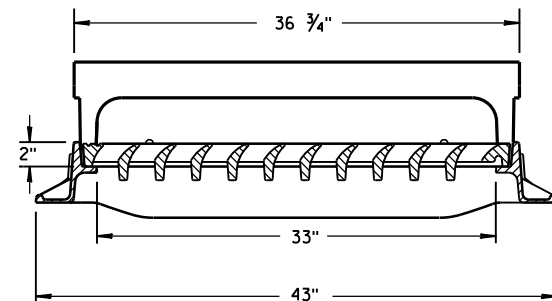
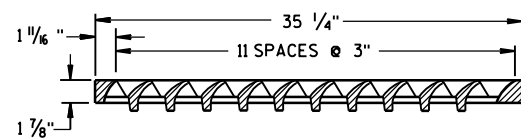


SEE LOGO
DETAIL

NOTE:
GRATE IS REVERSIBLE.

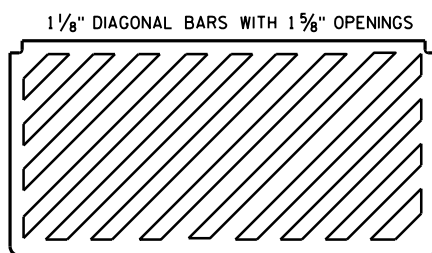


NOTE: CURB BOX HEIGHT ADJUSTABLE 6" TO 9"



TYPE "H"

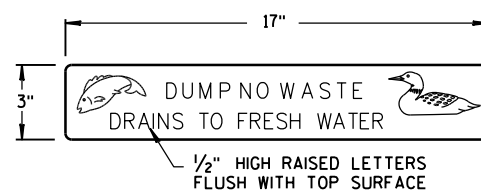
NOTE: EITHER CASTING IS ACCEPTABLE



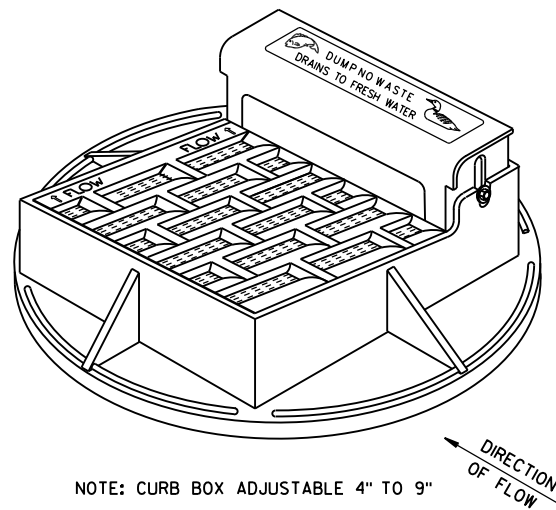
**SPECIAL GRATE FOR
TYPE "H" COVER**

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

(NOTED AS TYPE H-S ON DRAINAGE TABLE)

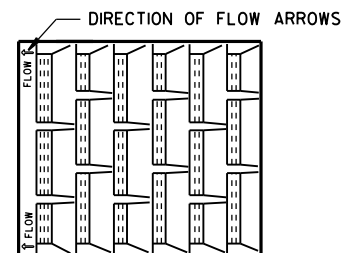


LOGO DETAIL

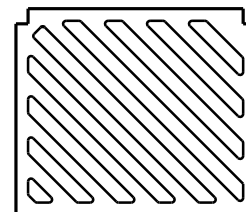


NOTE: CURB BOX ADJUSTABLE 4" TO 9"

NOTE:
GRATE IS REVERSIBLE.



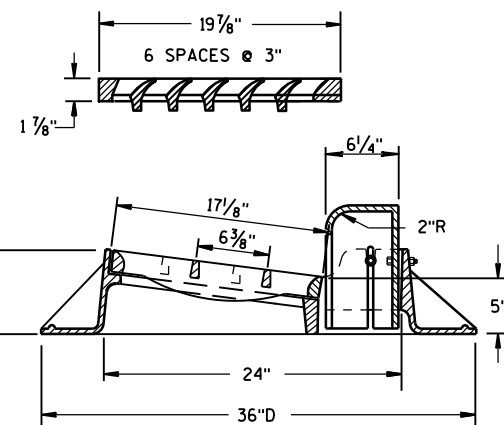
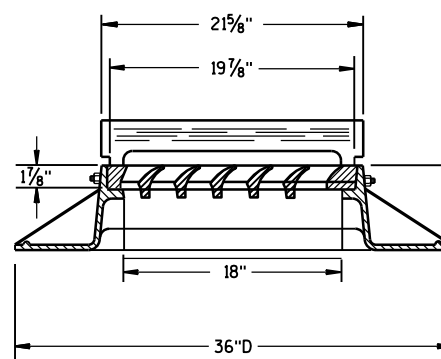
1" DIAGONAL BARS
WITH 1 1/2" OPENINGS



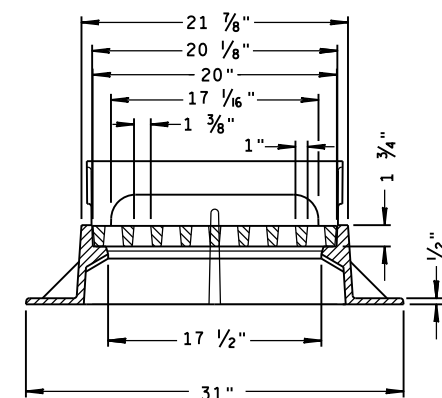
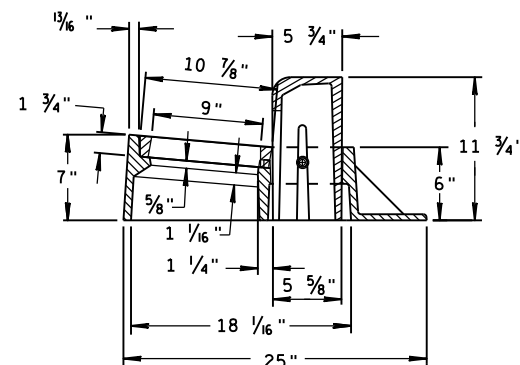
**SPECIAL GRATE FOR
TYPE "A" COVER**

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

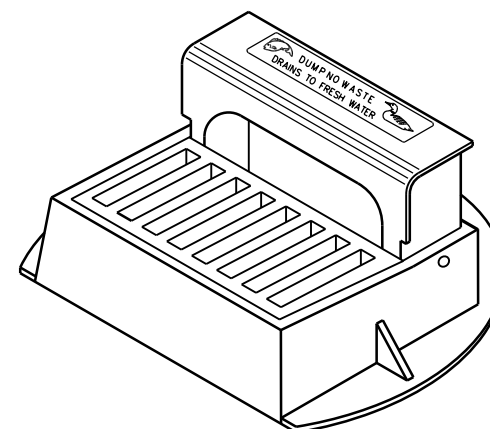
(NOTED AS TYPE A-S ON DRAINAGE TABLE)



TYPE "A"



TYPE "Z"



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

**STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION**

APPROVED

11-27-13

DATE

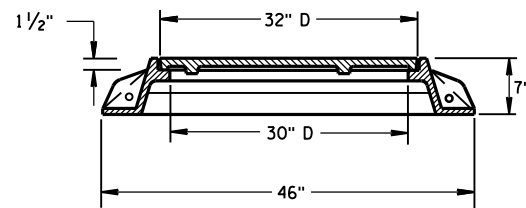
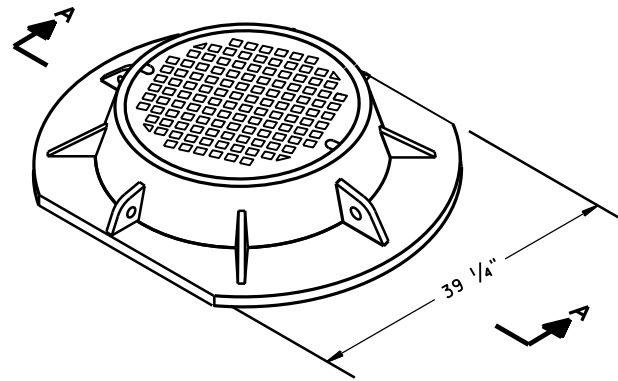
FHWA

/S/ Jerry H. Zogg

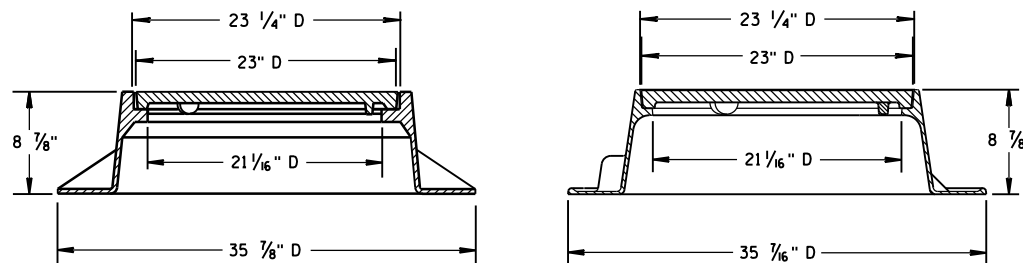
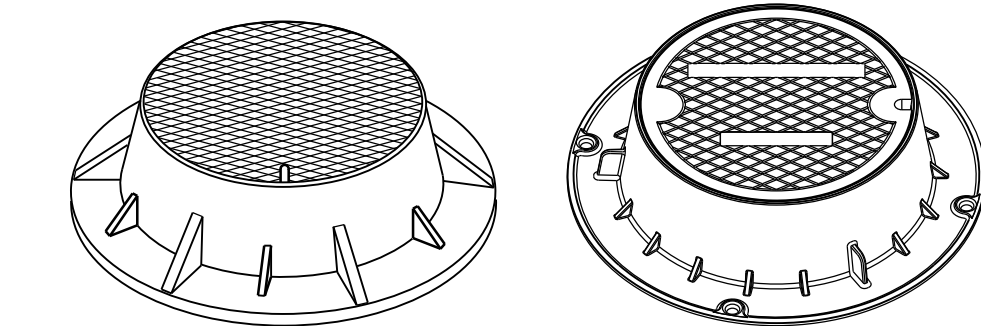
ROADWAY STANDARDS

ENGINEER

ENT



SECTION A-A
TYPE "K"



TYPE "J"

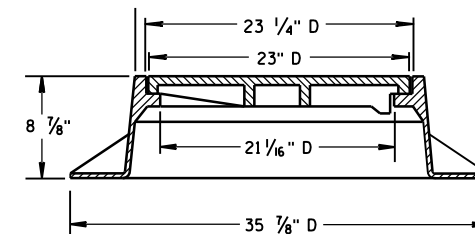
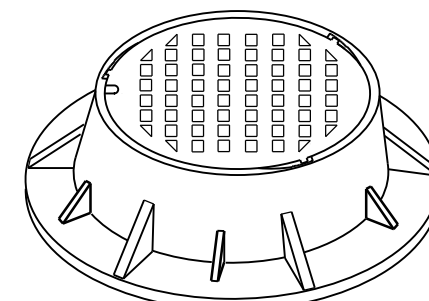
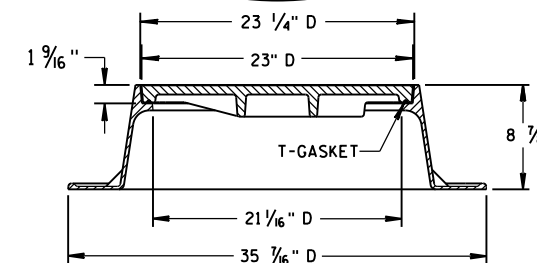
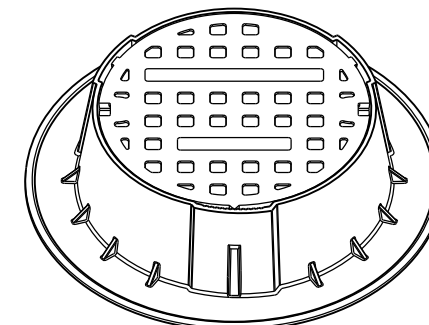
NOTE: EITHER CASTING IS ACCEPTABLE

GENERAL NOTES

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

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

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

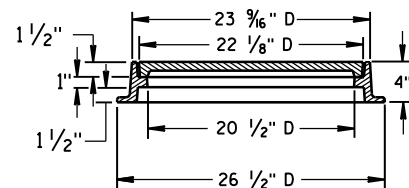
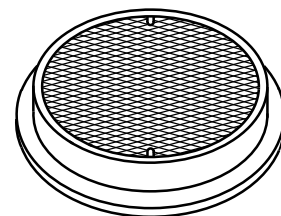


TYPE "J" SPECIAL

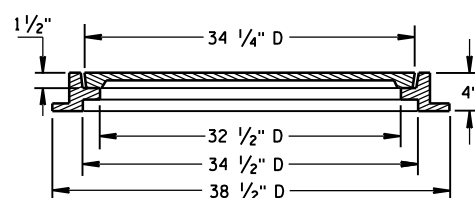
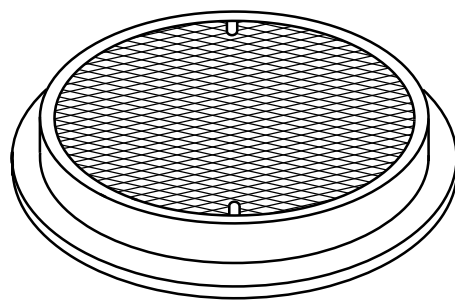
TYPE "B" NON-ROCKING SELF-SEAL LID

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

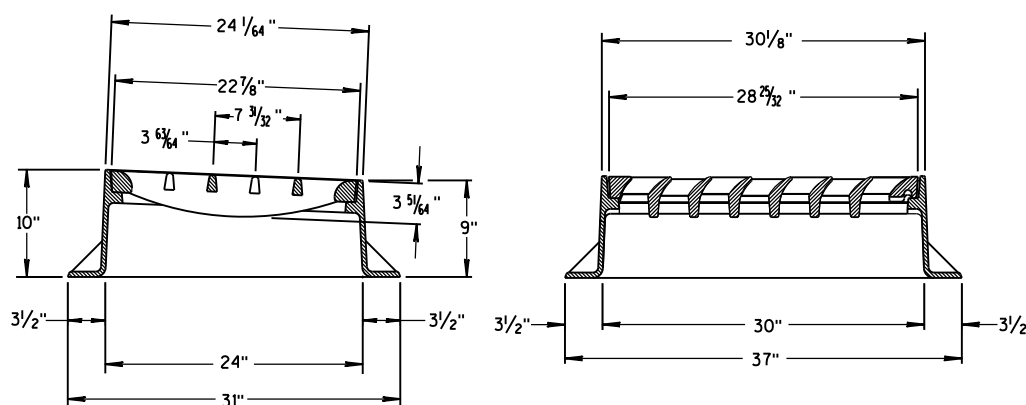
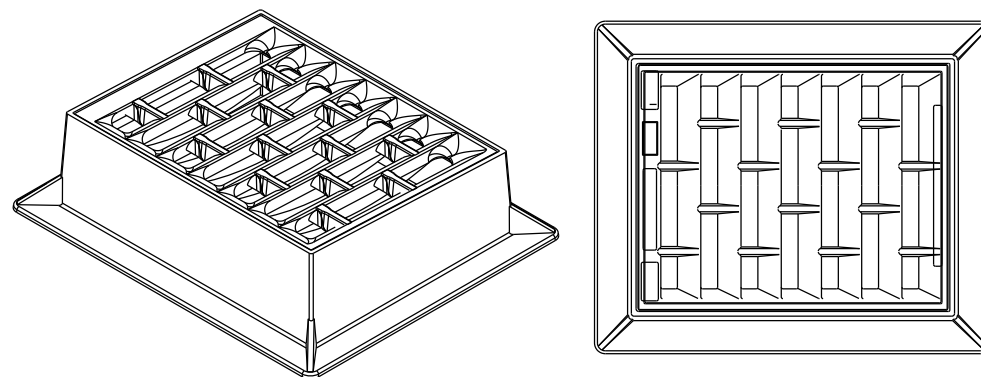
NOTE: EITHER CASTING IS ACCEPTABLE



TYPE "L"



TYPE "M"



INLET COVER TYPE "BW"

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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

11/27/2013

DATE

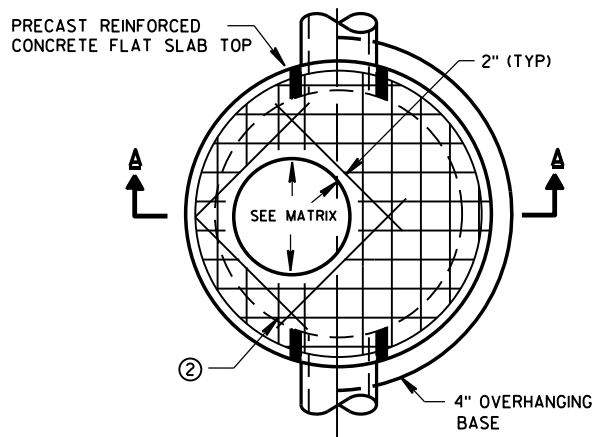
FHWA

/S/ Jerry H. Zogg

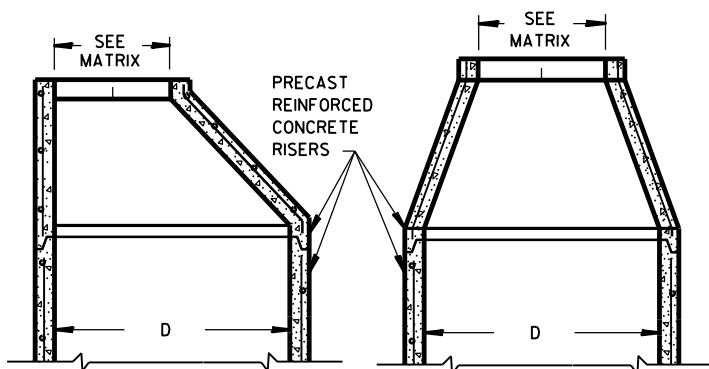
ROADWAY STANDARDS 049

ENGINEER

VT

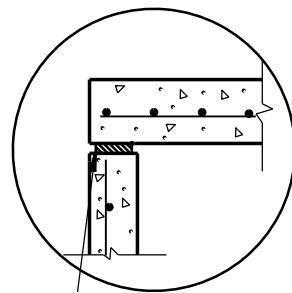


PLAN VIEW CIRCULAR OPENING

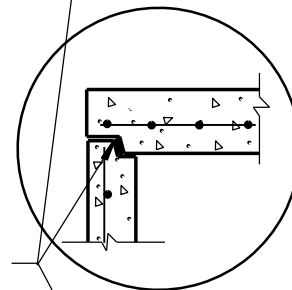


OPTIONAL PRECAST REINFORCED CONCRETE ECCENTRIC TOP

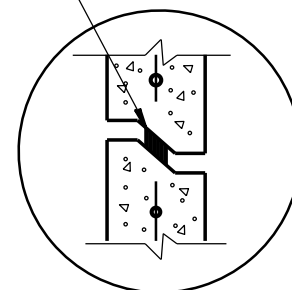
OPTIONAL PRECAST REINFORCED CONCRETE CONCENTRIC TOP



TOP WITH PLAIN END JOINT



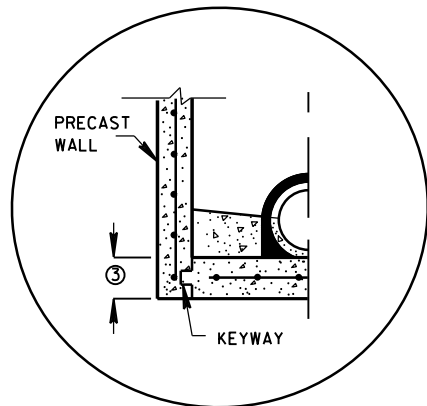
TOP WITH TONGUE AND GROOVE JOINT



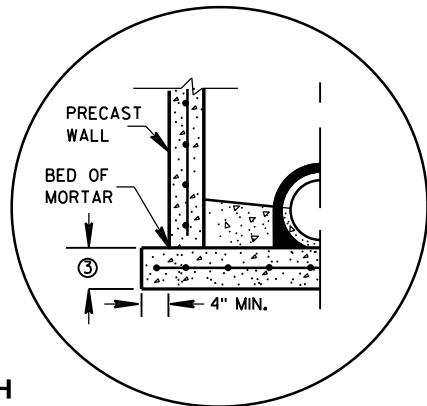
RISER WITH TONGUE AND GROOVE JOINT

DETAIL "B"

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

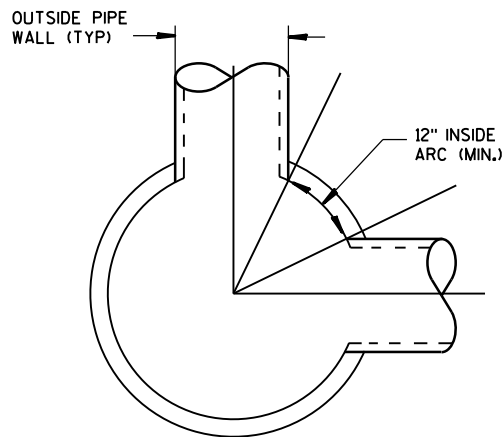


PRECAST REINFORCED CONCRETE WITH INTEGRAL BASE OPTION

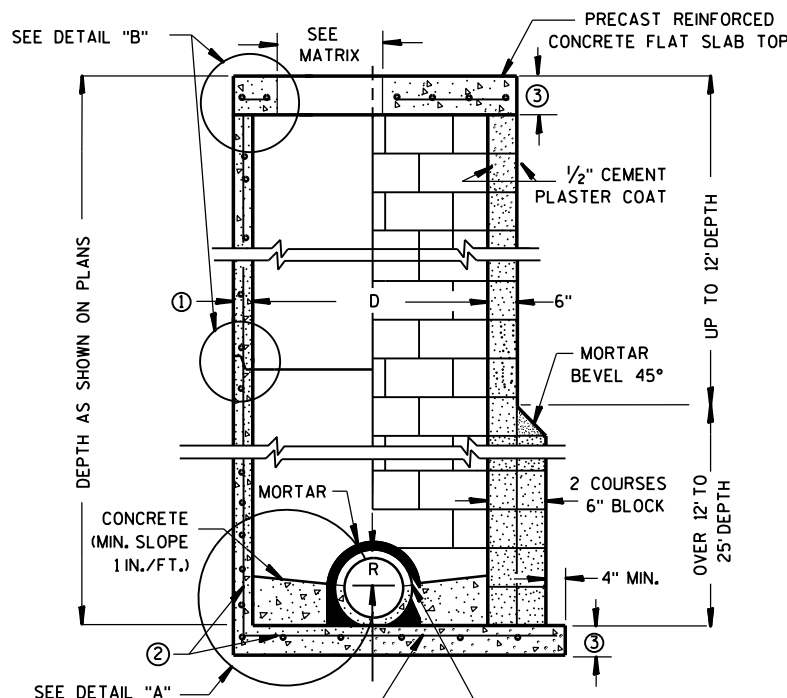


SEPARATE PRECAST REINFORCED CONCRETE BASE OPTION

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 GRANULAR BACKFILL. THIS BEDDING SHALL BE COMPACTED AND PROVIDE UNIFORM SUPPORT FOR THE ENTIRE AREA OF THE BASE.

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

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

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

STEPS OF APPROVED POLYPROPYLENE PLASTIC COATED REINFORCEMENT BAR ARE ACCEPTABLE. REINFORCING BAR MUST BE A MINIMUM OF 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

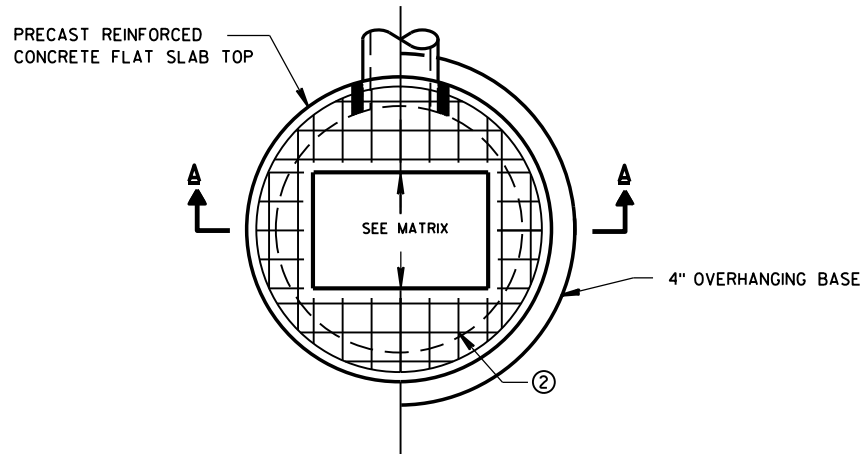
PIPE MATRIX

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

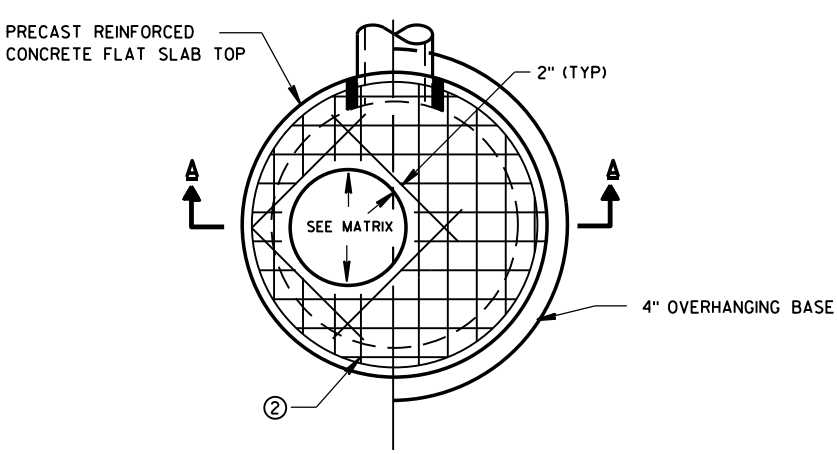
MANHOLES 3-FT, 4-FT, 5-FT, 6-FT, 7-FT AND 8-FT DIAMETER

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
6/5/2012 /S/ Jerry H. Zogg
DATE ROADWAY STANDARDS DEVELOPMENT ENGINEER 50
FHWA

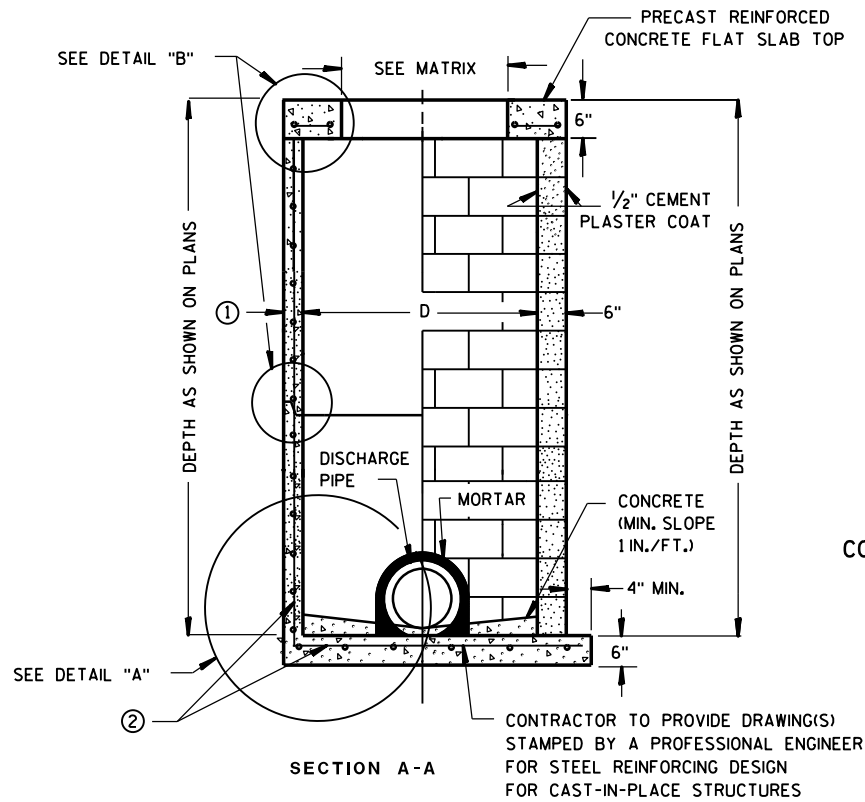


PLAN VIEW RECTANGULAR OPENING



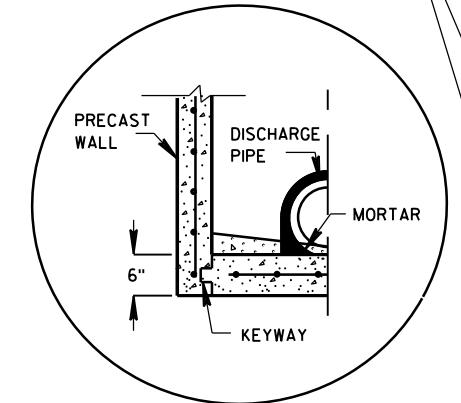
PLAN VIEW CIRCULAR OPENING

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

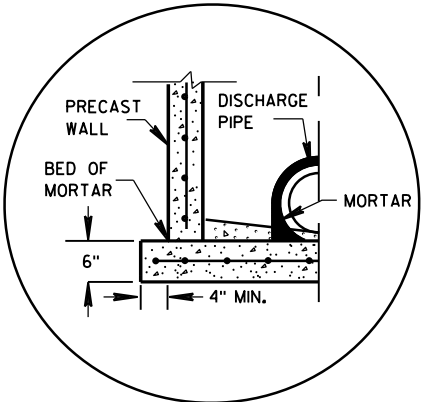


PRECAST REINFORCED CONCRETE WITH MONOLITHIC BASE **CONCRETE BLOCK WITH CAST-IN-PLACE OR PRECAST REINFORCED CONCRETE BASE ②**

CIRCULAR INLETS W/ FLAT TOP

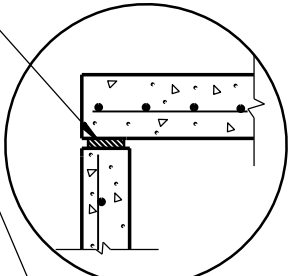


PRECAST REINFORCED CONCRETE WITH INTEGRAL BASE OPTION

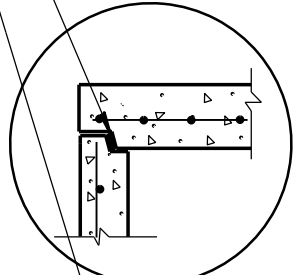


SEPARATE PRECAST REINFORCED CONCRETE BASE OPTION

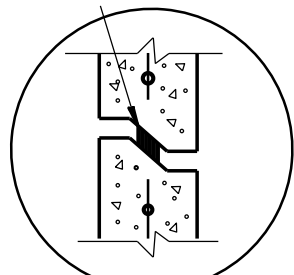
DETAIL "A"



TOP WITH PLAIN END JOINT



TOP WITH TONGUE AND GROOVE JOINT



RISER WITH TONGUE AND GROOVE JOINT

DETAIL "B"

INLETS 3-FT AND 4-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 INLET UNITS REQUIRED FOR THE PROJECT UNTIL A LIST OF SIZES IS FURNISHED BY THE ENGINEER.

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

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

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

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

ALL PRECAST INLET UNITS SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF AASHTO DESIGNATION M199.

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

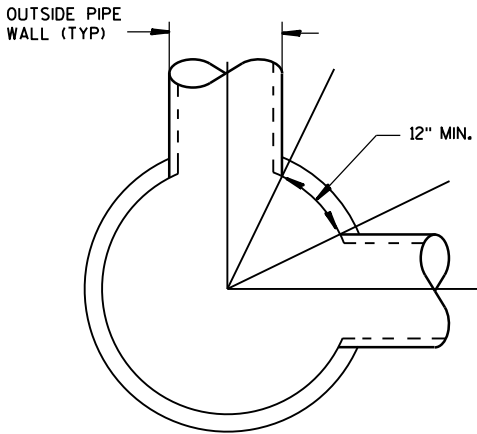
4" OVERHANGING BASES ARE REQUIRED FOR ALL CONCRETE BLOCK INSTALLATIONS. 4" OVERHANG IS REQUIRED WHEN SEPARATE PRECAST BASE IS PROVIDED. OVERHANG IS NOT REQUIRED ON PRECAST STRUCTURES WITH AN INTEGRAL OR MONOLITHIC BASE.

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-IN FOR 3-FT DIAMETER AND 5-IN FOR 4-FT DIAMETER PRECAST INLETS.
- ② FOR PRECAST CATCH BASINS PROVIDE REINFORCING STEEL IN ACCORDANCE TO AASHTO M199.

INLET COVER OPENING MATRIX

	INLET COVER TYPE	ALL A'S	ALL B'S	BW	C	F	ALL H'S	S	T	V	WM	Z
INLET SIZE	OPENING SIZE (FT)											
3-FT	2 DIA.				X							X
	2X2	X	X					X		X		
4-FT	2 DIA.				X							X
	2X2	X	X					X	X	X	X	
	2X2.5			X								
	2X3						X					
	2.5X3					X						



DETAIL "C"

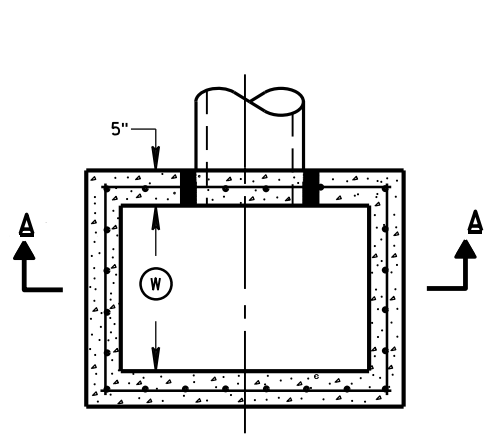
PIPE MATRIX

INLET SIZE	MAXIMUM INSIDE PIPE DIAMETER FOR TWO PIPES	
	180° SEPARATION (IN)	90° SEPARATION (IN)
3-FT	15	12
4-FT	24	18

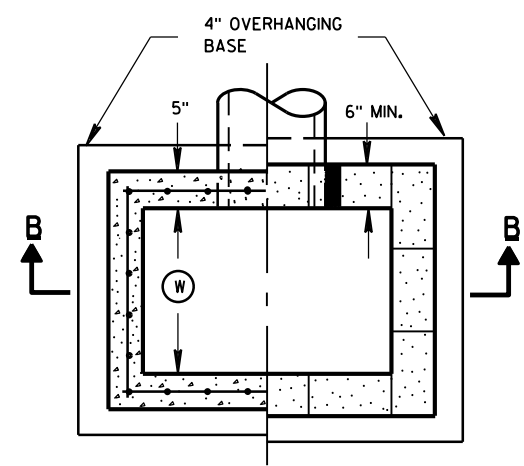
INLETS 3-FT AND 4-FT DIAMETER

**STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION**

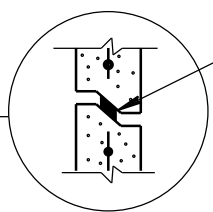
APPROVED
6/5/2012 DATE /S/ Jerry H. Zogg
ROADWAY STANDARDS DEVELOPMENT ENGINEER 51
FHWA



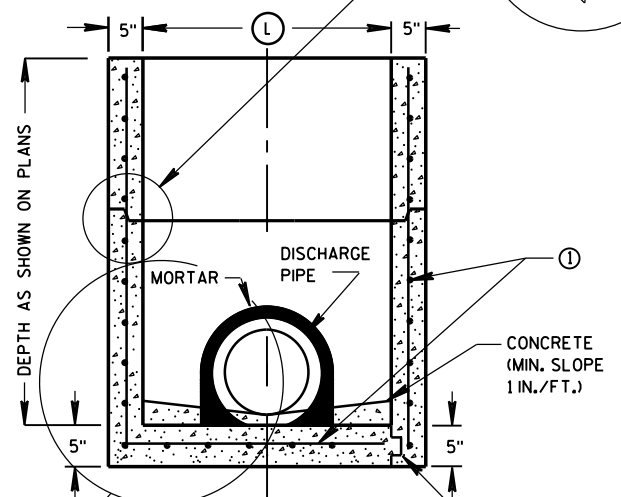
PLAN VIEW



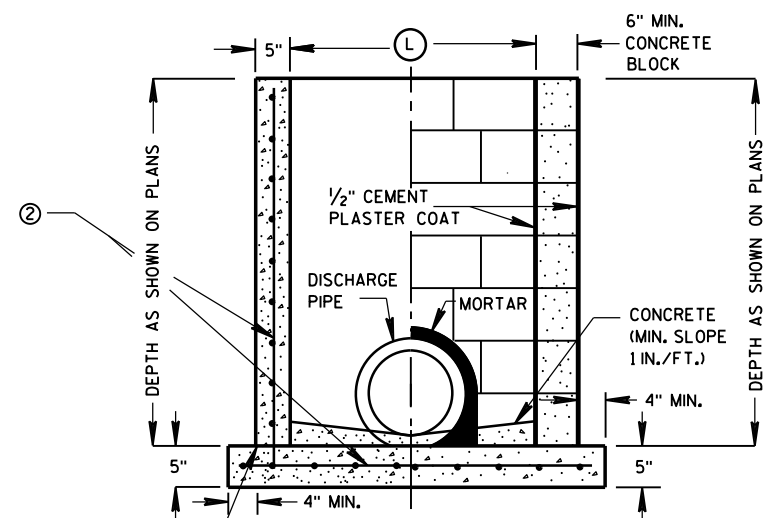
PLAN VIEW



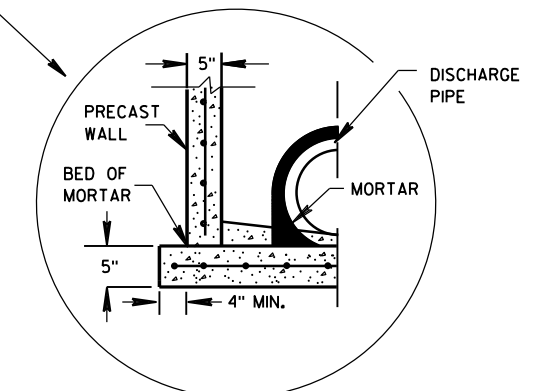
RISER JOINTS TO BE SEALED WITH A BUTYL RUBBER SEAL PER SEALANT MANUFACTURERS RECOMMENDATIONS CONFORMING TO ASTM C 990 (TYP)



SECTION A-A



SECTION B-B



SEPARATE PRECAST REINFORCED CONCRETE BASE OPTION

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

GENERAL NOTES

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

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

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

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

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

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

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

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

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

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

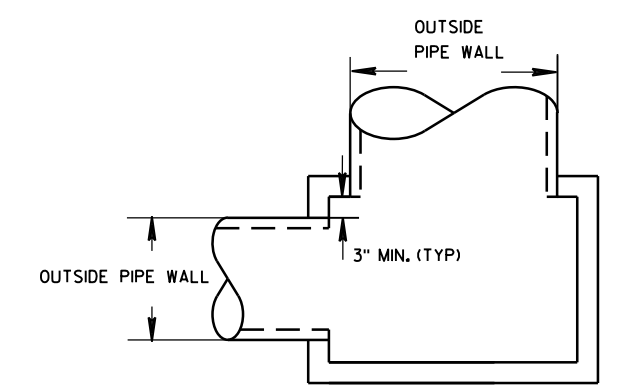
- ① FOR PRECAST INLETS PROVIDE REINFORCING STEEL IN ACCORDANCE TO ASTM C 913.
- ② CONTRACTOR TO PROVIDE DRAWING(S) STAMPED BY A PROFESSIONAL ENGINEER FOR STEEL REINFORCING DESIGN FOR CAST-IN-PLACE STRUCTURES.

INLET COVER MATRIX

INLET SIZE		INLET COVER TYPE	ALL A'S	ALL B'S	BW	F	ALL H'S	S	T	V	WM
	WIDTH ① (FT)	LENGTH ② (FT)									
2X2-FT	2	2	X	X				X		X	
2X2.5-FT	2	2.5			X			X	X	X	X
2X3-FT	2	3					X				
2.5X3-FT	2.5	3				X					

PIPE MATRIX

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

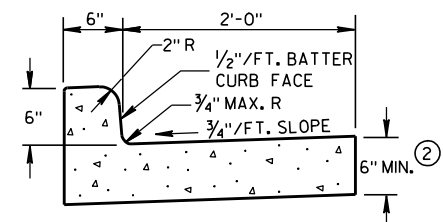


DETAIL "A"

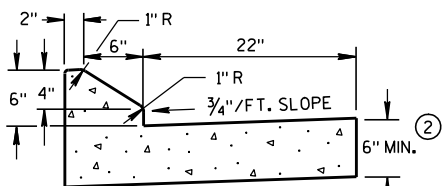
INLETS 2X2-FT, 2X2.5-FT, 2X3-FT AND 2.5X3-FT

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

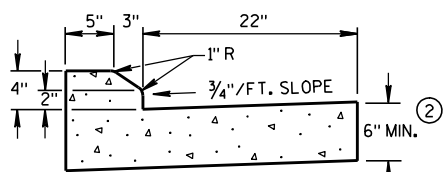
APPROVED
6/5/2012 /S/ Jerry H. Zogg
DATE ROADWAY STANDARDS DE
FHWA ENGINEER 52



TYPES A & D ①



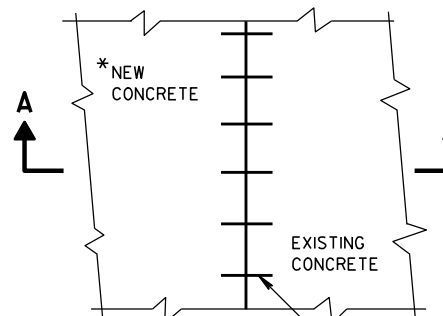
6" SLOPED CURB TYPES G & J ①



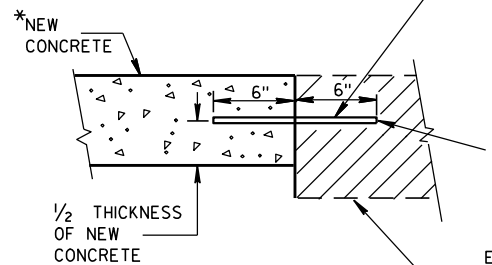
4" SLOPED CURB TYPES G & J ①

CONCRETE CURB & GUTTER 30"

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



PLAN VIEW

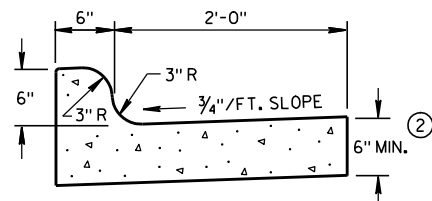


SECTION A-A
TIE BARS DRILLED
INTO EXISTING PAVEMENT

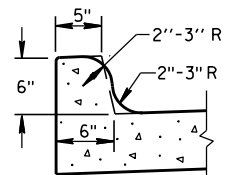
NO. 6 TIE BARS SPACED 2'-6" C-C,
INSTALLED PERPENDICULAR
TO THE LONGITUDINAL JOINT.

MAXIMUM DRILL HOLE
SIZE IS 1/8" GREATER
THAN TIE BAR DIAMETER

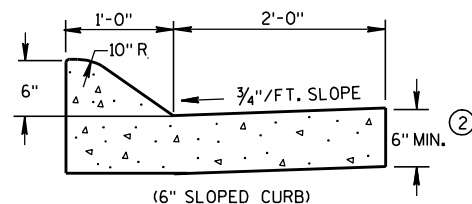
EXISTING
CONCRETE



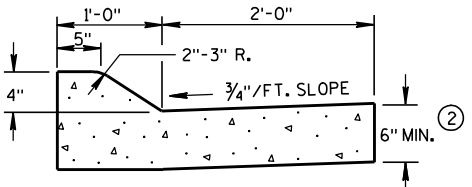
TYPES K & L ①



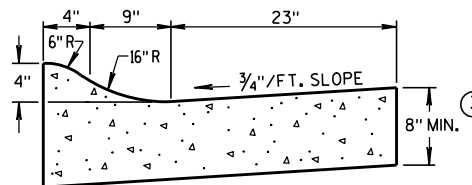
OPTIONAL CURB SHAPE
FOR TYPES K & L ①



(6" SLOPED CURB)

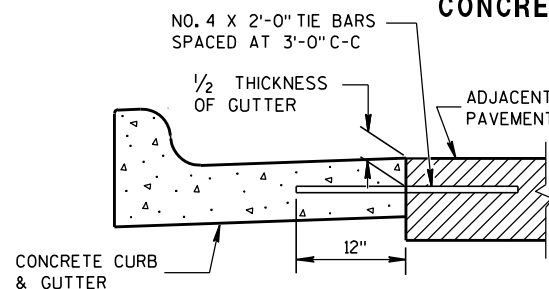


TYPES A & D ①

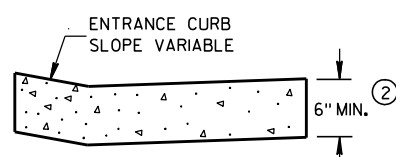


4" SLOPED CURB TYPES R & T ① ④

CONCRETE CURB & GUTTER 36"

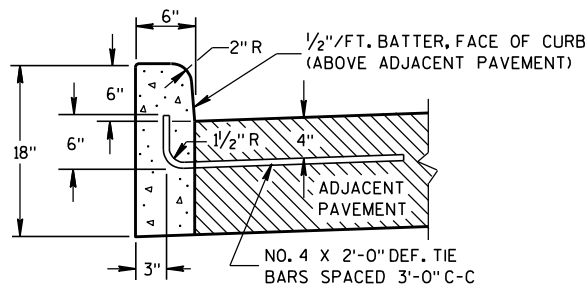


TYPICAL TIE BAR LOCATION ①



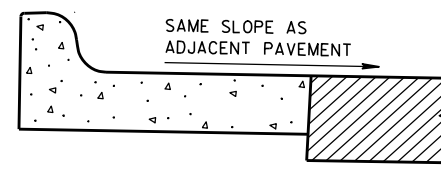
DRIVEWAY ENTRANCE CURB

(WHEN DIRECTED BY THE ENGINEER)

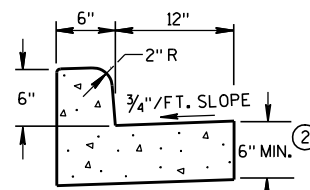


TYPES A & D ①

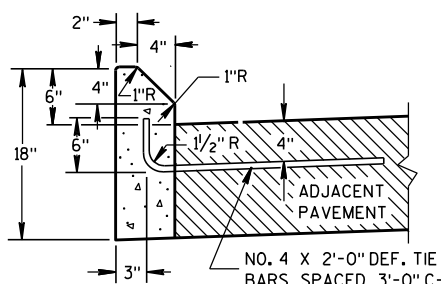
CONCRETE CURB



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



TYPES A & D
CONCRETE CURB & GUTTER 18"



TYPES G & J ①

GENERAL NOTES

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

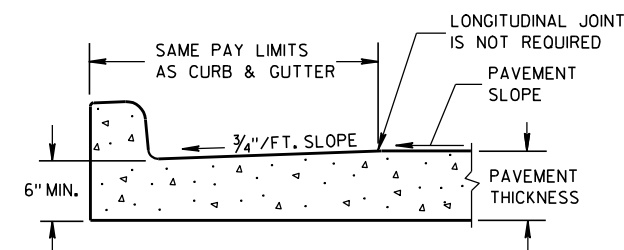
PAVEMENT TIES AND TIE BARS SHALL BE EPOXY COATED IN CONFORMANCE WITH SUBSECTION 505.2.6.2 OF THE STANDARD SPECIFICATIONS.

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

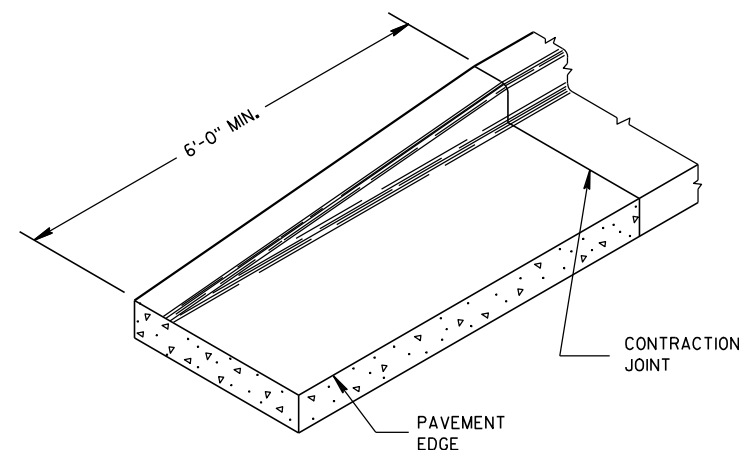
WHERE THE TRANSVERSE JOINTS IN THE PAVEMENT ARE REQUIRED TO BE SEALED, THE JOINTS IN THE INTEGRAL CURB AND GUTTER SHALL BE SEALED TO THE FACE OF CURB WITH THE SAME TYPE OF SEALANT. THE COST OF FURNISHING AND INSTALLING THIS SEALANT SHALL BE INCIDENTAL TO THE ITEM CONCRETE CURB AND GUTTER.

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

- ① TIE BARS ARE REQUIRED FOR CURB AND GUTTER TYPES A, G, K AND R.
- ② THE BOTTOM OF CURB AND GUTTER MAY BE CONSTRUCTED EITHER LEVEL OR PARALLEL TO THE SLOPE OF THE SUBGRADE OR BASE AGGREGATE PROVIDED A 6" MINIMUM GUTTER THICKNESS IS MAINTAINED.
- ③ THE BOTTOM OF CURB AND GUTTER MAY BE CONSTRUCTED EITHER LEVEL OR PARALLEL TO THE SLOPE OF THE SUBGRADE OR BASE AGGREGATE PROVIDED A 8" MINIMUM GUTTER THICKNESS IS MAINTAINED.
- ④ THE FACE OF CURB IS 6" FROM THE BACK OF CURB.
- ⑤ WHEN REVERSE SLOPE GUTTER IS REQUIRED, THE LOCATION(S) WILL BE SHOWN ELSEWHERE IN THE PLAN.



PARTIAL SECTION OF PAVEMENT
WITH INTEGRAL CURB & GUTTER



END SECTION CURB & GUTTER

CONCRETE CURB, CONCRETE
CURB & GUTTER AND TIES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

9/4/08

DATE

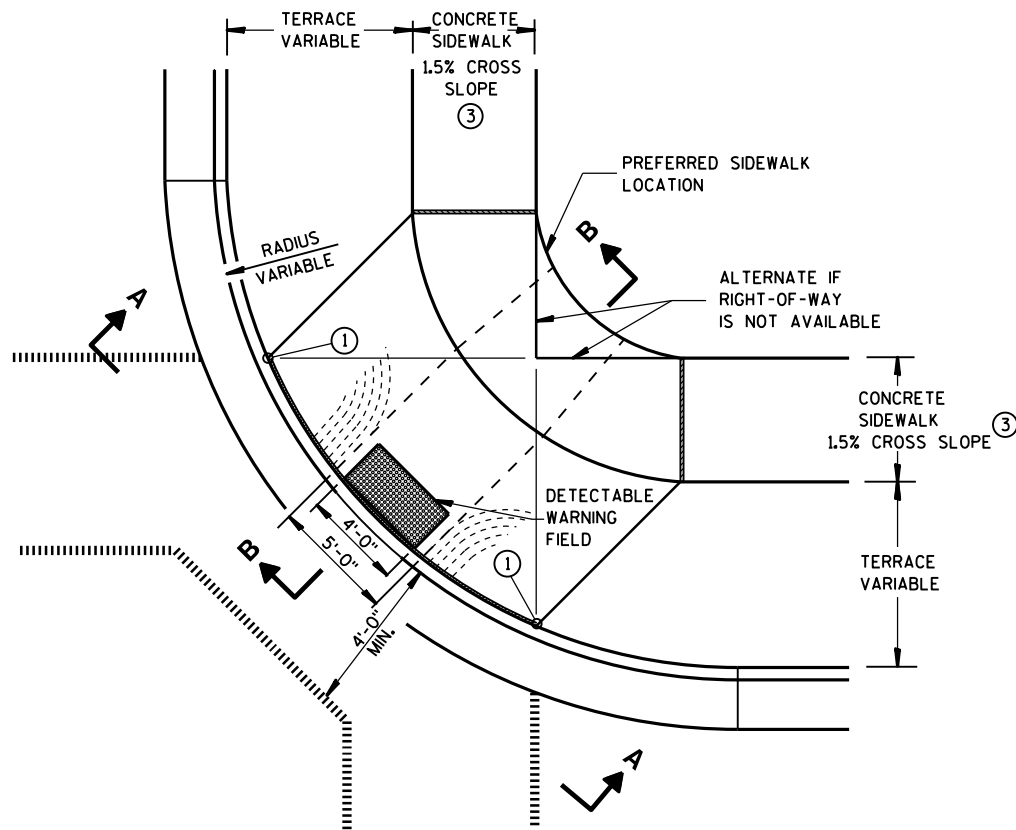
FHWA

/S/ Jerry H. 7

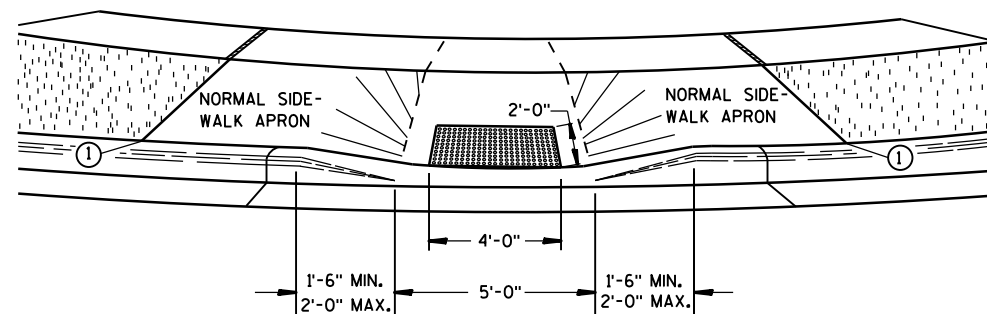
ROADWAY STANDARDS 53

ENGINEER

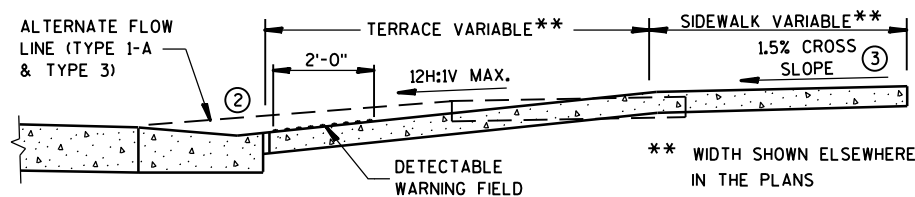
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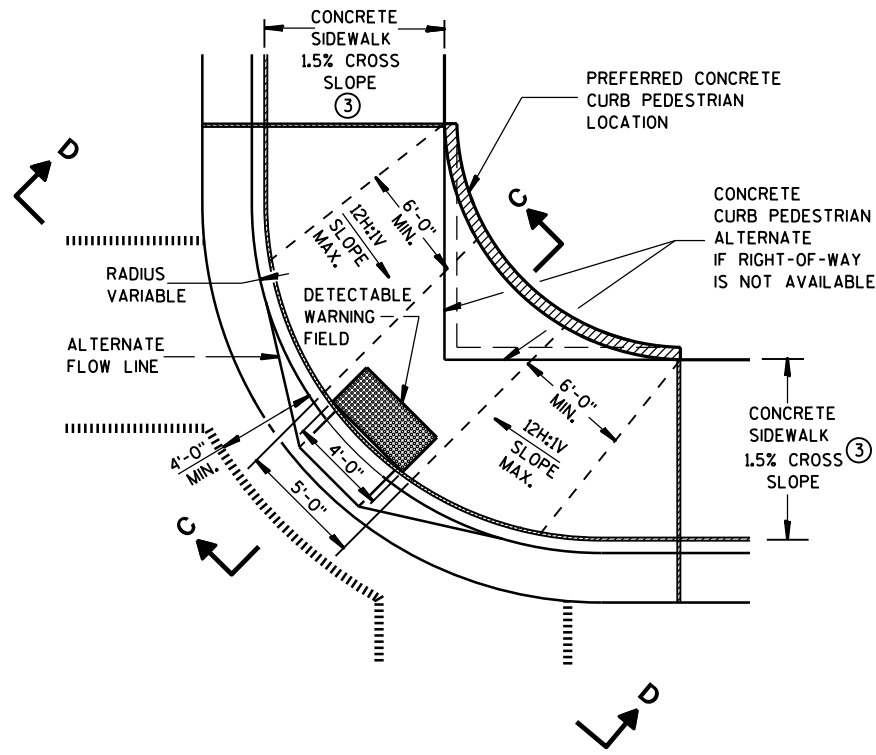
**PLAN VIEW
TYPE 1 RAMP**
(CENTER OF CORNER RADIUS)



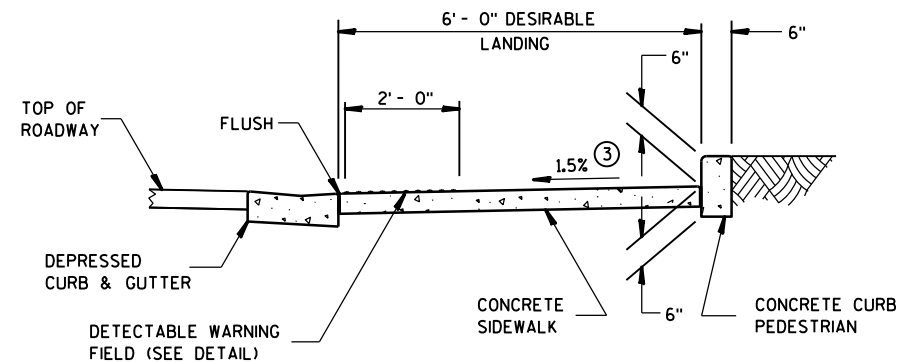
VIEW A-A



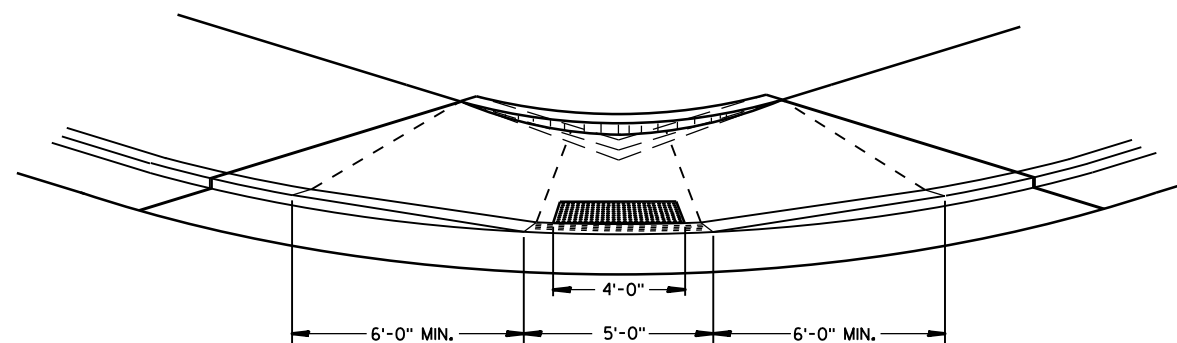
SECTION B-B



**PLAN VIEW
TYPE 1-A RAMP**
(NO TERRACE)



SECTION C-C



VIEW D-D

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.

RAMPS SHALL BE BUILT AT 12H:1V OR FLATTER. WHEN NECESSARY, THE SIDEWALK ELEVATION MAY BE LOWERED TO MEET THE HIGH POINT ON THE RAMP.

TYPE 1 RAMPS SHALL HAVE A NORMAL SIDEWALK APRON AND CURB ON BOTH SIDES OF RAMP.

DETECTABLE WARNING FIELD SHALL BE MEASURED AND PAID BY THE SQUARE FOOT AS "CURB RAMP DETECTABLE WARNING FIELD". THE CONCRETE PEDESTRIAN CURB, IF NEEDED, SHALL BE MEASURED AND PAID BY THE LINEAL FOOT AS "CONCRETE CURB PEDESTRIAN". CONCRETE SIDEWALK IN THE CURB RAMP AREA SHALL BE MEASURED AND PAID BY THE SQUARE FOOT AS CONCRETE SIDEWALK, INCLUDING THE AREA UNDER THE DETECTABLE WARNING FIELD.

SELECT CURB RAMP DETECTABLE WARNING FIELD MATERIALS AND DEVICES FROM THE DEPARTMENT'S APPROVED MATERIALS LIST. THE COLOR OF THE DETECTABLE WARNING FIELD IS SPECIFIED ELSEWHERE AND IS INCIDENTAL TO THE BID ITEM OF "CURB RAMP DETECTABLE WARNING FIELD".

DETECTABLE WARNING FIELDS THAT ARE INSTALLED AS A GROUP OR SIDE BY SIDE, SHALL BE FROM THE SAME MANUFACTURER.

SURFACE TEXTURE OF THE RAMP SHALL BE OBTAINED BY COARSE BROOMING TRANSVERSE TO THE SLOPE OF THE RAMP.

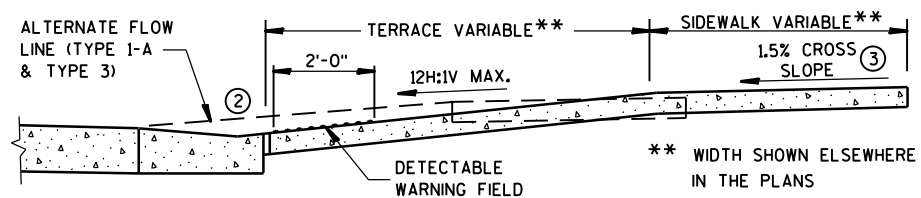
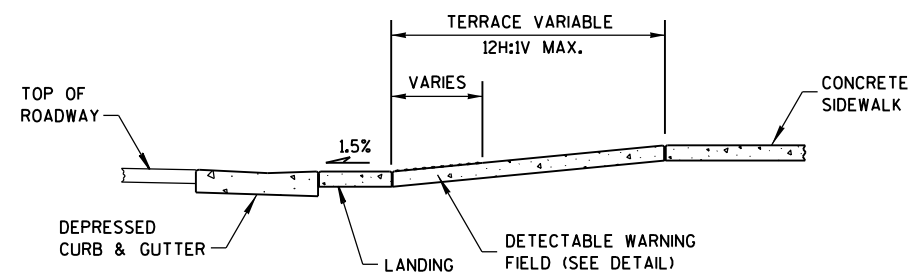
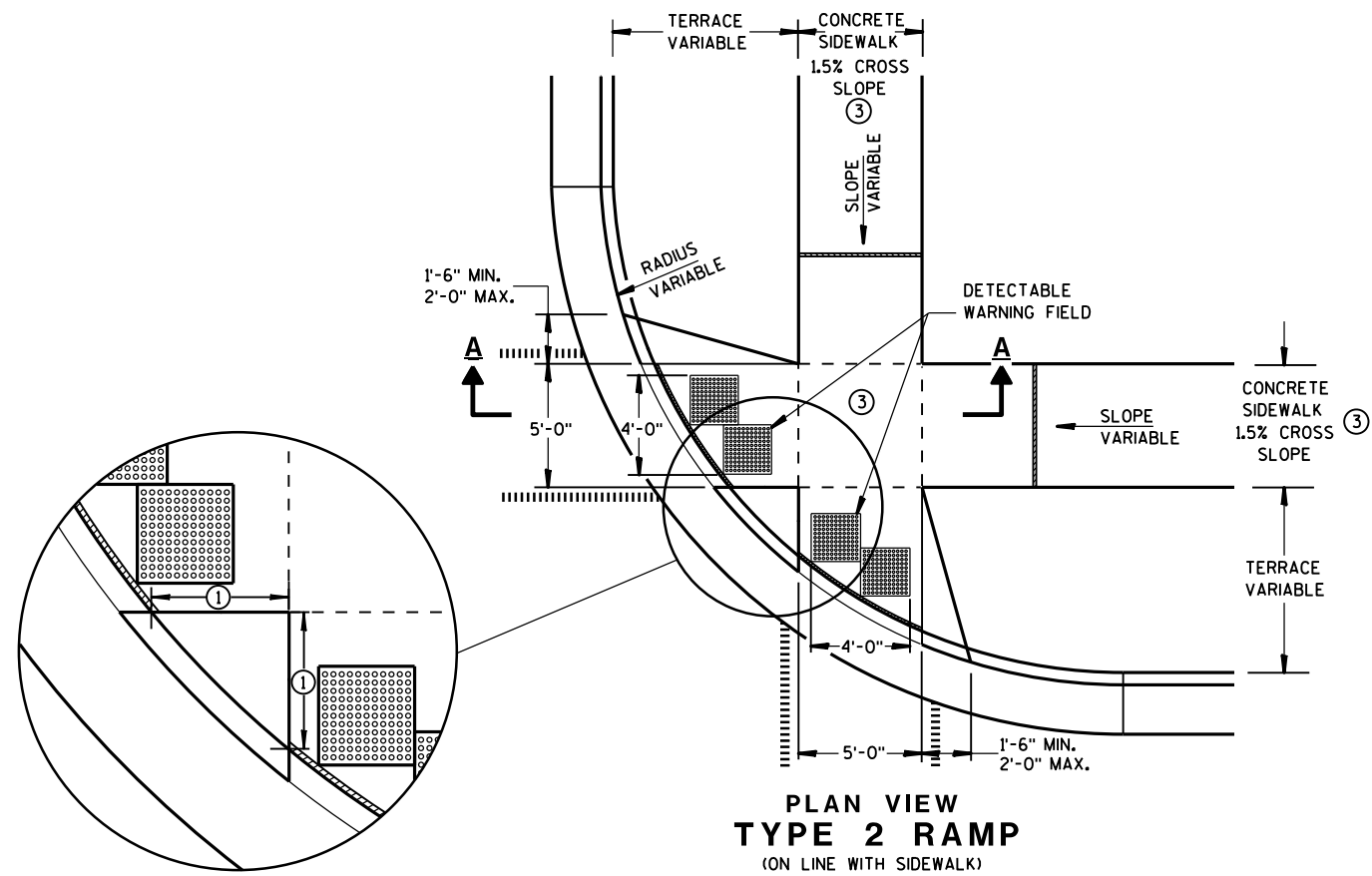
- ① THIS POINT IS AN EXTENSION OF OUTSIDE EDGE OF APPROACHING SIDEWALK WHERE IT MEETS THE BACK OF CONCRETE CURB.
- ② GRADE CHANGE BETWEEN GUTTER FLAG SLOPE AND THE CURB RAMP SLOPE SHALL NOT EXCEED 11%. PROVIDE DRAINAGE AWAY FROM CURB RAMP AT GUTTER FLAG INTERFACE.
- ③ $\pm 0.5\%$ CONSTRUCTION TOLERANCE IN SIDEWALK CROSS SLOPE. THE SIDEWALK CROSS SLOPE SHALL NOT EXCEED 2% WITHOUT PRIOR APPROVAL FROM THE ENGINEER.

LEGEND

- 1/2" EXPANSION JOINT-SIDEWALK
- - - - - CONTRACTION JOINT FIELD LOCATED
- ||||||| PAVEMENT MARKING CROSSWALK (WHITE)
- ALTERNATIVE LAYOUT

**CURB RAMPS
TYPES 1 AND 1-A**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



GENERAL NOTES

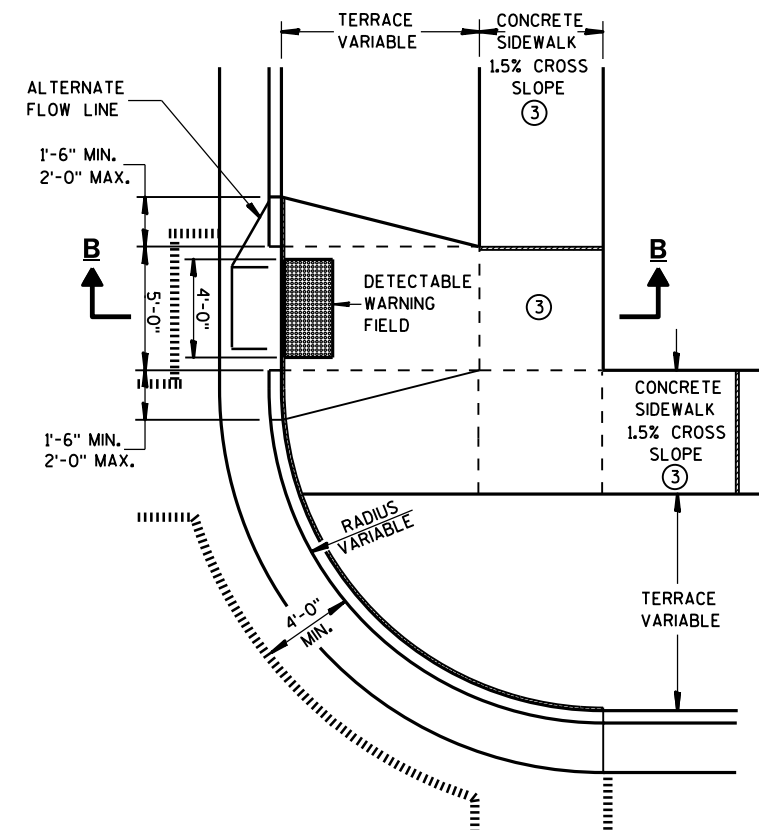
USE THE TYPE 3 RAMP ONLY WHEN A TYPE 1 OR TYPE 2 CANNOT BE ACHIEVED BECAUSE OF FIELD CONDITIONS.

DETECTABLE WARNING FIELDS THAT ARE INSTALLED AS A GROUP OR SIDE BY SIDE, SHALL BE FROM THE SAME MANUFACTURER.

- ① WHEN THIS DISTANCE IS LESS THAN 6'-0" IT MAY BE DIFFICULT TO ACHIEVE A 12H:1V SLOPE, OR FLATTER, ON THE RAMP. REDUCE CURB HEIGHT IN TRIANGLE AREA TO ACHIEVE 12H:1V SLOPE, OR FLATTER, ON RAMP. 2" MINIMUM CURB HEIGHT.
- ② GRADE CHANGE BETWEEN GUTTER FLAG SLOPE AND THE CURB RAMP SLOPE SHALL NOT EXCEED 11%. PROVIDE DRAINAGE AWAY FROM CURB RAMP AT GUTTER FLAG INTERFACE.
- ③ $\pm 0.5\%$ CONSTRUCTION TOLERANCE IN SIDEWALK CROSS SLOPE. THE SIDEWALK CROSS SLOPE SHALL NOT EXCEED 2% WITHOUT PRIOR APPROVAL FROM THE ENGINEER.

LEGEND

- 1/2" EXPANSION JOINT-SIDEWALK
- - - CONTRACTION JOINT FIELD LOCATED
- ||||| PAVEMENT MARKING CROSSWALK (WHITE)
- ALTERNATIVE LAYOUT



CURB RAMPS
TYPES 2 AND 3

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

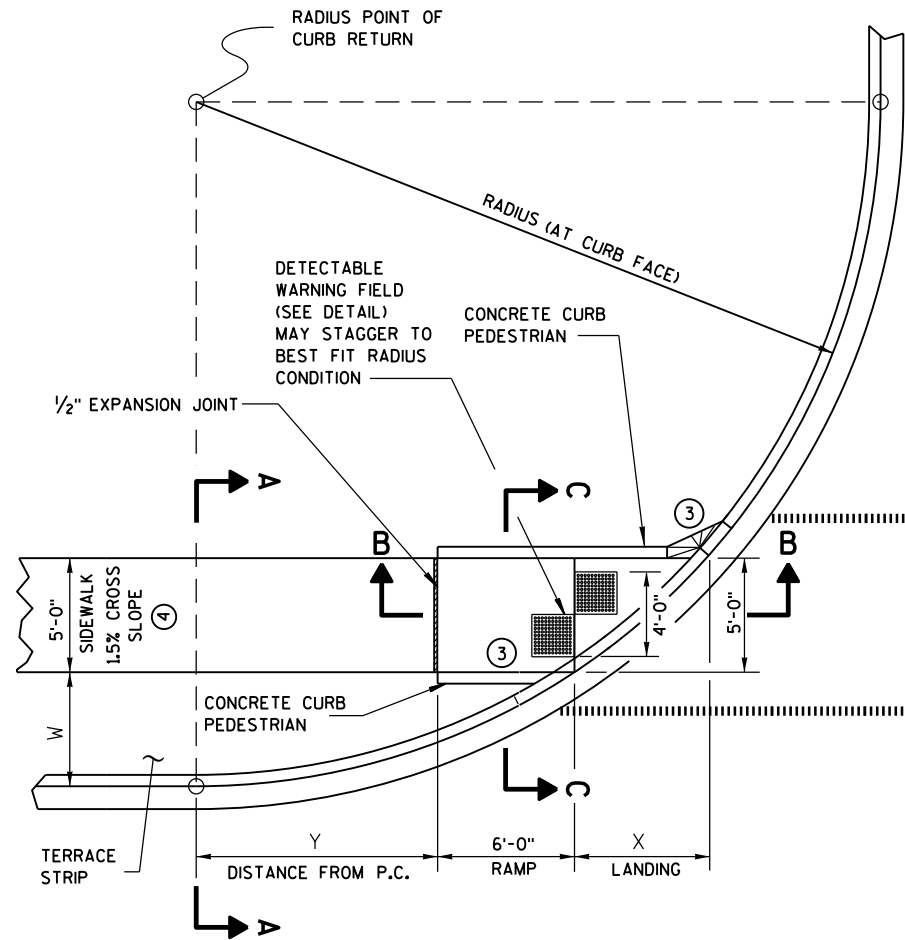


CURB RAMP TYPE 4A

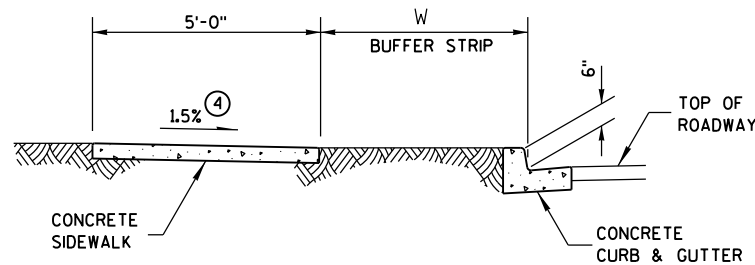


INTERMEDIATE RADII CAN BE INTERPOLATED

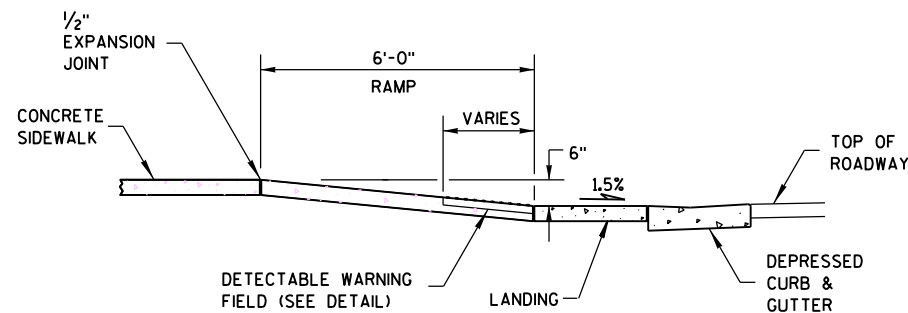




**CURB RAMP TYPE 4B
PLAN VIEW**



SECTION A-A FOR TYPE 4B

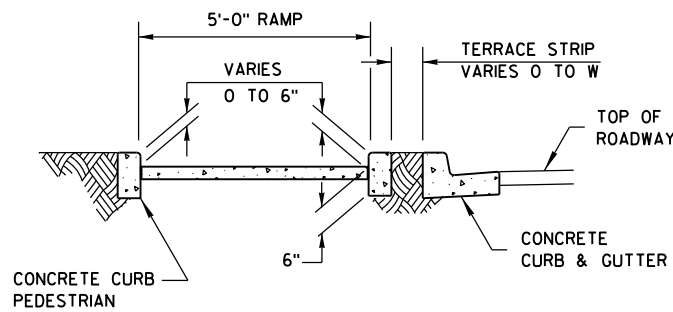


SECTION B-B FOR TYPE 4B

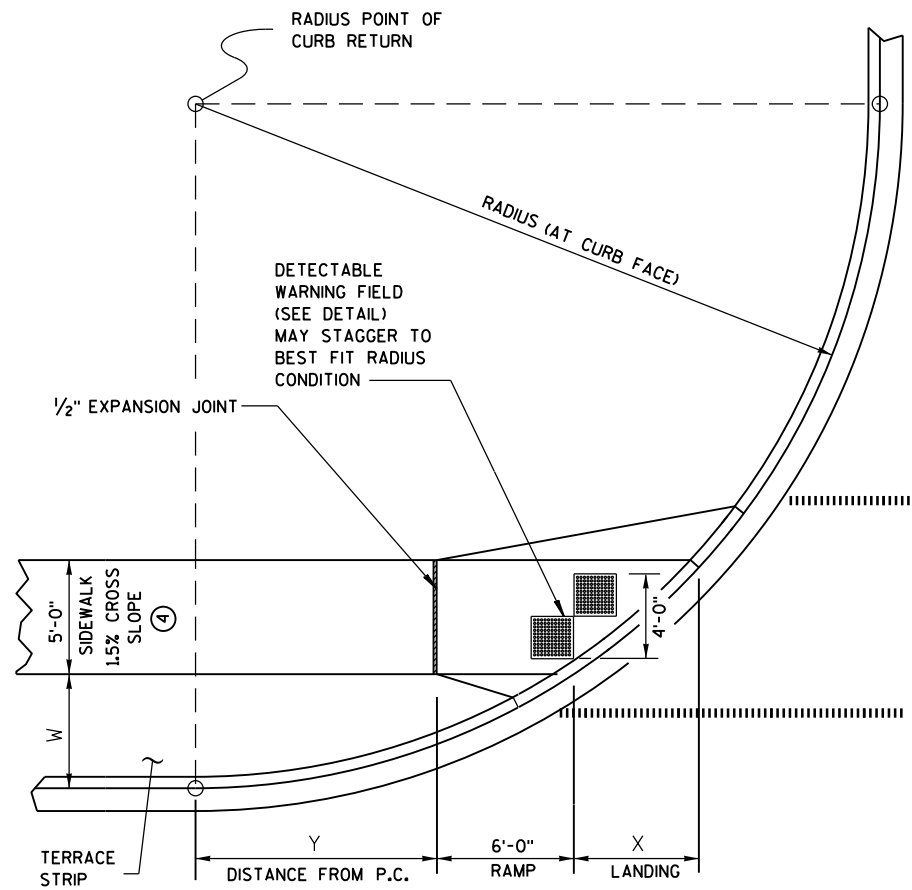
- LEGEND**
- 1/2" EXPANSION JOINT-SIDEWALK
 - CONTRACTION JOINT FIELD LOCATED
 - PAVEMENT MARKING CROSSWALK (WHITE)

RADIUS (AT CURB FACE)	W = 3' - 0"		W = 4' - 0"		W = 5' - 0"		W = 6' - 0"		W = 7' - 0"	
	X	Y	X	Y	X	Y	X	Y	X	Y
20 FEET	5'-5 1/2"	4'-6 1/2"	4'-8 1/2"	6'-0"	4'-1"	7'-2 3/4"	3'-7"	8'-3 1/2"	3'-1 1/2"	9'-2 1/2"
30 FEET	7'-3 3/4"	7'-1"	6'-5 1/2"	8'-11 1/2"	5'-9 1/4"	10'-7"	5'-2 1/2"	12'-0"	4'-8 3/4"	13'-3 1/4"
40 FEET	8'-9 1/2"	9'-2 1/2"	7'-10"	11'-5 1/4"	7'-1"	13'-4 1/2"	6'-5 3/4"	15'-3/4"	5'-11 1/2"	16'-7 1/4"
50 FEET	10'-3/4"	11'-3/4"	9'-1/4"	13'-7 1/4"	8'-2 1/2"	15'-9 1/2"	7'-6 1/2"	17'-9"	6'-11 3/4"	19'-6 1/4"
60 FEET	11'-2 1/2"	12'-8 3/4"	10'-3/4"	15'-6 1/2"	9'-2 1/4"	17'-11 3/4"	8'-5 3/4"	20'-1 3/4"	7'-10 1/2"	22'-1 1/2"

INTERMEDIATE RADII CAN BE INTERPOLATED



SECTION C-C FOR TYPE 4B



**CURB RAMP TYPE 4B1
PLAN VIEW**

GENERAL NOTES

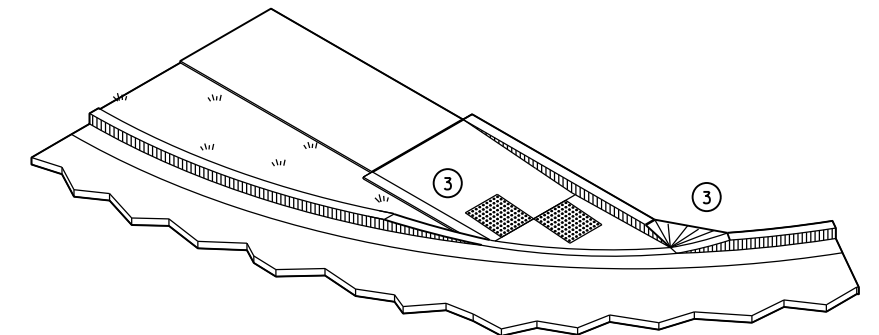
AVOID PLACING DRAINAGE STRUCTURES, JUNCTION BOXES OR OTHER OBSTRUCTIONS IN FRONT OF RAMP ACCESS AREAS.

RAMP SLOPES SHALL NOT BE STEEPER THAN 12:1.

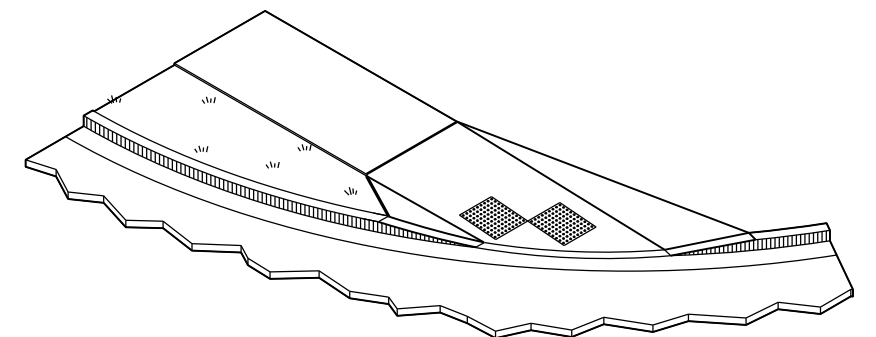
DETECTABLE WARNING FIELDS THAT ARE INSTALLED AS A GROUP OR SIDE BY SIDE, SHALL BE FROM THE SAME MANUFACTURER.

③ INSTALL TRANSITION NOSE. (INCIDENTAL TO OTHER PAY ITEMS.) DO NOT MARK TRANSITION NOSE.

④ ±0.5% CONSTRUCTION TOLERANCE IN SIDEWALK CROSS SLOPE. THE SIDEWALK CROSS SLOPE SHALL NOT EXCEED 2% WITHOUT PRIOR APPROVAL FROM THE ENGINEER.



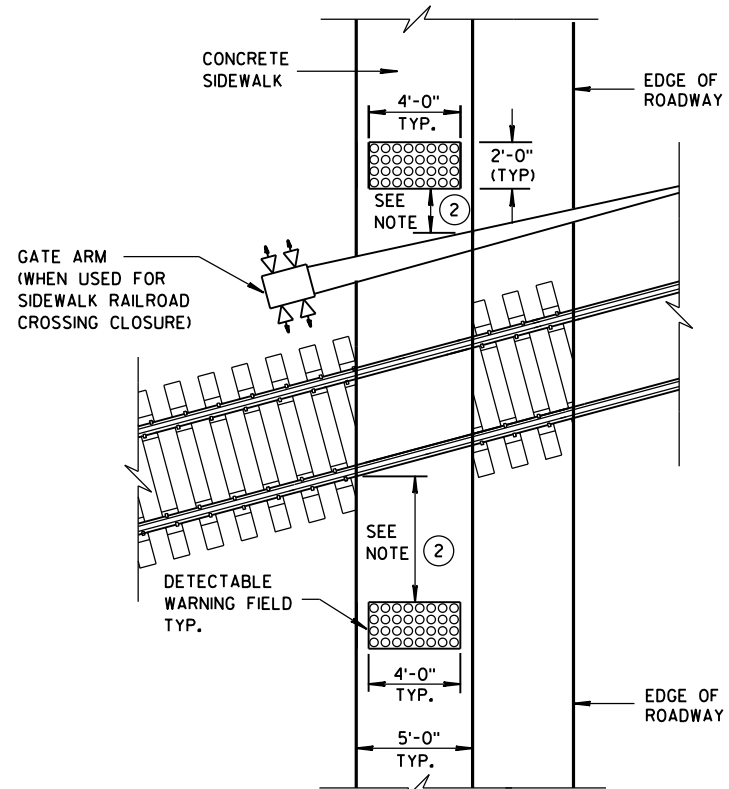
ISOMETRIC VIEW FOR TYPE 4B



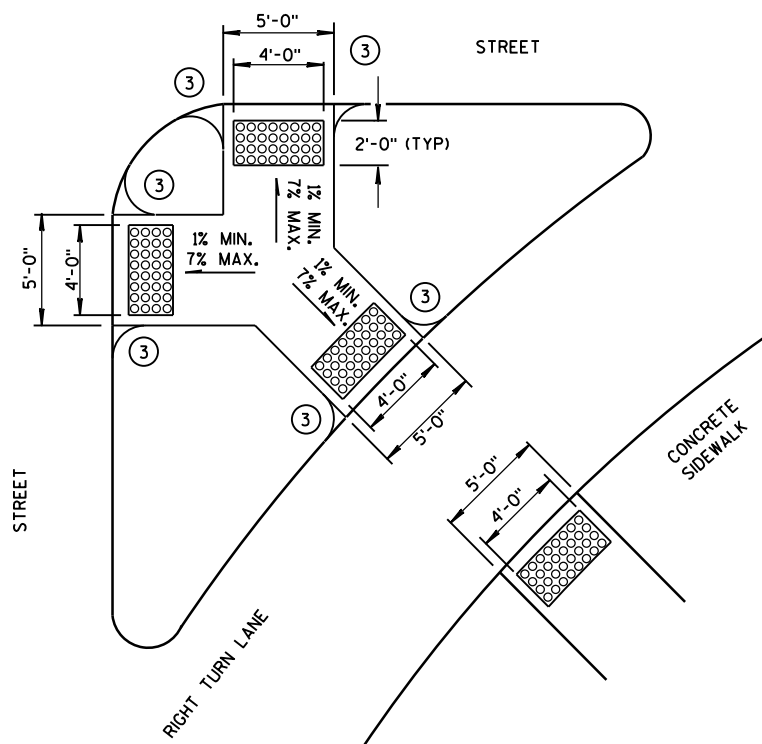
ISOMETRIC VIEW FOR TYPE 4B1

**CURB RAMPS
TYPE 4B AND 4B1**

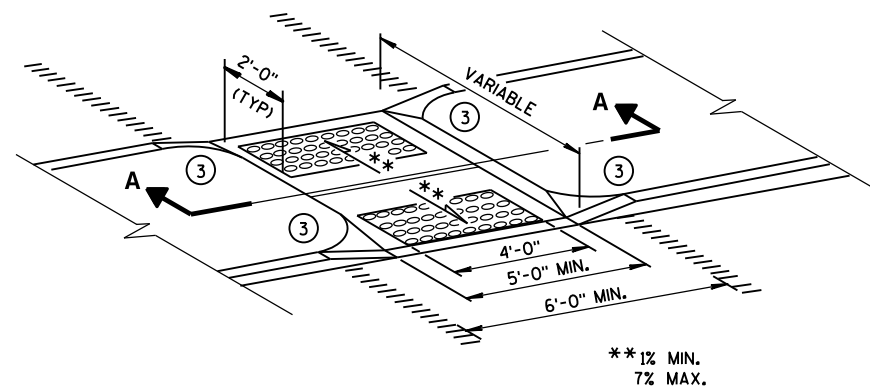
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



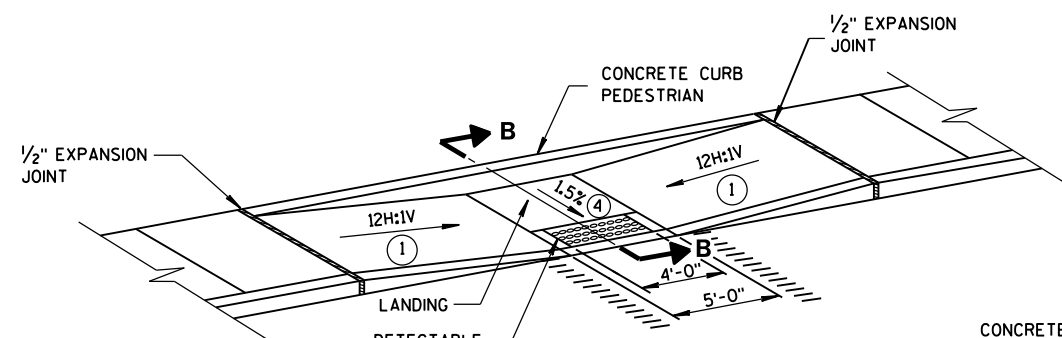
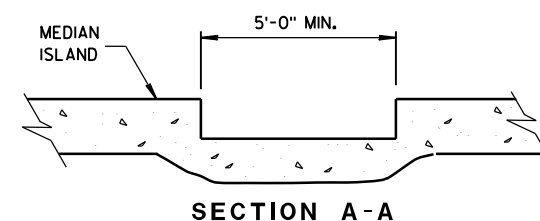
TYPE 8
DETECTABLE WARNINGS
AT RAILROAD CROSSING



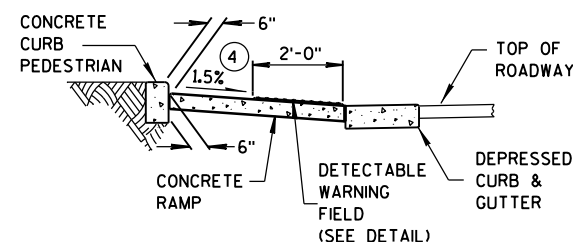
TYPE 6
DETECTABLE WARNING AT ISLANDS



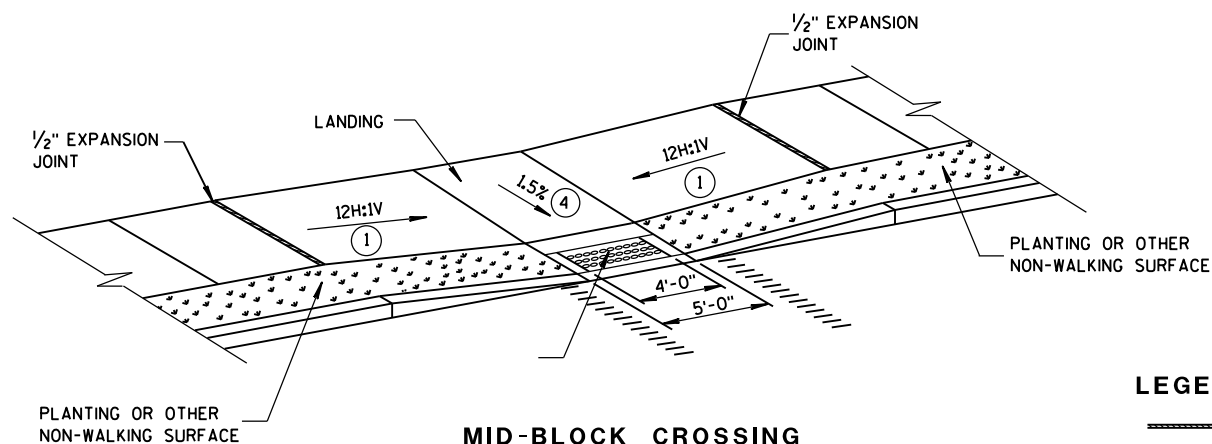
MEDIAN ISLAND
NON-ELEVATED CROSSING
TYPE 5



MID-BLOCK CROSSING
TYPE 7A



SECTION B-B



MID-BLOCK CROSSING
TYPE 7B

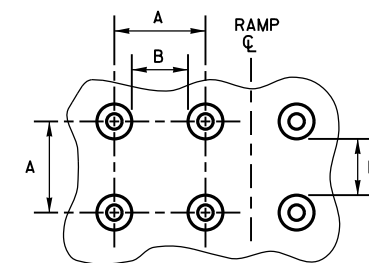
NOTE: THESE PARALLEL AND PARALLEL/PERPENDICULAR CURB RAMPS MAY BE USED AT INTERSECTIONS AND MID BLOCK LOCATIONS.

GENERAL NOTES

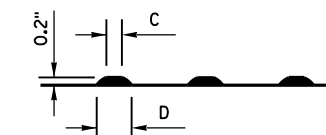
SIDEWALK CROSS SLOPE SHALL NOT EXCEED 2%.

DETECTABLE WARNING FIELDS THAT ARE INSTALLED AS A GROUP OR SIDE BY SIDE, SHALL BE FROM THE SAME MANUFACTURER.

- 1 SLOPE SIDEWALK TOWARD LANDING AS SHOWN WHERE THERE IS NO TERRACE OR WHERE THE TERRACE WIDTH IS LESS THAN 6 FEET WIDE.
- 2 THE EDGE OF THE DETECTABLE WARNING FIELD NEAREST TO A RAILROAD CROSSING SHALL BE 1.5 FEET $\pm$ 0.1' FROM THE FACE OF THE GATE ARM IF THE GATE ARM EXTENDS ACROSS THE SIDEWALK. WHERE THERE IS NO PEDESTRIAN GATE, THE EDGE OF THE DETECTABLE WARNING FIELD NEAREST TO THE RAILROAD CROSSING SHALL BE 15 FEET FROM THE NEAREST RAIL.
- 3 INSTALL TRANSITION NOSE. (INCIDENTAL TO OTHER PAY ITEMS.) DO NOT MARK TRANSITION NOSE.
- 4 $\pm$ 0.5% CONSTRUCTION TOLERANCE IN SIDEWALK CROSS SLOPE. THE SIDEWALK CROSS SLOPE SHALL NOT EXCEED 2% WITHOUT PRIOR APPROVAL FROM THE ENGINEER.



PLAN VIEW



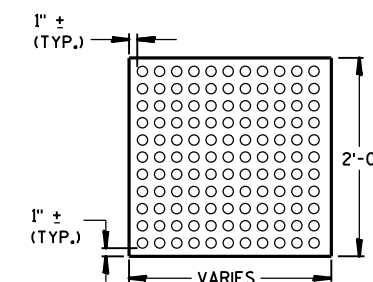
ELEVATION VIEW

	MIN.	MAX.
A	1.6"	2.4"
B	0.65"	1.5"
C	*	*
D	0.9"	1.4"

* THE C DIMENSION IS 50% TO 65% OF THE D DIMENSION.

TRUNCATED DOMES

DETECTABLE WARNING PATTERN DETAIL



PLAN VIEW

DETECTABLE WARNING FIELD (TYPICAL)

LEGEND

- 1/2" EXPANSION JOINT-SIDEWALK
- CONTRACTION JOINT FIELD LOCATED
- PAVEMENT MARKING CROSSWALK (WHITE)

CURB RAMPS

TYPES 5, 6, 7A, 7B & 8

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

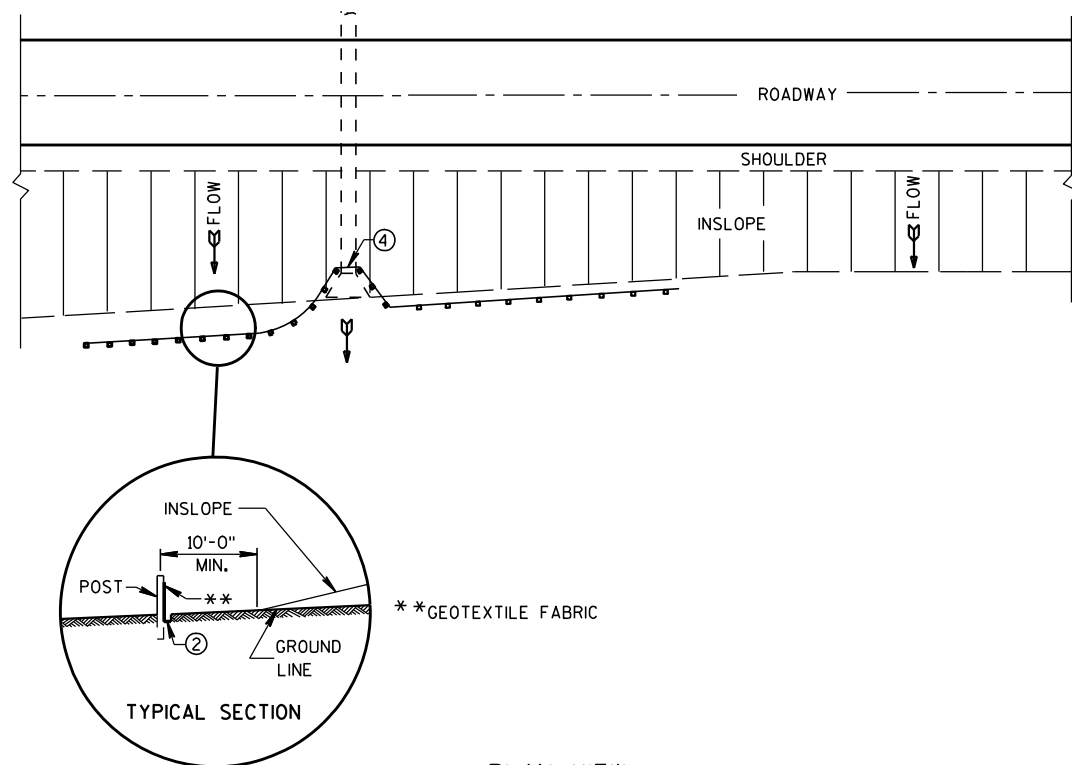
APPROVED

2-6-2013
DATE

FHWA

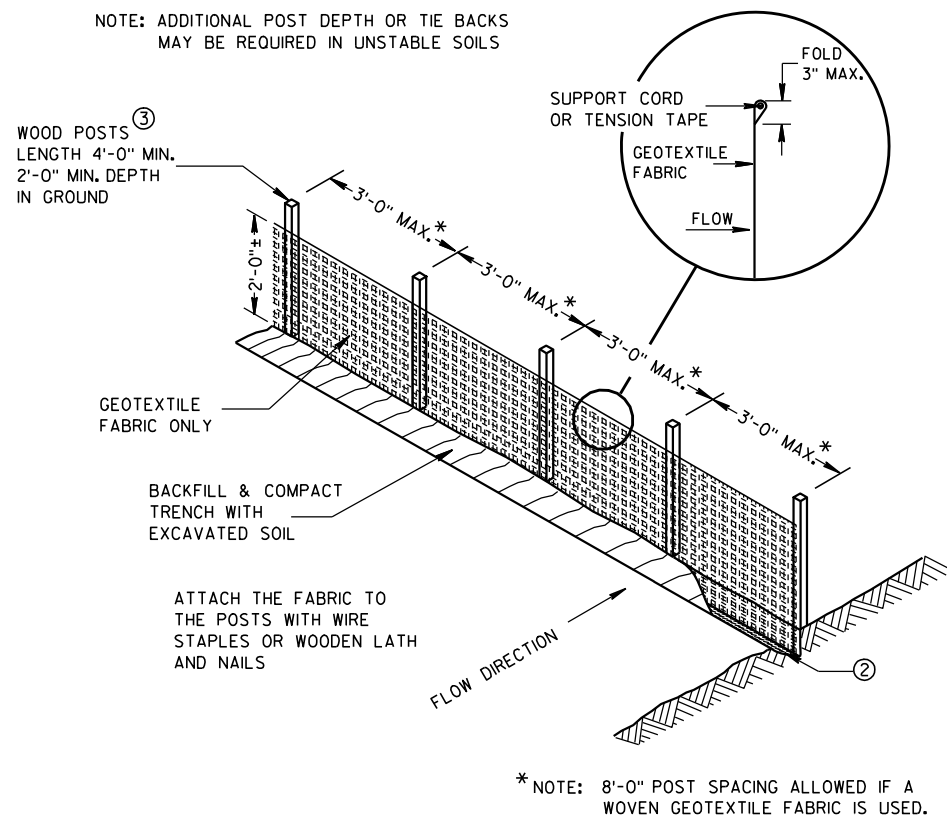
/S/ Jerry H. Zogg
ROADWAY STANDARDS ENGINEER

58 INT

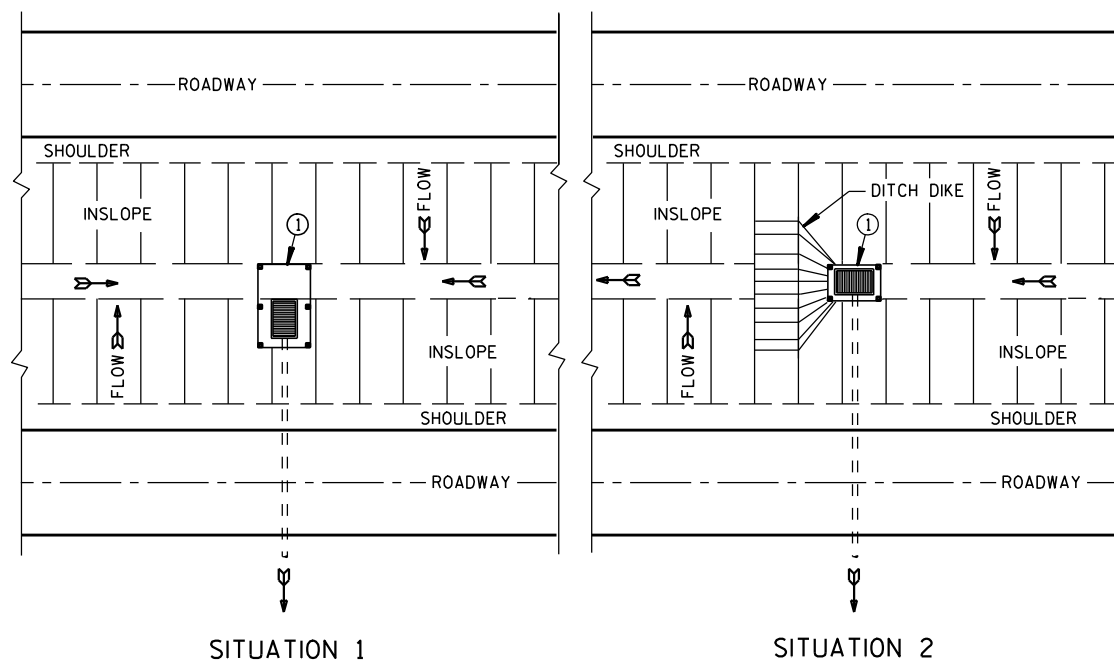


TYPICAL APPLICATION OF SILT FENCE

NOTE: ADDITIONAL POST DEPTH OR TIE BACKS MAY BE REQUIRED IN UNSTABLE SOILS

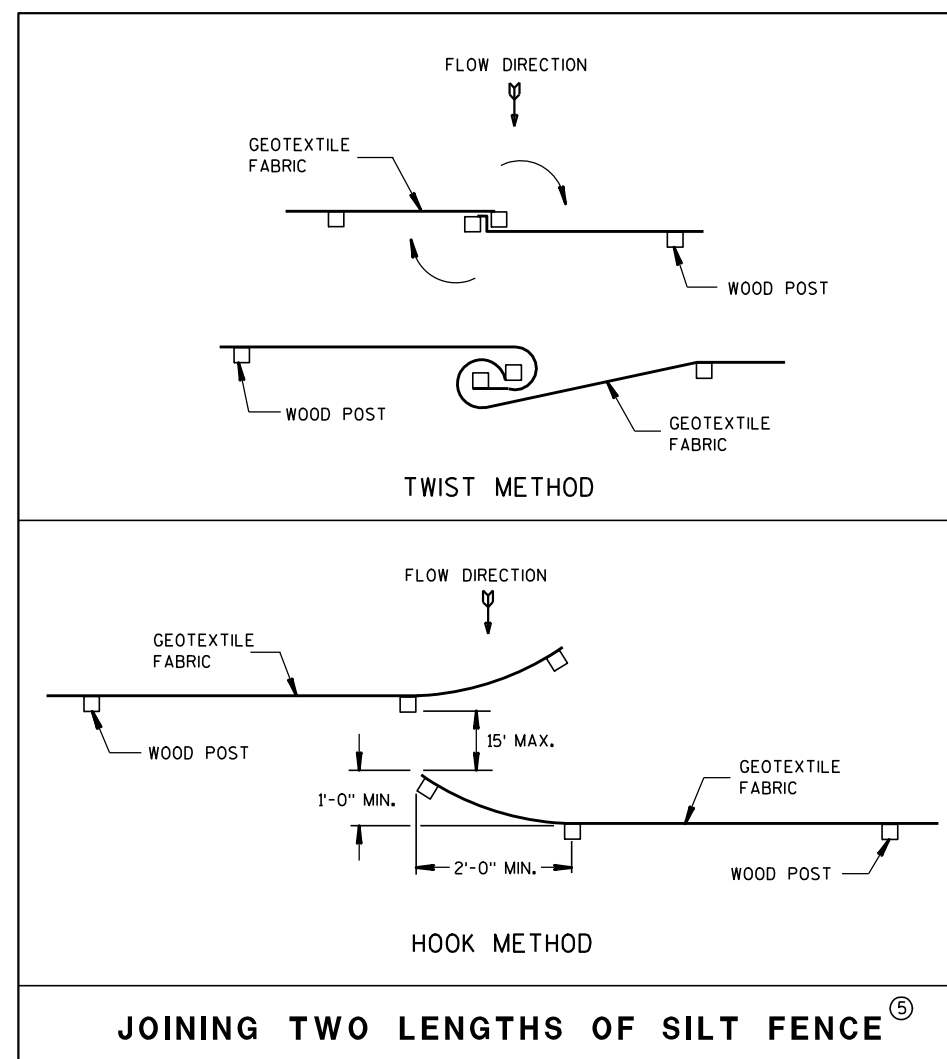


SILT FENCE



PLAN VIEW

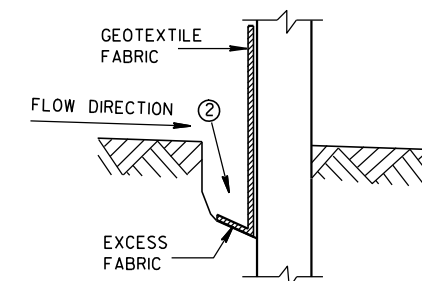
SILT FENCE AT MEDIAN SURFACE DRAINS



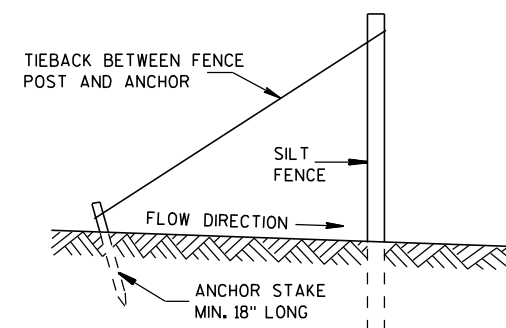
GENERAL NOTES

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

- ① HORIZONTAL BRACE REQUIRED WITH 2" X 4" WOODEN FRAME OR EQUIVALENT AT TOP OF POSTS.
- ② FOR MANUAL INSTALLATIONS THE TRENCH SHALL BE A MINIMUM OF 4" WIDE & 6" DEEP TO BURY AND ANCHOR THE GEOTEXTILE FABRIC. FOLD MATERIAL TO FIT TRENCH AND BACKFILL & COMPACT TRENCH WITH EXCAVATED SOIL.
- ③ WOOD POSTS SHALL BE A MINIMUM SIZE OF 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

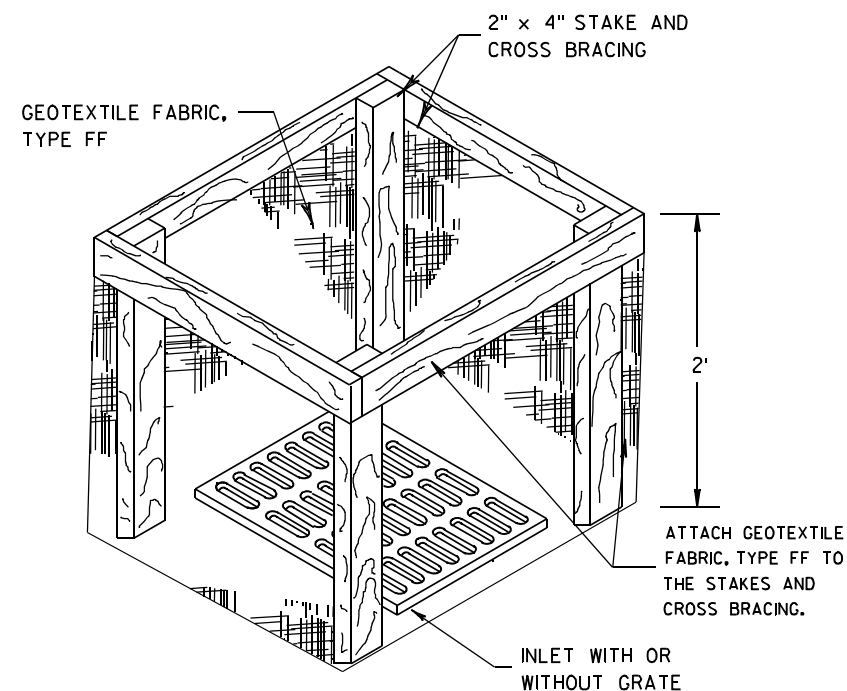
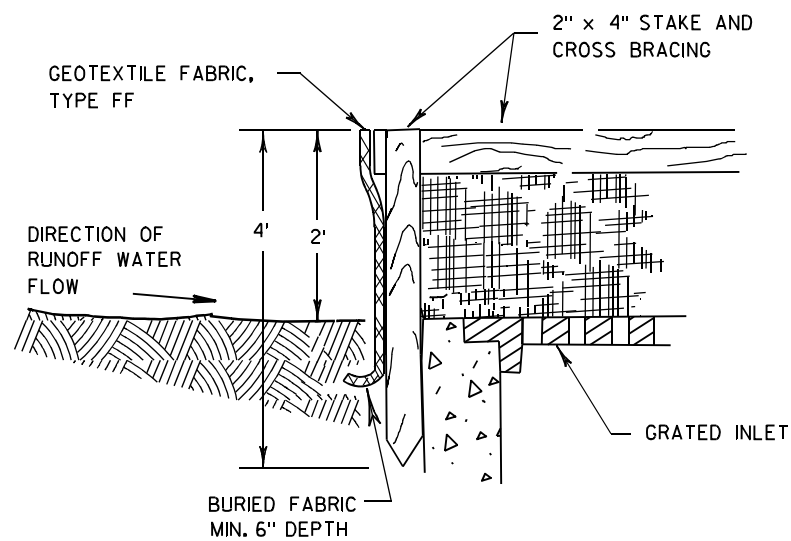
DATE

/S/ Beth Conn

CHIEF ROADWAY DEVELOPER

FHWA

ENGINEER



INLET PROTECTION, TYPE A

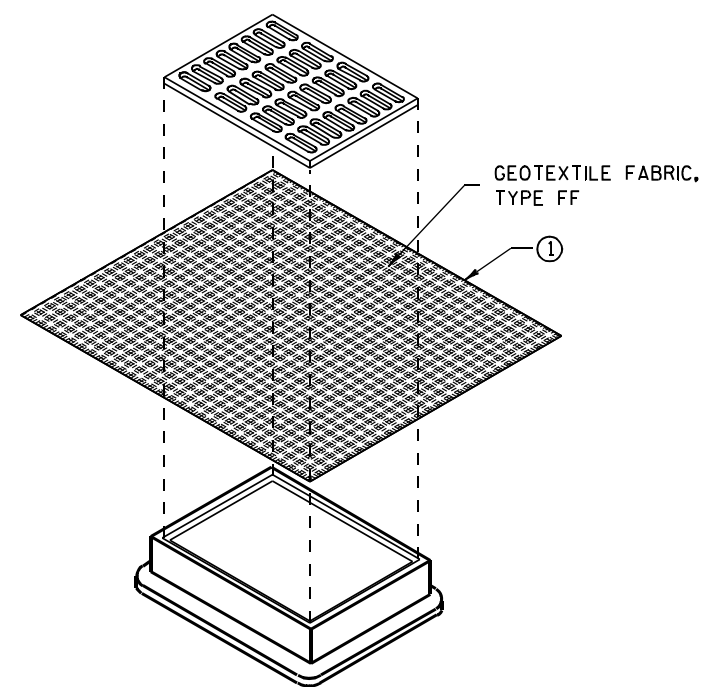
GENERAL NOTES

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.

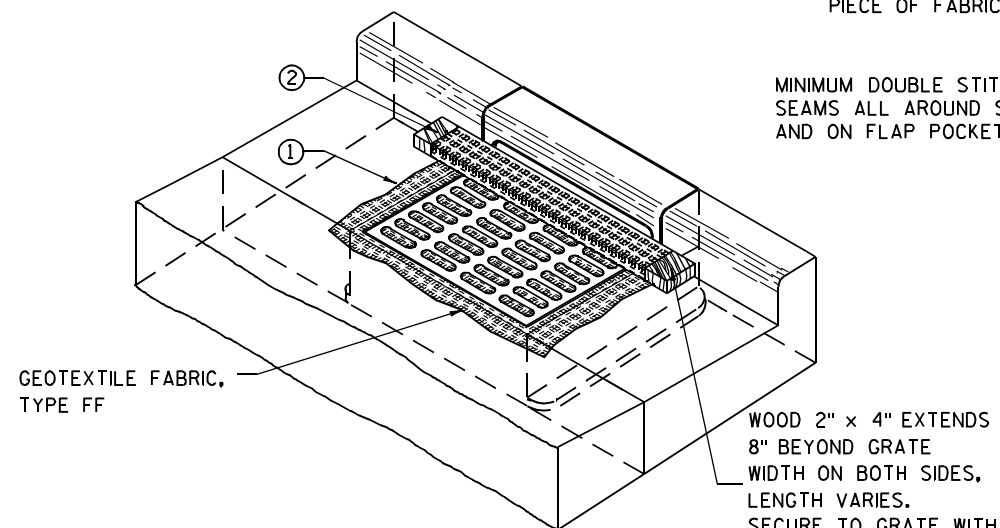
WHEN REMOVING OR MAINTAINING INLET PROTECTION, CARE SHALL BE TAKEN SO THAT THE SEDIMENT TRAPPED ON THE GEOTEXTILE FABRIC DOES NOT FALL INTO THE INLET. ANY MATERIAL FALLING INTO THE INLET SHALL BE REMOVED IMMEDIATELY.

- 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.

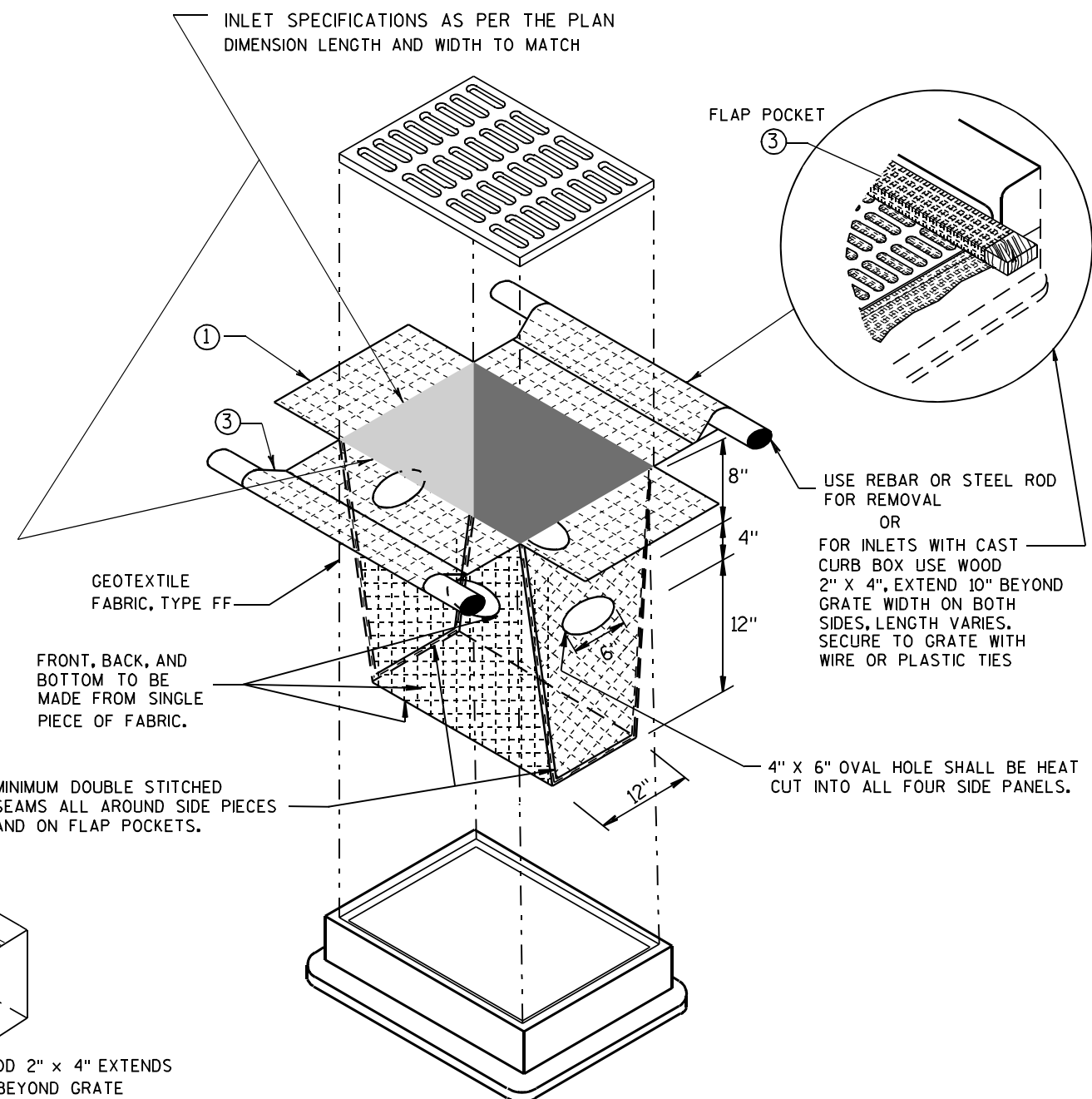
THE CONTRACTOR SHALL DEMONSTRATE A METHOD OF MAINTENANCE, USING A SEWN FLAP, HAND HOLDS OR OTHER METHOD TO PREVENT ACCUMULATED SEDIMENT FROM ENTERING THE INLET.

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)

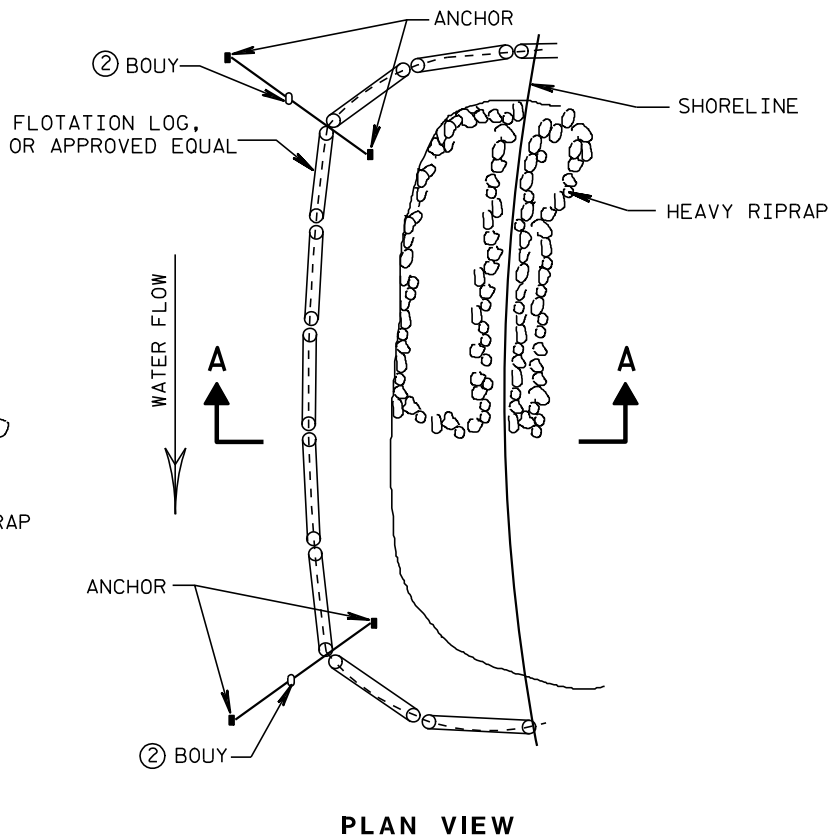
**INLET PROTECTION
TYPE A, B, C, AND D**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
10/16/02 /S/ Beth Connolly
DATE 60
FHWA CHIEF ROADWAY DEVELOPMENT ENGINEER

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

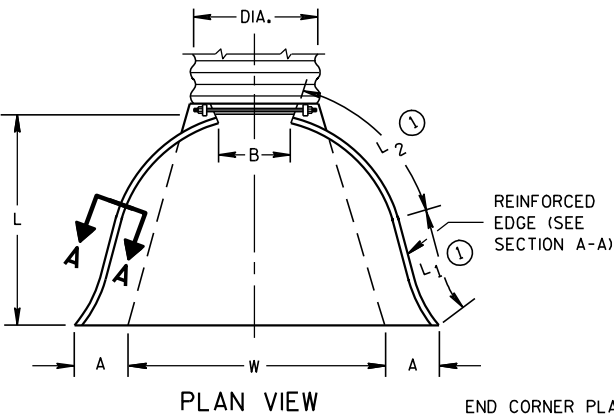
- ① 2' MINIMUM SHALL BE MAINTAINED DURING CONSTRUCTION PERIOD.
- ② USE AS DIRECTED BY COAST GUARD OR DNR PERMIT WHEN WORKING IN NAVIGABLE WATERWAYS.



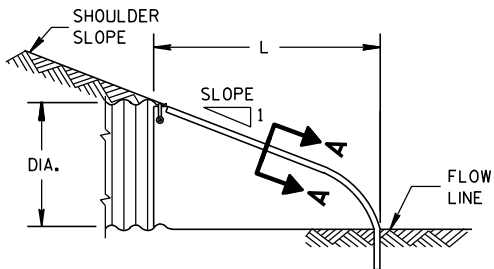
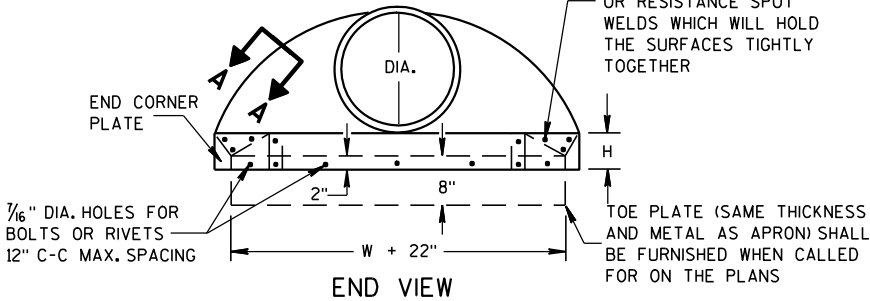
SILT SCREEN PLACEMENT DETAIL

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

* EXCEPT CENTER PANEL
SEE GENERAL NOTES



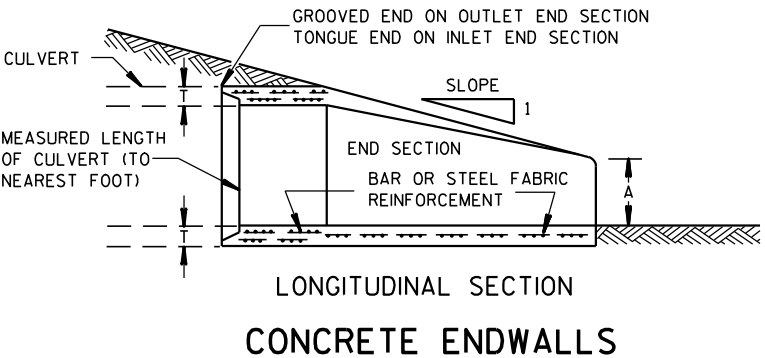
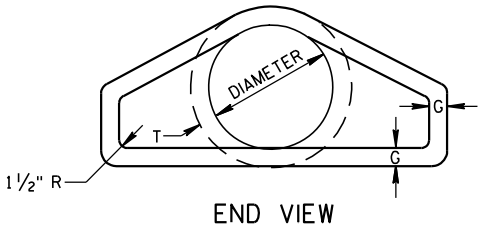
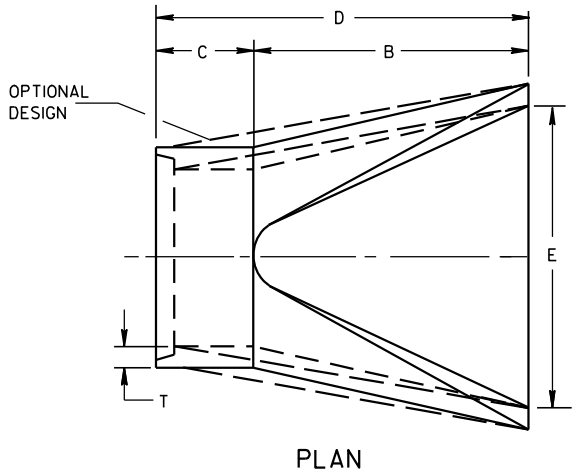
END CORNER PLATES MAY BE FASTENED TO APRON PROPER BY BOLTS, RIVETS, OR RESISTANCE SPOT WELDS WHICH WILL HOLD THE SURFACES TIGHTLY TOGETHER



SIDE ELEVATION
METAL ENDWALLS

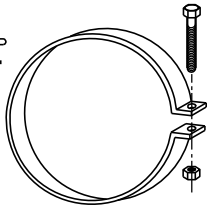
REINFORCED CONCRETE APRON ENDWALLS											
PIPE DIA. (IN.)	DIMENSIONS (Inches)							APPROX. SLOPE			
	T	A	B	C	D	E	G				
12	2	4	24	48 7/8	72 7/8	24	2	3 to 1			
15	2 1/4	6	27	46	73	30	2 1/4	3 to 1			
18	2 1/2	9	27	46	73	36	2 1/2	3 to 1			
21	2 3/4	9	36	37 1/2	73 1/2	42	2 3/4	3 to 1			
24	3	9 1/2	43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

* MINIMUM
** MAXIMUM

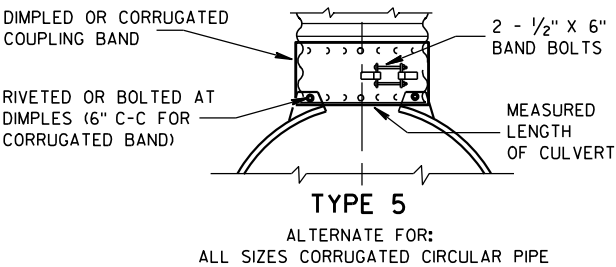
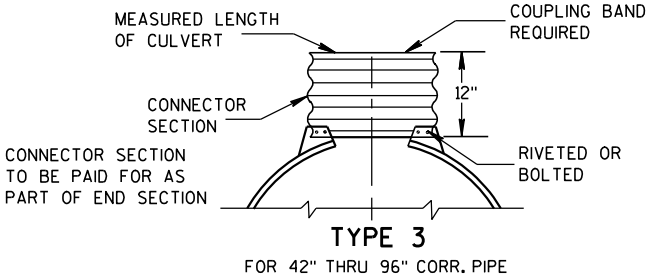
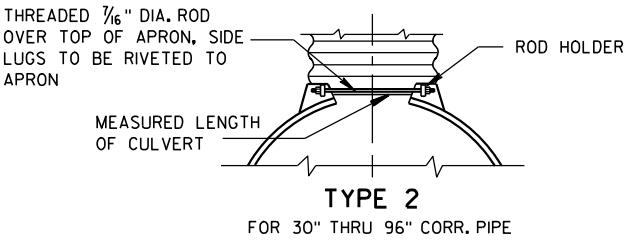
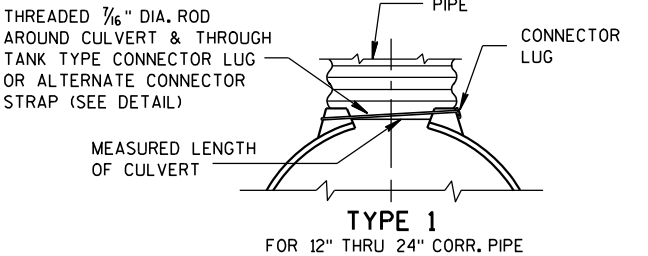


LONGITUDINAL SECTION
CONCRETE ENDWALLS

1" WIDE, 12 GA. (0.109" THICK) GALVANIZED STRAP WITH STANDARD 6" X 1/2" BAND BOLT AND NUT



ALTERNATE FOR TYPE 1 CONNECTION
END SECTION CONNECTOR STRAP



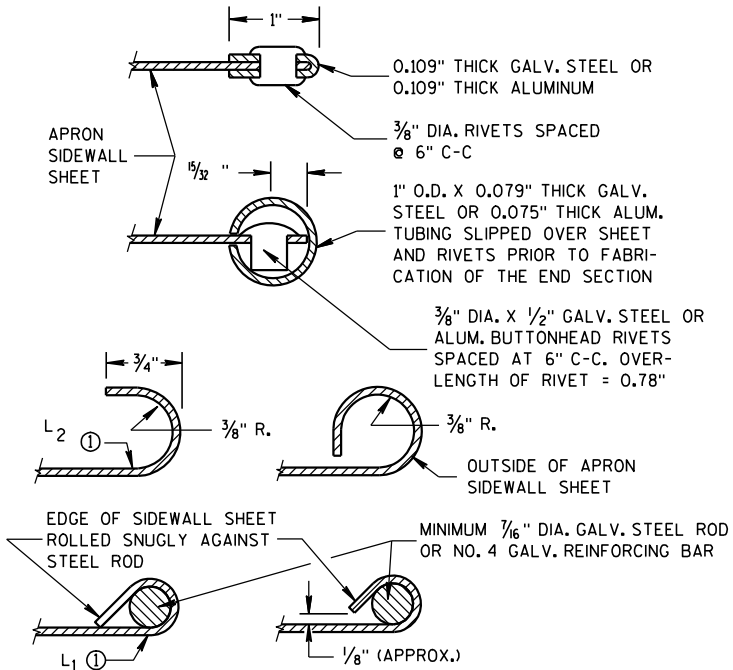
NOTE: DIMPLED BAND FITS OVER OUTSIDE OF ENDWALL, AND CORRUGATED BAND FITS INSIDE ENDWALL. DIMPLED BAND MAY BE USED WITH HELICALLY CORRUGATED PIPE.

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

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

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

CONNECTION DETAILS



SECTION A-A

GENERAL NOTES

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

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

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

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

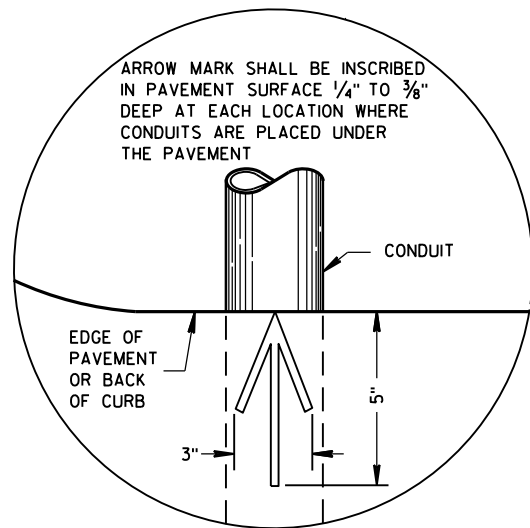
WHERE TWO OR MORE PIPES WITH APRON ENDWALLS ARE LAID ADJACENT TO EACH OTHER, THEY SHALL BE SEPARATED BY A DISTANCE SUFFICIENT TO PROVIDE A MINIMUM CLEARANCE OF 6 INCHES BETWEEN APRON ENDWALLS.

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

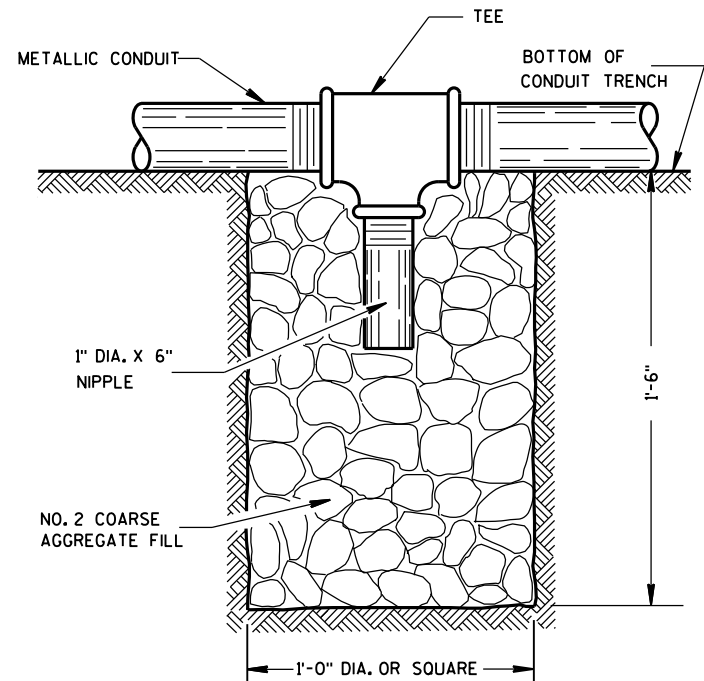
APRON ENDWALLS FOR CULVERT PIPE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
11/30/94
DATE
/S/ Rory L. Rhinehart
CHIEF ROADWAY DEVELOP 62
NEER
FHWA

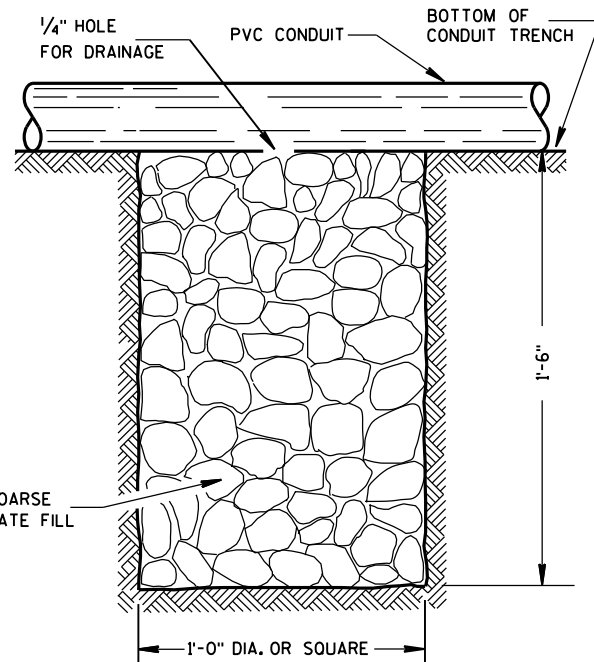


PLAN VIEW
ARROW MARK



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

DRAIN SUMP FOR METALLIC CONDUIT



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

DRAIN SUMP FOR PVC CONDUIT

GENERAL NOTES

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

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

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

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

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

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

ALL METALLIC CONDUIT RACEWAY ENDS SHALL BE REAMED AND THREADED.

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

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

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

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

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

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

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

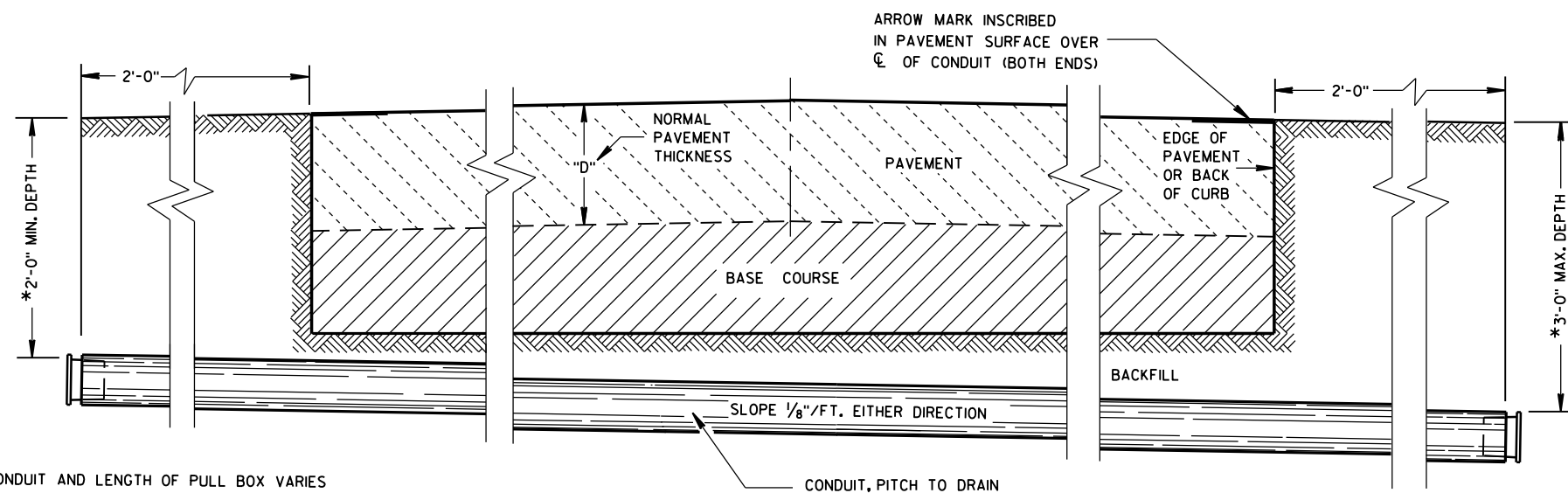
PRIOR TO CONDUIT ACCEPTANCE, CONDUIT CAPS OR PLUGS SHALL BE REMOVED, AND THE CAPS, PLUGS AND CONDUIT ENDS SHALL BE THOROUGHLY CLEANED AND THEN THE CAPS OR PLUGS REINSTALLED TO ENSURE THAT THE CAPS OR PLUGS CAN BE EASILY REMOVED IN THE FUTURE.

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

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

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

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



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

SIDE ELEVATION
DETAIL FOR CONDUIT UNDER PAVED HIGHWAYS

CONDUIT

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

Sept. 2014

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FHWA

/S/ Ahmet Demirbilek
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TABLE OF NOMINAL DIMENSIONS AND WEIGHTS

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

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

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

GENERAL NOTES

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

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

PULL BOXES LOCATED IN THE ROADWAYS SHALL HAVE LOCKING COVERS.

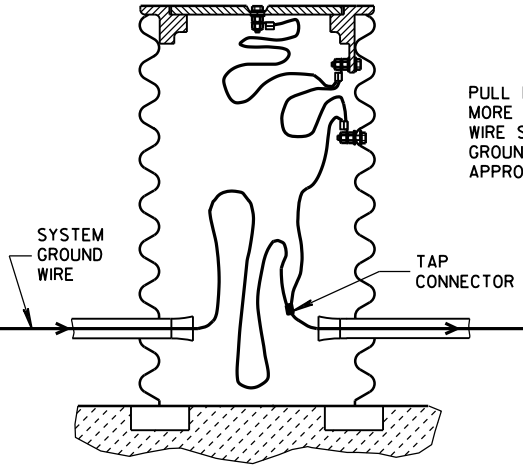
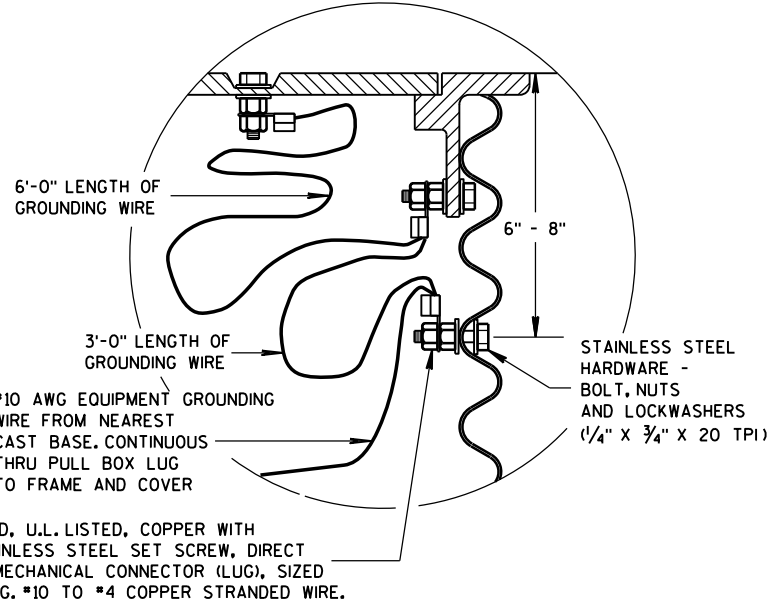
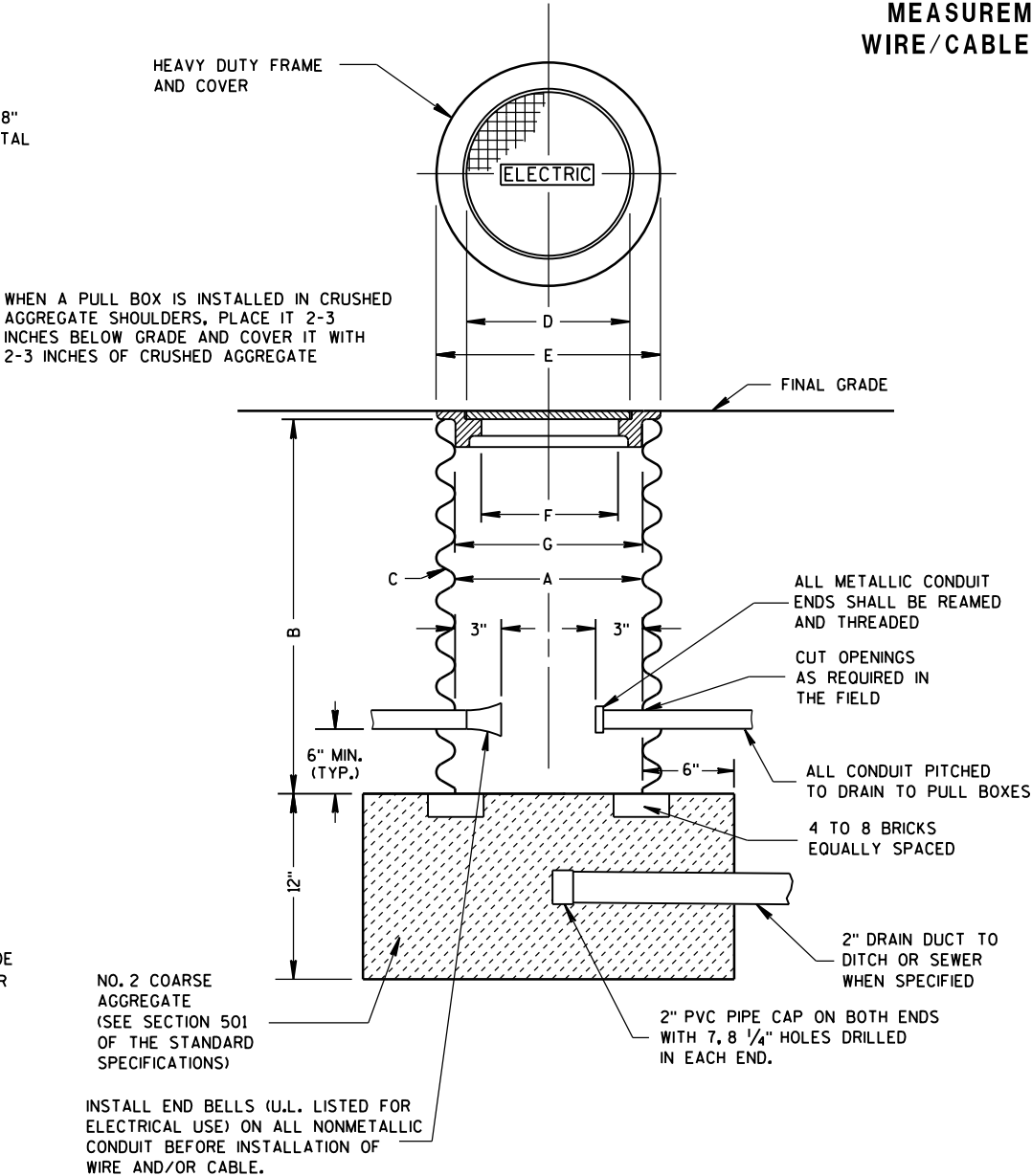
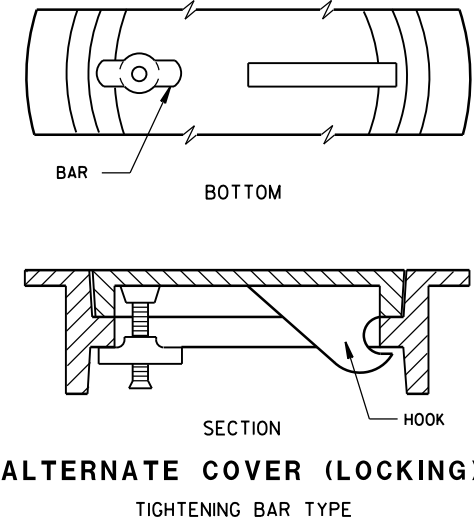
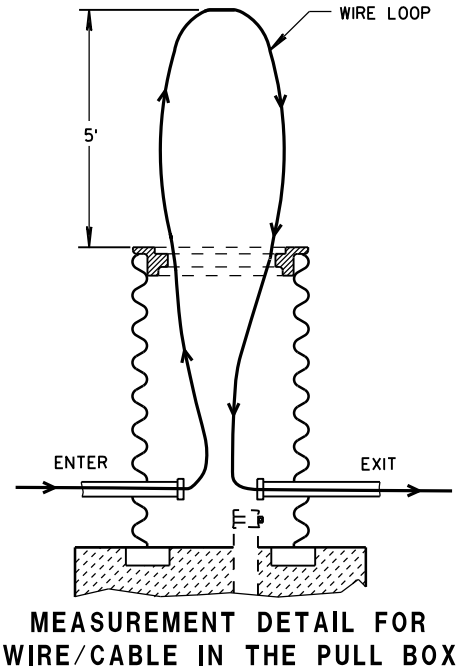
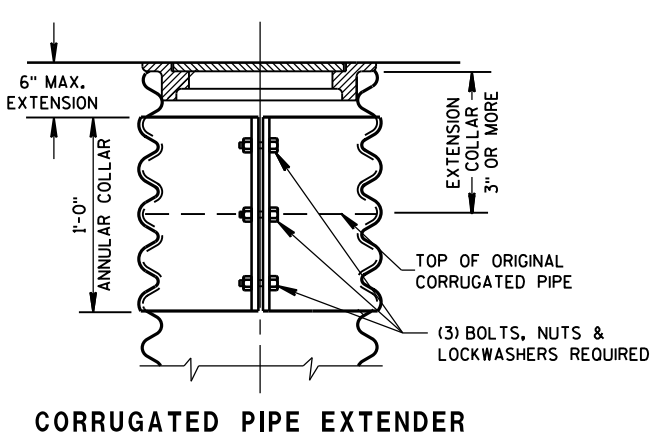
ENTRANCE HOLES INTO PULL BOXES SHALL BE CUT WITH A CIRCULAR HOLE SAW OR HYDRAULIC CONDUIT PUNCH. HOLE SIZE SHALL BE THE OUTSIDE DIAMETER OF THE CONDUIT THAT IS TO FIT IN THE OPENING PLUS NO MORE THAN 1/4".

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

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

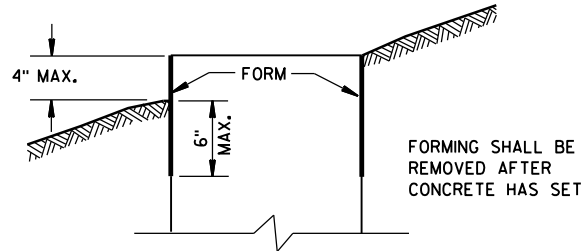
ALL METALLIC CONDUIT IN WHICH WIRE AND/OR CABLE IS TO BE INSTALLED, SHALL BE BUSHED BEFORE INSTALLATION OF THE WIRE AND/OR CABLE.

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



PULL BOX	
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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.

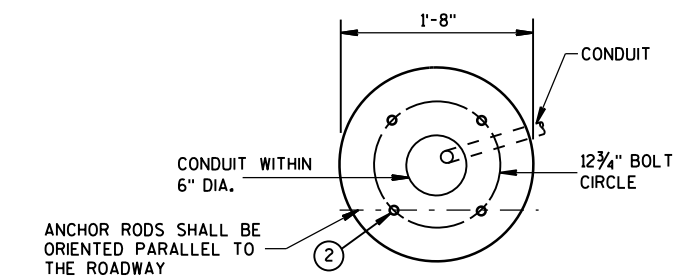
4 (6) NO. 6 X 6'-8" BAR STEEL REINFORCEMENT.

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

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

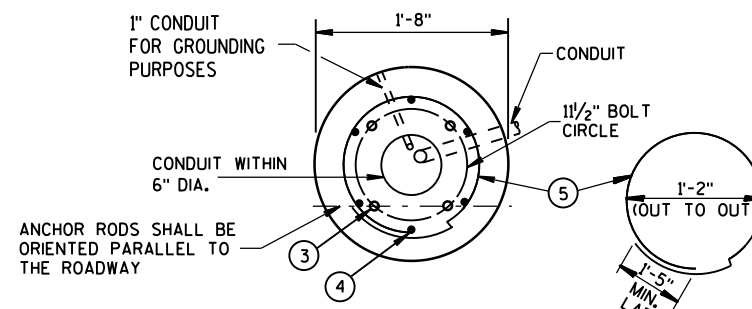
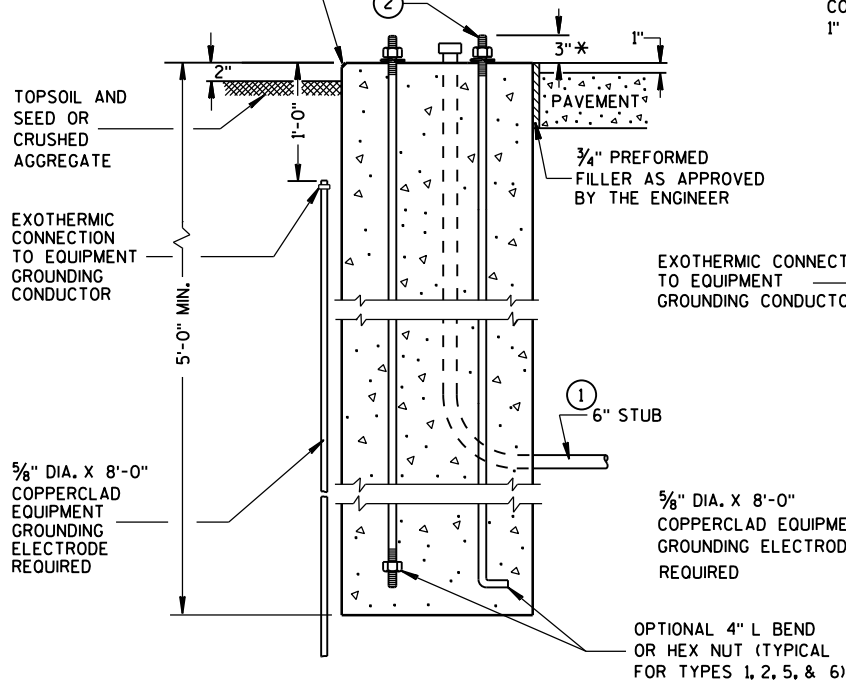
7 (6) NO. 4 X 4'-8" BAR STEEL REINFORCEMENT.

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

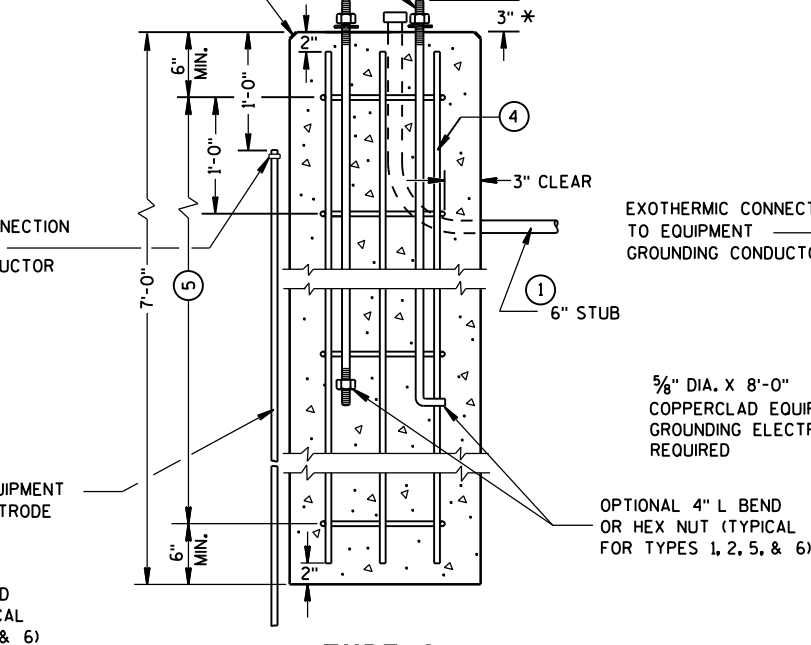


FORM ALL EXPOSED CONCRETE. PROVIDE 1" CHAMFER ALL AROUND

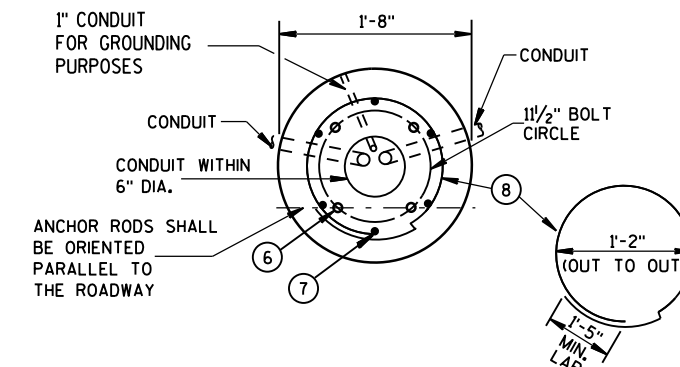
HALF SECTION IN UNPAVED AREA (TYPICAL FOR TYPES 1, 2, 5, & 6)



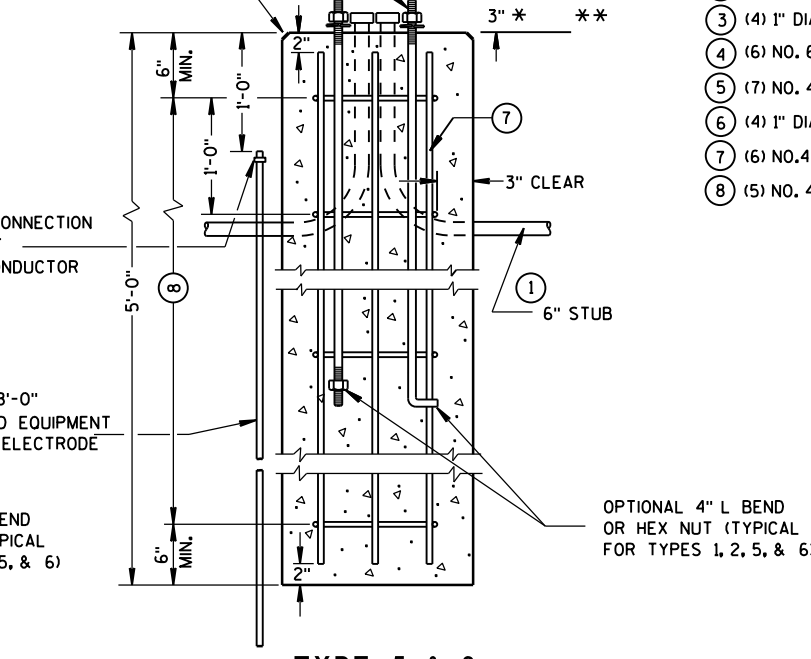
FORM ALL EXPOSED CONCRETE. PROVIDE 1" CHAMFER ALL AROUND



TYPE 2 CONCRETE BASES



FORM ALL EXPOSED CONCRETE. PROVIDE 1" CHAMFER ALL AROUND



TYPE 5 & 6

* ANY ANCHOR ROD PROJECTION SHORTER THAN 2 3/4" OR LONGER THAN 3 3/4" 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

FHWA

/S/ Ahmet Demirbilek

STATE ELECTRICAL 65

GENERAL NOTES

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

FOUR (4) BOLTS SHALL BE FURNISHED WITH EACH TRANSFORMER BASE. BOLTS SHALL BE 1" DIAMETER, 4" IN LENGTH, WITH WASHERS, LOCK WASHERS AND NUTS. BOLTS, NUTS AND WASHERS SHALL BE MANUFACTURED IN ACCORDANCE WITH SECTION 641.2.2 OF THE STANDARD SPECIFICATIONS.

LEVELING SHIMS, IF NEEDED, SHALL BE DESIGNED FOR THE PURPOSE AND USED UNDER CAST BASES WHEN PLUMBING POLES OR STANDARDS DURING INSTALLATION. THE USE OF WASHERS IN LIEU OF PROPER LEVELING SHIMS IS NOT ACCEPTABLE.

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

DOUBLE NUTTING IS NOT ACCEPTABLE FOR LEVELING OR MOUNTING PURPOSES.

A NEMA APPROVED, U.L. LISTED, COPPER WITH BRASS OR STAINLESS STEEL SET SCREW, DIRECT BURY RATED, MECHANICAL CONNECTOR (LUG), SIZED TO ACCEPT AWG. #10 TO #4 COPPER STRANDED WIRE SHALL BE FURNISHED AND INSTALLED IN THE PEDESTAL AND TRANSFORMER BASES.

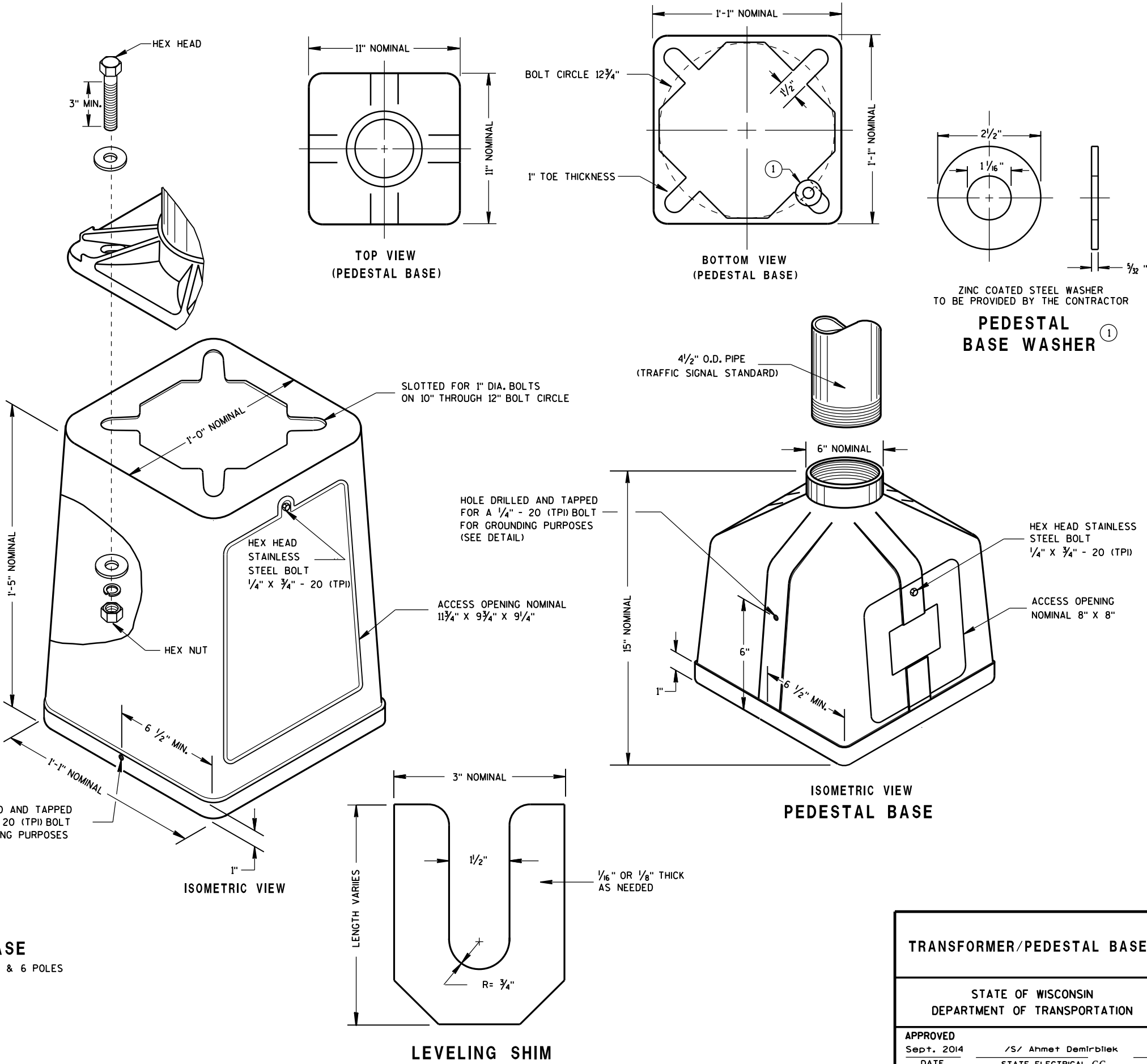
THE MECHANICAL CONNECTOR SHALL BE INSTALLED USING A 1/4" - 20 (TPI) STAINLESS STEEL HEX HEAD BOLT OF SUFFICIENT LENGTH TO FIRMLY ATTACH THE LUG TO THE BASE.

SHOULD THE MANNER OF ATTACHMENT OF THE LUG REQUIRE WASHERS, HEX NUTS, LOCK WASHER - THEY SHALL BE STAINLESS STEEL AS IS THE BOLT. THE MANNER OF ATTACHMENT SHALL NOT BLOCK ACCESSIBILITY TO WIRE PLACEMENT IN THE CONNECTOR.

PEDESTAL BASE COLLAR THREADING SHALL BE TAPERED AND IN ACCORDANCE WITH NATIONAL PIPE THREADING DIMENSIONS.

BASE COLLAR THREADING SHALL EXTEND INTO THE BASE COLLAR WITH SUFFICIENT DEPTH TO ACCEPT THE INSTALLATION OF TRAFFIC SIGNAL STANDARDS TO A DEPTH OF 1/2", THEN TIGHTENING TO A POINT OF BEING IMMOVABLE.

THE ACCESS DOOR SHALL BE OF THE SAME MATERIAL AS THE BASE.



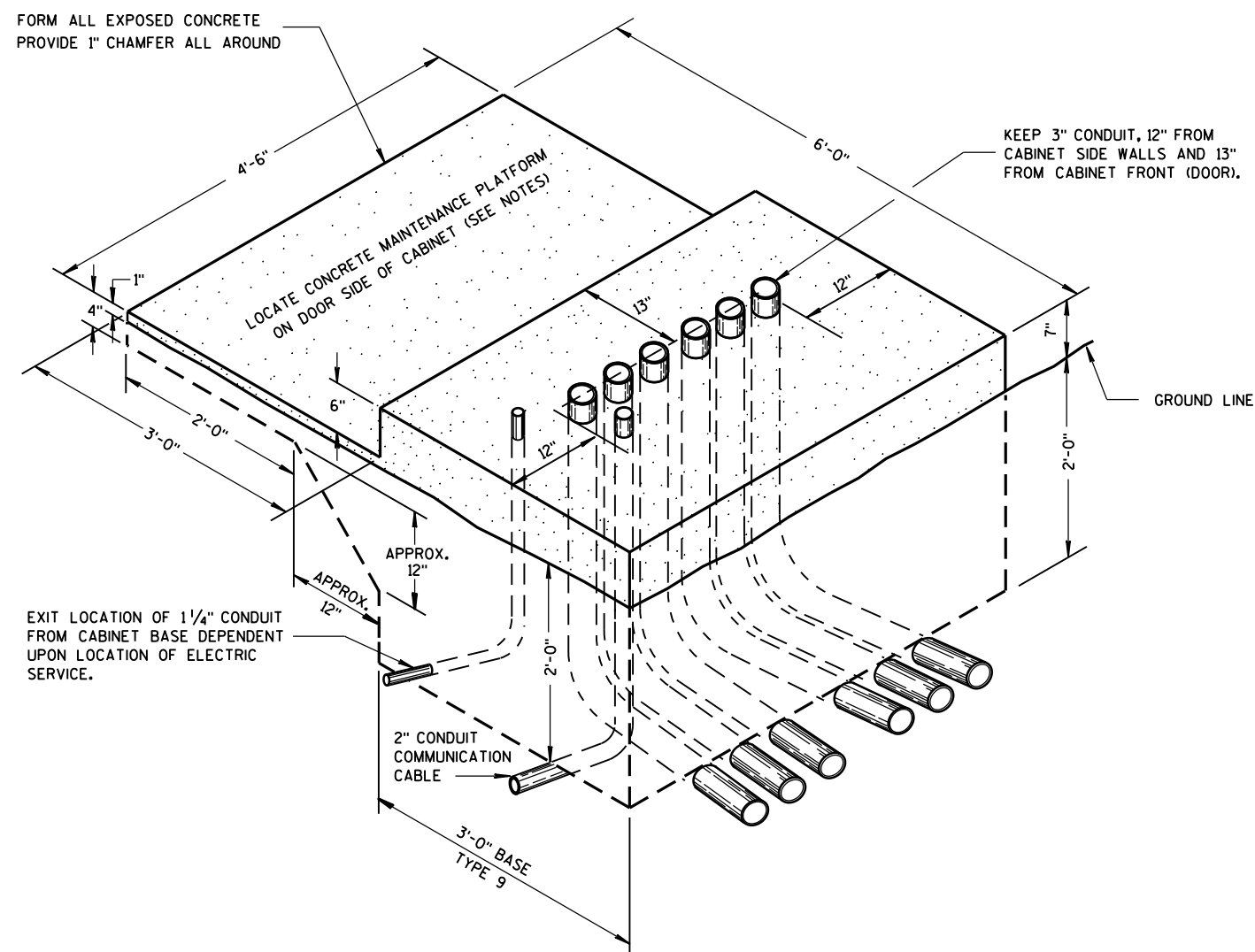
TYPICAL MECHANICAL CONNECTOR LUG TO BE FURNISHED WITH EACH BASE

TRANSFORMER BASE INTENDED FOR USE WITH TYPE 2, 3, 4, 5 & 6 POLES

TRANSFORMER/PEDESTAL BASES

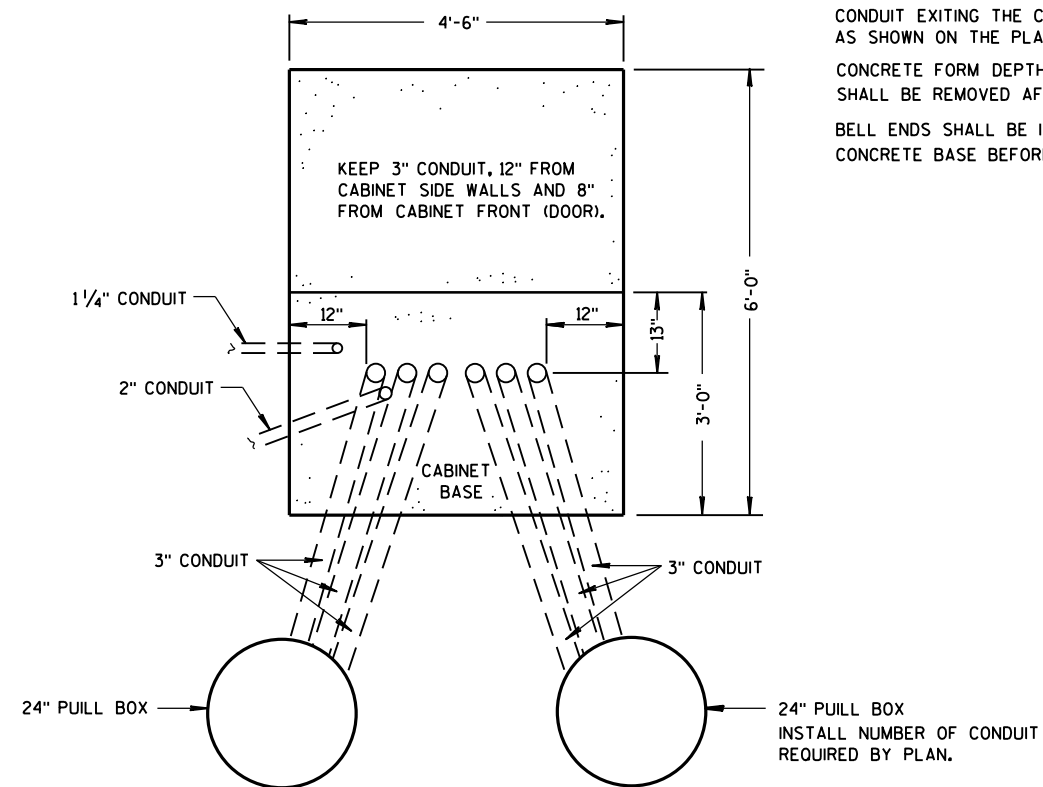
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION

APPROVED Sept. 2014 DATE /S/ Ahmet Demirbilek STATE ELECTRICAL 66 FHWA



ISOMETRIC VIEW
TYPE 9, SPECIAL

(C.Y. CONCRETE = APPROX. 1.56)



PLAN VIEW

CONCRETE CONTROL CABINET BASE, TYPE 9, SPECIAL

GENERAL NOTES

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

INSTALL FOUR 1/2 INCH MINIMUM DIAMETER X 4 INCH MINIMUM LENGTH STAINLESS STEEL APPROVED CONCRETE MASONRY ANCHORS WITH A PULLOUT STRENGTH OF 9,000 LBS. TO ANCHOR THE CABINET TO TYPE 6, 7, 8, AND 9 BASES. THE ANCHOR STUDS SHALL BE LOCATED AS DIRECTED BY THE ENGINEER TO PROPERLY ANCHOR THE CONTROL CABINET TO THE BASE.

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

CONDUIT HEIGHT ABOVE THE CONCRETE BASE SHALL BE 1 INCH.

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.

CONTROL CABINET BASE TOP SURFACE SHALL BE TROWEL FINISHED SMOOTH AND LEVEL.

MAINTENANCE PLATFORM SHALL BE FLOAT OR BROOM FINISHED AND BE LEVEL.

MAINTENANCE PLATFORMS ARE NOT REQUIRED WHEN THE SURROUNDING AREA IS PAVED.

MINIMUM BENDING RADIUS OF CONDUIT = 6 X THE DIAMETER.

ALL METALLIC CONDUIT ENDS SHALL BE REAMED AND THREADED.

CAP ALL BELOW GRADE METALLIC CONDUIT ENDS IN WHICH WIRE OR CABLE IS NOT BEING INSTALLED.

PLUG ALL BELOW GRADE NONMETALLIC CONDUIT ENDS IN WHICH WIRE OR CABLE IS NOT BEING INSTALLED.

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 BEING INSTALLED SHALL REMAIN CAPPED OR PLUGGED.

CONDUIT EXITING THE CONCRETE BASE (SIX THREE INCH) SHALL TERMINATE IN PULL BOXES AS SHOWN ON THE PLANS.

CONCRETE FORM DEPTH BELOW FINISHED GRADE SHALL BE 6" MAXIMUM. CONCRETE FORMS SHALL BE REMOVED AFTER CONCRETE HAS SET.

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

CONCRETE CONTROL CABINET
BASE, TYPE 9, SPECIAL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

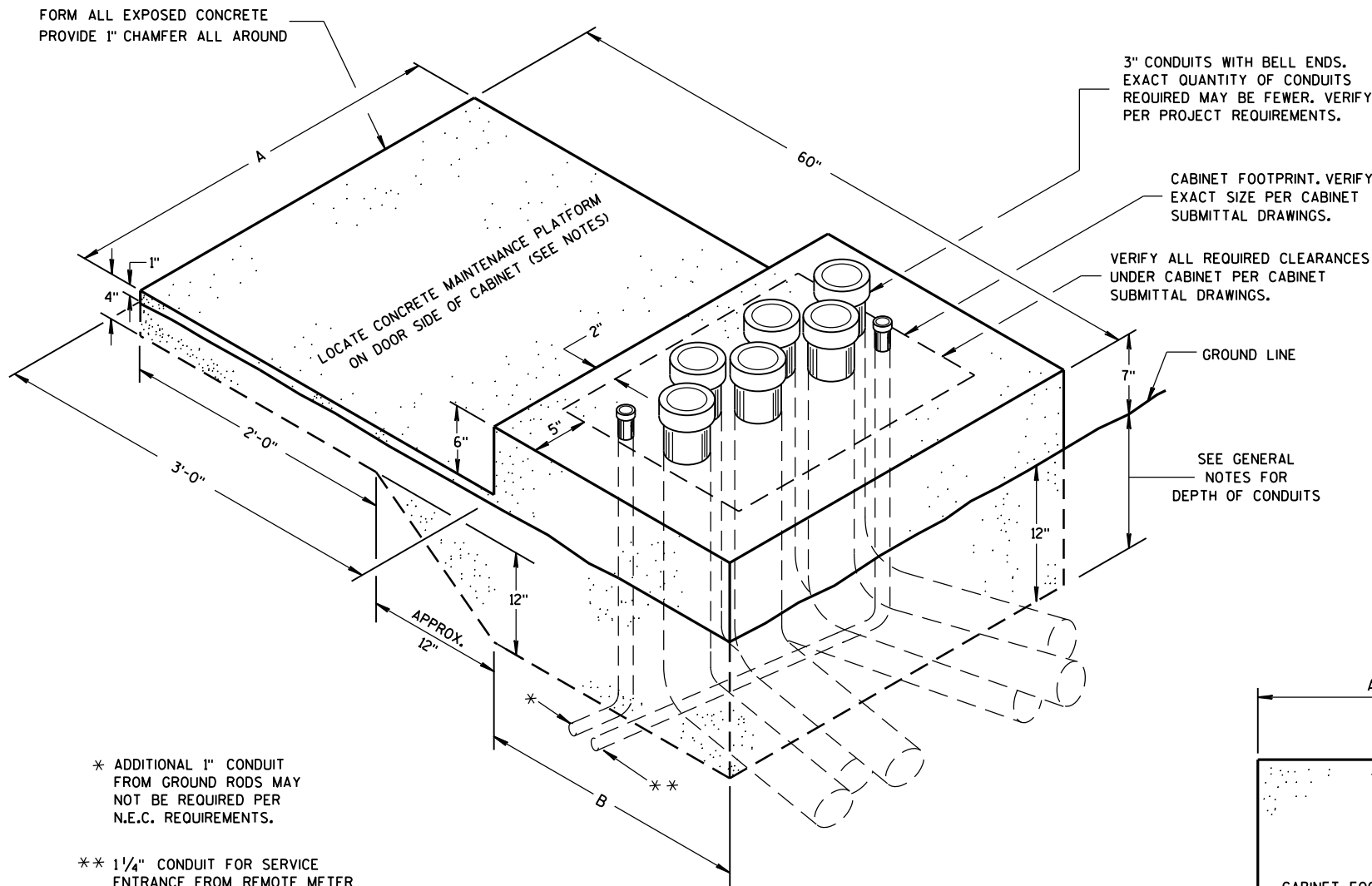
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Sept. 2014

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/S/ Ahmet Demirbilek
STATE ELECTRICAL 67

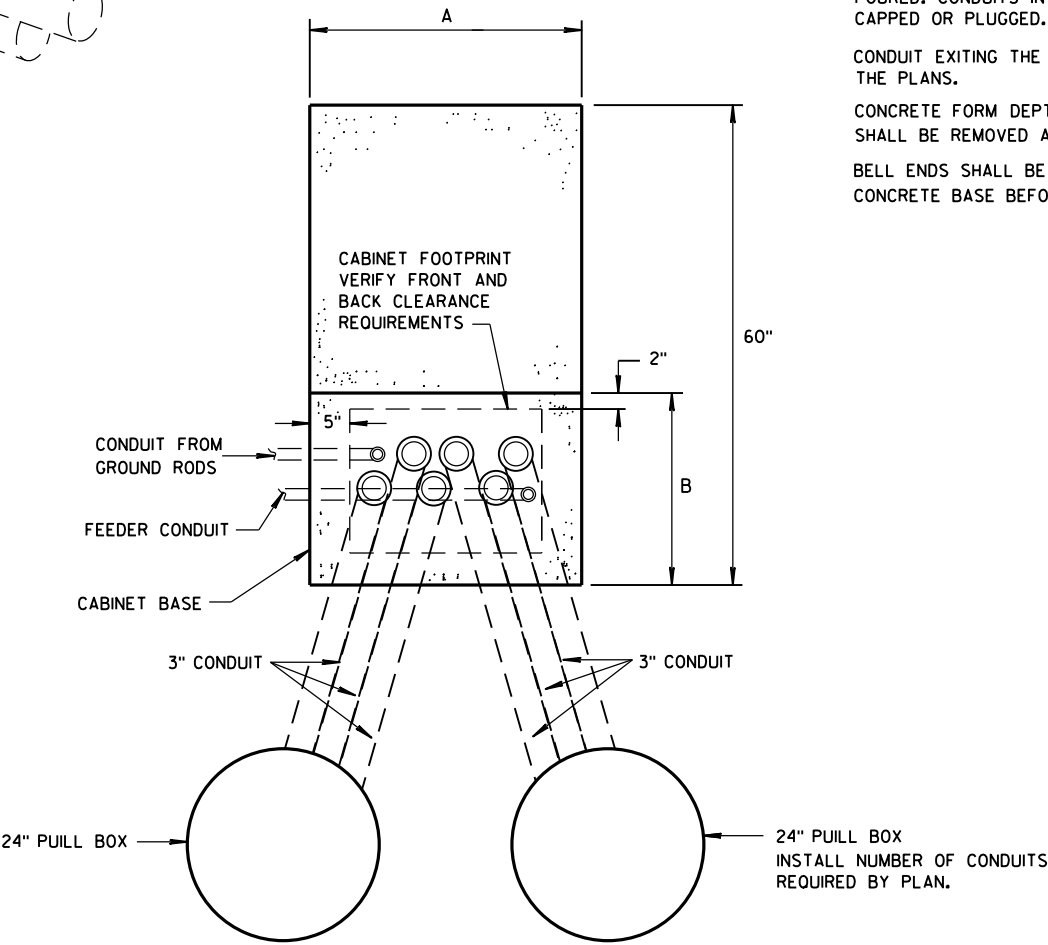


* ADDITIONAL 1" CONDUIT FROM GROUND RODS MAY NOT BE REQUIRED PER N.E.C. REQUIREMENTS.

** 1 1/4" CONDUIT FOR SERVICE ENTRANCE FROM REMOTE METER BREAKER PEDESTAL PER PROJECT REQUIREMENTS. VERIFY LOCATION OF CONDUIT DEPENDENT UPON LOCATION OF INCOMING FEEDER AND FOR EASE OF CONNECTION TO LOAD CENTER.

ISOMETRIC VIEW
CONCRETE CONTROL
CABINET BASE, TYPE L
(C.Y. CONCRETE = APPROX. 0.4)

CONCRETE BASE TYPE	CABINET WIDTH	DIMENSIONS		MAXIMUM 3" CONDUITS
		A	B	
L24	24"	34"	24"	4
L30	30"	40"	24"	6



PLAN VIEW
CONCRETE CONTROL CABINET BASE, TYPE L

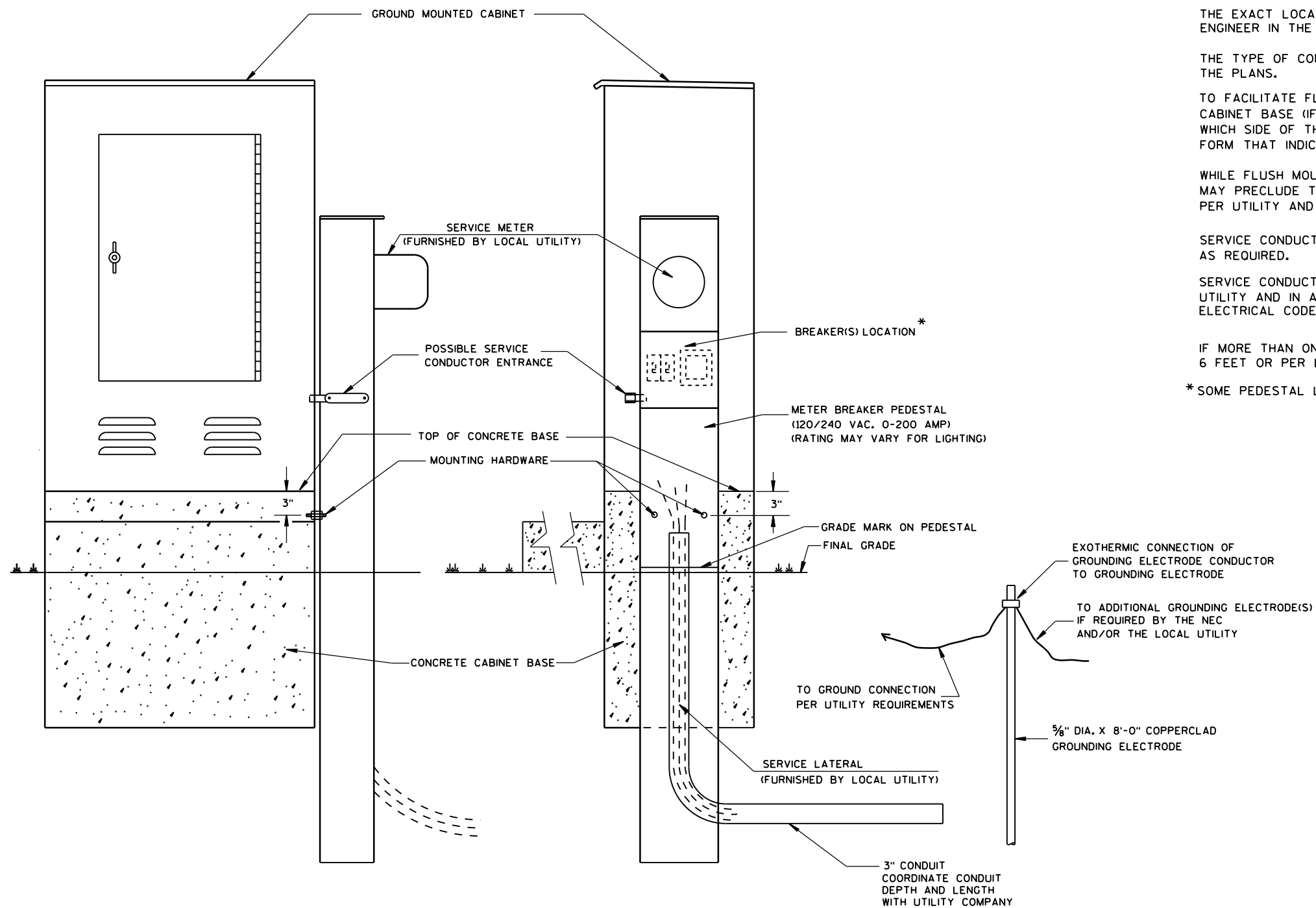
GENERAL NOTES

- DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE CONTRACT.
- INSTALL FOUR STAINLESS STEEL APPROVED CONCRETE MASONRY ANCHORS TO ANCHOR THE CABINET BASES. THE ANCHORS SHALL BE LOCATED AS DIRECTED BY THE ENGINEER TO PROPERLY ANCHOR THE CONTROL CABINET TO THE BASE.
- WHEN REQUIRED TO CONNECT NONMETALLIC CONDUIT TO METALLIC CONDUIT, ONLY ADAPTER FITTINGS, U.L. LISTED FOR ELECTRICAL USE, SHALL BE USED.
- CONDUIT HEIGHT ABOVE THE CONCRETE BASE SHALL BE 1 INCH.
- 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.
- CONTROL CABINET BASE TOP SURFACE SHALL BE TROWEL FINISHED SMOOTH AND LEVEL.
- MAINTENANCE PLATFORM SHALL BE FLOAT OR BROOM FINISHED AND BE LEVEL.
- MAINTENANCE PLATFORMS ARE NOT REQUIRED WHEN THE SURROUNDING AREA IS PAVED.
- MINIMUM BENDING RADIUS OF CONDUIT = 6 X THE DIAMETER.
- ALL METALLIC CONDUIT ENDS SHALL BE REAMED AND THREADED.
- CAP ALL BELOW GRADE METALLIC CONDUIT ENDS IN WHICH WIRE OR CABLE IS NOT BEING INSTALLED.
- PLUG ALL BELOW GRADE NONMETALLIC CONDUIT ENDS IN WHICH WIRE OR CABLE IS NOT BEING INSTALLED.
- 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 BEING INSTALLED SHALL REMAIN CAPPED OR PLUGGED.
- CONDUIT EXITING THE CONCRETE BASE SHALL TERMINATE IN PULL BOXES AS SHOWN ON THE PLANS.
- CONCRETE FORM DEPTH BELOW FINISHED GRADE SHALL BE 6" MAXIMUM. CONCRETE FORMS SHALL BE REMOVED AFTER CONCRETE HAS SET.
- BELL ENDS SHALL BE INSTALLED ON ALL PVC CONDUIT EXPOSED AT THE TOP OF THE CONCRETE BASE BEFORE INSTALLATION OF CABLE OR WIRE.

CONCRETE CONTROL
CABINET BASE, TYPE L

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
Nov. 2014 /S/ Thomas Gorrina
DATE STATE LIGHTING ENGINE 68 WYS
FHWA



TYPICAL CABINET SERVICE INSTALLATION

GENERAL NOTES

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

THE EXACT LOCATION OF THE METER BREAKER PEDESTAL SHALL BE DETERMINED BY THE ENGINEER IN THE FIELD.

THE TYPE OF CONCRETE CABINET BASE TO BE INSTALLED SHALL BE AS CALLED FOR IN THE PLANS.

TO FACILITATE FLUSH MOUNTING OF THE METER BREAKER PEDESTAL AGAINST THE SIDE OF THE CABINET BASE (IF FLUSH MOUNTING POSSIBLE, CONFER WITH THE LOCAL UTILITY TO DETERMINE WHICH SIDE OF THE CONCRETE BASE THE ELECTRICAL SERVICE LATERAL WILL APPROACH, THEN FORM THAT INDICATED SIDE FOR FULL SIDE DEPTH.

WHILE FLUSH MOUNTING IS THE MOST DESIRABLE MOUNTING CONFIGURATION UTILITY REQUIREMENTS MAY PRECLUDE THIS OPTION. CONTRACTOR MUST PROVIDE UTILITY APPROVED PEDESTAL AND INSTALL PER UTILITY AND MANUFACTURERS REQUIREMENTS.

SERVICE CONDUCTOR ENTRANCES SHALL BE RIGID METALLIC CONDUIT, NIPPLES AND/OR CONDULETS AS REQUIRED.

SERVICE CONDUCTOR ENTRANCES SHALL BE SIZED AND LOCATED AS REQUIRED BY THE LOCAL UTILITY AND IN ACCORDANCE WITH APPROPRIATE ARTICLES OF THE LATEST ACCEPTED NATIONAL ELECTRICAL CODE.

IF MORE THAN ONE GROUNDING ELECTRODE IS REQUIRED, THE DISTANCE APART SHALL BE 6 FEET OR PER LOCAL UTILITY REGULATIONS.

* SOME PEDESTAL LIGHTING PLANS SHOW MAIN LUGS ONLY.

CABINET SERVICE INSTALLATION
(METER BREAKER PEDESTAL)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

Sept. 2014

DATE

FHWA

/S/ Ahmet Demirbilek

STATE ELECTRICAL 69

FRONT INTERIOR
ELEVATION

SIDE VIEW

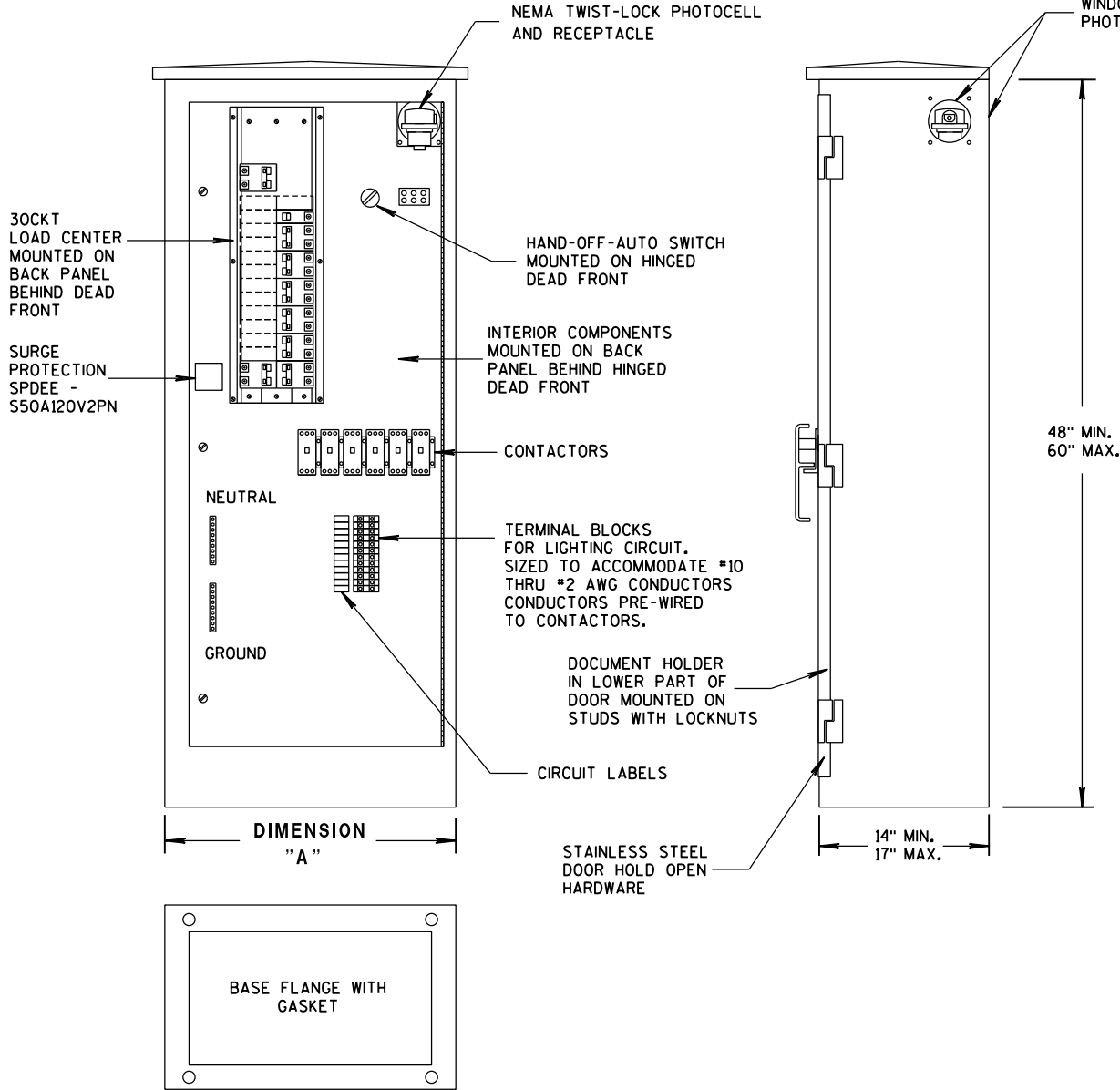


TABLE OF DIMENSIONS (INCHES)		
CONCRETE BASE TYPE	CABINET WIDTH	DIMENSION "A"
L24	24"	24"
L30	30"	30"

LIGHTING CONTROL CABINET

GENERAL NOTES

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

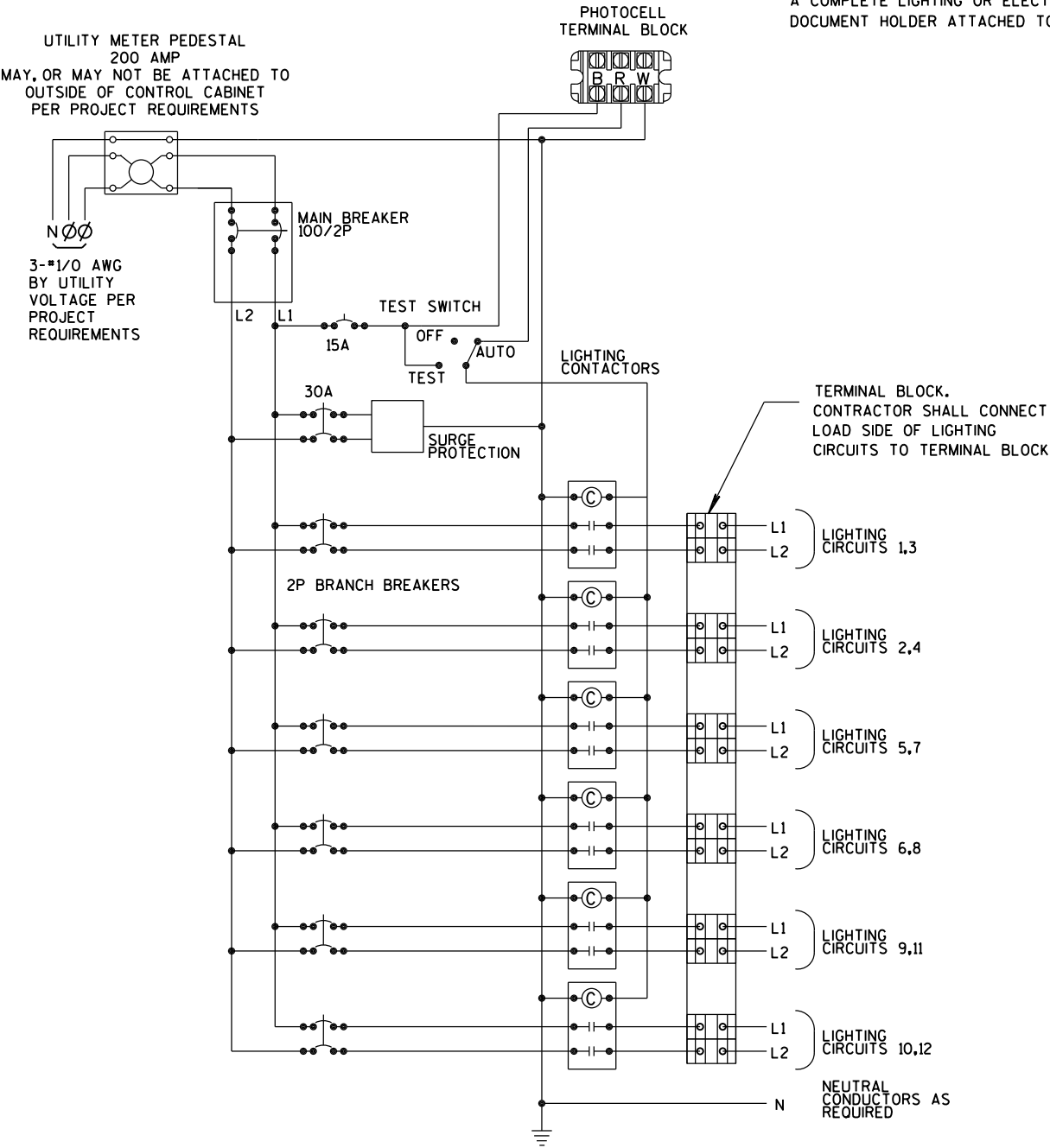
ALL INTERNAL ELECTRICAL COMPONENTS WILL BE PRE-WIRED BY THE CABINET FABRICATOR.

ALL CONDUIT ENTRIES SHALL BE SEALED WITH AN APPROPRIATE DUCT SEALING COMPOUND.

ORIENT PHOTOCELL AWAY FROM AMBIENT LIGHT SOURCES AND ONCOMING TRAFFIC HEADLIGHTS.

THE CONTRACTOR SHALL TOUCH UP ANY DAMAGE TO THE ANODIZED FINISH CAUSED BY THE INSTALLATION PROCESS. COLOR MATCH PAINT SHALL BE USED.

A COMPLETE LIGHTING OR ELECTRICAL PLAN SHALL BE SECURELY PLACED IN THE DOCUMENT HOLDER ATTACHED TO THE DOOR.



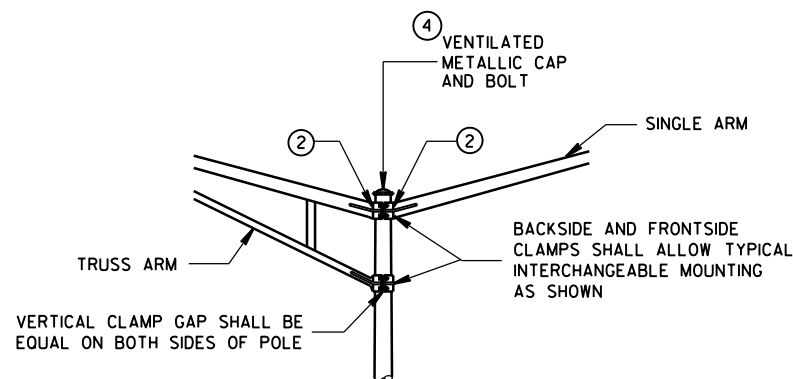
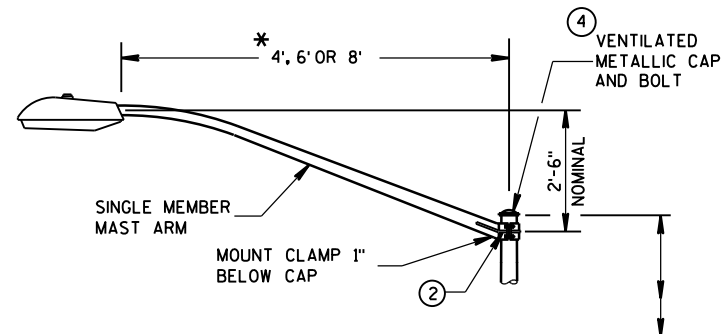
CONTROL CABINET SCHEMATIC

LIGHTING CONTROL CABINET

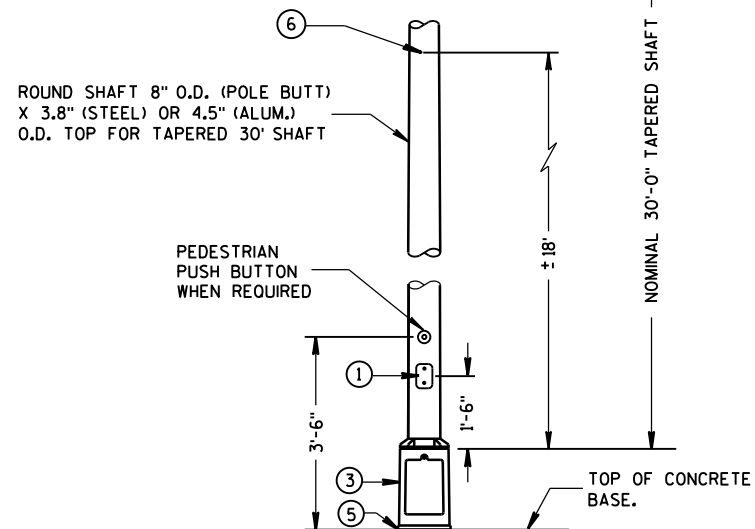
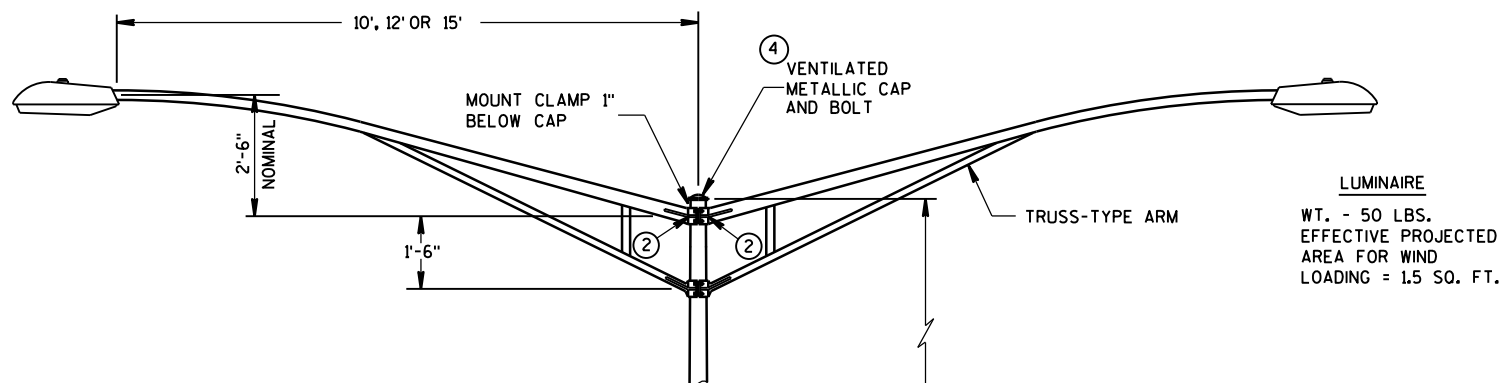
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
June 2014 DATE /S/ Thomas Gorring
STATE LIGHTING ENGINEER 70 NYS.
FHWA

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



INTERCHANGEABLE MOUNTING DETAIL



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").

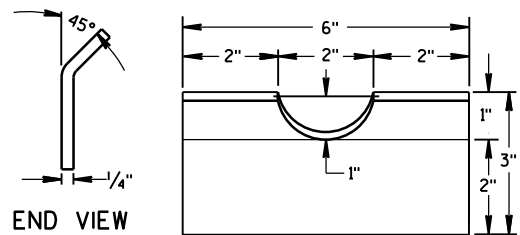
THE SLIPFITTER END OF THE LUMINAIRE MAST ARM SHALL BE A NOMINAL $2\frac{3}{8}$ INCHES IN OUTSIDE DIAMETER. THE STRAIGHT PORTION OF THE SLIPFITTER END OF THE LUMINAIRE ARM SHALL BE A NOMINAL 12 INCHES IN LENGTH.

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

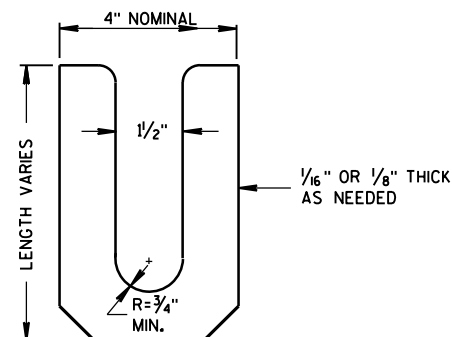
- ① 4" x 6" REINFORCED HANDHOLE & COVER ASSEMBLY WITH 2 (TWO) $\frac{1}{4}$ " x $\frac{3}{4}$ " - 20 TPI HEX HEAD STAINLESS STEEL BOLTS.
- ② GROMMETS, 1" CHASE NIPPLES OR 1" CLOSE CONDUIT NIPPLES WITH BUSHINGS SHALL BE PROVIDED FOR $1\frac{1}{8}$ " HOLE IN POLE SHAFT FOR WIRING.
- ③ CAST ALUMINUM TRANSFORMER 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)

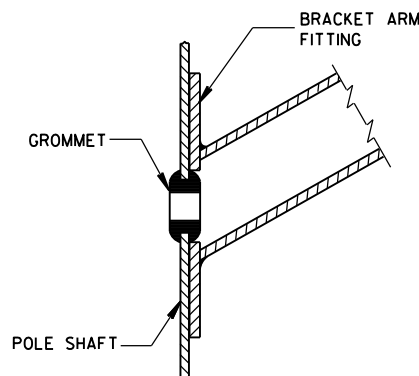
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



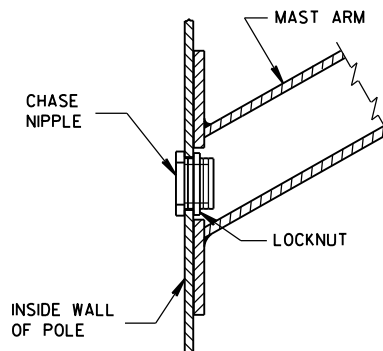
FRONT VIEW
RECTANGULAR CLAMP SHIM
(4 TO A SET)



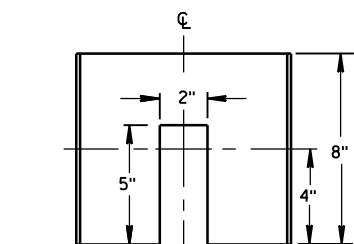
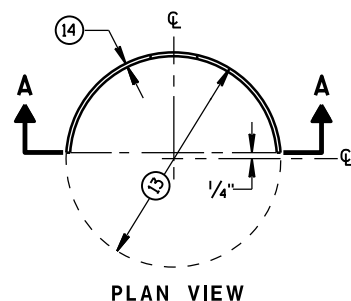
LEVELING SHIM (15)
SHALL BE ALUMINUM



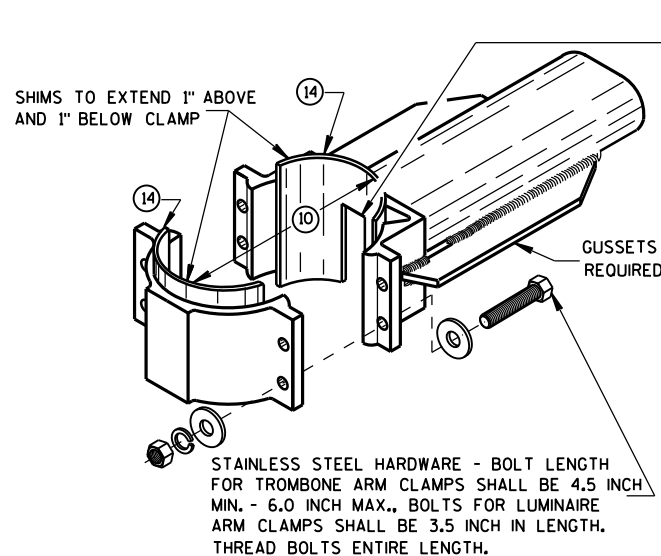
TYPICAL APPLICATION OF
GROMMET IN POLE SHAFT



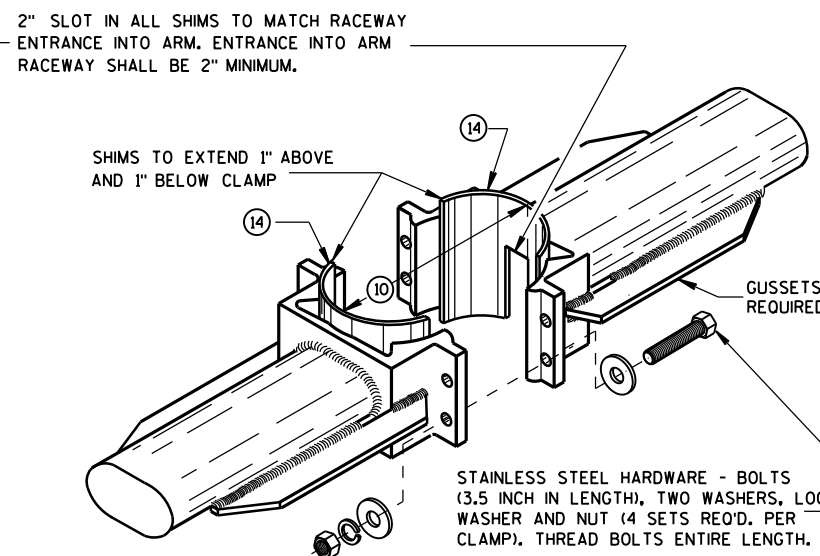
TYPICAL APPLICATION OF
CHASE NIPPLE IN POLE SHAFT



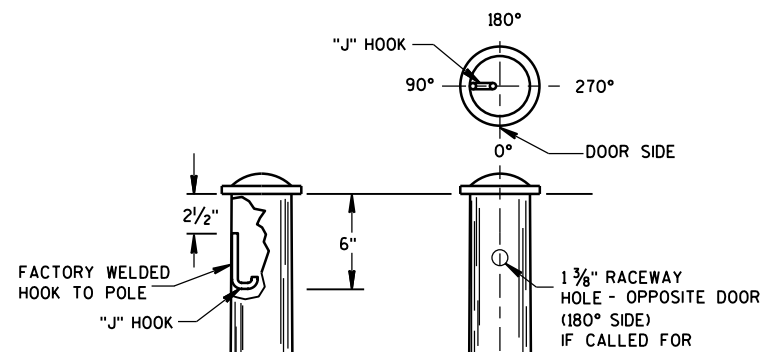
SECTION A-A
CIRCULAR CLAMP SHIM
(2 TO A SET)



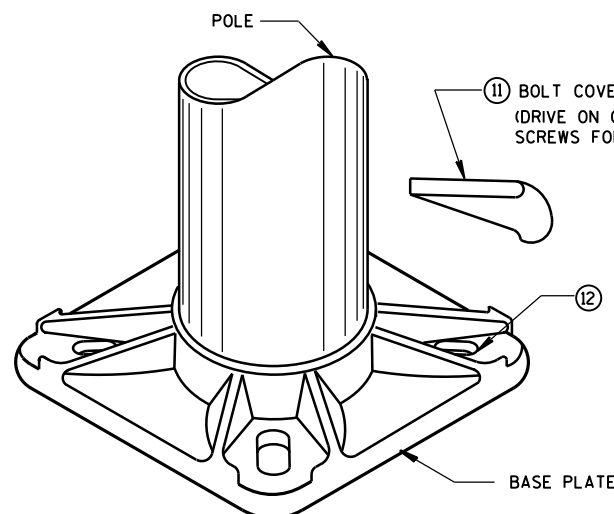
TYPICAL TROMBONE MAST ARM AND SINGLE
LUMINAIRE MAST ARM MOUNTING CLAMP



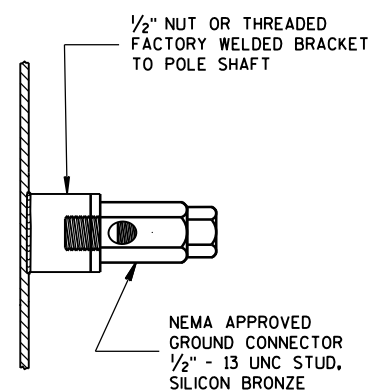
TYPICAL LUMINAIRE MAST ARM
(DOUBLE) MOUNTING BRACKETS



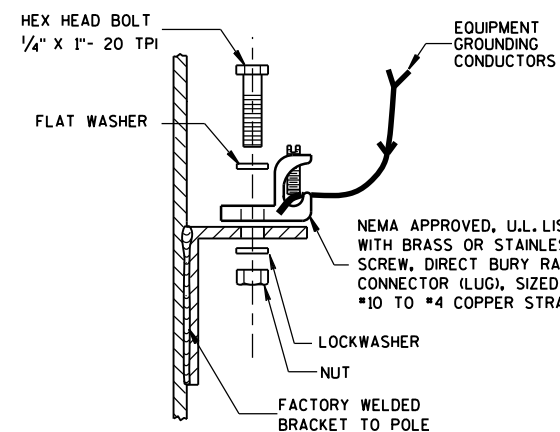
TYPICAL "J" HOOK LOCATION



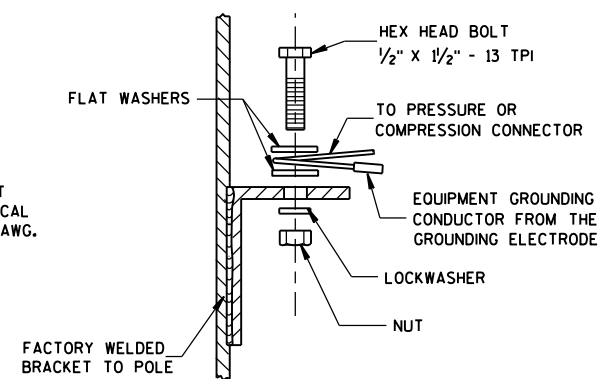
BASE PLATE



NEMA APPROVED
GROUND CONNECTOR
1/2" - 13 UNC STUD,
SILICON BRONZE



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



HEX HEAD BOLT
1/2" X 1 1/2" - 13 TPI
TO PRESSURE OR
COMPRESSION CONNECTOR
EQUIPMENT GROUNDING
CONDUCTOR FROM THE
GROUNDING ELECTRODE
LOCKWASHER
NUT

GENERAL NOTES

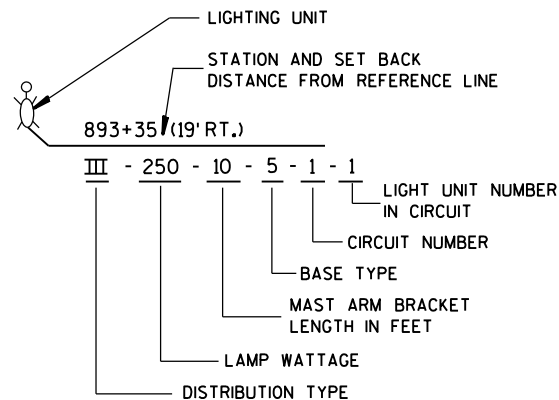
CLAMP BOLT-NUT TIGHTENING TORQUE SHALL BE INDICATED BY INDENT STAMPING (1/2 INCH NUMERALS AND LETTERS) OR WEATHERPROOF PRINTING ON THE INSIDE OF THE CLAMP THAT IS WELDED TO THE ARM MEMBER.

- (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) OUTSIDE SHIM DIAMETER - (4.5" O.D. FOR LUMINAIRE MAST ARM)
(6.625" O.D. FOR TROMBONE MAST ARM)
- (14) VARIABLE SHIM THICKNESS - (0.10", 0.25", 0.35", 0.53" OR 0.70")
SHIM THICKNESS FOR TROMBONE MAST ARMS MAY BE TYPICALLY 0.25", 0.35", 0.53" OR 0.70".
SHIM THICKNESS FOR LUMINAIRE MAST ARMS MAY BE TYPICALLY 0.10", 0.25" OR 0.35".
SHIM MATERIAL SHALL BE ALUMINUM ALLOY.
SHIM THICKNESS SHALL BE IMPRESSED INTO EACH SHIM. NUMERALS SHALL BE 1/4" HIGH AND LEGIBLE.
THE CONTRACTOR SHALL SUBMIT TWO COPIES OF ALL SHIM SHOP DRAWINGS TO THE ENGINEER FOR APPROVAL.
- (15) 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.

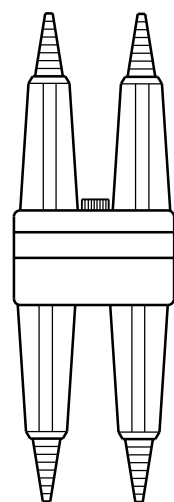
HARDWARE DETAILS FOR POLE MOUNTINGS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

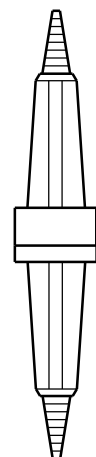
APPROVED
Sept. 2014 /S/ Ahmet Demirbilek
DATE STATE ELECTRICAL 72
FHWA



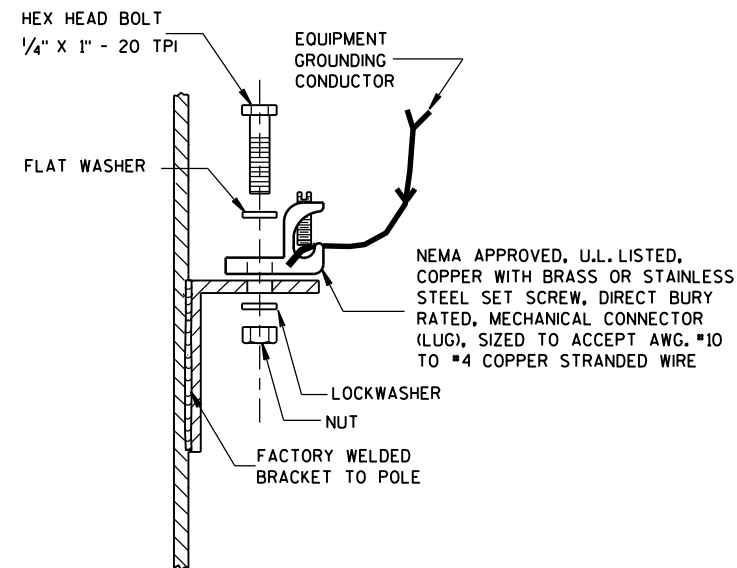
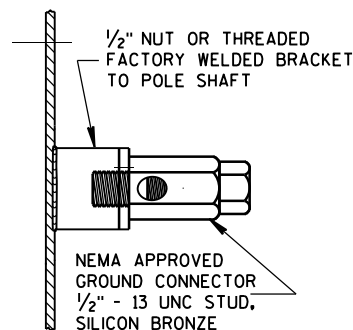
**LIGHTING UNIT CODE
(TYPICAL)**



**DETAIL "A"
BREAKAWY
DOUBLE POLE WITH
WATERPROOF
INSULATING BOOT**

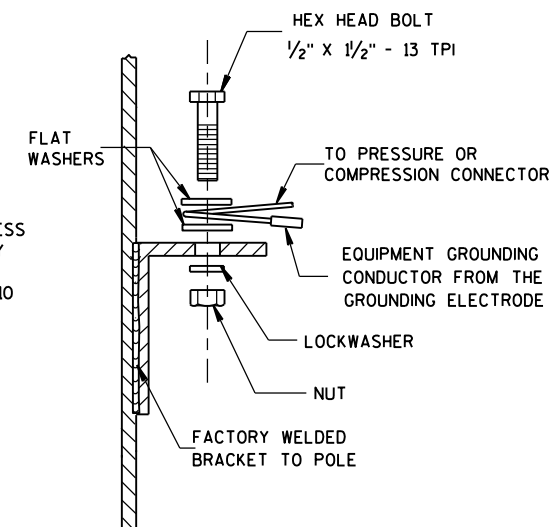


**DETAIL "B"
BREAKAWY
SINGLE POLE WITH
WATERPROOF
INSULATING BOOT**



TYPICAL GROUNDING CONNECTIONS

NUT, BOLT, WASHERS AND LOCKWASHERS SHALL BE STAINLESS STEEL



GENERAL NOTES

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

THE EQUIPMENT GROUNDING CONNECTOR SHALL BE TAPED WITH 3 WRAPS (MINIMUM) OF APPROVED RUBBER TAPE AND THEN 3 WRAPS (MINIMUM) OF APPROVED VINYL TAPE TO COVER SHARP WIRE ENDS AFTER THE CONNECTION IS COMPLETED.

WHEN TRANSFORMER BASES ARE USED, ALL WIRING CONNECTIONS SHALL OCCUR WITHIN THE TRANSFORMER BASES.

ADDITIONAL CONDUCTORS
AND FUSE FOR TWIN
LIGHTING UNITS

EQUIPMENT GROUNDING
CONDUCTOR(S) TO LUMINAIRE(S)

APPROVED MECHANICAL TYPE
CONNECTOR FOR EQUIPMENT
GROUNDING CONDUCTORS.
COMPRESSION, CRIMP OR
WIRE NUT CONNECTORS ARE
NOT ALLOWED.

TYPICAL GROUNDING CONNECTION -
STAINLESS STEEL BOLT,
NUT AND WASHERS
1/2" X 1/2" - 13 TPI

AWG #4 (MIN.) BARE EQUIPMENT
GROUNDING CONDUCTOR.
NOTE: THIS WIRE SHALL BE
CONTINUOUS WITHOUT SPLICES
FROM THE GROUNDING ELECTRODE
TO THE EQUIPMENT GROUNDING
CONDUCTOR SPLICE CONNECTOR.

INSULATED EQUIPMENT GROUNDING
CONDUCTORS FROM SYSTEM RACEWAY

EXOTHERMICALLY WELDED
TO GROUNDING ELECTRODE

CONDUCTORS TO
LUMINAIRES SHALL BE #12 AWG,
COPPER STRANDED, U.S.E. RATED,
XLP INSULATED. SINGLE
LIGHTING UNIT SHOWN

CIRCUIT TAGS, BOTH SIDES
OF ALL FUSES (TYPICAL)

IN LINE SINGLE POLE FUSE ASSEMBLY.
600 VAC, WITH 5 AMP FAST ACTING
FUSE (SEE DETAIL "B")
TAPE AND VARNISH
CRIMPED END FERRULES

HANDHOLE & COVER

18" PIGTAIL BETWEEN
CONNECTOR AND FUSEHOLDER

APPROVED INSULATED MULTITAP
TERMINAL BLOCK TYPE CONNECTORS.
COMPRESSION, CRIMP OR WIRE NUT
CONNECTORS ARE NOT ALLOWED.

INSULATED UNGROUNDED CIRCUIT
CONDUCTORS FROM SYSTEM RACEWAY

ALTERNATE PHASE UNGROUNDED
CIRCUIT CONDUCTOR PASSING
THROUGH THIS POLE

**3 WIRE - 120, 240 OR 480 VAC (UNGROUND CONDUCTOR)
WITH GROUNDED CONDUCTOR AND
WITH EQUIPMENT GROUNDING CONDUCTOR**

TWIN LIGHTING UNITS REQUIRE
INDIVIDUAL SETS OF UNGROUNDED
CONDUCTORS AND FUSE ASSEMBLY.

AWG #4 (MIN.) BARE EQUIPMENT
GROUNDING CONDUCTOR.
NOTE: THIS WIRE SHALL BE
CONTINUOUS WITHOUT SPLICES
FROM THE GROUNDING ELECTRODE
TO THE EQUIPMENT GROUNDING
CONDUCTOR SPLICE CONNECTOR.

EQUIPMENT GROUNDING
CONDUCTOR(S) TO LUMINAIRE(S)

TYPICAL GROUNDING CONNECTION -
STAINLESS STEEL BOLT,
NUT AND WASHERS
1/2" X 1/2" - 13 TPI

APPROVED MECHANICAL TYPE
CONNECTOR FOR EQUIPMENT
GROUNDING CONDUCTORS.
COMPRESSION, CRIMP OR
WIRE NUT CONNECTORS ARE
NOT ALLOWED.

INSULATED EQUIPMENT GROUNDING
CONDUCTORS FROM SYSTEM RACEWAY

EXOTHERMICALLY WELDED
TO GROUNDING ELECTRODE

**2 WIRE - 240 OR 480 VAC (UNGROUND CONDUCTORS)
WITH EQUIPMENT GROUNDING CONDUCTOR**

CIRCUIT TAGS, BOTH SIDES
OF ALL FUSES (TYPICAL)

IN LINE FUSE ASSEMBLY
TWO POLE, 600 VAC,
WITH 5 AMP FAST ACTING
FUSE (SEE DETAIL "A")
TAPE AND VARNISH
CRIMPED END FERRULES

HANDHOLE & COVER

18" PIGTAIL BETWEEN
CONNECTORS AND FUSEHOLDERS

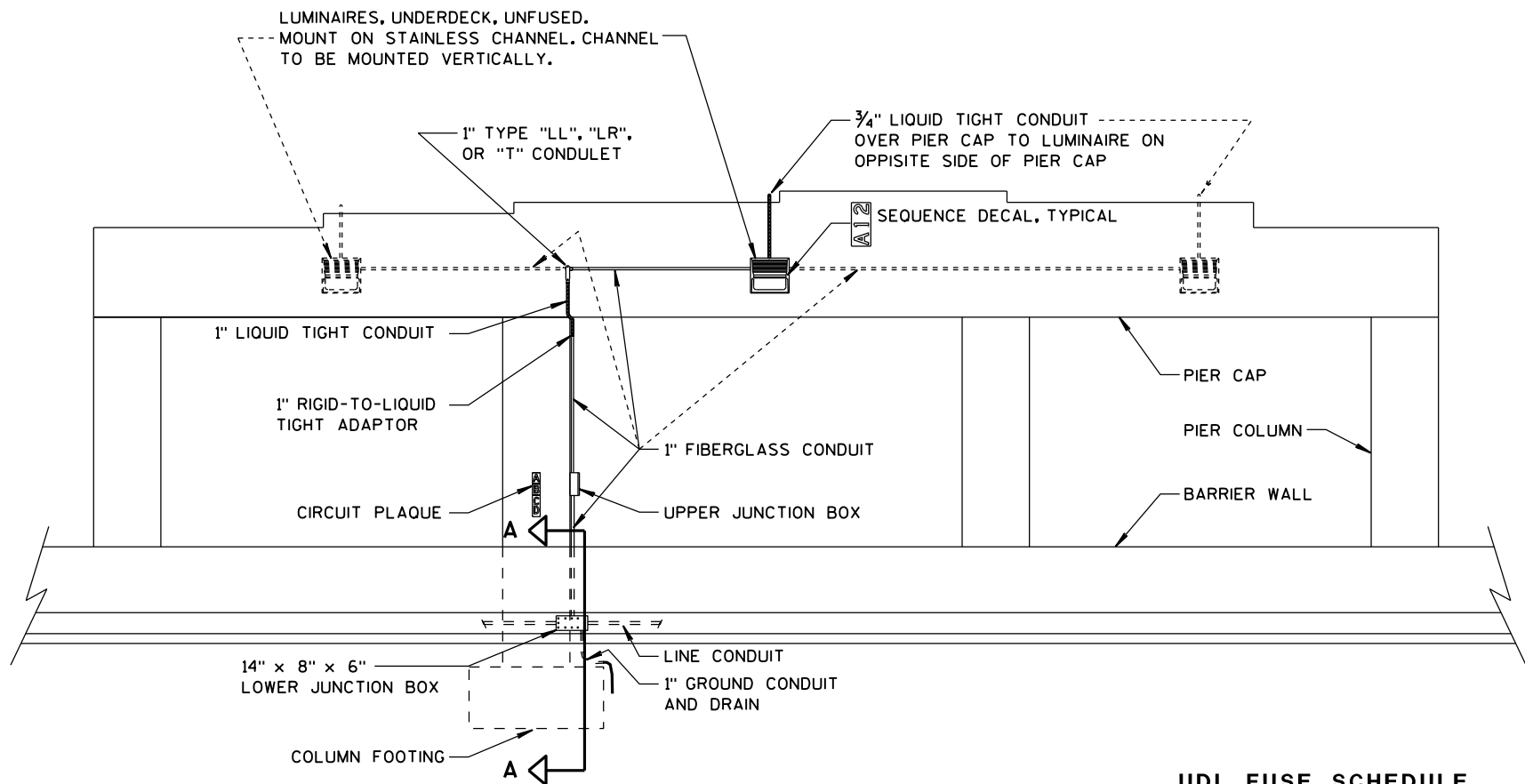
APPROVED INSULATED MULTITAP
TERMINAL BLOCK TYPE CONNECTORS.
COMPRESSION, CRIMP OR WIRE NUT
CONNECTORS ARE NOT ALLOWED.

INSULATED UNGROUNDED CIRCUIT
CONDUCTORS FROM SYSTEM RACEWAY

**NON-FREEWAY LIGHTING UNIT
POLE WIRING**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

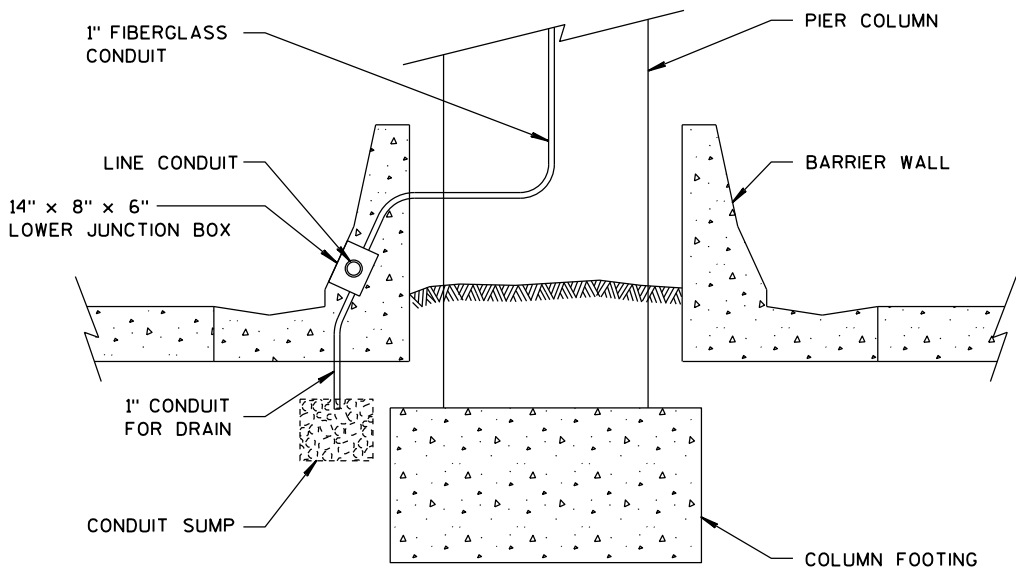
APPROVED
Sept. 2014 /S/ Ahmet Demirbilek
DATE STATE ELECTRICAL 73
FHWA



**TYPICAL UNDERDECK
LIGHTING INSTALLATION**

UDL FUSE SCHEDULE

LINE VOLTAGE φ-GROUND	TOP JUNCTION BOX FUSES
120VAC	5 A
208VAC	5 A
240VAC	5 A
480VAC	3 A



SECTION "A-A"

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 DETAIL FOR ELECTRICAL HANDHOLE WIRING, SUBSTITUTING THE LOWER JUNCTION BOX FOR THE HANDHOLE SHOWN IN THAT DETAIL.

THE PLANS WILL SHOW WHICH CIRCUIT LEGS(S) ARE CONNECTED TO EACH INSTALLATION AND THE REQUIRED NUMBER OF LUMINAIRES.

THE UPPER JUNCTION BOX (FOR FUSE ASSEMBLIES) SHALL CONFORM TO THE APPLICABLE PROVISIONS OF SECTION 653.2.2 OF THE STANDARD SPECIFICATIONS; SHALL BE SUITABLE FOR SURFACE MOUNTING WITH EXTERNAL MOUNTING LUGS; AND SHALL HAVE A HINGED COVER, WING-NUT FASTENERS, AND PADLOCK HASP. ALL HARDWARE SHALL BE STAINLESS STEEL. FURNISH O-Z/GEDNEY YW-120603, SPRING CITY HC-12-06-04, CROUSE-HINDS WTB-120604, OR APPROVED EQUAL.

MEDIAN CONFIGURATIONS VARY; NOT ALL CASES CAN BE SHOWN IN THIS DETAIL.

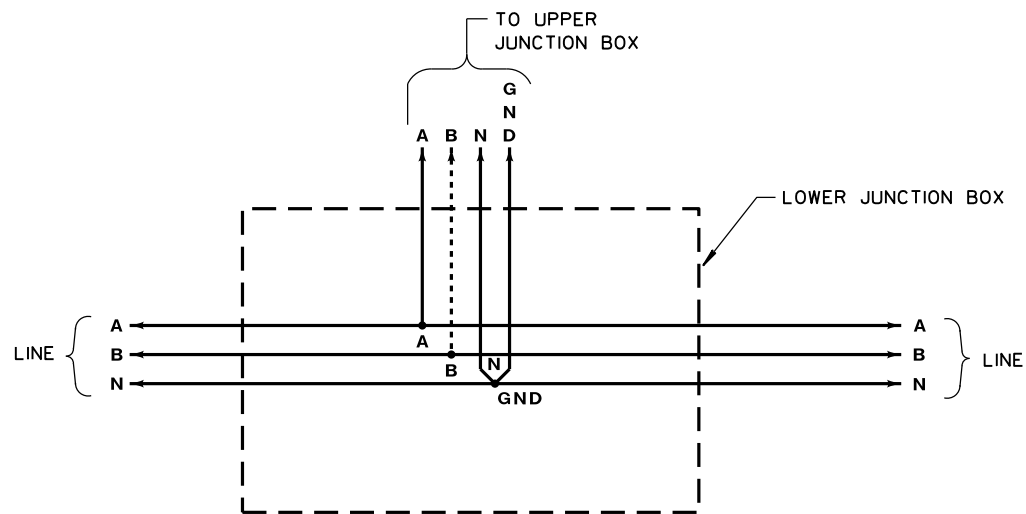
WIRING FOR THE FIRST LUMINAIRE PAIR IS SHOWN IN SOLID LINES. WIRING FOR ADDITIONAL LUMINAIRE PAIRS, WHERE REQUIRED, IS SHOWN IN DOTTED LINES.

LEGEND

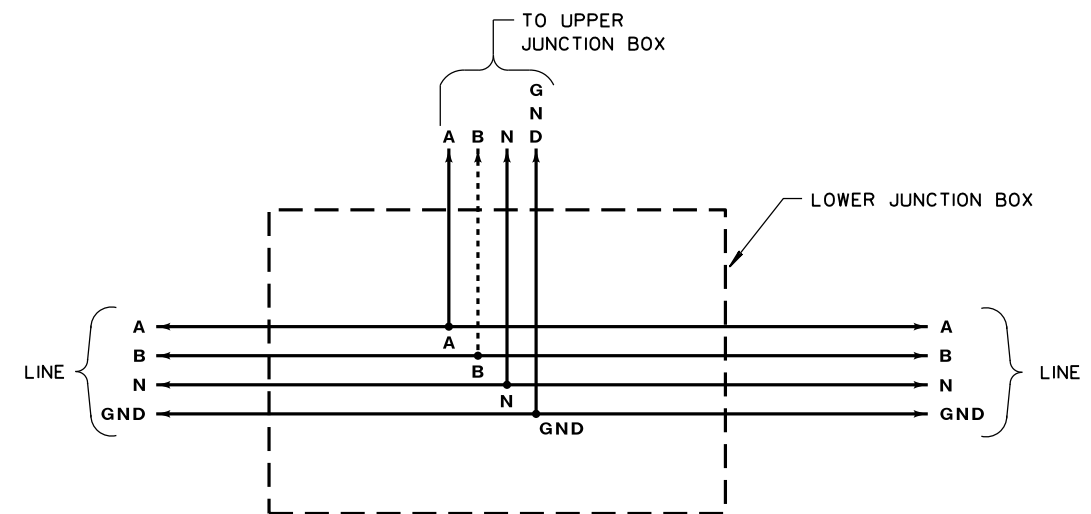
A.B.X.Y.Z	UNGROUND CIRCUI CONDUCTORS
N	GROUND CIRCUI CONDUCTORS
GND	EQUIPMENT GROUNDING CONDUCTOR
P	POLE (ELECTRICAL CIRCUIT)
φ	PHASE (ELECTRICAL CURRENT)
	HANDHOLE GROUND LUG
	UNFUSED LUMINAIRE
	SINGLE POLE (1P) FUSE ASSEMBLY
o	TERMINAL
.	SPLICE
—	CONDUCTOR

**ELECTRICAL DETAILS
UNDERDECK LIGHTING**

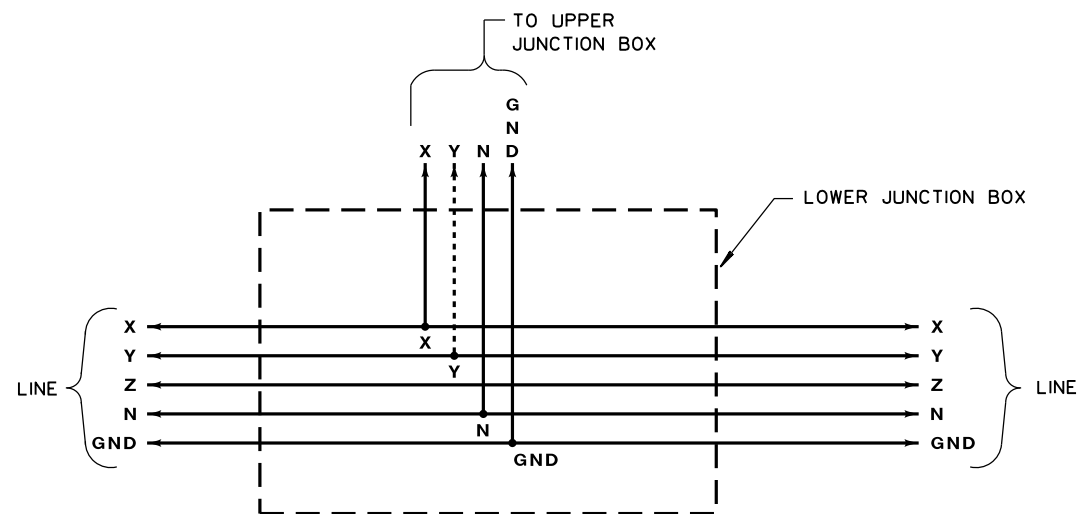
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



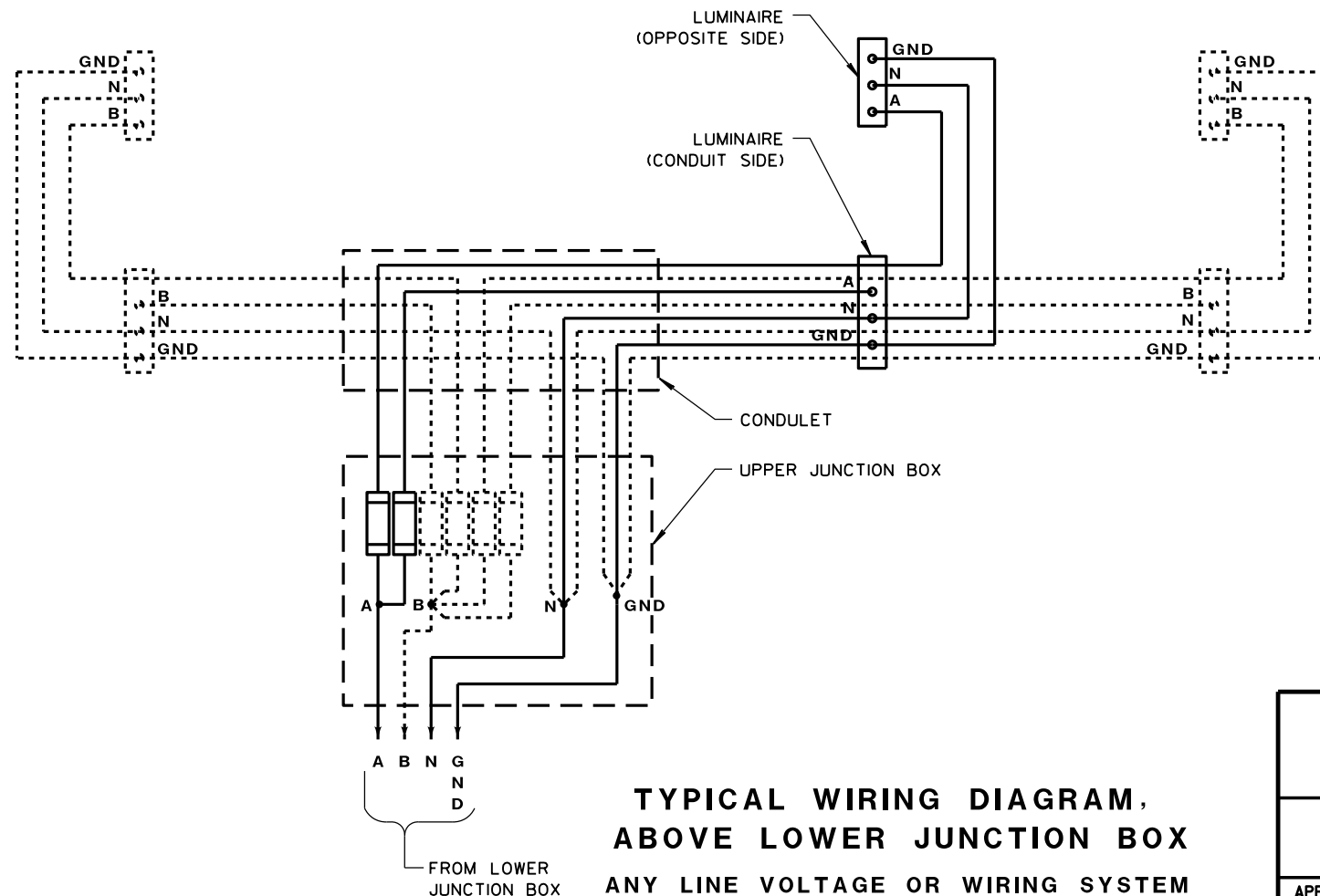
TYPICAL WIRING DIAGRAM, LOWER JUNCTION BOX
GROUNDING NEUTRAL SYSTEM
 1- ϕ 240/480VAC OR 3 WIRE OR 480VAC 2 WIRE



TYPICAL WIRING DIAGRAM, LOWER JUNCTION BOX
ISOLATED NEUTRAL SYSTEM
 1- ϕ 120/240VAC OR 240/480VAC 3 WIRE



TYPICAL WIRING DIAGRAM, LOWER JUNCTION BOX
ISOLATED NEUTRAL SYSTEM
 3- ϕ 208Y/120VAC OR 480Y/277VAC 4 WIRE

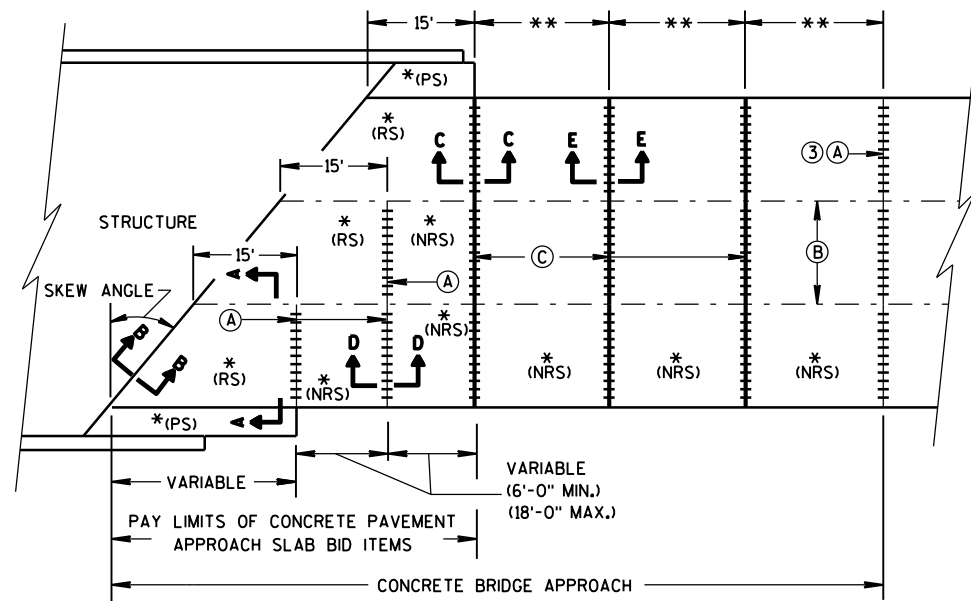


TYPICAL WIRING DIAGRAM,
ABOVE LOWER JUNCTION BOX
 ANY LINE VOLTAGE OR WIRING SYSTEM
 (NO. 14 AWG TAPS AND BRANCHES)

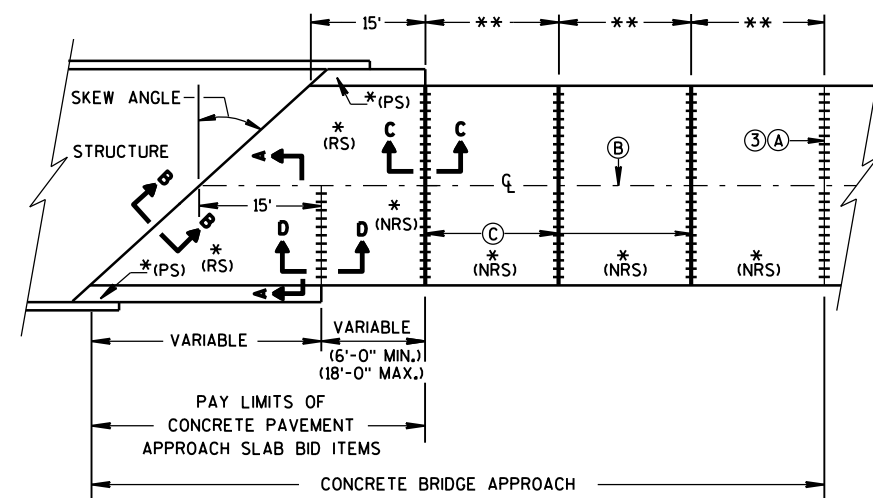
ELECTRICAL DETAILS
UNDERDECK LIGHTING

STATE OF WISCONSIN
 DEPARTMENT OF TRANSPORTATION

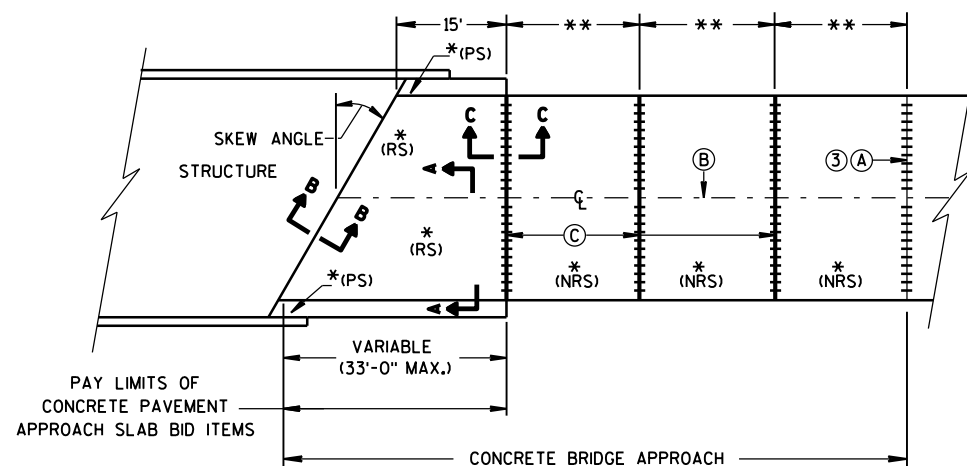
APPROVED
 11/26/2013
 DATE /S/ Ahmet Demirbilek
 STATE ELECTRICAL 75
 FHWA



SKewed APPROACH
(PAVEMENT MORE THAN 2 LANES)



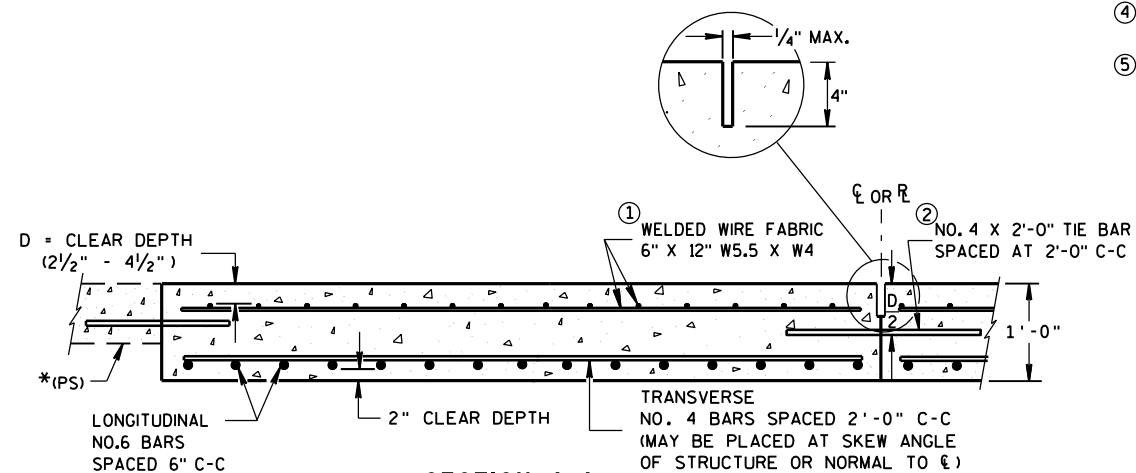
SKEWS > 30°
(PAVEMENT WIDTH ≤ 30')



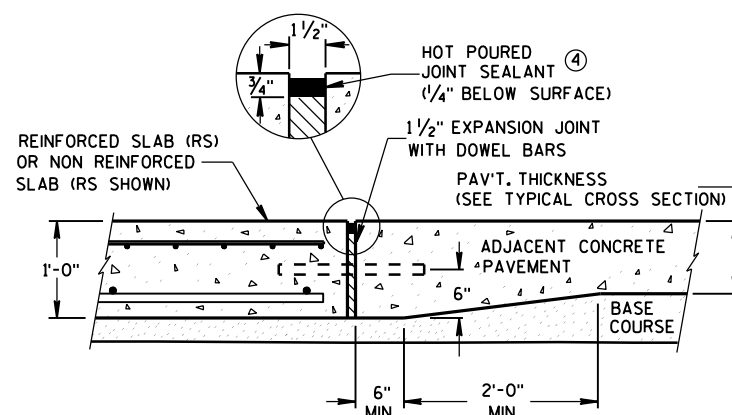
SKews ≤ 30°
(PAVEMENT WIDTH ≤ 30')
APPROACH SLAB AND ADJACENT PAVEMENT

- *(RS) = REINFORCED CONCRETE SLAB
 *(PS) = PAVED CONCRETE SHOULDER: CONCRETE PAVEMENT, OR CONCRETE SURFACE DRAIN
 (SEE DETAILS ELSEWHERE IN THE PLAN)
 *(NRS) = NON-REINFORCED CONCRETE SLAB
 **STANDARD TRANSVERSE JOINT SPACING
 (SEE SDD 13C4, SDD 13C11, & SDD 13C13)
 ***STANDARD DOWEL BAR DIAMETER
 (SEE SDD 13C11, & SDD 13C13)

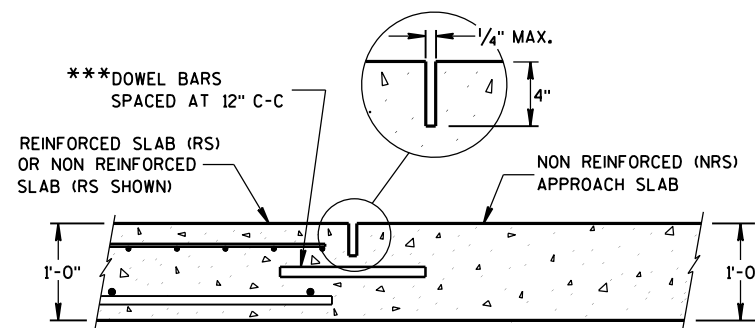
- (A) STANDARD CONTRACTION JOINT NORMAL TO R_L OR R_C
 (B) STANDARD LONGITUDINAL JOINT AND TIE BARS.
 (C) 1½" EXPANSION JOINT WITH DOWEL BARS NORMAL TO R_L OR R_C



SECTION A-A
REINFORCEMENT POSITIONING DETAIL



SECTION C-C
TRANSITION DETAIL
APPROACH SLAB TO ADJACENT PAVEMENT



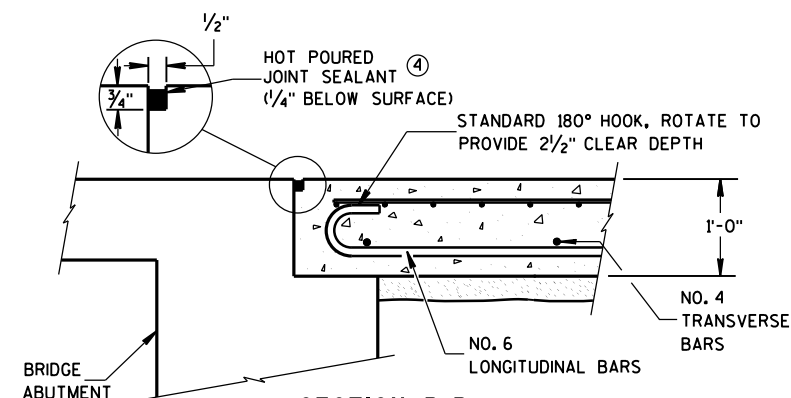
SECTION D-D
CONTRACTION JOINT

GENERAL NOTES

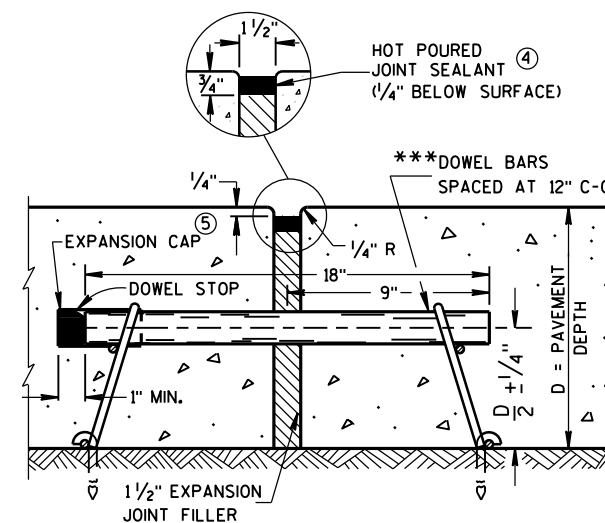
THE CONTRACTOR MAY SPLICE NO. 6 BARS IN THE APPROACH SLAB FOR SKEWED STRUCTURES ONLY. STAGGER SPLICES WITH A MAXIMUM OF ONE SPLICE PER BAR. THE LENGTH OF LAP IS 20 INCHES.

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 DOWEL A CONTRACTION JOINT THAT ABUTS 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



SECTION E-E
EXPANSION JOINT

CONCRETE BRIDGE
APPROACH

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

June, 2014

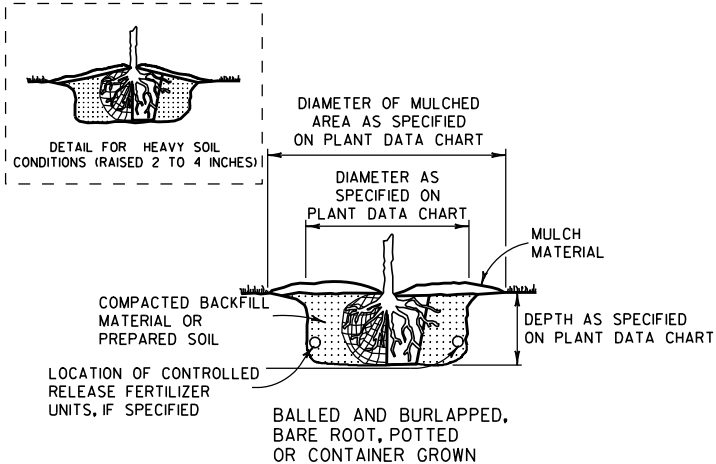
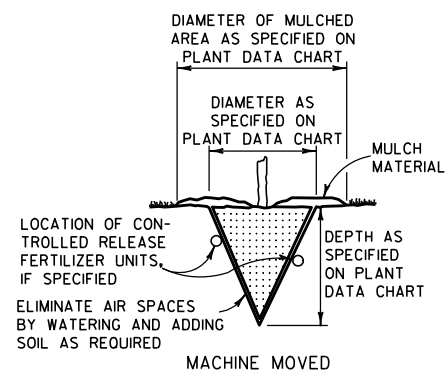
DATE

/S/ Deb Bischoff

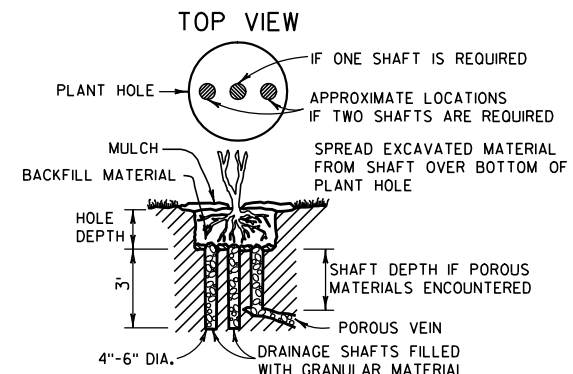
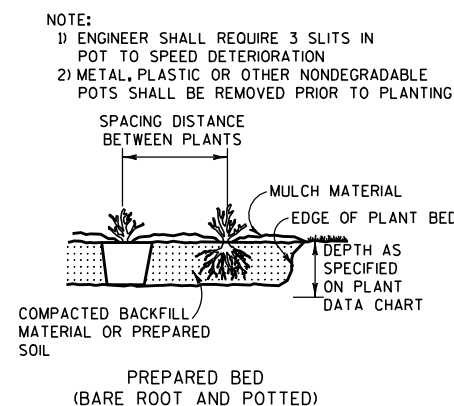
PAVEMENT POLICY & DE 76

EER

FHWA

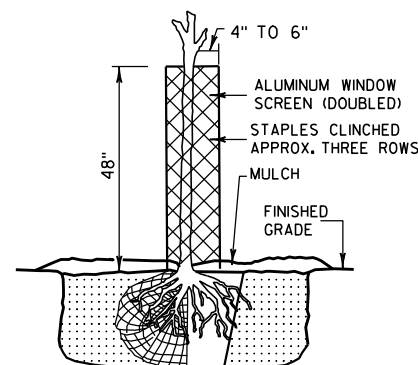
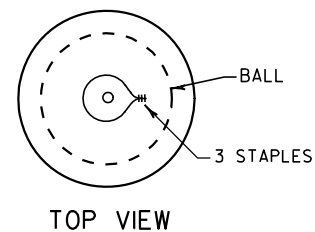
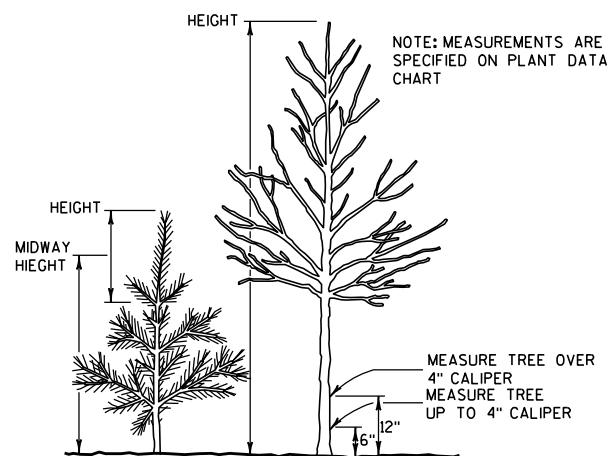


ACCOMMODATE ROOTS
(SMOOTH AND STAGHORN SUMAC)

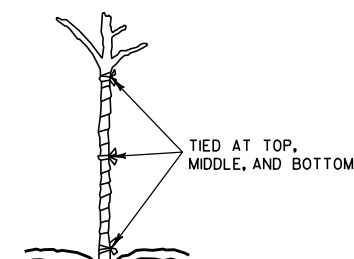


NOTE:
DRAINAGE SHAFT AS SPECIFIED ON
PLANT DATA CHART

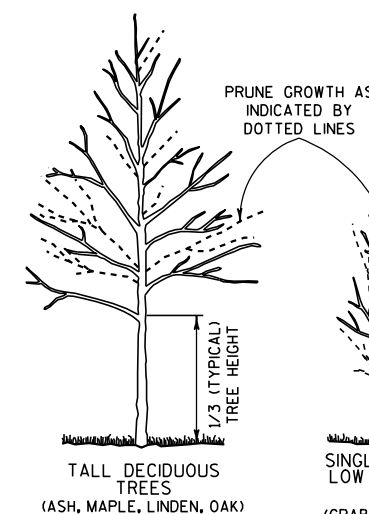
DRAINING



RODENT PROTECTION



WRAPPING



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

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

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

SHRUBS
(GRAY DOGWOOD
ARROWWOOD VIBURNUM)

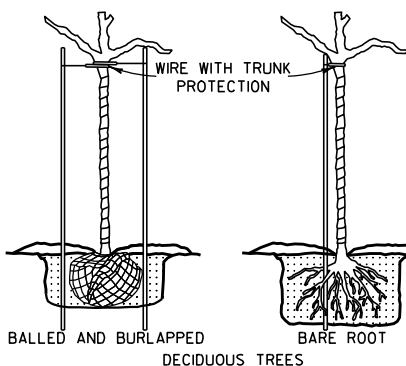
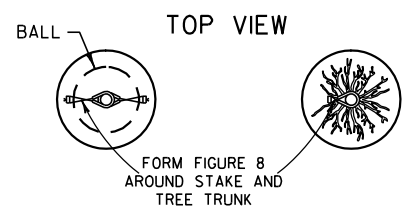
SUMAC

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

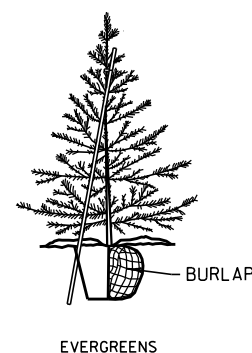
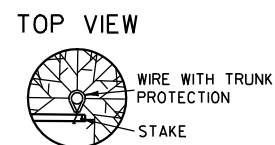
PRUNE LEAST
VIGOROUS OF
TWO LEADERS
BACK TO MAIN
TRUNK

REMOVE
BROKEN
BRANCHES

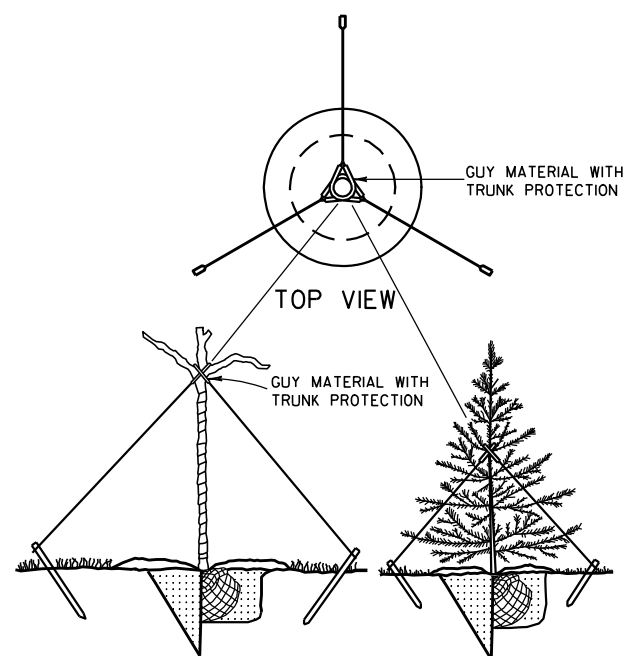
PRUNING



BRACING

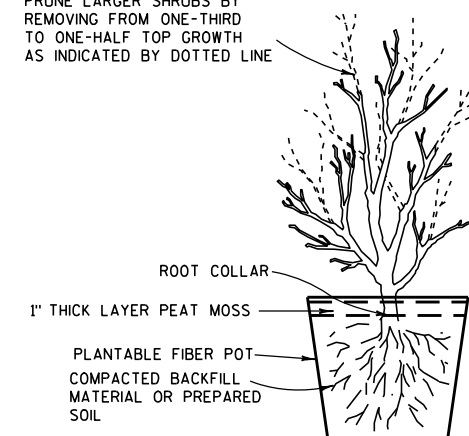


NOTE: BRACING STAKE
1) SHALL BE DRIVEN INTO THE GROUND
AS CLOSE TO THE TREE AS POSSIBLE
WITHOUT DAMAGING THE BRANCHES.
2) MAY BE DRIVEN AT SUCH AN ANGLE
THAT IT DOES NOT PENETRATE THE
BALL OR POT.
3) SHALL NOT PROTRUDE ABOVE THE TOP
OF THE TREE; AND
4) SHALL HAVE A HOLE NEAR THE TOP
TO HOLD THE WIRE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



GUYING

PRUNE LARGER SHRUBS BY
REMOVING FROM ONE-THIRD
TO ONE-HALF TOP GROWTH
AS INDICATED BY DOTTED LINE



POTTING

NOTES

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

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

TREE PLANTING DETAIL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

4/11/94

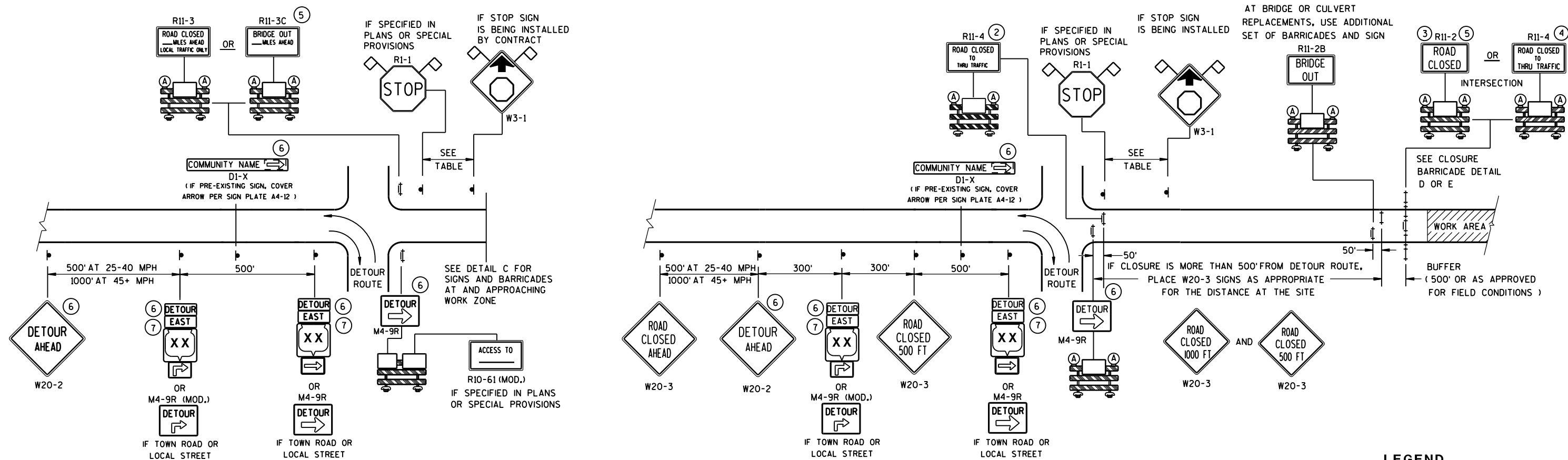
DATE

/S/ Rory L. Rhinehart

CHIEF METHODS DEVELOPER

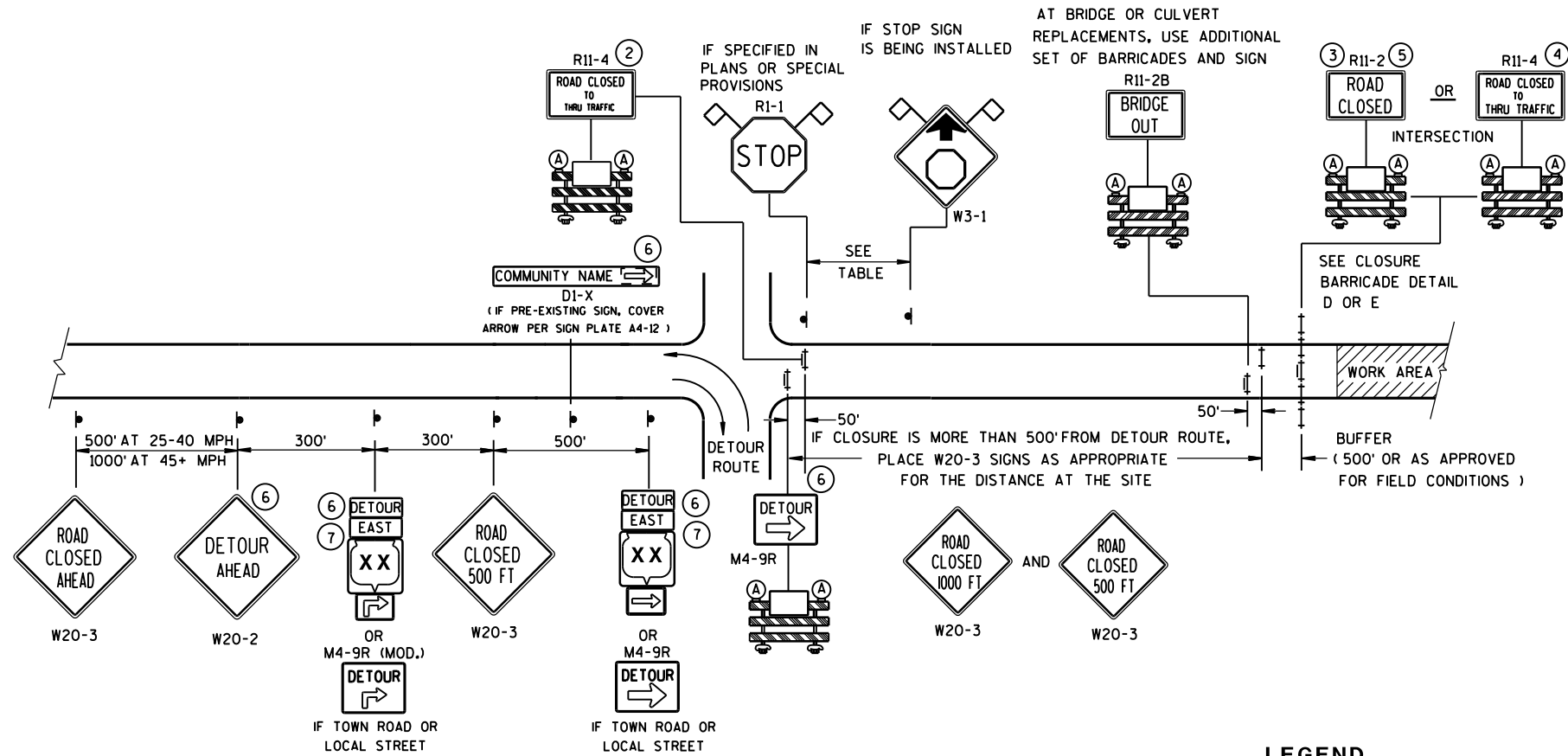
FHWA

SINER



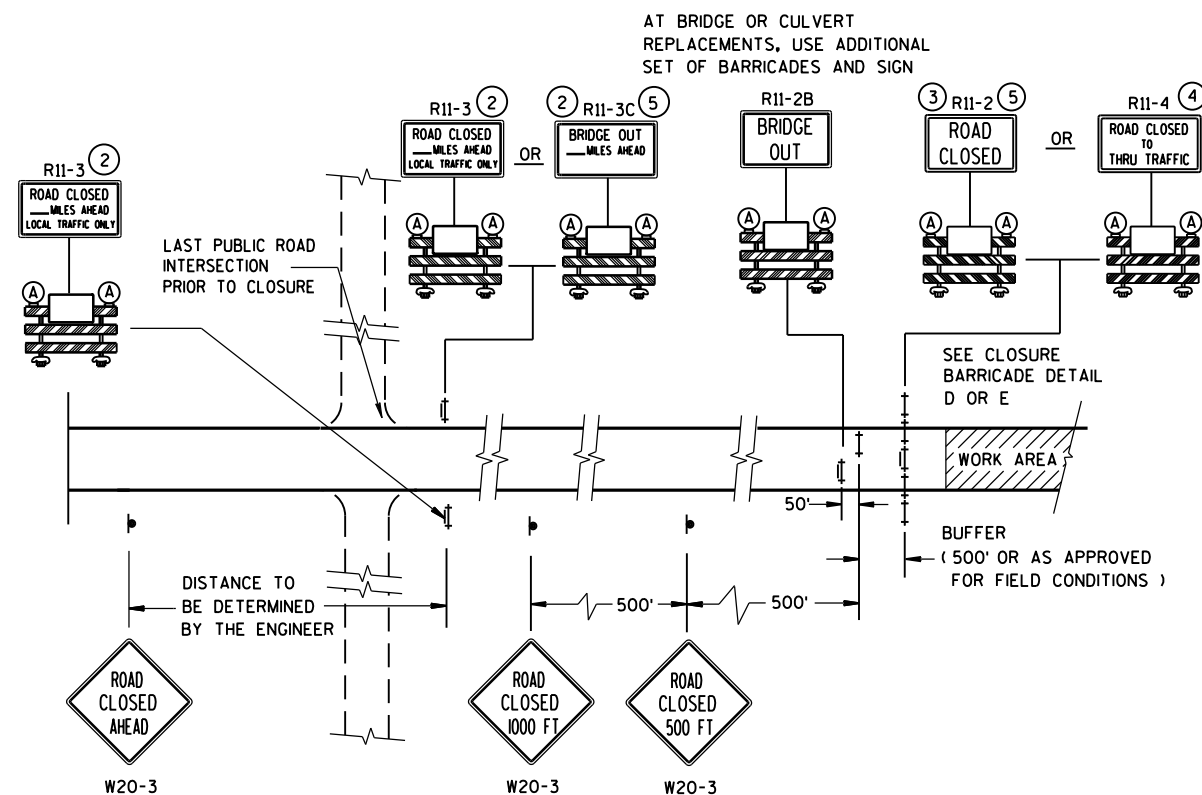
DETAIL A
MAINLINE CLOSURE WITH POSTED DETOUR

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)



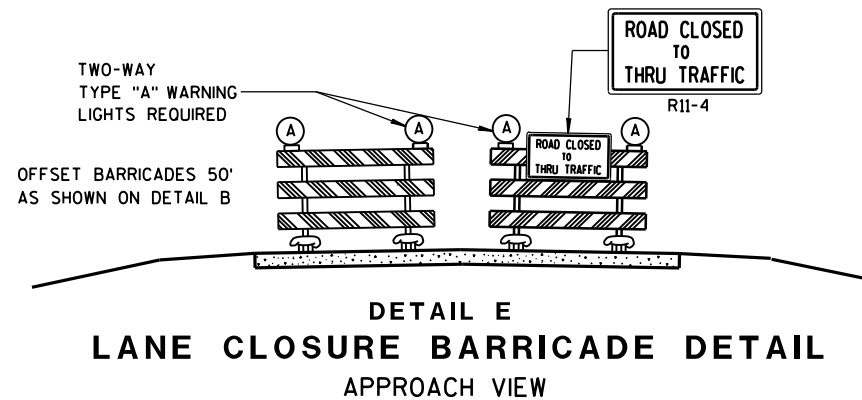
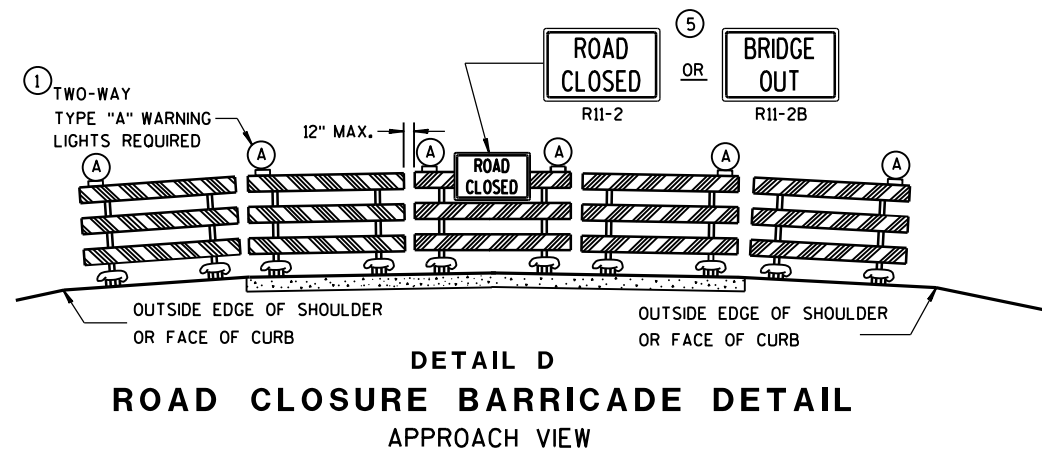
DETAIL C
MAINLINE CLOSURE, NO POSTED DETOUR

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

- ## LEGEND
- | | |
|---|---------------------------------------|
|  | SIGN ON PERMANENT SUPPORT |
|  | TYPE III BARRICADE |
|  | TYPE III BARRICADE WITH ATTACHED SIGN |
|  | TYPE "A" WARNING LIGHT (FLASHING) |
|  | WORK AREA |
|  | M4-8 |
|  | M3-X |
|  | M1-4 |
| OR | |
|  | M1-5A |
| OR | |
|  | M1-6 |
|  | M05-1 |
| OR | |
|  | M06-1 |
|  | FLAGS, 16" X 16" MIN., (ORANGE) |

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	
<u>8/2013</u> DATE	<u>/S/ Travis Feltes</u> STATE TRAFFIC ENGINE <u>78</u> ESIGN
FHWA	



SEE SDD 15C2-SHEET "a" FOR LEGEND

GENERAL NOTES

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

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

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

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

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

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

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

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

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

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

R11-2 SHALL BE 48" X 30".

R11-3, R11-4 AND R10-61 SHALL BE 60" X 30".

M4-9 SHALL BE 30" X 24".

M3-X SHALL BE 24" X 12". (36" X 18" IF NEEDED TO MATCH EXISTING SIGNS.)

M4-8 SHALL BE 24" X 12". (30" X 15" IF NEEDED TO MATCH EXISTING SIGNS.)

M1-4, M1-5A, AND M1-6 SHALL BE 24" X 24". (36" X 36" IF NEEDED TO MATCH EXISTING SIGNS.)

M05-1 AND M06-1 SHALL BE 21" X 21". (30" X 30" IF NEEDED TO MATCH EXISTING SIGNS.)

D1-X SHALL BE AS SHOWN ON SPECIFIC PROJECT SIGNING DETAIL SHEETS.

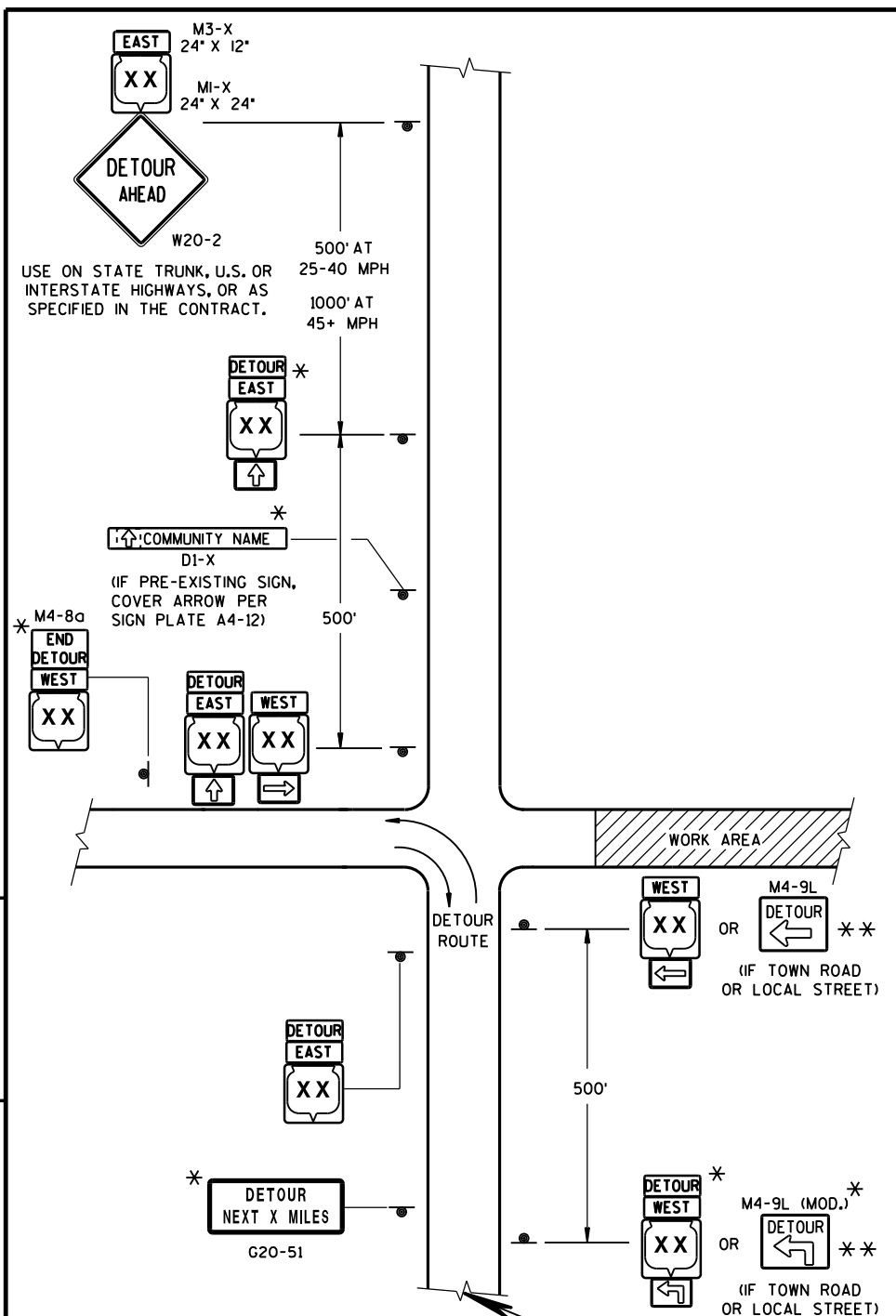
R1-1 SHALL BE 36" X 36".

- ① TWO WARNING LIGHTS SHALL BE PROVIDED ON THE CENTER BARRICADE AND A MINIMUM OF ONE WARNING LIGHT SHALL BE PROVIDED ON EACH OF THE OTHER BARRICADES WITHIN THE ROADWAY LIMITS. SPACING OF THE WARNING LIGHTS SHALL BE UNIFORM TO THE EDGE OF ROADWAY AS SHOWN (APPROX. 8-FOOT LIGHT SPACING).
- ② THESE SIGNS AND BARRICADES ARE NOT REQUIRED IF ROAD CLOSURE BEGINS AT INTERSECTION.
- ③ FOR ROAD CLOSURE WITHOUT LOCAL ACCESS TO PROJECT, SEE ROAD CLOSURE BARRICADE DETAIL D.
- ④ FOR ROAD CLOSURE WITH LOCAL ACCESS TO PROJECT, SEE LANE CLOSURE BARRICADE DETAIL E.
- ⑤ FOR BRIDGE OR CULVERT REPLACEMENTS, SUBSTITUTE "BRIDGE OUT" INSTEAD OF "ROAD CLOSED" ON R11-2 AND R11-3 SIGNS.
- ⑥ INSTALL DETOUR AND COMMUNITY GUIDE SIGNS AND ARROWS ONLY IF SPECIFIED IN THE CONTRACT. IF THERE ARE EXISTING ROUTE MARKER ASSEMBLIES THAT WILL REMAIN IN PLACE, ADJUST THE LOCATION OF THE DETOUR ROUTE SIGNS TO CORRESPOND WITH THE EXISTING ASSEMBLIES. MODIFY EXISTING SIGNS WHERE POSSIBLE. SEE SPECIFIC PROJECT DETOUR SIGNING DETAIL SHEETS. IF DETOUR SIGNS ARE BEING INSTALLED BY OTHERS, PLACE THE CONTRACTED TRAFFIC CONTROL SIGNS TO ALLOW FOR PLACEMENT OF ALL WARNING, DETOUR AND GUIDE SIGNS AS SHOWN.
- ⑦ "EAST" CARDINAL DIRECTION MARKERS AND RIGHT TURN ARROWS ARE SHOWN. USE OTHER CARDINAL DIRECTIONS AND ARROWS AS APPROPRIATE.

BARRICADES AND SIGNS FOR MAINLINE CLOSURES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

8/2013 /S/ Travis Feltes
DATE STATE TRAFFIC ENGINE 79 ESIGN
FHWA



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.

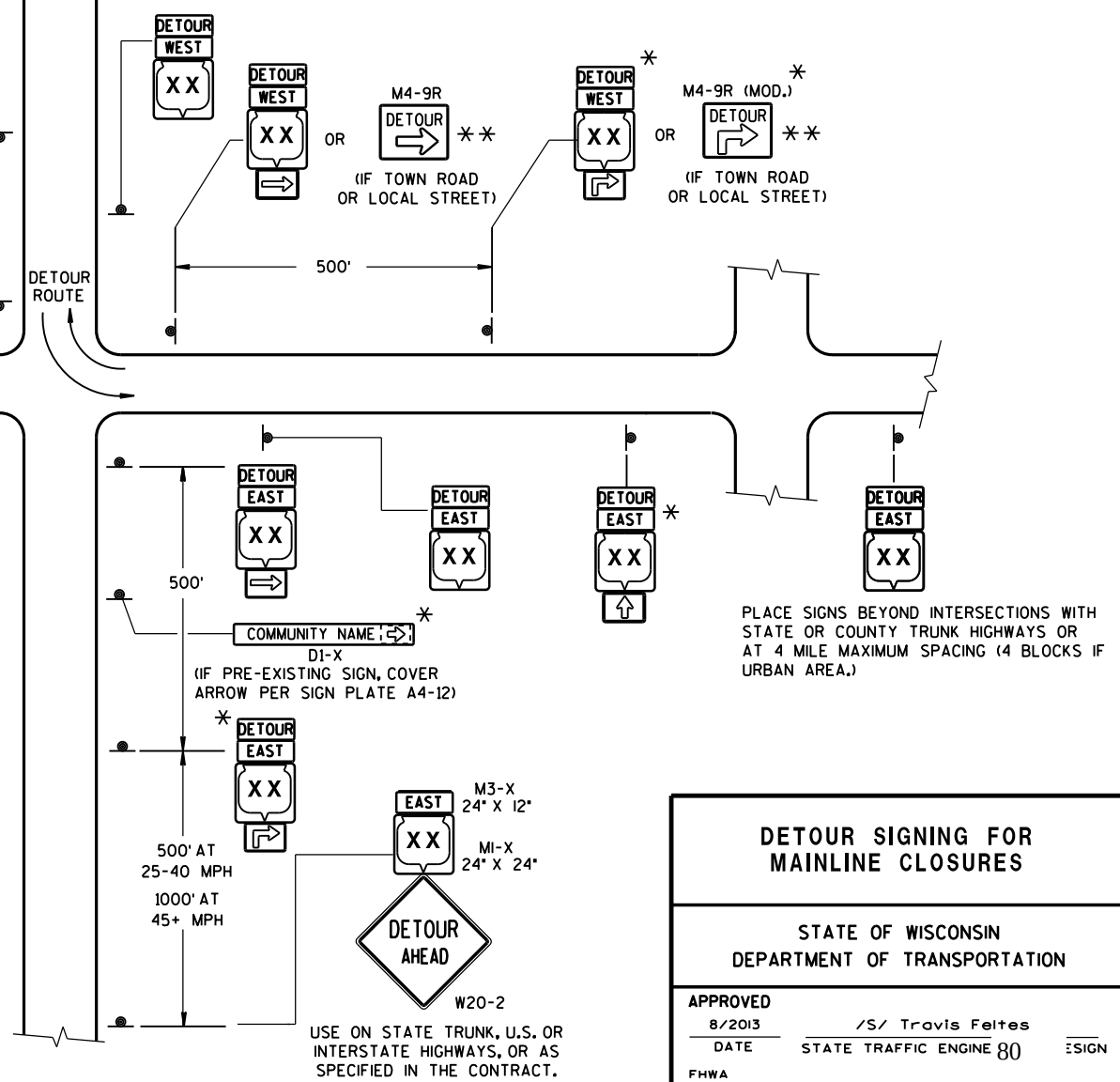
"MO" SIGNS ARE THE SAME AS "M" SIGNS EXCEPT THE BACKGROUND IS ORANGE.

SIGN SIZES SHALL BE AS FOLLOWS:

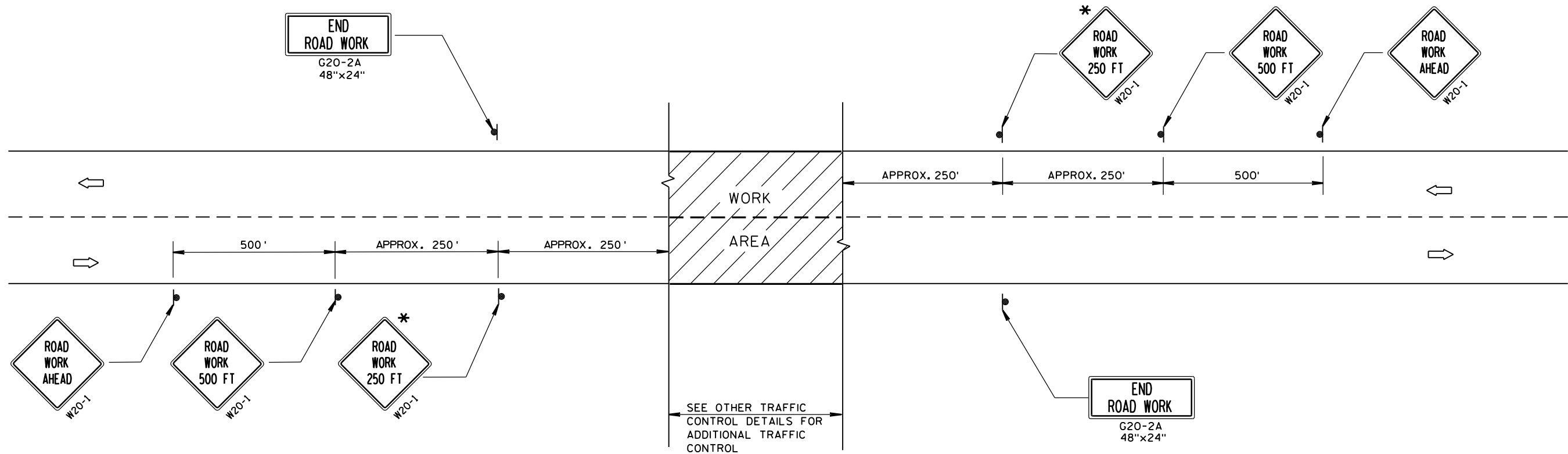
- M3-X SHALL BE 24" X 12". (36" X 18" IF NEEDED TO MATCH EXISTING SIGNS.)
- M4-8 SHALL BE 24" X 12". (30" X 15" IF NEEDED TO MATCH EXISTING SIGNS.)
- M1-4, M1-5A, AND M1-6 SHALL BE 24" X 24". (36" X 36" IF NEEDED TO MATCH EXISTING SIGNS.)
- M05-1 AND M06-1 SHALL BE 21" X 21". (30" X 30" IF NEEDED TO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

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

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



DETOUR SIGNING FOR MAINLINE CLOSURES	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED 8/2013 DATE	/S/ Travis Feltes STATE TRAFFIC ENGINE 80 SIGN
FHWA	



TYPICAL SIDEROAD APPROACH WARNING SIGN DETAIL

GENERAL NOTES

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

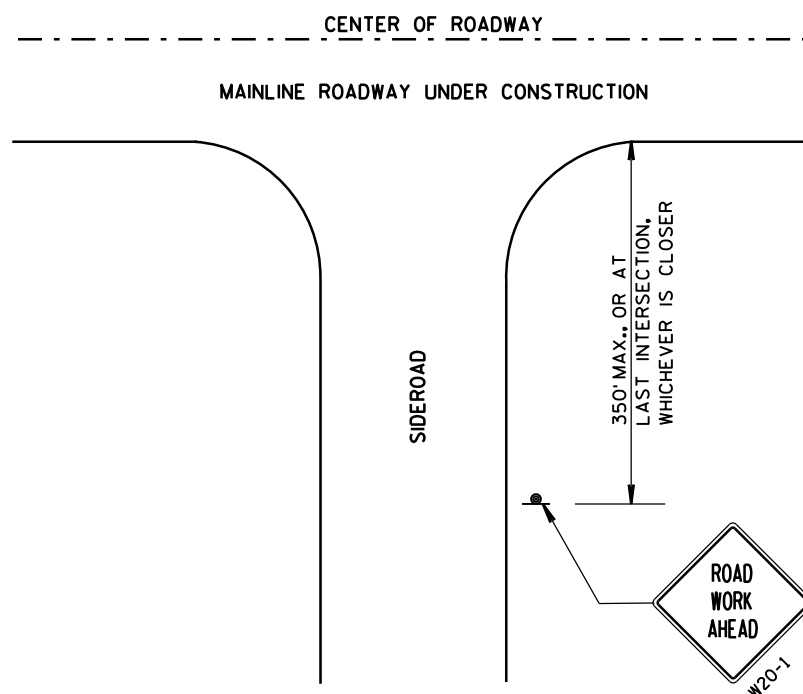
THE SPACING BETWEEN TRAFFIC CONTROL SIGNS SHOULD BE ADJUSTED TO NOT CONFLICT WITH AND SHOULD PROVIDE A DESIRABLE MINIMUM OF 200 FEET CLEARANCE TO EXISTING SIGNS THAT WILL REMAIN IN PLACE.

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

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

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

* THE THIRD W20-1 SIGN IS REQUIRED ONLY IF THERE IS AN INTERSECTION BETWEEN THE "ROAD WORK 500 FT" SIGN AND THE WORK ZONE. ADJUST THE PLACEMENT OF THIS SIGN BASED ON INTERSECTION LOCATION AND OTHER FIELD CONDITIONS.



LEGEND

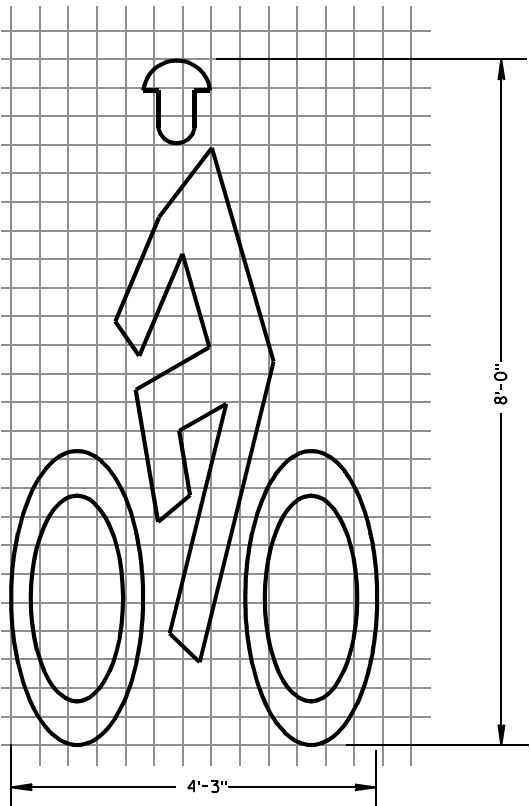
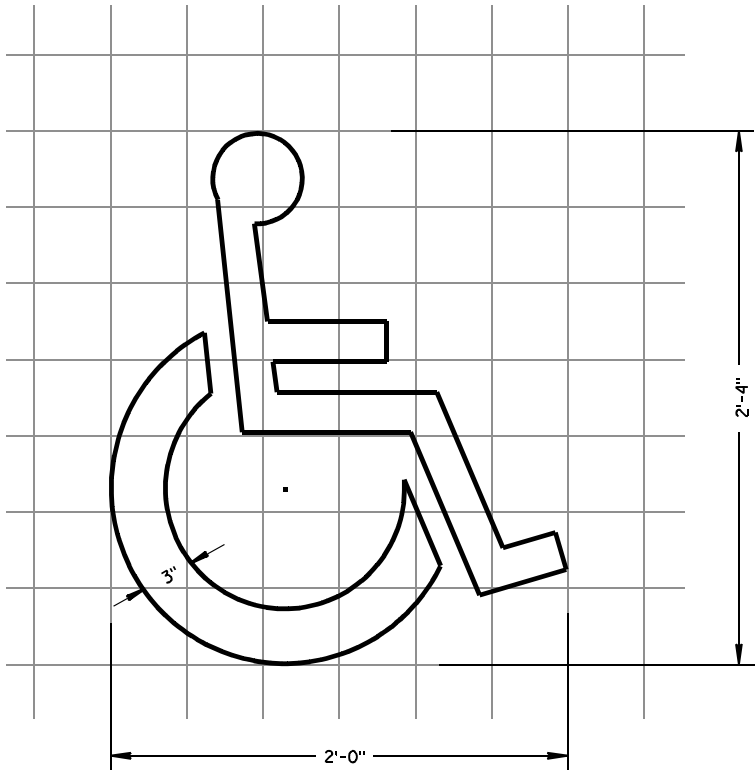
- SIGN ON PERMANENT SUPPORT
- DIRECTION OF TRAFFIC
- WORK AREA

TRAFFIC CONTROL, ADVANCE
WARNING SIGNS 40 M.P.H.
OR LESS TWO-WAY UNDIVIDED
ROAD OPEN TO TRAFFIC

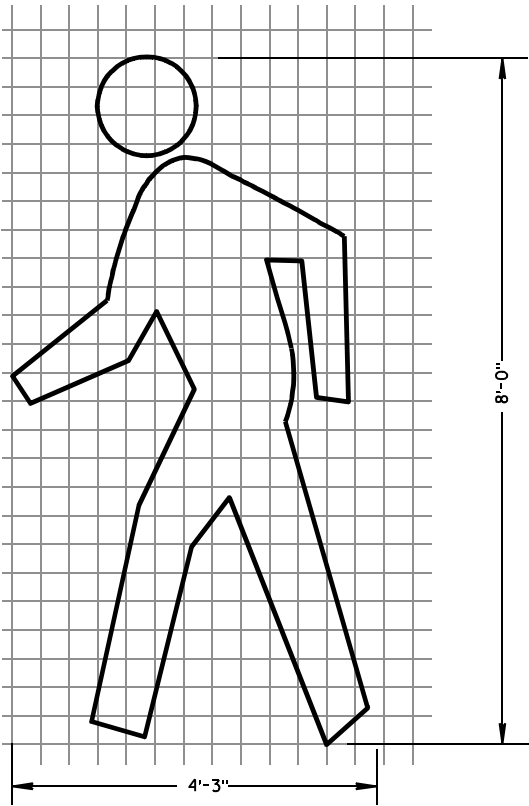
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

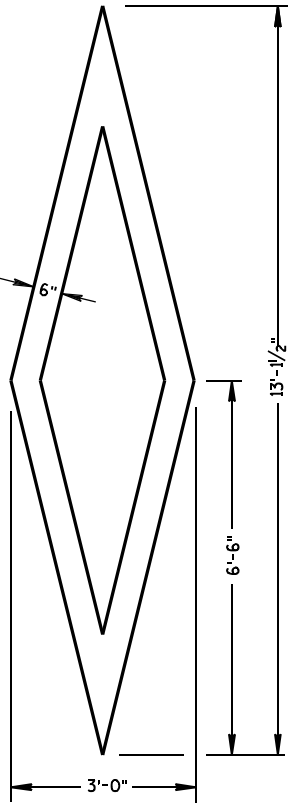
8/2013 /S/ Travis Feltes
DATE STATE TRAFFIC ENGINEER SIGN
FHWA



BIKE CROSSING SYMBOL



PEDESTRIAN 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.

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

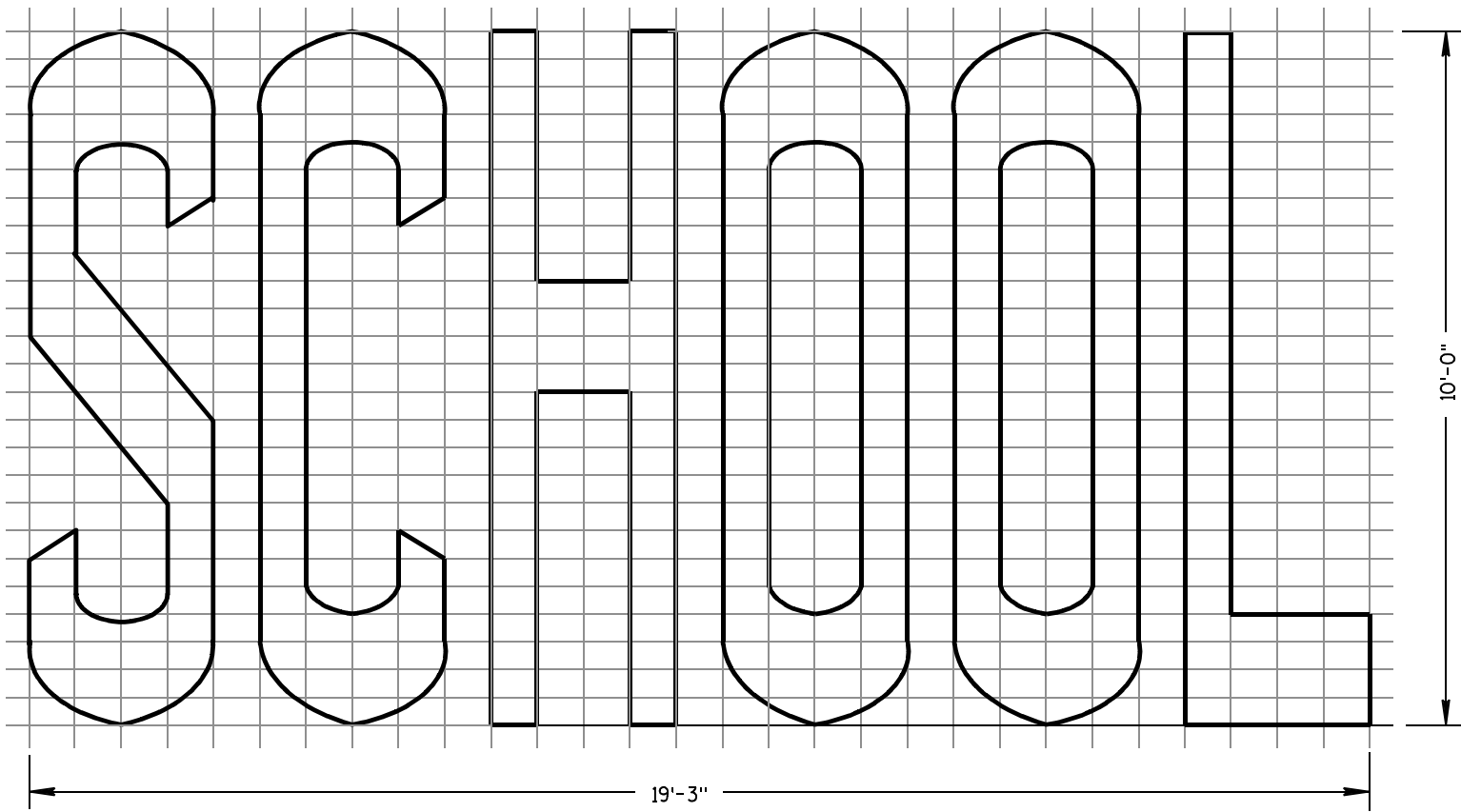
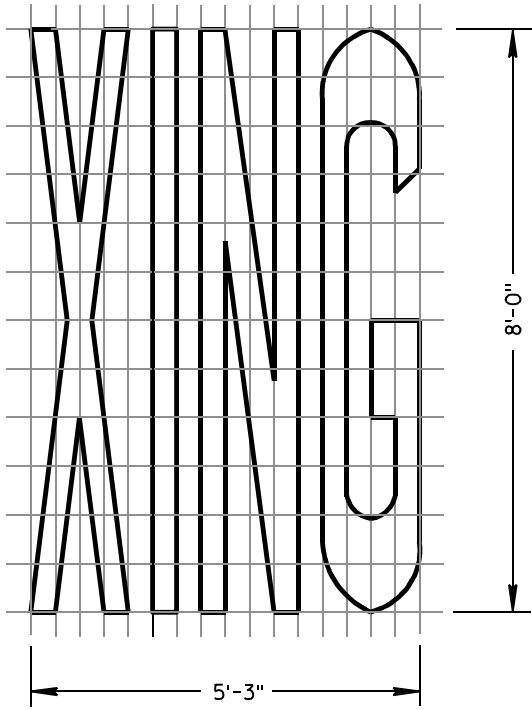
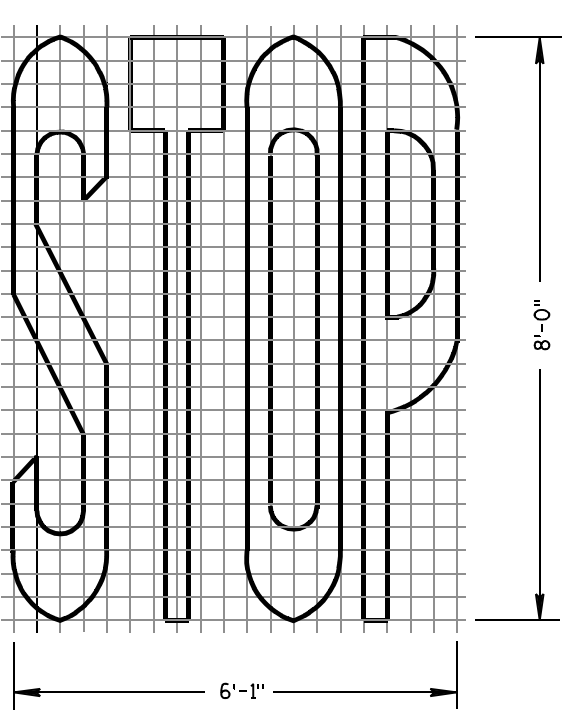
A DETAILED DRAWING OF THE HANDICAPPED PARKING SYMBOL IS ILLUSTRATED IN THE "STANDARD HIGHWAY SIGNS MANUAL" BY THE FEDERAL HIGHWAY ADMINISTRATION.

PAVEMENT MARKING SYMBOLS	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED 7/1/11 DATE	/S/ Thomas N. Nathan STATE TRAFFIC ENGINEER 82 IGN
FHWA	

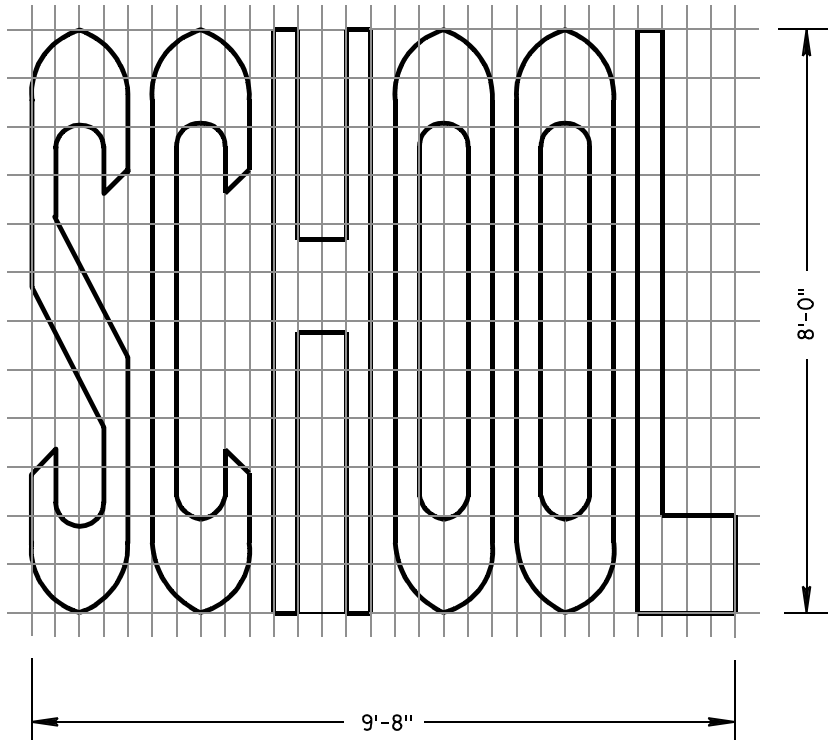
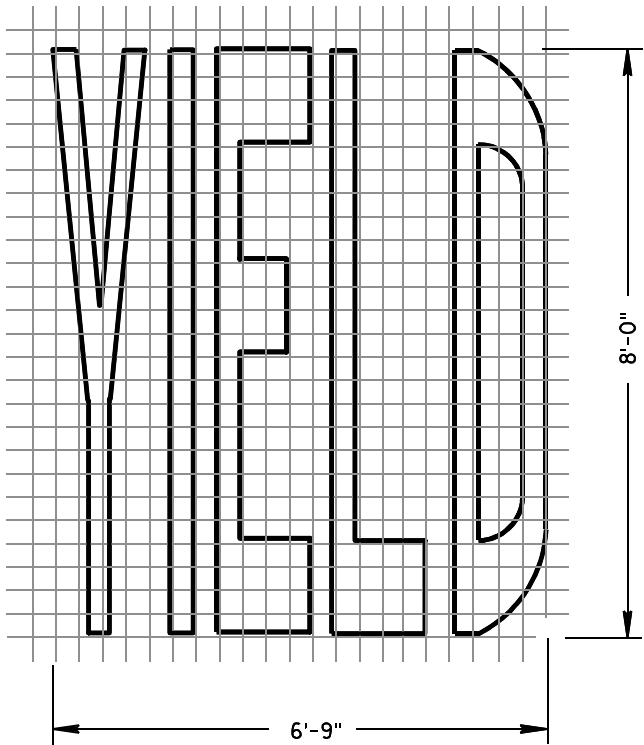
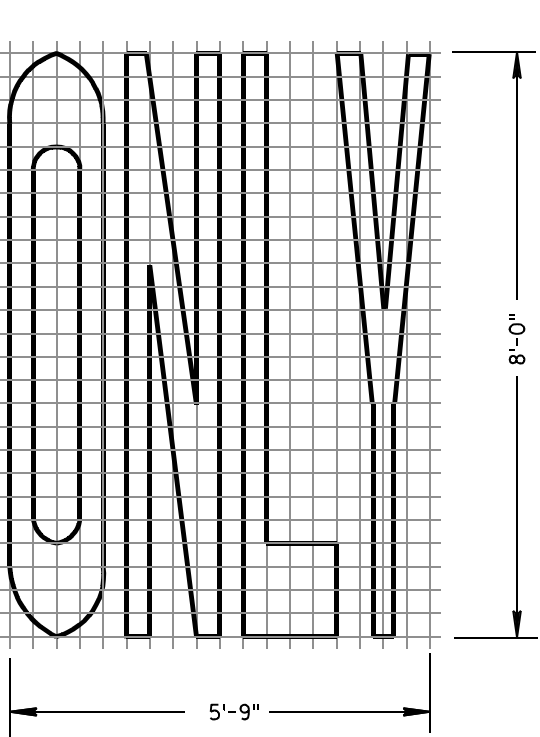
GENERAL NOTES

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.

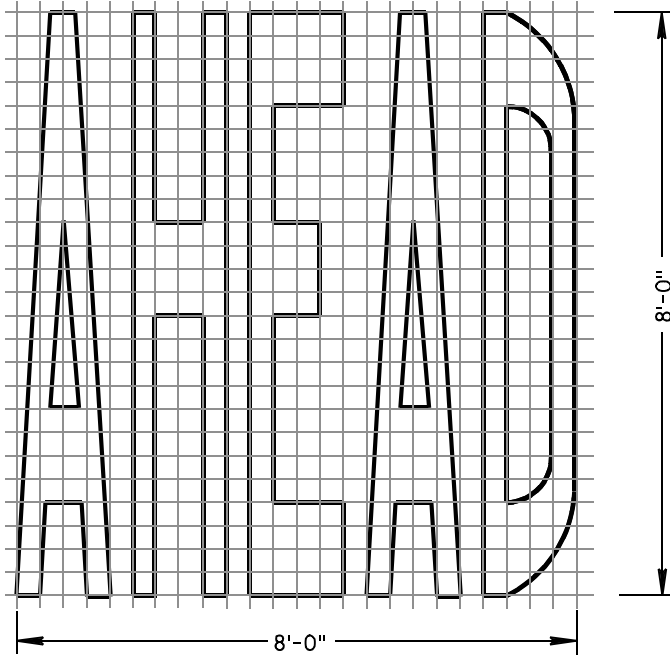
ALL LETTERS, ARROWS AND SYMBOLS SHALL BE IN CONFORMANCE WITH REQUIREMENTS INCLUDED IN "STANDARD ALPHABETS FOR HIGHWAY SIGNS AND PAVEMENT MARKING" BOOK BY THE FEDERAL HIGHWAY ADMINISTRATION. ALL LETTERS, ARROWS AND SYMBOLS SHALL BE WHITE AND REFLECTORIZED. SMALL DIFFERENCES IN DIMENSIONS WITHIN THE TOLERANCES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



TWO-LANE



SINGLE-LANE



PAVEMENT MARKING WORDS

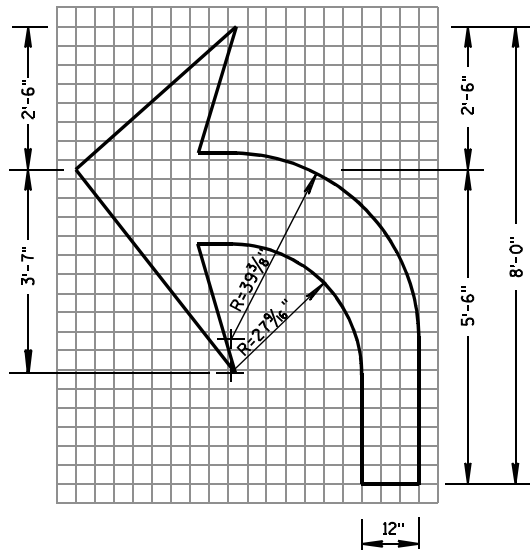
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

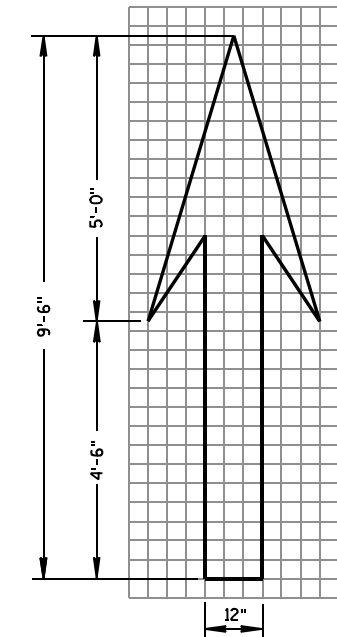
7-1-11
DATE

/S/ Thomas N. Nothmann
STATE TRAFFIC ENGINEER 83 IGN

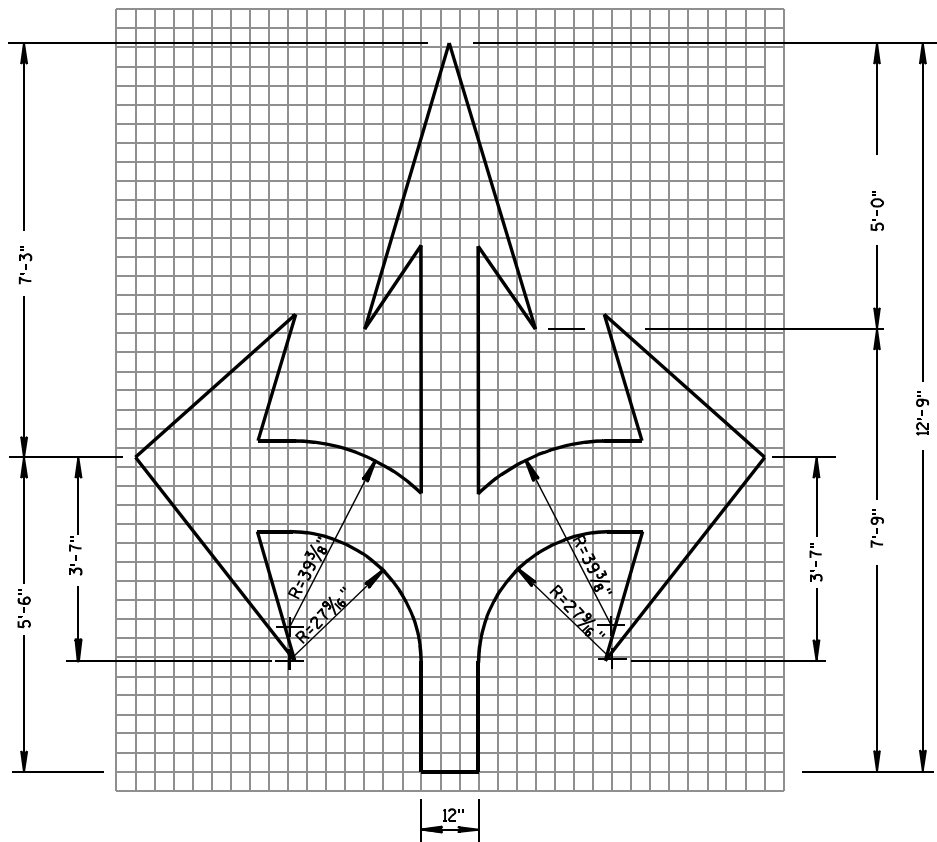
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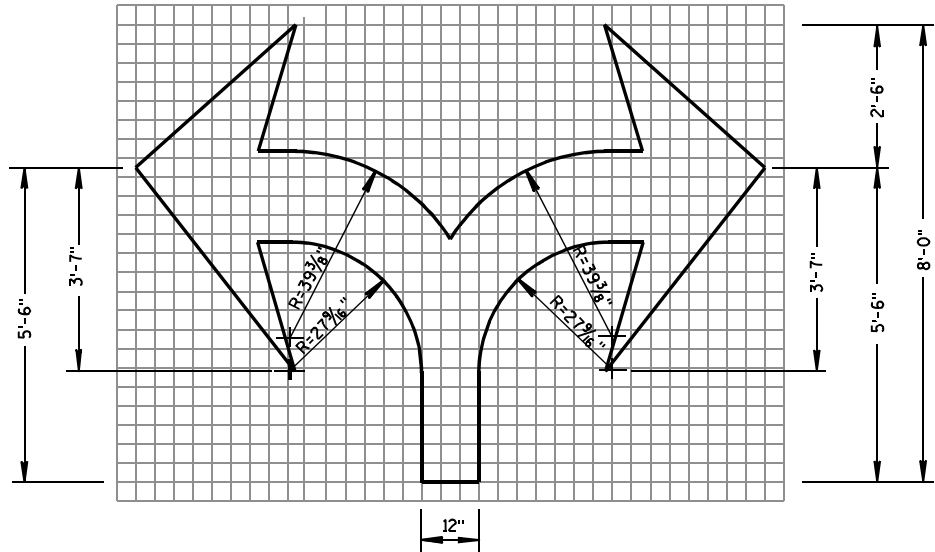
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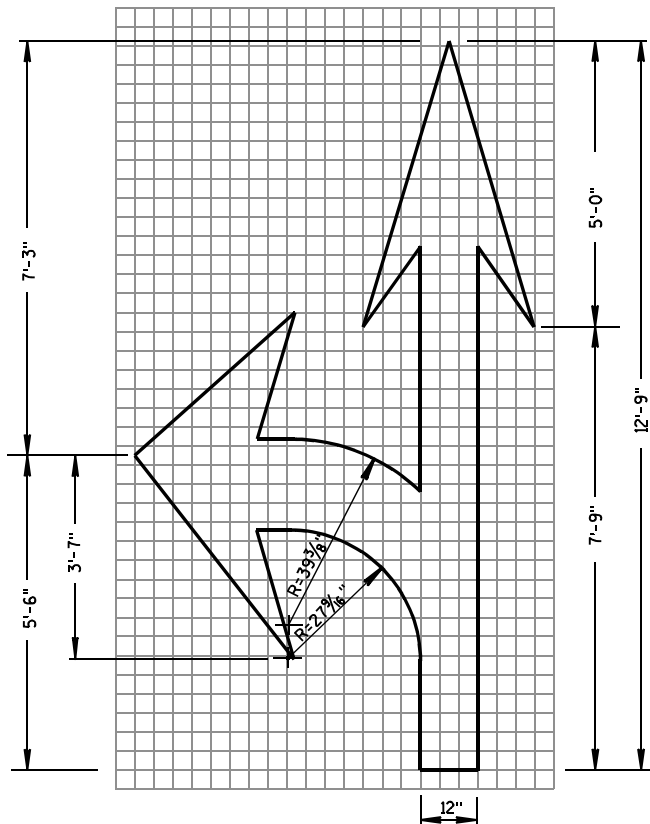
TYPE 1



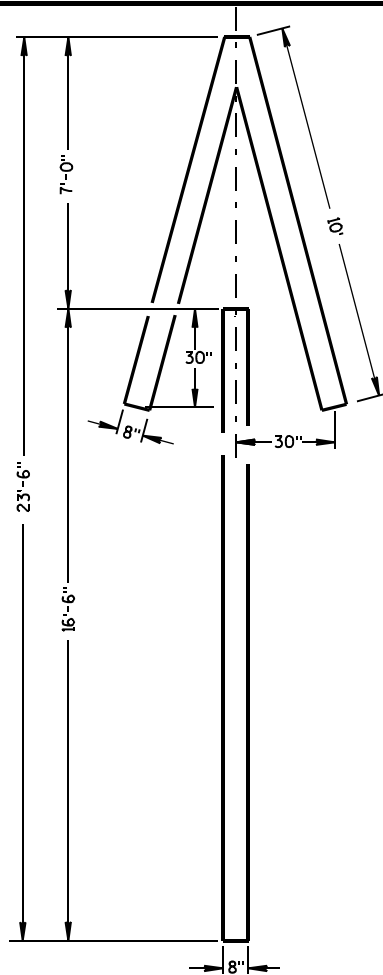
TYPE 6



TYPE 7



TYPE 3

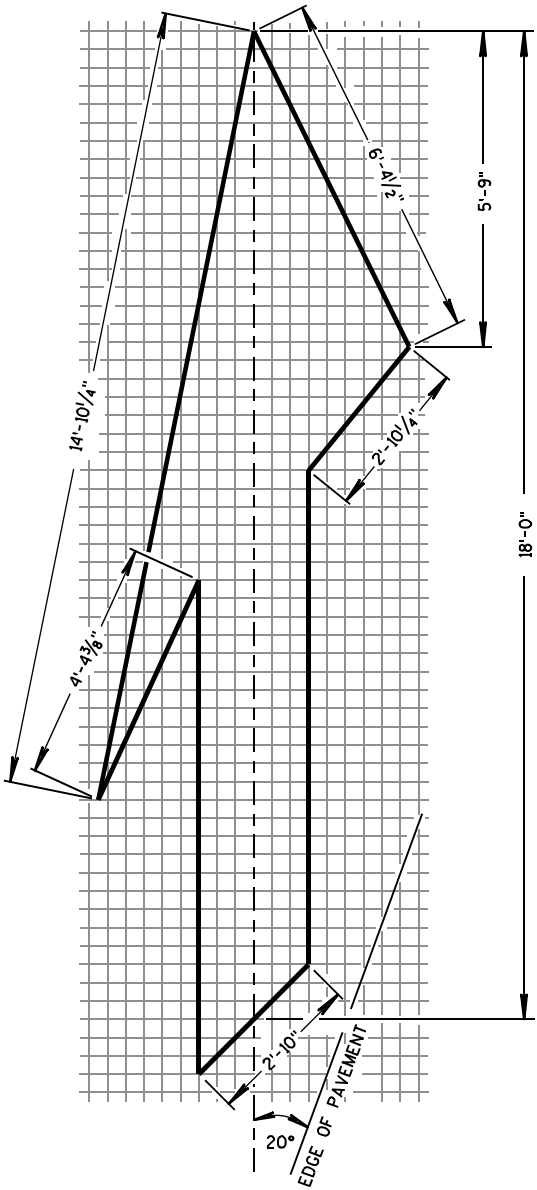


TYPE 4

GENERAL NOTES

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

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

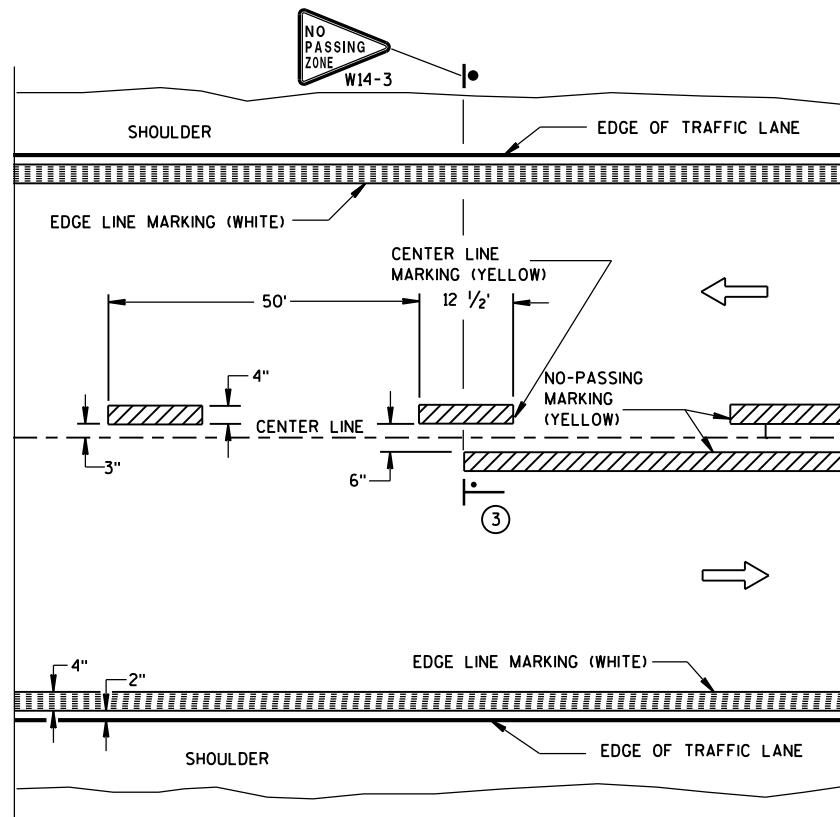


TYPE 5 LANE DROP ARROW

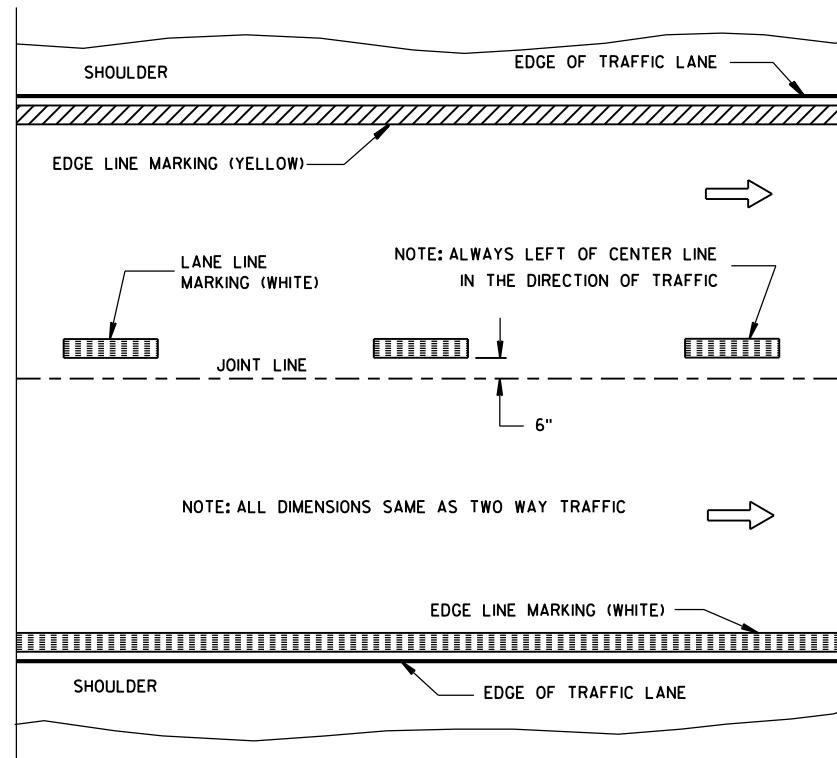
PAVEMENT MARKING ARROWS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
DATE 7/1/11
/S/ Thomas N. Nathahn
STATE TRAFFIC ENGINE 84
SIGN
FHWA

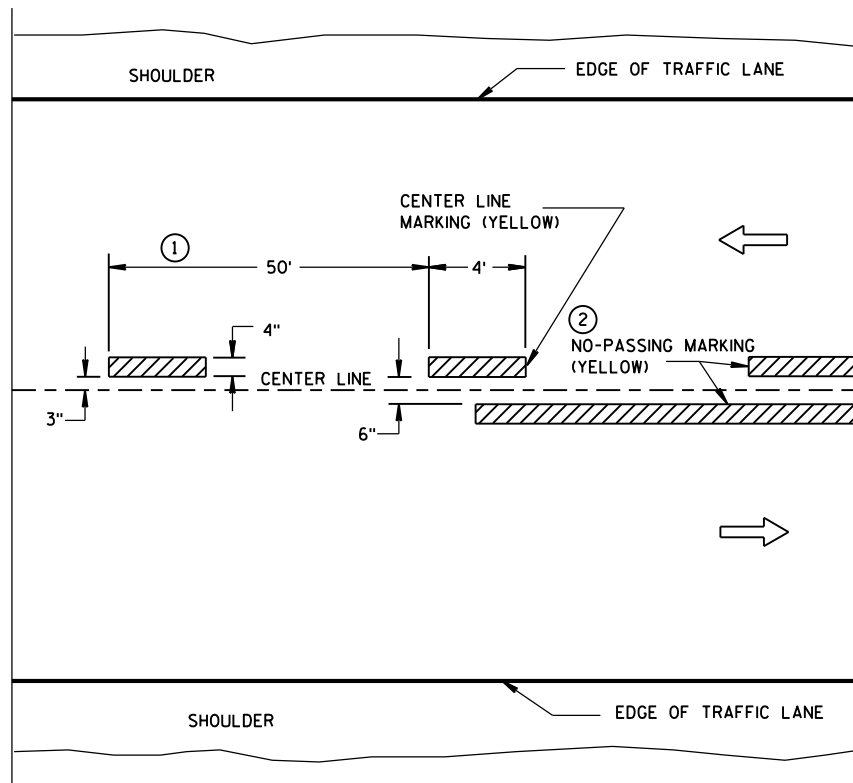


TWO WAY TRAFFIC

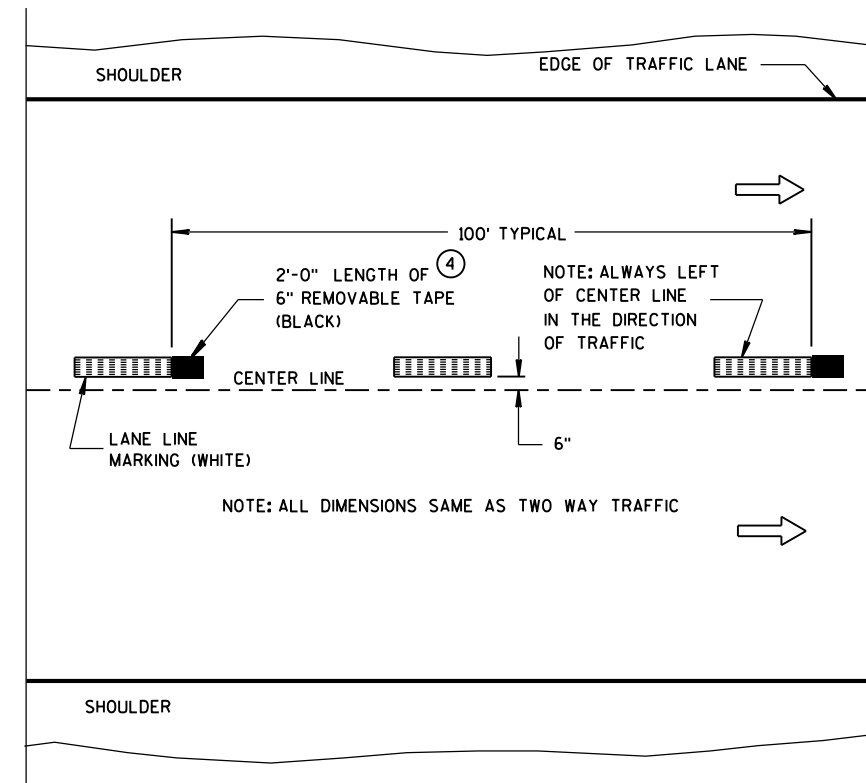


ONE WAY TRAFFIC

PERMANENT PAVEMENT MARKING



TWO WAY TRAFFIC



ONE WAY TRAFFIC

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

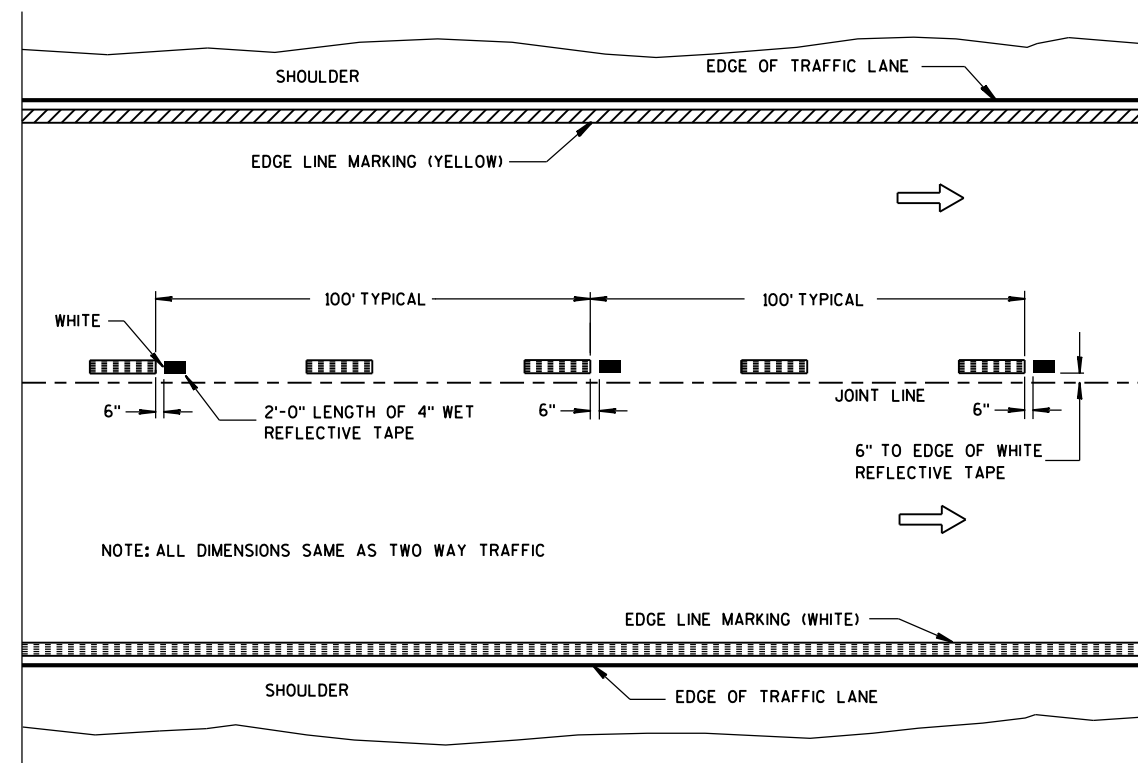
GENERAL NOTES

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

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

NOTE

ARROW SYMBOL (→) SHOWS DIRECTION OF TRAVEL



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

LEGEND

- "T" MARKING
- POST MOUNTED SIGN

PAVEMENT MARKING
(MAINLINE)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

5-13-2013

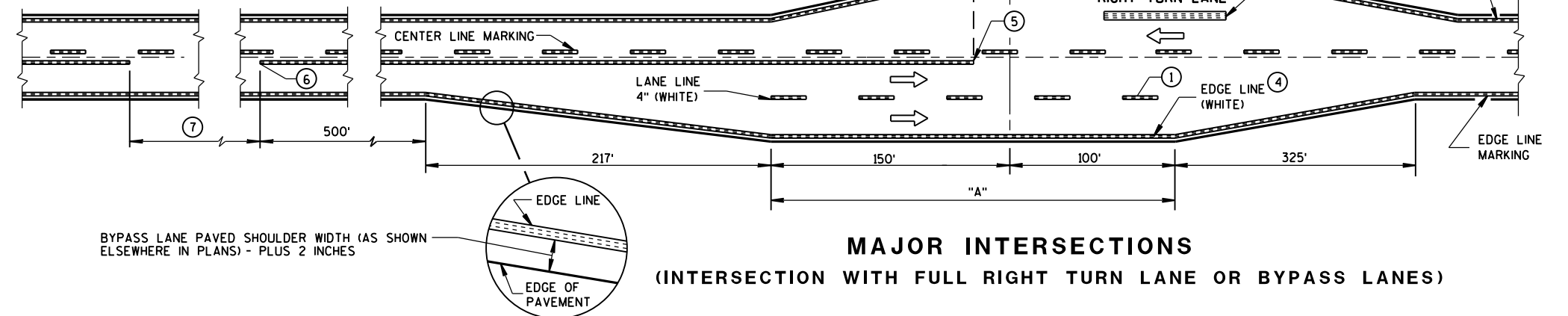
DATE

FHWA

/S/ Travis Feltes
STATE TRAFFIC E 85

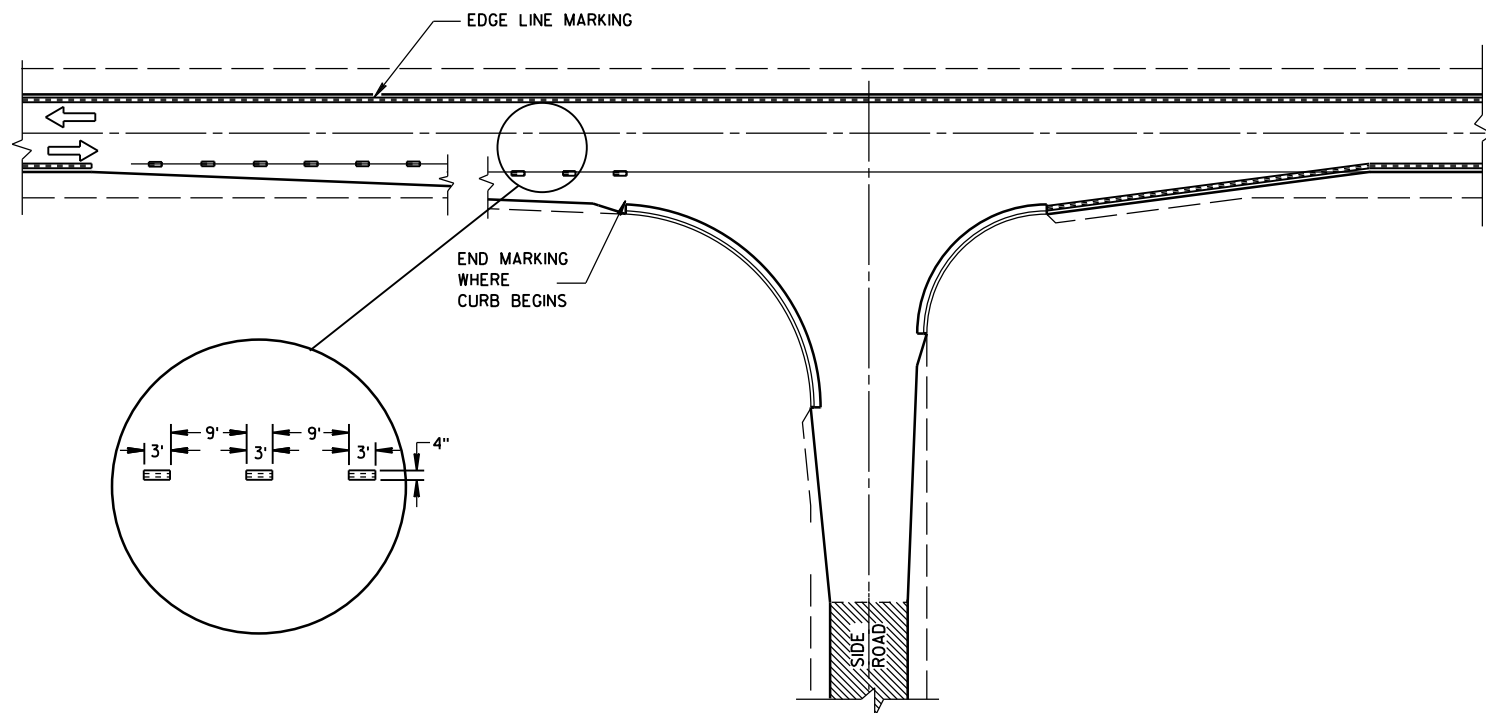


7	
POSTED SPEED (MPH)	MINIMUM DISTANCE BETWEEN ZONES (FEET)
25 - 30	528
35 - 40	528
45 - 50	686
55	792

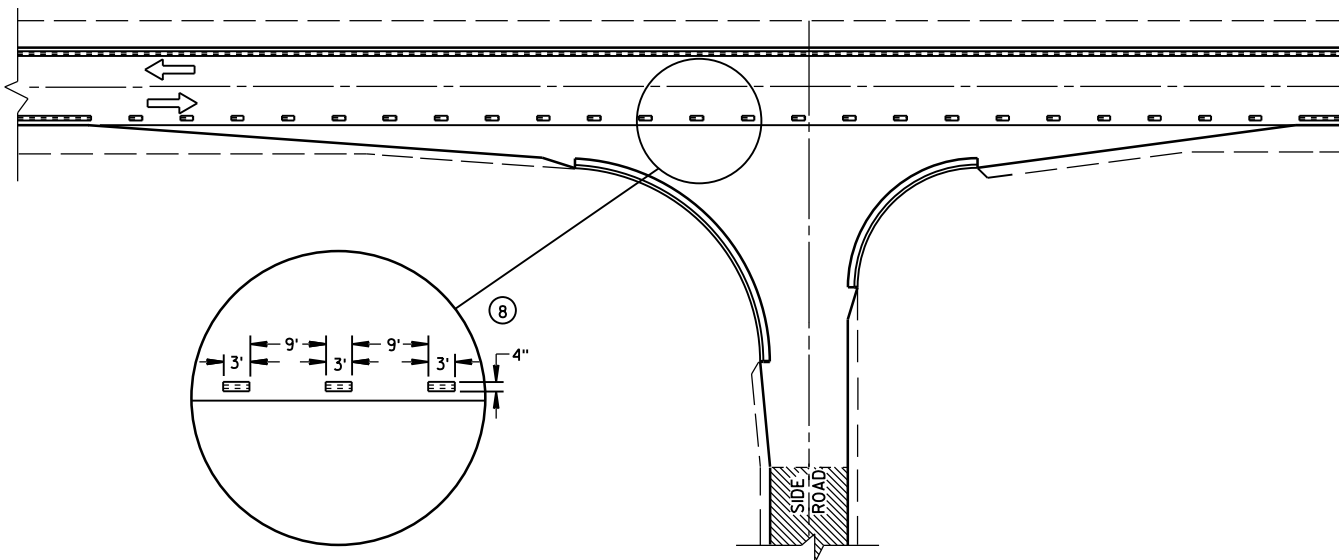


MAJOR INTERSECTIONS

(INTERSECTION WITH FULL RIGHT TURN LANE OR BYPASS LANES)



MINOR INTERSECTION WITH CURBS (TYPICAL MARKING)



MINOR INTERSECTION WITH CURBS

⁽³⁾ (FOR SPECIAL CONDITIONS AS SPECIFIED)

PAVEMENT MARKING (INTERSECTIONS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

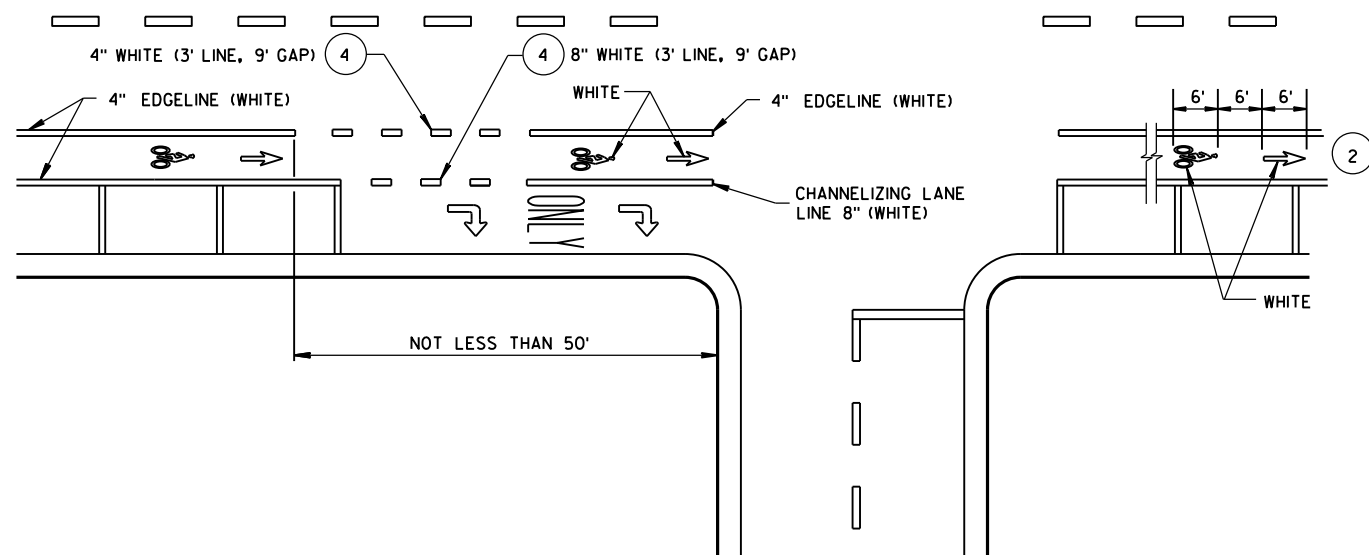
GENERAL NOTES

EDGE LINES SHALL BE OMITTED THROUGH INTERSECTIONS. EDGE LINES SHALL BE CONTINUED THROUGH DRIVEWAYS.

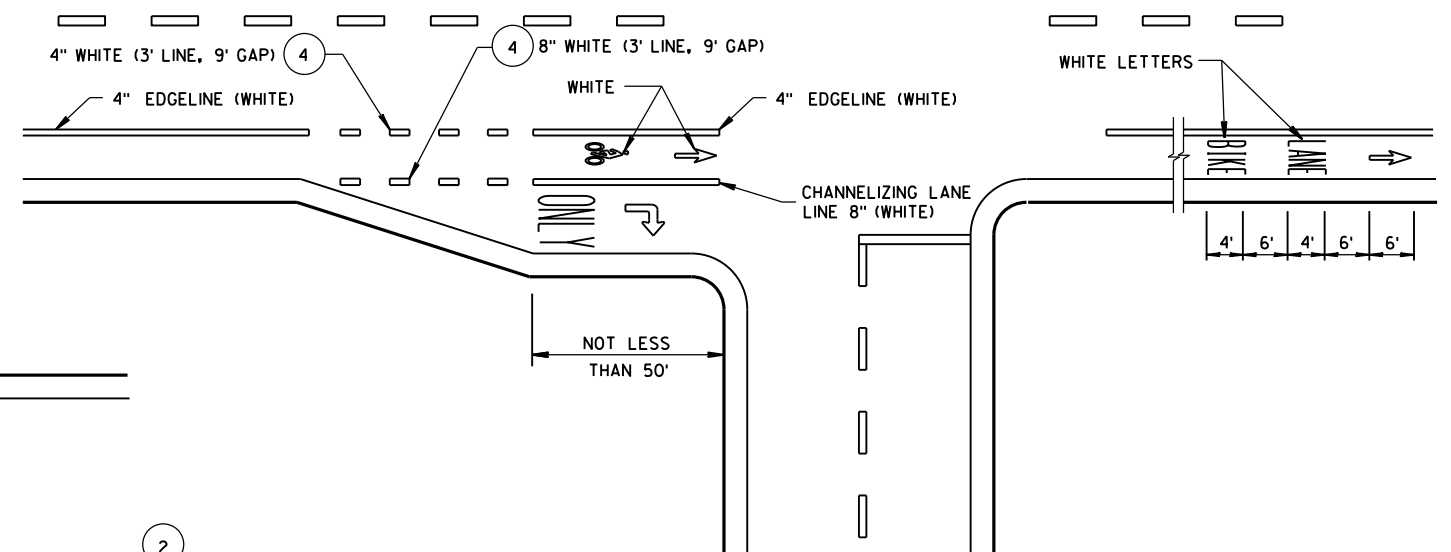
- ① WHEN DISTANCE "A" IS LESS THAN 250 FEET, OMIT LANE LINE.
- ② WHEN DISTANCE "B" IS LESS THAN 100 FEET, OMIT CHANNELIZING LANE LINE.
- ③ ALTERNATIVE MARKING SHALL BE PROVIDED WHEN SPECIFIED IN THE CONTRACT. TYPICAL SITUATIONS WHERE THIS MARKING MAY BE REQUIRED ARE WHERE THE INTERSECTION IS ON A SHARP HORIZONTAL CURVE OR CREST VERTICAL CURVE IN AN UNLIGHTED AREA SUCH THAT THE EDGE LINE MAY BE MISLEADING TO THE MOTORIST OR DISAPPEAR FROM SIGHT.
- ④ THE EDGE LINE IN THE TAPER AREAS OF THE BYPASS LANE AND THE BYPASS LANE SHALL BE LOCATED 1-FOOT FROM EDGE OF PAVEMENT TO THE OUTSIDE EDGE OF EDGE LINE.

- ⑤ BARRIER LINE ENDS AT SIDE ROAD PAVEMENT/SURFACE EDGE EXTENSION.
- ⑥ BARRIER LINE STARTS 500 FEET PRIOR TO THE BYPASS TAPER.
- ⑦ IF THE DISTANCE BETWEEN 2 SUCCESSIVE NO-PASSING ZONES IS LESS THAN THE MINIMUM DISTANCE BETWEEN ZONES, CONNECT THE 2 ZONES.
- ⑧ 3' LINE 9' GAP, EXCEPT RETRACE THE EXISTING LINE - GAP PATTERN WHERE EXISTING MARKINGS ARE IN PLACE.

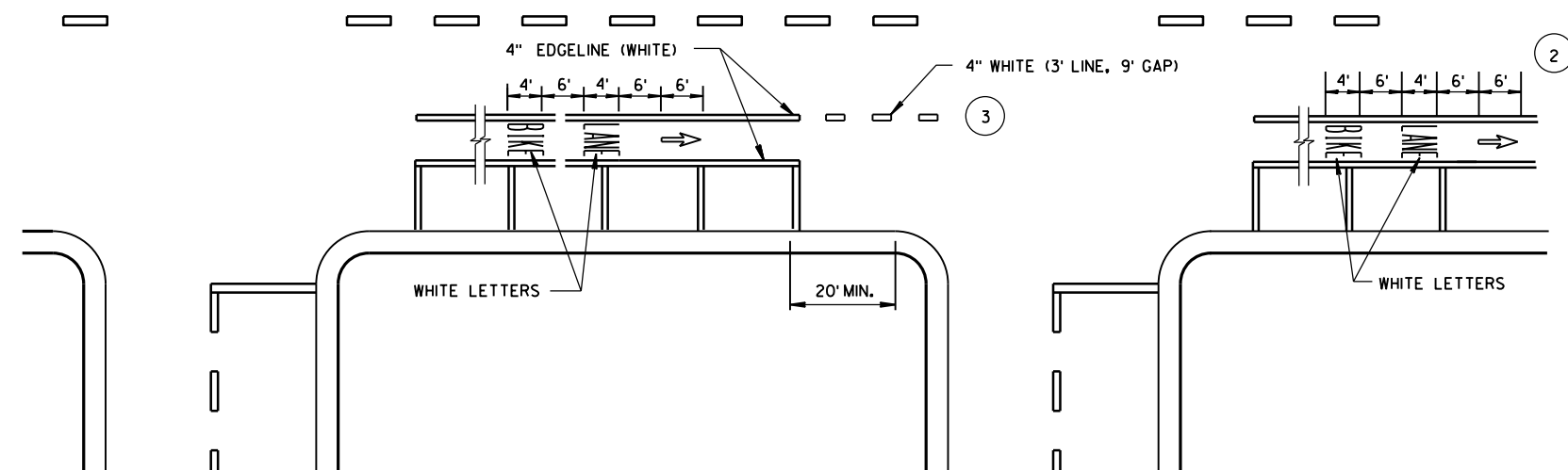
ARROW SYMBOL () SHOWS DIRECTION OF TRAVEL



DESIGNATED BICYCLE LANE



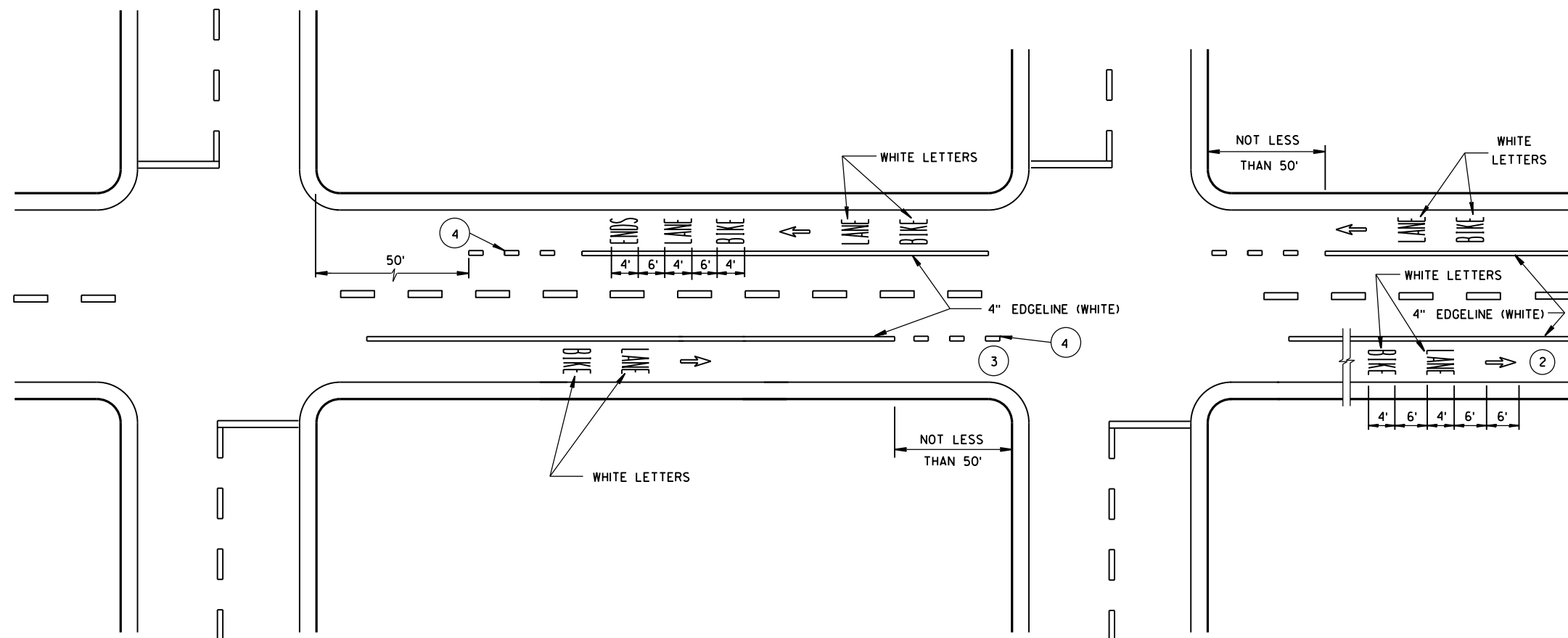
DESIGNATED BICYCLE LANE
NO PARKING, RIGHT TURN LANE



**DESIGNATED BICYCLE LANE
WITH PARKING, NO RIGHT TURN LANE**

- ## GENERAL NOTES
- 1 DETAILS OF CONSTRUCTION NOT SHOWN ON THIS DRAWING SHALL CONFORM TO STANDARD SPECIFICATIONS AND SPECIAL PROVISIONS.
 - 2 THE SERIES OF PAVEMENT MARKING SYMBOLS SHALL BE REPEATED AFTER INTERSECTIONS AND SPACED A MAXIMUM OF 250'. NO PAVEMENT MARKING WILL TAKE PLACE IN THE CROSSWALK.
 - 3 DOTTED LINES SHOULD BE USED 50' TO 200' 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 WHEN SPECIFIED IN THE CONTRACT.

URBAN BICYCLE LANE MARKING	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED <u>4/30/2013</u> DATE	<u>/S/ Travis Feltes</u> STATE TRAFFIC ENGINEER



GENERAL NOTES

- ① DETAILS OF CONSTRUCTION NOT SHOWN ON THIS DRAWING SHALL CONFORM TO STANDARD SPECIFICATIONS AND SPECIAL PROVISIONS.
- ② THE SERIES OF PAVEMENT MARKING SYMBOLS SHALL BE REPEATED AFTER INTERSECTIONS AND SPACED A MAXIMUM OF 250'. NO PAVEMENT MARKING WILL TAKE PLACE IN THE CROSSWALK.
- ③ DOTTED LINES SHOULD BE USED 50' TO 200' 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 3' LINE, 9' GAP - 4" WIDE, WHITE.

DESIGNATED BICYCLE LANE
NO PARKING

URBAN BICYCLE LANE
MARKING

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

4/30/2013

DATE

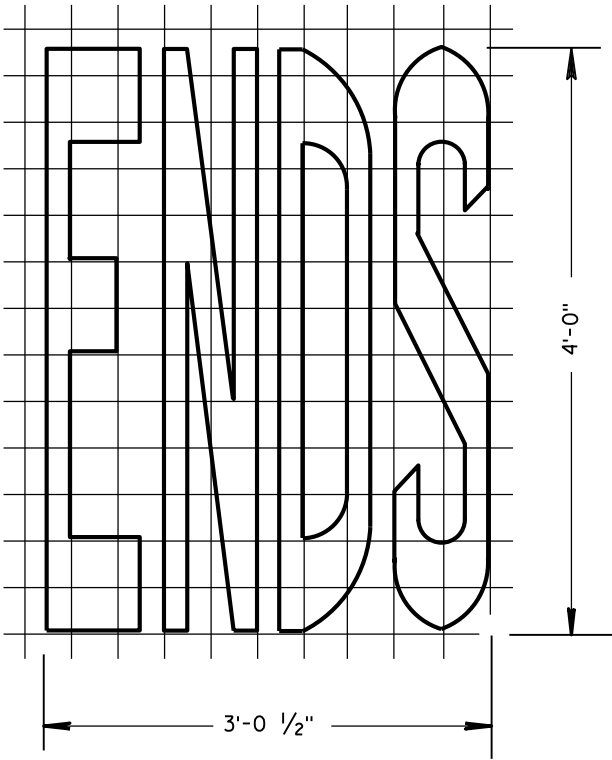
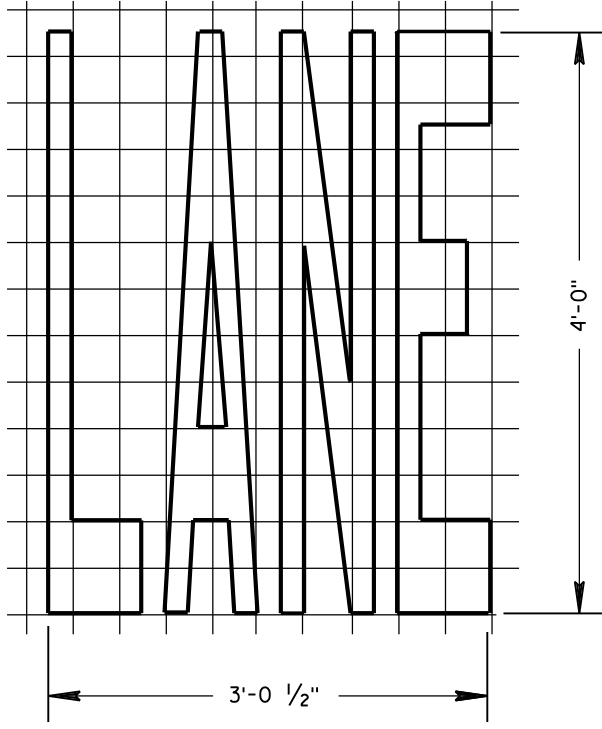
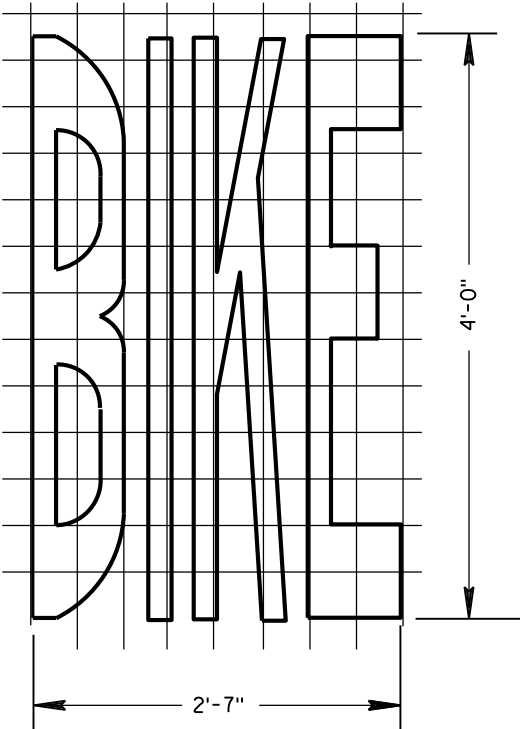
FHWA

/S/ Travis Fettes
STATE TRAFFIC ENGINEER

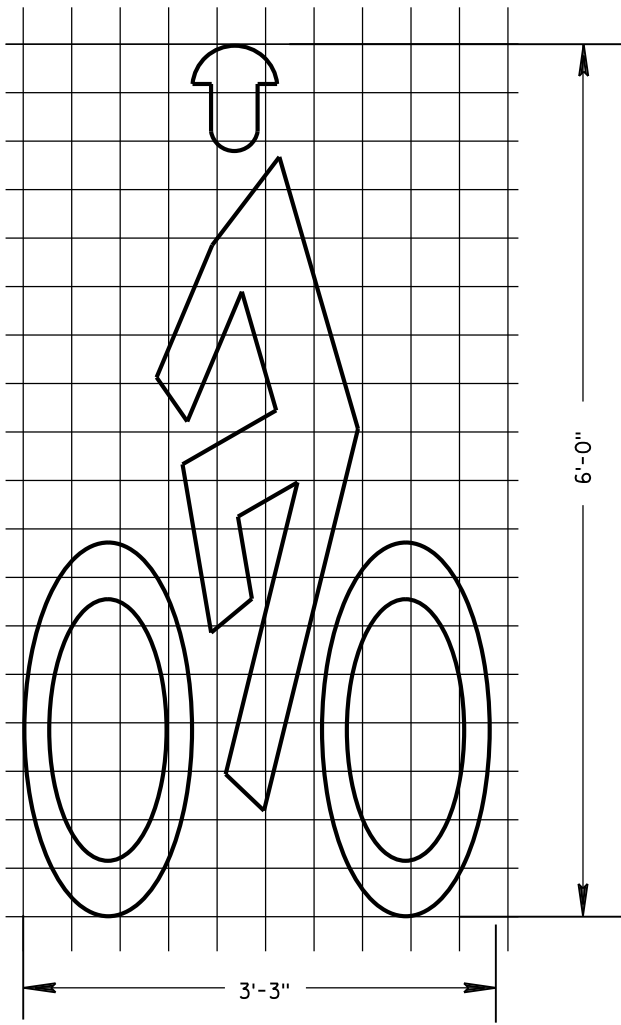
GENERAL NOTES

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

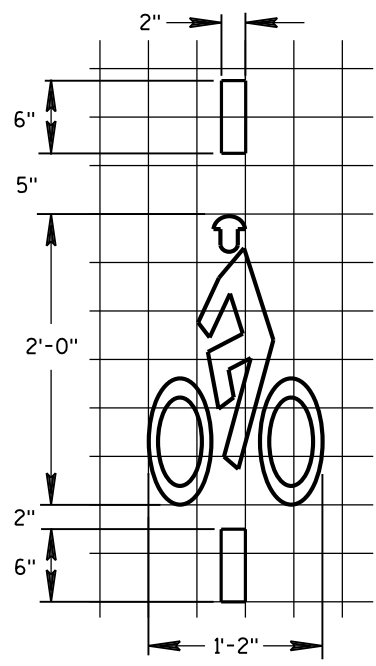
ALL LETTERS, ARROWS AND SYMBOLS SHALL BE IN CONFORMANCE WITH REQUIREMENTS INCLUDED IN "STANDARD ALPHABETS FOR HIGHWAY SIGNS AND PAVEMENT MARKING" BOOK BY THE FEDERAL HIGHWAY ADMINISTRATION. ALL LETTERS, ARROWS AND SYMBOLS SHALL BE WHITE AND REFLECTORIZED. SMALL DIFFERENCES IN DIMENSIONS WITHIN THE TOLERANCES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



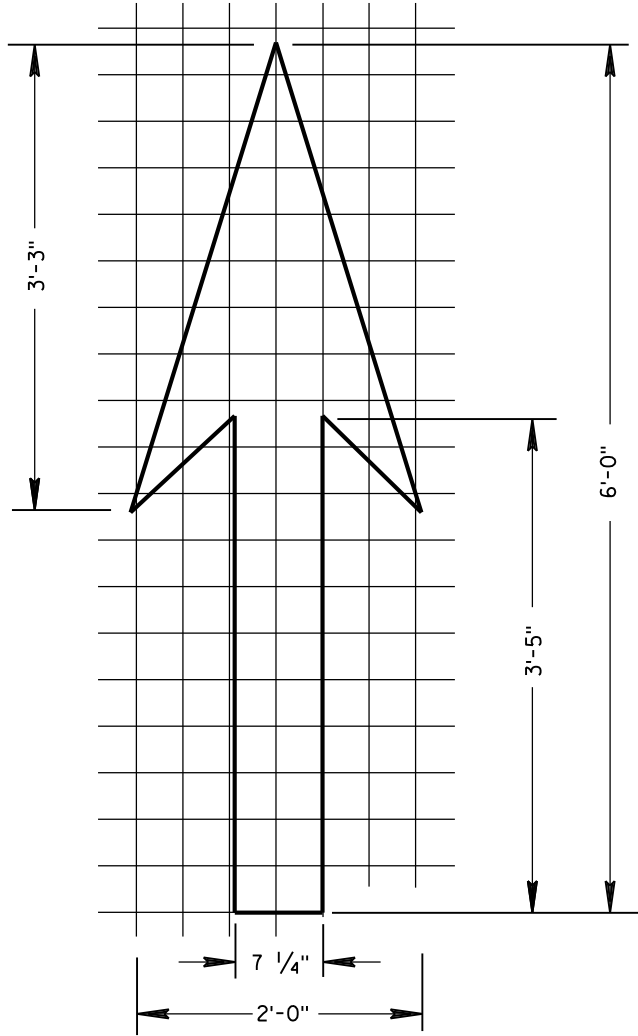
BIKE LANE WORDS



BIKE LANE SYMBOL

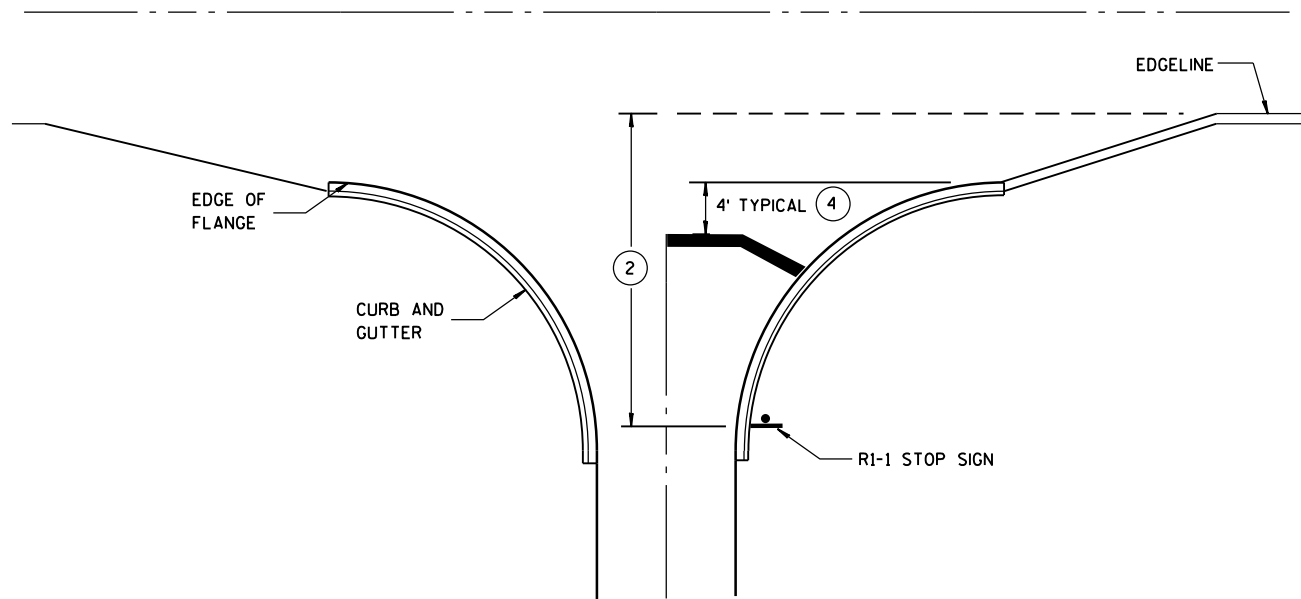


BICYCLE DETECTOR
PAVEMENT MARKING

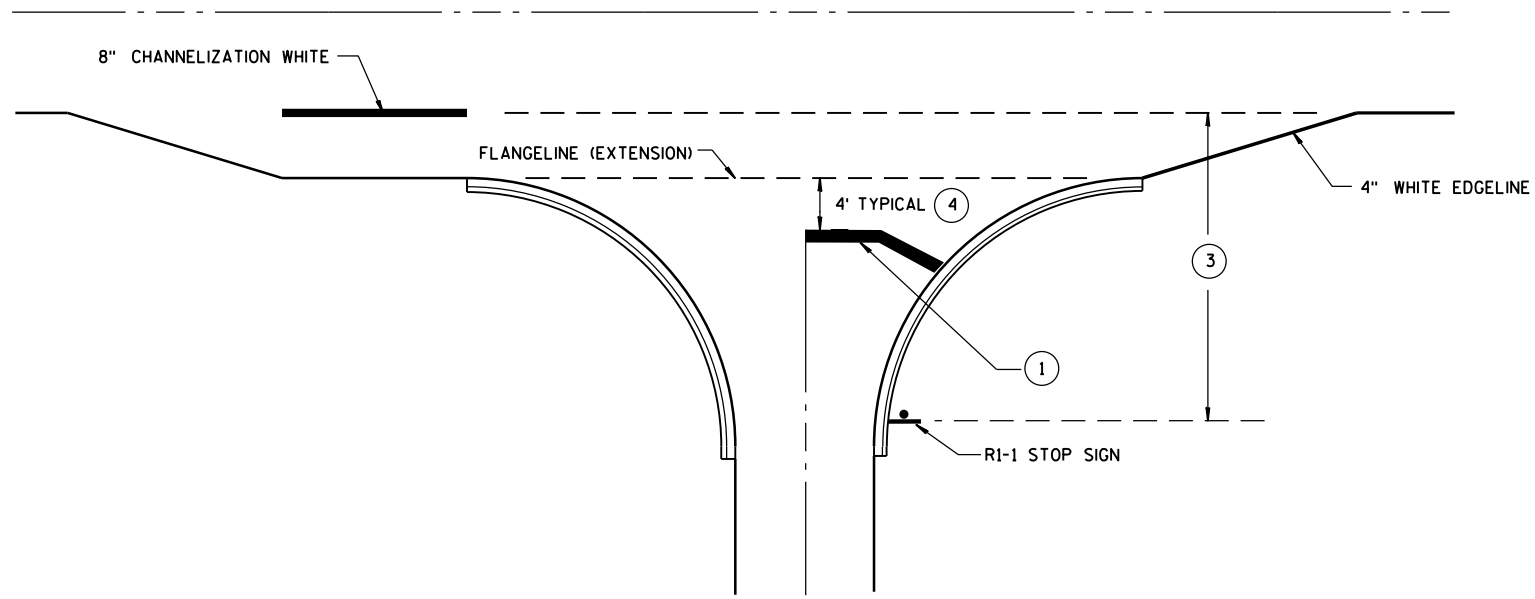


BIKE LANE ARROW

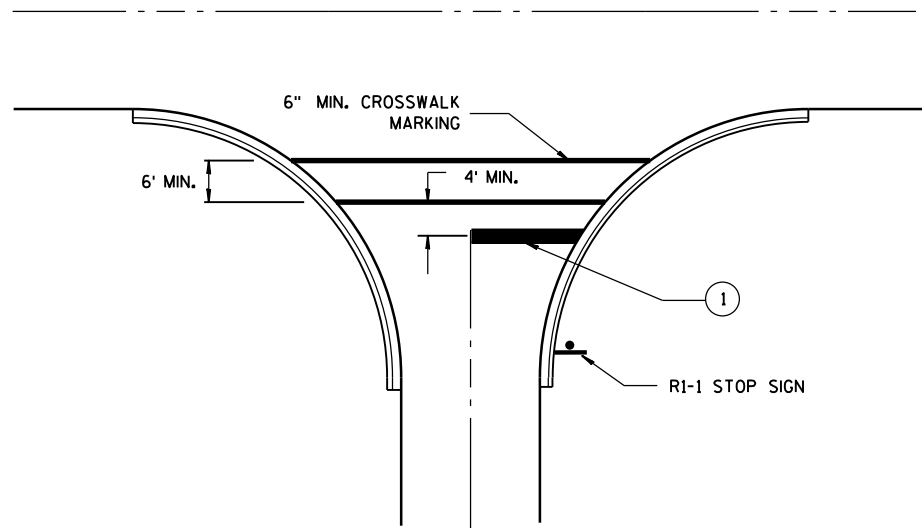
PAVEMENT MARKING FOR BIKE LANES	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED 4-30-2013 DATE	/S/ Travis Feltes STATE TRAFFIC ENGINEER
FHWA	



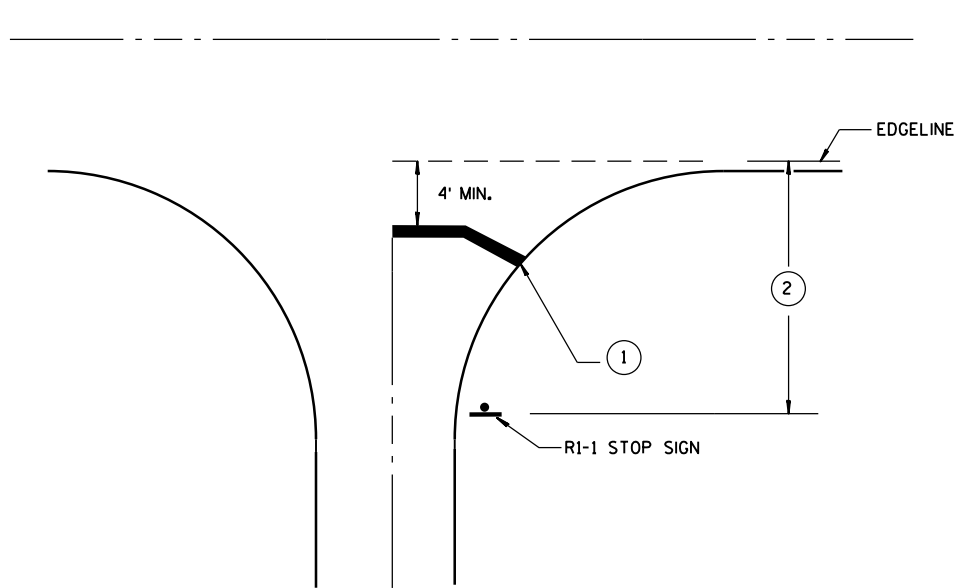
TYPICAL STOP LINE PAVEMENT MARKING
WITH CURB AND GUTTER



TYPICAL STOP LINE PAVEMENT MARKING
FOR SIDEROADS WITH RIGHT TURN LANE



TYPICAL STOP LINE PAVEMENT MARKING
FOR SIDEROADS WITH CROSSWALK MARKING

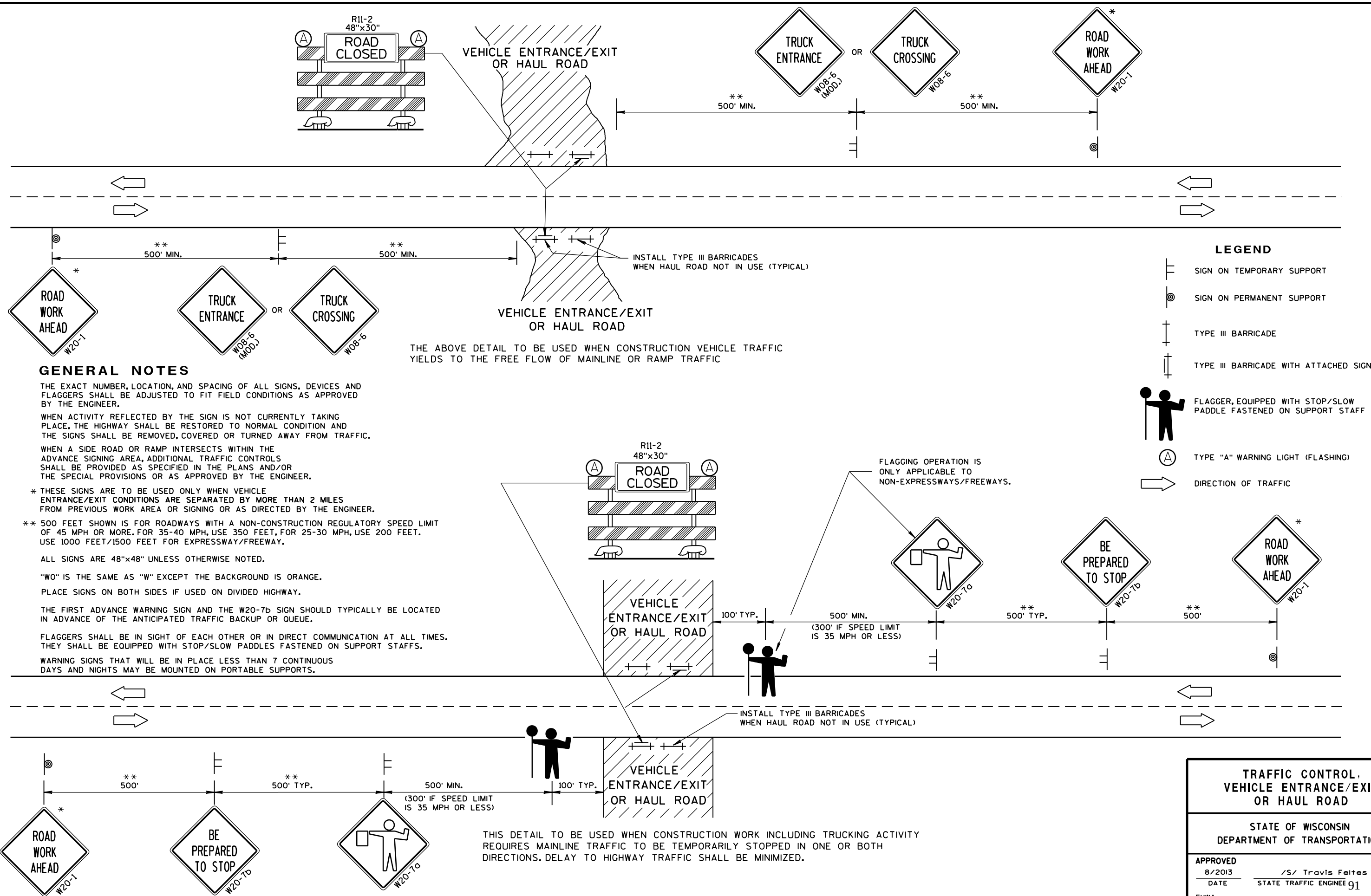


TYPICAL STOP LINE PAVEMENT MARKING
WITHOUT CURB AND GUTTER

GENERAL NOTES

- 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.

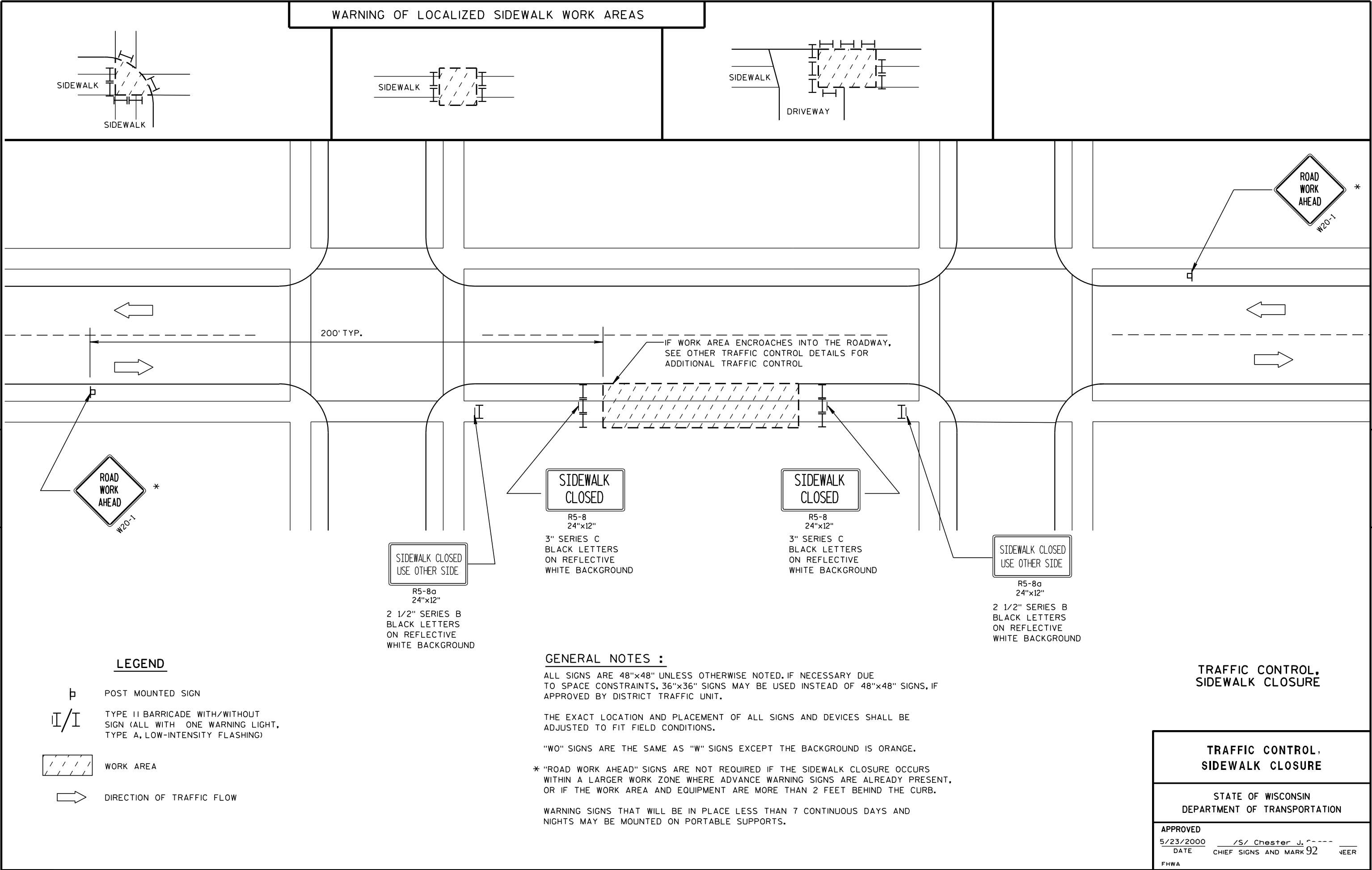
STOP LINE AND CROSSWALK PAVEMENT MARKING	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED DATE 4/30/2013	/S/ Travis Feltes STATE TRAFFIC ENGINEER
FHWA	



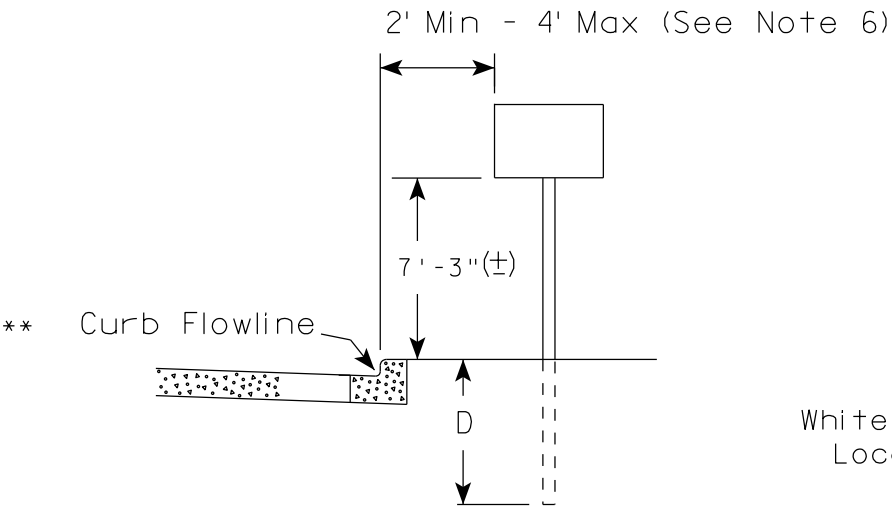
TRAFFIC CONTROL, VEHICLE ENTRANCE/EXIT OR HAUL ROAD

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

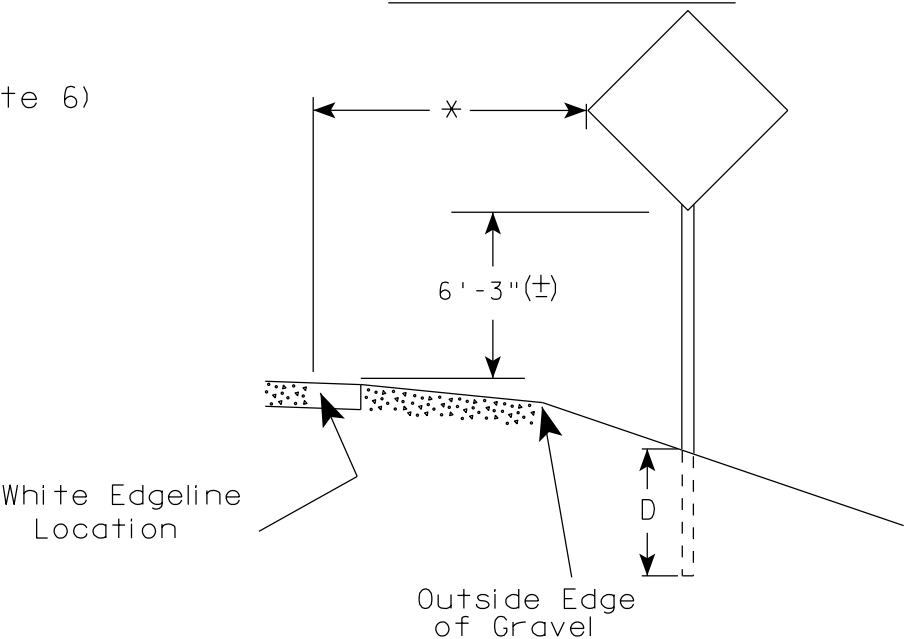
APPROVED
8/2013 /S/ Travis Feltes
DATE STATE TRAFFIC ENGINEER
FHWA



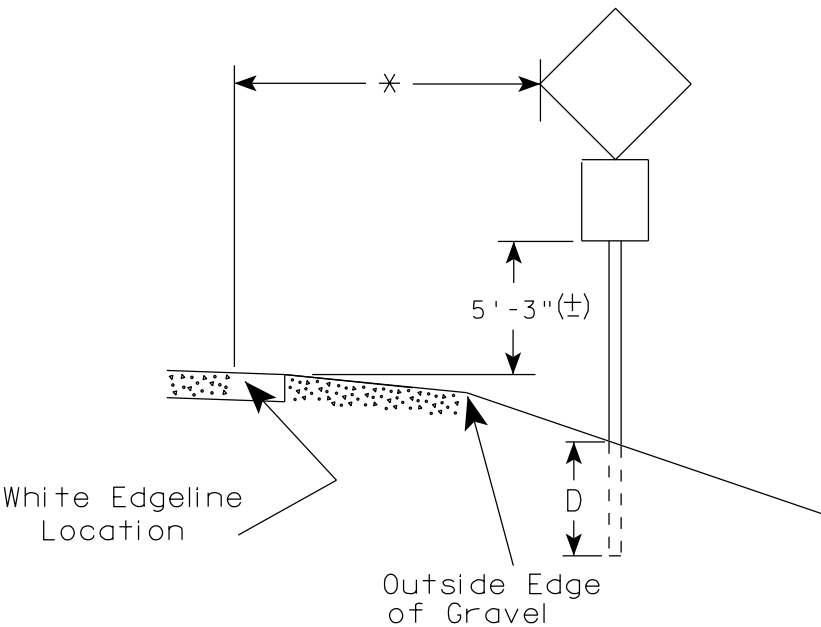
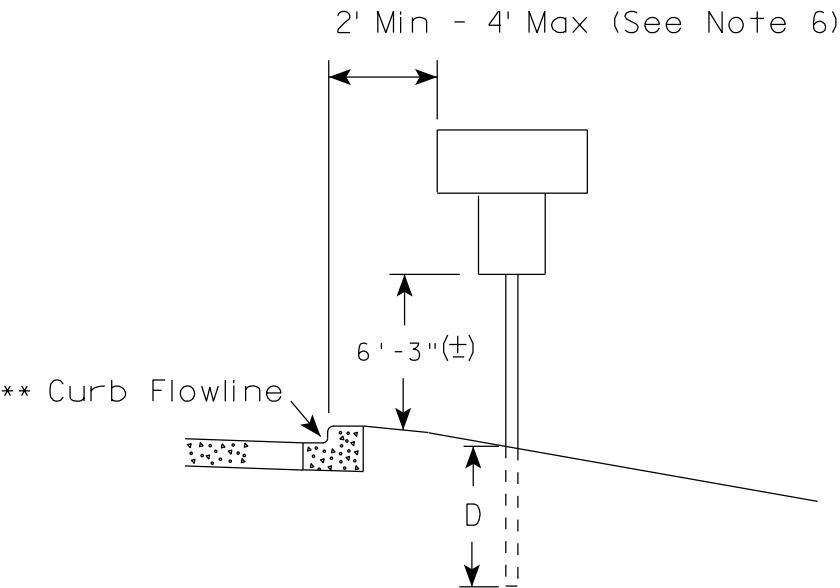
URBAN AREA



RURAL AREA (See Note 2)



- GENERAL NOTES
1. Signs wider than 4 feet, 20 sq.ft or larger, shall be mounted on multiple posts. Refer to plate A4-4.
 2. If signs are mounted on barrier wall, see A4-10 sign plate.
 3. For expressways and freeways, mounting height is 7'- 3" (±) or 6'-3" (±) depending upon existence of a sub-sign.
 4. Minimum mounting height for J assemblies (A2-1S) is 7'-3" (±) or 6'-3" (±) per urban or rural detail respectively.
 5. Minimum mounting height for signs mounted on traffic signal poles is 5'- 3" (±).
 6. Offset distance shall be consistent with existing signs or consistent throughout length of project.
 7. The (±) tolerance for mounting height is 3 inches.
 8. Folding signs shall be mounted at a height of 5'-3" (±) or as 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" (±).



POST EMBEDMENT DEPTH

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

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

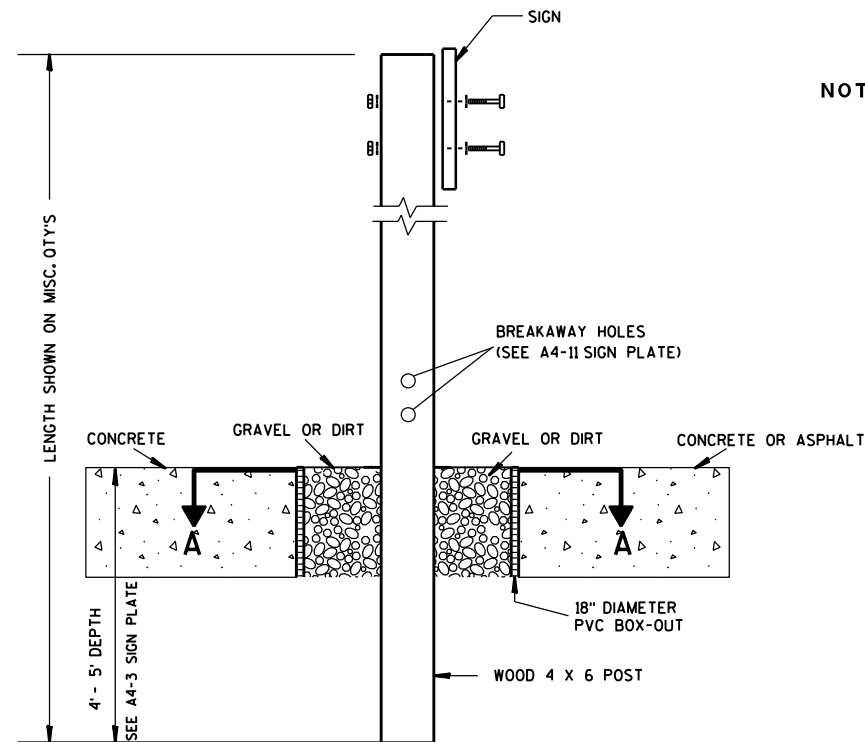
* 6 feet from edge of a paved shoulder or 12 feet from the edge of pavement (edge line location) or 2 feet from outside edge of gravel, whichever is greater unless directed by project engineer.

TYPICAL INSTALLATION
OF PERMANENT TYPE II
SIGNS ON SINGLE POSTS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED
Matthew R. Rauch
for State Traffic Engineer

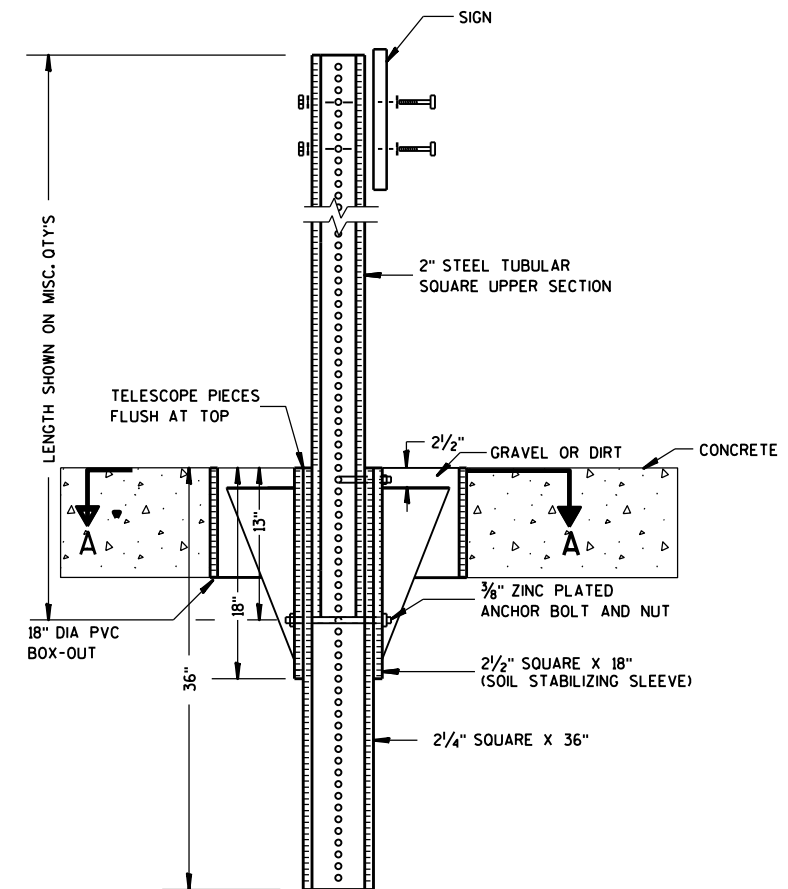
DATE 11/12/14 PLATE NO. A4-3.19
93



ELEVATION VIEW

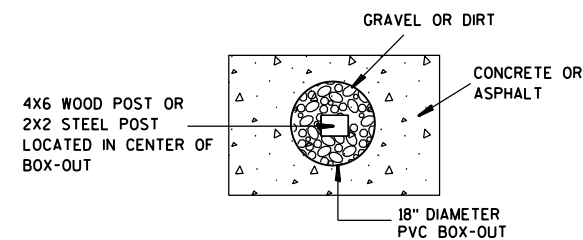
DETAIL OF WOOD 4 X 6 SIGN POST IN BOX-OUT

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



ELEVATION VIEW

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



PLAN VIEW

FOR NEW CONCRETE/ASPHALT INSTALLATIONS

SIGN POST
BOX-OUTS
A4-3B

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer

DATE 1/27/14 PLAT 94 A4-3B.1

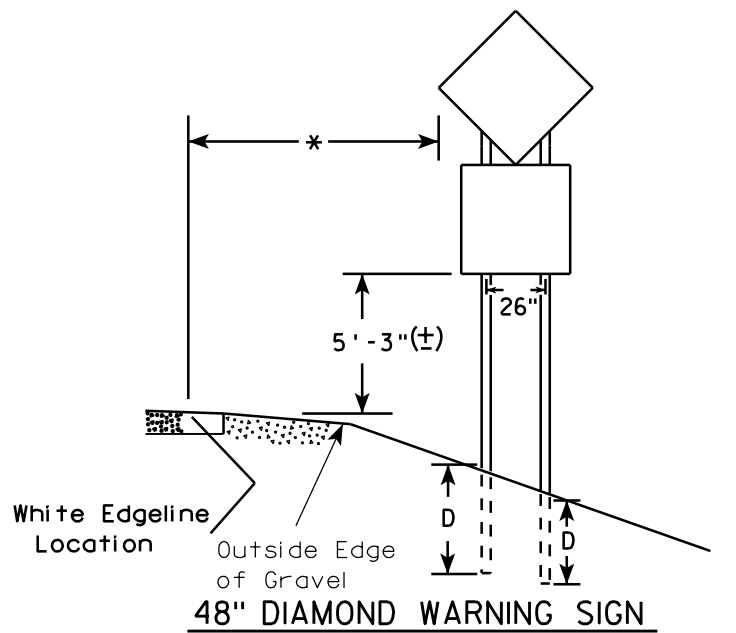
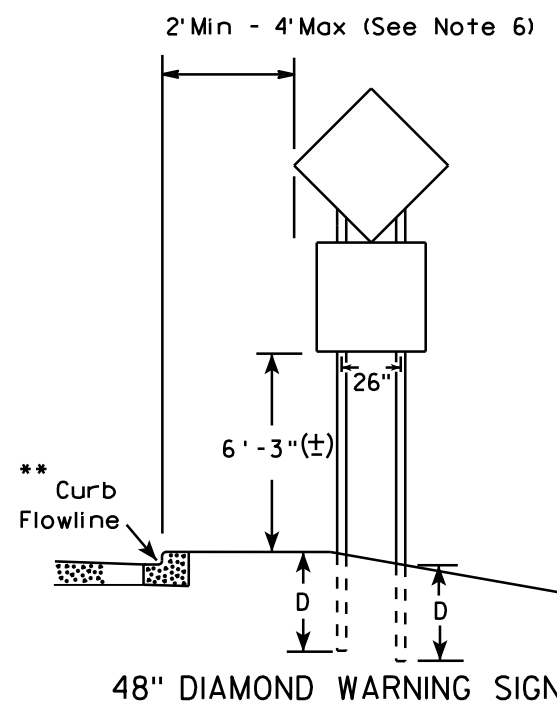
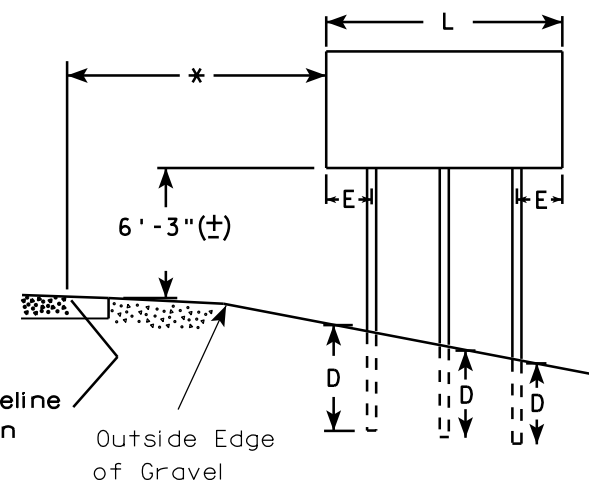
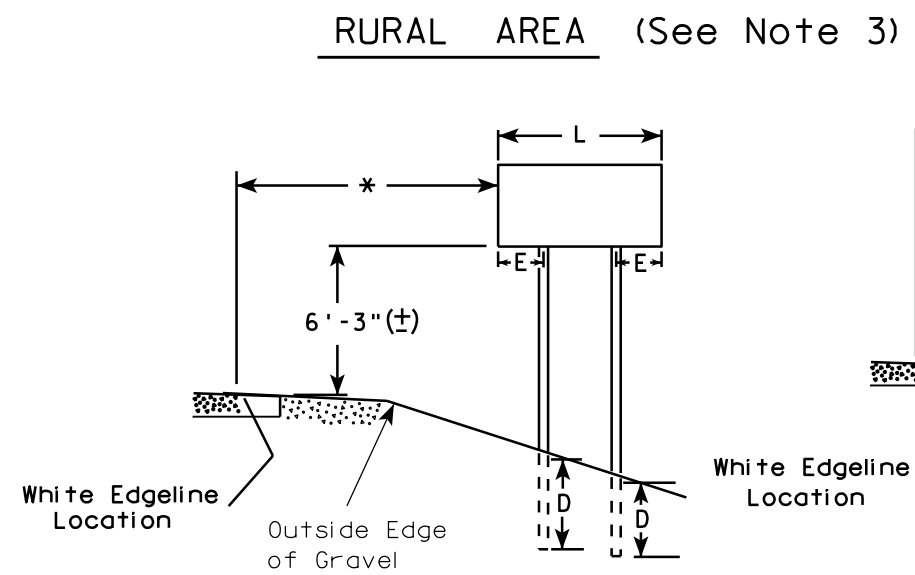
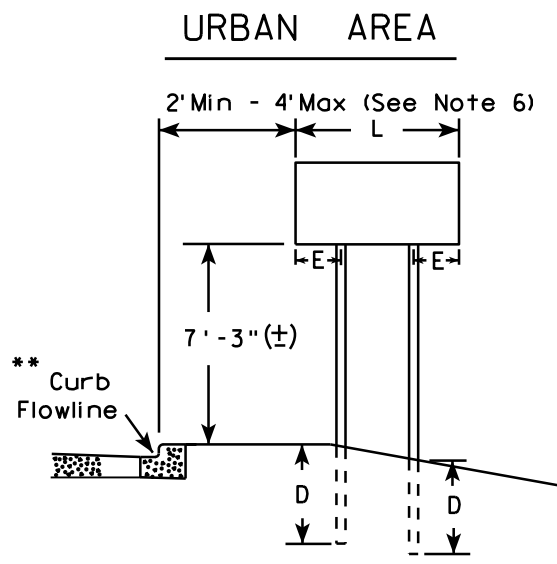
PROJECT NO:

HWY:

COUNTY:

SHEET NO:

E



- GENERAL NOTES**
1. For 3 or 4 post installations, individual post spacing shall be greater than 3'-6".
 2. See tables below for required number of posts.
 3. For expressways and freeways, mounting height is 7'-3" (±) or 6'-3" (±) depending upon existence of sub-sign.
 4. The (±) tolerance for mounting height is 3 inches.
 5. Minimum mounting height for J assemblies (A2-1S) is 7'-3" (±) or 6'-3" (±) per urban or rural detail respectively.
 6. Offset distance shall be consistent with existing signs or consistent throughout length of project.
 7. Folding signs shall be mounted at a height of 5'-3" (±) or as directed by the engineer.
 8. The Double Arrow sign (W12-1) shall be mounted at a height of 2'-3" (±). The Chevron sign (W1-8), Roundabout Chevron panel (R6-4B), Clearance Markers (W5-52), Mile Markers (D10 series), In Road Object Markers (W5-54) & End of Road Markers (W5-56) shall be mounted at a height of 4'-3" (±).

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

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

*** See A4-3 sign plate for signs 4' or less in width or less than 20 S.F. in area.

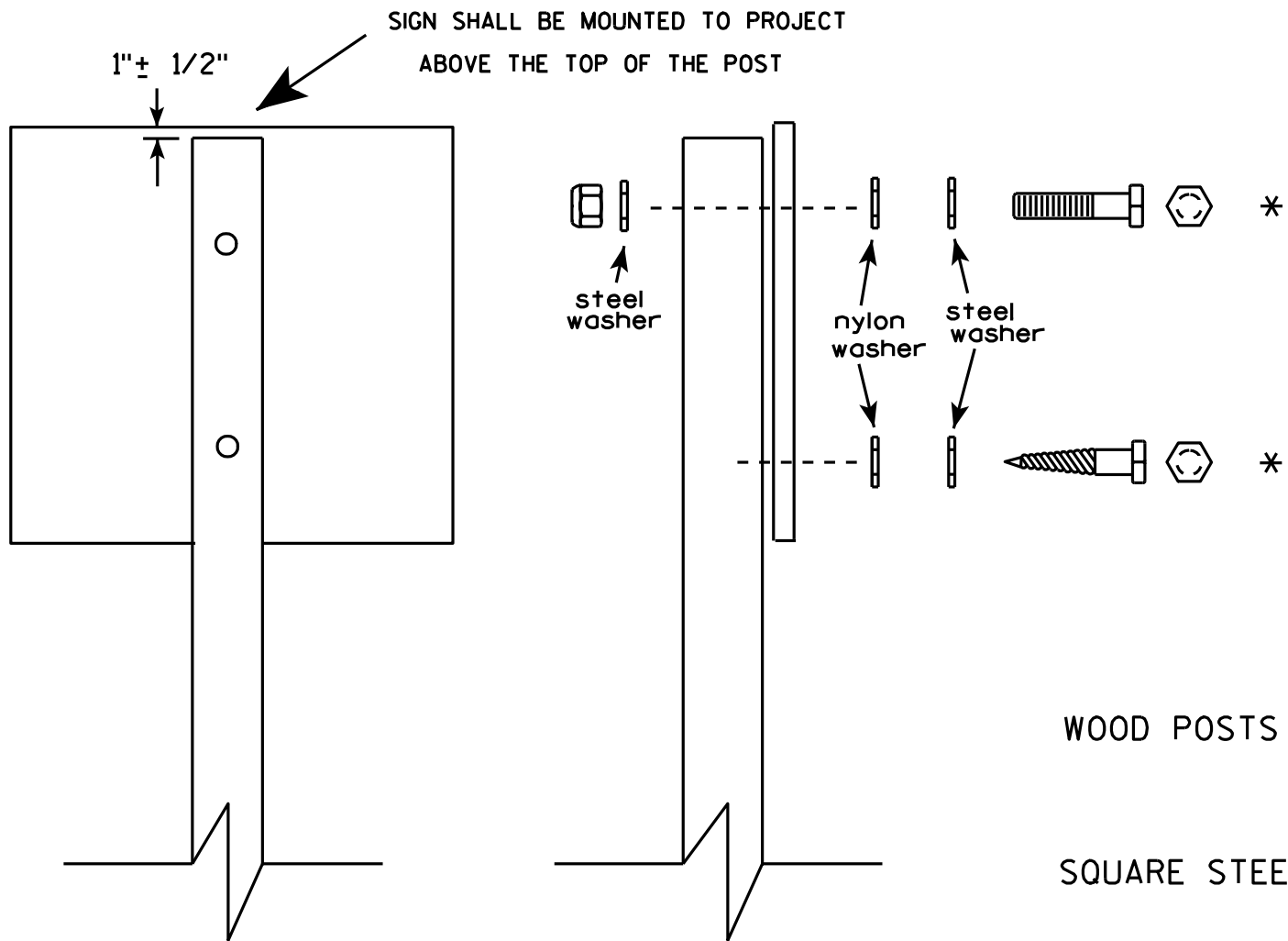
SIGN SHAPE OTHER THAN DIAMOND (TWO POSTS REQUIRED)	
L	E
Greater than 48" Less than 60"	12"
60" to 120"	L/5

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

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

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

TYPICAL INSTALLATION OF TYPE II SIGNS ON MULTIPLE POSTS	
WISCONSIN DEPT OF TRANSPORTATION	
APPROVED	<i>Matthew R. Rauch</i> for State Traffic Engineer
DATE 11/12/14	PLATE NO. ^{AA-A} 13 -95

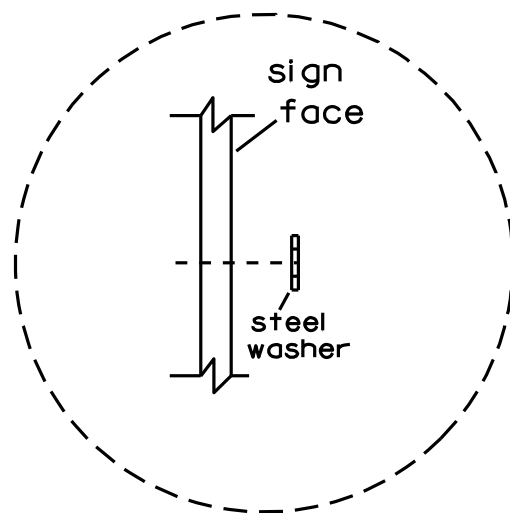


Nuts, bolts and lags used for mounting signs shall have hexagonal heads and shall be either :

- a. Hot dip galvanized in accordance with ASTM Designation: A 153, Class D, or SC 3
- b. Electro-galvanized in accordance with ASTM Designation : B 633, TYPE III, SC 3.

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

- WOOD POSTS (4" x 4" or 4" x 6")
- LAG SCREWS - 3/8" X 3"
- MACHINE BOLTS - 5/16" X 6-1/2" or 7" Length w/ nuts
- SQUARE STEEL POSTS (2" x 2")
- MACHINE BOLTS - 3/8" X 3-1/4" Length w/ nuts
- RIVETS - 9/32" (6605-9-6) BULB-TITE, TRI-FOLD, ALUMINUM BODY/MANDREL
- O.D. FLANGE .720-.765 INCH, GRIP RANGE .042-.375 INCH
- WASHERS (ALL POSTS) -
- 1-1/4" O.D. X 3/8" I.D. X 1/16" STEEL
- 1-1/4" O.D. X 3/8" I.D. X .080 NYLON for all Type H signs.



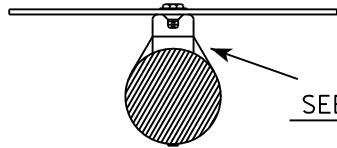
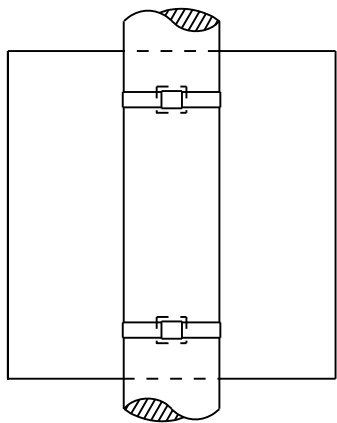
Washer Placement when Sign Has Other Than Type H or Type F Face

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

ATTACHMENT OF SIGNS TO POSTS	
WISCONSIN DEPT OF TRANSPORTATION	
APPROVED	<i>Matthew R. Rauch</i> For State Traffic Engineer
DATE 3/23/10	PLATE NO. A4-8.7

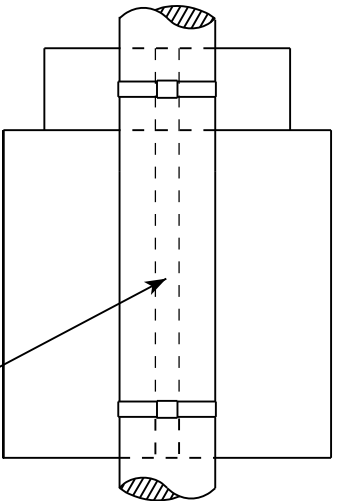
BANDING

SINGLE SIGN

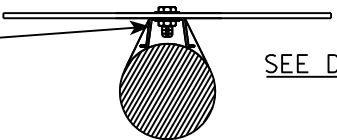


SEE DETAIL A

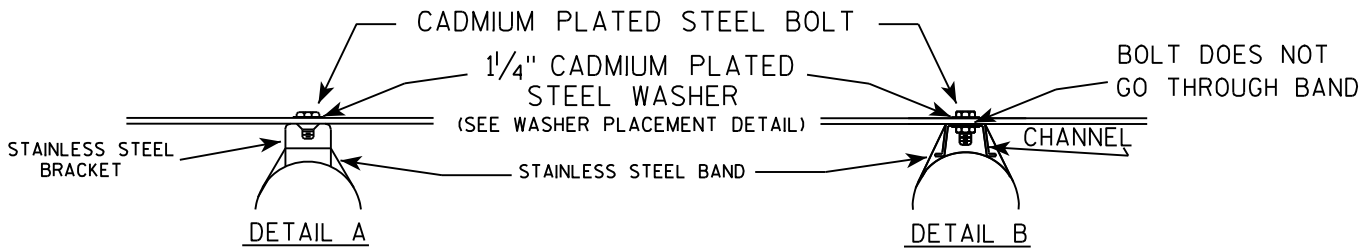
"J" ASSEMBLY



CHANNEL
SEE TYPICAL PANEL
INSTALLATION SHEET



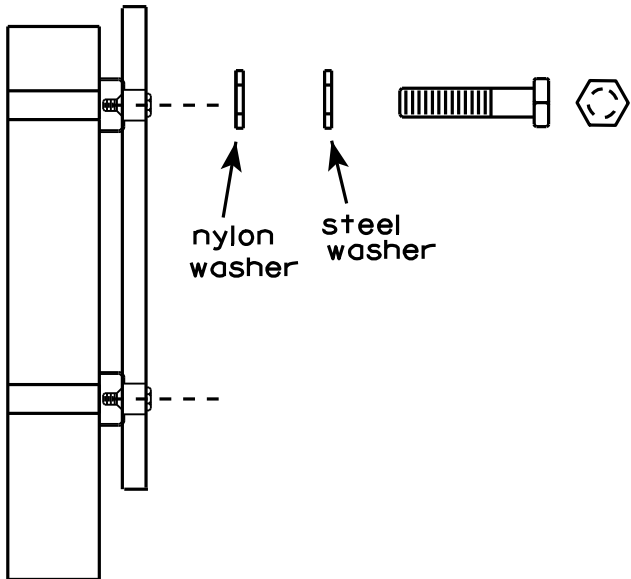
SEE DETAIL B



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

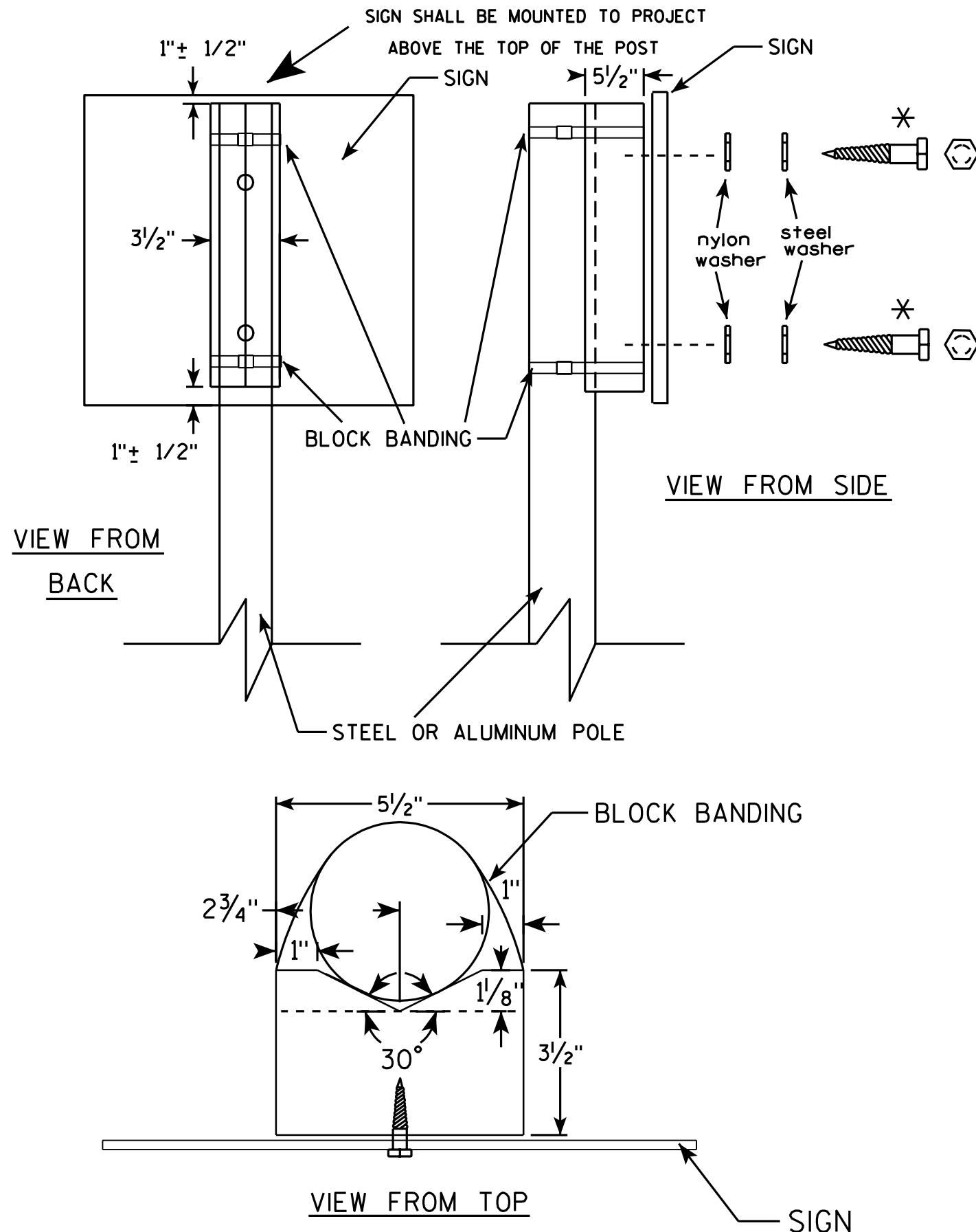
WASHERS (ALL POSTS) -
1-1/4" O.D. X $\frac{3}{8}$ " I.D. X $\frac{1}{16}$ " STEEL
1-1/4" O.D. X $\frac{3}{8}$ " I.D. X .080 NYLON
FOR ALL TYPE H SIGNS

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

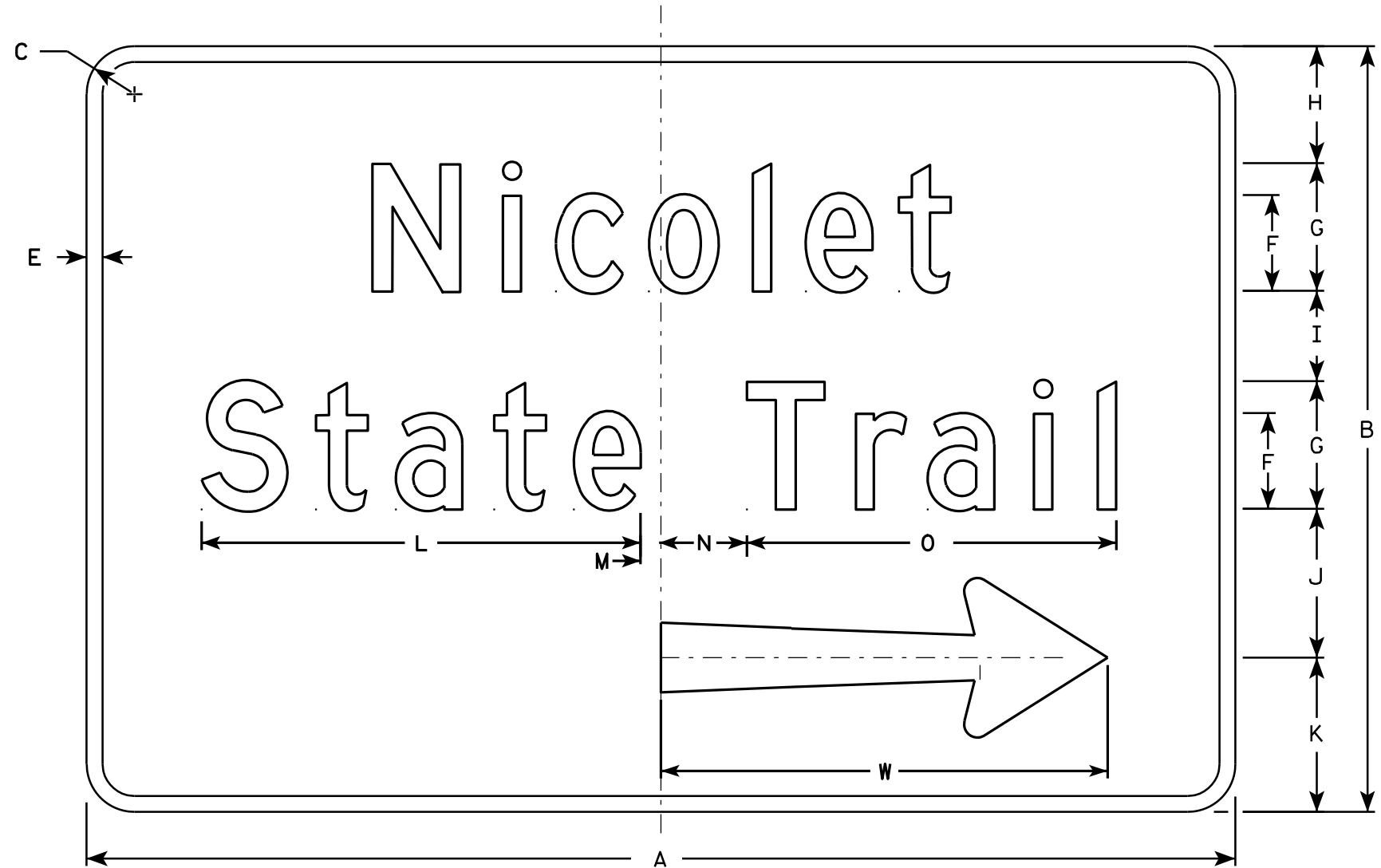
APPROVED *Matthew R. Rauch*
for State Traffic Engineer

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

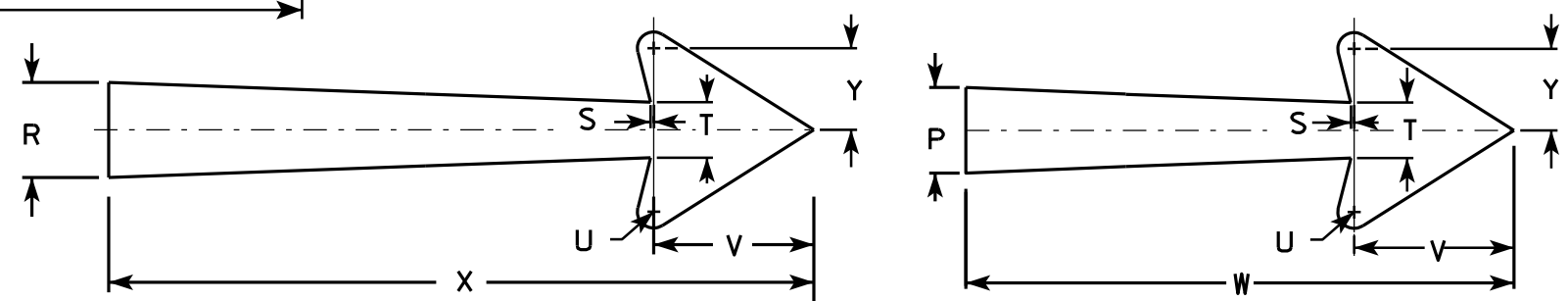
PROJECT NO:

SHEET NO: 98

E



D7-95R



Arrow Details

NOTES

1. Sign is Type II - Type H Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
Background - Brown
Message - White
3. Message Series - D
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
5. Substitute appropriate name and optically adjust spacing to achieve proper balance. When necessary to accommodate name, lengthen board by 6" increments. Minimum sign width is 54".
6. Use 21" arrow (dimension W) for lengths of 54" to 72". Use 27" arrow (dimension X) for 78" and longer.
7. D7-95L is the same as D7-95R except the arrow is reversed.

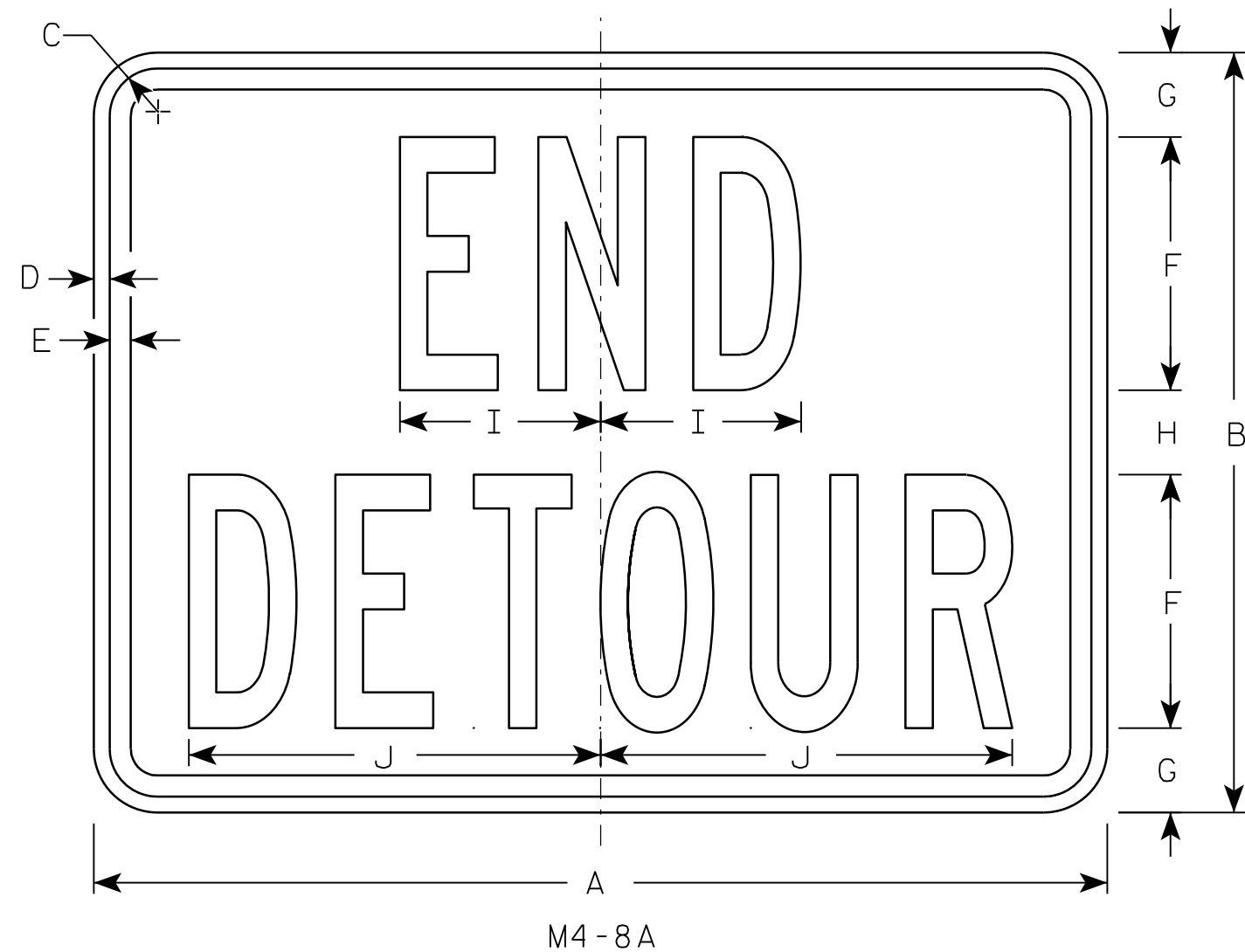
SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z
1																										
2	varies	36	2 1/4		3/4	4 1/2	6	5 1/2	4 1/4	7	7 1/4	20 5/8	7/8	4 1/8	17 3/8	3 1/4		3 5/8	1/8	2 1/8	5/8	6 1/8	21	27	3 1/8	
3																										
4																										
5																										

STANDARD SIGN
D7-95

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer

DATE 3/23/11 PLATE NO. D7-95.1



NOTES

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

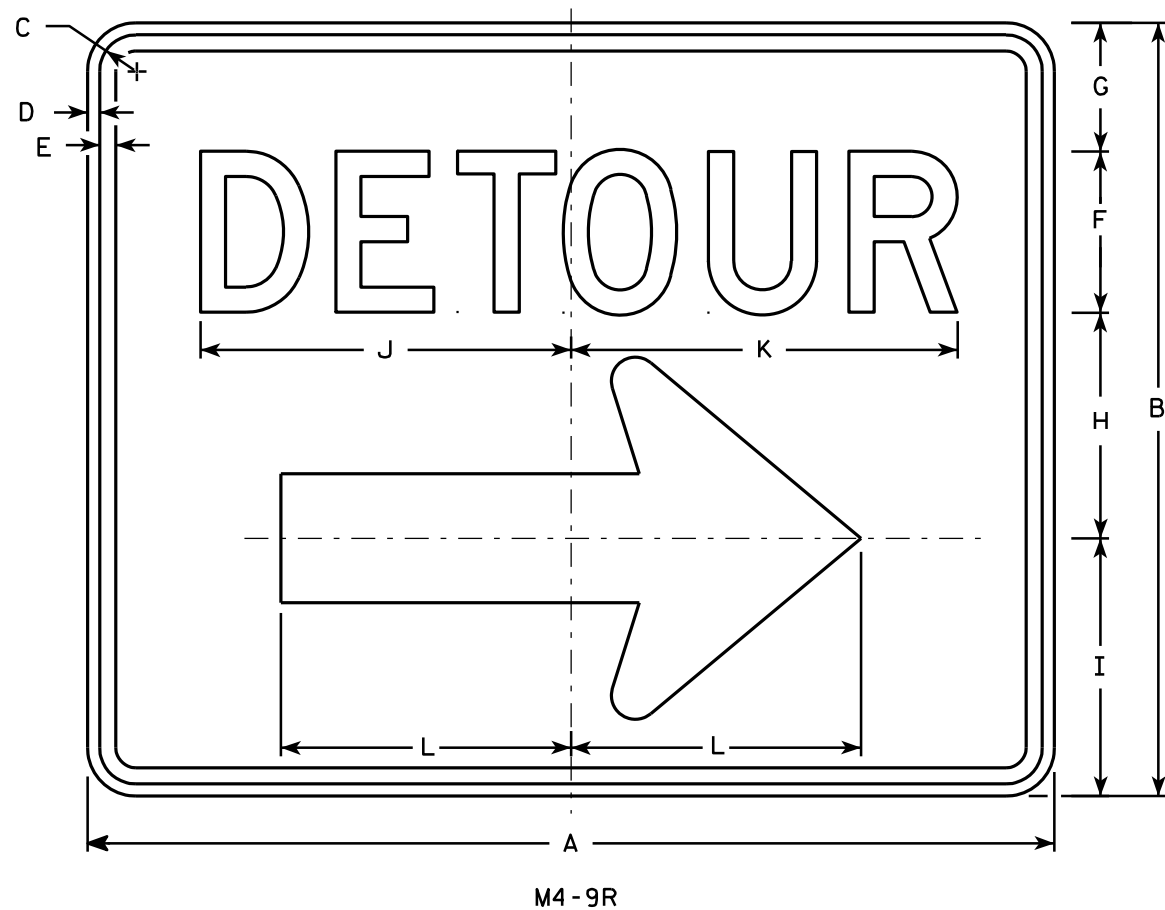
PROJECT NO:	HWY:	COUNTY:		SHEET NO: 100	E
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STANDARD SIGN
M4-8A

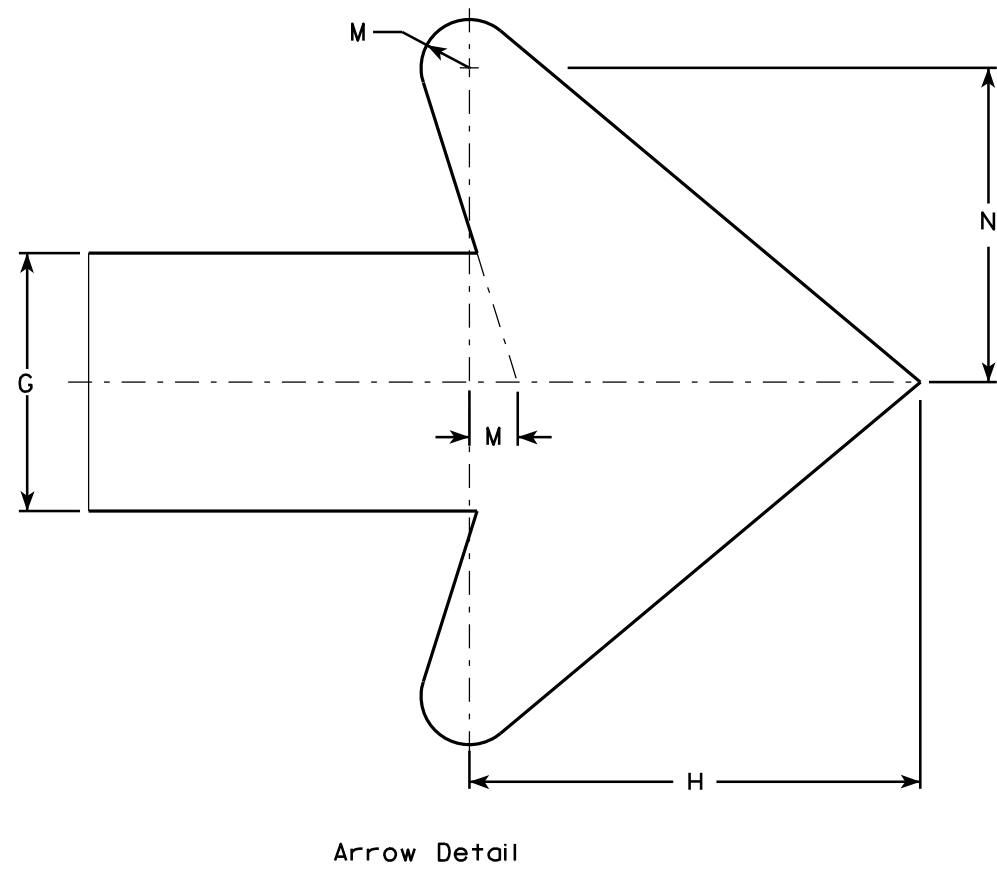
WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer

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



- NOTES**
1. Sign is Type II - Type F Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
 2. Color:
Background - Orange
Message - Black
 3. Message Series - D
 4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
 5. M4-9L is the same as M4-9R except the arrow is reversed.



SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2	30	24	1 1/8	3/8	1/2	5	4	7	8	11 1/2	12	9	3/4	4 7/8													5.00
3	30	24	1 1/8	3/8	1/2	5	4	7	8	11 1/2	12	9	3/4	4 7/8													5.00
4	48	36	1 3/8	1/2	5/8	8	6	10 1/2	11 5/8	20 5/8	20 1/2	13 1/4	1 1/8	6 7/8													12.0
5	48	36	1 3/8	1/2	5/8	8	6	10 1/2	11 5/8	20 5/8	20 1/2	13 1/4	1 1/8	6 7/8													12.0

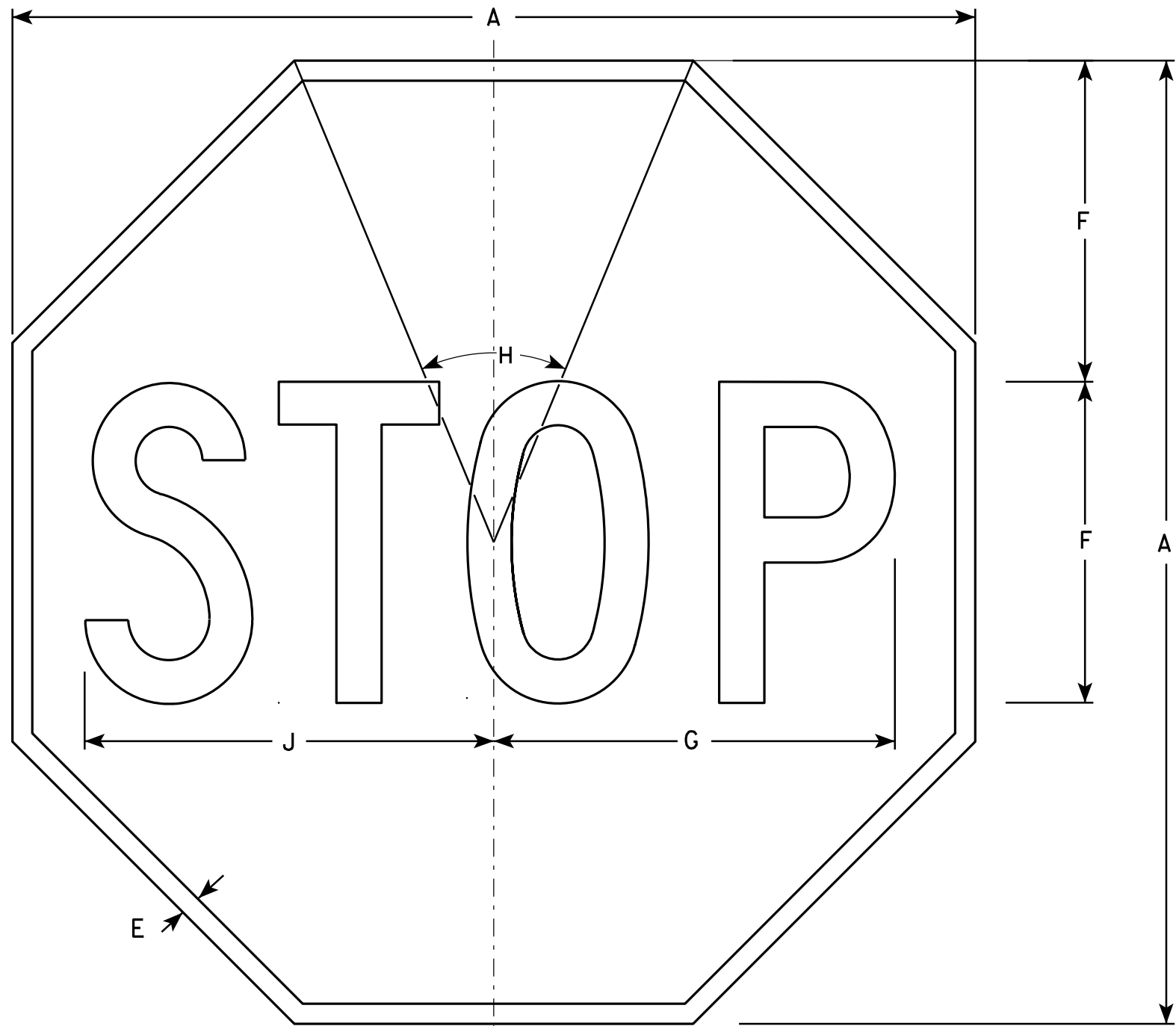
PROJECT NO:		HWY:		COUNTY:		SHEET NO: 101		E
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STANDARD SIGN
M4-9 R & L

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
For State Traffic Engineer

DATE 3/9/11 PLATE NO. M4-9R.4



NOTES

- 1. Sign is Type II - Type H Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
- 2. Color:
Background - Red
Message - White
- 3. Message Series - C

R1-1

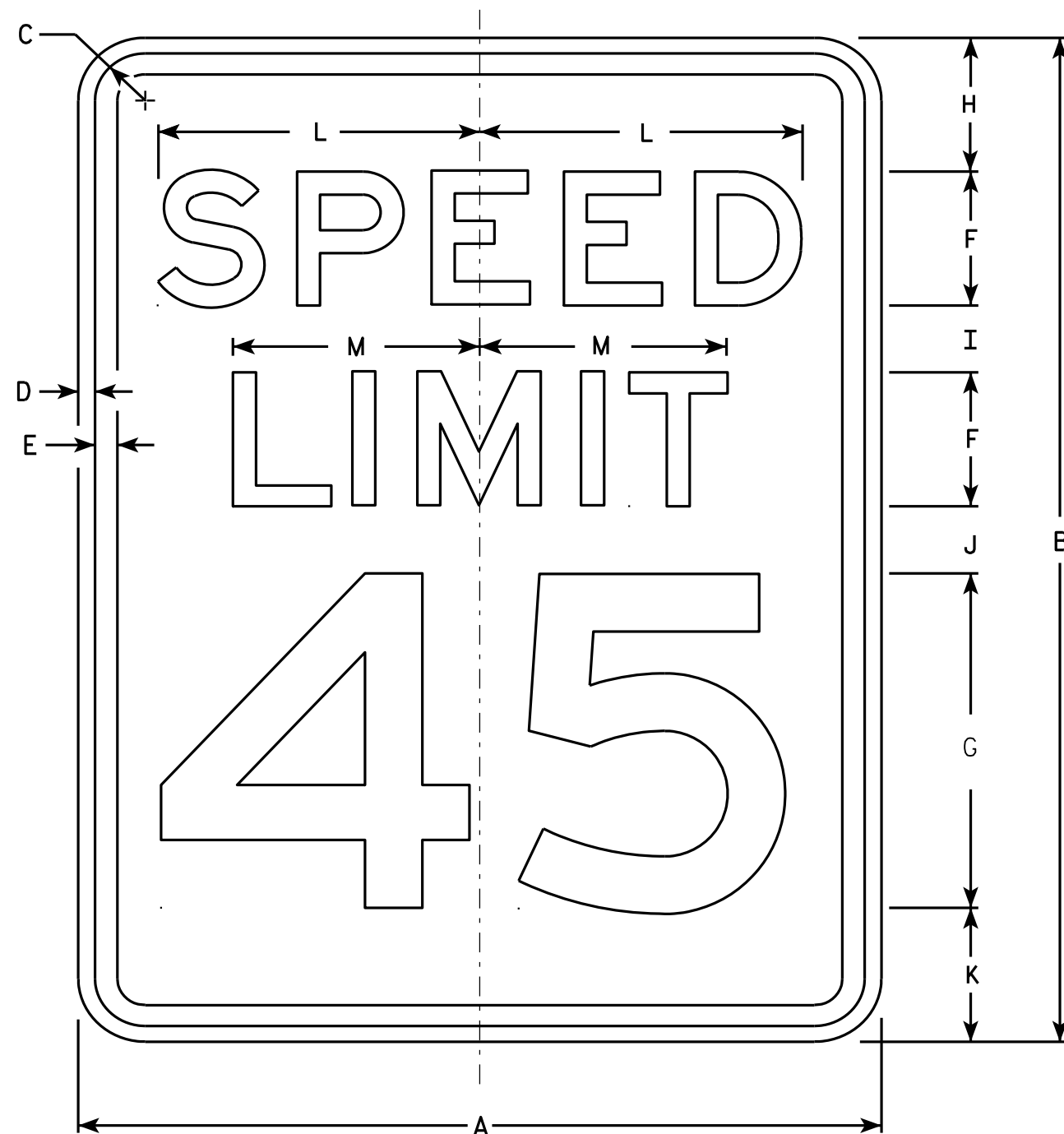
SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	24				3/8	8	10	45°		10 1/4																	3.31
2S	30				5/8	10	12 1/2	45°		12 3/4																	5.18
2M	36				3/4	12	15	45°		15 3/8																	7.46
3	36				3/4	12	15	45°		15 3/8																	7.46
4	48				1	16	20	45°		20 1/2																	13.25
5	48				1	16	20	45°		20 1/2																	13.25
6	18				3/8	6	7 3/4	45°		7 3/4																	1.86
7	12				1/4	4	5	45°		5 1/8																	0.78

STANDARD SIGN
R1 - 1

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer

DATE 12/03/10 PLATE NO. R1-1.12



R2-1

NOTES

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

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

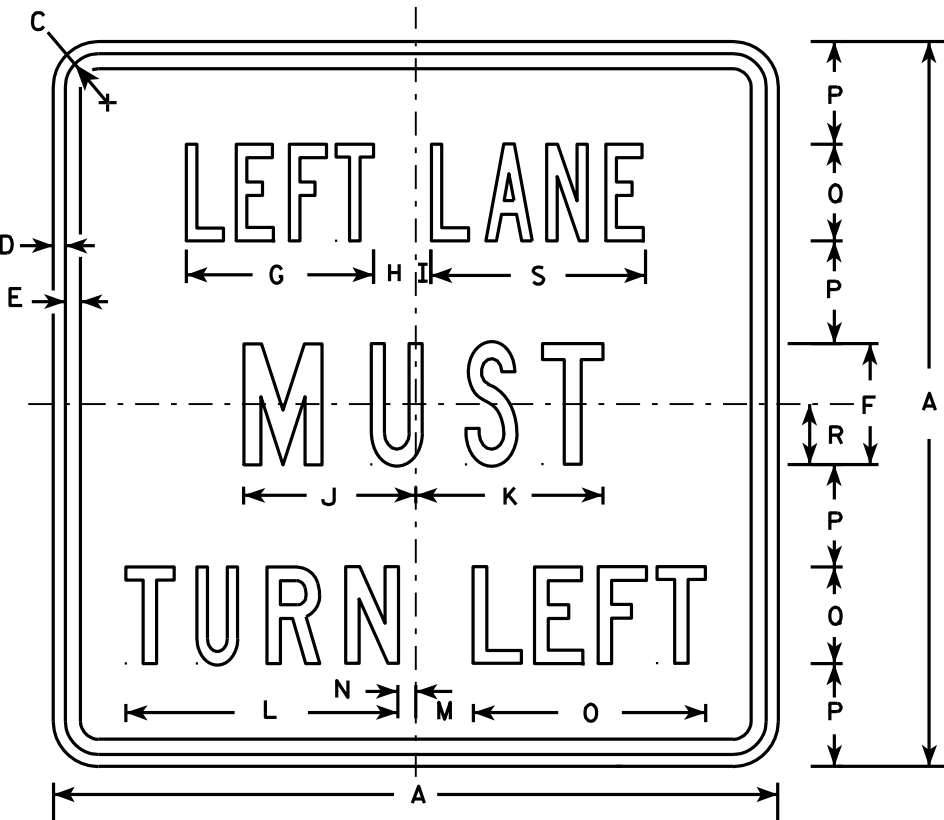
STANDARD SIGN
R2-1

WISCONSIN DEPT OF TRANSPORTATION

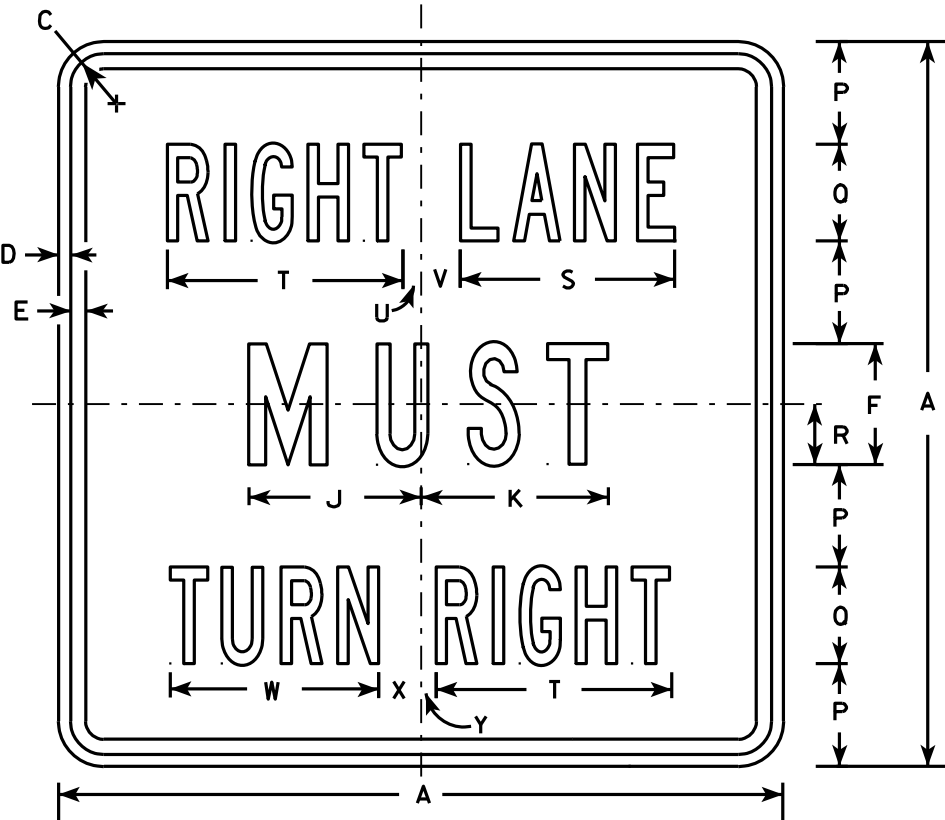
APPROVED *Matthew R. Rauch*
For State Traffic Engineer

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

PROJECT NO: HWY: COUNTY: SHEET NO: 103 E



R3-7L

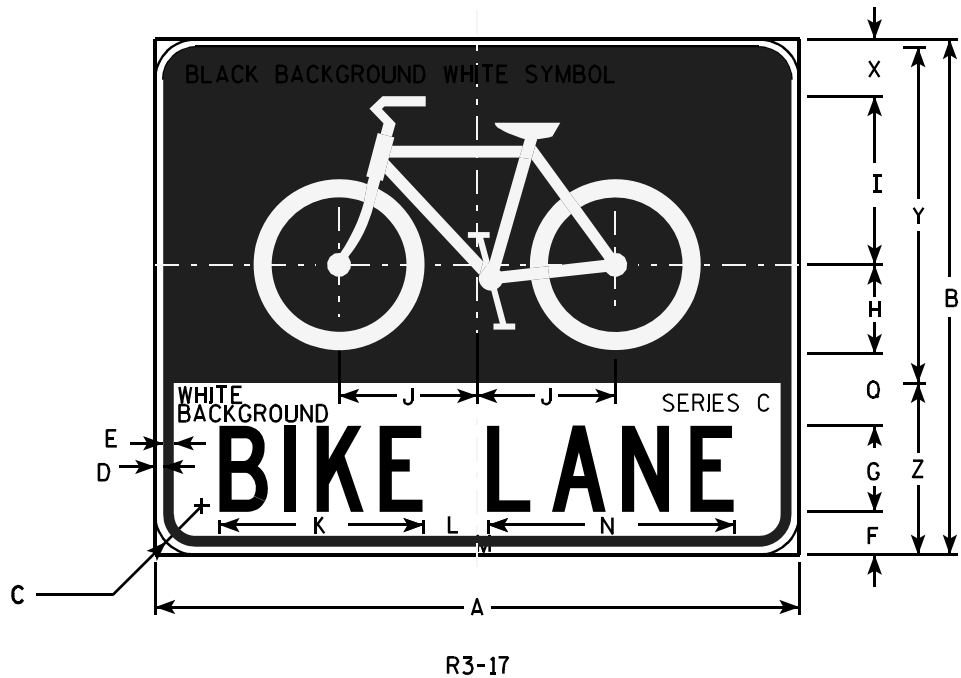


R3-7R

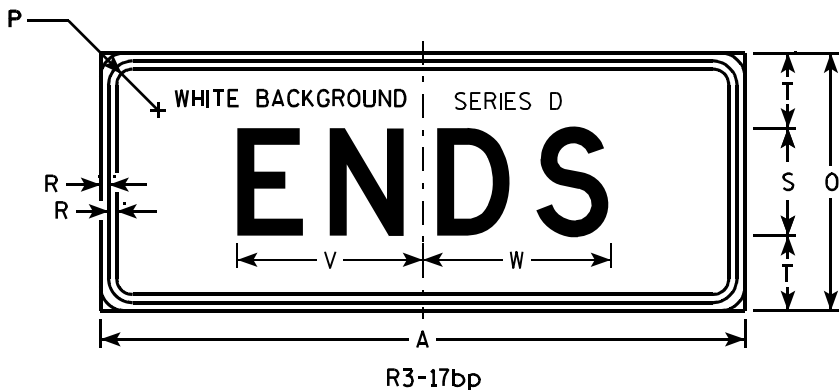
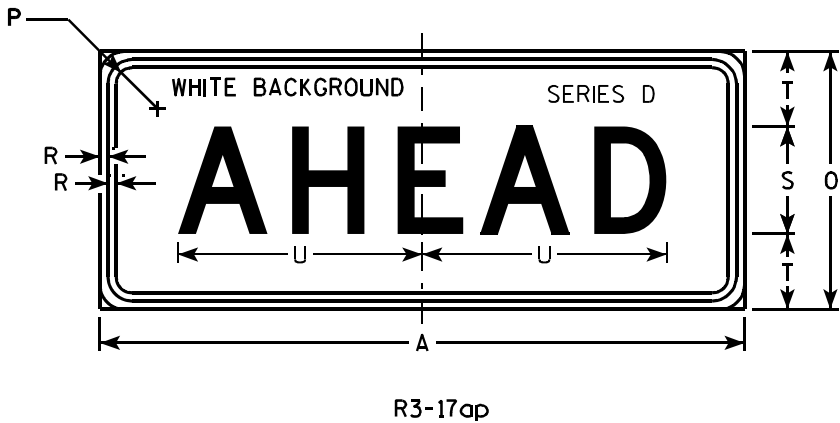
NOTES

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 - Line 1 is Series B.
Line 2 is Series C.
Line 3 on plate R3-7R is Series B and Series C on plate R3-7L.
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	O	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	30		1 3/8	1/2	5/8	5	7 3/4	1 3/4	5/8	7 1/8	7 3/4	11 1/4	2 3/8	3/4	9 5/8	4 1/4	4	2 1/2	8 7/8	9 3/4	3/4	1 5/8	8 5/8	1 5/8	5/8		6.25
2S	30		1 3/8	1/2	5/8	5	7 3/4	1 3/4	5/8	7 1/8	7 3/4	11 1/4	2 3/8	3/4	9 5/8	4 1/4	4	2 1/2	8 7/8	9 3/4	3/4	1 5/8	8 5/8	1 5/8	5/8		6.25
2M	30		1 3/8	1/2	5/8	5	7 3/4	1 3/4	5/8	7 1/8	7 3/4	11 1/4	2 3/8	3/4	9 5/8	4 1/4	4	2 1/2	8 7/8	9 3/4	3/4	1 5/8	8 5/8	1 5/8	5/8		6.25
3	36		1 5/8	5/8	3/4	6	9 5/8	2	1 1/8	8 3/4	9	13 1/2	3 7/8	1 1/2	12 1/2	5	5	3	10 5/8	12	7/8	2 1/4	10 5/8	2 1/8	1		9.00
4	48		2 1/4	3/4	1	8	13 1/2	2 3/8	1 1/2	11 1/2	11 7/8	17 3/4	3 5/8	2 1/2	16 3/8	6 1/2	7	4	14 3/8	16 7/8	5/8	3 1/4	15 1/8	2 3/4	1 1/8		16.00
5																											



- NOTES**
1. Sign is Type II - Type H Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
 2. Color:
Background - AS SHOWN
Message - BLACK
 3. Message Series - C or as noted on the Signs.
 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.



																												R3-17	R3-17ap	R3-17bp
SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.	Area sq. ft.	Area sq. ft.	
1																														
2S	30	24	1 1/8	3/8	1/2	2	4	4 1/8	7 7/8	6 3/8	9 1/2	2 5/8	7/8	13	12	1 1/8	3 3/8	3/8	5	3 1/2	11 3/8	8 5/8	8 3/4	2 3/8	15 5/8	8	5.0	2.5	2.5	
2M	30	24	1 1/8	3/8	1/2	2	4	4 1/8	7 7/8	6 3/8	9 1/2	2 5/8	7/8	13	12	1 1/8	3 3/8	3/8	5	3 1/2	11 3/8	8 5/8	8 3/4	2 3/8	15 5/8	8	5.0	2.5	2.5	
3																														
4																														
5																														

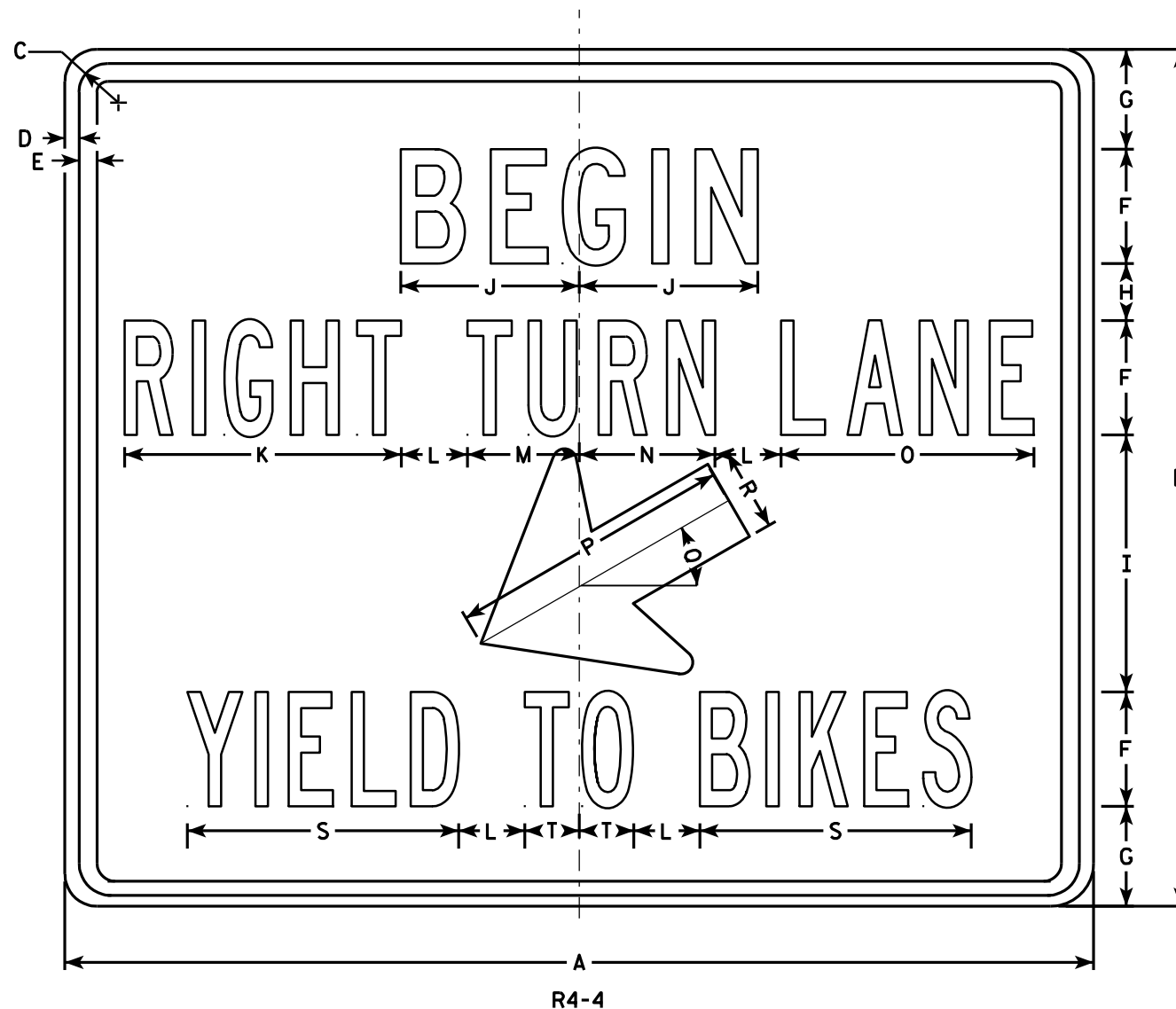
STANDARD SIGN

R3-17 & R3-17a&bp

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer

DATE 4/12/2011 PLATE NO. R3-17.2



NOTES

1. Sign is Type II - Type H Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
Background - White
Message - Black
3. Message Series - 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 C
Lines 2 & 3 are 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																											
2S	36	30	1 3⁄8	1⁄2	5⁄8	4	3 1⁄2	2	9	6 1⁄4	9 3⁄4	2 3⁄8	3 7⁄8	4 3⁄4	8 7⁄8	10	30°	2 7⁄8	9 1⁄2	1 7⁄8							7.5
2M	36	30	1 3⁄8	1⁄2	5⁄8	4	3 1⁄2	2	9	6 1⁄4	9 3⁄4	2 3⁄8	3 7⁄8	4 3⁄4	8 7⁄8	10	30°	2 7⁄8	9 1⁄2	1 7⁄8							7.5
3																											
4																											
5																											

STANDARD SIGN

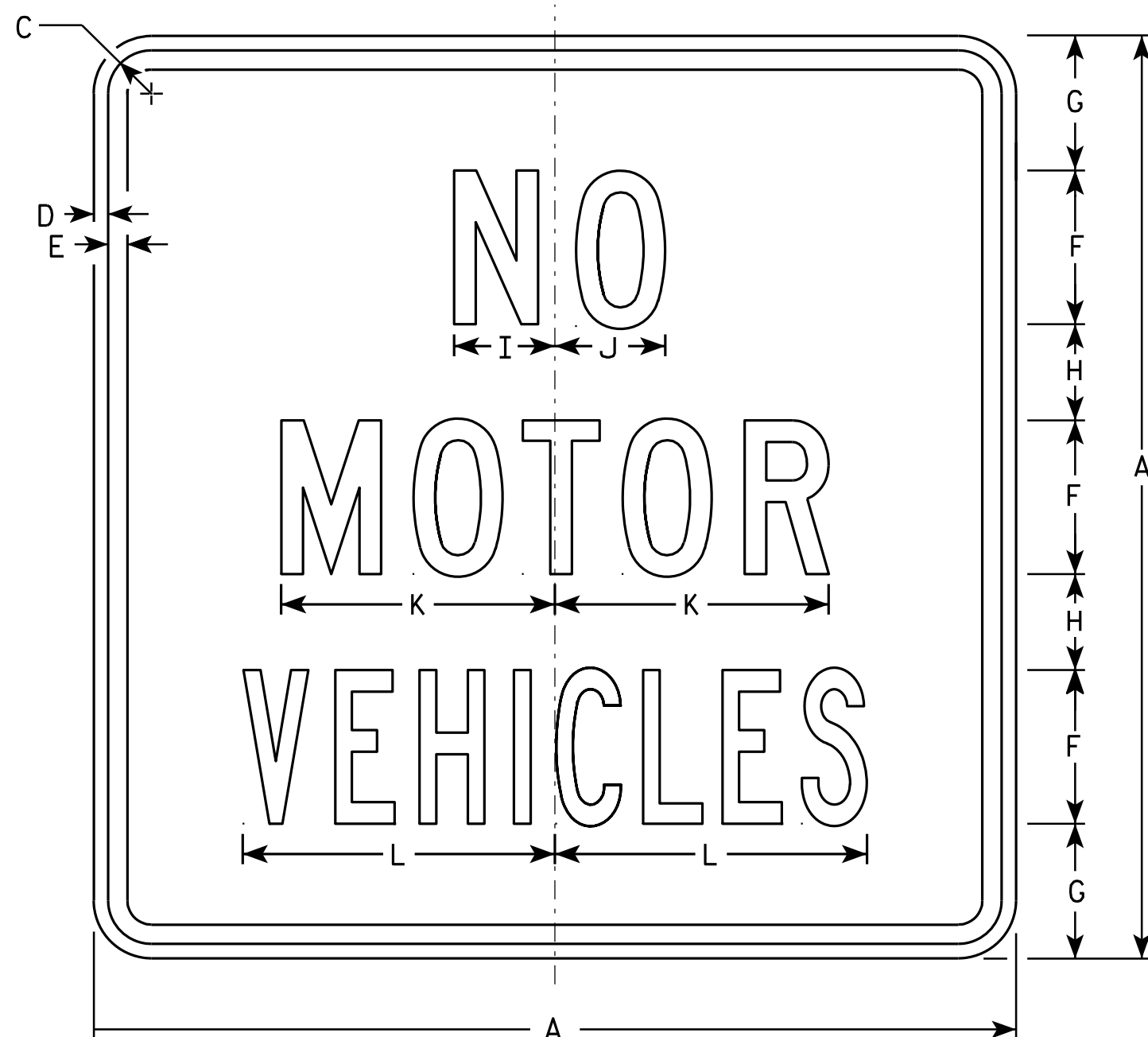
R4 - 4

WISCONSIN DEPT OF TRANSPORTATION

APPROVED
Matthew R. Rauch
for State Traffic Engineer

DATE 3/25/2011 PLATE NO. R4-4.2

PROJECT NO: HWY: COUNTY: SHEET NO: 106 E



R5-3

NOTES

1. Sign is Type II - Type H Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
Background - White
Message - Black
3. Message Series - 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 & 2 are Series C.
Line 3 is 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																											
2S	24		1 1/8	3/8	1/2	4	3 1/2	2 1/2	2 5/8	2 7/8	7 1/8	8 1/8														4.0	
2M	24		1 1/8	3/8	1/2	4	3 1/2	2 1/2	2 5/8	2 7/8	7 1/8	8 1/8														4.0	
3																											
4																											
5																											

STANDARD SIGN R5-3

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer
DATE 3/29/2011 PLATE NO. R5-3.2

PROJECT NO:

HWY:

COUNTY:

SHEET NO: 107

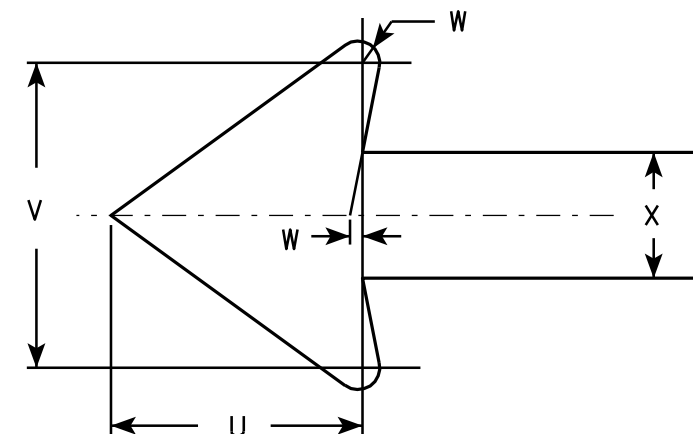
E



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: 108 **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 - 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.



R9-9

7

7

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	18	1 3/4	1/2	1/2	4	3 1/2	3	10 3/4	8 1/8																	3.75
2M	30	18	1 3/4	1/2	1/2	4	3 1/2	3	10 3/4	8 1/8																	3.75
3																											
4																											
5																											

STANDARD SIGN

R9-9

WISCONSIN DEPT OF TRANSPORTATION

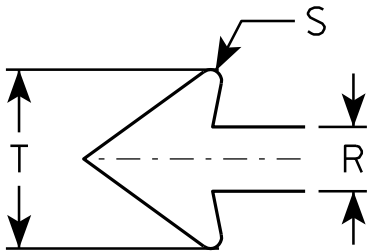
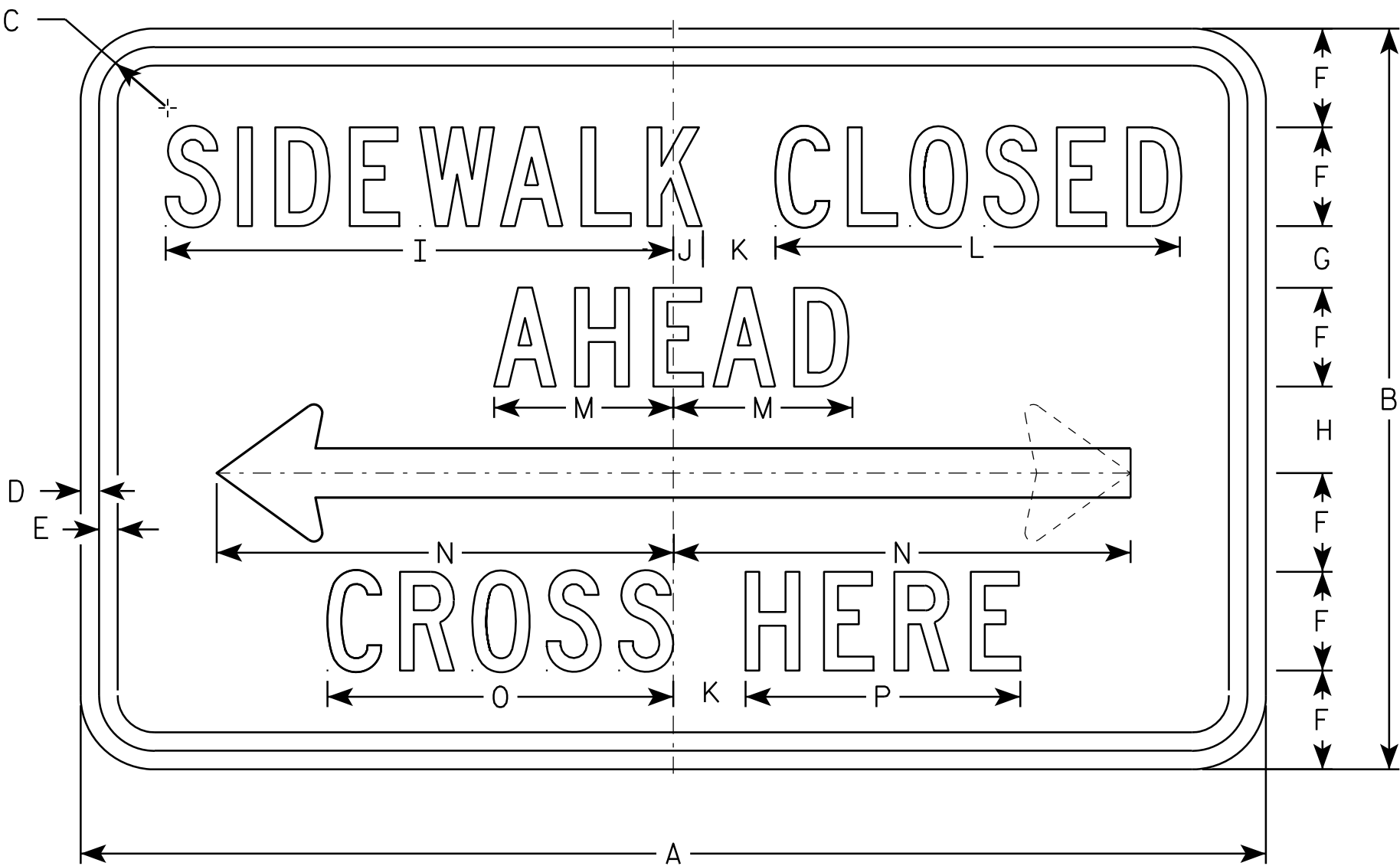
APPROVED *Matthew R. Rauch*
for State Traffic Engineer

DATE 4/1/2011 PLATE NO. R9-9.5

PROJECT NO: HWY: COUNTY: SHEET NO: 109 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 - C except Size 1 is 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.



R9-11

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	12	1 1/8	3/8	3/8	1 1/2	1 1/2	1 1/2	9 3/4	5/8	1 1/2	7 5/8	3 1/2	9 1/4	6 5/8	5 1/8		1	1/8	2 3/4							2.0
2S	48	30	2 3/4	3/4	3/4	4	2 1/2	3 1/2	20 1/2	1 1/4	3	16 3/8	7 1/4	18 1/2	14	11 1/8		2	3/8	5 1/2							10.0
2M	48	30	2 3/4	3/4	3/4	4	2 1/2	3 1/2	20 1/2	1 1/4	3	16 3/8	7 1/4	18 1/2	14	11 1/8		2	3/8	5 1/2							10.0
3																											
4																											
5																											

STANDARD SIGN
R9-11

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer

DATE 8/17/2012 PLATE NO. R9-11.2

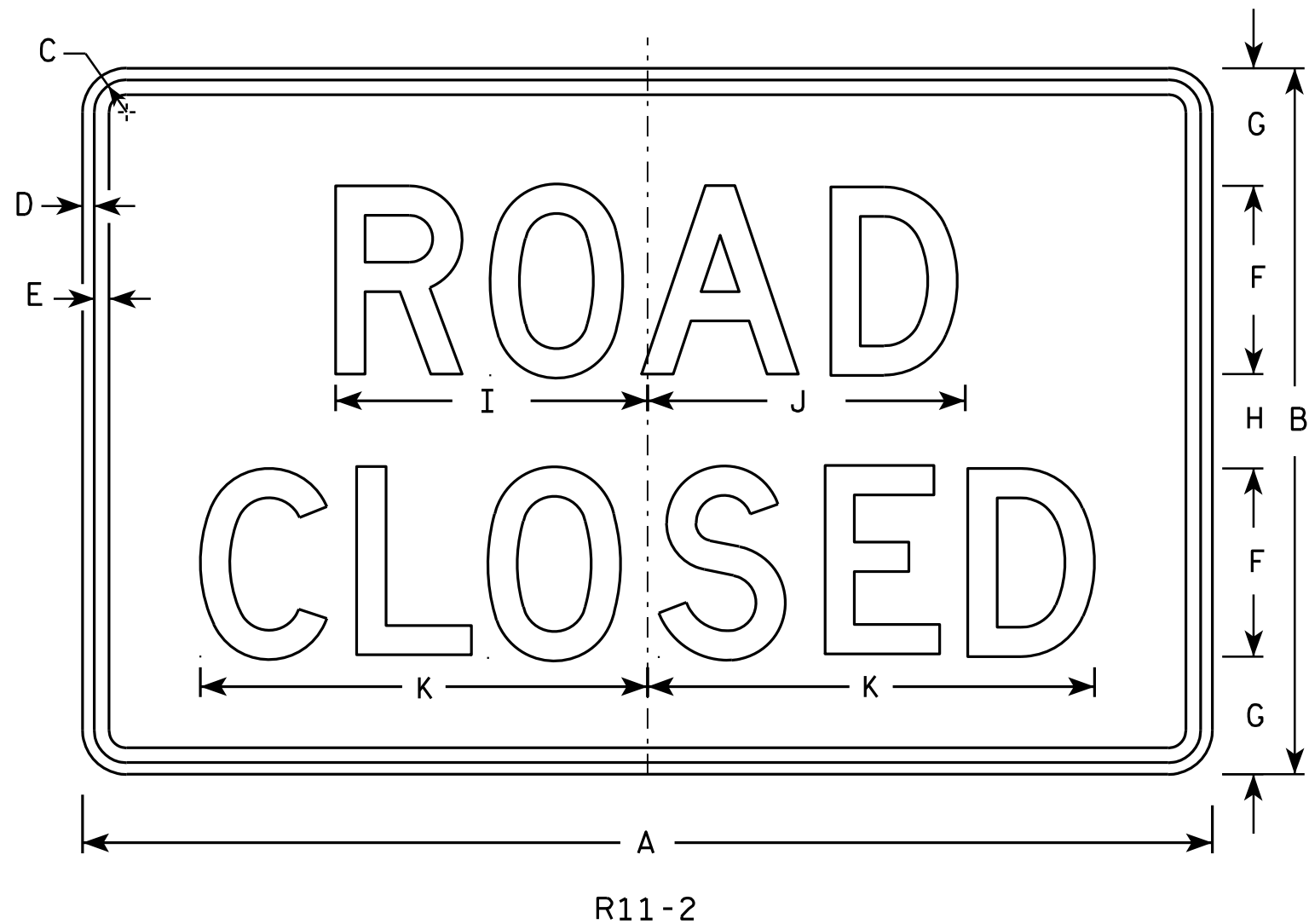
PROJECT NO:

HWY:

COUNTY:

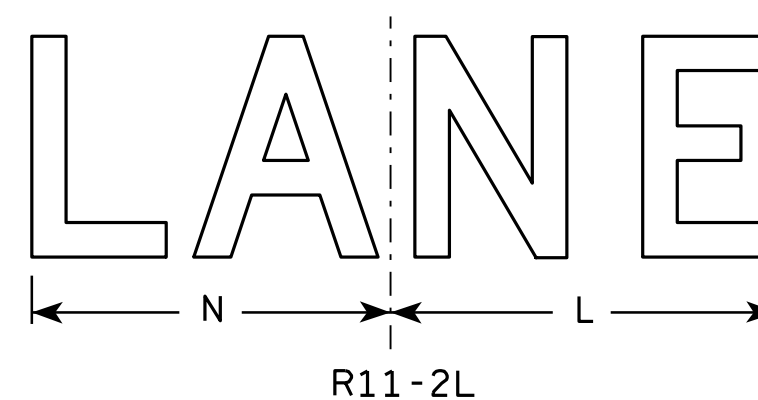
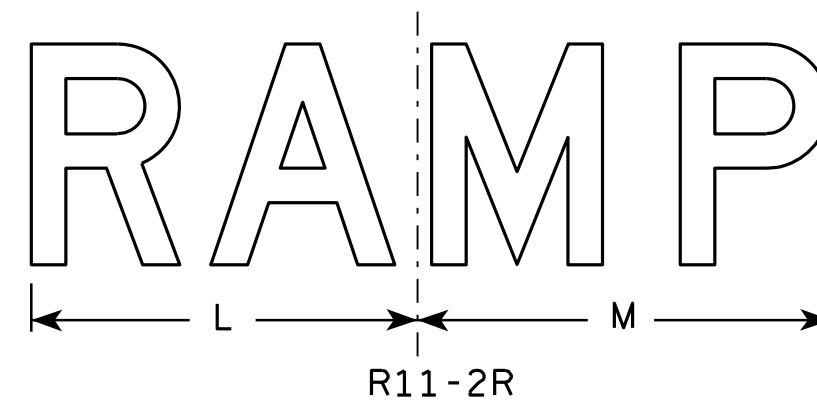
SHEET NO: 110

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 - D
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
5. Modify the message as required.

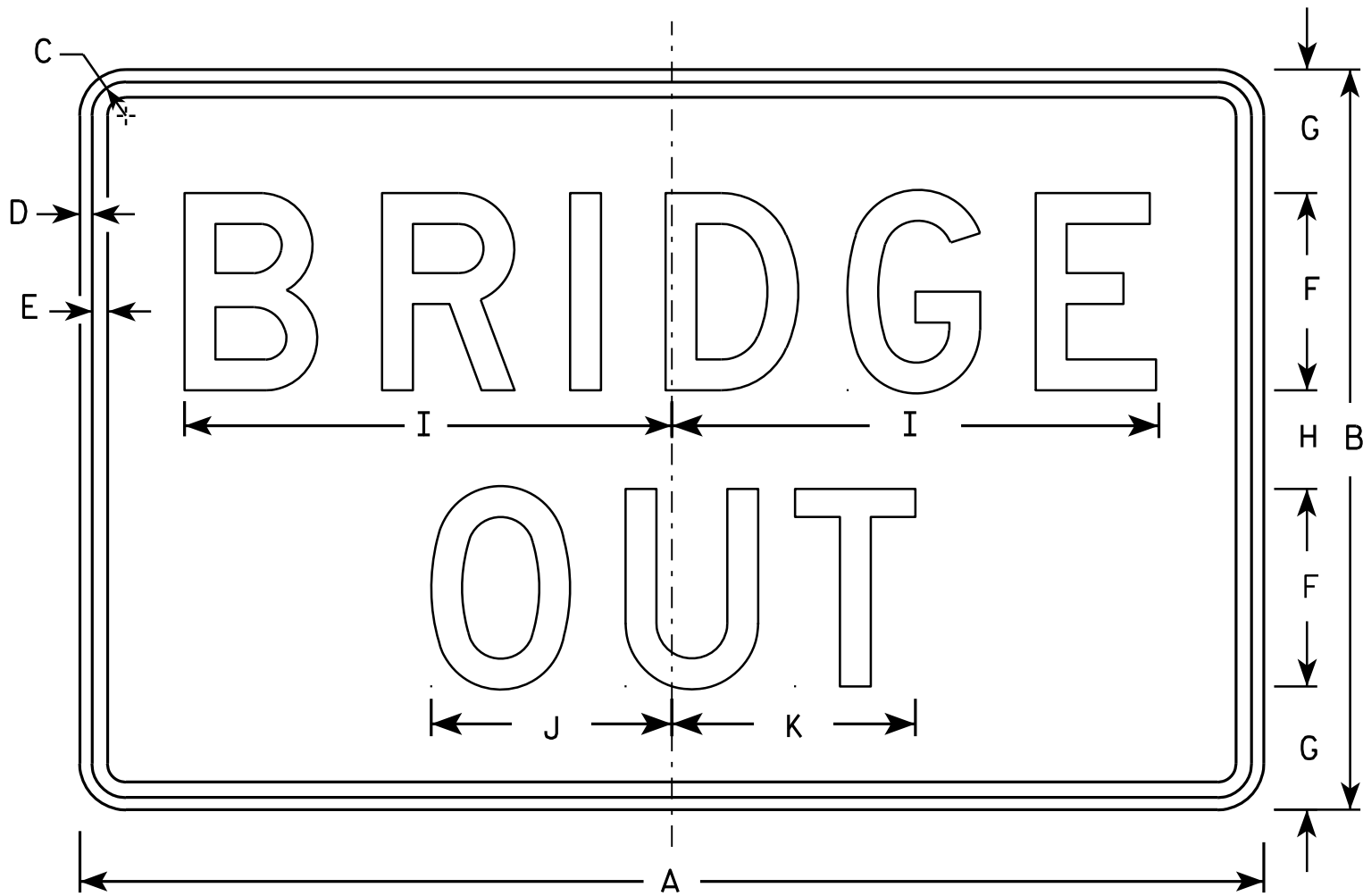


SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2S	48	30	1 3⁄8	1⁄2	5⁄8	8	5	4	13 1⁄4	13 1⁄2	19	14	15	13													10.0
2M	48	30	1 3⁄8	1⁄2	5⁄8	8	5	4	13 1⁄4	13 1⁄2	19	14	15	13													10.0
3	48	30	1 3⁄8	1⁄2	5⁄8	8	5	4	13 1⁄4	13 1⁄2	19	14	15	13				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

STANDARD SIGN R11-2

WISCONSIN DEPT OF TRANSPORTATION
APPROVED *Matthew R. Rauch*
for State Traffic Engineer
DATE 4/1/11 PLATE NO. R11-2.10

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



R11-2B

NOTES

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

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2S	48	30	1 3⁄8	1⁄2	5⁄8	8	5	4	19 3⁄4	9 3⁄4	9 7⁄8																10.0
2M	48	30	1 3⁄8	1⁄2	5⁄8	8	5	4	19 3⁄4	9 3⁄4	9 7⁄8																10.0
3	48	30	1 3⁄8	1⁄2	5⁄8	8	5	4	19 3⁄4	9 3⁄4	9 7⁄8																10.0
4	48	30	1 3⁄8	1⁄2	5⁄8	8	5	4	19 3⁄4	9 3⁄4	9 7⁄8																10.0
5	48	30	1 3⁄8	1⁄2	5⁄8	8	5	4	19 3⁄4	9 3⁄4	9 7⁄8																10.0

STANDARD SIGN

R11-2B

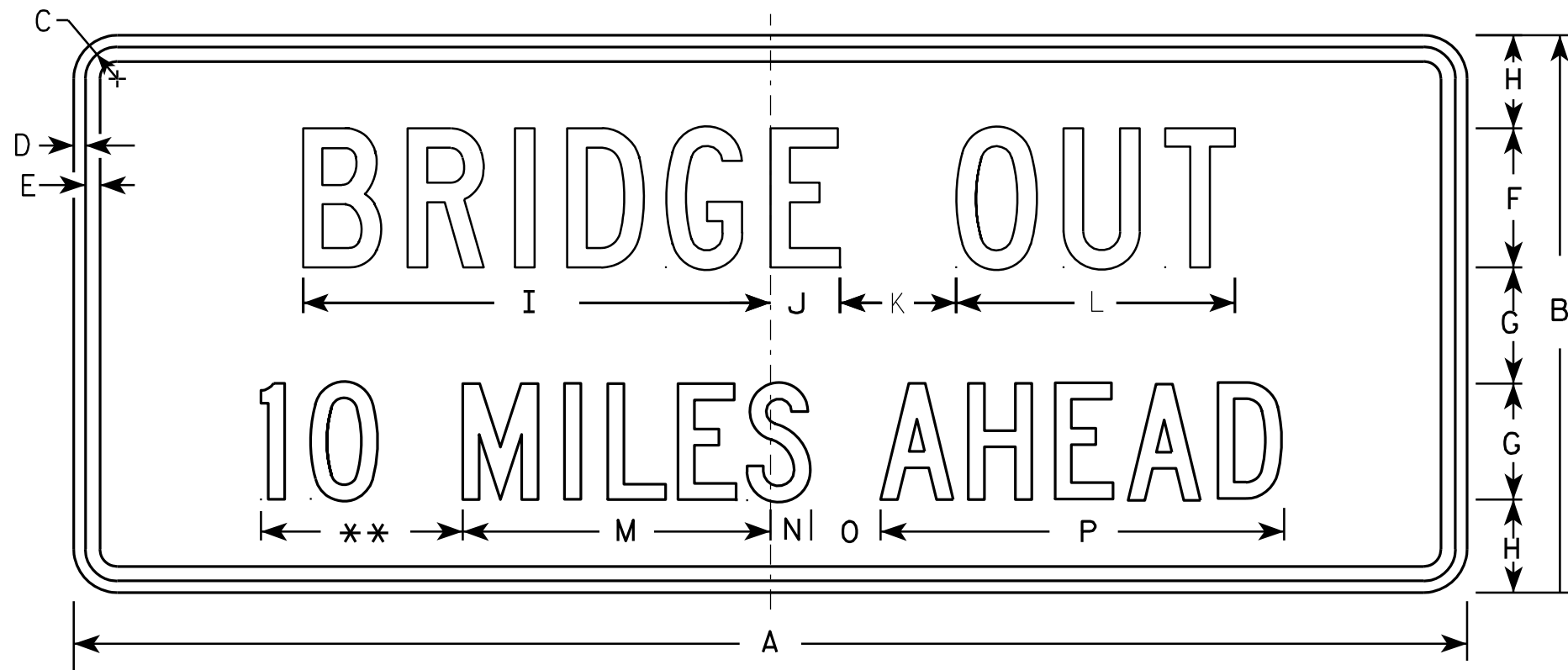
WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*

DATE 4/1/11

For State Traffic Engineer

PLATE NO. R11-2B.2



R11-3C

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. Substitute appropriate numerals and optically adjust spacing to achieve proper balance.

** See Note 5

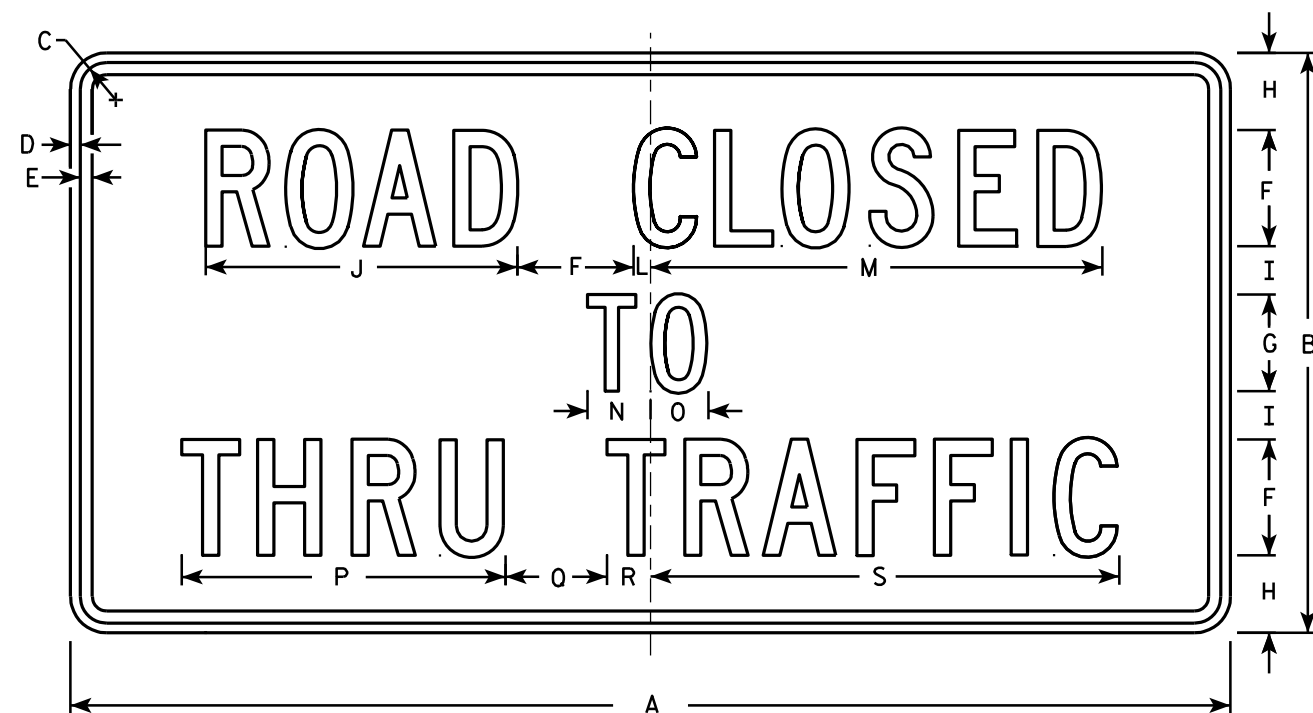
SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	36	15	1 3⁄8	1⁄2	5⁄8	4	3	2 1⁄2	13 1⁄4	2 1⁄4	3	8	8	1 1⁄2	2	10 3⁄4											3.75
2S	60	24	1 3⁄8	1⁄2	5⁄8	6	5	4	20 1⁄8	3	5	12	13 1⁄4	1 3⁄4	3	17 3⁄8											10.0
2M	60	24	1 3⁄8	1⁄2	5⁄8	6	5	4	20 1⁄8	3	5	12	13 1⁄4	1 3⁄4	3	17 3⁄8											10.0
3																											
4																											
5																											

STANDARD SIGN
R11-3C

WISCONSIN DEPT OF TRANSPORTATION

APPROVED
Matthew R. Rauch
For State Traffic Engineer

DATE 4/1/11 PLATE NO. R11-3C.2



R11-4

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.

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	60	30	1 3⁄8	½	5⁄8	6	5	4	2 ½	16 ⅛		7⁄8	23 3⁄8	3 ¼	3	16 ¾	5 ¼	2 ¼	24 ¼								12.5
2M	60	30	1 3⁄8	½	5⁄8	6	5	4	2 ½	16 ⅛		7⁄8	23 3⁄8	3 ¼	3	16 ¾	5 ¼	2 ¼	24 ¼								12.5
3																											
4																											
5																											

STANDARD SIGN
R11 - 4

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer

DATE 4/1/11 PLATE NO. R11-4.3

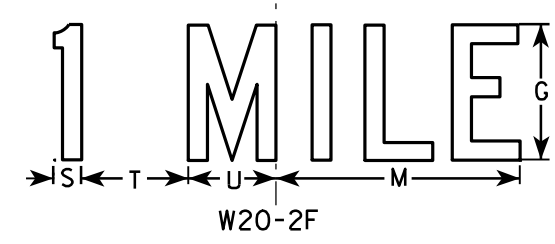
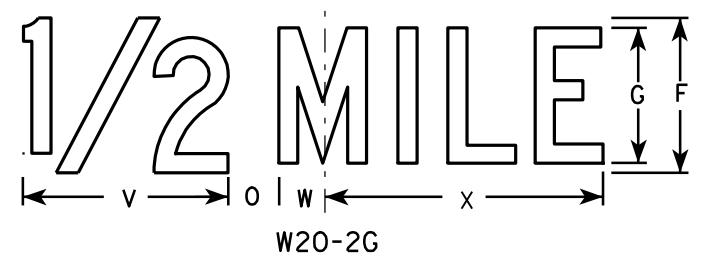
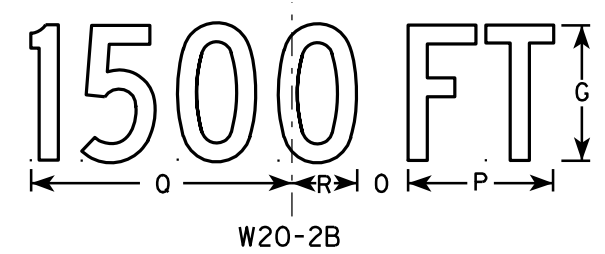
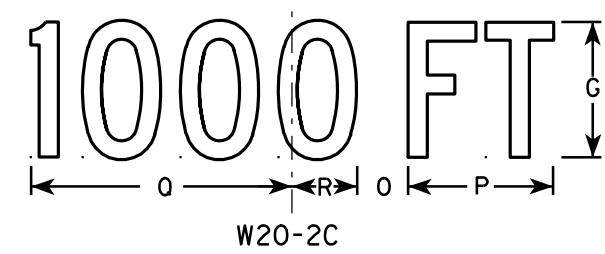
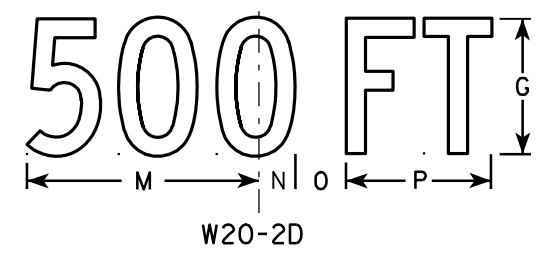
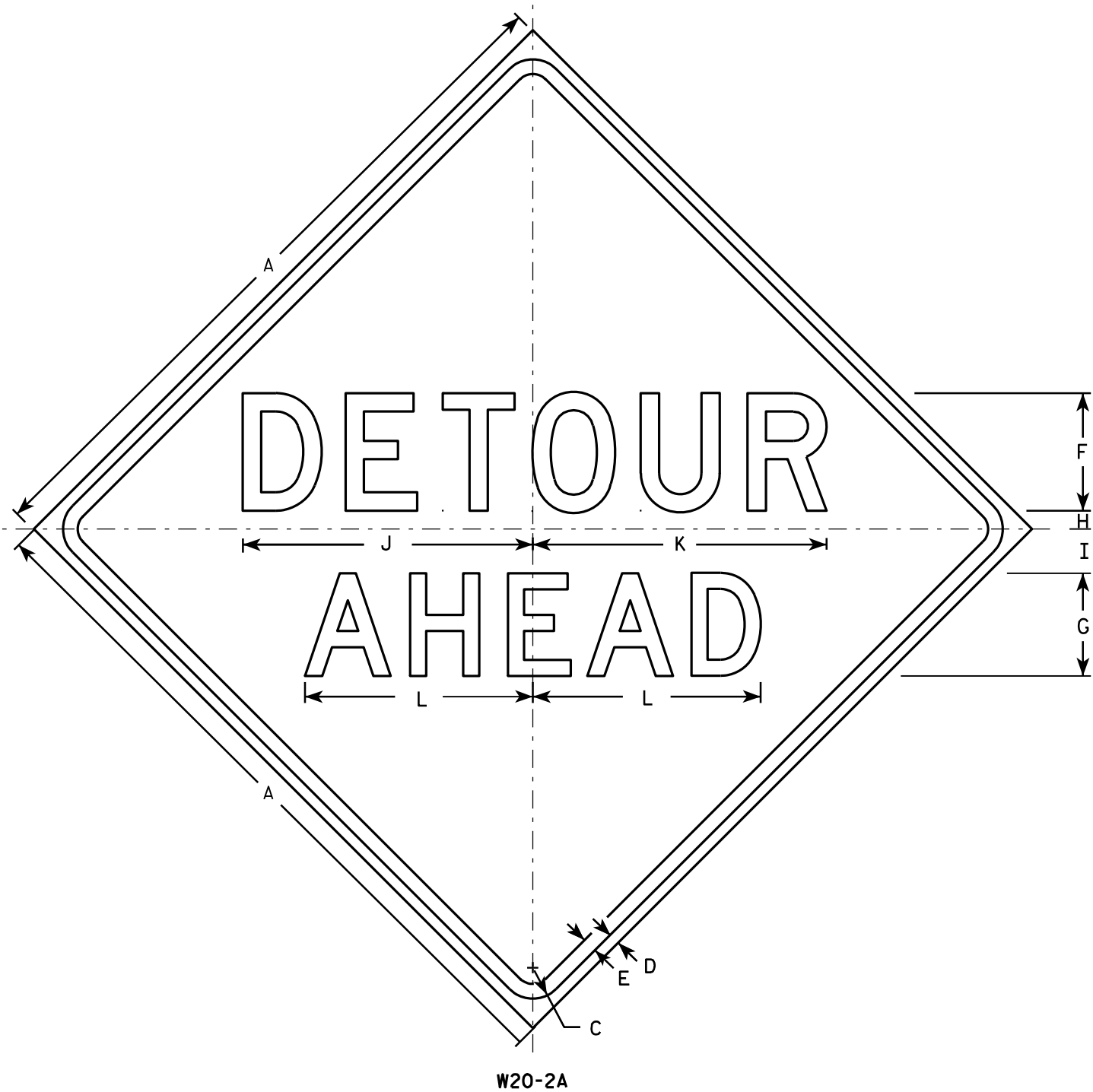
PROJECT NO:

HWY:

COUNTY:

SHEET NO: 114

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 - 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: 115

E



DATE: JAN 2015

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.

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

AT THE BACKFACE OF ABUTMENT ALL VOLUME WHICH CANNOT BE PLACED BEFORE ABUTMENT CONSTRUCTION AND IS NOT OCCUPIED BY THE NEW STRUCTURE SHALL BE BACKFILLED WITH STRUCTURE BACKFILL.

THE GRADATION OF THE STRUCTURE BACKFILL SHALL MEET THE REQUIREMENTS OF SECTION 209.2.2 OF THE STANDARD SPECIFICATIONS FOR GRADE 1 MATERIAL.

PROTECTIVE SURFACE TREATMENT TO BE APPLIED TO THE ENTIRE TOP OF DECK SURFACE, SIDEWALK AND THE FRONT FACE AND THE TOP OF THE PARAPET, INCLUDING PARAPETS AND MONUMENTS ON ABUTMENT WINGS.

THE EXISTING GROUND LINE SHALL BE USED AS THE UPPER LIMITS OF EXCAVATION AT THE PIERS IN THE DRY.

THE EXISTING STREAM BED SHALL BE USED AS THE UPPER LIMITS OF EXCAVATION AT THE PIERS IN THE WET.

AT PIER(S), CONCRETE POURED UNDER WATER WILL BE ALLOWED AND SHALL BE DONE IN ACCORDANCE WITH SECTION 502.3.5.3 OF THE STANDARD SPECIFICATIONS.

APPLY BRIDGE SEAT PROTECTION, AS PER SECTION 502.3.12 OF THE STANDARD SPECIFICATIONS, TO THE TOP SURFACES OF THE EAST ABUTMENT.

THE SLOPE OF THE FILL IN FRONT OF THE EAST ABUTMENT SHALL BE COVERED WITH HEAVY RIPRAP AND GEOTEXTILE FABRIC TYPE 'HR' TO THE EXTENT SHOWN ON SHEET 1 AND IN THE ABUTMENT DETAILS.

THE SLOPE OF THE FILL IN FRONT OF THE WEST ABUTMENT SHALL BE COVERED WITH SLOPE PAVING MATERIAL TO THE EXTENT SHOWN ON SHEET 1 AND IN THE SLOPE PAVING DETAILS ON SHEET 41.

WITHIN THE LIMITS OF THE EAST ABUTMENT SLOPE DOWN TO THE RIVER, EXISTS A PARTIALLY EXPOSED MASS OF CONCRETE FROM THE ORIGINAL (1914 C.) BRIDGE STRUCTURE ABUTMENT. THIS IS TO REMAIN IN PLACE FOR AIDING IN THE STABILIZATION OF THE EAST BANK. ANY REMOVAL IS TO BE APPROVED BY THE ENGINEER. THE BATTER OF THE PILES AT THE PROPOSED EAST ABUTMENT MAY COME INTO CONFLICT WITH THIS OBJECT. THE CONTRACTOR SHALL DRIVE A NUMBER OF TEST PILES TO DETERMINE THE SITUATION (SEE SHEET 8). IF CONFLICT OCCURS, NOTIFY THE ENGINEER SO A PROPER COURSE OF ACTION MAY BE DETERMINED.

A 10'-0" X 10'-0" SQUARE X 2'-0" DEEP AREA OF HEAVY RIPRAP SHALL BE LOCATED BENEATH EACH FLOOR DRAIN LOCATION EXCEPT WHEN OVER THE WATERWAY TO PREVENT EROSION.

EXISTING WATERMAIN TO BE REPLACED WITH NEW 12" DIA. WATERMAIN AS PART OF THIS CONTRACT, INCLUDED UNDER ROADWAY BID ITEMS.

THE EXACT SIZE, LOCATION, AND ELEVATION OF THE BOXOUTS THROUGH BOTH THE ABUTMENT AND PIER DIAPHRAGMS AND THE ABUTMENT BACKWALL FOR THE NEW 12" DIA. WATERMAIN SHALL BE DETERMINED AND AGREED UPON BY BOTH THE UTILITY OWNERS (CITY OF EAU CLAIRE) AND THE FIELD ENGINEER PRIOR TO INSTALLATION.

AFTER THE NEW 12" DIA. WATERMAIN HAS BEEN INSTALLED, THE BOXOUTS NEED TO BE GROUTED CLOSED AT THE ABUTMENTS ONLY. A PIECE OF 18" RUBBERIZED MEMBRANE WATERPROOFING SHALL BE APPLIED TO THE BACK FACE OF THE ABUTMENT DIAPHRAGM AND ABUTMENT BACKWALL AT THE BOXOUT LOCATIONS.

THE CONTRACTOR SHALL COORDINATE WITH THE UTILITY OWNER (CITY OF EAU CLAIRE) TO DETERMINE THE NUMBER AND SPACING OF THE DECK INSERTS, HANGERS, AND ALL THE NECESSARY HARDWARE REQUIRED TO INSTALL AND SECURE THE 12" WATERMAIN.

THE CONTRACTOR SHALL SUPPLY DECK INSERTS AND HANGERS, AND ALL THE NECESSARY HARDWARE REQUIRED TO INSTALL THE DECK INSERTS FOR THEIR HANGERS. THESE ITEMS SHALL BE CONSIDERED INCIDENTAL TO BID ITEM "12-INCH DUCTILE WATERMAIN CLASS 52".

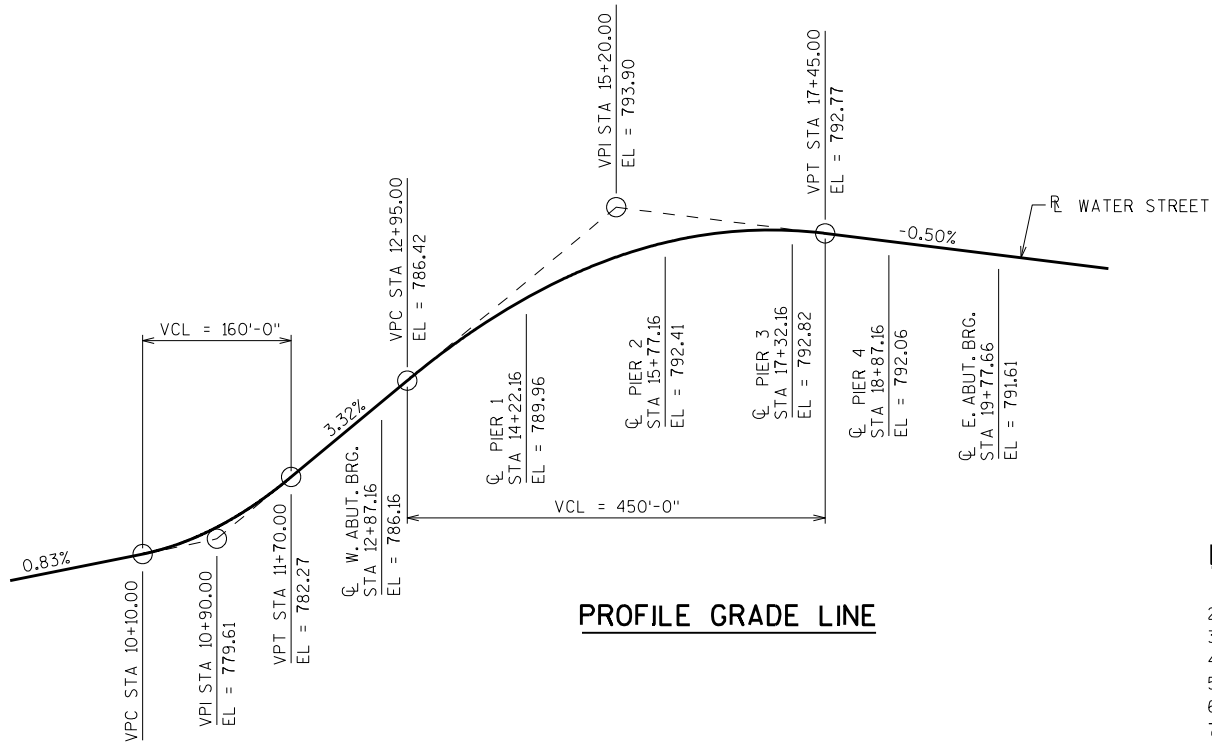
THE CONTRACTOR SHALL INSTALL THE INSERTS, HANGERS AND ALL ASSOCIATED HARDWARE REQUIRED TO INSTALL THE NEW 12" DIA. WATERMAIN HANGER ASSEMBLIES/SUPPORT SYSTEM. THE INSTALLATION OF THE INSERTS, HANGERS AND ALL ASSOCIATED HARDWARE SHALL BE CONSIDERED INCIDENTAL TO BID ITEM "12-INCH DUCTILE WATERMAIN CLASS 52".

EXISTING SANITARY LINE AT EAST ABUTMENT TO BE RELOCATED AS PART OF THIS CONTRACT, INCLUDED UNDER ROADWAY BID ITEMS.

CONTROL AND MONITORING FOR EXCESSIVE VIBRATION DUE TO REMOVAL OF EXISTING, AND CONSTRUCTION OF NEW STRUCTURE REQUIRED AT THE EASTERN END OF PROJECT LIMITS, SEE PROJECT SPECIALS FOR MORE INFORMATION.

STATE PROJECT NUMBER

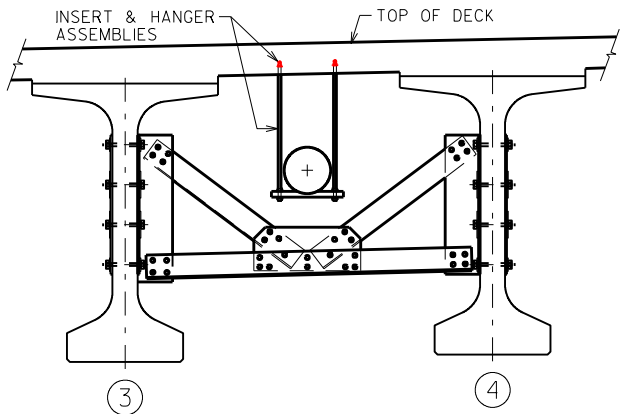
7995-02-40



PROFILE GRADE LINE

LIST OF DRAWINGS

1. GENERAL PLAN
2. GENERAL NOTES & PROFILE
3. GENERAL DETAILS
4. QUANTITIES
5. SUBSURFACE EXPLORATION
6. WEST ABUTMENT
7. WEST ABUTMENT DETAILS
8. EAST ABUTMENT
9. EAST ABUTMENT DETAILS
10. EAST ABUTMENT DETAILS 2
11. PIER LAYOUT
12. PIER 1
13. PIER 1 DETAILS
14. PIER 2
15. PIER 2 DETAILS 1
16. PIER 2 DETAILS 2
17. PIERS 3&4
18. PIERS 3&4 DETAILS 1
19. PIERS 3&4 DETAILS 2
20. GIRDER DATA
21. 72W" PRESTRESSED GIRDER DETAILS 1
22. 72W" PRESTRESSED GIRDER DETAILS 2
23. STEEL DIAPHRAGM
24. SUPERSTRUCTURE CROSS SECTION
25. SUPERSTRUCTURE LAYOUT
26. SUPERSTRUCTURE REINFORCEMENT
27. PIER MASK WALL DETAILS
28. SUPERSTUCTURE DETAILS
29. TOP OF DECK ELEVATIONS
30. BRIDGE PARAPET AND PEDESTAL ELECTRICAL WORK
31. SUPERSTRUCTURE BILL OF BARS
32. MODULAR JOINT DETAILS
33. COVER PLATES FOR SIDEWALK W/CONC. PARAPET
34. PRESTRESSED GIRDER STEEL BEARINGS
35. PRESTRESSED GIRDER LAMINATED ELASTOMERIC BEARINGS
36. COMBINATION RAIL TYPE "C3" WEST END
37. COMBINATION RAIL TYPE "C3" EAST END
38. COMBINATION RAIL TYPE "C3" DETAILS
39. ELECTRICAL DETAILS
40. DRAIN DETAILS TYPE 'GC'
41. WEST SLOPE PAVING (CONCRETE-CAST-IN-PLACE)
42. ALTERNATE CONSTRUCTION JOINT

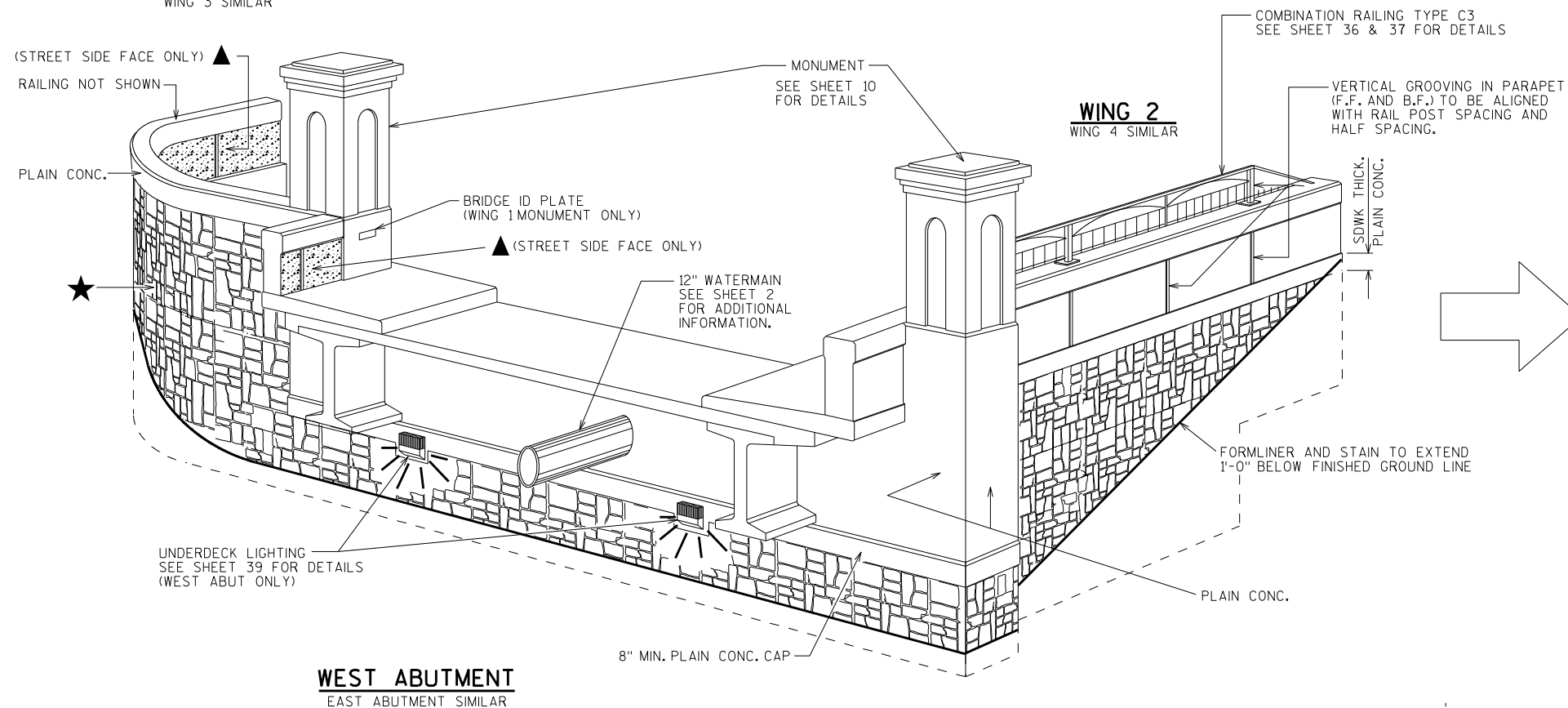


TYPICAL IN-SPAN UTILITY HANGER ELEVATION

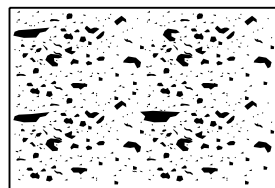
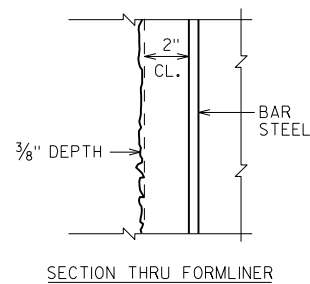
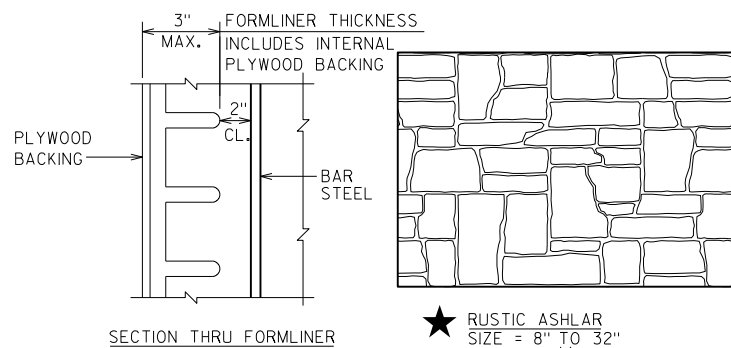
NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION STRUCTURES DESIGN SECTION			
STRUCTURE B-18-219			
DRAWN BY		ADS	PLANS CK'D. DDS
GENERAL NOTES & PROFILE			SHEET 2
			117

PEDESTRAIN OUTLOOK AT WING 1

WING 3 SIMILAR

**WEST ABUTMENT**

EAST ABUTMENT SIMILAR

▲ BUSH HAMMER
RELIEF = $\frac{3}{8}$ " MAX.★ RUSTIC ASHLAR
SIZE = 8" TO 32"
RELIEF = $\frac{1}{2}$ " MAX.**FORMLINER NOTES**

FORMLINER COURSING SHALL BE LEVEL.

THE FORMLINER COURSING ON THE WINGS SHALL BE VERTICALLY ALIGNED WITH THE FORMLINER COURSING ON THE FRONT OF THE ABUTMENT.

THE FORMLINER COURSING ON ALL FACES OF EACH COLUMN SHALL BE VERTICALLY ALIGNED.

THE FORMLINER PATTERN SHALL BE CONTINUOUS ACROSS CONSTRUCTION JOINTS.

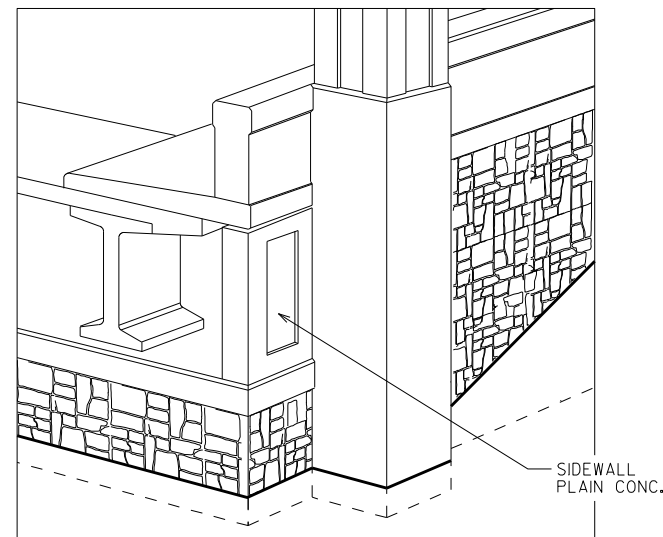
WRAP AROUND/MATCH FORMLINER PATTERN AT CORNERS.

SEE SHEET 11 FOR LOCATION OF FORMLINER AT THE PIERS

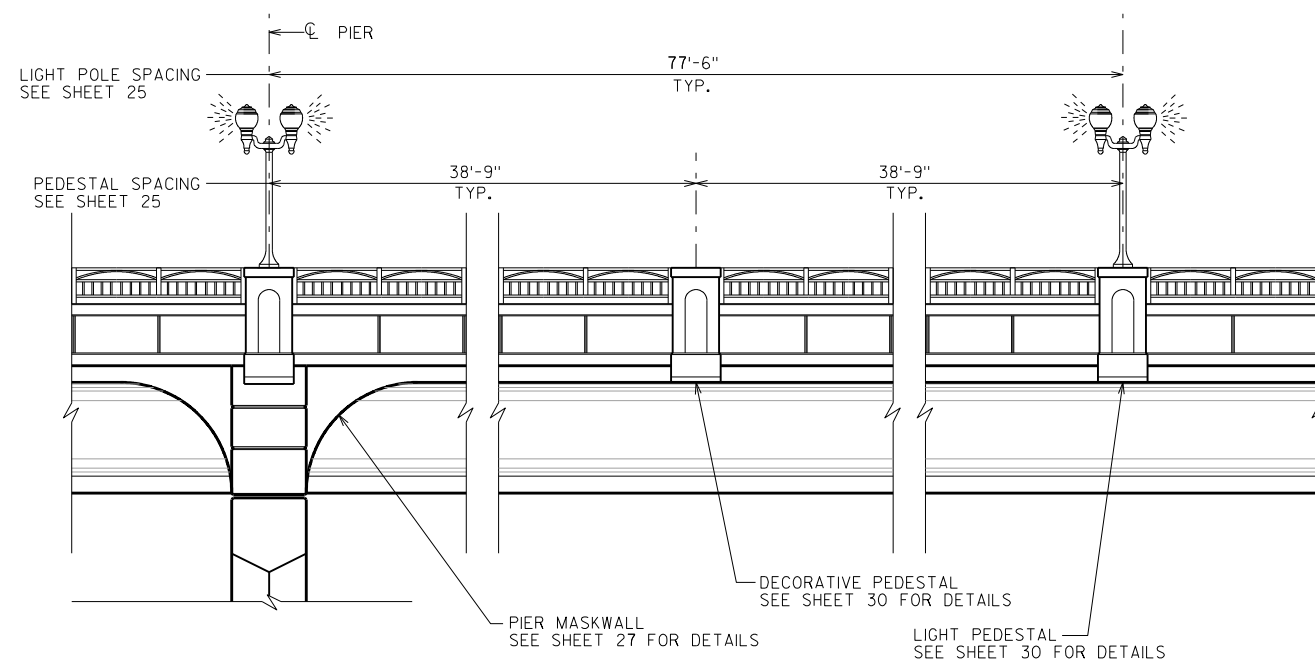
STAINING NOTES

"RUSTIC ASHLAR" FORMLINER TO RECEIVE MULTICOLOR STAIN THAT CLOSELY RESEMBLES THAT USED IN PHOENIX PARK IN THE CITY OF EAU CLAIRE

ALL OTHER SURFACES, INCLUDING "BUSH HAMMER" FORMLINER SHALL BE PLAIN CONCRETE.

**EAST ABUTMENT**

SHOWING SIDEWALL

**SUPERSTRUCTURE PROFILE**

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION STRUCTURES DESIGN SECTION			
STRUCTURE B-18-219			
DRAWN BY		ADS	PLANS CK'D. DDS
GENERAL DETAILS		SHEET 3	118

TOTAL ESTIMATED QUANTITIES

STATE PROJECT NUMBER

7995-02-40

BID ITEM NUMBER	BID ITEMS	UNIT	SUPER.	WEST ABUT.	PIER 1	PIER 2	PIER 3	PIER 4	EAST ABUT.	TOTALS
203.0600.S	REMOVING OLD STRUCTURE OVER WATERWAY WITH MINIMAL DEBRIS STA. 17+00	LS	—	—	—	—	—	—	—	1
206.1000	EXCAVATION FOR STRUCTURES BRIDGES B-18-219	LS	—	—	—	—	—	—	—	1
206.5000	COFFERDAMS B-18-219	LS	—	—	—	—	—	—	—	1
210.0100	BACKFILL STRUCTURE	CY	—	540	—	—	28	28	465	1,061
502.0100	CONCRETE MASONRY BRIDGES	CY	1,947	112	227	271	294	324	203	3,378
502.1100	CONCRETE MASONRY SEAL	CY	—	—	—	—	80	100	—	180
502.3110.S	EXPANSION DEVICE MODULAR B-18-219	LS	—	—	—	—	—	—	—	1
502.3200	PROTECTIVE SURFACE TREATMENT	SY	5,450	—	—	—	—	—	—	5,450
503.0172	PRESTRESSED GIRDER TYPE 172W-INCH	LF	5,528	—	—	—	—	—	—	5,528
505.0405	BAR STEEL REINFORCEMENT HS BRIDGES	LB	—	5,430	39,715	40,745	50,185	54,090	6,255	196,420
505.0605	BAR STEEL REINFORCEMENT HS COATED BRIDGES	LB	443,295	5,545	—	—	—	—	8,630	457,470
506.2605	BEARING PADS ELASTOMERIC NON-LAMINATED	EACH	—	8	16	—	—	—	—	24
506.2610	BEARING PADS ELASTOMERIC LAMINATED	EACH	—	—	—	16	—	—	—	16
506.4000	STEEL DIAPHRAGMS B-18-219	EACH	70	—	—	—	—	—	—	70
506.6000	BEARING ASSEMBLIES EXPANSION B-18-219	EACH	—	—	—	—	16	16	8	40
514.0445	FLOOR DRAINS TYPE GC	EACH	6	—	—	—	—	—	—	6
514.2625	DOWNSPOUT 6-INCH	LF	38	—	—	—	—	—	—	38
516.0500	RUBBERIZED MEMBRANE WATERPROOFING	SY	—	24	—	—	—	—	24	48
517.1015.S	CONCRETE STAINING MULTI-COLOR B-18-219	SF	—	732	—	496	744	744	674	3,390
517.1050.S	ARCHITECTURAL SURFACE TREATMENT B-18-219	SF	2,780	844	280	676	924	924	776	7,204
550.0010	PREBORING UNCONSOLIDATED MATERIALS	LF	—	—	—	—	—	—	800	800
550.0500	PILE POINTS	EACH	—	22	42	38	42	42	40	226
550.1100	PILING STEEL HP 10-INCH X 42 LB	LF	—	1,540	—	—	—	—	3,400	4,940
550.1140	PILING STEEL HP 14-INCH X 73 LB	LF	—	—	1,680	1,330	2,310	1,890	—	7,210
604.0400	SLOPE PAVING CONCRETE	SY	—	160	—	—	—	—	—	160
606.0300	RIPRAP HEAVY	CY	—	—	—	—	39	39	338	416
606.0500	GROUTED RIPRAP LIGHT	CY	—	—	—	—	—	—	8	8
612.0406	PIPE UNDERDRAIN WRAPPED 6-INCH	LF	—	235	—	—	—	—	140	375
645.0120	GEOTEXTILE FABRIC TYPE HR	SY	—	—	—	—	70	70	508	648
* 652.0115	CONDUIT RIGID METALLIC 1 1/4-INCH	LF	60	—	—	—	—	—	—	60
652.0125	CONDUIT RIGID METALLIC 2-INCH	LF	60	—	—	—	—	—	—	60
* 652.0215	CONDUIT RIGID NONMETALLIC SCHEDULE 40 1 1/4-INCH	LF	2,850	—	—	—	—	—	—	2,850
652.0225	CONDUIT RIGID NONMETALLIC SCHEDULE 40 2-INCH	LF	2,850	—	—	—	—	—	—	2,850
* 653.0222	JUNCTION BOXES 18X12X6-INCH	EACH	26	—	—	—	—	—	—	26
* * 657.6005.S	ANCHOR ASSEMBLIES LIGHT POLES ON STRUCTURES	EACH	18	—	—	—	—	—	—	18
* * 659.0600	UNDERDECK LIGHTING STA. 12+87	LS	—	1	—	—	—	—	—	1
* * 659.1215	LUMINAIRES UNDERDECK LED C	EACH	—	2	—	—	—	—	—	2
SPV.0060	COFFERDAMS B-18-219 PIER 3	EACH	—	—	—	—	1	—	—	1
SPV.0090	PREBORING CONSOLIDATED MATERIALS	LF	—	—	—	—	760	—	—	760
SPV.0090	RAILING STEEL TYPE C3 GALVANIZED B-18-219	LF	1,490	—	—	—	—	—	—	1,490
	NON-BID ITEMS		—	—	—	—	—	—	—	
	BRIDGE SEAT PROTECTION	LS	—	—	—	—	—	—	—	1
	FILLER	SIZE	—	—	—	—	—	—	—	1/2", 3/4" & 1"
	EXPANDED POLYSTYRENE	SIZE								1"

BID ITEM DOES NOT INCLUDE COFFERDAM AT PIER 3. SEE SPECIAL PROVISION "COFFERDAMS B-18-219 PIER 3".

* THE TOTAL QUANTITIES FOR "CONDUIT RIGID METALLIC 1/4-INCH", THE TOTAL QUANTITIES FOR "CONDUIT RIGID NON-METALLIC SCHEDULE 40 1/4-INCH", AND (8) OF TOTAL QUANTITIES FOR "JUNCTION BOXES 18X12X6-INCH" SHALL BE CATEGORY 0040.

** THE TOTAL QUANTITIES FOR "ANCHOR ASSEMBLIES LIGHT POLES ON STRUCTURES", THE TOTAL QUANTITIES FOR "UNDERDECK LIGHTING STA. 12+87", AND THE TOTAL QUANTITIES FOR "LUMINAIRE UNDERDECK LED C" SHALL BE CATEGORY 0030

ALL OTHER ITEMS SHALL BE STRUCTURE CATEGORY 0020.

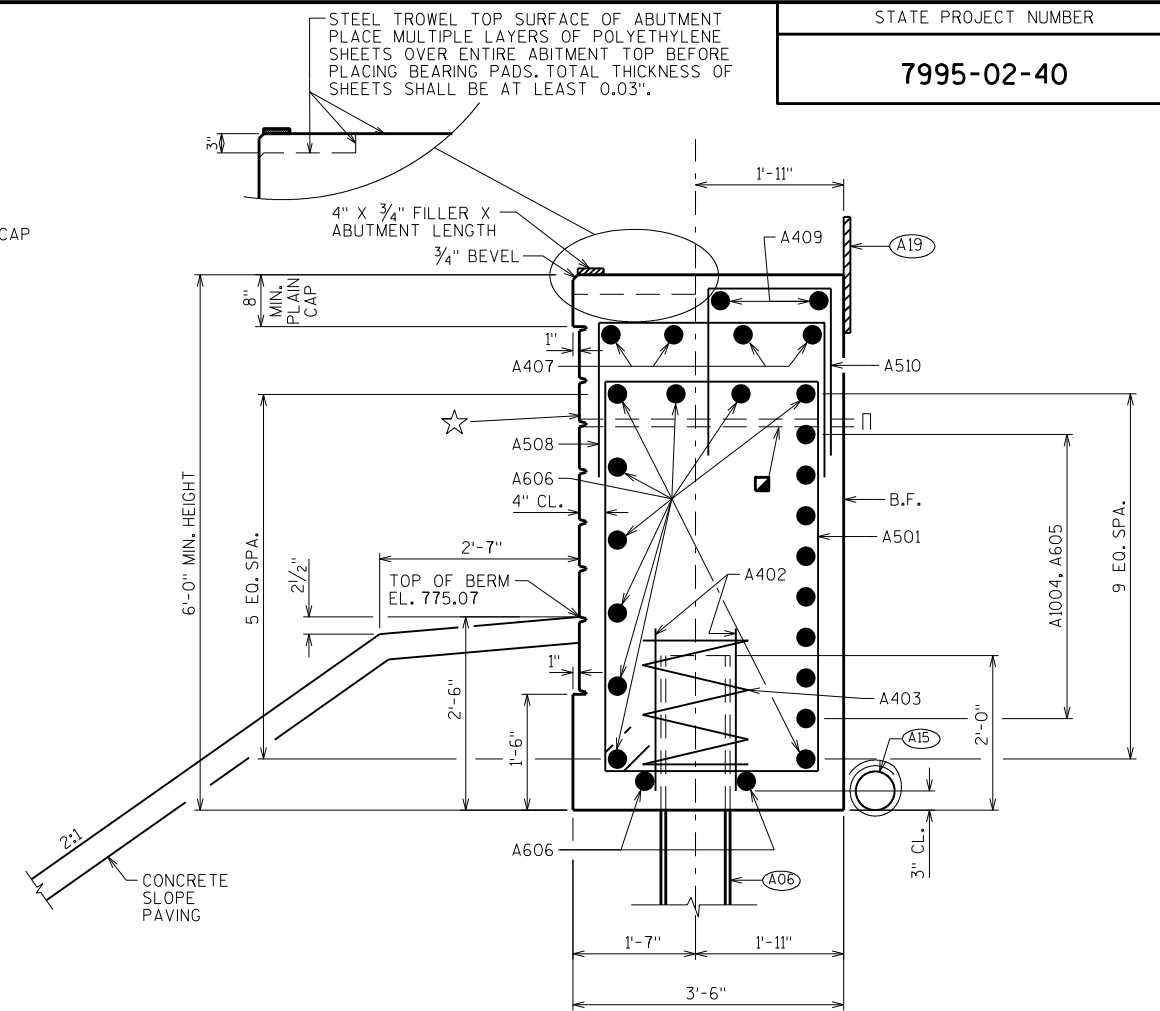
NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION STRUCTURES DESIGN SECTION			
STRUCTURE B-18-219			
DRAWN BY		ADS	PLANS CK'D. DDS
QUANTITIES		SHEET 4	
		119	

BORING #	DATE COMPLETED	NORTHING (Y)	EASTING (X)
1	6/18/2014	275182	339110
2	6/24/2014	275205	339233
3	6/25/2014	275100	339380
4	7/2/2014	275115	339536
5	7/8/2014	275036	339676
6	7/9/2014	275072	339525
7	7/22/2014	275066	339806
BORINGS COMPLETED BY: WISDOT			
REPORT COMPLETED BY: WISDOT			
ALL COORDINATES REFERENCED TO WCCS NAD 83(91) EAU CLAIRE COUNTY			



NO.	DATE	REVISION			BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION STRUCTURES DESIGN SECTION					
STRUCTURE B-18-219					
DRAWN BY			PR/DSDS	PLANS CK'D.	ADS
SUBSURFACE EXPLORATION				SHEET 5	
				120	

SCALE =



(A04) VERT. CONSTRUCTION JOINT: KEYWAY FORMED BY A BEVELED 2 X 8, 3/4" "V" GROOVE @ THE FRONT FACE AND 18" R.M.W. @ BACKFACE. FOR OPTIONAL DETAILS SEE "ALTERNATE CONSTRUCTION JOINT" SHEET.

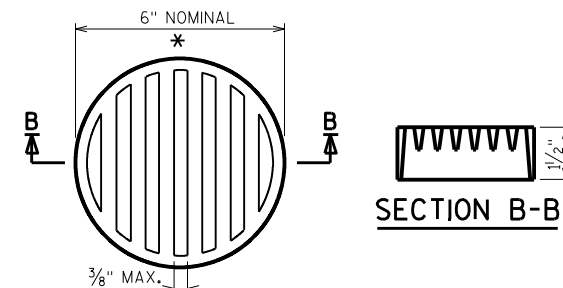
(A06) SUPPORT ABUTMENT ON HP 10 X 42 STEEL PILING, WITH A REQUIRED DRIVING RESISTANCE OF 180 TONS PER PILE, ESTIMATED 70' LONG. PILE POINTS REQUIRED.

(A15) PIPE UNDERDRAIN WRAPPED (6-INCH). SLOPE 0.5% MIN. TO SUITABLE DRAINAGE. RODENT SHIELD REQUIRED.

(A17) 1/2" FILLER (INCLUDED IN WING LENGTH): SEAL ALL EXPOSED HORIZ. & VERT. SURFACES OF 1/2" FILLER WITH NON-STAINING GRAY NON-BITUMINOUS JOINT SEALER. (1" DEEP AND HOLD 1/8" BELOW SURFACE OF CONCRETE). EXTEND SEALER 3" BELOW GUTTER LINE AT INSIDE FACE.

(A18) 3/4" CORK FILLER UP VERT. BEAM SEAT FACES THAT RUN PARALLEL WITH GIRDER.

(A19) 18" (RMW) RUBBERIZED MEMBRANE WATERPROOFING SEAL ALL HORIZ. & VERT. JOINTS AT BACKFACE.



THE RODENT SHIELD SHALL BE A PVC GRATE SIMILAR TO THIS DETAIL. THE GRATE IS COMMERCIALY AVAILABLE AS A FLOOR STRAINER. A PIPE COUPLING IS REQUIRED FOR THE ATTACHMENT OF THIS SHIELD TO THE EXPOSED END OF THE PIPE UNDERDRAIN. THE SHIELD SHALL BE FASTENED TO THE PIPE COUPLING WITH TWO OR MORE NO. 10 X 1-INCH STAINLESS STEEL SHEET METAL SCREWS.



NO.	DATE	REVISION			BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION STRUCTURES DESIGN SECTION					
STRUCTURE		B-18-219			
		DRAWN BY	DDS	PLANS CK'D.	ADS
WEST ABUTMENT				SHEET 6	
				121	

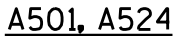
NOTE: THE FIRST OR FIRST TWO DIGITS OF THE
BAR MARK SIGNIFIES THE BAR SIZE.

The diagram illustrates three different types of reinforcement bars used in construction:

- A403:** A circular bar with a diameter of 1'-9" and a 5 WRAP SPIRAL. The label **A403** is underlined.
- A511:** An L-shaped bar with a vertical leg of 2'-10" and a horizontal leg of 1'-6". The label **A511** is underlined.
- A926:** A hooked bar with a horizontal leg of 16'-0" and a 180° STD. HOOK. The label **A926** is underlined.

	"A"	"B"	"C"
A512	19'-2"	1'-9"	12'-4"
A913	17'-1"	4'-7"	11'-0"
A515	19'-2"	1'-9"	12'-4"
A516	17'-1"	1'-9"	11'-0"
A417	19'-2"	1'-5"	12'-4"
A418	18'-4"	1'-5"	11'-10"

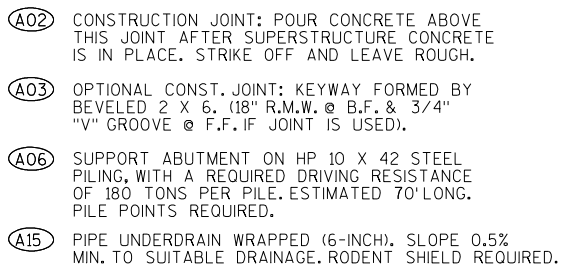
NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION STRUCTURES DESIGN SECTION			
STRUCTURE		B-18-219	
DRAWN BY		DDS	PLANS CK'D. ADS
WEST ABUTMENT DETAILS		SHEET 7	
		122	



PLAN - WING 1



ELEVATION - WING 1



A17 1/2" FILLER (INCLUDED IN WING LENGTH): SEAL ALL EXPOSED HORIZ. & VERT. SURFACES OF 1/2" FILLER WITH NON-STAINING GRAY NON-BITUMINOUS JOINT SEALER, (1" DEEP AND HOLD 1/8" BELOW SURFACE OF CONCRETE), EXTEND SEALER 3" BELOW GUTTER LINE AT INSIDE FACE.

A19 18" (RMW) RUBBERIZED MEMBRANE WATERPROOFING SEAL ALL HORIZ. & VERT. JOINTS AT BACKFACE.

A21 FOR PPT. BARS & DIMENSION SEE PARAPET SHEET 36.

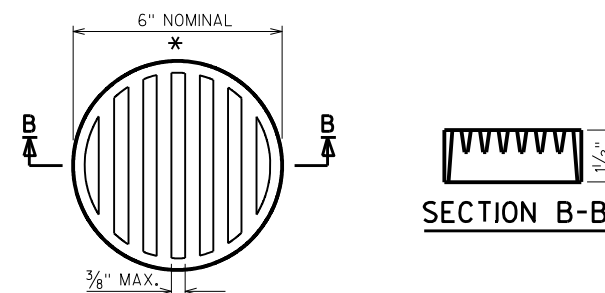
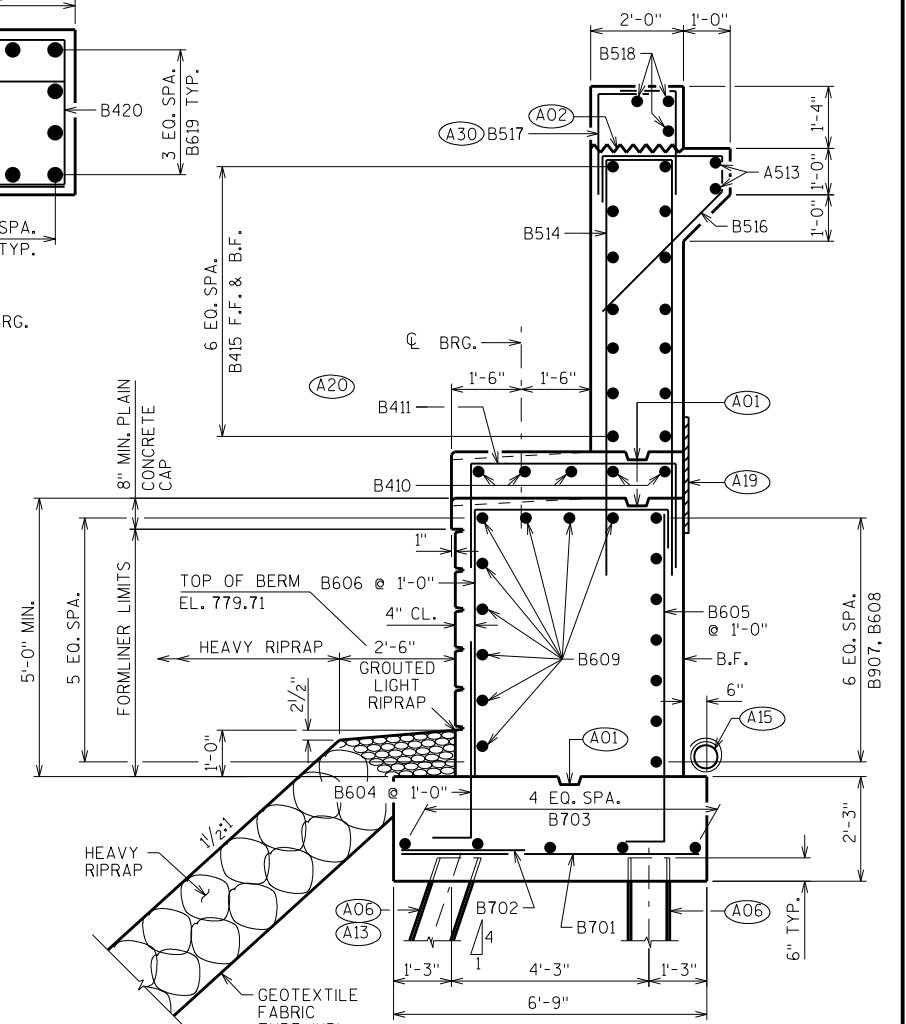
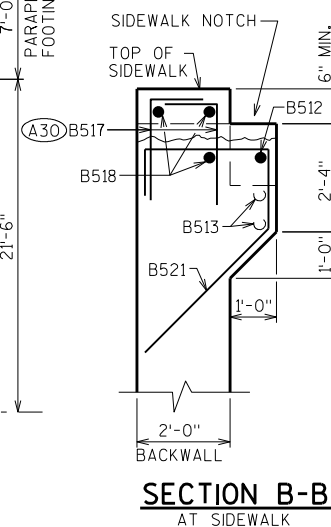
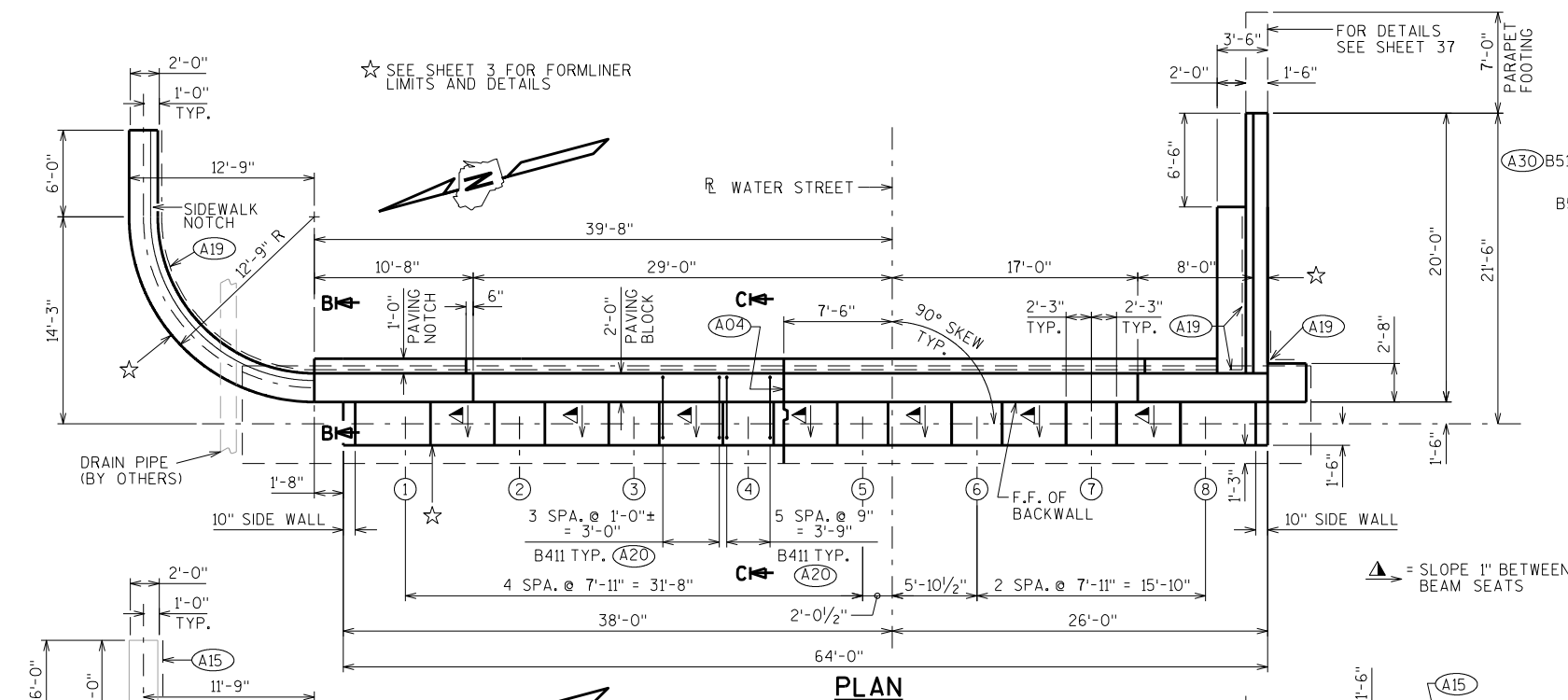
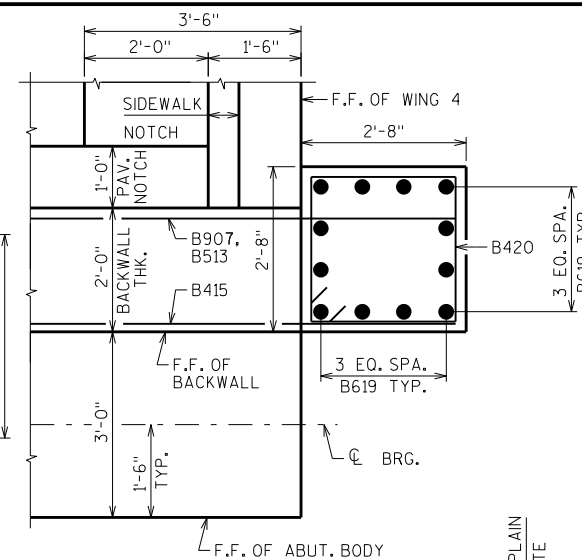
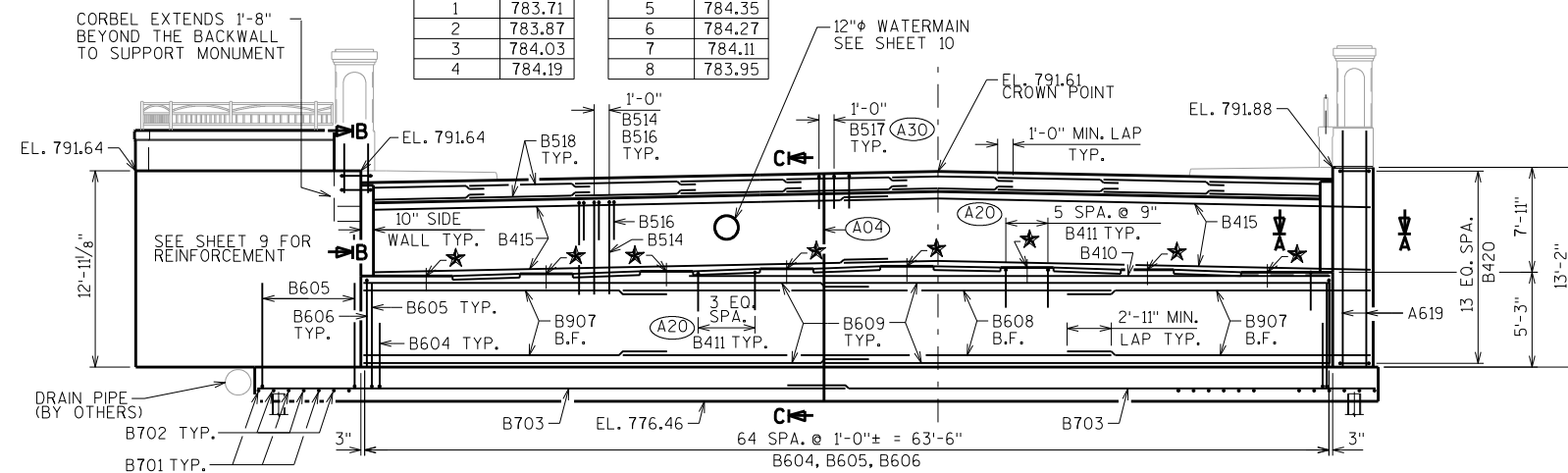
A22 FOR RAILING POST SPACING SEE SHEET 25.
FOR RAILING DETAILS SEE SHEET 36.

8

SCALE = 4.0

BEAM SEAT ELEVATIONS ★

GIRDER #	ELEV.
1	783.71
2	783.87
3	784.03
4	784.19



RODENT SHIELD DETAIL

* DIMENSIONS ARE APPROXIMATE. THE GRATE IS SIZED TO FIT INTO A PIPE COUPLING. ORIENT SO SLOTS ARE VERTICAL.

THE RODENT SHIELD, PIPE COUPLING AND SCREWS SHALL BE CONSIDERED INCIDENTAL TO THE BID ITEM "PIPE UNDERDRAIN WRAPPED 6-INCH".

THE RODENT SHIELD SHALL BE A PVC GRATE SIMILAR TO THIS DETAIL. THE GRATE IS COMMERCIALY AVAILABLE AS A FLOOR STRAINER. A PIPE COUPLING IS REQUIRED FOR THE ATTACHMENT OF THIS SHIELD TO THE EXPOSED END OF THE PIPE UNDERDRAIN. THE SHIELD SHALL BE FASTENED TO THE PIPE COUPLING WITH TWO OR MORE NO. 10 X 1-INCH STAINLESS STEEL SHEET METAL SCREWS.

SECTION C-C THRU BODY

- (A04) VERT. CONSTRUCTION JOINT: KEYWAY FORMED BY A BEVELED 2 X 8, 3/4" "V" GROOVE @ THE FRONT FACE AND 18" R.M.W. @ BACKFACE. FOR OPTIONAL DETAILS SEE "ALTERNATE CONSTRUCTION JOINT" SHEET.
- (A06) SUPPORT ABUTMENT ON HP 10 X 42 STEEL PILING, WITH A REQUIRED DRIVING RESISTANCE OF 180 TONS PER PILE, ESTIMATED 85'-0" LONG 20' OF PRE-BORING UNCONSOLIDATED MATERIAL REQUIRED, PILE POINTS REQUIRED.
- (A13) INDICATES PILE BATTERED 3" PER FT. IN DIRECTION OF ARROW.
- (A15) PIPE UNDERDRAIN WRAPPED (6-INCH), SLOPE 0.5% MIN. TO SUITABLE DRAINAGE, RODENT SHIELD REQUIRED.
- (A19) 18" (RMW) RUBBERIZED MEMBRANE WATERPROOFING SEAL ALL HORIZ. & VERT. JOINTS AT BACKFACE.
- (A20) A411 BARS SPACED AT 9" CTRS. IN BEAM SEATS & AT 1'-0" CTRS. BETWEEN BEAM SEATS.
- (A30) MASONRY ANCHOR TYPE S $\frac{5}{8}$ "-INCH. EMBED. 12" INTO CONCRETE.

TEST PILE LOCATION. CONTRACTOR SHALL PREBORE AND DRIVE BATTERED PILES 5, 7, AND 9 BEFORE PREBORING THE REMAINING LOCATIONS, TO DETERMINE WHETHER CONFLICT WITH 1914 C. ABUTMENT OCCURS (SEE SHEET 1)

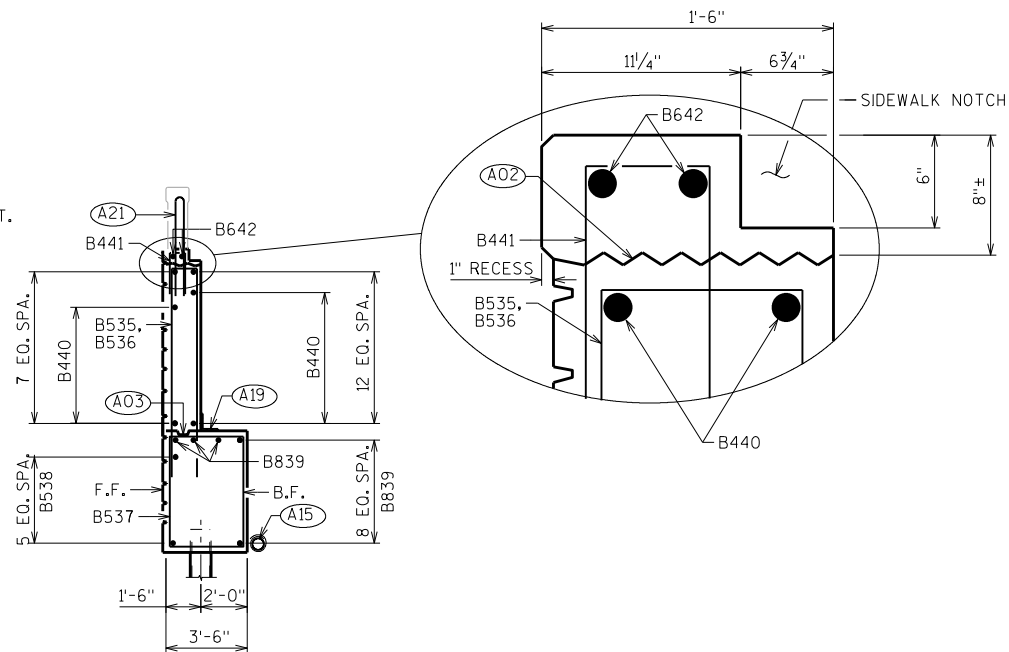
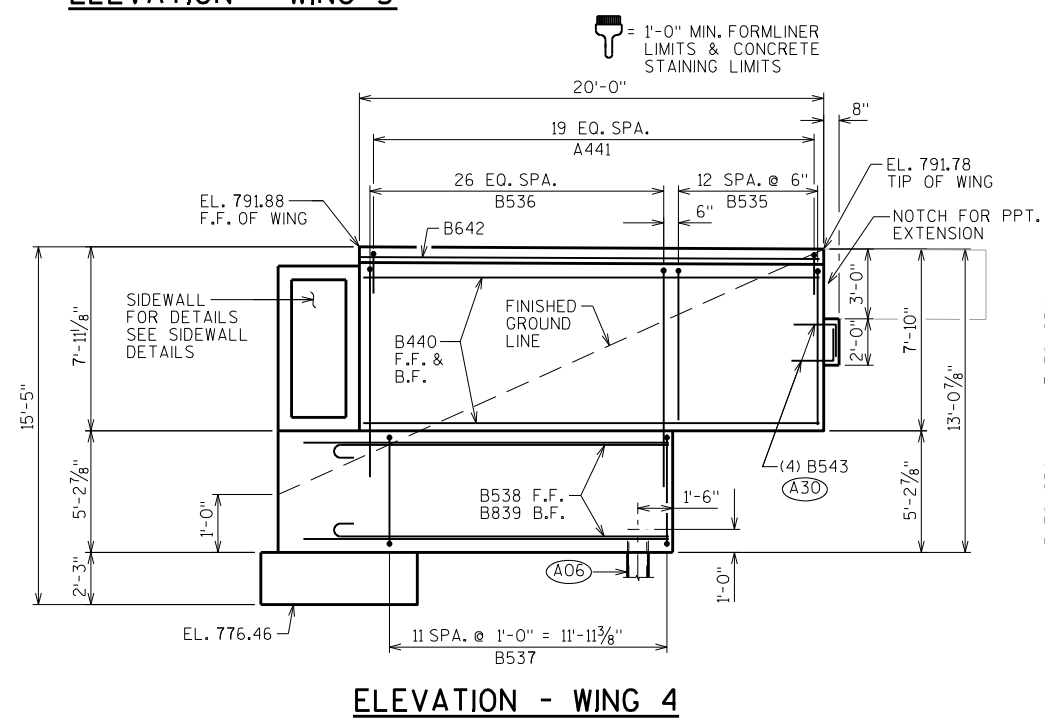
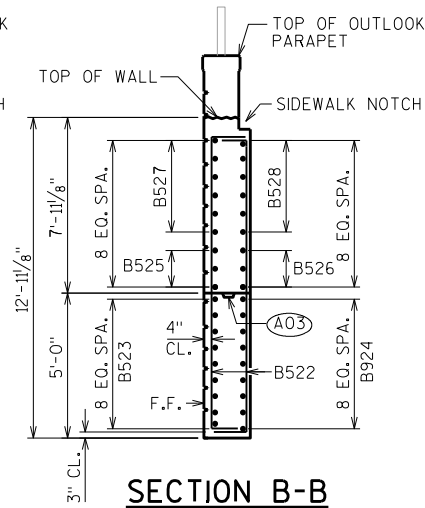
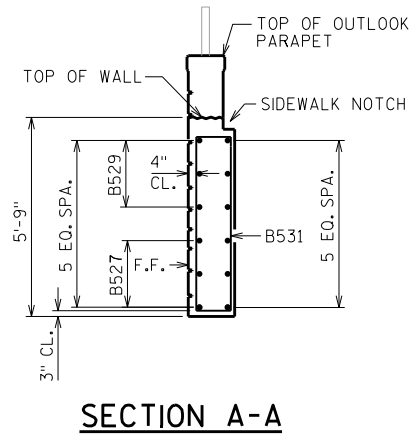
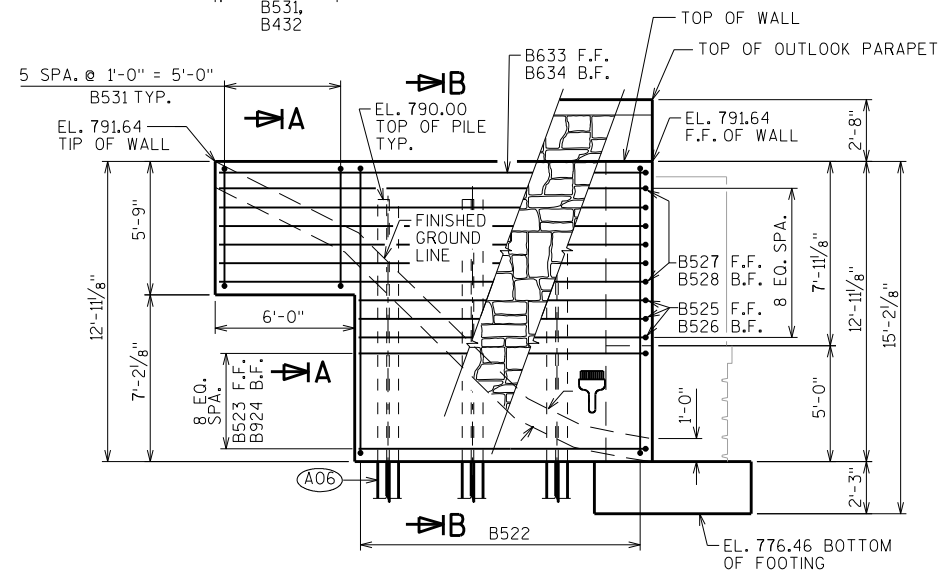
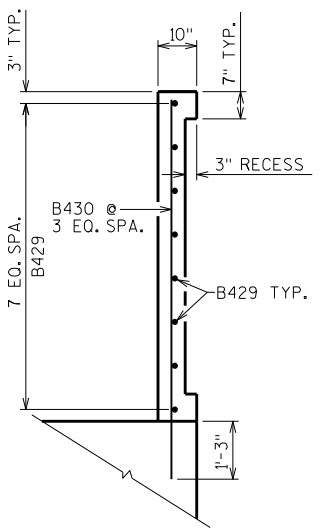
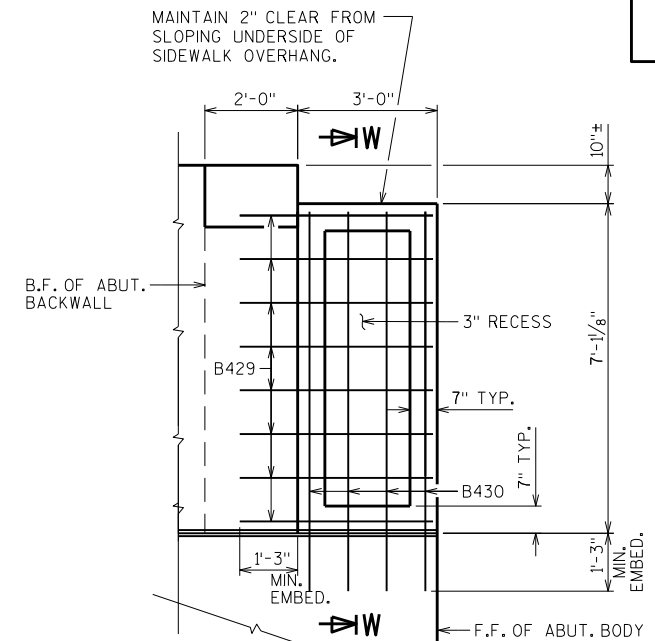
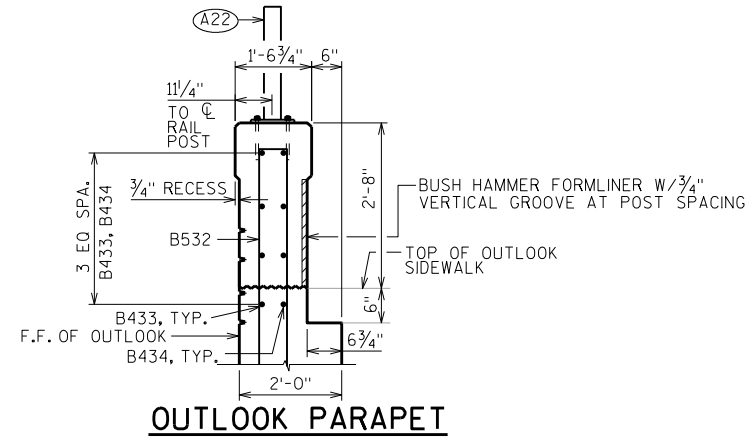
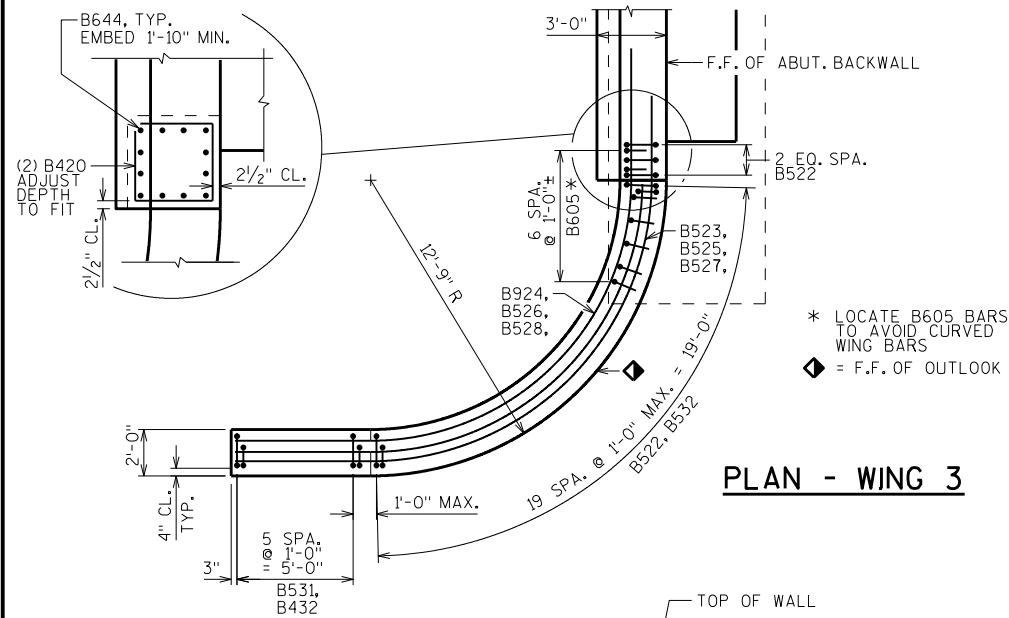
FOOTING/PILE PLAN

STATE PROJECT NUMBER

7995-02-40

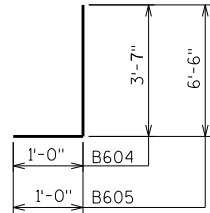
NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION STRUCTURES DESIGN SECTION			
STRUCTURE		B-18-219	
		DRAWN BY	DDS PLANS CKD. ADS
EAST ABUTMENT		SHEET 8	
		123	

SCALE = 6.0

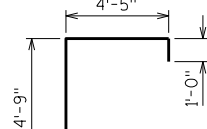


- (A02) CONSTRUCTION JOINT: POUR CONCRETE ABOVE THIS JOINT AFTER SUPERSTRUCTURE CONCRETE IS IN PLACE. STRIKE OFF AND LEAVE ROUGH.
- (A03) OPTIONAL CONST. JOINT: KEYWAY FORMED BY BEVELED 2 X 6, (18" R.M.W. @ B.F. & 3/4" "V" GROOVE @ F.F. IF JOINT IS USED).
- (A06) SUPPORT ABUTMENT ON HP 10 X 42 STEEL PILING, WITH A REQUIRED DRIVING RESISTANCE OF 180 TONS PER PILE. ESTIMATED 85'-0" LONG. 20' PRE-BORING UNCONSOLIDATED MATERIAL REQUIRED. PILE POINTS REQUIRED.
- (A15) PIPE UNDERDRAIN WRAPPED (6-INCH), SLOPE 0.5% MIN. TO SUITABLE DRAINAGE. RODENT SHIELD REQUIRED.
- (A19) 18" (RMW) RUBBERIZED MEMBRANE WATERPROOFING SEAL ALL HORIZ. & VERT. JOINTS AT BACKFACE.
- (A21) FOR PPT. BARS & DIMENSION SEE SHEET 37.
- (A22) FOR RAILING POST SPACING SEE SHEET 25. FOR RAILING DETAILS SEE SHEET 37.
- (A30) MASONRY ANCHOR TYPE S 5/8- INCH. EMBED 12" IN CONCRETE.

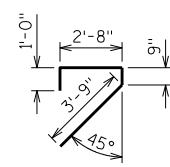
NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION STRUCTURES DESIGN SECTION			
STRUCTURE B-18-219			
DRAWN BY DDS		PLANS CKD. ADS	
EAST ABUTMENT DETAILS			SHEET 9
			124



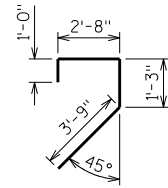
B604, B605



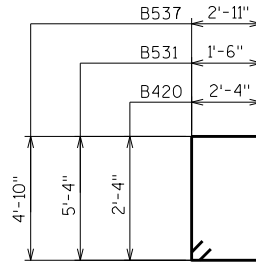
B606



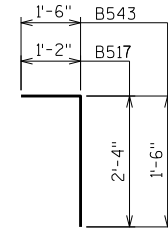
B516



B521

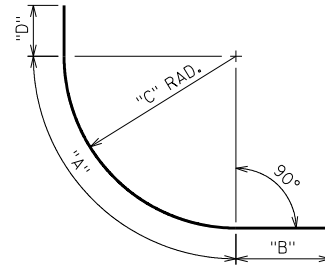


B420, B531, B537



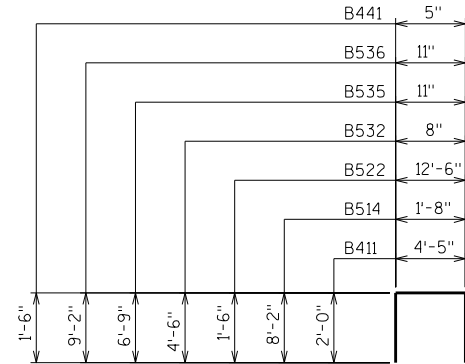
B517, B543

MASONRY ANCHOR TYPE S $\frac{5}{8}$ -INCH.
EMBED 12" IN CONCRETE.

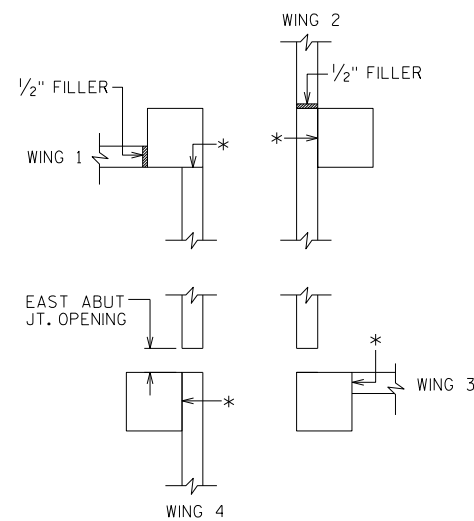


B523, B924, B525, B526,
B527, B528, B433, B434

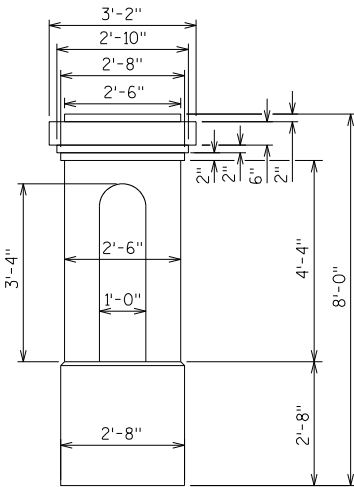
	"A"	"B"	"C"	"D"
B523	19'-2"	3'-5"	12'-4"	---
B924	17'-1"	6'-3"	11'-0"	---
B525	19'-2"	3'-5"	12'-4"	---
B526	17'-1"	3'-5"	11'-0"	---
B527	19'-2"	3'-5"	12'-4"	5'-10"
B528	17'-1"	3'-5"	11'-0"	5'-10"
B433	19'-2"	---	12'-4"	5'-10"
B434	18'-4"	---	11'-0"	5'-10"



B411, B514, B522, B532
B535, B536, B441



MONUMENT LAYOUT

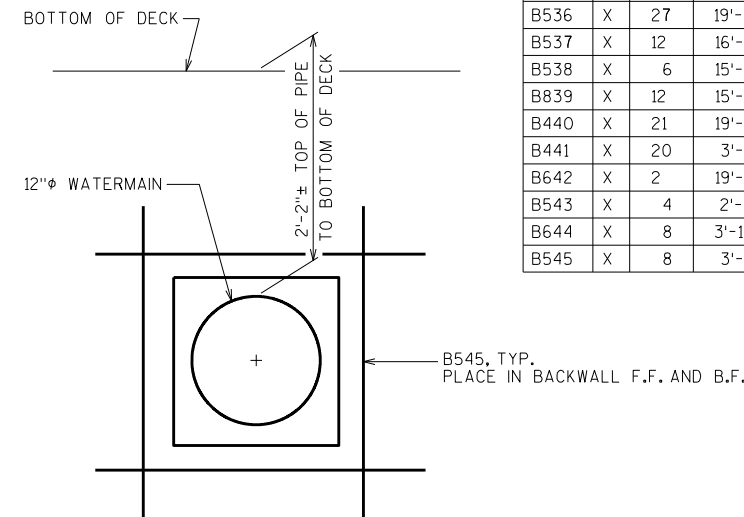
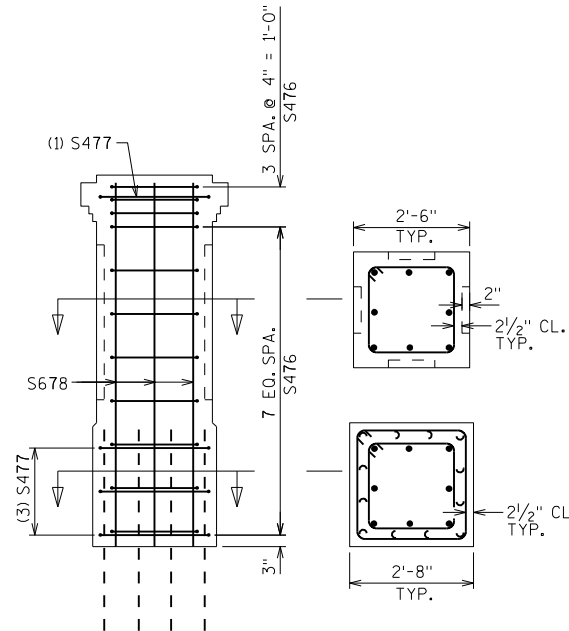


MONUMENT DETAIL

ONE MONUMENT AT EACH WING.
DETAIL SHOWN FOR EAST ABUTMENT,
WEST ABUTMENT IS SIMILAR

* CAST FLUSH WITH PARAPET WHEN APPROPRIATE
SEE MONUMENT LAYOUT DETAIL THIS SHEET

MONUMENT CONCRETE AND REINFORCEMENT
IS INCLUDED IN SUPERSTRUCTURE QUANTITIES



WATERMAIN BOX OUT

REGARDING ABUTMENT BACK WALL REINFORCEMENT:
VERTICAL BARS MAY BE DISPLACED SIDEWAYS, BUT
NOT CUT. HORIZONTAL BARS MAY BE DISPLACED OR
CUT TO ACCOMMODATE WATERMAIN.

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

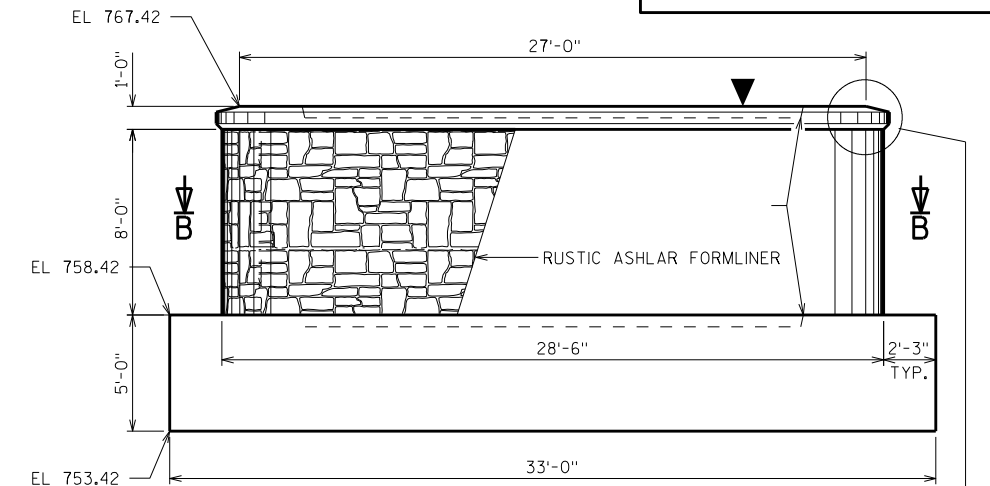
STATE PROJECT NUMBER

7995-02-40

BILL OF BARS

BAR MARK	COAT	NO. REQ'D.	LENGTH	BENT	BAR SERIES	LOCATION
B701		38	6'-5"			FOOTING - HORIZ.
B702		37	2'-7"			FOOTING - HORIZ.
B703		10	38'-9"			FOOTING - HORIZ.
B604		65	4'-5"	X		FOOTING/BODY - VERT.
B605		72	7'-3"	X		FOOTING/BODY - VERT.
B606		65	9'-10"	X		BODY - VERT.
B907		14	22'-0"			BODY - HORIZ. - B.F.
B608		7	28'-6"			BODY - HORIZ. - B.F.
B609		18	33'-4"			BODY - HORIZ.
B410		5	33'-2"			BODY - HORIZ. - BTWN. BEAM SEAT 3 & 8
B411		42	8'-3"	X		BODY - VERT. - OVER & BTWN. BEAM SEATS 3 THRU 8
B512	X	2	10'-0"			CORBEL - HORIZ. - SIDEWALK
B513	X	4	35'-8"			CORBEL - HORIZ.
B514	X	64	17'-9"	X		BACKWALL - VERT.
B415	X	28	35'-8"			BACKWALL - HORIZ.
B516	X	46	7'-9"	X		BACKWALL/CORBEL - VERT. - ROADWAY
B517	X	128	3'-5"	X		PAVING BLOCK - VERT.
B518	X	27	8'-0"			PAVING BLOCK - HORIZ.
B619	X	12	15'-6"			WING 4 - MONUMENT - VERT
B420	X	16	10'-0"	X		WINGS 3&4 - MONUMENT - STIRRUPS
B521	X	18	8'-3"	X		BACKWALL/CORBEL - VERT. - SIDEWALK
B522	X	46	15'-3"	X		WING 3 - VERT.
B523	X	9	22'-7"	X		WING 3 - HORIZ. - F.F.
B924	X	9	23'-4"	X		WING 3 - HORIZ. - B.F.
B525	X	3	22'-7"	X		WING 3 - HORIZ. - F.F.
B526	X	3	20'-6"	X		WING 3 - HORIZ. - B.F.
B527	X	3	28'-5"	X		WING 3 - HORIZ. - F.F.
B528	X	3	26'-4"	X		WING 3 - HORIZ. - B.F.
B429	X	16	4'-1"			SIDE WALL - HORIZ.
B430	X	8	9'-0"			SIDE WALL - VERT.
B531	X	6	14'-4"	X		WING 3 - STIRRUP
B532	X	26	9'-5"	X		WING 3 - VERT. - TOP - OUTLOOK PARAPET
B433	X	4	25'-0"	X		WING 3 - HORIZ. - F.F. - TOP - OUTLOOK PARAPET
B434	X	4	24'-2"	X		WING 3 - HORIZ. - B.F. - TOP - OUTLOOK PARAPET
B535	X	13	14'-2"	X		WING 4 - VERT.
B536	X	27	19'-0"	X		WING 4 - VERT.
B537	X	12	16'-2"	X		WING 4 - STIRRUP
B538	X	6	15'-9"			WING 4 - HORIZ. - F.F.
B839	X	12	15'-2"			WING 4 - HORIZ. - B.F.
B440	X	21	19'-8"			WING 4 - HORIZ. F.F. & B.F.
B441	X	20	3'-4"	X		WING 4 - VERT.
B642	X	2	19'-8"			WING 4 - HORIZ. F.F. & B.F. - TOP
B543	X	4	2'-11"	X		WING 4 - PARAPET EXTENSION BLOCK
B644	X	8	3'-10"			WING 3 - MONUMENT - VERT.
B545	X	8	3'-6"			BACKWALL - WATERMAIN BOX OUT

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EAST ABUTMENT DETAILS 2			SHEET 10
			125



Technical drawing of a bridge structure showing a cross-section and a detail of the plain concrete cap.

Cross-section details:

- Top width:** 27'-0"
- Base width:** 36'-0"
- Top thickness:** 1'-0"
- Structure backfill:** Indicated by a cross-hatched area.
- Heavy riprap with geotextile fabric:** Indicated by a cross-hatched area.
- Rustic ashlar formliner:** Indicated by a cross-hatched area.
- Formliner limits:** Indicated by a vertical line.
- Plain concrete cap:** Indicated by a vertical line.
- Structure backfill:** Indicated by a cross-hatched area.
- Seal:** Indicated by a vertical line.
- Footings:** Indicated by a vertical line.
- Streambed elevation (STREAMBED EL):** Indicated by a horizontal line.
- Dimensions:**
 - 19'-6" @ PIER 3
 - 26'-0" @ PIER 4
 - 5'-0" @ PIER 3
 - 5'-0" @ PIER 4
 - 5'-0" (FOOTING)
 - 2'-3" (PLAIN CONC)
 - 12'-0" (FORMLINER LIMITS)
 - 28'-6" (STRUCTURE BACKFILL)
 - 33'-0" (TOTAL WIDTH)
 - 1'-6" TYP. (SEAL)
- Elevations:**
 - EL 767.80 (P3)
 - EL 767.04 (P4)
 - EL 747.30 (P3)
 - EL 740.04 (P4)
 - EL 742.30 (P3)
 - EL 735.04 (P4)

Detail View (PLAIN CONC CAP):

- Dimensions: 3", 6", 3", 3"
- Label: PLAIN CONC CAP

15'-0"
FOOTING
(TYPICAL ALL PIERS)

18'-0"
SEAL
(PIERS 3 & 4 ONLY)

Diagram illustrating the dimensions of a pipe section:

- Total length: 29'-0" TO CONC CAP
- Length to formliner: 28'-6" TO FORMLINER
- Concrete cap thickness: 5'-0"
- Fornliner thickness: 4'-6"
- Radius: R 2'-3"

BEAM SEAT ELEVATIONS								
GIRDER	1	2	3	4	5	6	7	8
PIER 1	782.36	782.52	782.68	782.84	783.00	782.92	782.76	782.60
PIER 2	784.42	784.58	784.74	784.90	785.06	784.98	784.82	784.66
PIER 3	784.80	784.96	785.12	785.28	785.44	785.36	785.20	785.04
PIER 4	784.04	784.20	784.36	784.52	784.67	784.60	784.44	784.28

UPST. ← BRG.

+0.04' +0.04'

LEVEL

PIER

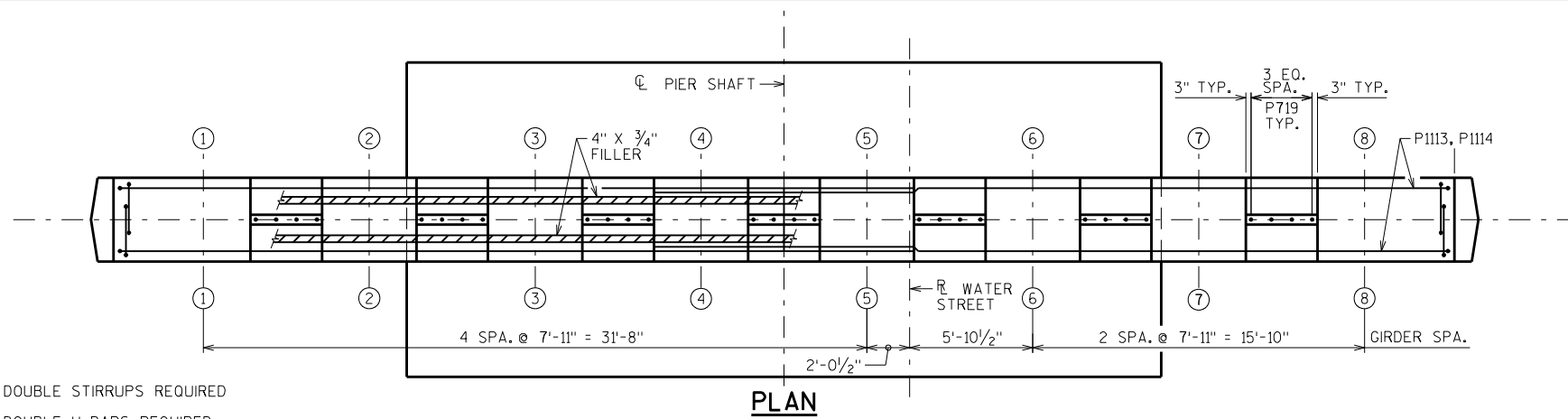
-0.04' -0.04'

B.S. ELEV.

SLOPED BEAM SEAT DETAIL
FOR PIER 1 ONLY

ABOVE "▼" THE PIER CAP GEOMETRY IS THE SAME FOR ALL PIERS. THE BASE BELOW "▼" IS UNIQUE TO EACH PIER, REFER TO RESPECTIVE LAYOUT DETAILS.

SCALE = 5.0

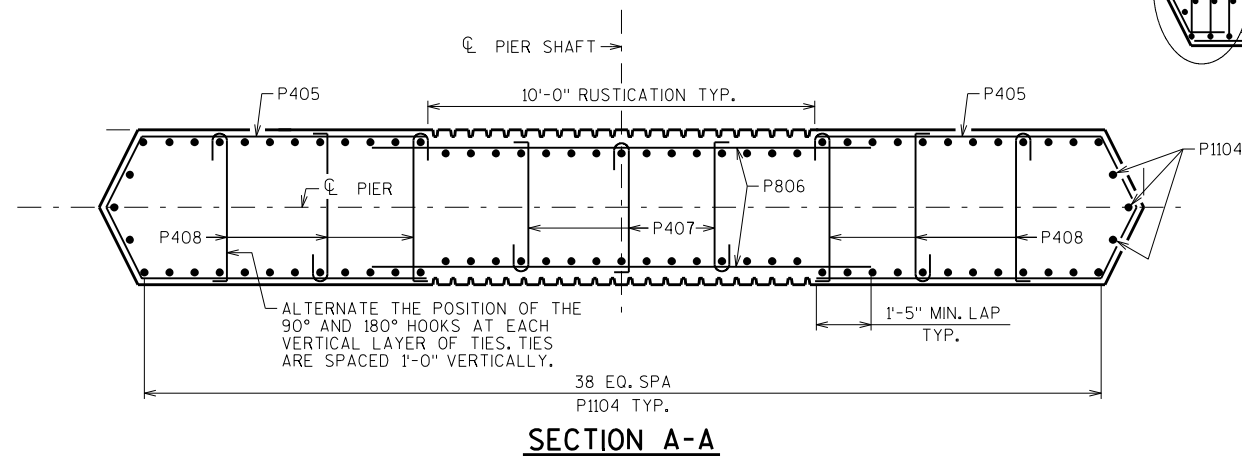
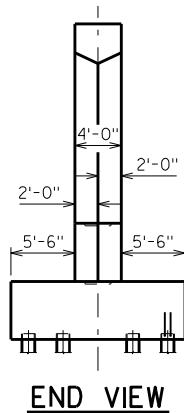
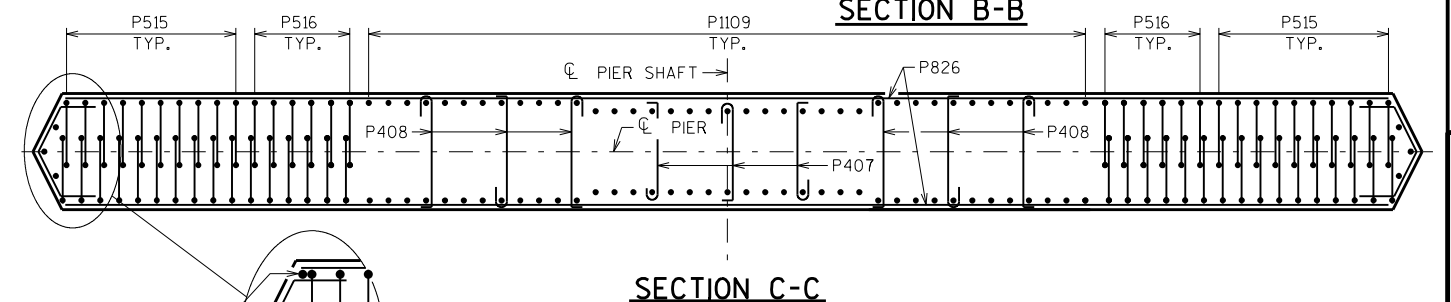
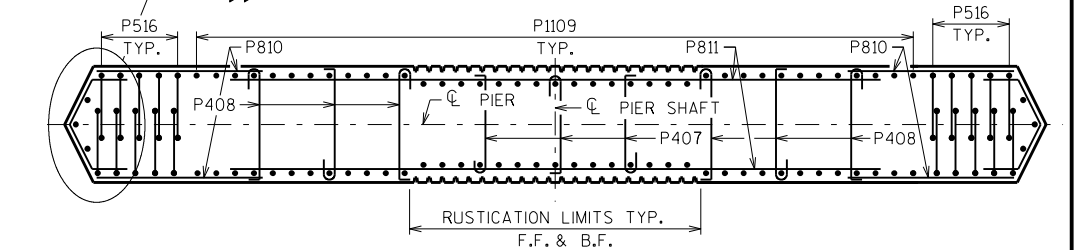
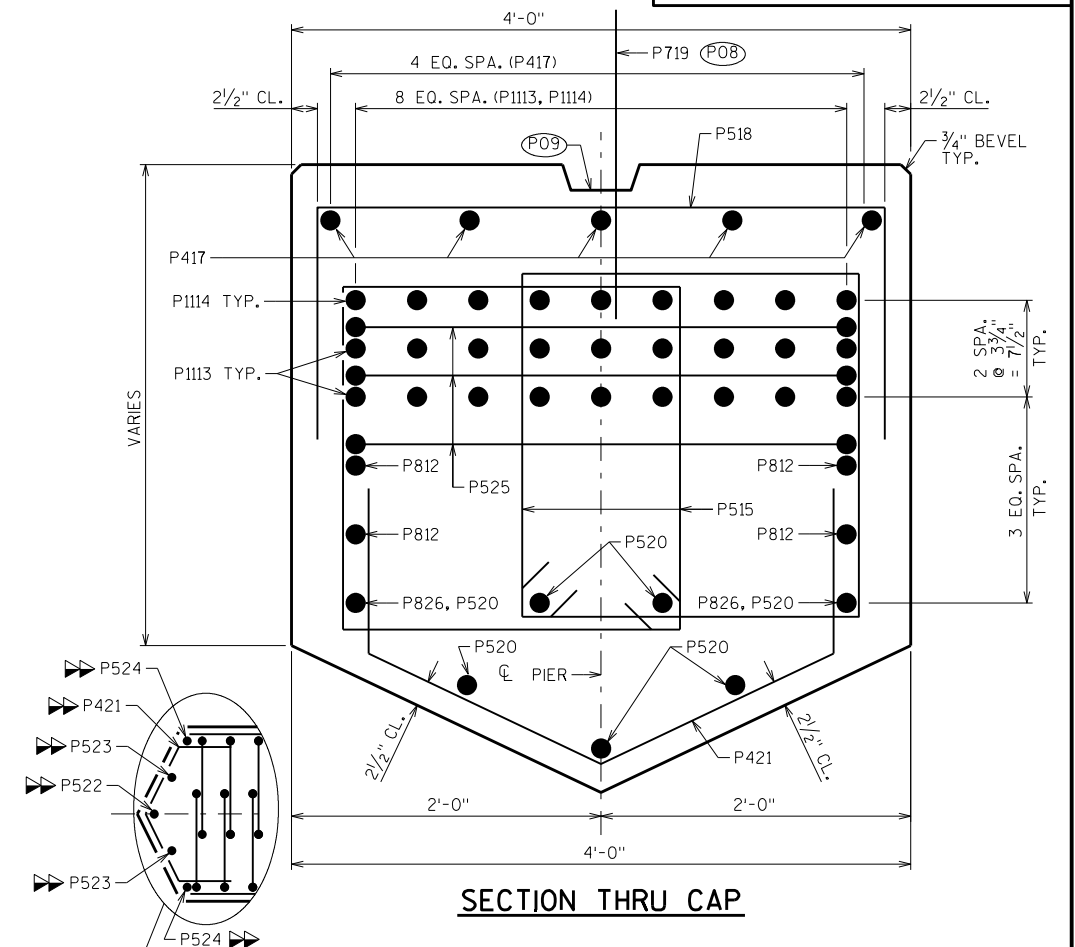
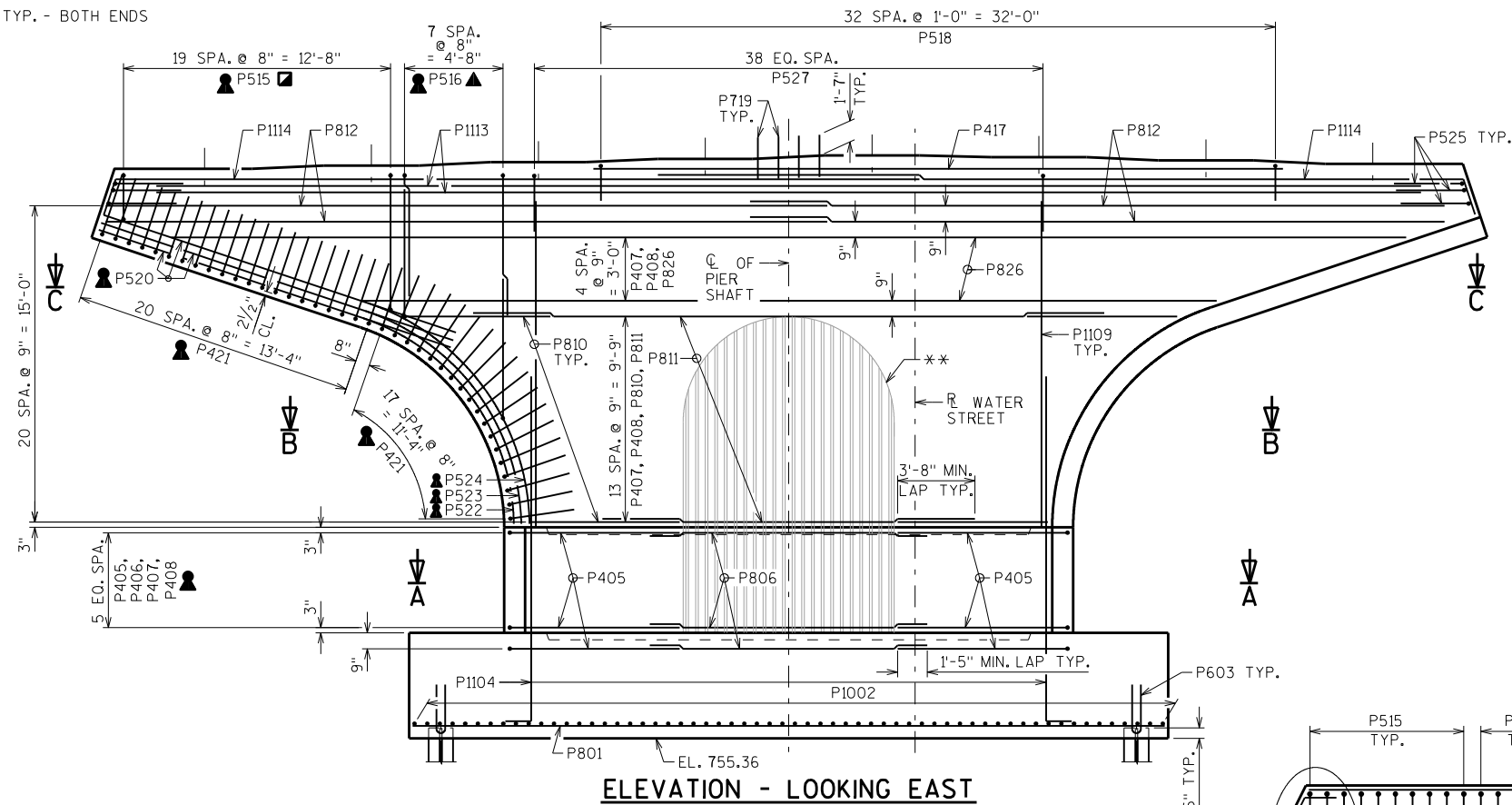


▣ = DOUBLE STIRRUPS REQUIRED

▲ = DOUBLE U-BARS REQUIRED

● = BAR STEEL TO BE SYMMETRICAL ABOUT THE CL OF PIER SHAFT.

↔ = TYP. - BOTH ENDS



(P04) SUPPORT PIER ON HP 14 X 73 STEEL PILING, ESTIMATED 40'-0" LONG WITH A REQUIRED DRIVING RESISTANCE OF 250 TONS PER PILE. PILE POINTS REQUIRED.

(P08) P719 BARS @ 1'-0" CTRS. BETWEEN BEAM SEATS. MAY BE PLACED AFTER CONCRETE IS POURED BUT BEFORE INITIAL SET HAS TAKEN PLACE. (EMBED 1'-7" INTO CONC.)

(P09) KEYED CONSTRUCTION JOINT-FORMED BY BEVELED 2 X 6 BETWEEN BEAM SEATS.

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DRAWN BY DDS		PLANS CKD. ADS	
PIER 1		SHEET 12	
		127	

BILL OF BARS

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

BAR MARK	COMT	NO. REQ'D.	LENGTH	BENT	BAR SERIES	LOCATION
P801		20	35'-8"			FOOTING - HORIZ.
P1002		60	14'-8"			FOOTING - HORIZ.
P603		48	4'-4"	X		FOOTING - VERT. UPLIFT BARS
P1104		84	18'-3"	X		FOOTING/SHAFT - VERT.
P405		14	18'-3"	X		SHAFT - HORIZ.
P806		14	13'-2"			SHAFT - HORIZ.
P407		81	4'-0"	X		SHAFT - HORIZ. - TIE BARS
P408		162	4'-5"	X		SHAFT - HORIZ. - TIE BARS
P1109		84	15'-6"			SHAFT - VERT.
P810		56	7'-2"			SHAFT - HORIZ. - ENDS
P811		28	23'-10"	▲		SHAFT - HORIZ. - MIDDLE
P812		4	33'-10"			SHAFT - HORIZ.
P1113		18	60'-0"			CAP - HORIZ.
P1114		18	39'-9"	X		CAP - HORIZ.
P515		80	14'-2"	X	▲	SHAFT/CAP - VERT.
P516		32	15'-5"	X		SHAFT/CAP - VERT.
P417		5	32'-6"			CAP - HORIZ. - TOP
P518		33	6'-10"	X		CAP - VERT. - TOP
P719		28	3'-2"			DOWEL BARS
P520		14	15'-0"			CAP - HORIZ.
P421		78	5'-3"	X		SHAFT - POINT BARS
P522		2	12'-8"	X		SHAFT - VERT.
P523		4	13'-3"	X		CAP - HORIZ. - END BARS
P524		4	13'-10"	X		SHAFT - VERT.
P525		6	9'-10"	X		CAP - HORIZ. - ENDS
P826		10	49'-7"	▲		SHAFT - HORIZ.
P527		39	7'-4"	X		CAP TOP - VERT.

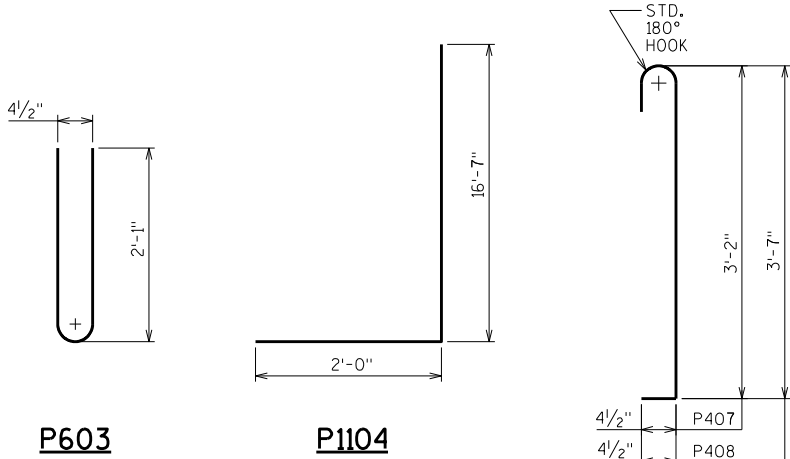
▲ LENGTH SHOWN FOR BAR IS AN AVERAGE LENGTH AND SHOULD ONLY BE USED FOR BAR WEIGHT CALCULATIONS. SEE BAR SERIES TABLE FOR ACTUAL LENGTHS.

BAR SERIES TABLE

MARK	NO. REQ'D.	LENGTH
P811	2 SERIES OF 14	17'-8" TO 30'-0"
P515	4 SERIES OF 20	9'-10" TO 18'-6"
P826	2 SERIES OF 5	40'-7" TO 58'-7"

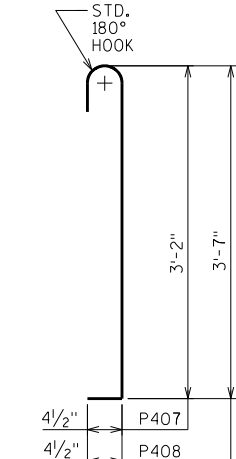
BUNDLE AND TAG EACH SERIES SEPARATELY.

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION STRUCTURES DESIGN SECTION			
STRUCTURE B-18-219			
DRAWN BY DDS		PLANS CK'D. ADS	
PIER 1 DETAILS			SHEET 13
			128

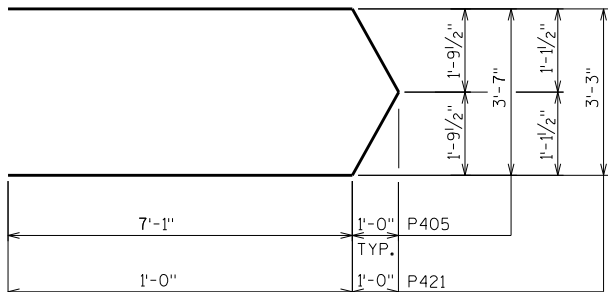


P603

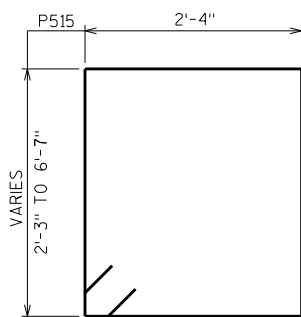
P1104



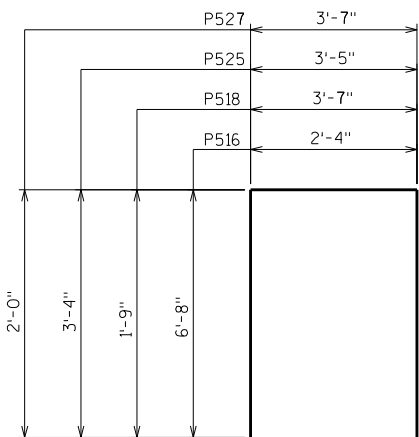
P407, P408



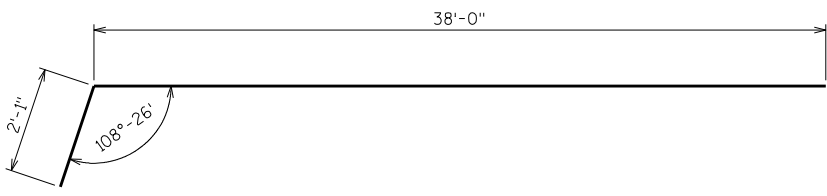
P405, P421



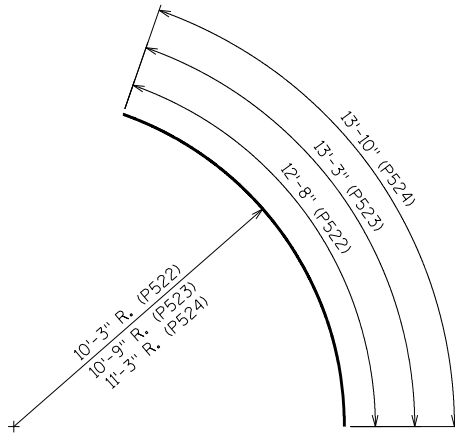
P515



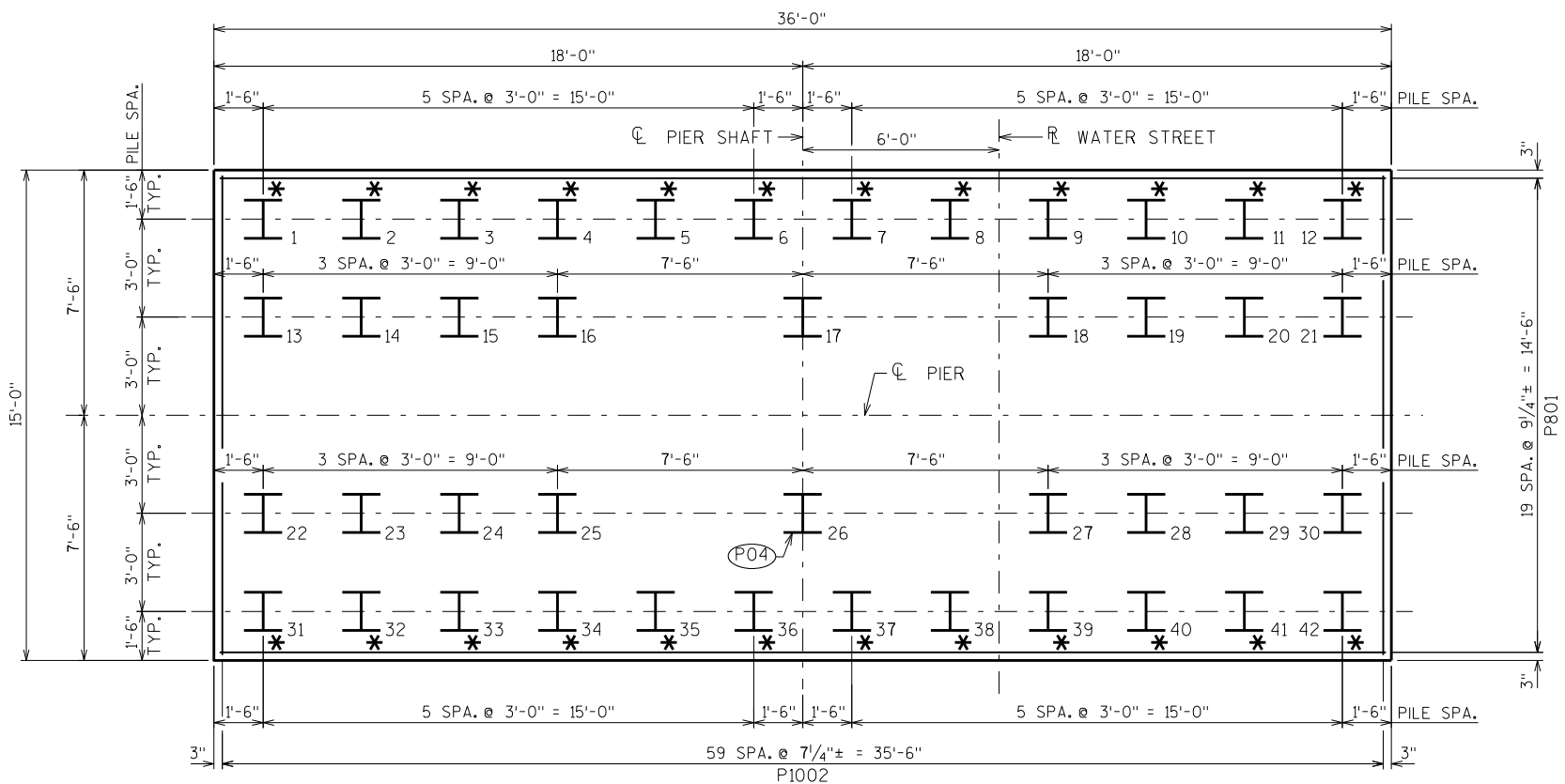
P516, P518, P525, P527



P1114

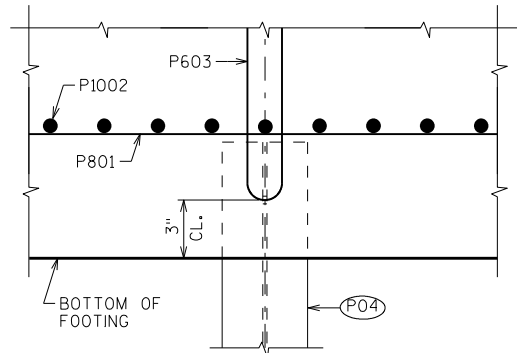


P522, P523, P524



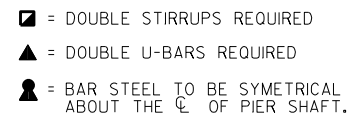
FOOTING/PILE PLAN

* = SEE UPLIFT DETAIL

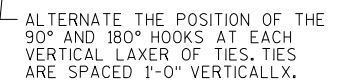


UPLIFT BAR DETAIL

PLACE P603 BARS IN 1/4" HOLES BURNED INTO PILE WEB. USE 2 BARS AT EACH UPLIFT PILE.



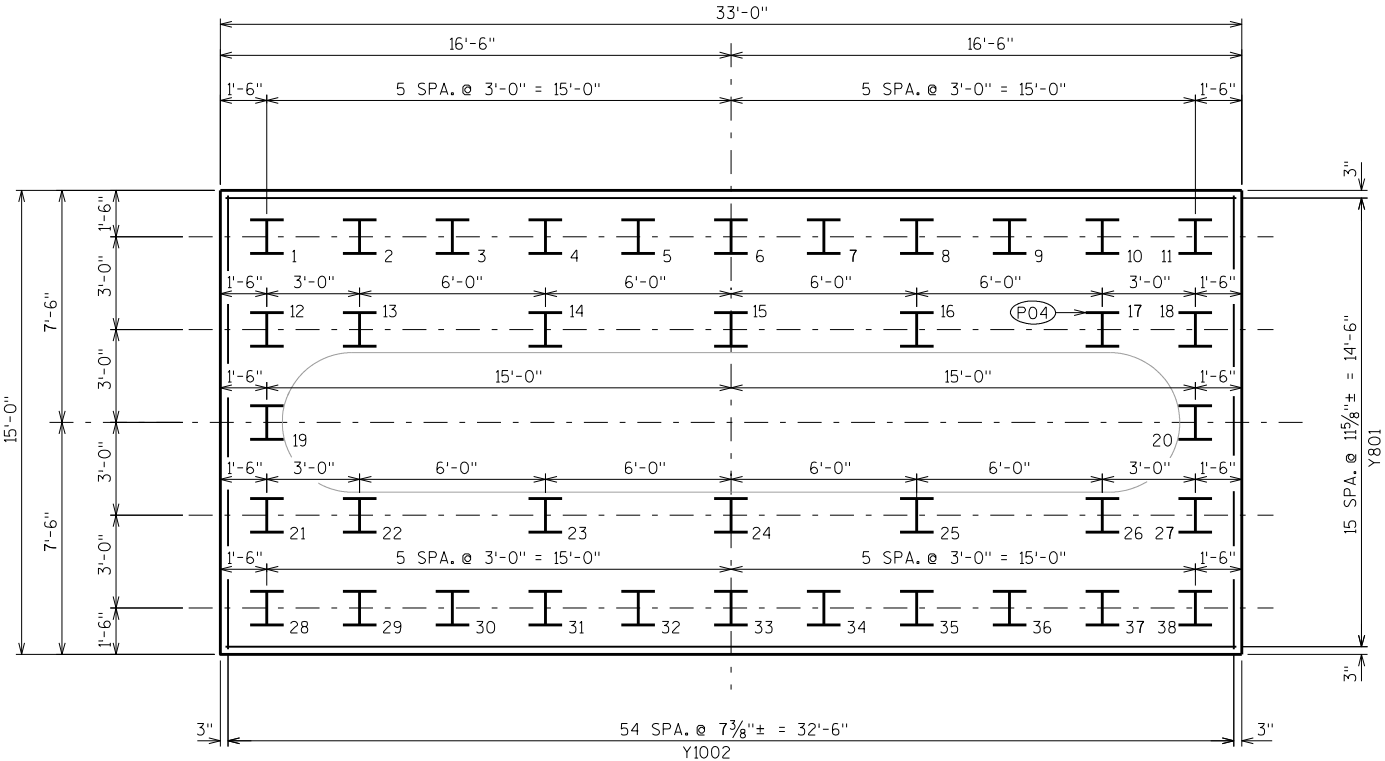
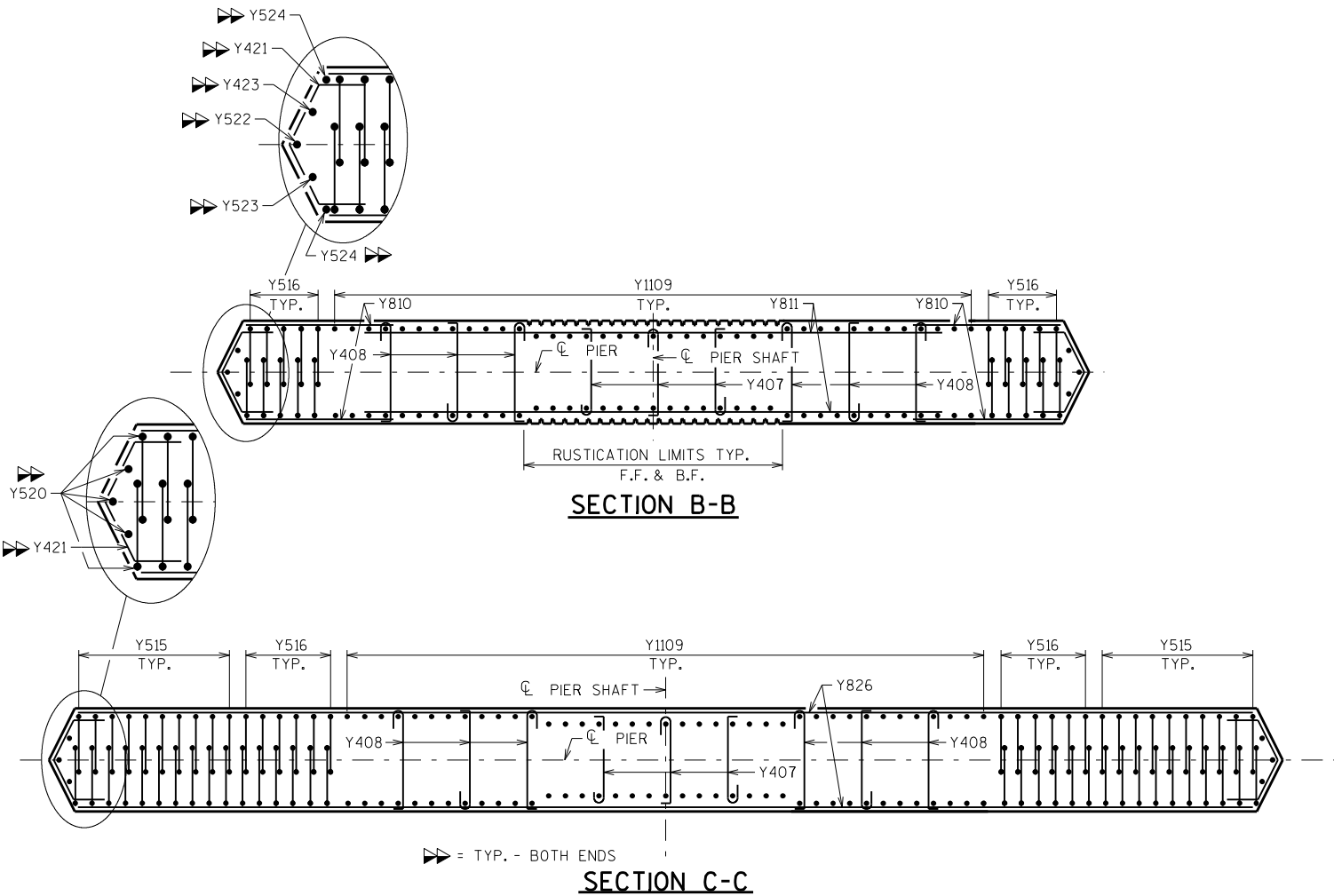
PLAN



SECTION A-A

(P04) SUPPORT PIER ON HP 14 X 73 STEEL
PILING, ESTIMATED 35'-0" LONG WITH A
REQUIRED DRIVING RESISTANCE OF 250
TONS PER PILE. PILE POINTS REQUIRED.

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION STRUCTURES DESIGN SECTION			
STRUCTURE		B-18-219	
		DRAWN BY	PLANS CK'D. ADS
PIER 2		SHEET 14	
		129	



(P04) SUPPORT PIER ON HP 14 X 73 STEEL PILING, ESTIMATED 35'-0" LONG WITH A REQUIRED DRIVING RESISTANCE OF 250 TONS PER PILE. PILE POINTS REQUIRED.

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION STRUCTURES DESIGN SECTION			
STRUCTURE B-18-219			
DRAWN BY DDS		PLANS CK'D. ADS	
PIER 2 DETAILS 1			SHEET 15
			130

BILL OF BARS (PIER 4)

BAR MARK	COAT	NO. REQ'D.	LENGTH	BENT	BAR SERIES	LOCATION
Y801		16	32'-8"			FOOTING - HORIZ.
Y1002		55	14'-8"			FOOTING - HORIZ.
Y403		10	8'-6"			SHAFT - VERT.
Y1104		84	22'-4"	X		FOOTING/SHAFT - VERT.
Y405		22	19'-2"	X		SHAFT - HORIZ.
Y806		22	13'-2"			SHAFT - HORIZ.
Y407		90	4'-0"	X		SHAFT - HORIZ. - TIE BARS
Y408		180	4'-5"	X		SHAFT - HORIZ. - TIE BARS
Y1109		84	15'-6"			SHAFT - VERT.
Y810		56	7'-2"			SHAFT - HORIZ. - ENDS
Y811		28	23'-10"	▲		SHAFT - HORIZ. - MIDDLE
Y812		4	33'-10"			SHAFT - HORIZ.
Y1113		18	60'-0"			CAP - HORIZ.
Y1114		18	39'-9"	X		CAP - HORIZ.
Y515		80	14'-2"	X	▲	SHAFT/CAP - VERT.
Y516		32	15'-5"	X		SHAFT/CAP - VERT.
Y417		5	32'-6"			CAP - HORIZ. - TOP
Y518		33	6'-10"	X		CAP - VERT. - TOP
Y719		NOT USED				
Y520		14	15'-0"			CAP - HORIZ.
Y421		78	5'-3"	X		SHAFT - POINT BARS
Y522		2	12'-8"	X		SHAFT - VERT.
Y523		4	13'-3"	X		CAP - HORIZ. - END BARS
Y524		4	13'-10"	X		SHAFT - VERT.
Y525		6	9'-10"	X		CAP - HORIZ. - ENDS
Y826		10	49'-7"	▲		SHAFT - HORIZ.
Y527		39	7'-4"	X		CAP TOP - VERT.

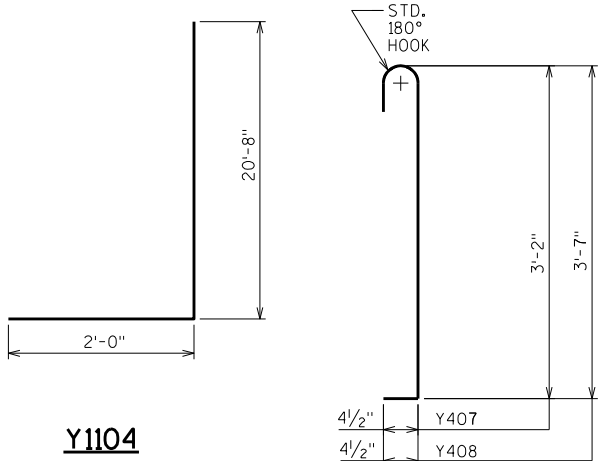
NOTE:
THE FIRST OR FIRST TWO DIGITS
OF THE BAR MARK SIGNIFIES
THE BAR SIZE.

BAR SERIES TABLE

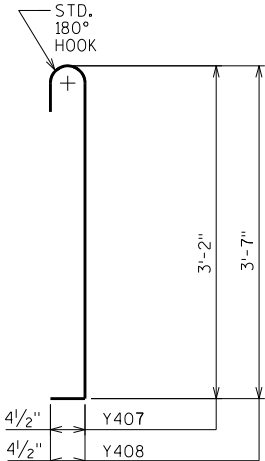
MARK	NO. REQD.	LENGTH
Y811	2 SERIES OF 14	17'-8" TO 30'-0"
Y515	4 SERIES OF 20	9'-10" TO 18'-6"
Y826	2 SERIES OF 5	40'-7" TO 58'-7"

BUNDLE AND TAG EACH SERIES SEPARATELY.

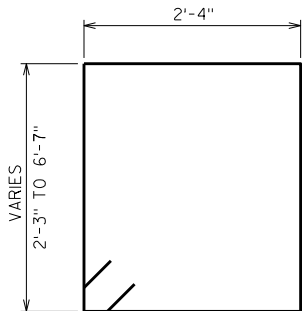
NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION STRUCTURES DESIGN SECTION			
STRUCTURE B-18-219			
DRAWN BY		DDS	PLANS CK'D. ADS
PIER 2 DETAILS 2			SHEET 16
			131



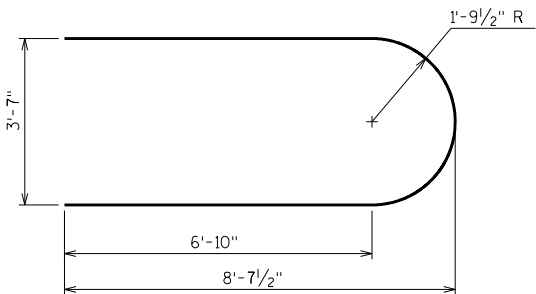
Y1104



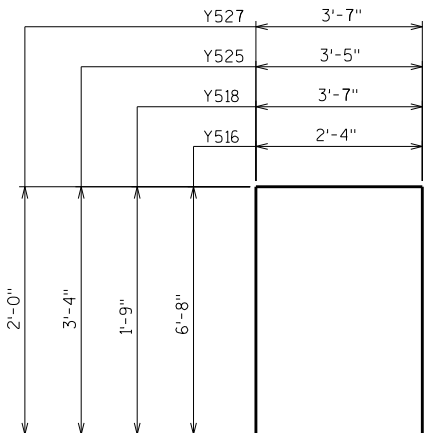
Y407, Y408



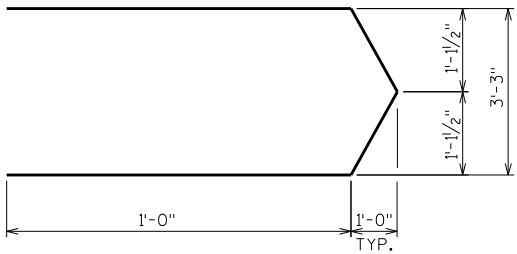
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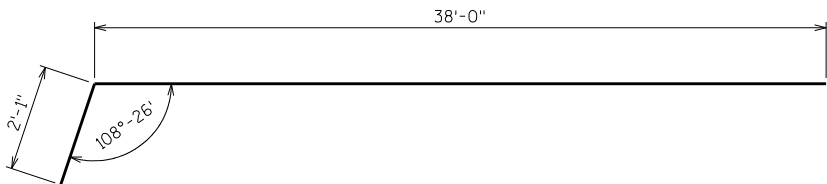
Y405



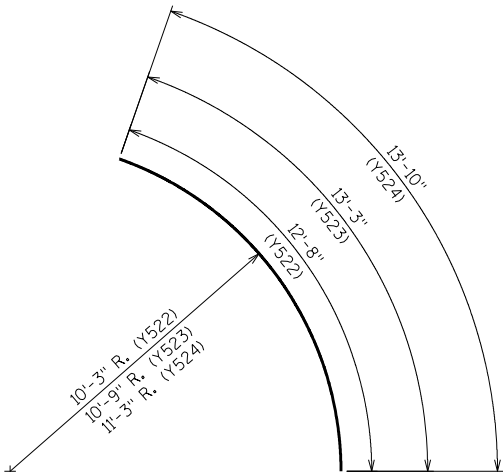
Y516, Y518, Y525, Y527



Y421

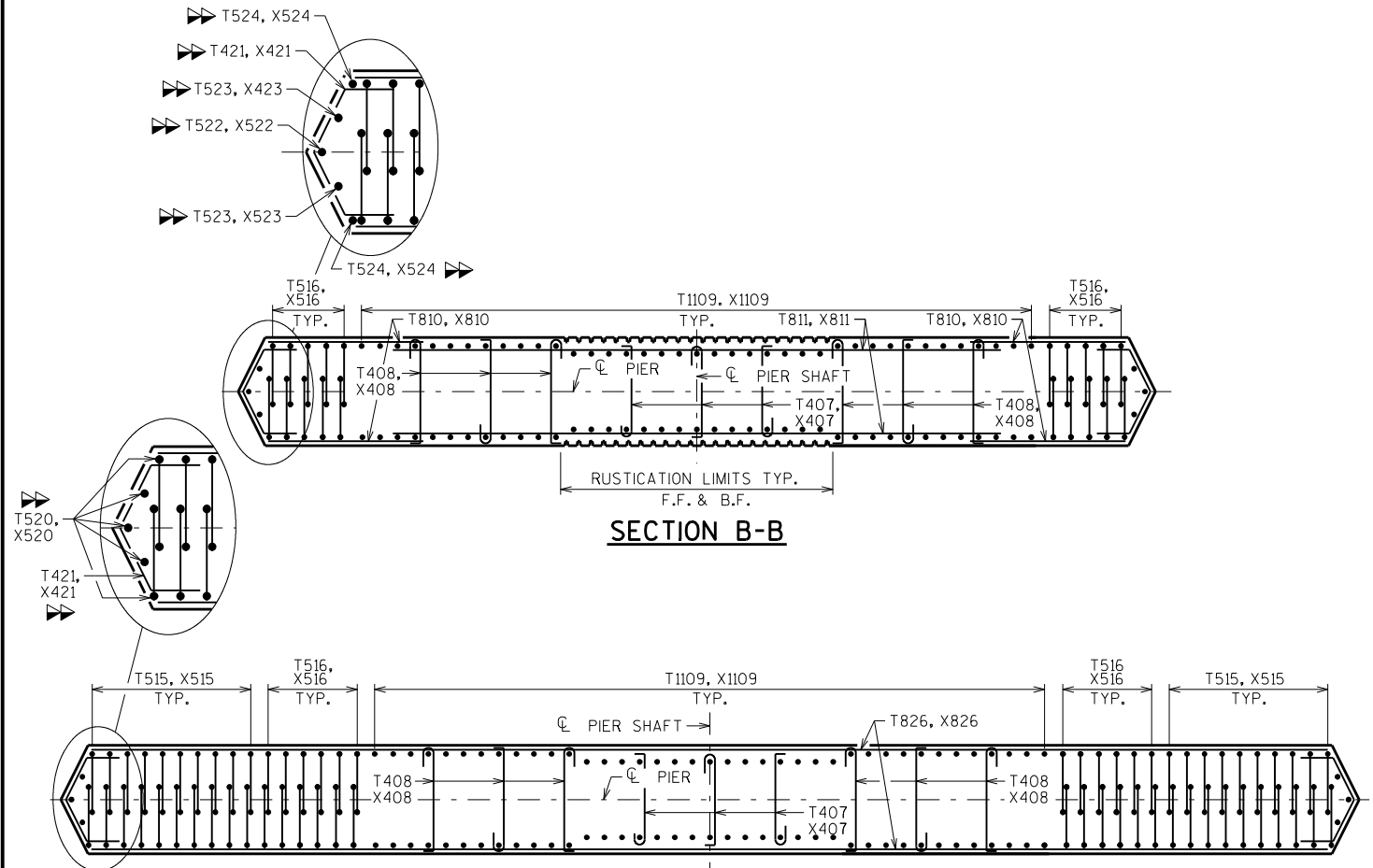


Y1114



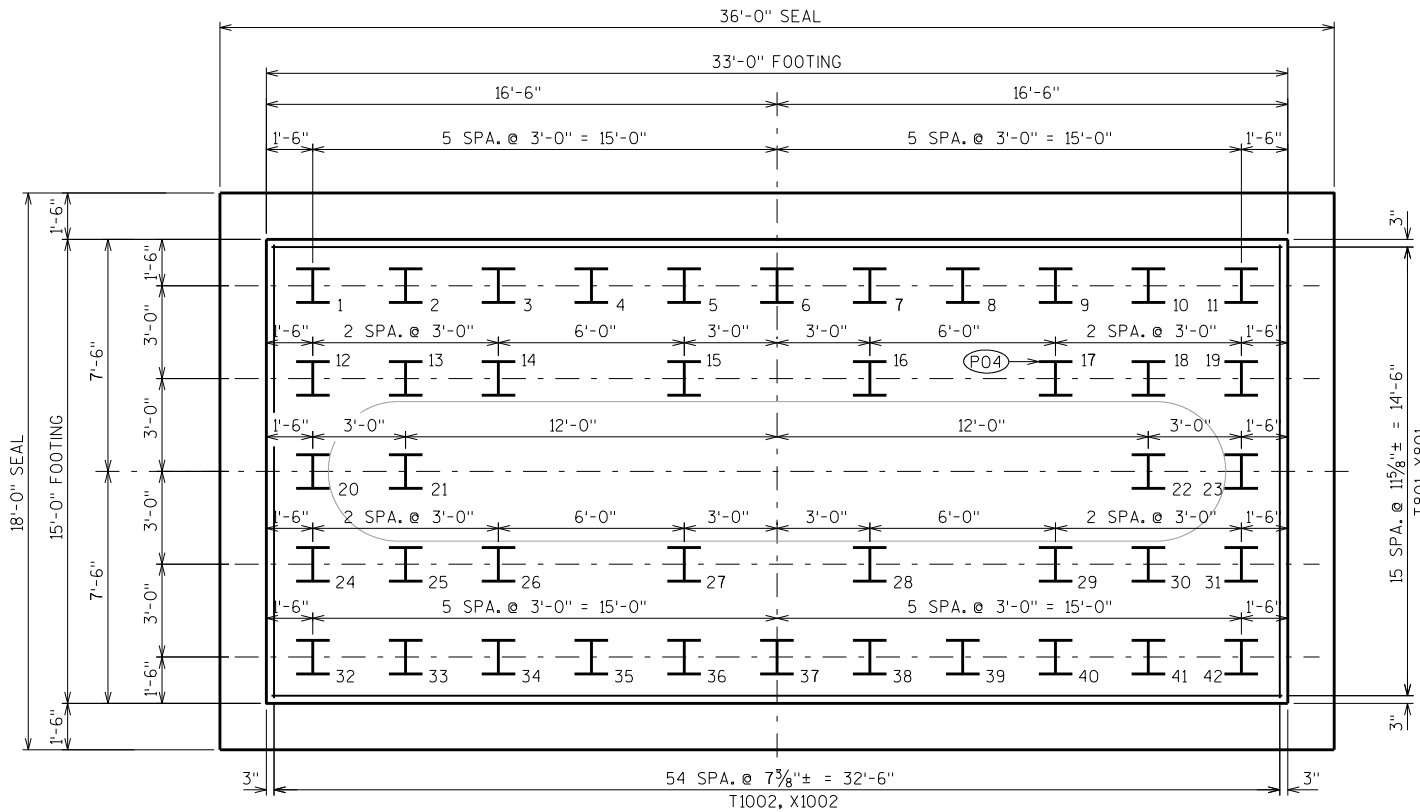
Y522, Y523, Y524





== TYP. - BOTH ENDS

SECTION C-C



FOOTING/PILE PLAN

(P04) SUPPORT PIER ON HP 14 X 73 STEEL PILING, WITH A REQUIRED DRIVING RESISTANCE OF 250 TONS PER PILE. ESTIMATED 55'-0" LONG (PIER 3) ESTIMATED 45'-0" LONG (PIER 4) PRE-BORING CONSOLIDATED MATERIAL TO ELEVATION 720' REQUIRED AT PIER 3 PILE POINTS REQUIRED BOTH PIER 3 AND 4.

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION STRUCTURES DESIGN SECTION			
STRUCTURE B-18-219			
DRAWN BY DDS		PLANS CK'D. ADS	
PIERS 3&4 DETAILS 1			SHEET 18 133

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

BILL OF BARS (PIER 4)

BAR MARK	COAT	NO. REQ'D.	LENGTH	BENT	BAR SERIES	LOCATION
X801		16	32'-8"			FOOTING - HORIZ.
X1002		55	14'-8"			FOOTING - HORIZ.
X403		10	26'-6"	X		SHAFT - VERT.
X1104		84	27'-2"	X		FOOTING/SHAFT - VERT.
X405		56	19'-2"	X		SHAFT - HORIZ.
X806		56	13'-2"			SHAFT - HORIZ.
X407		141	4'-0"	X		SHAFT - HORIZ. - TIE BARS
X408		282	4'-5"	X		SHAFT - HORIZ. - TIE BARS
X1109		84	15'-6"			SHAFT - VERT.
X810		56	7'-2"			SHAFT - HORIZ. - ENDS
X811		28	23'-10"		▲	SHAFT - HORIZ. - MIDDLE
X812		4	33'-10"			SHAFT - HORIZ.
X1113		18	60'-0"			CAP - HORIZ.
X1114		18	39'-9"	X		CAP - HORIZ.
X515		80	14'-2"	X	▲	SHAFT/CAP - VERT.
X516		32	15'-5"	X		SHAFT/CAP - VERT.
X417		5	32'-6"			CAP - HORIZ. - TOP
X518		33	6'-10"	X		CAP - VERT. - TOP
X719		NOT USED				
X520		14	15'-0"			CAP - HORIZ.
X421		78	5'-3"	X		SHAFT - POINT BARS
X522		2	12'-8"	X		SHAFT - VERT.
X523		4	13'-3"	X		CAP - HORIZ. - END BARS
X524		4	13'-10"			SHAFT - VERT.
X525		6	9'-10"	X		CAP - HORIZ. - ENDS
X826		10	49'-7"		▲	SHAFT - HORIZ.
X527		39	7'-4"	X		CAP TOP - VERT.
X1128		84	20'-2"			SHAFT - VERT.

▲ LENGTH SHOWN FOR BAR IS AN AVERAGE LENGTH AND SHOULD ONLY BE USED FOR BAR WEIGHT CALCULATIONS. SEE BAR SERIES TABLE FOR ACTUAL LENGTHS.

BAR SERIES TABLE

MARK	NO. REQ'D.	LENGTH
X811	2 SERIES OF 14	17'-8" TO 30'-0"
X515	4 SERIES OF 20	9'-10" TO 18'-6"
X826	2 SERIES OF 5	40'-7" TO 58'-7"

BUNDLE AND TAG EACH SERIES SEPARATELY.

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

BILL OF BARS (PIER 3)

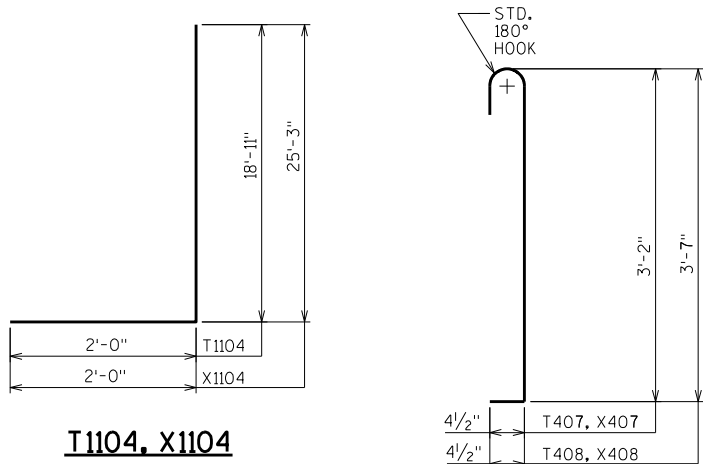
BAR MARK	COAT	NO. REQ'D.	LENGTH	BENT	BAR SERIES	LOCATION
T801		16	32'-8"			FOOTING - HORIZ.
T1002		55	14'-8"			FOOTING - HORIZ.
T403		10	20'-0"	X		SHAFT - VERT.
T1104		84	20'-5"	X		FOOTING/SHAFT - VERT.
T405		42	19'-2"	X		SHAFT - HORIZ.
T806		42	13'-2"			SHAFT - HORIZ.
T407		120	4'-0"	X		SHAFT - HORIZ. - TIE BARS
T408		240	4'-5"	X		SHAFT - HORIZ. - TIE BARS
T1109		84	15'-6"			SHAFT - VERT.
T810		56	7'-2"			SHAFT - HORIZ. - ENDS
T811		28	23'-10"		▲	SHAFT - HORIZ. - MIDDLE
T812		4	33'-10"			SHAFT - HORIZ.
T1113		18	60'-0"			CAP - HORIZ.
T1114		18	39'-9"	X		CAP - HORIZ.
T515		80	14'-2"	X	▲	SHAFT/CAP - VERT.
T516		32	15'-5"	X		SHAFT/CAP - VERT.
T417		5	32'-6"			CAP - HORIZ. - TOP
T518		33	6'-10"	X		CAP - VERT. - TOP
T719		NOT USED				
T520		14	15'-0"			CAP - HORIZ.
T421		78	5'-3"	X		SHAFT - POINT BARS
T522		2	12'-8"	X		SHAFT - VERT.
T523		4	13'-3"	X		CAP - HORIZ. - END BARS
T524		4	13'-10"			SHAFT - VERT.
T525		6	9'-10"	X		CAP - HORIZ. - ENDS
T826		10	49'-7"		▲	SHAFT - HORIZ.
T527		39	7'-4"	X		CAP TOP - VERT.
T1128		84	20'-2"			SHAFT - VERT.

▲ LENGTH SHOWN FOR BAR IS AN AVERAGE LENGTH AND SHOULD ONLY BE USED FOR BAR WEIGHT CALCULATIONS. SEE BAR SERIES TABLE FOR ACTUAL LENGTHS.

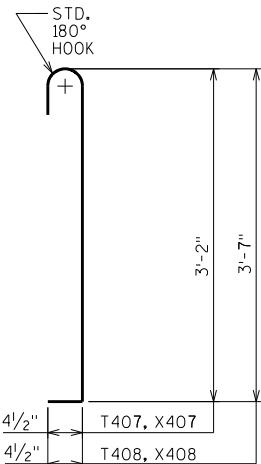
BAR SERIES TABLE

MARK	NO. REQ'D.	LENGTH
T811	2 SERIES OF 14	17'-8" TO 30'-0"
T515	4 SERIES OF 20	9'-10" TO 18'-6"
T826	2 SERIES OF 5	40'-7" TO 58'-7"

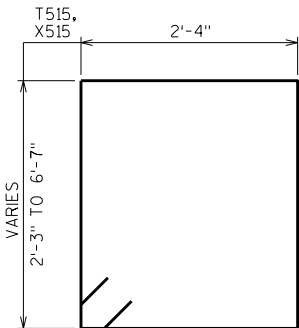
BUNDLE AND TAG EACH SERIES SEPARATELY.



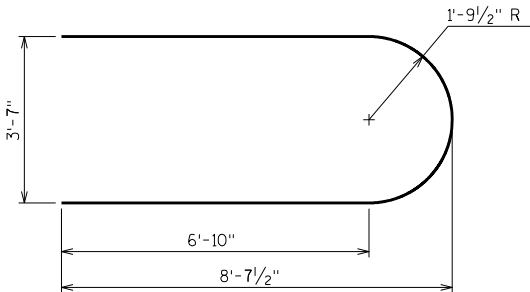
T1104, X1104



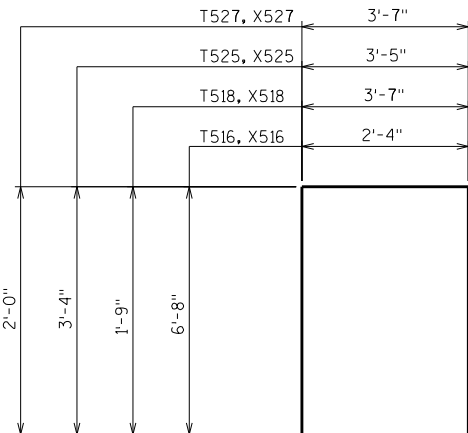
T407, T408, X407, X408



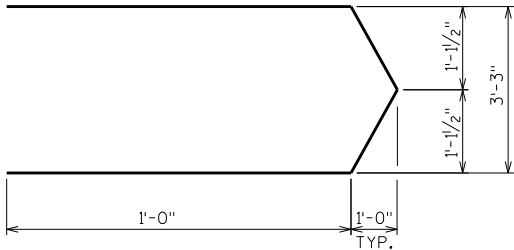
T515, X515



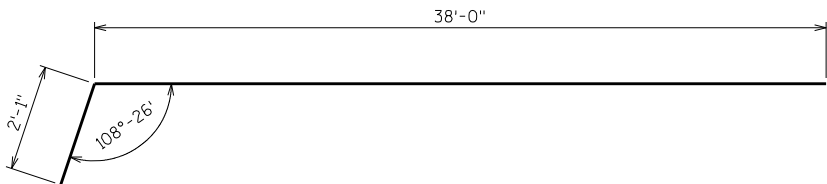
T405, X405



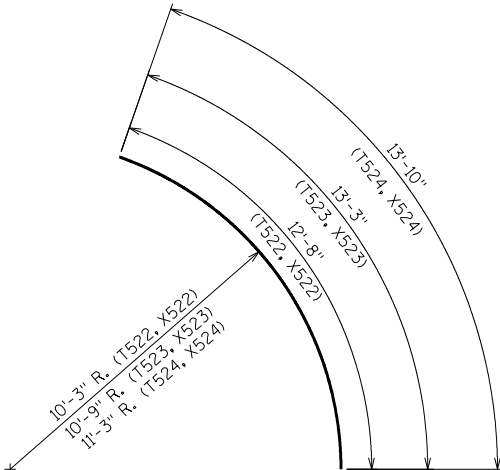
T516, T518, T525, T527
X516, X518, X525, X527



T421, X421

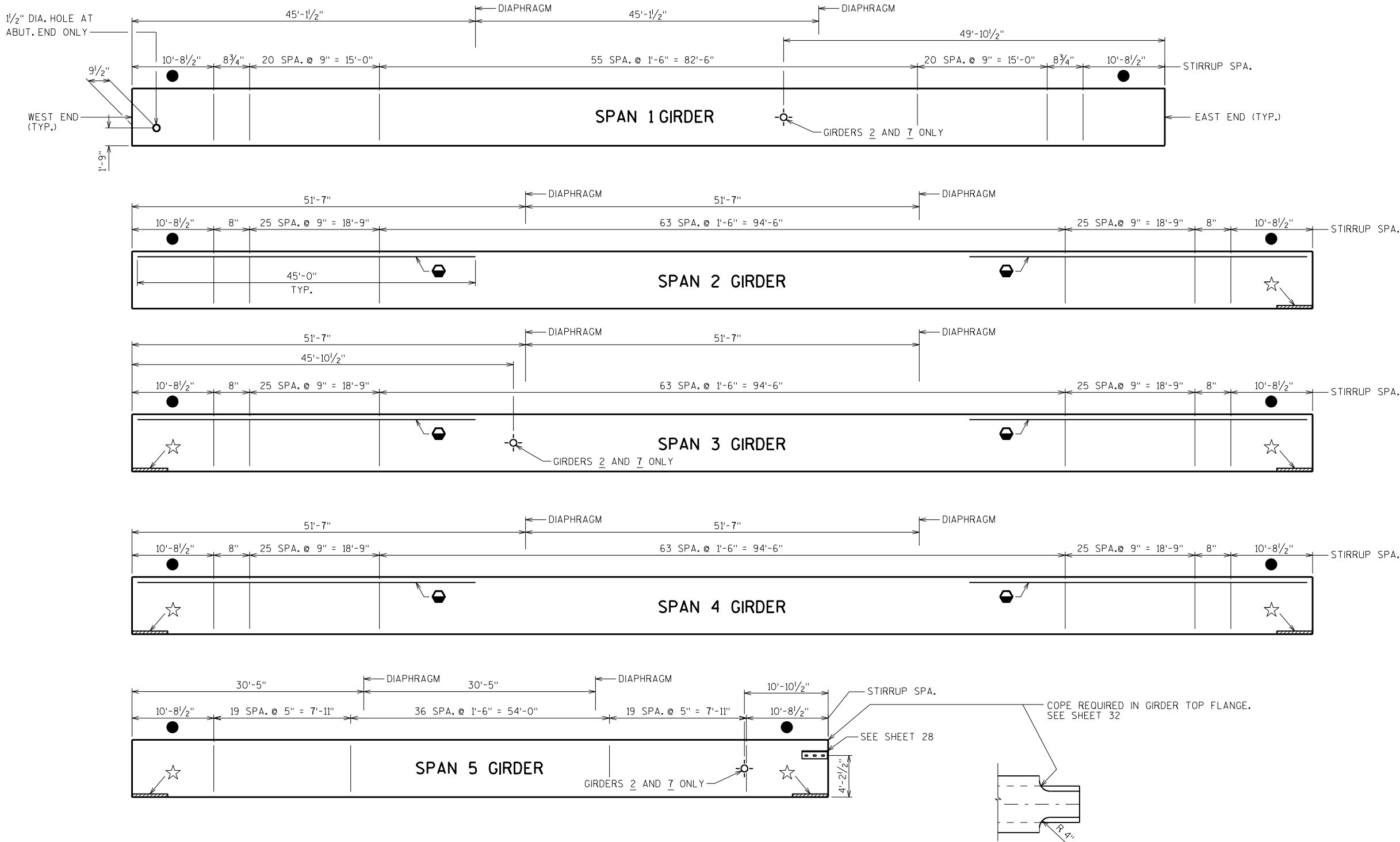


T1114, X1114



T522, T523, T524, X522, X523, X524

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION STRUCTURES DESIGN SECTION			
STRUCTURE B-18-219			
DRAWN BY		DDS	PLANS CK'D. ADS
PIERS 3&4 DETAILS 2			SHEET 19 134



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

GIRDER DATA																								
SPAN	GIRDER	GIRDER LENGTH "L"	DEAD LOAD DEFL. (IN.)									CONC. STRGTH. f'c (p.s.i.)	"P" 1ST 1/3 OF GIRDER	"P" MID 1/3 OF GIRDER	"P" END 1/3 OF GIRDER	DIA. OF STRAND (IN.)	DRAPED PATTERN						UNDRAPED PATTERN	
			1/10	2/10	3/10	4/10	5/10	6/10	7/10	8/10	9/10						TOTAL NO. OF STRANDS	f'ci (P.S.I.) *	(IN.)				TOTAL NO. OF STRANDS	f'ci (P.S.I.) *
																		"A"	"B" MIN.	"B" MAX.	"C"			
1	1-8	135.38	0.6	1.2	1.6	1.8	1.9	1.8	1.6	1.2	0.6	8000	7"	8"	7"	0.6	36	6400	67	23.5	20.5	5		
2	1-8	154.75	1.0	1.9	2.6	3.0	3.2	3.0	2.6	1.9	1.0	8000	7"	8"	7"	0.6	48	6800	67	23.5	20.5	5		
3	1-8	154.75	1.0	1.9	2.6	3.0	3.2	3.0	2.6	1.9	1.0	8000	7"	9"	8"	0.6	48	6800	67	23.5	20.5	5		
4	1-8	154.75	1.0	1.9	2.6	3.0	3.2	3.0	2.6	1.9	1.0	8000	7"	7"	7"	0.6	48	6800	67	23.5	20.5	5		
5	1-8	91.25	0.1	0.2	0.3	0.3	0.4	0.3	0.3	0.2	0.1	8000	7"	7"	7"	0.6								
																					16		6400	

☆ BEVELED ANCHOR PLATE. SEE SHEETS 34 & 35 FOR DETAILS.

● SEE SHEET 21 FOR END REINFORCEMENT

☐ FOR STORAGE, HANDLING AND TRANSPORTING, THIS GIRDER IS REINFORCED TO ALLOW A MAXIMUM OVERHANG FROM THE LIFTING LOCATION OR POINT OF SUPPORT UP TO 1/10 OF THE GIRDER LENGTH. THE CONTRACTOR IS RESPONSIBLE FOR LATERAL STABILITY OF THIS GIRDER UNTIL THE DECK IS CURED. SEE SHEET 21 FOR DETAILS.

⊕ CAST 1" SLEEVES IN GIRDER WEB FOR FLOOR DRAIN BRACKET. LOCATE HOLES TO AVOID STRANDS.

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION STRUCTURES DESIGN SECTION			
STRUCTURE B-18-219			
		DRAWN BY	ADS
			PLANS CK'D. DDS
GIRDER DATA		SHEET 20	
		135	

NOTES

TOP OF GIRDER TO BE ROUGH FLOATED AND BROOMED TRANSVERSELY, EXCEPT THE OUTSIDE 15" OF GIRDER, WHICH SHALL RECEIVE A SMOOTH FINISH. AN APPROVED CONCRETE SEALER SHALL BE APPLIED TO ALL SMOOTH SURFACES INCLUDING THE OUTSIDE 15" OF THE TOP FLANGE.

DO NOT APPLY CONCRETE SEALER TO SURFACES RECEIVING APPLICATION OF CONCRETE STAINING.

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

STRANDS SHALL BE FLUSH WITH END OF GIRDER. FOR GIRDER ENDS EMBEDDED COMPLETELY IN CONCRETE, END OF STRANDS SHALL BE COATED WITH NON-BITUMINOUS JOINT SEALER. FOR GIRDER ENDS THAT ARE FINALLY EXPOSED, COAT THE GIRDER ENDS, EXPOSED STRAND ENDS AND ALL NON-BONDING SURFACES WITHIN 2 FEET OF THE GIRDER ENDS WITH A NON-PIGMENTED EPOXY CONFORMING TO AASHTO M-235 TYPE III, GRADE 2, CLASS B OR C. THE EPOXY SHALL BE APPLIED AT LEAST 3 DAYS AFTER MOIST CURING HAS CEASED AND PRIOR TO THE APPLICATION OF THE SEALER.

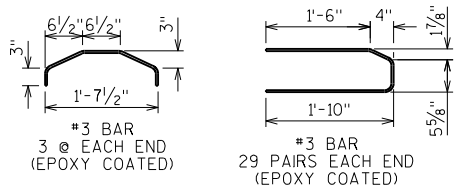
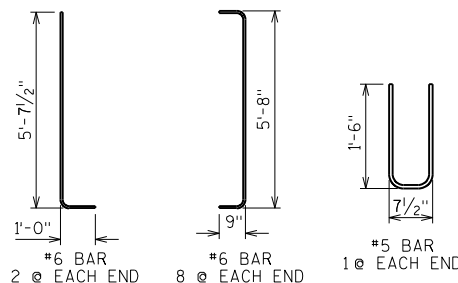
ALL GIRDERS SHALL BE CAST FULL LENGTH AS SHOWN.

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

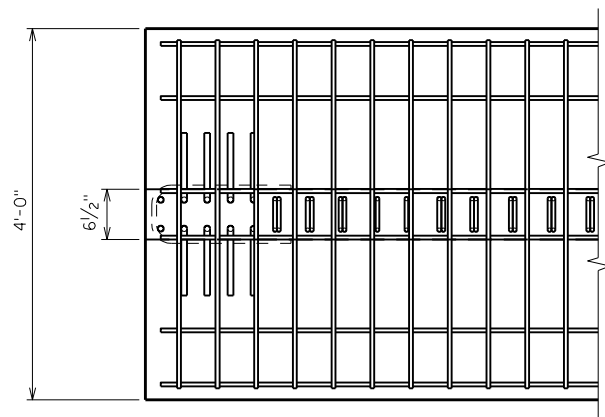
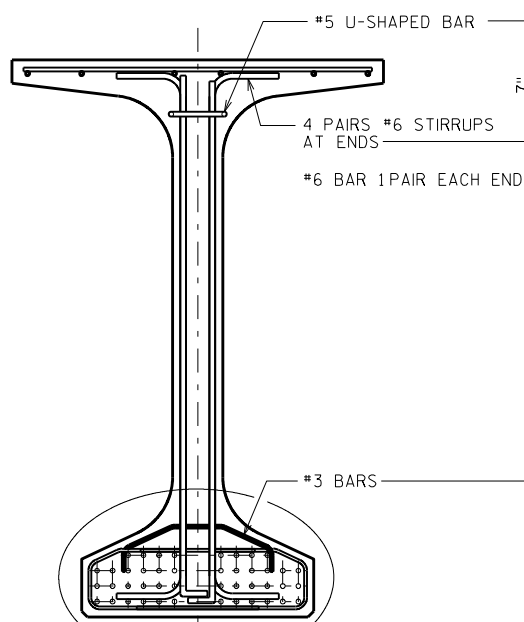
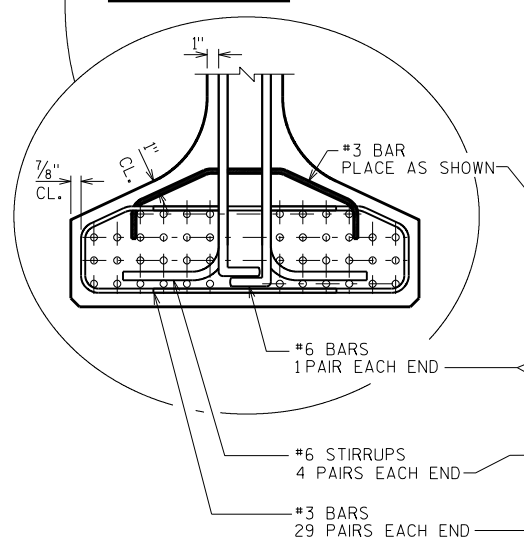
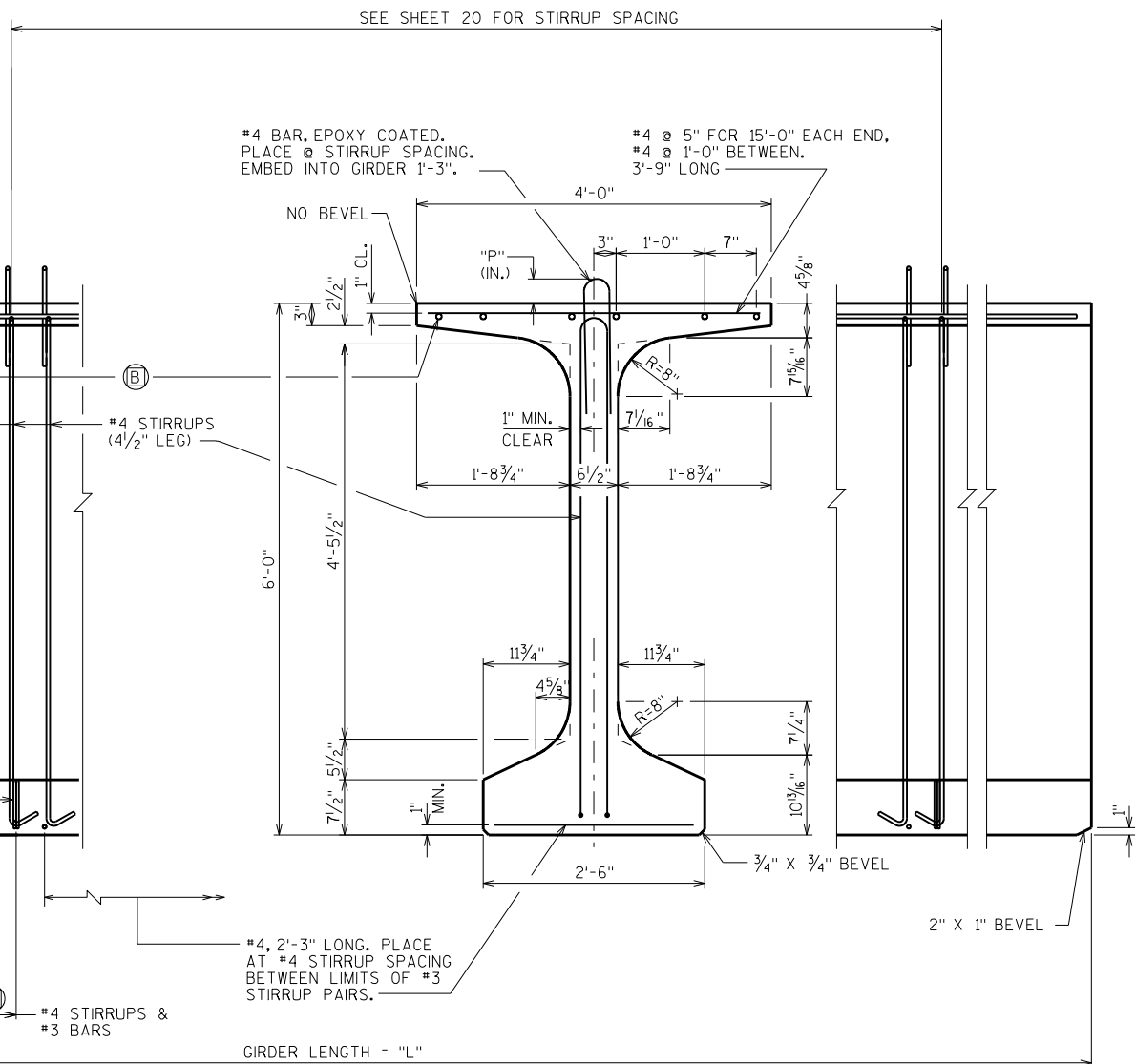
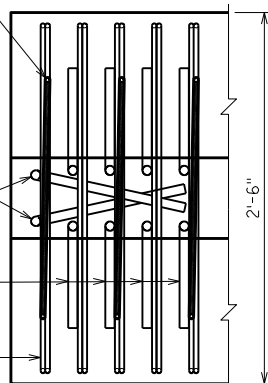
AN ALTERNATE EQUIVALENT OF WELDED WIRE FABRIC (WWF) ASTM A497 MAY BE SUBSTITUTED FOR THE STIRRUP REINFORCEMENT SHOWN, UPON APPROVAL OF THE STRUCTURES DEVELOPMENT SECTION.

PRESTRESSING STRANDS SHALL BE (0.6" DIA.)-7 WIRE LOW-RELAXATION STRANDS WITH AN ULTIMATE STRENGTH OF 270,000 PSI.

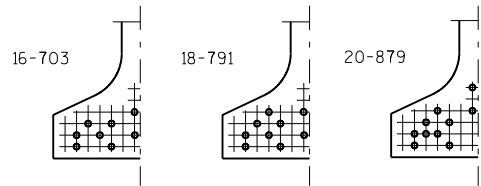
FOR DIAPHRAGM AND FLOOR DRAIN INSERTS, BEARING ANCHOR PLATES, AND ABUTMENT DETAIL LOCATIONS SEE SHEET 20



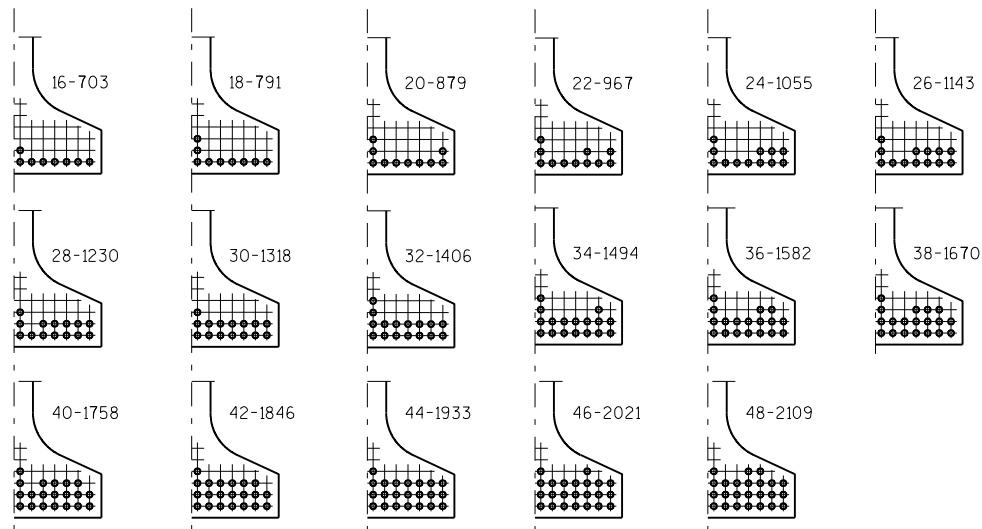
NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION STRUCTURES DESIGN SECTION			
STRUCTURE B-18-219			
DRAWN BY DDS		PLANS CK'D. ADS	
72W" PRESTRESSED GIRDER DETAILS 1		SHEET 21	
		136	

**TOP FLANGE****SECTION A-A****BOTTOM FLANGE****SIDE VIEW & TYP. SECTION IN SPAN**

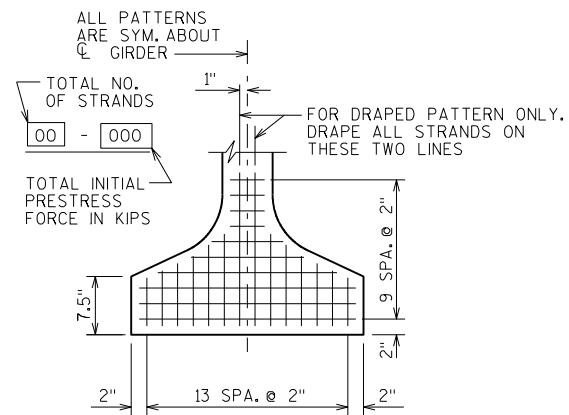
- (A) DETAIL TYP. AT EACH END
 (B) 6 #4 BARS, FULL LENGTH, MIN. LAP = 1'-11" (SPANS 1 AND 5)
 6 #6 BARS, 45'-0" LONG @ ENDS, THEN #4 (SPANS 2, 3, AND 4)



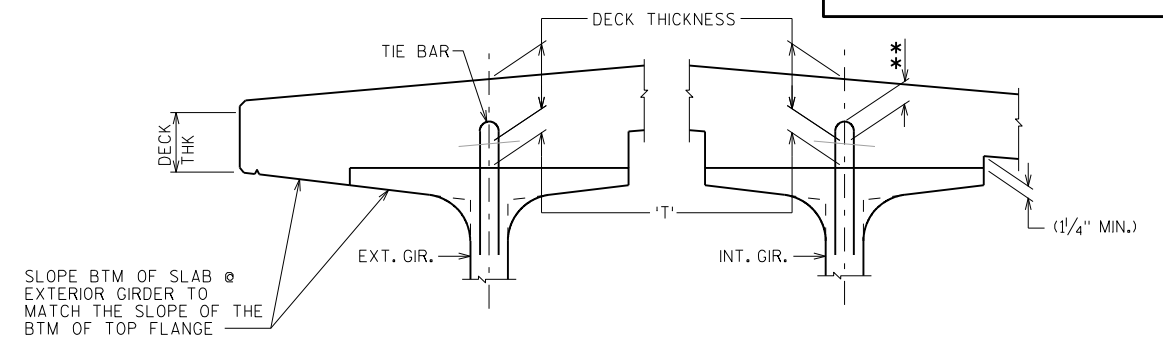
STANDARD ARRANGEMENTS TO RAISE CENTER OF GRAVITY TO AVOID DRAPING OF STRANDS

0.6" ϕ STRANDS

ARRANGEMENT AT ϕ SPAN - FOR GIRDERS WITH DRAPED STRANDS

0.6" ϕ STRANDS

TYP. STRAND PATTERN



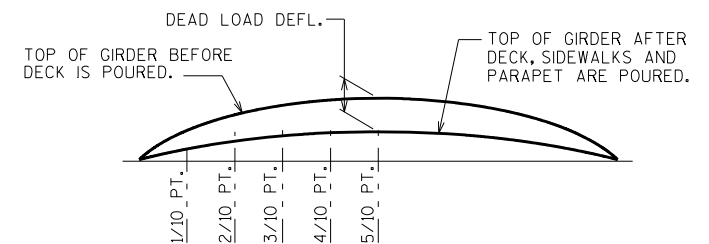
DECK HAUNCH DETAIL

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, ** IF 3" MINIMUM DECK EMBEDMENT OF TIE BAR CANNOT BE OBTAINED.

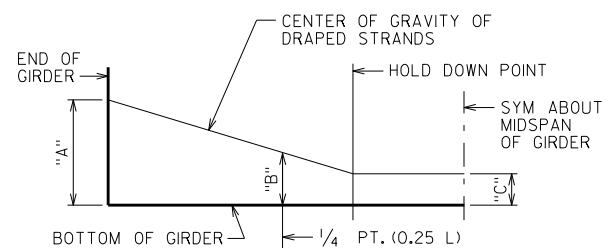
TO DETERMINE 'T', ELEV. OF TOP OF GIR'S. AT ϕ OF SUBSTRUCTURE UNITS & AT 1/10 POINTS OF EACH SPAN SHALL BE TAKEN. THEN FOLLOW THIS PROCESS:

- 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 3/2" WAS USED IN THE QUANTITY "CONCRETE MASONRY BRIDGES".



DEAD LOAD DEFLECTION DIAGRAM



DRAPED STRAND PROFILE

*THE THEORETICAL INITIAL CAMBER VALUE AT THE TIME OF STRAND RELEASE AT MIDSPAN MULTIPLIED BY A FACTOR OF 1.4 TO ACCOUNT FOR CAMBER GROWTH FROM THE TIME OF STRAND RELEASE TO JOBSITE PLACEMENT.

SPAN	CAMBER (IN.) *
1	2.94
2	4.93
3	4.93
4	4.93
5	0.69

THESE VALUES ARE NOT TO BE USED IN DETERMINING 'T', USE ACTUAL GIRDER SHOTS.
THESE VALUES ARE FOR INFORMATIONAL PURPOSES ONLY.

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION STRUCTURES DESIGN SECTION			
STRUCTURE B-18-219			
DRAWN BY DDS		PLANS CK'D. ADS	
72W" PRESTRESSED GIRDER DETAILS 2		SHEET 22	
		137	

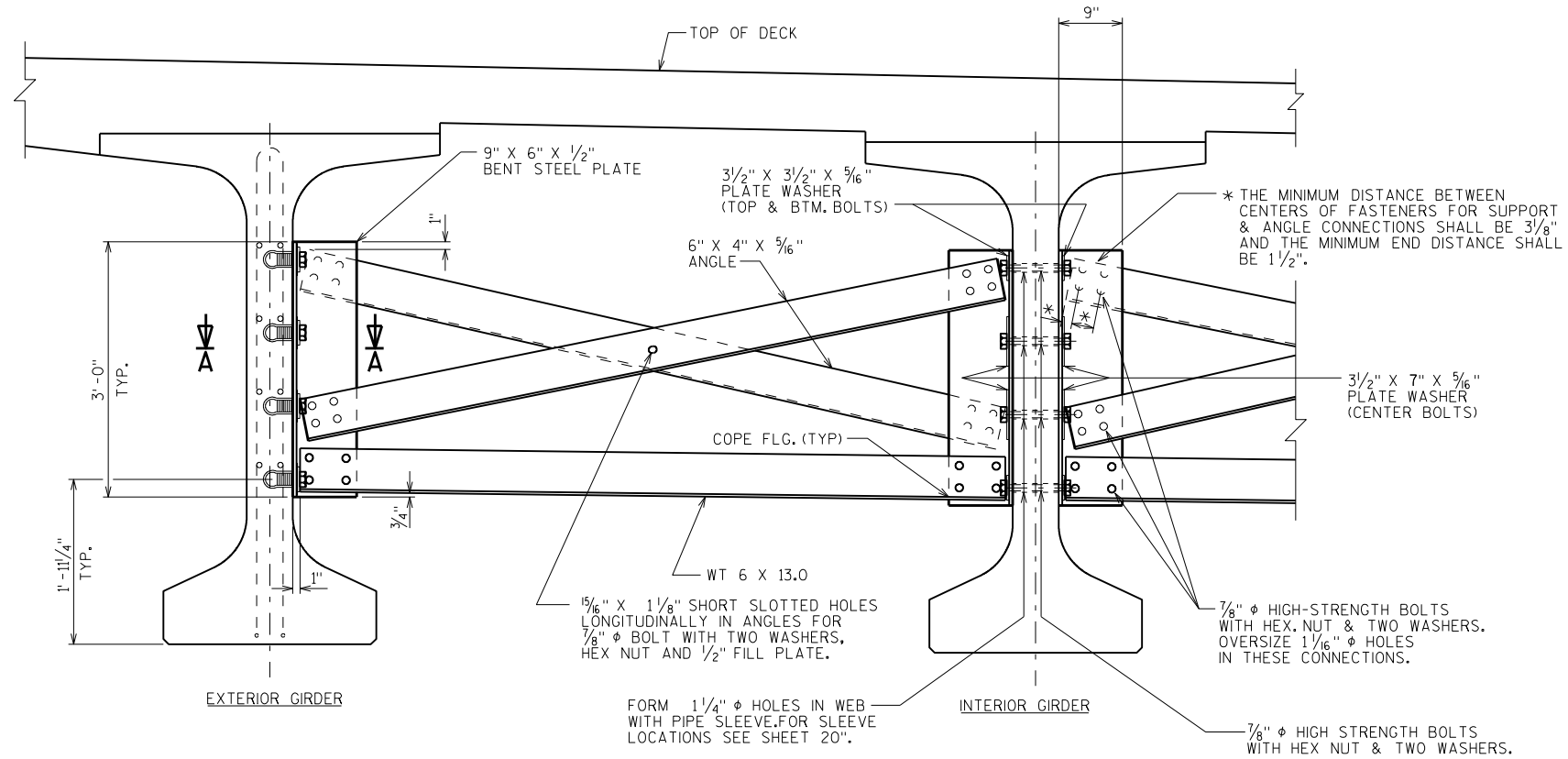
NOTES

ALL DIAPHRAGM MATERIAL NOT EMBEDDED IN THE CONCRETE GIRDER SHALL BE PAID FOR AT THE UNIT PRICE BID FOR "STEEL DIAPHRAGMS B-18-219", EACH.

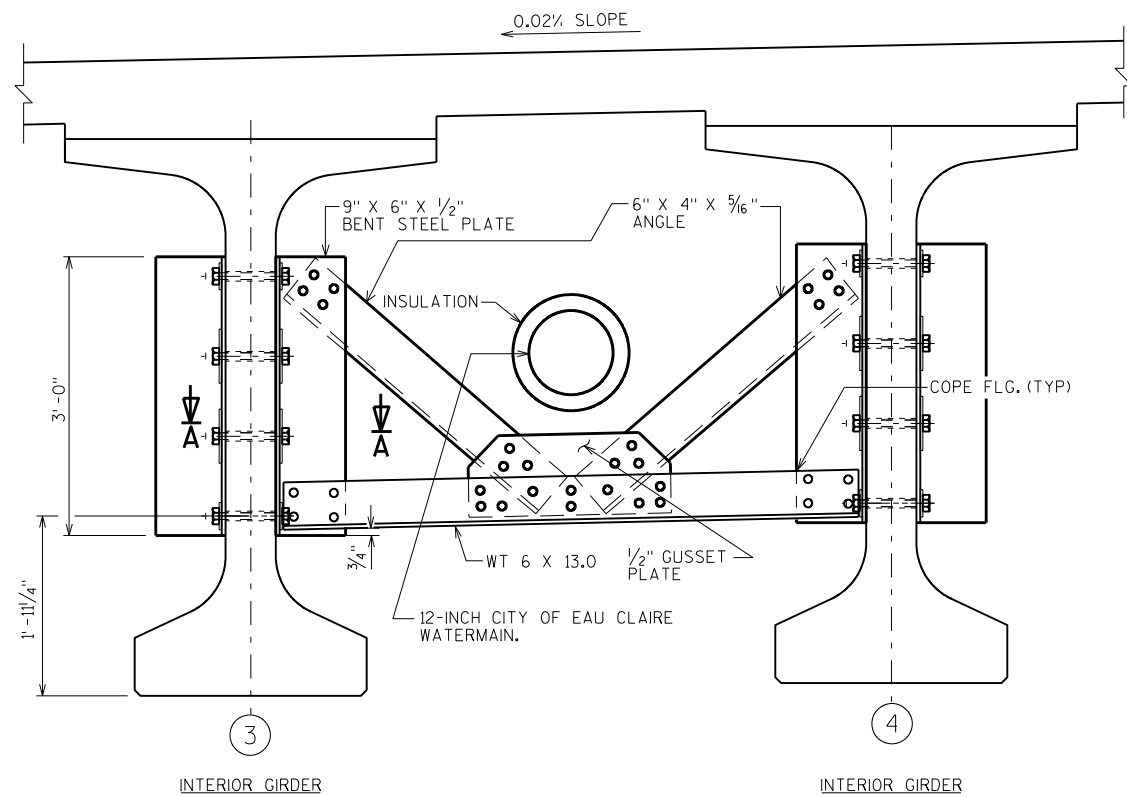
EACH DIAPHRAGM BETWEEN GIRDERS SHALL CONSTITUTE ONE UNIT.

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

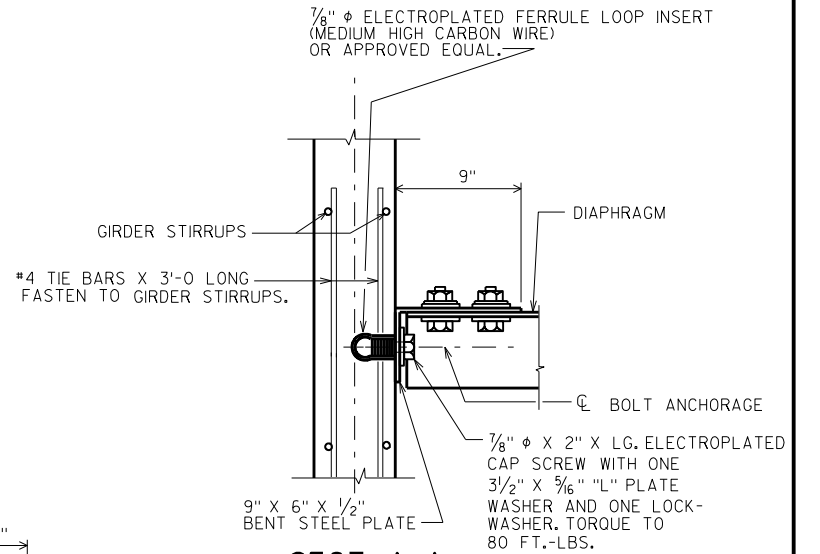
ALL DIAPHRAGM STRUCTURAL STEEL SHOWN SHALL BE HOT-DIPPED GALVANIZED. ALL BOLTS, NUTS AND WASHERS SHALL BE HOT-DIPPED GALVANIZED IN ACCORDANCE WITH ASTM A153 CLASS C. GALVANIZED NUTS SHALL BE TAPPED OVERSIZED IN ACCORDANCE WITH THE REQUIREMENTS OF ASTM A563 AND SHALL MEET THE REQUIREMENTS OF SUPPLEMENTARY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



PART TRANSVERSE SECTION AT DIAPHRAGM
TYP.



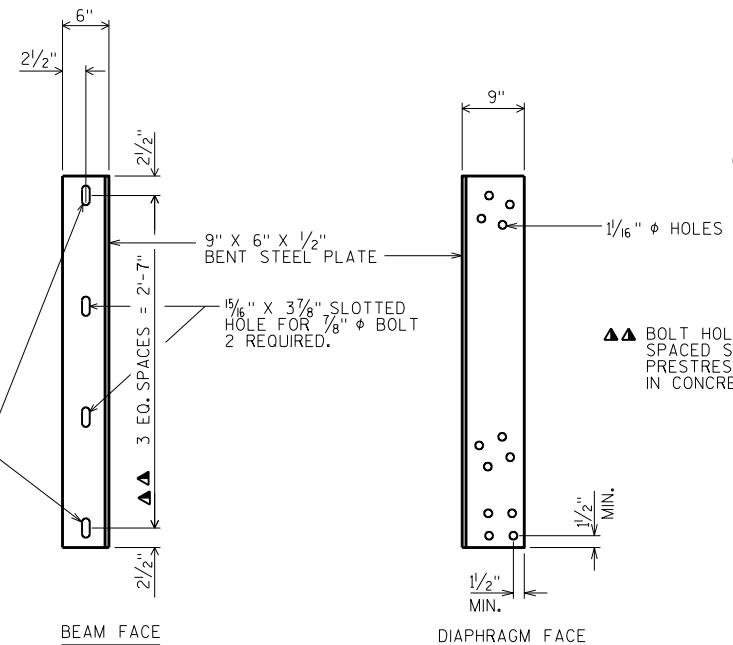
IN SPAN DIAPH AT WATERMAIN - LOOKING EAST

**SECT. A-A**

(FOR EXTERIOR ATTACHMENT)

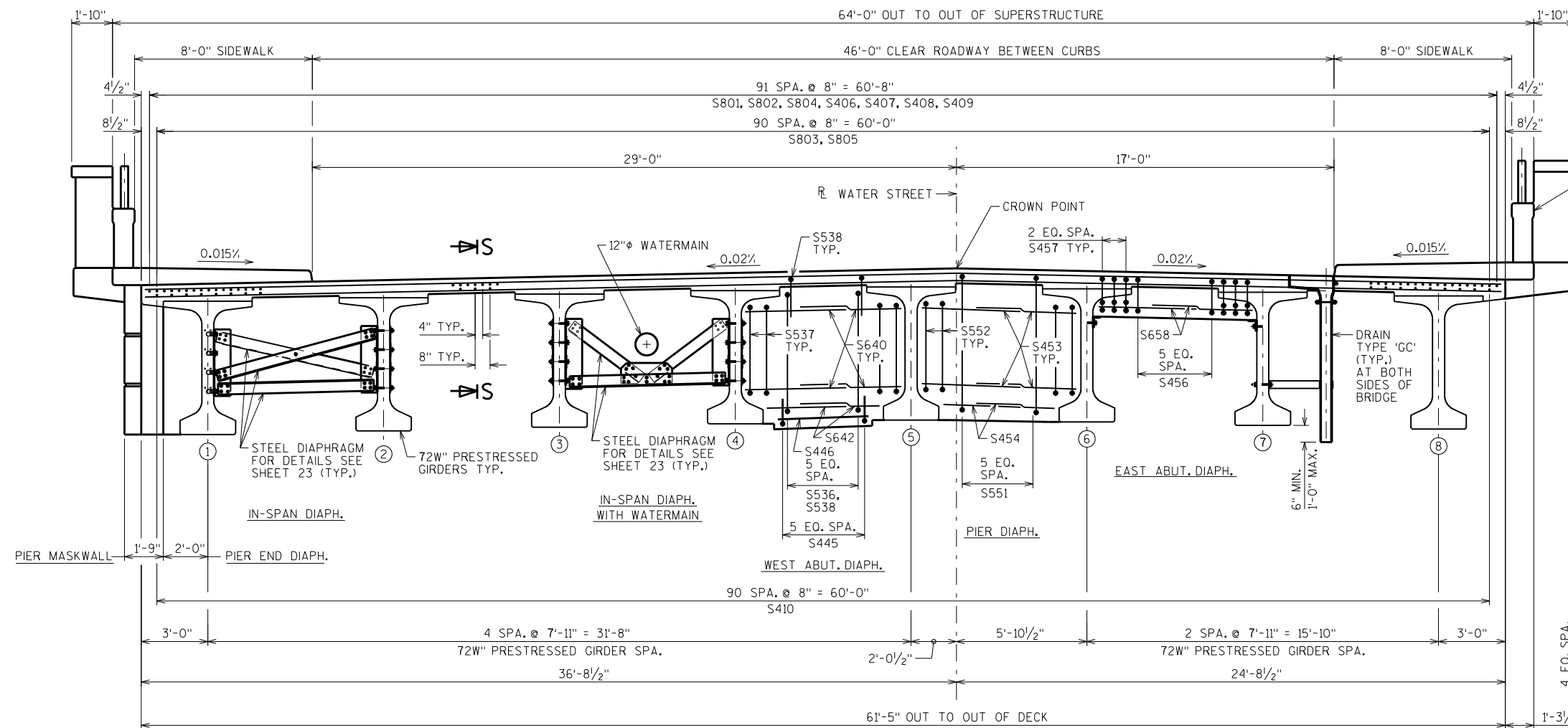
"L" = 3 1/2"; TOP AND BOTTOM BOLTS
"L" = 7"; CENTER BOLTS

1 5/16" X 2 3/16" LONG SLOTTED HOLE FOR 7/8" Ø BOLT. 2 REQUIRED.



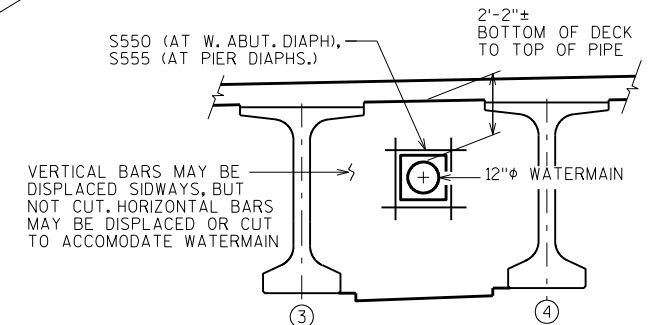
DIAPHRAGM SUPPORT

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION STRUCTURES DESIGN SECTION			
STRUCTURE B-18-219			
DRAWN BY DDS		PLANS CK'D. ADS	
STEEL DIAPHRAGM		SHEET 23	
		138	

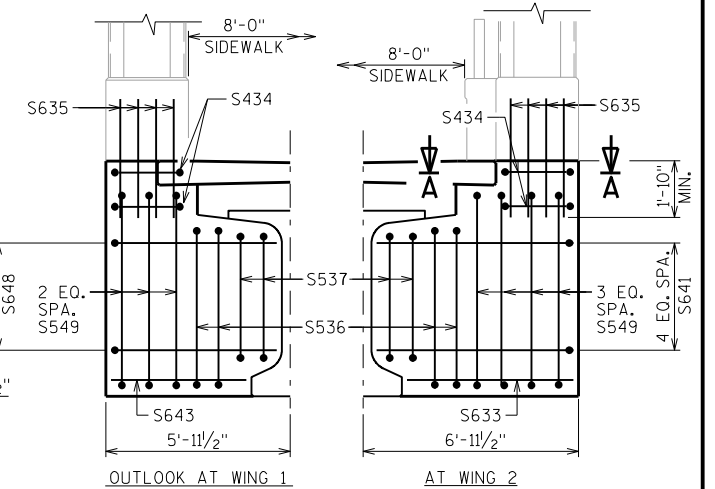


PEDESTAL, FOR DETAILS SEE SHEET 30.

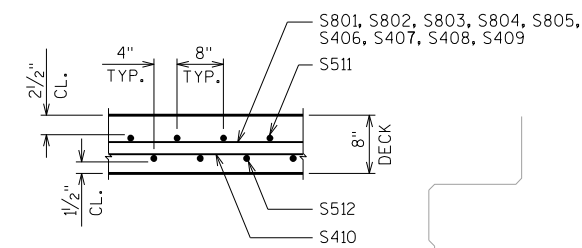
COMBINATION RAIL TYPE C3 FOR DETAILS SEE SHEETS 36-38.



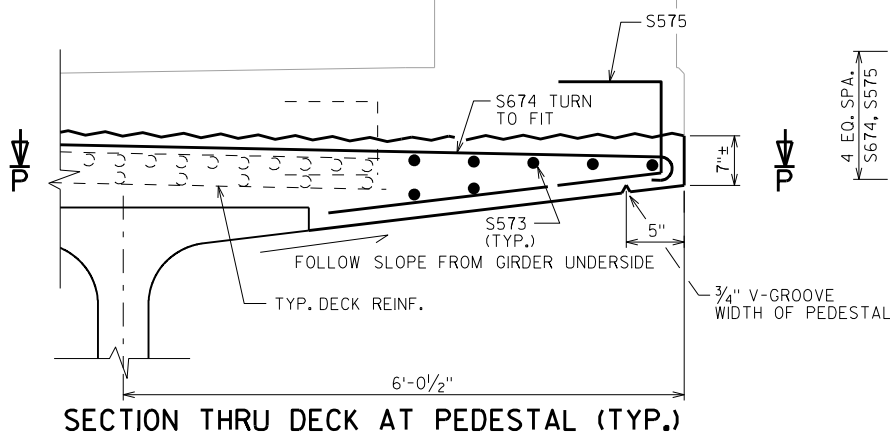
SECTION THRU DIAPHRAGMS

SECTION AT WEST ABUT. DIAPHRAGMS
LOOKING WEST

CROSS SECTION THRU ROADWAY - LOOKING EAST

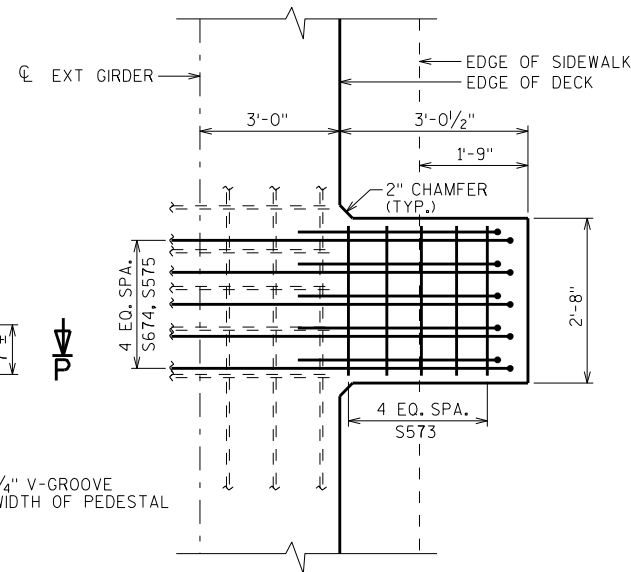


SECTION S

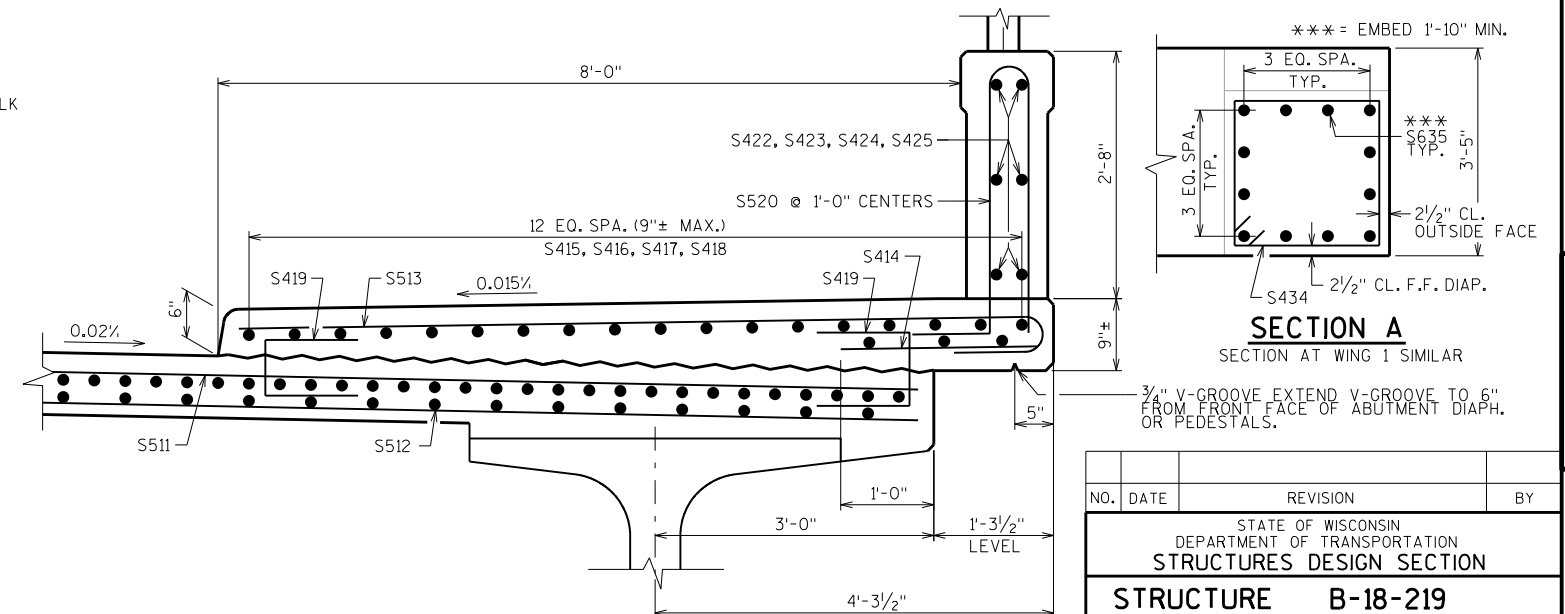


SECTION THRU DECK AT PEDESTAL (TYP.)

SEE SHEET 27 FOR ADDITIONAL REINFORCEMENT AT PIER LOCATIONS



SECTION P



SECTION THRU SIDEWALK (TYP.)

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION STRUCTURES DESIGN SECTION			
STRUCTURE B-18-219			
DRAWN BY DDS		PLANS CKD. ADS	
SUPERSTRUCTURE CROSS SECTION		SHEET 24	
		139	



☼ = FOR DETAILS SEE SHEET 30 & 39.

10'-0" ±

3" ± TYP.

HEAVY RIPRAP

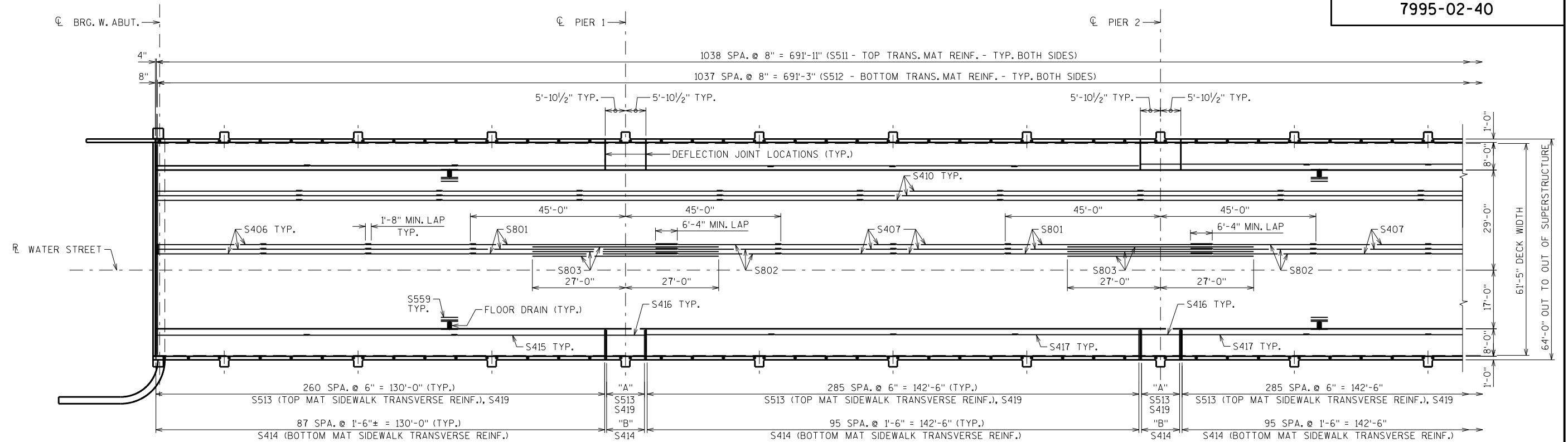
TOP OF GRADE

1'-9" ± TYP.

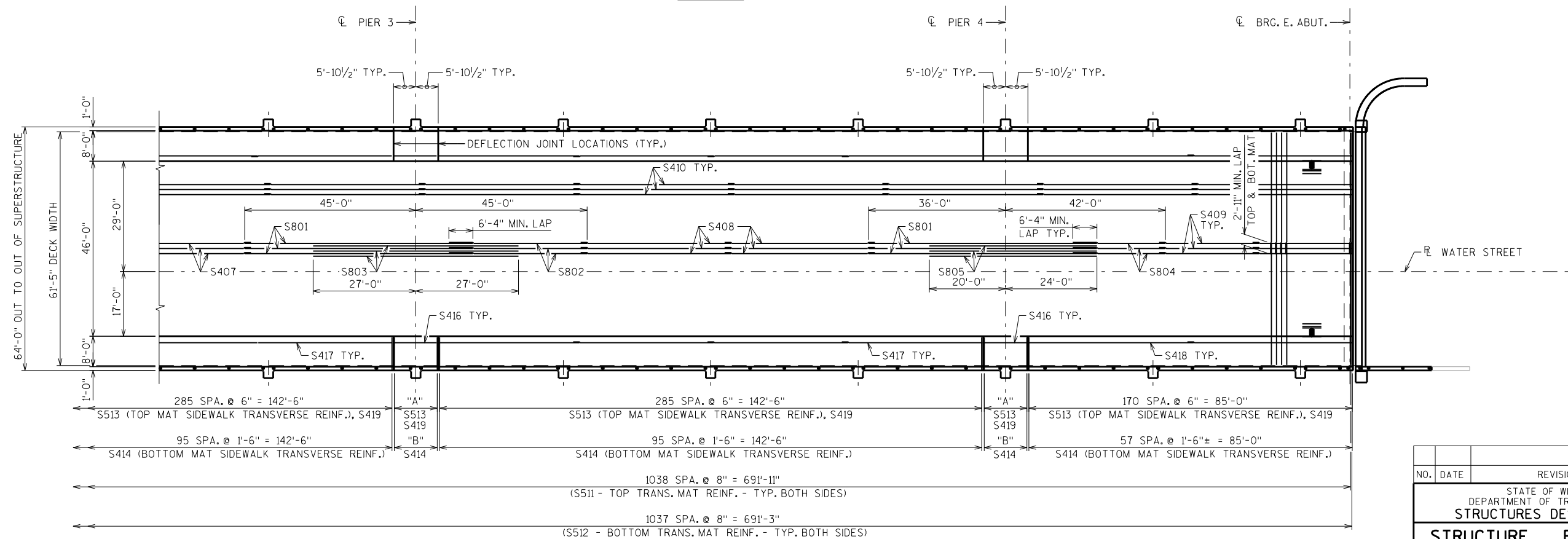
GEOTEXTILE FABRIC TYPE 'HR'

SECTION THRU RIPRAP

NO.	DATE	REVISION			BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION STRUCTURES DESIGN SECTION					
STRUCTURE		B-18-219			
		DRAWN BY	DDS	PLANS CK'D.	ADS
SUPERSTRUCTURE LAYOUT			SHEET 25		
			140		



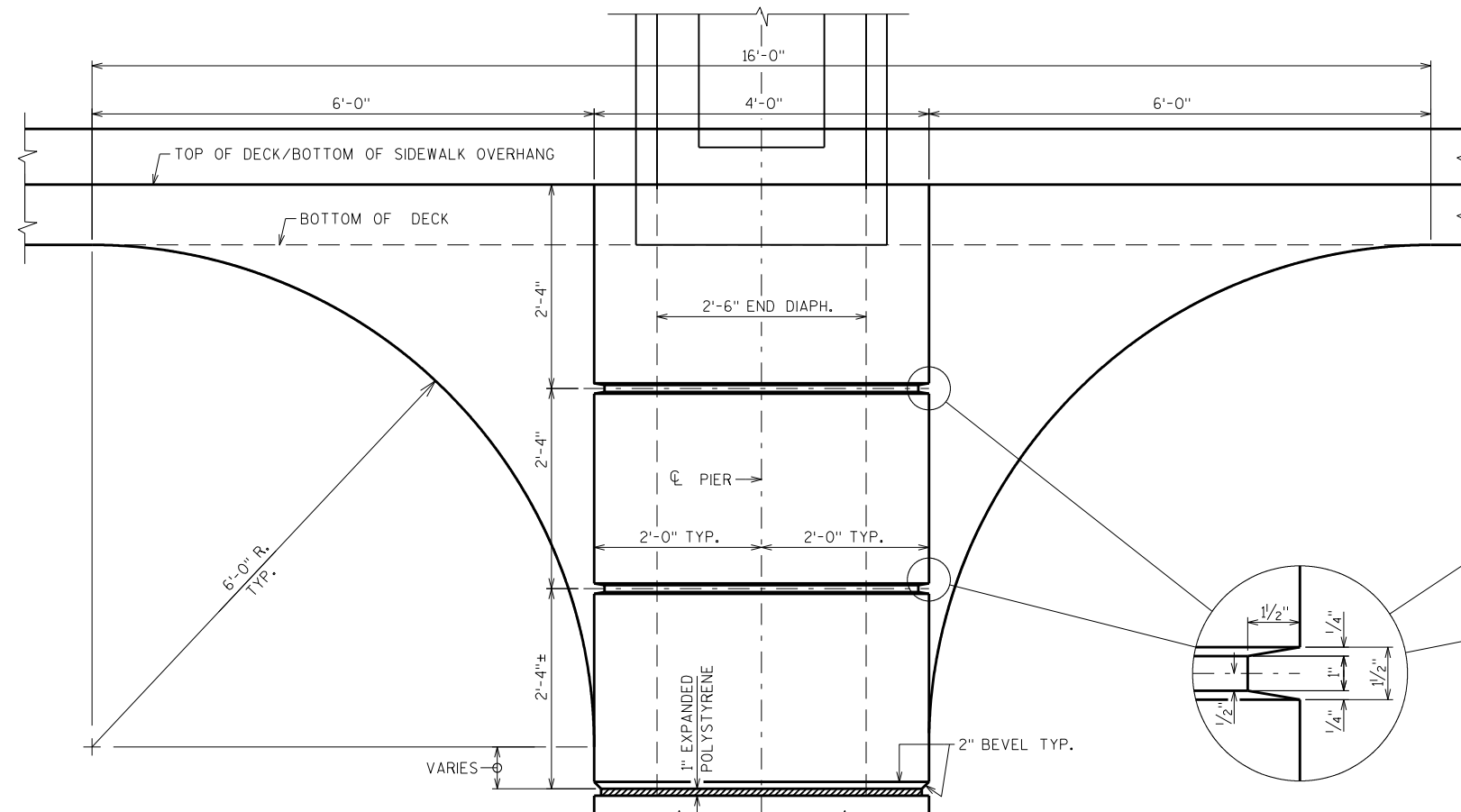
PLAN



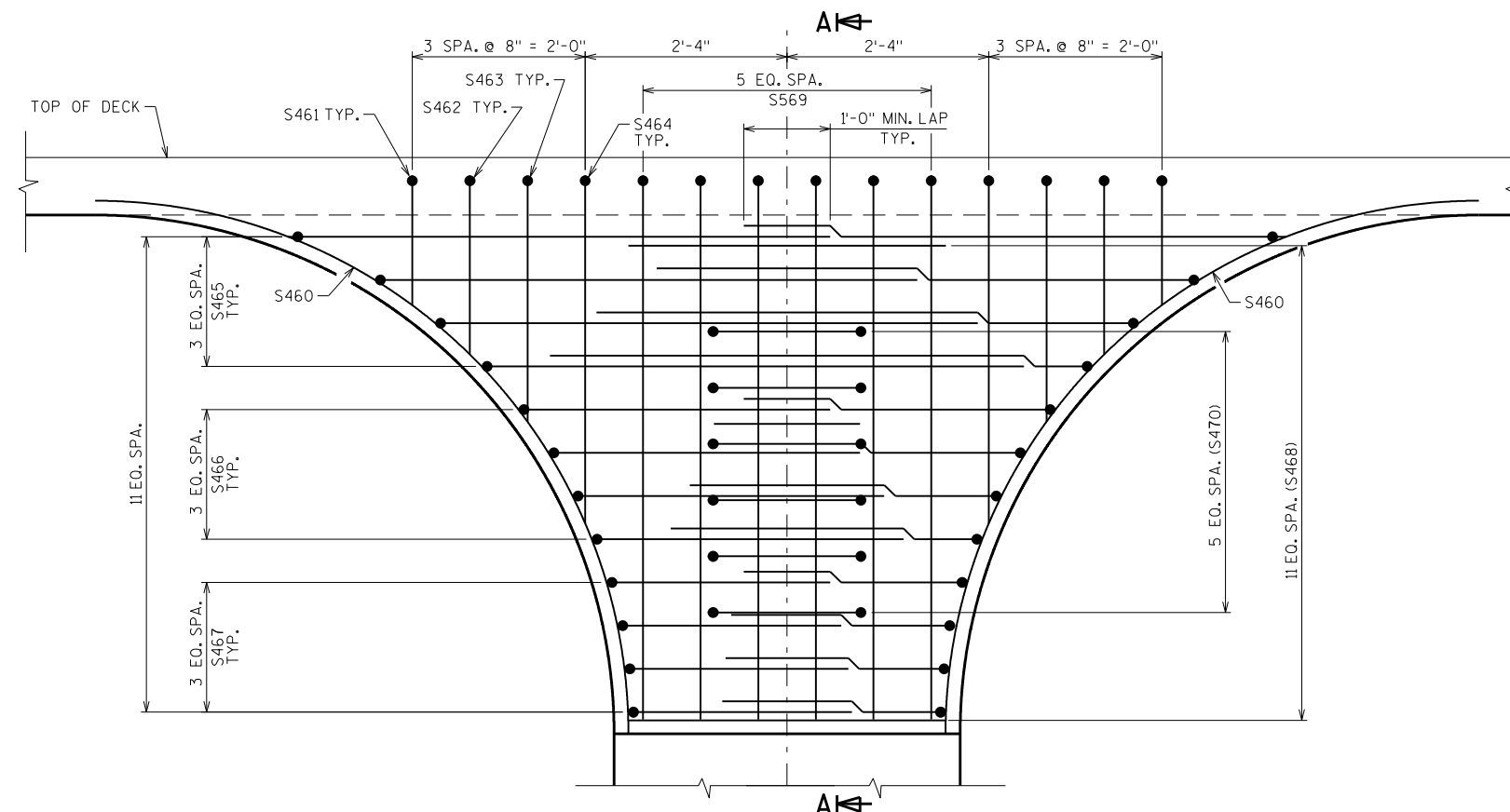
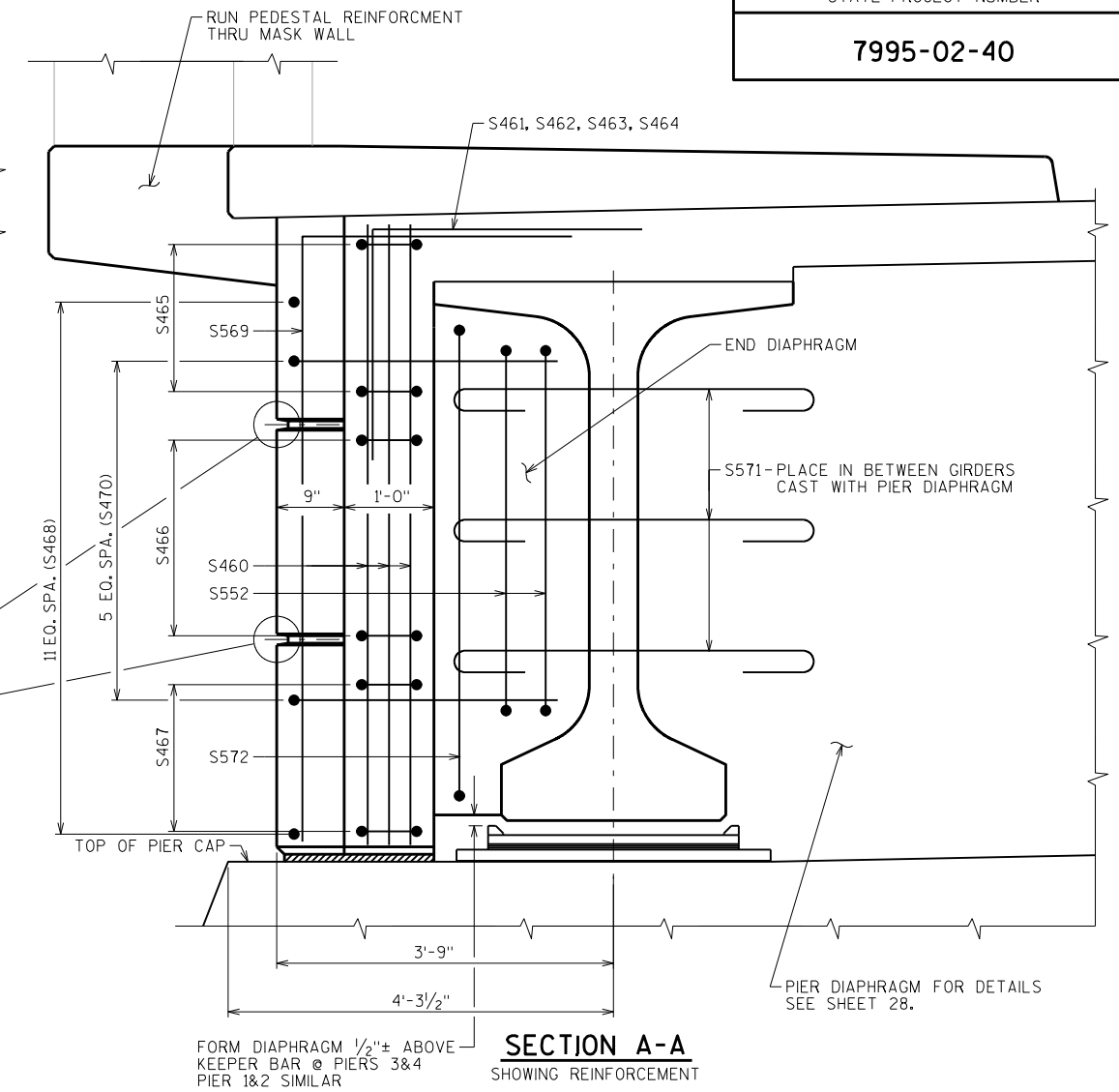
PLAN

A = 23 SPA. @ 6" ± = 11'-3"
B = 8 SPA. @ 1'-6" ± = 11'-3"

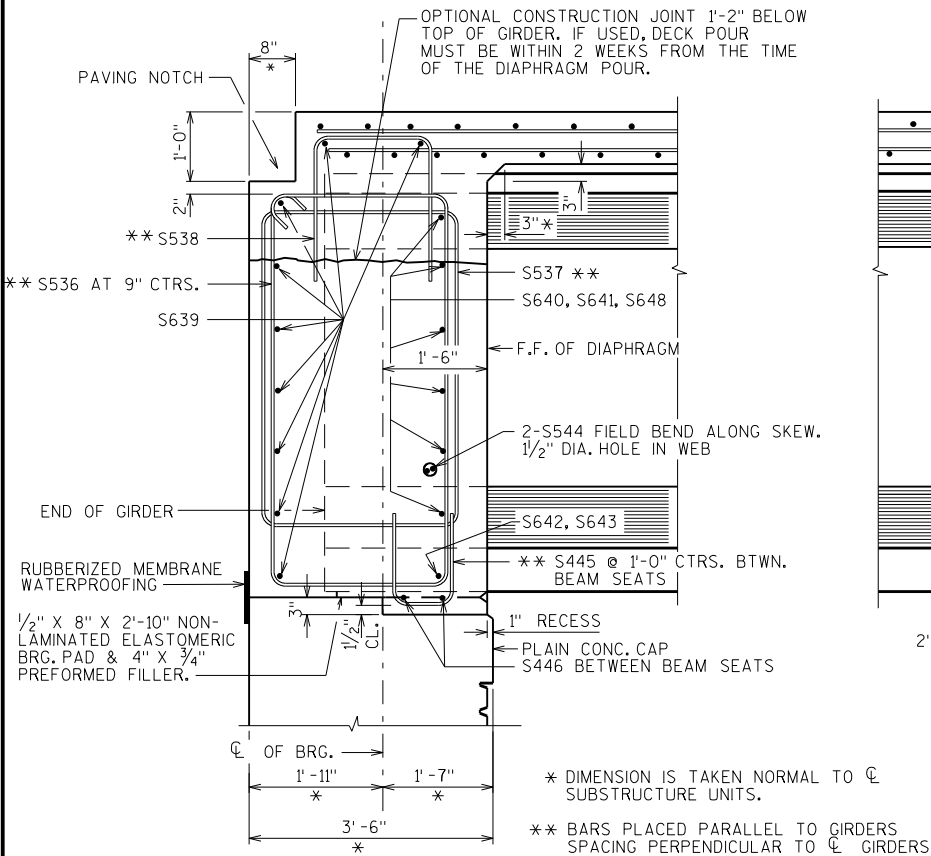
NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION STRUCTURES DESIGN SECTION			
STRUCTURE B-18-219			
DRAWN BY DDS		PLANS CK'D. ADS	
SUPERSTRUCTURE REINFORCEMENT			SHEET 26
			141



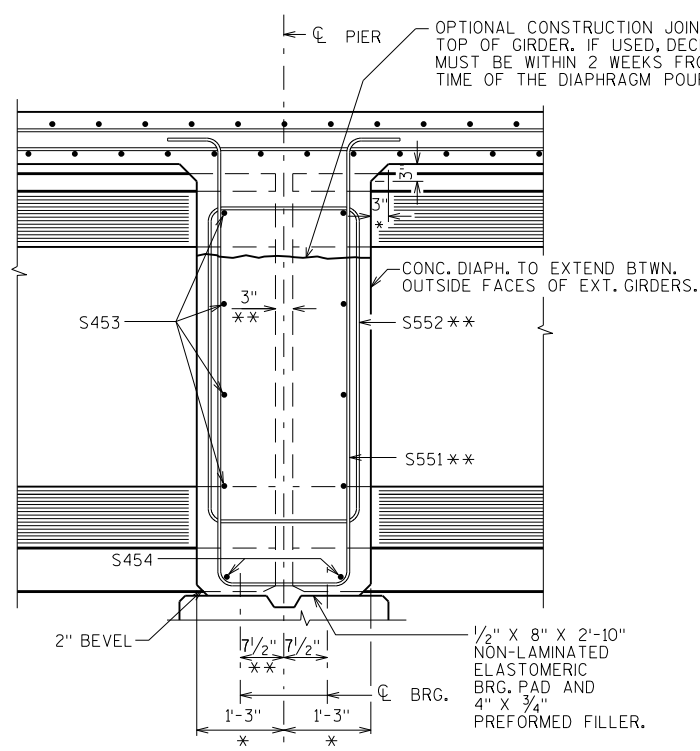
ELEVATION - LOOKING AT OUTSIDE FACE OF BRIDGE

ELEVATION - LOOKING AT OUTSIDE FACE OF BRIDGE
SHOWING REINFORCEMENT

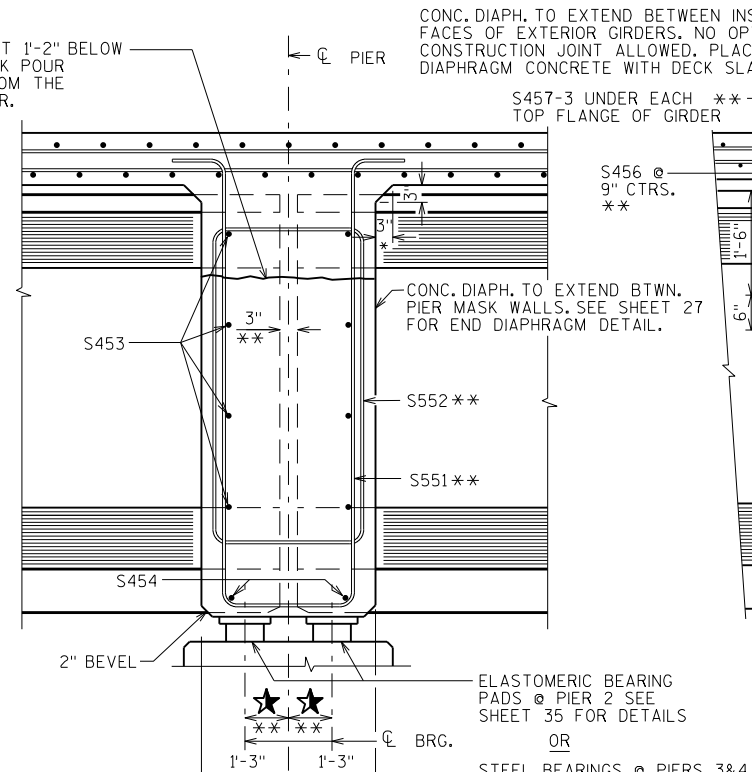
NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION STRUCTURES DESIGN SECTION			
STRUCTURE B-18-219			
DRAWN BY DDS		PLANS CK'D. ADS	
PIER MASK WALL DETAILS			SHEET 27
			142



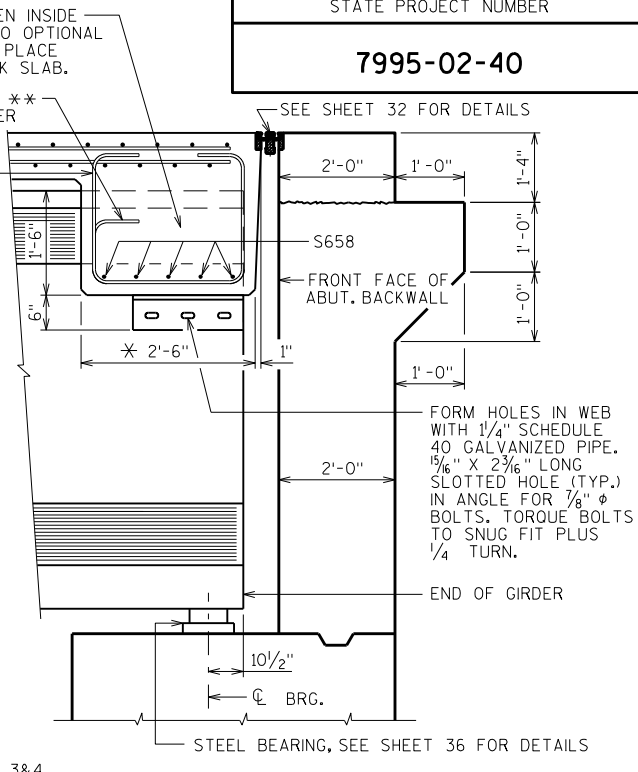
PART LONGIT. SECTION
AT WEST ABUTMENT



AT PIER DIAPHRAGM
PIER 1

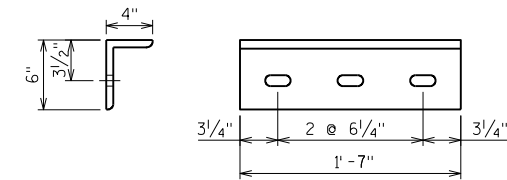


AT PIER DIAPHRAGM
PIERS 2, 3 & 4



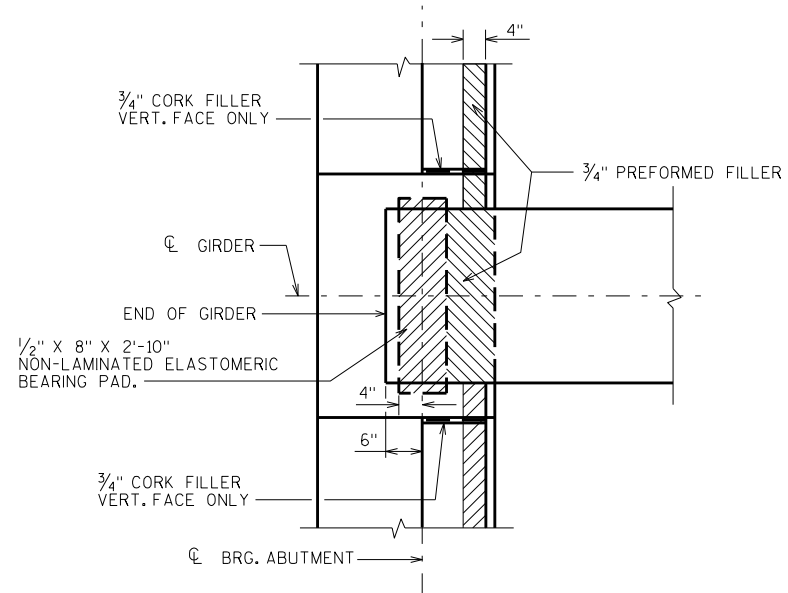
PART LONGIT. SECTION
AT EAST ABUTMENT

★ = 9/2" @ PIER 2
10 1/2" @ PIERS 3&4

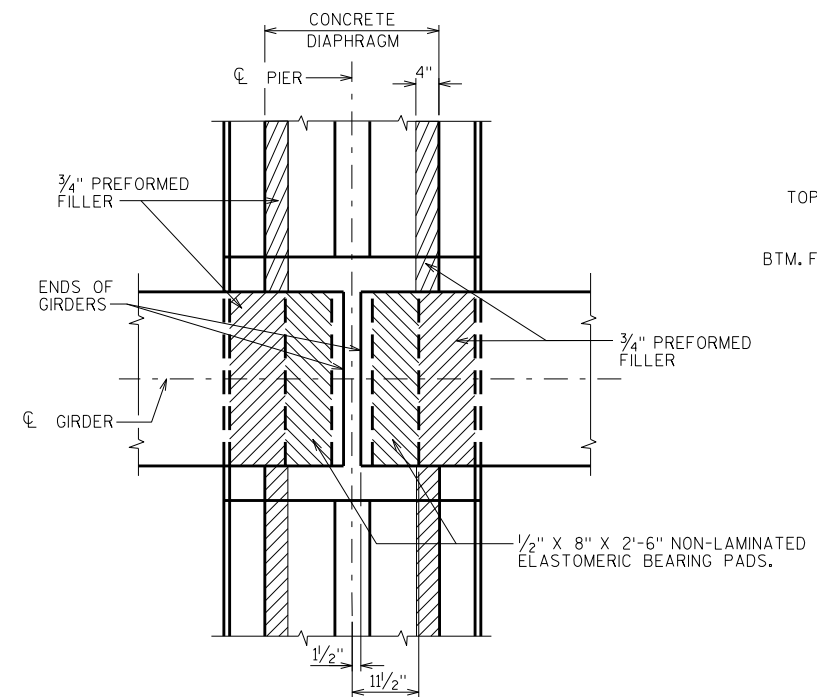


ANGLE

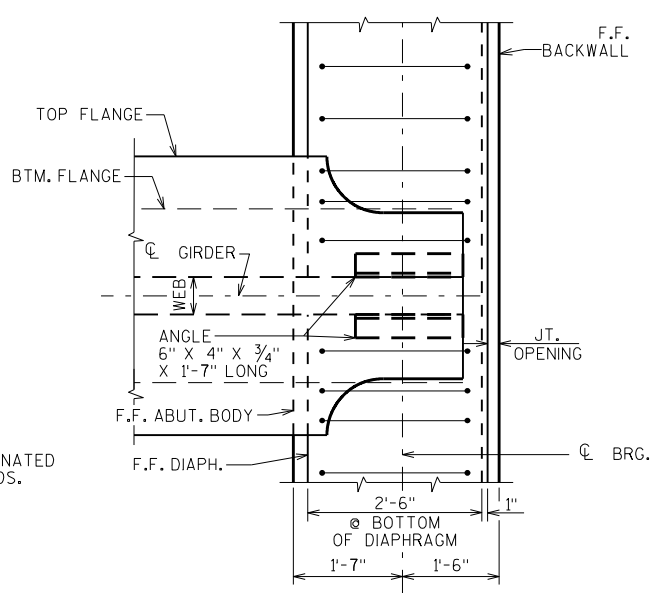
PROVIDE 3 1/2" X 3 1/2" X 5/16" PLATE WASHERS AT ALL LOCATIONS EXCEPT AT EXTERIOR FACES OF EXTERIOR GIRDERS WHERE 3 1/2" X 3 1/2" X 1/2" PLATE WASHERS SHALL BE PROVIDED.



TOP VIEW OF WEST ABUT. DIAPHRAGM



BEARING PAD DETAILS
PIER 1



TOP VIEW OF EAST ABUT. DIAPHRAGM

NOTES

DIAPHRAGM SUPPORT ANGLES SHALL BE ASTM A709 GRADE 36. ALL BOLTS, NUT AND WASHERS SHALL BE ASTM A325 TYPE 1.

ALL SUPPORT ANGLES 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 ASTM A563 AND SHALL MEET THE REQUIREMENTS OF SUPPLEMENTARY REQUIREMENT S1 OF ASTM A563, LUBRICANT AND TEST FOR COATED NUTS.

ALL DIAPHRAGM SUPPORT HARDWARE SHALL BE INCIDENTAL TO "CONCRETE MASONRY BRIDGES".

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION STRUCTURES DESIGN SECTION			
STRUCTURE B-18-219			
DRAWN BY DDS		PLANS CKD. ADS	
SUPERSTRUCTURE DETAILS		SHEET 28	
		143	

TOP OF DECK ELEVATIONS

	℄ BRG W. ABUT	1/10	2/10	3/10	4/10	5/10	6/10	7/10	8/10	9/10	℄ PIER 1	1/10	2/10	3/10	4/10	5/10	6/10	7/10	8/10	9/10	℄ PIER 2
EOD	785.43	785.88	786.31	786.73	787.13	787.52	787.89	788.25	788.59	788.92	789.23	789.56	789.88	790.18	790.45	790.71	790.94	791.16	791.35	791.53	791.68
GIRDER 1	785.49	785.93	786.37	786.78	787.19	787.58	787.95	788.30	788.65	788.97	789.28	789.62	789.93	790.23	790.51	790.76	791.00	791.21	791.41	791.58	791.73
GIRDER 2	785.64	786.09	786.52	786.94	787.35	787.73	788.11	788.46	788.80	789.13	789.44	789.78	790.09	790.39	790.67	790.92	791.16	791.37	791.57	791.74	791.89
GIRDER 3	785.80	786.25	786.68	787.10	787.50	787.89	788.26	788.62	788.96	789.29	789.60	789.93	790.25	790.55	790.82	791.08	791.31	791.53	791.72	791.90	792.05
GIRDER 4	785.96	786.41	786.84	787.26	787.66	788.05	788.42	788.78	789.12	789.45	789.76	790.09	790.41	790.71	790.98	791.24	791.47	791.69	791.88	792.06	792.21
GIRDER 5	786.12	786.57	787.00	787.42	787.82	788.21	788.58	788.94	789.28	789.60	789.91	790.25	790.57	790.86	791.14	791.40	791.63	791.85	792.04	792.21	792.37
℄	786.16	786.61	787.04	787.46	787.86	788.25	788.62	788.98	789.32	789.65	789.96	790.29	790.61	790.91	791.18	791.44	791.67	791.89	792.08	792.25	792.41
GIRDER 6	786.04	786.49	786.92	787.34	787.74	788.13	788.50	788.86	789.20	789.53	789.84	790.17	790.49	790.79	791.06	791.32	791.55	791.77	791.96	792.14	792.29
GIRDER 7	785.88	786.33	786.76	787.18	787.59	787.97	788.35	788.70	789.04	789.37	789.68	790.02	790.33	790.63	790.91	791.16	791.40	791.61	791.81	791.98	792.13
GIRDER 8	785.73	786.17	786.61	787.02	787.43	787.82	788.19	788.54	788.89	789.21	789.52	789.86	790.17	790.47	790.75	791.00	791.24	791.45	791.65	791.82	791.97
EOD	785.67	786.12	786.55	786.97	787.37	787.76	788.13	788.49	788.83	789.16	789.47	789.80	790.12	790.42	790.69	790.95	791.18	791.40	791.59	791.77	791.92

TOP OF DECK ELEVATIONS (CONTINUED)

	℄ PIER 2	1/10	2/10	3/10	4/10	5/10	6/10	7/10	8/10	9/10	℄ PIER 3	1/10	2/10	3/10	4/10	5/10	6/10	7/10	8/10	9/10	℄ PIER 4
EOD	791.68	791.81	791.93	792.02	792.09	792.14	792.17	792.18	792.17	792.14	792.09	792.03	791.95	791.87	791.80	791.72	791.64	791.56	791.49	791.41	791.33
GIRDER 1	791.73	791.87	791.98	792.07	792.14	792.20	792.23	792.24	792.23	792.20	792.15	792.08	792.01	791.93	791.85	791.77	791.70	791.62	791.54	791.46	791.39
GIRDER 2	791.89	792.03	792.14	792.23	792.30	792.35	792.39	792.40	792.39	792.36	792.31	792.24	792.16	792.09	792.01	791.93	791.85	791.78	791.70	791.62	791.54
GIRDER 3	792.05	792.18	792.30	792.39	792.46	792.51	792.54	792.55	792.55	792.52	792.46	792.40	792.32	792.24	792.17	792.09	792.01	791.93	791.86	791.78	791.70
GIRDER 4	792.21	792.34	792.46	792.55	792.62	792.67	792.70	792.71	792.70	792.67	792.62	792.56	792.48	792.40	792.33	792.25	792.17	792.09	792.02	791.94	791.86
GIRDER 5	792.37	792.50	792.61	792.71	792.78	792.83	792.86	792.87	792.86	792.83	792.78	792.72	792.64	792.56	792.48	792.41	792.33	792.25	792.17	792.10	792.02
℄	792.41	792.54	792.65	792.75	792.82	792.87	792.90	792.91	792.90	792.87	792.82	792.76	792.68	792.60	792.52	792.45	792.37	792.29	792.21	792.14	792.06
GIRDER 6	792.29	792.42	792.54	792.63	792.70	792.75	792.78	792.79	792.79	792.76	792.70	792.64	792.56	792.48	792.41	792.33	792.25	792.17	792.10	792.02	791.94
GIRDER 7	792.13	792.27	792.38	792.47	792.54	792.59	792.63	792.64	792.63	792.60	792.55	792.48	792.40	792.33	792.25	792.17	792.09	792.02	791.94	791.86	791.78
GIRDER 8	791.97	792.11	792.22	792.31	792.38	792.44	792.47	792.48	792.47	792.44	792.39	792.32	792.25	792.17	792.09	792.01	791.94	791.86	791.78	791.70	791.63
EOD	791.92	792.05	792.17	792.26	792.33	792.38	792.41	792.42	792.41	792.38	792.33	792.27	792.19	792.11	792.04	791.96	791.88	791.80	791.73	791.65	791.57

TOP OF DECK ELEVATIONS (CONTINUED)

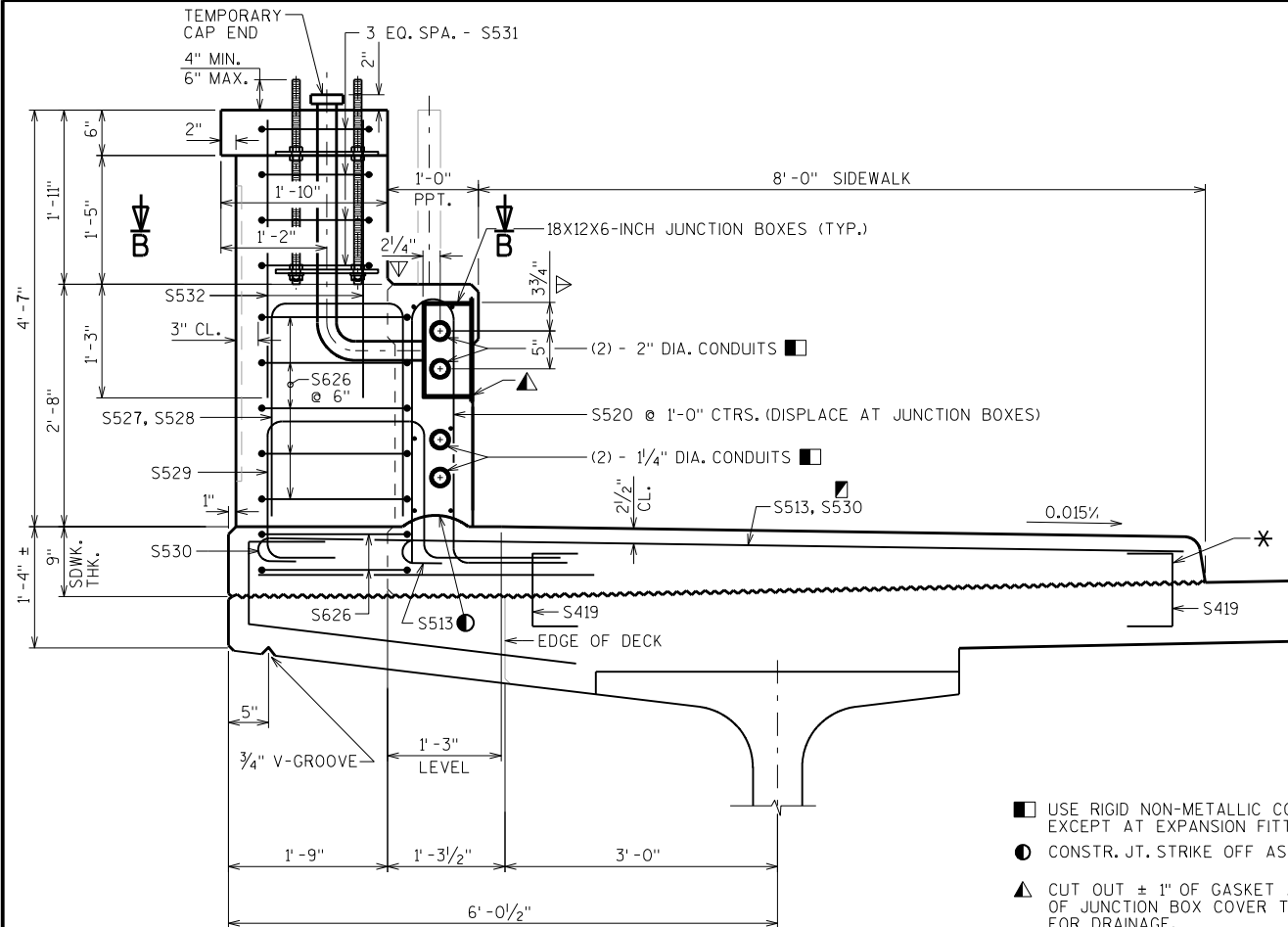
	℄ PIER 4	1/10	2/10	3/10	4/10	5/10	6/10	7/10	8/10	9/10	℄ BRG. E ABUT
EOD	791.33	791.28	791.24	791.19	791.15	791.10	791.06	791.01	790.97	790.92	790.88
GIRDER 1	791.39	791.34	791.29	791.25	791.20	791.16	791.11	791.07	791.02	790.98	790.93
GIRDER 2	791.54	791.50	791.45	791.41	791.36	791.32	791.27	791.23	791.18	791.14	791.09
GIRDER 3	791.70	791.66	791.61	791.57	791.52	791.48	791.43	791.38	791.34	791.29	791.25
GIRDER 4	791.86	791.81	791.77	791.72	791.68	791.63	791.59	791.54	791.50	791.45	791.41
GIRDER 5	792.02	791.97	791.93	791.88	791.84	791.79	791.75	791.70	791.66	791.61	791.57
℄	792.06	792.01	791.97	791.92	791.88	791.83	791.79	791.74	791.70	791.65	791.61
GIRDER 6	791.94	791.90	791.85	791.81	791.76	791.72	791.67	791.62	791.58	791.53	791.49
GIRDER 7	791.78	791.74	791.69	791.65	791.60	791.56	791.51	791.47	791.42	791.38	791.33
GIRDER 8	791.63	791.58	791.53	791.49	791.44	791.40	791.35	791.31	791.26	791.22	791.17
EOD	791.57	791.52	791.48	791.43	791.39	791.34	791.30	791.25	791.21	791.16	791.12

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION STRUCTURES DESIGN SECTION			
STRUCTURE B-18-219			
DRAWN BY		DDS	PLANS CK'D. ADS
TOP OF DECK ELEVATIONS		SHEET 29	
		144	

NOTES

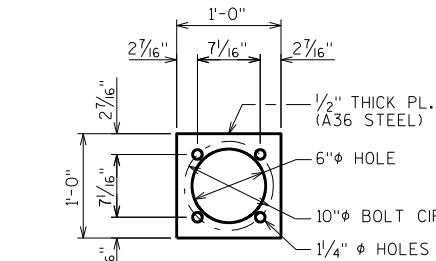
BID ITEMS SHALL BE:
 "JUNCTION BOXES 18X12X6-INCH", EACH.
 "ANCHOR ASSEMBLIES LIGHT POLES", EACH.
 "CONDUIT RIGID NONMETALLIC SCHEDULE 40 2-INCH"
 "CONDUIT RIGID METALLIC 2-INCH"

APPROVED MANUFACTURERS - JUNCTION BOXES:
 SEE APPROVED MATERIAL LIST.

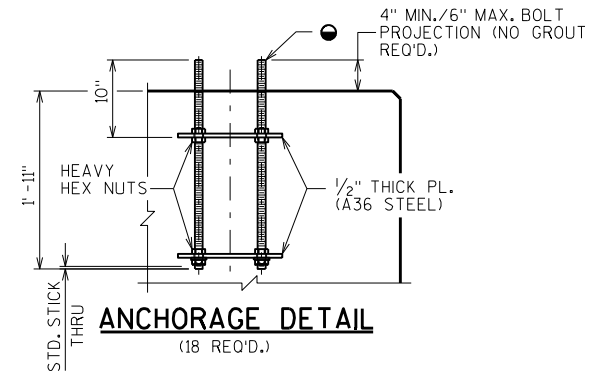
**SECTION A-A AT LIGHT PEDESTAL**

FOR JUNCTION BOX LOCATIONS
 SEE SHEET 25.

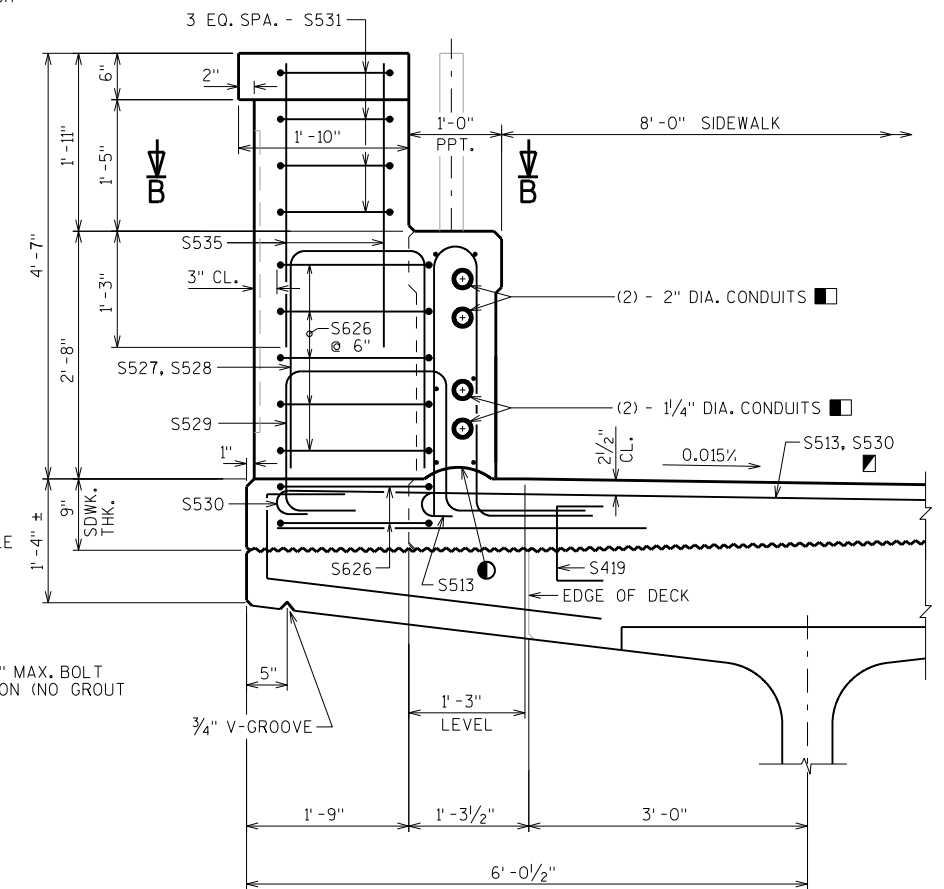
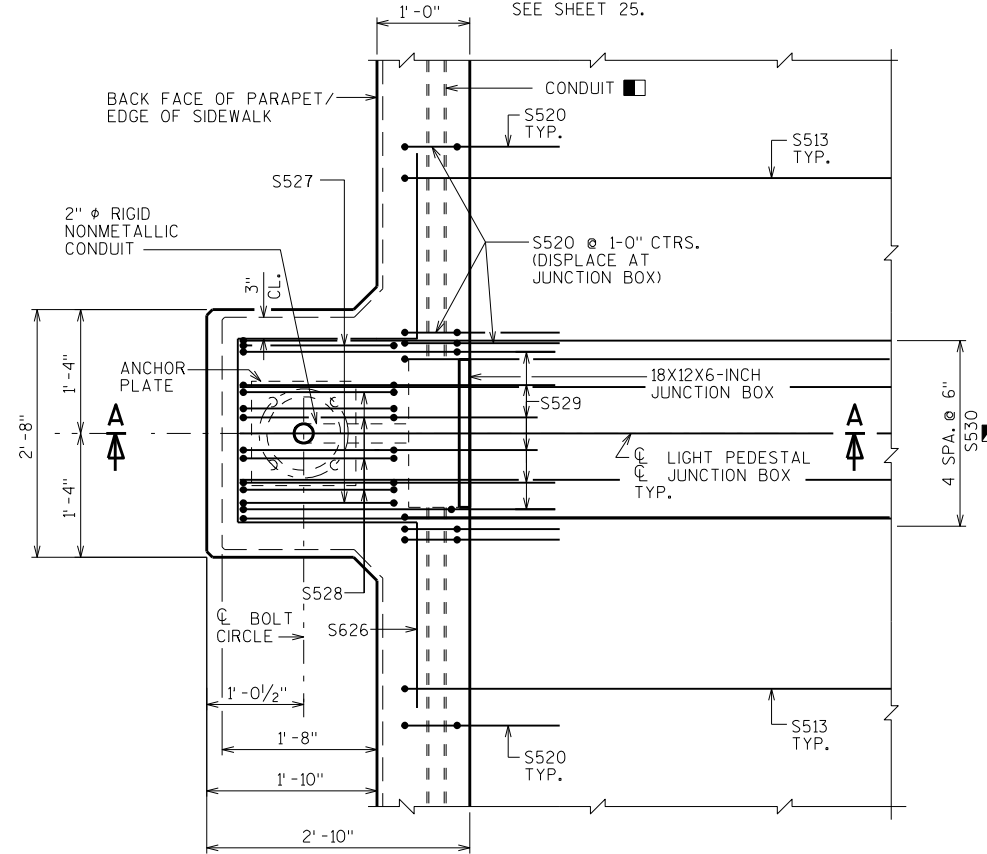
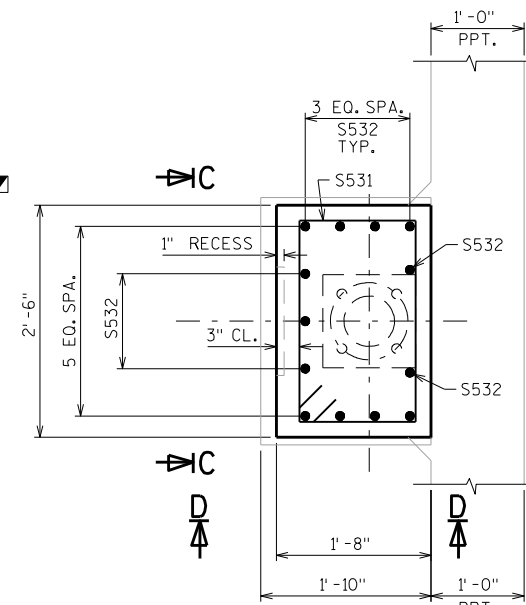
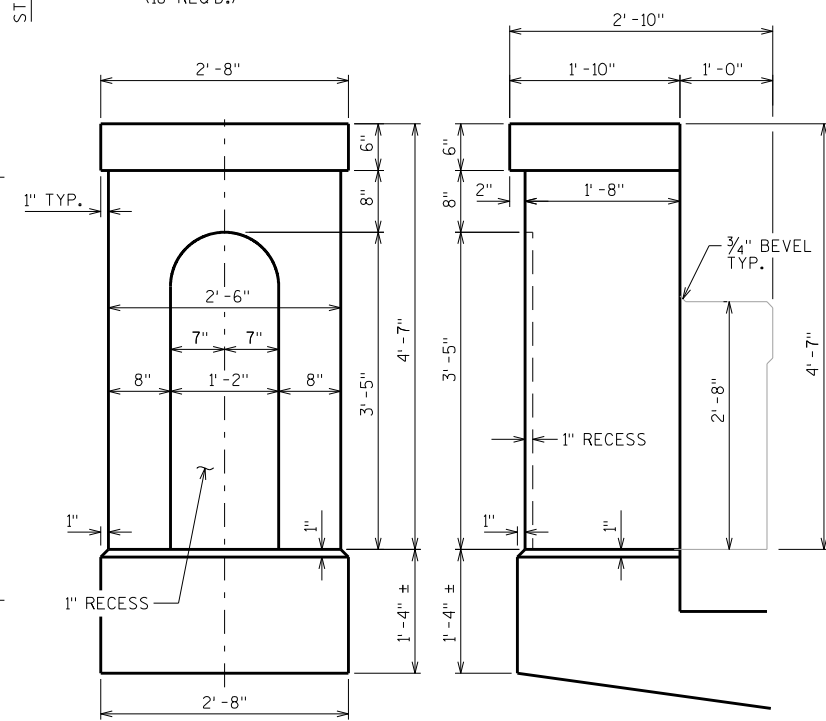
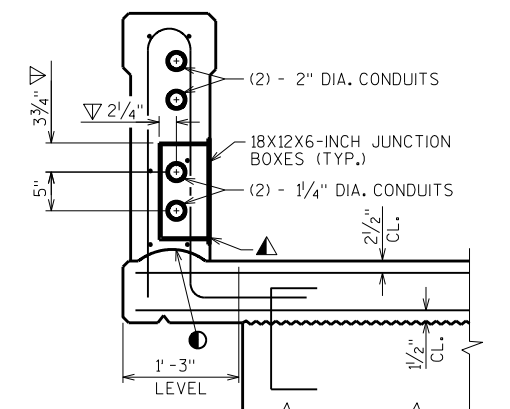
- USE RIGID NON-METALLIC CONDUIT EXCEPT AT EXPANSION FITTINGS.
- CONSTR. JT. STRIKE OFF AS SHOWN
- ▲ CUT OUT ± 1" OF GASKET AT BOTTOM OF JUNCTION BOX COVER TO ALLOW FOR DRAINAGE.
- ▽ LOCATION OF CONDUIT IS MEASURED FROM OUTSIDE EDGE OF JUNCTION BOX.
- S530 IS IN ADDITION TO STANDARD TRANSVERSE BARS IN SIDEWALK.
- 1" 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.

**PLATE DETAIL**

(2 PER ANCHORAGE REQ'D.)

**ANCHORAGE DETAIL**

(18 REQ'D.)

**SECTION A-A AT DECORATIVE PEDESTAL****PLAN AT LIGHT & DECORATIVE PEDESTALS****SECTION B-B****ELEVATION C-C****ELEVATION D-D****SECTION THRU PARAPET**

FOR JUNCTION BOX LOCATIONS
 SEE SHEET 25.

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION STRUCTURES DESIGN SECTION			
STRUCTURE B-18-219			
DRAWN BY DDS		PLANS CK'D. ADS	
BRIDGE PARAPET AND PEDESTAL ELECTRICAL WORK			SHEET 30
			145

BILL OF BARS

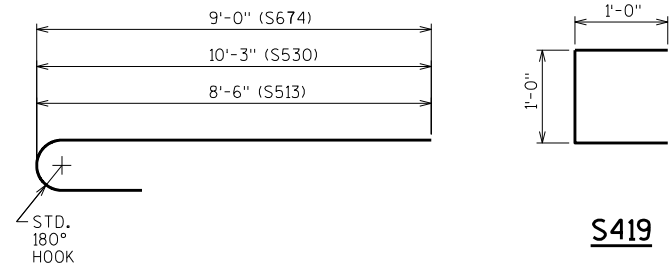
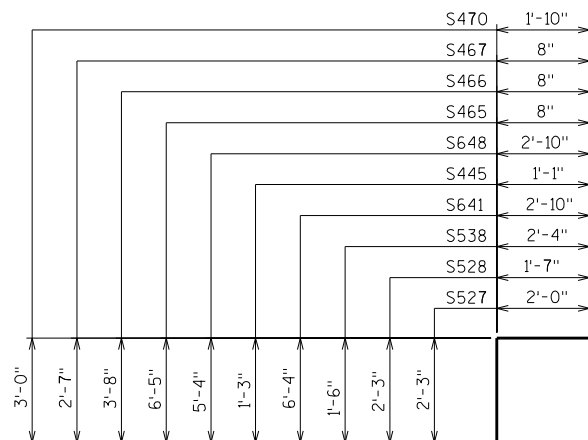
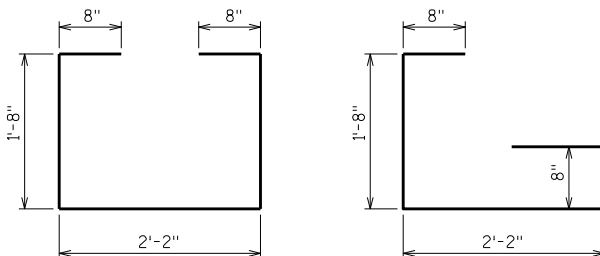
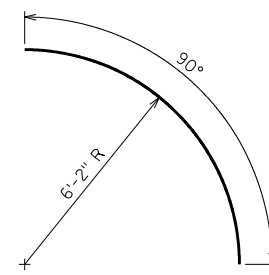
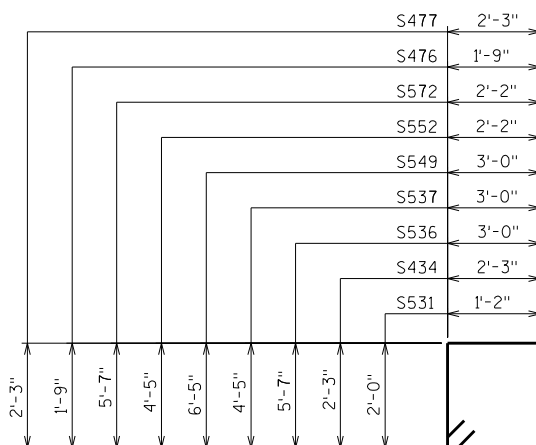
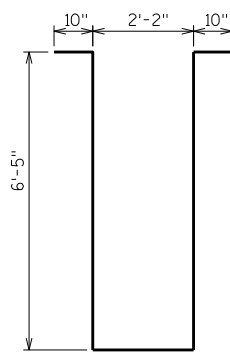
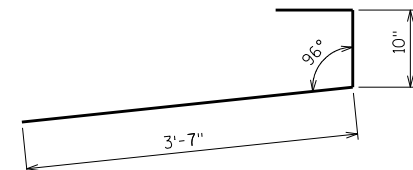
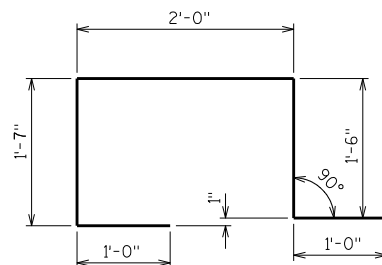
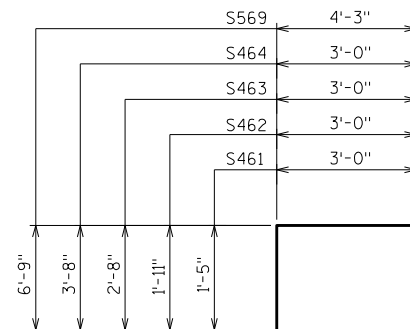
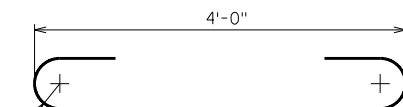
NOTE: THE FIRST OR FIRST TWO DIGITS OF THE
BAR MARK SIGNIFIES THE BAR SIZE.

BAR MARK	COAT	NO. REQ'D.	LENGTH	BENT	BAR SERIES	LOCATION
S801	X	368	60'-0"			CONTINUITY STEEL OVER PIERS 1, 2, 3 & 4
S802	X	276	36'-4"			CONTINUITY STEEL OVER PIERS 1, 2 & 3
S803	X	273	54'-0"			CONTINUITY STEEL OVER PIERS 1, 2 & 3
S804	X	92	24'-4"			CONTINUITY STEEL OVER PIER 4
S805	X	91	44'-0"			CONTINUITY STEEL OVER PIER 4
S406	X	276	32'-1"			DECK - LONGITUDINAL (SPAN 1) TOP
S407	X	368	35'-0"			DECK - LONGITUDINAL (SPANS 2&3) TOP
S408	X	184	39'-6"			DECK - LONGITUDINAL (SPAN 4) TOP
S409	X	184	26'-3"			DECK - LONGITUDINAL (SPAN 5) TOP
S410	X	1456	44'-10"			DECK - LONGITUDINAL - BOTTOM
S511	X	2078	32'-0"			DECK - TRANSVERSE - TOP
S512	X	2076	31'-10"			DECK - TRANSVERSE - BOTTOM
S513	X	2772	9'-1"	X		SIDEWALK - TRANSVERSE - TOP
S414	X	940	2'-2"			SIDEWALK - TRANSVERSE - BOTTOM
S415	X	96	44'-6"			SIDEWALK - LONGITUDINAL (SPAN 1)
S416	X	128	11'-5"			SIDEWALK - LONGITUDINAL - AT PIERS
S417	X	384	37'-0"			SIDEWALK - LONGITUDINAL (SPAN 2, 3 & 4)
S418	X	64	43'-6"			SIDEWALK - LONGITUDINAL (SPAN 5)
S419	X	5544	2'-9"	X		SIDEWALK - VERT. - TIE BARS
S520	X	1386	6'-8"	X		PARAPET - VERT.
S521	X	2	9'-5"	X		PARAPET - VERT. - AT WEST ABUT. PAVING NOTCH
S422	X	36	44'-6"			PARAPET - HORIZ. (SPAN 1)
S423	X	48	11'-5"			PARAPET - HORIZ. - OVER PIERS
S424	X	144	37'-0"			PARAPET - HORIZ. (SPANS 2, 3 & 4)
S425	X	24	43'-6"			PARAPET - HORIZ. (SPAN 5)
S626	X	252	9'-2"	X		LIGHT STD. - HORIZ.
S527	X	72	6'-3"	X		LIGHT STD. - VERT.
S528	X	108	5'-10"	X		LIGHT STD. - VERT.
S529	X	180	6'-7"	X		LIGHT STD. - VERT.
S530	X	180	10'-10"	X		LIGHT STD. - TRANS. - TOP OF SDWK.
S531	X	144	7'-0"	X		LIGHT STD. - STIRRUP - HORIZ. - TOP
S532	X	468	3'-0"			LIGHT STD. - VERT. - TOP
S633	X	1	5'-4"			WEST ABUT. DIAPH. - F.F. END
S434	X	4	9'-8"	X		WEST ABUT. DIAPH. - STIRRUP - ENDS
S635	X	24	3'-10"			WEST ABUT. DIAPH. - MONUMENT
S536	X	42	4'-6"	X		WEST ABUT. DIAPH. - STIRRUP
S537	X	32	15'-6"	X		WEST ABUT. DIAPH. - STIRRUP @ GIRDERS
S538	X	42	5'-1"	X		WEST ABUT. DIAPH. - VERT.
S639	X	18	32'-4"			WEST ABUT. DIAPH. - HORIZ. - B.F.
S640	X	70	4'-7"			WEST ABUT. DIAPH. - HORIZ.
S641	X	5	15'-2"	X		WEST ABUT. DIAPH. - HORIZ. - ENDS
S642	X	14	3'-7"			WEST ABUT. DIAPH. - HORIZ.
S643	X	1	4'-4"			WEST ABUT. DIAPH. - HORIZ. - F.F. - ENDS
S544	X	16	6'-0"			WEST ABUT. DIAPH. - HORIZ. THRU GIRDERS
S445	X	35	3'-5"	X		WEST ABUT. DIAPH. - VERT.
S446	X	7	4'-1"			WEST ABUT. DIAPH. - HORIZ.
S447	X	4	7'-0"			WEST ABUT. DIAPH. - VERT. - ENDS
S648	X	5	13'-2"	X		WEST ABUT. DIAPH. - HORIZ. - ENDS
S549	X	9	19'-6"	X		WEST ABUT. DIAPH. - STIRRUP - ENDS
S550	X	8	3'-6"			WEST ABUT. DIAPH. - BOX OUT LOCATION
S551	X	168	16'-2"	X		PIER DIAPH. - VERT.
S552	X	128	13'-10"	X		PIER DIAPH. - STIRRUP AT GIRDERS
S453	X	448	4'-3"			PIER DIAPH. - HORIZ.
S454	X	112	3'-3"			PIER DIAPH. - HORIZ. - BOTTOM
S555	X	32	3'-6"			PIER DIAPH. - BOX OUT LOCATIONS
S456	X	42	6'-8"	X		EAST ABUT. DIAPH. - VERT.
S457	X	42	5'-6"	X		EAST ABUT. DIAPH. - VERT. - AT GIRDERS
S658	X	70	5'-0"			EAST ABUT. DIAPH. - HORIZ.
S559	X	24	5'-0"			DECK - LONGITUDINAL - AT FLOOR DRAINS
S460	X	48	9'-8"	X		MASK WALL AT PIERS - VERT.
S461	X	16	4'-4"	X		MASK WALL AT PIERS - VERT.
S462	X	16	4'-10"	X		MASK WALL AT PIERS - VERT.
S463	X	16	5'-7"	X		MASK WALL AT PIERS - VERT.
S464	X	16	6'-7"	X		MASK WALL AT PIERS - VERT.
S465	X	64	13'-4"	X		MASK WALL AT PIERS - HORIZ.

BILL OF BARS

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

BAR MARK	COAT	NO. REQ'D.	LENGTH	BENT	BAR SERIES	LOCATION
S466	X	64	7'-10"	X		MASK WALL AT PIERS - HORIZ.
S467	X	64	5'-8"	X		MASK WALL AT PIERS - HORIZ.
S468	X	96	3'-8"			MASK WALL AT PIERS - HORIZ.
S569	X	48	10'-11"	X		MASK WALL AT PIERS - VERT.
S470	X	48	7'-8"	X		MASK WALL AT PIERS - HORIZ.
S571	X	24	5'-2"	X		MASK WALL AT PIERS - HORIZ.
S572	X	8	16'-2"	X		MASK WALL AT PIERS - HORIZ.
S573	X	252	2'-4"			PEDESTAL/DECK - HORIZ.
S674	X	180	9'-8"	X		PEDESTAL/DECK - HORIZ.
S575	X	180	5'-0"	X		PEDESTAL/DECK - VERT.
S476	X	44	7'-6"	X		MONUMENT - STIRRUP - HORIZ.
S477	X	16	9'-6"	X		MONUMENT - STIRRUP - HORIZ.
S678	X	32	7'-9"			MONUMENT - VERT.

S513, S530, S674S527, S528, S538, S641, S445
S648, S465, S466, S467, S470S456S457S460S531, S434, S536, S537, S549
S552, S572, S476, S477S551S575S529S461, S462, S463, S464, S569S571

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION STRUCTURES DESIGN SECTION			
STRUCTURE B-18-219			
DRAWN BY		DDS	PLANS CK'D. ADS
SUPERSTRUCTURE BILL OF BARS		SHEET 31 146	

SCALE = 1:0

LEGEND

- ① MODULAR EXPANSION JOINT DEVICE, 2 CELLS.
- ② 1/2" PLATE, ONE PER GIRDER MIN. PROVIDE 2 - 1" X 2" MIN. SLOTTED HOLES PLACED HORIZONTALLY FOR NO. 4.
- ③ WT 6 X 29 (OR EQUIVALENT BUILT UP T-SECTION). ONE PER GIRDER. PROVIDE 2 - 1" X 3" MIN. SLOTTED HOLES PLACED VERTICALLY IN WEB OF WT FOR BOLTS NO. 4.
- ④ 3/4" ϕ HIGH STRENGTH BOLTS WITH NUTS & WASHERS. (A325 GALV.)
- ⑤ 3/4" ϕ THREADED ROD WITH 2 NUTS & WASHERS. GROUT THREADED ROD INTO FIELD DRILLED HOLES. (GALV.)
- ⑥ SUPPORT BOX ASSEMBLY FOR SUPPORT BAR (SPA. PER MANUFACTURER). FABRICATE BOX FROM 1/2" PLATES.
- ⑦ 3/8" BULKHEAD PLATE. WELD TO NO. 1, NO. 8 AND NO. 14. WHEN CONDUIT IS PRESENT IN PARAPET OR SIDEWALK, ACCOMMODATE FOR BY PROVIDING OPENING IN NO. 7.
- ⑧ INSIDE PLATE. FABRICATE FROM 3/8" PLATE.
- ⑨ OUTSIDE PLATE. FABRICATE FROM 5/8" PLATE.
- ⑩ 7/8" SQUARE BAR. WELD TO NO. 8 AS SHOWN.
- ⑪ 3/4" ϕ X 4" LONG STUDS. WELD TO NO. 8, NO. 7 & NO. 14 AS SHOWN.
- ⑫ 3/4" ϕ X 2" STAINLESS STEEL FLAT CTSK. SLOTTED HEAD CAP SCREWS WITH ANTI-SEIZE LUBRICANT. RECESS 1/16" BELOW PLATE SURFACE.
- ⑬ 1/2" PLATE WITH 5/8" ϕ LOOP ANCHOR FABRICATED AS SHOWN. SPACED AT MANUFACTURER'S SPEC.
- ⑭ INSIDE PLATE. FABRICATE FROM 5/8" PLATE
- ⑮ ADIPRENE BUTTON. SEE DETAIL SHEET 33. SET IN OUTSIDE PLATE.

* POUR CONC. ABOVE THIS JOINT AFTER SUPERSTRUCTURE CONC. IS IN PLACE. STRIKE OFF & LEAVE ROUGH.

▲ MANUFACTURER'S RECOMMENDED JOINT OPENING BASED ON THE TEMPERATURE ON THE DAY OF PLACEMENT PER TEMPERATURE TABLE. THE MODULAR EXPANSION DEVICE SHALL HAVE THE NUMBER OF CELLS AS INDICATED IN ①.

NOTE:
MODULAR EXPANSION DEVICE DESIGN AND DETAILS ARE SPECIFIC TO THE MANUFACTURER SELECTED FROM THOSE LISTED IN THE SPECIAL PROVISIONS. FABRICATION DRAWING IS SUBJECT TO THE APPROVAL OF THE BUREAU OF STRUCTURES.

SUPPORT BOXES ARE SHOWN FOR GENERAL INFORMATION AND LOCATION MAY VARY ACCORDING TO FABRICATOR DESIGN. SPACE SUPPORT BOXES TO MISS GIRDER TOP FLANGES WHEN POSSIBLE, BUT NOT TO EXCEED MAXIMUM SPACING PER SPECIAL PROVISIONS.

JOINT MANUFACTURER SHALL INFORM AND PROVIDE NECESSARY DETAILS TO THE PRESTRESSED GIRDER FABRICATOR, WHEN FORM-OUT OF THE TOP FLANGE IS REQ'D. TO ALLOW PLACEMENT OF SUPPORT BOX ASSEMBLY.

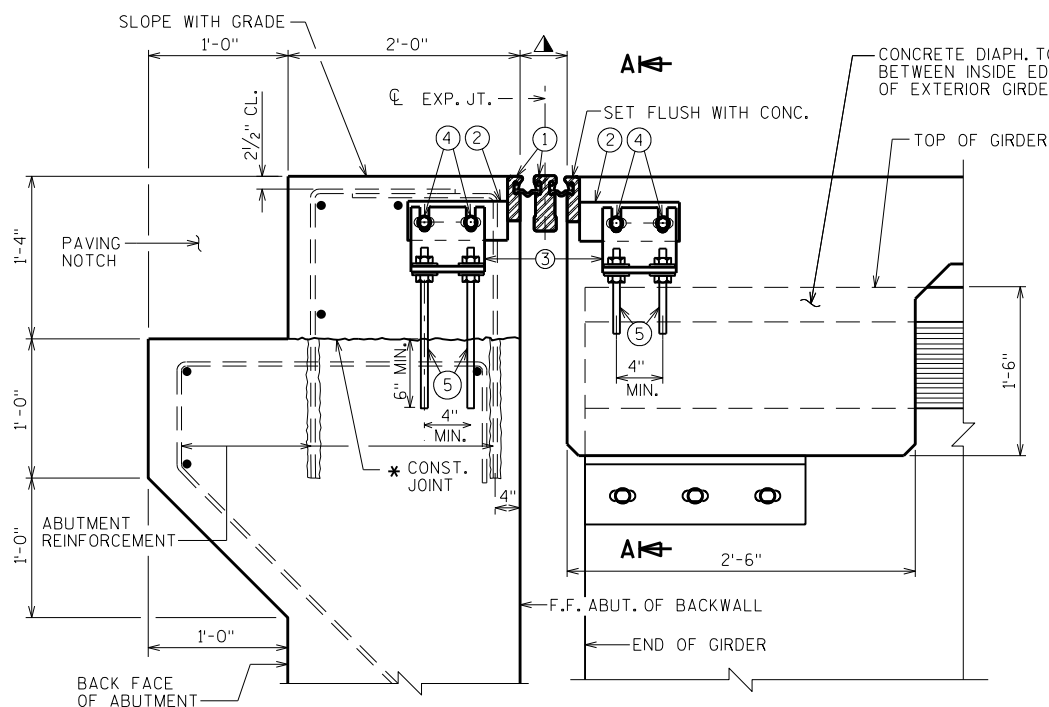
TEMP. TABLE

TEMPERATURE TABLE FOR SETTING JOINT OPENINGS TO BE DETERMINED BY JOINT MANUFACTURER WITH THE FOLLOWING DESIGN DATA:

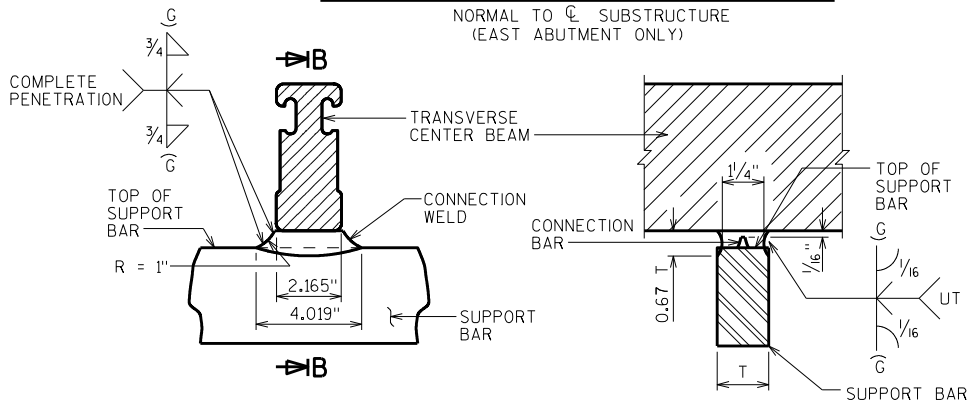
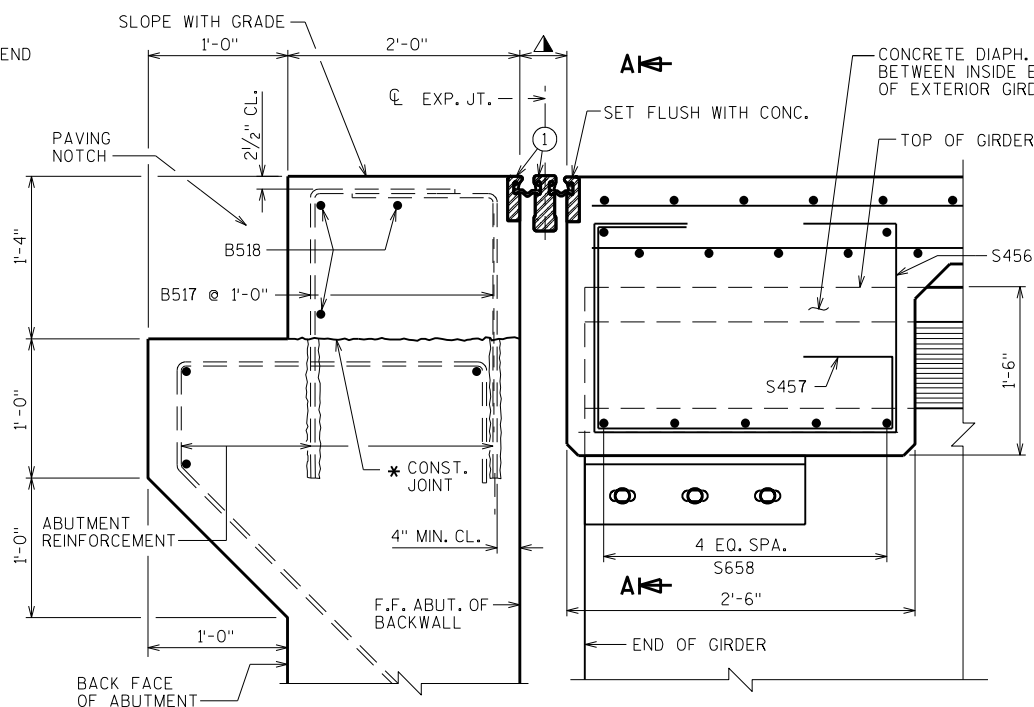
1. 3/8" IN. OF MOVEMENT PER 10° F
2. MEDIAN TEMPERATURE OF 45° F
3. TEMP. RANGE IN TABLE FROM (5° F) TO (85° F)
4. ADJUST INITIAL JOINT OPENINGS BY A REDUCTION OF 2 IN., WHICH ACCOUNTS FOR SHRINKAGE (CREEP) OF THE SUPERSTRUCTURE OVER TIME, TO PRODUCE FINAL JOINT OPENINGS FOR TABLE.

A TABLE OF JOINT OPENINGS BASED ON ABOVE DATA SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL.

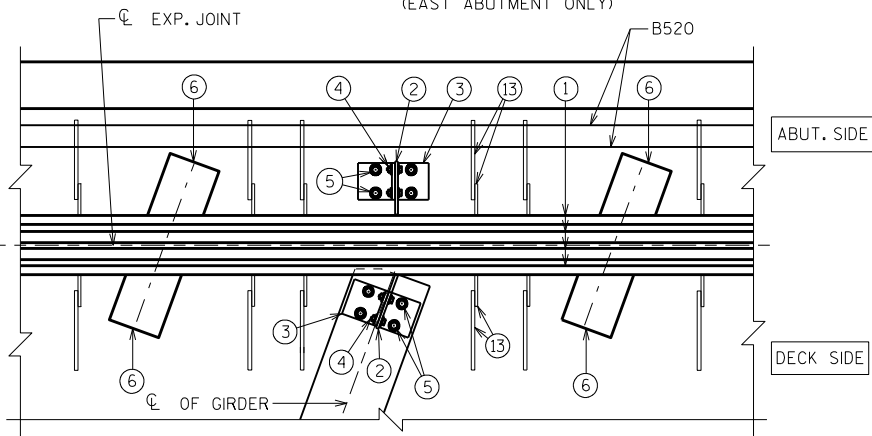
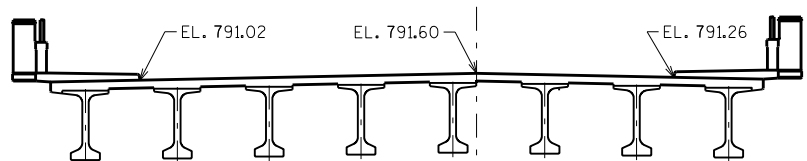
NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION STRUCTURES DESIGN SECTION			
STRUCTURE B-18-219			
DRAWN BY DDS		PLANS CK'D. ADS	
MODULAR JOINT DETAILS		SHEET 32	
		147	

**SECTION THRU JOINT @ ABUTMENT**

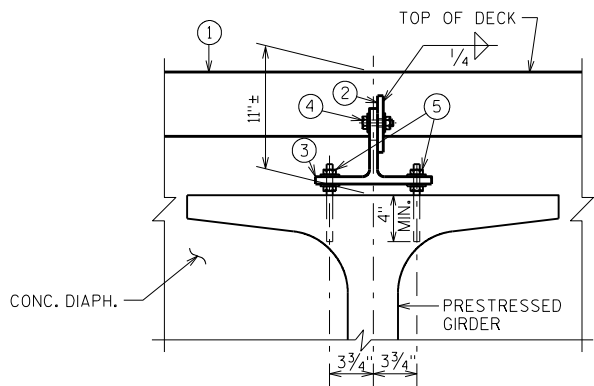
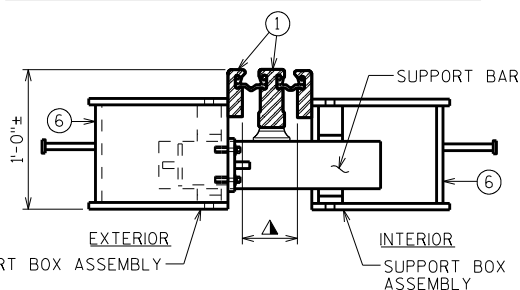
NORMAL TO ϕ SUBSTRUCTURE
(EAST ABUTMENT ONLY)

**MODULAR EXPANSION JOINT CONNECTION
DETAIL AND WELD SPECIFICATION****SECTION B-B****SECTION THRU JOINT @ ABUTMENT**

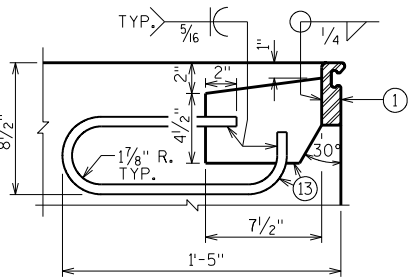
NORMAL TO ϕ SUBSTRUCTURE
(EAST ABUTMENT ONLY)

**PART PLAN****PART PLAN****CROSS SECTION THRU ROADWAY AT EAST ABUTMENT**

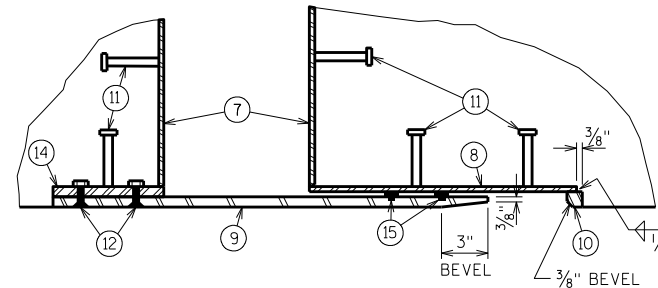
ELEVATIONS TAKEN AT F.F. OF BACKWALL - LOOKING EAST

**SECTION A-A****JOINT DETAIL**

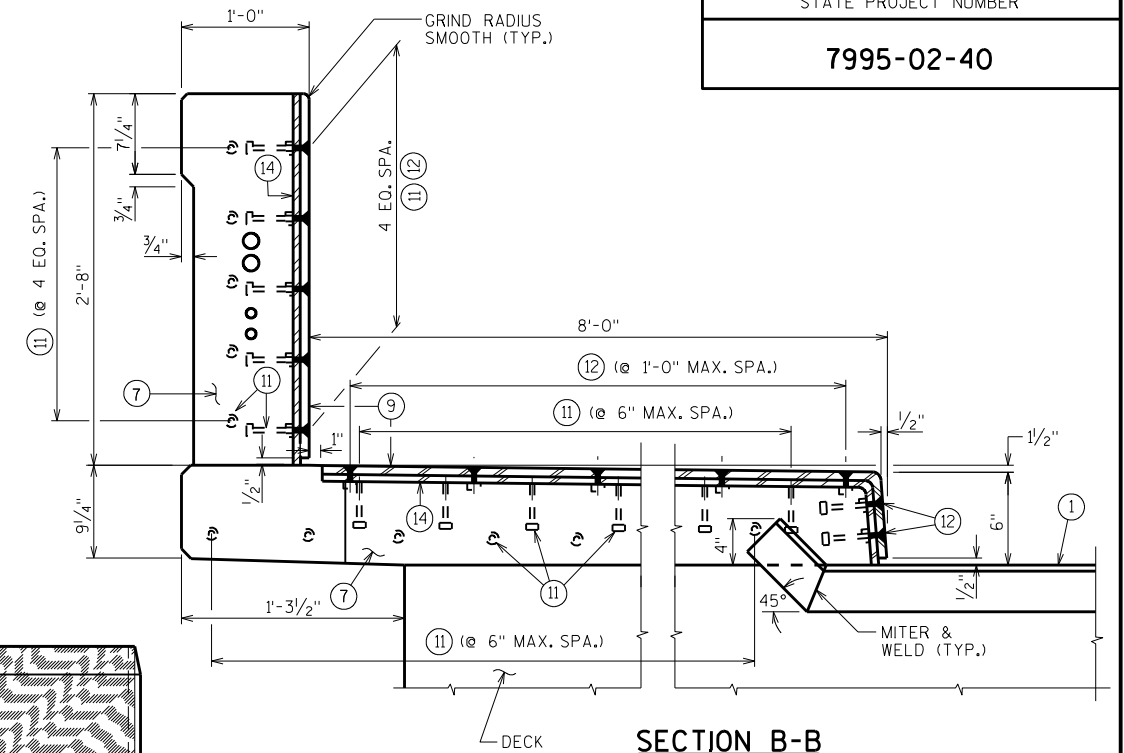
AT SUPPORT BAR & SUPPORT BOX ASSEMBLY

**ANCHORAGE DETAIL**

PLACE ADJACENT TO SUPPORT BOXES IN
PAVING BLOCK @ ABUT. & IN DECK @ CONC. DIAPH.

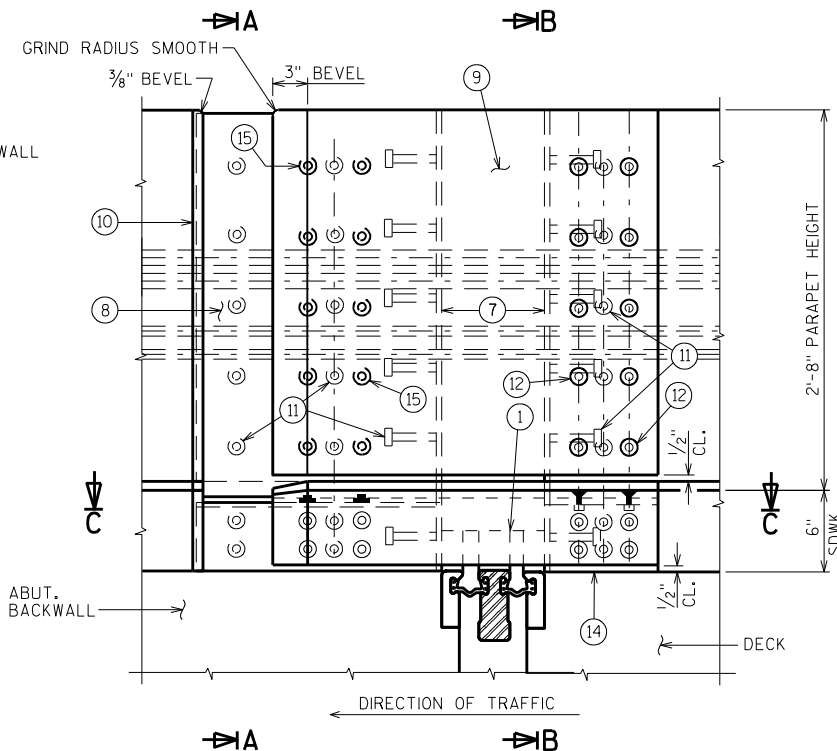
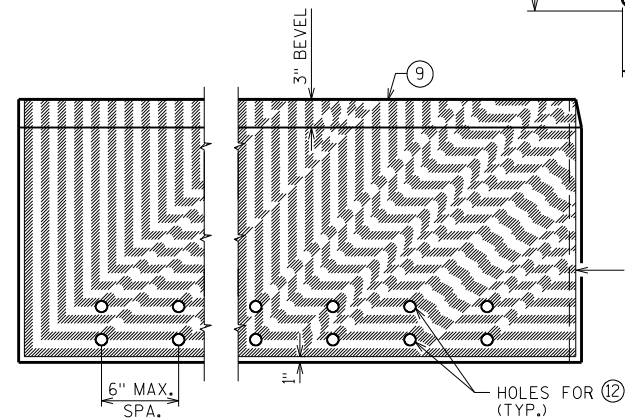


SECTION C-C



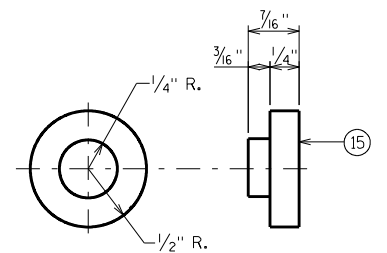
■ PLACE SLIP-RESISTANT SURFACE ON TOP WALKING SURFACE IN SHADED AREA ONLY (NOT ON CURB FACE). GALVANIZE PLATE AFTER SLIP-RESISTANT SURFACE IS APPLIED.

PLAN OF SIDEWALK COVER PLATE
WITH SLIP-RESISTANT SURFACE ▣



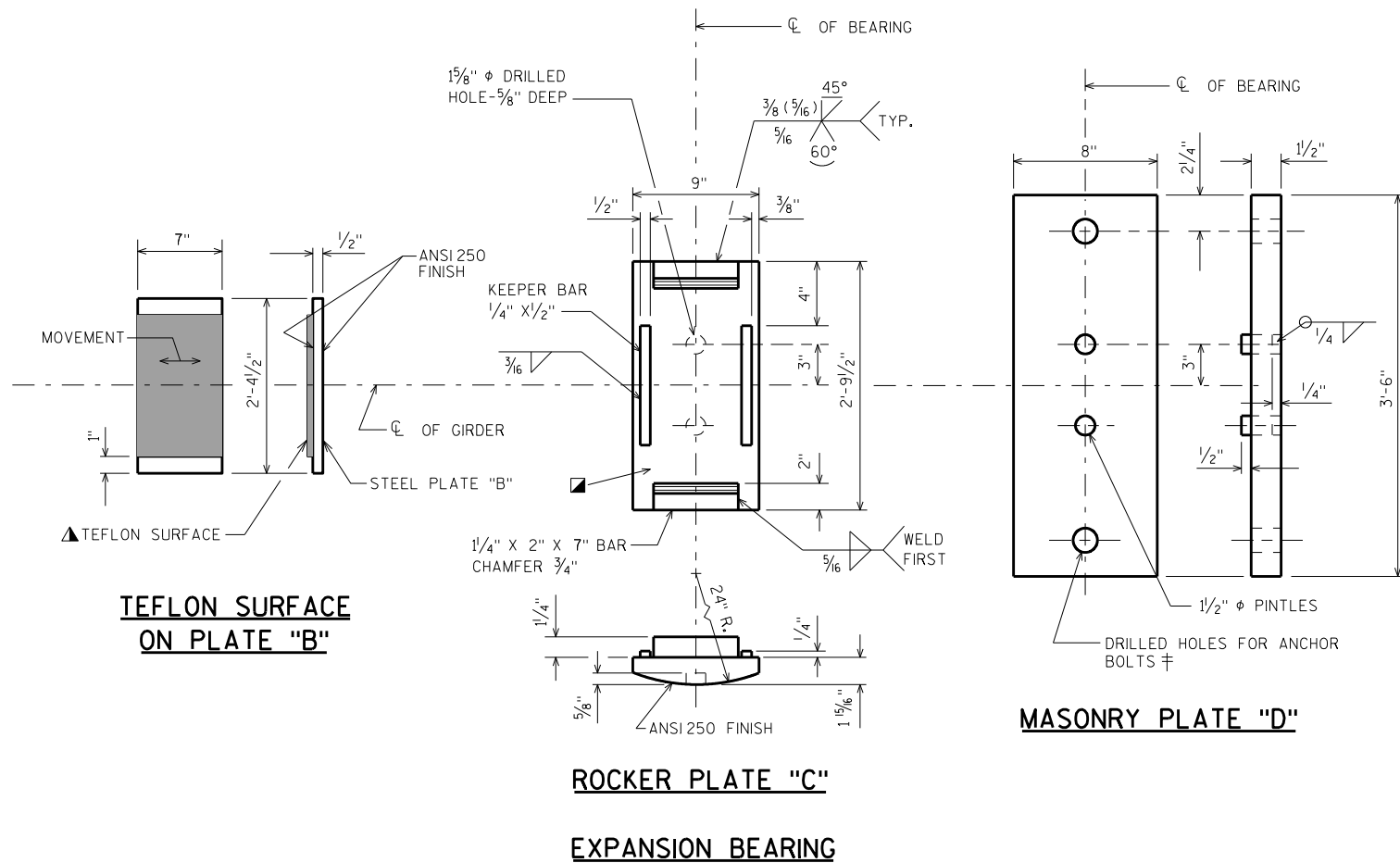
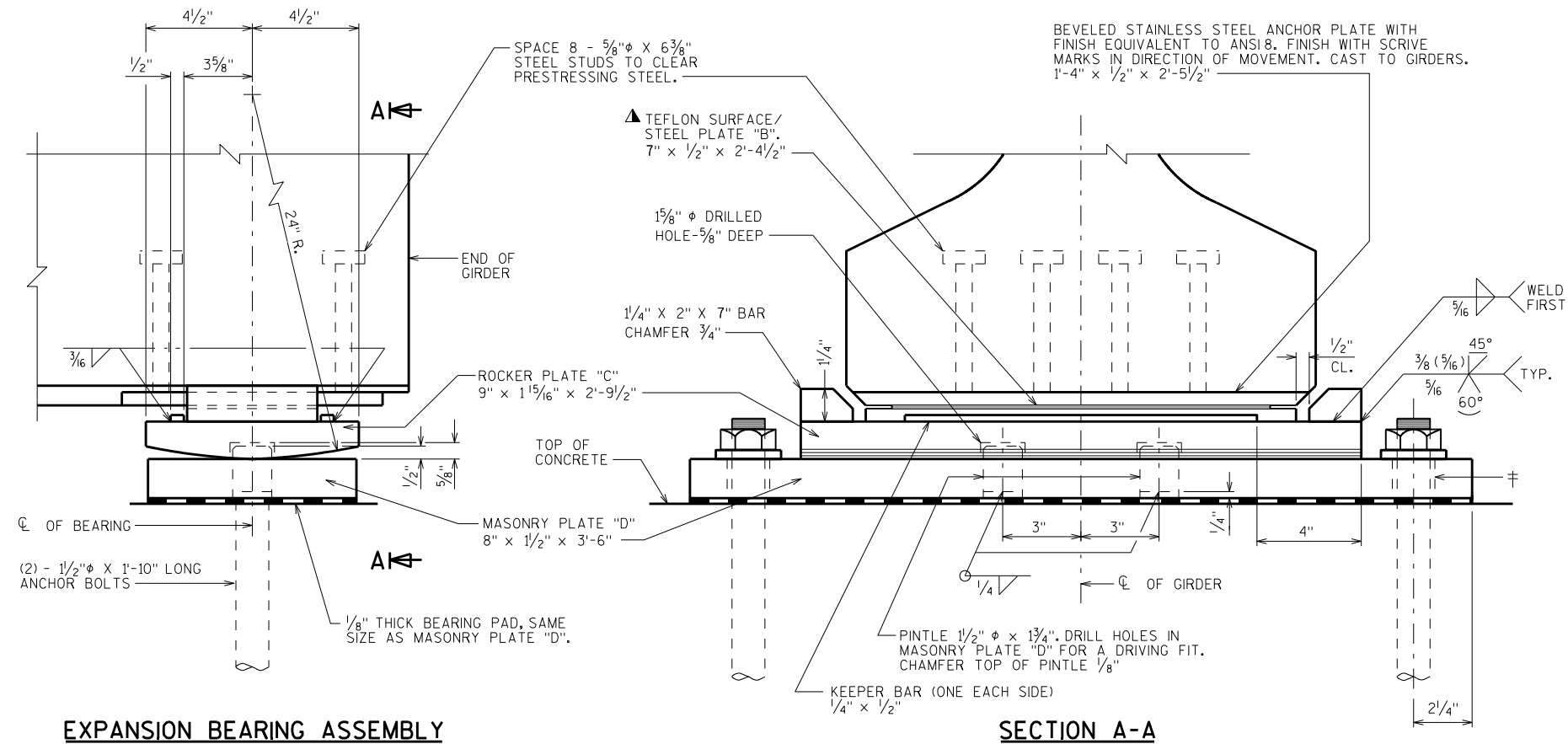
PLAN OF SIDEWALK W/ PARAPET
WING 3 SHOWN - WING 4 SIMILAR

ELEVATION OF SIDEWALK W/ PARAPET
WING 4 SHOWN - WING 3 SIMILAR



ADIPRENE BUTTON DETAIL

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION STRUCTURES DESIGN SECTION			
STRUCTURE		B-18-219	
		DRAWN BY	DDS PLANS CK'D. ADS
COVER PLATES FOR SIDEWALK W/CONC. PARAPET		SHEET 33	
		148	

**BEARING NOTES**

ALL BEARINGS ARE SYMMETRICAL ABOUT CL OF GIRDER AND CL OF BEARING.

ALL MATERIAL IN BEARINGS, BUT EXCLUDING STAINLESS STEEL PLATE, TEFLON SURFACE, PINTLES, ANCHOR BOLTS, NUTS AND WASHERS SHALL CONFORM TO ASTM A709 GRADE 50W.

STAINLESS STEEL PLATE SHALL CONFORM TO ASTM A240, TYPE 304.

AT INSTALLATION, ENSURE STAINLESS STEEL SLIDING FACE OF THE UPPER ELEMENT AND THE TFE SLIDING FACE OF THE LOWER ELEMENT HAVE THE SURFACE FINISH SPECIFIED AND ARE CLEAN AND FREE OF ALL DUST, MOISTURE, AND OTHER FOREIGN MATTER.

STEEL PINTLES SHALL CONFORM TO ASTM A449 OR MATERIAL OF EQUIVALENT YIELD STRENGTH AND ELONGATION.

ANCHOR BOLTS, NUTS AND WASHERS SHALL CONFORM TO ASTM A709 GRADE 36, OR MATERIAL OF EQUIVALENT YIELD STRENGTH AND ELONGATION.

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

ALL PLATE CUTS SHALL BE MACHINE OR MACHINE FLAME CUTS.

ALL FINISHED SURFACES SHALL BE MACHINE FINISHED BY AN AUTOMATIC PROCESS.

ANCHOR BOLTS SHALL BE THREADED 3". PROVIDE ONE STANDARD WROUGHT WASHER AND ONE HEX NUT PER BOLT. PROJECT ANCHOR BOLTS, MASONRY PLATE "D" THICKNESS + 2/4", ABOVE TOP OF CONCRETE.

CHAMFER ANCHOR BOLTS PRIOR TO THREADING.

MASONRY PLATE "D", ROCKER PLATE "C", ANCHOR BOLTS, NUTS AND WASHERS SHALL BE GALVANIZED IN ACCORDANCE WITH ASTM A153, CLASS "C". STEEL PLATE "B" SHALL BE SHOP PAINTED. DO NOT PAINT TEFLON SURFACE.

ALL MATERIAL IN "STEEL BEARINGS FOR PRESTRESSED CONCRETE GIRDERS", INCLUDING BEARING PADS, SHALL BE PAID FOR AT THE UNIT PRICE BID FOR "BEARING ASSEMBLIES EXPANSION B-18-219", EACH.

† DRILLED HOLES FOR ANCHOR BOLTS IN MASONRY PLATE "D" SHALL HAVE A DIAMETER 3/8" LARGER THAN ANCHOR BOLT.

▲ TEFLON SURFACE, USE UNFILLED WITH MINIMUM 1/16" THICKNESS. PLACE WITH SCRIBE MARKS IN DIRECTION OF MOVEMENT. BOND STEEL PLATE "B" AND TEFLON WITH ADHESIVE MATERIAL MEETING FEDERAL SPECIFICATION MMM-A-134, FEP FILM OR EQUAL.

■ PROVIDE A METHOD FOR HANDLING ROCKER PLATE "C" DURING GALVANIZING.

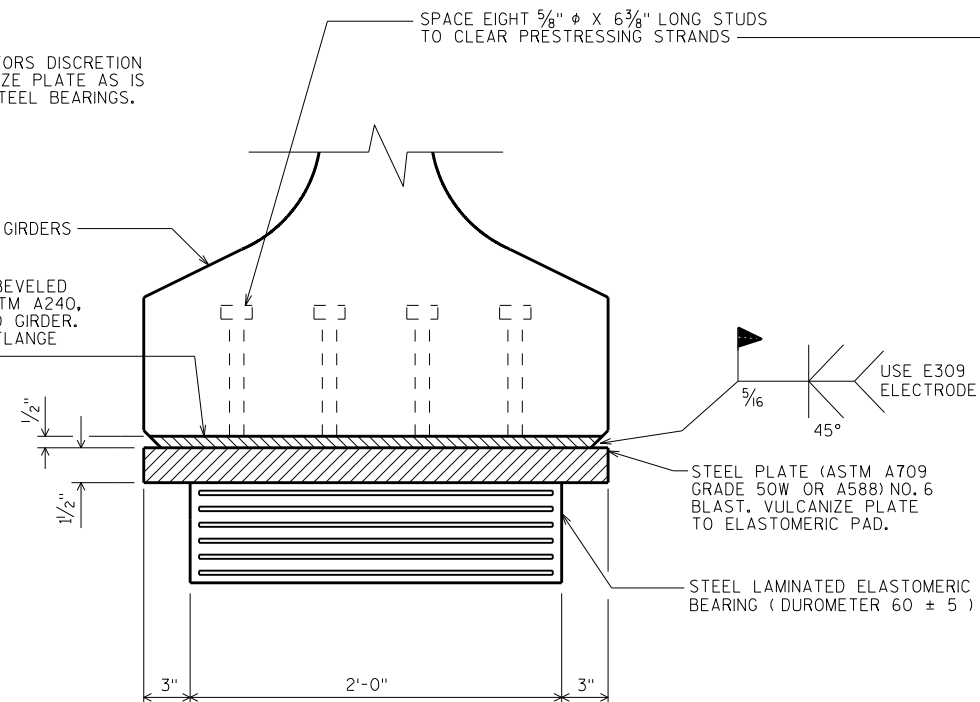
TO BE USED AT PIERS 3 & 4
AND AT THE EAST ABUTMENT.

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION STRUCTURES DESIGN SECTION			
STRUCTURE B-18-219			
DRAWN BY DDS		PLANS CK'D. ADS	
PRESTRESSED GIRDER STEEL BEARINGS			SHEET 34
			149

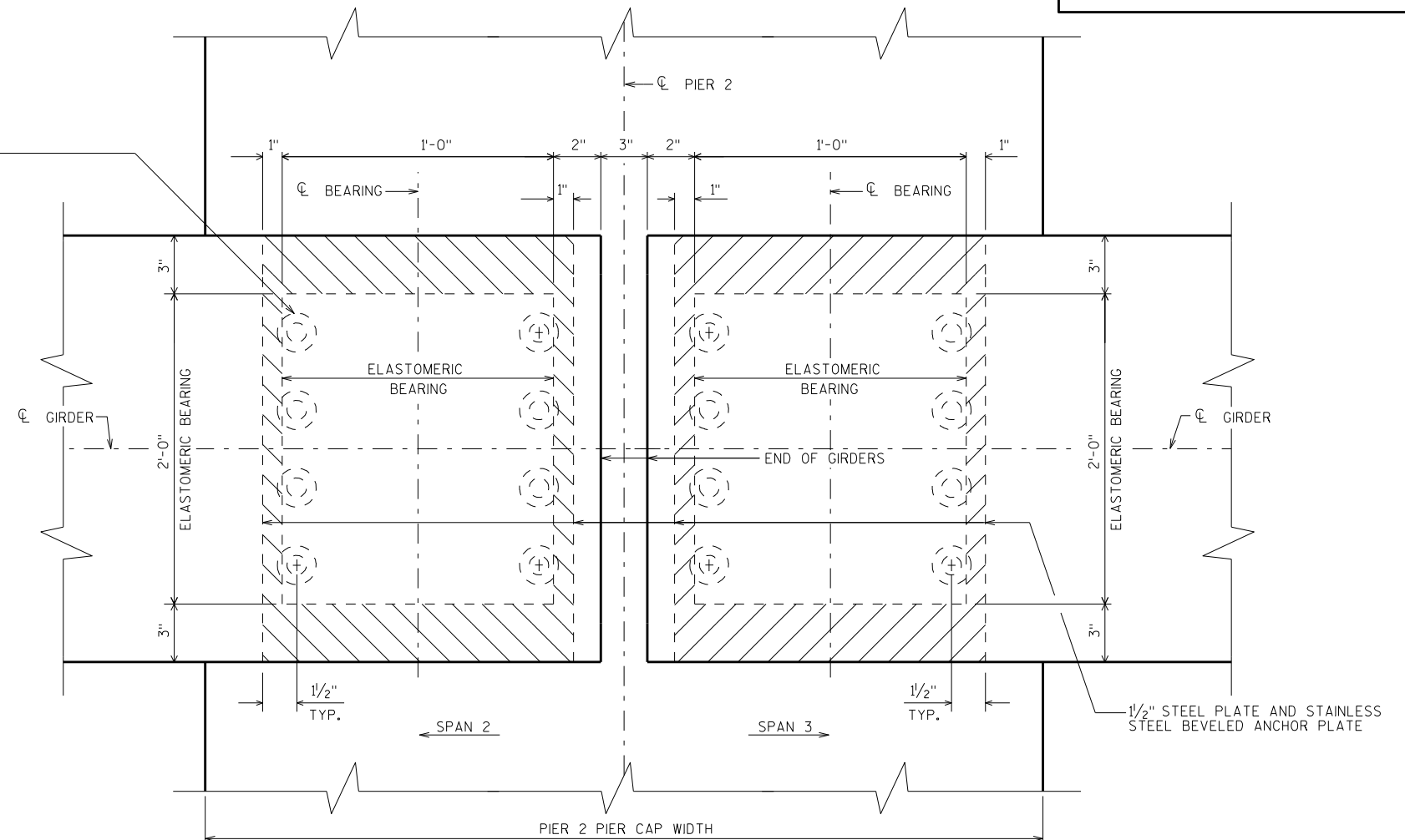


= AT FABRICATORS DISCRETION
USE SAME SIZE PLATE AS IS
USED FOR STEEL BEARINGS.

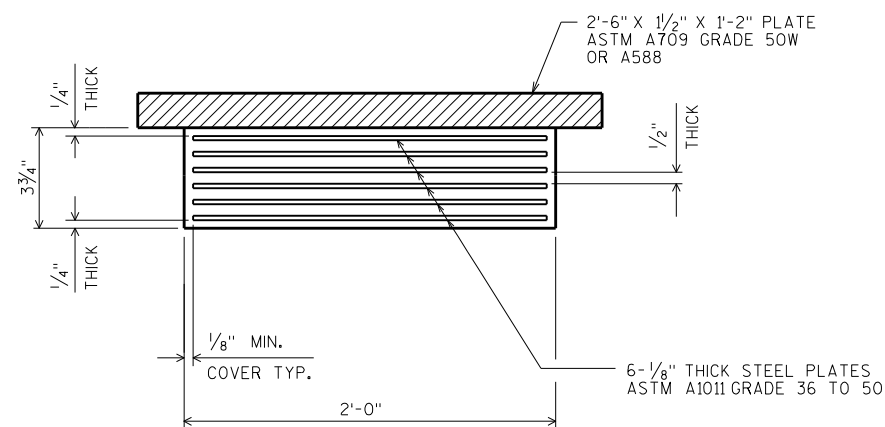
PRESTRESSED GIRDERS
STAINLESS STEEL BEVELED
ANCHOR PLATE (ASTM A240,
TYPE 304) CAST TO GIRDER.
WIDTH IS BOTTOM FLANGE
WIDTH MINUS 1/2".



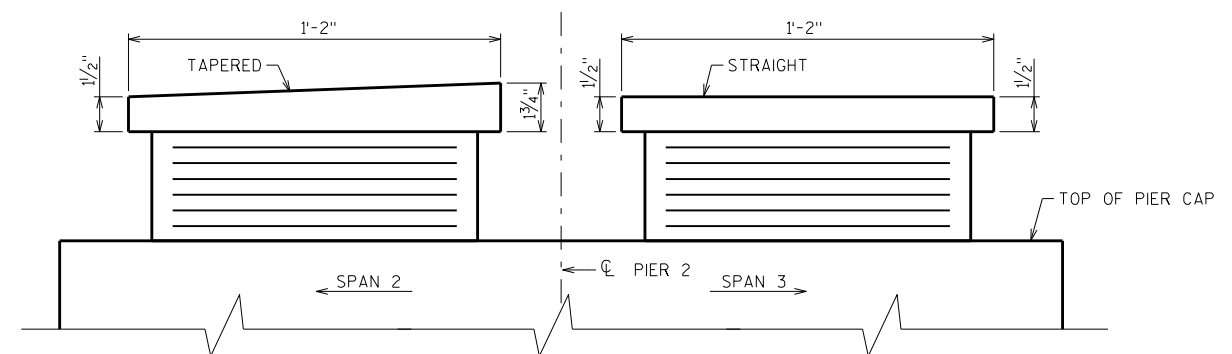
END VIEW



PLAN VIEW



SECTION THRU ELASTOMERIC BEARING



ELEVATION VIEW

BEARING NOTES

BEARINGS SHALL NOT BE PLACED AT A
TEMPERATURE GREATER THAN 85° F.

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

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

ALL PLATE CUTS SHALL BE MACHINE OR MACHINE
FLAME CUTS.

TO BE USED AT PIER 2.

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION STRUCTURES DESIGN SECTION			
STRUCTURE B-18-219			
DRAWN BY DDS		PLANS CK'D. ADS	
PRESTRESSED GIRDER LAMINATED ELASTOMERIC BEARINGS			SHEET 35
			150



SHOWING TERMINATION OF RAILING ON BRIDGE (NEAR WING 1)

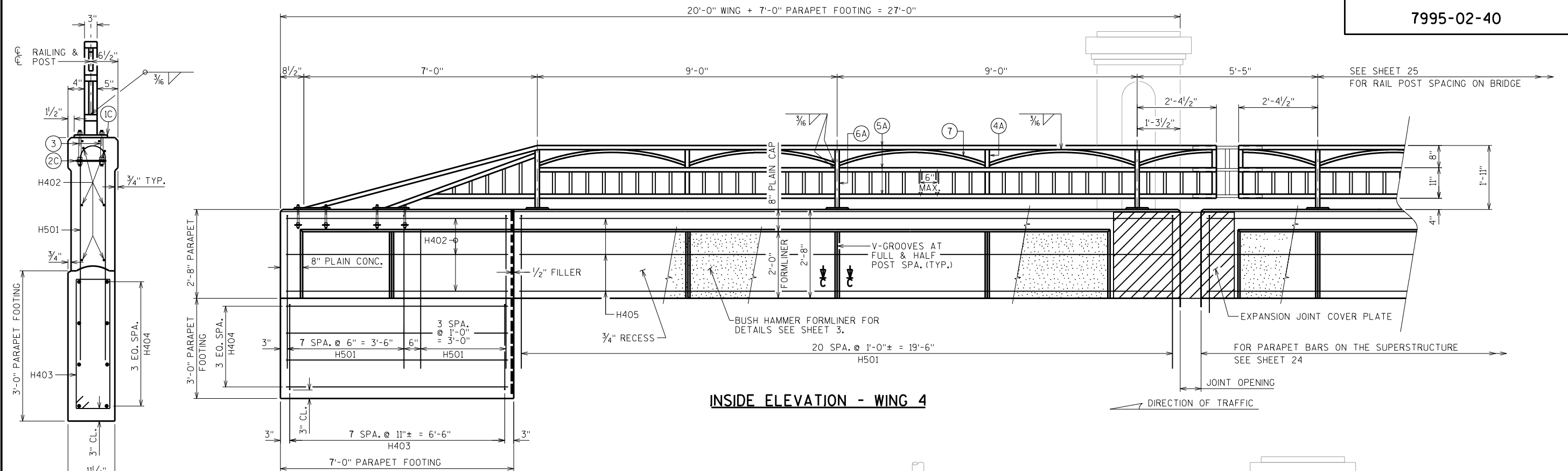


PLAN VIEW
V-GROOVES TO LINE UP

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

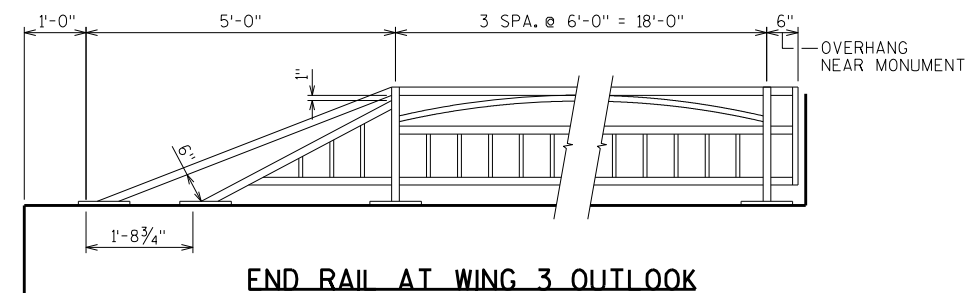
BAR MARK	COAT	NO. REQ'D.	LENGTH	BENT	BAR SERIES	LOCATION
R501	X	24	9'-5"	X		PARAPET - VERT.
R402	X	6	19'-8"			PARAPET - HORIZ.

NO.	DATE	REVISION			BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION STRUCTURES DESIGN SECTION					
STRUCTURE B-18-219					
		DRAWN BY	DDS	PLANS C'K'D.	ADS
COMBINATION RAIL TYPE "C3" WEST END			SHEET 36		
			151		

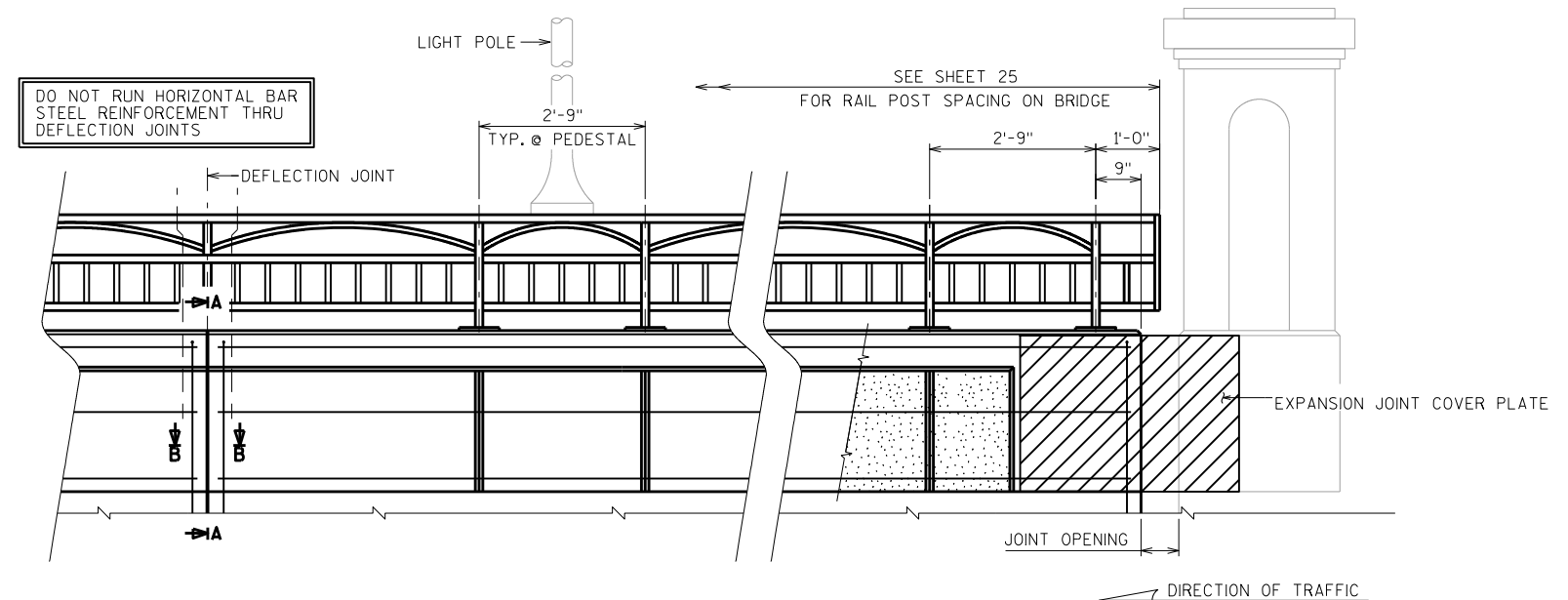


INSIDE ELEVATION - WING 4

END VIEW



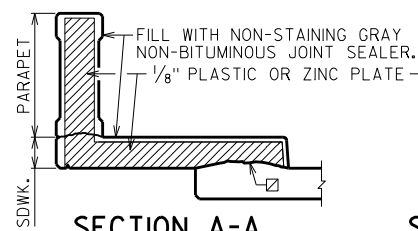
END RAIL AT WING 3 OUTLOOK



INSIDE ELEVATION - NORTHEAST CORNER ON BRIDGE

SHOWING THE TERMINATION OF RAILING ON THE BRIDGE (NEAR WING 3)

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

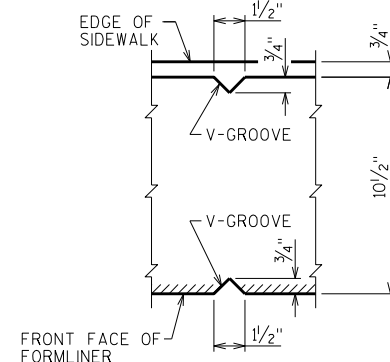
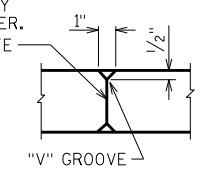


SECTION A-A

(SHOWING DEFLECTION JOINT IN PARAPET AND SIDEWALK.)

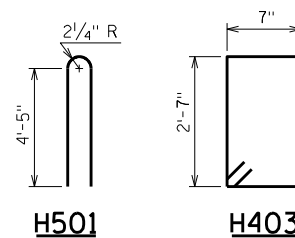
WHEN PARAPETS ARE POURED CONTINUOUSLY FROM END TO END, THEY SHALL BE SEPARATED AT THE DEFLECTION JOINTS BY A PIECE OF 1/8" ZINC OR PLASTIC PLATE CUT AS SHOWN IN SECTION A-A BY SHADED AREA. IF CONSTRUCTION JOINTS IN PARAPETS ARE USED AT THE DEFLECTION JOINTS, ONE SIDE OF JOINT SHALL BE COATED WITH AN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

SECTION B-B



SECTION C-C

PLAN VIEW
V-GROOVES TO LINE UP



BILL OF BARS

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

BAR MARK	COAT	NO. REQ'D.	LENGTH	BENT	BAR SERIES	LOCATION
H501	X	33	9'-5"	X		PARAPET - VERT.
H402	X	6	6'-8"			PARAPET - HORIZ.
H403	X	8	6'-10"	X		PARAPET FOOTING - STIRRUP
H404	X	8	6'-8"			PARAPET FOOTING - HORIZ.
H405	X	6	19'-8"			PARAPET - HORIZ.

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION STRUCTURES DESIGN SECTION			
STRUCTURE B-18-219			
DRAWN BY DDS		PLANS CK'D. ADS	
COMBINATION RAIL TYPE "C3" EAST END			SHEET 37
			152

LEGEND

- (1A) PLATE 5/8" X 6" X 8" 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.
- (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. (ALTERNATE RAIL POST ANCHORAGE: 4 EQUIVALENT STAINLESS STEEL CONCRETE MASONRY ANCHORS TYPE S 5/8-INCH. EMBED 7" IN CONCRETE FOR RAIL POSTS. EMBED 5" IN CONCRETE FOR END RAILS.)
- (4A) STRUCTURAL TUBING 3" X 1 1/2" 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 2-1"
- (12) 1/2" DIA. STAINLESS STEEL BOLT WITH NUT AND LOCKWASHER.

RAILING NOTES

BID ITEM SHALL BE "RAILING STEEL TYPE C3 GALVANIZED B-18-219", 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.

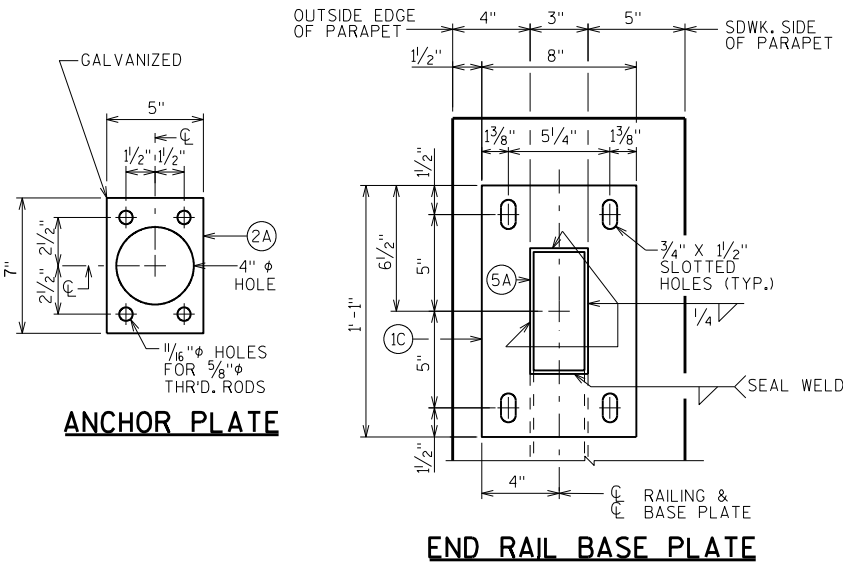
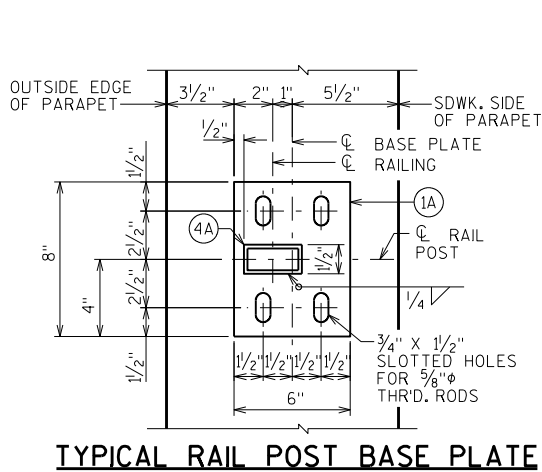
ALL MATERIAL (EXCEPT NO. 3 & 12) SHALL BE GALVANIZED AFTER FABRICATION. PRIOR TO GALVANIZING, THE STEEL RAILING SHALL BE GIVEN A NO. 6 BLAST CLEANING PER SSPC SPECIFICATIONS. PAINT OVER GALVANIZING WITH AN APPROVED TIE COAT AND TOP COAT AS SPECIFIED IN THE "BRIDGE SPECIAL PROVISIONS". THE RAILING SHALL 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.

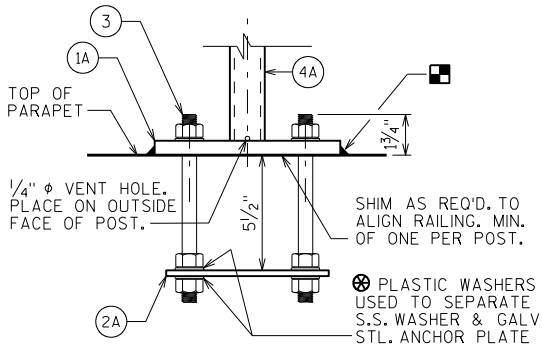
TOUCH-UP PAINTING TO BE DONE AT COMPLETION OF STEEL RAILING INSTALLATION TO THE SATISFACTION OF THE ENGINEER AT NO EXTRA COST.

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION STRUCTURES DESIGN SECTION			
STRUCTURE B-18-219			
DRAWN BY DDS		PLANS CK'D. ADS	
COMBINATION RAIL TYPE "C3" DETAILS			SHEET 38
			153



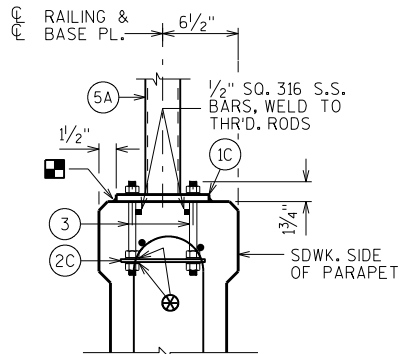
CURVED MEMBER JOINT DETAIL

SEAL ENDS ON CURVED MEMBERS WITH 1/4" THK. PLATE. WELD AND GRIND SMOOTH.



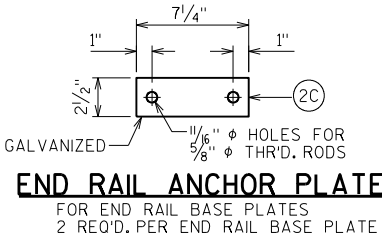
ANCHORAGE FOR RAIL POSTS

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



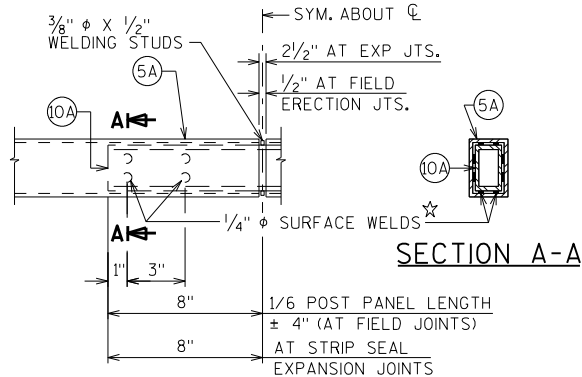
ANCHORAGE FOR END RAIL

NOTE: ANCHOR PLATES NOT REQ'D. WHEN TYPE "S" ANCHORS ARE USED.



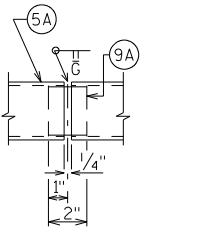
END RAIL ANCHOR PLATE

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



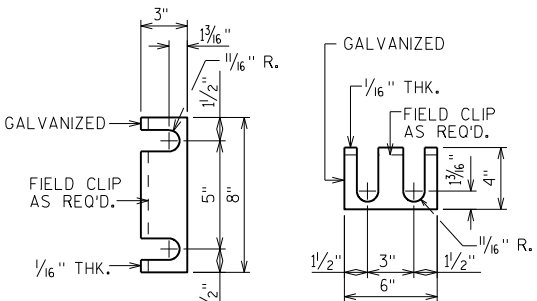
FIELD ERECTION JOINT DETAIL

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



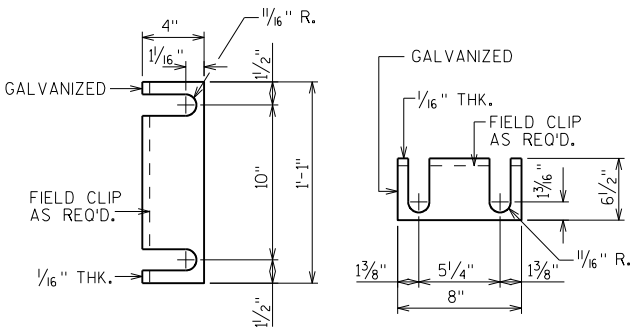
SHOP RAIL SPLICE DETAIL

(LOCATION MUST BE SHOWN ON SHOP DRAWINGS)



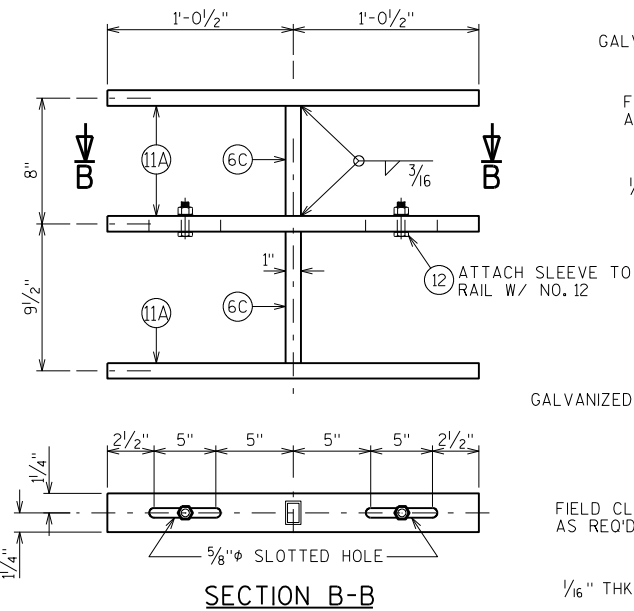
RAIL POST SHIM DETAIL

(2 SETS PER POST)



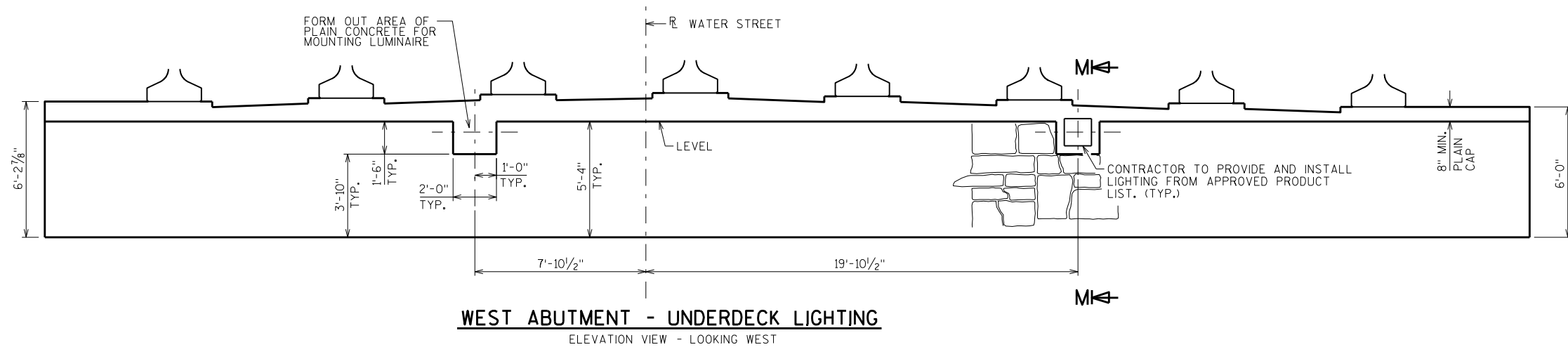
END RAIL SHIM DETAIL

(2 SETS PER POST)



SLEEVE DETAIL

(AT MODULAR EXP. JT.)

**NOTES**

BID ITEMS FOR UNDERDECK LIGHTING SHALL INCLUDE:
 "UNDERDECK LIGHTING STA 12+87"
 "LUMINARIES UNDER DECK LED C"

BID ITEMS FOR ROADWAY LIGHTING SHALL BE:
 "JUNCTION BOXES 18X12X6-INCH"
 "CONDUIT RIGID NONMETALLIC SCHEDULE 40 2-INCH"
 "CONDUIT RIGID METALLIC 2-INCH"

BID ITEMS FOR FUTURE FIBER OPTIC SHALL BE:
 "JUNCTION BOXES 18X12X6-INCH"
 "CONDUIT RIGID NONMETALLIC SCHEDULE 40 1 1/4-INCH"
 "CONDUIT RIGID METALLIC 1 1/4-INCH"

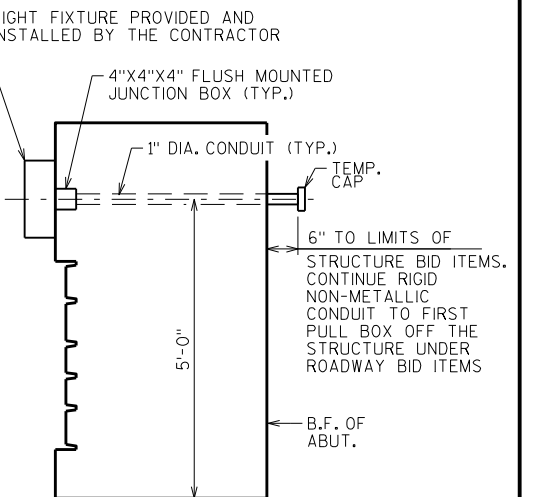
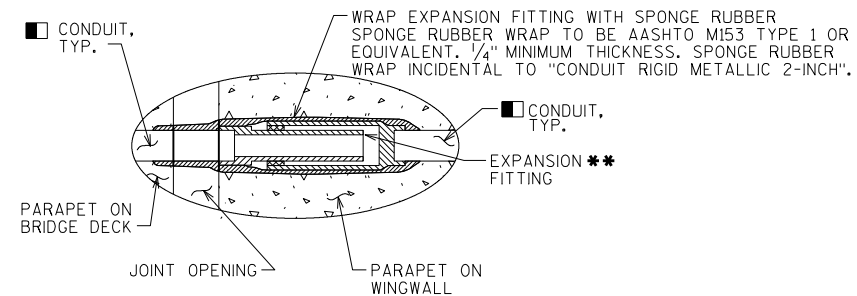
APPROVED MANUFACTURERS - JUNCTION BOXES:
 SEE APPROVED MATERIAL LIST

****** APPROVED MANUFACTURER OR EQUIVALENT - EXPANSION FITTING:
 0-Z/GEDNEY TYPE AX-125 AND BONDING JUMPER (4" TOTAL CONDUIT MOVEMENT)
 0-Z/GEDNEY TYPE AX-200 AND BONDING JUMPER (4" TOTAL CONDUIT MOVEMENT)
 0-Z/GEDNEY TYPE AX-8-125 AND BONDING JUMPER (8" TOTAL CONDUIT MOVEMENT)
 0-Z/GEDNEY TYPE AX-8-200 AND BONDING JUMPER (8" TOTAL CONDUIT MOVEMENT)

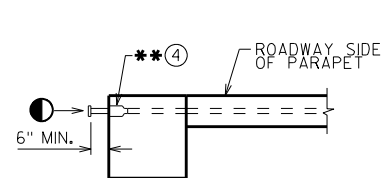
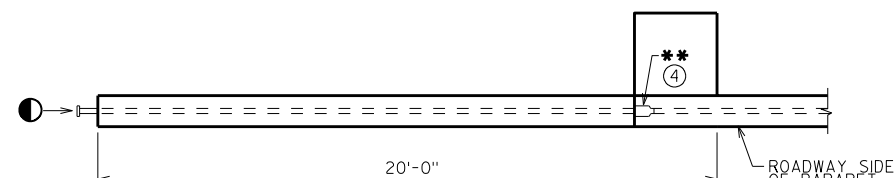
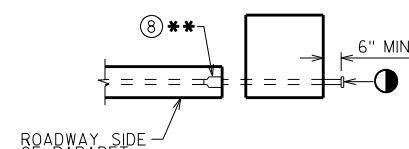
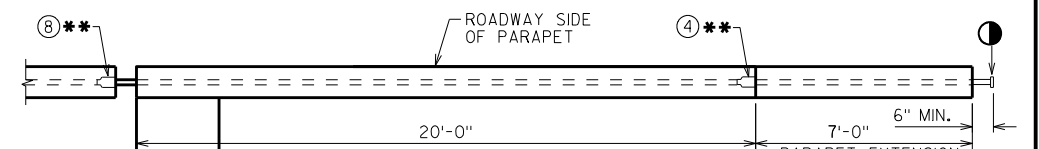
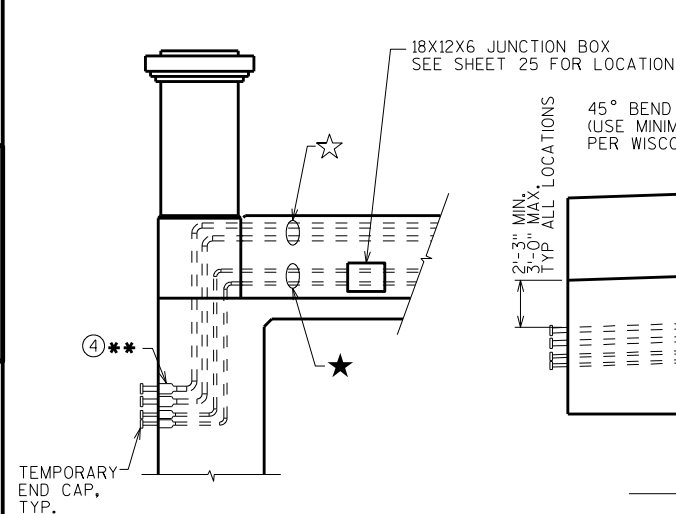
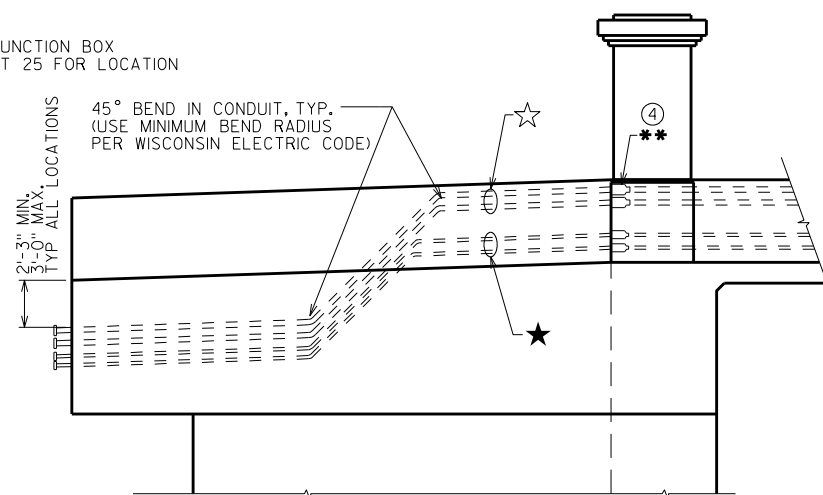
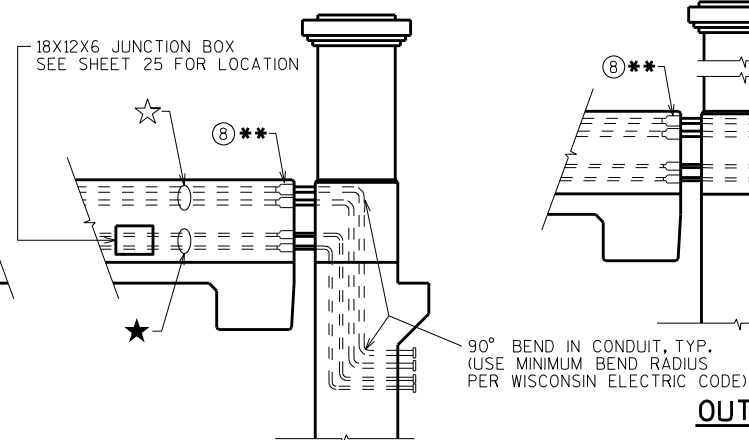
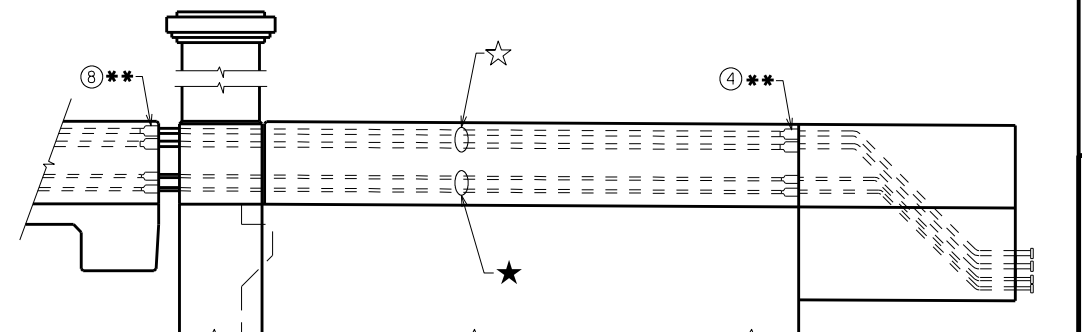
EXPANSION FITTINGS, ANGLES AND ADAPTER FITTINGS TO BE INCIDENTAL TO
 "CONDUIT RIGID METALLIC [2-INCH AND 1 1/4" RESPECTIVELY]"

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

ONLY ONE TYPE OF SERVICE IS ALLOWED TO ENTER AND EXIT A JUNCTION BOX. THE SECOND SERVICE SHALL RUN ABOVE OR BELOW THE JUNCTION BOX. SEE SHEET 25 TO DETERMINE WHICH SERVICE (ROADWAY LIGHTING OR FIBER OPTIC) SHALL ENTER JUNCTION BOXES.

**SECTION M-M**

■ = USE RIGID METALLIC CONDUIT 3'-0" INTO PARAPET ON DECK AND WING SIDES OF JOINT OPENING.

**WING 1 - PLAN VIEW****WING 2 - PLAN VIEW****WING 3 - PLAN VIEW****WING 4 - PLAN VIEW****OUTSIDE ELEVATION WING 1****INSIDE ELEVATION WING 2****INSIDE ELEVATION WING 3****OUTSIDE ELEVATION WING 4**

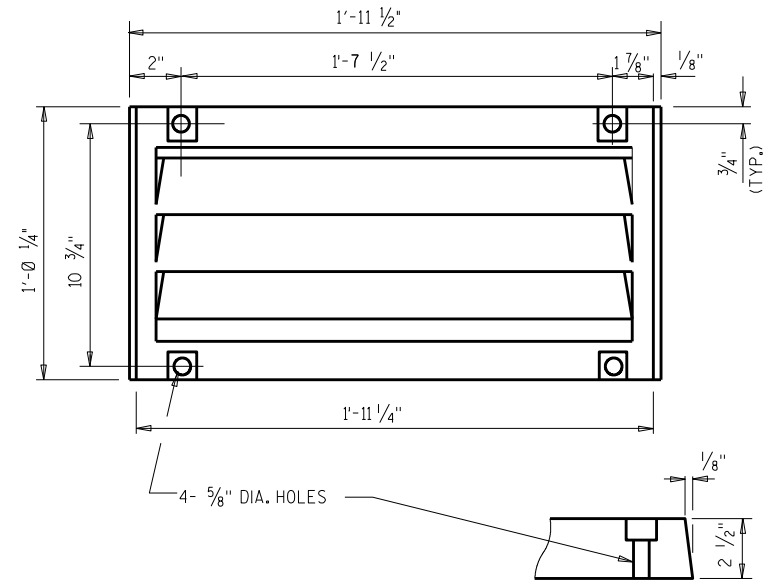
☆ (2) - 2"φ CONDUIT FOR ROADWAY LIGHTING
EXPANSION FITTINGS ARE AX-200 AND AX-8-200

★ (2) - 1 1/4"φ CONDUIT FOR FUTURE FIBER OPTIC
EXPANSION FITTINGS ARE AX-125 AND AX-8-125

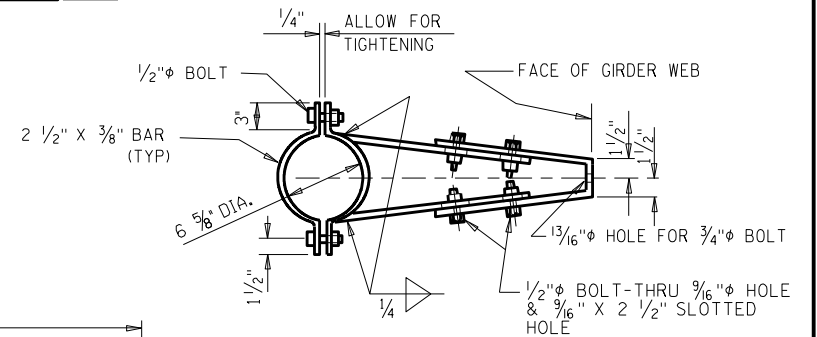
● CONTINUE CONDUIT TO FIRST PULL BOX OFF OF STRUCTURE UNDER ROADWAY BID ITEMS.

⊗ INCHES OF CONDUIT MOVEMENT

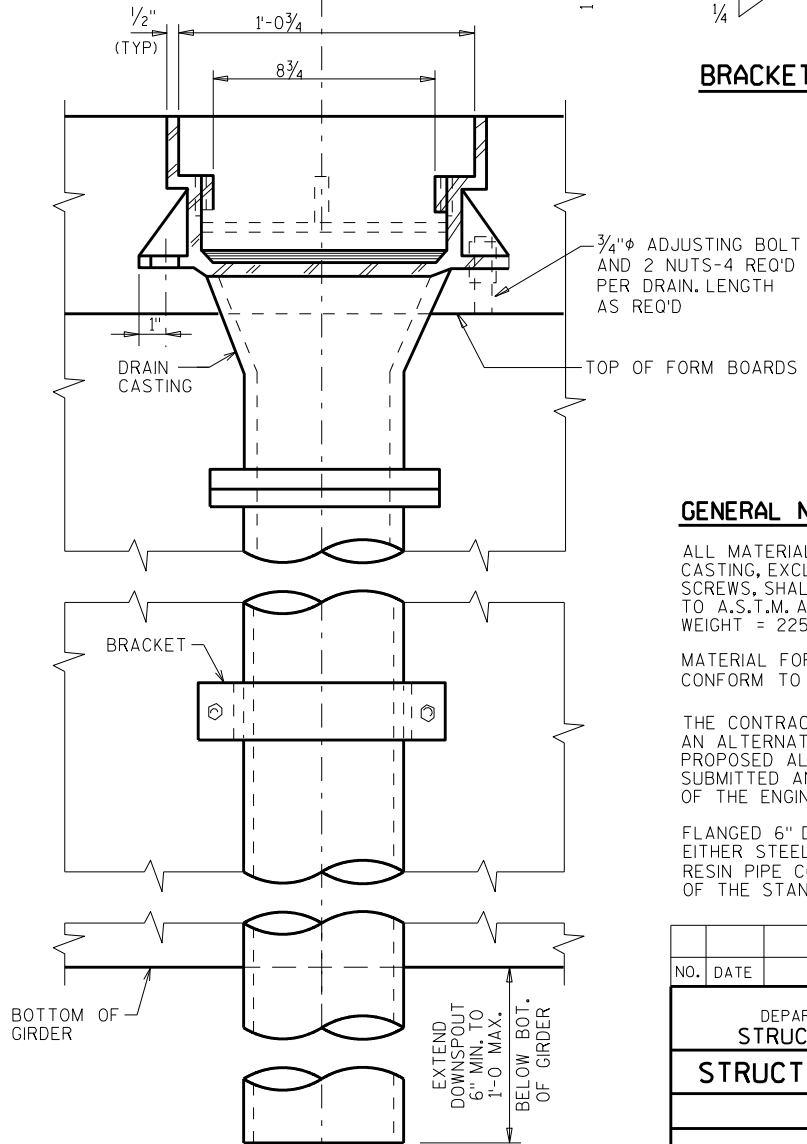
NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION STRUCTURES DESIGN SECTION			
STRUCTURE B-18-219			
DRAWN BY		DDS	PLANS CK'D. ADS
ELECTRICAL DETAILS		SHEET 39	
		154	



ATTACH GRATE TO
FRAME FOR SHIPMENT



BRACKET DETAIL



SECTION A2

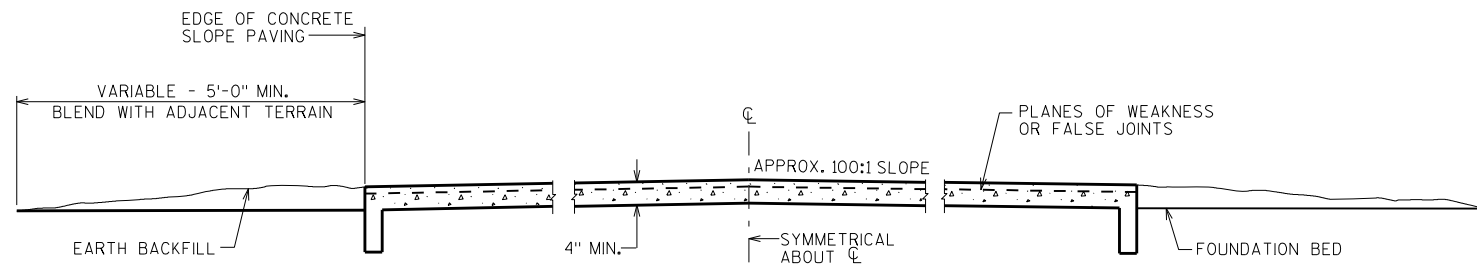
ALL MATERIAL FOR TYPE "GC"
CASTING, EXCLUDING GRATE HOLD DOWN
SCREWS, SHALL BE GRAY IRON CONFORMING
TO A.S.T.M. A48, CLASS 30. (APPROX.
WEIGHT = 225#)

MATERIAL FOR BRACKETS SHALL
CONFORM TO A.S.T.M. A36.

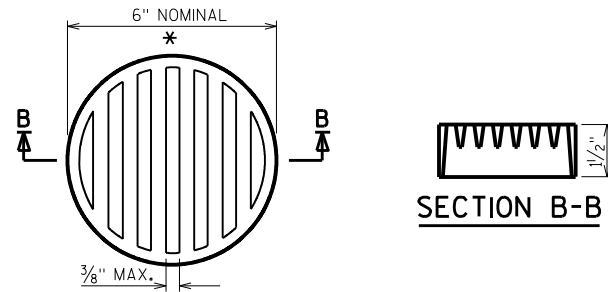
THE CONTRACTOR MAY PROPOSE AN ALTERNATE TYPE OF BRACKET. THE PROPOSED ALTERNATE DETAILS SHALL BE SUBMITTED AND SUBJECT TO THE APPROVAL OF THE ENGINEER.

FLANGED 6" DIA. DOWNSPOUTS SHALL BE
EITHER STEEL OR REINFORCED THERMOSETTING
RESIN PIPE CONFORMING TO SECTION 514
OF THE STANDARD SPECIFICATIONS.

NO.	DATE	REVISION			BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION STRUCTURES DESIGN SECTION					
STRUCTURE		B-18-219			
		DRAWN BY	DDS	PLANS CK'D.	ADS
DRAIN DETAILS TYPE 'GC'			SHEET 40		
			155		



SECTION A-A

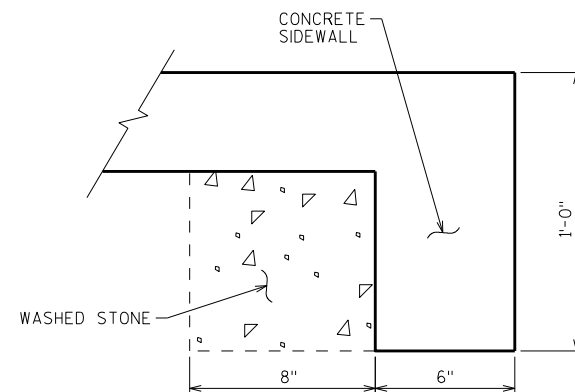


RODENT SHIELD DETAIL

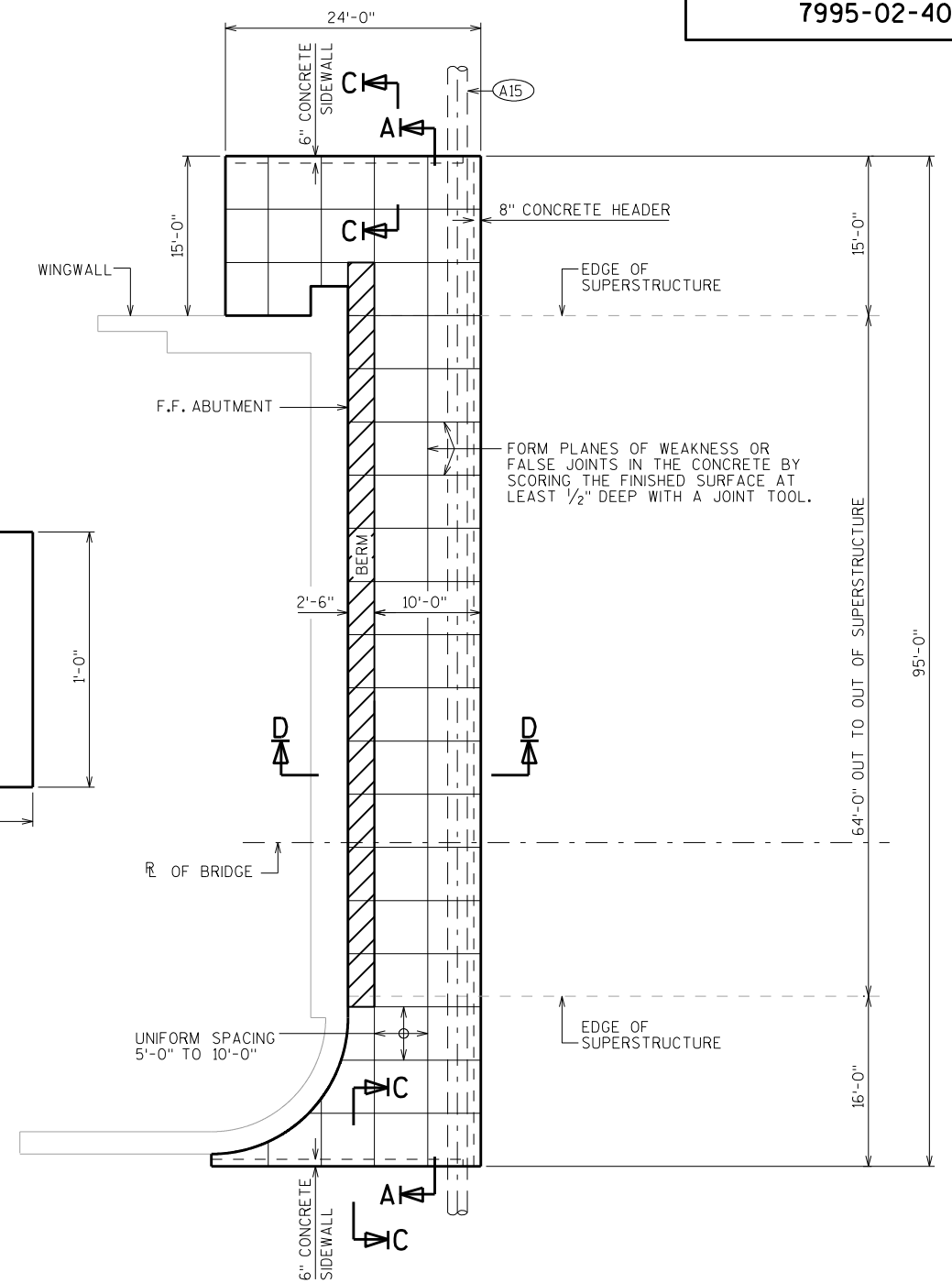
* DIMENSIONS ARE APPROXIMATE. THE GRATE IS SIZED TO FIT INTO A PIPE COUPLING. ORIENT SO SLOTS ARE VERTICAL.

THE RODENT SHIELD, PIPE COUPLING AND SCREWS SHALL BE CONSIDERED INCIDENTAL TO THE BID ITEM "PIPE UNDERDRAIN WRAPPED 6-INCH".

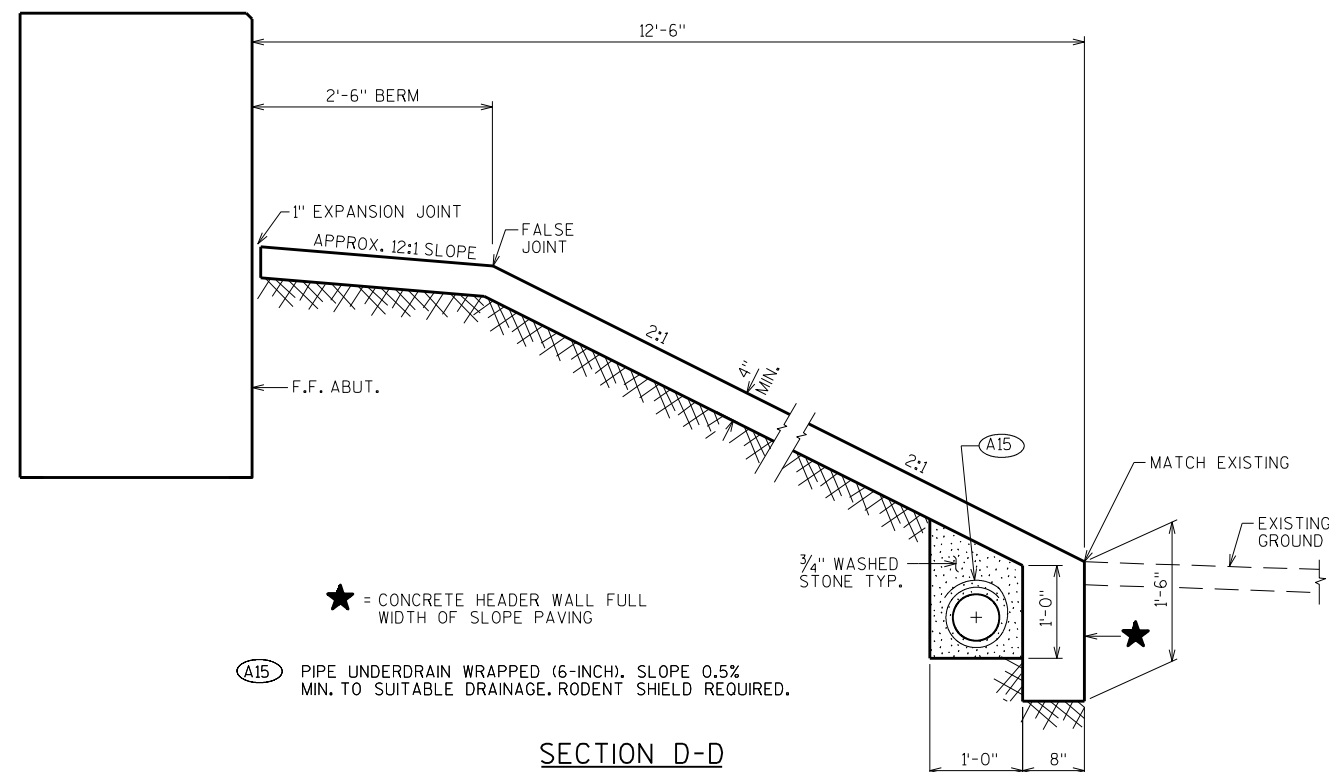
THE RODENT SHIELD SHALL BE A PVC GRATE SIMILAR TO THIS DETAIL. THE GRATE IS COMMERCIALY AVAILABLE AS A FLOOR STRAINER. A PIPE COUPLING IS REQUIRED FOR THE ATTACHMENT OF THIS SHIELD TO THE EXPOSED END OF THE PIPE UNDERDRAIN. THE SHIELD SHALL BE FASTENED TO THE PIPE COUPLING WITH TWO OR MORE NO. 10 X 1-INCH STAINLESS STEEL SHEET METAL SCREWS.



SECTION C-C



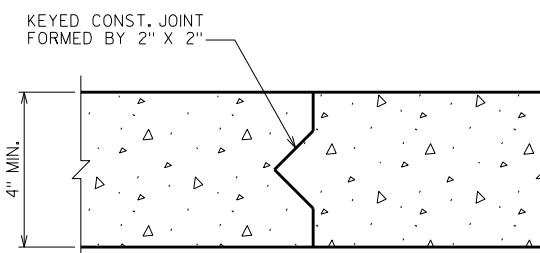
CONSTRUCTION JOINT DESIGN



SECTION D-D

★ = CONCRETE HEADER WALL FULL WIDTH OF SLOPE PAVING

(A15) PIPE UNDERDRAIN WRAPPED (6-INCH). SLOPE 0.5% MIN. TO SUITABLE DRAINAGE. RODENT SHIELD REQUIRED.

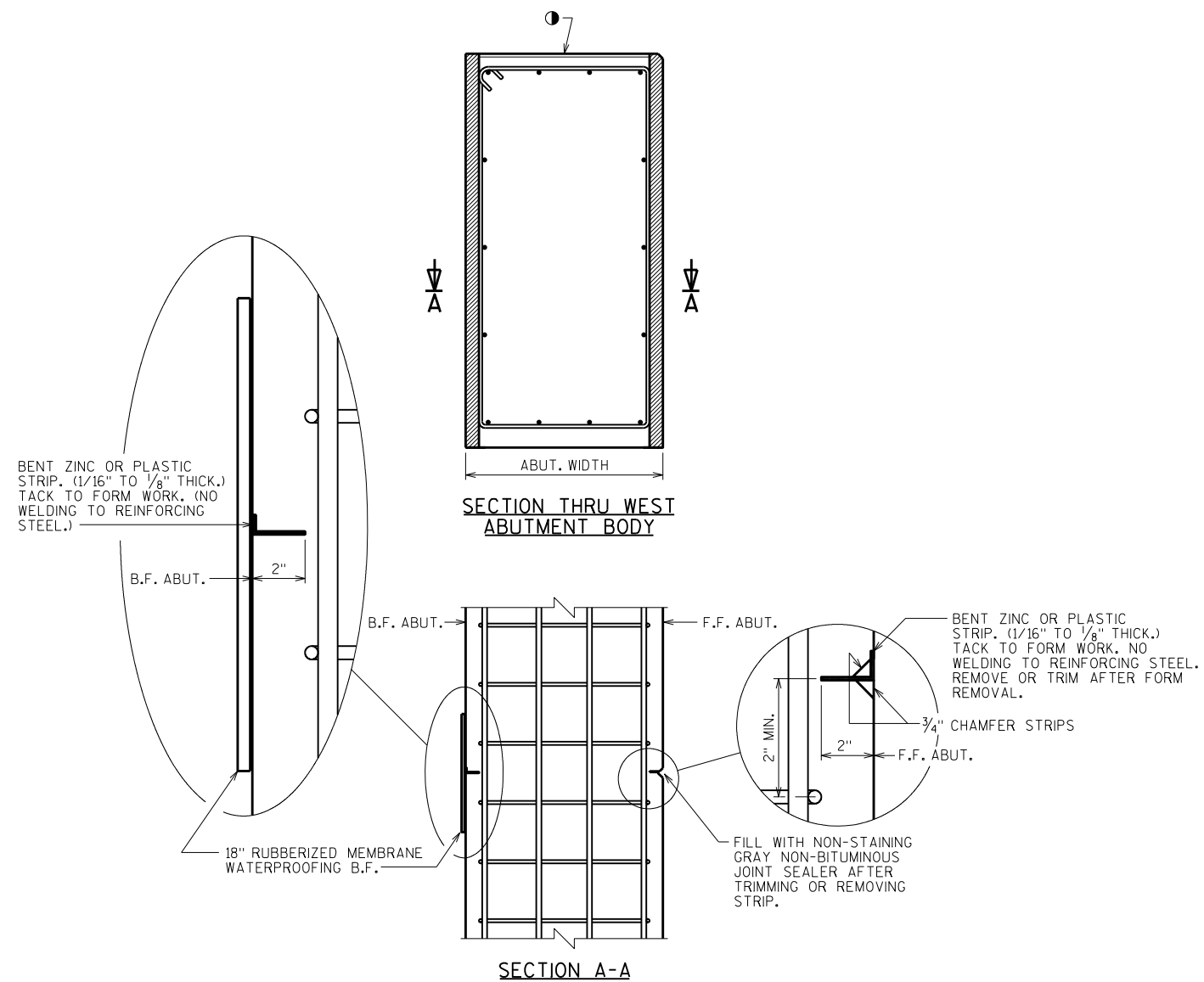


CONSTRUCTION JOINT

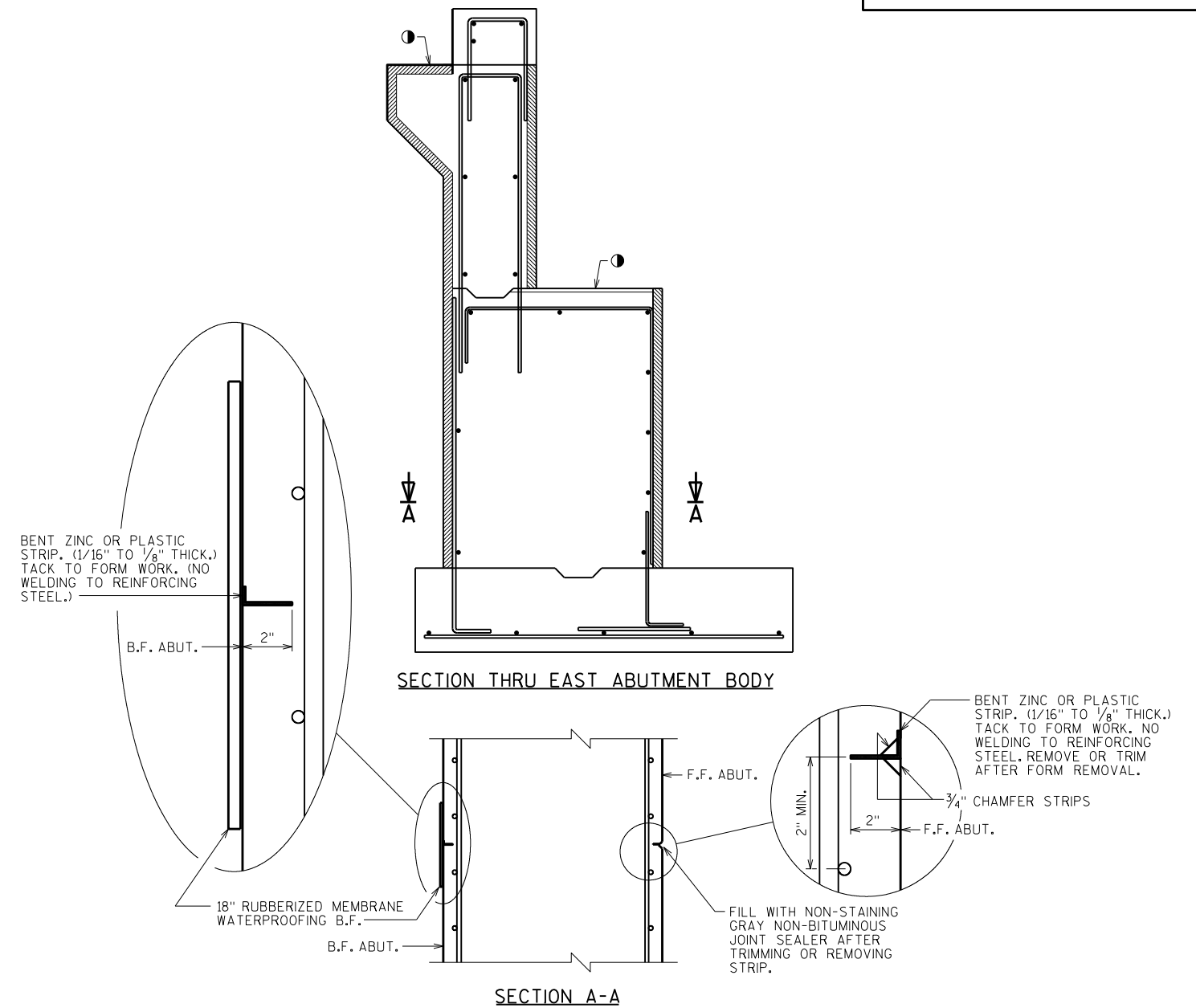
GENERAL NOTES

DETAILS OF CONSTRUCTION NOT SHOWN HEREON SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS.

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION STRUCTURES DESIGN SECTION			
STRUCTURE B-18-219			
DRAWN BY DDS		PLANS CK'D. ADS	
WEST SLOPE PAVING (CONCRETE CAST-IN-PLACE)		SHEET 41	
		156	



ALTERNATE CONSTRUCTION JOINT AT WEST ABUTMENT



ALTERNATE CONSTRUCTION JOINT AT EAST ABUTMENT

NOTES

PARTIAL ZINC OR PLASTIC BULKHEAD MAY BE USED AS ALTERNATE CONSTRUCTION JOINT, WITH THE PERMISSION OF THE ENGINEER, AT THE CONTRACTOR'S EXPENSE.

VERTICAL CONSTRUCTION JOINT KEYWAY IS NOT REQUIRED WHEN USING ALTERNATE CONSTRUCTION JOINT.

CARE IS TO BE USED IN CASTING CONCRETE AROUND BULKHEAD TO PREVENT DISLOCATION OR MISALIGNMENT OF THE BULKHEAD.

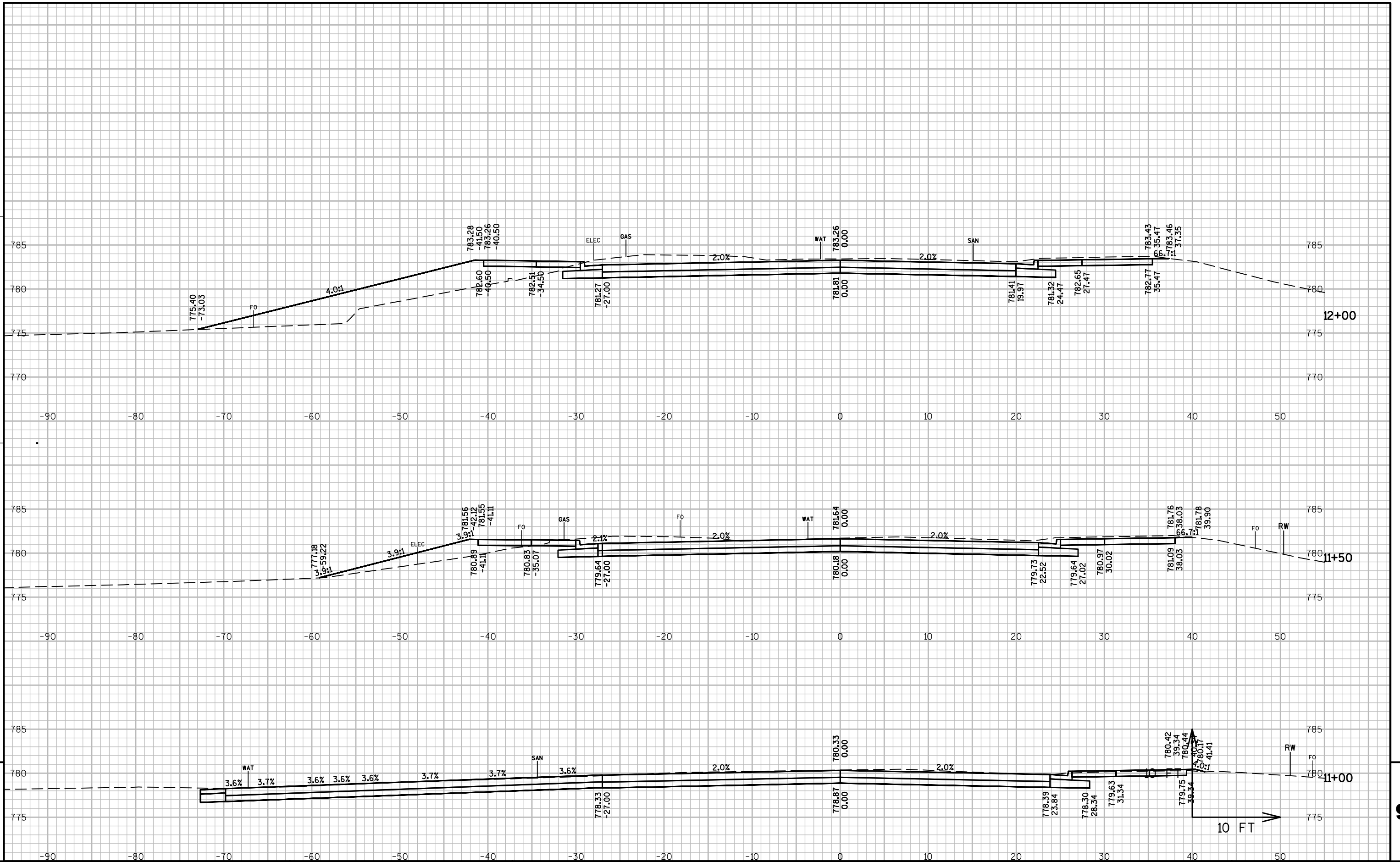
● USE A JOINT TOOL TO CONSTRUCT A CONTRACTION JOINT APPROXIMATELY 1/2" DEEP.

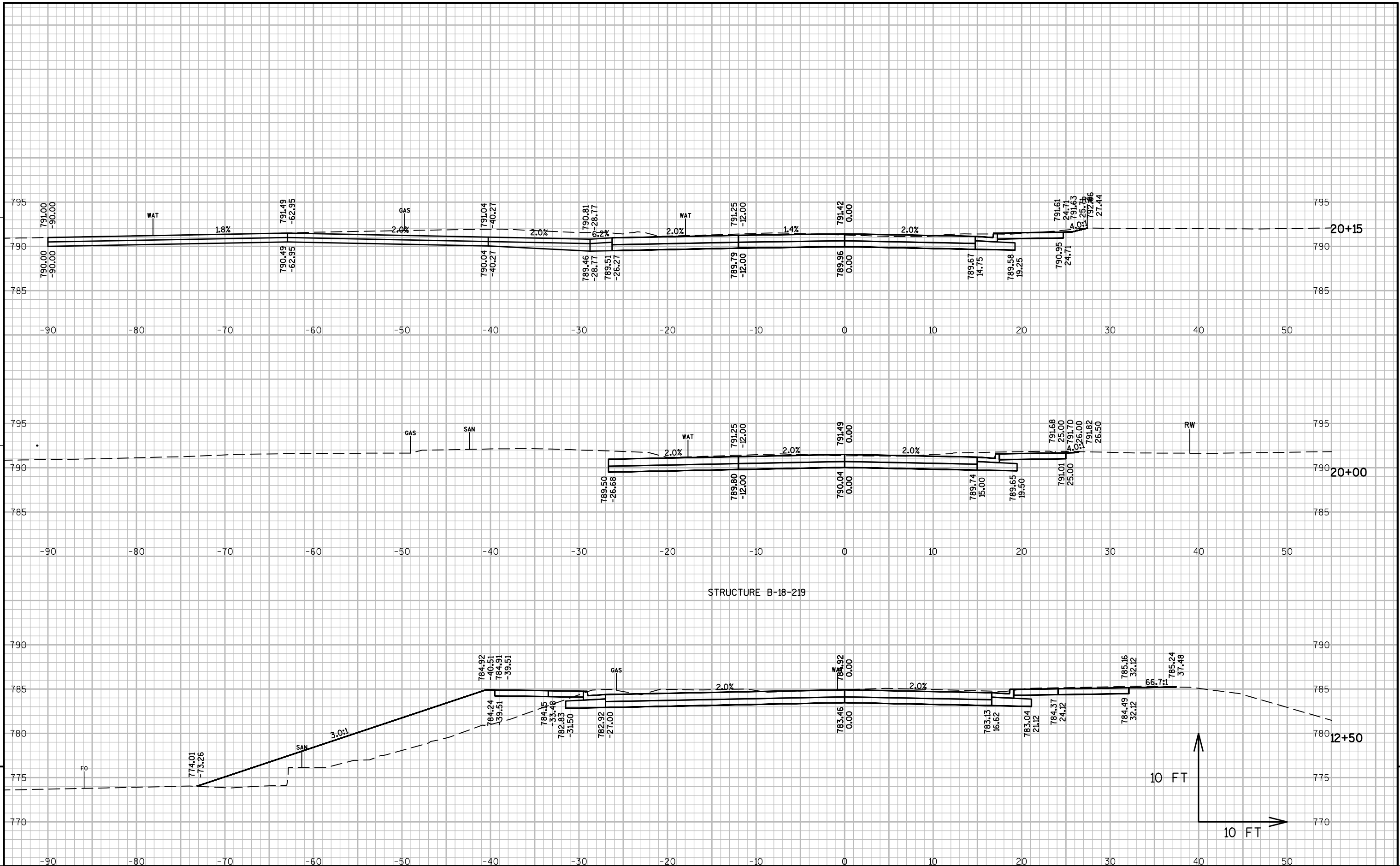
NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION STRUCTURES DESIGN SECTION			
STRUCTURE B-18-219			
DRAWN BY DDS		PLANS CK'D. ADS	
ALTERNATE CONSTRUCTION JOINT			SHEET 42
			157

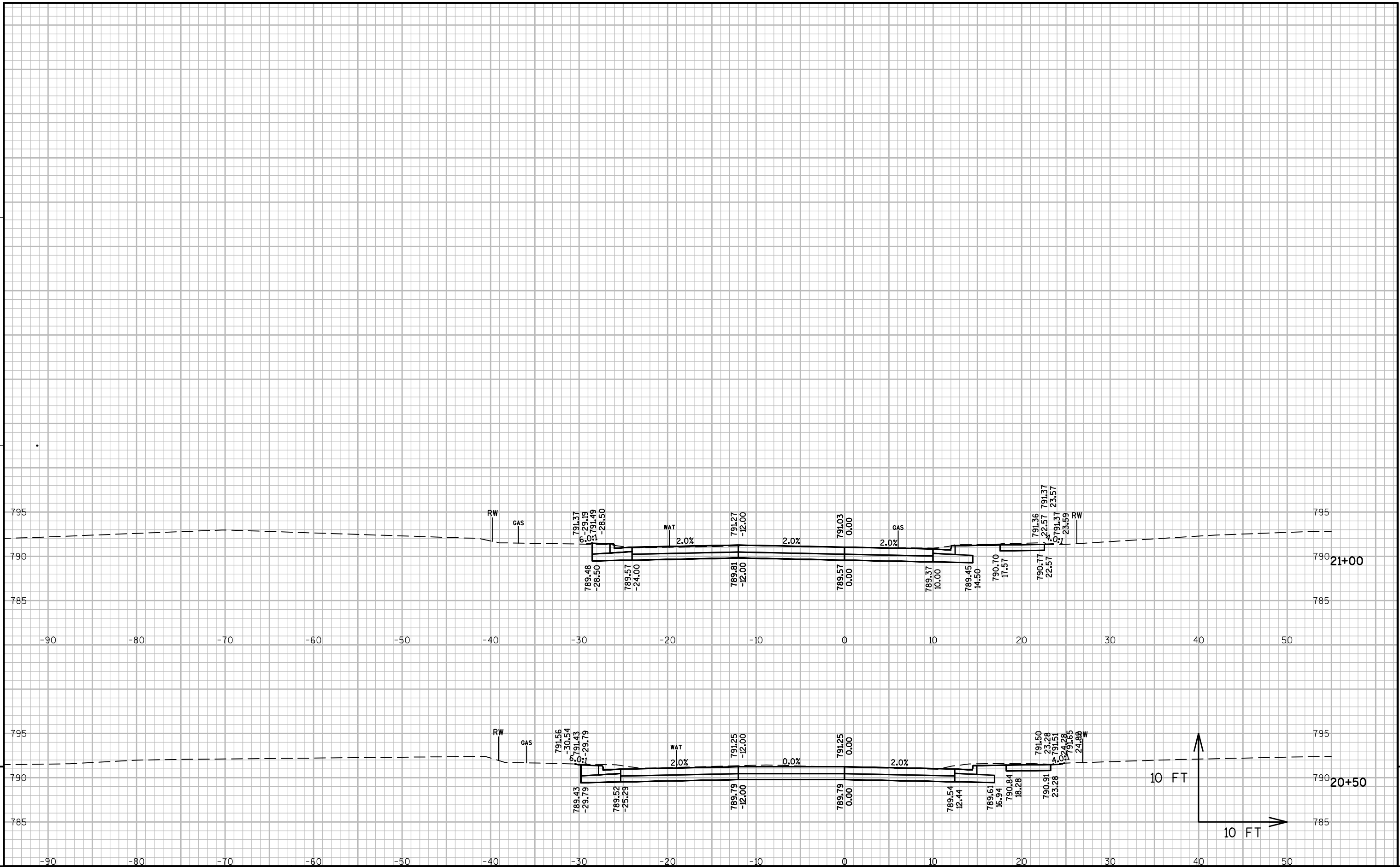
EARTHWORK DATA - WATER STREET (WEST APPROACH)							
STATION	AREA (SF)		INCR. VOL (CY)		CUMULATIVE VOL (CY)		MASS ORDINATE
	CUT	FILL	CUT	FILL	CUT 1.00	EXP. FILL 1.25	
11+00.00	155.63	0.45	0.00	0.00	0.00	0.00	0.00
11+50.00	115.90	22.28	251.42	21.05	251.42	26.31	225.11
12+00.00	116.61	87.33	215.29	101.49	466.70	153.18	313.53
12+50.00	95.23	113.11	196.14	185.60	662.85	385.17	277.67
12+85.91	0.00	0.00	63.33	75.22	726.17	479.20	246.98

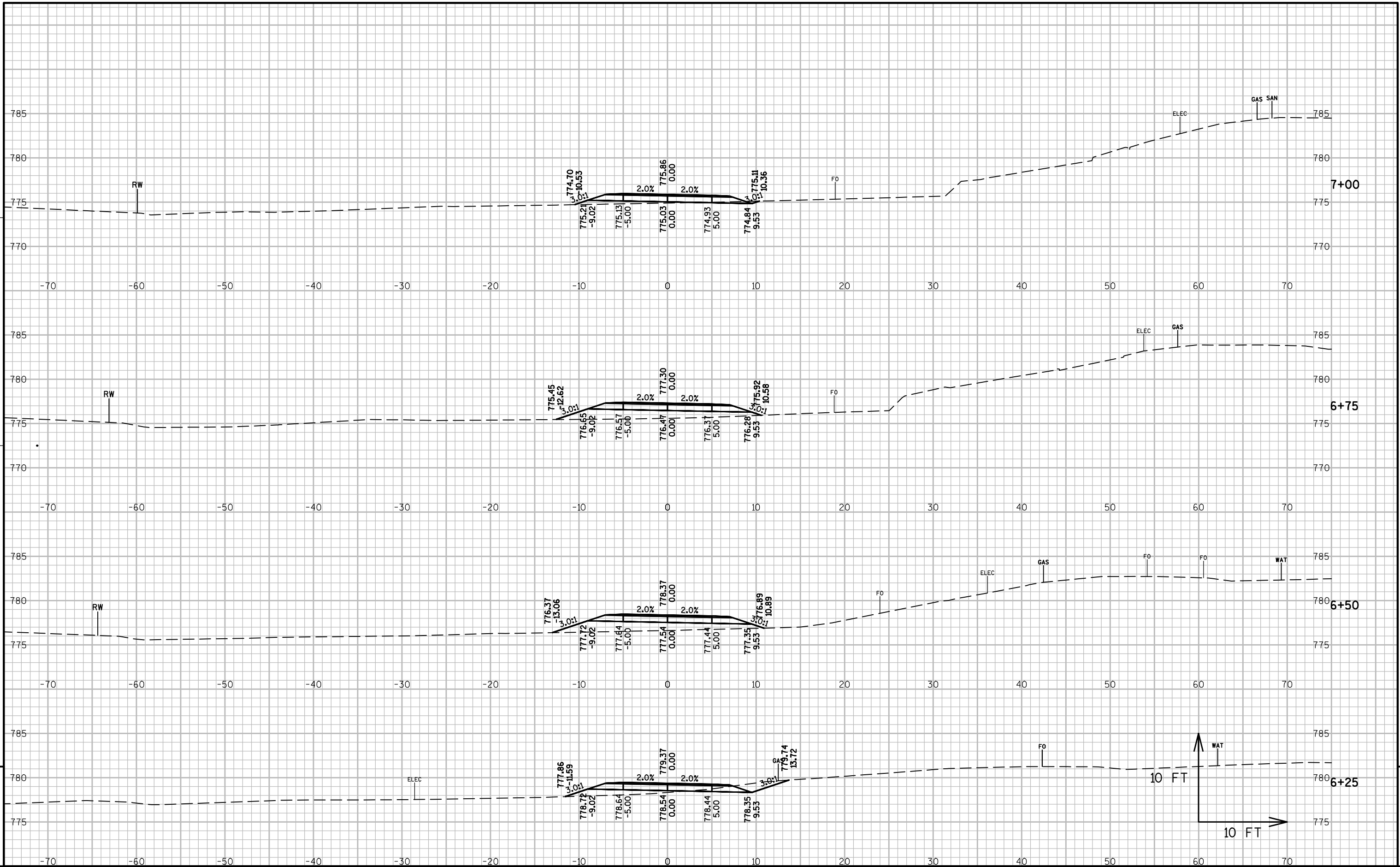
EARTHWORK DATA - WATER STREET (EAST APPROACH)							
STATION	AREA (SF)		INCR. VOL (CY)		CUMULATIVE VOL (CY)		MASS ORDINATE
	CUT	FILL	CUT	FILL	CUT 1.00	EXP. FILL 1.25	
19+81.16	0.00	0.00	0.00	0.00	0.00	0.00	0.00
20+00.00	82.25	0.00	28.70	0.00	28.70	0.00	28.70
20+14.74	154.53	0.00	64.63	0.00	93.33	0.00	93.33
20+50.00	79.06	0.01	152.53	0.01	245.86	0.01	245.85
21+00.00	68.50	0.13	136.63	0.13	382.48	0.17	382.31

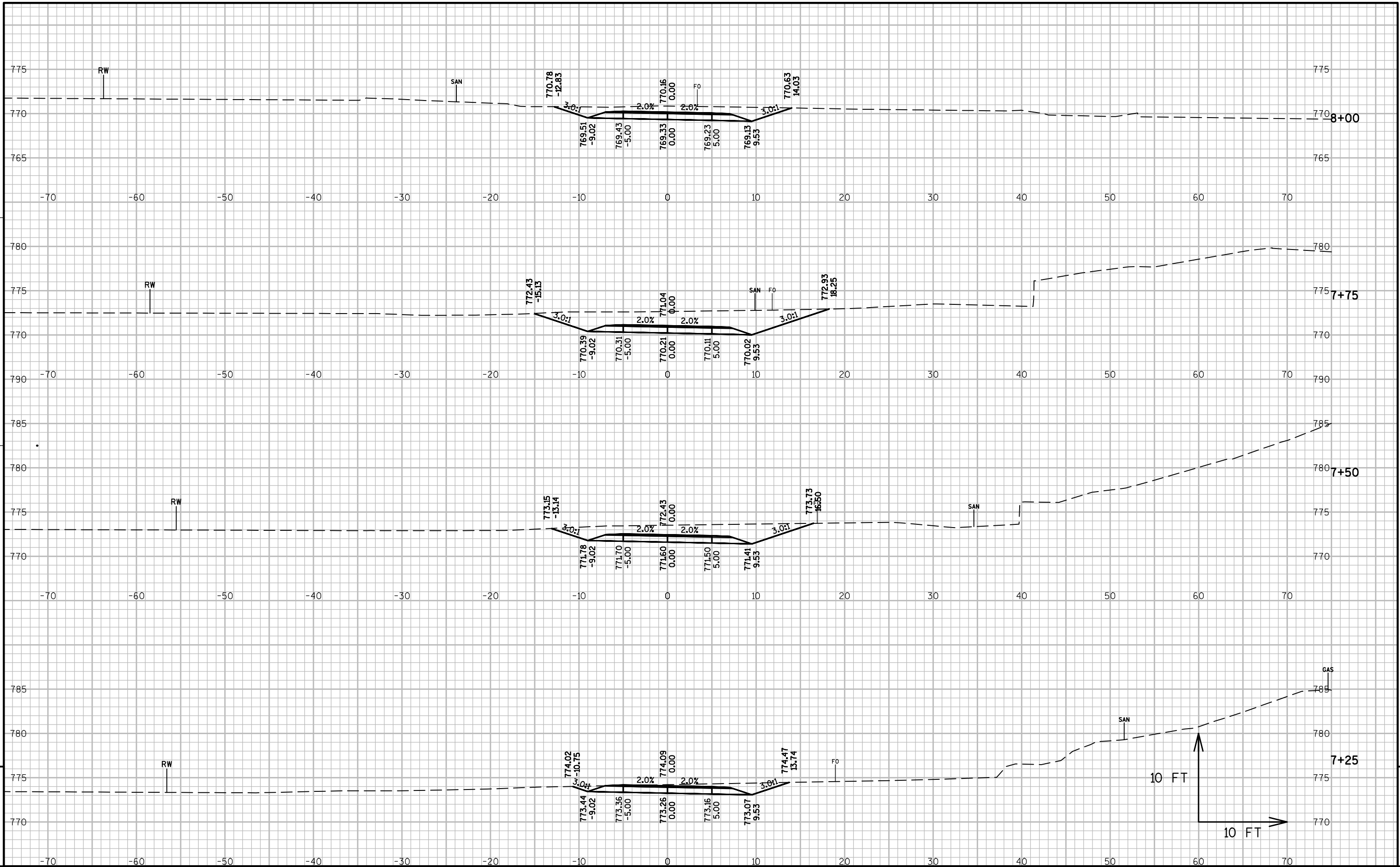
EARTHWORK DATA - CHIPPEWA RIVER STATE TRAIL							
STATION	AREA (SF)		INCR. VOL (CY)		CUMULATIVE VOL (CY)		MASS ORDINATE
	CUT	FILL	CUT	FILL	CUT 1.00	EXP. FILL 1.25	
6+16.30	0.00	0.00	0.00	0.00	0.00	0.00	0.00
6+25.00	12.39	12.81	2.00	2.06	2.00	2.58	-0.58
6+50.00	11.97	31.38	11.28	20.46	13.28	28.15	-14.87
6+75.00	11.60	29.60	10.92	28.23	24.19	63.44	-39.24
7+00.00	7.90	10.42	9.03	18.53	33.23	86.60	-53.37
7+25.00	21.27	0.00	13.51	4.82	46.73	92.63	-45.90
7+50.00	46.58	0.00	31.41	0.00	78.15	92.63	-14.48
7+75.00	64.37	0.00	51.37	0.00	129.51	92.63	36.89
8+00.00	33.01	0.00	45.08	0.00	174.60	92.63	81.97
8+10.72	0.00	0.00	6.55	0.00	181.15	92.63	88.52

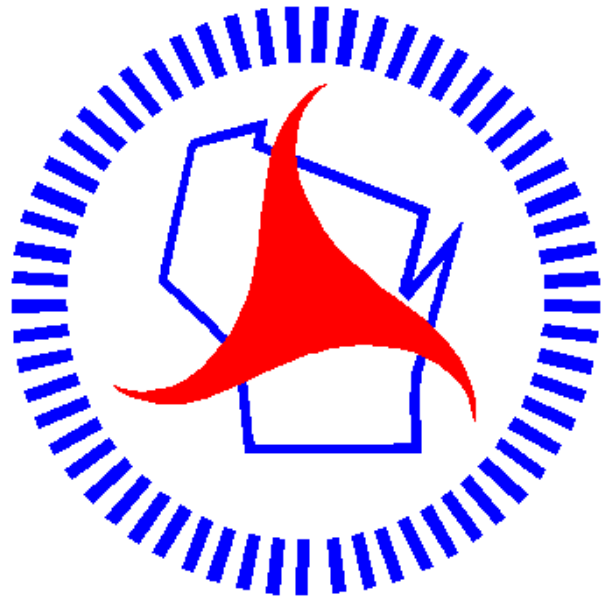












Wisconsin Department of Transportation

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