

SUP
PROJECT ID:
WITH: N/A

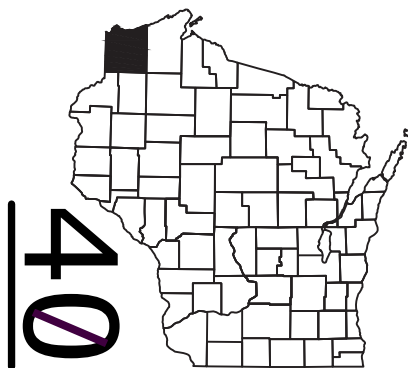
8680-00-74

COUNTY:
DOUGLAS

MAY 2025
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 = 244



DESIGN DESIGNATION

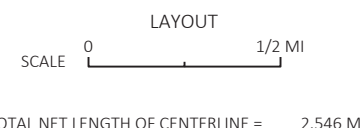
A.A.D.T.	(2014)	=	18,100
A.A.D.T.	(2034)	=	21,300
D.H.V.		=	N/A
D.D.		=	58/42
T.		=	12.1%
DESIGN SPEED		=	55 MPH
ESALS		=	15,549,000

BEGIN PROJECT
STA 18+52.34
 Y = 313742.12
 X = 134314.33

CONVENTIONAL SYMBOLS

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

PROFILE	
GRADE LINE	
ORIGINAL GROUND	
MARSH OR ROCK PROFILE (To be noted as such)	
SPECIAL DITCH	
GRADE ELEVATION	
CULVERT (Profile View)	
UTILITIES	
ELECTRIC	
FIBER OPTIC	
GAS	
SANITARY SEWER	
STORM SEWER	
TELEPHONE	
WATER	
UTILITY PEDESTAL	
POWER POLE	
TELEPHONE POLE	



HORIZONTAL POSITIONS SHOWN ON THIS PLAN ARE WISCONSIN COORDINATE REFERENCE SYSTEM (WISCRS), DOUGLAS COUNTY, NAD83 (2012), IN U.S. SURVEY FEET. POSITIONS SHOWN ARE GRID COORDINATES, GRID BEARINGS, AND GRID DISTANCES. GRID DISTANCES ARE THE SAME AS GROUND DISTANCES.

ELEVATIONS ARE REFERENCED TO NAVD 88 (2012). GPS DERIVED ELEVATIONS ARE BASED ON GEOID 12A.

STATE OF WISCONSIN
 DEPARTMENT OF TRANSPORTATION
 PLAN OF PROPOSED IMPROVEMENT
 SUPERIOR - WENTWORTH
 BONG BRIDGE B-16-0038-0001 TO 0019
 USH 2
 DOUGLAS COUNTY

STATE PROJECT NUMBER
 8680-00-74

STATE PROJECT	FEDERAL PROJECT	
	PROJECT	CONTRACT
8680-00-74	WISC 2025488	1

ORIGINAL PLANS PREPARED BY

AYRES

JEFFREY A. ABRAMSON
 32337
 Eau Claire
 WI
 PROFESSIONAL ENGINEER

DATE: 3/20/2025
 (Professional Engineer Signature)

STATE OF WISCONSIN
 DEPARTMENT OF TRANSPORTATION

PREPARED BY: Surveyor _____ SURVEYOR
 Designer: AYRES ASSOCIATES INC/KL ENGINEERING
 Project Manager: PHIL KEPPERS
 Regional Examiner: REGIONAL EXAMINER
 Regional Supervisor: REGIONAL SUPERVISOR

APPROVED FOR THE DEPARTMENT: Jeffrey G. Olson
 Digitally signed by Jeffrey G. Olson
 Date: 2025.03.27 14:23:38 -05'00'

DATE: _____
 (Signature)

E

GENERAL NOTES

WORK CONSIST OF TRAFFIC CONTROL, CONTAINMENT ENCLOSURE ERECTION, ABRASIVE BLASTING SURFACE PREPARATION, APPLICATION OF NEW COATING SYSTEM FOR ALL STRUCTURAL STEEL, METHACRYLATE FLOOD SEAL AND PAVEMENT MARKING OF PROJECT BRIDGE.

ENCLOSURE AND MATERIALS SHALL BE MAINTAINED TAUT AND IN SUCH A MANNER THAT IT WILL NOT OBSTRUCT/DISTRACT THE VIEW OF OR SNAG ON ANY PASSING VEHICLES.

USH 2 WILL BE KEPT OPEN TO A MINIMUM OF ONE LANE OF TRAFFIC IN EACH DIRECTION AT ALL TIMES.

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

THE LOCATION OF EXISTING UTILITY FACILITIES LOCATED WITHIN THE PROJECT ARE NOT SHOWN ON THE PLANS.

UTILITIES CONTACTS

CONFIRMED AS PER 1077 PROCESS.
NO FACILITIES REPORTED WITHIN PROJECT LIMITS.



Dial **811** or (800)242-8511

www.DiggersHotline.com

DESIGN CONTACT

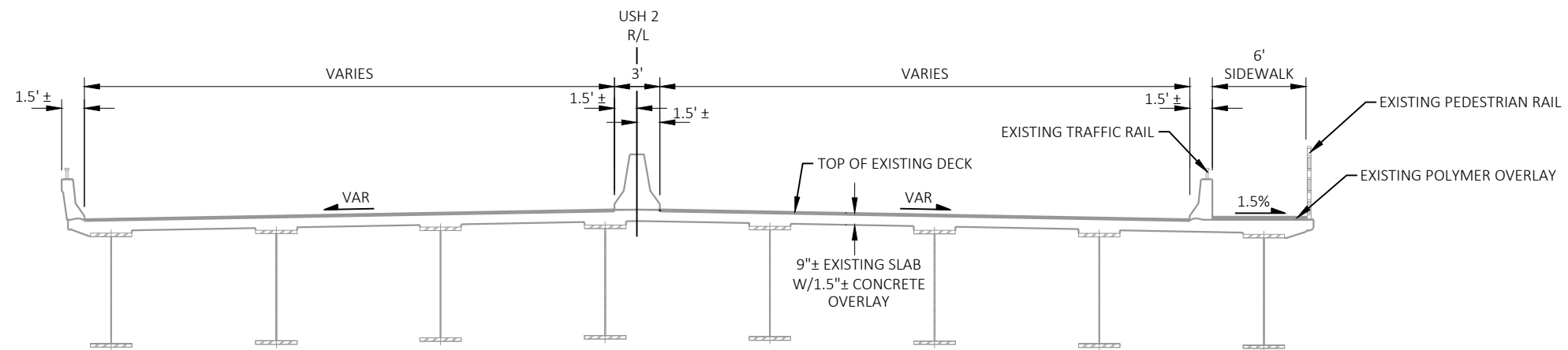
JEFF ABRAMSON, PE
AYRES ASSOCIATES INC
3433 OAKWOOD HILLS PARKWAY
EAU CLAIRE, WI 54701
PHONE: 715-834-3161
EMAIL: abramsonj@ayresassociates.com

DESIGN CONTACT

JAKE JOYAL, PE
KL ENGINEERING
5400 KING JAMES WAY, SUITE 200
MADISON, WI 53719
PHONE: 608-310-3831
EMAIL: jake.joyal@klengineering.com
(LIGHTING PLANS, STRUCTURAL PLANS FOR LIGHT BASES, DETOUR ROUTES, AND ASSOCIATED TRAFFIC CONTROL)

WISCONSIN DNR LIAISON

AMY CRONK
NORTHERN REGION HQ
810 WEST MAPLE STREET
SPOONER, WI 54801
PHONE: 715-520-3976
EMAIL: amy.cronk@wisconsin.gov

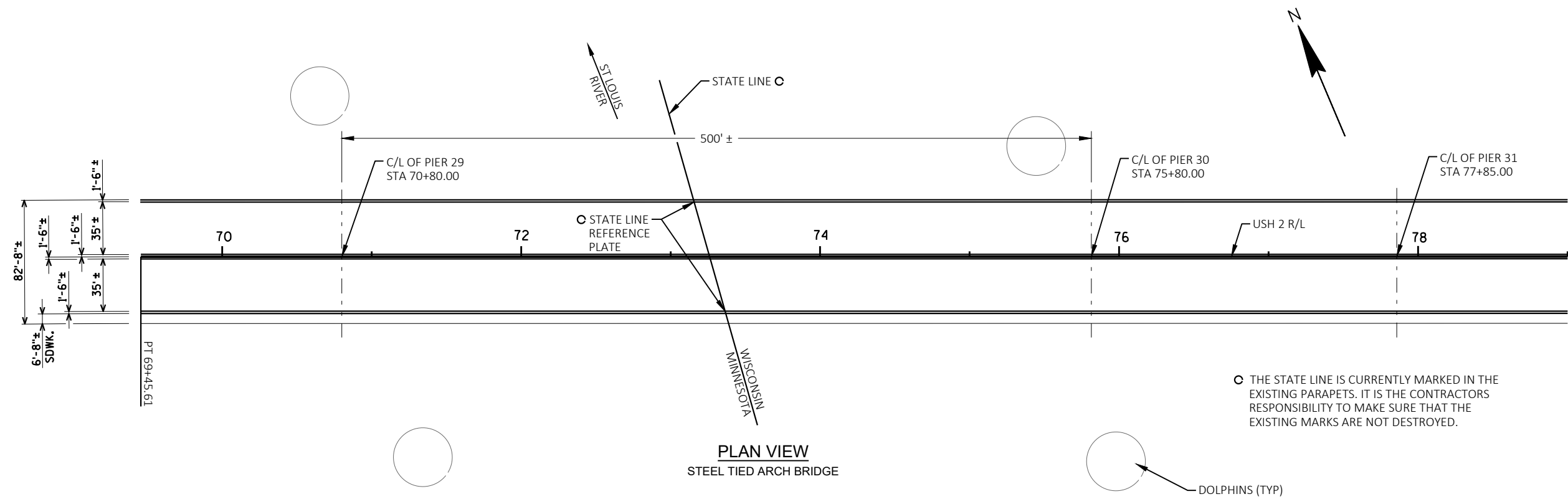


EXISTING TYPICAL SECTION

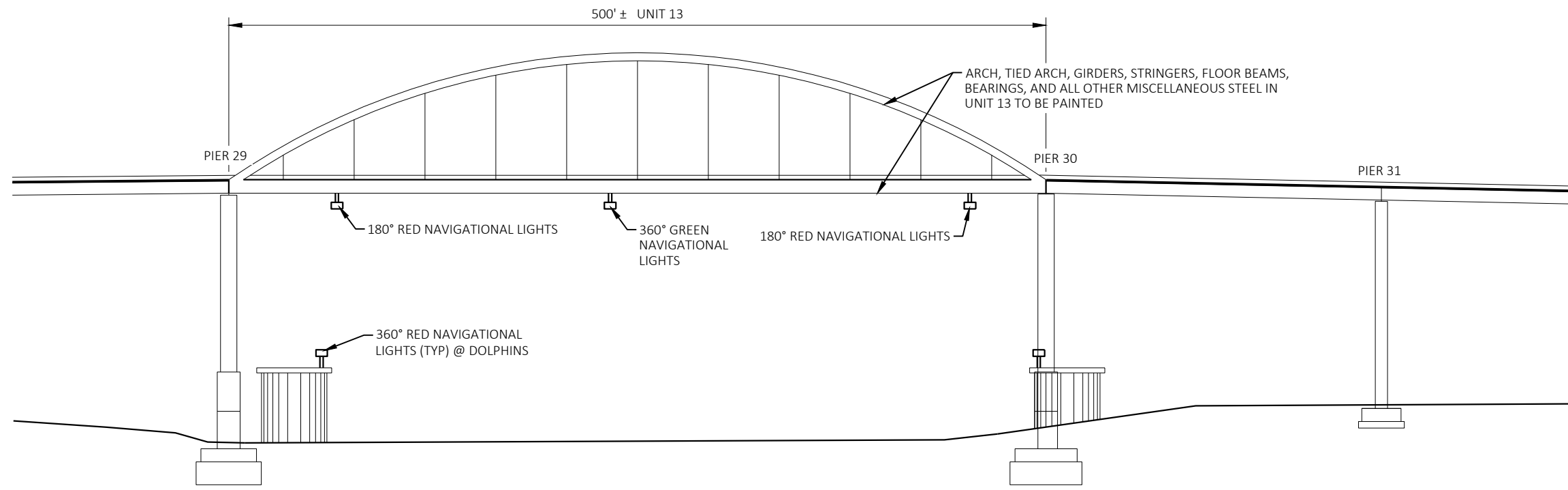
STA 18+52.92 - STA 101+72.08
(STRUCTURE B-16-0038)



PROJECT NO: 8680-00-74	HWY: USH 2	COUNTY: DOUGLAS	PROJECT OVERVIEW	SHEET E
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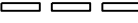




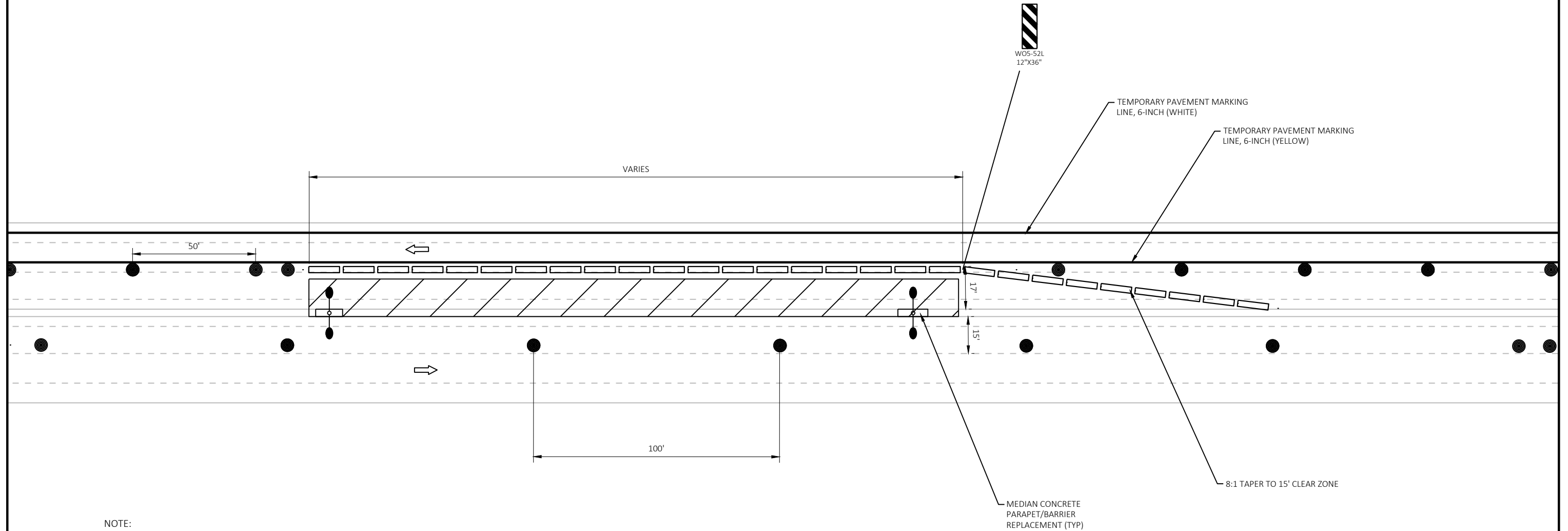
PLAN VIEW
STEEL TIED ARCH BRIDGE



BRIDGE PAINTING DETAIL
STA 70+80 - STA 75+80

LEGEND

-  TRAFFIC CONTROL DRUM
-  CONCRETE BARRIER TEMPORARY PRECAST
-  WORK AREA
-  DIRECTION OF TRAFFIC

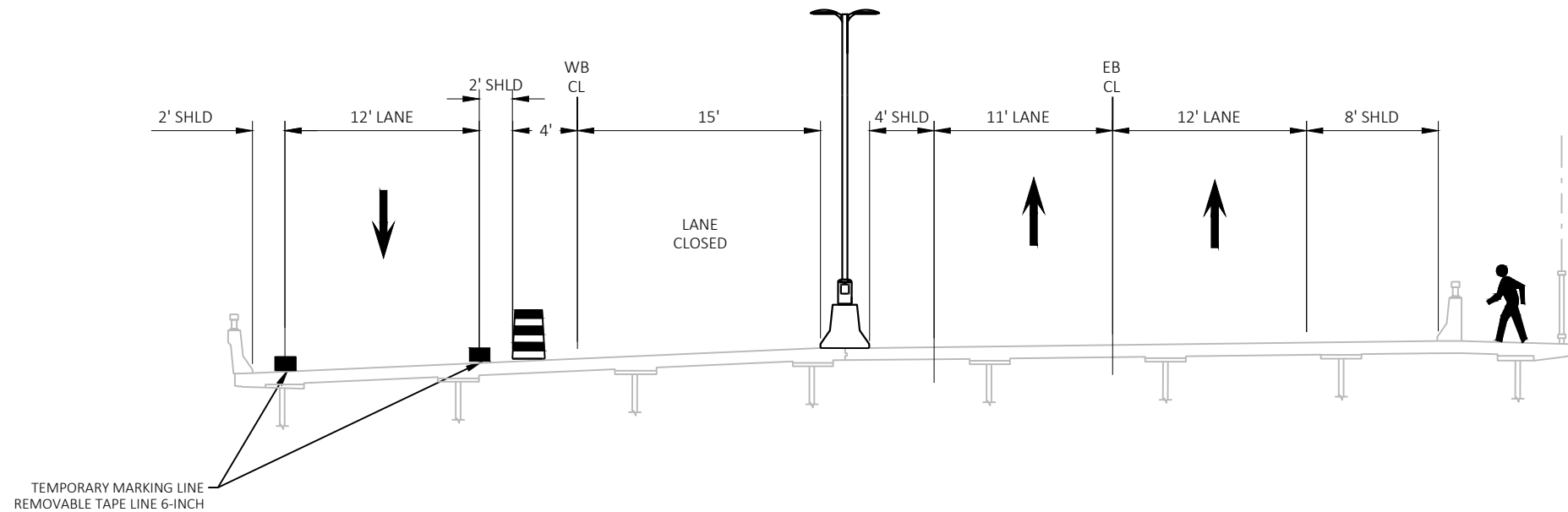


NOTE:

- CONCRETE BARRIER TEMPORARY PRECAST REQUIRED FOR USH 2 WB WHEN REPLACING EXISTING MEDIAN CONCRETE PARAPET/BARRIER FOR LIGHTING WORK.
- CONTRACTOR MAY INSTALL CONCRETE BARRIER TEMPORARY PRECAST FOR ENTIRE LENGTH OF WORK ZONE OR MOVE AND REINSTALL AT EACH LIGHT REPLACEMENT LOCATION.
- CONCRETE BARRIER TEMPORARY PRECAST NOT REQUIRED AT LOCATION OF LUMINARIES REPLACEMENT ONLY (STA 70+80 - 101+72).
- ALL EQUIPMENT AND MATERIALS SHALL BE STORED BEHIND CONCRETE BARRIER TEMPORARY PRECAST.

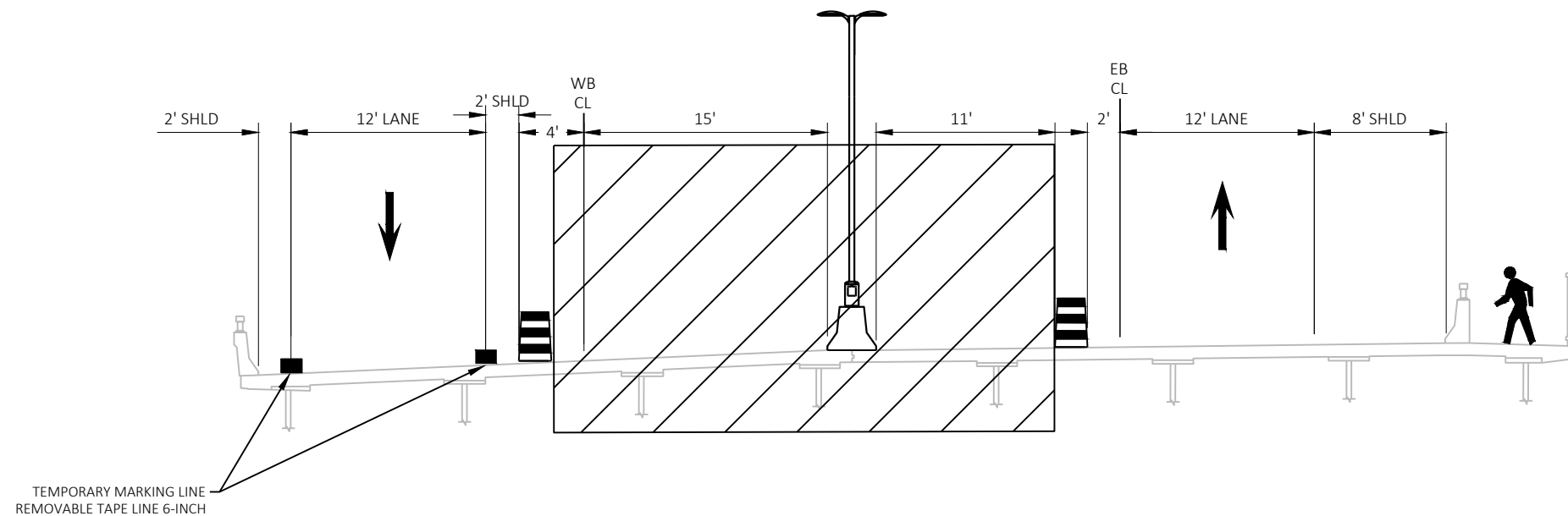
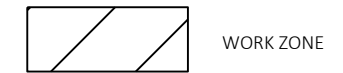
CONCRETE BARRIER TEMPORARY PRECAST LAYOUT

STA 25+00 - 70+80 (STAGE 1B)
 STA 101+72 - 134+50 (STAGE 1A)



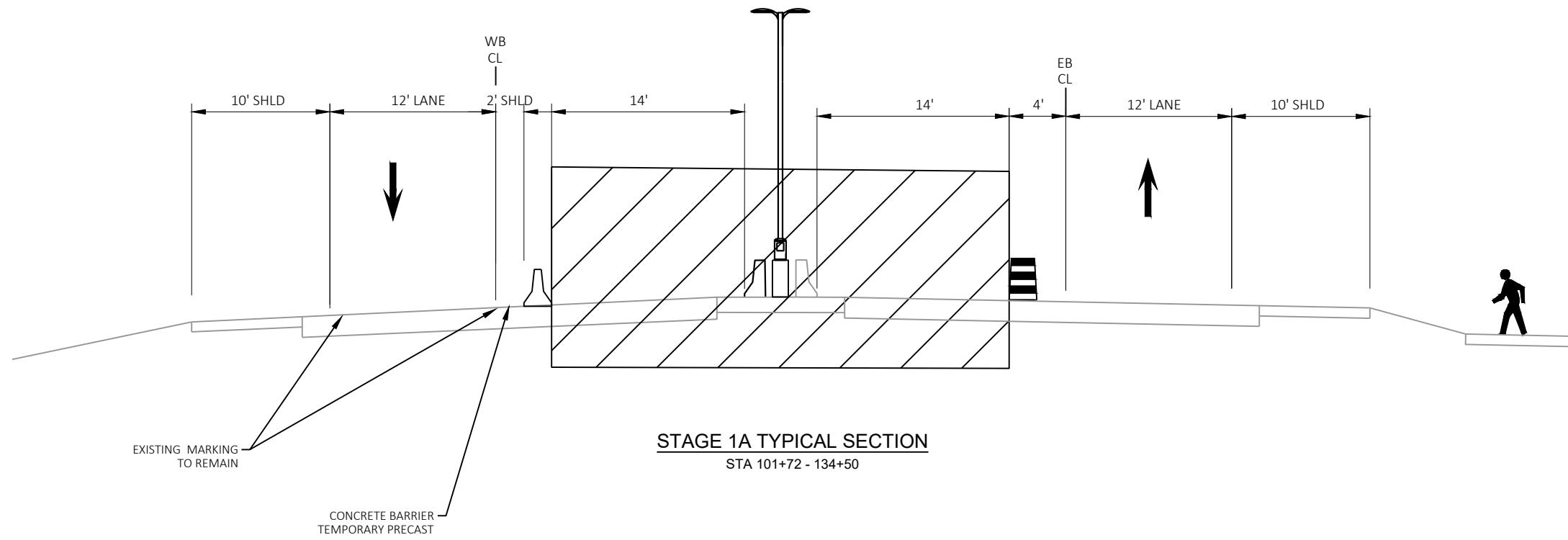
STAGE 1A TYPICAL SECTION

STA 24+00 - 70+80
(B-16-38 UNITS 1-13)

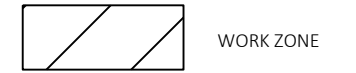


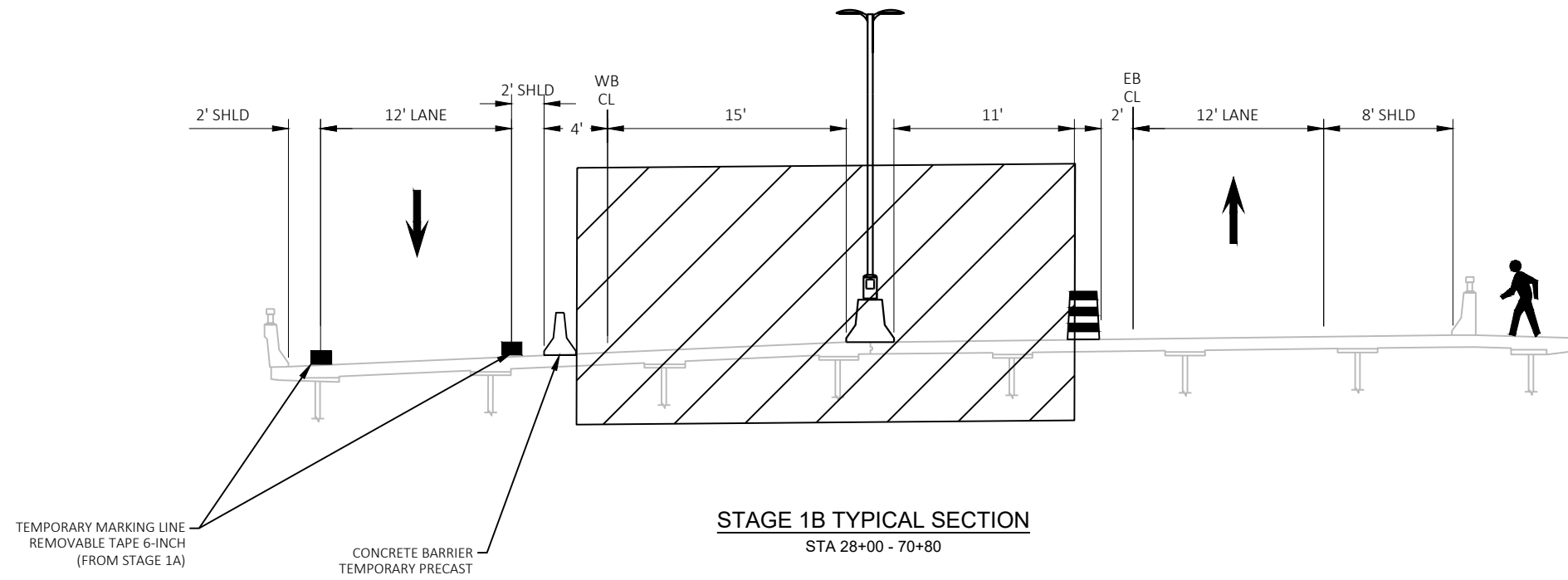
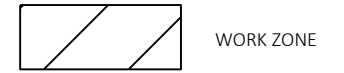
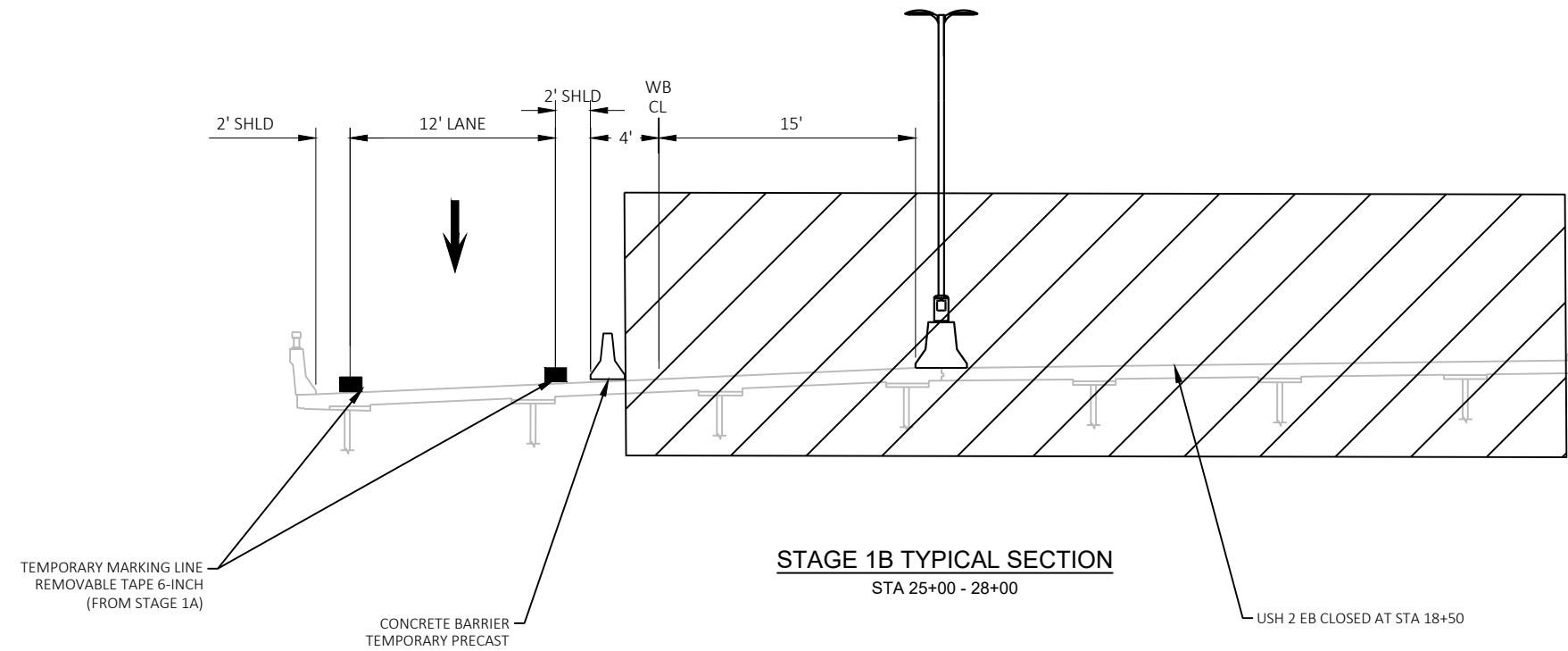
STAGE 1A TYPICAL SECTION

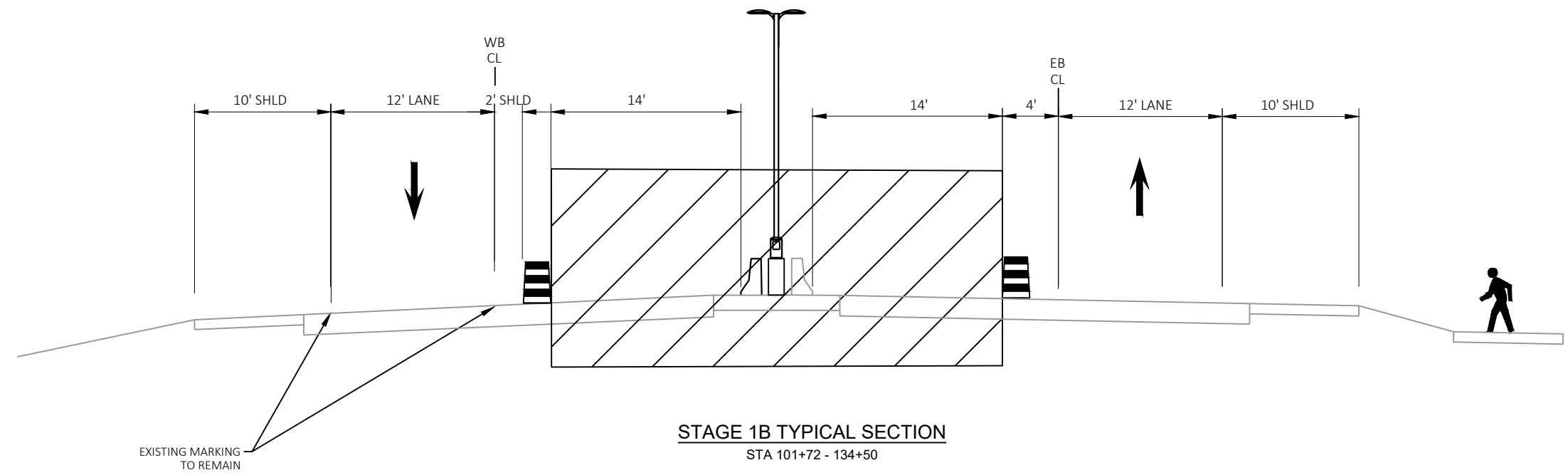
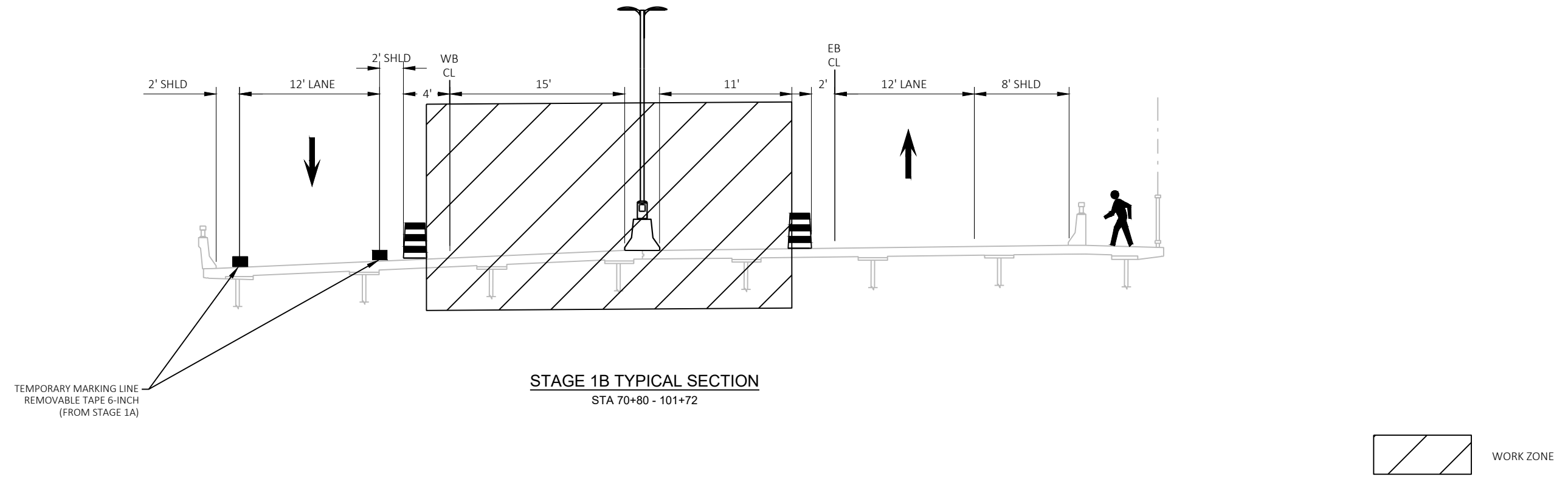
STA 70+80 - 101+72

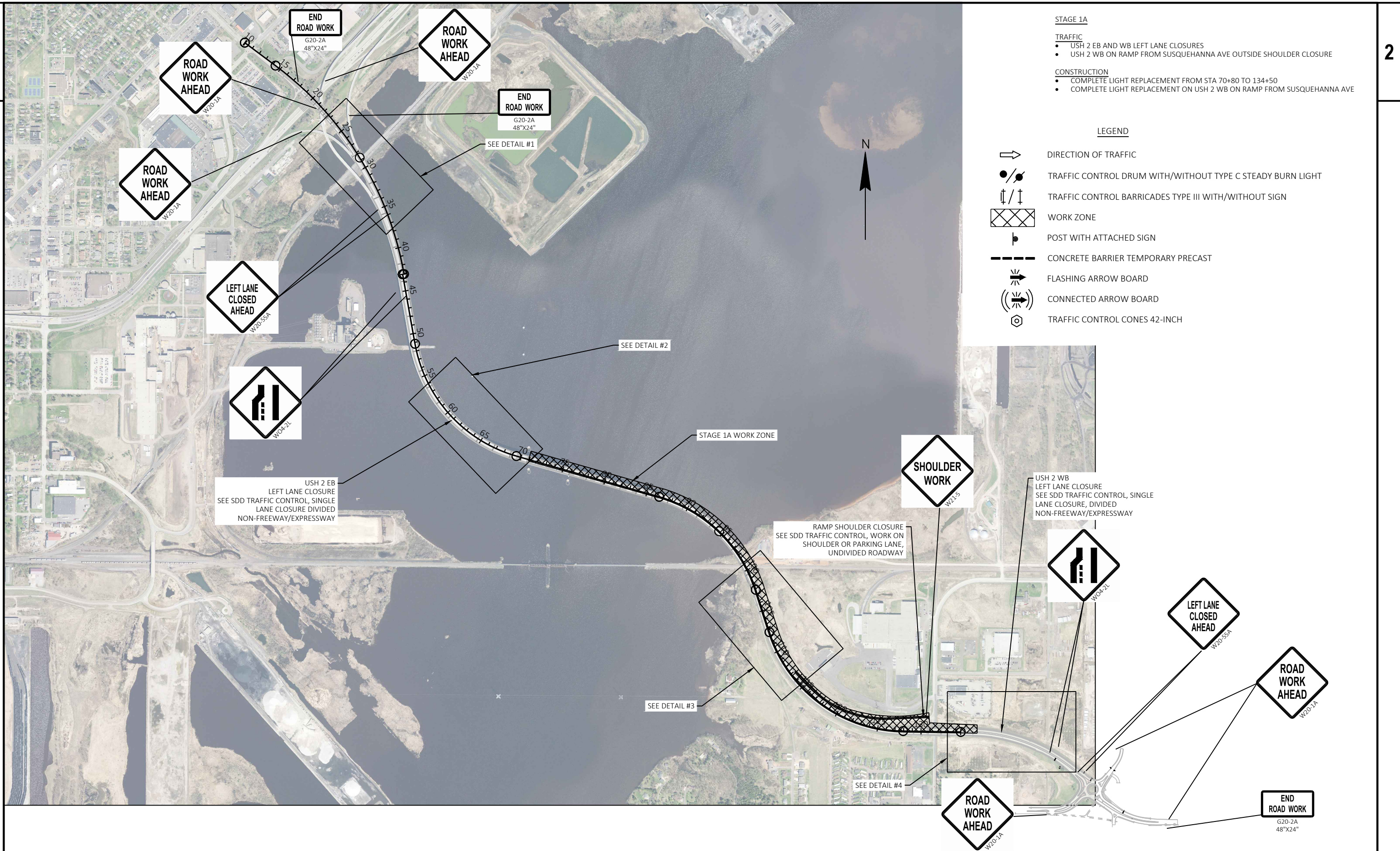


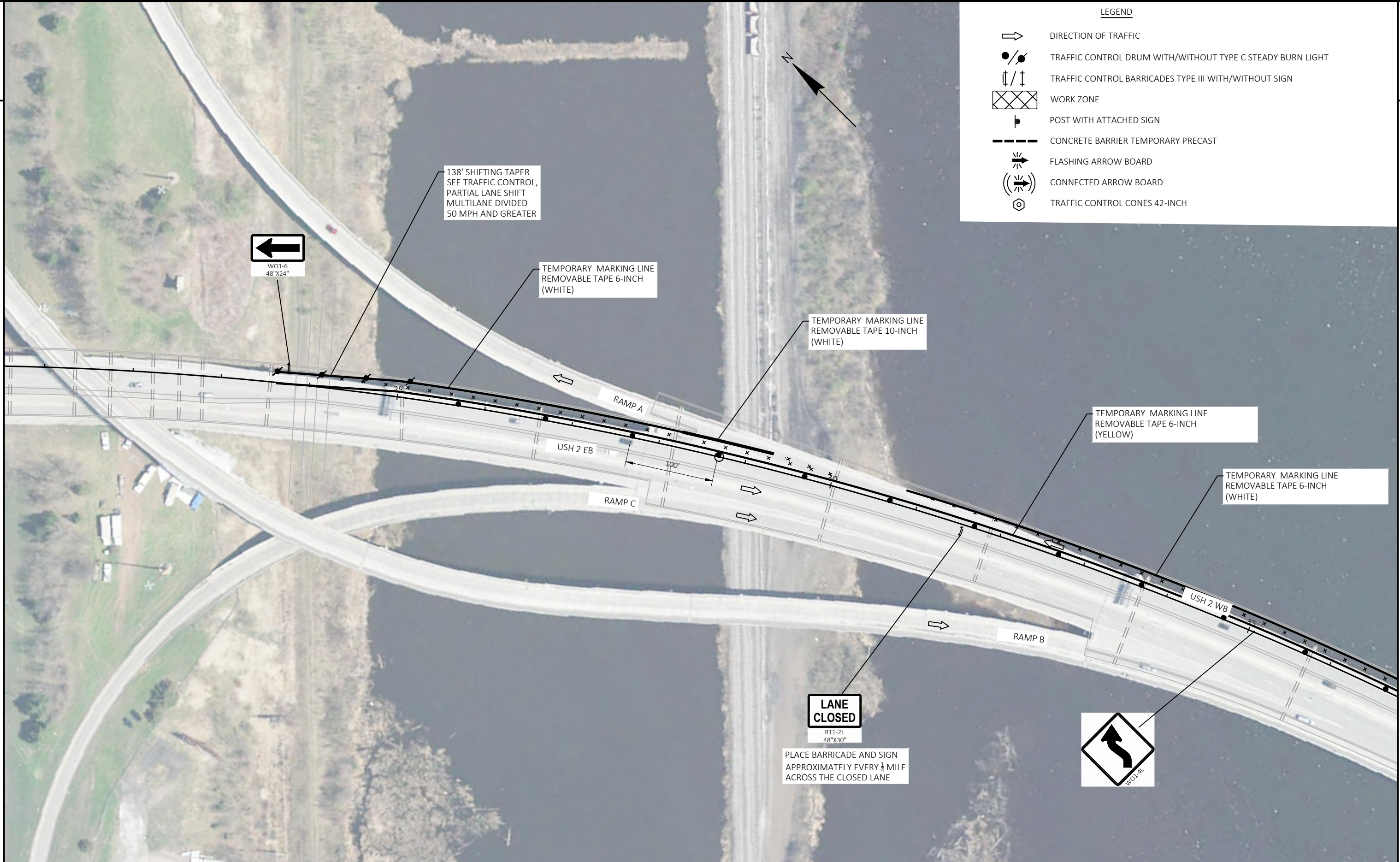
STAGE 1A TYPICAL SECTION
 STA 101+72 - 134+50











LEGEND

	DIRECTION OF TRAFFIC
	TRAFFIC CONTROL DRUM WITH/WITHOUT TYPE C STEADY BURN LIGHT
	TRAFFIC CONTROL BARRICADES TYPE III WITH/WITHOUT SIGN
	WORK ZONE
	POST WITH ATTACHED SIGN
	CONCRETE BARRIER TEMPORARY PRECAST
	FLASHING ARROW BOARD
	CONNECTED ARROW BOARD
	TRAFFIC CONTROL CONES 42-INCH

W01-6
48"x24"

138' SHIFTING TAPER
SEE TRAFFIC CONTROL,
PARTIAL LANE SHIFT
MULTILANE DIVIDED
50 MPH AND GREATER

TEMPORARY MARKING LINE
REMOVABLE TAPE 6-INCH
(WHITE)

TEMPORARY MARKING LINE
REMOVABLE TAPE 10-INCH
(WHITE)

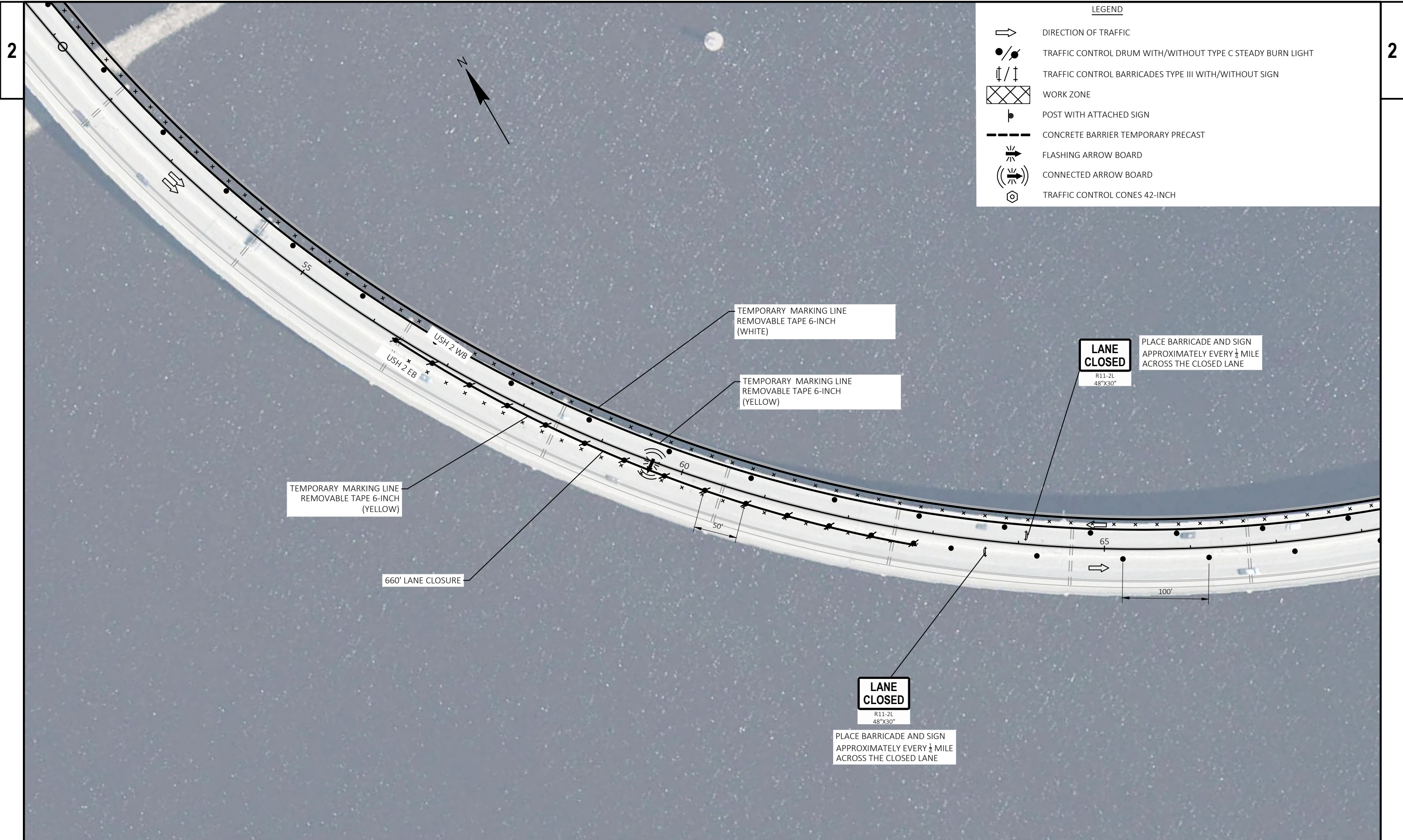
TEMPORARY MARKING LINE
REMOVABLE TAPE 6-INCH
(YELLOW)

TEMPORARY MARKING LINE
REMOVABLE TAPE 6-INCH
(WHITE)










**LANE
CLOSED**
R11-2L
48"x30"

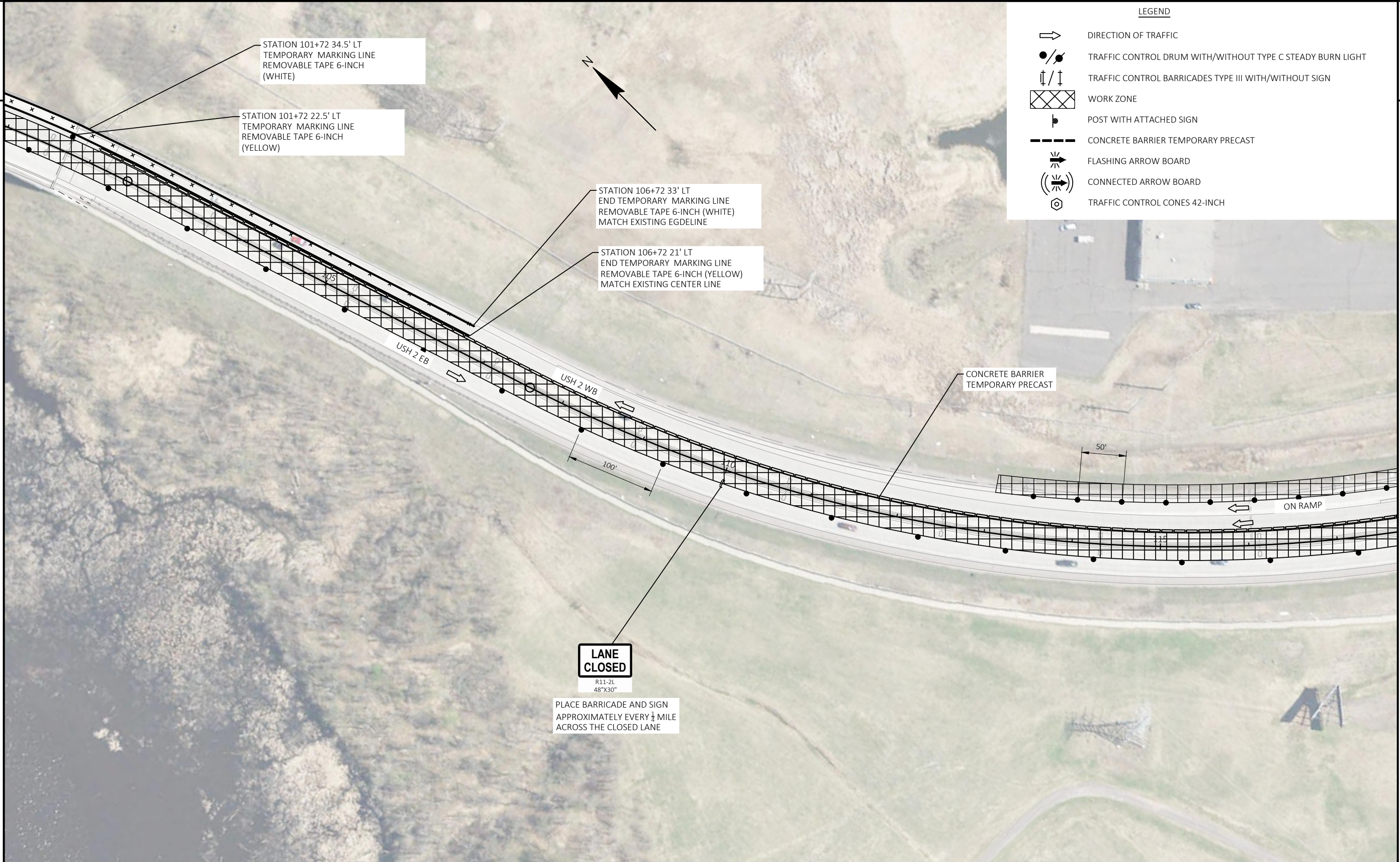
PLACE BARRICADE AND SIGN
APPROXIMATELY EVERY 1/4 MILE
ACROSS THE CLOSED LANE





LEGEND










-  DIRECTION OF TRAFFIC
-  TRAFFIC CONTROL DRUM WITH/WITHOUT TYPE C STEADY BURN LIGHT
-  TRAFFIC CONTROL BARRICADES TYPE III WITH/WITHOUT SIGN
-  WORK ZONE
-  POST WITH ATTACHED SIGN
-  CONCRETE BARRIER TEMPORARY PRECAST
-  FLASHING ARROW BOARD
-  CONNECTED ARROW BOARD
-  TRAFFIC CONTROL CONES 42-INCH



SUSQUEHANNA AVE



LEGEND

-  DIRECTION OF TRAFFIC
-  TRAFFIC CONTROL DRUM WITH/WITHOUT TYPE C STEADY BURN LIGHT
-  TRAFFIC CONTROL BARRICADES TYPE III WITH/WITHOUT SIGN
-  WORK ZONE
-  POST WITH ATTACHED SIGN
-  CONCRETE BARRIER TEMPORARY PRECAST
-  FLASHING ARROW BOARD
-  CONNECTED ARROW BOARD
-  TRAFFIC CONTROL CONES 42-INCH

INSTALL CONCRETE PRECAST TEMPORARY BARRIER AS NEED FOR MEDIAN BARRIER REPLACEMENT. SEE CONSTRUCTION DETAIL

TEMPORARY MARKING LINE REMOVABLE TAPE 6-INCH (YELLOW)

320' TAPER LENGTH

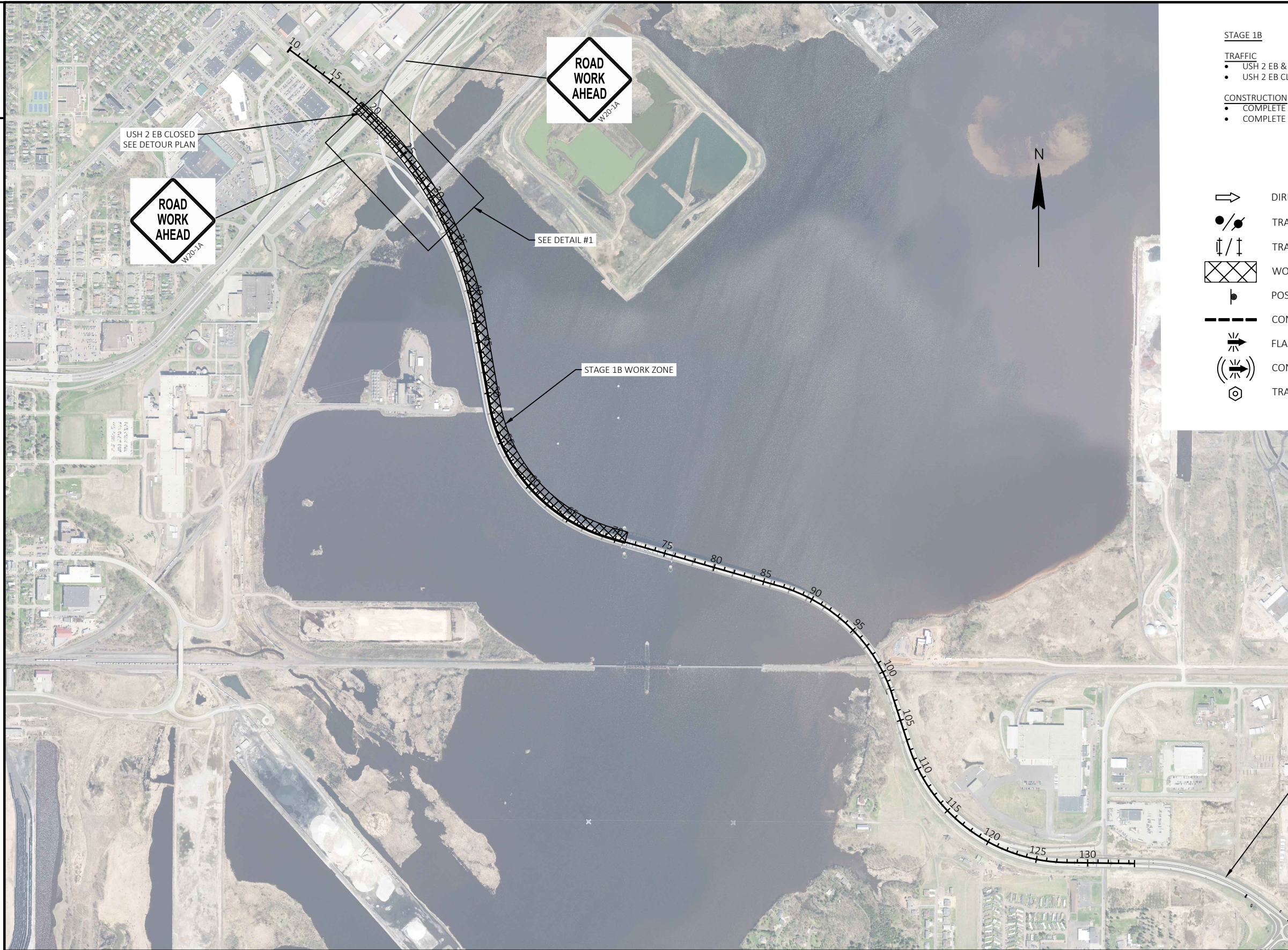
CONCRETE BARRIER TEMPORARY PRECAST (8:1 FLARE RATE TO 15' CLEAR ZONE)

W05-52L
12"X36"

LANE CLOSED

R11-2L
48"X30"

PLACE BARRICADE AND SIGN APPROXIMATELY EVERY 1/4 MILE ACROSS THE CLOSED LANE

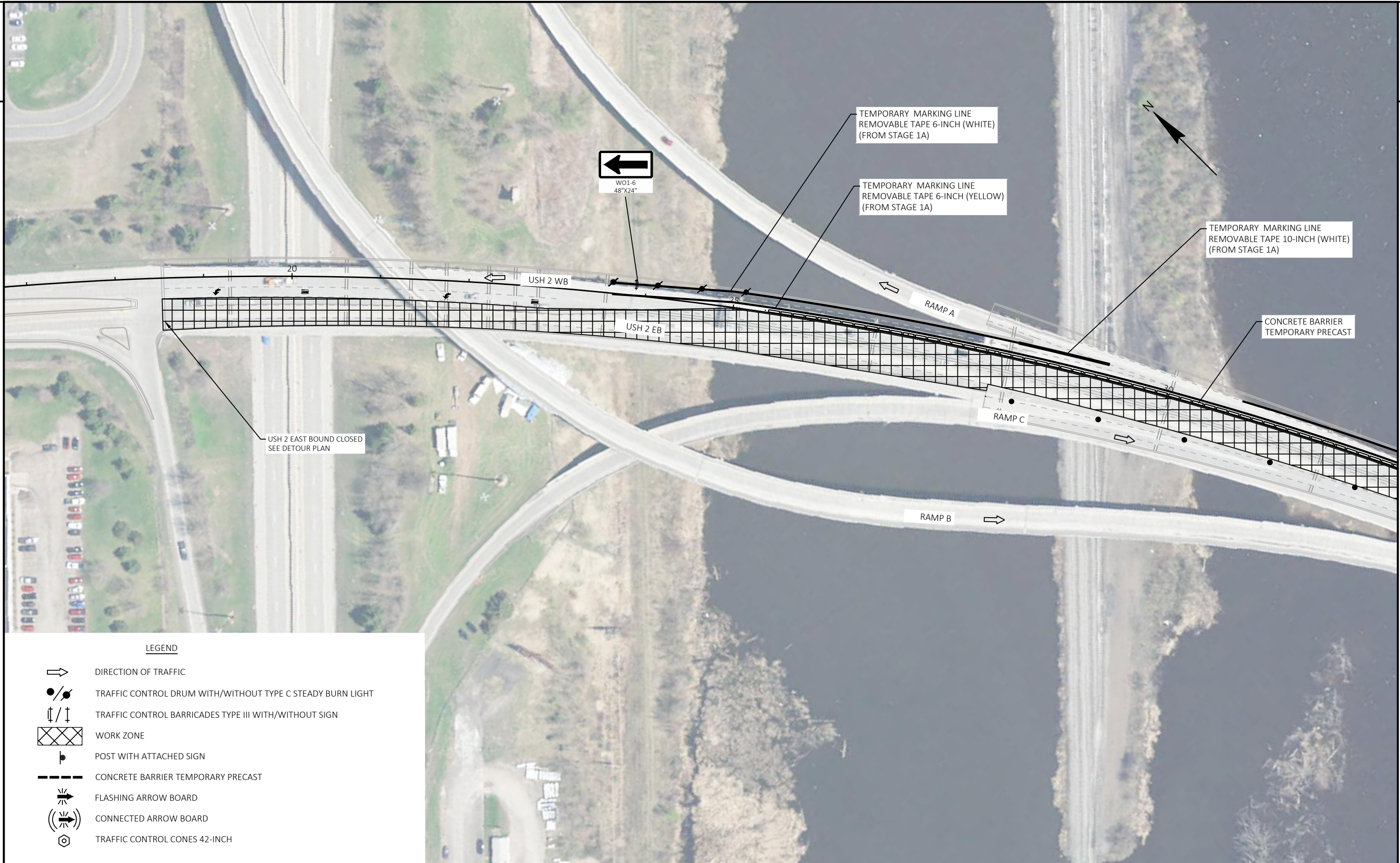


- STAGE 1B**
- TRAFFIC**
- USH 2 EB & WB LEFT LANE CLOSURES
 - USH 2 EB CLOSED AND DETOURED (SEE DETOUR PLANS)
- CONSTRUCTION**
- COMPLETE LIGHT REPLACEMENT FROM STA 25+00 TO 70+80
 - COMPLETE MMA FLOOD SEAL FROM STA 18+50 TO 28+00 EB

LEGEND

- ➔ DIRECTION OF TRAFFIC
- /● TRAFFIC CONTROL DRUM WITH/WITHOUT TYPE C STEADY BURN LIGHT
- ⬆/⬆ TRAFFIC CONTROL BARRICADES TYPE III WITH/WITHOUT SIGN
- ▣ WORK ZONE
- ⌵ POST WITH ATTACHED SIGN
- CONCRETE BARRIER TEMPORARY PRECAST
- ⚡ FLASHING ARROW BOARD
- ⚡(⚡) CONNECTED ARROW BOARD
- ⦿ TRAFFIC CONTROL CONES 42-INCH











USH 2 WB
LEFT LANE CLOSURE
(FROM STAGE 1A)



LEGEND

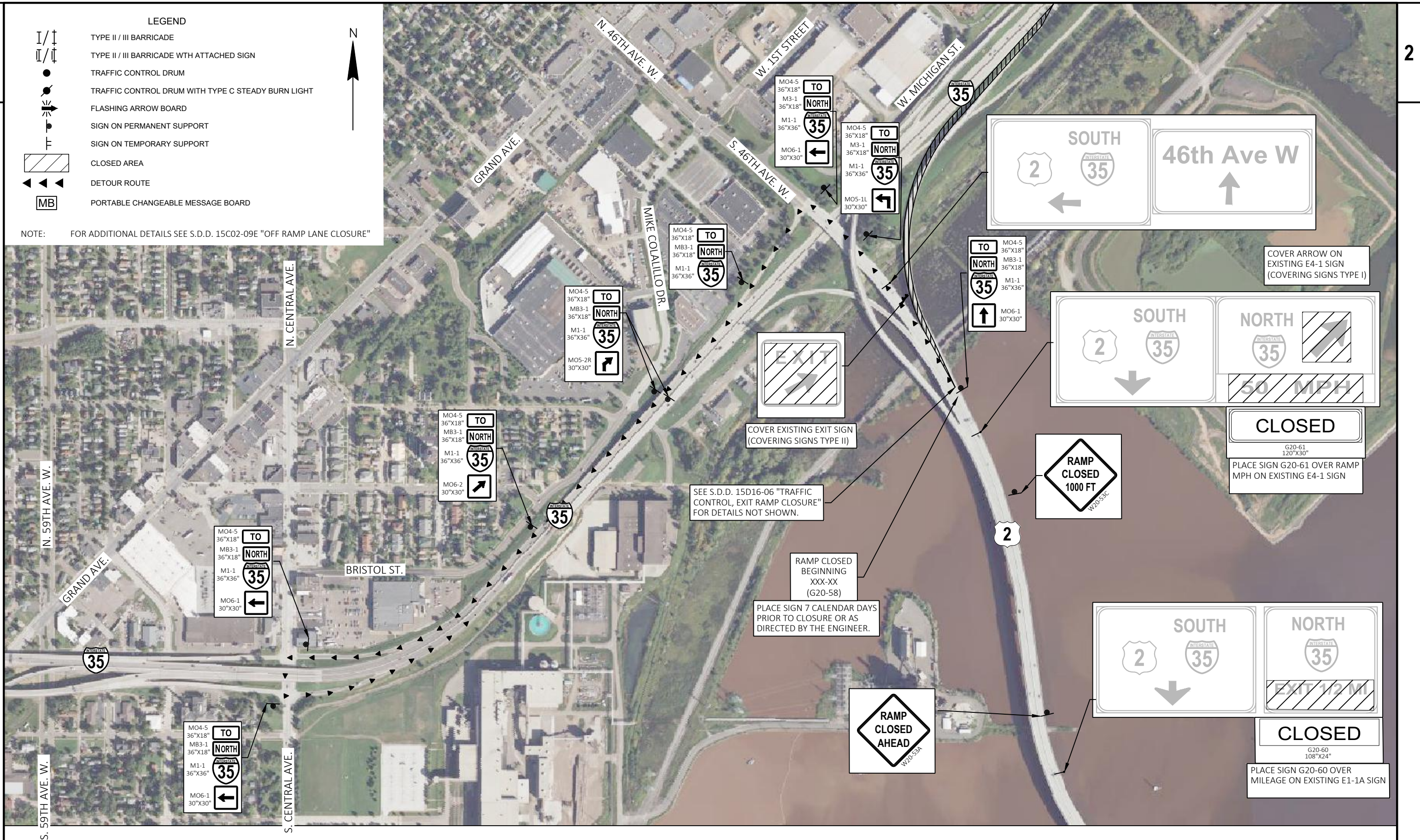
- DIRECTION OF TRAFFIC
- TRAFFIC CONTROL DRUM WITH/WITHOUT TYPE C STEADY BURN LIGHT
- TRAFFIC CONTROL BARRICADES TYPE III WITH/WITHOUT SIGN
- WORK ZONE
- POST WITH ATTACHED SIGN
- CONCRETE BARRIER TEMPORARY PRECAST
- FLASHING ARROW BOARD
- CONNECTED ARROW BOARD
- TRAFFIC CONTROL CONES 42-INCH

LEGEND

-  TYPE II / III BARRICADE
-  TYPE II / III BARRICADE WITH ATTACHED SIGN
-  TRAFFIC CONTROL DRUM
-  TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
-  FLASHING ARROW BOARD
-  SIGN ON PERMANENT SUPPORT
-  SIGN ON TEMPORARY SUPPORT
-  CLOSED AREA
-  DETOUR ROUTE
-  PORTABLE CHANGEABLE MESSAGE BOARD



NOTE: FOR ADDITIONAL DETAILS SEE S.D.D. 15C02-09E "OFF RAMP LANE CLOSURE"





LEGEND

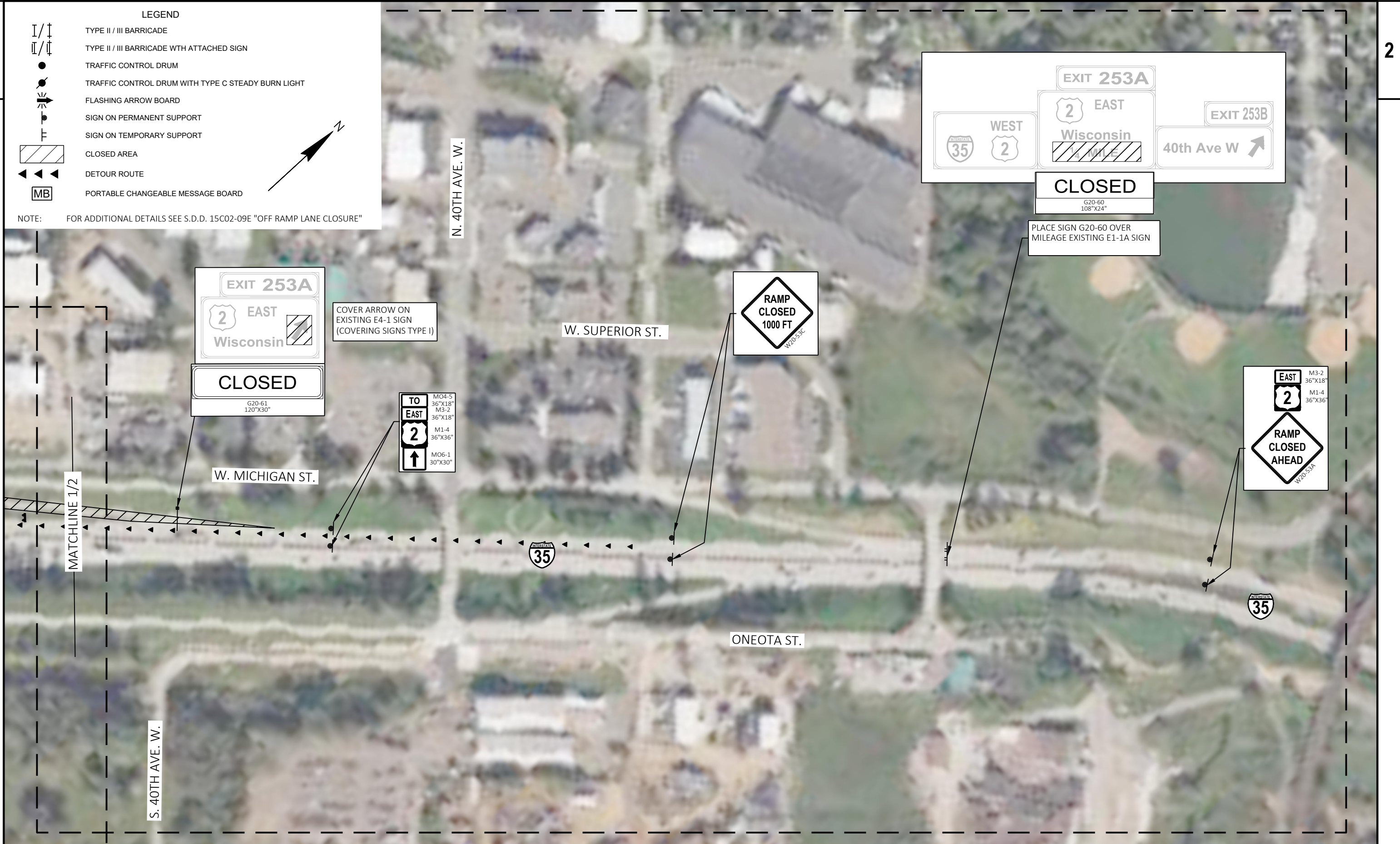
- TYPE II / III BARRICADE
- TYPE II / III BARRICADE WITH ATTACHED SIGN
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
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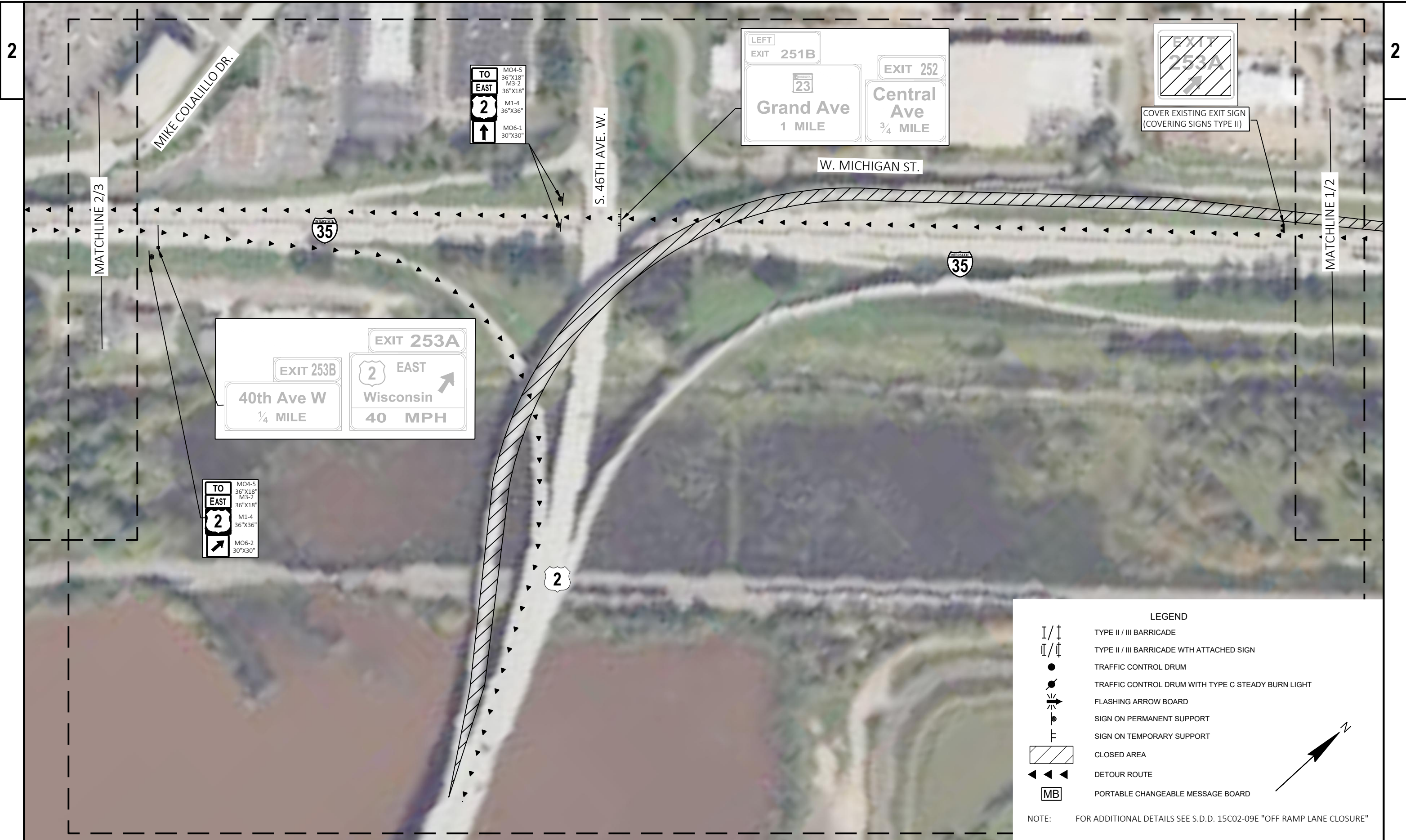
NOTE: FOR ADDITIONAL DETAILS SEE S.D.D. 15C02-09E "OFF RAMP LANE CLOSURE"

LEGEND

- TYPE II / III BARRICADE
- TYPE II / III BARRICADE WITH ATTACHED SIGN
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- FLASHING ARROW BOARD
- SIGN ON PERMANENT SUPPORT
- SIGN ON TEMPORARY SUPPORT
- CLOSED AREA
- DETOUR ROUTE
- PORTABLE CHANGEABLE MESSAGE BOARD

NOTE: FOR ADDITIONAL DETAILS SEE S.D.D. 15C02-09E "OFF RAMP LANE CLOSURE"





LEGEND

I/I	TYPE II / III BARRICADE
I/I	TYPE II / III BARRICADE WITH ATTACHED SIGN
●	TRAFFIC CONTROL DRUM
●	TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
↔	FLASHING ARROW BOARD
F	SIGN ON PERMANENT SUPPORT
F	SIGN ON TEMPORARY SUPPORT
▨	CLOSED AREA
◀◀◀	DETOUR ROUTE
MB	PORTABLE CHANGEABLE MESSAGE BOARD

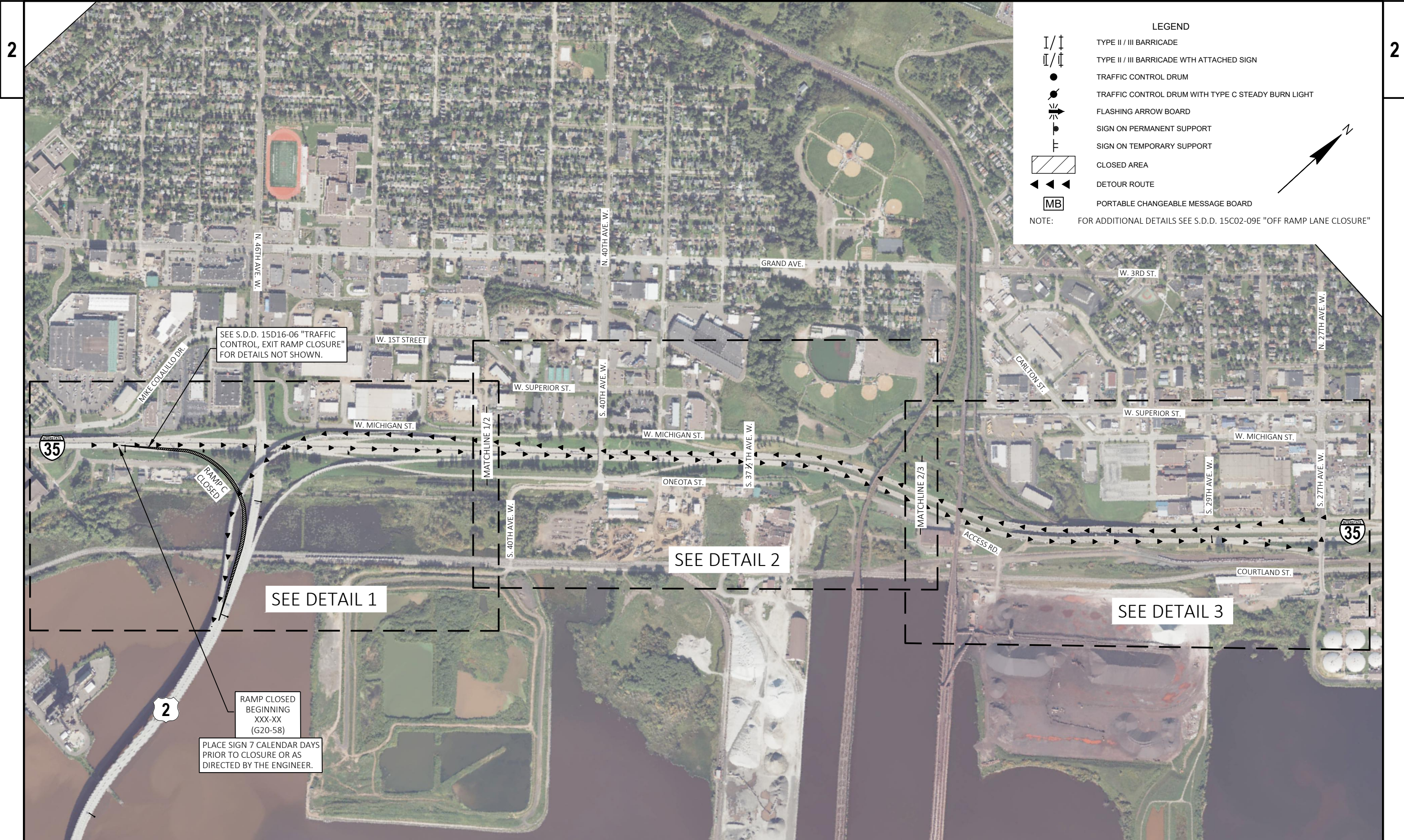
NOTE: FOR ADDITIONAL DETAILS SEE S.D.D. 15C02-09E "OFF RAMP LANE CLOSURE"



LEGEND

- TYPE II / III BARRICADE
- TYPE II / III BARRICADE WITH ATTACHED SIGN
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- FLASHING ARROW BOARD
- SIGN ON PERMANENT SUPPORT
- SIGN ON TEMPORARY SUPPORT
- CLOSED AREA
- DETOUR ROUTE
- PORTABLE CHANGEABLE MESSAGE BOARD

NOTE: FOR ADDITIONAL DETAILS SEE S.D.D. 15C02-09E "OFF RAMP LANE CLOSURE"



LEGEND

	TYPE II / III BARRICADE
	TYPE II / III BARRICADE WITH ATTACHED SIGN
	TRAFFIC CONTROL DRUM
	TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
	FLASHING ARROW BOARD
	SIGN ON PERMANENT SUPPORT
	SIGN ON TEMPORARY SUPPORT
	CLOSED AREA
	DETOUR ROUTE
	PORTABLE CHANGEABLE MESSAGE BOARD

NOTE: FOR ADDITIONAL DETAILS SEE S.D.D. 15C02-09E "OFF RAMP LANE CLOSURE"

SEE S.D.D. 15D16-06 "TRAFFIC CONTROL, EXIT RAMP CLOSURE" FOR DETAILS NOT SHOWN.

RAMP CLOSED BEGINNING XXX-XX (G20-58)
PLACE SIGN 7 CALENDAR DAYS PRIOR TO CLOSURE OR AS DIRECTED BY THE ENGINEER.

SEE DETAIL 1

SEE DETAIL 2

SEE DETAIL 3



PROJECT NO: 8680-00-74

HWY: USH 2

COUNTY: DOUGLAS

TRAFFIC CONTROL - RAMP C CLOSURE - DETAIL 1

SHEET

E



EXIT 253A

WEST 35 2 EAST

Wisconsin 1/4 MILE

EXIT 253B

40th Ave W

MO4-5 36"x18"

M3-2 36"x18"

M1-4 36"x36"

TO EAST 2

LEGEND

- I/I TYPE II / III BARRICADE
- I/I TYPE II / III BARRICADE WITH ATTACHED SIGN
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- ↔ FLASHING ARROW BOARD
- ⊥ SIGN ON PERMANENT SUPPORT
- ⊥ SIGN ON TEMPORARY SUPPORT
- ▨ CLOSED AREA
- ◀◀◀ DETOUR ROUTE
- MB PORTABLE CHANGEABLE MESSAGE BOARD

NOTE: FOR ADDITIONAL DETAILS SEE S.D.D. 15C02-09E "OFF RAMP LANE CLOSURE"



LEGEND

- TYPE II / III BARRICADE
- TYPE II / III BARRICADE WITH ATTACHED SIGN
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- FLASHING ARROW BOARD
- SIGN ON PERMANENT SUPPORT
- SIGN ON TEMPORARY SUPPORT
- CLOSED AREA
- DETOUR ROUTE
- PORTABLE CHANGEABLE MESSAGE BOARD

NOTE: FOR ADDITIONAL DETAILS SEE S.D.D. 15C02-09E "OFF RAMP LANE CLOSURE"



PHASE 1
ROAD
CLOSED
BEGINS

PHASE 2
XXXX DAY
XX/XX

SEE DETAIL 1

SEE DETAIL 2

LEGEND

- TYPE II / III BARRICADE
- TYPE II / III BARRICADE WTH ATTACHED SIGN
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- FLASHING ARROW BOARD
- SIGN ON PERMANENT SUPPORT
- SIGN ON TEMPORARY SUPPORT
- CLOSED AREA
- DETOUR ROUTE
- PORTABLE CHANGEABLE MESSAGE BOARD

NOTE: FOR ADDITIONAL DETAILS SEE S.D.D. 15C02-09C "DETAIL FOR SIGNING MAINLINE CLOSURE"

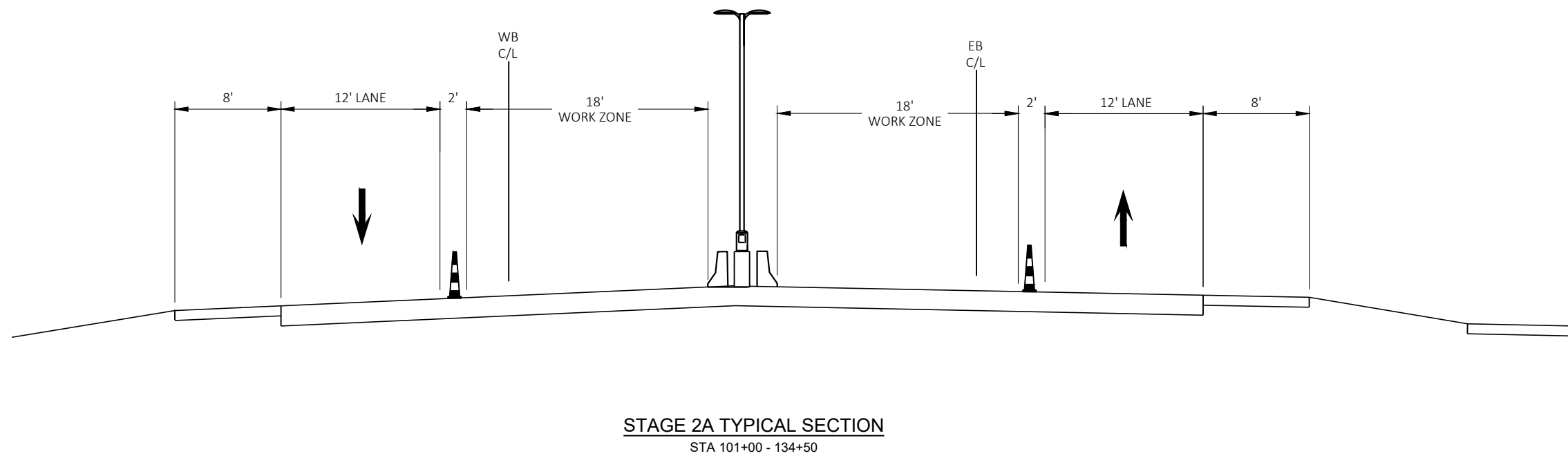
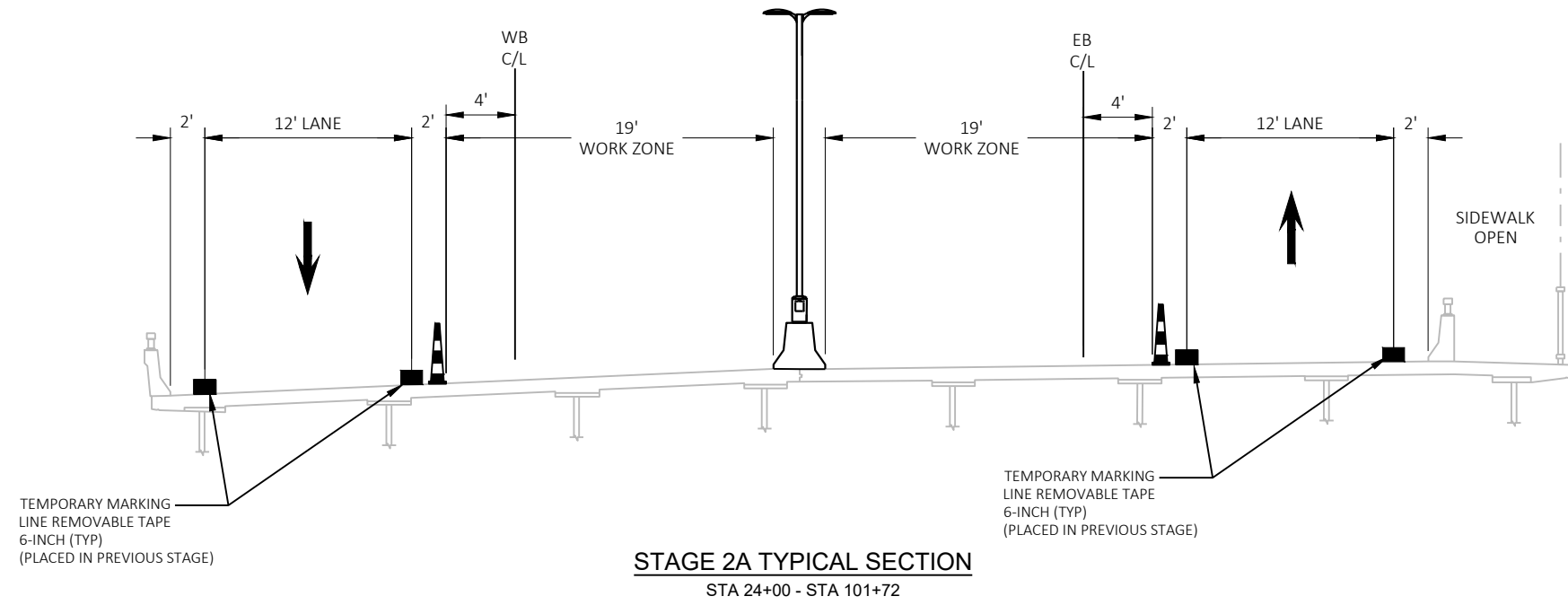


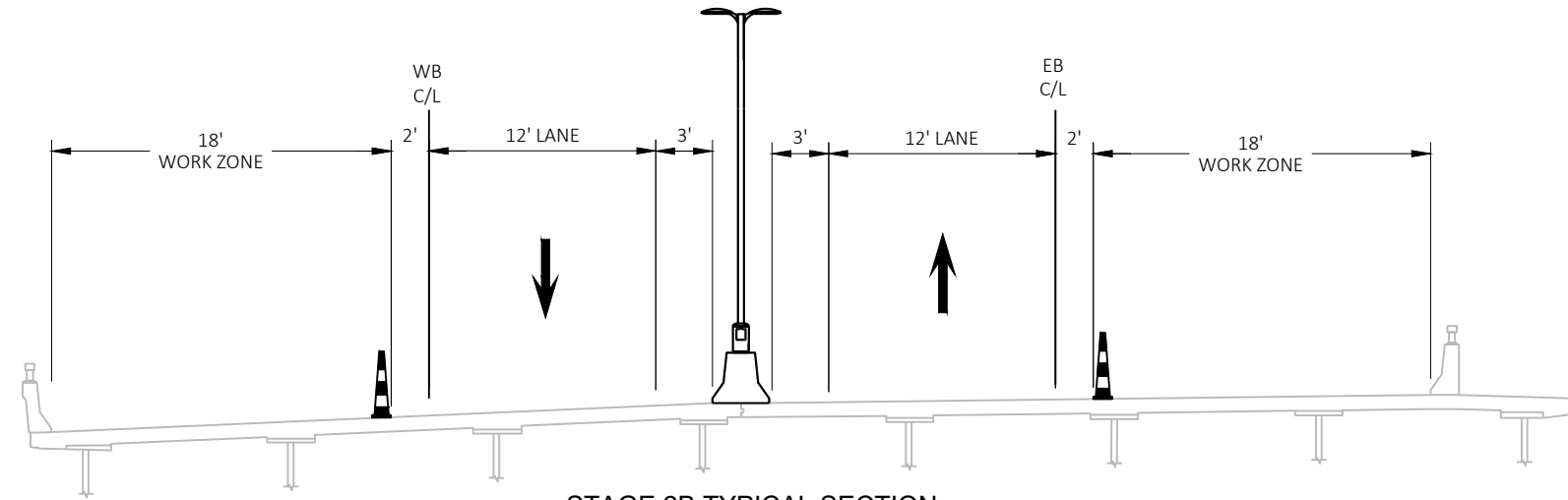
LEGEND

- I/I TYPE II / III BARRICADE
- I/I TYPE II / III BARRICADE WITH ATTACHED SIGN
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- FLASHING ARROW BOARD
- SIGN ON PERMANENT SUPPORT
- SIGN ON TEMPORARY SUPPORT
- ▨ CLOSED AREA
- ←←← DETOUR ROUTE
- MB PORTABLE CHANGEABLE MESSAGE BOARD

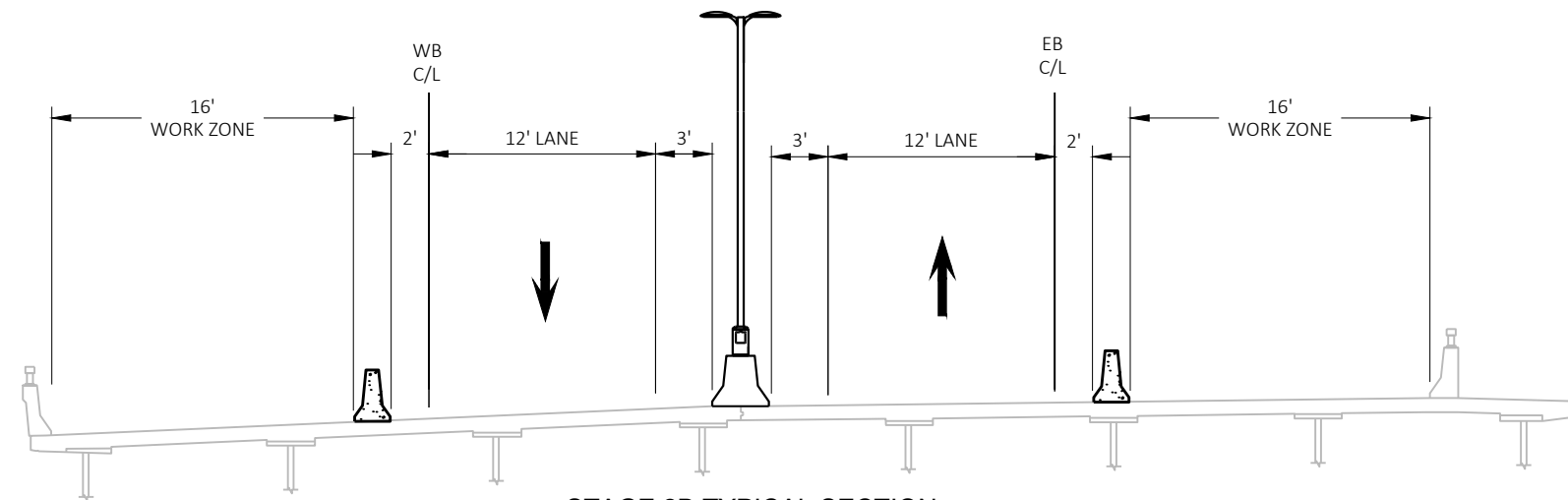
NOTE: FOR ADDITIONAL DETAILS SEE S.D.D. 15C02-09C "DETAIL FOR SIGNING MAINLINE CLOSURE"



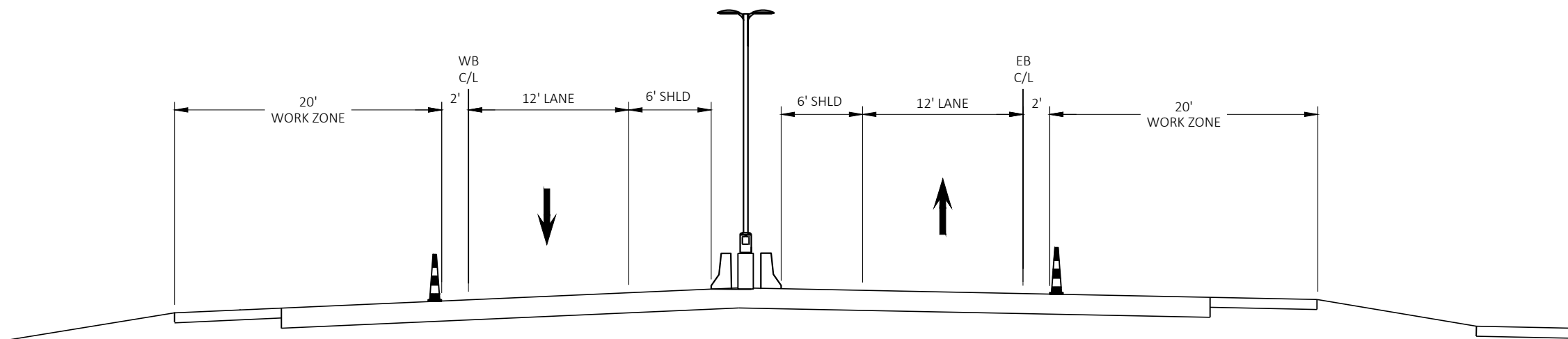




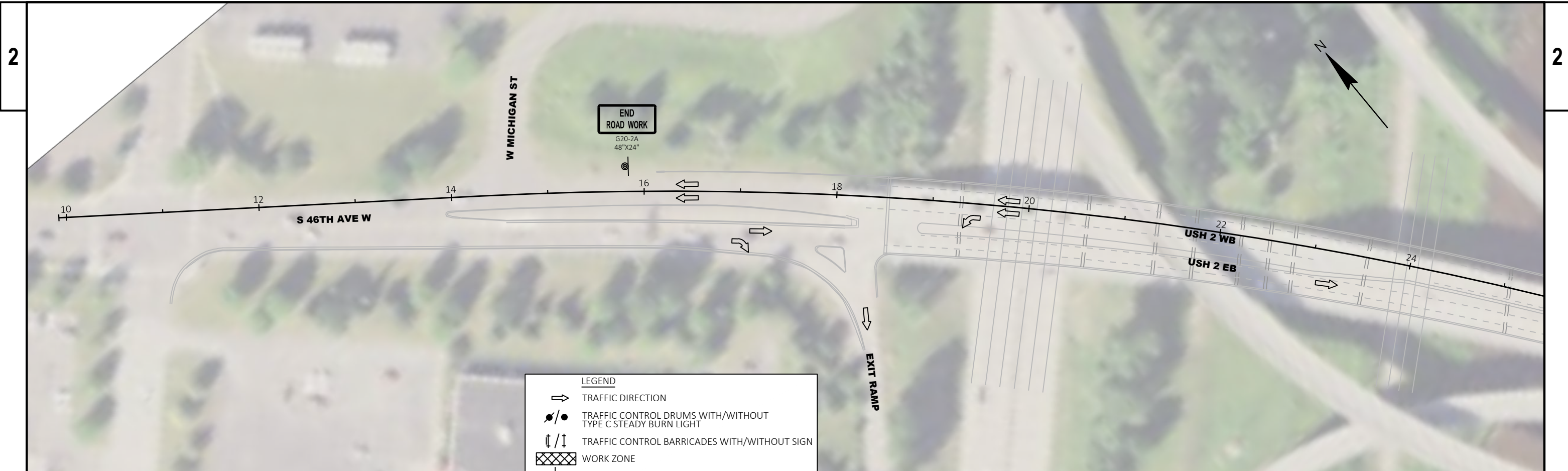
STAGE 2B TYPICAL SECTION
STA 24+00 - STA 102+00



STAGE 2B TYPICAL SECTION
STA 70+00 - STA 76+00
(STRUCTURE PAINTING DURING STAGE 2B)



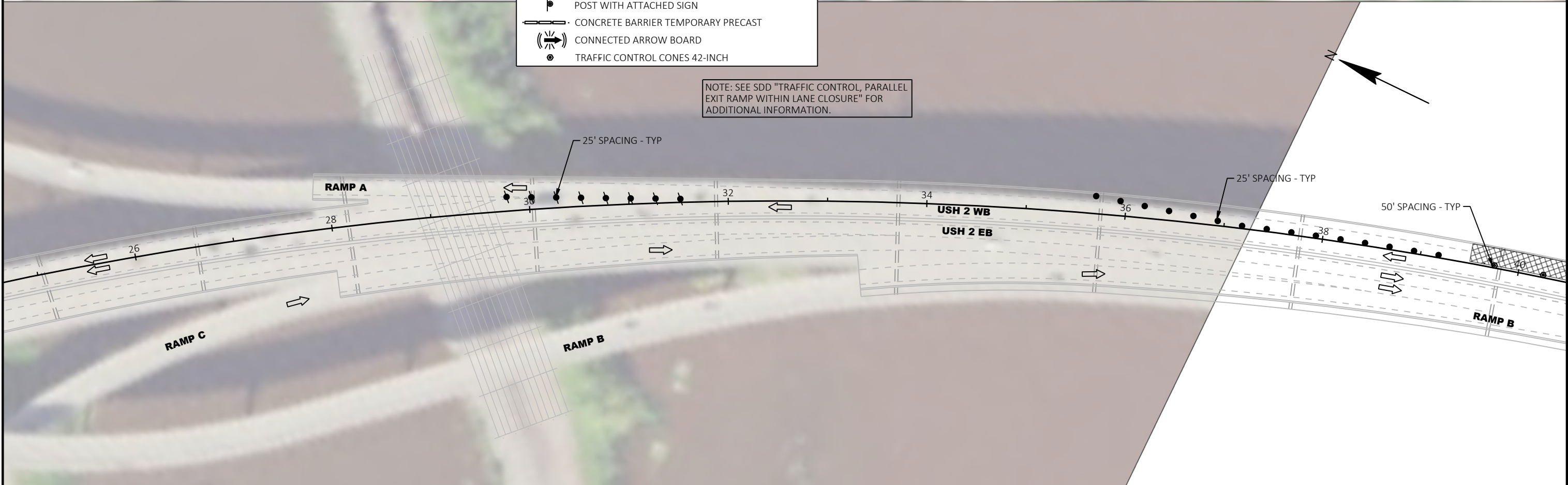
STAGE 2B TYPICAL SECTION
STA 101+72 - STA 134+50

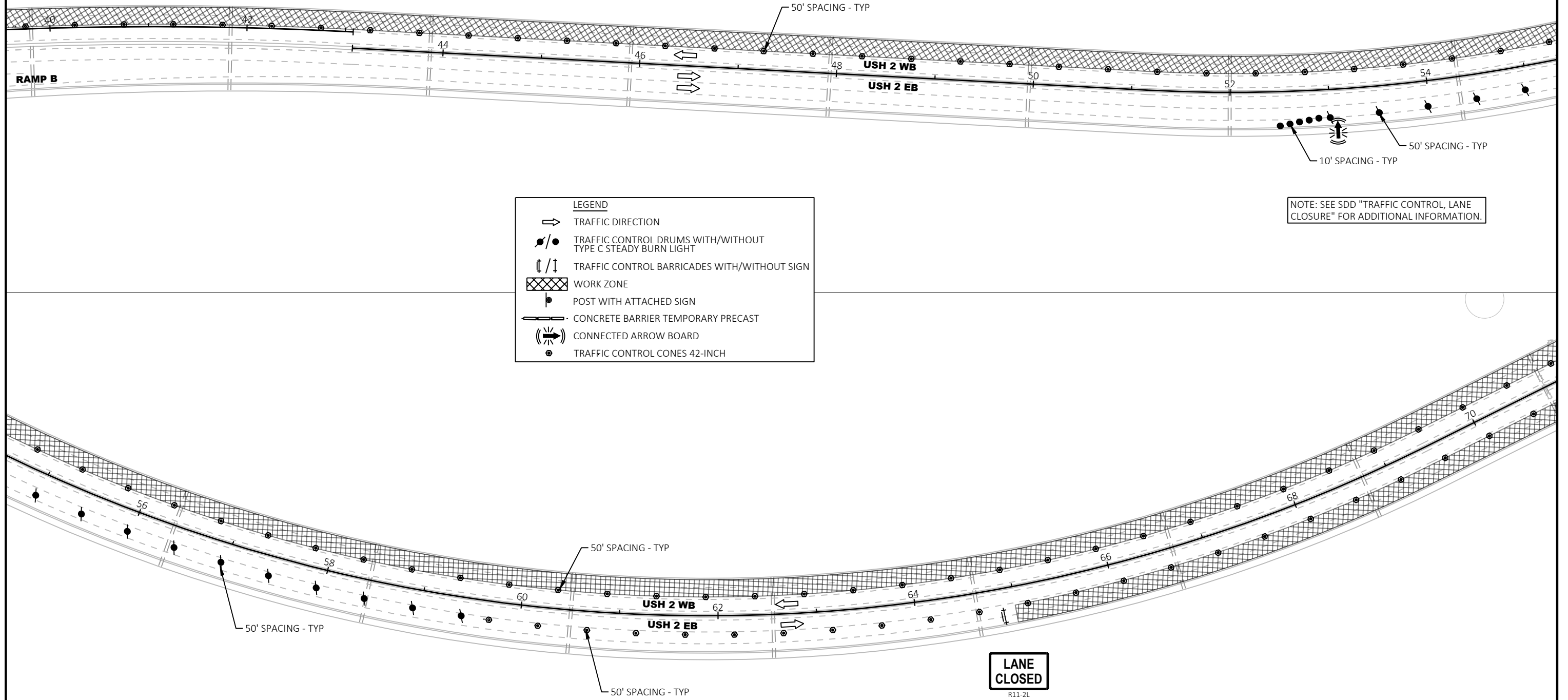


LEGEND

- TRAFFIC DIRECTION
- TRAFFIC CONTROL DRUMS WITH/WITHOUT TYPE C STEADY BURN LIGHT
- TRAFFIC CONTROL BARRICADES WITH/WITHOUT SIGN
- WORK ZONE
- POST WITH ATTACHED SIGN
- CONCRETE BARRIER TEMPORARY PRECAST
- CONNECTED ARROW BOARD
- TRAFFIC CONTROL CONES 42-INCH

NOTE: SEE SDD "TRAFFIC CONTROL, PARALLEL EXIT RAMP WITHIN LANE CLOSURE" FOR ADDITIONAL INFORMATION.





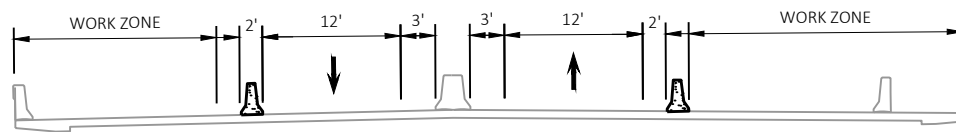
LEGEND

- TRAFFIC DIRECTION
- TRAFFIC CONTROL DRUMS WITH/WITHOUT TYPE C STEADY BURN LIGHT
- TRAFFIC CONTROL BARRICADES WITH/WITHOUT SIGN
- WORK ZONE
- POST WITH ATTACHED SIGN
- CONCRETE BARRIER TEMPORARY PRECAST
- CONNECTED ARROW BOARD
- TRAFFIC CONTROL CONES 42-INCH

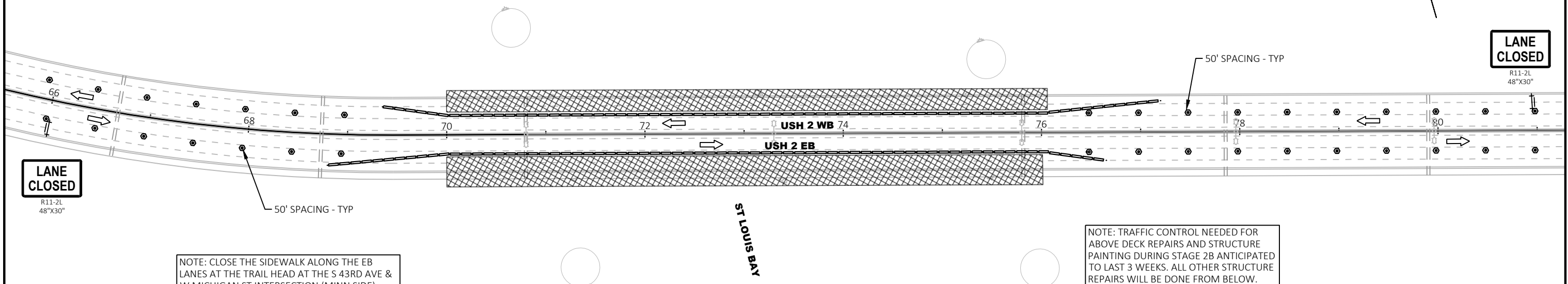
LANE CLOSED
R11-2L
48"x30"

LEGEND

- ➔ TRAFFIC DIRECTION
- ⬇/⬆ TRAFFIC CONTROL BARRICADES WITH/WITHOUT SIGN
- ▨ WORK ZONE
- ▬ CONCRETE BARRIER TEMPORARY PRECAST
- TRAFFIC CONTROL CONES 42-INCH



TRAFFIC CONTROL TYPICAL SECTION

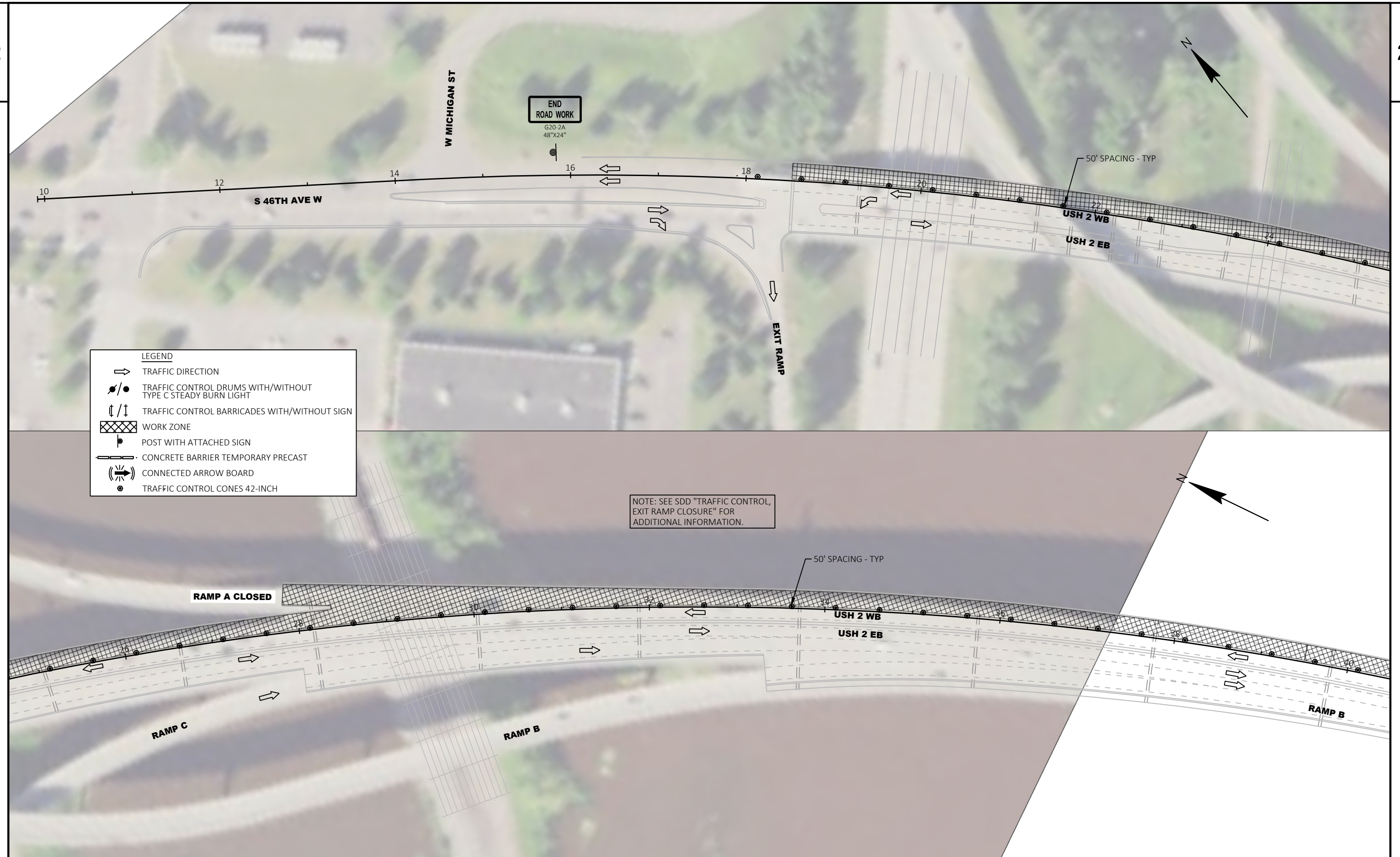


LANE CLOSED

LANE CLOSED

NOTE: CLOSE THE SIDEWALK ALONG THE EB LANES AT THE TRAIL HEAD AT THE S 43RD AVE & W MICHIGAN ST INTERSECTION (MINN SIDE) AND AT TRAIL HEAD AT SUSQUEHANNA AVE (WIS SIDE) ("SIDEWALK CLOSED" SIGN). ANTICIPATED CLOSURE TO LAST APPROX 3 WEEKS.

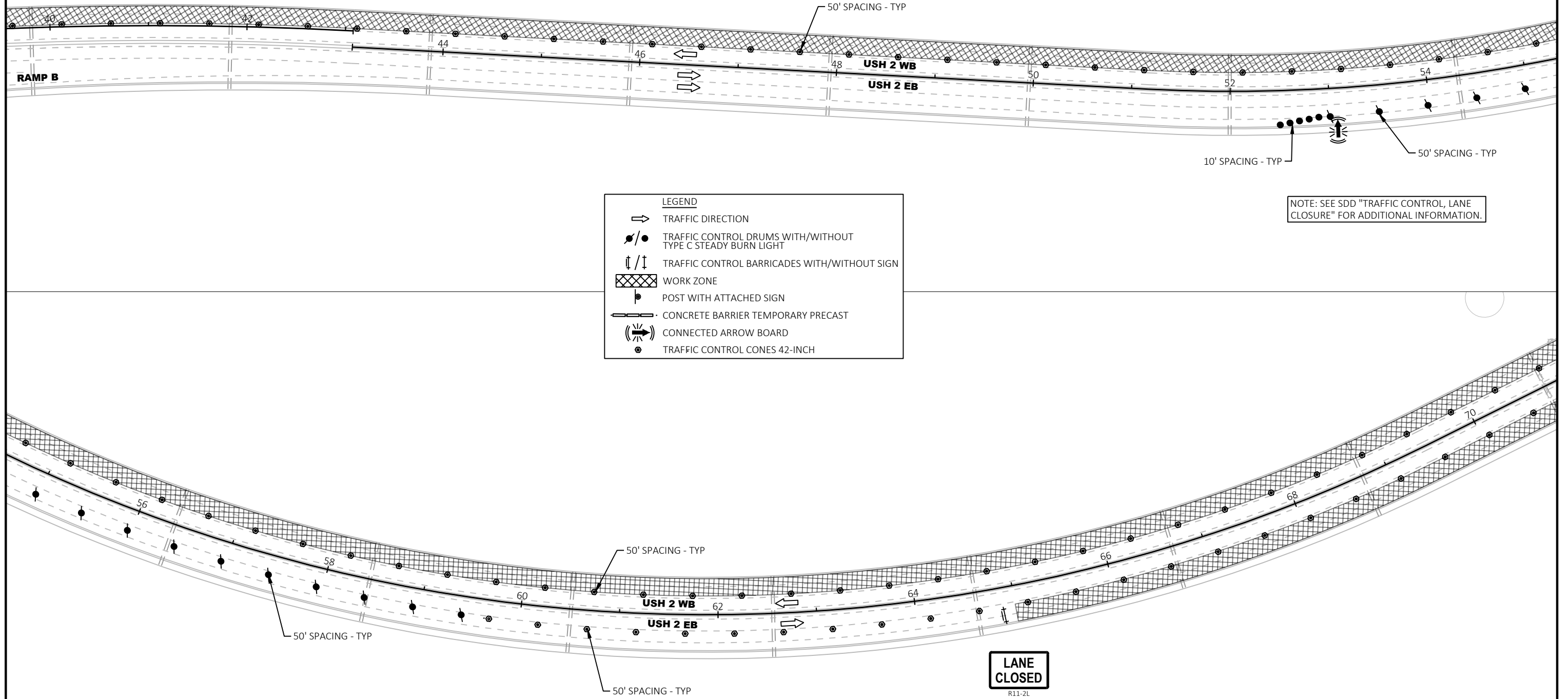
NOTE: TRAFFIC CONTROL NEEDED FOR ABOVE DECK REPAIRS AND STRUCTURE PAINTING DURING STAGE 2B ANTICIPATED TO LAST 3 WEEKS. ALL OTHER STRUCTURE REPAIRS WILL BE DONE FROM BELOW.



LEGEND

- TRAFFIC DIRECTION
- TRAFFIC CONTROL DRUMS WITH/WITHOUT TYPE C STEADY BURN LIGHT
- TRAFFIC CONTROL BARRICADES WITH/WITHOUT SIGN
- WORK ZONE
- POST WITH ATTACHED SIGN
- CONCRETE BARRIER TEMPORARY PRECAST
- CONNECTED ARROW BOARD
- TRAFFIC CONTROL CONES 42-INCH

NOTE: SEE SDD "TRAFFIC CONTROL, EXIT RAMP CLOSURE" FOR ADDITIONAL INFORMATION.

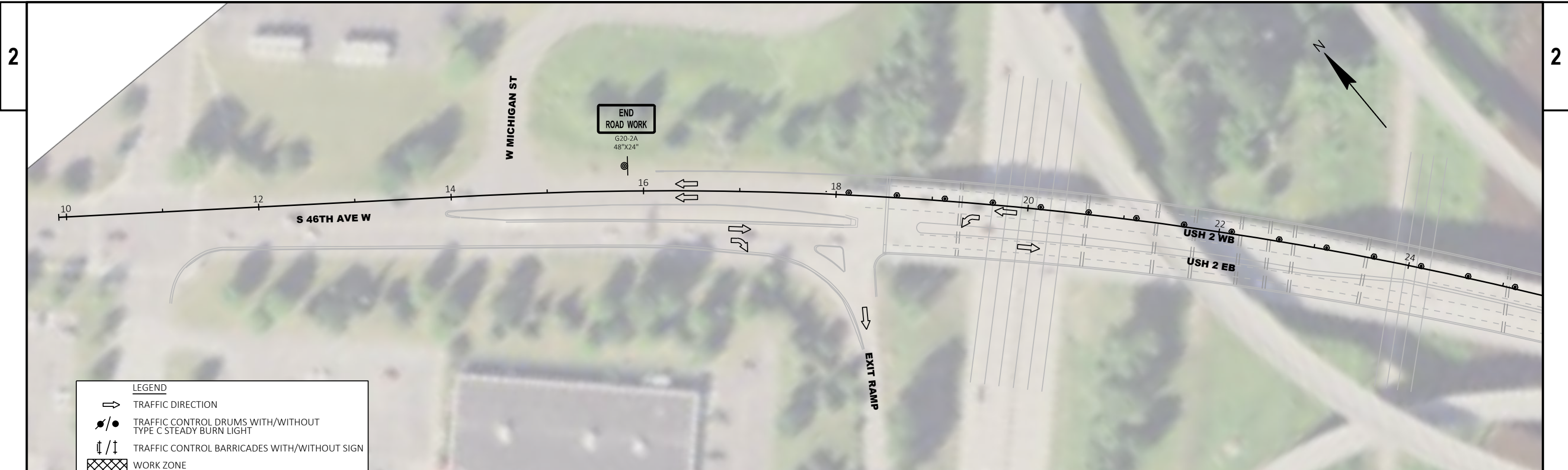


LEGEND

- ⇨ TRAFFIC DIRECTION
- /● TRAFFIC CONTROL DRUMS WITH/WITHOUT TYPE C STEADY BURN LIGHT
- ⊕/⊖ TRAFFIC CONTROL BARRICADES WITH/WITHOUT SIGN
- ▨ WORK ZONE
- ⊙ POST WITH ATTACHED SIGN
- ▬ CONCRETE BARRIER TEMPORARY PRECAST
- ⊕ CONNECTED ARROW BOARD
- TRAFFIC CONTROL CONES 42-INCH

NOTE: SEE SDD "TRAFFIC CONTROL, LANE CLOSURE" FOR ADDITIONAL INFORMATION.

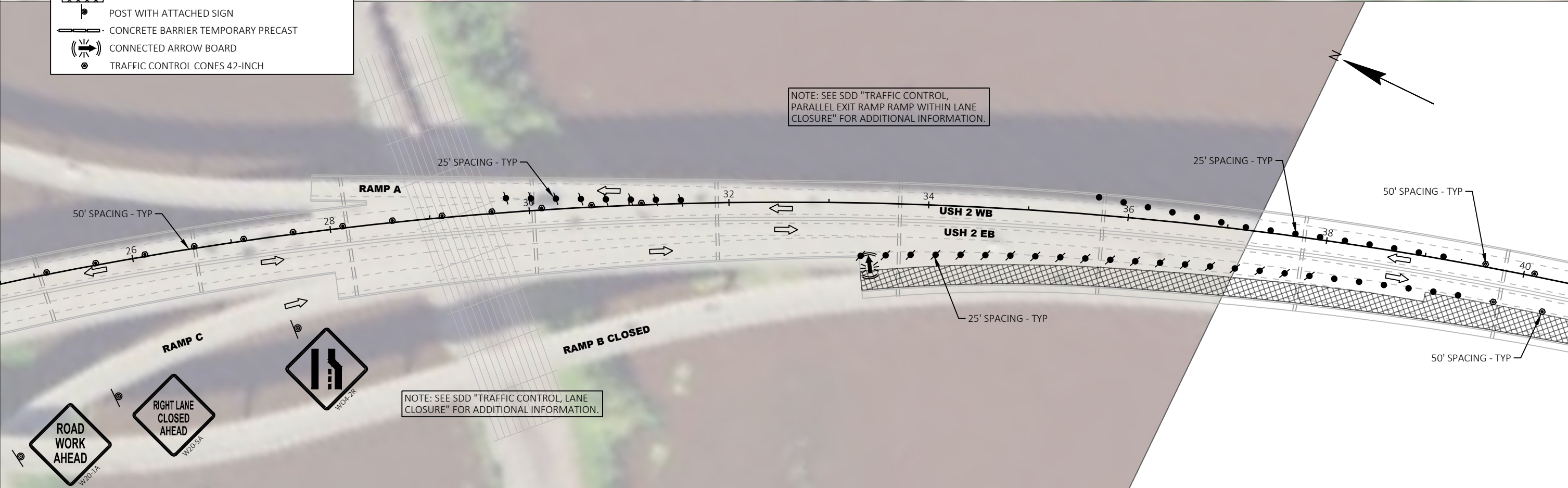
LANE CLOSED
R11-2L
48"x30"



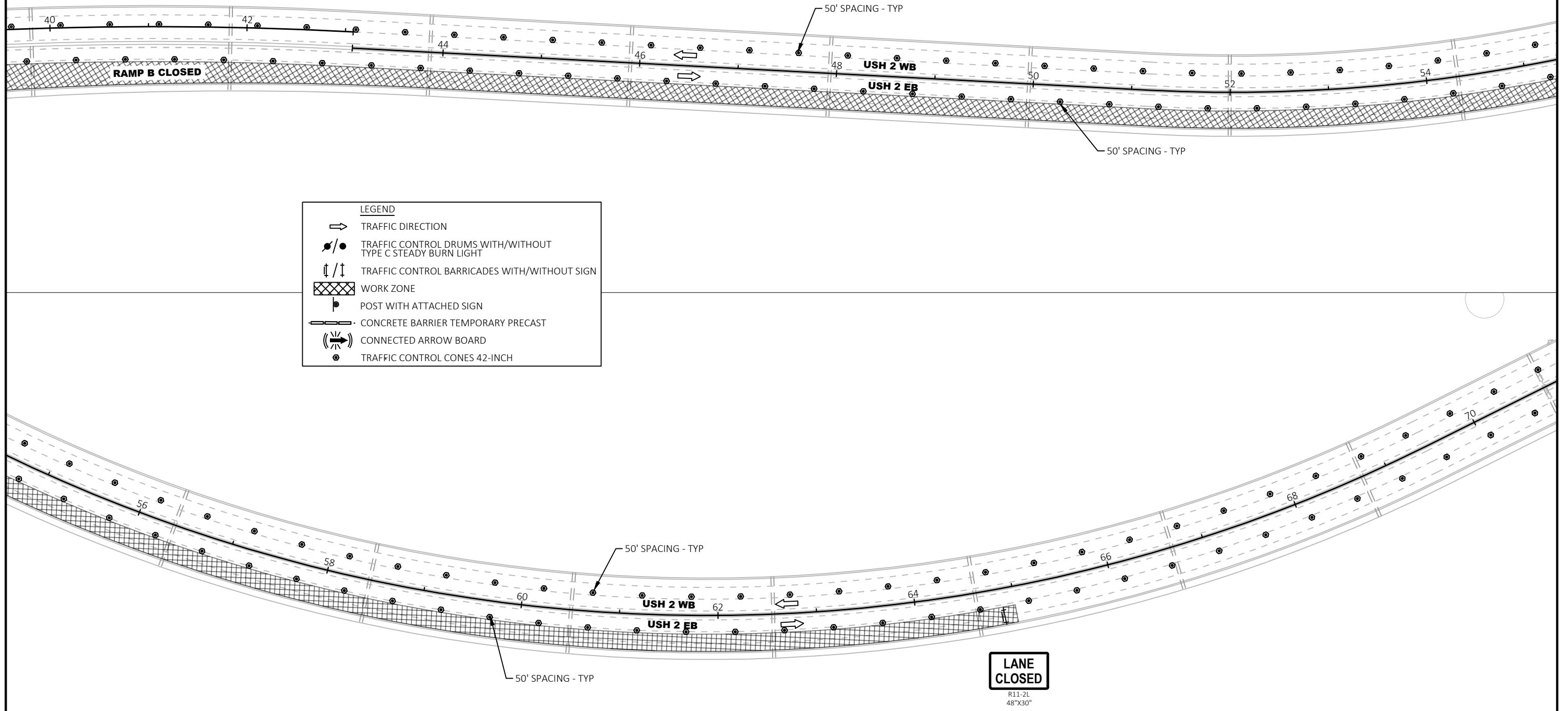
LEGEND

- TRAFFIC DIRECTION
- TRAFFIC CONTROL DRUMS WITH/WITHOUT TYPE C STEADY BURN LIGHT
- TRAFFIC CONTROL BARRICADES WITH/WITHOUT SIGN
- WORK ZONE
- POST WITH ATTACHED SIGN
- CONCRETE BARRIER TEMPORARY PRECAST
- CONNECTED ARROW BOARD
- TRAFFIC CONTROL CONES 42-INCH

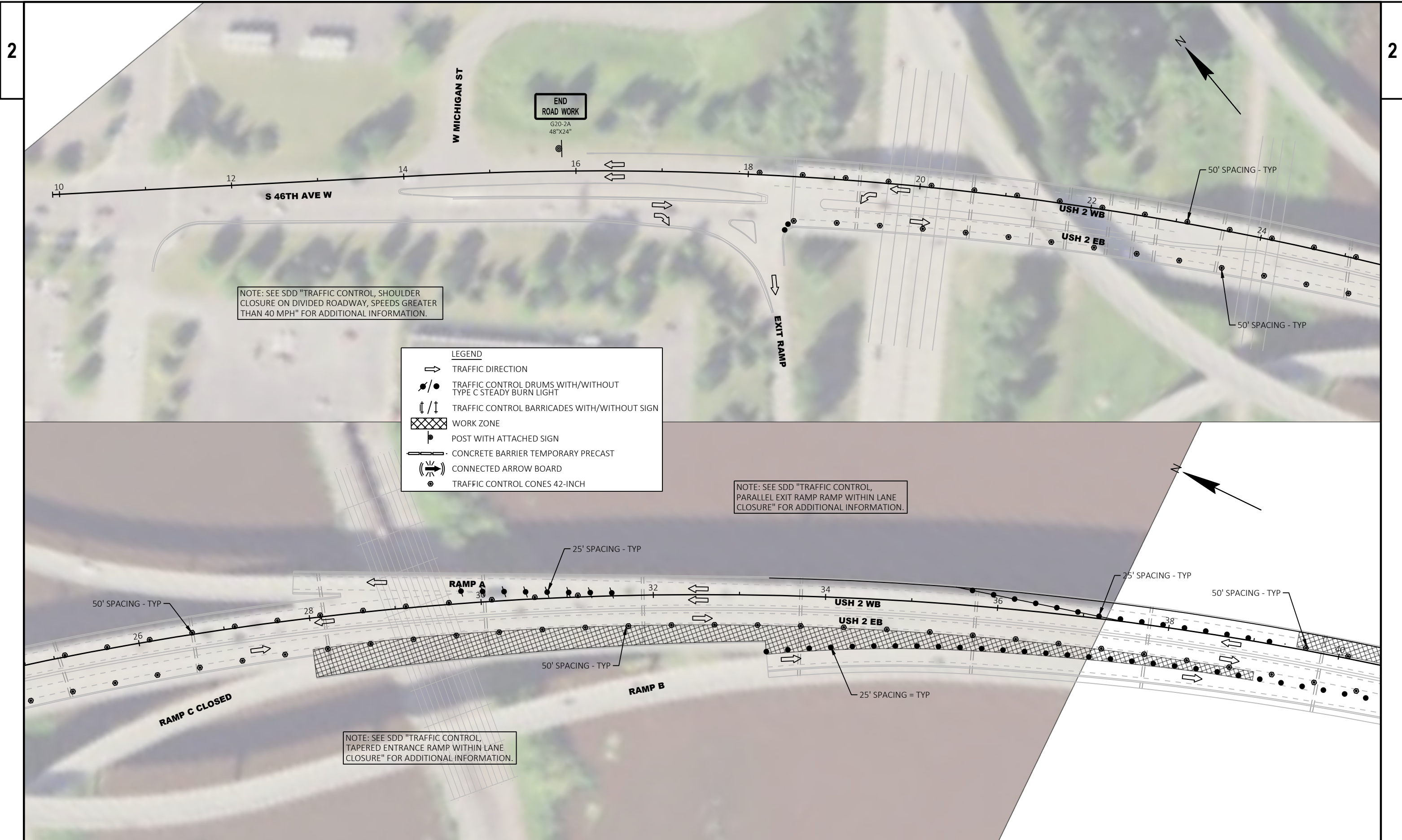
NOTE: SEE SDD "TRAFFIC CONTROL, PARALLEL EXIT RAMP RAMP WITHIN LANE CLOSURE" FOR ADDITIONAL INFORMATION.

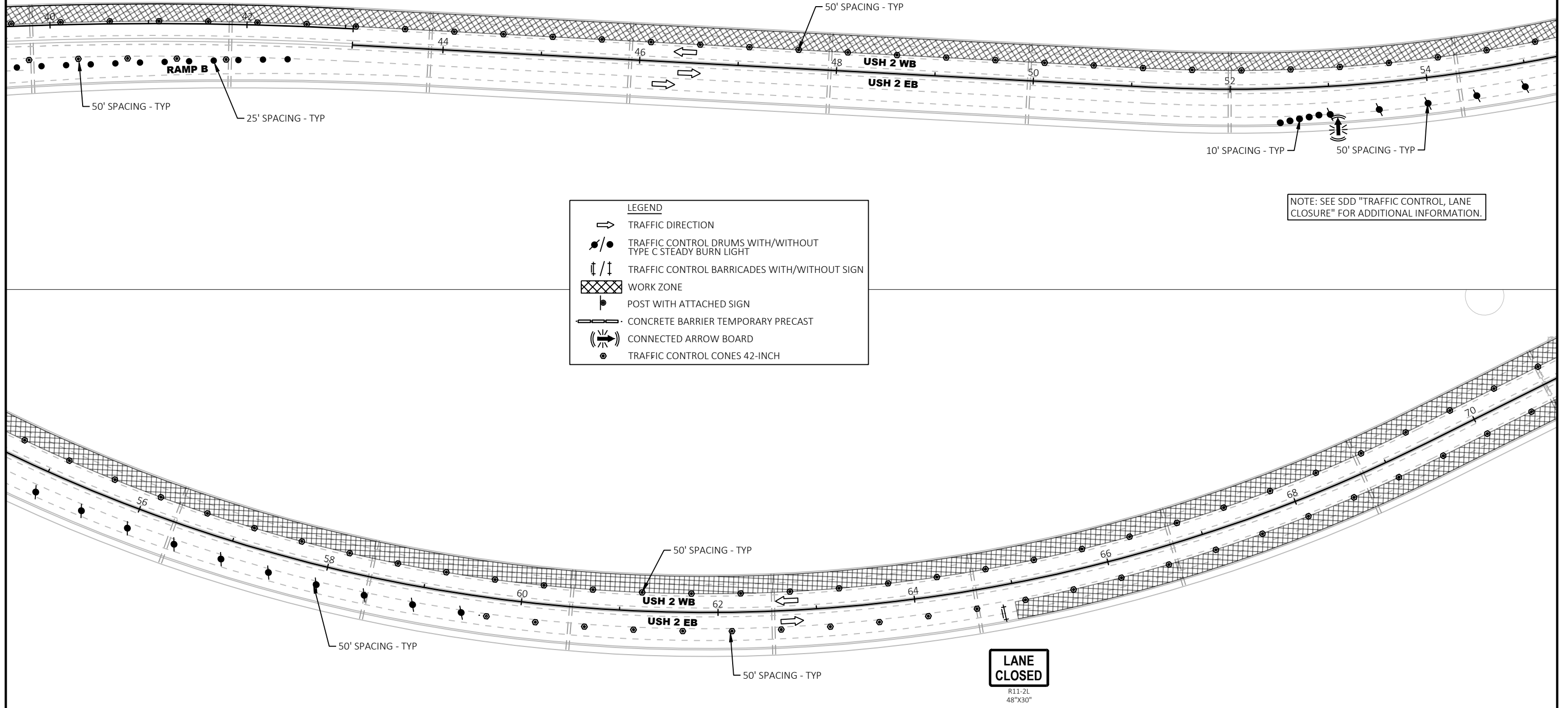


NOTE: SEE SDD "TRAFFIC CONTROL, LANE CLOSURE" FOR ADDITIONAL INFORMATION.



LEGEND	
	TRAFFIC DIRECTION
	TRAFFIC CONTROL DRUMS WITH/WITHOUT TYPE C STEADY BURN LIGHT
	TRAFFIC CONTROL BARRICADES WITH/WITHOUT SIGN
	WORK ZONE
	POST WITH ATTACHED SIGN
	CONCRETE BARRIER TEMPORARY PRECAST
	CONNECTED ARROW BOARD
	TRAFFIC CONTROL CONES 42-INCH

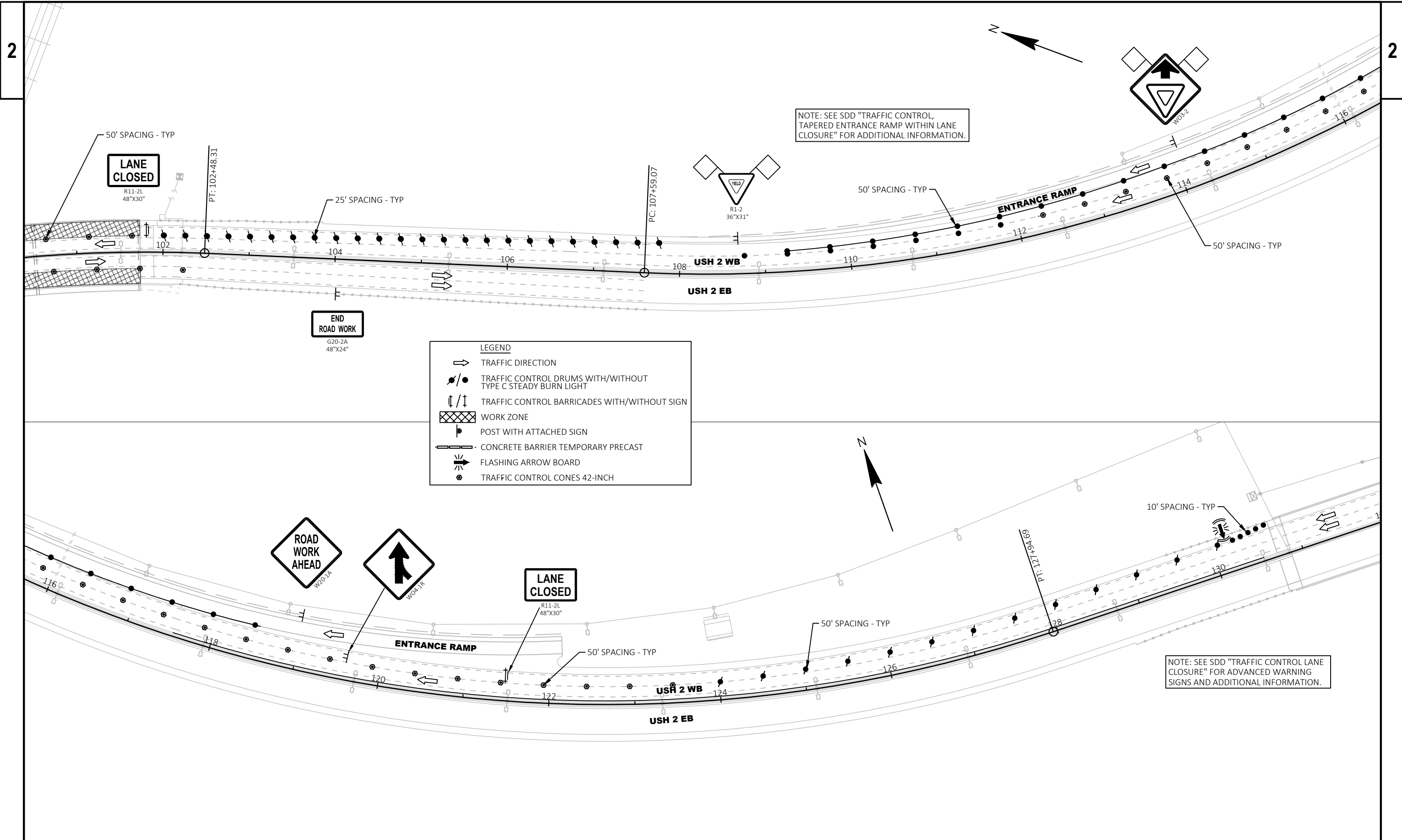


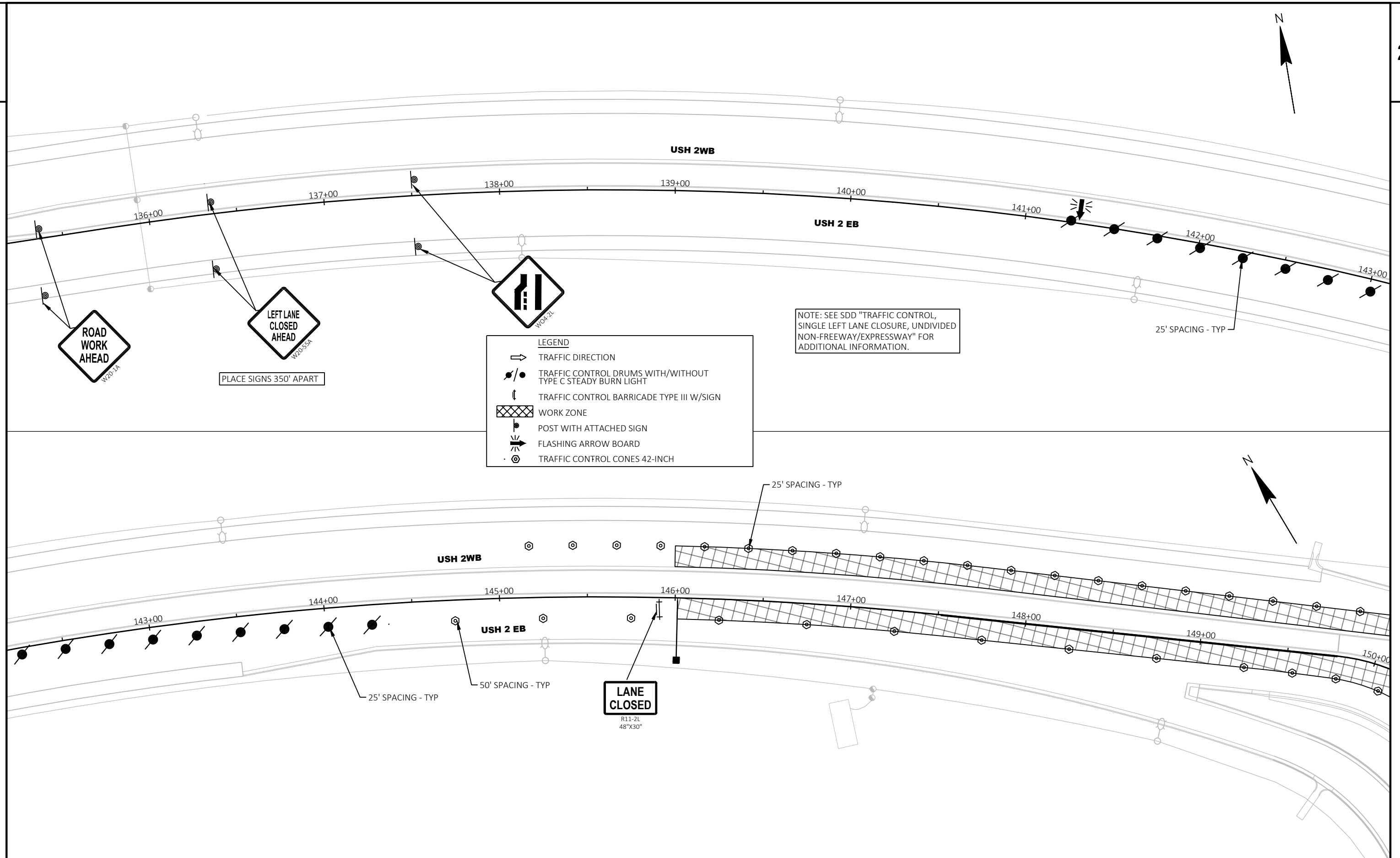


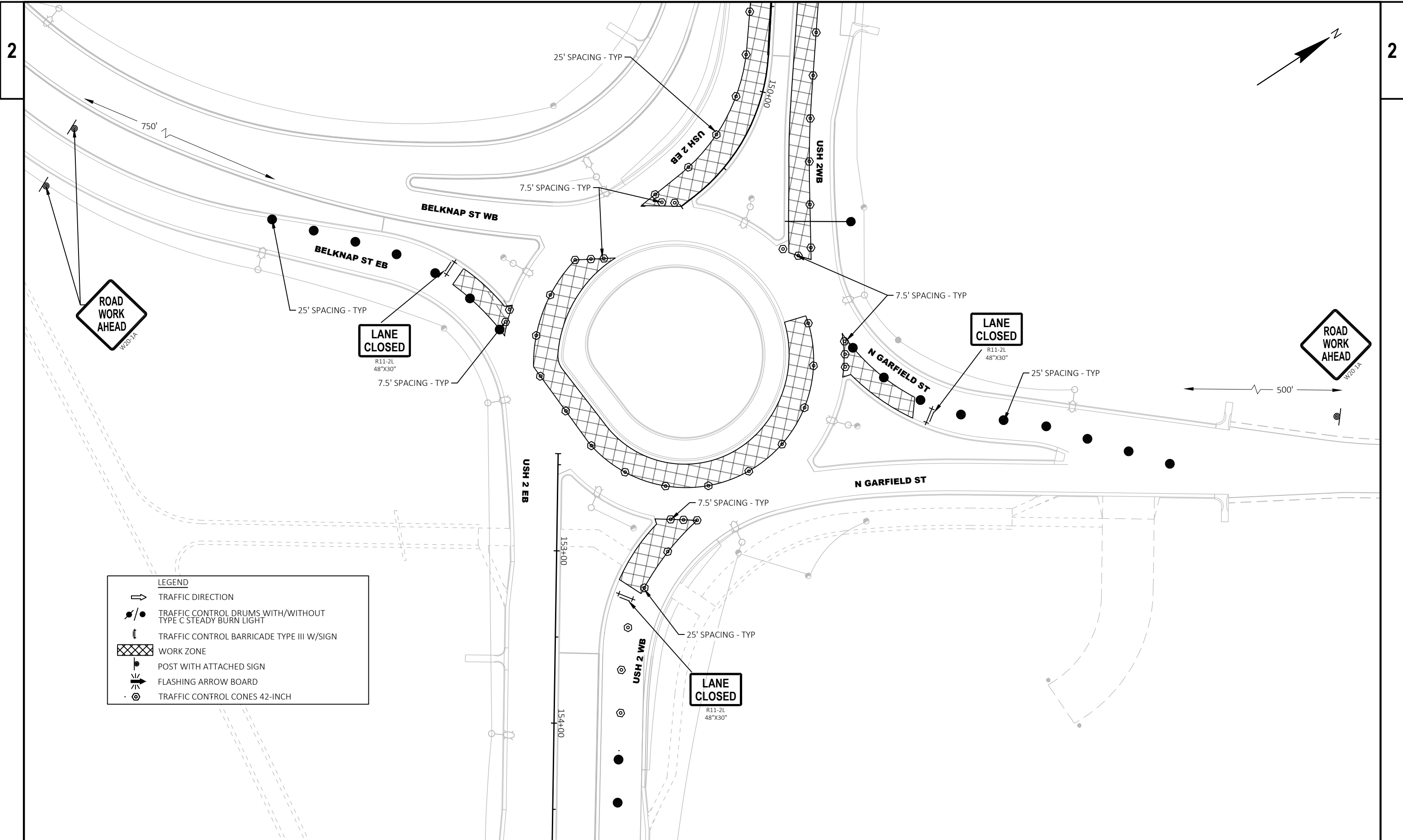
LEGEND

- ➡ TRAFFIC DIRECTION
- /● TRAFFIC CONTROL DRUMS WITH/WITHOUT TYPE C STEADY BURN LIGHT
- ⏏/⏏ TRAFFIC CONTROL BARRICADES WITH/WITHOUT SIGN
- ▨ WORK ZONE
- Ⓜ POST WITH ATTACHED SIGN
- CONCRETE BARRIER TEMPORARY PRECAST
- ⏏➡ CONNECTED ARROW BOARD
- ⊙ TRAFFIC CONTROL CONES 42-INCH

NOTE: SEE SDD "TRAFFIC CONTROL, LANE CLOSURE" FOR ADDITIONAL INFORMATION.







LEGEND	
	TRAFFIC DIRECTION
	TRAFFIC CONTROL DRUMS WITH/WITHOUT TYPE C STEADY BURN LIGHT
	TRAFFIC CONTROL BARRICADE TYPE III W/SIGN
	WORK ZONE
	POST WITH ATTACHED SIGN
	FLASHING ARROW BOARD
	TRAFFIC CONTROL CONES 42-INCH

PROJECT NO: 8680-00-74

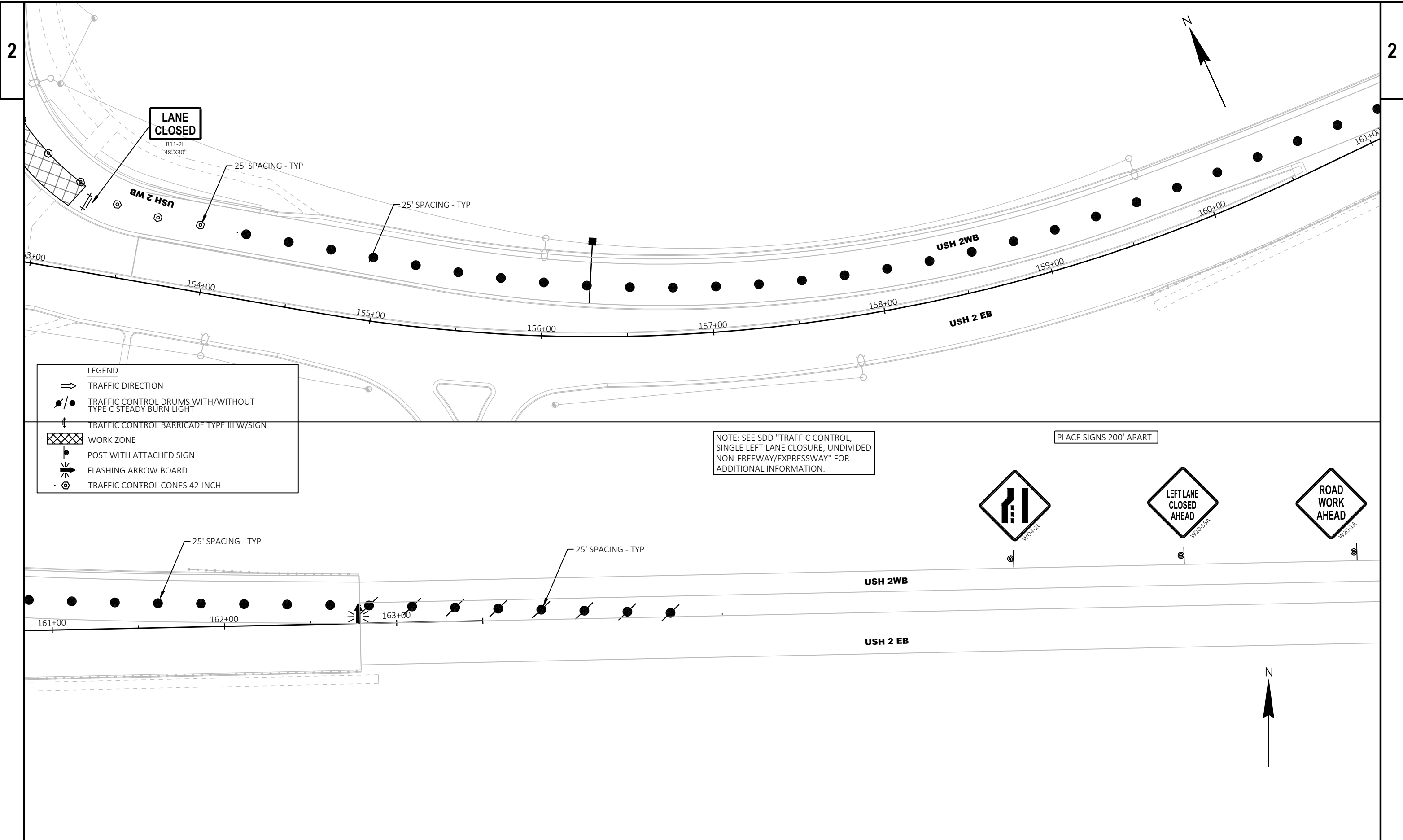
HWY: USH 2

COUNTY: DOUGLAS

TRAFFIC CONTROL - RAB MARKING (PHASE 1)

SHEET

E

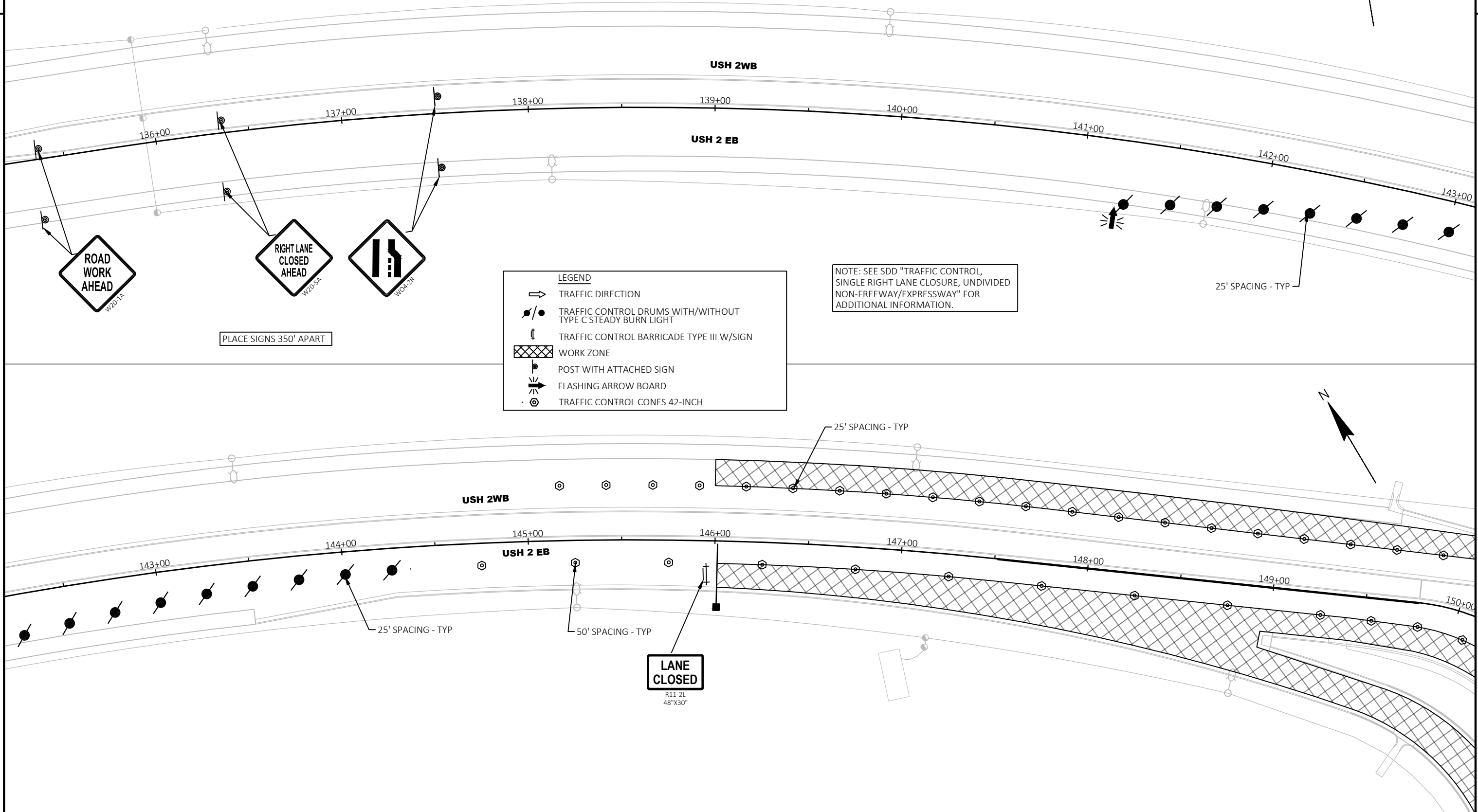


LEGEND

	TRAFFIC DIRECTION
	TRAFFIC CONTROL DRUMS WITH/WITHOUT TYPE C STEADY BURN LIGHT
	TRAFFIC CONTROL BARRICADE TYPE III W/SIGN
	WORK ZONE
	POST WITH ATTACHED SIGN
	FLASHING ARROW BOARD
	TRAFFIC CONTROL CONES 42-INCH

NOTE: SEE SDD "TRAFFIC CONTROL, SINGLE LEFT LANE CLOSURE, UNDIVIDED NON-FREWAY/EXPRESSWAY" FOR ADDITIONAL INFORMATION.

PLACE SIGNS 200' APART



LEGEND

- TRAFFIC DIRECTION
- TRAFFIC CONTROL DRUMS WITH/WITHOUT TYPE C STEADY BURN LIGHT
- TRAFFIC CONTROL BARRICADE TYPE III W/SIGN
- WORK ZONE
- POST WITH ATTACHED SIGN
- FLASHING ARROW BOARD
- TRAFFIC CONTROL CONES 42-INCH

NOTE: SEE SDD "TRAFFIC CONTROL, SINGLE RIGHT LANE CLOSURE, UNDIVIDED NON-FREWAY/EXPRESSWAY" FOR ADDITIONAL INFORMATION.

PLACE SIGNS 350' APART

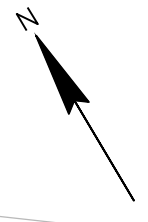
25' SPACING - TYP

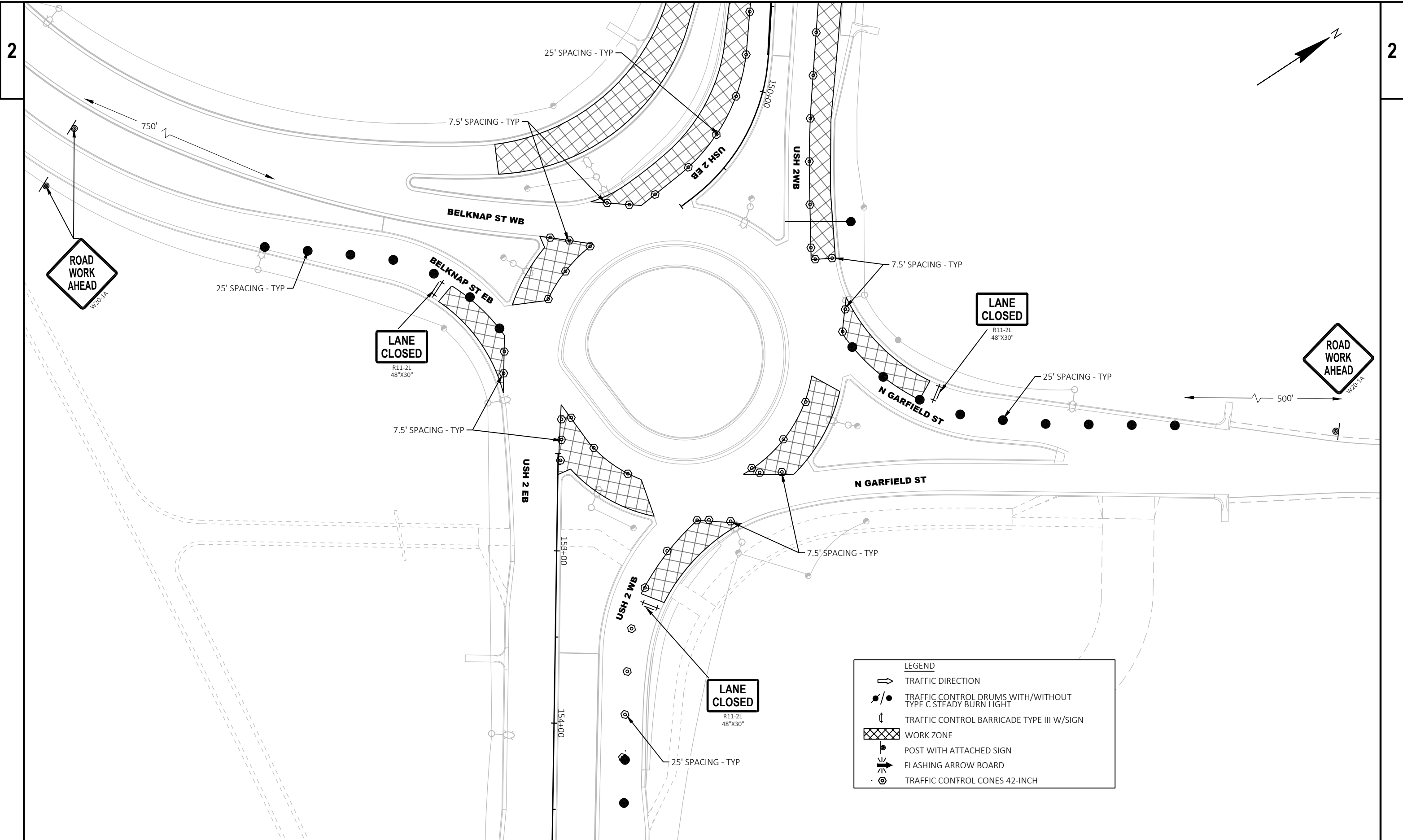
25' SPACING - TYP

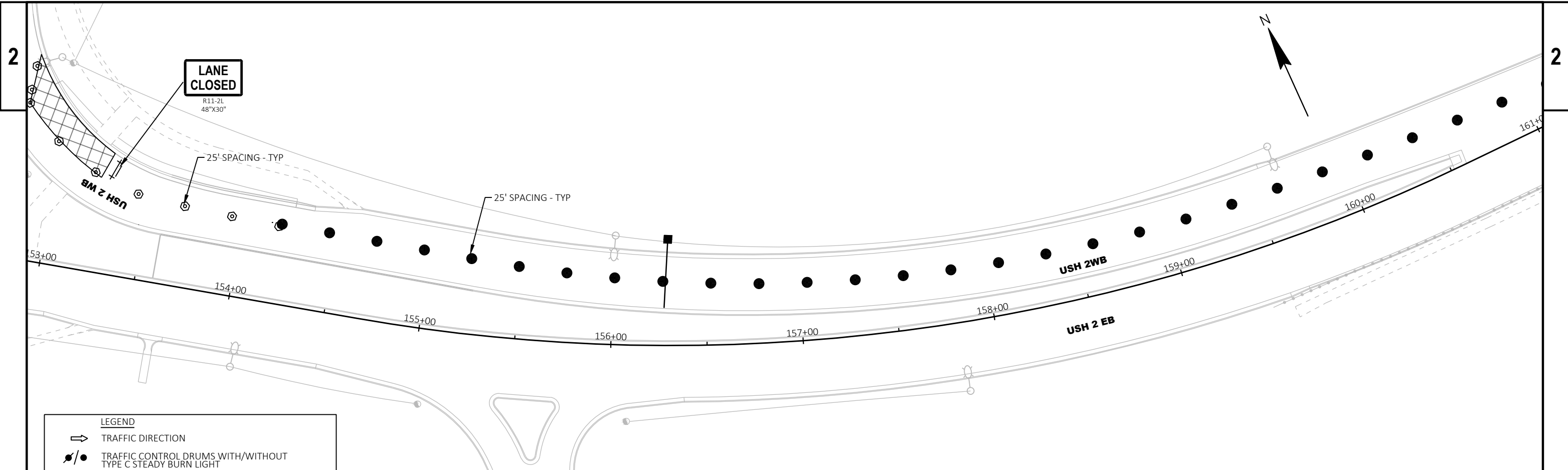
25' SPACING - TYP

50' SPACING - TYP

LANE CLOSED
R11-2L
48"x30"



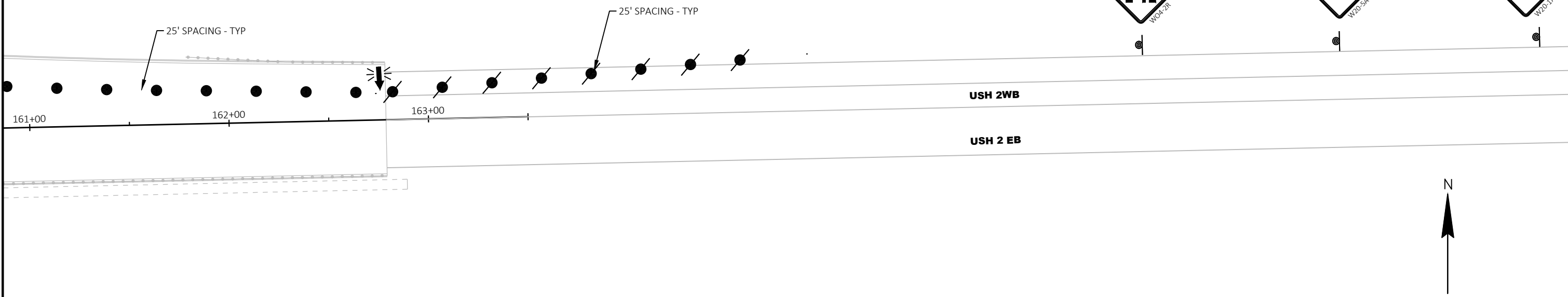


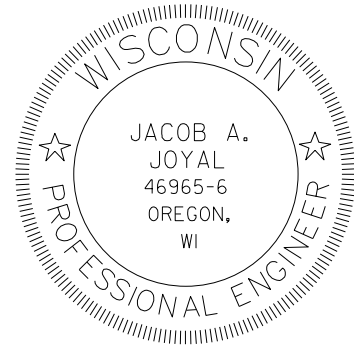


LEGEND	
	TRAFFIC DIRECTION
	TRAFFIC CONTROL DRUMS WITH/WITHOUT TYPE C STEADY BURN LIGHT
	TRAFFIC CONTROL BARRICADE TYPE III W/SIGN
	WORK ZONE
	POST WITH ATTACHED SIGN
	FLASHING ARROW BOARD
	TRAFFIC CONTROL CONES 42-INCH

NOTE: SEE SDD "TRAFFIC CONTROL, SINGLE RIGHT LANE CLOSURE, UNDIVIDED NON-FREEWAY/EXPRESSWAY" FOR ADDITIONAL INFORMATION.

PLACE SIGNS 200' APART





01/27/2025

(DATE)

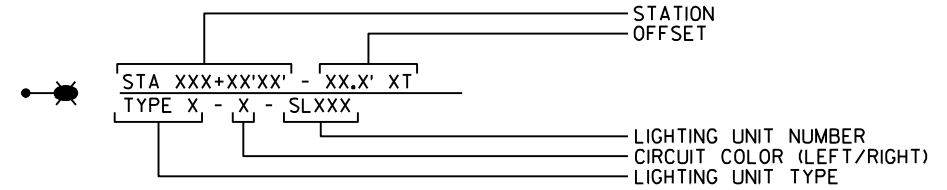
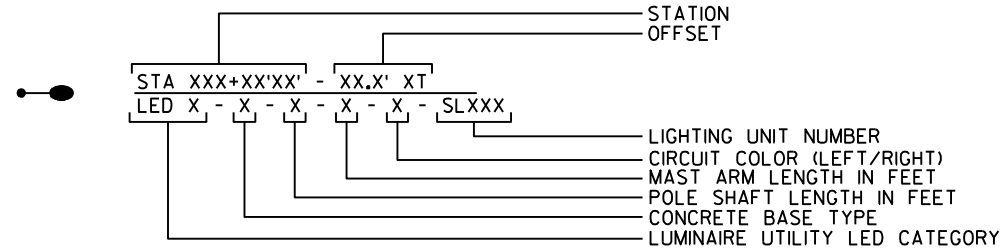
(SIGNATURE)

GENERAL STREET LIGHTING NOTES:

- 1) WISCONSIN DOT NORTHWEST REGION ELECTRICAL UNIT SHALL APPROVE THE FINAL LOCATION FOR ALL CONCRETE BASES IN THE FIELD PRIOR TO INSTALLATION. CONTACT THEM 3 DAYS IN ADVANCE AT (XXX) XXX-XXXX OR (XXX) XXX-XXXX.
- 2) PITCH ALL CONDUIT TOWARDS PULLBOXES. A 2" DRAIN DUCT TO DITCH OR STORM SEWER REQUIRED FOR ALL PULLBOXES IN LOW POINTS. REFER TO THE MISCELLANEOUS QUANTITIES FOR LOCATIONS OF DRAIN DUCT.
- 3) THE LOCATION OF EXISTING AND PROPOSED UTILITIES AS SHOWN ON THE PLANS ARE APPROXIMATE. IN ADDITION, THERE MAY BE OTHER UTILITIES WITHIN THE PROJECT AREA WHICH ARE NOT SHOWN. THE CONTRACTOR SHALL VERIFY THE LOCATIONS OF ALL UTILITIES PRIOR TO CONSTRUCTION.

LIGHTING PLAN LEGEND

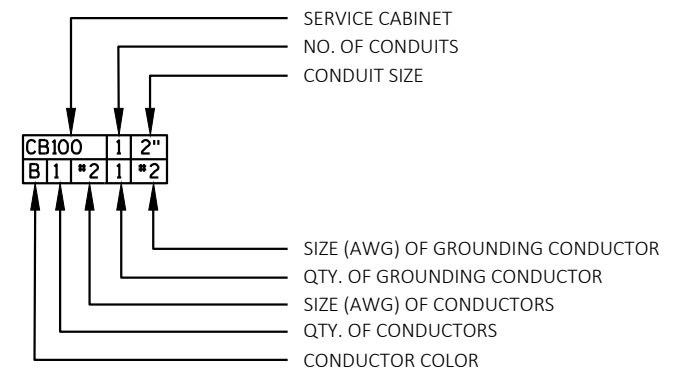
- EXISTING CONCRETE CONTROL CABINET BASE/ELEC. SERVICE
- EXISTING PULL BOX NON-CONDUCTIVE (24"x42")
- LIGHTING CONDUIT 2" (SCHEDULE 40 PVC UNLESS SPECIFIED OTHERWISE)
- DIRECT BURY 4-CONDUCTOR JACKETED CABLE
- REMOVE AND REPLACE LUMINAIRE(S) ONLY - WI
- REMOVE AND REPLACE TWIN ARM LIGHTING UNIT - WI
- REMOVE AND REPLACE SINGLE/TWIN ARM LIGHTING UNIT - MN
- EXISTING JUNCTION BOX IN PARAPET
- EXISTING HIGH MAST LIGHTING UNIT TO REMAIN
- *GRAY INDICATES ITEMS TO REMAIN



ABBREVIATIONS

- STR - STRUCTURE MOUNT (REFER TO STRUCTURE PLANS)
- PWO - PULLWIRE ONLY REQ'D

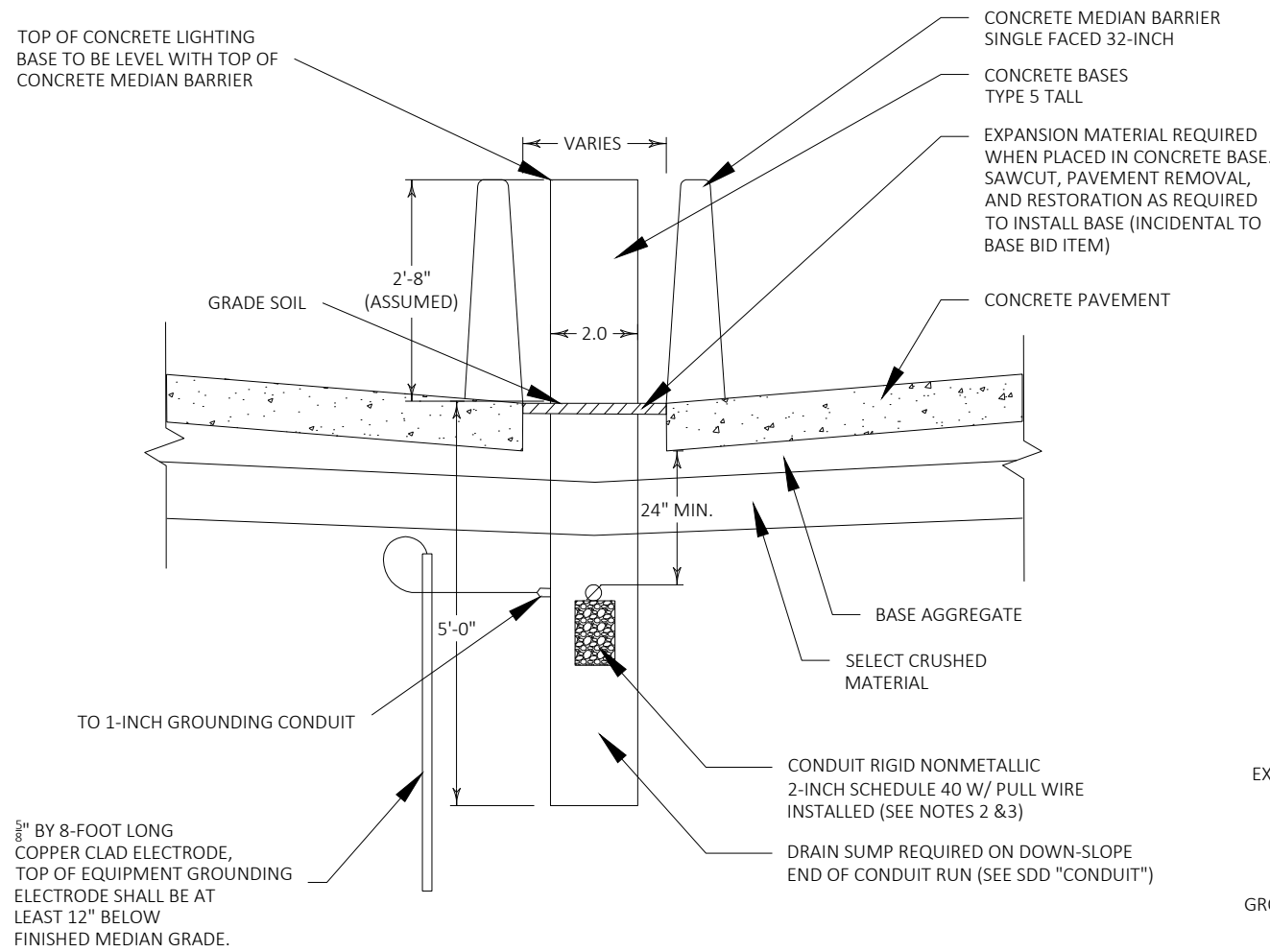
CONDUIT/CONDUCTOR LEGEND



NEU = NEUTRAL

NOTES

- 1) ROUTE CONDUIT ALONG SIDE OF MEDIAN INLETS, SIGN FOOTING & BRIDGE PIERS.
- 2) CONDUIT DEPTH TO BE 6" BELOW BOTTOM OF BREAKER RUN. DEPTH WILL VARY.
- 3) DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF SECTION 654 OF THE STANDARD SPECIFICATIONS.
- 4) THE BASES SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE STANDARD DETAIL DRAWING FOR CONCRETE BASE, TYPE 5, EXCEPT FOR THE DETAILS AND OTHER INFORMATION AS SPECIFICALLY SHOWN. PROVIDE REINFORCEMENT AS SHOWN IN THE SDD AND ACCOUNT FOR THE ADDITIONAL BASE HEIGHT.
- 5) ALL CONDUIT ENDS SHALL PROJECT 4" ABOVE THE CONCRETE BASE PRIOR TO INSTALLATION OF THE PVC CAPS AND SHALL BE LOCATED WITHIN A 6" DIA. CIRCLE ABOUT CENTER OF BASE.

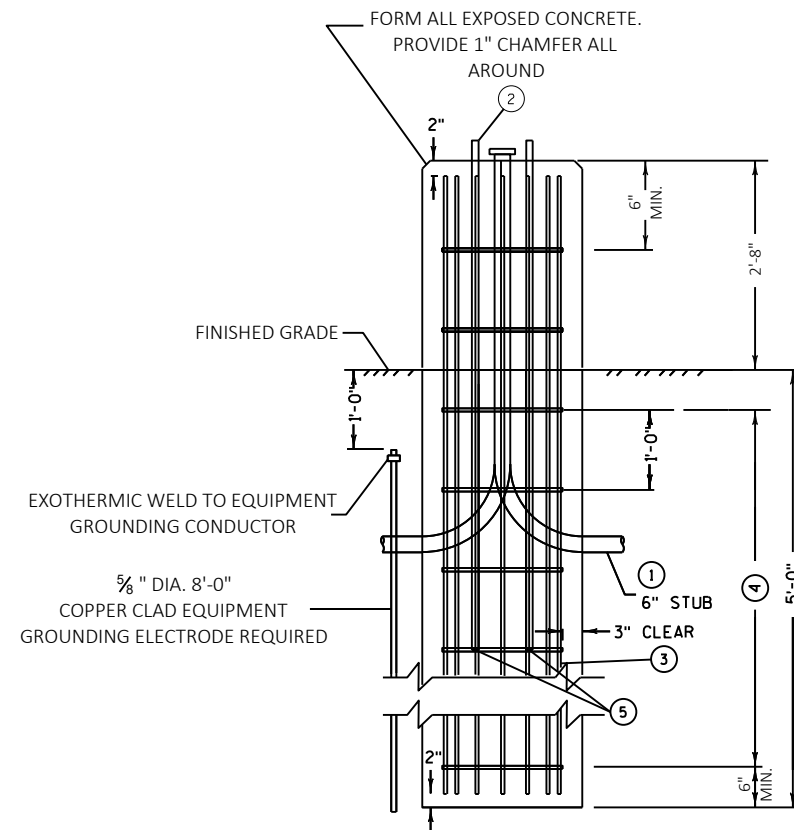
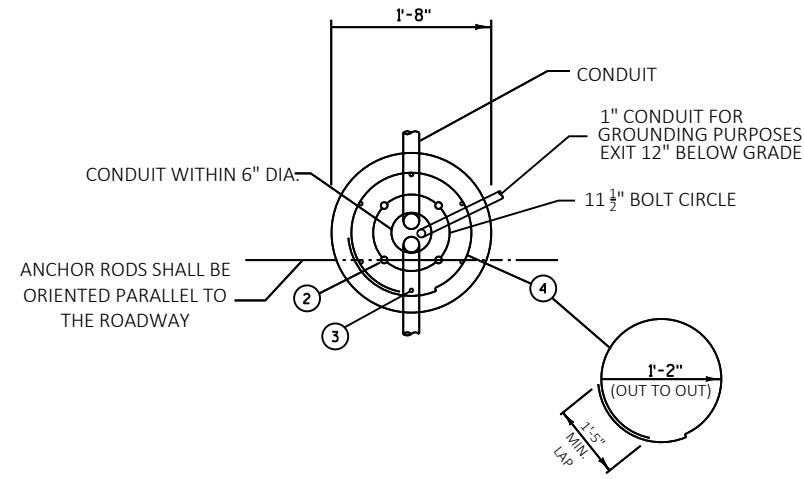


ESTIMATE QUANTITIES PER BASE (APPROX.)

APPROX. CUBIC YARDS OF CONCRETE	0.61
LBS. OF HOOP BAR STEEL	24.5
LBS. OF VERTICAL BAR STEEL	27

NOTES

ALL QUANTITIES INCIDENTAL TO "CONCRETE BASE TYPE 5 TALL"
 BID ITEM SPV.0060.03
 QUANTITIES ARE APPROXIMATE AND MAY VARY IN SECTIONS WITH
 GRADE SEPARATION.



CONCRETE BASES TYPE 5 TALL
 NO SCALE SPV.0060.03

GENERAL NOTES

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

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

MINIMUM BENDING RADIUS OF CONDUIT = 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 OF CABLE IS NOT INSTALLED SHALL REMAIN CAPPED OR PLUGGED.

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

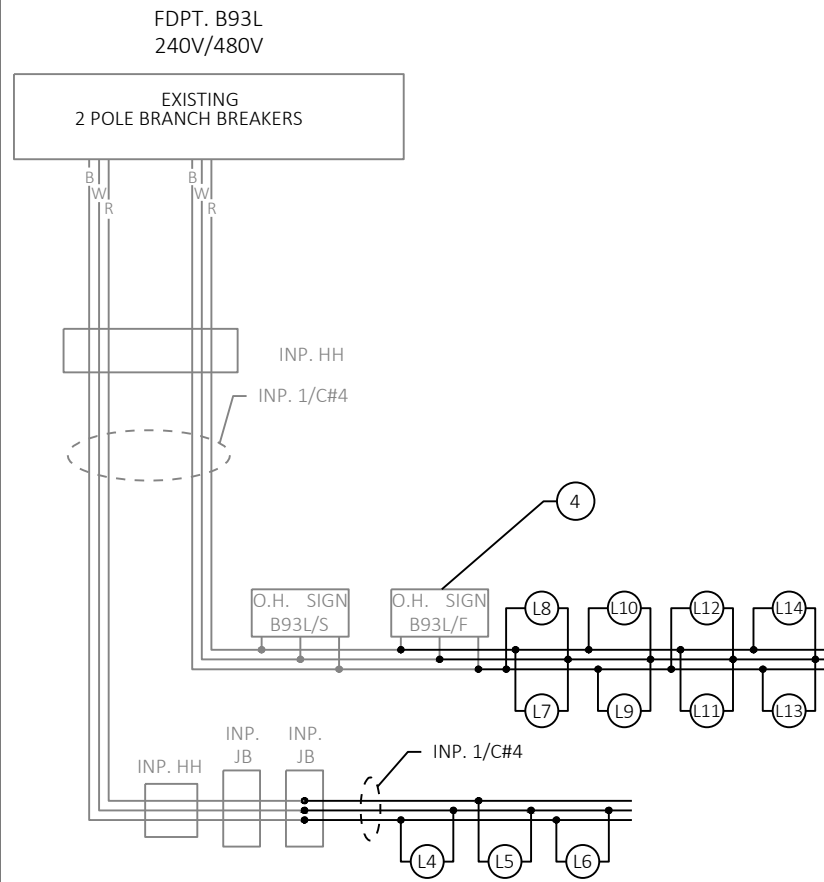
IF A BASE REQUIRES A DEEP FORM BECAUSE OF LOOSE DIRT OR FILL, THE FORM SHALL BE REMOVED BEFORE BACKFILLING AROUND THE BASE. BACKFILL SHALL BE TAMPED TIGHT AGAINST THE BARE CONCRETE BASE IN LAYERS OF 1 FOOT OR LESS.

A NO. 6 AWG STRANDED COPPER GROUNDING WIRE SHALL BE CADWELDED TO THE GROUND ROD.

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

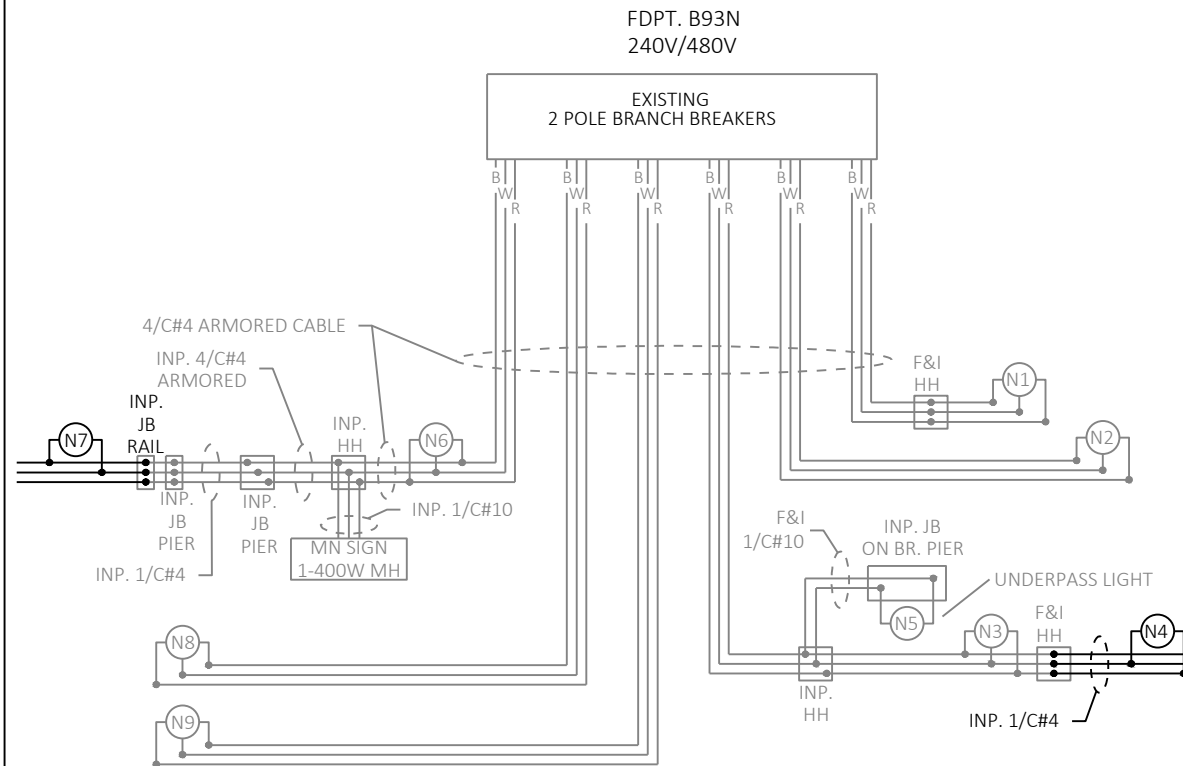
WHEN ANCHOR BOLTS USING THE ALTERNATE "L" BEND ARE FURNISHED, THE 4" "L" BEND SHALL BE IN ADDITION TO THE SPECIFIED ANCHOR BOLT BAR LENGTH.

- 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 ANCHOR RODS IN ACCORDANCE WITH STANDARD DETAIL 9C2
- ③ BAR STEEL REINFORCEMENT IN ACCORDANCE WITH STANDARD DETAIL 9C2
- ④ BAR STEEL REINFORCEMENT IN ACCORDANCE WITH STANDARD DETAIL 9C2
- ⑤ OPTIONAL 4" L BEND OF HEX NUT (TYP.)



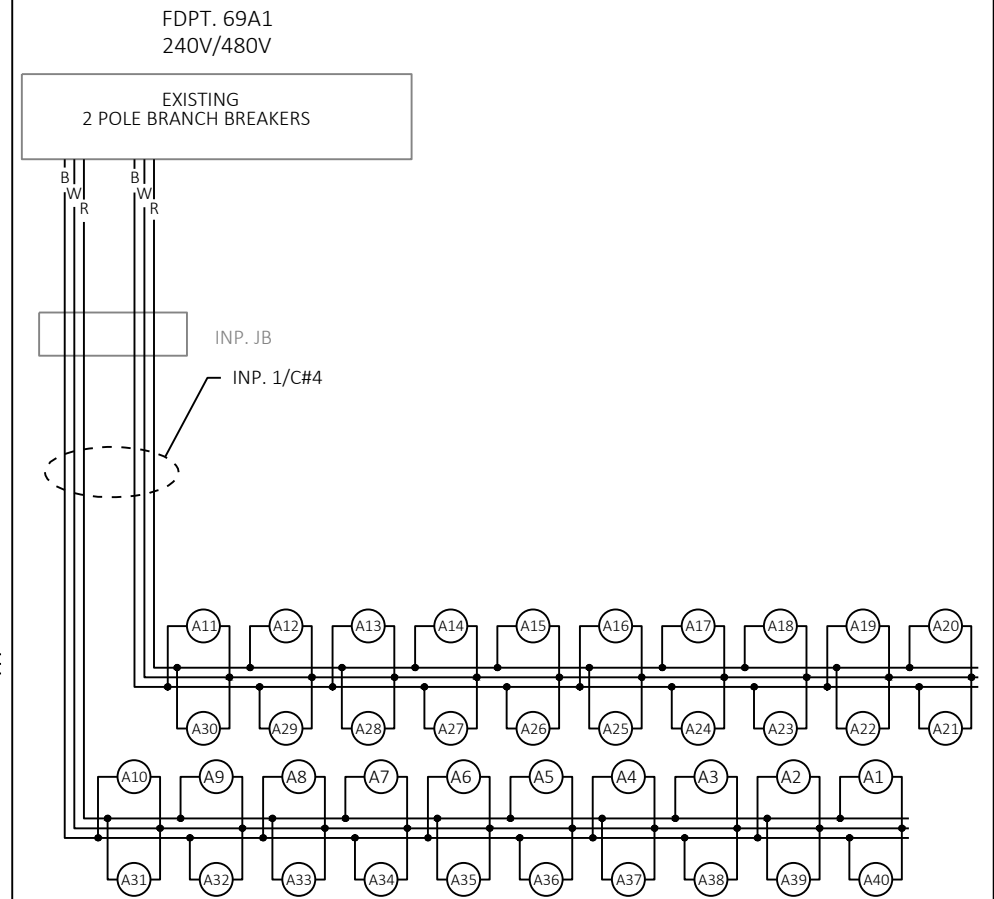
KEYED NOTES

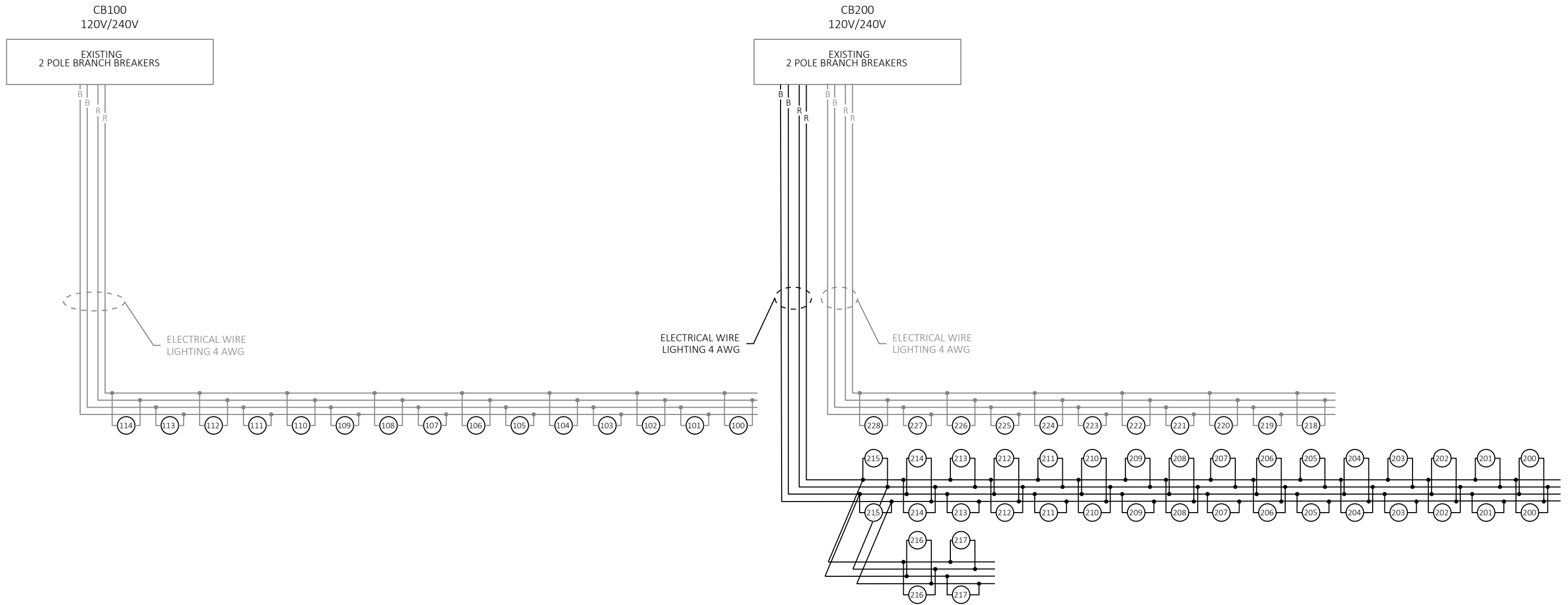
- ④ CONTRACTOR TO REMOVE O.H. SIGN LIGHTS



WIRING SCHEMATIC - MINNESOTA SYSTEMS

*ITEMS IN GRAY INDICATE INFRASTRUCTURE TO REMAIN





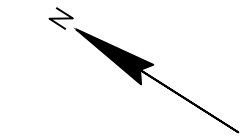
WIRING SCHEMATIC - WISCONSIN SYSTEMS
 *ITEMS IN GRAY INDICATE INFRASTRUCTURE TO REMAIN

CONSTRUCTION NOTES:

- 1) REPLACE CONDUCTORS FOR PARAPET MOUNTED BRIDGE LIGHTS BACK TO NEAREST SPLICE POINT OFF STRUCTURE. PLANS ARE APPROXIMATE, EXACT LOCATION OF NEAREST SPLICE POINT TO BE VERIFIED WITH THE ENGINEER IN THE FIELD.
- 2) CONTRACTOR SHALL CLEAN OUT CONDUIT UPON REMOVAL OF ELECTRICAL CONDUCTORS.
- 3) TYPE 1 LIGHTING UNIT REPLACEMENT INCLUDES REMOVAL AND RECONSTRUCTION OF LIGHT FOUNDATION AND MEDIAN BARRIER. SEE STRUCTURE PLANS FOR ADDITIONAL DETAILS.
- 4) THE CONTRACTOR IS RESPONSIBLE FOR THE COORDINATION AND CONNECTION OF POWER FOR THE LIGHTING SYSTEM.
- 5) THIS PLAN DISPLAYS GENERAL LOCATIONS. EXACT LOCATIONS OF POLES SHALL BE DETERMINED IN THE FIELD BY TRAFFIC PERSONNEL.
- 6) SEE SPECIAL PROVISIONS FOR THE LIGHTING UNITS TO BE FURNISHED AND INSTALLED BY THE CONTRACTOR.
- 7) IT SHALL BE THE CONTRACTORS RESPONSIBILITY TO UTILIZE GOPHER STATE ONE CALL FOR ALL UTILITY LOCATIONS.
- 8) THE FIRST POLE MUST BE INSTALLED AND TIGHTENED IN THE PRESENCE OF TRAFFIC PERSONNEL.
- 9) THE FIRST SPLICE MUST BE DONE IN THE PRESENCE OF TRAFFIC PERSONNEL
- 10) SPLICES SHALL BE SPLIT BOLT STYLE ONLY.
- 11) SPLICES SHALL USE ELECTRICAL INSULATION PUTTY ONLY (NO RUBBER TAPE).
- 12) REFER TO SPEC 2565.3D2.b FOR USE OF DEPARTMENT PROVIDED LOCATOR BALLS
- 13) F & I GEL FILLED WIRE NUTS ON END RUN BLACK OR RED CABLE WIRES AND SEAL WITH ELECTRICAL TAPE.
- 14) USE DISCRETE LUMINAIRE OFF APL.
- 15) REMOVE O.H. SIGN LIGHTS ON B93L/S AND BYPASS STRUCTURE THRU HANDHOLE, BACK TO THE BREAKER PANEL

KEYED NOTES:

- ① APPROXIMATE LOCATION OF EXISTING LIGHTING CONTROLLER TO REMAIN FOR CONTINUED USE.
- ② SPLICE POINT FOR CONDUCTOR REPLACEMENT

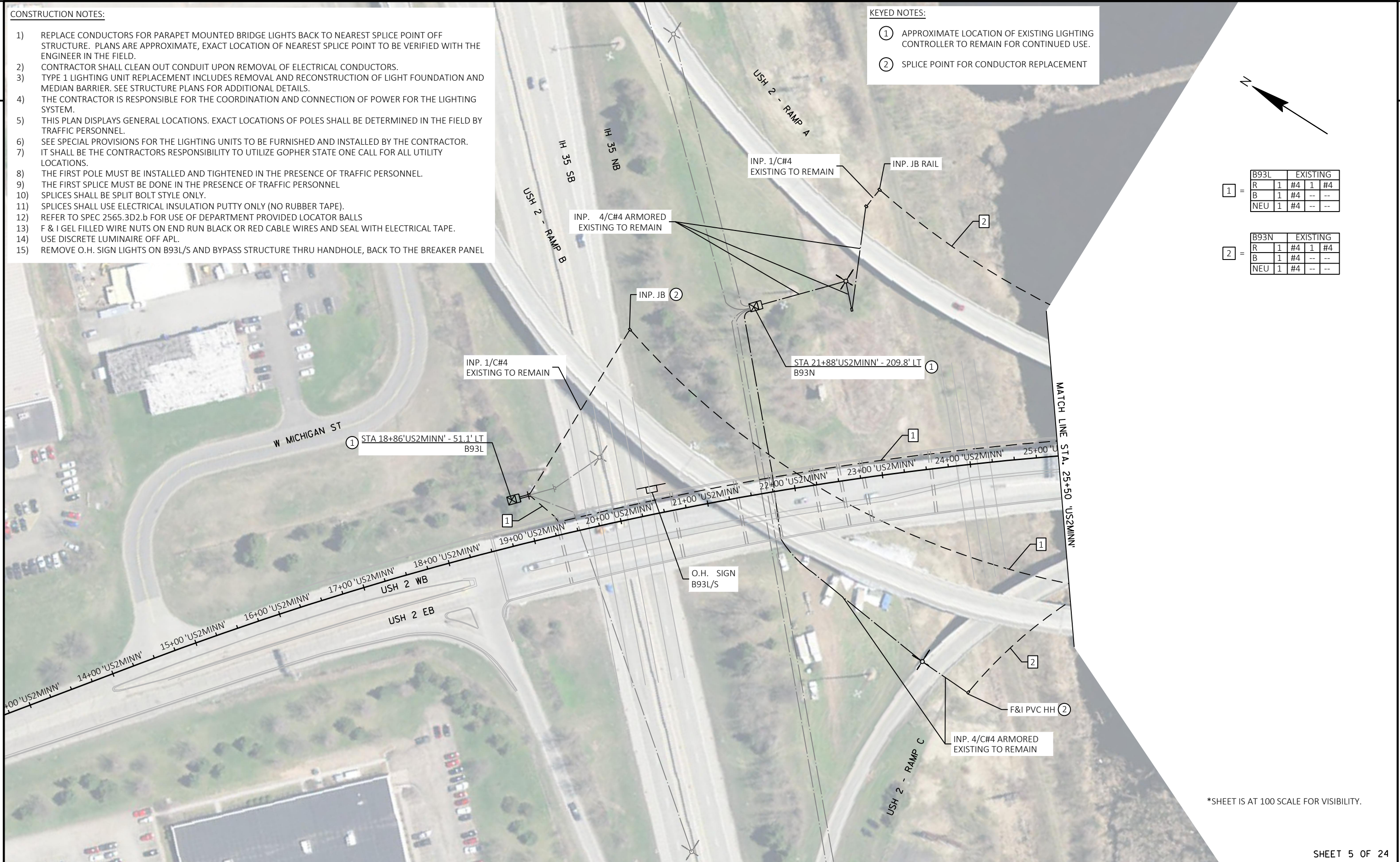


① =

B93L	EXISTING
R	1 #4 1 #4
B	1 #4 -- --
NEU	1 #4 -- --

② =

B93N	EXISTING
R	1 #4 1 #4
B	1 #4 -- --
NEU	1 #4 -- --

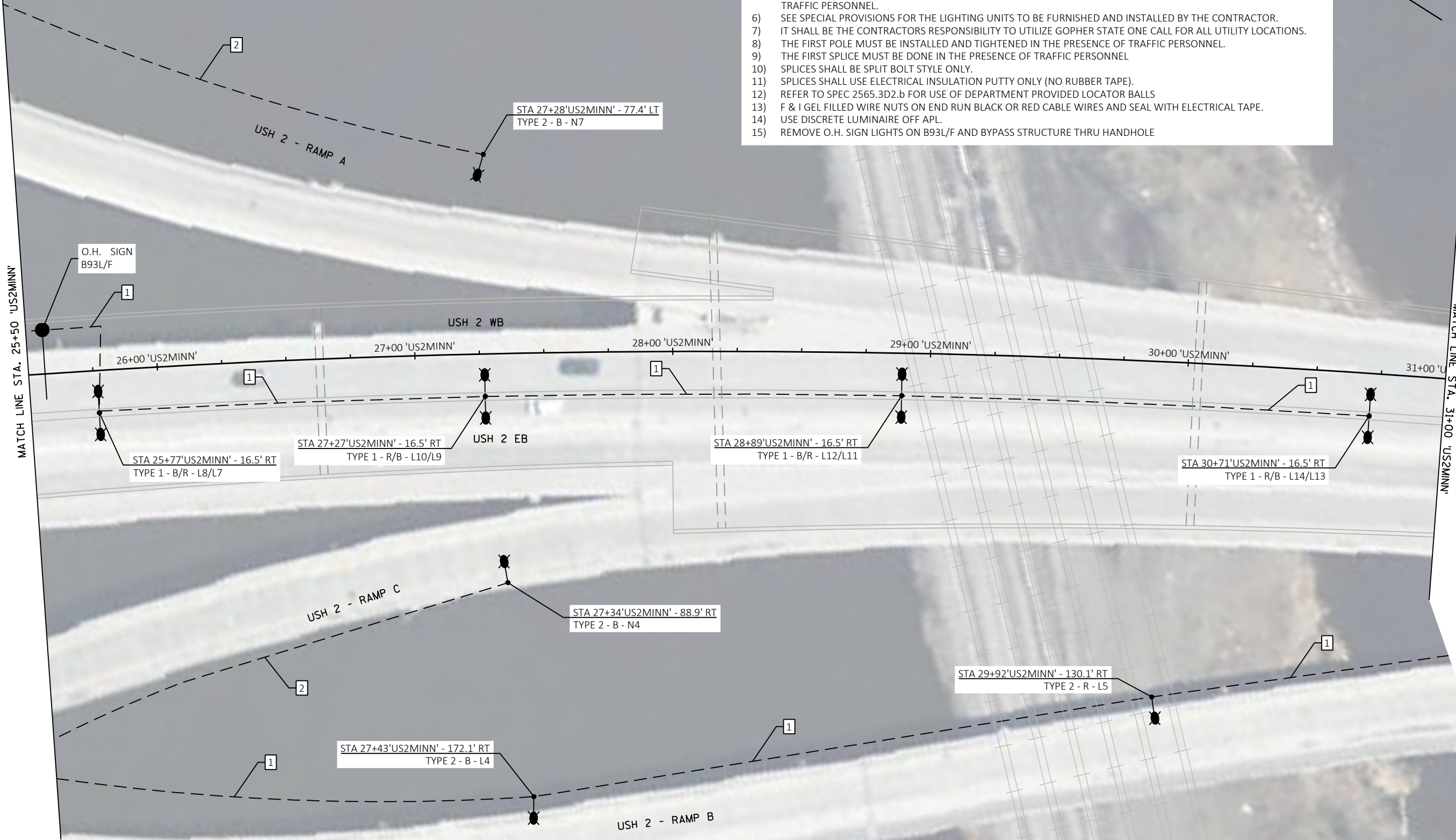


*SHEET IS AT 100 SCALE FOR VISIBILITY.

1 =	B93L	EXISTING			
	R	1	#4	1	#4
	B	1	#4	--	--
	NEU	1	#4	--	--

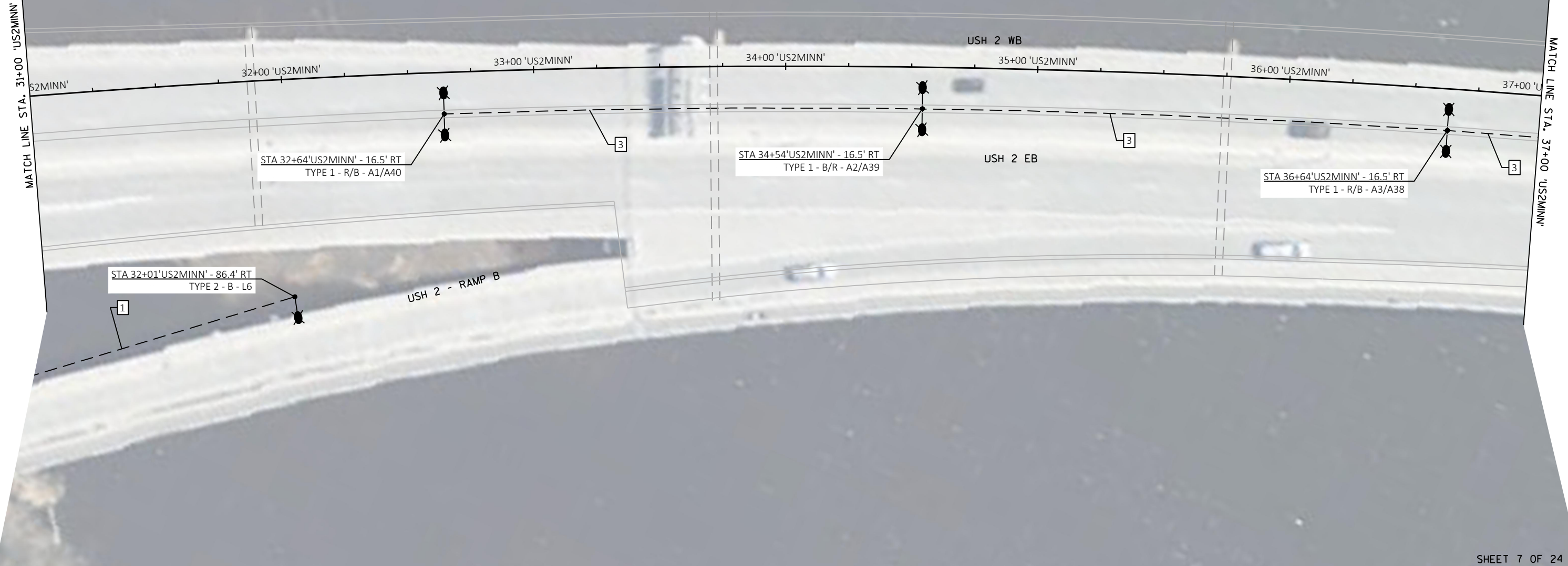
2 =	B93N	EXISTING			
	R	1	#4	1	#4
	B	1	#4	--	--
	NEU	1	#4	--	--

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 - 14) USE DISCRETE LUMINAIRE OFF APL.
 - 15) REMOVE O.H. SIGN LIGHTS ON B93L/F AND BYPASS STRUCTURE THRU HANDHOLE



1 =	B93L EXISTING					2 =	B93N EXISTING					3 =	69A1 EXISTING				
	R	1	#4	1	#4		R	1	#4	1	#4		R	1	#4	1	#4
	B	1	#4	--	--		B	1	#4	--	--		B	1	#4	--	--
	NEU	1	#4	--	--		NEU	1	#4	--	--		NEU	1	#4	--	--

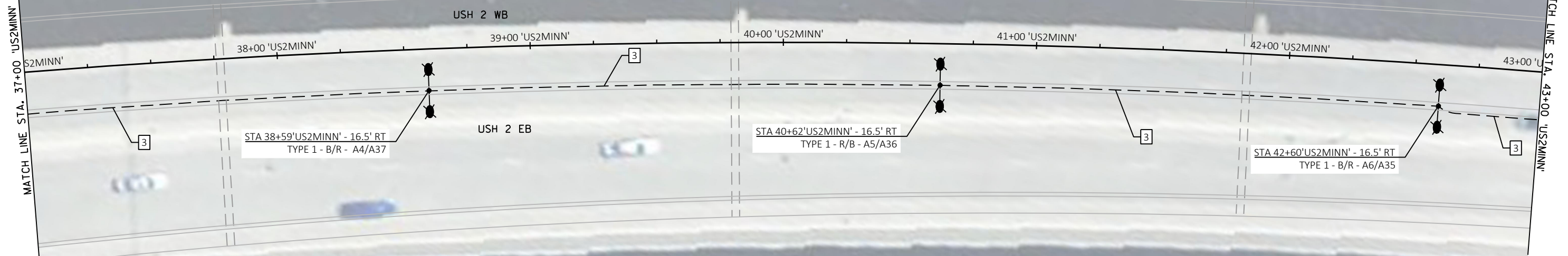
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3	69A1	EXISTING			
	R	1	#4	1	#4
	B	1	#4	--	--
	NEU	1	#4	--	--

CONSTRUCTION NOTES:

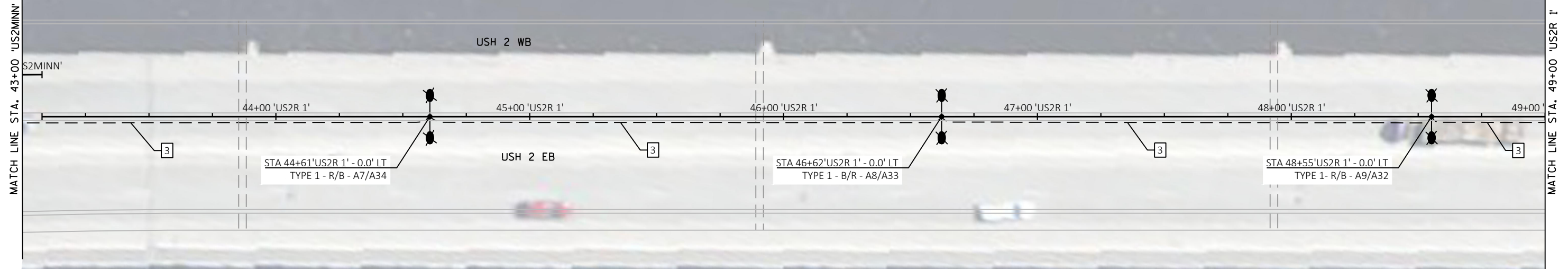
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3	=	69A1	EXISTING
R	1	#4	1 #4
B	1	#4	-- --
NEU	1	#4	-- --

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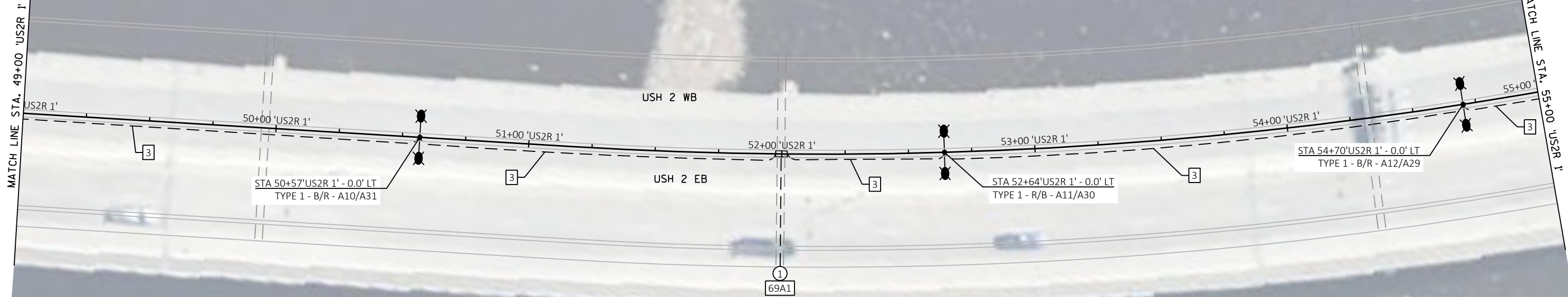
69A1		EXISTING	
R	1	#4	1 #4
B	1	#4	-- --
NEU	1	#4	-- --

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KEYED NOTES:

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69A1	EXISTING			
R	1	#4	1	#4
B	1	#4	--	--
NEU	1	#4	--	--

3 =

CONSTRUCTION NOTES:

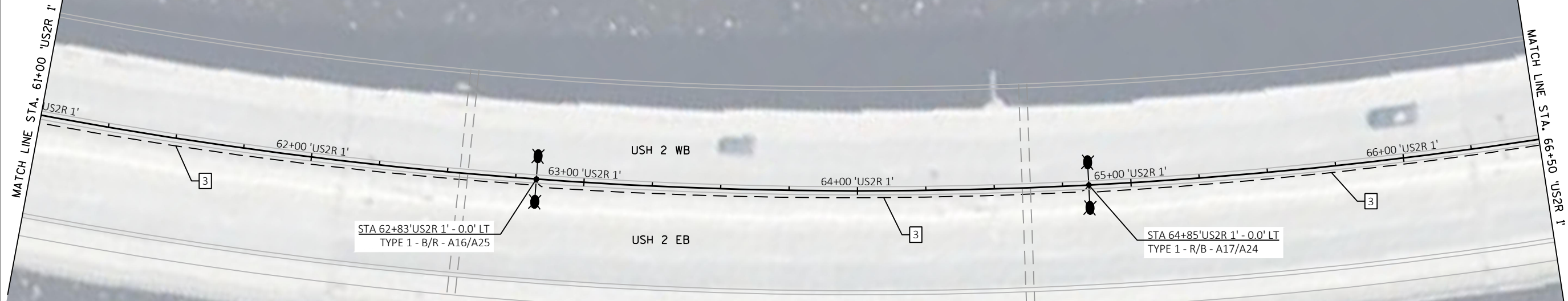
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69A1		EXISTING			
R	1	#4	1	#4	
B	1	#4	--	--	
NEU	1	#4	--	--	

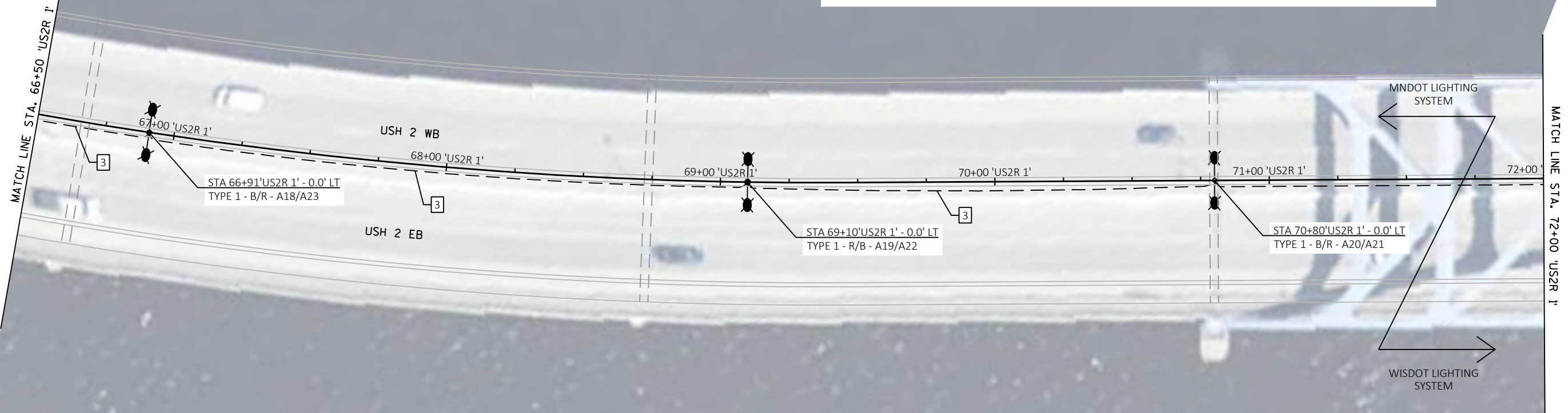
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69A1	EXISTING			
R	1	#4	1	#4
B	1	#4	--	--
NEU	1	#4	--	--

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 - 14) USE DISCRETE LUMINAIRE OFF APL.
 - 15) CONDUIT BETWEEN A20/A21 & SL100 MAY NOT EXIST, CONTRACTOR TO FIELD VERIFY. CLEAN OUT CONDUIT IN ACCORDANCE WITH THE SPECIFICATIONS IF A RACEWAY IS FOUND.



CONSTRUCTION NOTES:

- 1) REPLACE LUMINAIRES ONLY FOR WISDOT LIGHTING UNITS MOUNTED ON MEDIAN BARRIER. ALL OTHER ELECTRICAL INFRASTRUCTURE TO REMAIN.
- 2) CONDUIT BETWEEN A20/A21 & SL100 MAY NOT EXIST, CONTRACTOR TO FIELD VERIFY. CLEAN OUT CONDUIT IN ACCORDANCE WITH THE SPECIFICATIONS IF A RACEWAY IS FOUND.



MATCH LINE STA. 72+00 'US2R 1'

MATCH LINE STA. 77+50 'US2R 1'

US2R 1' 73+00 'US2R 1' 74+00 'US2R 1' 75+00 'US2R 1' 76+00 'US2R 1' 77+00 'US2R 1'

STA 73+30'US2R 1' - 0.0' LT
LED B - STR - EX - EX - SL100

STA 75+80'US2R 1' - 0.1' LT
LED B - STR - EX - EX - SL101

USH 2 WB

USH 2 EB

2

CONSTRUCTION NOTES:

- 1) REPLACE LUMINAIRES ONLY FOR WISDOT LIGHTING UNITS MOUNTED ON MEDIAN BARRIER. ALL OTHER ELECTRICAL INFRASTRUCTURE TO REMAIN.



2

MATCH LINE STA. 77+50 'US2R 1'

MATCH LINE STA. 83+00 'US2R 1'

78+00 'US2R 1'

79+00 'US2R 1'

80+00 'US2R 1'

81+00 'US2R 1'

82+00 'US2R 1'

83+00

STA 77+96'US2R 1' - 0.1' LT
LED B - STR - EX - EX - SL 102

STA 79+96'US2R 1' - 0.0' LT
LED B - STR - EX - EX - SL103

STA 81+95'US2R 1' - 0.0' LT
LED B - STR - EX - EX - SL104

USH 2 WB

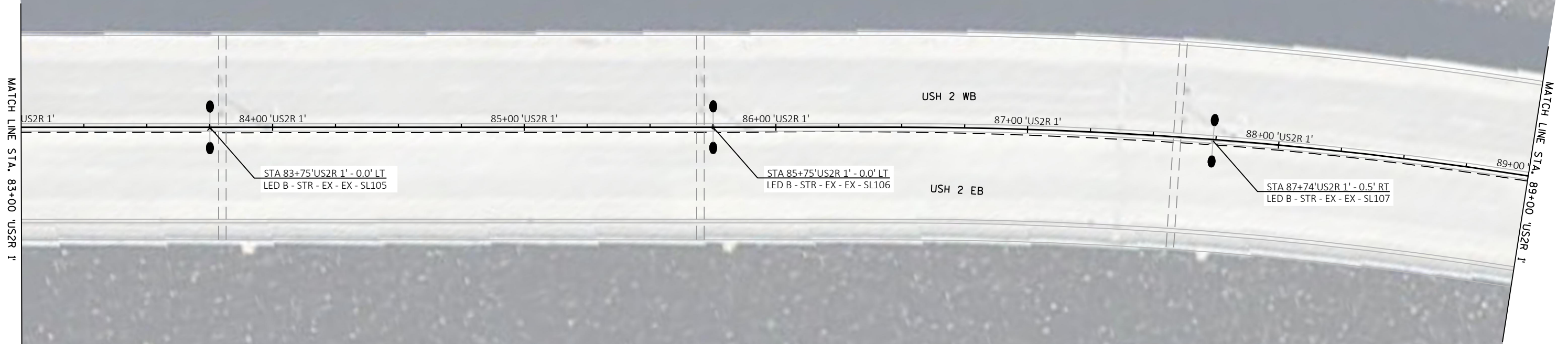
USH 2 EB

SHEET 15 OF 24

PROJECT NO: 8680-00-74	HWY: USH 2	COUNTY: DOUGLAS	LIGHTING PLANS	SHEET	E
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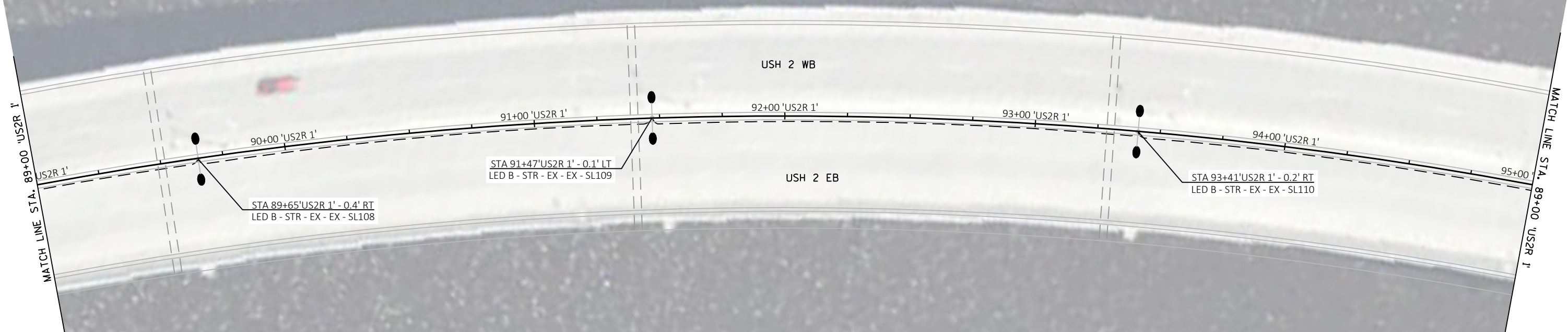
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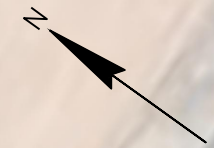
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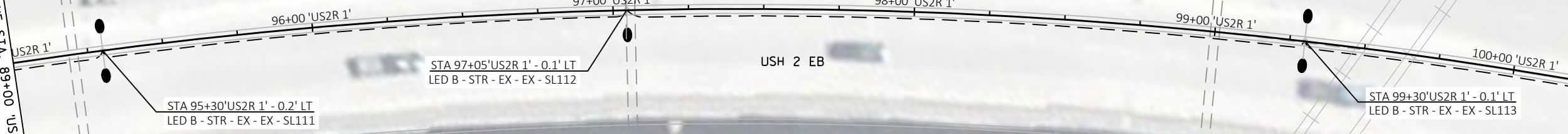


MATCH LINE STA. 89+00 'US2R 1'

MATCH LINE STA. 100+50 'US2R 1'

USH 2 WB

USH 2 EB

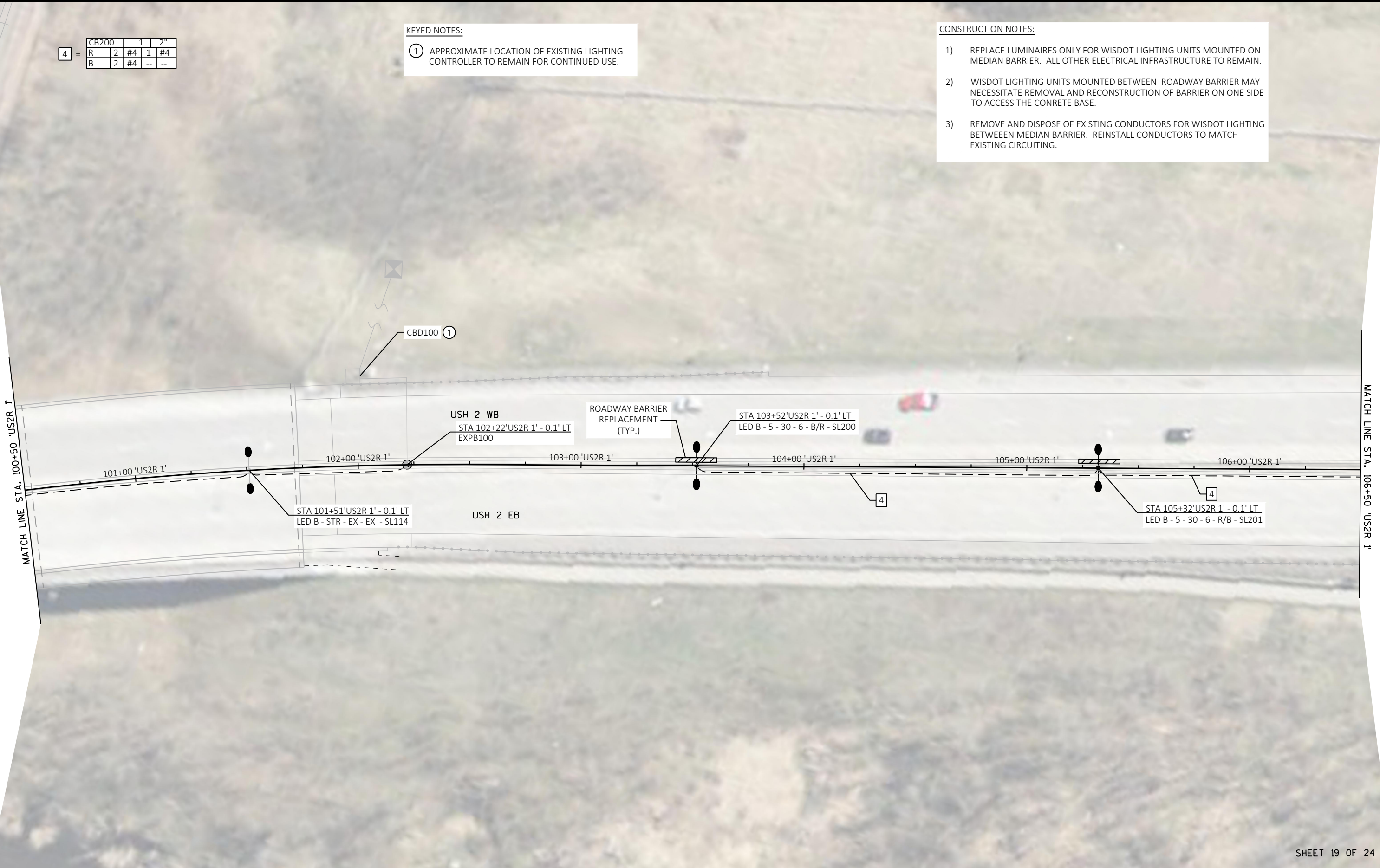


4	=	CB200	1	2"
		R	2	#4
		B	2	#4

KEYED NOTES:
 ① APPROXIMATE LOCATION OF EXISTING LIGHTING CONTROLLER TO REMAIN FOR CONTINUED USE.

CONSTRUCTION NOTES:

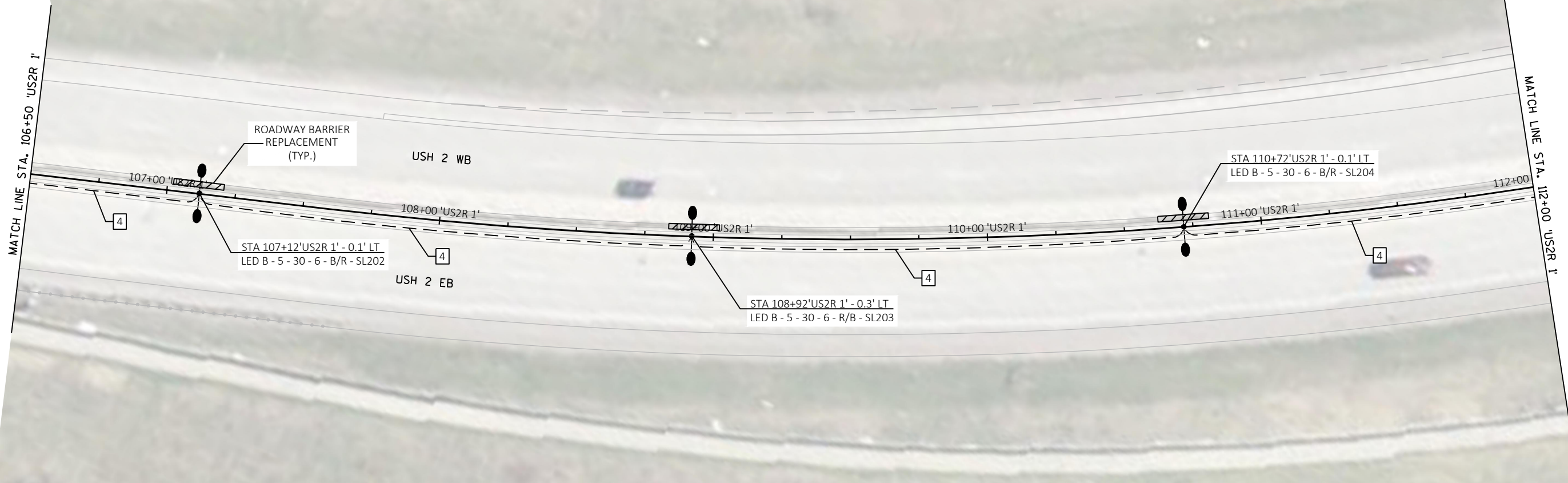
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- 2) WISDOT LIGHTING UNITS MOUNTED BETWEEN ROADWAY BARRIER MAY NECESSITATE REMOVAL AND RECONSTRUCTION OF BARRIER ON ONE SIDE TO ACCESS THE CONCRETE BASE.
- 3) REMOVE AND DISPOSE OF EXISTING CONDUCTORS FOR WISDOT LIGHTING BETWEEN MEDIAN BARRIER. REINSTALL CONDUCTORS TO MATCH EXISTING CIRCUITING.



4	=	CB200	1	2"
		R	2	#4 1 #4
		B	2	#4 -- --

CONSTRUCTION NOTES:

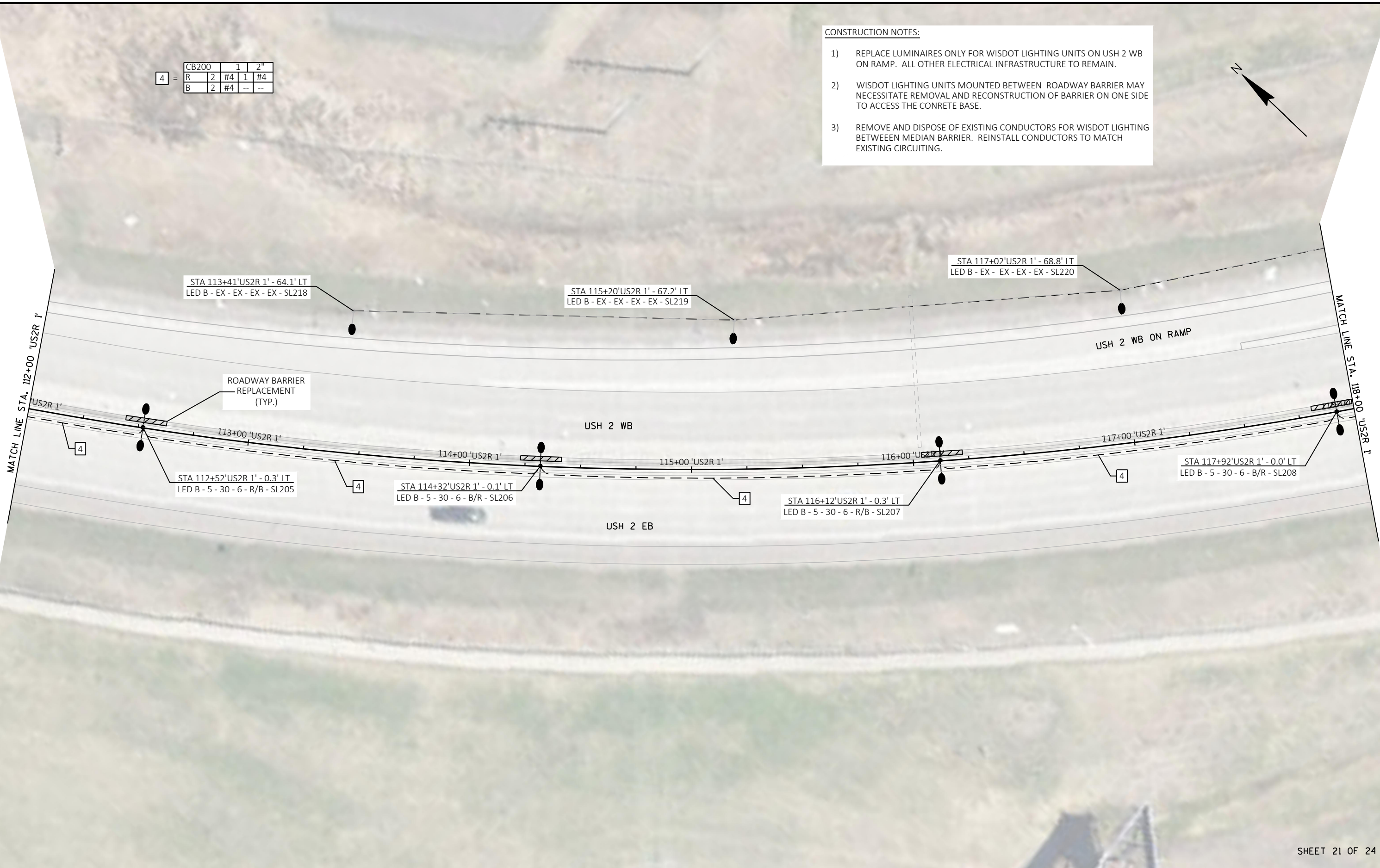
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4	CB200	1	2"
	R	2	#4 1 #4
	B	2	#4 -- --

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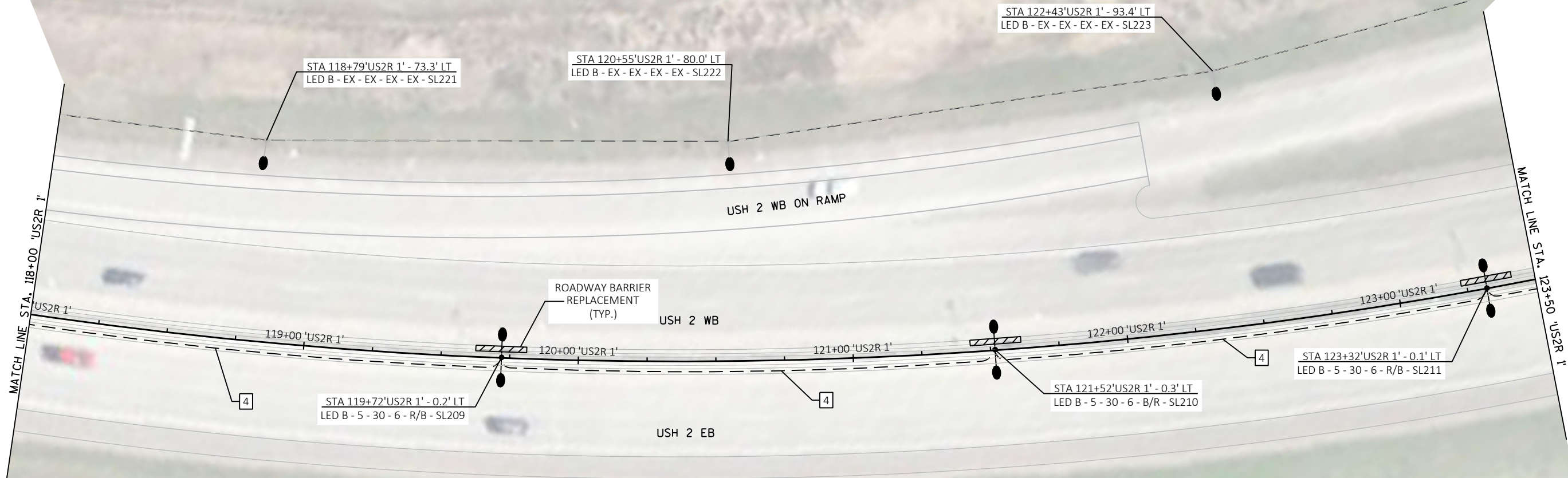
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		R	2 #4	1 #4
		B	2 #4	-- --

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4	=	CB200	1	2"
		R	2	#4
		B	2	#4

STA 124+00'US2R 1' - 107.0' LT
LED B - EX - EX - EX - EX - SL224

STA 125+60'US2R 1' - 126.0' LT
LED B - EX - EX - EX - EX - SL225

STA 127+18'US2R 1' - 146.0' LT
LED B - EX - EX - EX - EX - SL226

STA 128+75'US2R 1' - 158.0' LT
LED B - EX - EX - EX - EX - SL227

USH 2 WB ON RAMP

MATCH LINE STA. 123+50 'US2R 1'

MATCH LINE STA. 129+50 'US2R 1'

124+00 'US2R 1'

125+00 'US2R 1'

USH 2 WB

ROADWAY BARRIER REPLACEMENT (TYP.)

126+00 'US2R 1'

127+00 'US2R 1'

128+00 'US2R 1'

129+00 'US2R 1'

STA 125+12'US2R 1' - 0.2' RT
LED B - 5 - 30 - 6 - B/R - SL212

STA 126+92'US2R 1' - 0.0' RT
LED B - 5 - 30 - 6 - R/B - SL213

STA 128+73'US2R 1' - 0.0' RT
LED B - 5 - 30 - 6 - B/R - SL214

USH 2 EB

- CONSTRUCTION NOTES:
- 1) REPLACE LUMINAIRES ONLY FOR WISDOT LIGHTING UNITS ON USH 2 WB ON RAMP. ALL OTHER ELECTRICAL INFRASTRUCTURE TO REMAIN.
 - 2) WISDOT LIGHTING UNITS MOUNTED BETWEEN ROADWAY BARRIER MAY NECESSITATE REMOVAL AND RECONSTRUCTION OF BARRIER ON ONE SIDE TO ACCESS THE CONCRETE BASE.
 - 3) REMOVE AND DISPOSE OF EXISTING CONDUCTORS FOR WISDOT LIGHTING BETWEEN MEDIAN BARRIER. REINSTALL CONDUCTORS TO MATCH EXISTING CIRCUITING.



STA 130+25'US2R 1' - 168.0' LT
LED B - EX - EX - EX - EX - SL228

STA 130+60'US2R 1' - 169.4' LT
EXPB202

4 =

CB200	1	2"
R	2	#4 1 #4
B	2	#4 -- --

5 =

CB200	EXISTING
R	2 #4 1 #4
B	2 #4 -- --

KEYED NOTES:

③ CONDUIT EMBEDDED IN STRUCTURE

- CONSTRUCTION NOTES:
- 1) REPLACE LUMINAIRES ONLY FOR WISDOT LIGHTING UNITS ON USH 2 WB ON RAMP. ALL OTHER ELECTRICAL INFRASTRUCTURE TO REMAIN.
 - 2) WISDOT LIGHTING UNITS MOUNTED BETWEEN ROADWAY BARRIER MAY NECESSITATE REMOVAL AND RECONSTRUCTION OF BARRIER ON ONE SIDE TO ACCESS THE CONCRETE BASE.
 - 3) REMOVE AND DISPOSE OF EXISTING CONDUCTORS FOR WISDOT LIGHTING BETWEEN MEDIAN BARRIER. REINSTALL CONDUCTORS TO MATCH EXISTING CIRCUITING.

USH 2 WB ON RAMP

SUSQUEHANNA AVE

STA 130+63'US2R 1' - 75.5' LT
CB200

STA 130+74'US2R 1' - 75.6' LT
EXPB200

STA 131+98'US2R 1' - 72.9' LT
EXPB203

STA 133+98'US2R 1' - 60.0' LT
EXPB204

REMOVE CONDUCTORS BACK TO EXISTING LIGHTING CONTROL CABINET. INSTALL NEW CONDUCTORS ON EXISTING BREAKERS AND CONTACTORS.

ROADWAY BARRIER REPLACEMENT (TYP.)

USH 2 WB

132+00'US2R 1'

133+00'US2R 1'

134+00'US2R 1'

STA 134+12'US2R 1' - 0.0' LT
LED B - 5 - 30 - 6 - R/B - SL217

MATCH LINE STA. 129+50'US2R 1'

130+00'US2R 1'

STA 130+25'US2R 1' - 0.1' LT
EXPB201

STA 132+32'US2R 1' - 0.1' LT
LED B - 5 - 30 - 6 - B/R - SL216

STA 130+54'US2R 1' - 0.1' LT
LED B - 5 - 30 - 6 - R/B - SL215

CB200	1	2"
R	4	#4 2 #4
B	4	#4 -- --

Estimate Of Quantities

8680-00-74

Line	Item	Item Description	Unit	Total	Qty
0002	203.0270	Removing Structure Over Waterway Debris Capture (structure) 01. B-16-0038	EACH	1.000	1.000
0004	204.0157	Removing Concrete Barrier	LF	285.000	285.000
0006	204.0195	Removing Concrete Bases	EACH	18.000	18.000
0008	204.9060.S	Removing (item description) 01. Lighting Units	EACH	47.000	47.000
0010	204.9060.S	Removing (item description) 02. Luminaires	EACH	41.000	41.000
0012	204.9060.S	Removing (item description) 03. Overhead Sign Luminaires	EACH	2.000	2.000
0014	204.9090.S	Removing (item description) 01. Electrical Conductors from Existing Conduit	LF	10,795.000	10,795.000
0016	204.9090.S	Removing (item description) 02. Or Abandoning Existing Conduit	LF	3,160.000	3,160.000
0018	213.0100	Finishing Roadway (project) 01. 8680-00-74	EACH	1.000	1.000
0020	502.0100	Concrete Masonry Bridges	CY	96.000	96.000
0022	502.3205	Pigmented Surface Sealer Reseal	SY	4,950.000	4,950.000
0024	502.3210	Pigmented Surface Sealer	SY	399.000	399.000
0026	502.4205	Adhesive Anchors No. 5 Bar	EACH	753.000	753.000
0028	505.0600	Bar Steel Reinforcement HS Coated Structures	LB	8,430.000	8,430.000
0030	509.1500	Concrete Surface Repair	SF	1,860.000	1,860.000
0032	517.3001.S	Structure Overcoating Cleaning and Priming (structure) 01. B-16-38	EACH	1.000	1.000
0034	517.4001.S	Containment and Collection of Waste Materials (structure) 01. B-16-38	EACH	1.000	1.000
0036	517.6001.S	Portable Decontamination Facility 01. B-16-38	EACH	1.000	1.000
0038	531.8990	Anchor Assemblies Poles on Structures	EACH	24.000	24.000
0040	603.0105	Concrete Barrier Single-Faced 32-Inch	LF	285.000	285.000
0042	603.8000	Concrete Barrier Temporary Precast Delivered	LF	10,260.000	10,260.000
0044	603.8125	Concrete Barrier Temporary Precast Installed	LF	10,260.000	10,260.000
0046	618.0100	Maintenance and Repair of Haul Roads (project) 01. 8680-00-74	EACH	1.000	1.000
0048	619.1000	Mobilization	EACH	1.000	1.000
0050	642.5001	Field Office Type B	EACH	1.000	1.000
0052	643.0300	Traffic Control Drums	DAY	28,664.000	28,664.000
0054	643.0420	Traffic Control Barricades Type III	DAY	2,214.000	2,214.000
0056	643.0705	Traffic Control Warning Lights Type A	DAY	4,043.000	4,043.000
0058	643.0715	Traffic Control Warning Lights Type C	DAY	6,380.000	6,380.000
0060	643.0800	Traffic Control Arrow Boards	DAY	4.000	4.000
0062	643.0810.S	Connected Arrow Board	DAY	220.000	220.000
0064	643.0900	Traffic Control Signs	DAY	7,702.000	7,702.000
0066	643.0910	Traffic Control Covering Signs Type I	EACH	3.000	3.000
0068	643.0920	Traffic Control Covering Signs Type II	EACH	3.000	3.000
0070	643.1000	Traffic Control Signs Fixed Message	SF	219.000	219.000
0072	643.1050	Traffic Control Signs PCMS	DAY	21.000	21.000
0074	643.1070	Traffic Control Cones 42-Inch	DAY	19,680.000	19,680.000
0076	643.1220.S	Connected Work Zone Start and End Location Markers	DAY	220.000	220.000
0078	643.3180	Temporary Marking Line Removable Tape 6-Inch	LF	22,320.000	22,320.000
0080	643.3280	Temporary Marking Line Removable Tape 10-Inch	LF	710.000	710.000
0082	643.5000	Traffic Control	EACH	1.000	1.000
0084	646.2020	Marking Line Epoxy 6-Inch	LF	361.000	361.000
0086	646.2025	Marking Line Grooved Black Epoxy 6-Inch	LF	6,120.000	6,120.000
0088	646.2040	Marking Line Grooved Wet Ref Epoxy 6-Inch	LF	71,101.000	71,101.000
0090	646.4020	Marking Line Epoxy 10-Inch	LF	1,043.000	1,043.000
0092	646.4040	Marking Line Grooved Wet Ref Epoxy 10-Inch	LF	4,893.000	4,893.000
0094	646.5020	Marking Arrow Epoxy	EACH	13.000	13.000
0096	646.5120	Marking Word Epoxy	EACH	4.000	4.000
0098	646.6320	Marking Dotted Extension Epoxy 18-Inch	LF	109.000	109.000

Estimate Of Quantities

8680-00-74

Line	Item	Item Description	Unit	Total	Qty
0100	646.7320	Marking Chevron Epoxy 12-Inch	LF	57.000	57.000
0102	646.7420	Marking Crosswalk Epoxy Transverse Line 6-Inch	LF	108.000	108.000
0104	646.9010	Marking Removal Line Water Blasting 4-Inch	LF	9,980.000	9,980.000
0106	646.9110	Marking Removal Line Water Blasting 8-Inch	LF	1,220.000	1,220.000
0108	650.9911	Construction Staking Supplemental Control (project) 01. 8680-00-74	EACH	1.000	1.000
0110	652.0225	Conduit Rigid Nonmetallic Schedule 40 2-Inch	LF	3,010.000	3,010.000
0112	652.0310	Conduit Rigid Nonmetallic Schedule 80 1-Inch	LF	38.000	38.000
0114	652.0320	Conduit Rigid Nonmetallic Schedule 80 1 1/2-Inch	LF	6.000	6.000
0116	652.0325	Conduit Rigid Nonmetallic Schedule 80 2-Inch	LF	547.000	547.000
0118	652.0700.S	Install Conduit into Existing Item	EACH	1.000	1.000
0120	655.0610	Electrical Wire Lighting 12 AWG	LF	15,840.000	15,840.000
0122	655.0630	Electrical Wire Lighting 4 AWG	LF	48,814.000	48,814.000
0124	657.0255	Transformer Bases Breakaway 11 1/2-Inch Bolt Circle	EACH	18.000	18.000
0126	657.0322	Poles Type 5-Aluminum	EACH	18.000	18.000
0128	657.0610	Luminaire Arms Single Member 4 1/2-Inch Clamp 6-FT	EACH	36.000	36.000
0130	659.1120	Luminaires Utility LED B	EACH	77.000	77.000
0132	659.5000.S	Lamp, Ballast, LED, Switch Disposal by Contractor	EACH	130.000	130.000
0134	ASP.1T0A	On-the-Job Training Apprentice at \$5.00/HR	HRS	990.000	990.000
0136	ASP.1T0G	On-the-Job Training Graduate at \$5.00/HR	HRS	1,500.000	1,500.000
0138	SPV.0060	Special 01. MNDOT Lighting Unit Type 1	EACH	24.000	24.000
0140	SPV.0060	Special 02. MNDOT Lighting Unit Type 2	EACH	5.000	5.000
0142	SPV.0060	Special 03. Concrete Bases Type 5 - Tall	EACH	18.000	18.000
0144	SPV.0060	Special 05. Marking Arrows Grooved Preformed Thermoplastic	EACH	2.000	2.000
0146	SPV.0060	Special 06. Marking Words Grooved Preformed Thermoplastic	EACH	2.000	2.000
0148	SPV.0060	Special 09. Junction Boxes 8X8X6-Inch	EACH	2.000	2.000
0150	SPV.0060	Special 10. Re-caulk Tie Girder Casting	EACH	22.000	22.000
0152	SPV.0060	Special 11. Remove and Replace Sidewalk Cover Plate	EACH	1.000	1.000
0154	SPV.0060	Special 12. Painting Pier Piles	EACH	1.000	1.000
0156	SPV.0090	Special 02. Strip Seal Gland Replacement	LF	166.000	166.000
0158	SPV.0090	Special 05. Conduit Clean Out	LF	7,785.000	7,785.000
0160	SPV.0180	Special 01. Methacrylate Flood Seal (Bridge)	SY	66,770.000	66,770.000
0162	SPV.0180	Special 02. Methacrylate Flood Seal (Ramps)	SY	11,740.000	11,740.000

FINISHING ROADWAY

213.0100.01
FINISHING ROADWAY
(PROJECT) (01. 8680-00-74)

LOCATION	EACH
PROJECT LIMITS	1
TOTAL 0010	1

MAINTENANCE AND REPAIR OF HAUL ROADS

618.0100.01
MAINTENANCE AND REPAIR OF
HAUL ROADS (PROJECT) (01.
8680-00-74)

LOCATION	EACH
PROJECT LIMITS	1
TOTAL 0010	1

MOBILIZATION

619.1000
MOBILIZATION

CATEGORY	LOCATION	EACH
0010	8680-00-74	0.05
TOTAL 0010		0.05
0020	8680-00-74	0.70
TOTAL 0020		0.70
0030	8680-00-74	0.09
TOTAL 0030		0.09
0040	8680-00-74	0.12
TOTAL 0040		0.12
0050	8680-00-74	0.04
TOTAL 0050		0.04
PROJECT TOTAL		1

CONCRETE BARRIER TEMPORARY PRECAST

603.8000
CONCRETE
BARRIER
TEMPORARY
PRECAST
DELIVERED

603.8125
CONCRETE
BARRIER
TEMPORARY
PRECAST
INSTALLED

CATEGORY	STATION	TO	STATION	LOCATION	STAGE	LF	LF	REMARKS
0020	68+80	-	76+65	USH 2 EB	STAGE 2B	785	785	
	69+35	-	77+20	USH 2 WB	STAGE 2B	785	785	
TOTAL 0020						1,570	1,570	
0030	25+40	-	73+30	USH 2 WB	STAGE 1B	4,790	4,790	
				UNDISTRIBUTED		300	300	MOVE/REINSTALLATION OF 8:1 TAPER
TOTAL 0030						5,090	5,090	
0040	102+00	-	135+00	USH 2 WB	STAGE 1A	3,300	3,300	
				UNDISTRIBUTED		300	300	MOVE/REINSTALLATION OF 8:1 TAPER
TOTAL 0040						3,600	3,600	
PROJECT TOTAL						10260	10260	

FIELD OFFICE TYPE B

PROJECT	EACH
8680-00-74	1
TOTAL 0010	1

TRAFFIC CONTROL

PROJECT	EACH
8680-00-74	1
TOTAL 0010	1

ALL ITEMS ON THIS SHEET
ARE CATEGORY 0010
UNLESS OTHERWISE NOTED

TRAFFIC CONTROL

CATEGORY	LOCATION	DURATION DAYS	#	643.0300	643.0420	643.0705	643.0715	643.0800	643.0900	643.1050	643.1070	REMARKS							
				TRAFFIC CONTROL DRUMS	TRAFFIC CONTROL BARRICADES TYPE III	TRAFFIC CONTROL WARNING LIGHTS TYPE A	TRAFFIC CONTROL WARNING LIGHTS TYPE C	TRAFFIC CONTROL ARROW BOARDS	TRAFFIC CONTROL SIGNS	TRAFFIC CONTROL SIGNS PCMS	TRAFFIC CONTROL CONES 42-INCH								
0010	STAGE 1A	30	255	7650	12	360	24	720	88	2640	--	--	33	990	2	14	--	--	
	STAGE 1B	45	260	11700	13	585	26	1170	19	855	--	--	23	1035	--	--	--	--	
	STAGE 2A	20	20	400	16	320	32	640	20	400	--	--	26	520	--	--	398	7,960	
	STAGE 2B RAMP A CLOSED	7	87	609	9	63	18	126	51	357	--	--	14	98	--	--	397	2,779	
	STAGE 2B RAMP B CLOSED	7	127	889	9	63	18	126	64	448	--	--	17	119	--	--	358	2,506	
	STAGE 2B RAMP C CLOSED	7	147	1,029	9	63	18	126	51	357	--	--	14	98	--	--	335	2,345	
	RAMP A DETOUR	7	22	154	4	28	6	42	0	0	--	--	41	287	--	--	--	--	
	RAMP B DETOUR	7	22	154	4	28	0	0	0	0	--	--	54	378	--	--	--	--	
	RAMP C DETOUR	7	22	154	4	28	0	0	0	0	--	--	64	448	--	--	--	--	
	USH 2 EB DETOUR	45	0	0	5	225	6	270	0	0	--	--	48	2160	1	7	--	--	
	UNDISTRIBUTED			5,752		442		805		1,263				1,528				3,900	
TOTAL 0010				28,491	2,205	4,025	6,320	0	7,661	21	19,490								
0040	PHASE 1 RAB	1	71	71	4	4	8	8	21	21	2	2	16	16	--	--	77	77	RAB PAVEMENT MARKING
	PHASE 2 RAB	1	81	81	4	4	8	8	27	27	2	2	16	16	--	--	75	75	RAB PAVEMENT MARKING
	UNDISTRIBUTED			21		1		2		12	--	--	--	9	--	--	--	38	
TOTAL 0040				173	9	18	60	4	41	0	190								
PROJECT TOTAL				28664	2214	4043	6380	4	7702	21	19680								

TRAFFIC CONTROL COVERING SIGNS & TC SIGNS FIXED MESSAGE

CATEGORY	LOCATION	# OF CYCLES	643.0910	643.0920	643.1000
			TRAFFIC CONTROL COVERING SIGNS TYPE I EACH	TRAFFIC CONTROL COVERING SIGNS TYPE II EACH	TRAFFIC CONTROL SIGNS FIXED MESSAGE SF
0010	RAMP A DETOUR	1	1	1	73
	RAMP B DETOUR	1	1	1	73
	RAMP C DETOUR	1	1	1	55
	USH 2 EB DETOUR	1	--	--	18
	UNDISTRIBUTED				
TOTAL 0010			3	3	219

TEMPORARY MARKING LINE & MARKING LINE REMOVAL

CATEGORY	LOCATION	643.3180	643.3280	646.9010	646.9110
		TEMPORARY MARKING LINE REMOVABLE TAPE 6-INCH LF	TEMPORARY MARKING LINE REMOVABLE TAPE 10-INCH LF	MARKING REMOVAL LINE WATER BLASTING 4-INCH LF	MARKING REMOVAL LINE WATER BLASTING 8-INCH LF
0010	STAGE 1A	21,810	710	9,980	1,220
	STAGE 1B	--	--	--	--
	RAMP A CLOSURE	170	--	--	--
	RAMP B CLOSURE	170	--	--	--
	RAMP C CLOSURE	170	--	--	--
TOTAL 0010		22,320	710	9,980	1,220

CONNECTED ARROW BOARD

CATEGORY	STAGE	DURATION DAYS	#	643.0810.S	643.1220.S	COMMENTS	
				CONNECTED ARROW BOARD	CONNECTED WORK ZONE START AND END LOCATION MARKERS		
0010	STAGE 1A	30	2	60	2	60	USH 2 WB (1), USH 2 EB (1)
	STAGE 1B	45	1	45	1	45	USH 2 WB (1)
	STAGE 2A	20	1	20	1	20	USH 2 WB (1)
	STAGE 2B RAMP A CLOSED	7	2	14	2	14	USH 2 WB (1), USH 2 EB (1)
	STAGE 2B RAMP B CLOSED	7	3	21	3	21	USH 2 WB (1), USH 2 EB (2)
	STAGE 2B RAMP C CLOSED	7	2	14	2	14	USH 2 WB (1), USH 2 EB (1)
	UNDISTRIBUTED			46		46	
TOTAL 0010				220	220		

ALL ITEMS ON THIS SHEET ARE CATEGORY 0010 UNLESS OTHERWISE NOTED

PAVEMENT MARKING

CATEGORY	STATION	TO	STATION	LOCATION	COLOR/TYPE	646.2020	646.2025	646.2040	646.4020	646.4040	646.6320	646.7320	
						MARKING LINE EPOXY 6-INCH LF	MARKING LINE GROOVED BLACK EPOXY 6-INCH LF	MARKING LINE GROOVED WET REF EPOXY 6-INCH LF	MARKING LINE EPOXY 10-INCH LF	MARKING LINE GROOVED WET REF EPOXY 10-INCH LF	MARKING DOTTED EXTENSION EPOXY 18-INCH LF	MARKING CHEVRON EPOXY 12-INCH LF	
0010	18+53	-	28+39	USH 2 WB	WHITE/EDGELINE	--	--	987	--	--	--	--	
	18+53	-	101+72 WB	USH 2 WB	WHITE/BLACK/LANE LINE	--	2,074	2,074	--	--	--	--	
	18+53	-	23+00	USH 2 WB	WHITE/CHANNELIZING	--	--	--	--	444	--	--	
	18+53	-	28+00	USH 2 EB	WHITE/EDGELINE	--	--	910	--	--	--	--	
	18+90	-	101+72 EB	USH 2 EB	YELLOW/EDGELINE	--	--	8,289	--	--	--	--	
	18+90	-	101+72 WB	USH 2 WB	YELLOW/EDGELINE	--	--	8,275	--	--	--	--	
	23+00	-	24+19	USH 2 WB	DOTTED	--	--	30	--	--	--	--	
	27+85	-	28+39	RAMP A	YELLOW/EDGELINE	--	--	56	--	--	--	--	
	27+85	-	101+72 WB	USH 2 WB	WHITE/EDGELINE	--	--	10,180	--	--	--	--	
	28+39	-	29+98	USH 2 WB	WHITE/CHANNELIZING	--	--	--	--	320	--	--	
	28+00	-	33+31	USH 2 EB	WHITE/CHANNELIZING	--	--	--	--	1,053	--	--	
	28+00	-	33+31	RAMP C	WHITE/EDGELINE	--	--	524	--	--	--	--	
	29+98	-	32+69	USH 2 WB	DOTTED	--	--	68	--	--	--	--	
	33+31	-	101+72 EB	USH 2 EB	WHITE/BLACK/LANE LINE	--	1,710	1,710	--	--	--	--	
	33+34	-	101+72 EB	USH 2 EB	WHITE/EDGELINE	--	--	6,832	--	--	--	--	
	33+31	-	38+50	RAMP B	WHITE/CHANNELIZING	--	--	--	--	1025	--	--	
	38+50	-	43+38 EB	USH 2 EB	DOTTED	--	--	121	--	--	--	--	
	TOTAL 0010						0	3,784	40,056	0	2,842	0	0
	0040	101+72 WB	-	150+82 WB	USH 2 WB	WHITE/BLACK/LANE LINE	--	1,228	1,228	--	--	--	--
		101+72 EB	-	150+83 EB	USH 2 EB	YELLOW/EDGELINE	--	--	4,924	--	--	--	--
101+72 WB		-	150+92 WB	USH 2 WB	YELLOW/EDGELINE	--	--	4,912	--	--	--	--	
101+72 WB		-	122+13	USH 2 WB	WHITE/EDGELINE	--	--	1,999	--	--	--	--	
101+72 EB		-	146+01 EB	USH 2 EB	WHITE/BLACK/LANE LINE	--	1,108	1,108	--	--	--	--	
101+72 EB		-	144+28 EB	USH 2 EB	WHITE/EDGELINE	--	--	4,285	--	--	--	--	
107+59		-	112+50	USH 2 WB	DOTTED	--	--	123	--	--	--	--	
112+50		-	122+66	USH 2 WB	WHITE/CHANNELIZING	--	--	--	--	1,927	--	--	
122+66		-	150+25 WB	USH 2 WB	WHITE/EDGELINE	--	--	2,766	--	--	--	--	
146+01 EB		-	151+04 EB	USH 2 EB	WHITE/CHANNELIZING	--	--	--	635	--	--	--	
148+41 EB		-	149+02 EB	USH 2 EB	WHITE/CHANNELIZING	--	--	--	--	124	--	--	
149+47 EB		-	151+04 EB	USH 2 EB	WHITE/CHEVRONS	--	--	--	--	--	--	40	
				RAB	WHITE/DOTTED LANE LINE	14	--	--	--	--	--	--	
				RAB	WHITE/CIRCULATORY LANE LINE	292	--	--	--	--	--	--	
				RAB WEST LEG	WHITE/YIELD LINE	--	--	--	--	--	28	--	
				RAB WEST LEG	WHITE/CHANNELIZING	--	--	--	88	--	--	--	
				RAB NORTH LEG	WHITE/YIELD LINE	--	--	--	--	--	25	--	
				RAB NORTH LEG	WHITE/CHANNELIZING	--	--	--	87	--	--	--	
				RAB EAST LEG	WHITE/YIELD LINE	--	--	--	--	--	32	--	
				RAB EAST LEG	WHITE/CHANNELIZING	--	--	--	91	--	--	--	
			RAB SOUTH LEG	WHITE/YIELD LINE	--	--	--	--	--	24	--		
			RAB SOUTH LEG	WHITE/CHANNELIZING	--	--	--	65	--	--	--		
152+60 WB	-	153+00 WB	USH 2 WB	WHITE/CHANNELIZING	--	--	--	77	--	--	--		
152+60 WB	-	153+00 WB	USH 2 WB	WHITE/CHEVRONS	--	--	--	--	--	--	17		
152+74 WB	-	153+00 WB	USH 2 WB	YELLOW/EDGELINE	27	--	--	--	--	--	--		
152+60 EB	-	152+87 EB	USH 2 EB	YELLOW/EDGELINE	28	--	--	--	--	--	--		
TOTAL 0040						361	2,336	21,345	1,043	2,051	109	57	

~CONTINUE~

ALL ITEMS ON THIS SHEET
ARE CATEGORY 0010
UNLESS OTHERWISE NOTED

PAVEMENT MARKING ~CONTINUED~

CATEGORY	STATION	TO	STATION	LOCATION	COLOR/TYPE	646.2020	646.2025	646.2040	646.4020	646.4040	646.6320	646.7320
						MARKING LINE EPOXY 6-INCH	MARKING LINE GROOVED BLACK EPOXY 6-INCH	MARKING LINE GROOVED WET REF EPOXY 6-INCH	MARKING LINE EPOXY 10-INCH	MARKING LINE GROOVED WET REF EPOXY 10-INCH	MARKING DOTTED EXTENSION EPOXY 18-INCH	MARKING CHEVRON EPOXY 12-INCH
						LF	LF	LF	LF	LF	LF	LF
0050				RAMP A	WHITE/EDGELINE	--	--	1,430	--	--	--	--
				RAMP A	YELLOW/EDGELINE	--	--	1,430	--	--	--	--
	27+85	-	28+39	RAMP A	YELLOW/EDGELINE	--	--	56	--	--	--	--
				RAMP B	WHITE/EDGELINE	--	--	485	--	--	--	--
				RAMP B	YELLOW/EDGELINE	--	--	485	--	--	--	--
				RAMP C	WHITE/EDGELINE	--	--	2,645	--	--	--	--
				RAMP C	YELLOW/EDGELINE	--	--	2,645	--	--	--	--
	28+00	-	33+31	RAMP C	WHITE/EDGELINE	--	--	524	--	--	--	--
	TOTAL 0050						0	0	9,700	0	0	0
PROJECT TOTAL						361	6,120	71,101	1,043	4,893	109	57

MARKING CROSSWALK EPOXY TRANSVERSE LINE 6-INCH

CATEGORY	STATION	LOCATION	646.7420
			MARKING CROSSWALK EPOXY TRANSVERSE LINE 6-INCH LF
0040	153+05 WB	USH 2 WB	59
	152+92 EB	USH 2 EB	49
TOTAL 0040			108

CONSTRUCTION STAKING SUPPLEMENTAL CONTROL

PROJECT	650.9911.01 CONSTRUCTION STAKING SUPPLEMENTAL CONTROL (PROJECT) (01. 8680-00-74) EACH
8680-00-74	1
TOTAL 0010	1

MARKING ARROWS & MARKING WORDS

CATEGORY	STATION	TO	STATION	LOCATION	SPV.0060.05	646.5020	646.5120	SPV.0060.06	REMARKS	
					SPECIAL (05. MARKING ARROWS GROOVED PERFORMED THERMOPLASTIC) EACH	MARKING ARROW EPOXY EACH	MARKING WORD EPOXY EACH	SPECIAL (06. MARKING WORDS GROOVED PERFORMED THERMOPLASTIC) EACH		
0010	18+55	-	23+00	USH 2 WB	2	--	--	2	TYPE 2 / "ONLY"	
TOTAL 0010					2	0	0	2		
0040	146+02 EB			RAB WEST LEG	--	2	--	--	TYPE 3R/3	
	148+41 EB			RAB WEST LEG	--	3	--	--	TYPE 3R/1/2	
	149+29 EB			RAB WEST LEG	--	2	--	--	TYPE 3R/1	
	150+83 EB			RAB WEST LEG	--	--	2	--	--	"YIELD"
					RAB	--	3	--	--	TYPE 3
					RAB	--	2	--	--	TYPE 1
				RAB	--	1	--	--	TYPE 2	
152+60 WB			RAB EAST LEG	--	--	2	--	"YIELD"		
TOTAL 0040					0	13	4	0		
PROJECT TOTAL					2	13	4	2		

METHACRYLATE FLOOD SEAL

CATEGORY	STATION	TO	STATION	LOCATION	SPV.0180.01	SPV.0180.02
					SPECIAL (01. METHACRYLATE FLOOD SEAL (BRIDGE)) SY	SPECIAL (02. METHACRYLATE FLOOD SEAL (RAMPS)) SY
0020	18+53	-	100+72	B-16-0038	66,770	--
TOTAL 0020					66,770	0
0050				RAMP A	--	3,615
				RAMP B	--	6,755
				RAMP C	--	1,370
TOTAL 0050					0	11,740
PROJECT TOTAL					66,770	11,740

ALL ITEMS ON THIS SHEET
ARE CATEGORY 0010
UNLESS OTHERWISE NOTED

LIGHTING REMOVALS

ITEM	204.0157 REMOVING CONCRETE BARRIER	204.0195 REMOVING CONCRETE BASES	204.9060.S REMOVING (ITEM DESCRIPTION) 01. LIGHTING UNITS	204.9060.S REMOVING (ITEM DESCRIPTION) 02. LUMINAIRES	204.9060.S REMOVING (ITEM DESCRIPTION) 03. OVERHEAD SIGN LUMINAIRES	659.5000.S LAMP, BALLAST, LED, SWITCH DISPOSAL BY CONTRACTOR
	LF	EACH	EACH	EACH	EACH	EACH
CATEGORY 0030 (MN)						
EXSL N4	--	--	1	--	--	1
EXSL N7	--	--	1	--	--	1
EXSL L4	--	--	1	--	--	1
EXSL L5	--	--	1	--	--	1
EXSL L6	--	--	1	--	--	1
EXSL L7/L8	--	--	1	--	--	2
EXSL L9/L10	--	--	1	--	--	2
EXSL L11/L12	--	--	1	--	--	2
EXSL L13/L14	--	--	1	--	--	2
EXSL A1/A40	--	--	1	--	--	2
EXSL A2/A39	--	--	1	--	--	2
EXSL A3/A38	--	--	1	--	--	2
EXSL A4/A37	--	--	1	--	--	2
EXSL A5/A36	--	--	1	--	--	2
EXSL A6/A35	--	--	1	--	--	2
EXSL A7/A34	--	--	1	--	--	2
EXSL A8/A33	--	--	1	--	--	2
EXSL A9/A32	--	--	1	--	--	2
EXSL A10/A31	--	--	1	--	--	2
EXSL A11/A30	--	--	1	--	--	2
EXSL A12/A29	--	--	1	--	--	2
EXSL A13/A28	--	--	1	--	--	2
EXSL A14/A27	--	--	1	--	--	2
EXSL A15/A26	--	--	1	--	--	2
EXSL A16/A25	--	--	1	--	--	2
EXSL A17/A24	--	--	1	--	--	2
EXSL A18/A23	--	--	1	--	--	2
EXSL A19/A22	--	--	1	--	--	2
EXSL A20/A21	--	--	1	--	--	2
O.H. SIGN B93L/S	--	--	--	--	1	--
O.H. SIGN B93L/F	--	--	--	--	1	--
CATEGORY 0030 SUBTOTAL	0	0	29	0	2	53

LIGHTING REMOVALS (CONTINUED)

ITEM	204.0157 REMOVING CONCRETE BARRIER	204.0195 REMOVING CONCRETE BASES	204.9060.S REMOVING (ITEM DESCRIPTION) 01. LIGHTING UNITS	204.9060.S REMOVING (ITEM DESCRIPTION) 02. LUMINAIRES	204.9060.S REMOVING (ITEM DESCRIPTION) 03. OVERHEAD SIGN LUMINAIRES	659.5000.S LAMP, BALLAST, LED, SWITCH DISPOSAL BY CONTRACTOR
	LF	EACH	EACH	EACH	EACH	EACH
CATEGORY 0040 (WI)						
EXSL 100	--	--	--	2	--	2
EXSL 101	--	--	--	2	--	2
EXSL 102	--	--	--	2	--	2
EXSL 103	--	--	--	2	--	2
EXSL 104	--	--	--	2	--	2
EXSL 105	--	--	--	2	--	2
EXSL 106	--	--	--	2	--	2
EXSL 107	--	--	--	2	--	2
EXSL 108	--	--	--	2	--	2
EXSL 109	--	--	--	2	--	2
EXSL 110	--	--	--	2	--	2
EXSL 111	--	--	--	2	--	2
EXSL 112	--	--	--	2	--	2
EXSL 113	--	--	--	2	--	2
EXSL 114	--	--	--	2	--	2
EXSL 200	15	1	1	--	--	2
EXSL 201	15	1	1	--	--	2
EXSL 202	15	1	1	--	--	2
EXSL 203	15	1	1	--	--	2
EXSL 204	15	1	1	--	--	2
EXSL 205	15	1	1	--	--	2
EXSL 206	15	1	1	--	--	2
EXSL 207	15	1	1	--	--	2
EXSL 208	15	1	1	--	--	2
EXSL 209	15	1	1	--	--	2
EXSL 210	15	1	1	--	--	2
EXSL 211	15	1	1	--	--	2
EXSL 212	15	1	1	--	--	2
EXSL 213	15	1	1	--	--	2
EXSL 214	15	1	1	--	--	2
EXSL 215	15	1	1	--	--	2
EXSL 216	15	1	1	--	--	2
EXSL 217	15	1	1	--	--	2
EXSL 218	--	--	--	1	--	1
EXSL 219	--	--	--	1	--	1
EXSL 220	--	--	--	1	--	1
EXSL 221	--	--	--	1	--	1
EXSL 222	--	--	--	1	--	1
EXSL 223	--	--	--	1	--	1
EXSL 224	--	--	--	1	--	1
EXSL 225	--	--	--	1	--	1
EXSL 226	--	--	--	1	--	1
EXSL 227	--	--	--	1	--	1
EXSL 228	--	--	--	1	--	1
EXPB 201	15	--	--	--	--	--
CATEGORY 0040 SUBTOTAL	285	18	18	41	0	77
PROJECT TOTAL	285	18	47	41	2	130

LIGHTING LINEAR REMOVALS

				204.9090.S	204.9090.S
				REMOVING (ITEM DESCRIPTION) 01.	REMOVING (ITEM DESCRIPTION) 02.
				ELECTRICAL CONDUCTORS	OR ABANDONING
				FROM EXISTING CONDUIT	EXISTING CONDUIT
FROM	-	TO		LF	LF
CATEGORY 0030 (MN)					
EX JB	-	EXSL N7		430.0	--
EX HH	-	EXSL N4		350.0	--
CB B93L	-	EXSL L4		1060.0	--
EXSL L4	-	EXSL L5		250.0	--
EXSL L5	-	EXSL L6		210.0	--
CB B93L	-	EXSL L7/L8		750.0	--
EXSL L7/L8	-	EXSL L9/L10		155.0	--
EXSL L9/L10	-	EXSL L11/L12		165.0	--
EXSL L11/L12	-	EXSL L13/L14		185.0	--
EXSL A1/A40	-	EXSL A2/A39		200.0	--
EXSL A2/A39	-	EXSL A3/A38		210.0	--
EXSL A3/A38	-	EXSL A4/A37		205.0	--
EXSL A4/A37	-	EXSL A5/A36		205.0	--
EXSL A5/A36	-	EXSL A6/A35		200.0	--
EXSL A6/A35	-	EXSL A7/A34		205.0	--
EXSL A7/A34	-	EXSL A8/A33		205.0	--
EXSL A8/A33	-	EXSL A9/A32		200.0	--
EXSL A9/A32	-	EXSL A10/A31		205.0	--
EXSL A10/A31	-	EXCB 69A1		200.0	--
EXCB 69A1	-	EXSL A11/A30		110.0	--
EXSL A11/A30	-	EXSL A12/A29		205.0	--
EXSL A12/A29	-	EXSL A13/A28		220.0	--
EXSL A13/A28	-	EXSL A14/A27		175.0	--
EXSL A14/A27	-	EXSL A15/A26		210.0	--
EXSL A15/A26	-	EXSL A16/A25		220.0	--
EXSL A16/A25	-	EXSL A17/A24		205.0	--
EXSL A17/A24	-	EXSL A18/A23		210.0	--
EXSL A18/A23	-	EXSL A19/A22		220.0	--
EXSL A19/A22	-	EXSL A20/A21		175.0	--
CATEGORY 0300 SUBTOTAL				7540	0
CATEGORY 0040 (WI)					
SL 200	-	SL 201		185	185
SL 201	-	SL 202		180	180
SL 202	-	SL 203		185	185
SL 203	-	SL 204		185	185
SL 204	-	SL 205		185	185
SL 205	-	SL 206		190	190
SL 206	-	SL 207		185	185
SL 207	-	SL 208		185	185
SL 208	-	SL 209		185	185
SL 209	-	SL 210		190	190
SL 210	-	SL 211		185	185
SL 211	-	SL 212		190	190
SL 212	-	SL 213		185	185
SL 213	-	SL 214		190	190
SL 214	-	SL 215		185	185
SL 215	-	EXPB 201		35	35
EXPB 201	-	EXPB 200		85	--
EXPB 200	-	CB 200		10	--
EXPB 201	-	SL 216		150	150
SL 216	-	SL 217		185	185
CATEGORY 0400 SUBTOTAL				3255	3160
PROJECT TOTAL				10795	3160

STREET LIGHTS

LIGHT NUMBER	STATION	OFFSET	R/L	603.0105 *	657.0255	657.0322	657.0610	659.1120	SPV.0060.01	SPV.0060.02	SPV.0060.03	655.0610
				CONCRETE BARRIER SINGLE-FACED 32-INCH LF	TRANSFORMER BASES BREAKAWAY 11 1/2-INCH BOLT CIRCLE EACH	POLES TYPE 5 ALUMINUM EACH	LUMINAIRE ARMS SINGLE MEMBER 4 1/2-INCH CLAMP 6-FT EACH	LUMINAIRES UTILITY LED B EACH	MNDOT LIGHTING UNIT TYPE 1 EACH	MNDOT LIGHTING UNIT TYPE 2 EACH	CONCRETE BASES TYPE 5 - TALL EACH	ELECTRICAL WIRE LIGHTING 12 AWG LF
CATEGORY 0030 (MN)												
SL N4	27+34'US2MINN	88.9'	RT	--	--	--	--	--	--	1	--	180
SL N7	27+28'US2MINN	77.4'	LT	--	--	--	--	--	--	1	--	180
SL L4	27+43'US2MINN	172.1'	RT	--	--	--	--	--	--	1	--	180
SL L5	29+92'US2MINN	130.1'	RT	--	--	--	--	--	--	1	--	180
SL L6	32+01'US2MINN	86.4'	RT	--	--	--	--	--	--	1	--	180
SL L7/L8	25+77'US2MINN	16.5'	RT	--	--	--	--	--	1	--	--	360
SL L9/L10	27+27'US2MINN	16.5'	RT	--	--	--	--	--	1	--	--	360
SL L11/L12	28+89'US2MINN	16.5'	RT	--	--	--	--	--	1	--	--	360
SL L13/L14	30+71'US2MINN	16.5'	RT	--	--	--	--	--	1	--	--	360
SL A1/A40	32+64'US2MINN	16.5'	RT	--	--	--	--	--	1	--	--	360
SL A2/A39	34+54'US2MINN	16.5'	RT	--	--	--	--	--	1	--	--	360
SL A3/A38	36+64'US2MINN	16.5'	RT	--	--	--	--	--	1	--	--	360
SL A4/A37	38+59'US2MINN	16.5'	RT	--	--	--	--	--	1	--	--	360
SL A5/A36	40+62'US2MINN	16.5'	RT	--	--	--	--	--	1	--	--	360
SL A6/A35	42+60'US2MINN	16.5'	RT	--	--	--	--	--	1	--	--	360
SL A7/A34	44+61'US2R 1'	0.0'	LT	--	--	--	--	--	1	--	--	360
SL A8/A33	46+62'US2R 1'	0.0'	LT	--	--	--	--	--	1	--	--	360
SL A9/A32	48+55'US2R 1'	0.0'	LT	--	--	--	--	--	1	--	--	360
SL A10/A31	50+57'US2R 1'	0.0'	LT	--	--	--	--	--	1	--	--	360
SL A11/A30	52+64'US2R 1'	0.0'	LT	--	--	--	--	--	1	--	--	360
SL A12/A29	54+70'US2R 1'	0.0'	LT	--	--	--	--	--	1	--	--	360
SL A13/A28	56+89'US2R 1'	0.0'	LT	--	--	--	--	--	1	--	--	360
SL A14/A27	58+57'US2R 1'	0.0'	LT	--	--	--	--	--	1	--	--	360
SL A15/A26	60+63'US2R 1'	0.0'	LT	--	--	--	--	--	1	--	--	360
SL A16/A25	62+83'US2R 1'	0.0'	LT	--	--	--	--	--	1	--	--	360
SL A17/A24	64+85'US2R 1'	0.0'	LT	--	--	--	--	--	1	--	--	360
SL A18/A23	66+91'US2R 1'	0.0'	LT	--	--	--	--	--	1	--	--	360
SL A19/A22	69+10'US2R 1'	0.0'	LT	--	--	--	--	--	1	--	--	360
SL A20/A21	70+80'US2R 1'	0.0'	LT	--	--	--	--	--	1	--	--	180
CATEGORY 0030 TOTAL				0	0	0	0	0	24	5	0	9360

STREET LIGHTS (CONTINUED)

LIGHT NUMBER	STATION	OFFSET	R/L	603.0105 *	657.0255	657.0322	657.0610	659.1120	SPV.0060.01	SPV.0060.02	SPV.0060.03	655.0610
				CONCRETE BARRIER SINGLE-FACED 32-INCH LF	TRANSFORMER BASES BREAKAWAY 11 1/2-INCH BOLT CIRCLE EACH	POLES TYPE 5 ALUMINUM EACH	LUMINAIRE ARMS SINGLE MEMBER 4 1/2-INCH CLAMP 6-FT EACH	LUMINAIRES UTILITY LED B EACH	MNDOT LIGHTING UNIT TYPE 1 EACH	MNDOT LIGHTING UNIT TYPE 2 EACH	CONCRETE BASES TYPE 5 - TALL EACH	ELECTRICAL WIRE LIGHTING 12 AWG LF
CATEGORY 0040 (WI)												
SL 100	73+30'US2R 1'	0.0'	LT	--	--	--	--	2	--	--	--	--
SL 101	75+80'US2R 1'	0.1'	LT	--	--	--	--	2	--	--	--	--
SL 102	77+96'US2R 1'	0.1'	LT	--	--	--	--	2	--	--	--	--
SL 103	79+96'US2R 1'	0.0'	LT	--	--	--	--	2	--	--	--	--
SL 104	81+95'US2R 1'	0.0'	LT	--	--	--	--	2	--	--	--	--
SL 105	83+75'US2R 1'	0.0'	LT	--	--	--	--	2	--	--	--	--
SL 106	85+75'US2R 1'	0.0'	LT	--	--	--	--	2	--	--	--	--
SL 107	87+74'US2R 1'	0.5'	RT	--	--	--	--	2	--	--	--	--
SL 108	89+65'US2R 1'	0.4'	RT	--	--	--	--	2	--	--	--	--
SL 109	97+47'US2R 1'	0.1'	LT	--	--	--	--	2	--	--	--	--
SL 110	93+41'US2R 1'	0.2'	RT	--	--	--	--	2	--	--	--	--
SL 111	95+30'US2R 1'	0.2'	LT	--	--	--	--	2	--	--	--	--
SL 112	97+05'US2R 1'	0.1'	LT	--	--	--	--	2	--	--	--	--
SL 113	99+30'US2R 1'	0.1'	LT	--	--	--	--	2	--	--	--	--
SL 114	101+51'US2R 1'	0.1'	LT	--	--	--	--	2	--	--	--	--
SL 200	103+52'US2R 1'	0.1'	LT	15	1	1	2	2	--	--	1	360
SL 201	105+32'US2R 1'	0.1'	LT	15	1	1	2	2	--	--	1	360
SL 202	107+12'US2R 1'	0.1'	LT	15	1	1	2	2	--	--	1	360
SL 203	108+92'US2R 1'	0.3'	LT	15	1	1	2	2	--	--	1	360
SL 204	110+72'US2R 1'	0.1'	LT	15	1	1	2	2	--	--	1	360
SL 205	112+52'US2R 1'	0.3'	LT	15	1	1	2	2	--	--	1	360
SL 206	114+32'US2R 1'	0.1'	LT	15	1	1	2	2	--	--	1	360
SL 207	116+12'US2R 1'	0.3'	LT	15	1	1	2	2	--	--	1	360
SL 208	117+92'US2R 1'	0.0'	LT	15	1	1	2	2	--	--	1	360
SL 209	119+72'US2R 1'	0.2'	LT	15	1	1	2	2	--	--	1	360
SL 210	121+52'US2R 1'	0.3'	LT	15	1	1	2	2	--	--	1	360
SL 211	123+32'US2R 1'	0.1'	LT	15	1	1	2	2	--	--	1	360
SL 212	125+12'US2R 1'	0.2'	RT	15	1	1	2	2	--	--	1	360
SL 213	126+92'US2R 1'	0.0'	LT	15	1	1	2	2	--	--	1	360
SL 214	128+73'US2R 1'	0.0'	LT	15	1	1	2	2	--	--	1	360
SL 215	130+54'US2R 1'	0.1'	LT	15	1	1	2	2	--	--	1	360
SL 216	132+32'US2R 1'	0.1'	LT	15	1	1	2	2	--	--	1	360
SL 217	134+12'US2R 1'	0.0'	LT	15	1	1	2	2	--	--	1	360
SL 218	113+41'US2R 1'	64.1'	LT	--	--	--	--	1	--	--	--	--
SL 219	115+20'US2R 1'	67.2'	LT	--	--	--	--	1	--	--	--	--
SL 220	117+02'US2R 1'	68.8'	LT	--	--	--	--	1	--	--	--	--
SL 221	118+79'US2R 1'	73.3'	LT	--	--	--	--	1	--	--	--	--
SL 222	120+55'US2R 1'	80.0'	LT	--	--	--	--	1	--	--	--	--
SL 223	122+43'US2R 1'	93.4'	LT	--	--	--	--	1	--	--	--	--
SL 224	124+00'US2R 1'	107.0'	LT	--	--	--	--	1	--	--	--	--
SL 225	125+60'US2R 1'	126.0'	LT	--	--	--	--	1	--	--	--	--
SL 226	127+18'US2R 1'	146.0'	LT	--	--	--	--	1	--	--	--	--
SL 227	128+75'US2R 1'	158.0'	LT	--	--	--	--	1	--	--	--	--
SL 228	130+25'US2R 1'	168.0'	LT	--	--	--	--	1	--	--	--	--
CATEGORY 0040 TOTAL				270	18	18	36	77	0	0	18	6480
PROJECT TOTAL				270	18	18	36	77	24	5	18	15840

* ADDITIONAL QUANTITIES FOUND ELSEWHERE

LIGHTING CONDUIT AND WIRE

FROM	-	TO	652.0225 CONDUIT RIGID NONMETALLIC SCHEDULE 40 2-INCH LF	655.0630 ELECTRICAL WIRE LIGHTING 4 AWG LF	SPV.0090.05 CONDUIT CLEAN OUT LF	REMARKS
CATEGORY 0030 (MN)						
EX JB	-	EXSL N7	--	1,772	430	EXISTING CONDUIT
EX HH	-	EXSL N4	--	1,452	350	EXISTING CONDUIT
CB B93L	-	EXSL L4	--	4,300	1060	EXISTING CONDUIT
EXSL L4	-	EXSL L5	--	1,040	250	EXISTING CONDUIT
EXSL L5	-	EXSL L6	--	880	210	EXISTING CONDUIT
CB B93L	-	EXSL L7/L8	--	3,060	750	EXISTING CONDUIT
EXSL L7/L8	-	EXSL L9/L10	--	660	155	EXISTING CONDUIT
EXSL L9/L10	-	EXSL L11/L12	--	700	165	EXISTING CONDUIT
EXSL L11/L12	-	EXSL L13/L14	--	780	185	EXISTING CONDUIT
EXSL A1/A40	-	EXSL A2/A39	--	840	200	EXISTING CONDUIT
EXSL A2/A39	-	EXSL A3/A38	--	880	210	EXISTING CONDUIT
EXSL A3/A38	-	EXSL A4/A37	--	860	205	EXISTING CONDUIT
EXSL A4/A37	-	EXSL A5/A36	--	860	205	EXISTING CONDUIT
EXSL A5/A36	-	EXSL A6/A35	--	840	200	EXISTING CONDUIT
EXSL A6/A35	-	EXSL A7/A34	--	860	205	EXISTING CONDUIT
EXSL A7/A34	-	EXSL A8/A33	--	860	205	EXISTING CONDUIT
EXSL A8/A33	-	EXSL A9/A32	--	840	200	EXISTING CONDUIT
EXSL A9/A32	-	EXSL A10/A31	--	860	205	EXISTING CONDUIT
EXSL A10/A31	-	EXCB 69A1	--	860	200	EXISTING CONDUIT
EXCB 69A1	-	EXSL A11/A30	--	500	110	EXISTING CONDUIT
EXSL A11/A30	-	EXSL A12/A29	--	860	205	EXISTING CONDUIT
EXSL A12/A29	-	EXSL A13/A28	--	920	220	EXISTING CONDUIT
EXSL A13/A28	-	EXSL A14/A27	--	740	175	EXISTING CONDUIT
EXSL A14/A27	-	EXSL A15/A26	--	880	210	EXISTING CONDUIT
EXSL A15/A26	-	EXSL A16/A25	--	920	220	EXISTING CONDUIT
EXSL A16/A25	-	EXSL A17/A24	--	860	205	EXISTING CONDUIT
EXSL A17/A24	-	EXSL A18/A23	--	880	210	EXISTING CONDUIT
EXSL A18/A23	-	EXSL A19/A22	--	920	220	EXISTING CONDUIT
EXSL A19/A22	-	EXSL A20/A21	--	740	175	EXISTING CONDUIT
CATEGORY 0030 TOTAL			0	31424	7540	
CATEGORY 0040 (WI)						
SL 200	-	SL 201	185	975	--	--
SL 201	-	SL 202	180	950	--	--
SL 202	-	SL 203	185	975	--	--
SL 203	-	SL 204	185	975	--	--
SL 204	-	SL 205	185	975	--	--
SL 205	-	SL 206	190	1,000	--	--
SL 206	-	SL 207	185	975	--	--
SL 207	-	SL 208	185	975	--	--
SL 208	-	SL 209	185	975	--	--
SL 209	-	SL 210	190	1,000	--	--
SL 210	-	SL 211	185	975	--	--
SL 211	-	SL 212	190	1,000	--	--
SL 212	-	SL 213	185	975	--	--
SL 213	-	SL 214	190	1,000	--	--
SL 214	-	SL 215	185	975	--	--
SL 215	-	EXPB 201	35	480	--	--
EXPB 201	-	EXPB 200	--	505	85	EXISTING CONDUIT
EXPB 200	-	CB 200	--	140	10	EXISTING CONDUIT
EXPB 201	-	SL 216	--	815	150	CONDUIT EMBEDDED IN STRUCTURE
SL 216	-	SL 217	185	750	--	--
CATEGORY 0040 TOTAL			3010	17390	245	
PROJECT TOTAL			3010	48814	7785	

LIGHTING PULLBOXES

PULLBOX NUMBER	STATION	OFFSET	R/L	603.0105 * CONCRETE BARRIER SINGLE-FACED 32-INCH LF	652.0700.S INSTALL CONDUIT INTO EXISTING EACH
ALL ITEMS ARE CATEGORY 0040 (WI)					
EXPB 201	130+25'US2R 1'	0.1'	LT	15	1
PROJECT TOTAL				15	1

* ADDITIONAL QUANTITIES FOUND ELSEWHERE

PI STA = 29+42.01
 Y = 313107.514
 X = 135201.486
 DELTA = 43°08'06" RT
 D = 1°30'00"
 T = 1509.83'
 L = 2875.67'
 R = 3819.72'
 PC STA = 14+32.18
 Y = 314011.720
 X = 133992.356
 PT STA = 43+07.85
 Y = 311620.967
 X = 135465.618
 DB = S53°12'37"E
 DA = S10°04'31"E

RAMP A
 1426.25' IN LENGTH
 DECK AREA = 36,850 SF
 MARKING LINE GROOVED WET REF
 6-INCH, WHITE (1430')
 MARKING LINE GROOVED WET REF
 6-INCH, YELLOW (1430')

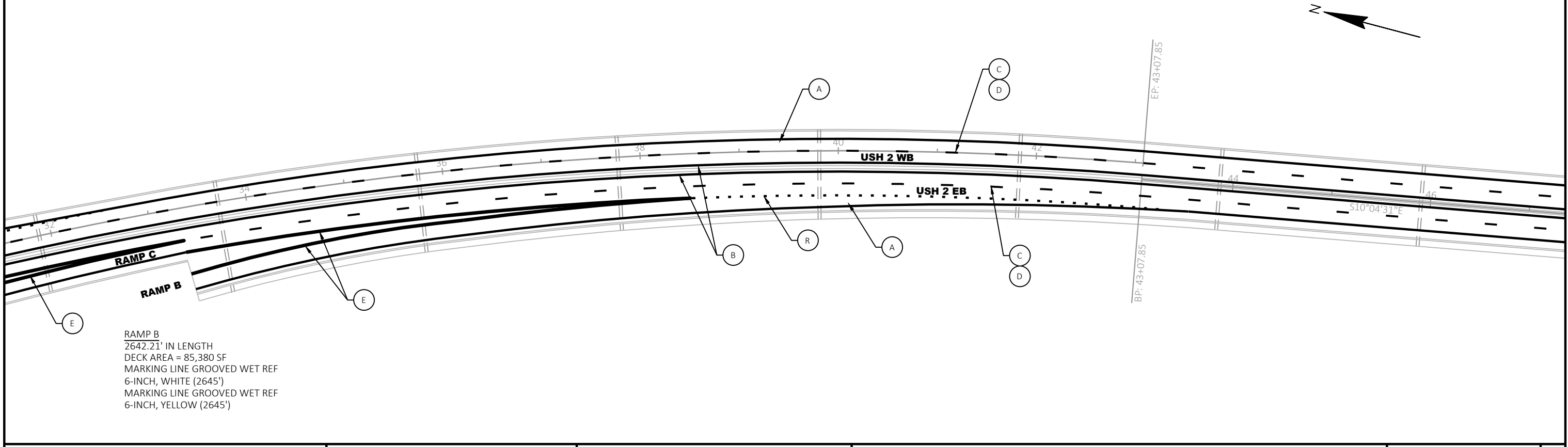
RAMP C
 482.15' IN LENGTH
 DECK AREA = 13,700 SF
 MARKING LINE GROOVED WET REF
 6-INCH, WHITE (485')
 MARKING LINE GROOVED WET REF
 6-INCH, YELLOW (485')

- (A) MARKING LINE GROOVED WET REF EPOXY 6-INCH, WHITE
- (B) MARKING LINE GROOVED WET REF EPOXY 6-INCH, YELLOW
- (C) MARKING LINE GROOVED WET REF EPOXY 6-INCH, WHITE (12.5' W, 12.5' B, 25' GAP)
- (D) MARKING LINE GROOVED BLACK EPOXY 6-INCH (12.5' W, 12.5' B, 25' GAP)
- (E) MARKING LINE GROOVED WET REF EPOXY 10-INCH, WHITE
- (R) MARKING LINE GROOVED WET REF EPOXY 6-INCH, WHITE (3' SEG, 9' GAP)
- (S) MARKING ARROWS GROOVED PREFORMED THERMOPLASTIC, WHITE
- (T) MARKING WORDS GROOVED PREFORMED THERMOPLASTIC, WHITE

BEGIN PROJECT
 STA 18+52.34

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RAMP B
 2642.21' IN LENGTH
 DECK AREA = 85,380 SF
 MARKING LINE GROOVED WET REF
 6-INCH, WHITE (2645')
 MARKING LINE GROOVED WET REF
 6-INCH, YELLOW (2645')

PROJECT NO: 8680-00-74	HWY: USH 2	COUNTY: DOUGLAS	PLAN	SHEET	E
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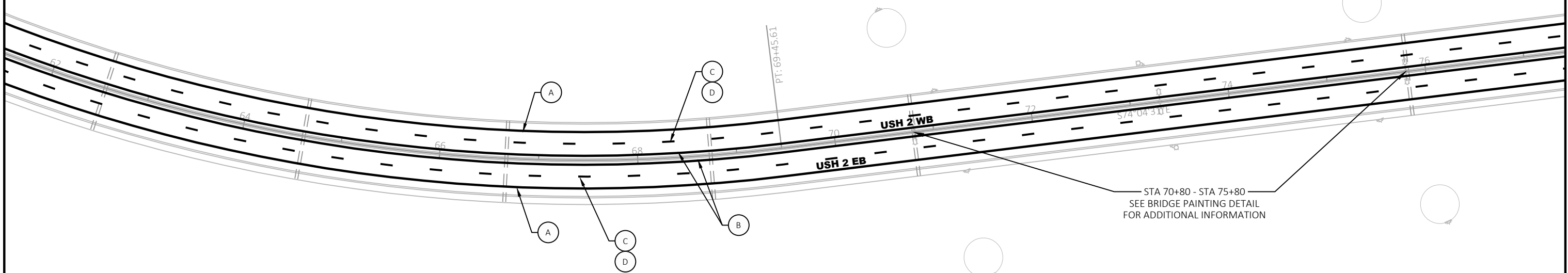
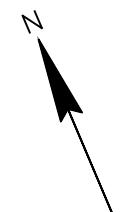
PI STA = 61+39.96
 Y = 309814.220
 X = 135769.885
 DELTA = 64°00'00" LT
 D = 3°30'00"
 T = 1022.93'
 L = 1828.57'
 R = 1637.02'
 PC STA = 51+17.04
 Y = 310821.371
 X = 135590.933
 PT STA = 69+45.61
 Y = 309533.556
 X = 136753.553
 DB = S10°04'31"E
 DA = S74°04'31"E

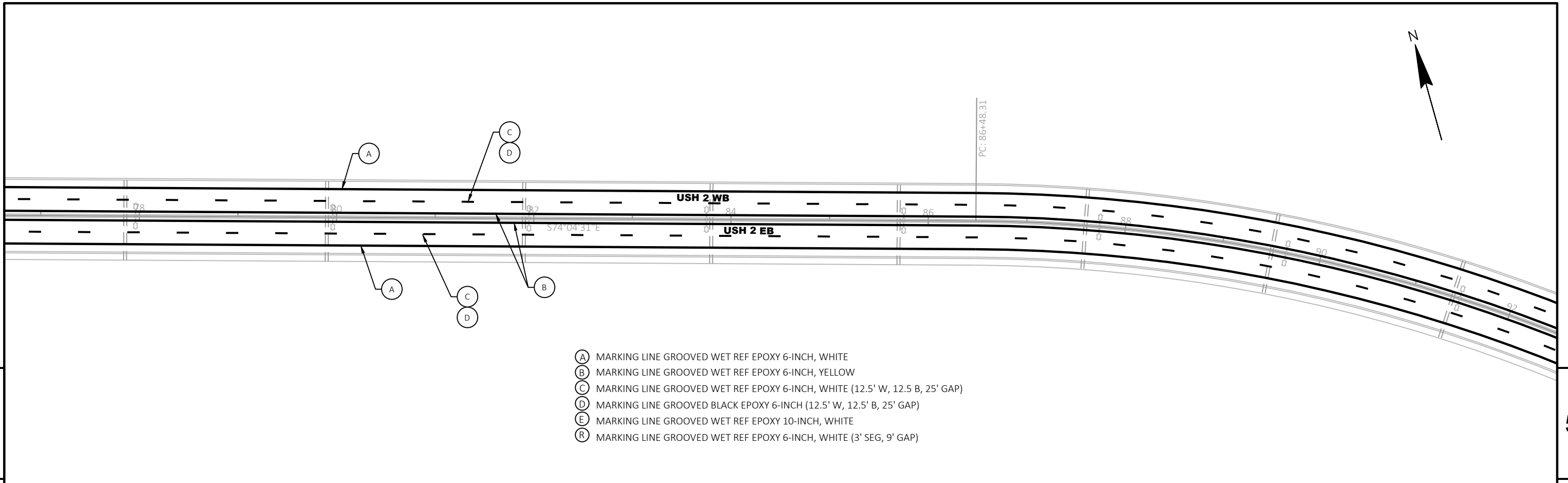


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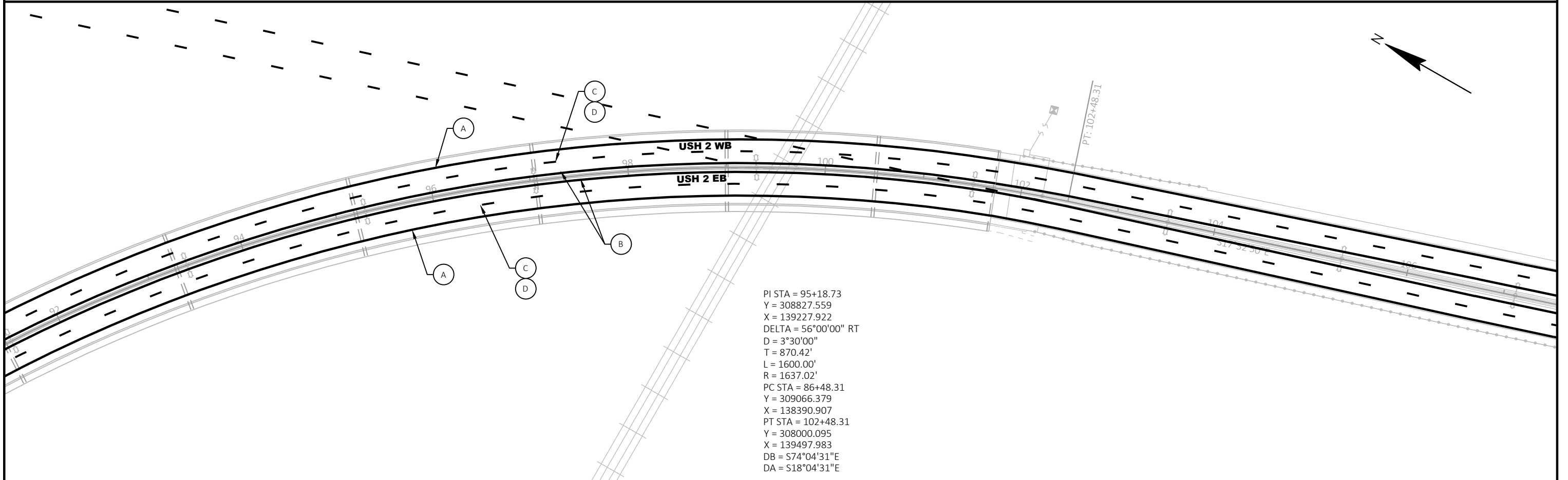
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- (A) MARKING LINE GROOVED WET REF EPOXY 6-INCH, WHITE
- (B) MARKING LINE GROOVED WET REF EPOXY 6-INCH, YELLOW
- (C) MARKING LINE GROOVED WET REF EPOXY 6-INCH, WHITE (12.5' W, 12.5' B, 25' GAP)
- (D) MARKING LINE GROOVED BLACK EPOXY 6-INCH (12.5' W, 12.5' B, 25' GAP)
- (E) MARKING LINE GROOVED WET REF EPOXY 10-INCH, WHITE
- (R) MARKING LINE GROOVED WET REF EPOXY 6-INCH, WHITE (3' SEG, 9' GAP)

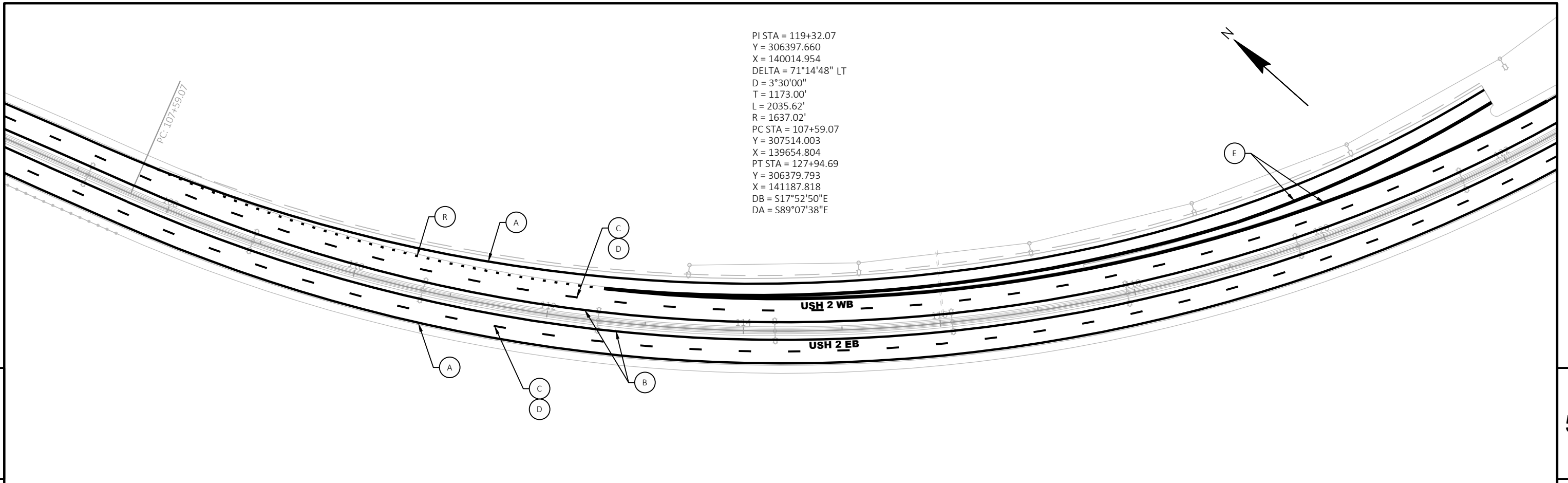




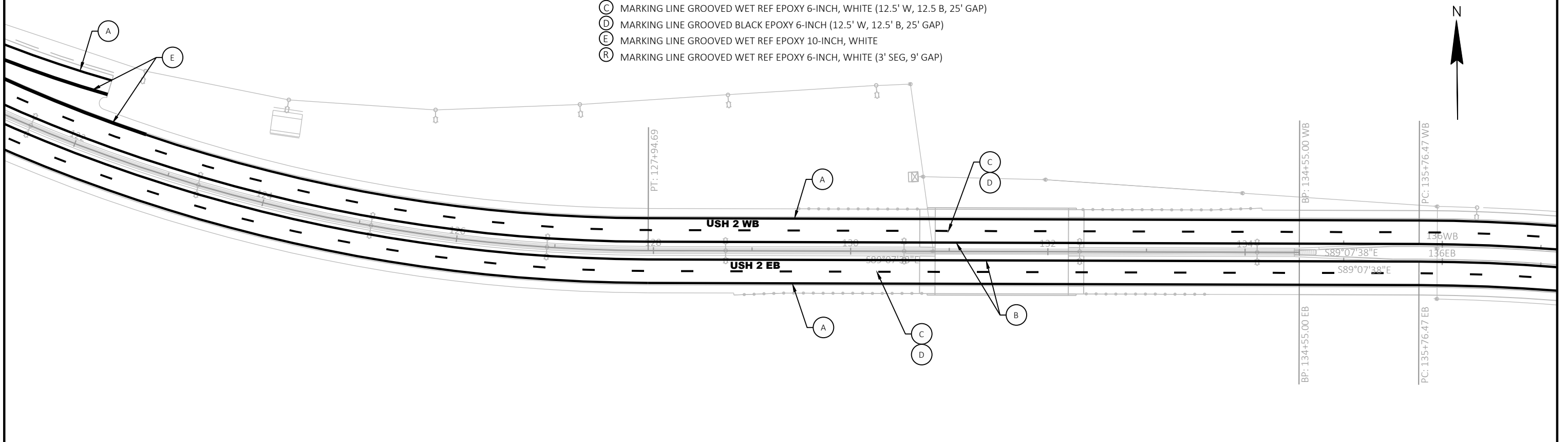
- (A) MARKING LINE GROOVED WET REF EPOXY 6-INCH, WHITE
- (B) MARKING LINE GROOVED WET REF EPOXY 6-INCH, YELLOW
- (C) MARKING LINE GROOVED WET REF EPOXY 6-INCH, WHITE (12.5' W, 12.5' B, 25' GAP)
- (D) MARKING LINE GROOVED BLACK EPOXY 6-INCH (12.5' W, 12.5' B, 25' GAP)
- (E) MARKING LINE GROOVED WET REF EPOXY 10-INCH, WHITE
- (R) MARKING LINE GROOVED WET REF EPOXY 6-INCH, WHITE (3' SEG, 9' GAP)

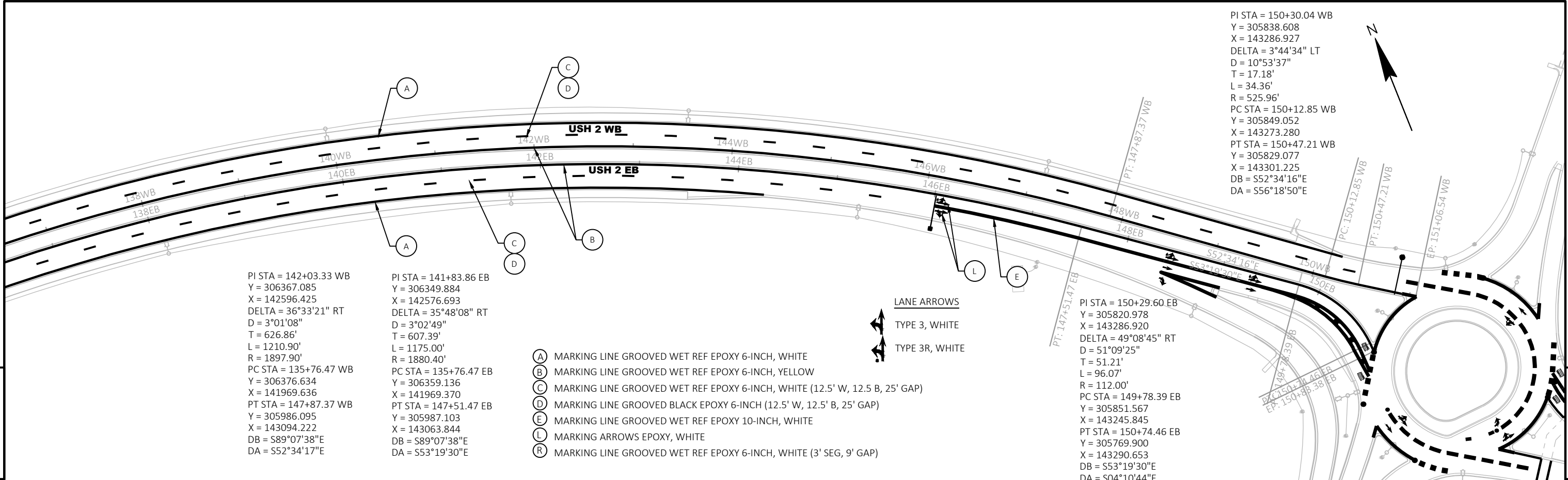


PI STA = 95+18.73
 Y = 308827.559
 X = 139227.922
 DELTA = 56°00'00" RT
 D = 3°30'00"
 T = 870.42'
 L = 1600.00'
 R = 1637.02'
 PC STA = 86+48.31
 Y = 309066.379
 X = 138390.907
 PT STA = 102+48.31
 Y = 308000.095
 X = 139497.983
 DB = S74°04'31"E
 DA = S18°04'31"E



- (A) MARKING LINE GROOVED WET REF EPOXY 6-INCH, WHITE
- (B) MARKING LINE GROOVED WET REF EPOXY 6-INCH, YELLOW
- (C) MARKING LINE GROOVED WET REF EPOXY 6-INCH, WHITE (12.5' W, 12.5' B, 25' GAP)
- (D) MARKING LINE GROOVED BLACK EPOXY 6-INCH (12.5' W, 12.5' B, 25' GAP)
- (E) MARKING LINE GROOVED WET REF EPOXY 10-INCH, WHITE
- (R) MARKING LINE GROOVED WET REF EPOXY 6-INCH, WHITE (3' SEG, 9' GAP)





PI STA = 142+03.33 WB
 Y = 306367.085
 X = 142596.425
 DELTA = 36°33'21" RT
 D = 3°01'08"
 T = 626.86'
 L = 1210.90'
 R = 1897.90'
 PC STA = 135+76.47 WB
 Y = 306376.634
 X = 141969.636
 PT STA = 147+87.37 WB
 Y = 305986.095
 X = 143094.222
 DB = S89°07'38"E
 DA = S52°34'17"E

PI STA = 141+83.86 EB
 Y = 306349.884
 X = 142576.693
 DELTA = 35°48'08" RT
 D = 3°02'49"
 T = 607.39'
 L = 1175.00'
 R = 1880.40'
 PC STA = 135+76.47 EB
 Y = 306359.136
 X = 141969.370
 PT STA = 147+51.47 EB
 Y = 305987.103
 X = 143063.844
 DB = S89°07'38"E
 DA = S53°19'30"E

- (A) MARKING LINE GROOVED WET REF EPOXY 6-INCH, WHITE
- (B) MARKING LINE GROOVED WET REF EPOXY 6-INCH, YELLOW
- (C) MARKING LINE GROOVED WET REF EPOXY 6-INCH, WHITE (12.5' W, 12.5' B, 25' GAP)
- (D) MARKING LINE GROOVED BLACK EPOXY 6-INCH (12.5' W, 12.5' B, 25' GAP)
- (E) MARKING LINE GROOVED WET REF EPOXY 10-INCH, WHITE
- (L) MARKING ARROWS EPOXY, WHITE
- (R) MARKING LINE GROOVED WET REF EPOXY 6-INCH, WHITE (3' SEG, 9' GAP)

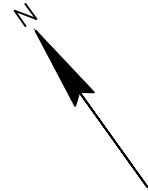
LANE ARROWS
 TYPE 3, WHITE
 TYPE 3R, WHITE

PI STA = 150+30.04 WB
 Y = 305838.608
 X = 143286.927
 DELTA = 3°44'34" LT
 D = 10°53'37"
 T = 17.18'
 L = 34.36'
 R = 525.96'
 PC STA = 150+12.85 WB
 Y = 305849.052
 X = 143273.280
 PT STA = 150+47.21 WB
 Y = 305829.077
 X = 143301.225
 DB = S52°34'16"E
 DA = S56°18'50"E

PI STA = 150+29.60 EB
 Y = 305820.978
 X = 143286.920
 DELTA = 49°08'45" RT
 D = 51°09'25"
 T = 51.21'
 L = 96.07'
 R = 112.00'
 PC STA = 149+78.39 EB
 Y = 305851.567
 X = 143245.845
 PT STA = 150+74.46 EB
 Y = 305769.900
 X = 143290.653
 DB = S53°19'30"E
 DA = S04°10'44"E

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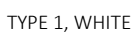
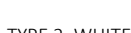
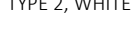
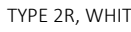
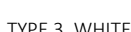
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P I STA = 153+20.41 WB
 Y = 305606.662
 X = 143444.500
 DELTA = 45°16'00" LT
 D = 51°09'25"
 T = 46.70'
 L = 88.49'
 R = 112.00'
 PC STA = 152+73.71 WB
 Y = 305652.631
 X = 143436.281
 PT STA = 153+62.20 WB
 Y = 305580.147
 X = 143482.940
 DB = S10°08'11"E
 DA = S55°24'10"E

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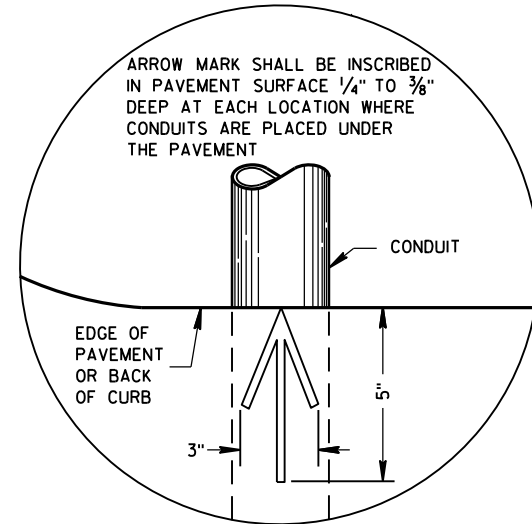
LANE ARROWS
 TYPE 1, WHITE
 TYPE 2, WHITE
 TYPE 2R, WHITE
 TYPE 3, WHITE
 TYPE 3R, WHITE

- (A) MARKING LINE GROOVED WET REF EPOXY 6-INCH, WHITE
- (B) MARKING LINE GROOVED WET REF EPOXY 6-INCH, YELLOW
- (C) MARKING LINE GROOVED WET REF EPOXY 6-INCH, WHITE (12.5' W, 12.5' B, 25' GAP)
- (D) MARKING LINE GROOVED BLACK EPOXY 6-INCH (12.5' W, 12.5' B, 25' GAP)
- (E) MARKING LINE GROOVED WET REF EPOXY 10-INCH, WHITE
- (F) MARKING LINE EPOXY 6-INCH, WHITE
- (G) MARKING LINE EPOXY 6-INCH, YELLOW
- (H) MARKING LINE EPOXY 10-INCH, WHITE
- (I) MARKING LINE EPOXY 10-INCH, WHITE SKIP (1' SEG, 3' GAP)
- (J) MARKING LINE EPOXY 10-INCH, WHITE SKIP (6' SEG, 3' GAP)
- (K) MARKING DOTTED EXTENSION EPOXY 18-INCH, WHITE (2' SEG, 2' GAP)
- (L) MARKING ARROW EPOXY, WHITE
- (M) MARKING WORD EPOXY, WHITE
- (N) MARKING CHEVRON EPOXY 12-INCH, WHITE
- (P) MARKING CROSSWALK EPOXY TRANSVERSE LINE 5-INCH

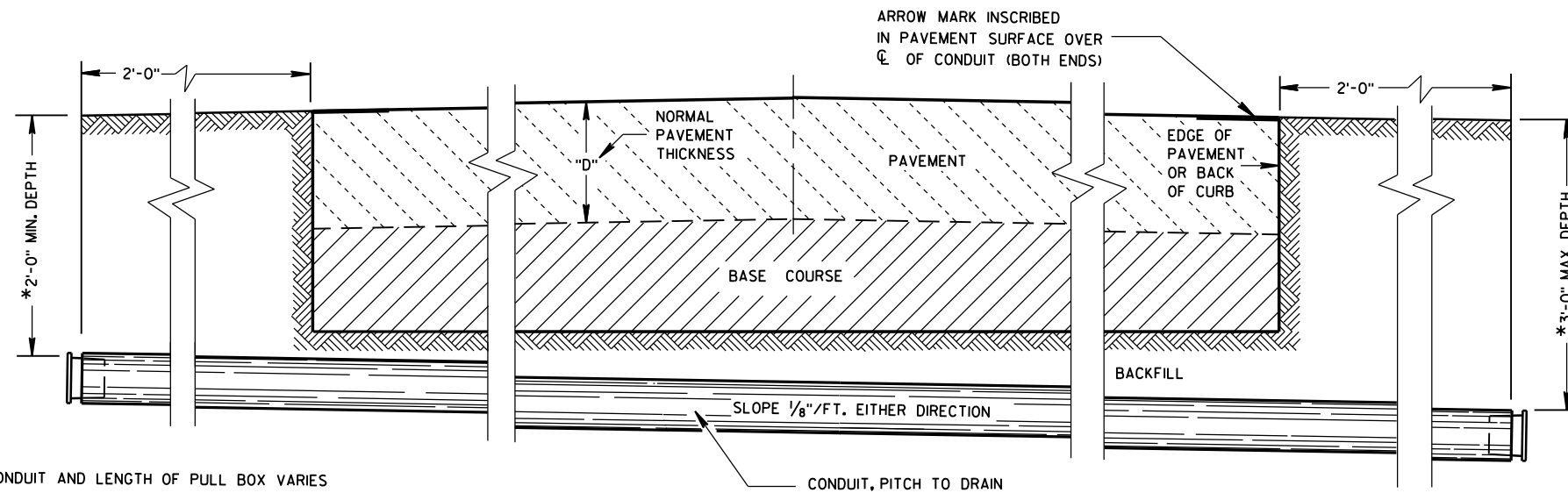
END PROJECT
 STA 152+97.43 EB

Standard Detail Drawing List

09B02-10	CONDUIT
14B07-16A	CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"
14B07-16B	CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"
14B07-16C	CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"
14B07-16D	CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"
14B07-16E	CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"
14B07-16F	CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"
14B07-16G	CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"
14B07-16H	CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"
14B07-16I	CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"
14B07-16J	CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"
14B07-16K	CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"
14B07-16L	CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"
14B07-16M	CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"
14B07-16N	CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"
14B08-02A	CRASH CUSHION/SAND BARREL ARRAY AND OTHER TEMPORARY BARRIER LAYOUT DETAILS
14B08-02B	CRASH CUSHION/SAND BARREL ARRAY AND OTHER TEMPORARY BARRIER LAYOUT DETAILS
14B08-02C	CRASH CUSHION/SAND BARREL ARRAY AND OTHER TEMPORARY BARRIER LAYOUT DETAILS
14B08-02D	CRASH CUSHION/SAND BARREL ARRAY AND OTHER TEMPORARY BARRIER LAYOUT DETAILS
14B08-02E	CRASH CUSHION/SAND BARREL ARRAY AND OTHER TEMPORARY BARRIER LAYOUT DETAILS
15C02-09A	BARRICADES AND SIGNS FOR MAINLINE CLOSURES
15C02-09B	BARRICADES AND SIGNS FOR VARIOUS CLOSURES
15C02-09C	DETOUR SIGNING FOR MAINLINE CLOSURES
15C02-09D	ON RAMP LANE CLOSURE
15C02-09E	OFF RAMP LANE CLOSURE
15C02-09H	MODIFIED ROUTE ASSEMBLY FOR DETOUR SIGNING
15C03-05	BARRICADES AND SIGNS FOR SIDEROAD CLOSURES
15C04-05	TRAFFIC CONTROL, ADVANCE WARNING SIGNS 45 M.P.H. OR GREATER TWO-WAY UNDIVIDED ROAD OPEN TO TRAFFIC
15C05-05	TRAFFIC CONTROL, ADVANCE WARNING SIGNS 40 M.P.H. OR LESS
15C07-16A	PAVEMENT MARKING SYMBOLS
15C07-16B	PAVEMENT MARKING WORDS
15C07-16C	PAVEMENT MARKING ARROWS
15C07-16D	ROUNDAABOUT ARROWS
15C08-23A	PERMANENT LONGITUDINAL PAVEMENT MARKINGS
15C08-23B	TEMPORARY LONGITUDINAL PAVEMENT MARKING
15C08-23C	PAVEMENT MARKING (TURN LANES)
15C08-23D	PAVEMENT MARKING (TURN LANES)
15C11-10B	CHANNELIZING DEVICES DRUMS, CONES, BARRICADES AND VERTICAL PANELS
15C31-08A	PAVEMENT MARKING EXIT RAMP AND PARALLEL EXIT RAMP
15C31-08C	PAVEMENT MARKING ENTRANCE RAMP AND PARALLEL ENTRANCE RAMP
15D12-14A	TRAFFIC CONTROL, INTERSECTION WITHIN SINGLE LANE CLOSURE
15D15-07A	TRAFFIC CONTROL, PARALLEL ENTRANCE RAMP WITHIN LANE CLOSURE
15D15-07C	TRAFFIC CONTROL, TAPERED ENTRANCE RAMP WITHIN LANE CLOSURE
15D15-07D	TRAFFIC CONTROL, TAPERED ENTRANCE RAMP WITHIN LANE CLOSURE
15D15-07E	TRAFFIC CONTROL, PARALLEL EXIT RAMP WITHIN LANE CLOSURE
15D16-06	TRAFFIC CONTROL, EXIT RAMP CLOSURE
15D20-09A	TRAFFIC CONTROL, SINGLE LANE CLOSURE, DIVIDED NON-FREEWAY/EXPRESSWAY
15D28-04	TRAFFIC CONTROL, WORK ON SHOULDER OR PARKING LANE, UNDIVIDED ROADWAY
15D40-05B	TRAFFIC CONTROL, FULL LANE SHIFT MULTILANE DIVIDED 50 MPH AND OVER
15D40-05D	TRAFFIC CONTROL, PARTIAL LANE SHIFT MULTILANE DIVIDED 50 MPH AND GREATER
15D41-05A	TRAFFIC CONTROL, MULTIPLE LANE SHIFT, MULTILANE DIVIDED ROAD
15D41-05B	TRAFFIC CONTROL, MULTIPLE LANE SHIFT DIVIDED ROAD TEMPORARY TAPE RUMBLE STRIPS
15D42-03	TRAFFIC CONTROL, TWO LANE FULL FREEWAY CLOSURE
15D49-04	TRAFFIC CONTROL, SYSTEM RAMP CLOSURE
15D51-01	TRAFFIC CONTROL, MOBILE OPERATIONS ON AN UNDIVIDED ROADWAY



**PLAN VIEW
ARROW MARK**



**SIDE ELEVATION
DETAIL FOR CONDUIT UNDER PAVED HIGHWAYS**

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

GENERAL NOTES

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

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

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

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

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

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

ALL METALLIC CONDUIT RACEWAY ENDS SHALL BE REAMED AND THREADED.

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

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

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

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

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

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

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

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

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

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

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

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

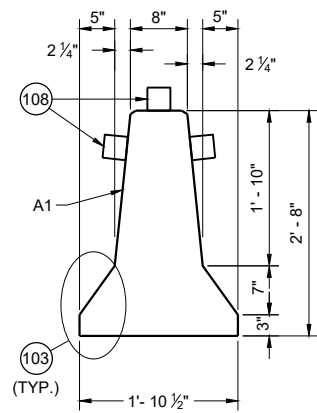
6

6

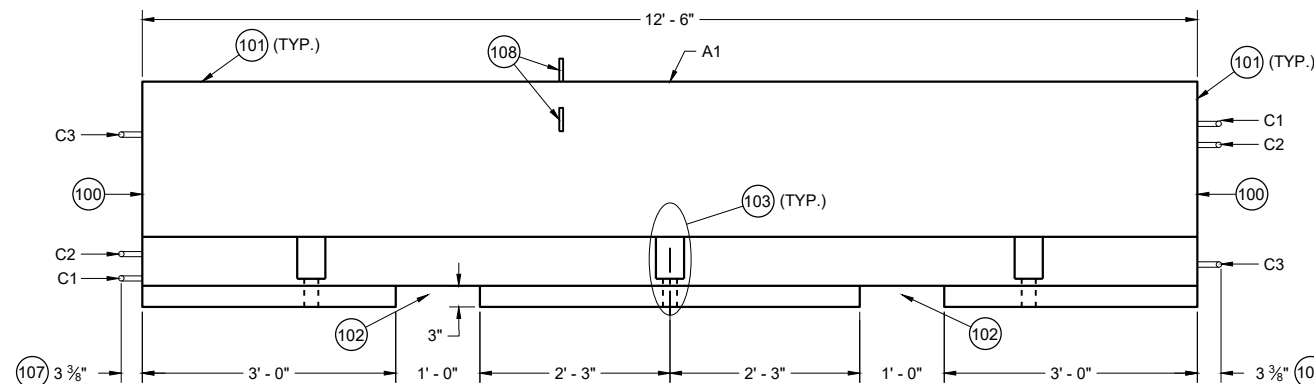
S.D.D. 9 B 2-10

S.D.D. 9 B 2-10

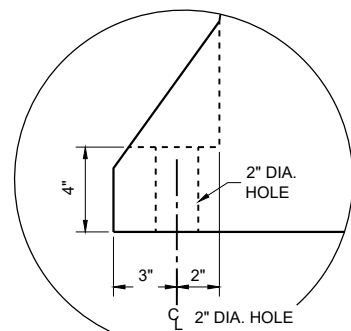
CONDUIT	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED March, 2017 DATE	/S/ Ahmet Demirbilek STATE ELECTRICAL ENGINEER
FHWA	



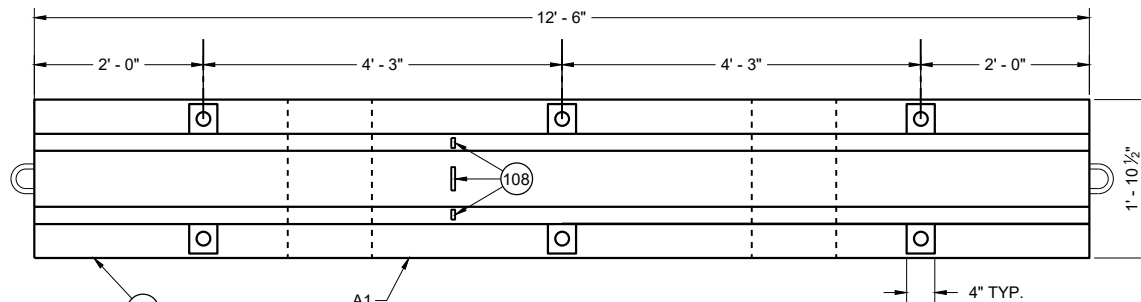
CROSS SECTION



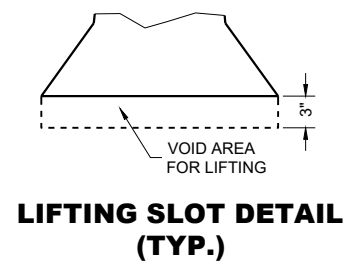
PROFILE VIEW



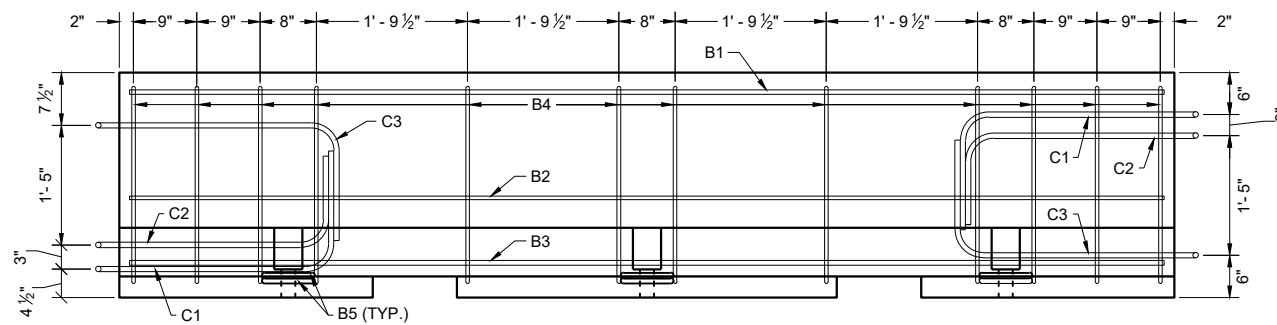
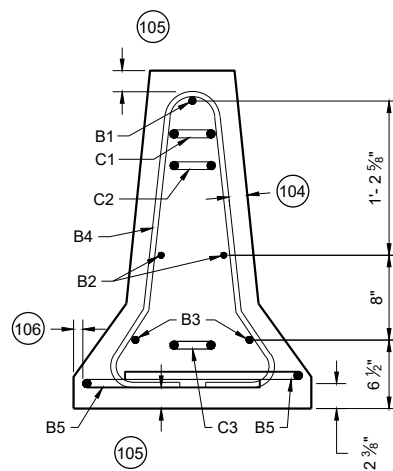
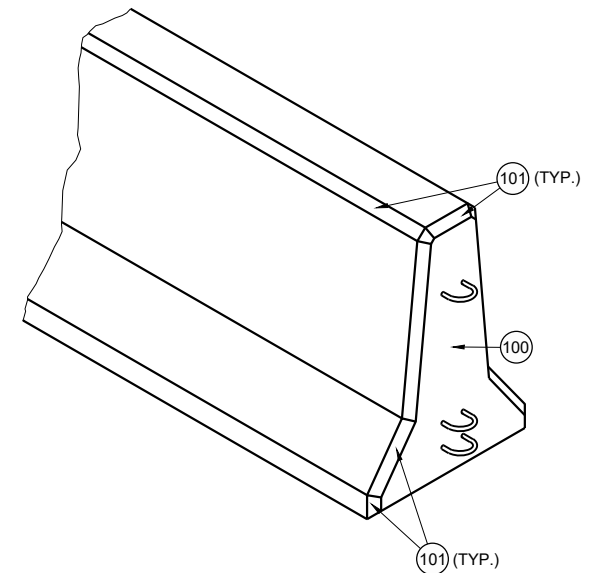
ANCHOR BLOCK DETAIL



**PLAN VIEW
TEMPORARY BARRIER**



**LIFTING SLOT DETAIL
(TYP.)**



**PROFILE VIEW
TEMPORARY BARRIER REINFORCEMENT**

GENERAL NOTES

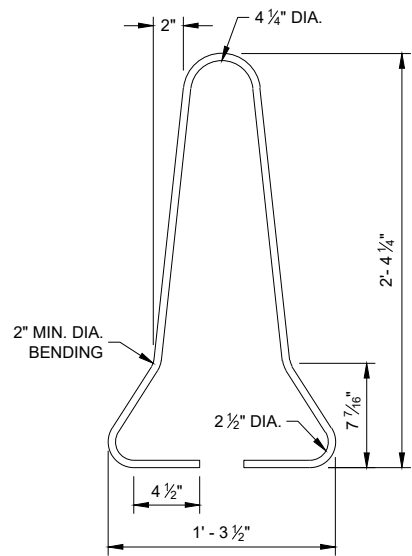
PLACE BARRIER ON PAVED SURFACE. BEFORE PLACEMENT OF TEMPORARY BARRIER, REMOVE ALL LOOSE MATERIAL FROM PAVED SURFACE.

LOOP BARS C1, C2 AND C3 ARE NOT FOR PLACEMENT OR MOVEMENT OF BARRIER.

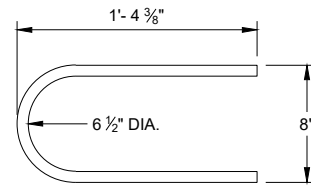
- (100) PERMANENTLY FORM INTO ONE END OF BARRIER THE FOLLOWING INFORMATION:
A. TYPE OF BARRIER: WI-CBTP
B. MANUFACTURER
C. DATE OF MANUFACTURE (MONTH AND YEAR)
- (101) 1" OPTIONAL CHAMFER
- (102) SEE LIFTING SLOT DETAIL
- (103) SEE ANCHOR BLOCK DETAIL
- (104) 1 3/4" MIN. CLEAR COVER
- (105) 2" MIN. CLEAR COVER
- (106) 1" MIN. CLEAR COVER
- (107) ± 1/8" MEASURED FROM FACE OF CONCRETE BARRIER TO OUTSIDE OF LOOP BAR (TYP.)
- (108) USE DELINEATORS CONFORMING TO SECTION 633 OF THE STANDARD SPECIFICATIONS. CONTRACTOR MAY USE ALTERNATE SHAPES AND HOUSING. INSTALL DELINEATORS ACCORDING TO MANUFACTURER'S INSTRUCTION. INSTALL YELLOW REFLECTORS WHEN BARRIER IS LOCATED LEFT OF TRAFFIC AND WHITE WHEN BARRIER IS LOCATED RIGHT OF TRAFFIC. SPACE DELINEATORS A MAXIMUM OF 25 FEET APART. PROVIDE TOP MOUNTED DELINEATORS IN ADDITION TO SIDE MOUNTED DELINEATORS ON BARRIER INSTALLATIONS LOCATED ON A CURVED ALIGNMENT LONGER THAN 200 FEET AND ON BARRIERS USED TO SEPARATE OPPOSING TRAFFIC.

**CONCRETE BARRIER
TEMPORARY PRECAST,
12' - 6"**

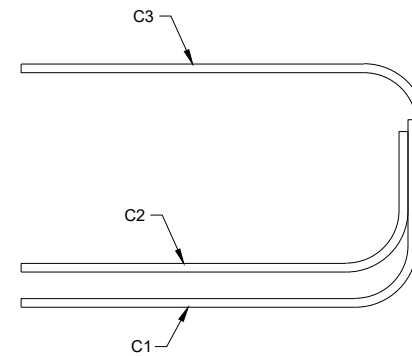
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



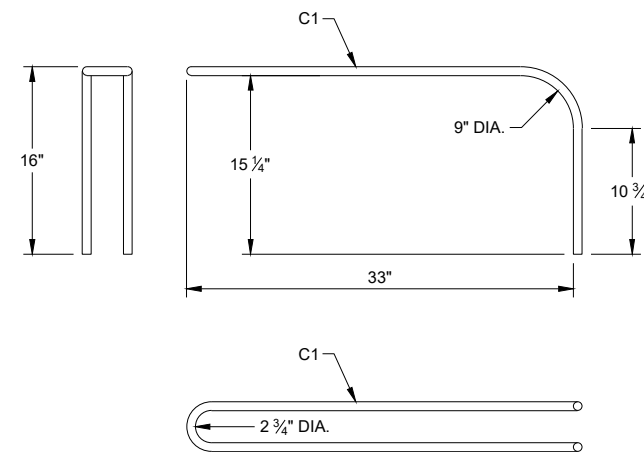
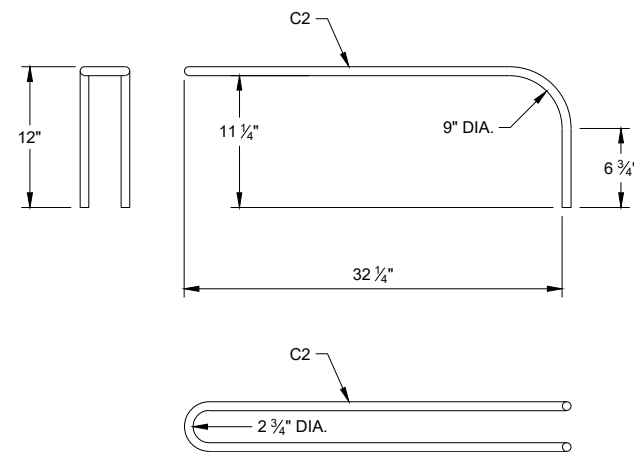
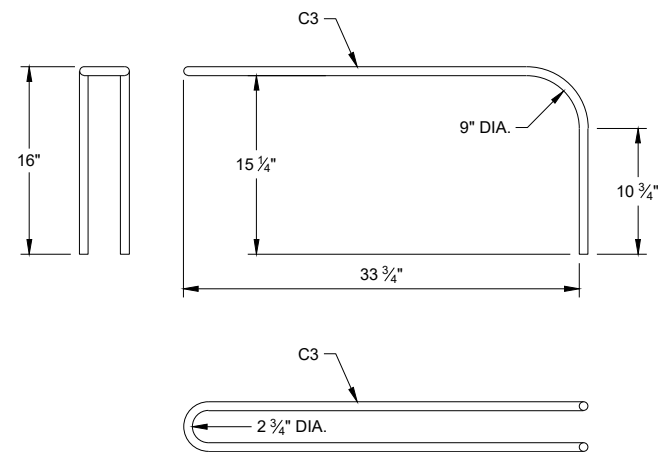
B4 BAR DETAIL



B5 BAR DETAIL



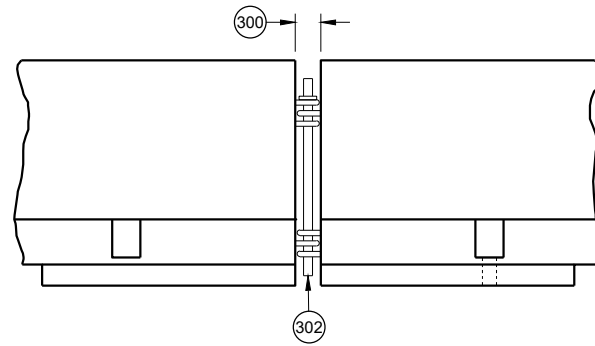
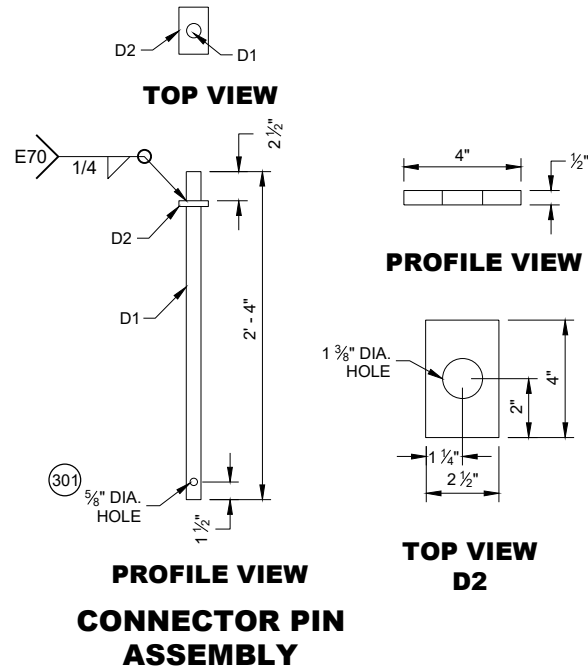
**PROFILE VIEW
LOOP BAR ASSEMBLY**



C BAR DETAILS

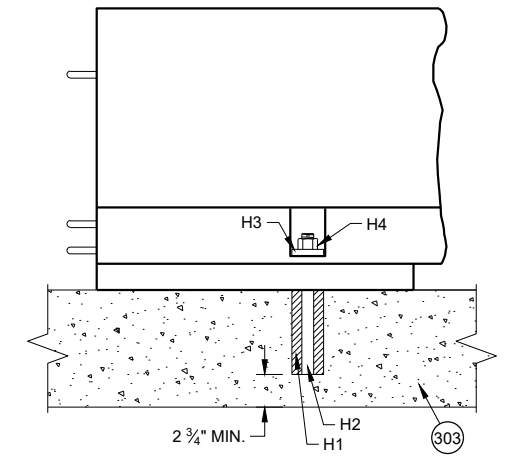
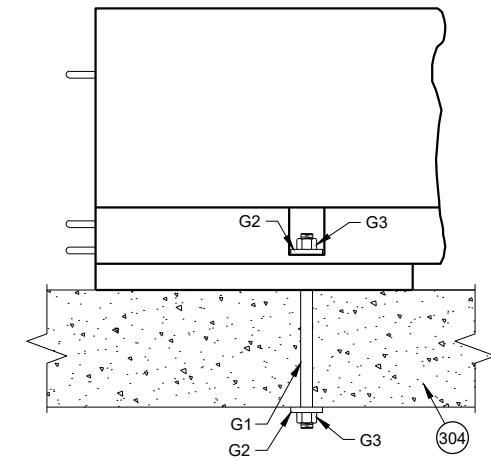
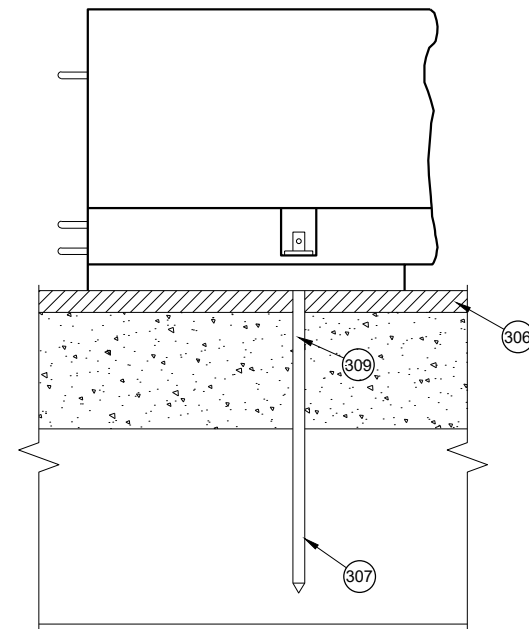
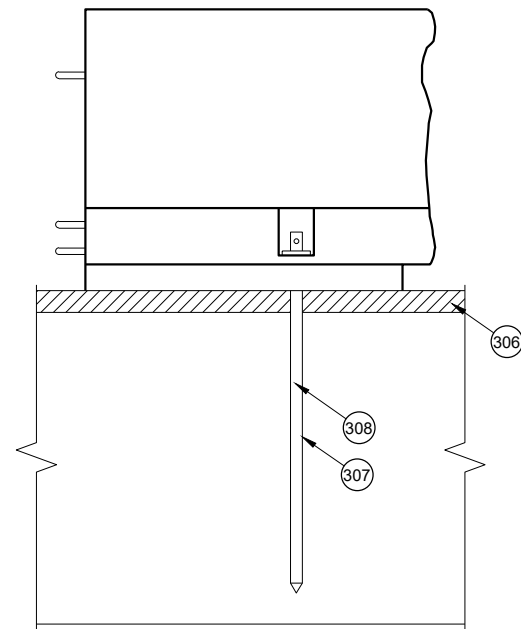
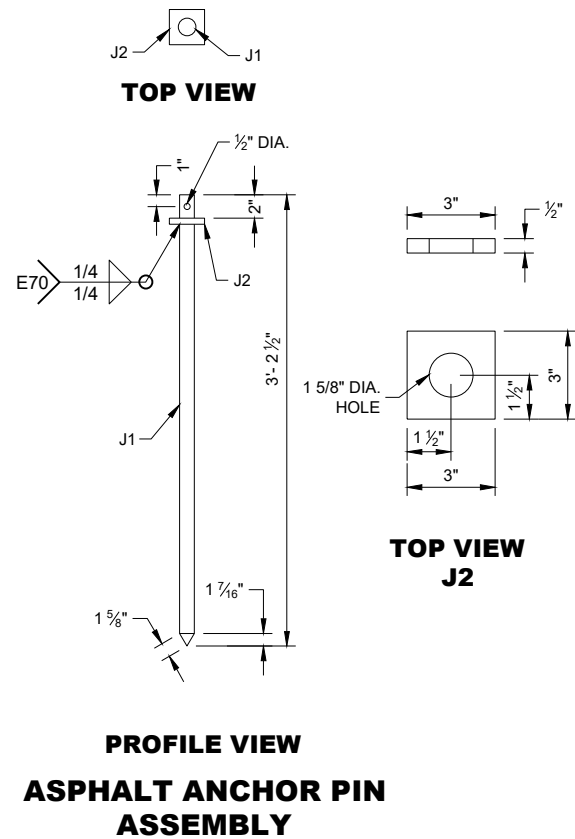
**CONCRETE BARRIER
TEMPORARY PRECAST,
12' - 6"**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



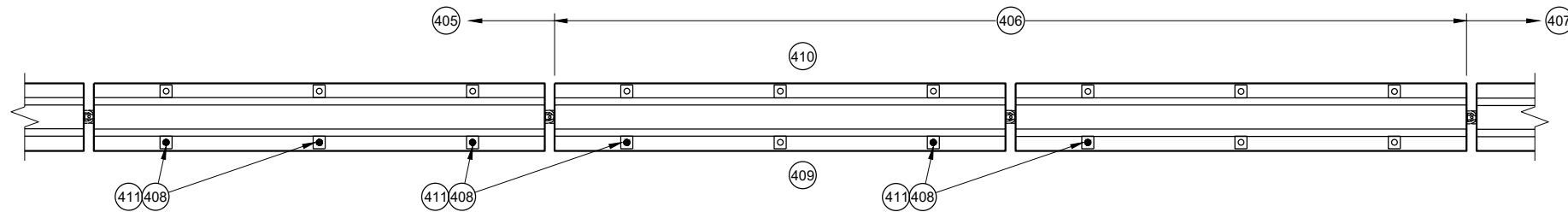
GENERAL NOTES

- (300) SET WITH 3 5/8" WOOD BLOCK.
- (301) HOLE IS OPTIONAL.
- (302) CONNECTOR PIN ASSEMBLY.
- (303) CONCRETE PAVEMENT, APPROACH SLAB, OR DECK.
- (304) CONCRETE DECK.
- (305) DO NOT USE ON CONCRETE BRIDGE DECK WITH ASPHALT OVERLAY OR CONCRETE PAVEMENT WITH ASPHALT OVERLAY.
- (306) MINIMUM OF 2" OF ASPHALT.
- (307) ASPHALT ANCHOR PIN ASSEMBLY
- (308) IF DRILLING A PILOT HOLE, THE MAX. DIA. OF THE HOLE IS 3/4"
- (309) WHEN THERE IS ASPHALT OVERLAYING CONCRETE PAVEMENT, A 1 5/8" DIA. PILOT HOLE CAN BE DRILLED INTO THE OVERLAY AND CONCRETE. IF NEEDED DRILL A 3/4" PILOT HOLE IN BASE COURSE.

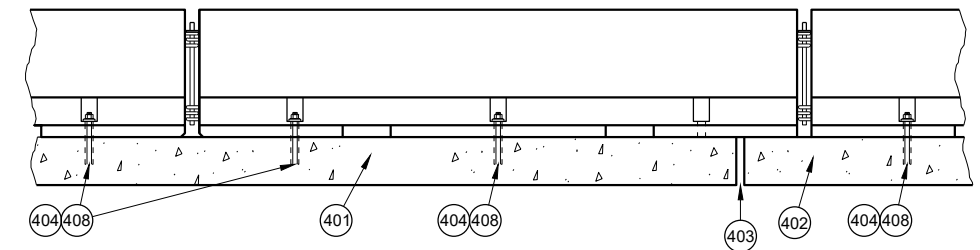


**CONCRETE BARRIER
TEMPORARY PRECAST,
12' - 6"**

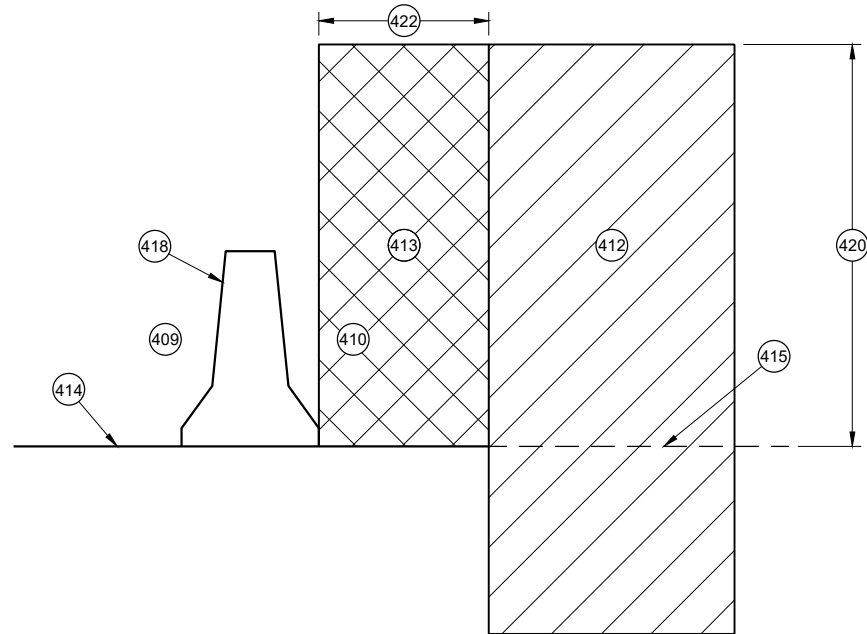
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



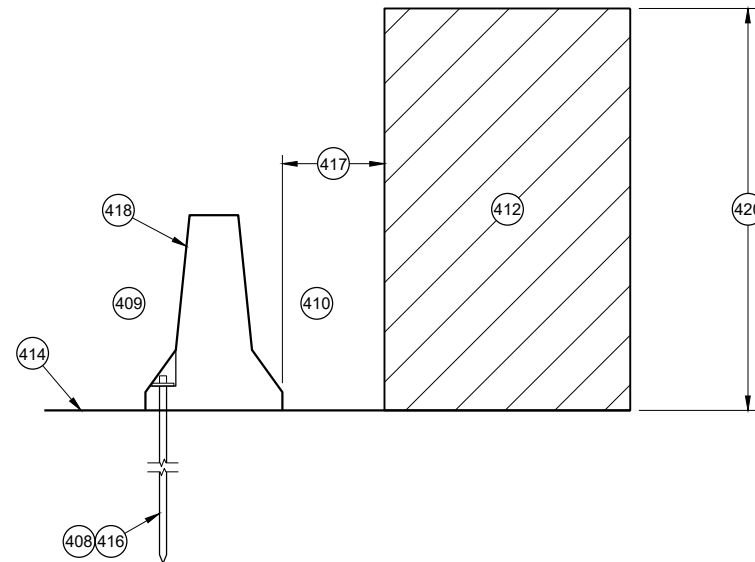
PLAN VIEW
TRANSITION FROM FREE STANDING TO ANCHORED BARRIER



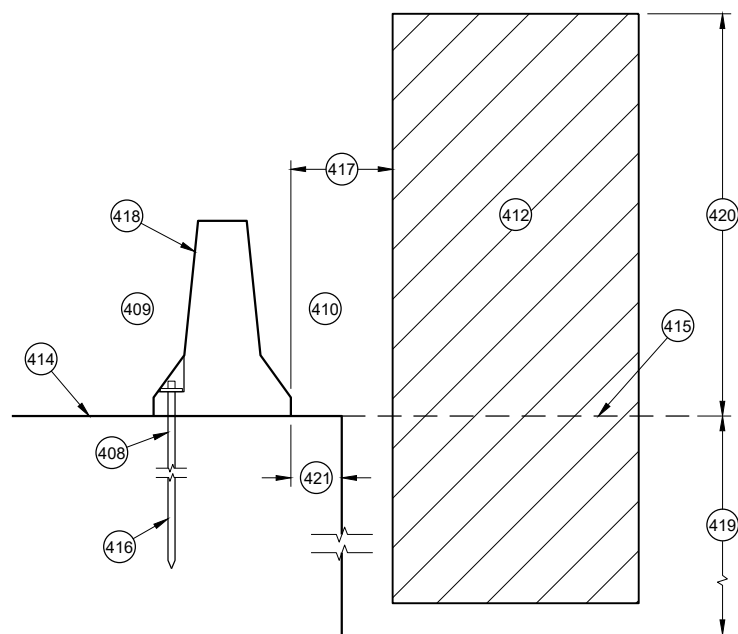
PROFILE VIEW
ANCHORED BARRIER NEAR EXPANSION JOINT



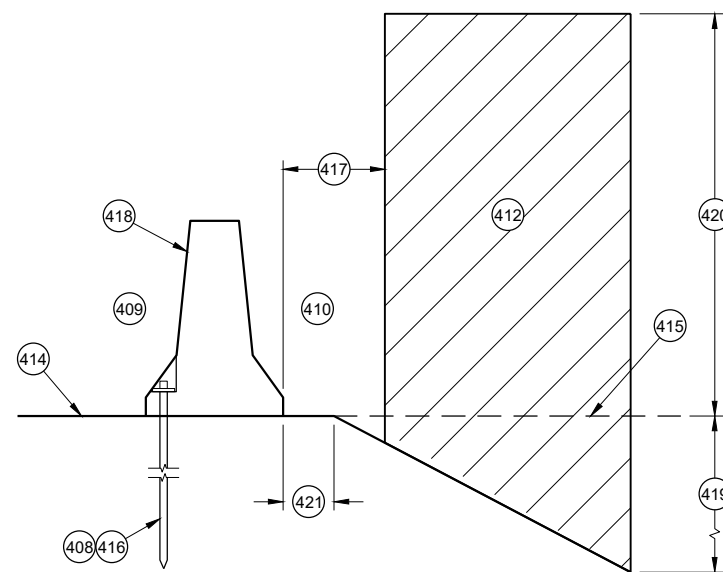
CROSS SECTION
FREE STANDING BARRIER



CROSS SECTION
ANCHORED BARRIER FOR OBJECTS ABOVE THE GRADE LINE AND NEAR THE BARRIER



CROSS SECTION
ANCHORED BARRIER NEAR VERTICAL DROP OFF



CROSS SECTION
ANCHORED BARRIER NEAR A SLOPE

GENERAL NOTES

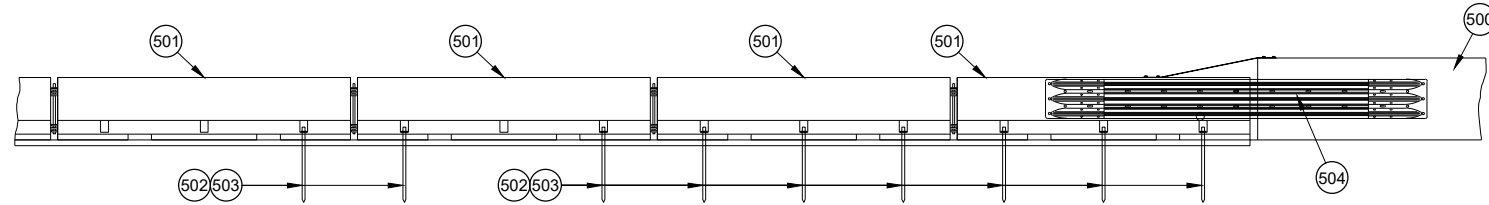
- 400 NO SINGLE CONCRETE BARRIER SECTION SHALL BE ANCHORED TO BOTH THE BRIDGE DECK AND THE APPROACH SLAB. ALL ANCHOR BOLT LOCATIONS SHALL BE ANCHORED TO THE DECK IN ACCORDANCE WITH THE DETAIL. NO MORE THAN ONE ANCHOR BOLT SHALL BE ELIMINATED FROM A BARRIER SECTION WHEN SPANNING AN EXPANSION JOINT.
- 401 CONCRETE DECK
- 402 CONCRETE DECK OR APPROACH SLAB.
- 403 EXPANSION JOINT
- 404 ADHESIVE ANCHOR SHOWN. SEE ANCHOR DETAILS.
- 405 ANCHORED TEMPORARY BARRIER
- 406 TRANSITION FROM ANCHORED TEMPORARY BARRIER TO FREE STANDING
- 407 FREE STANDING BARRIER
- 408 REMOVE ALL ANCHORS WHEN NO LONGER NEEDED. FILL CONCRETE PAVEMENTS, DECKS AND APPROACH SLABS WITH NON-SHRINK COMMERCIAL GROUT FROM THE APPROVED PRODUCT LIST. FILL ASPHALT PAVEMENTS WITH ASTM D6690 TYPE II RUBBERIZED CRACK FILLER.
- 409 TRAFFIC SIDE
- 410 NON-TRAFFIC SIDE
- 411 ANCHOR LOCATION. SEE ANCHORING DETAILS.
- 412 WORK AREA
- 413 AREA FREE OF OBJECTS AND WORKERS
- 414 GRADE LINE
- 415 EXTENDED GRADE LINE
- 416 ANCHORED TEMPORARY BARRIER. SEE BOLT THROUGH DECK, REMOVABLE ADHESIVE ANCHOR, OR AN ASPHALT ANCHOR ROD DETAILS FOR MORE INFORMATION. ASPHALT ANCHOR ROD SHOWN.
- 417 WHEN OBJECTS EXTEND ABOVE THE GRADE. A MINIMUM OF 1 FOOT IS REQUIRED FROM BACK OF BARRIER TO OBJECT.
- 418 OBJECTS ARE NOT TO BE PLACED ON, MOUNTED TO, OR ALLOWED TO LEAN AGAINST THE BARRIER WITHOUT WRITTEN PERMISSION OF THE PROJECT ENGINEER.
- 419 DEPTHS OF 3 FEET OR MORE.
- 420 Y = 6.5'
- 421 OFFSET FROM BACK OF BARRIER EDGE:
 CONCRETE PAVEMENT 0.5'
 ASPHALT 0.5'
- 422 POSTED SPEED (MPH):
 45 OR GREATER 4.0'
 40 OR LOWER 2.0'

CONCRETE BARRIER
TEMPORARY PRECAST,
12' - 6"

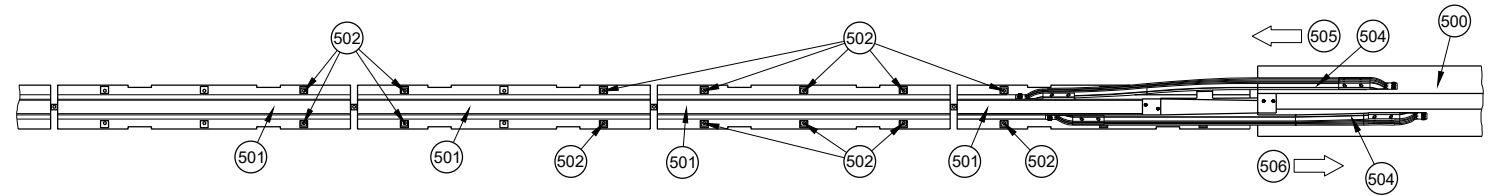
STATE OF WISCONSIN
 DEPARTMENT OF TRANSPORTATION

GENERAL NOTES

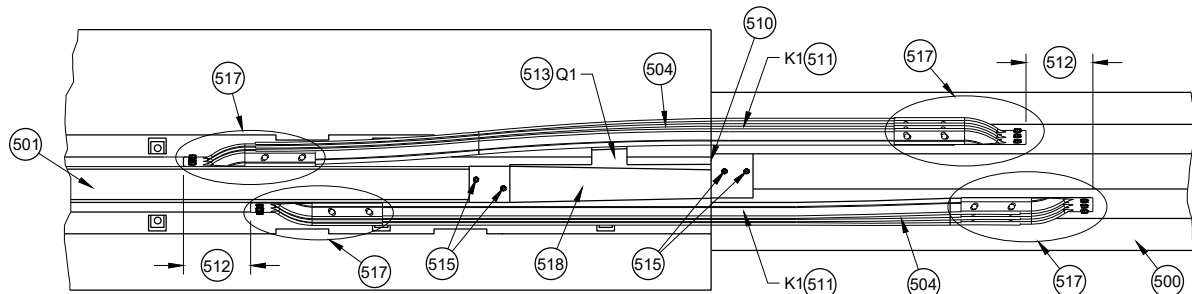
- (500) EXISTING RIGID BARRIERS (VARIES)
- (501) TEMPORARY BARRIER
- (502) SEE OTHER DETAIL ON HOW TO ANCHOR TEMPORARY BARRIER (BARRIER ASPHALT ANCHOR SHOWN).
- (503) ANCHORS ARE REQUIRED ON BOTH SIDE OF THE TEMPORARY BARRIER.
- (504) NESTED RAILS ARE REQUIRED ON BOTH SIDES OF THE TEMPORARY BARRIER FOR ALL INSTALLATIONS.
- (505) TRAFFIC TRAVELS FROM PERMANENT BARRIER TO TEMPORARY BARRIER.
- (506) TRAFFIC TRAVELS FROM TEMPORARY BARRIER TO PERMANENT BARRIER.
- (507) VERTICAL BARRIER
- (508) SAFETY SHAPE BARRIER
- (509) SINGLE SLOPE BARRIER
- (510) CAP END PLATE PLACED FLUSH WITH UPSTREAM END OF RIGID BARRIER.
- (511) BENT THRIE BEAM TO FIT.
- (512) THRIE BEAM PIECES ARE OFFSET 15 1/4" TO PREVENT INTERFERENCE FROM THE ANCHORS ON OPPOSING SIDES.
- (513) TWO (2) P1, P2 AND P3 ARE REQUIRED
- (514) FIVE (5) N1, N2 AND N3 ARE REQUIRED
- (515) TWO (2) R1, R2 AND R3 ARE REQUIRED
- (516) CUT WOOD BLOCK TO FIT.
- (517) SEE THRIE BEAM RAIL TERMINAL CONNECTOR DETAIL ASSEMBLY.
- (518) CAP ASSEMBLY
- (519) 4" MAX. GAP BETWEEN TEMPORARY BARRIER AND RIGID BARRIER.
- (520) ALL TWELVE SPLICE HOLES REQUIRE M1 AND M2



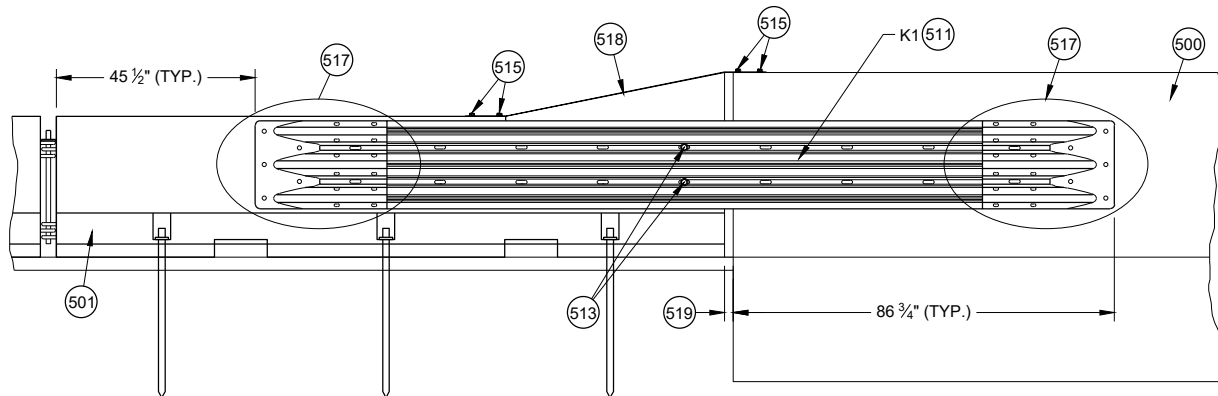
PROFILE VIEW



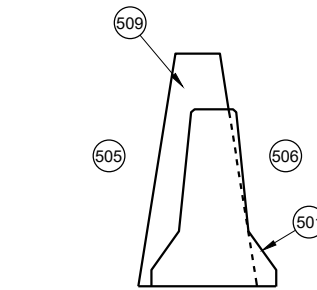
**PLAN VIEW
TRANSITION TO RIGID BARRIER**



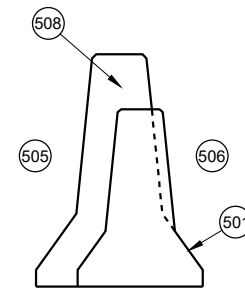
**PLAN DETAIL VIEW
TRANSITION TO RIGID BARRIER**



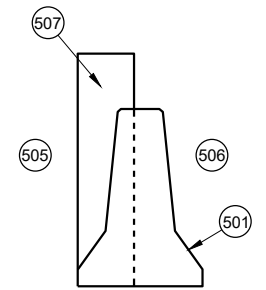
**FRONT DETAIL VIEW
TRANSITION TO RIGID BARRIER**



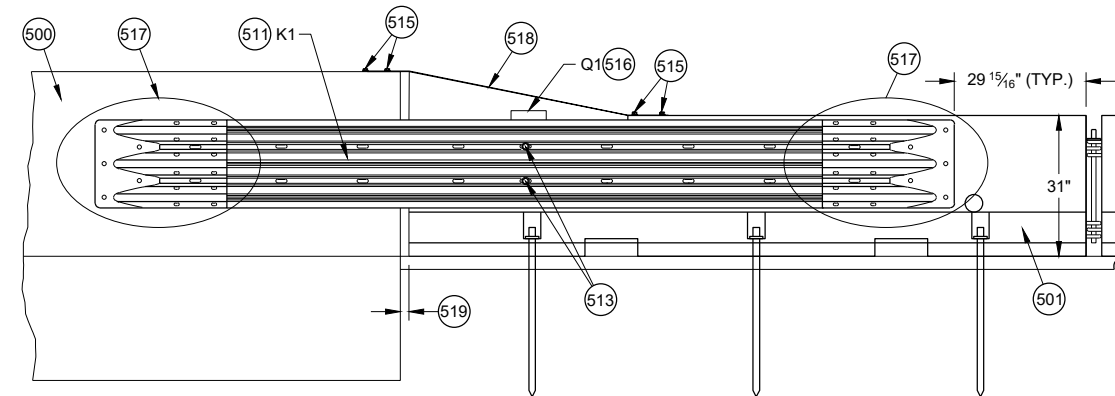
**CROSS SECTION
TEMPORARY BARRIER
PLACEMENT SINGLE SLOPE**



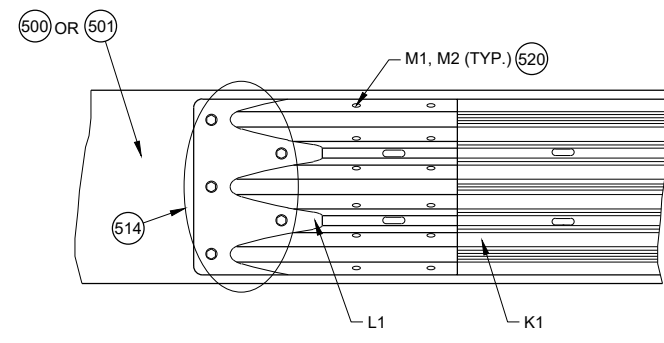
**CROSS SECTION
TEMPORARY BARRIER
PLACEMENT SAFETY SHAPE**



**CROSS SECTION
TEMPORARY BARRIER
PLACEMENT VERTICAL**



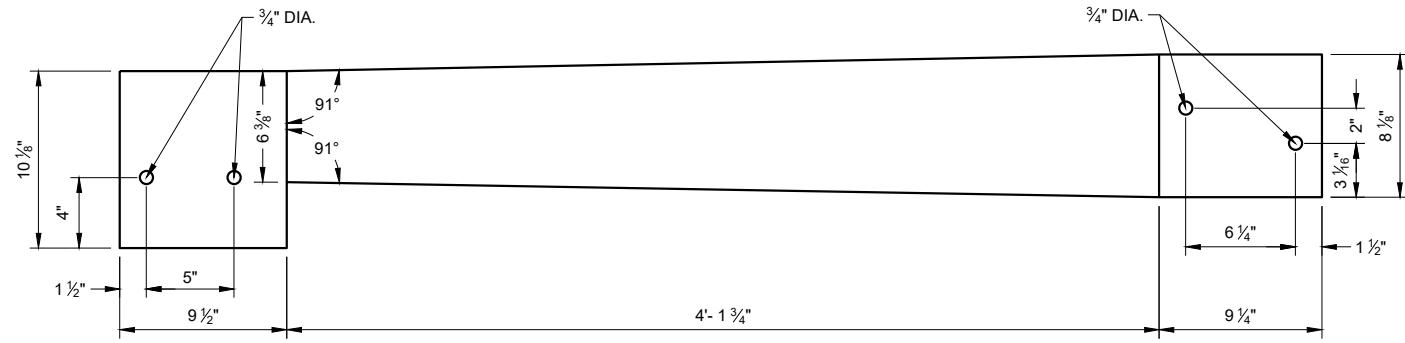
**BACK DETAIL VIEW
TRANSITION TO RIGID BARRIER**



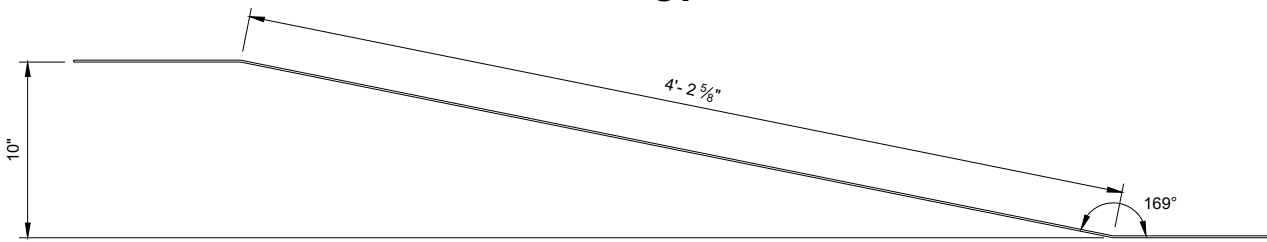
**(517) DETAIL PLAN VIEW
THRIE BEAM RAIL TERMINAL CONNECTOR ASSEMBLY**

**CONCRETE BARRIER
TEMPORARY PRECAST,
12' - 6"**

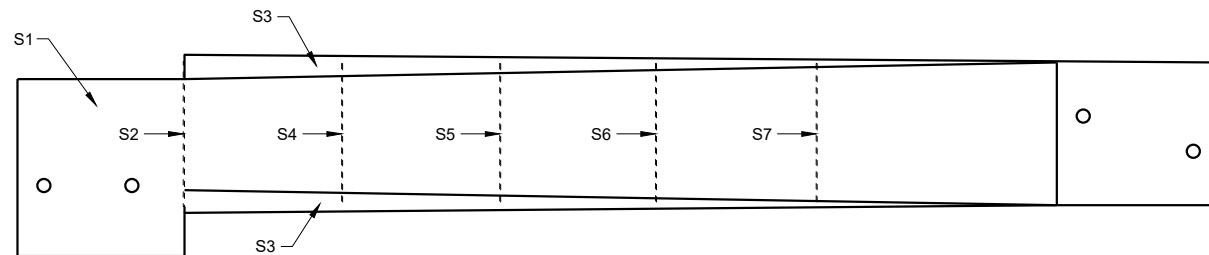
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



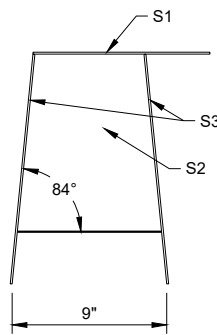
**TOP VIEW
S1**



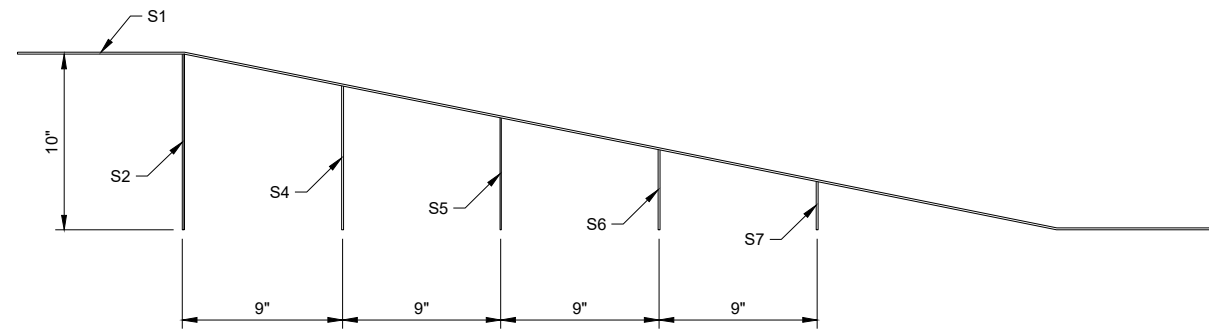
**ELEVATION VIEW
S1**



PLAN VIEW

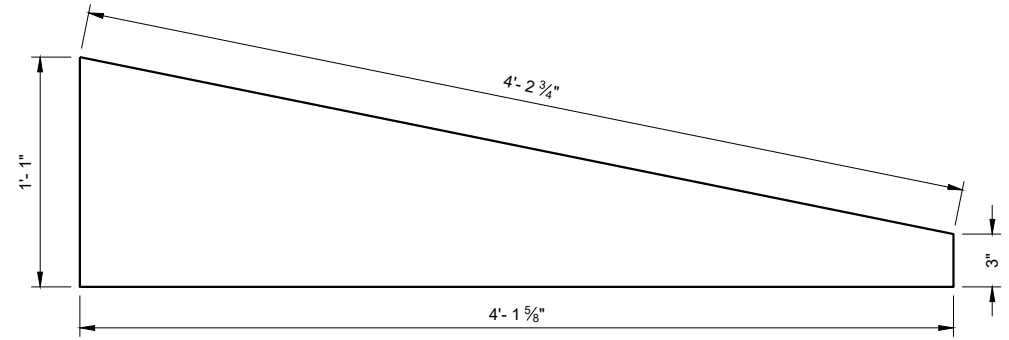


BACK VIEW

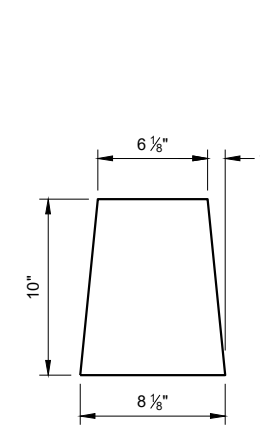


SIDE VIEW (600)

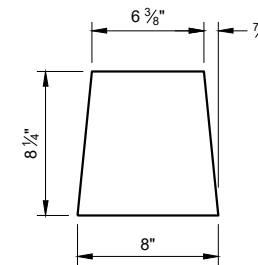
42" TOP CAP ASSEMBLY



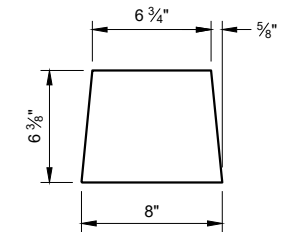
**SIDE VIEW
S3**



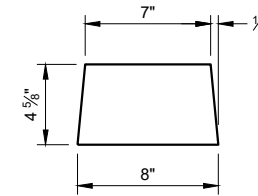
S2



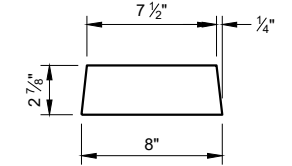
S4



S5



S6



S7

GENERAL NOTES

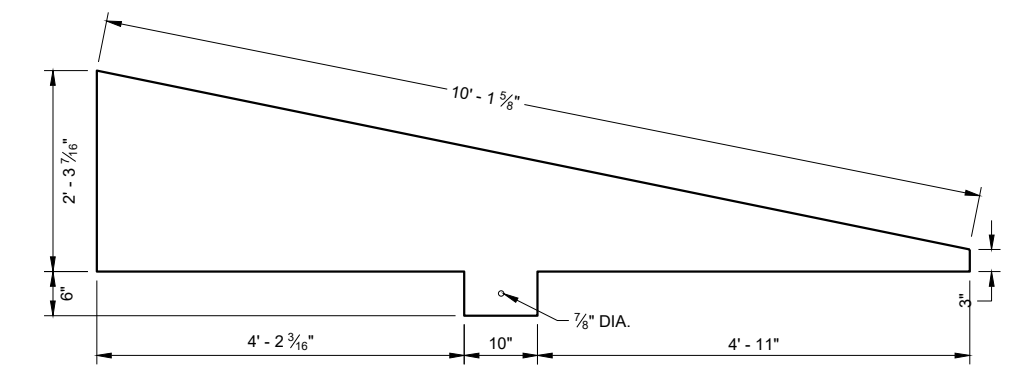
STITCH WELD GUSSET PLATES AND END PLATES ON THREE SIDES

STITCH WELD TWO SIDE PLATES TO TOP PLATE, END PLATE AND GUSSETS.

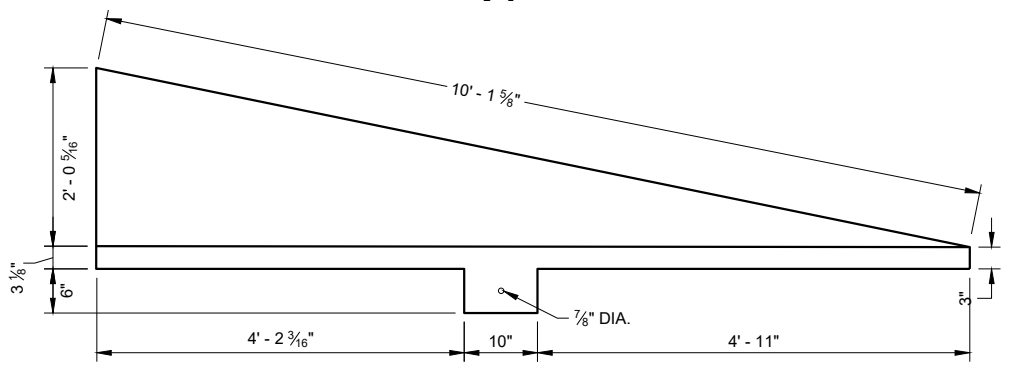
(600) SIDE PLATES (S3) NOT SHOWN FOR CLARITY.

**CONCRETE BARRIER
TEMPORARY PRECAST,
12' - 6"**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



**SIDE VIEW
T4**



**SIDE VIEW
T3**

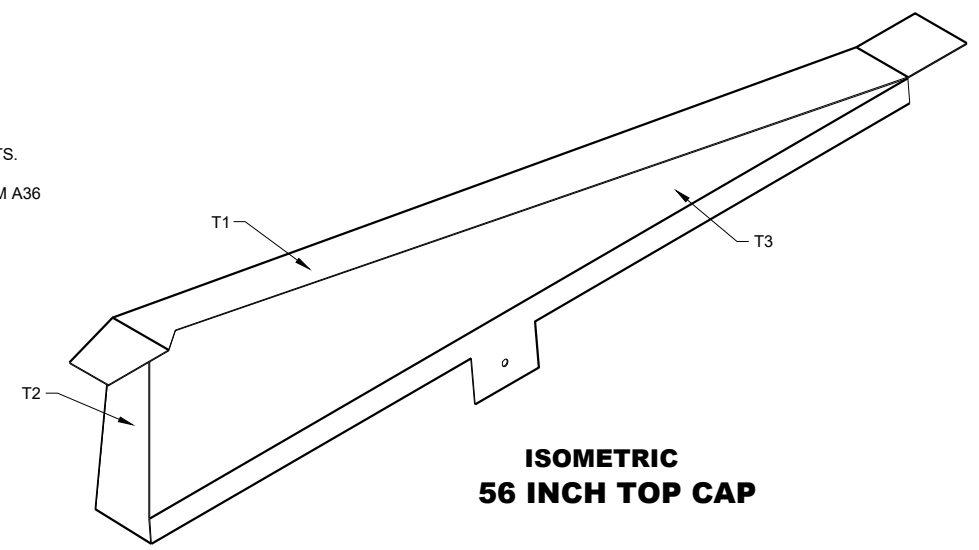
**END
VIEW**

**END
VIEW**

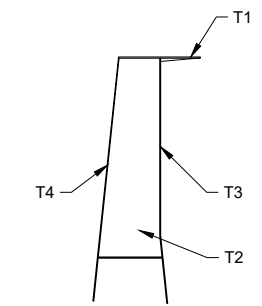
**END
VIEW**

GENERAL NOTES

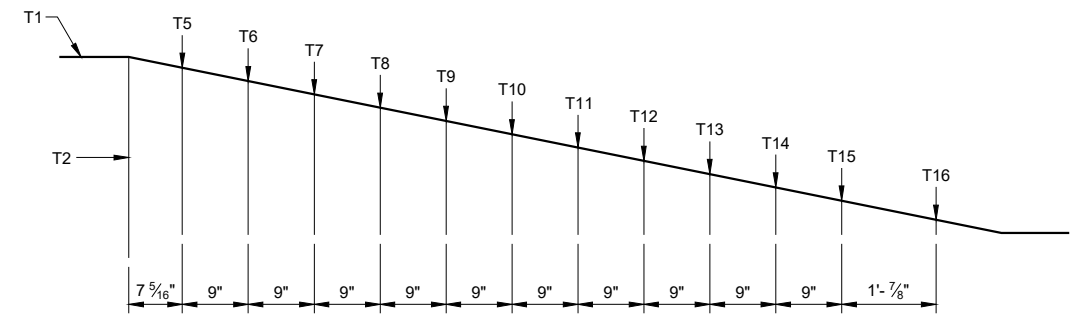
- STITCH WELD GUSSET PLATES AND END PLATES ON THRIE SIDES
- STITCH WELD TWO SIDE PLATES TO TOP PLATE, END PLATE AND GUSSETS.
- SIDE PLATES, TOP PLATE, END PLATE AND GUSSETS ARE 12 GAUGE ASTM A36 GALVANIZED STEEL.
- (700) SIDE PLATES (T3 AND T4) NOT SHOWN FOR CLARITY.



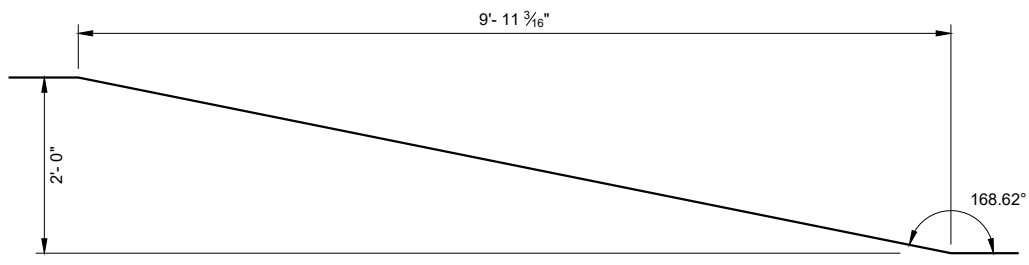
**ISOMETRIC
56 INCH TOP CAP**



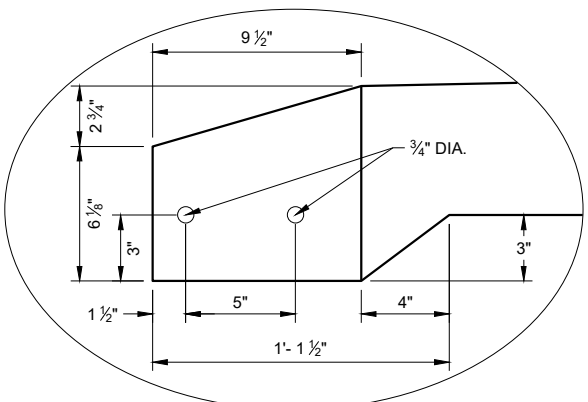
**END VIEW
56 INCH TOP CAP**



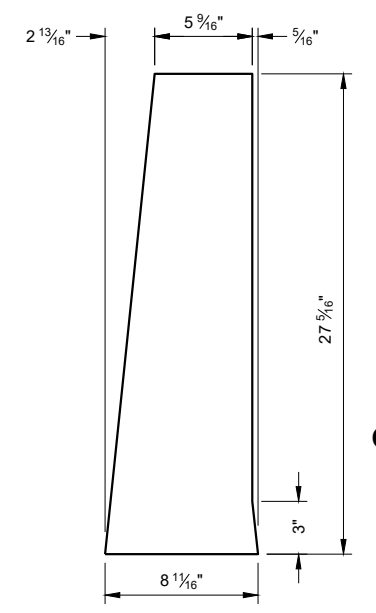
**SIDE VIEW
56 INCH TOP CAP (700)**



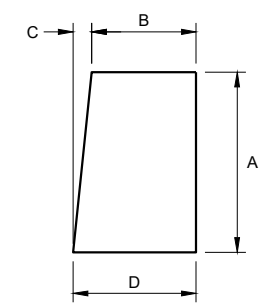
**SIDE VIEW
TOP PLATE T1**



DETAIL "A"

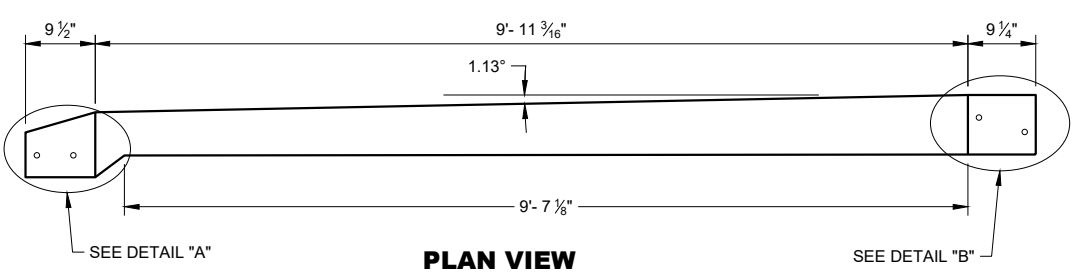


END PLATE T2

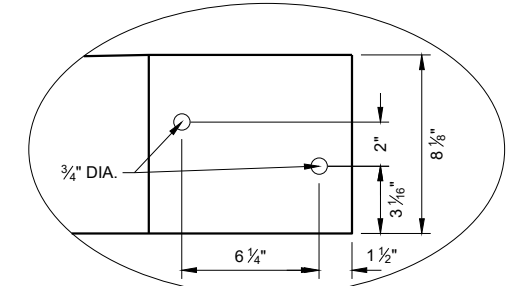


**GUSSET PLATES
T5 - T16**

GUSSET DIMENSIONS				
GUSSET NO.	A	B	C	D
T5	22 13/16"	5 1/16"	2 5/16"	8 1/16"
T6	21"	5 7/8"	2 3/16"	8 1/16"
T7	19 3/16"	6 1/8"	1 13/16"	8 1/16"
T8	17 3/8"	6 1/4"	1 13/16"	8 1/16"
T9	15 9/16"	6 7/16"	1 1/16"	8 1/16"
T10	13 3/4"	6 5/8"	1 7/16"	8 1/16"
T11	11 15/16"	6 13/16"	1 1/4"	8 1/16"
T12	10 1/8"	7"	1 1/16"	8 1/16"
T13	8 5/16"	7 3/16"	7/8"	8 1/16"
T14	6 1/2"	7 3/8"	1 1/16"	8 1/16"
T15	4 1/16"	7 1/16"	1/2"	8"
T16	2 7/8"	7 3/4"	1/4"	8"



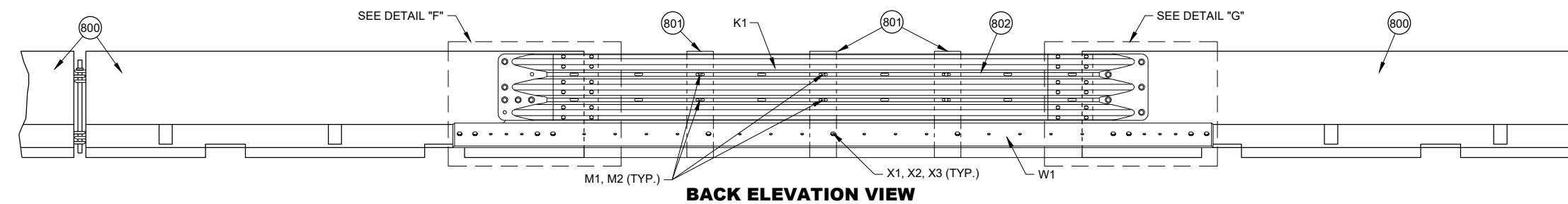
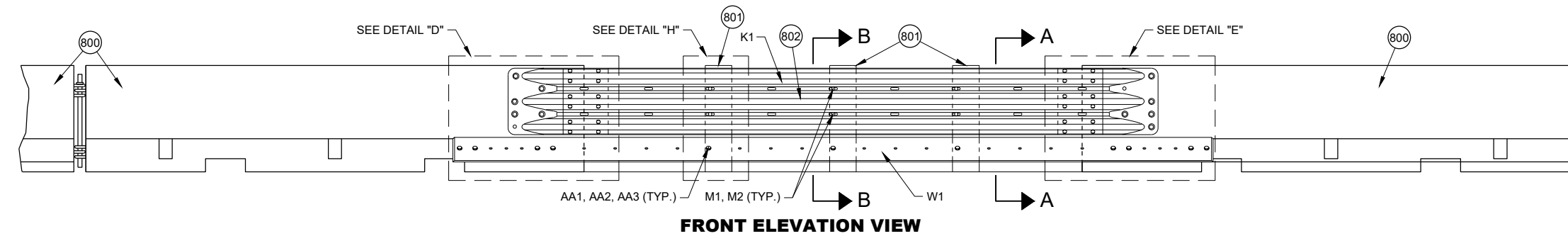
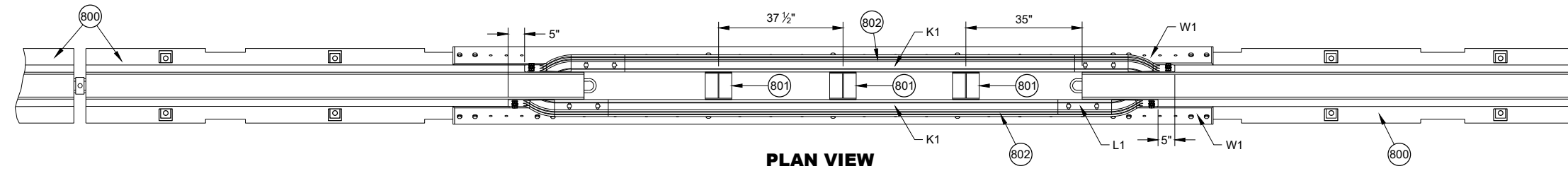
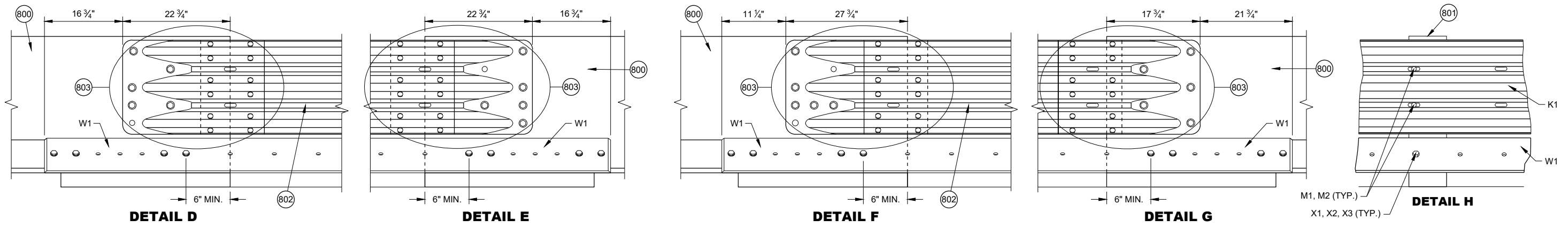
**PLAN VIEW
TOP PLATE T1**



DETAIL "B"

**CONCRETE BARRIER
TEMPORARY PRECAST,
12' - 6"**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



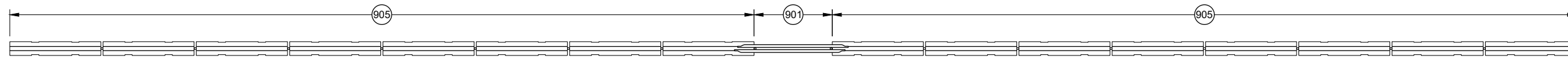
GENERAL NOTES

- 800 FREE STANDING TEMPORARY BARRIER
- 801 GAP STIFFENER ASSEMBLY
- 802 THRIE BEAMS ARE NESTED ON BOTH SIDES OF THE TEMPORARY BARRIER.
- 803 SEE THRIE BEAM RAIL TERMINAL CONNECTOR DETAIL

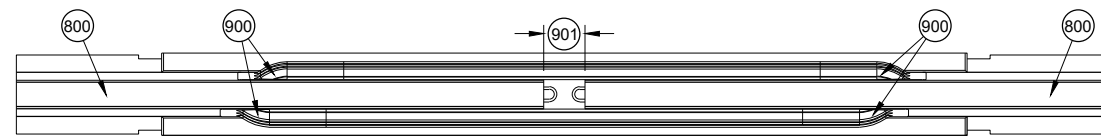
PORTABLE CONCRETE BARRIER GAP THRIE BEAM COVER

**CONCRETE BARRIER
TEMPORARY PRECAST,
12' - 6"**

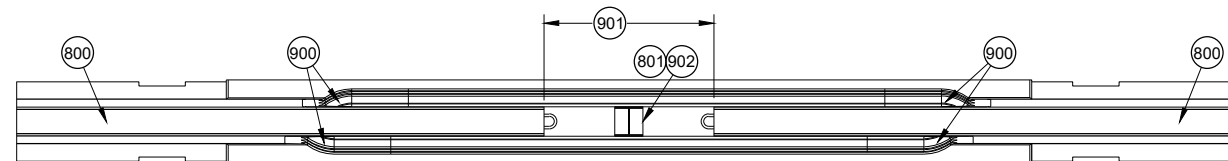
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



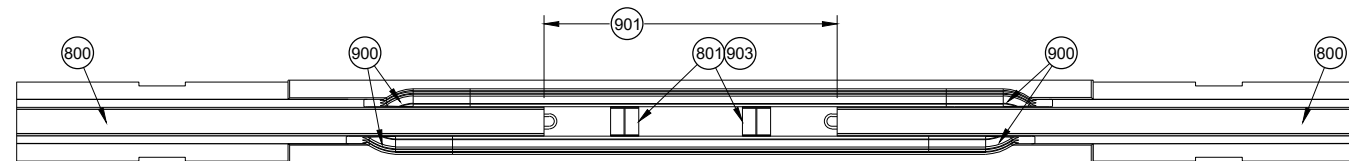
**PLAN VIEW
GAP WITHIN SPACING**



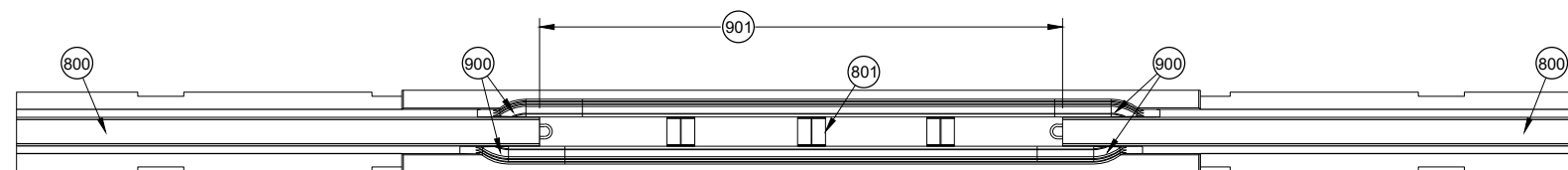
**PLAN VIEW
TEMPORARY BARRIER GAP OVER 4" TO 1' MAX. 904**



**PLAN VIEW
TEMPORARY BARRIER GAP OVER 1' TO 4' MAX. 904**



**PLAN VIEW
TEMPORARY BARRIER GAP OVER 4' TO 7' MAX. 904**



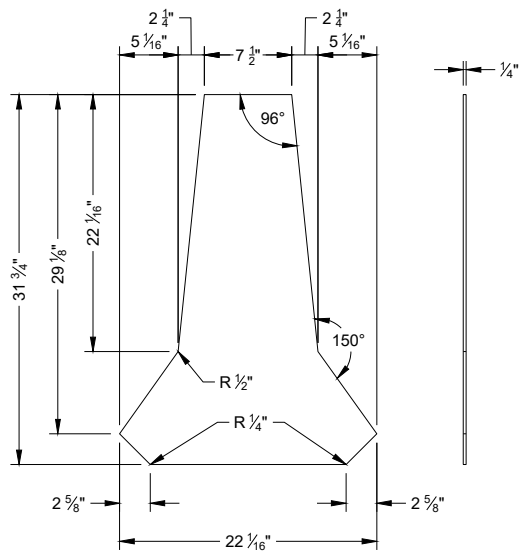
**PLAN VIEW
TEMPORARY BARRIER GAP OVER 7' TO 12.5' MAX. 904**

GENERAL NOTES

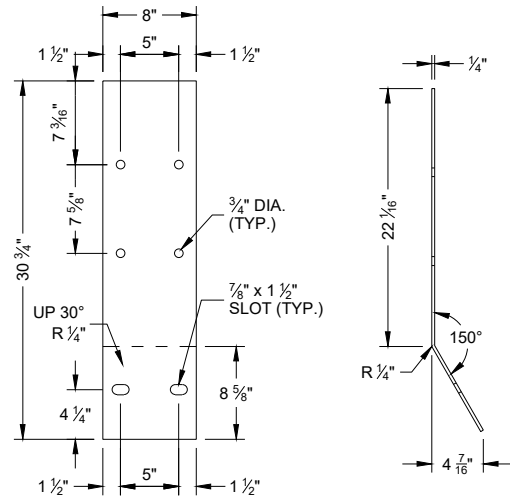
- 900 SEE OTHER DETAILS FOR TEMPORARY GAP HARDWARE (TYP.)
- 901 TEMPORARY BARRIER GAP
- 902 GAP STIFFENER ASSEMBLY CENTERED IN THE GAP.
- 903 GAP STIFFENER ASSEMBLY IS OFFSET 18 3/4" FROM CENTER
- 904 MINIMUM NUMBER OF GAP STIFFENERS SHOWN FOR THE GAP RANGE SHOWN.
- 905 MINIMUM OF 8 CONTINUOUS FREE STANDING TEMPORARY BARRIERS

**CONCRETE BARRIER
TEMPORARY PRECAST,
12' - 6"**

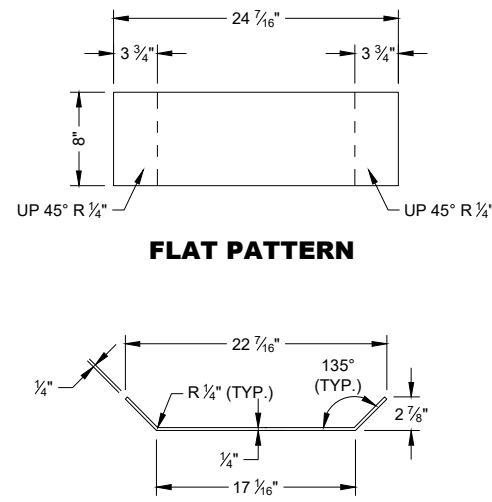
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



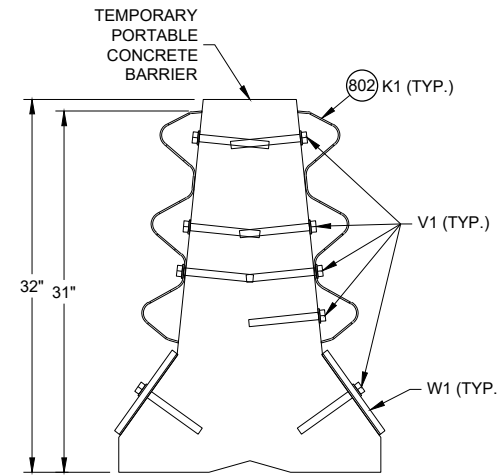
PROFILE VIEW **SIDE VIEW**
STIFFENER ASSEMBLY
CENTER PANEL U1



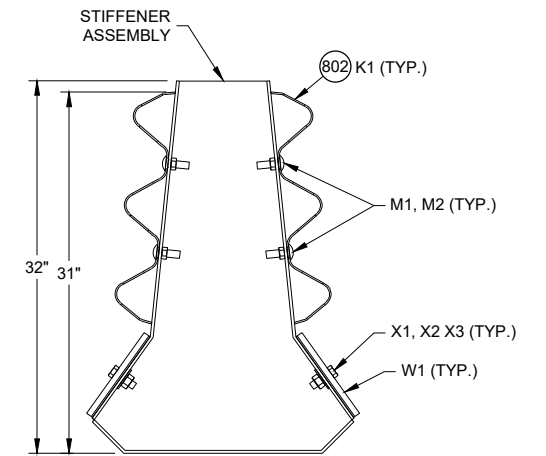
FLAT PATTERN **SIDE VIEW**
STIFFENER ASSEMBLY
SIDE PANEL U2



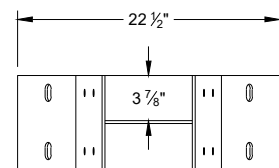
PROFILE VIEW
FLAT PATTERN
STIFFENER ASSEMBLY
BOTTOM PANEL U3



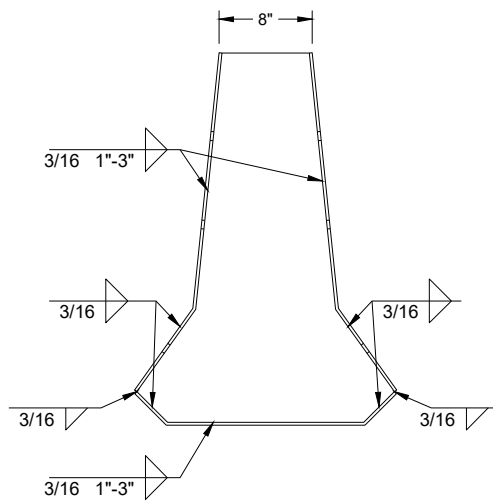
SECTION A - A



SECTION B - B

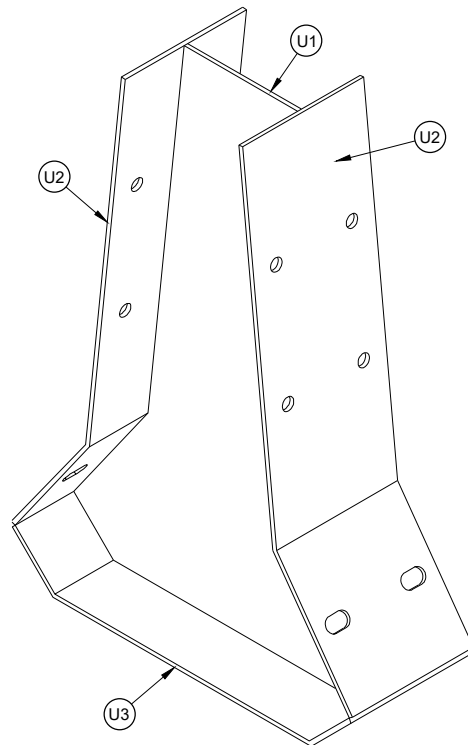


PLAN VIEW

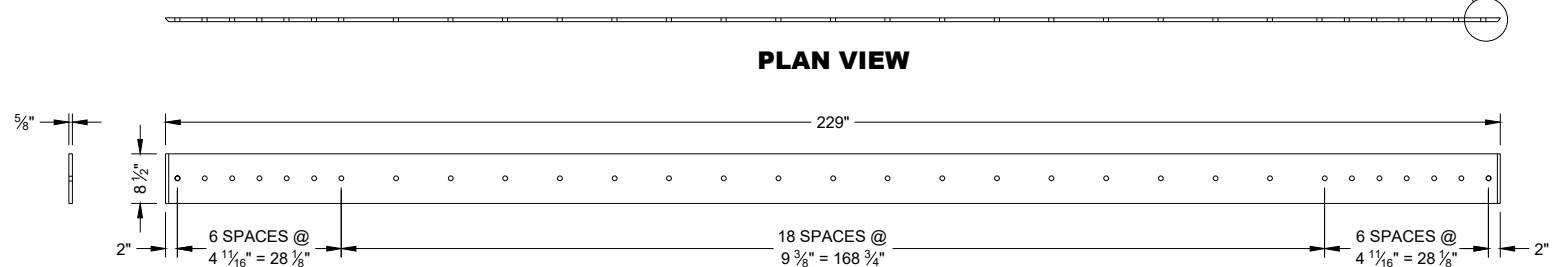
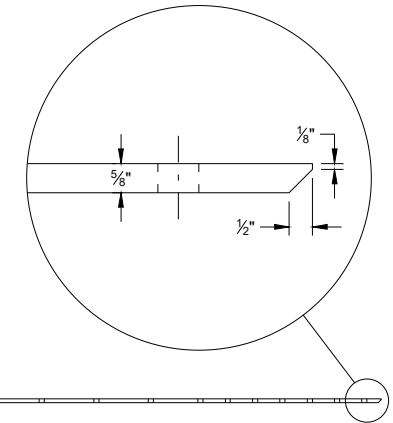


PROFILE VIEW **SIDE VIEW**

GAP STIFFENER ASSEMBLY



ISOMETRIC

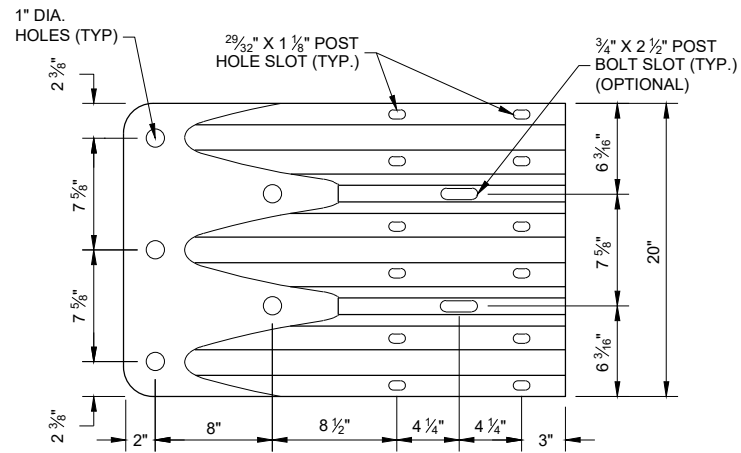


SIDE VIEW

PLAN VIEW
ELEVATION VIEW
W1 TOE PLATE

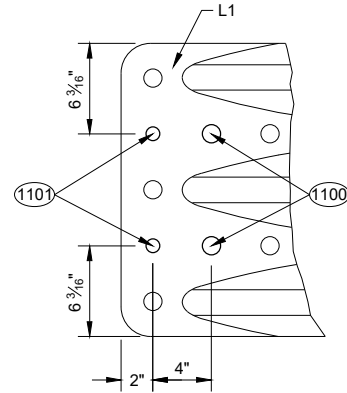
CONCRETE BARRIER
TEMPORARY PRECAST,
12' - 6"

STATE OF WISCONSIN
 DEPARTMENT OF TRANSPORTATION



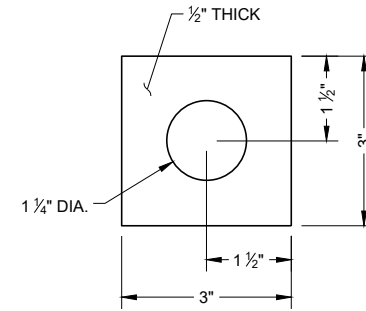
ELEVATION VIEW

**THRIE BEAM
TERMINAL CONNECTOR**



ELEVATION VIEW

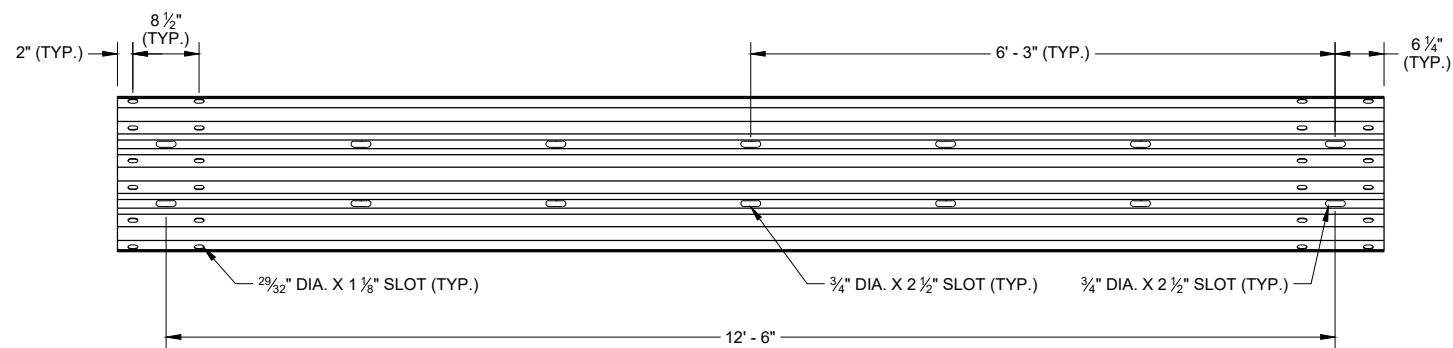
**ADDITIONAL THRIE BEAM
TERMINAL CONNECTOR HOLE DETAIL**



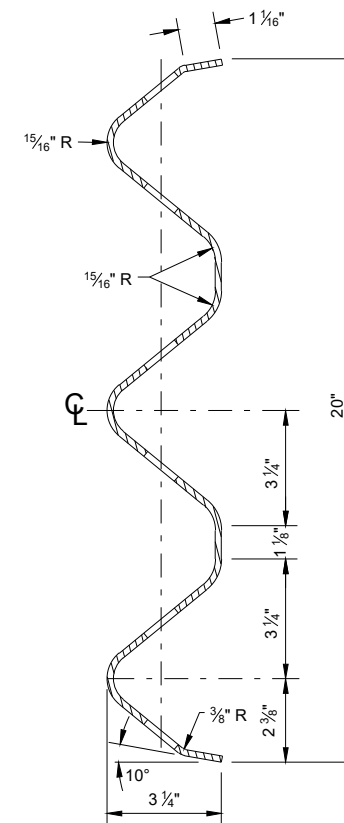
**PLATE WASHER DETAIL
G2, H3**

GENERAL NOTES

- (1100) 1" DIA. HOLE
- (1101) 3/4" DIA. HOLE
- (1102) PROVIDE HOLES IN THRIE BEAM TERMINAL CONNECTOR TO LIMIT STEEL REINFORCEMENT OR LOOP BAR CONFLICT. CONTRACTOR MAY FIELD DRILL ADDITIONAL HOLE OR PROVIDE THRIE BEAM TERMINAL CONNECTOR WITH ADDITIONAL HOLES FROM SUPPLIER.



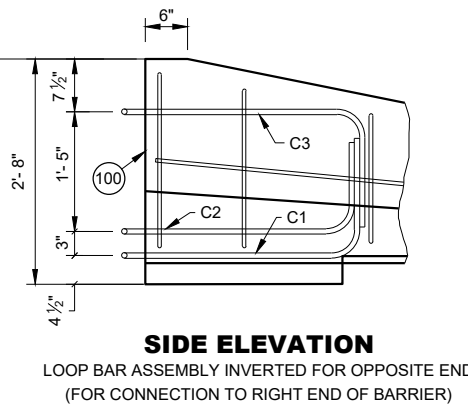
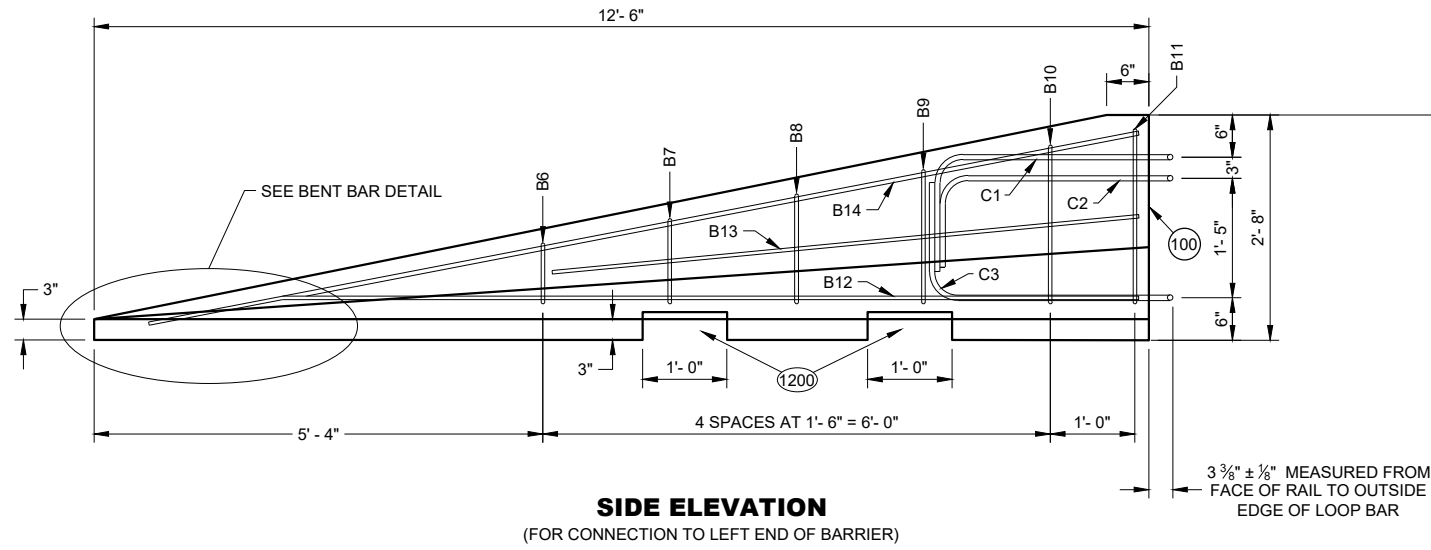
SLOTTED THRIE BEAM RAIL K1



**SECTION THROUGH
BEAM K1**

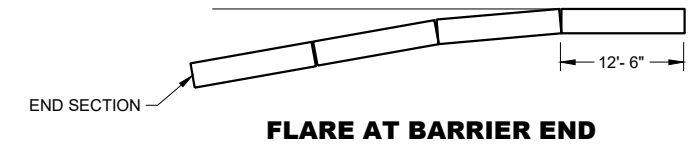
**CONCRETE BARRIER
TEMPORARY PRECAST,
12' - 6"**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

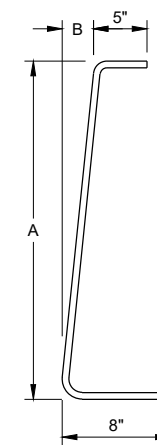
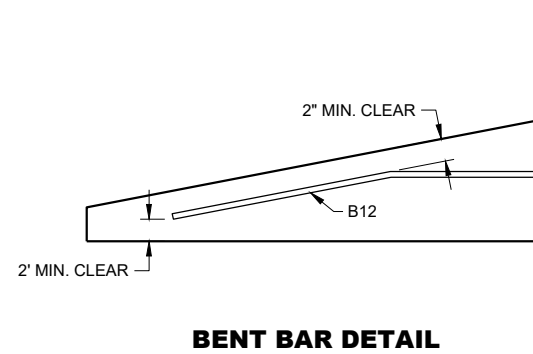
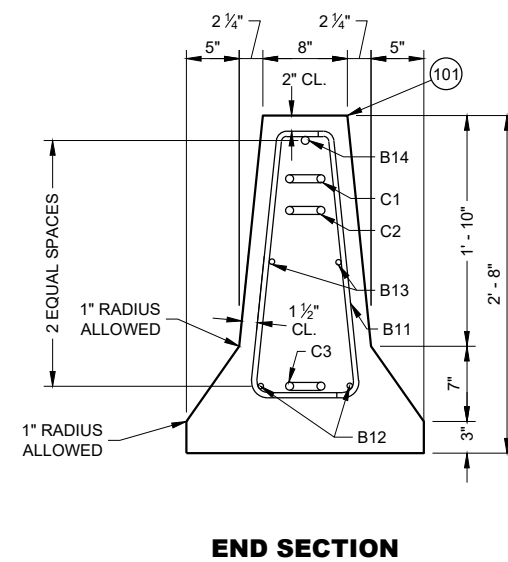
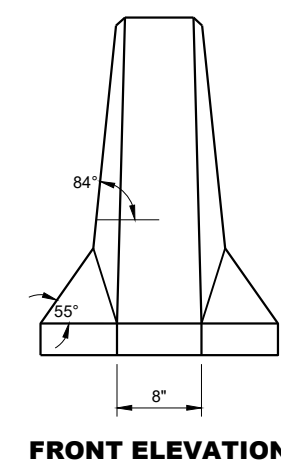
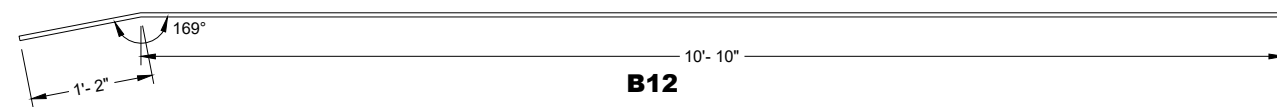
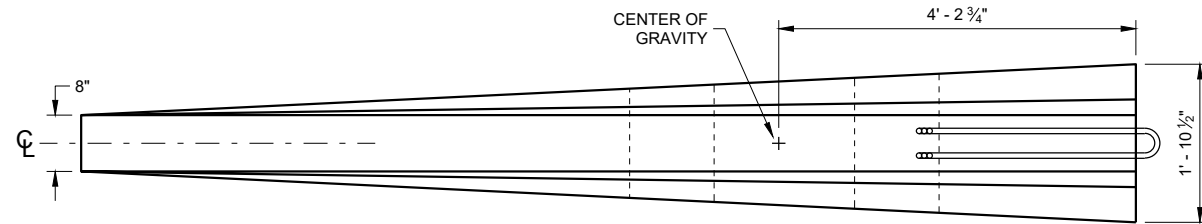


GENERAL NOTES

(1200) SEE LIFTING SLOT DETAIL. LOCATION OF LIFTING SLOTS DETERMINED BY CONTRACTOR.



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



BAR	A	B
B6	10"	1"
B7	1'-1"	1 1/4"
B8	1'-5"	1 5/8"
B9	1'-8"	1 7/8"
B10	2'-0 1/2"	2 3/8"
B11	2'-3"	2 3/4"

B BARS
2 OF EACH SIZE REQUIRED FOR STIRRUP ASSEMBLY

DETAILS OF BARRIER TAPER SECTION

**CONCRETE BARRIER
TEMPORARY PRECAST,
12' - 6"**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

BILL OF MATERIALS - CONCRETE BARRIER PRECAST

PART	DESCRIPTION	MATERIALS SPECIFICATIONS	NOTES
A1	PRECAST TEMPORARY BARRIER - CONCRETE	MIN. = f _c 5000 PSI	
B1	REBAR	STANDARD SPEC. 505.2 GRADE 60 UNCOATED REBAR	#5 REBAR, LENGTH 12'-2"
B2	REBAR	STANDARD SPEC. 505.2 GRADE 60 UNCOATED REBAR	#4 REBAR, LENGTH 12'-2"
B3	REBAR	STANDARD SPEC. 505.2 GRADE 60 UNCOATED REBAR	#5 REBAR, LENGTH 12'-2"
B4	REBAR	STANDARD SPEC. 505.2 GRADE 60 UNCOATED REBAR	#4 REBAR, LENGTH 6'-0"
B5	REBAR	STANDARD SPEC. 505.2 GRADE 60 UNCOATED REBAR	#6 REBAR, LENGTH 2'-11"
B6	REBAR	STANDARD SPEC. 505.2 GRADE 60 UNCOATED REBAR	#4 REBAR, LENGTH 1'-11"
B7	REBAR	STANDARD SPEC. 505.2 GRADE 60 UNCOATED REBAR	#4 REBAR, LENGTH 2'-2"
B8	REBAR	STANDARD SPEC. 505.2 GRADE 60 UNCOATED REBAR	#4 REBAR, LENGTH 2'-6"
B9	REBAR	STANDARD SPEC. 505.2 GRADE 60 UNCOATED REBAR	#4 REBAR, LENGTH 2'-9"
B10	REBAR	STANDARD SPEC. 505.2 GRADE 60 UNCOATED REBAR	#4 REBAR, LENGTH 3'-2"
B11	REBAR	STANDARD SPEC. 505.2 GRADE 60 UNCOATED REBAR	#4 REBAR, LENGTH 3'-4"
B12	REBAR	STANDARD SPEC. 505.2 GRADE 60 UNCOATED REBAR	#4 REBAR, LENGTH 12'-0"
B13	REBAR	STANDARD SPEC. 505.2 GRADE 60 UNCOATED REBAR	#4 REBAR, LENGTH 7'-9"
B14	REBAR	STANDARD SPEC. 505.2 GRADE 60 UNCOATED REBAR	#5 REBAR, LENGTH 11'-9"
C1	LOOP BAR	ASTM A709 GRADE 70 SMOOTH BAR OR ASTM A706 GRADE 60 REBAR UNCOATED	¾" DIA.
C2	LOOP BAR	ASTM A709 GRADE 70 SMOOTH BAR OR ASTM A706 GRADE 60 REBAR UNCOATED	¾" DIA.
C3	LOOP BAR	ASTM A709 GRADE 70 SMOOTH BAR OR ASTM A706 GRADE 60 REBAR UNCOATED	¾" DIA.
D1	CONNECTION PIN - ROD	ASTM A36 MIN. STRENGTH 36 KSI / ASTM A529 MAX. STRENGTH 50 KSI / ASTM A572 MAX STRENGTH 50 KSI / ASTM A709 MAX STRENGTH 50 KSI / ASTM A992 MAX STRENGTH 50 KSI	1 ½" DIA.
D2	CONNECTION PIN - TOP PLATE	ASTM A36 MIN. STRENGTH 36 KSI / ASTM A529 MAX. STRENGTH 50 KSI / ASTM A572 MAX STRENGTH 50 KSI / ASTM A709 MAX STRENGTH 50 KSI / ASTM A992 MAX STRENGTH 50 KSI	
G1	BOLT THROUGH ANCHOR - THREADED ROD	HOT DIP AASHTO M232 CLASS / ASTM A153 CLASS C / ASTM F2329 C OR MECHANICAL GALVANIZE TO AASHTO M298 CLASS 55 TYPE 2 / ASTM B695 CLASS 55 TYPE 2 A307 GRADE A OR SAE J429 GRADE 2 UNC	1 ½" DIA.
G2	BOLT THROUGH ANCHOR - WASHER, SQUARE	ASTM A36 MIN. STRENGTH 36 KSI / ASTM A529 MAX. STRENGTH 50 KSI / ASTM A572 MAX STRENGTH 50 KSI / ASTM A709 MAX STRENGTH 50 KSI / ASTM A992 MAX STRENGTH 50 KSI	
G3	BOLT THROUGH ANCHOR - NUT	HOT DIP AASHTO M232 CLASS / ASTM A153 CLASS C / ASTM F2329 C OR MECHANICAL GALVANIZE TO AASHTO M298 CLASS 55 TYPE 2 / ASTM B695 CLASS 55 UNC OVER TAP NUTS AS SPECIFIED IN AASHTO 291 / ASTM A 563 HEAVY HEX HEAD ASTM A563DH OR SAE J995 GRADE 5	
H1	ADHESIVE ANCHOR - ADHESIVE	ICC-ES-AC308 5 ¼" EMBEDMENT WITH A MIN. BOND STRENGTH OF 1,650 PSI. SEE 603.2 AND 603.3.1.2 OF THE WISCONSIN STANDARD SPECIFICATIONS FOR MORE INFORMATION ON ADHESIVE ANCHORS.	
H2	ADHESIVE ANCHOR - THREADED ROD	HOT DIP AASHTO M232 CLASS / ASTM A153 CLASS C / ASTM F2329 C OR MECHANICAL GALVANIZE TO AASHTO M298 CLASS 55 TYPE 2 / ASTM B695 CLASS 55 TYPE 2 A307 GRADE A / SAE J429 GRADE 2 UNC	1 ½" DIA.
H3	ADHESIVE ANCHOR - WASHER, SQUARE	ASTM A36 MIN. STRENGTH 36 KSI / ASTM A529 MAX. STRENGTH 50 KSI / ASTM A572 MAX STRENGTH 50 KSI / ASTM A709 MAX STRENGTH 50 KSI / ASTM A992 MAX STRENGTH 50 KSI	
H4	ADHESIVE ANCHOR - NUT	HOT DIP AASHTO M232 CLASS / ASTM A153 CLASS C / ASTM F2329 C OR MECHANICAL GALVANIZE TO AASHTO M298 CLASS 55 TYPE 2 / ASTM B695 CLASS 55 UNC OVER TAP NUTS AS SPECIFIED IN AASHTO 291 / ASTM A 563 HEAVY HEX HEAD ASTM A563DH OR SAE J995 GRADE 5	
J1	ASPHALT ANCHOR PIN - ROD	ASTM A36 MIN. STRENGTH 36 KSI / ASTM A529 MAX. STRENGTH 50 KSI / ASTM A572 MAX STRENGTH 50 KSI / ASTM A709 MAX STRENGTH 50 KSI / ASTM A992 MAX STRENGTH 50 KSI	1 ½" DIA.
J2	ASPHALT ANCHOR PIN - STOP PLATE	ASTM A36 MIN. STRENGTH 36 KSI / ASTM A529 MAX. STRENGTH 50 KSI / ASTM A572 MAX STRENGTH 50 KSI / ASTM A709 MAX STRENGTH 50 KSI / ASTM A992 MAX STRENGTH 50 KSI	
K1	THRIE BEAM RAIL	AASHTO M180 CLASS A TYPE 2 APPROVED PRODUCER	12 GAUGE
L1	THRIE BEAM RAIL - TERMINAL	AASHTO M180 CLASS A TYPE 2 APPROVED PRODUCER	12 GAUGE

PART	DESCRIPTION	MATERIALS SPECIFICATIONS	NOTES
M1	SPLICE BOLT	HOT DIP AASHTO M232 CLASS / ASTM A153 CLASS C / ASTM F2329 C OR MECHANICAL GAL. TO AASHTO M298 CLASS 55 TYPE 2 / ASTM B695 CLASS 55 TYPE 2 UNC AASHTO M180 HEAD ASTM A307 GRADE B OR SAE J429 GRADE 2 OR ASTM F1554 GRADE 36	¾" DIA.
M2	SPLICE BOLT - NUT	HOT DIP AASHTO M232 CLASS / ASTM A153 CLASS C / ASTM F2329 C OR MECHANICAL GALVANIZE TO AASHTO M298 CLASS 55 TYPE 2 / ASTM B695 CLASS 55 UNC OVER TAP NUTS AS SPECIFIED IN AASHTO 291 / ASTM A 563 AASHTO M180 RECESSED HEAVY HEX HEAD ASTM A563DH OR SAE J995 GRADE 5	
N1	THRIE BEAM RAIL TERMINAL - MECHANICAL ANCHOR	HOT DIP AASHTO M232 CLASS / ASTM A153 CLASS C / ASTM F2329 C OR MECHANICAL GALVANIZE TO AASHTO M298 CLASS 55 TYPE 2 / ASTM B695 CLASS 55 UNC OVER TAP NUTS AS SPECIFIED IN AASHTO 291 / ASTM A 563 AASHTO M180 RECESSED HEAVY HEX HEAD ASTM A563DH OR SAE J995 GRADE 5	¾" DIA. LENGTH 6"
N2	THRIE BEAM RAIL TERMINAL - WASHER	HOT DIP AASHTO M232 CLASS / ASTM A153 CLASS C / ASTM F2329 C OR MECHANICAL GALVANIZE TO AASHTO M298 CLASS 55 TYPE 2 / ASTM B695 CLASS 55 TYPE 2 F436 TYPE 1	
N3	THRIE BEAM RAIL TERMINAL MECHANICAL OR ADHESIVE ANCHOR	MINIMUM MECHANICAL OR ADHESIVE ANCHOR STRENGTH REQUIREMENTS: ULTIMATE TENSILE LOAD 17.9 KIPS AND ULTIMATE SHEAR LOAD 21.96 KIPS. SEE 603.2 AND 603.3.1.2 OF THE WISCONSIN STANDARD SPECIFICATIONS FOR MORE INFORMATION ON ADHESIVE ANCHORS.	
P1	THRIE BEAM RAIL CONNECTION 1-BOLT	HOT DIP AASHTO M232 CLASS / ASTM A153 CLASS C / ASTM F2329 C OR MECHANICAL GALVANIZE TO AASHTO M298 CLASS 55 TYPE 2 / ASTM B695 CLASS 55 UNC OVER TAP NUTS AS SPECIFIED IN AASHTO 291 / ASTM A 563 AASHTO M180 RECESSED HEAVY HEX HEAD ASTM A563DH OR SAE J995 GRADE 5	¾" DIA.
P2	THRIE BEAM RAIL CONNECTION 1-WASHER	HOT DIP AASHTO M232 CLASS / ASTM A153 CLASS C / ASTM F2329 C OR MECHANICAL GAL. TO AASHTO M298 CLASS 55 TYPE 2 / ASTM B695 CLASS 55 TYPE 2 F436 TYPE 1	
P3	THRIE BEAM RAIL CONNETION 1- MECHANICAL OR ADHESIVE ANCHOR	MINIMUM MECHANICAL OR ADHESIVE ANCHOR STRENGTH REQUIREMENTS: ULTIMATE TENSILE LOAD 9.48 KIPS AND ULTIMATE SHEAR LOAD 10.48 KIPS. SEE 603.2 AND 603.3.1.2 OF THE WISCONSIN STANDARD SPECIFICATIONS FOR MORE INFORMATION ON ADHESIVE ANCHORS.	
Q1	BLOCK WOOD	SEE STANDARD SPEC. 614	
R1	CAP - BOLT	HOT DIP AASHTO M232 CLASS / ASTM A153 CLASS C / ASTM F2329 C OR MECHANICAL GALVANIZE TO AASHTO M298 CLASS 55 TYPE 2 / ASTM B695 CLASS 55 UNC OVER TAP NUTS AS SPECIFIED IN AASHTO 291 / ASTM A 563 AASHTO M180 RECESSED HEAVY HEX HEAD ASTM A563DH OR SAE J995 GRADE 5	¾" DIA.
R2	CAP - BOLT - WASHER	HOT DIP AASHTO M232 CLASS / ASTM A153 CLASS C / ASTM F2329 C OR MECHANICAL GAL. TO AASHTO M298 CLASS 55 TYPE 2 / ASTM B695 CLASS 55 TYPE 2 F436 TYPE 1	
R3	CAP - BOLT - MECHANICAL ANCHOR	MINIMUM MECHANICAL OR ADHESIVE ANCHOR STRENGTH REQUIREMENTS ULTIMATE TENSILE LOAD 12.14 KIPS AND ULTIMATE SHEAR LOAD 17.5 KIPS. SEE 603.2 AND 603.3.1.2 OF THE WISCONSIN STANDARD SPECIFICATIONS FOR MORE INFORMATION ON ADHESIVE ANCHORS.	12 GAUGE
S1	CAP 42-INCH TOP PLATE	AASHTO M111 / ASTM A123 ASTM A36 MIN. STRENGTH 36 KSI, OR ASTM A529 MAX. STRENGTH 50 KSI, OR ASTM A572 MAX. STRENGTH 50 KSI, OR ASTM A709 MAX. STRENGTH 50 KSI, OR ASTM A992 MAX. STRENGTH 50 KSI	12 GAUGE
S2	CAP 42-INCH END PLATE	AASHTO M111 / ASTM A123 ASTM A36 MIN. STRENGTH 36 KSI, OR ASTM A529 MAX. STRENGTH 50 KSI, OR ASTM A572 MAX. STRENGTH 50 KSI, OR ASTM A709 MAX. STRENGTH 50 KSI, OR ASTM A992 MAX. STRENGTH 50 KSI	12 GAUGE
S3	CAP 42-INCH SIDE PLATE	AASHTO M111 / ASTM A123 ASTM A36 MIN. STRENGTH 36 KSI, OR ASTM A529 MAX. STRENGTH 50 KSI, OR ASTM A572 MAX. STRENGTH 50 KSI, OR ASTM A709 MAX. STRENGTH 50 KSI, OR ASTM A992 MAX. STRENGTH 50 KSI	12 GAUGE
S4	CAP 42-INCH GUSSET 1	AASHTO M111 / ASTM A123 ASTM A36 MIN. STRENGTH 36 KSI, OR ASTM A529 MAX. STRENGTH 50 KSI, OR ASTM A572 MAX. STRENGTH 50 KSI, OR ASTM A709 MAX. STRENGTH 50 KSI, OR ASTM A992 MAX. STRENGTH 50 KSI	12 GAUGE
S5	CAP 42-INCH GUSSET 2	AASHTO M111 / ASTM A123 ASTM A36 MIN. STRENGTH 36 KSI, OR ASTM A529 MAX. STRENGTH 50 KSI, OR ASTM A572 MAX. STRENGTH 50 KSI, OR ASTM A709 MAX. STRENGTH 50 KSI, OR ASTM A992 MAX. STRENGTH 50 KSI	12 GAUGE
S6	CAP 42-INCH GUSSET 3	AASHTO M111 / ASTM A123 ASTM A36 MIN. STRENGTH 36 KSI, OR ASTM A529 MAX. STRENGTH 50 KSI, OR ASTM A572 MAX. STRENGTH 50 KSI, OR ASTM A709 MAX. STRENGTH 50 KSI, OR ASTM A992 MAX. STRENGTH 50 KSI	12 GAUGE
S7	CAP 42-INCH GUSSET 4	AASHTO M111 / ASTM A123 ASTM A36 MIN. STRENGTH 36 KSI, OR ASTM A529 MAX. STRENGTH 50 KSI, OR ASTM A572 MAX. STRENGTH 50 KSI, OR ASTM A709 MAX. STRENGTH 50 KSI, OR ASTM A992 MAX. STRENGTH 50 KSI	12 GAUGE

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SDD 14B07-16m

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SDD 14B07-16m

**CONCRETE BARRIER
TEMPORARY PRECAST,
12' - 6"**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

BILL OF MATERIALS - CONCRETE BARRIER PRECAST

PART	DESCRIPTION	MATERIALS SPECIFICATIONS	NOTES
T1	CAP 56-INCH TOP PLATE	AASHTO M111 / ASTM A123 ASTM A36 MIN. STRENGTH 36 KSI, OR ASTM A529 MAX. STRENGTH 50 KSI, OR ASTM A572 MAX. STRENGTH 50 KSI, OR ASTM A709 MAX. STRENGTH 50 KSI, OR ASTM A992 MAX. STRENGTH 50 KSI	12 GAUGE
T2	CAP 56-INCH END PLATE	AASHTO M111 / ASTM A123 ASTM A36 MIN. STRENGTH 36 KSI, OR ASTM A529 MAX. STRENGTH 50 KSI, OR ASTM A572 MAX. STRENGTH 50 KSI, OR ASTM A709 MAX. STRENGTH 50 KSI, OR ASTM A992 MAX. STRENGTH 50 KSI	12 GAUGE
T3	CAP 56-INCH SIDE PLATE 1	AASHTO M111 / ASTM A123 ASTM A36 MIN. STRENGTH 36 KSI, OR ASTM A529 MAX. STRENGTH 50 KSI, OR ASTM A572 MAX. STRENGTH 50 KSI, OR ASTM A709 MAX. STRENGTH 50 KSI, OR ASTM A992 MAX. STRENGTH 50 KSI	12 GAUGE
T4	CAP 56-INCH SIDE PLATE 2	AASHTO M111 / ASTM A123 ASTM A36 MIN. STRENGTH 36 KSI, OR ASTM A529 MAX. STRENGTH 50 KSI, OR ASTM A572 MAX. STRENGTH 50 KSI, OR ASTM A709 MAX. STRENGTH 50 KSI, OR ASTM A992 MAX. STRENGTH 50 KSI	12 GAUGE
T5	CAP 56-INCH GUSSET 1	AASHTO M111 / ASTM A123 ASTM A36 MIN. STRENGTH 36 KSI, OR ASTM A529 MAX. STRENGTH 50 KSI, OR ASTM A572 MAX. STRENGTH 50 KSI, OR ASTM A709 MAX. STRENGTH 50 KSI, OR ASTM A992 MAX. STRENGTH 50 KSI	12 GAUGE
T6	CAP 56-INCH GUSSET 2	AASHTO M111 / ASTM A123 ASTM A36 MIN. STRENGTH 36 KSI, OR ASTM A529 MAX. STRENGTH 50 KSI, OR ASTM A572 MAX. STRENGTH 50 KSI, OR ASTM A709 MAX. STRENGTH 50 KSI, OR ASTM A992 MAX. STRENGTH 50 KSI	12 GAUGE
T7	CAP 56-INCH GUSSET 3	AASHTO M111 / ASTM A123 ASTM A36 MIN. STRENGTH 36 KSI, OR ASTM A529 MAX. STRENGTH 50 KSI, OR ASTM A572 MAX. STRENGTH 50 KSI, OR ASTM A709 MAX. STRENGTH 50 KSI, OR ASTM A992 MAX. STRENGTH 50 KSI	12 GAUGE
T8	CAP 42-INCH GUSSET 4	AASHTO M111 / ASTM A123 ASTM A36 MIN. STRENGTH 36 KSI, OR ASTM A529 MAX. STRENGTH 50 KSI, OR ASTM A572 MAX. STRENGTH 50 KSI, OR ASTM A709 MAX. STRENGTH 50 KSI, OR ASTM A992 MAX. STRENGTH 50 KSI	12 GAUGE
T9	CAP 42-INCH GUSSET 5	AASHTO M111 / ASTM A123 ASTM A36 MIN. STRENGTH 36 KSI, OR ASTM A529 MAX. STRENGTH 50 KSI, OR ASTM A572 MAX. STRENGTH 50 KSI, OR ASTM A709 MAX. STRENGTH 50 KSI, OR ASTM A992 MAX. STRENGTH 50 KSI	12 GAUGE
T10	CAP 42-INCH GUSSET 6	AASHTO M111 / ASTM A123 ASTM A36 MIN. STRENGTH 36 KSI, OR ASTM A529 MAX. STRENGTH 50 KSI, OR ASTM A572 MAX. STRENGTH 50 KSI, OR ASTM A709 MAX. STRENGTH 50 KSI, OR ASTM A992 MAX. STRENGTH 50 KSI	12 GAUGE
T11	CAP 42-INCH GUSSET 7	AASHTO M111 / ASTM A123 ASTM A36 MIN. STRENGTH 36 KSI, OR ASTM A529 MAX. STRENGTH 50 KSI, OR ASTM A572 MAX. STRENGTH 50 KSI, OR ASTM A709 MAX. STRENGTH 50 KSI, OR ASTM A992 MAX. STRENGTH 50 KSI	12 GAUGE
T12	CAP 42-INCH GUSSET 8	AASHTO M111 / ASTM A123 ASTM A36 MIN. STRENGTH 36 KSI, OR ASTM A529 MAX. STRENGTH 50 KSI, OR ASTM A572 MAX. STRENGTH 50 KSI, OR ASTM A709 MAX. STRENGTH 50 KSI, OR ASTM A992 MAX. STRENGTH 50 KSI	12 GAUGE
T13	CAP 42-INCH GUSSET 9	AASHTO M111 / ASTM A123 ASTM A36 MIN. STRENGTH 36 KSI, OR ASTM A529 MAX. STRENGTH 50 KSI, OR ASTM A572 MAX. STRENGTH 50 KSI, OR ASTM A709 MAX. STRENGTH 50 KSI, OR ASTM A992 MAX. STRENGTH 50 KSI	12 GAUGE
T14	CAP 42-INCH GUSSET 10	AASHTO M111 / ASTM A123 ASTM A36 MIN. STRENGTH 36 KSI, OR ASTM A529 MAX. STRENGTH 50 KSI, OR ASTM A572 MAX. STRENGTH 50 KSI, OR ASTM A709 MAX. STRENGTH 50 KSI, OR ASTM A992 MAX. STRENGTH 50 KSI	12 GAUGE
T15	CAP 42-INCH GUSSET 11	AASHTO M111 / ASTM A123 ASTM A36 MIN. STRENGTH 36 KSI, OR ASTM A529 MAX. STRENGTH 50 KSI, OR ASTM A572 MAX. STRENGTH 50 KSI, OR ASTM A709 MAX. STRENGTH 50 KSI, OR ASTM A992 MAX. STRENGTH 50 KSI	12 GAUGE
T16	CAP 42-INCH GUSSET 12	AASHTO M111 / ASTM A123 ASTM A36 MIN. STRENGTH 36 KSI, OR ASTM A529 MAX. STRENGTH 50 KSI, OR ASTM A572 MAX. STRENGTH 50 KSI, OR ASTM A709 MAX. STRENGTH 50 KSI, OR ASTM A992 MAX. STRENGTH 50 KSI	12 GAUGE
U1	GAP STIFFENER	AASHTO M111 / ASTM A123 ASTM A36 MIN. STRENGTH 36 KSI, OR ASTM A529 MAX. STRENGTH 50 KSI, OR ASTM A572 MAX. STRENGTH 50 KSI, OR ASTM A709 MAX. STRENGTH 50 KSI, OR ASTM A992 MAX. STRENGTH 50 KSI	
U2	GAP STIFFENER - CONNECTOR PLATE 1	AASHTO M111 / ASTM A123 ASTM A36 MIN. STRENGTH 36 KSI, OR ASTM A529 MAX. STRENGTH 50 KSI, OR ASTM A572 MAX. STRENGTH 50 KSI, OR ASTM A709 MAX. STRENGTH 50 KSI, OR ASTM A992 MAX. STRENGTH 50 KSI	
U3	GAP STIFFENER - CONNECTOR PLATE 2	AASHTO M111 / ASTM A123 ASTM A36 MIN. STRENGTH 36 KSI, OR ASTM A529 MAX. STRENGTH 50 KSI, OR ASTM A572 MAX. STRENGTH 50 KSI, OR ASTM A709 MAX. STRENGTH 50 KSI, OR ASTM A992 MAX. STRENGTH 50 KSI	

PART	DESCRIPTION	MATERIALS SPECIFICATIONS	NOTES
V1	THRIE BEAM RAIL TERMINAL MECHANICAL OR ADHESIVE ANCHOR	MINIMUM MECHANICAL OR ADHESIVE ANCHOR STRENGTH REQUIREMENTS ULTIMATE TENSILE LOAD 24.0 KIPS AND ULTIMATE SHEAR LOAD 21.5 KIPS. SEE 603.2 AND 603.3.1.2 OF THE WISCONSIN STANDARD SPECIFICATIONS FOR MORE INFORMATION ON ADHESIVE ANCHORS.	¾" DIA.
V2	GAP STIFFENER - BOLT - NUT	HOT DIP AASHTO M232 CLASS / ASTM A153 CLASS C / ASTM F2329 C O R MECHANICAL GALVANIZE TO AASHTO M298 CLASS 50 TYPE 1 / ASTM B695 CLASS 50 TYPE 1 UNC OVER TAP NUTS AS SPECIFIED IN AASHTO 291/ASTM A 563 HEAVY HEX HEAD ASTM A563DH OR SAE J995 GRADE 5	
W1	TOE PLATE	AASHTO M111/ASTM A123 ASTM A36 MIN STRENGTH 36 KSI, OR ASTM A529 MAX. STRENGTH 50 KSI, OR ASTM A572 MAX. STRENGTH 50 KSI, OR ASTM A709 MAX. STRENGTH 50 KSI, OR ASTM A992 MAX. STRENGTH 50 KSI	
X1	TOE PLATE - CONNECTION BOLT	HOT DIP AASHTO M232 CLASS / ASTM A153 CLASS C / ASTM F2329 C OR MECHANICAL GALVANIZE TO AASHTO M298 CLASS 55 TYPE 2 / ASTM B695 CLASS 55 TYPE 2 UNC HEAVY HEX HEAD OR AASTHO M180 HEAD, ASTM F3125 GRADE A325 TYPE 1 HEAVY HEX HEAD OR SAE J429 GRADE 5 HEAVY HEX HEAD / ASTM A449 TYPE 1 HEAVY HEX HEAD. BOLTS MAY BE FULLY THREADED. PROVIDE ENOUGH THREADING FOR PROPER TIGHTENING OF BOLT.	¾" DIA.
X2	TOE PLATE - CONNECTION BOLT - WASHER	HOT DIP AASHTO M232 CLASS / ASTM A153 CLASS C / ASTM F2329 C OR MECHANICAL GALVANIZE TO AASHTO M298 CLASS 55 TYPE 2 / ASTM B695 CLASS 55 TYPE 2 F436 TYPE 1 (HARDEN WASHER ONLY)	
X3	TOE PLATE - CONNECTION BOLT - NUT	HOT DIP AASHTO M232 CLASS / ASTM A153 CLASS C / ASTM F2329 C OR MECHANICAL GALVANIZE TO AASHTO M298 CLASS 55 TYPE 2 / ASTM B695 CLASS 55 UNC OVER TAP NUTS AS SPECIFIED IN AASHTO 291 / ASTM A 563 HEAVY HEX HEAD ASTM A563DH OR SAE J995 GRADE 5	

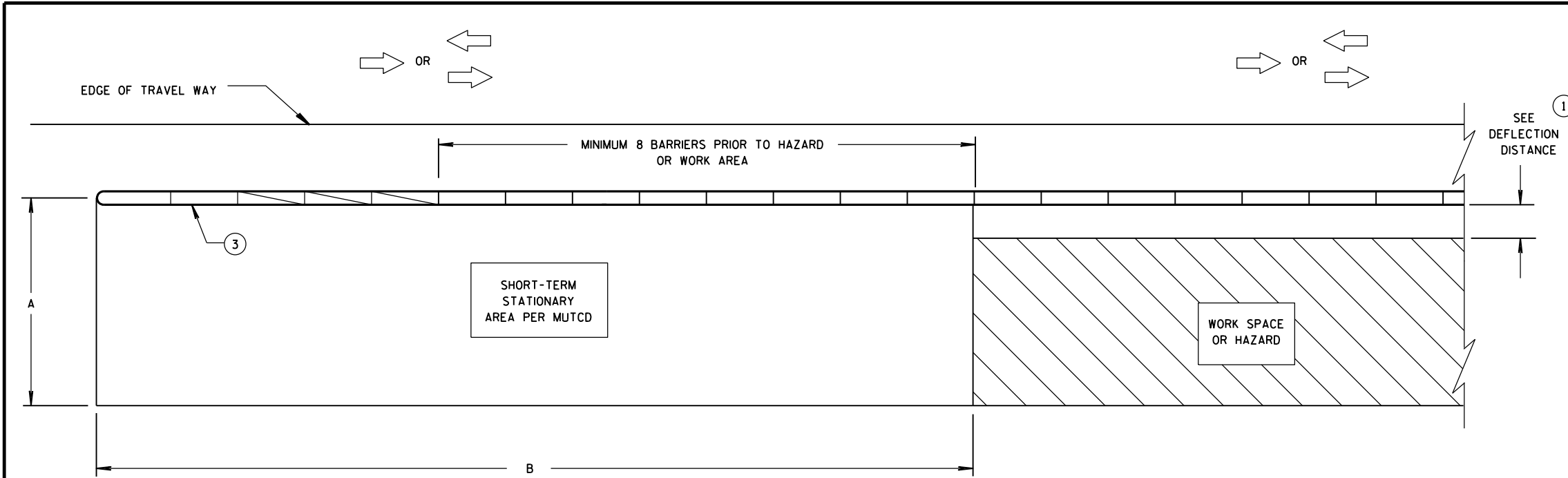
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SDD 14B07-16n

SDD 14B07-16n

CONCRETE BARRIER TEMPORARY PRECAST, 12' - 6"	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED February 2023 DATE	/S/ Rodney Taylor ROADWAY STANDARDS DEVELOPMENT ENGINEER
FHWA	



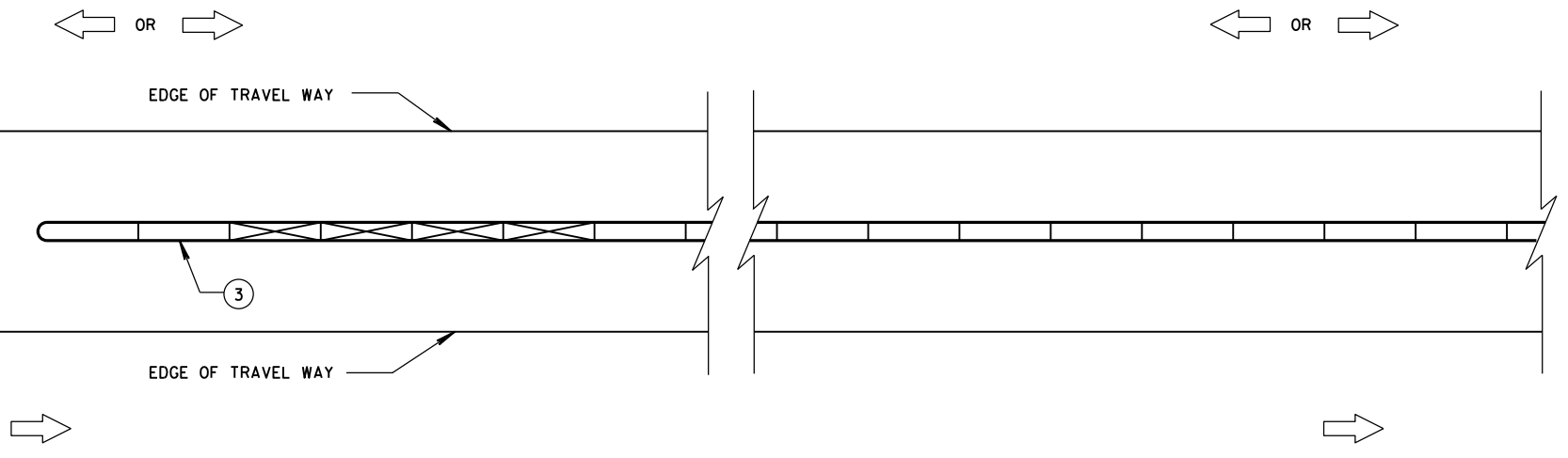
DIMENSION A TABLE ⁽²⁾

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

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

DIMENSION B TABLE ⁽²⁾

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



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

LEGEND

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

GENERAL NOTES

SEE STANDARD DETAIL DRAWING 14B7 FOR MORE INFORMATION.

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

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

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

- FOR DETAILS ON CRASH CUSHION OR SAND BARREL ARRAYS SEE OTHER SECTIONS OF THE PLAN AND MANUFACTURE'S DETAILS.
- SLOPES LEADING TO TEMPORARY BARRIER, CRASH CUSHION OR SAND BARREL ARRAY ARE 10:1 OR LESS.
- ⁽¹⁾ FOR DEFLECTION INFORMATION SEE STANDARD DETAIL DRAWING 14B7.
- ⁽²⁾ VALUES PROVIDED MAY NOT FIT ALL POSSIBLE SITUATIONS OR SITE CONDITIONS. SEE OTHER SECTIONS OF THE CONTRACT OR PROJECT ENGINEER FOR MORE DETAILS.
- ⁽³⁾ ANCHOR TEMPORARY BARRIER ACCORDING TO CRASH CUSHION OR SAND BARREL MANUFACTURER'S RECOMMENDATIONS. IF MANUFACTURER'S RECOMMENDATIONS ARE NOT PROVIDED, ANCHOR 3 PINS ON TRAFFIC SIDE.

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

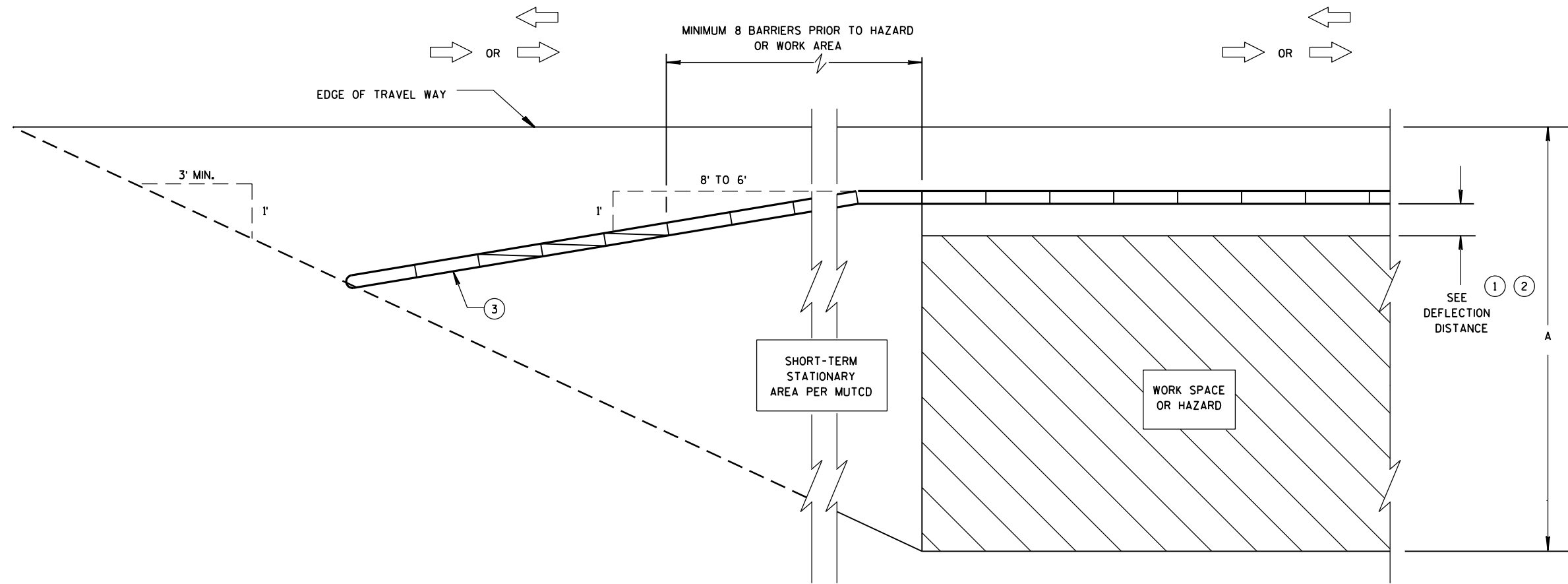
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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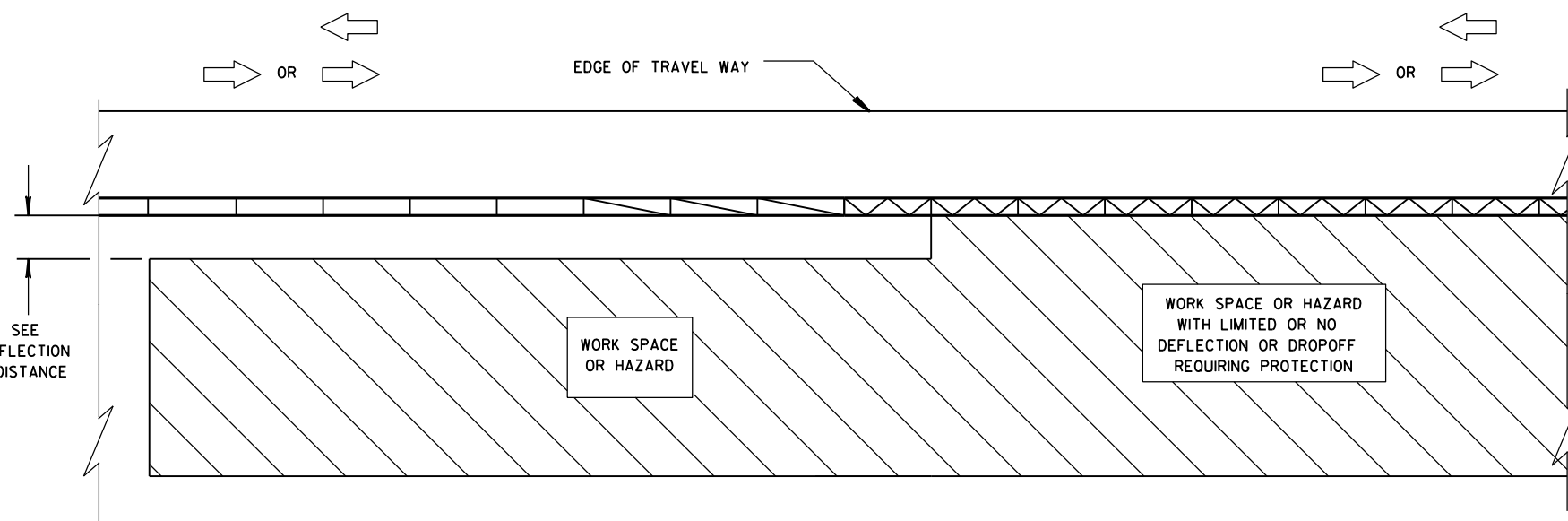
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S.D.D. 14 B 8-2a

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



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



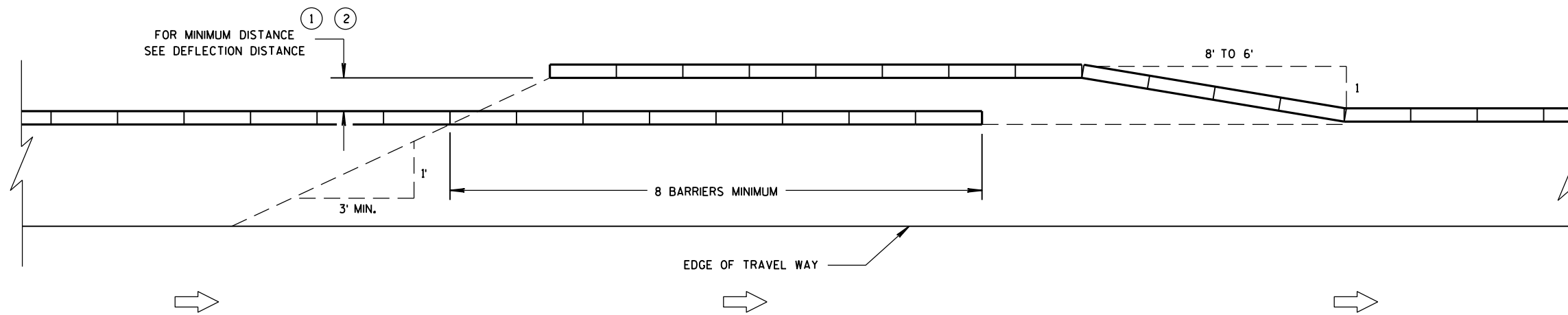
**TRANSITION FROM FREE STANDING TEMPORARY BARRIER
TO ANCHORED BARRIER**

LEGEND

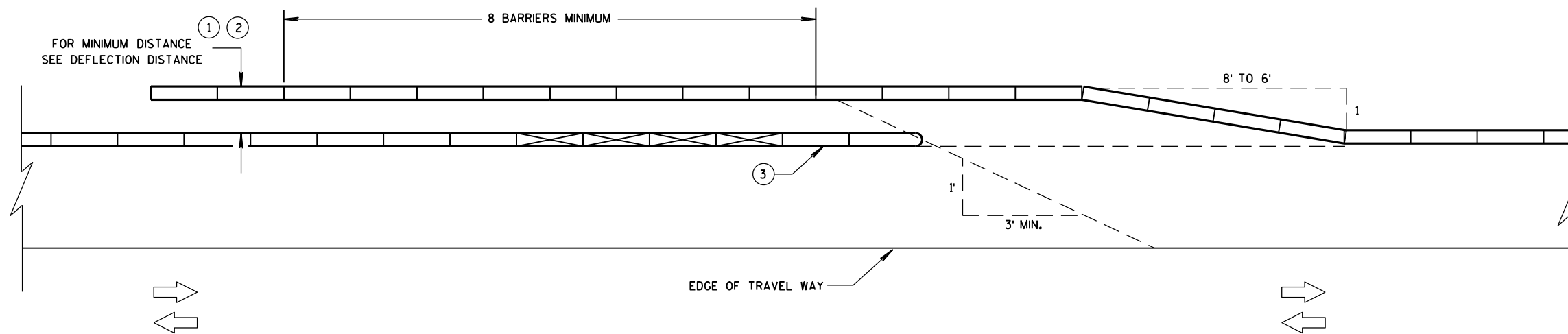
- DIRECTION OF TRAVEL
- CRASH CUSHION OR SAND BARREL ARRAY
- SEE FREE STANDING TRANSITION TO TIED-DOWN SYSTEM DETAILS
- SEE BI-DIRECTIONAL TRANSITION TO TIED-DOWN SYSTEM DETAILS
- 3 PINS PLACED ON TRAFFIC SIDE OF BARRIER
- PERMANENT CONCRETE BARRIER OR CONCRETE PARAPET
- FREE STANDING TEMPORARY BARRIER

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

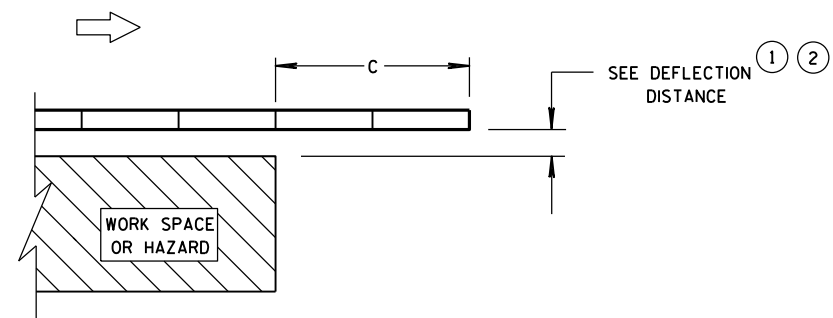
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



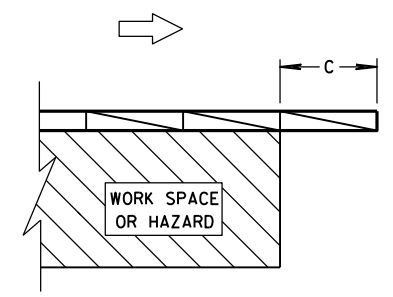
TEMPORARY BARRIER OVERLAP - ONE-WAY TRAFFIC



TEMPORARY BARRIER OVERLAP - TWO-WAY TRAFFIC



**ENDING TEMPORARY BARRIER
DOWNSTREAM - UNANCHORED**



**ENDING TEMPORARY BARRIER
DOWNSTREAM - ANCHORED**

LEGEND

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

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

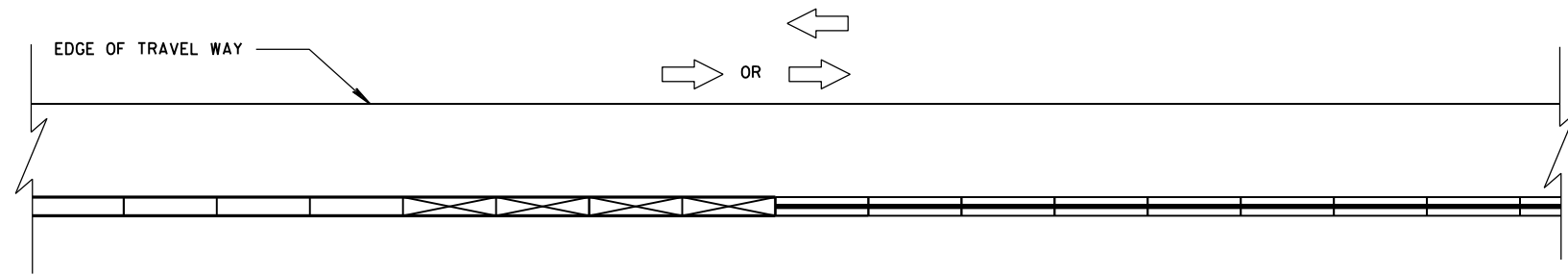
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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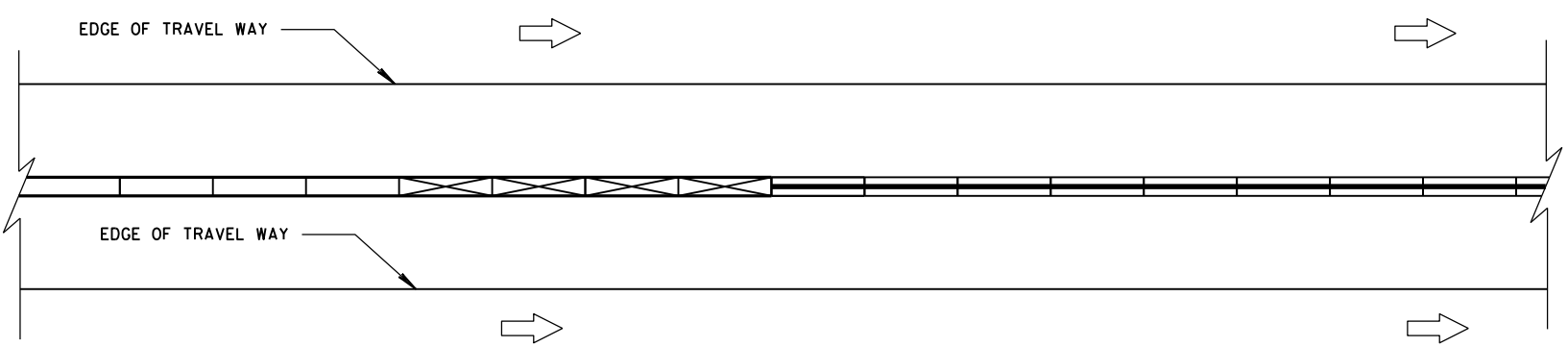
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S.D.D. 14 B 8-2c

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



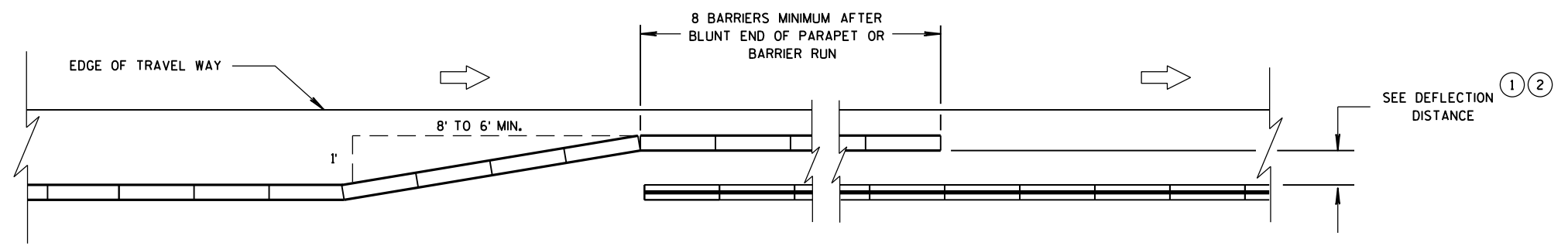
CONNECTING TEMPORARY BARRIER TO PERMANENT CONCRETE BARRIER-TRAFFIC ON ONE SIDE



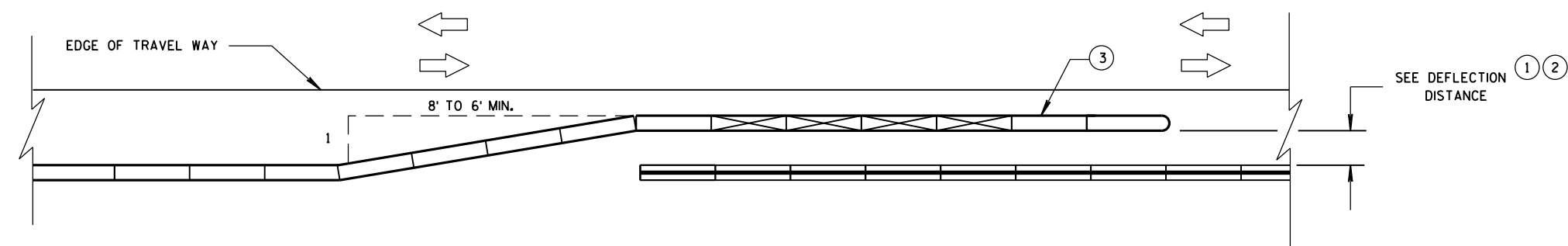
CONNECTING TEMPORARY BARRIER TO PERMANENT CONCRETE BARRIER-TRAFFIC ON BOTH SIDES

LEGEND

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



OVERLAPPING TEMPORARY BARRIER AND PERMANENT BARRIER - ONE WAY TRAFFIC



OVERLAPPING TEMPORARY BARRIER AND PERMANENT BARRIER - TWO WAY TRAFFIC

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

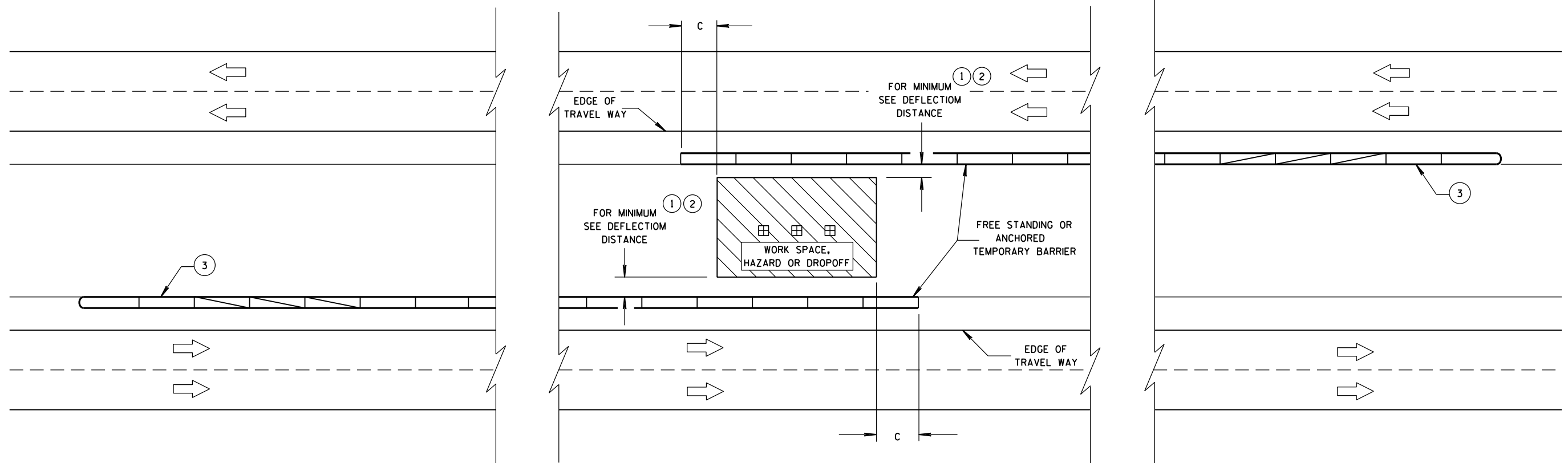
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

LEGEND

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

DIMENSION C TABLE ²

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



6

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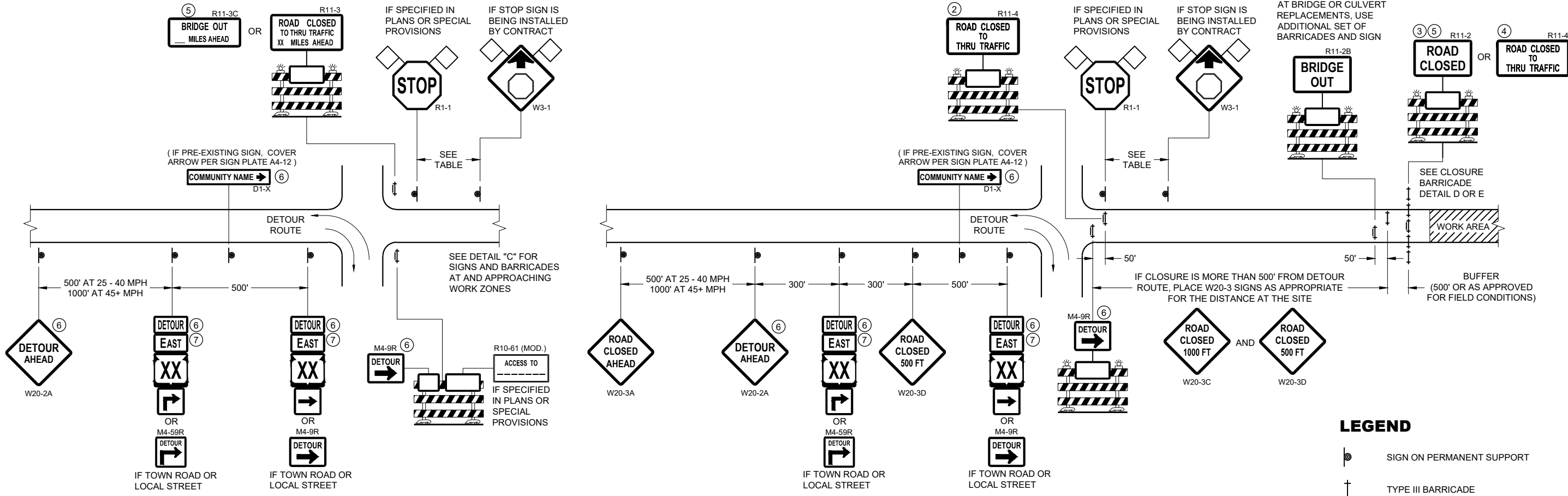
S.D.D. 14 B 8-2e

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

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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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



**DETAIL A
MAINLINE CLOSURE WITH POSTED DETOUR**

WORK ZONE GREATER THAN OR EQUAL TO 1/2 MILE FROM
DETOUR ROUTE (1000 FEET IF URBAN)

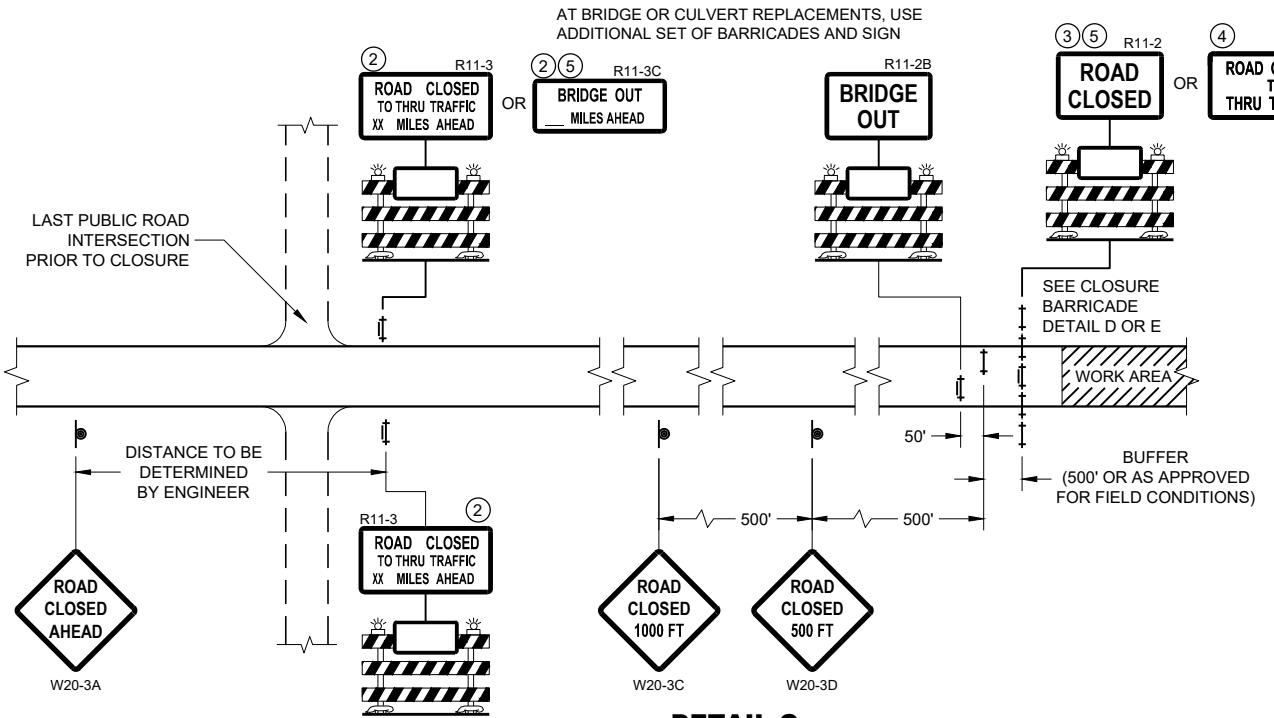
**DETAIL B
MAINLINE CLOSURE WITH POSTED DETOUR**

WORK ZONE LESS THAN 1/2 MILE FROM
DETOUR ROUTE (1000 FEET IF URBAN)

- LEGEND**
- SIGN ON PERMANENT SUPPORT
 - TYPE III BARRICADE
 - TYPE III BARRICADE WITH ATTACHED SIGN
 - TYPE "A" WARNING LIGHT (FLASHING)
 - WORK AREA
 - FLAGS, 16" X 16" MIN. (ORANGE)

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

- M4 - 8
- M3 - X
- M1 - 4
- M1 - 6
- M1 - 5A
- M05 - 1
- M06 - 1



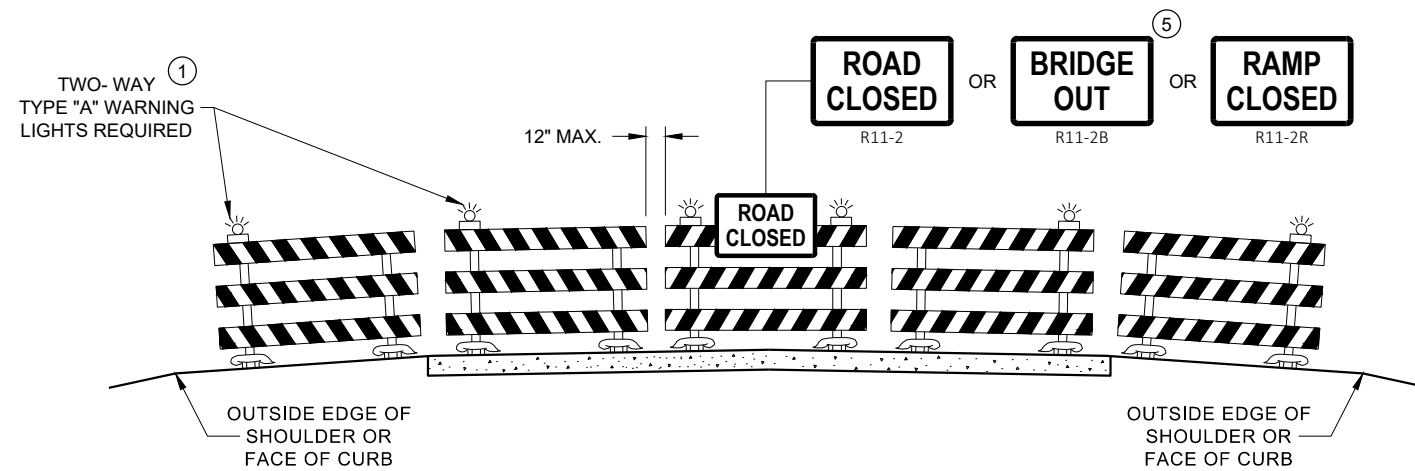
**DETAIL C
MAINLINE CLOSURE, NO POSTED DETOUR**

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

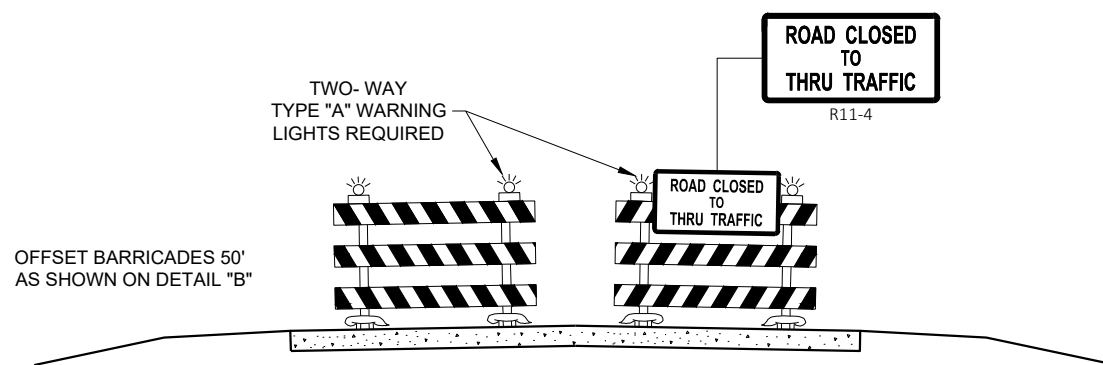
**BARRICADES AND SIGNS
FOR MAINLINE CLOSURES**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
May 2023 /S/ Andrew Heidtke
DATE DATE WORK ZONE ENGINEER
FHWA



**DETAIL D
ROAD CLOSURE BARRICADE DETAIL
APPROACH VIEW**



**DETAIL E
LANE CLOSURE BARRICADE DETAIL
APPROACH VIEW**

SEE SDD 15C2 - SHEET "a" FOR LEGEND

GENERAL NOTES

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

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

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

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

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

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

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

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

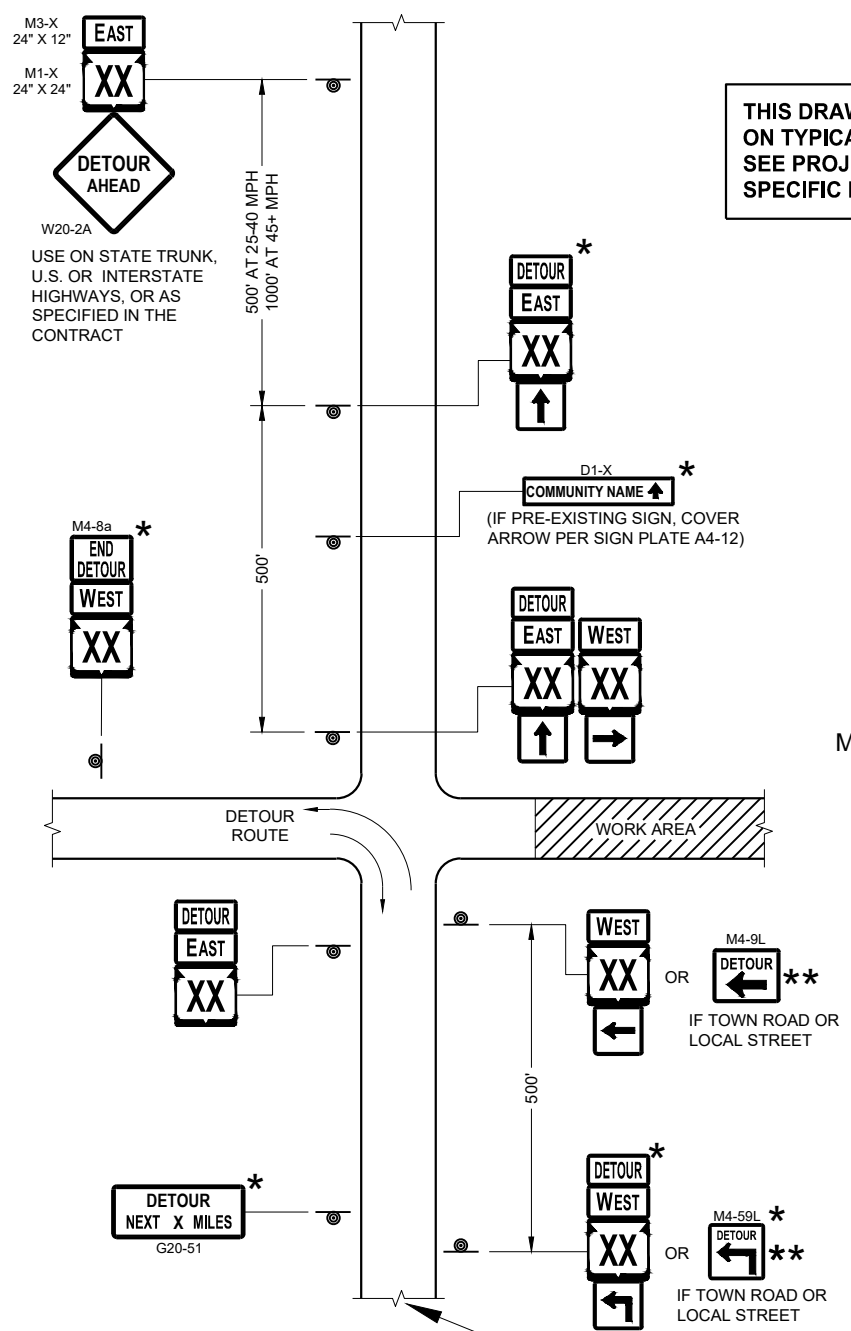
- R11 - 2 SHALL BE 48" X 30"
- R11 - 3 SHALL, R11 - 4 AND R10 - 61 SHALL BE 60" X 30"
- M4 - 9 SHALL BE 30" X 24"
- M3 - X SHALL BE 24" X 12" (36" X 18" IF NEEDED TO MATCH EXISTING SIGNS)
- M4 - 8 SHALL BE 24" X 12" (36" X 18" IF NEEDED TO MATCH EXISTING SIGNS)
- M1 - 4, M1 - 5A AND M1 - 6 SHALL BE 24" X 24" (36" X 36" IF NEEDED TO MATCH EXISTING SIGNS)
- MO5 - 1 AND MO6 - 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 AN 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 ROAD 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
VARIOUS CLOSURES**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
May 2023 /S/ Andrew Heidtke
DATE WORK ZONE ENGINEER



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

LEGEND

- SIGN ON PERMANENT SUPPORT
- WORK AREA
- M4 - 8
- M3 - X
- M1 - 4
- M1 - 6
- M1 - 5A
- M05 - 1
- M06 - 1
- M06 - 1

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.

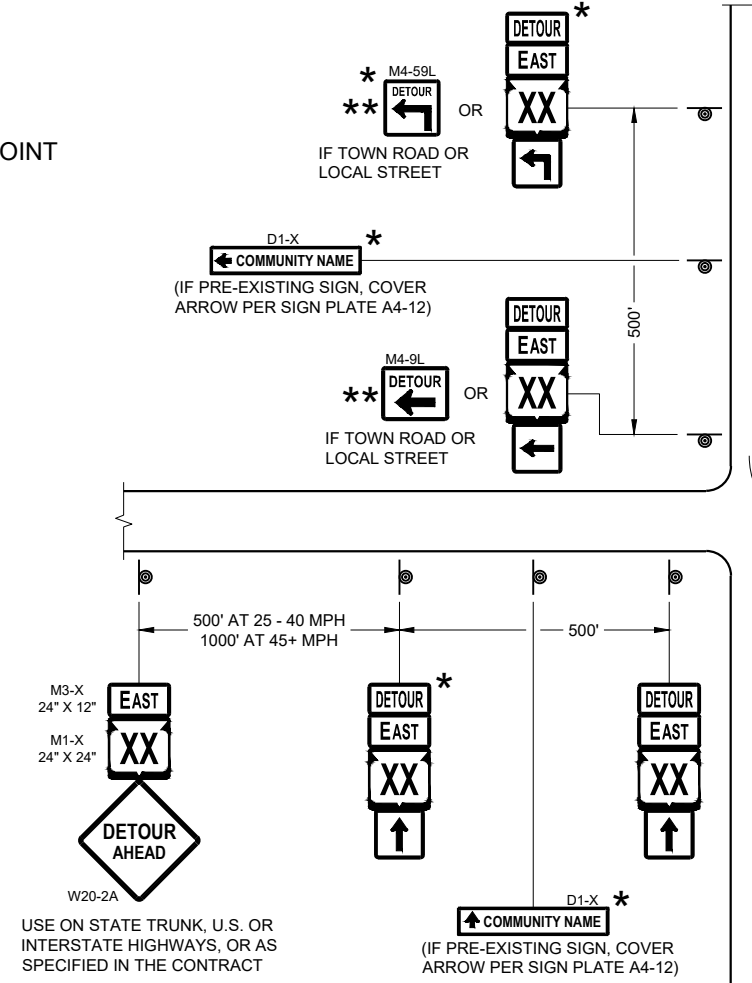
"MO" SIGNS ARE THE SAME AS "M" SIGNS EXCEPT THE BACKGROUND IS ORANGE.

SIGN SIZES SHALL BE AS FOLLOWS:

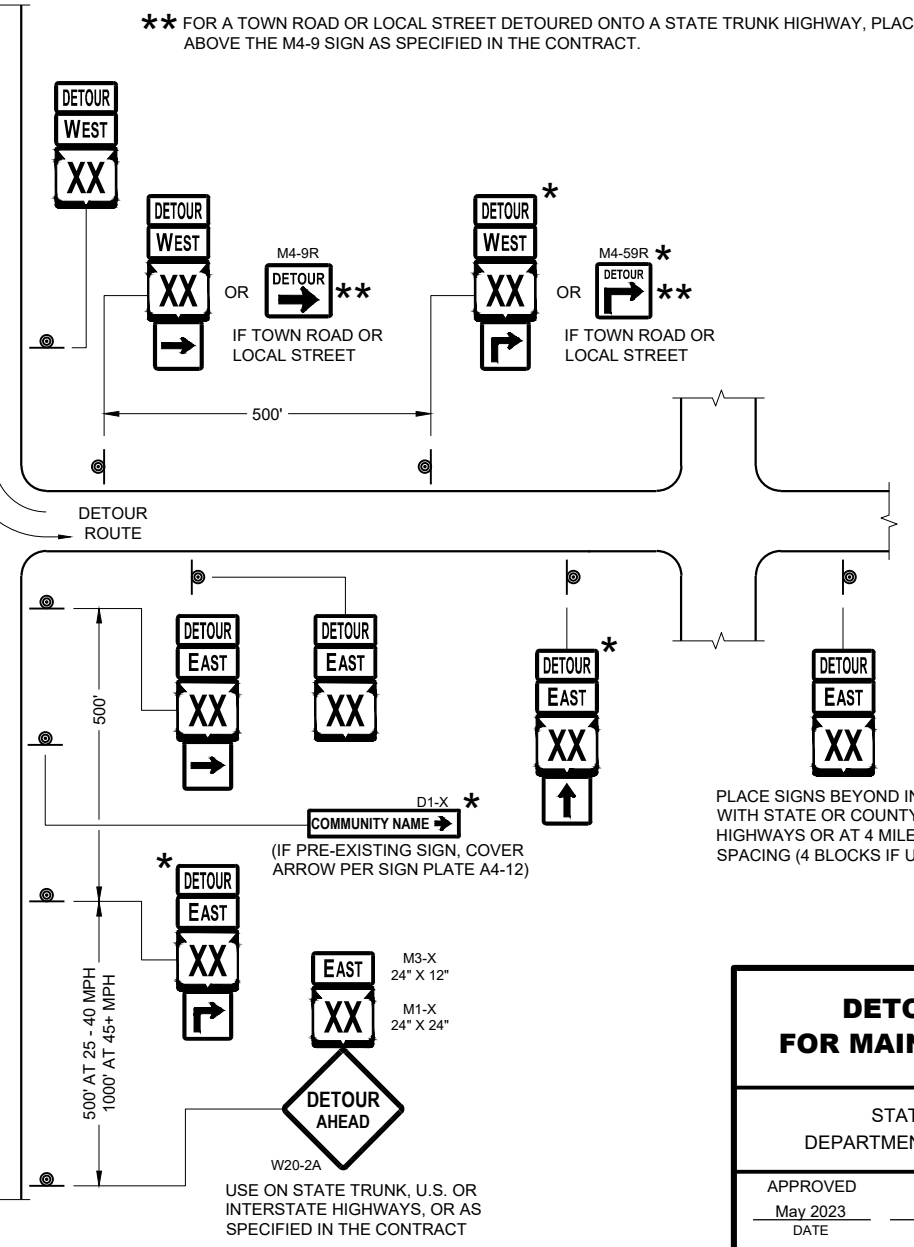
- M3-X SHALL BE 24" X 12" (36" X 18" IF NEEDED TO MATCH EXISTING SIGNS)
- M4-8 SHALL BE 24" X 12" (36" X 18" IF NEEDED TO MATCH EXISTING SIGNS)
- M1-4, M1-5A AND M1-6 SHALL BE 24" X 24" (36" X 36" IF NEEDED TO MATCH EXISTING SIGNS)
- M05-1 AND M06-1 SHALL BE 21" X 21" (30" X 30" IF NEEDED TO MATCH EXISTING SIGNS)
- M4-9 AND M4-59 SHALL BE 30" X 24"
- M4-8a SHALL BE 24" X 18"
- G20-51 SHALL BE 60" X 24"
- W20-2A 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.

MATCH POINT



**DETAIL F
DETOUR SIGNING**



**DETOUR SIGNING
FOR MAINLINE CLOSURES**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
May 2023 /S/ Andrew Heidtke
DATE WORK ZONE ENGINEER

FHWA

SEE SPECIFIC PROJECT DETOUR SIGNING DETAIL SHEETS AND DETAIL A OR B ON SDD SHEET 15C02 - SHEET "a"

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

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

LEGEND

- ⊙ SIGN ON PERMANENT SUPPORT
- TO EAST MO4 - 5
- TO EAST M3 - X
- XX OR XX OR XX
- M1 - 6 M1 - 4 M1 - 1
- OR OR OR
- M05 - 1 M06 - 1 M06 - 1

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 ANY ROUTE MARKER ASSEMBLIES THAT WILL REMAIN IN PLACE, ADJUST THE LOCATION OF THE TO ROUTE SIGNS TO CORRESPOND WITH THE EXISTING ASSEMBLIES. SEE SPECIFIC PROJECT TO SIGNING DETAIL SHEETS. MODIFY EXISTING SIGNS WHERE POSSIBLE.
- THE SPACING BETWEEN TRAFFIC CONTROL AND TO 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 SHALL 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 FOLLOW:
 M3 - X SHALL BE 24" X 12". (36" X 18" IF NEEDED TO MATCH EXISTING SIGNS).
 MO4 - 5 SHALL BE 24" X 12". (36" X 18" IF NEEDED TO MATCH EXISTING SIGNS).
 M1 - 1, M1 - 4, AND M1 - 6 SHALL BE 24" X 24" (36" X 36" IF NEEDED TO MATCH EXISTING SIGNS).
 MO5 - 1, MO5 - 2, AND MO6 - 1, SHALL BE 21" X 21". (30" X 30" IF NEEDED TO MATCH EXISTING SIGNS).
 W20 - 53A SHALL BE 48" X 48"
- * PLACE "RAMP CLOSED BEGINNING" SIGN 7 CALENDAR DAYS PRIOR TO CLOSURE OR AS DIRECTED BY THE ENGINEER. SEE WISCONSIN STANDARD SIGN PLATES FOR LAYOUT.

6

6

SDD 15C02 - 09d

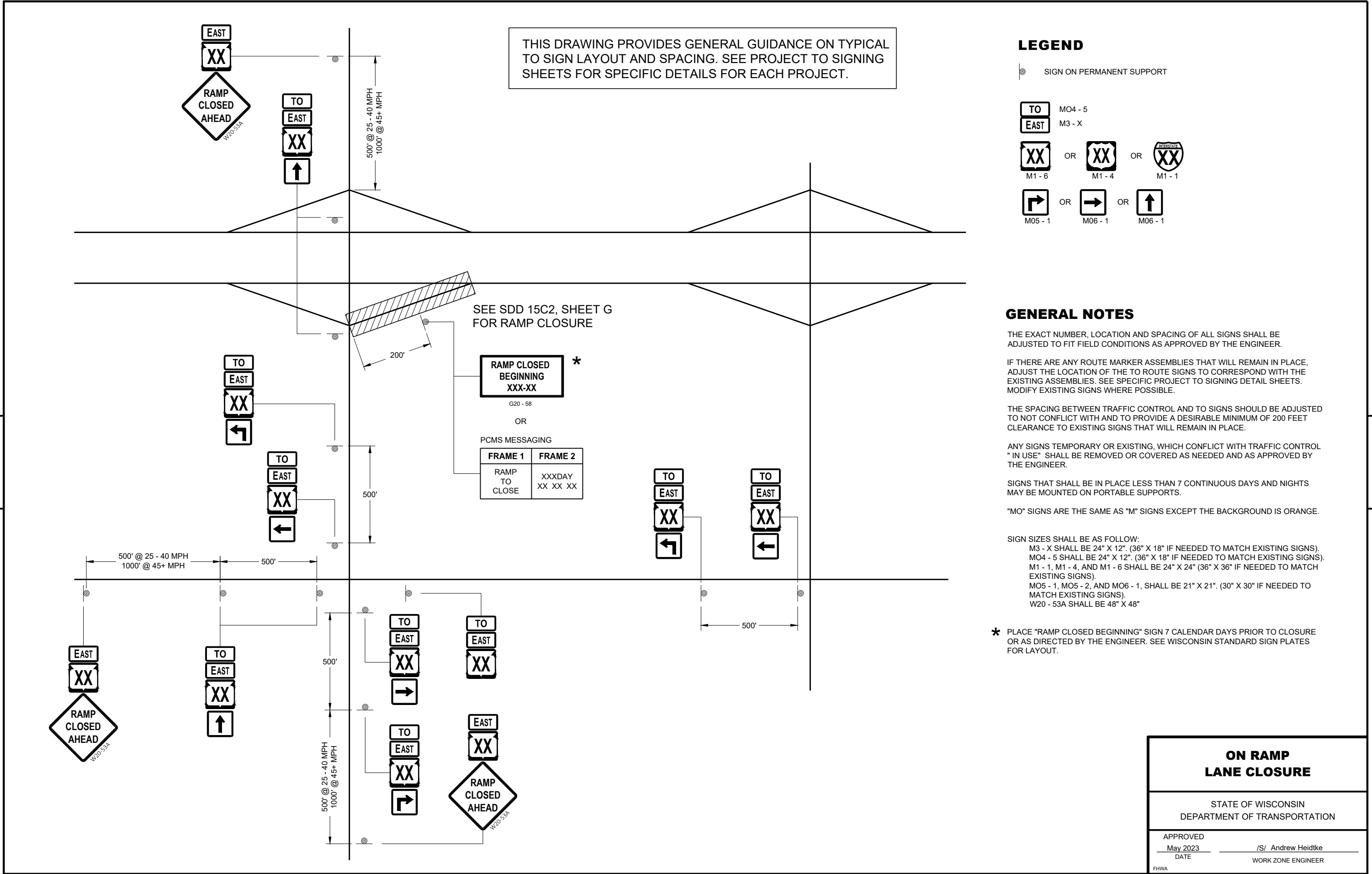
SDD 15C02 - 09d

**ON RAMP
LANE CLOSURE**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
May 2023 /S/ Andrew Heidtke
DATE WORK ZONE ENGINEER

FHWA



THIS DRAWING PROVIDES GENERAL GUIDANCE ON TYPICAL "TO" MO-4 SIGN LAYOUT AND SPACING. SEE PROJECT TO SIGNING SHEETS FOR SPECIFIC DETAILS FOR EACH PROJECT.

LEGEND

- ⊙ SIGN ON PERMANENT SUPPORT
- PCMS PORTABLE CHANGEABLE MESSAGE SIGN
- TO MO4 - 5
- M1 - 4 OR M1 - 6 OR M1 - 5A
- M05 - 1 OR M05 - 2 OR M06 - 1 OR M06 - 2 OR M06 - 4

GENERAL NOTES

- SEE SDD 15D16 "TRAFFIC CONTROL, EXIT RAMP CLOSURE" DETAIL FOR TRAFFIC CONTROL AT EXIT RAMP CLOSURE.
- THE EXACT NUMBER, LOCATION AND SPACING OF ALL SIGNS SHALL BE ADJUSTED TO FIT FIELD CONDITIONS AS APPROVED BY THE ENGINEER.
- IF THERE ARE ANY ROUTE MARKER ASSEMBLIES THAT WILL REMAIN IN PLACE, ADJUST THE LOCATION OF THE "TO" MO-4 ROUTE SIGNS TO CORRESPOND WITH THE EXISTING ASSEMBLIES. SEE SPECIFIC PROJECT TO SIGNING DETAIL SHEETS. MODIFY EXISTING SIGNS WHERE POSSIBLE.
- THE SPACING BETWEEN TRAFFIC CONTROL AND "TO" MO-4 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 SHALL 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 FOLLOW:
 MO4 - 5 SHALL BE 24" X 12". (36" X 18" 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).
 MO5 - 1, MO5 - 2, AND MO6 - 1, SHALL BE 21" X 21". (30" X 30" IF NEEDED TO MATCH EXISTING SIGNS).
- ① ONLY ADD IF THERE ARE NO EXISTING ROUTE MARKERS FOR THE INTERSECTING ROADWAY.

SEE SDD 15D16 FOR RAMP CLOSURE

6

6

SDD 15C02 - 09e

SDD 15C02 - 09e

PCMS MESSAGING

FRAME 1	FRAME 2
EXIT XX CLOSED	USE EXIT XX

OR

FIXED MESSAGE SIGN

HWY XX
RAMP CLOSED
USE EXIT XX

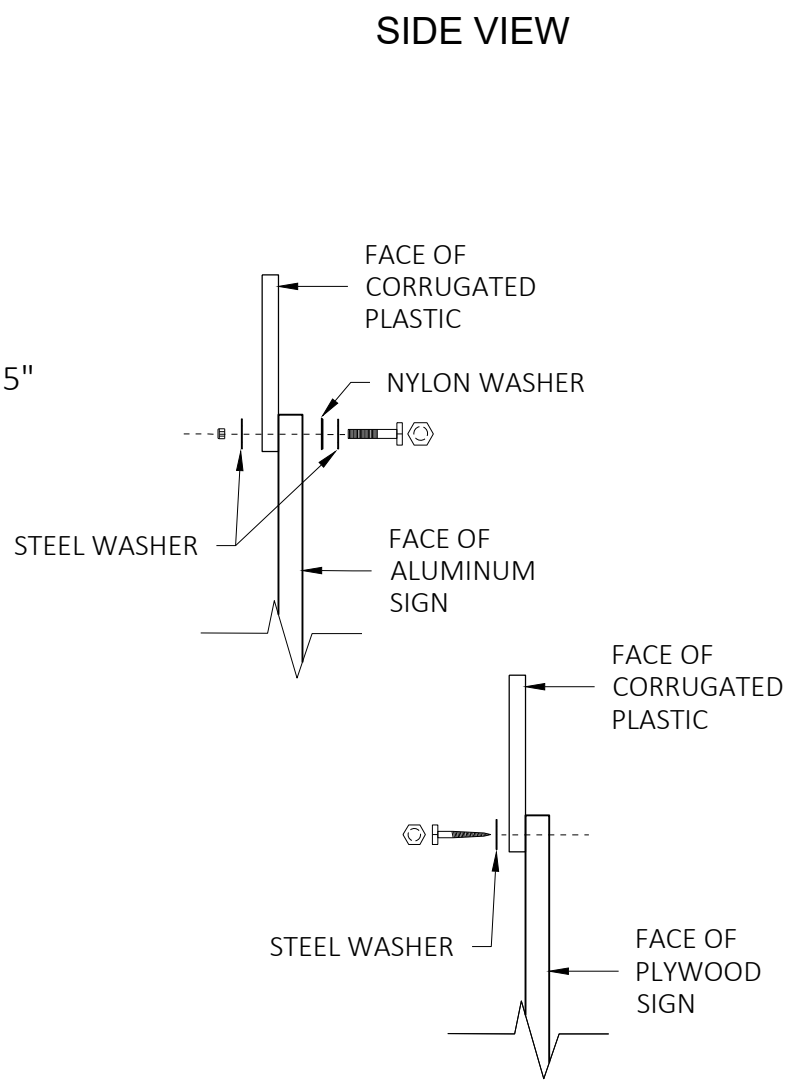
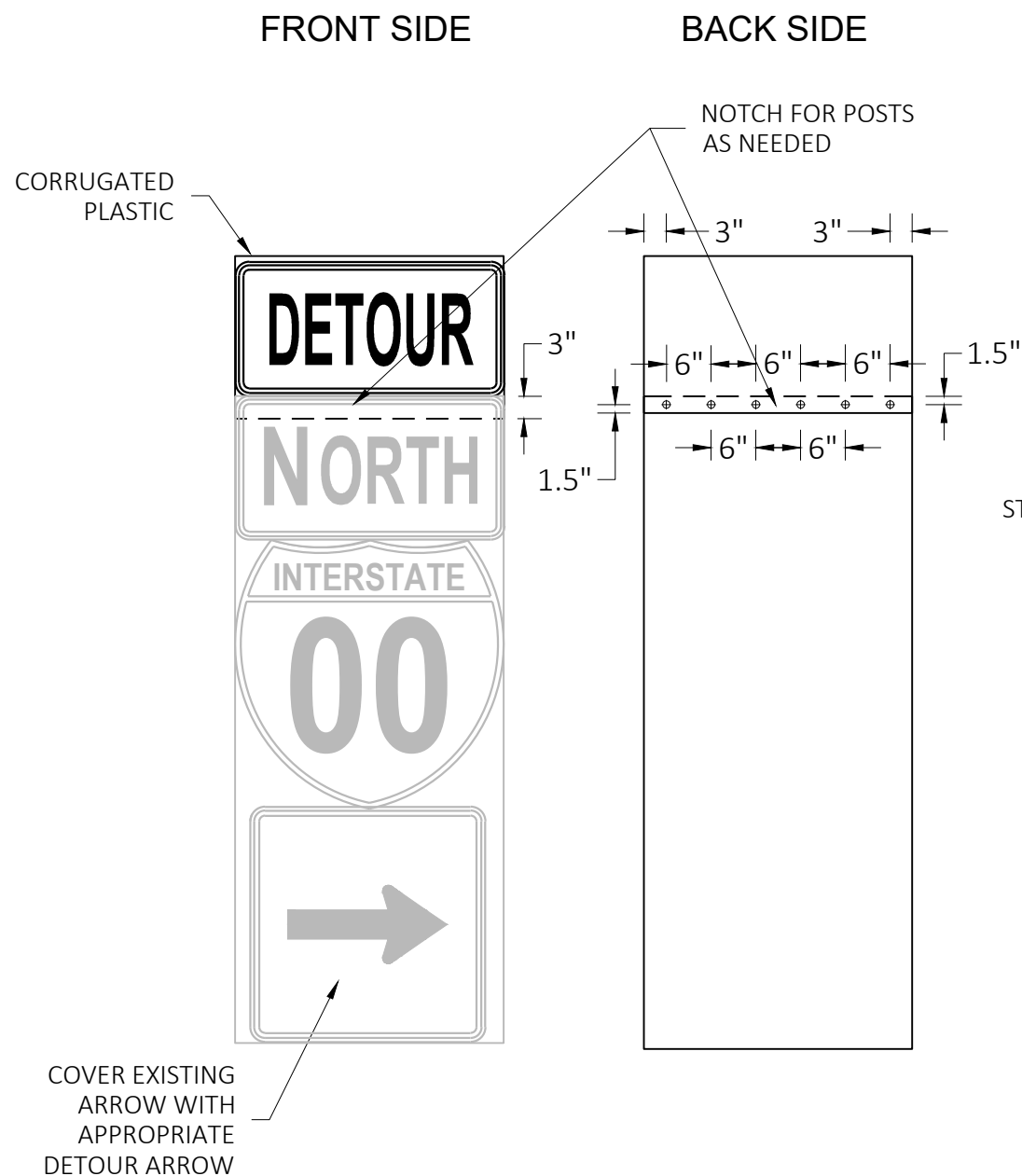
G20 - 56

**OFF RAMP
LANE CLOSURE**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
May 2023 /S/ Andrew Heidtke
DATE WORK ZONE ENGINEER

FHWA



GENERAL NOTES

CELLS OF CORRUGATED PLASTIC SHALL BE VERTICALLY ORIENTED.

PROVIDE A 0.4-INCH THICK BASE CORRUGATED PLASTIC WITH A 0.035-INCH WALL THICKNESS AND 0.4-INCH CELL SIZE.

FOR 36" WIDE SIGNS: USE 6 FASTENERS AS SHOWN.

FOR 24" WIDE SIGNS: USE 4 FASTENERS WITH EDGE SPACING AS SHOWN AND 6" SPACING BETWEEN FASTENERS.

METAL WASHERS, NUTS, BOLTS AND LAGS 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, SC3

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.

PLYWOOD SIGNS:

LAG SCREWS - 5/16" x 1"

ALUMINUM SIGNS:

MACHINE BOLTS - 5/16" x 1-1/4" LENGTH W/NUTS

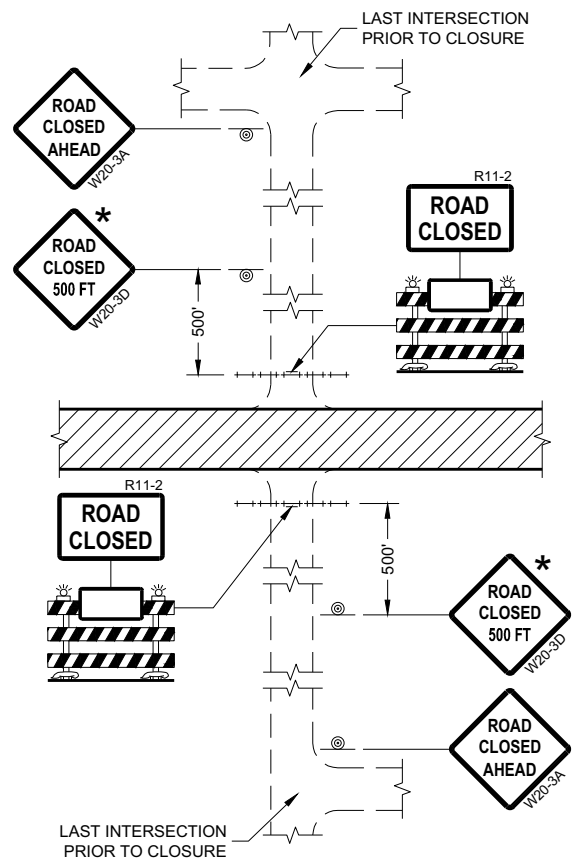
WASHERS:

1-1/4" O.D. x 3/8" I.D. x 1/16" STEEL

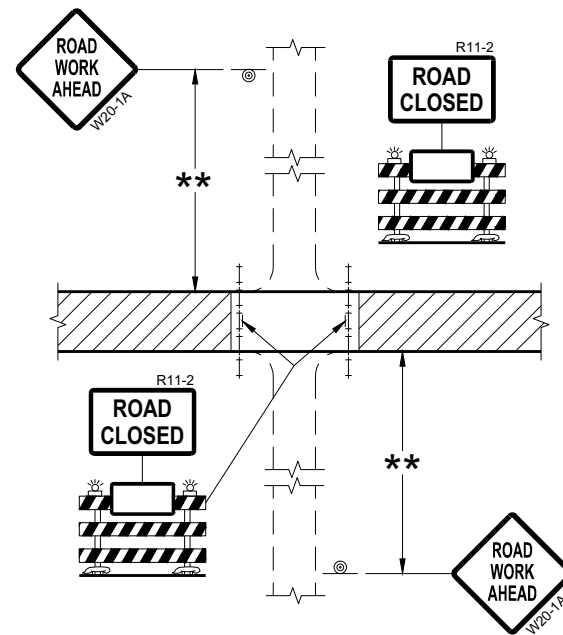
1-1/4" O.D. x 3/8" I.D. x .080 NYLON

MODIFIED ROUTE ASSEMBLY FOR DETOUR SIGNING

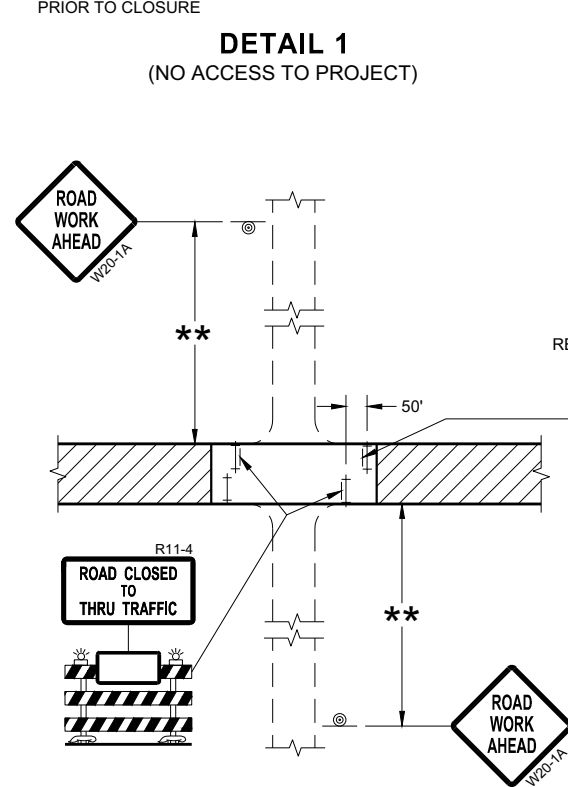
MODIFIED ROUTE ASSEMBLY FOR DETOUR SIGNING	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED May 2023 DATE	/S/ Andrew Heidtke ROADWAY STANDARDS DEVELOPMENT ENGINEER
<small>FHWA</small>	



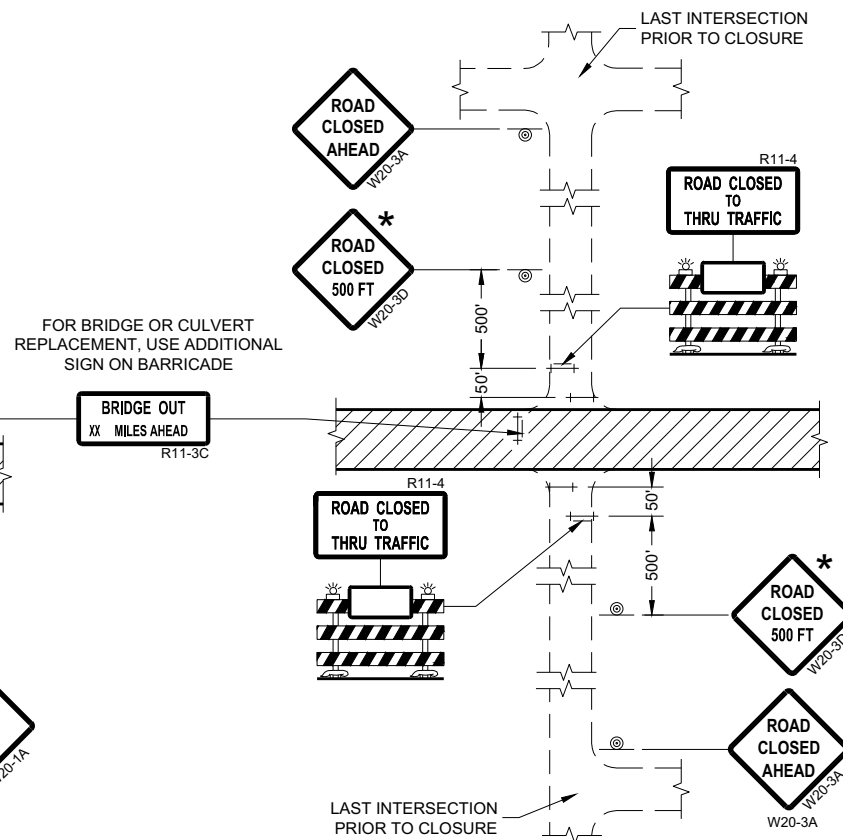
DETAIL 1
(NO ACCESS TO PROJECT)



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



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



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

GENERAL NOTES

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

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

THE SPACING BETWEEN TRAFFIC CONTROL SIGNS SHOULD BE ADJUSTED TO NOT CONFLICT WITH AND SHOULD PROVIDE A DESIRABLE MINIMUM OF 200 FEET CLEARANCE (500 FEET DESIRABLE) TO EXISTING SIGNS THAT WILL REMAIN IN PLACE.

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

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

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

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

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

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

ALL SIGNS SHALL BE 48" X 48" UNLESS OTHERWISE NOTED BELOW:
R11-2 SHALL BE 48" X 30".
R11-4 AND R11-3 SHALL BE 60" X 30".

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

** 500' MAX. OR AT LAST INTERSECTION, WHICHEVER IS CLOSEST.

LEGEND

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

**BARRICADES AND SIGNS
FOR
SIDEROAD CLOSURES**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
July 2018 /S/ Andrew Heidtke
DATE WORK ZONE ENGINEER

GENERAL NOTES

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

THE SPACING BETWEEN TRAFFIC CONTROL SIGNS SHOULD BE ADJUSTED TO NOT CONFLICT WITH AND SHOULD PROVIDE A MINIMUM OF 200 FEET (500 FEET DESIRABLE) CLEARANCE TO EXISTING SIGNS THAT WILL REMAIN IN PLACE.




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

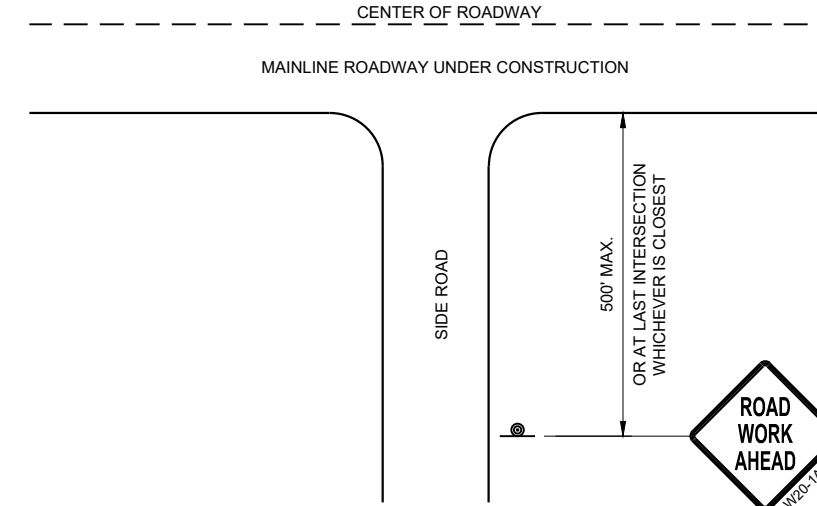
SIGNS THAT WILL BE IN PLACE LESS THAN SEVEN CONTINUOUS DAYS AND NIGHTS MAY BE MOUNTED ON PORTABLE SUPPORTS.

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 REESTABLISHED.

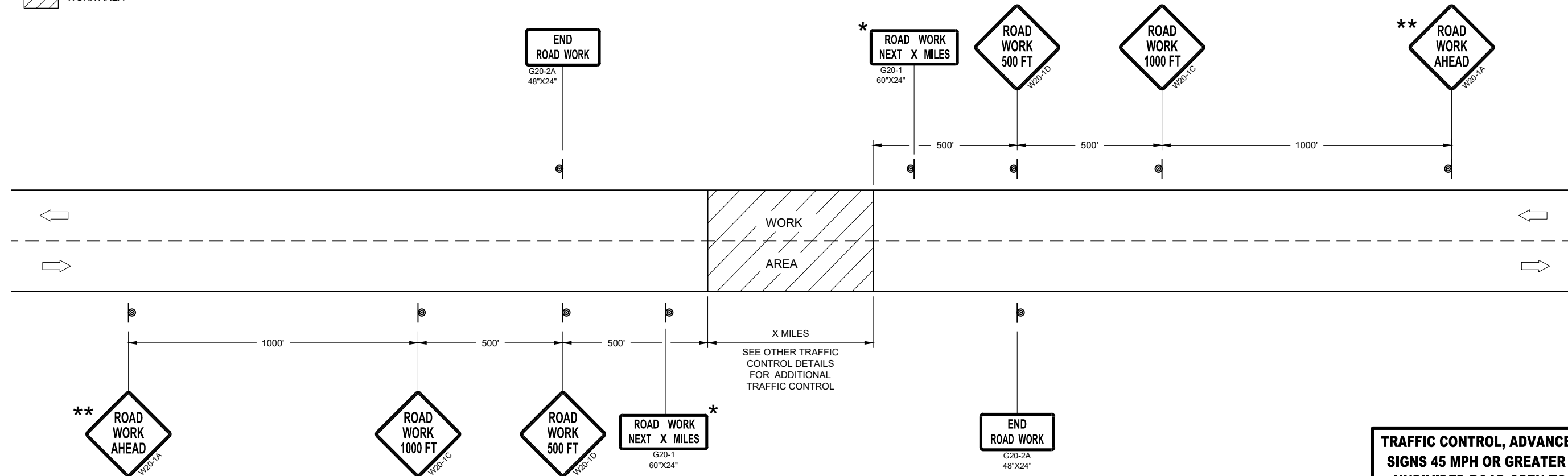
- * OMIT G20-1 SIGNS IF LENGTH OF WORK AREA IS 2 MILES OR LESS
- ** PLACE AN ADDITIONAL W20-1A "ROAD WORK AHEAD" SIGN IF WORK AREA WITHIN THE PROJECT IS SEPARATED BY MORE THAN 2 MILES FROM PREVIOUS WORK AREA.

LEGEND

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



**TYPICAL SIDE ROAD APPROACH
WARNING SIGN DETAIL**



TRAFFIC CONTROL, ADVANCE WARNING SIGNS 45MPH OR GREATER

**TRAFFIC CONTROL, ADVANCE WARNING
SIGNS 45 MPH OR GREATER TWO-WAY
UNDIVIDED ROAD OPEN TO TRAFFIC**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED _____ /S/ Andrew Heidtke
DATE July 2018 WORK ZONE ENGINEER

FHWA

GENERAL NOTES

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

THE SPACING BETWEEN TRAFFIC CONTROL SIGNS SHOULD BE ADJUSTED TO NOT CONFLICT WITH AND SHOULD PROVIDE A MINIMUM OF 200 FEET (500 FEET DESIRABLE) CLEARANCE TO EXISTING SIGNS THAT WILL REMAIN IN PLACE.




ALL SIGNS ARE 48" X 48" UNLESS OTHERWISE NOTED. IF NECESSARY DUE TO SPACE CONSTRAINTS, 36"X36" SIGNS MAY BE USED INSTEAD OF 48" X 48" SIGNS.

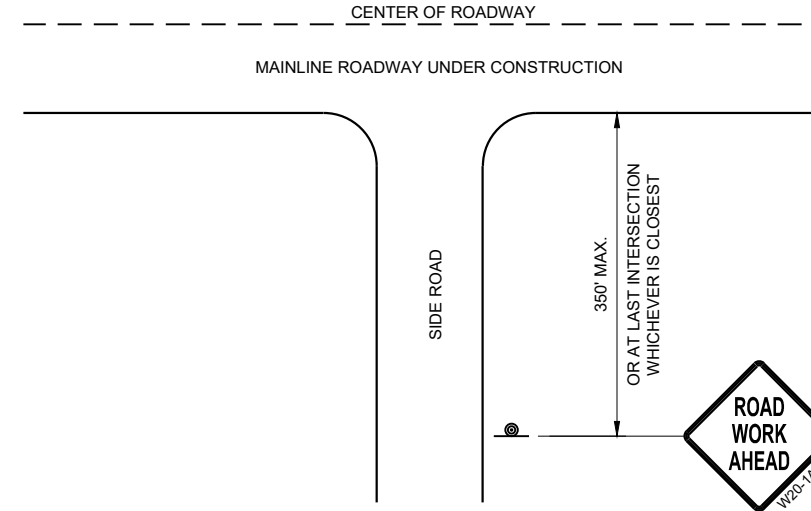
SIGNS THAT WILL BE IN PLACE LESS THAN SEVEN CONTINUOUS DAYS AND NIGHTS MAY BE MOUNTED ON PORTABLE SUPPORTS.

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 REESTABLISHED.

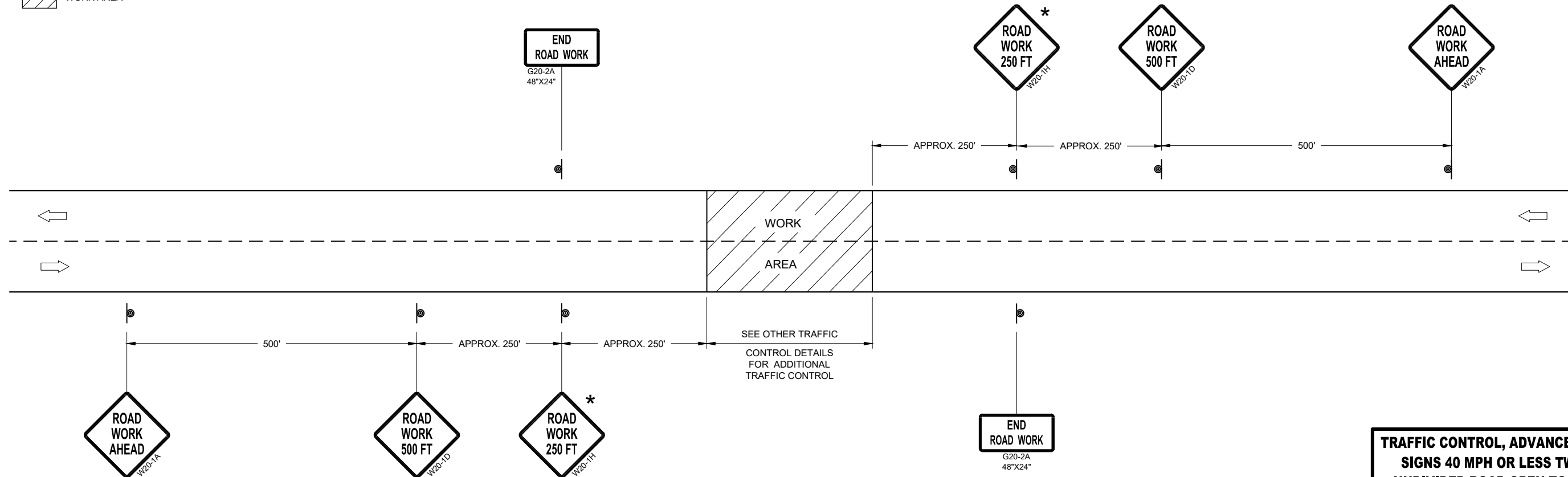
* THE THIRD W20-1 SIGN IS REQUIRED ONLY IF THERE IS AN INTERSECTION BETWEEN THE "ROAD WORK 500 FEET" SIGN AND THE WORK ZONE. ADJUST THE PLACEMENT OF THIS SIGN BASED ON INTERSECTION LOCATION AND OTHER FIELD CONDITIONS.

LEGEND

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



**TYPICAL SIDE ROAD APPROACH
WARNING SIGN DETAIL**



TRAFFIC CONTROL, ADVANCE WARNING SIGNS 40MPH OR LESS

**TRAFFIC CONTROL, ADVANCE WARNING
SIGNS 40 MPH OR LESS TWO-WAY
UNDIVIDED ROAD OPEN TO TRAFFIC**

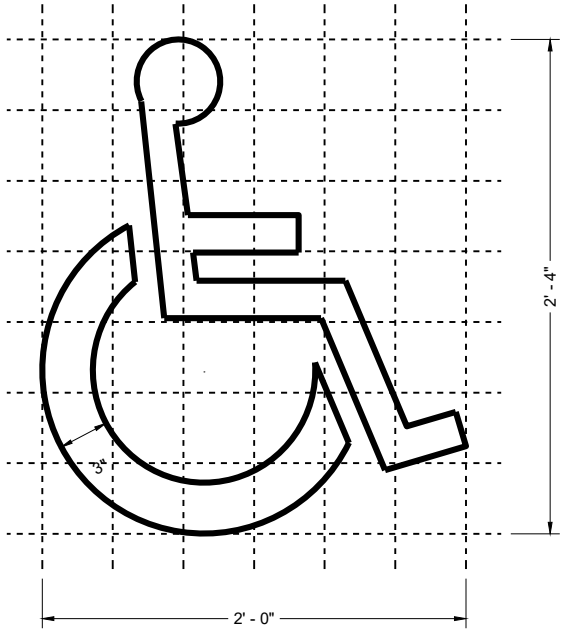
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
DATE July 2018 /S/ Andrew Heidtke
WORK ZONE ENGINEER

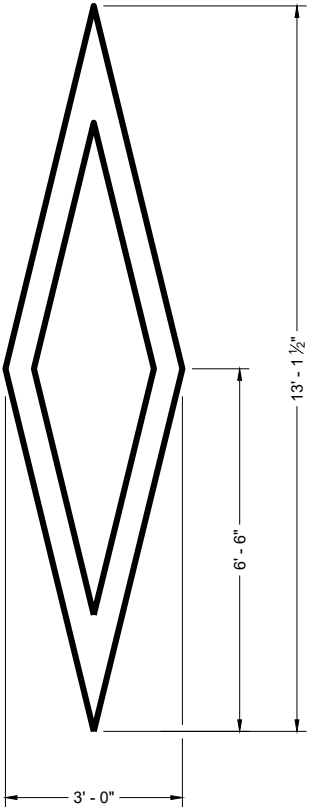
FHWA

GENERAL NOTES

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



HANDICAP SYMBOL



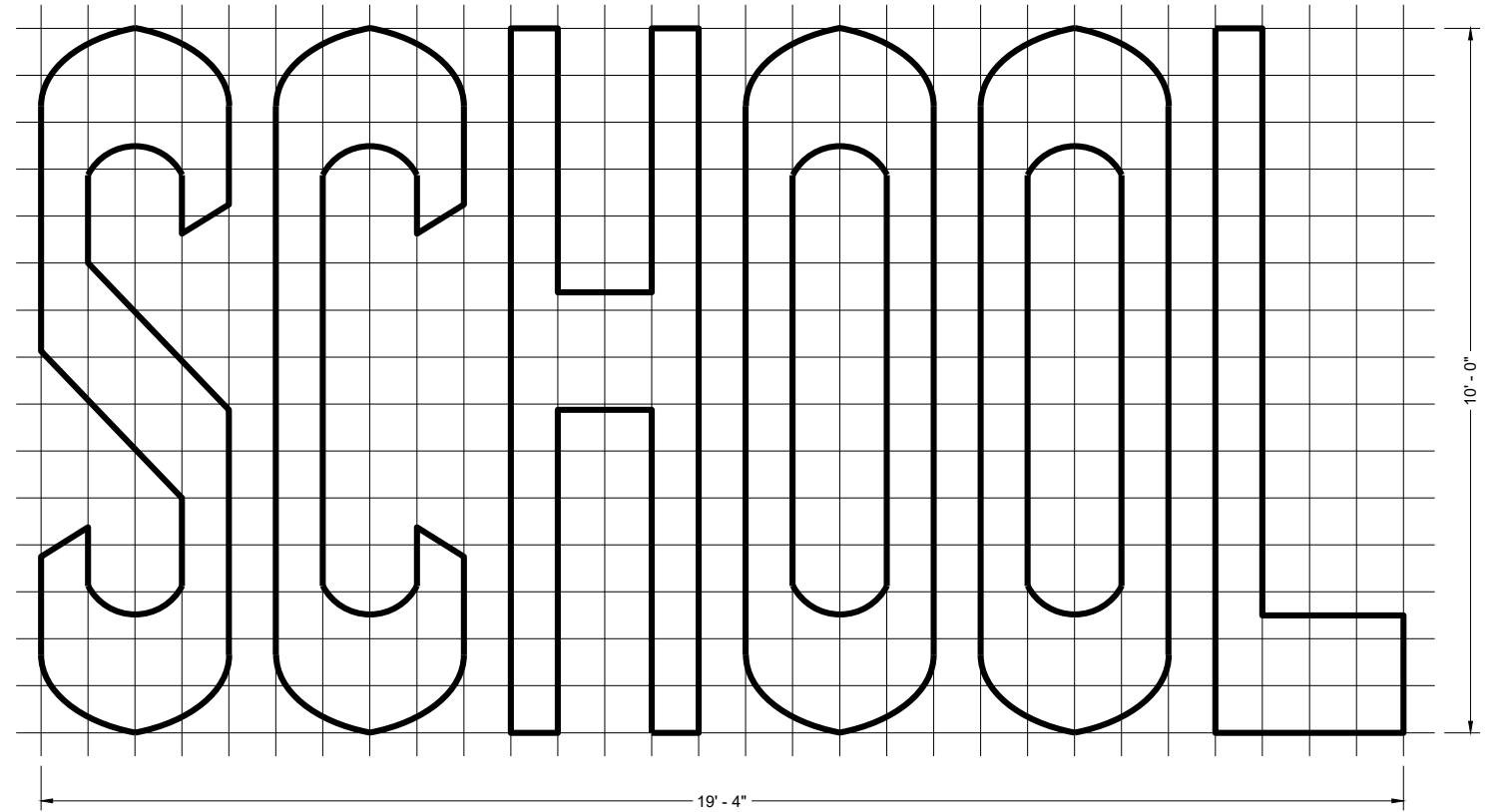
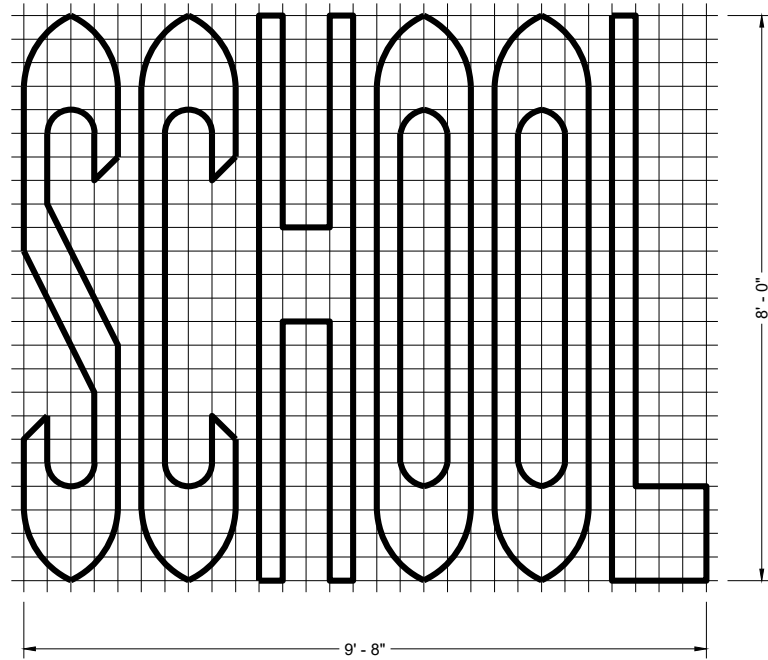
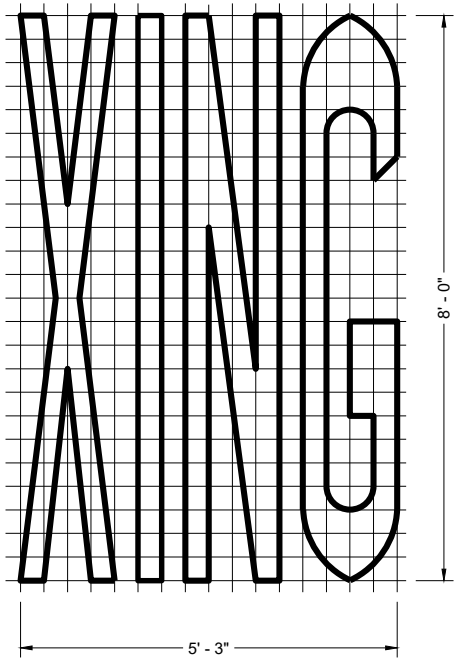
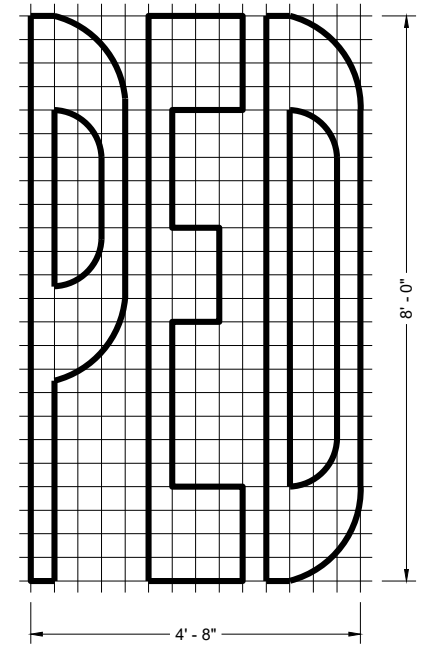
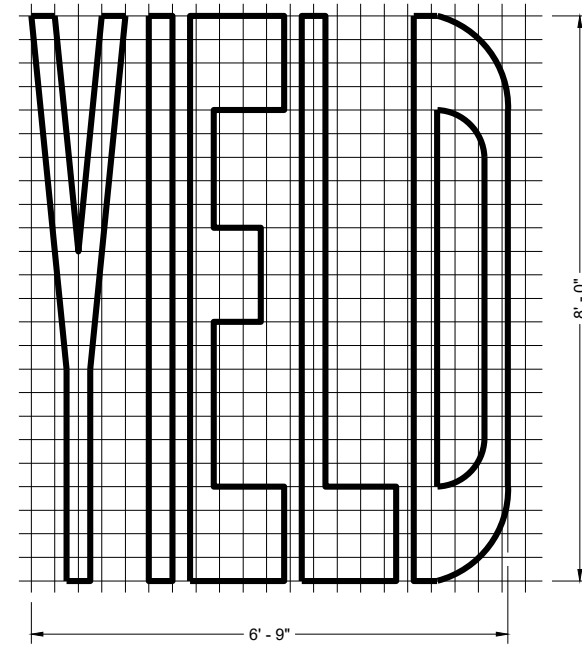
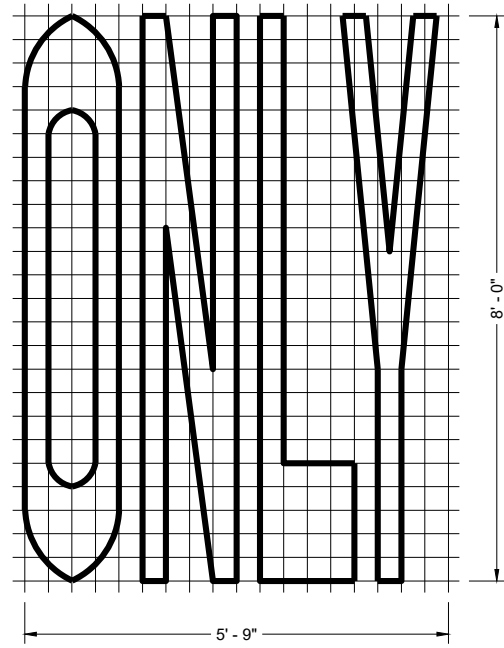
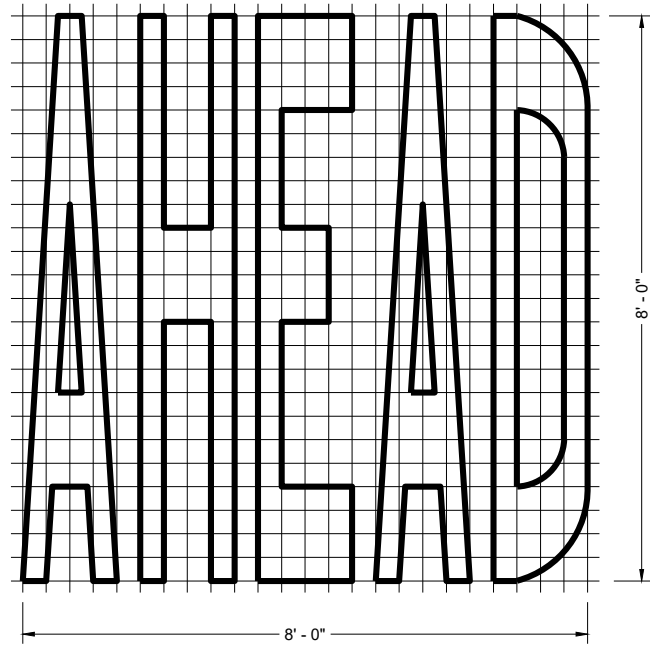
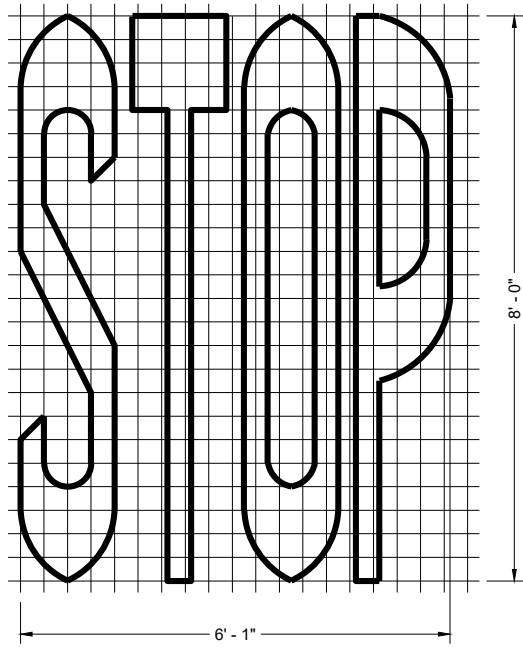
**PREFERENTIAL
LANE SYMBOL**

PAVEMENT MARKING SYMBOLS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
November 2024 /S/ Matthew Rauch
DATE STATE SIGNING AND MARKING ENGINEER

FHWA



SINGLE LANE

TWO - LANE

GENERAL NOTES

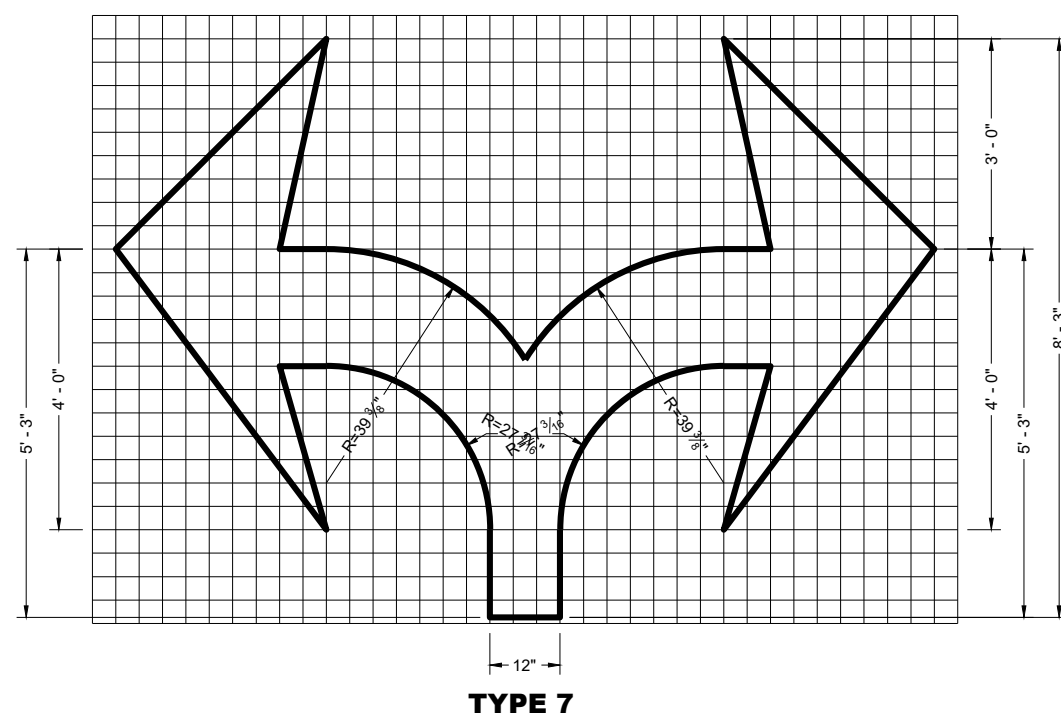
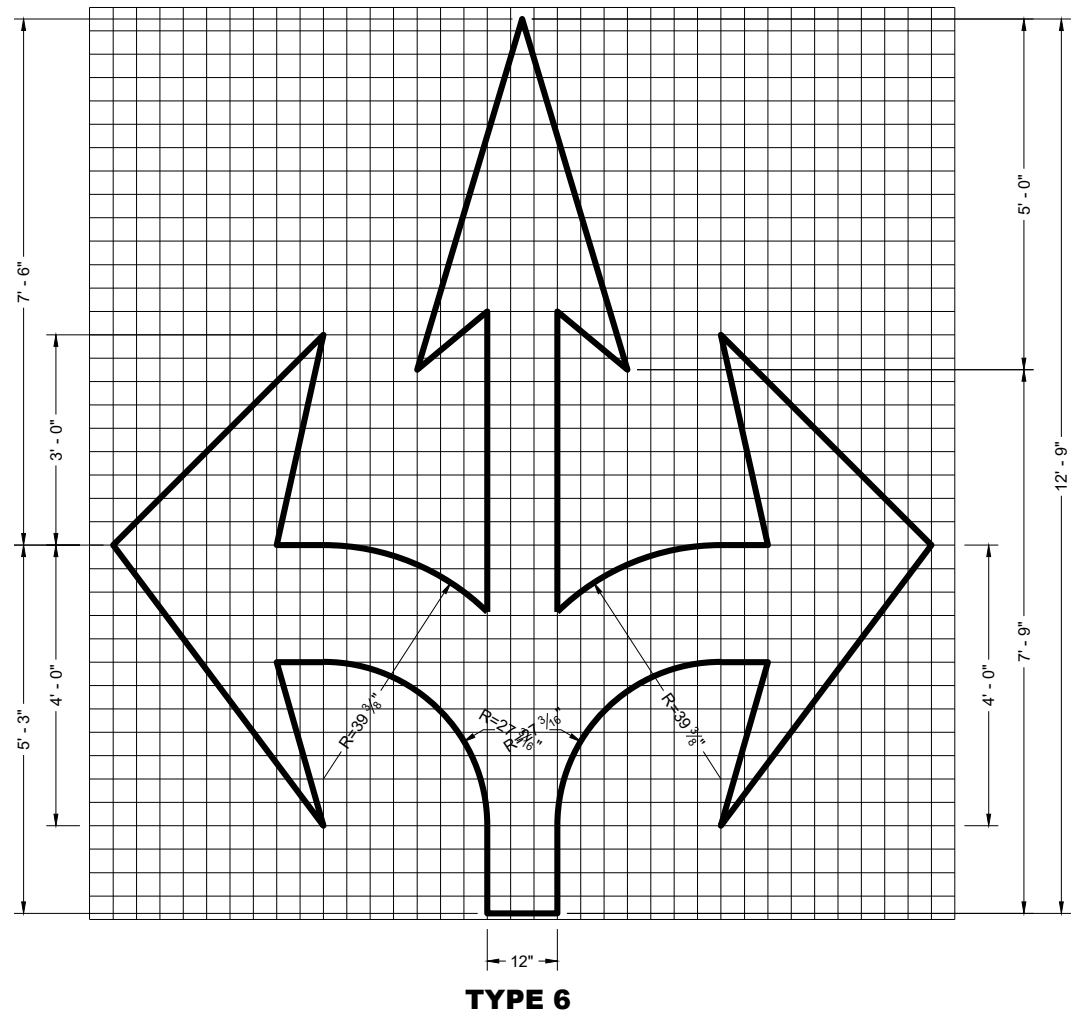
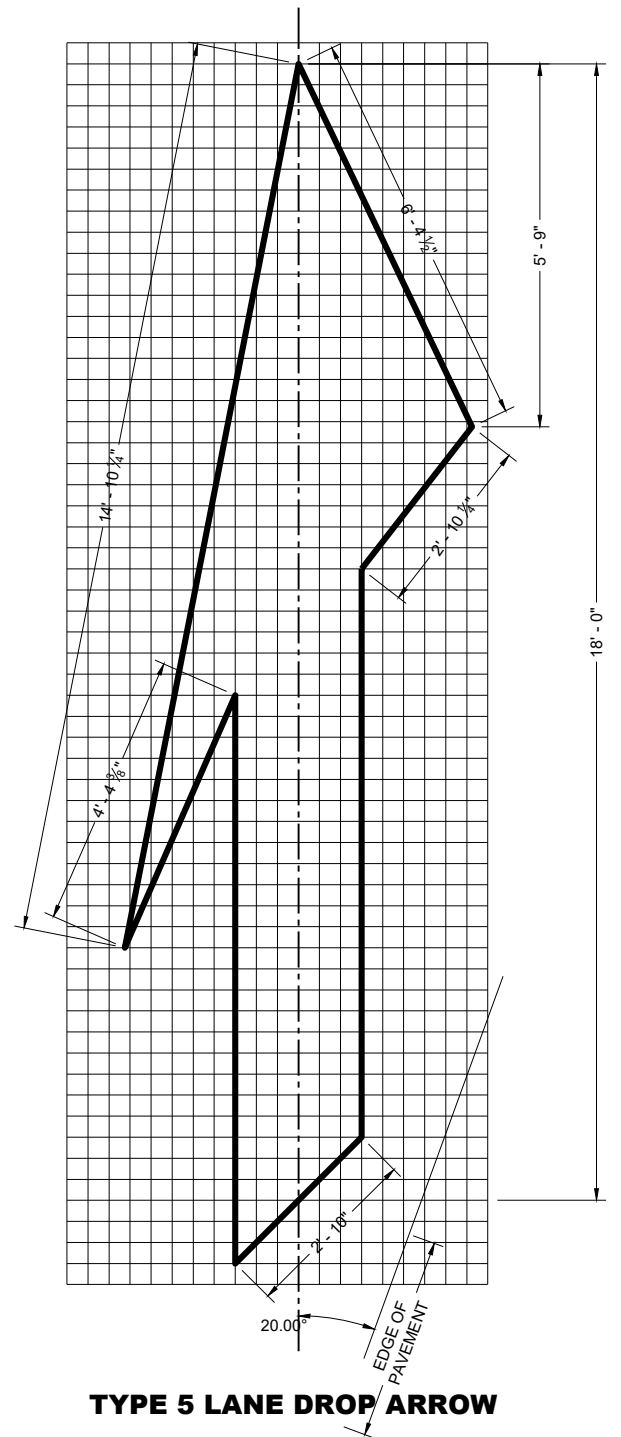
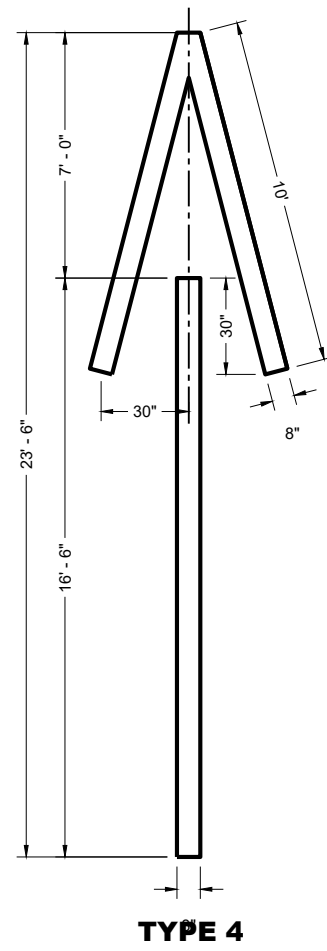
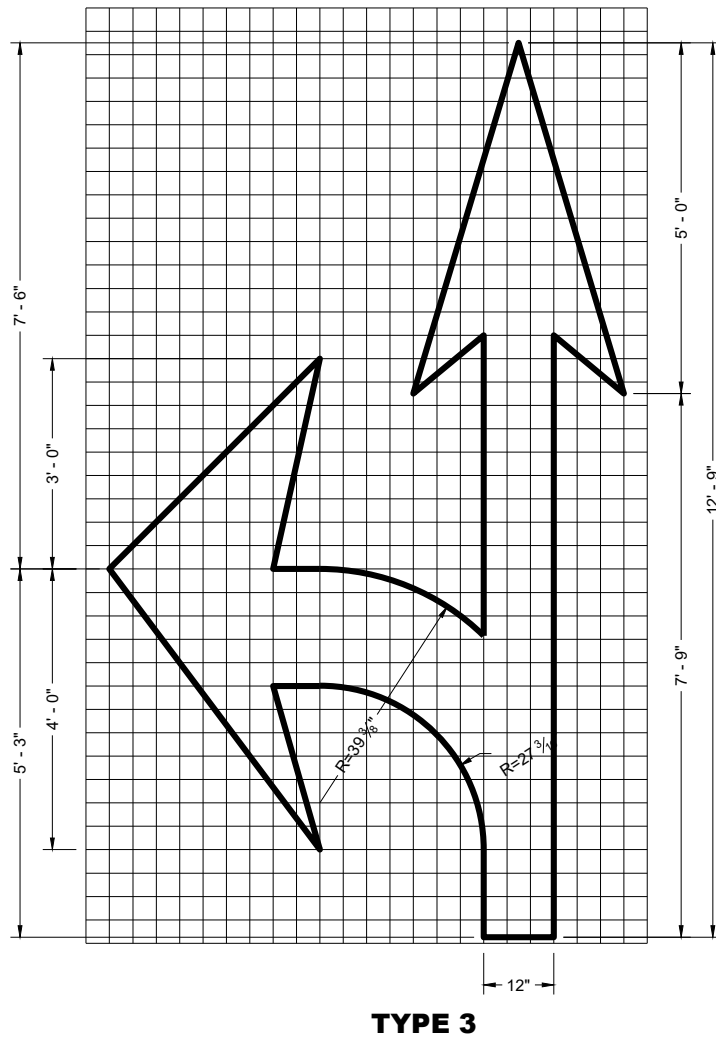
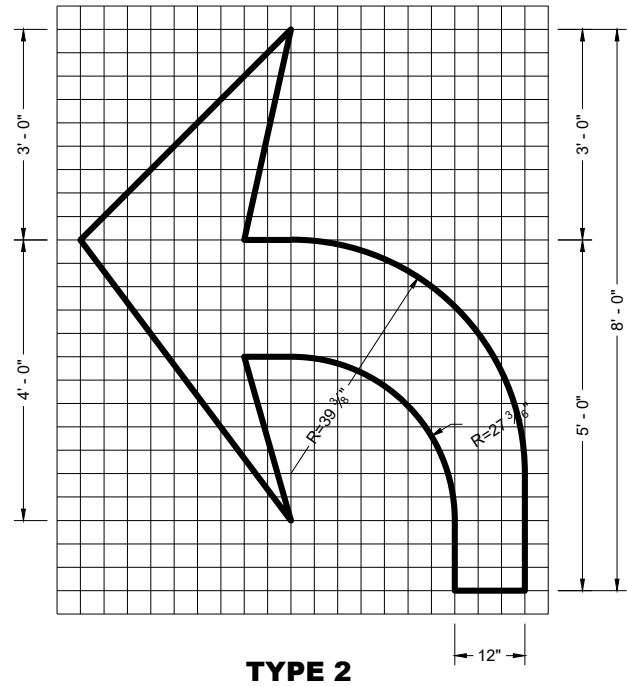
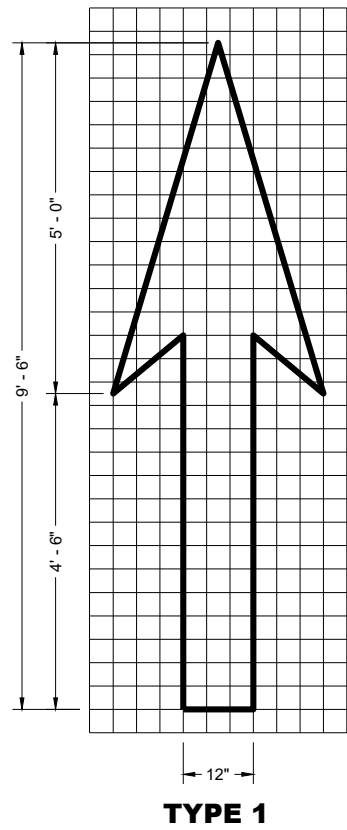
DETAILS OF INSTALLATION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND APPLICABLE SPECIAL PROVISIONS.

PAVEMENT MARKING WORDS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
November 2024 /S/ Matthew Rauch
DATE STATE SIGNING AND MARKING ENGINEER

FHWA



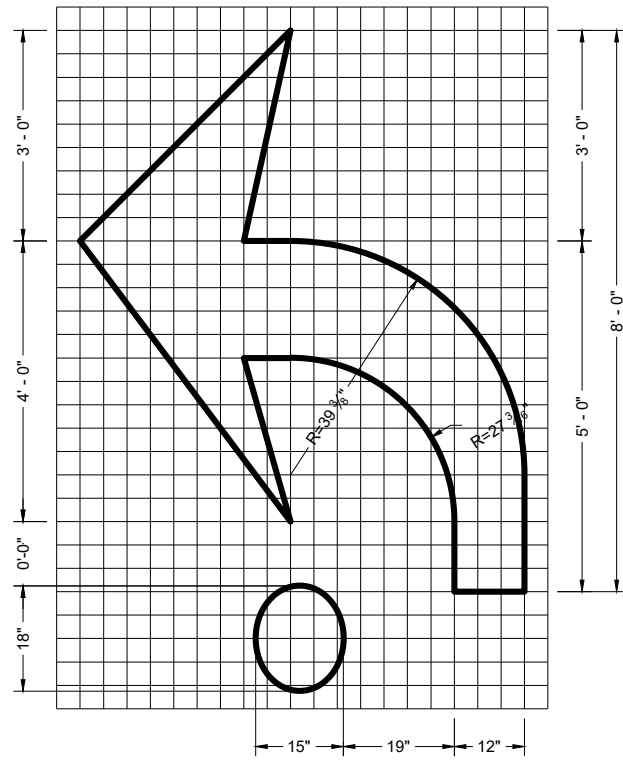
GENERAL NOTES

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

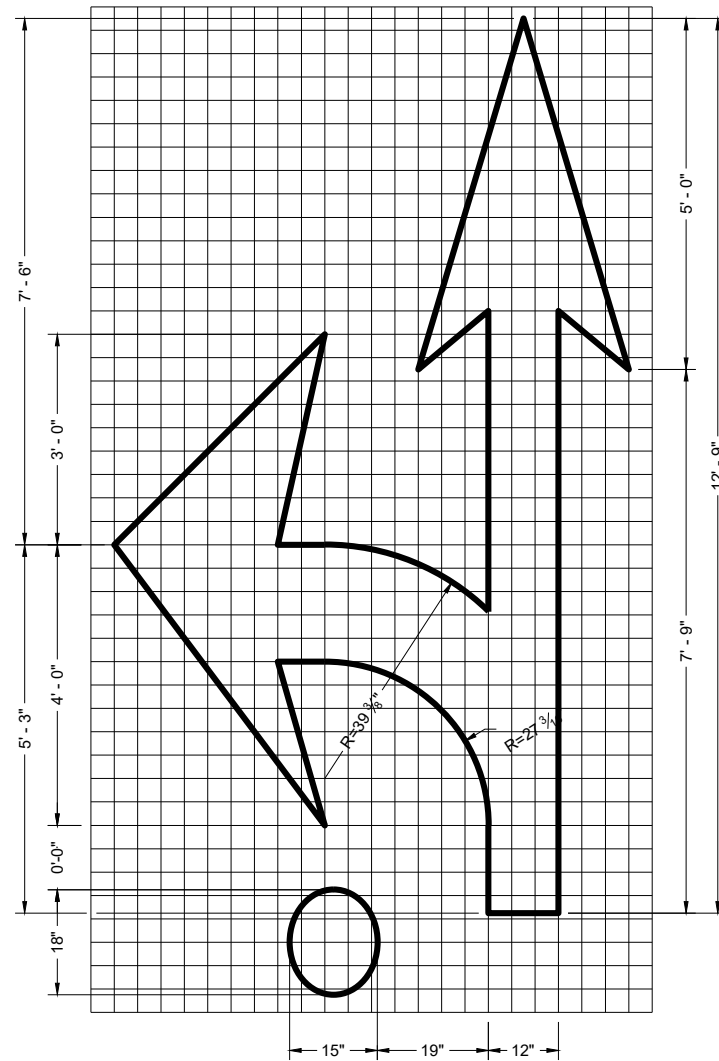
PAVEMENT MARKING ARROWS	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED November 2024 DATE	/s/ Matthew Rauch STATE SIGNING AND MARKING ENGINEER
FHWA	

GENERAL NOTES

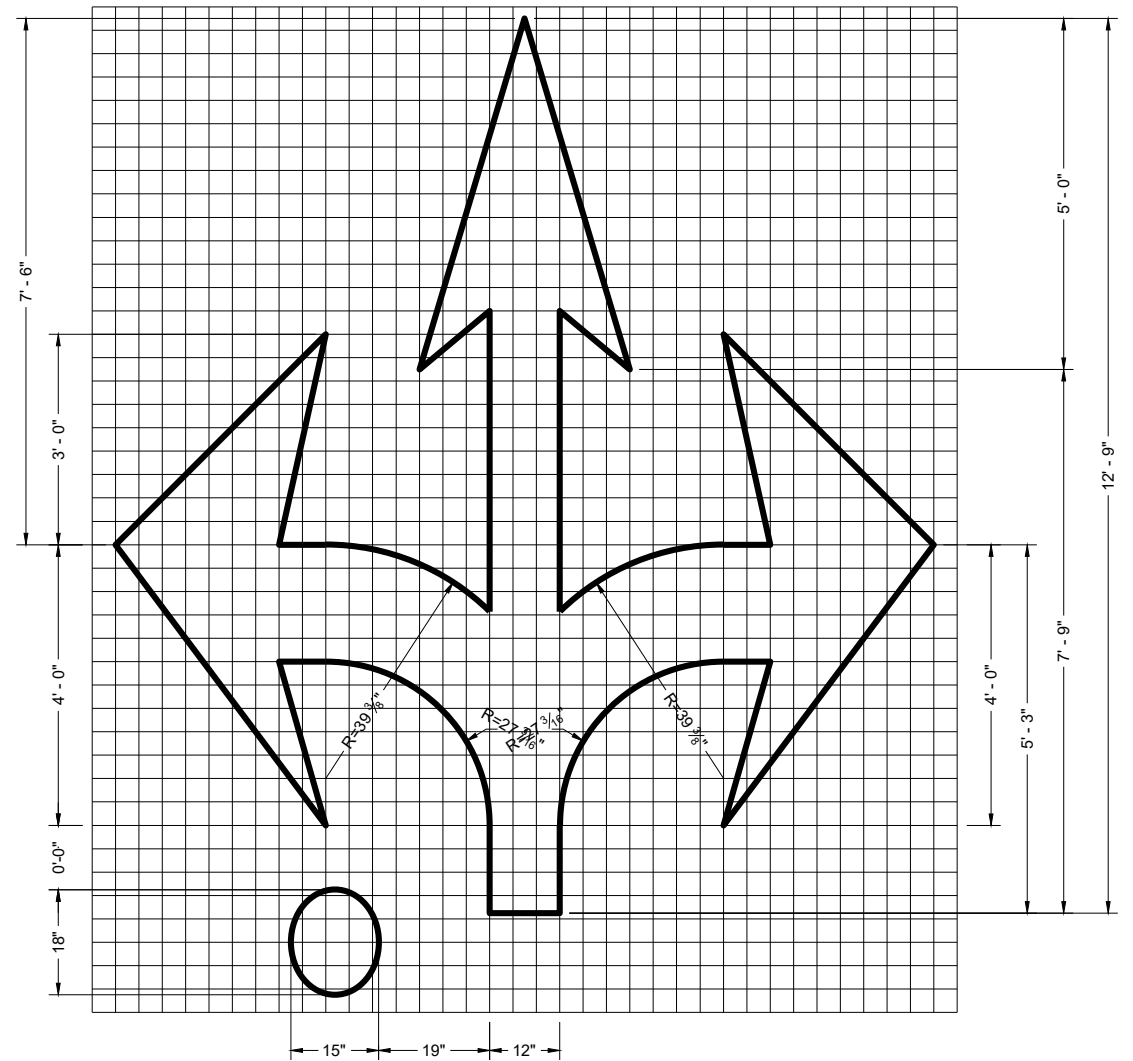
DETAILS OF INSTALLATION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND APPLICABLE SPECIAL PROVISIONS.



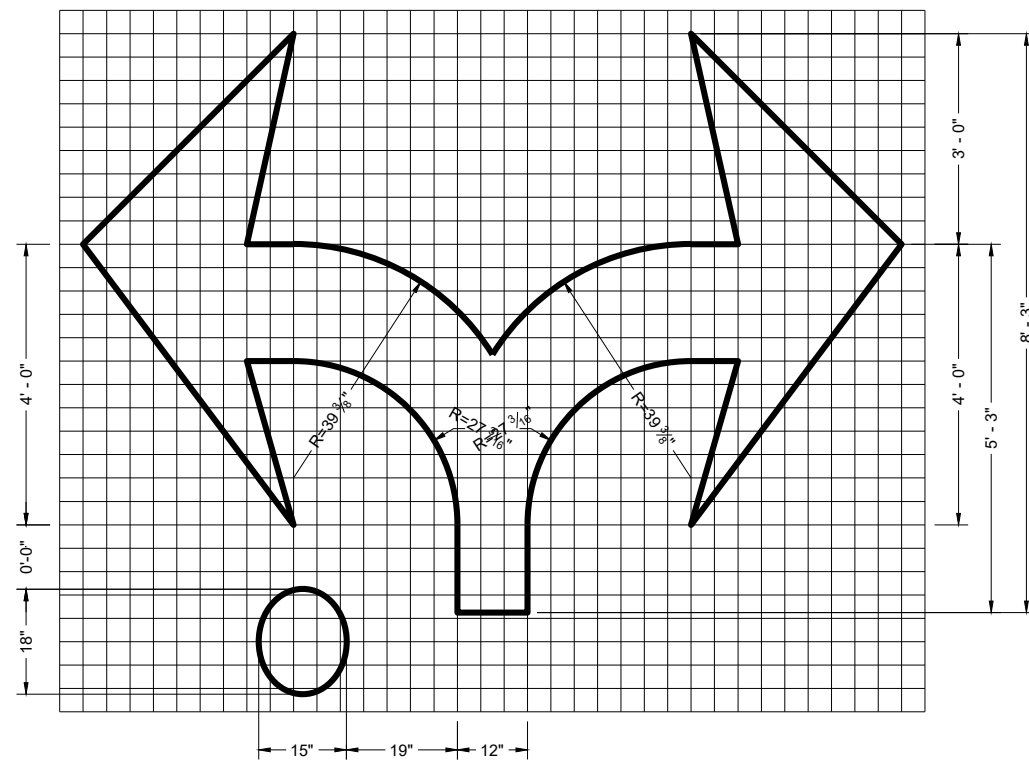
TYPE 2R



TYPE 3R



TYPE 6R



TYPE 7R

**ROUNDABOUT
MARKING ARROWS**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
November 2024 /S/ Matthew Rauch
DATE STATE SIGNING AND MARKING ENGINEER




FHWA

GENERAL NOTES

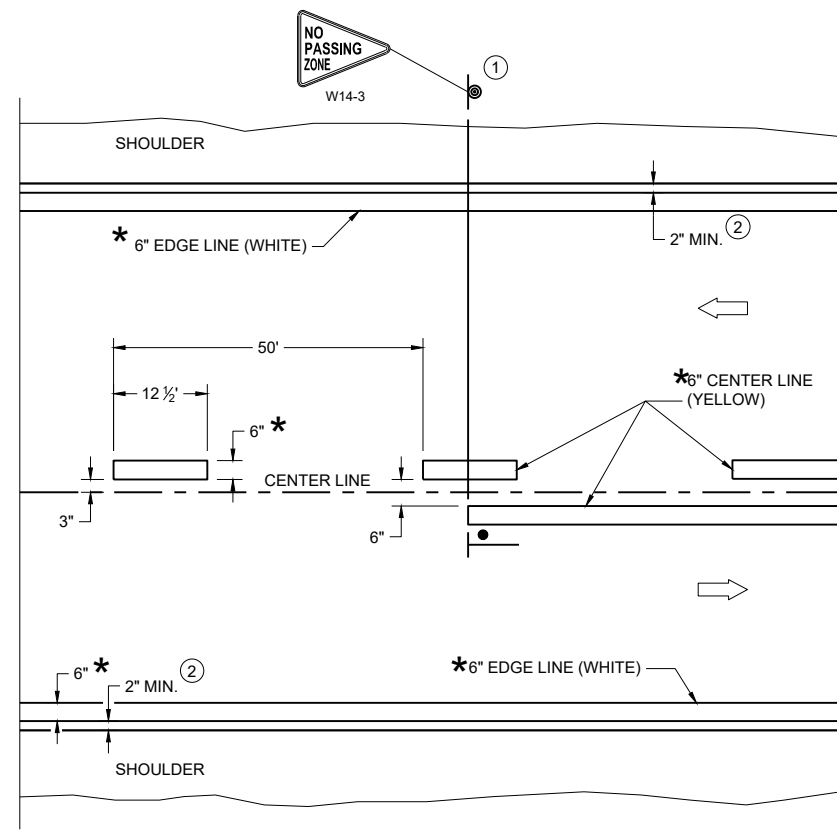
DETAILS OF CONSTRUCTION NOT SHOWN ON THIS DRAWING SHALL CONFORM TO STANDARD SPECIFICATIONS AND SPECIAL PROVISIONS.

- ① LOCATE THE NO PASSING ZONE W14-3 SIGN WITHIN 50 FEET OF THE "T" MARKING
- ② MEASURE FROM EDGE OF MARKING TO JOINT LINE. THIS DOES NOT INCLUDE SPACE NEEDED FOR GROOVING OPERATIONS.

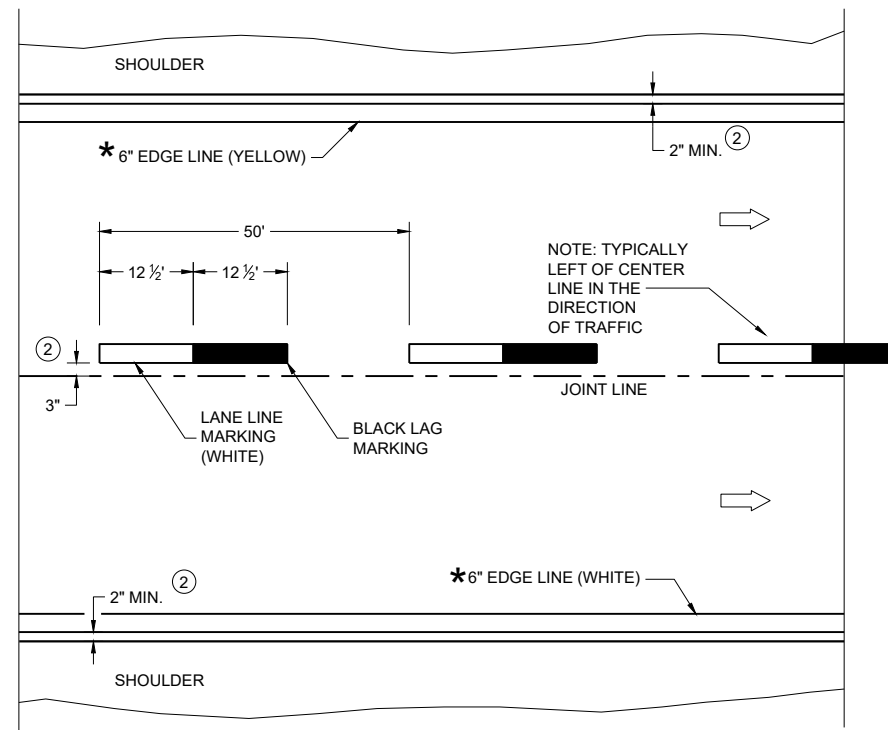
LEGEND

-  "T" MARKING
-  SIGN ON PERMANENT SUPPORT
-  DIRECTION OF TRAFFIC

*CONFIRM MARKING LINE WIDTH WITH THE MISCELLANEOUS QUANTITIES



TWO WAY TRAFFIC



ONE WAY TRAFFIC

PERMANENT PAVEMENT MARKING

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SDD 15C08-23a

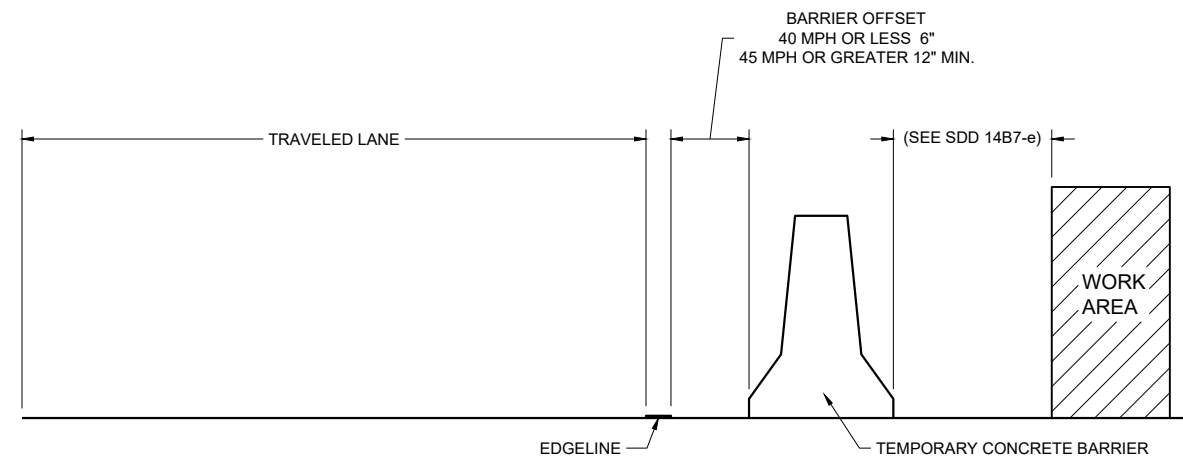
SDD 15C08-23a

PERMANENT LONGITUDINAL PAVEMENT MARKINGS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
May 2023 /S/ Jeannie Silver
DATE Statewide Pavement Marking Engineer

FHWA



TEMPORARY BARRIER OFFSET FROM EDGELINE

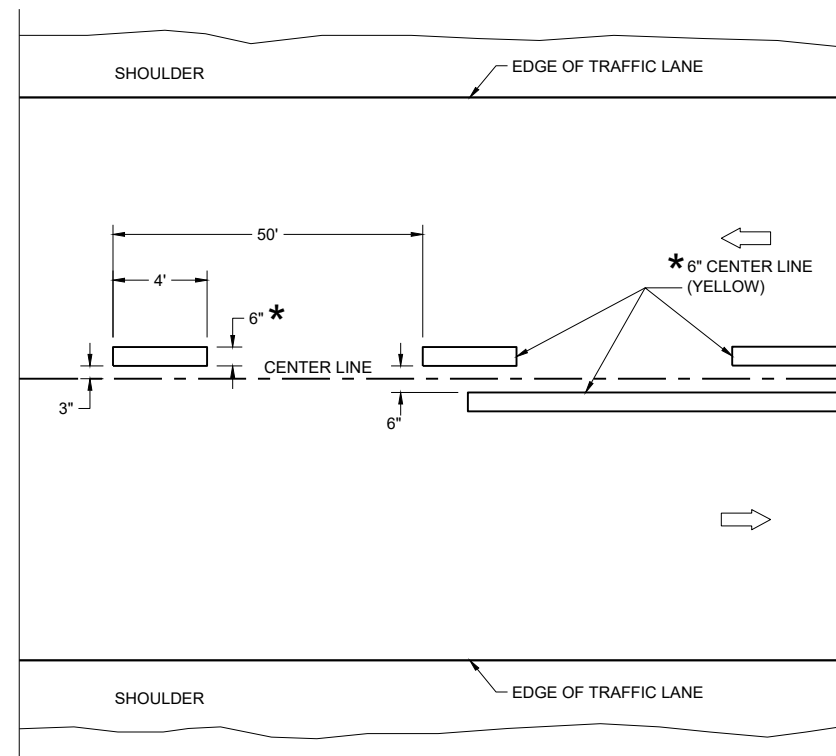
GENERAL NOTES

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

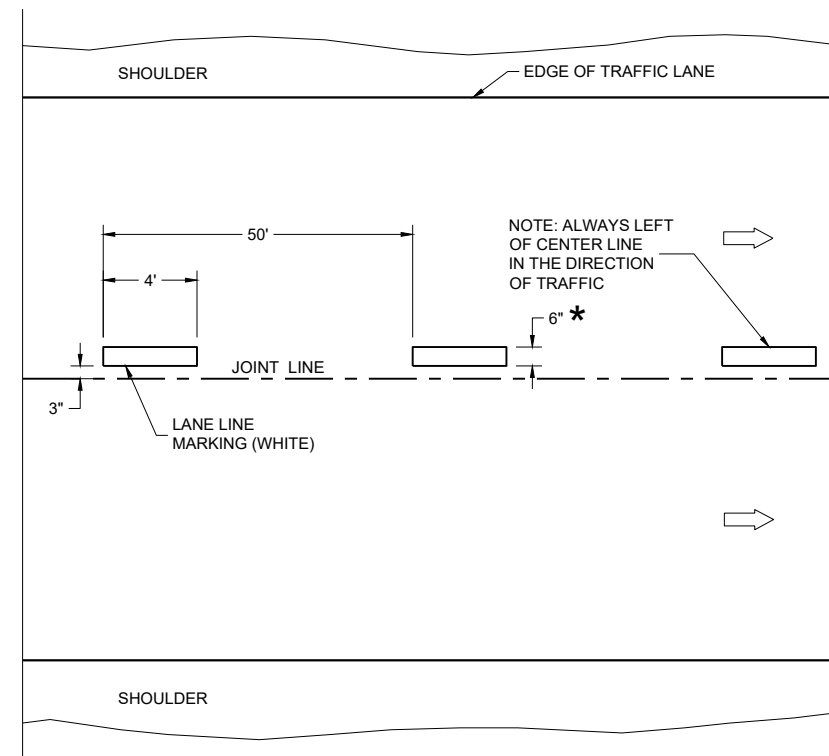
LEGEND

➡ DIRECTION OF TRAFFIC

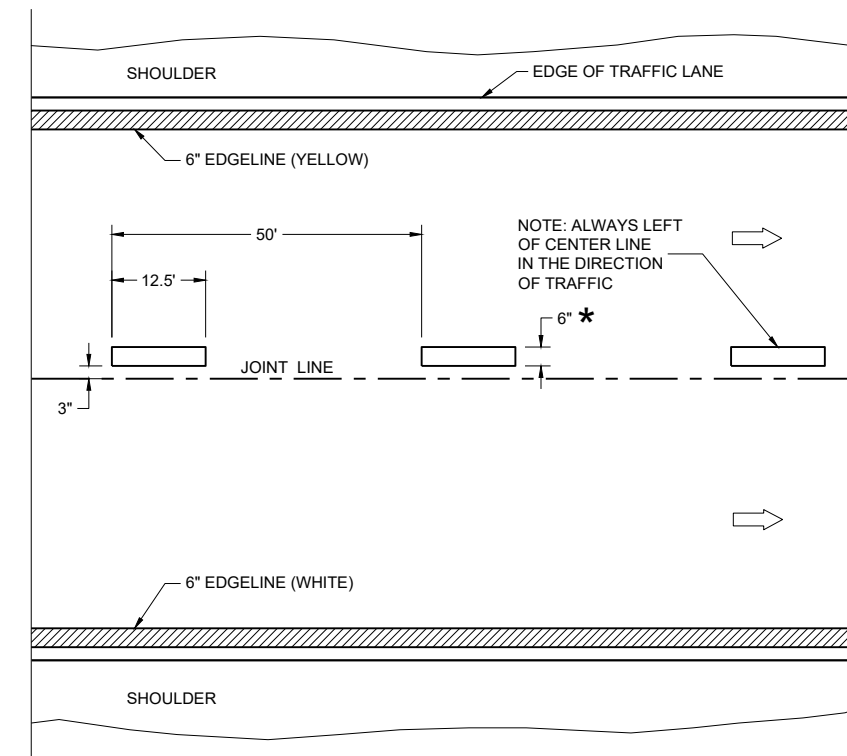
*CONFIRM MARKING LINE WIDTH WITH THE MISCELLANEOUS QUANTITIES



TWO WAY TRAFFIC



ONE WAY TRAFFIC



FREEWAYS AND EXPRESSWAYS

TEMPORARY PAVEMENT MARKING

TEMPORARY LONGITUDINAL PAVEMENT MARKING

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
May 2023 /S/ Jeannie Silver
DATE Statewide Pavement Marking Engineer

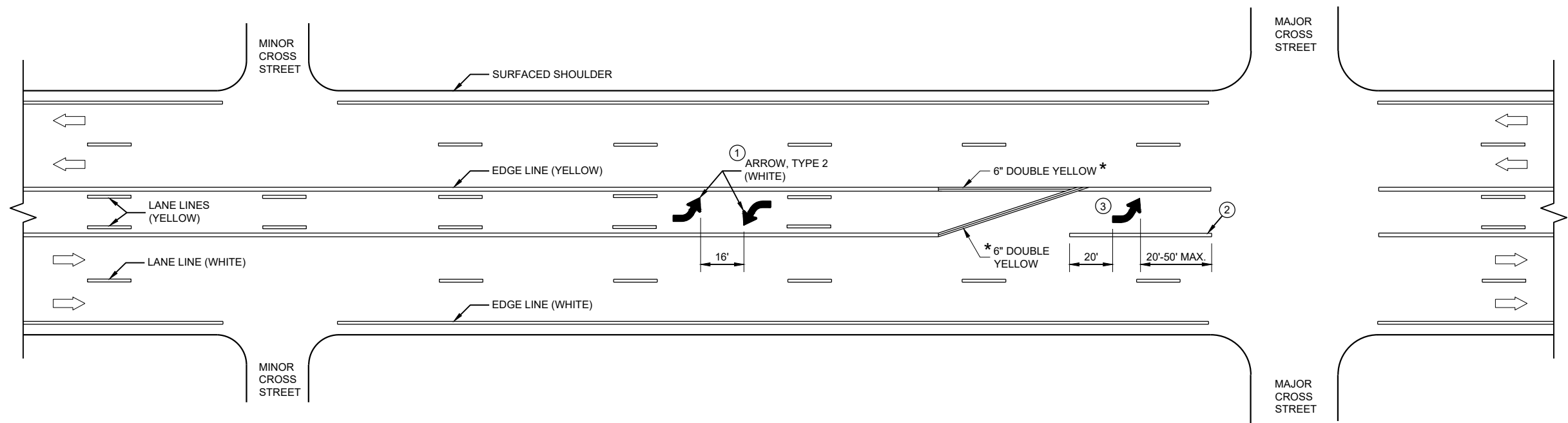
FHWA

GENERAL NOTES

- ① A SET OF ARROWS IS REQUIRED EVERY 400 FEET OR NEAR INTERSECTIONS OR DRIVEWAYS WITH TURNING TRAFFIC.
- ② 10" WHITE
- ③ TURN BAY LENGTH OF LESS THAN 48' DOES NOT REQUIRE PAVEMENT ARROWS OR TEXT.

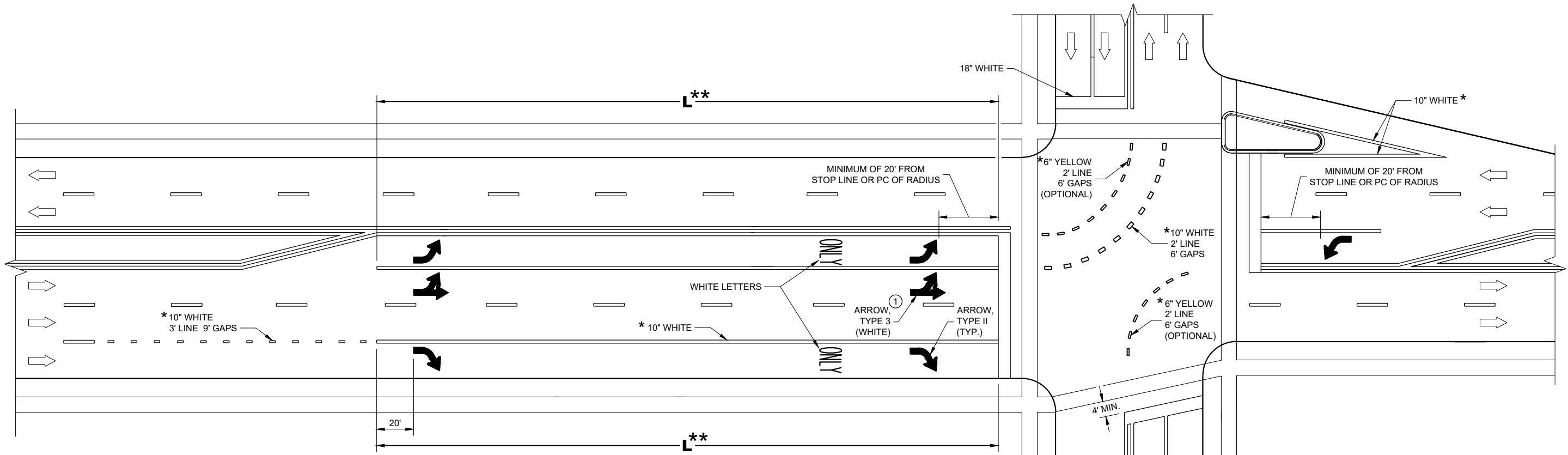
➡ DIRECTION OF TRAFFIC

* CONFIRM MARKING LINE WIDTH WITH THE MISCELLANEOUS QUANTITIES



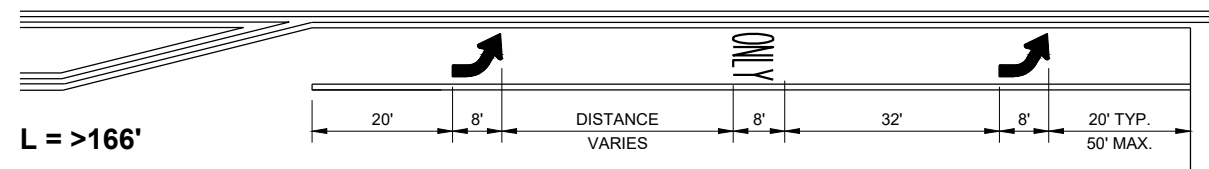
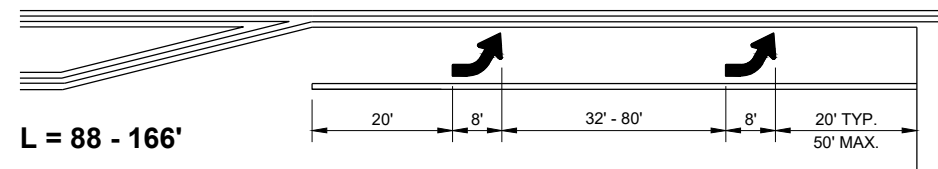
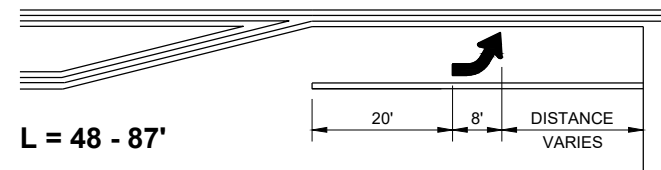
TWO WAY LEFT TURN LANE

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



TURN LANE OPTIONS

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



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

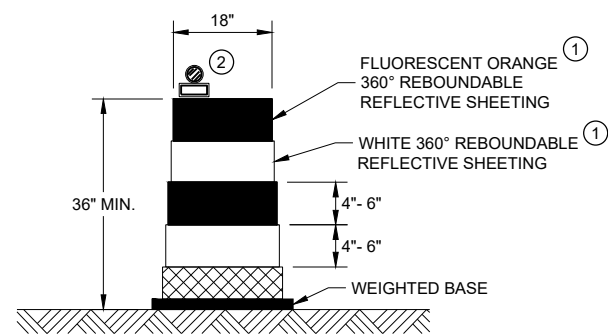
GENERAL NOTES

① QUANTITY AND LOCATION OF TYPE 3 ARROWS ARE THE SAME AS THE TYPE II ARROWS IN THE ADJACENT TURN LANE. FOR TURN LANES WITH A PHYSICAL SEPARATION IN THE SAME DIRECTION OF TRAVEL, THE ARROWS AND "ONLY" MARKING MAY BE ELIMINATED.

➡ DIRECTION OF TRAFFIC

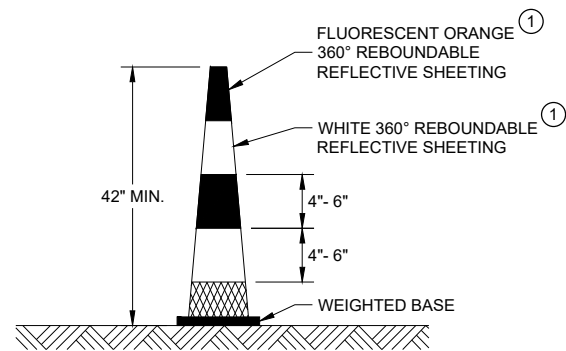
L = LENGTH OF TURN BAY

* CONFIRM MARKING LINE WIDTH WITH THE MISCELLANEOUS QUANTITIES



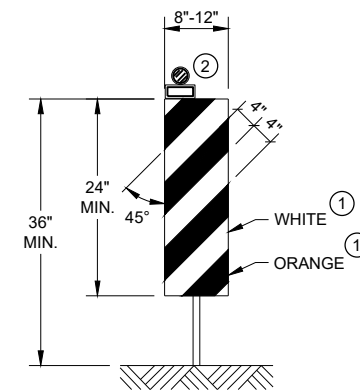
DRUM

BALLAST WIDTHS
RANGE FROM 24"-36"



42" CONE

DO NOT USE IN TAPERS
½ SPACING OF DRUMS
BALLAST WIDTHS
RANGE FROM 14"-20"

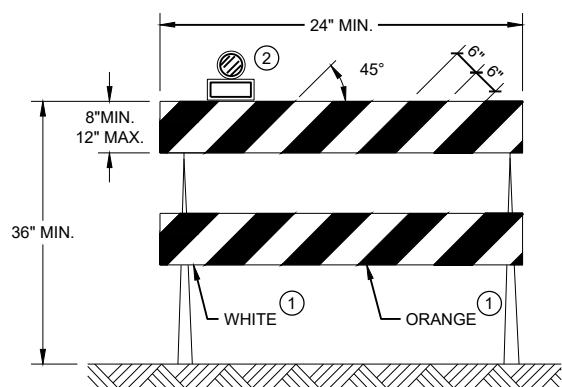


VERTICAL PANEL

THE STRIPES SHALL SLOPE DOWNWARD TO
THE TRAFFIC SIDE FOR CHANNELIZATION.

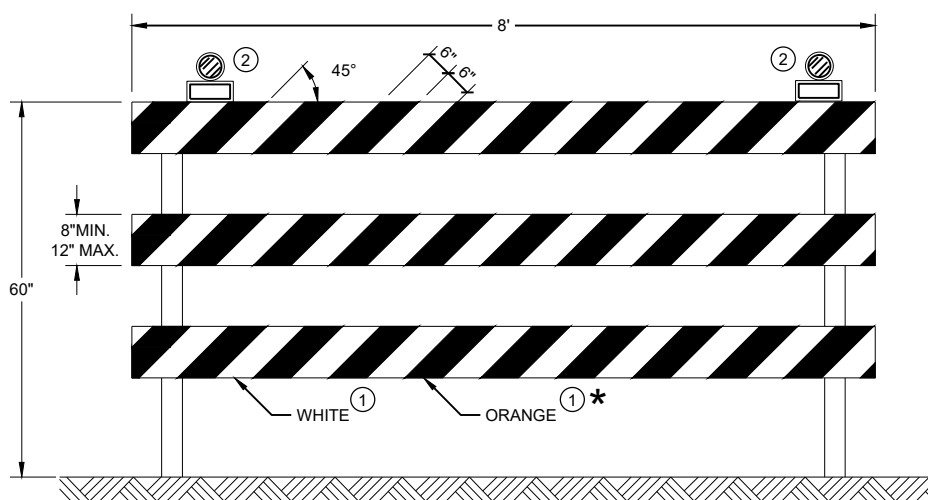
GENERAL NOTES

- ① REFLECTIVE SHEETING SHALL FOLLOW THE REQUIREMENTS IN THE APPROVED PRODUCTS LISTING FOR SIGN SHEETING.
- ② LOCATION OF WARNING LIGHTS WHEN SHOWN ON THE PLAN.



TYPE II BARRICADE

FOR RAILS LESS THAN 36" LONG, 4" WIDE STRIPES
MAY BE USED. ALL STRIPES SHALL SLOPE DOWNWARD
TO THE TRAFFIC SIDE FOR CHANNELIZATION.



TYPE III BARRICADE

IF SIGN MOUNTED, DO NOT COVER MORE THAN 50% OF THE TOP
TWO RAILS OR 33% OF THE TOTAL AREA OF THE THREE RAILS.

* IF USED FOR A PERMANENT APPLICATION USE RED SHEETING.

**CHANNELIZING DEVICES
DRUMS, CONES, BARRICADES
AND VERTICAL PANELS**



STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
 November 2022 /S/ Andrew Heidtke
 DATE WORK ZONE ENGINEER
 FHWA

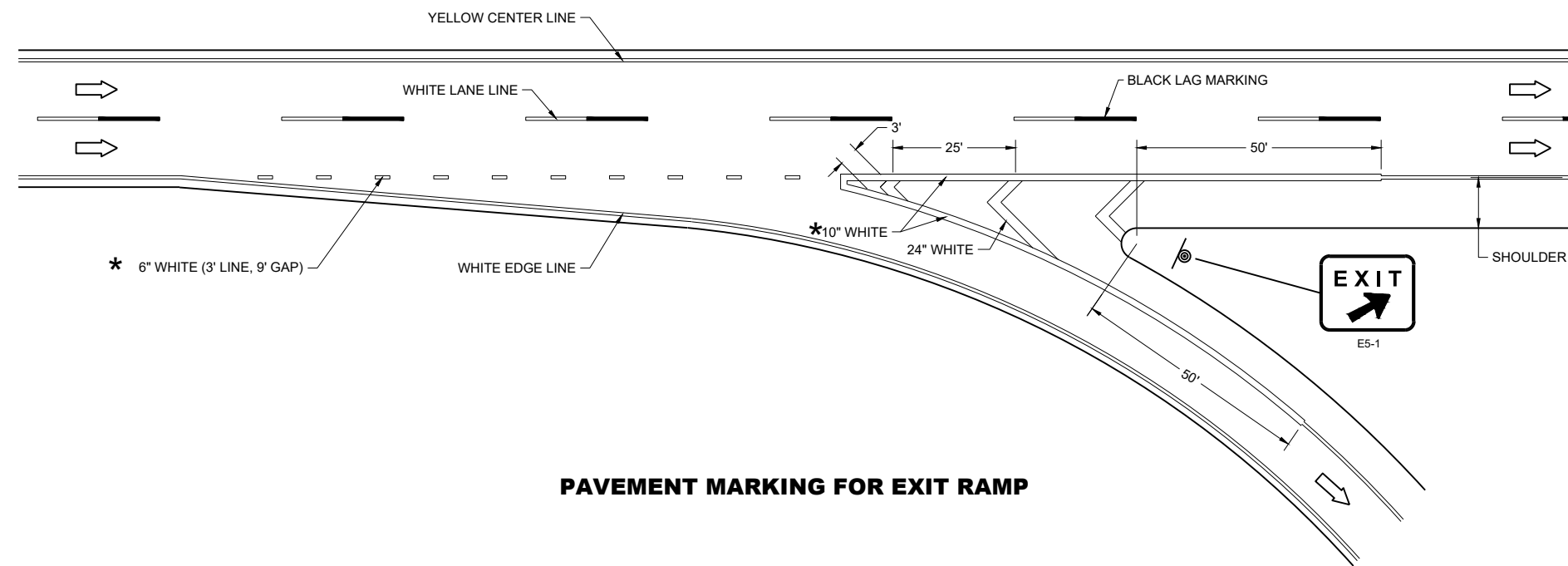
GENERAL NOTES

PLACE GROOVE 3 INCHES LEFT OF JOINT.

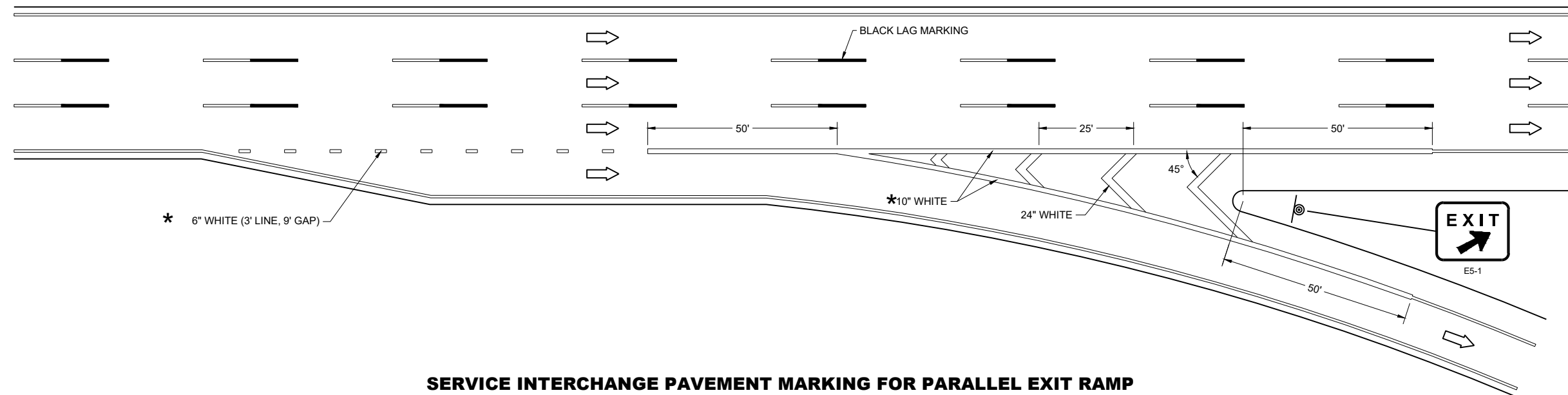
LEGEND

-  SIGN ON PERMANENT SUPPORT
-  DIRECTION OF TRAVEL

*CONFIRM MARKING LINE WIDTH WITH THE MISCELLANEOUS QUANTITIES



PAVEMENT MARKING FOR EXIT RAMP



SERVICE INTERCHANGE PAVEMENT MARKING FOR PARALLEL EXIT RAMP

**PAVEMENT MARKING,
EXIT RAMP AND
PARALLEL EXIT RAMP**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

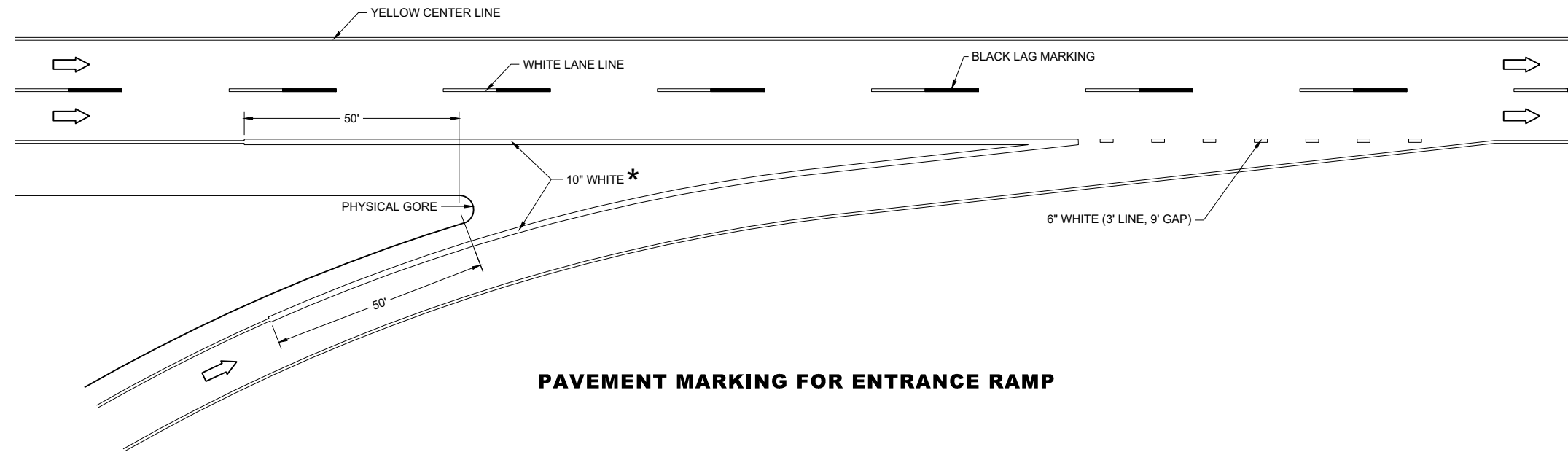
GENERAL NOTES

PLACE GROOVE 3 INCHES LEFT OF JOINT.

LEGEND

➡ DIRECTION OF TRAVEL

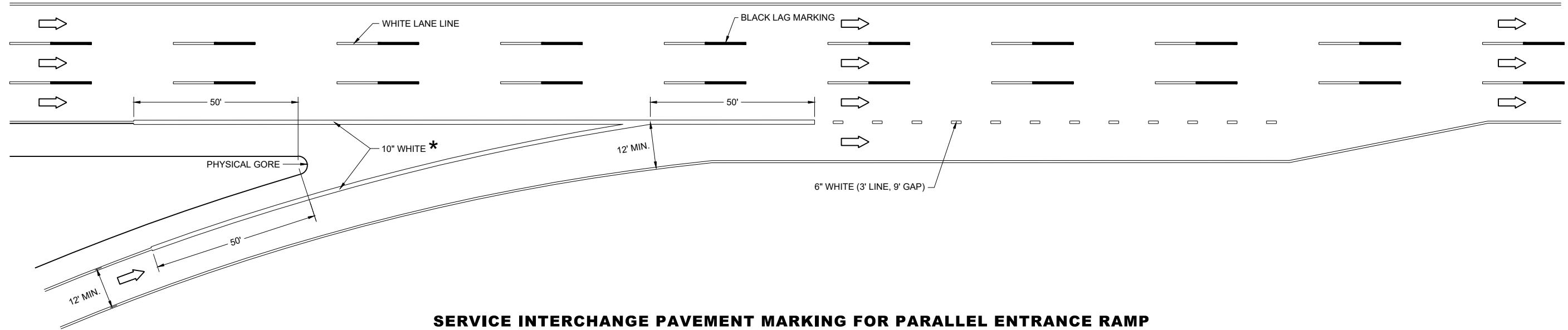
*CONFIRM MARKING LINE WIDTH WITH THE MISCELLANEOUS QUANTITIES



PAVEMENT MARKING FOR ENTRANCE RAMP

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SERVICE INTERCHANGE PAVEMENT MARKING FOR PARALLEL ENTRANCE RAMP

SDD 15C31-08C

SDD 15C31-08C

**PAVEMENT MARKING,
ENTRANCE RAMP AND
PARALLEL ENTRANCE RAMP**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

GENERAL NOTES

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

THE SPACING BETWEEN SIGNS SHOULD BE ADJUSTED TO NOT CONFLICT WITH AND TO PROVIDE A MINIMUM OF 200 FEET (500 FEET DESIRABLE) CLEARANCE TO EXISTING SIGNS.

THIS LANE CLOSURE IS TYPICAL FOR CLOSING RIGHT LANE - REVERSE FOR CLOSING LEFT LANE.

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

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

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

FOR A LANE CLOSURE THAT IS IN PLACE LESS THAN 7 CONTINUOUS DAYS AND NIGHTS, THE ADVANCED WARNING SIGNS MAY BE MOUNTED ON PORTABLE SUPPORTS.

REMOVE PAVEMENT MARKINGS AND PLACE TEMPORARY PAVEMENT MARKING LINE IF LANE CLOSURE IS TO BE IN PLACE 4 OR MORE CONTINUOUS DAYS AND NIGHTS.












IF THE HORIZONTAL ALIGNMENT IS SUCH THAT A CURVE MAY REQUIRE ADDITIONAL DELINEATION, THE DEVICE SPACING MAY BE DECREASED TO 50 FEET.

WARNING LIGHTS ARE NOT REQUIRED IF THE LANE CLOSURE IS A DAYTIME ONLY OPERATION.

ADJUSTMENTS IN BUFFER SPACE NEED TO BE INCORPORATED WHEN THE LANE CLOSURE OCCURS NEAR AN INTERCHANGE EXIT OR ENTRANCE RAMP OR INTERSECTION. THE LANE CLOSURE MUST TAKE PLACE FAR ENOUGH IN ADVANCE OF AN EXIT OR ENTRANCE RAMP TO STILL ALLOW FOR ADEQUATE BUFFER SPACE. THE MINIMUM LENGTH OF THE BUFFER SPACE BEFORE AN EXIT RAMP SHOULD BE ONE HALF THE LENGTH OF THE TRANSITION AREA. THE ENTRANCE RAMP SHOULD BE FOLLOWED BY THE ORIGINAL BUFFER SPACE LENGTH OF 800 FEET DESIRABLE PRIOR TO ANOTHER TRAFFIC CONTROL CHANGE SUCH AS A CROSSOVER MANEUVER.

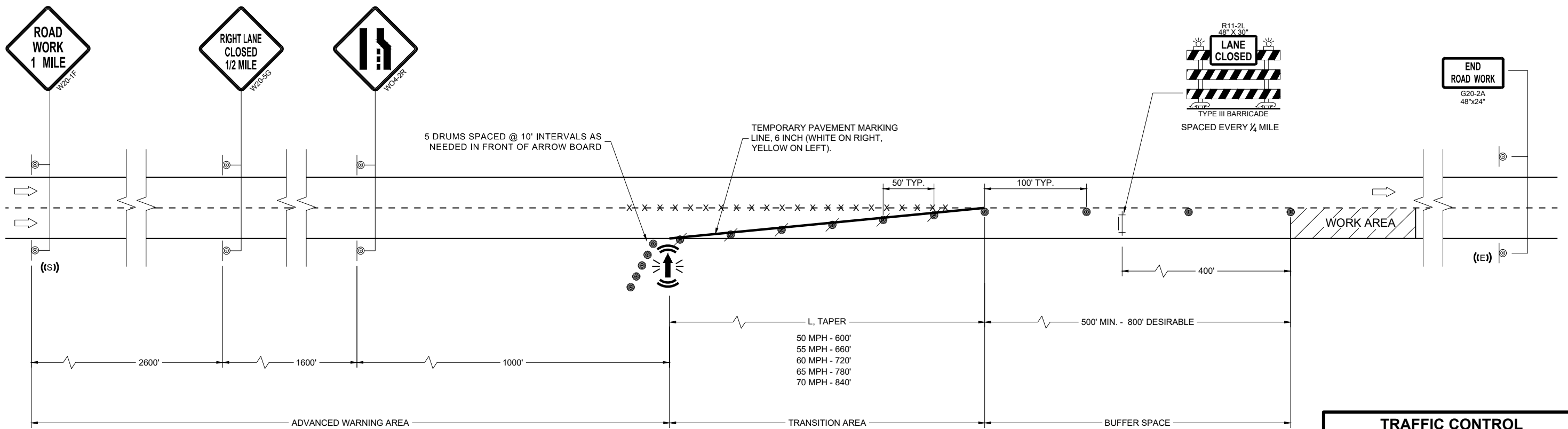
CONSIDER ROADWAY GEOMETRICS WHEN LOCATING SIGNS AND ARROW BOARD SO THE DRIVER HAS A CLEAR VIEW OF THE ARROW BOARD AND LANE CLOSURE DRUMS.

LEGEND

-  SIGN ON PERMANENT SUPPORT
-  TRAFFIC CONTROL DRUM
-  TRAFFIC CONTROL DRUM WITH TYPE "C" STEADY BURN LIGHT
-  TYPE III BARRICADE WITH ATTACHED SIGN
-  TYPE "A" WARNING LIGHT (FLASHING)
-  REMOVING PAVEMENT MARKINGS
-  DIRECTION OF TRAFFIC
-  WORK AREA
-  CONNECTED ARROW BOARD
-  WZ START LOCATION MARKER
-  WZ END LOCATION MARKER

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SDD 15D12-14a



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SDD 15D12-14a

TRAFFIC CONTROL LANE CLOSURE	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED November 2024 DATE	/s/ Andrew Heidtke ROADWAY STANDARDS DEVELOPMENT UNIT SUPERVISOR
FHWA	

LEGEND

-  SIGN ON PERMANENT SUPPORT
-  SIGN ON TEMPORARY SUPPORT
-  TRAFFIC CONTROL DRUM
-  TRAFFIC CONTROL DRUM WITH TYPE "C" STEADY BURN LIGHT
-  REMOVING PAVEMENT MARKING (SEE GENERAL NOTES)
-  TYPE III BARRICADE WITH ATTACHED SIGN
-  DIRECTION OF TRAFFIC

GENERAL NOTES

THE INSTALLATIONS SHOWN ON THIS SHEET ARE TYPICAL EXAMPLES AND ARE NOT INTENDED TO REPRESENT ANY PARTICULAR RAMP. AT SPECIFIC FIELD LOCATIONS, SIMILAR INSTALLATIONS SHALL BE USED AND ADJUSTED TO THE GEOMETRICS OF THE RAMP AS COORDINATED WITH THE ENGINEER.

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

THE SPACING BETWEEN TRAFFIC CONTROL SIGNS SHOULD BE ADJUSTED TO NOT CONFLICT WITH AND SHOULD PROVIDE A MINIMUM OF 200 FEET (500 FEET DESIRABLE) CLEARANCE TO EXISTING SIGNS THAT WILL REMAIN IN PLACE.

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

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

SEE SEPARATE LANE CLOSURE DETAIL FOR TYPICAL SPACING OF TYPE III BARRICADES AND R11-2L "LANE CLOSED" SIGNS.

SIGNS THAT WILL BE IN PLACE LESS THAN 7 CONSECUTIVE DAYS AND NIGHTS OR THAT WILL BE PLACED IN A CLOSED LANE, MAY BE MOUNTED ON PORTABLE SUPPORTS. USE SUPPORTS THAT PROVIDE A MINIMUM OF 5 FEET FROM THE BOTTOM OF THE SIGN TO THE PAVEMENT.

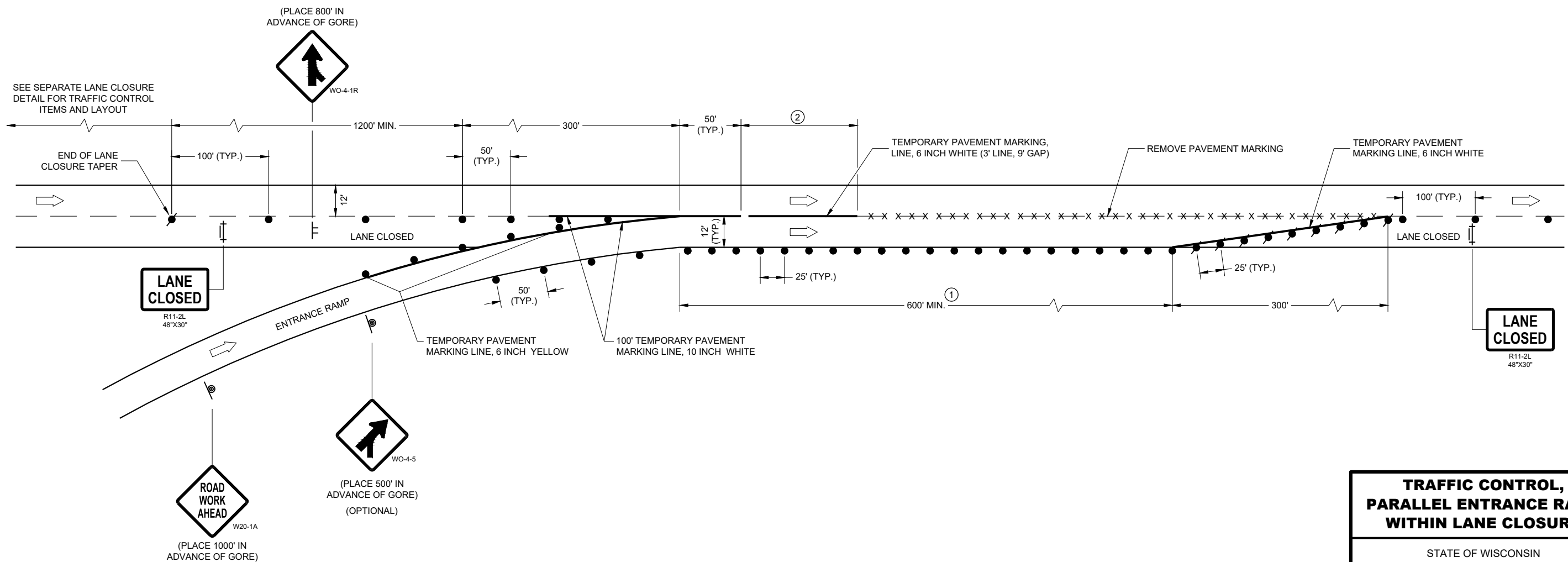
IF INDICATED IN MISCELLANEOUS QUANTITIES, SUBSTITUTE FLEXIBLE TUBULAR MARKERS FOR DRUMS IN THE GORE BETWEEN THE ENTRANCE RAMP AND MAINLINE TRAFFIC.

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

REMOVE PAVEMENT MARKINGS AND PLACE TEMPORARY PAVEMENT MARKING LINES IF LANE CLOSURE IS TO BE IN PLACE FOR 4 OR MORE CONTINUOUS DAYS AND NIGHTS.

WARNING LIGHTS ARE NOT REQUIRED IF THE LANE CLOSURE IS A DAYTIME ONLY OPERATION.

- ① EXTEND THE LENGTH OF THE MERGE ARE IF THE ENTERING (DESIGN) SPEED IS LESS THAN 50MPH OR IF THE MAINLINE GRADE EXCEEDS ±2.2%.
- ② END TEMPORARY PAVEMENT MARKING LINE AT ½ THE LENGTH OF FULL WIDTH OF THE ACCELERATION LANE.











TRAFFIC CONTROL, PARALLEL ENTRANCE RAMP WITHIN LANE CLOSURE	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED May 2023 DATE	/S/ Andrew Heidtke WORK ZONE ENGINEER
FHWA	

SDD 15D15-07a

SDD 15D15-07a

LEGEND

-  SIGN ON PERMANENT SUPPORT
-  SIGN ON TEMPORARY SUPPORT
-  TRAFFIC CONTROL DRUM
-  TRAFFIC CONTROL DRUM WITH TYPE "C" STEADY BURN LIGHT
-  REMOVING PAVEMENT MARKING (SEE GENERAL NOTES)
-  TYPE III BARRICADE WITH ATTACHED SIGN
-  FLAGS, 16" X 16" MIN., ORANGE
-  DIRECTION OF TRAFFIC

GENERAL NOTES

THE INSTALLATIONS SHOWN ON THIS SHEET ARE TYPICAL EXAMPLES AND ARE NOT INTENDED TO REPRESENT ANY PARTICULAR RAMP. AT SPECIFIC FIELD LOCATIONS, SIMILAR INSTALLATIONS SHALL BE USED AND ADJUSTED TO THE GEOMETRICS OF THE RAMP AS COORDINATED WITH THE ENGINEER.

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

THE SPACING BETWEEN TRAFFIC CONTROL SIGNS SHOULD BE ADJUSTED TO NOT CONFLICT WITH AND SHOULD PROVIDE A MINIMUM OF 200 FEET (500 FEET DESIRABLE) CLEARANCE TO EXISTING SIGNS THAT WILL REMAIN IN PLACE.

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

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

SEE SEPARATE LANE CLOSURE DETAIL FOR TYPICAL SPACING OF TYPE III BARRICADES AND R11-2L "LANE CLOSED" SIGNS.

YIELD SIGN AND WARNING SIGNS ON ENTRANCE RAMP ARE ALSO APPROPRIATE FOR CLOSURE OF THE MAINLINE LEFT LANE. OMIT THE YIELD SIGN IF MORE THAN ONE LANE REMAINS OPEN ON THE MAINLINE AND THE RAMP TAPER IS AT LEAST AS LONG AS THE NORMAL ENTRANCE RAMP TAPER AT THE SITE.

SIGNS THAT WILL BE IN PLACE LESS THAN 7 CONSECUTIVE DAYS AND NIGHTS OR THAT WILL BE PLACED IN A CLOSED LANE, MAY BE MOUNTED ON PORTABLE SUPPORTS. USE SUPPORTS THAT PROVIDE A MINIMUM OF 5 FEET FROM THE BOTTOM OF THE SIGN TO THE PAVEMENT.

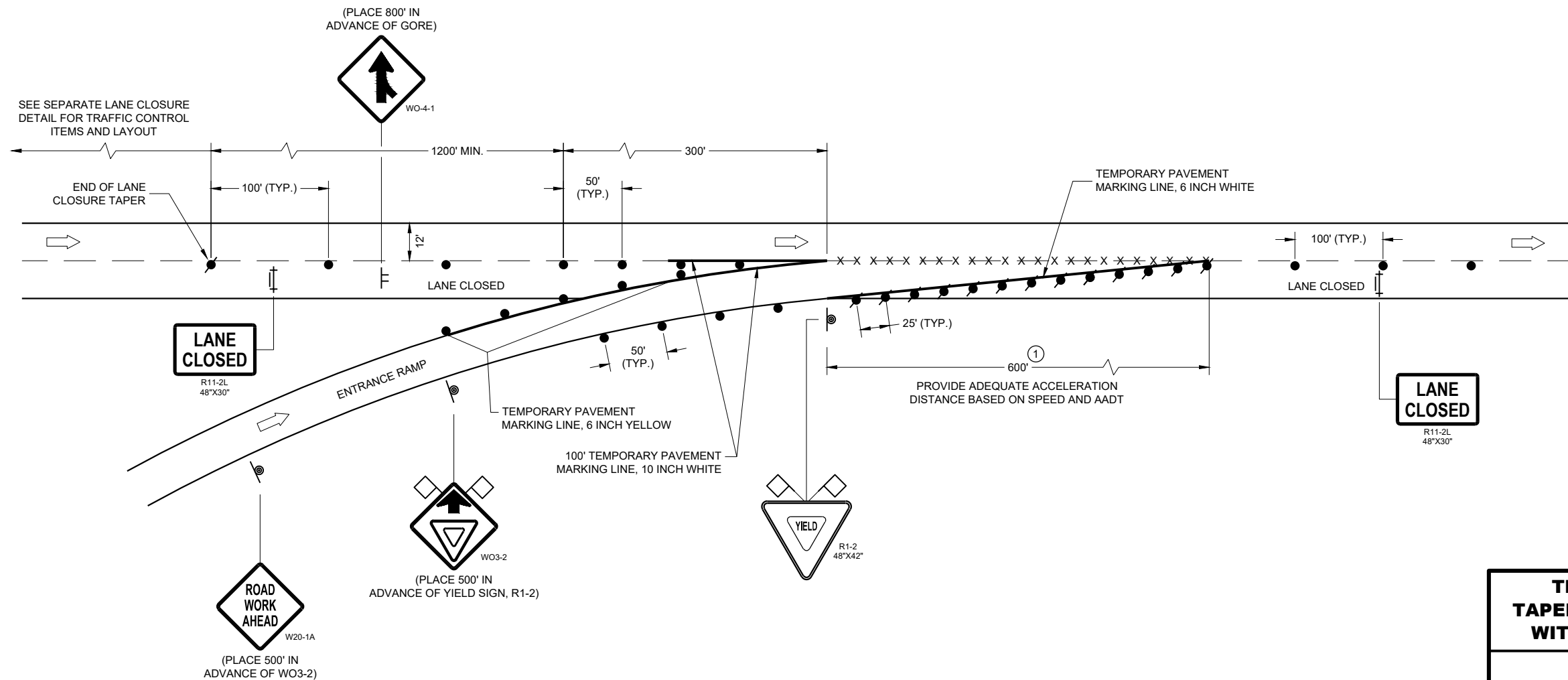
IF INDICATED IN MISCELLANEOUS QUANTITIES, SUBSTITUTE FLEXIBLE TUBULAR MARKERS FOR DRUMS IN THE GORE BETWEEN THE ENTRANCE RAMP AND MAINLINE TRAFFIC.

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

REMOVE PAVEMENT MARKINGS AND PLACE TEMPORARY PAVEMENT MARKING LINES IF LANE CLOSURE IS TO BE IN PLACE FOR 4 OR MORE CONTINUOUS DAYS AND NIGHTS.

WARNING LIGHTS ARE NOT REQUIRED IF THE LANE CLOSURE IS A DAYTIME ONLY OPERATION.

① CONSULT WITH REGIONAL WORK ZONE ENGINEER IF NEED TO REDUCE LENGTH EXISTS.



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SDD 15D15-07c

SDD 15D15-07c








**TRAFFIC CONTROL,
TAPERED ENTRANCE RAMP
WITHIN LANE CLOSURE**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
DATE: May 2023 /S/ Andrew Heidtke
WORK ZONE ENGINEER

FHWA

LEGEND

-  SIGN ON PERMANENT SUPPORT
-  SIGN ON TEMPORARY SUPPORT
-  TRAFFIC CONTROL DRUM
-  TRAFFIC CONTROL DRUM WITH TYPE "C" STEADY BURN LIGHT
-  TYPE III BARRICADE WITH ATTACHED SIGN
-  FLAGS, 16" X 16" MIN., ORANGE
-  DIRECTION OF TRAFFIC

GENERAL NOTES

THE INSTALLATIONS SHOWN ON THIS SHEET ARE TYPICAL EXAMPLES AND ARE NOT INTENDED TO REPRESENT ANY PARTICULAR RAMP. AT SPECIFIC FIELD LOCATIONS, SIMILAR INSTALLATIONS SHALL BE USED AND ADJUSTED TO THE GEOMETRICS OF THE RAMP AS COORDINATED WITH THE ENGINEER.

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

THE SPACING BETWEEN TRAFFIC CONTROL SIGNS SHOULD BE ADJUSTED TO NOT CONFLICT WITH AND SHOULD PROVIDE A MINIMUM OF 200 FEET (500 FEET DESIRABLE) CLEARANCE TO EXISTING SIGNS THAT WILL REMAIN IN PLACE.

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

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

SEE SEPARATE LANE CLOSURE DETAIL FOR TYPICAL SPACING OF TYPE III BARRICADES AND R11-2L "LANE CLOSED" SIGNS.

YIELD SIGN AND WARNING SIGNS ON ENTRANCE RAMP ARE ALSO APPROPRIATE FOR CLOSURE OF THE MAINLINE LEFT LANE. OMIT THE YIELD SIGN IF MORE THAN ONE LANE REMAINS OPEN ON THE MAINLINE AND THE RAMP TAPER IS AT LEAST AS LONG AS THE NORMAL ENTRANCE RAMP TAPER AT THE SITE.

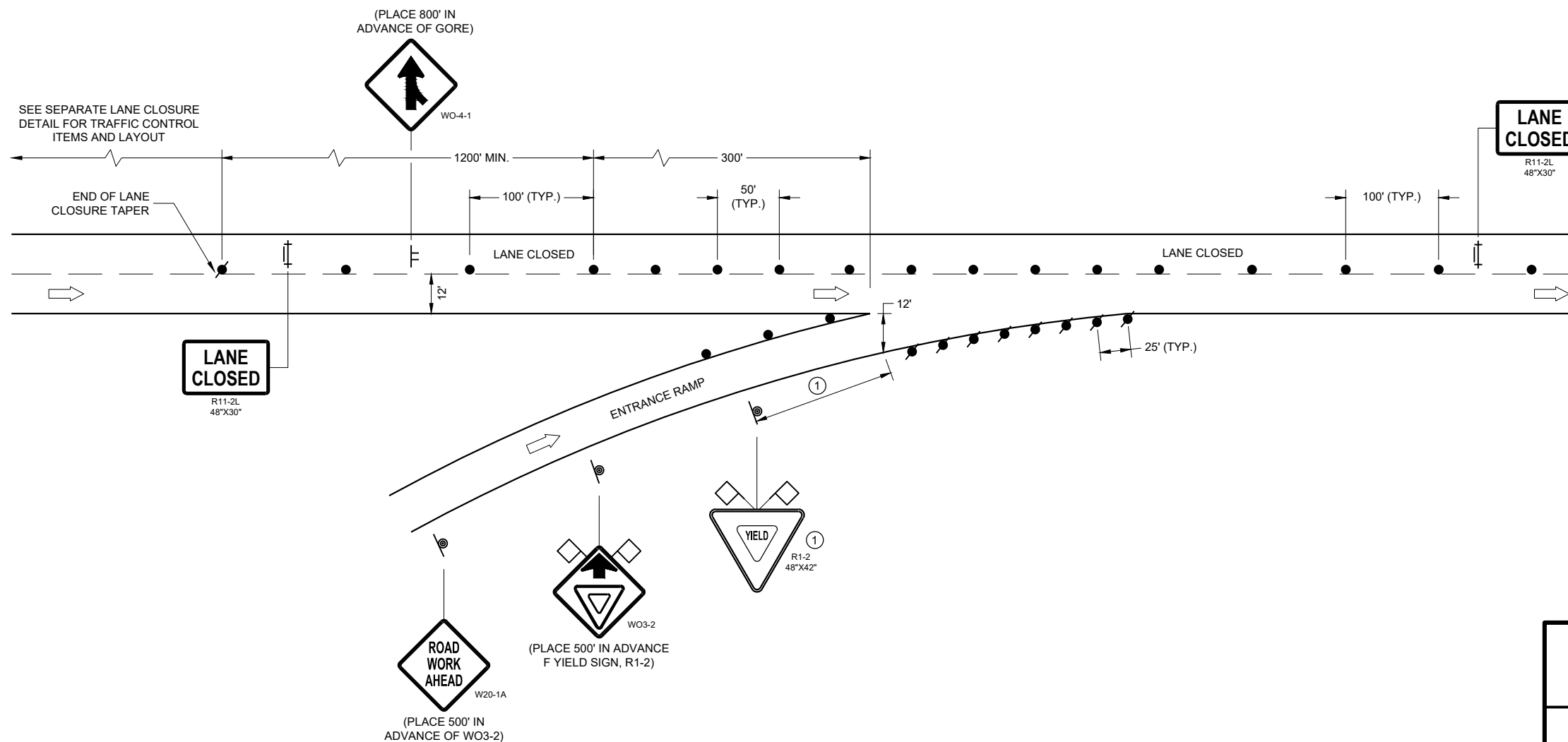
SIGNS THAT WILL BE IN PLACE LESS THAN 7 CONSECUTIVE DAYS AND NIGHTS OR THAT WILL BE PLACED IN A CLOSED LANE, MAY BE MOUNTED ON PORTABLE SUPPORTS. USE SUPPORTS THAT PROVIDE A MINIMUM OF 5 FEET FROM THE BOTTOM OF THE SIGN TO THE PAVEMENT.

IF INDICATED IN MISCELLANEOUS QUANTITIES, SUBSTITUTE FLEXIBLE TUBULAR MARKERS FOR DRUMS IN THE GORE BETWEEN THE ENTRANCE RAMP AND MAINLINE TRAFFIC.

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

WARNING LIGHTS ARE NOT REQUIRED IF THE LANE CLOSURE IS A DAYTIME ONLY OPERATION.

- ① PLACE YIELD SIGN TO PROVIDE ADEQUATE SIGHT DISTANCE AND ACCELERATION DISTANCE.



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SDD 15D15-07d

SDD 15D15-07d

TRAFFIC CONTROL, TAPERED ENTRANCE RAMP WITHIN LANE CLOSURE	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED May 2023 DATE	/S/ Andrew Heidtke WORK ZONE ENGINEER
FHWA	

LEGEND

- ⊙ SIGN ON PERMANENT SUPPORT
- ⊞ SIGN ON TEMPORARY SUPPORT
- TRAFFIC CONTROL DRUM
- ⦿ TRAFFIC CONTROL DRUM WITH TYPE "C" STEADY BURN LIGHT
- ×-×-× REMOVING PAVEMENT MARKING (SEE GENERAL NOTES)
- ⊞ TYPE III BARRICADE WITH ATTACHED SIGN
- ➡ DIRECTION OF TRAFFIC

GENERAL NOTES

THE INSTALLATIONS SHOWN ON THIS SHEET ARE TYPICAL EXAMPLES AND ARE NOT INTENDED TO REPRESENT ANY PARTICULAR RAMP. AT SPECIFIC FIELD LOCATIONS, SIMILAR INSTALLATIONS SHALL BE USED AND ADJUSTED TO THE GEOMETRICS OF THE RAMP AS COORDINATED WITH THE ENGINEER.

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

THE SPACING BETWEEN TRAFFIC CONTROL SIGNS SHOULD BE ADJUSTED TO NOT CONFLICT WITH AND SHOULD PROVIDE A MINIMUM OF 200 FEET (500 FEET DESIRABLE) CLEARANCE TO EXISTING SIGNS THAT WILL REMAIN IN PLACE.

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

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

SEE SEPARATE LANE CLOSURE DETAIL FOR TYPICAL SPACING OF TYPE III BARRICADES AND R11-2L "LANE CLOSED" SIGNS.

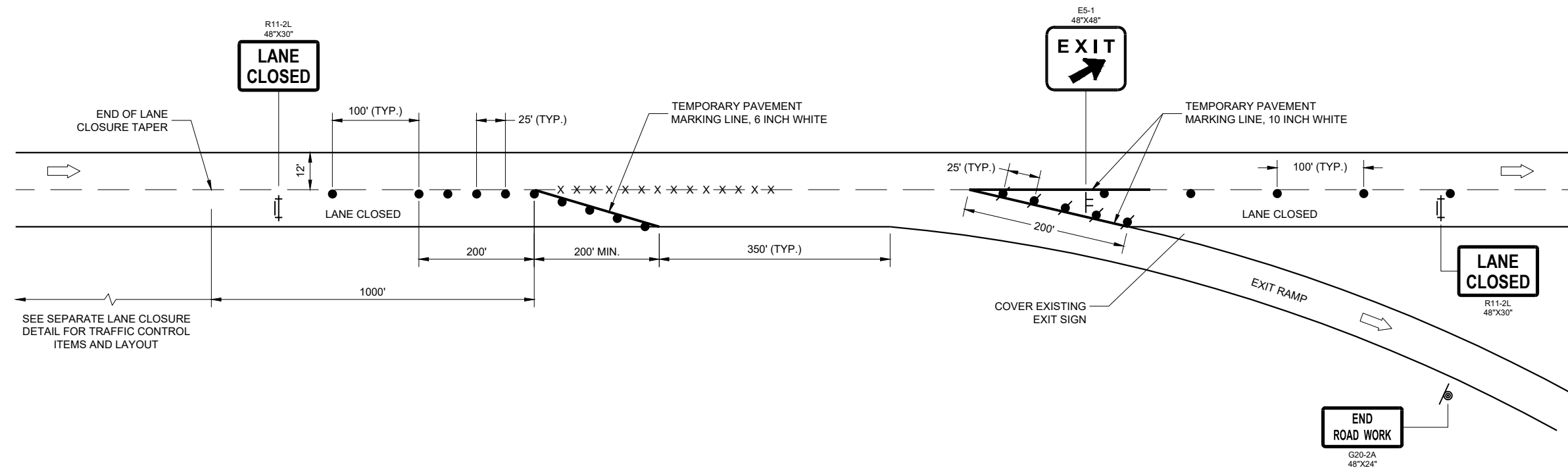
SIGNS THAT WILL BE IN PLACE LESS THAN 7 CONSECUTIVE DAYS AND NIGHTS OR THAT WILL BE PLACED IN A CLOSED LANE, MAY BE MOUNTED ON PORTABLE SUPPORTS.

IF INDICATED IN MISCELLANEOUS QUANTITIES, SUBSTITUTE FLEXIBLE TUBULAR MARKERS FOR DRUMS IN THE GORE BETWEEN THE EXIT RAMP AND MAINLINE TRAFFIC.

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

REMOVE PAVEMENT MARKINGS AND PLACE TEMPORARY PAVEMENT MARKING LINES IF LANE CLOSURE IS TO BE IN PLACE FOR 4 OR MORE CONTINUOUS DAYS AND NIGHTS.

WARNING LIGHTS ARE NOT REQUIRED IF THE LANE CLOSURE IS A DAYTIME ONLY OPERATION.



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SDD 15D15-07e

SDD 15D15-07e

TRAFFIC CONTROL, PARALLEL EXIT RAMP WITHIN LANE CLOSURE	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED May 2023 DATE	/S/ Andrew Heidtke WORK ZONE ENGINEER
FHWA	

LEGEND

- † TYPE III BARRICADE
- †† TYPE III BARRICADE WITH ATTACHED SIGN
- TRAFFIC CONTROL DRUM
- ⊙ SIGN ON PERMANENT SUPPORT
- ⚡ TYPE "A" WARNING LIGHT (FLASHING)
- ➡ DIRECTION OF TRAFFIC

GENERAL NOTES

THIS RAMP CLOSURE DETAIL IS TYPICAL FOR CLOSING A RIGHT SIDE EXIT RAMP. FOR A LEFT SIDE EXIT RAMP, REVERSE THE TRAFFIC CONTROL.

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

THE SPACING BETWEEN TRAFFIC CONTROL SIGNS SHOULD BE ADJUSTED TO NOT CONFLICT WITH AND SHOULD PROVIDE A MINIMUM OF 200 FEET (500 FEET DESIRABLE) CLEARANCE TO EXISTING SIGNS THAT WILL REMAIN IN PLACE.

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

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

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

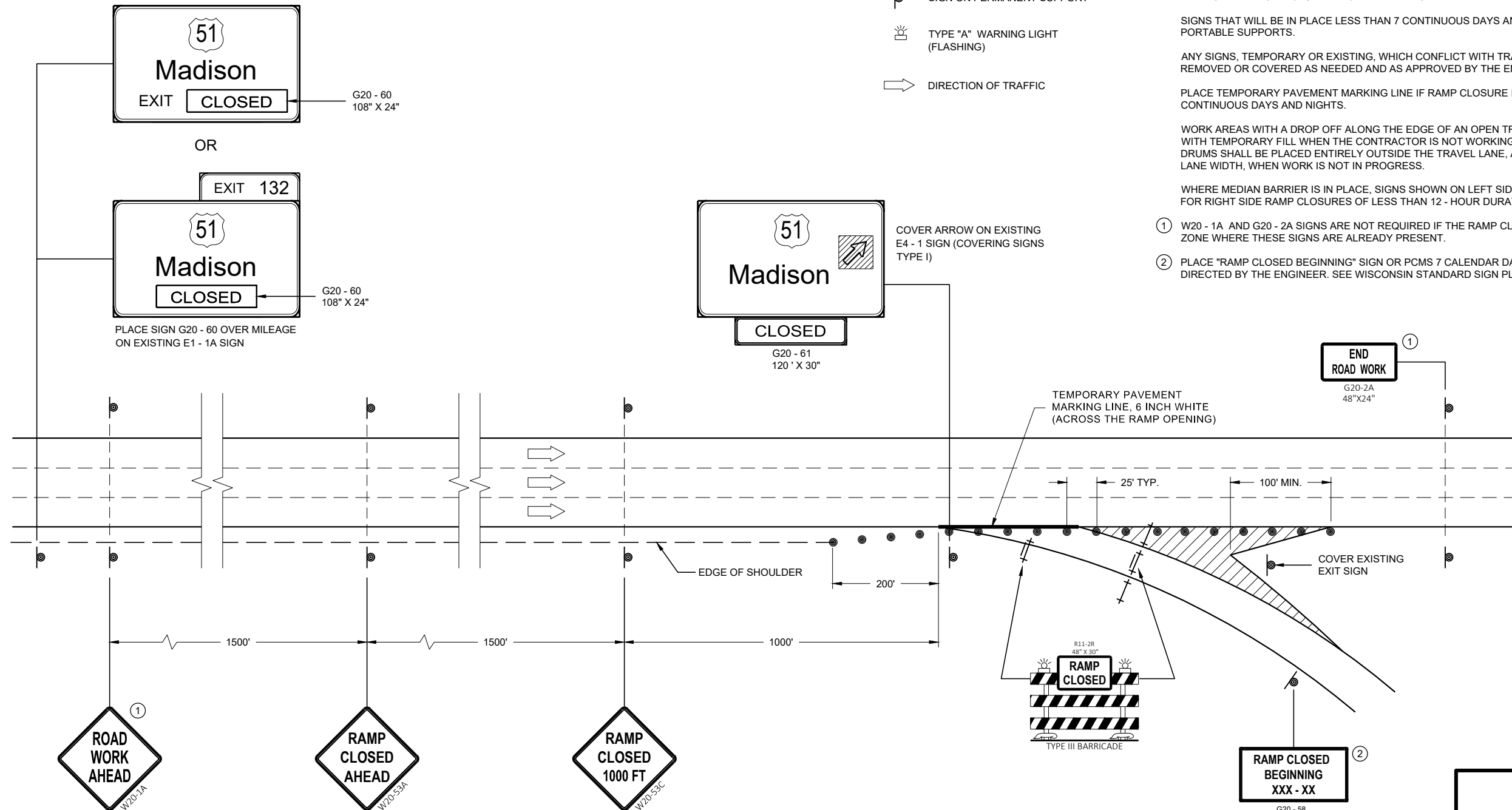
PLACE TEMPORARY PAVEMENT MARKING LINE IF RAMP CLOSURE IS TO BE IN PLACE 4 OR MORE CONTINUOUS DAYS AND NIGHTS.

WORK AREAS WITH A DROP OFF ALONG THE EDGE OF AN OPEN TRAVEL LANE SHALL BE LEVELED WITH TEMPORARY FILL WHEN THE CONTRACTOR IS NOT WORKING ADJACENT TO THE TRAVEL LANE. DRUMS SHALL BE PLACED ENTIRELY OUTSIDE THE TRAVEL LANE, ALLOWING THE FULL UNOBSTRUCTED LANE WIDTH, WHEN WORK IS NOT IN PROGRESS.

WHERE MEDIAN BARRIER IS IN PLACE, SIGNS SHOWN ON LEFT SIDE OF ROADWAY MAY BE OMITTED FOR RIGHT SIDE RAMP CLOSURES OF LESS THAN 12 - HOUR DURATION.

① W20 - 1A AND G20 - 2A SIGNS ARE NOT REQUIRED IF THE RAMP CLOSURE IS WITHIN A LARGER WORK ZONE WHERE THESE SIGNS ARE ALREADY PRESENT.

② PLACE "RAMP CLOSED BEGINNING" SIGN OR PCMS 7 CALENDAR DAYS PRIOR TO CLOSURE OR AS DIRECTED BY THE ENGINEER. SEE WISCONSIN STANDARD SIGN PLATES FOR SIGN LAYOUT.



RAMP CLOSED BEGINNING XXX - XX	
G20 - 58 OR PCMS MESSAGING	
FRAME 1	FRAME 2
RAMP TO CLOSE	XXXDAY XX XX XX












**TRAFFIC CONTROL,
EXIT RAMP CLOSURE**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
DATE May 2023 /S/ Andrew Heidtke
ROADWAY STANDARDS DEVELOPMENT
ENGINEER

FHWA

LEGEND

-  SIGN ON PERMANENT SUPPORT
-  TRAFFIC CONTROL DRUM
-  TRAFFIC CONTROL DRUM WITH TYPE "C" STEADY BURN LIGHT
-  TYPE III BARRICADE WITH ATTACHED SIGN
-  TYPE "A" WARNING LIGHT (FLASHING)
-  REMOVING PAVEMENT MARKINGS
-  DIRECTION OF TRAFFIC
-  WORK AREA
-  CONNECTED ARROW BOARD
-  WZ START LOCATION MARKER
-  WZ END LOCATION MARKER

GENERAL NOTES

FOR WORK ON ROADWAYS WITH SPEEDS GREATER THAN 45MPH, USE SDD 15D12.

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

THIS DETAIL MAY BE USED FOR ROADWAYS WITH EITHER TWO OR THREE LANES IN EACH DIRECTION.

ALL SIGNS ARE 48"X48" UNLESS OTHERWISE NOTED. IF NECESSARY DUE TO SPACE CONSTRAINTS IN URBAN AREAS, 36"X 36" SIGNS MAY BE USED IF APPROVED BY REGIONAL TRAFFIC UNIT.

"WO" SIGN IS THE SAME AS "W" SIGN EXCEPT THE BACKGROUND IS ORANGE.

ANY SIGNS TEMPORARY OR EXISTING, WHICH CONFLICT WITH THE TRAFFIC CONTROL "IN USE" SHALL BE REMOVED OR COVERED AS NEEDED AND AS APPROVED BY THE ENGINEER. NO WARNING LIGHTS SHALL BE WORKING ON COVERED OR "DOWNED" SIGNS.

SIGNS THAT WILL BE IN PLACE LESS THAN 7 CONTINUOUS DAYS AND NIGHTS OR THAT WILL BE PLACED IN A CLOSED LANE MAY BE MOUNTED ON TEMPORARY SUPPORTS.

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

THE SPACING BETWEEN TRAFFIC CONTROL SIGNS SHOULD BE ADJUSTED TO NOT CONFLICT WITH AND TO PROVIDE A MINIMUM OF 200 FEET (500' DESIRABLE) DISTANCE TO EXISTING SIGNS THAT WILL REMAIN IN PLACE

W20-1A, G20-1 AND G20-2A SIGNS ARE NOT REQUIRED IF THE LANE CLOSURE IS WITHIN A LARGER WORK ZONE WHERE THESE SIGNS ARE ALREADY PRESENT.

REMOVE PAVEMENT MARKINGS AND PLACE TEMPORARY PAVEMENT MARKING LINE IF LANE CLOSURE IS TO BE IN

PLACE FOR 4 OR MORE CONTINUOUS DAYS AND NIGHTS.

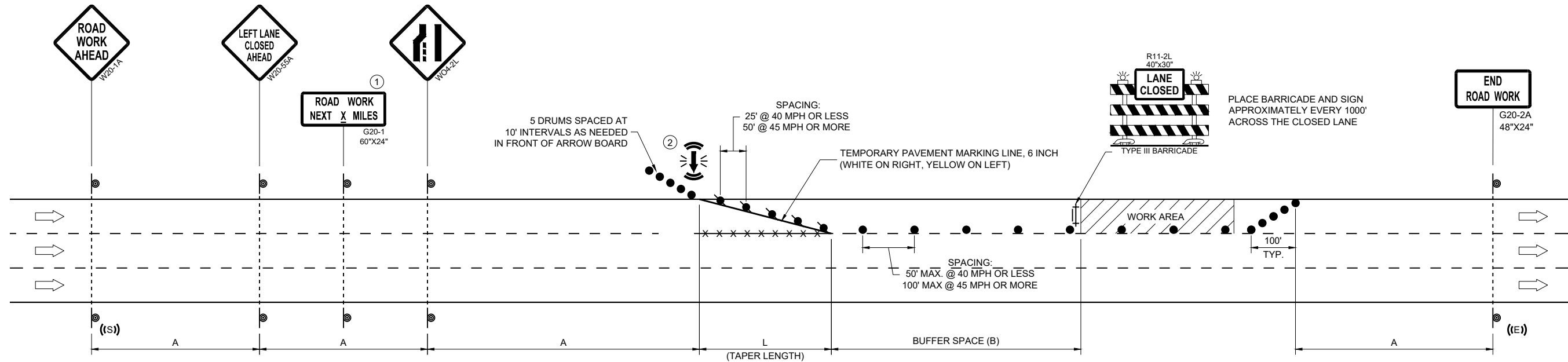
CONSIDER GEOMETRICS WHEN LOCATING SIGNS AND ARROW BOARDS SO THE APPROACHING DRIVER HAS A CLEAR VIEW OF THE ARROW BOARDS AND LANE CLOSURE DRUMS FOR A MINIMUM 1500 FEET IN FRONT OF DRUMS.

BARRICADES IN A CLOSED LANE THAT MUST BE MOVED FOR A WORK OPERATION SHALL BE IMMEDIATELY REESTABLISHED UPON COMPLETION OF THE OPERATION, OR FOR CONTINUING OPERATIONS, AT THE END OF EACH WORKING DAY.

CHANNELIZING DEVICES PLACED ADJACENT TO WORK AREA SHALL BE PULLED BACK FROM THE TRAVEL LANE WHEN WORK IS NOT IN PROGRESS.

WARNING LIGHTS ARE NOT REQUIRED IF THE LANE CLOSURE IS A DAYTIME ONLY OPERATION.

- ① OMIT G20-1 SIGNS IF LENGTH OF WORK AREA IS 2 MILES OR LESS.
- ② WHERE THE SHOULDER OR TERRACE HAS INSUFFICIENT SPACE TO PLACE THE ARROW BOARD AS SHOWN, PLACE THE ARROW BOARD AT THE END OF THE TAPER.



POSTED SPEED LIMIT PRIOR TO WORK STARTING (MPH)	ADVANCE WARNING SIGN SPACING (A) FEET	TAPER LENGTH (12 FT. LANE) (L) FEET	BUFFER SPACE (B) FEET
25	200'	125'	55'
30	200'	180'	85'
35	350'	245'	120'
40	350'	320'	170'
45	500'	540'	220'





TRAFFIC CONTROL, SINGLE LANE CLOSURE, DIVIDED NON-FREEWAY/EXPRESSWAY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
November 2024 /S/ Andrew Heidtke
DATE WORK ZONE ENGINEER

FHWA

LEGEND

-  SIGN ON PERMANENT SUPPORT
-  TRAFFIC CONTROL DRUM
-  DIRECTION OF TRAFFIC
-  WORK ZONE

GENERAL NOTES

ALL SIGNS ARE 48"X48" UNLESS OTHERWISE NOTED. IF NECESSARY DUE TO SPACE CONSTRAINTS IN URBAN AREAS, 36" X 36" SIGNS MAY BE USED IF APPROVED BY THE REGIONAL TRAFFIC UNIT.

"WO" SIGN IS THE SAME AS "W" SIGN EXCEPT THE BACKGROUND IS ORANGE.

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

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

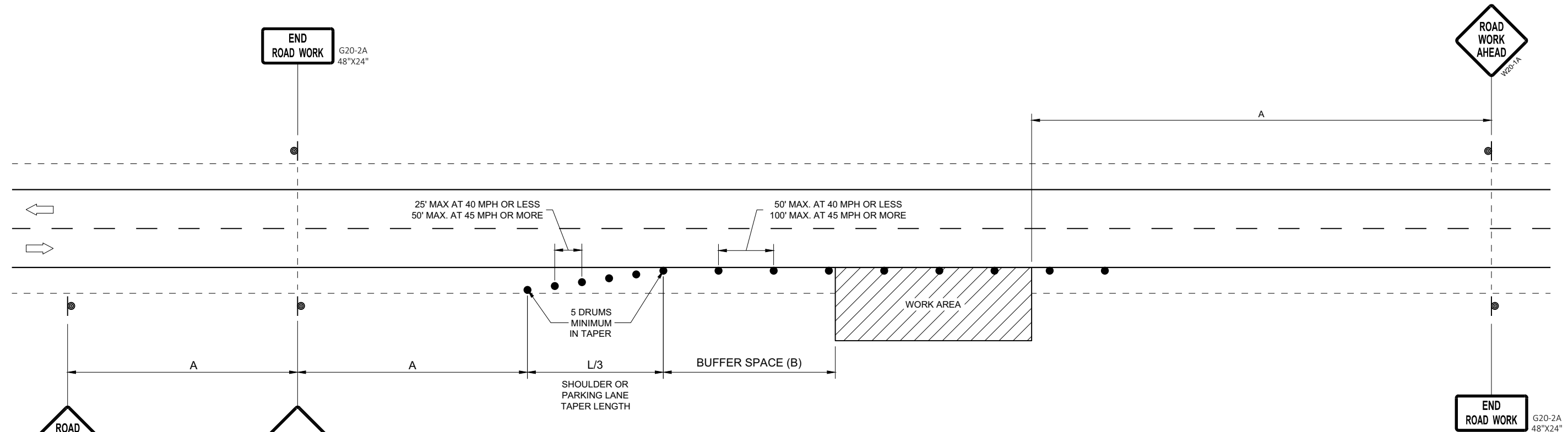
CHANNELIZING DEVICES PLACED ADJACENT TO WORK AREA SHALL BE PULLED BACK FROM THE TRAVEL LANE WHEN WORK IS NOT IN PROGRESS.

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

W20-1A AND G20-2A SIGNS ARE NOT REQUIRED IF THE WORK AREA IS WITHIN A LARGER WORK ZONE WHERE THESE SIGNS ARE ALREADY PRESENT. G20-2A SIGNS MAY ALSO BE OMITTED IF DURATION OF WORK IS LESS THAN 7 CONTINUOUS DAYS AND NIGHTS.

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OR
IF TRAFFIC CONTROL DEVICES
ENCROACH ONTO TRAVELED WAY, USE

POSTED SPEED LIMIT PRIOR TO WORK STARTING (MPH)	ADVANCE WARNING SIGN SPACING (A) FEET	SHOULDER TAPER L / 3 W, LATERAL OFFSET (FT)						BUFFER SPACE (B) FEET
		3	4	5	6	7	8	
25	200'	10	14	17	21	24	28	55
30	200'	15	20	25	30	35	40	85
35	350'	20	27	34	40	47	54	120
40	350'	26	35	44	53	62	70	170
45	500'	45	59	74	89	104	119	220
50	500'	50	66	83	99	116	132	280
55	500'	54	73	91	109	127	145	335'

**TRAFFIC CONTROL, WORK ON
SHOULDER OR PARKING LANE,
UNDIVIDED ROADWAY**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION










APPROVED
May 2020 /S/ Andrew Heidtke
DATE STATEWIDE WORK ZONE TRAFFIC
SAFETY ENGINEER

FHWA

SDD 15D28 - 04

SDD 15D28 - 04

LEGEND

-  TYPE III BARRICADE WITH ATTACHED SIGN
-  SIGN ON PERMANENT SUPPORT
-  TRAFFIC CONTROL DRUM
-  TRAFFIC CONTROL DRUM WITH TYPE "C" STEADY BURN LIGHT
-  TYPE "A" WARNING LIGHT (FLASHING)
-  DIRECTION OF TRAFFIC
-  WORK AREA
-  REMOVING PAVEMENT MARKING (SEE GENERAL NOTES)
-  CONCRETE BARRIER TEMPORARY PRECAST

GENERAL NOTES

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

THE SPACING BETWEEN SIGNS SHOULD BE ADJUSTED TO NOT CONFLICT WITH AND TO PROVIDE A MINIMUM OF 200 FEET, (500 FEET DESIRABLE) DISTANCE TO EXISTING SIGNS.

THIS LANE CLOSURE IS TYPICAL FOR LANE SHIFT RIGHT - REVERSE FOR SHIFTING LEFT.

ALL SIGNS ARE 48"x48" UNLESS OTHERWISE NOTED.

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

ANY SIGNS TEMPORARY OR EXISTING, WHICH CONFLICT WITH TRAFFIC CONTROL "IN USE" SHALL BE REMOVED OR COVERED AS NEEDED AND AS APPROVED BY THE ENGINEER. NO WARNING LIGHTS SHALL BE WORKING ON ANY "COVERED" OR "DOWNED" SIGNS.

CONSIDER GEOMETRICS WHEN LOCATING SIGNS AND ARROW BOARDS SO THE DRIVER HAS A CLEAR VIEW OF THE ARROW BOARD AND LANE CLOSURE DRUMS FOR A MINIMUM 1500 FEET IN FRONT OF DRUMS.

FOR A LANE CLOSURE THAT IS IN PLACE LESS THAN 7 CONTINUOUS DAYS AND NIGHTS, THE ADVANCED WARNING SIGNS MAY BE MOUNTED ON PORTABLE SUPPORTS.

REMOVE PAVEMENT MARKINGS AND PLACE TEMPORARY PAVEMENT MARKING LINES IF LANE CLOSURE IS TO BE IN PLACE FOR 4 OR MORE CONTINUOUS DAYS AND NIGHTS.

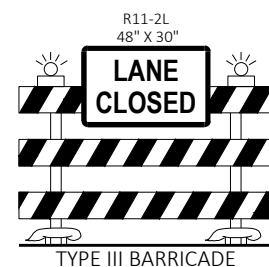
WARNING LIGHTS ARE NOT REQUIRED IF THE LANE CLOSURE IS A DAYTIME ONLY OPERATION.

IF THE HORIZONTAL ALIGNMENT IS SUCH THAT A CURVE MAY REQUIRE ADDITIONAL DELINEATION, THE DEVICE SPACING MAY BE DECREASED TO 50 FEET.

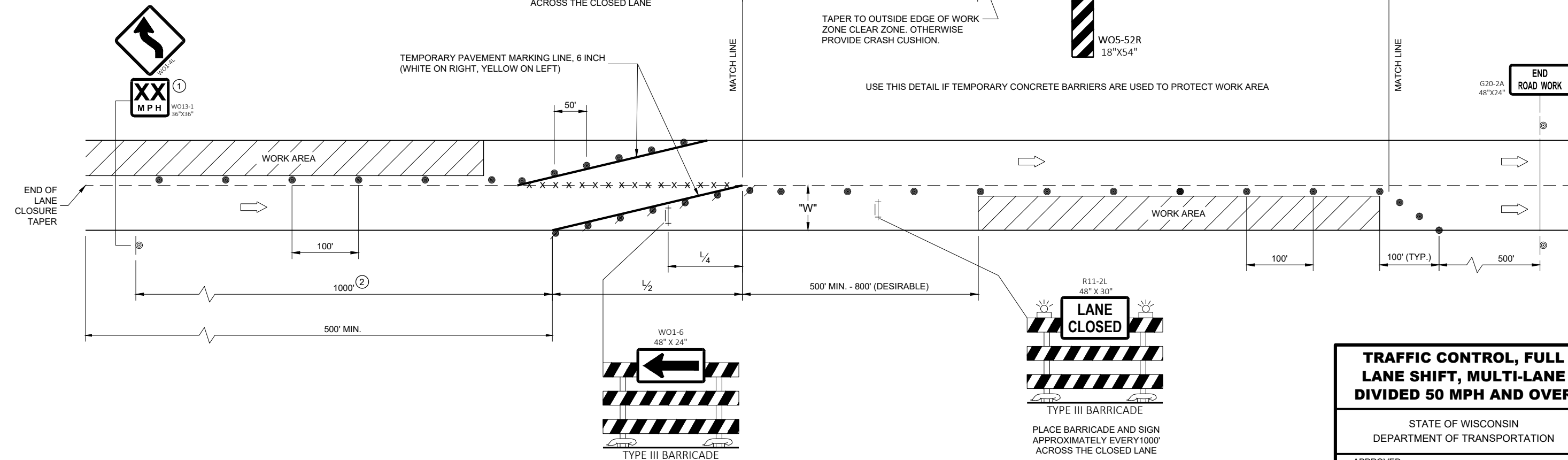
ADJUSTMENTS IN BUFFER SPACE NEED TO BE INCORPORATED WHEN THE LANE SHIFT OCCURS NEAR AN INTERCHANGE EXIT OR ENTRANCE RAMP. THE LANE SHIFT MUST TAKE PLACE FAR ENOUGH IN ADVANCE OF AN EXIT OR ENTRANCE RAMP TO STILL ALLOW FOR ADEQUATE BUFFER SPACE. THE MINIMUM LENGTH OF THE BUFFER SPACE BEFORE AN EXIT RAMP SHOULD BE 1/2 THE LENGTH OF THE TRANSITION AREA. THE ENTRANCE RAMP SHOULD BE FOLLOWED BY THE ORIGINAL BUFFER SPACE LENGTH OF 800 FEET DESIRABLE PRIOR TO ANOTHER TRAFFIC CONTROL CHANGE SUCH AS A CROSSOVER MANEUVER.

- ① USE ONLY IF DESIGN SPEED IS 10 MPH BELOW POSTED SPEED.
- ② IF BEGINNING OF LANE SHIFT IS 1200' OF LESS FROM THE END OF THE LANE CLOSURE TAPER, PLACE THE WO1-4L SIGN 200 FEET AFTER THE END OF THE LANE CLOSURE TAPER.

POSTED SPEED LIMIT PRIOR TO WORK STARTING (MPH)	SHIFTING TAPER 1/2				
	W, LATERAL OFFSET (FT)				
	10	11	12	13	14
50	250	275	300	325	350
55	275	303	330	358	385
60	300	330	360	390	420
65	325	358	390	423	455
70	350	385	420	455	490



PLACE BARRICADE AND SIGN APPROXIMATELY EVERY 1000' ACROSS THE CLOSED LANE












TRAFFIC CONTROL, FULL LANE SHIFT, MULTI-LANE DIVIDED 50 MPH AND OVER

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
DATE: May 2023 /S/ Andrew Heidtke
WORK ZONE ENGINEER

FHWA

LEGEND

-  TYPE III BARRICADE WITH ATTACHED SIGN
-  SIGN ON PERMANENT SUPPORT
-  TRAFFIC CONTROL DRUM
-  TRAFFIC CONTROL DRUM WITH TYPE "C" STEADY BURN LIGHT
-  TYPE "A" WARNING LIGHT (FLASHING)
-  DIRECTION OF TRAFFIC
-  WORK AREA
-  REMOVING PAVEMENT MARKING (SEE GENERAL NOTES)
-  CONCRETE BARRIER TEMPORARY PRECAST

GENERAL NOTES

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

THE SPACING BETWEEN SIGNS SHOULD BE ADJUSTED TO NOT CONFLICT WITH AND TO PROVIDE A MINIMUM OF 200 FEET, (500 FEET DESIRABLE) DISTANCE TO EXISTING SIGNS.

THIS LANE CLOSURE IS TYPICAL FOR LANE SHIFT LEFT - REVERSE FOR SHIFTING RIGHT.

ALL SIGNS ARE 48"x48" UNLESS OTHERWISE NOTED.

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

ANY SIGNS TEMPORARY OR EXISTING, WHICH CONFLICT WITH TRAFFIC CONTROL "IN USE" SHALL BE REMOVED OR COVERED AS NEEDED AND AS APPROVED BY THE ENGINEER. NO WARNING LIGHTS SHALL BE WORKING ON ANY "COVERED" OR "DOWNED" SIGNS.

CONSIDER GEOMETRICS WHEN LOCATING SIGNS AND ARROW BOARDS SO THE DRIVER HAS A CLEAR VIEW OF THE ARROW BOARD AND LANE CLOSURE DRUMS FOR A MINIMUM 1500 FEET IN FRONT OF DRUMS.

FOR A LANE CLOSURE THAT IS IN PLACE LESS THAN 7 CONTINUOUS DAYS AND NIGHTS, THE ADVANCED WARNING SIGNS MAY BE MOUNTED ON PORTABLE SUPPORTS.

REMOVE PAVEMENT MARKINGS AND PLACE TEMPORARY PAVEMENT MARKING LINES IF LANE CLOSURE IS TO BE IN PLACE FOR 4 OR MORE CONTINUOUS DAYS AND NIGHTS.

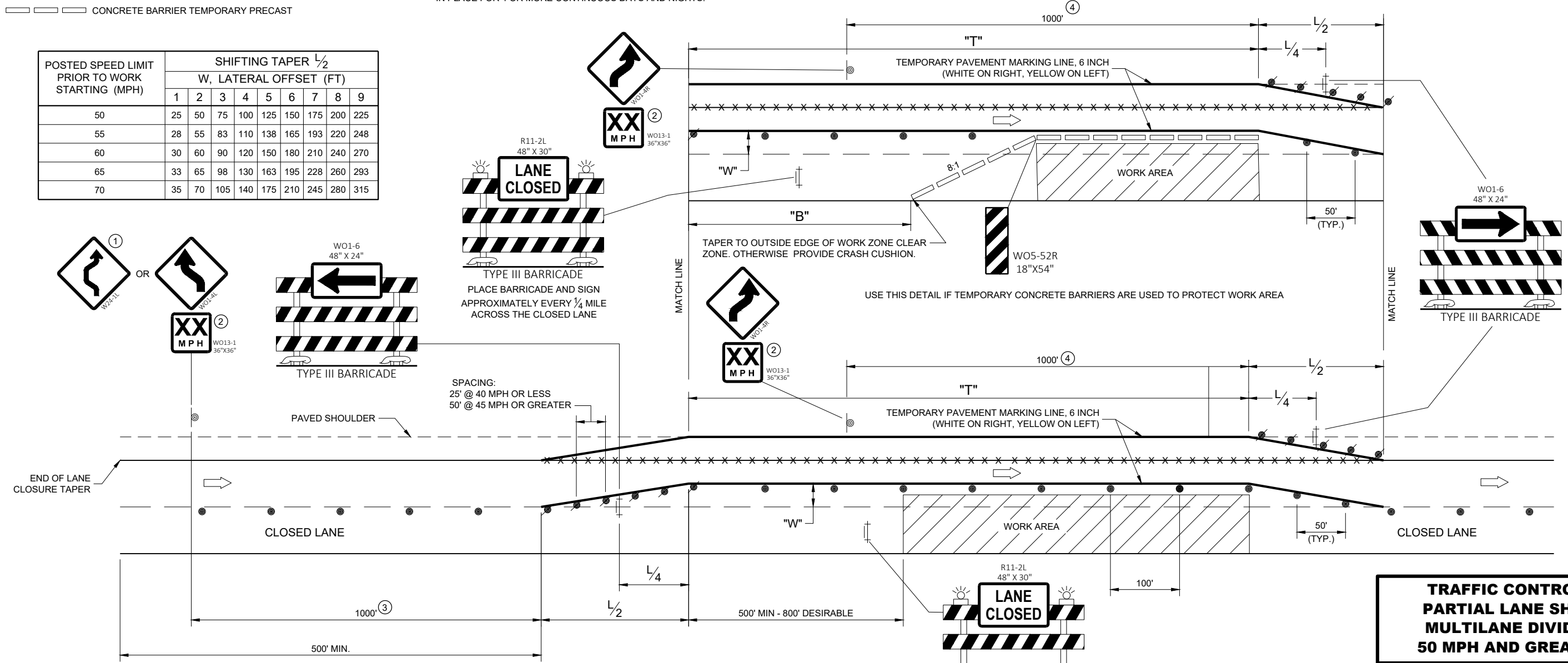
WARNING LIGHTS ARE NOT REQUIRED IF THE LANE CLOSURE IS A DAYTIME ONLY OPERATION.

IF THE HORIZONTAL ALIGNMENT IS SUCH THAT A CURVE MAY REQUIRE ADDITIONAL DELINEATION, THE DEVICE SPACING MAY BE DECREASED TO 50 FEET.

ADJUSTMENTS IN BUFFER SPACE NEED TO BE INCORPORATED WHEN THE LANE SHIFT OCCURS NEAR AN INTERCHANGE EXIT OR ENTRANCE RAMP. THE LANE SHIFT MUST TAKE PLACE FAR ENOUGH IN ADVANCE OF AN EXIT OR ENTRANCE RAMP TO STILL ALLOW FOR ADEQUATE BUFFER SPACE. THE MINIMUM LENGTH OF THE BUFFER SPACE BEFORE AN EXIT RAMP SHOULD BE 1/2 THE LENGTH OF THE TRANSITION AREA. THE ENTRANCE RAMP SHOULD BE FOLLOWED BY THE ORIGINAL BUFFER SPACE LENGTH OF 800 FEET DESIRABLE PRIOR TO ANOTHER TRAFFIC CONTROL CHANGE SUCH AS A CROSSOVER MANEUVER.

- ① USE ONLY WHEN T<600', OMIT WO1-4R.
- ② IF NEEDED, USE ONLY IF DESIGN SPEED IS 10 MPH BELOW POSTED SPEED.
- ③ IF THE BEGINNING OF LANE SHIFT TAPER IS 1200 FEET OR LESS FROM END OF LANE CLOSURE TAPER, PLACE THE WO1-4L SIGN 200 FEET AFTER THE END OF THE LANE CLOSURE TAPER.
- ④ IF THE BEGINNING OF THE SECOND LANE SHIFT TAPER IS 1200 FEET OR LESS FROM END OF THE FIRST LANE CLOSURE TAPER, PLACE THE WO1-4L SIGN 200 FEET AFTER THE END OF THE FIRST LANE CLOSURE TAPER.

POSTED SPEED LIMIT PRIOR TO WORK STARTING (MPH)	SHIFTING TAPER 1/2 W, LATERAL OFFSET (FT)								
	1	2	3	4	5	6	7	8	9
50	25	50	75	100	125	150	175	200	225
55	28	55	83	110	138	165	193	220	248
60	30	60	90	120	150	180	210	240	270
65	33	65	98	130	163	195	228	260	293
70	35	70	105	140	175	210	245	280	315



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SDD 15D40-05d

SDD 15D40-05d





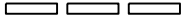


**TRAFFIC CONTROL,
PARTIAL LANE SHIFT
MULTILANE DIVIDED
50 MPH AND GREATER**

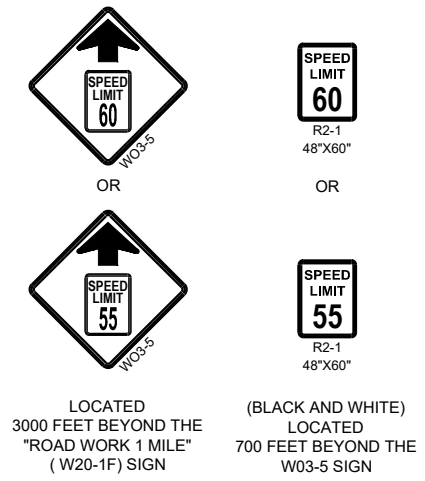
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED _____
DATE May 2023 /S/ Andrew Heidtke
WORK ZONE ENGINEER

FHWA

LEGEND

-  TYPE III BARRICADE WITH ATTACHED SIGN
-  SIGN ON PERMANENT SUPPORT
-  TRAFFIC CONTROL DRUM
-  DIRECTION OF TRAFFIC
-  CONCRETE BARRIER TEMPORARY PRECAST
-  TYPE "A" WARNING LIGHT (FLASHING)
-  WORK AREA



IF THE REGULATORY SPEED HAS BEEN REDUCED, A SPEED LIMIT SIGN SHALL BE LOCATED 1500 FEET BEYOND THE END OF THE ACCELERATION LANE OF EACH ENTRANCE RAMP. PLACE A SPEED LIMIT SIGN INCORPORATED A MINIMUM OF EVERY 3 MILES.

GENERAL NOTES

- THE EXACT NUMBER, LOCATION, AND SPACING OF ALL SIGNS AND DEVICES SHALL BE ADJUSTED TO FIT FIELD CONDITIONS AS APPROVED BY THE ENGINEER.
- THE SPACING BETWEEN SIGNS SHOULD BE ADJUSTED TO NOT CONFLICT WITH AND TO PROVIDE A MINIMUM OF 200 FEET, (500 FEET DESIRABLE) DISTANCE TO EXISTING SIGNS.
- THIS LANE CLOSURE IS TYPICAL FOR LANE SHIFT RIGHT - REVERSE FOR SHIFTING LEFT.
- ALL SIGNS ARE 48"x48" UNLESS OTHERWISE NOTED.
- "WO" IS THE SAME AS "W" EXCEPT THE BACKGROUND IS ORANGE.
- ANY SIGNS TEMPORARY OR EXISTING, WHICH CONFLICT WITH TRAFFIC CONTROL "IN USE" SHALL BE REMOVED OR COVERED AS NEEDED AND AS APPROVED BY THE ENGINEER.
- FOR A LANE CLOSURE THAT IS IN PLACE LESS THAN 7 CONTINUOUS DAYS AND NIGHTS, THE ADVANCED WARNING SIGNS MAY BE MOUNTED ON PORTABLE SUPPORTS.
- REMOVE PAVEMENT MARKINGS AND PLACE TEMPORARY PAVEMENT MARKING LINES IF LANE CLOSURE IS TO BE IN PLACE FOR 4 OR MORE CONTINUOUS DAYS AND NIGHTS.
- IF THE HORIZONTAL ALIGNMENT IS SUCH THAT A CURVE MAY REQUIRE ADDITIONAL DELINEATION, THE DEVICE SPACING MAY BE DECREASED TO 50 FEET.

ADJUSTMENTS IN BUFFER SPACE NEED TO BE INCORPORATED WHEN THE LANE SHIFT OCCURS NEAR AN INTERCHANGE EXIT OR ENTRANCE RAMP. THE LANE SHIFT MUST TAKE PLACE FAR ENOUGH IN ADVANCE OF AN EXIT OR ENTRANCE RAMP TO STILL ALLOW FOR ADEQUATE BUFFER SPACE. THE MINIMUM LENGTH OF THE BUFFER SPACE BEFORE AN EXIT RAMP SHOULD BE 1/2 THE LENGTH OF THE TRANSITION AREA. THE ENTRANCE RAMP SHOULD BE FOLLOWED BY THE ORIGINAL BUFFER SPACE LENGTH OF 800 FEET DESIRABLE PRIOR TO ANOTHER TRAFFIC CONTROL CHANGE SUCH AS A CROSSOVER MANEUVER.

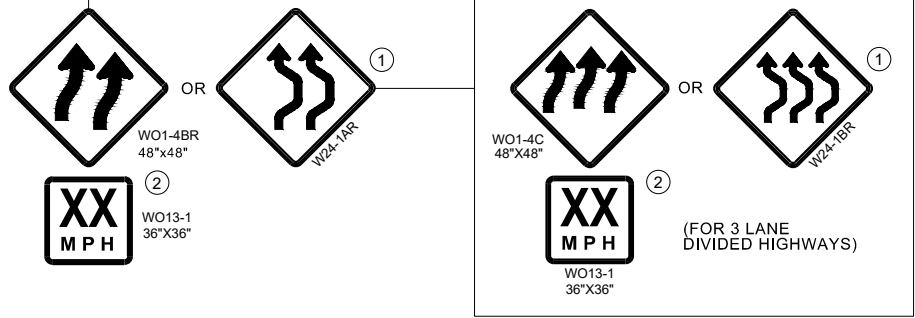
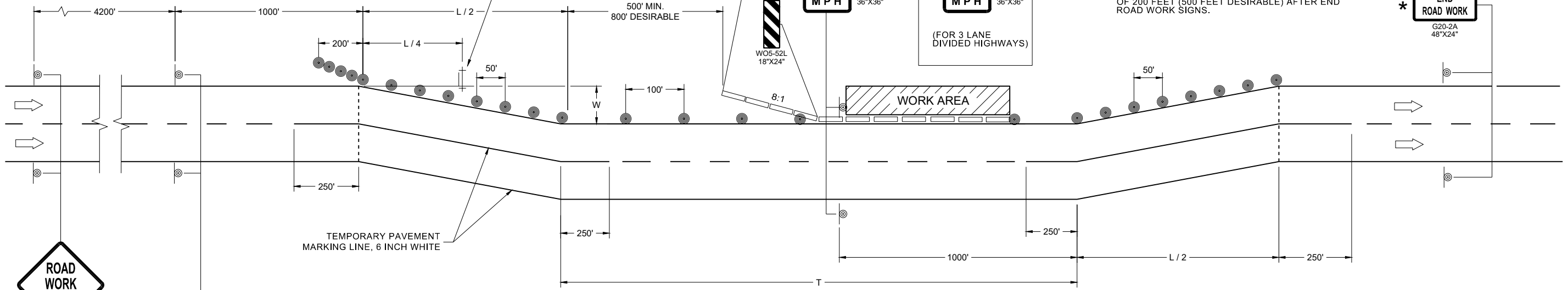
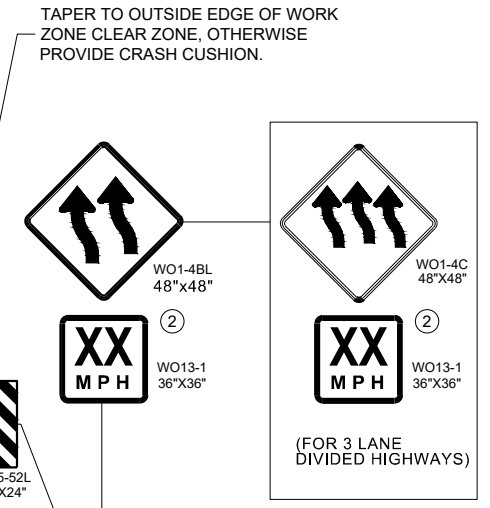
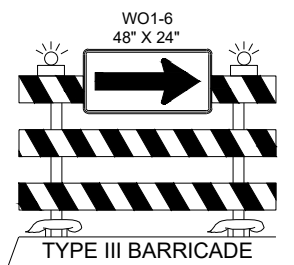
- ① USE ONLY WHEN T < 600', OMIT WO1-4C.
- ② IF NEEDED, USE ONLY IF DESIGN SPEED IS 10 MPH BELOW POSTED SPEED.

* INCLUDE RESUME SPEED LIMIT SIGN A MINIMUM OF 200 FEET (500 FEET DESIRABLE) AFTER END ROAD WORK SIGNS.

FULL SHIFT

SHIFTING TAPER L/2

POSTED SPEED (MPH)	W, LATERAL OFFSET (FT)							
	10	11	12	13	14	15	16	
45	225	248	270	293	315	338	360	
50	250	275	300	325	350	375	400	
55	275	303	330	358	385	413	440	
60	300	330	360	390	420	450	480	
65	325	358	390	423	455	488	520	
70	350	385	420	455	490	525	560	



PARTIAL SHIFT

SHIFTING TAPER L/2

POSTED SPEED PRIOR TO WORK STARTING (MPH)	W, LATERAL OFFSET (FT)								
	1	2	3	4	5	6	7	8	9
45	23	45	68	90	113	135	158	180	203
50	25	50	75	100	125	150	175	200	225
55	28	55	83	110	138	165	193	220	248
60	30	60	90	120	150	180	210	240	270
65	33	65	98	130	163	195	228	260	293
70	35	70	105	140	175	210	245	280	315





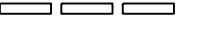

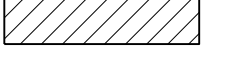

TRAFFIC CONTROL MULTIPLE LANE SHIFT MULTILANE DIVIDED ROAD

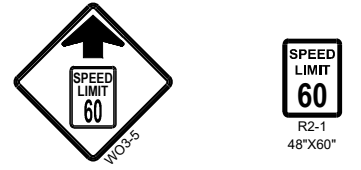
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION

APPROVED November 2024 /S/ Andrew Heidtke DATE ROADWAY STANDARDS DEVELOPMENT ENGINEER

FHWA

LEGEND

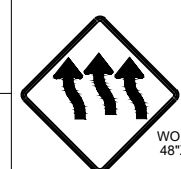
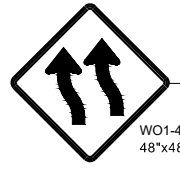
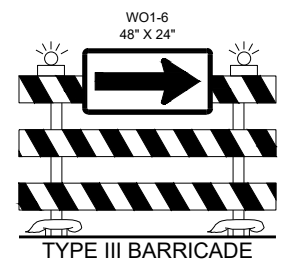
-  TYPE III BARRICADE WITH ATTACHED SIGN
-  SIGN ON PERMANENT SUPPORT
-  TRAFFIC CONTROL DRUM
-  DIRECTION OF TRAFFIC
-  CONCRETE BARRIER TEMPORARY PRECAST
-  TYPE "A" WARNING LIGHT (FLASHING)
-  WORK AREA
-  TEMPORARY TAPE RUMBLE STRIPS (VARIABLE SPACING)



IF THE REGULATORY SPEED HAS BEEN REDUCED, A SPEED LIMIT SIGN SHALL BE LOCATED 1500 FEET BEYOND THE END OF THE ACCELERATION LANE OF EACH ENTRANCE RAMP. PLACE A SPEED LIMIT SIGN INCORPORATED A MINIMUM OF EVERY 3 MILES.

LOCATED 3000 FEET BEYOND THE "ROAD WORK 1 MILE" (W20-1F) SIGN
(BLACK AND WHITE) LOCATED 700 FEET BEYOND THE W03-5 SIGN

TAPER TO OUTSIDE EDGE OF WORK ZONE CLEAR ZONE, OTHERWISE PROVIDE CRASH CUSHION.



(FOR 3 LANE DIVIDED HIGHWAYS)

GENERAL NOTES

THE EXACT NUMBER, LOCATION, AND SPACING OF ALL SIGNS AND DEVICES SHALL BE ADJUSTED TO FIT FIELD CONDITIONS AS APPROVED BY THE ENGINEER.
THE SPACING BETWEEN SIGNS SHOULD BE ADJUSTED TO NOT CONFLICT WITH AND TO PROVIDE A MINIMUM OF 200 FEET, (500 FEET DESIRABLE) DISTANCE TO EXISTING SIGNS.

THIS LANE CLOSURE IS TYPICAL FOR LANE SHIFT RIGHT - REVERSE FOR SHIFTING LEFT. ALL SIGNS ARE 48"x48" UNLESS OTHERWISE NOTED.

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

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

FOR A LANE CLOSURE THAT IS IN PLACE LESS THAN 7 CONTINUOUS DAYS AND NIGHTS, THE ADVANCED WARNING SIGNS MAY BE MOUNTED ON PORTABLE SUPPORTS.

REMOVE PAVEMENT MARKINGS AND PLACE TEMPORARY PAVEMENT MARKING LINES IF LANE CLOSURE IS TO BE IN PLACE FOR 4 OR MORE CONTINUOUS DAYS AND NIGHTS.

IF THE HORIZONTAL ALIGNMENT IS SUCH THAT A CURVE MAY REQUIRE ADDITIONAL DELINEATION, THE DEVICE SPACING MAY BE DECREASED TO 50 FEET.

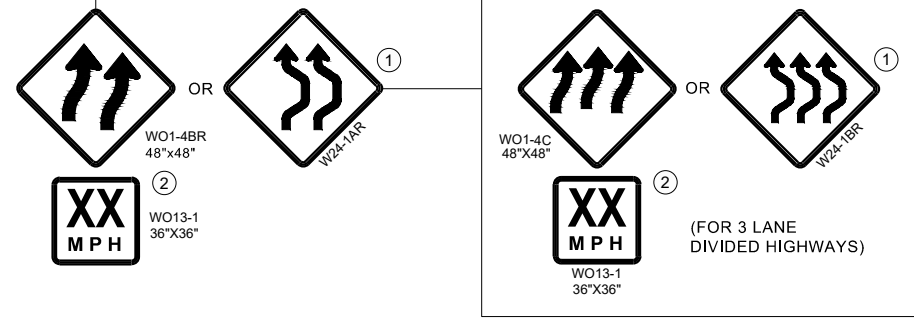
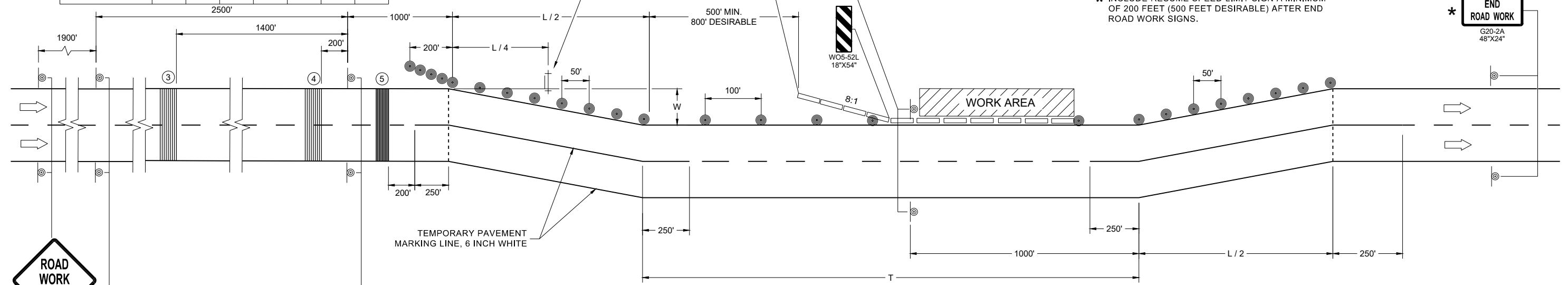
ADJUSTMENTS IN BUFFER SPACE NEED TO BE INCORPORATED WHEN THE LANE SHIFT OCCURS NEAR AN INTERCHANGE EXIT OR ENTRANCE RAMP. THE LANE SHIFT MUST TAKE PLACE FAR ENOUGH IN ADVANCE OF AN EXIT OR ENTRANCE RAMP TO STILL ALLOW FOR ADEQUATE BUFFER SPACE. THE MINIMUM LENGTH OF THE BUFFER SPACE BEFORE AN EXIT RAMP SHOULD BE 1/2 THE LENGTH OF THE TRANSITION AREA. THE ENTRANCE RAMP SHOULD BE FOLLOWED BY THE ORIGINAL BUFFER SPACE LENGTH OF 800 FEET DESIRABLE PRIOR TO ANOTHER TRAFFIC CONTROL CHANGE SUCH AS A CROSSOVER MANEUVER.

- ① USE ONLY WHEN T < 600', OMIT W01-4C.
- ② IF NEEDED, USE ONLY IF DESIGN SPEED IS 10 MPH BELOW POSTED SPEED.
- ③ NINE RUMBLE STRIPS WITH 10 FOOT SPACING BETWEEN EACH INDIVIDUAL STRIP
- ④ NINE RUMBLE STRIPS WITH 5 FOOT SPACING BETWEEN EACH INDIVIDUAL STRIP
- ⑤ NINE RUMBLE STRIPS WITH 1.5 FOOT SPACING BETWEEN EACH INDIVIDUAL STRIP

* INCLUDE RESUME SPEED LIMIT SIGN A MINIMUM OF 200 FEET (500 FEET DESIRABLE) AFTER END ROAD WORK SIGNS.



FULL SHIFT							
SHIFTING TAPER L/2							
POSTED SPEED (MPH)	W, LATERAL OFFSET (FT)						
	10	11	12	13	14	15	16
45	225	248	270	293	315	338	360
50	250	275	300	325	350	375	400
55	275	303	330	358	385	413	440
60	300	330	360	390	420	450	480
65	325	358	390	423	455	488	520
70	350	385	420	455	490	525	560















PARTIAL SHIFT									
POSTED SPEED PRIOR TO WORK STARTING (MPH)	SHIFTING TAPER L/2								
	W, LATERAL OFFSET (FT)								
	1	2	3	4	5	6	7	8	9
45	23	45	68	90	113	135	158	180	203
50	25	50	75	100	125	150	175	200	225
55	28	55	83	110	138	165	193	220	248
60	30	60	90	120	150	180	210	240	270
65	33	65	98	130	163	195	228	260	293
70	35	70	105	140	175	210	245	280	315

TRAFFIC CONTROL MULTIPLE LANE SHIFT DIVIDED ROAD TEMPORARY TAPE RUMBLE STRIPS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
November 2024 /S/ Andrew Heidtke
DATE ROADWAY STANDARDS DEVELOPMENT ENGINEER

LEGEND

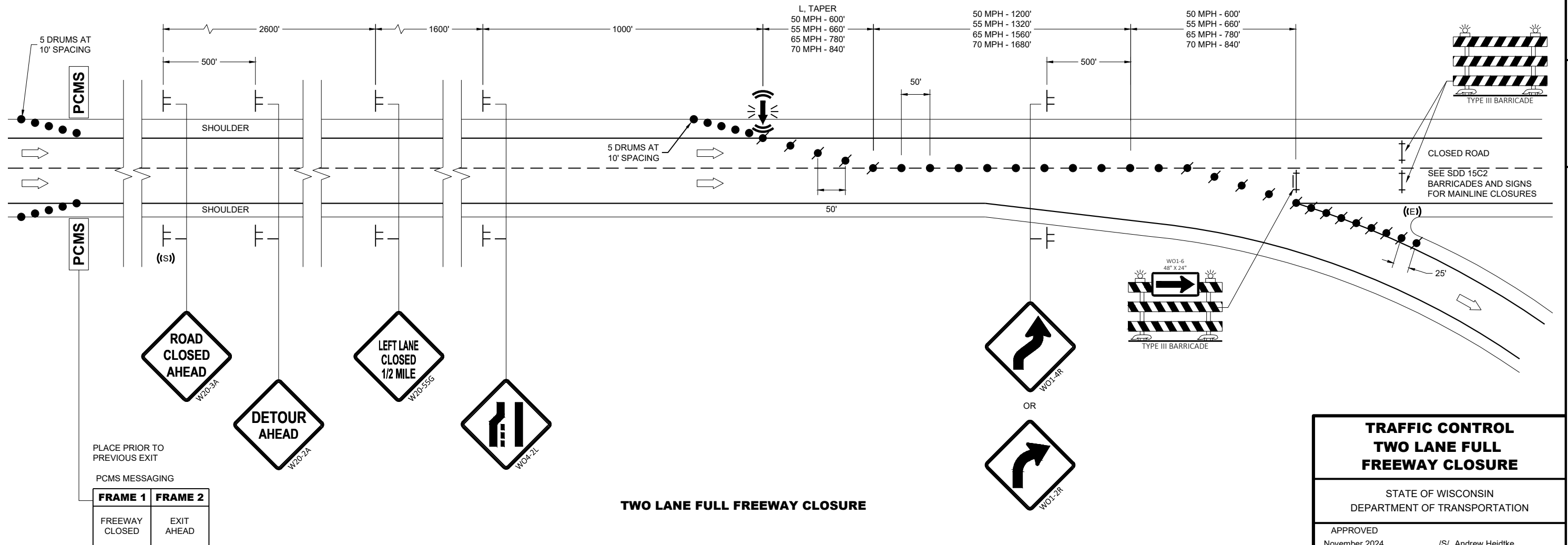
-  SIGN ON TEMPORARY SUPPORT
-  TRAFFIC CONTROL DRUM
-  TRAFFIC CONTROL DRUM WITH TYPE "C" STEADY BURN LIGHT
-  TYPE III BARRICADE
-  TYPE III BARRICADE WITH ATTACHED SIGN
-  TYPE "A" WARNING LIGHT (FLASHING)
-  REMOVING PAVEMENT MARKINGS
-  DIRECTION OF TRAFFIC
-  WORK AREA
-  CONNECTED ARROW BOARD
-  WZ START LOCATION MARKER
-  WZ END LOCATION MARKER

GENERAL NOTES

- RIGHT CLOSURE SHOWN (LEFT LANE CLOSURE SIMILAR)
- THE EXACT NUMBER, LOCATION, AND SPACING OF ALL SIGNS AND DEVICES SHALL BE ADJUSTED TO FIT FIELD CONDITIONS AS APPROVED BY THE ENGINEER.
- WARNING LIGHTS ARE NOT REQUIRED IF THE LANE CLOSURE IS PART OF A DAYTIME ONLY OPERATION.
- ALL SIGNS ARE 48" x 48" UNLESS OTHERWISE NOTED.
- "WO" SIGN IS THE SAME AS "W" SIGN EXCEPT THE BACKGROUND IS ORANGE.
- WHEN A RAMP INTERSECTS THE FACILITY ON WHICH THE WORK IS BEING PERFORMED, ADDITIONAL TRAFFIC CONTROL SHALL BE PROVIDED AS SPECIFIED IN THE PLANS AND / OR THE SPECIAL PROVISIONS OR AS DIRECTED BY THE ENGINEER.
- PLACE A TYPE III BARRICADE APPROXIMATELY EVERY 1000' ACROSS EACH CLOSED LANE TO HELP REINFORCE THE DRUM LINE.
- CONSIDER ROADWAY GEOMETRICS WHEN LOCATING SIGNS AND ARROW BOARD SO THE DRIVER HAS A CLEAR VIEW OF THE ARROW BOARD AND LANE CLOSURE DRUMS.
- REFER TO DETOUR ROUTES FOR TRAFFIC GUIDANCE SIGNING.
- ANY SIGNS TEMPORARY OR EXISTING, WHICH CONFLICT WITH TRAFFIC CONTROL "IN USE" SHALL BE REMOVED OR COVERED AS NEEDED OR AS APPROVED BY THE ENGINEER. NO WARNING LIGHTS SHALL BE WORKING ON "COVERED" OR "DOWNED" SIGNS.

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











TWO LANE FULL FREEWAY CLOSURE

TRAFFIC CONTROL TWO LANE FULL FREEWAY CLOSURE	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED November 2024 DATE	/s/ Andrew Heidtke WORK ZONE ENGINEER

SDD 15D42-03

SDD 15D42-03

LEGEND

-  SIGN ON TEMPORARY SUPPORT
-  TRAFFIC CONTROL DRUM
-  TRAFFIC CONTROL DRUM WITH TYPE "C" STEADY BURN LIGHT
-  TYPE III BARRICADE
-  TYPE III BARRICADE WITH ATTACHED SIGN
-  TYPE "A" WARNING LIGHT (FLASHING)
-  REMOVING PAVEMENT MARKINGS
-  DIRECTION OF TRAFFIC
-  WORK AREA
-  CONNECTED ARROW BOARD
-  WZ START LOCATION MARKER
-  WZ END LOCATION MARKER

GENERAL NOTES

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

THE SPACING BETWEEN SIGNS SHOULD BE ADJUSTED TO NOT CONFLICT WITH AND TO PROVIDE A MINIMUM OF 200 FEET (500 FEET DESIRABLE) CLEARANCE TO EXISTING SIGNS.

THIS LANE CLOSURE IS TYPICAL FOR CLOSING RIGHT LANE - REVERSE FOR CLOSING LEFT LANE.

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

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

ANY SIGNS TEMPORARY OR EXISTING, WHICH CONFLICT WITH TRAFFIC CONTROL "IN USE" SHALL BE REMOVED OR COVERED AS NEEDED OR AS APPROVED BY THE ENGINEER. NO WARNING LIGHTS SHALL BE WORKING ON "COVERED" OR "DOWNED" SIGNS.

FOR A LANE CLOSURE THAT IS IN PLACE LESS THAN 7 CONTINUOUS DAYS AND NIGHTS, THE ADVANCED WARNING SIGNS MAY BE MOUNTED ON PORTABLE SUPPORTS.

REMOVE PAVEMENT MARKINGS IF LANE CLOSURE IS TO BE IN PLACE 4 OR MORE CONTINUOUS DAYS AND NIGHTS.

WARNING LIGHTS ARE NOT REQUIRED IF THE LANE CLOSURE IS A DAYTIME ONLY OPERATION.

CONSIDER ROADWAY GEOMETRICS WHEN LOCATING SIGNS AND ARROW BOARD SO THE DRIVER HAS A CLEAR VIEW OF THE ARROW BOARD AND LANE CLOSURE DRUMS.

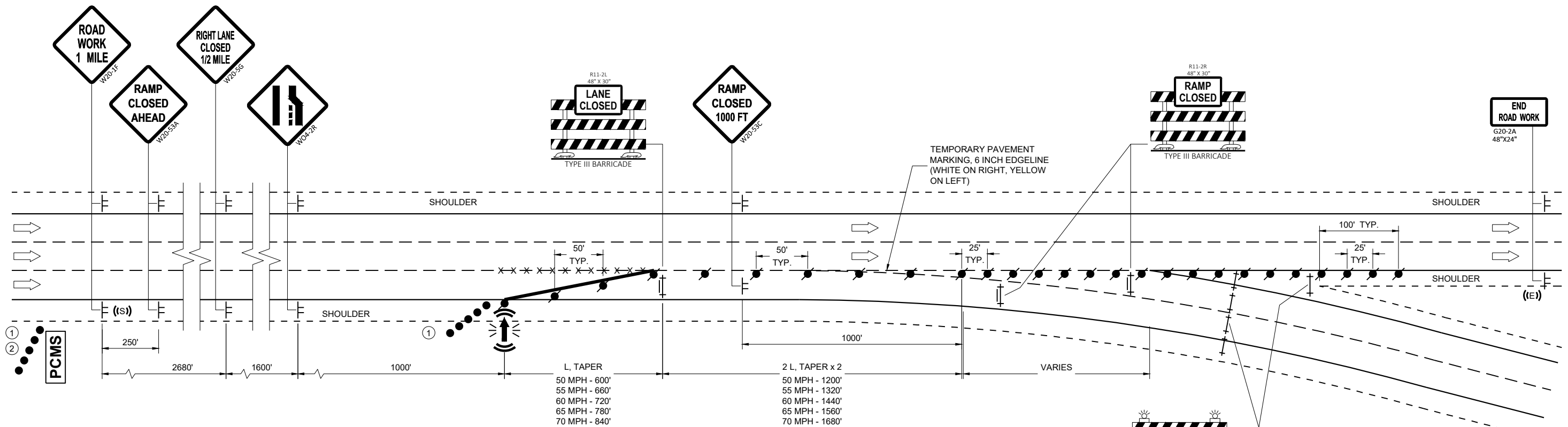
WHEN A RAMP INTERSECTS THE FACILITY ON WHICH WORK IS BEING PERFORMED, ADDITIONAL TRAFFIC CONTROLS SHALL BE PROVIDED AS SPECIFIED IN THE PLANS AND/OR THE SPECIAL PROVISIONS OR AS DIRECTED BY THE ENGINEER.

REMOVE ALL ARROW BOARDS AND DEVICES BEYOND THE SHOULDER WHEN THE WORK IS NOT IN PROGRESS.

REFER TO SDD 15C2 FOR SETTING DETOUR SIGNAGE.

ADD FREEWAY SHIELD AND DIRECTION IF APPLICABLE. COVER EXISTING RAMP AND LANE SIGNS IF APPLICABLE.

- ① 5 DRUMS SPACED AT 10 FOOT INTERVALS.
- ② DURING THE PRE-WARNING PERIOD, PLACE THE PCMS AT THE SYSTEM RAMP THAT IS TO BE CLOSED. DURING CLOSURE PERIOD, PLACE PCMS OR FMS AT LAST AVAILABLE EXIT IN ADVANCE OF SYSTEM RAMP CLOSURE. IF DYNAMIC MESSAGE SIGNS (DMS) ARE AVAILABLE, COORDINATE POTENTIAL SIGN MESSAGES WITH THE TRAFFIC MANAGEMENT CENTER (TMC).



RAMP CLOSED BEGINNING XXX-XX
G20-58

PCMS MESSAGING			
ONE WEEK IN ADVANCE OF CLOSURE:		DURING CLOSURE:	
FRAME 1	FRAME 2	FRAME 1	FRAME 2
RAMP TO CLOSE	XXXDAY XX XX XX	HWY XX RAMP CLOSED	USE ALT ROUTE

SEE SDD 15C2 (SHEET "b"), DETAIL "D" "BARRICADES AND SIGNS FOR MAINLINE CLOSURES" PLACE BARRICADES TO FULLY SEAL OFF ROAD

TRAFFIC CONTROL,
SYSTEM RAMP CLOSURE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
November 2024 /S/ Andrew Heidtke
DATE WORK ZONE ENGINEER

FHWA





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SDD 15D49-04

SDD 15D49-04

LEGEND

- V1 WORK VEHICLE
- V2 SHADOW VEHICLE
-  TRUCK MOUNTED ATTENUATOR (TMA)
-  FLASHING ARROW PANEL (CAUTION)
-  WORK AREA
-  DIRECTION OF TRAFFIC

POSTED SPEED PRIOR TO WORK STARTING (MPH)	DECISION SIGHT DISTANCE (D)
0 - 25	550'
30	550'
35	700'
40	700'
45	900'
50	900'
55	1200'

GENERAL NOTES

ALL SIGNS ARE 48"X48" UNLESS OTHERWISE NOTED.

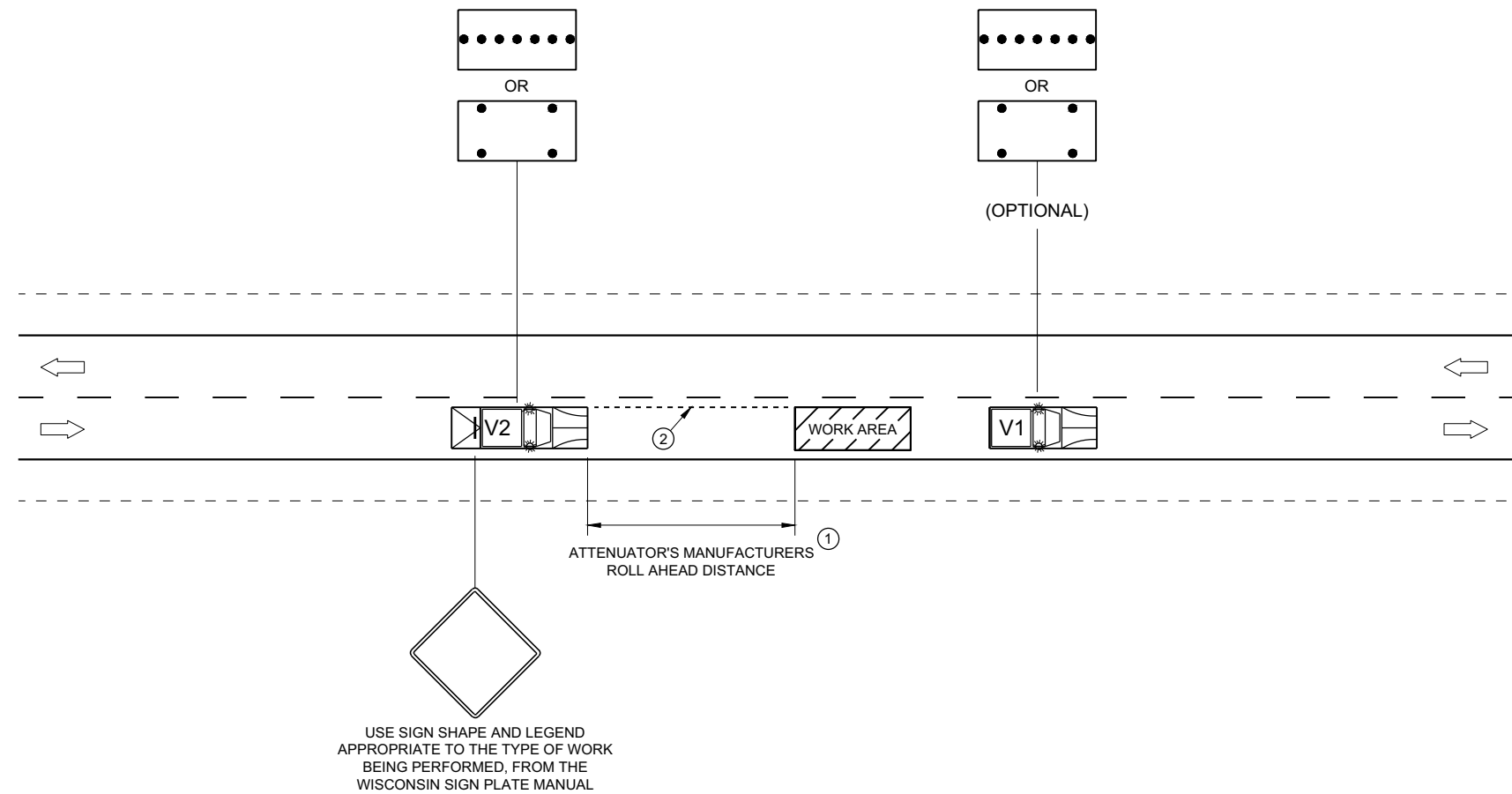
MOBILE IS WORK THAT MOVES CONTINUOUSLY OR MOVES AT LEAST THE DECISION SIGHT DISTANCE EVERY 15 MINUTES.

ALL VEHICLES SHALL BE EQUIPPED WITH TWO 360 DEGREE HIGH INTENSITY YELLOW FLASHING LIGHTS OR STROBE LIGHTS AND OPERATED WITH HEADLIGHTS TURNED ON.

ALL ARROW PANELS SHALL BE REAR FACING, TYPE "B" OR "C", AND DISPLAYING THE FLASHING CAUTION MODE. SIGNS PLACED ON VEHICLES MUST NOT OBSCURE THE ARROW PANEL.

USE AN ATTENUATOR ON THE REARMOST VEHICLE THAT BLOCKS ALL OR PART OF THE TRAFFIC LANE.

- ① DISTANCE BETWEEN VEHICLES MAY INCREASE FROM THE ATTENUATOR'S ROLL AHEAD BASED ON TERRAIN, SIGHT DISTANCE, AND OTHER FACTORS. WHENEVER ADEQUATE STOPPING SIGHT DISTANCE EXISTS TO THE REAR, SHADOW VEHICLES SHOULD MAINTAIN THE MINIMUM DISTANCE FROM THE WORK VEHICLE AND PROCEED AT THE SAME SPEED AS THE WORK VEHICLE. SHADOW VEHICLES SHOULD SLOW DOWN IN ADVANCE OF VERTICAL OR HORIZONTAL CURVES THAT RESTRICT SIGHT DISTANCE.
- ② ALIGN LEFT SIDE OF SHADOW VEHICLE WITH EDGE OF WORK AREA.



6

6

SDD 15D51 - 01

SDD 15D51 - 01

**TRAFFIC CONTROL,
MOBILE OPERATIONS ON
AN UNDIVIDED ROADWAY**

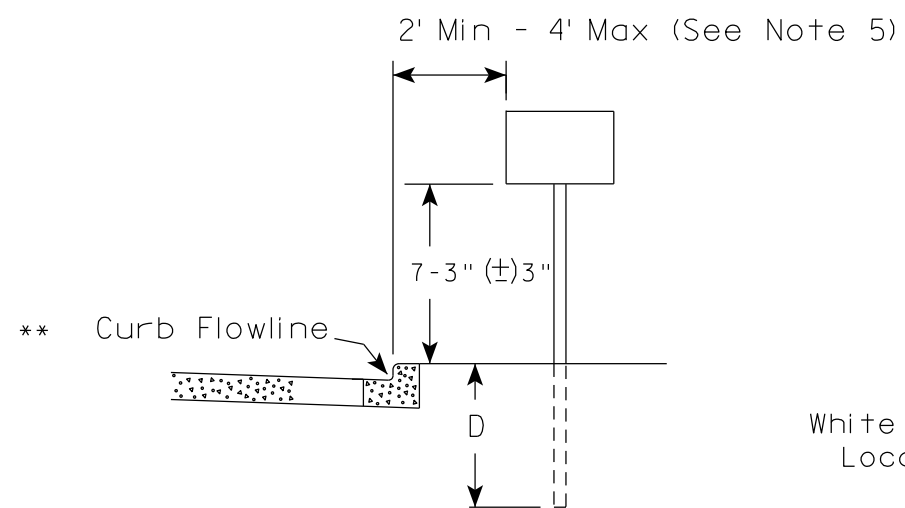
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
February 2021 DATE /S/ Andrew Heidtke
STATEWIDE WORK ZONE TRAFFIC SAFETY ENGINEER

FHWA

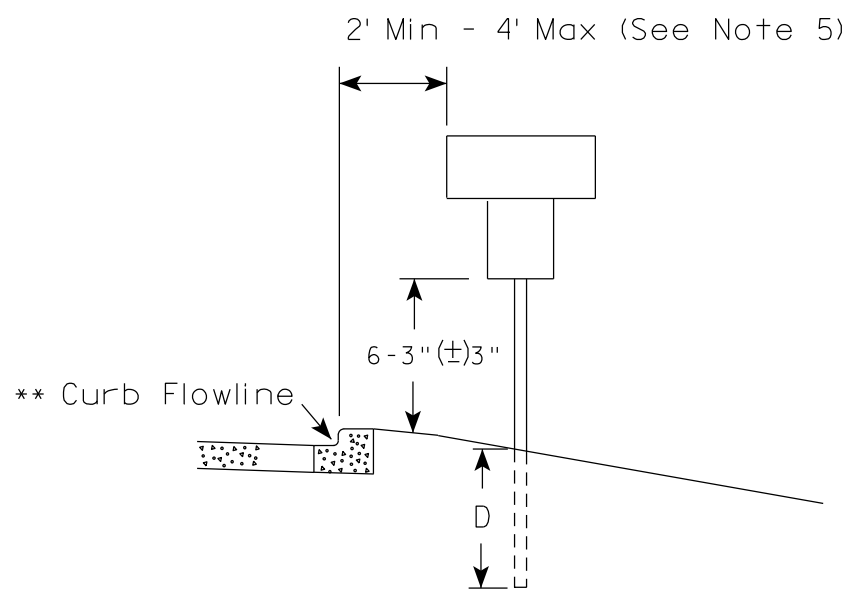
URBAN AREA

RURAL AREA (See Note 2)



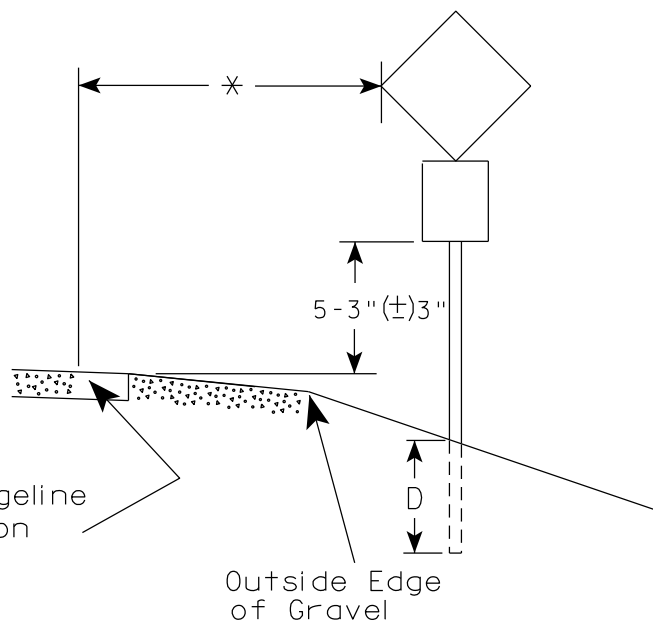
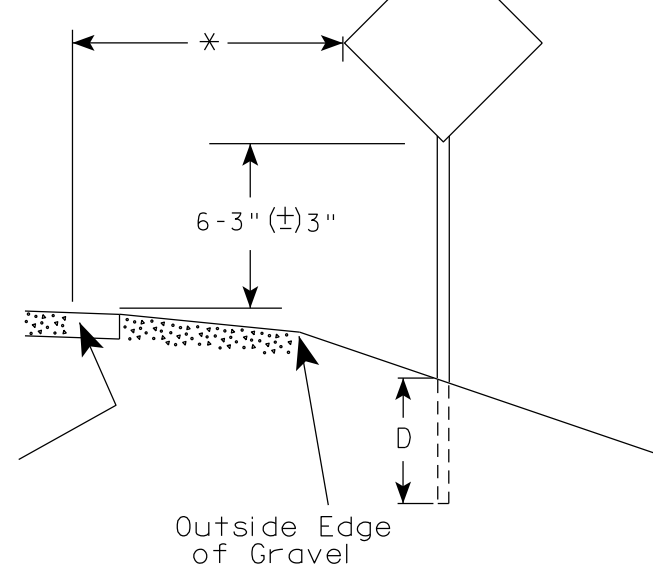
White Edgeline Location

Outside Edge of Gravel



White Edgeline Location

Outside Edge of Gravel



POST EMBEDMENT DEPTH

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

GENERAL NOTES

1. Signs wider than 4 feet or 20 sq.ft or larger, shall be mounted on multiple posts. Refer to plate A4-4.
2. If signs are mounted on or behind barrier wall, see A4-10 sign plate.
The Double Arrow sign (W12-1D) shall be mounted at a height of 2'-3" (±) 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" (±) 3".
3. For expressways and freeways, mounting height is 7'- 3" (±) 3" or 6'-3" (±) 3" depending upon existence of a sub-sign.
4. Minimum mounting height for signs mounted on traffic signal poles is 5'- 3" (±) 3".
5. Offset distance shall be consistent with existing signs or consistent throughout length of project.
6. Folding signs shall be mounted at a height of 5'-3" (±) 3" or as directed by the 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.

* 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 Raub
for State Traffic Engineer

DATE 12/6/23

PLATE NO. A4-3.23

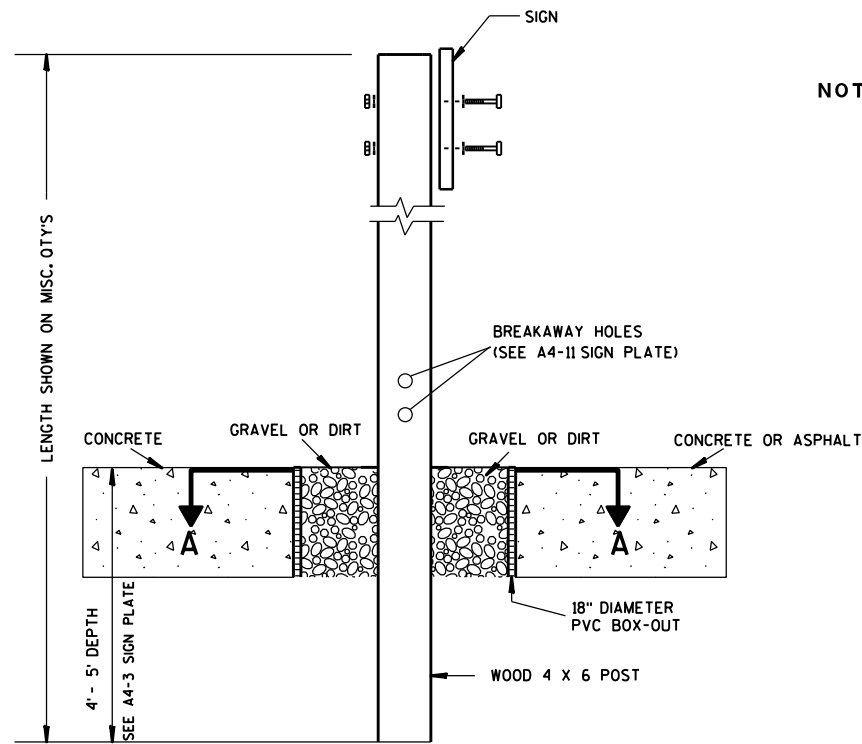
PROJECT NO:

HWY:

COUNTY:

SHEET NO:

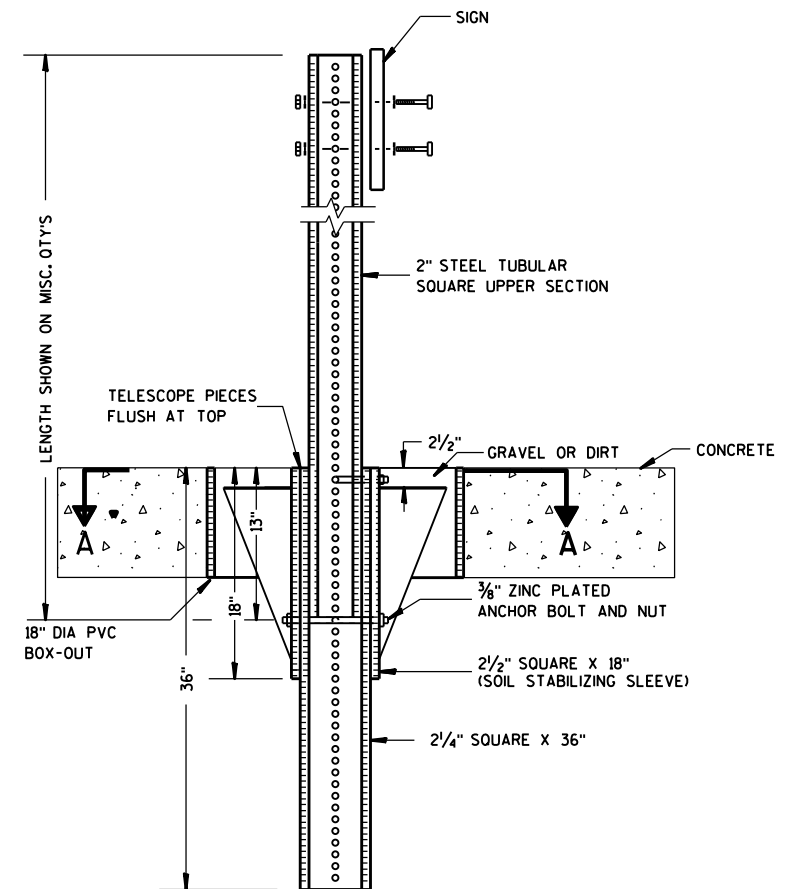
E



ELEVATION VIEW

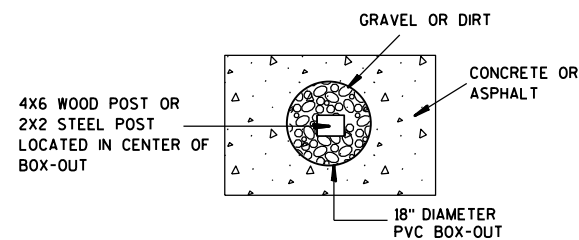
DETAIL OF WOOD 4 X 6 SIGN POST IN BOX-OUT

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



ELEVATION VIEW

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



PLAN VIEW

FOR NEW CONCRETE/ ASPHALT INSTALLATIONS

SIGN POST BOX-OUTS A4-3B	
<small>WISCONSIN DEPT OF TRANSPORTATION</small>	
APPROVED <i>Matthew R. Rauch</i> <small>for State Traffic Engineer</small>	
<small>DATE 1/27/14</small>	<small>PLATE NO. A4-3B.1</small>

GENERAL NOTES

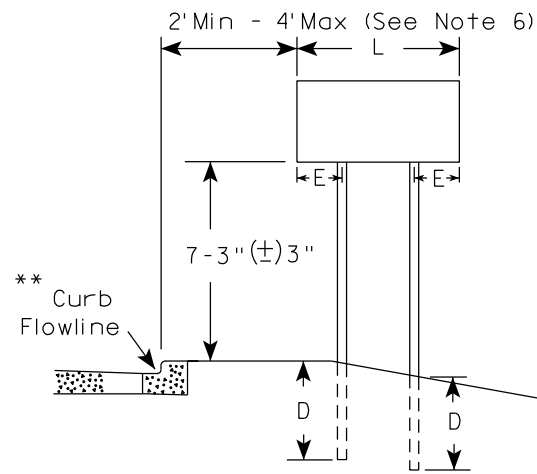
- For 3 or 4 post installations, individual post spacing shall be greater than 3'-6".
- See tables below for required number of posts.
- For expressways and freeways, mounting height is 7'-3" (\pm 3") or 6'-3" (\pm 3") depending upon existence of sub-sign.
- The (\pm) tolerance for mounting height is 3 inches.
- J-Assemblies are considered to be one sign for mounting height.
- Offset distance shall be consistent with existing signs or consistent throughout length of project.
- Folding signs shall be mounted at a height of 5'-3" (\pm 3") or as directed by the engineer.
- The Double Arrow sign (W12-1) shall be mounted at a height of 2'-3" (\pm 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" (\pm 3").

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

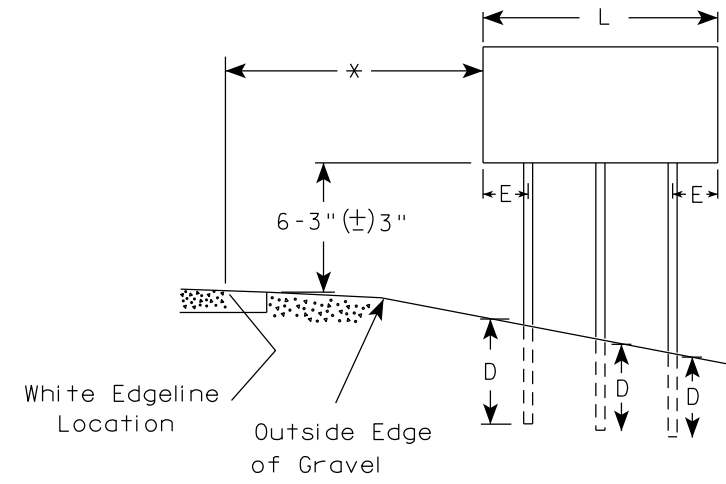
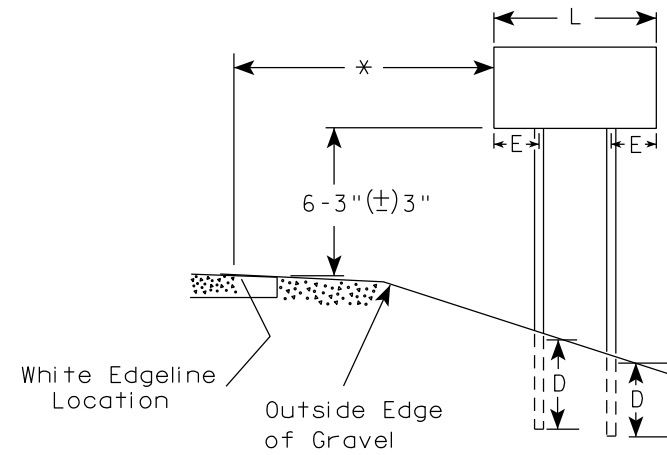
** The existence of curb and gutter does not in itself mandate the vertical clearance illustrated. That height is typically measured where there is sidewalk adjacent to the roadway or parking is permitted. In the absence of sidewalk vertical clearance is measured from the top of the curb. Offset of signs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

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

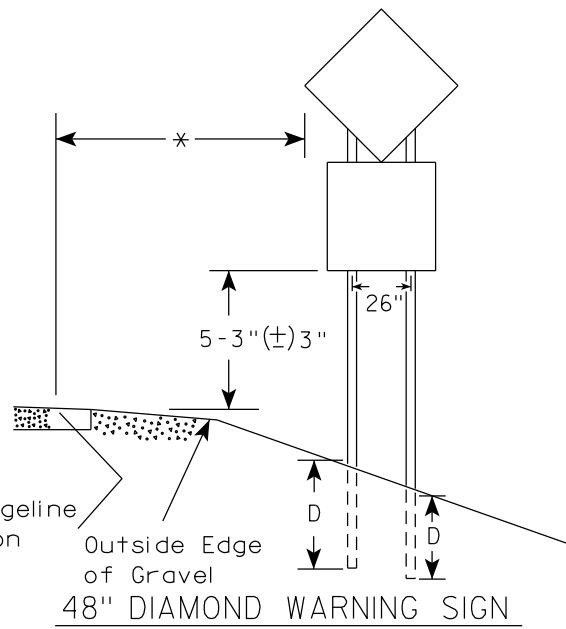
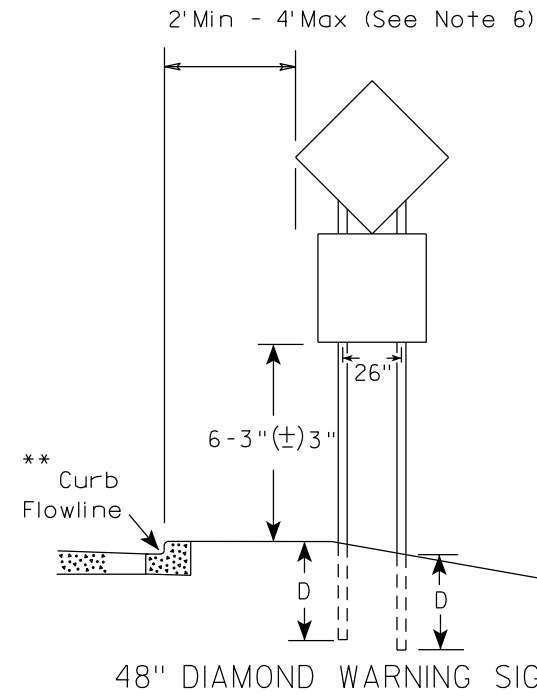
URBAN AREA



RURAL AREA (See Note 3)



URBAN AREA



SIGN SHAPE OTHER THAN DIAMOND (TWO POSTS REQUIRED)	
L	E
Greater than 48" Less than 60"	12"
60" to 108"	L/5

SIGN SHAPE OTHER THAN DIAMOND (THREE POSTS REQUIRED)	
L	E
Greater than 108" to 144"	12"

POST EMBEDMENT DEPTH

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

TYPICAL INSTALLATION OF TYPE II SIGNS ON MULTIPLE POSTS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
For State Traffic Engineer

DATE 12/6/23 PLATE NO. A4-4.16

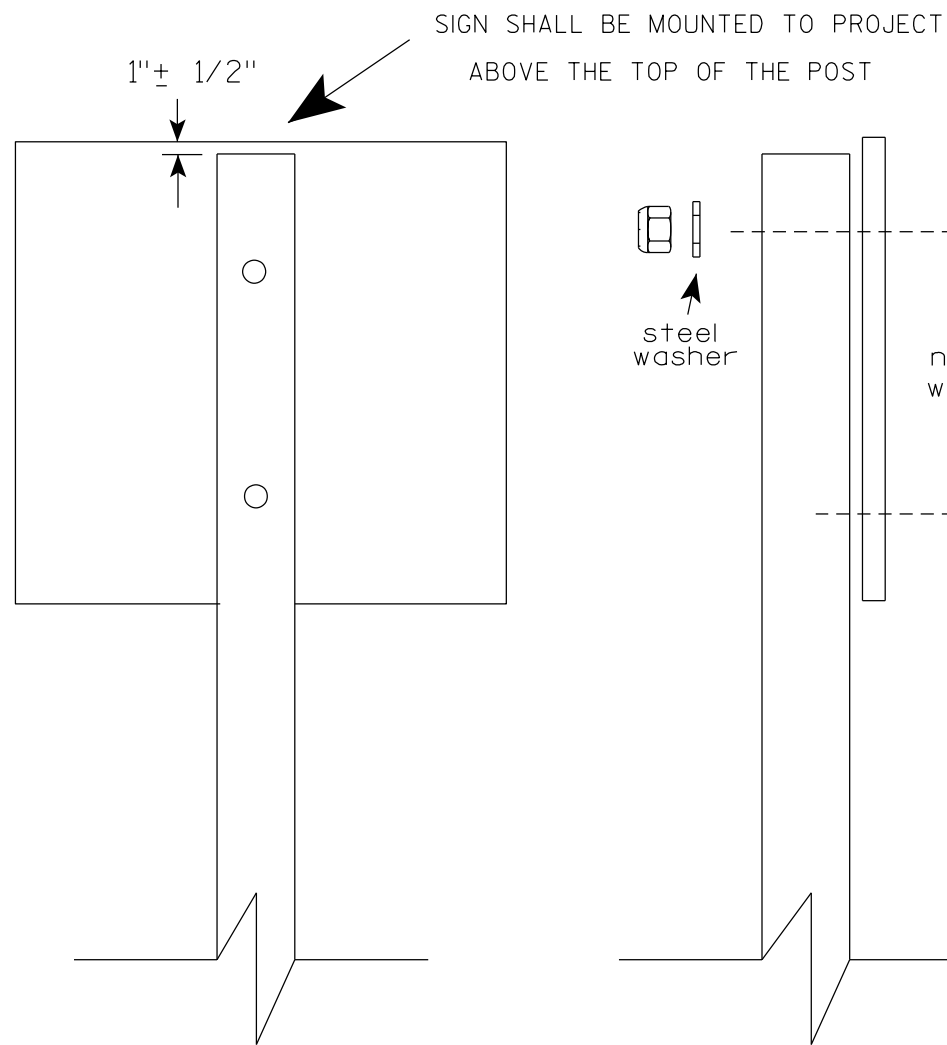
PROJECT NO:

HWY:

COUNTY:

SHEET NO:

E



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

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

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

STRINGER BOLTING TO ALUMINUM SIGNS (SEE SIGN PLATE A4-18)

MACHINE BOLTS - $\frac{5}{16}$ " X 1-3/4" Length w/ lock nuts

WOOD POSTS (4" x 6")

LAG SCREWS - $\frac{3}{8}$ " X 3" (NO STRINGERS ON BACK OF SIGN)
 $\frac{3}{8}$ " X 4" (STRINGERS ON BACK OF SIGN)

SQUARE STEEL POSTS (2" x 2")

MACHINE BOLTS - $\frac{3}{8}$ " X 3-1/4" Length w/ nuts (NO STRINGER ON BACK OF SIGN)
 $\frac{3}{8}$ " X 5" Length w/ nuts (STRINGERS ON BACK OF SIGN)

RIVETS - $\frac{9}{32}$ " (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 $\frac{3}{8}$ " I.D. X $\frac{1}{16}$ " STEEL

1-1/4" O.D. X $\frac{3}{8}$ " I.D. X .080 NYLON

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

ATTACHMENT OF SIGNS
TO POSTS

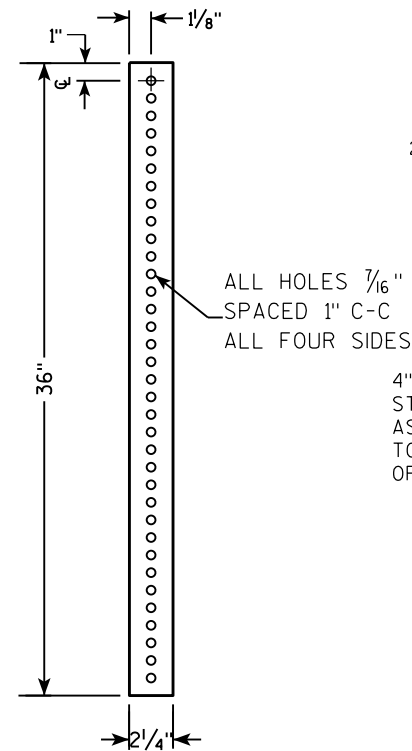
WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R Rauch*
For State Traffic Engineer

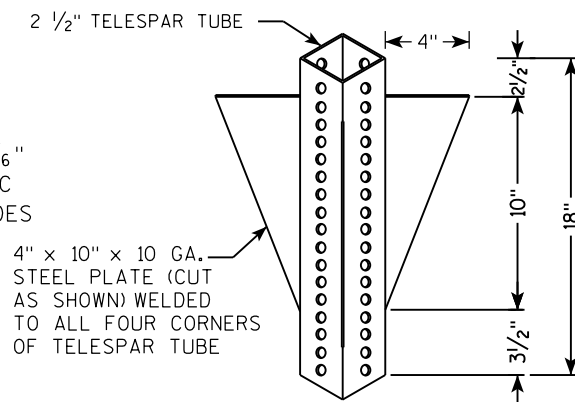
DATE 4/1/2020 PLATE NO. A4-8.9

**TELESCOPIC TUBING ANCHORS
TWO PIECE SYSTEM**

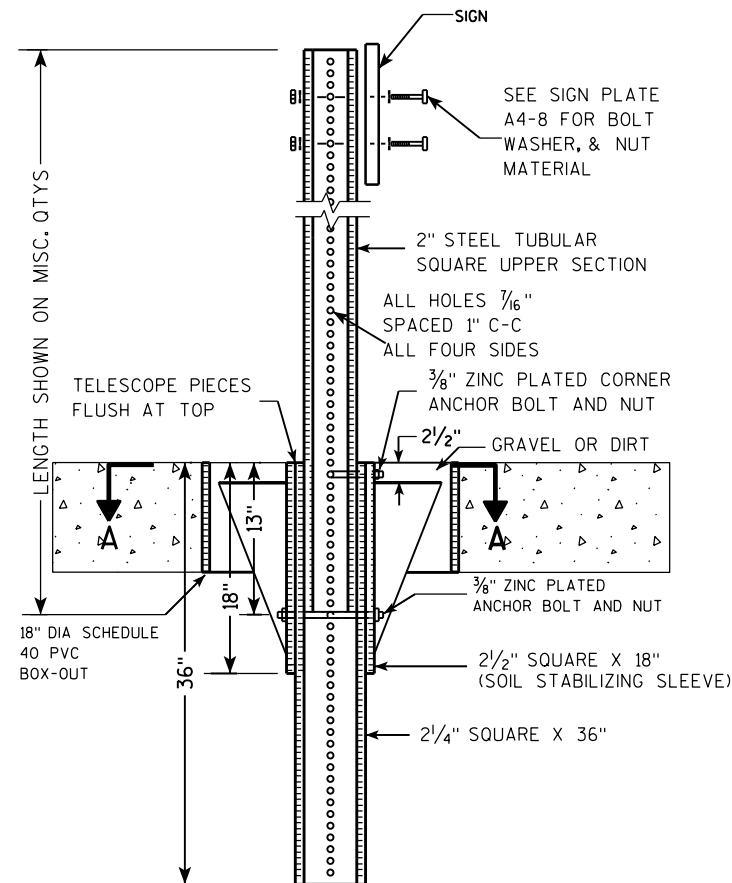
2 1/4" SQUARE
12 GAUGE
PERFORATED
GALVANIZED FINISH



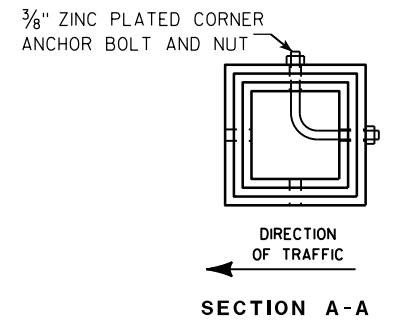
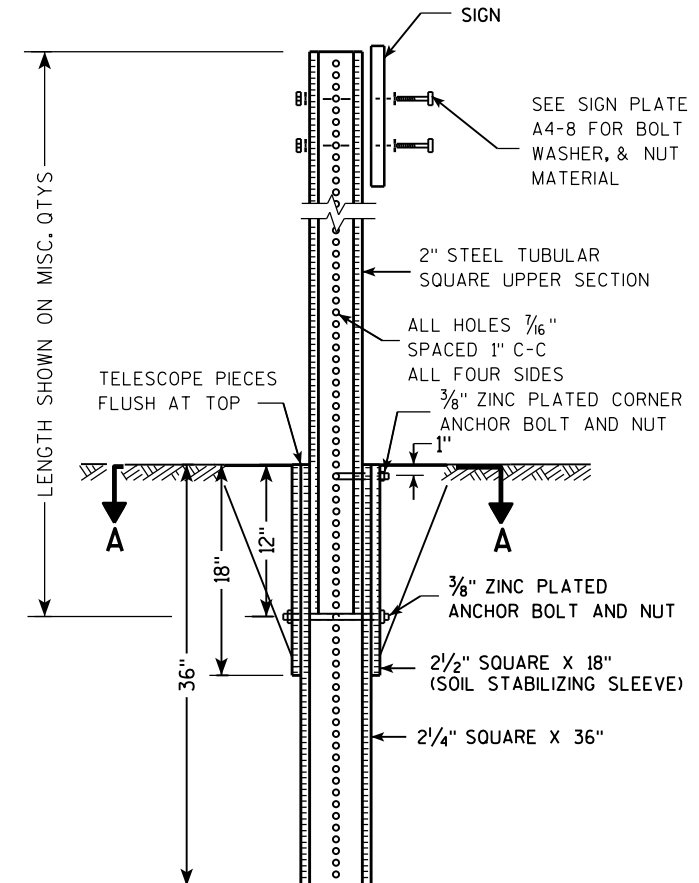
2 1/2" SQUARE
12 GAUGE
OMNI-DIRECTIONAL
PERFORATED
SOIL STABILIZING SLEEVE
GALVANIZED FINISH



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



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



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

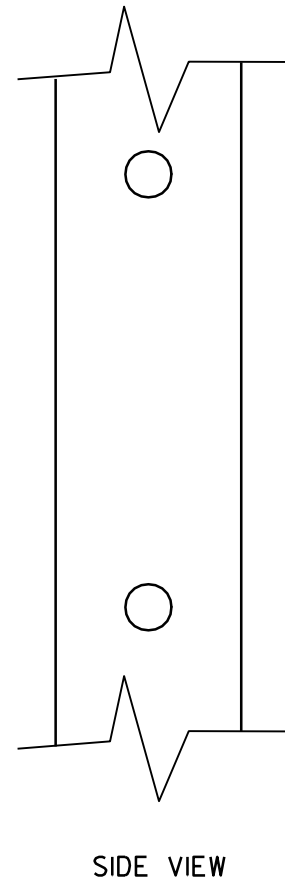
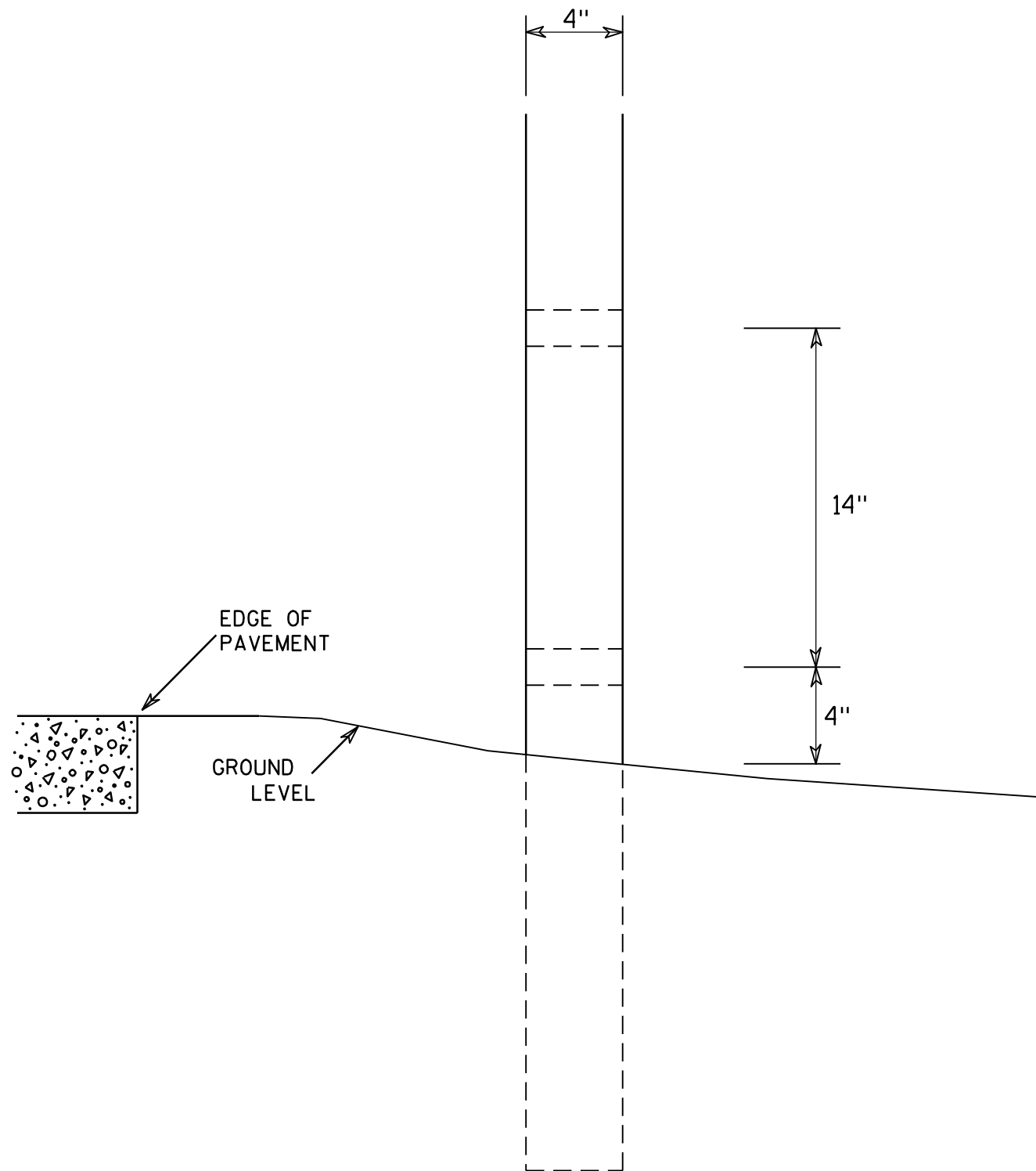
Signs wider than 3 feet or larger than 9 sq. ft shall be mounted on multiple posts (see above table).

**TUBULAR STEEL
SIGN POST
A4-9**

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer

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



GENERAL NOTES

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

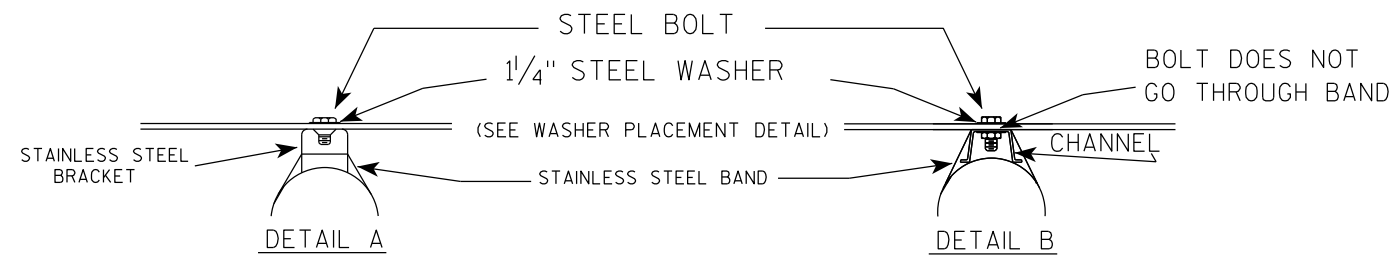
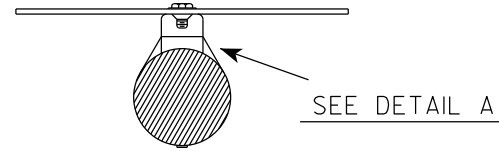
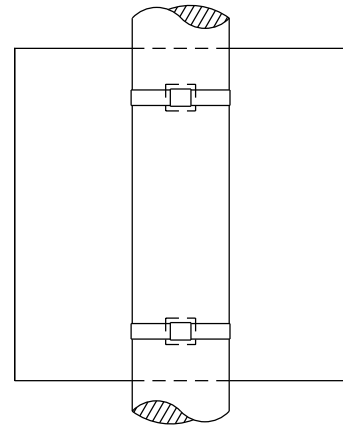
7

7

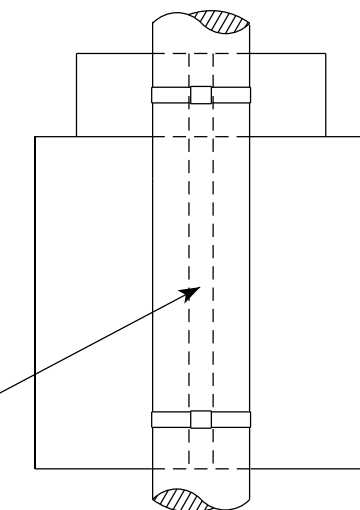
4 X 6 WOOD POST MODIFICATIONS	
<i>WISCONSIN DEPT OF TRANSPORTATION</i>	
APPROVED	<i>Chester J Spang</i> for State Traffic Engineer
DATE <u>3/27/97</u>	PLATE NO. <u>A4-11.2</u>

BANDING

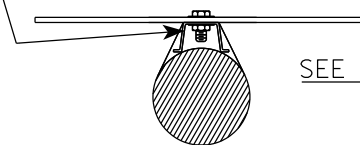
SINGLE SIGN



"J" ASSEMBLY

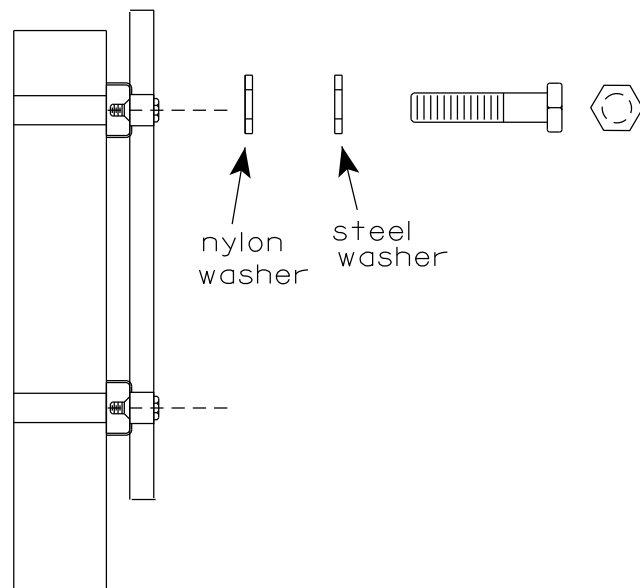


CHANNEL
SEE TYPICAL PANEL
INSTALLATION SHEET



- GENERAL NOTES**
- Any sign over 3 feet in width shall use the V-Block banding method. See A5-10 standard plate.
 - 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.
 - Banding and assembly bracket shall be stainless steel. All bands shall be $\frac{3}{4}$ " in width and 0.025" thickness.
 - ALL SIGN MOUNTING BOLTS AND WASHERS SHALL BE EITHER:
 - Hot dip or mechanically galvanized in accordance with ASTM Designation: A 153, Class D
 - Electro-galvanized in accordance with ASTM designation: B 633, Type III, SC 3

WASHER PLACEMENT



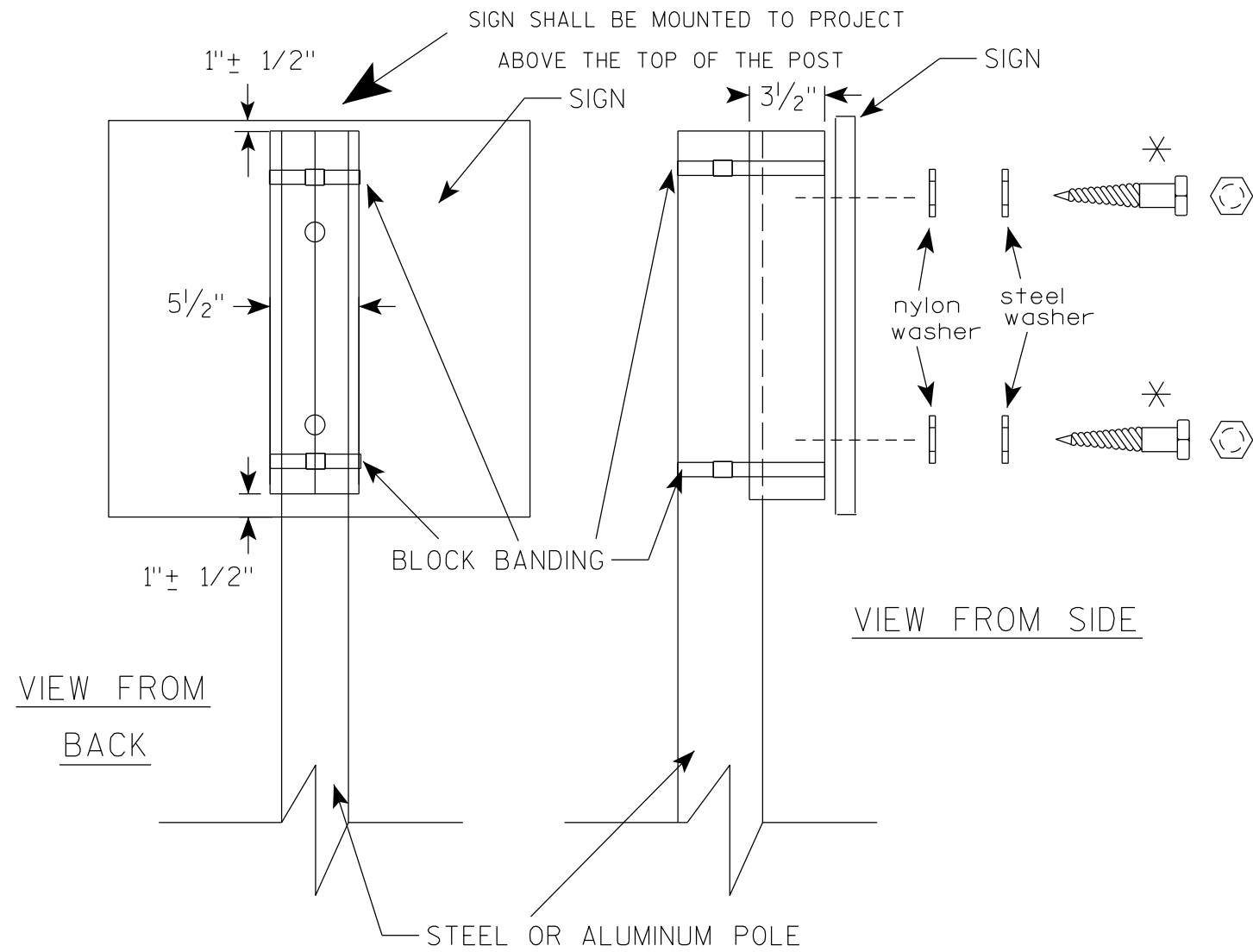
WASHERS (ALL POSTS) -
 1-1/4" O.D. X 3/8" I.D. X 1/16" STEEL
 1-1/4" O.D. X 3/8" I.D. X .080 NYLON
 FOR ALL TYPE H SIGNS

STANDARD SIGN
SIGN BANDING DETAILS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer

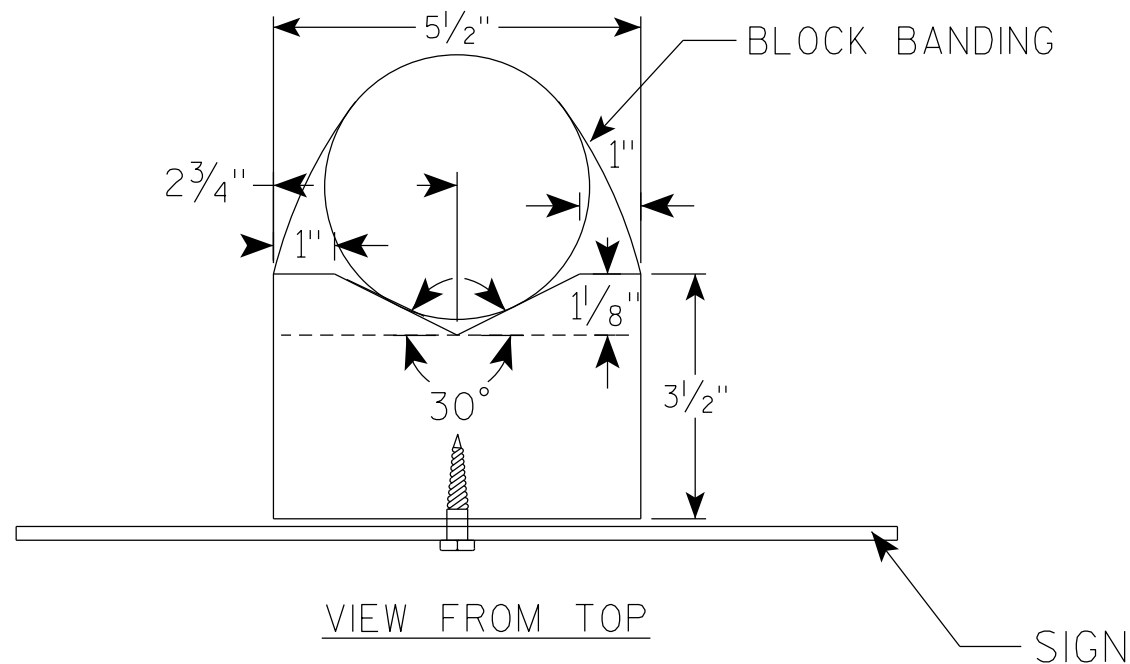
DATE 6/10/19 PLATE NO. A5-9.4



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, 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
 - b. 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 1/4" O.D. X 3/8" I.D. X 1/16"
8. NYLON WASHERS SHALL BE 1/4" O.D. X 3/8" I.D. X .080 FOR TYPE H OR TYPE F FACE SIGN

✱ LAG BOLTS SHALL BE 3/8" X 2 1/2"



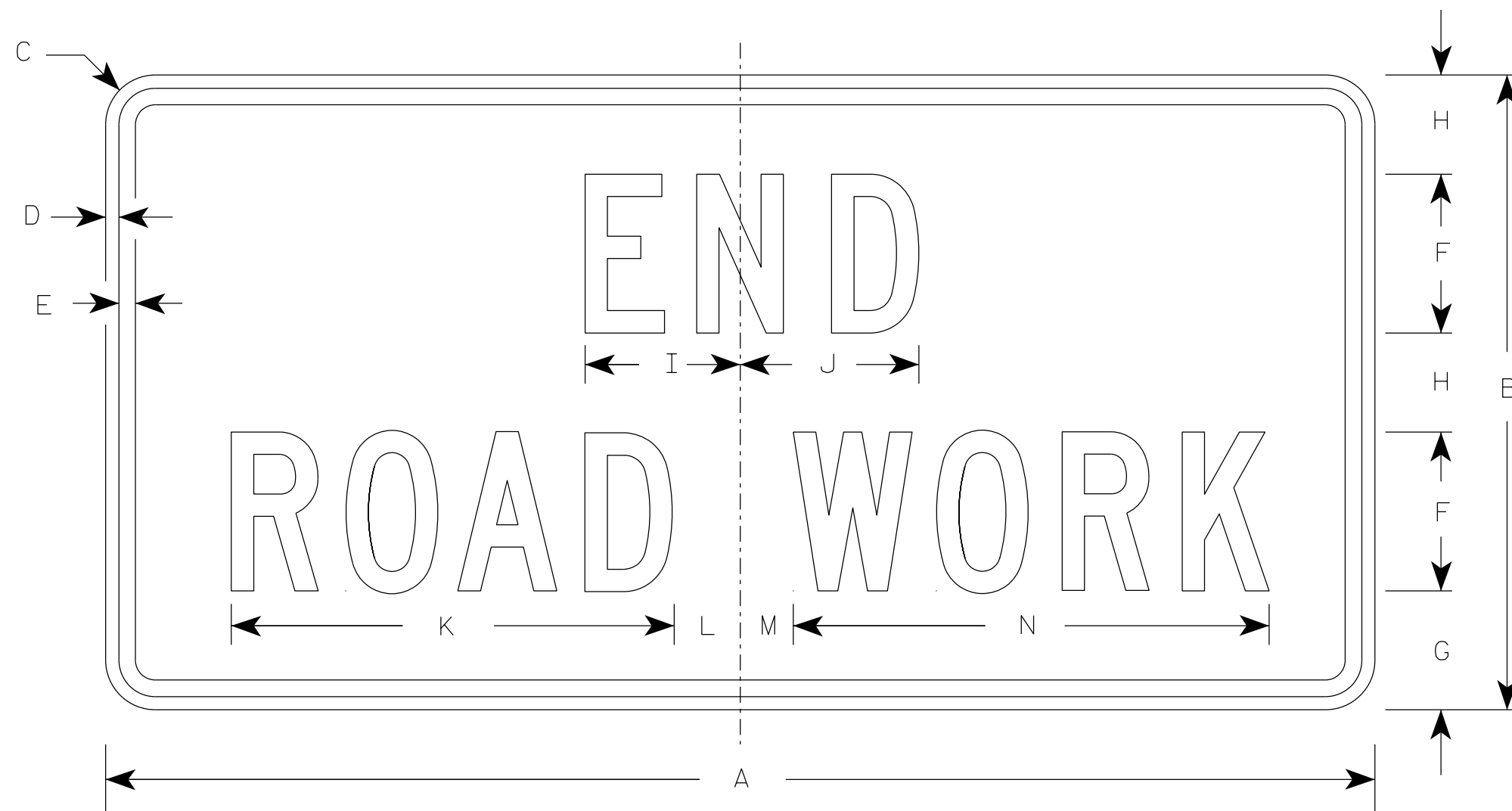
BLOCK BANDING DETAIL (V-BLOCK OPTION)	
WISCONSIN DEPT OF TRANSPORTATION	
APPROVED	<i>Matthew R Rauch</i> for State Traffic Engineer
DATE 4/19/2022	PLATE NO. A5-10.3

7

7

NOTES

1. Sign is Type II - Type F Reflective
2. Color:
Background - Orange
Message - Black
3. Message Series - C
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.



G20-2A

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	18	1 1/2	3/8	1/2	4	3 3/4	2 1/2	4 1/8	4 1/8	11 1/8	2	1	12 1/8													4.5
2	48	24	1 7/8	1/2	5/8	6	4 1/2	3 3/4	5 7/8	6 3/4	16 3/4	2 1/2	1 3/4	18 1/2													8.0
2M	48	24	1 7/8	1/2	5/8	6	4 1/2	3 3/4	5 7/8	6 3/4	16 3/4	2 1/2	1 3/4	18 1/2													8.0
3	48	24	1 7/8	1/2	5/8	6	4 1/2	3 3/4	5 7/8	6 3/4	16 3/4	2 1/2	1 3/4	18 1/2													8.0
4	48	24	1 7/8	1/2	5/8	6	4 1/2	3 3/4	5 7/8	6 3/4	16 3/4	2 1/2	1 3/4	18 1/2													8.0
5	48	24	1 7/8	1/2	5/8	6	4 1/2	3 3/4	5 7/8	6 3/4	16 3/4	2 1/2	1 3/4	18 1/2													8.0

STANDARD SIGN
G20-2A

WISCONSIN DEPT OF TRANSPORTATION

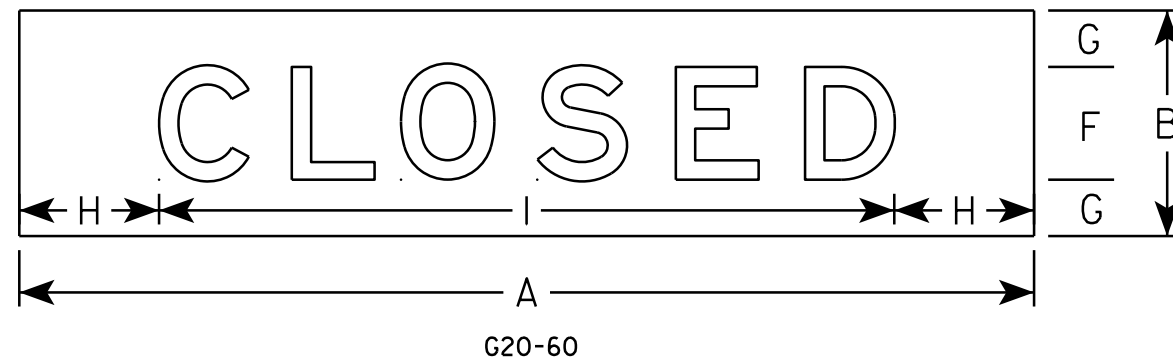
APPROVED *Matthew R. Rauch*
For State Traffic Engineer

DATE 1/26/2023 PLATE NO. G20-2A.10

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

NOTES

1. Sign is Type II- Type F Reflective
2. Color:
Background - Orange
Message - Black
3. Message Series - E
4. Material shall be .040 aluminum



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																											
2																											
3																											
4	108	24				12	6	14 7/8	78 1/4																		18.0
5																											

STANDARD SIGN
G20-60

WISCONSIN DEPT OF TRANSPORTATION

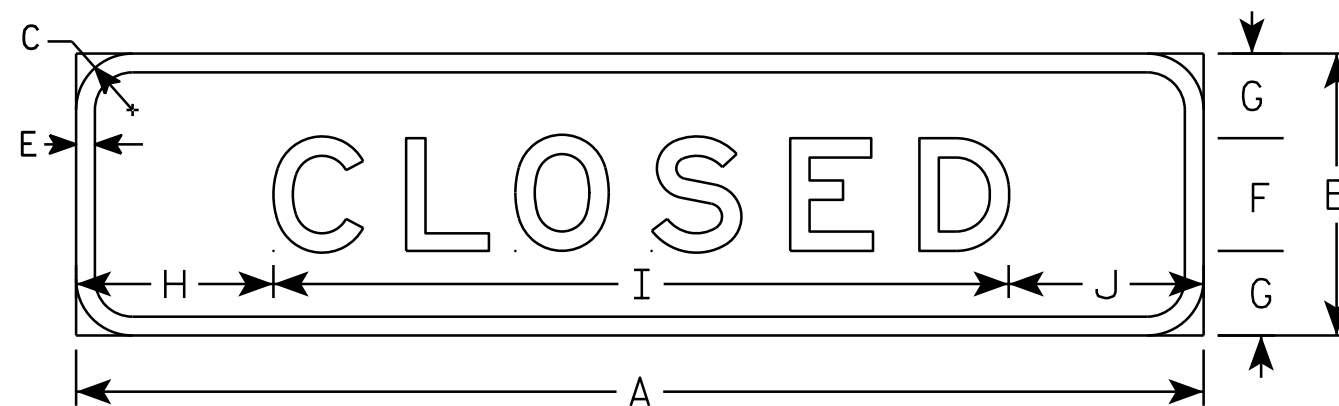
APPROVED *Matthew R. Rauch*
for State Traffic Engineer

DATE 5/13/15 PLATE NO. G20-60.1

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

NOTES

1. Sign is Type II - Type F Reflective
2. Color:
Background - Orange
Message - Black
3. Message Series - E



G20-61

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																											
2																											
3																											
4	120	30	6		2	12	9	21	78 1/4	20 3/4																	25.0
5																											

STANDARD SIGN
G20-61

WISCONSIN DEPT OF TRANSPORTATION

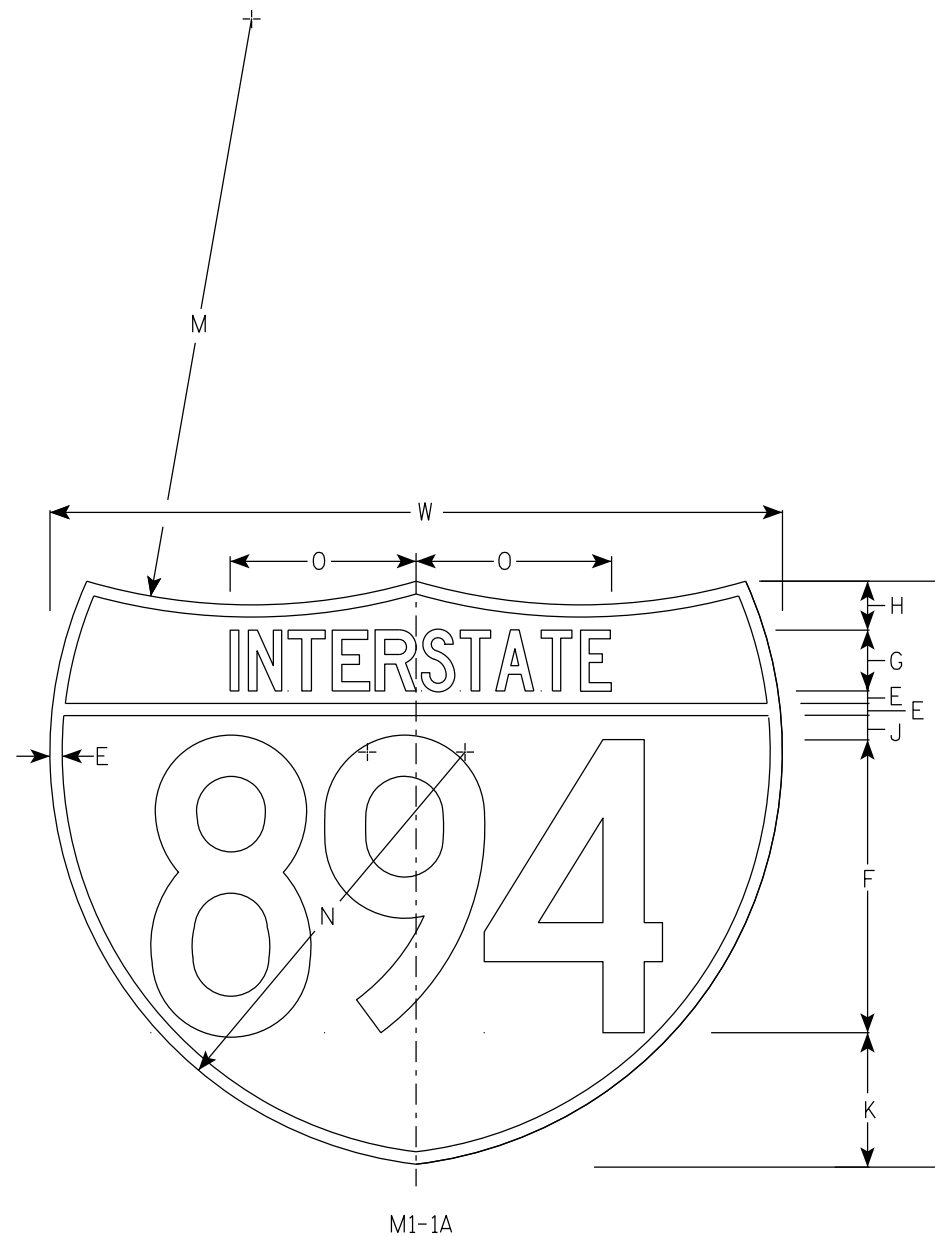
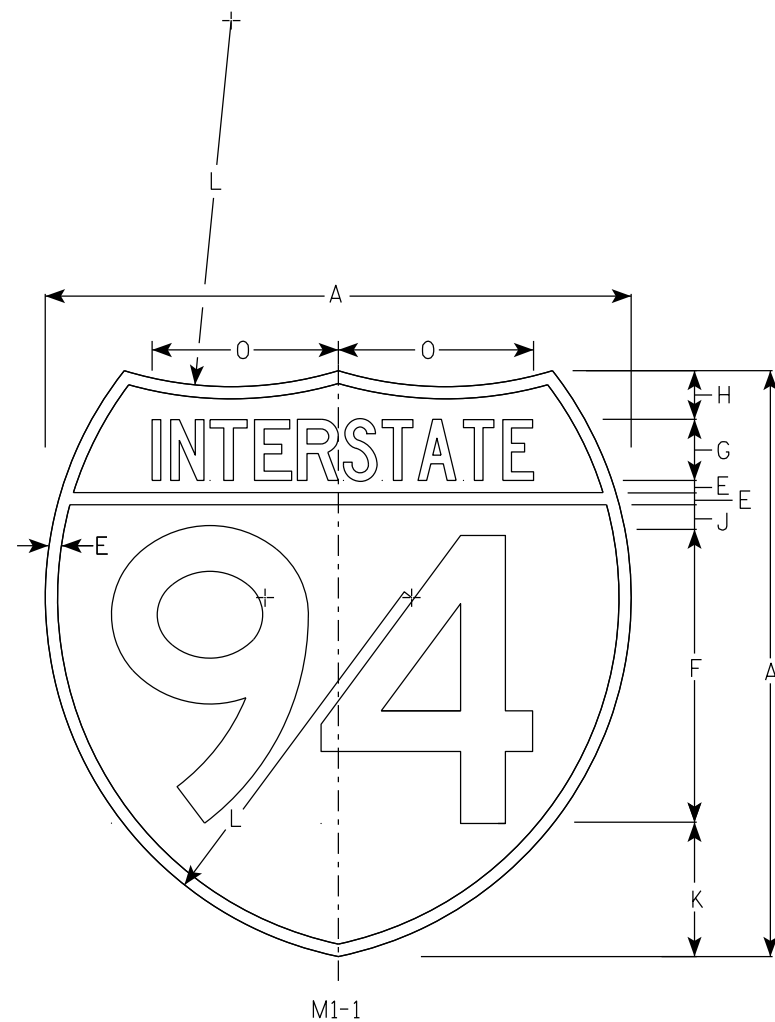
APPROVED *Matthew R. Rauch*
for State Traffic Engineer

DATE 5/07/15 PLATE NO. G20-61.1

PROJECT NO:	HWY:	COUNTY:	SHEET NO: E
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NOTES

1. Sign is Type II - Type H Reflective
2. Color:
Background - Top Red - Bottom Blue
Message - White
3. Message Series - See note 5
4. Substitute appropriate numerals & adjust spacing as per plate A10-1.
5. M1-1 - Numerals - D
Interstate - C
M1-1A - All copy - C



SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	M1-1 Area sq. ft.	M1-1A Area sq. ft.
1																											
2	24				1/2	12	2 1/2	2		1	5 1/2	15	24	17	7 7/8									30		3.13	3.91
2M	24				1/2	12	2 1/2	2		1	5 1/2	15	24	17	7 7/8									30		3.13	3.91
3	36				3/4	18	3 3/4	3		1 1/2	8 1/4	22 1/2	36	25 1/2	11 3/4									45		7.03	8.79
4	36				3/4	18	3 3/4	3		1 1/2	8 1/4	22 1/2	36	25 1/2	11 3/4									45		7.03	8.79
5	36				3/4	18	3 3/4	3		1 1/2	8 1/4	22 1/2	36	25 1/2	11 3/4									45		7.03	8.79

INTERSTATE ROUTE MARKER
M1-1 FOR ASSEMBLIES

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
For State Traffic Engineer

DATE 11/7/2022 PLATE NO. M1-1.9

PROJECT NO:

HWY:

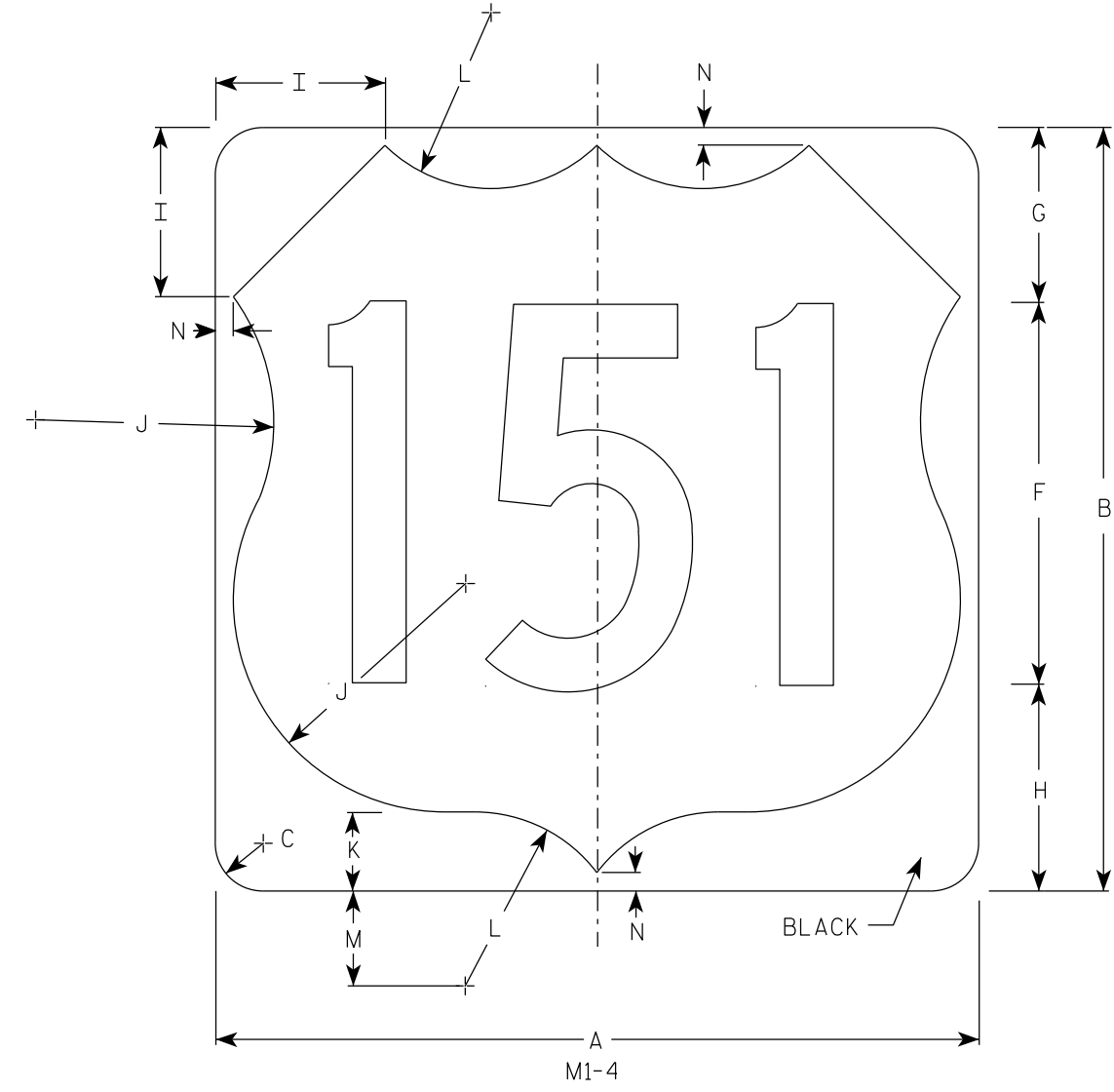
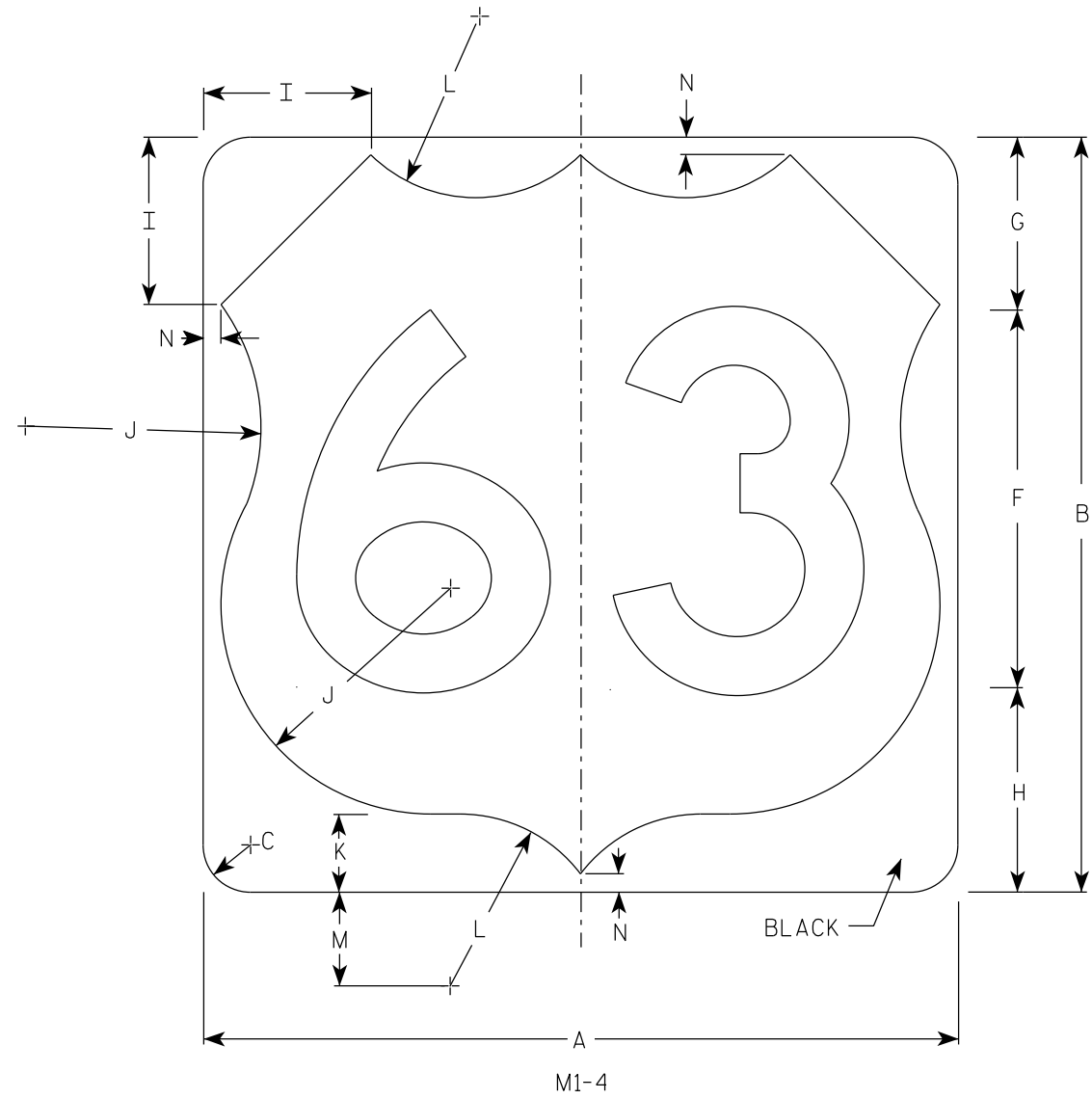
COUNTY:

SHEET NO:

E

NOTES

1. Sign is Type II - Type H Reflective
2. Color:
Background - White
Message - Black
3. Message Series - D except 3 number signs Series C



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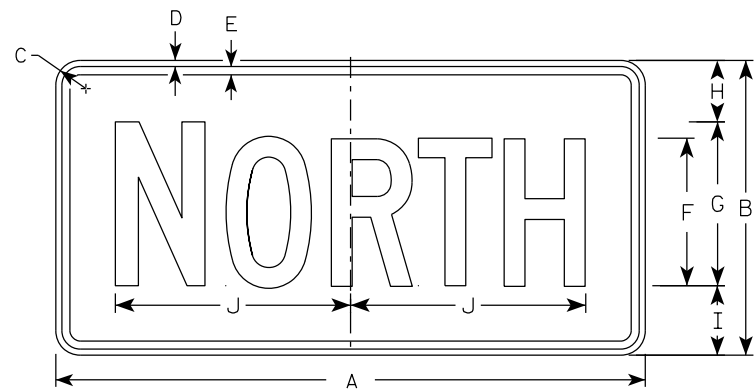
SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2	24	24	1 1/2			12	5 1/2	6 1/2	5	7 1/2	2 1/2	5 1/2	3	1/2													4.0
2M	24	24	1 1/2			12	5 1/2	6 1/2	5	7 1/2	2 1/2	5 1/2	3	1/2													4.0
3	36	36	2 1/4			18	8 1/4	9 1/4	7 1/4	11 1/4	3 3/4	8 1/4	4 1/2	3/4													9.0
4	36	36	2 1/4			18	8 1/4	9 1/4	7 1/4	11 1/4	3 3/4	8 1/4	4 1/2	3/4													9.0
5	36	36	2 1/4			18	8 1/4	9 1/4	7 1/4	11 1/4	3 3/4	8 1/4	4 1/2	3/4													9.0

USH MARKER
M1-4 FOR ASSEMBLIES

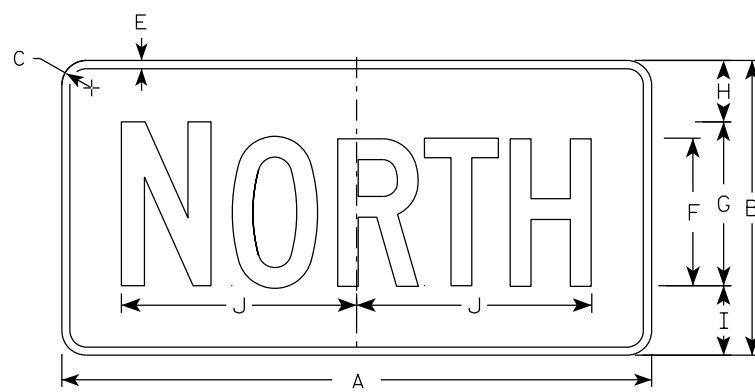
WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer

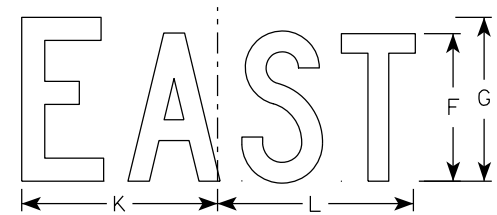
DATE 12/20/22 PLATE NO. M1-4.11



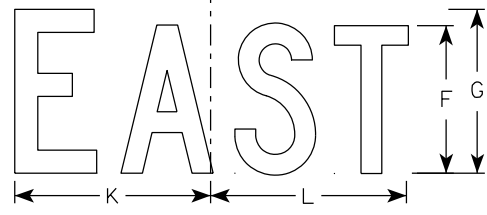
M3-1
MM3-1
MP3-1



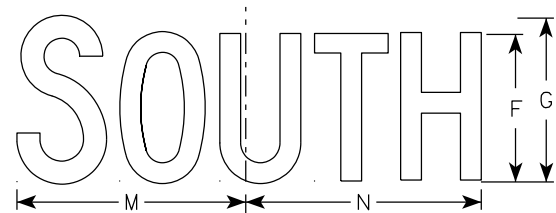
MB3-1
MK3-1
MN3-1



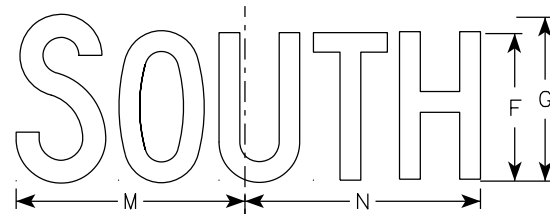
M3-2
MM3-2
MP3-2



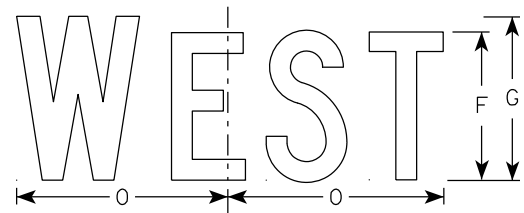
MB3-2
MK3-2
MN3-2



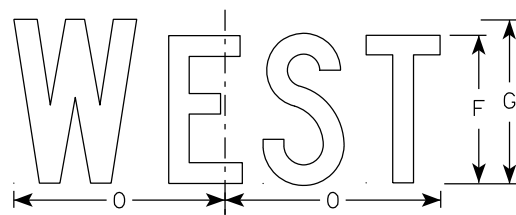
M3-3
MM3-3
MP3-3



MB3-3
MK3-3
MN3-3



M3-4
MM3-4
MP3-4



MB3-4
MK3-4
MN3-4

NOTES

- All Signs Type II - Type H Reflective
- Color:
 - Background - See note 5
 - Message - See note 5
- Message Series - C
- 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.
- M3-1 thru M3-4 Background - White
 Message - Black
 MB3-1 thru MB3-4 Background - Blue
 Message - White
 MK3-1 thru MK3-4 Background - Green
 Message - White
 MM3-1 thru MM3-4 Background - White
 Message - Green
 MN3-1 thru MN3-4 Background - Brown
 Message - White
 MP3-1 thru MP3-4 Background - White
 Message - Blue
- Note the first letter of each direction is larger than the remainder of the message.

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

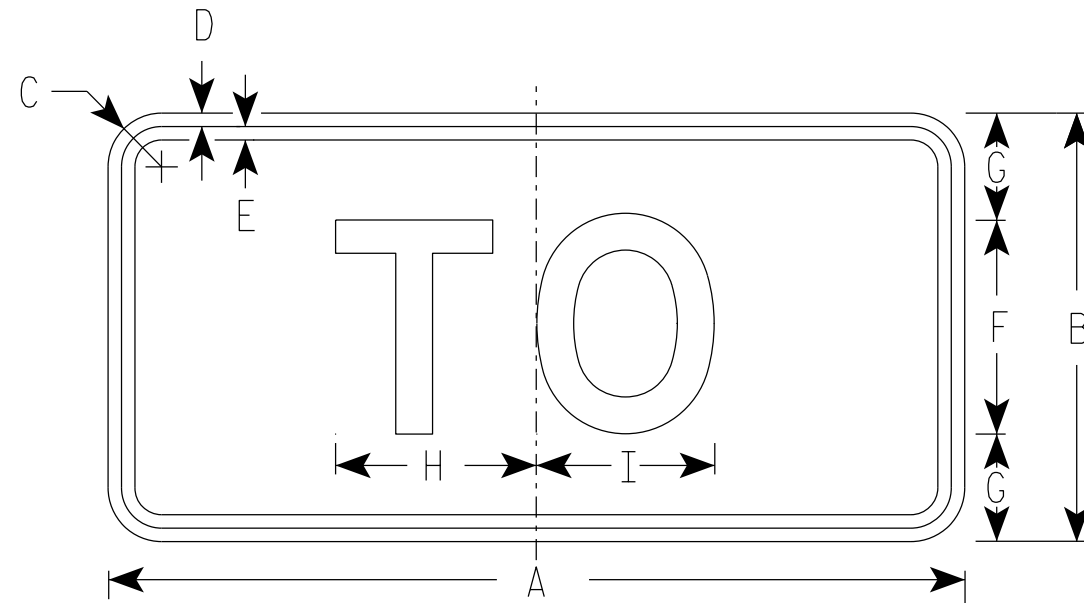
STANDARD SIGNS
M3-1 THRU M3-4
SERIES

WISCONSIN DEPT OF TRANSPORTATION

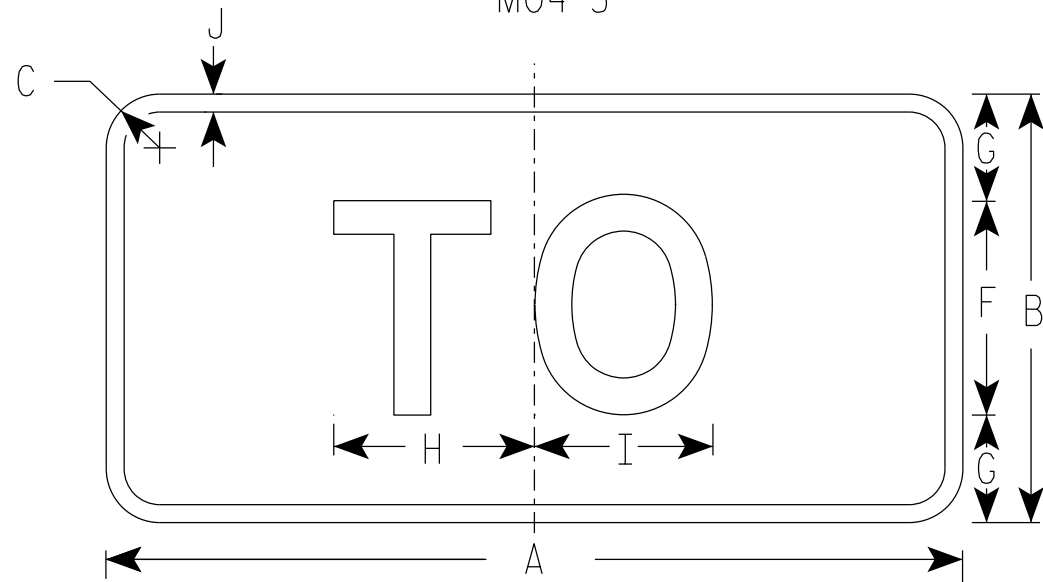
APPROVED *Matthew R. Rauch*
for State Traffic Engineer

DATE 2/8/2023 PLATE NO. M3-1.15

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



M4-5
MM4-5
MP4-5
M04-5



MB4-5
MK4-5
MN4-5

NOTES

1. Sign is Type II - Type H Reflective
2. Color:
Background - See note 5
Message - See note 5
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. M4-5 Background - White
Message - Black
MB4-5 Background - Blue
Message - White
MK4-5 Background - Green
Message - White
MM4-5 Background - White
Message - Green
MN4-5 Background - Brown
Message - White
MP4-5 Background - White
Message - Blue
M04-5 Background - Orange Type F Reflective
Message - Black

7

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

STANDARD SIGN
M4-5

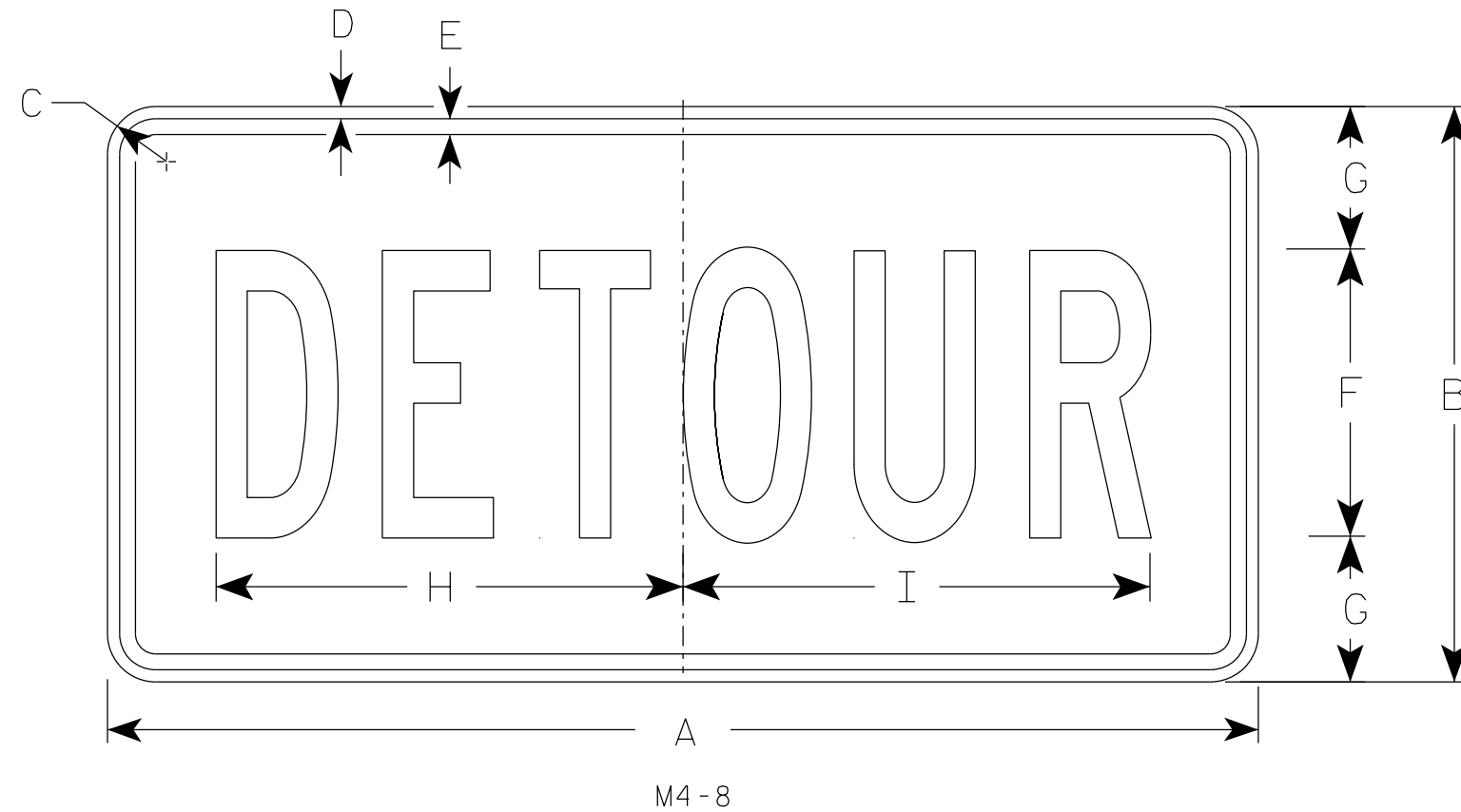
WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
For State Traffic Engineer

DATE 2/8/2023 PLATE NO. M4-5.11

NOTES

1. Sign is Type II - Type F Reflective
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.



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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	12	1 1/2	3/8	3/8	6	3	10	10 1/4																		2.0
2M	24	12	1 1/2	3/8	3/8	6	3	10	10 1/4																		2.0
3	36	18	1 1/2	3/8	1/2	9	4 1/2	14 5/8	14 1/2																		4.5
4	36	18	1 1/2	3/8	1/2	9	4 1/2	14 5/8	14 1/2																		4.5
5	36	18	1 1/2	3/8	1/2	9	4 1/2	14 5/8	14 1/2																		4.5

STANDARD SIGN
M4-8

WISCONSIN DEPT OF TRANSPORTATION

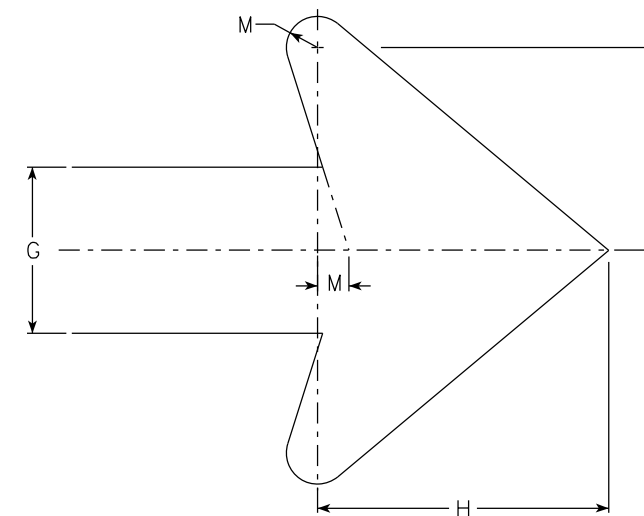
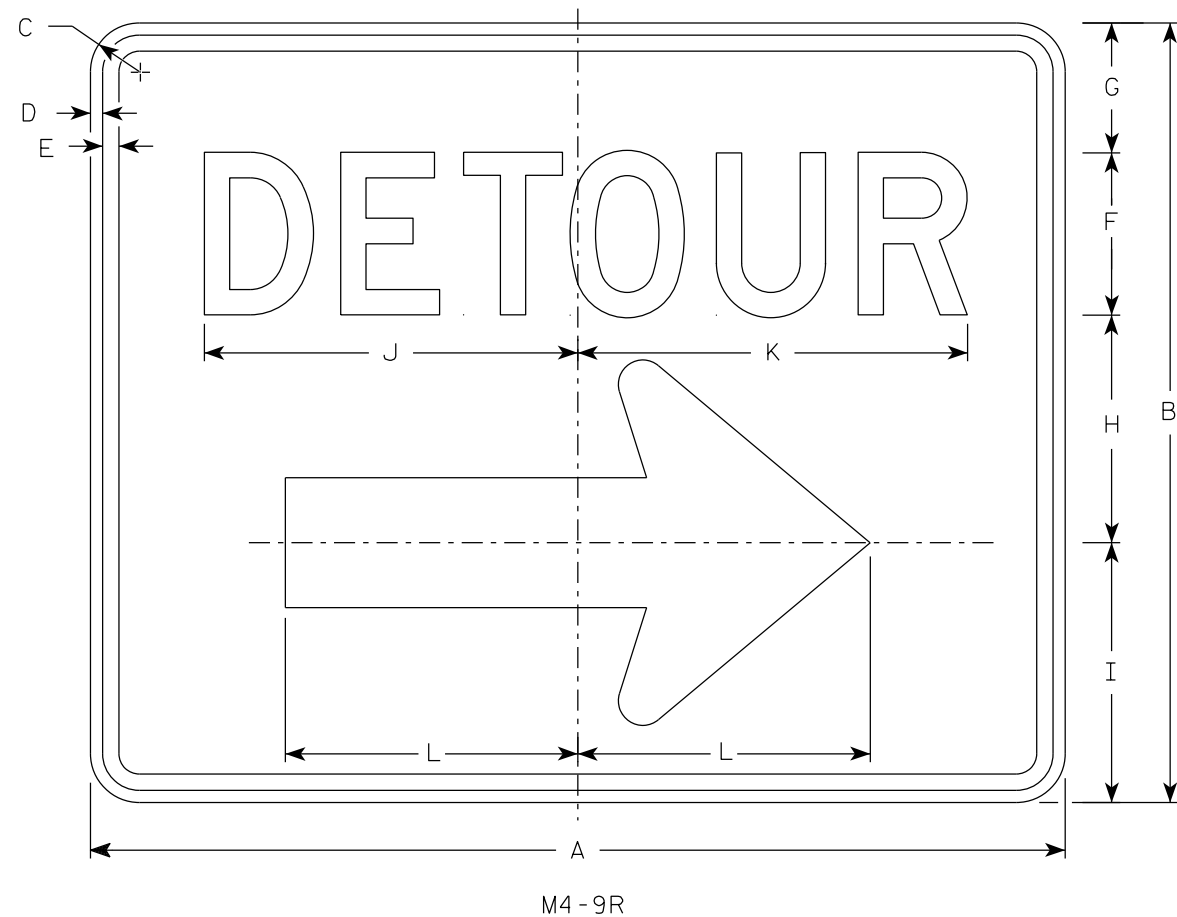
APPROVED *Matthew R. Rauch*
For State Traffic Engineer

DATE 2/9/2023 PLATE NO. M4-8.4

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

NOTES

1. Sign is Type II - Type F Reflective
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.
4. M4-9L is the same as M4-9R except the arrow is reversed.



Arrow Detail

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

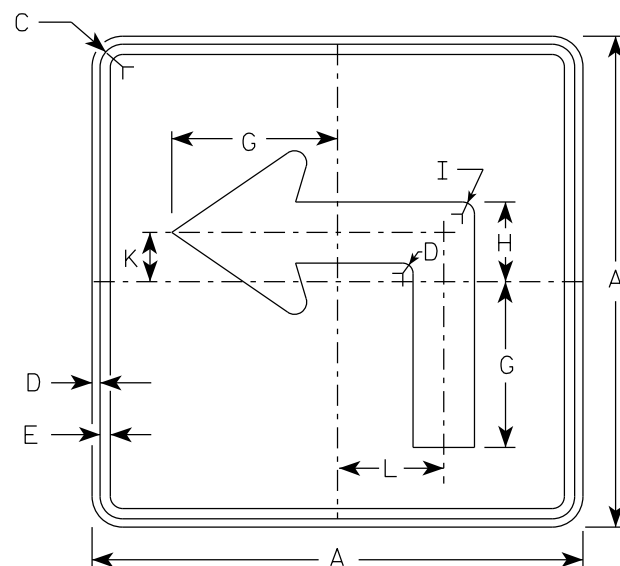
STANDARD SIGN
M4-9 R & L

WISCONSIN DEPT OF TRANSPORTATION

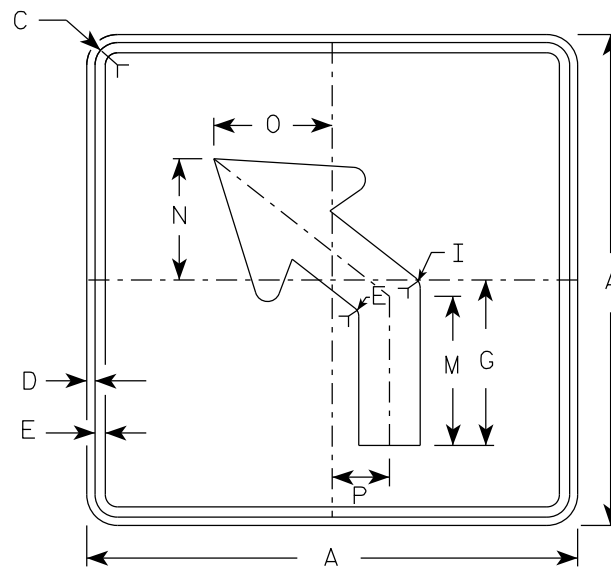
APPROVED *Matthew R. Rauch*
For State Traffic Engineer

DATE 2/9/2023 PLATE NO. M4-9R.6

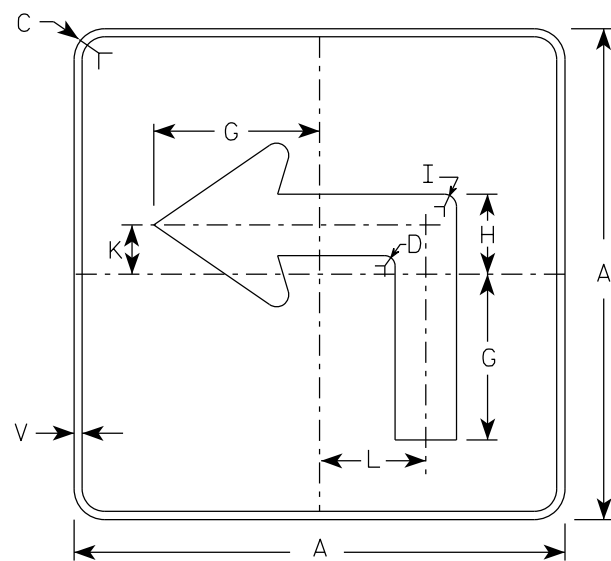
PROJECT NO: _____ HWY: _____ COUNTY: _____ SHEET NO: **E**



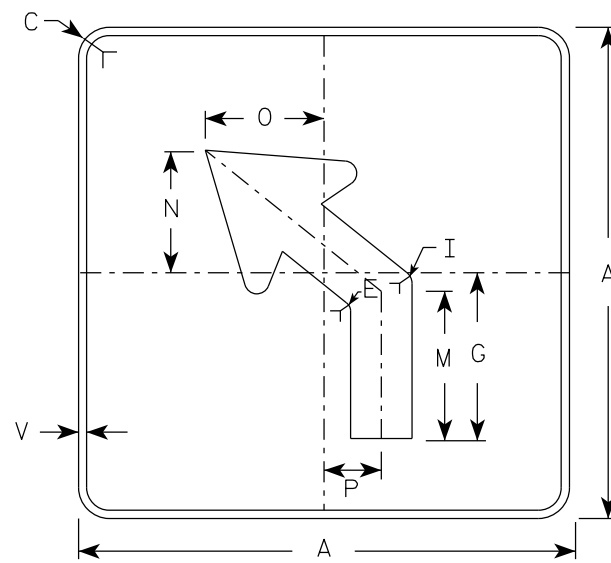
M5-1L
MM5-1L
M05-1L
MP5-1L



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

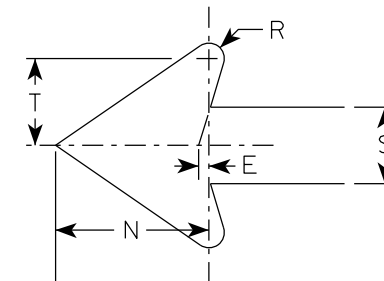


MB5-1L
MK5-1L
MN5-1L
MR5-1L



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

ARROW DETAIL



NOTES

- Signs are Type II - Type H reflective except as shown
- Color:
Background - See note 4
Message - See note 4
- Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
- | | |
|-----------------|---|
| M5-1 and M5-2 | Background - White |
| | Message - Black |
| MB5-1 and MB5-2 | Background - Blue |
| | Message - White |
| MK5-1 and MK5-2 | Background - Green |
| | Message - White |
| MM5-1 and MM5-2 | Background - White |
| | Message - Green |
| MN5-1 and MN5-2 | Background - Brown |
| | Message - White |
| M05-1 and M05-2 | Background - Orange - Type F Reflective |
| | Message - Black |
| MP5-1 and MP5-2 | Background - White |
| | Message - Blue |
| MR5-1 and MR5-2 | Background - Brown |
| | Message - Yellow |
- M5-1R same as M5-1L except arrow points right.
- M5-2R same as M5-2L except arrow tilts right.

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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	21		1 1/2	3/8	3/8		7	3 3/8	5/8		2 1/8	4 1/2	6 3/8	5 1/4	5	2 1/2		1/2	2 5/8	3		1/2					3.06
2M	21		1 1/2	3/8	3/8		7	3 3/8	5/8		2 1/8	4 1/2	6 3/8	5 1/4	5	2 1/2		1/2	2 5/8	3		1/2					3.06
3	30		1 7/8	1/2	5/8		10 1/8	4 7/8	7/8		3	6 1/2	9 1/8	7 1/2	7 1/4	3 1/2		3/4	3 3/4	4 1/4		1/2					6.25
4	30		1 7/8	1/2	5/8		10 1/8	4 7/8	7/8		3	6 1/2	9 1/8	7 1/2	7 1/4	3 1/2		3/4	3 3/4	4 1/4		1/2					6.25
5	30		1 7/8	1/2	5/8		10 1/8	4 7/8	7/8		3	6 1/2	9 1/8	7 1/2	7 1/4	3 1/2		3/4	3 3/4	4 1/4		1/2					6.25

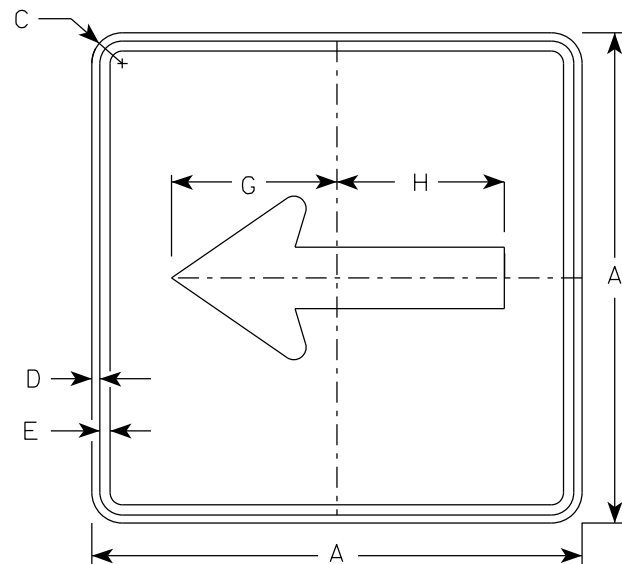
STANDARD SIGN
M5-1 & M5-2

WISCONSIN DEPT OF TRANSPORTATION

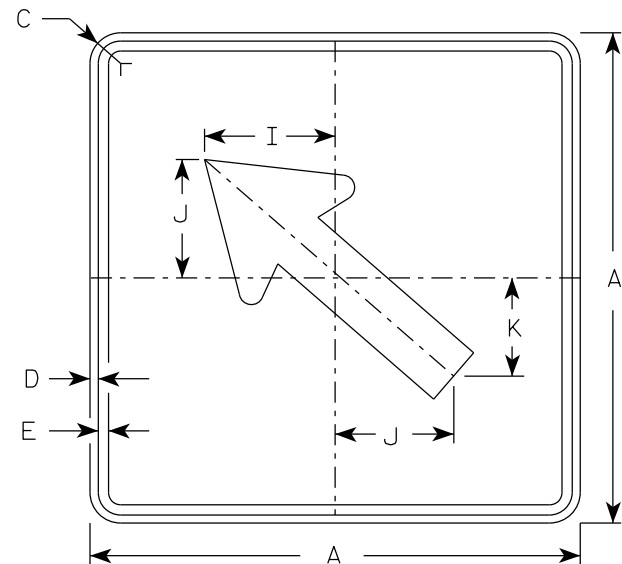
APPROVED *Matthew R. Rauch*
For State Traffic Engineer

DATE 2/13/2023 PLATE NO. M5-1.15

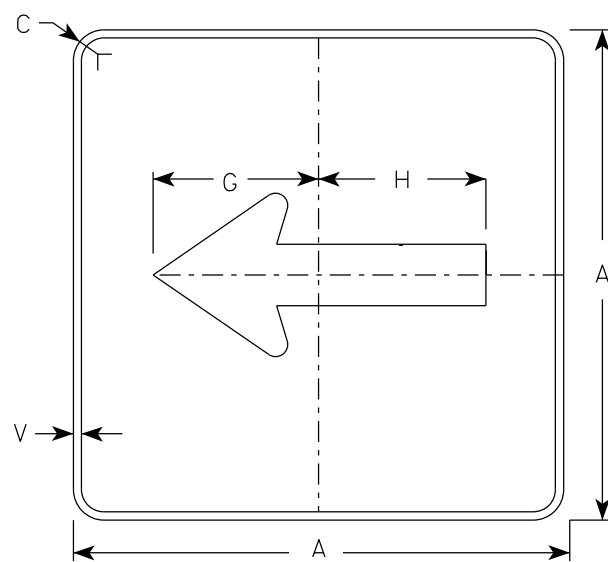
PROJECT NO: _____ HWY: _____ COUNTY: _____ SHEET NO: **E**



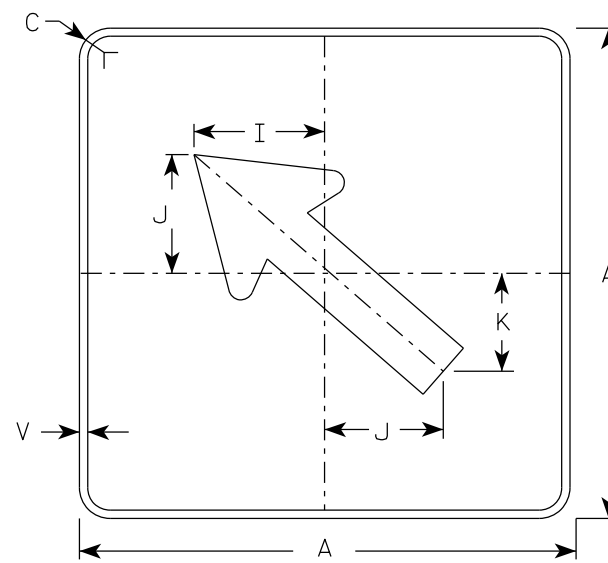
M6-1
MM6-1
M06-1
MP6-1



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



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

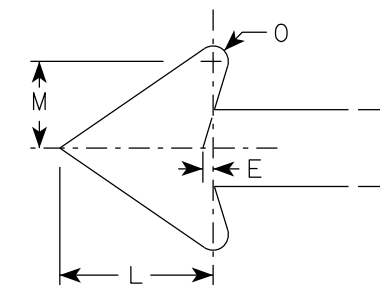


MB6-2
MK6-2
MN6-2
MR6-2

NOTES

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

ARROW DETAIL



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

**STANDARD SIGN
M6-1 & M6-2
SERIES**

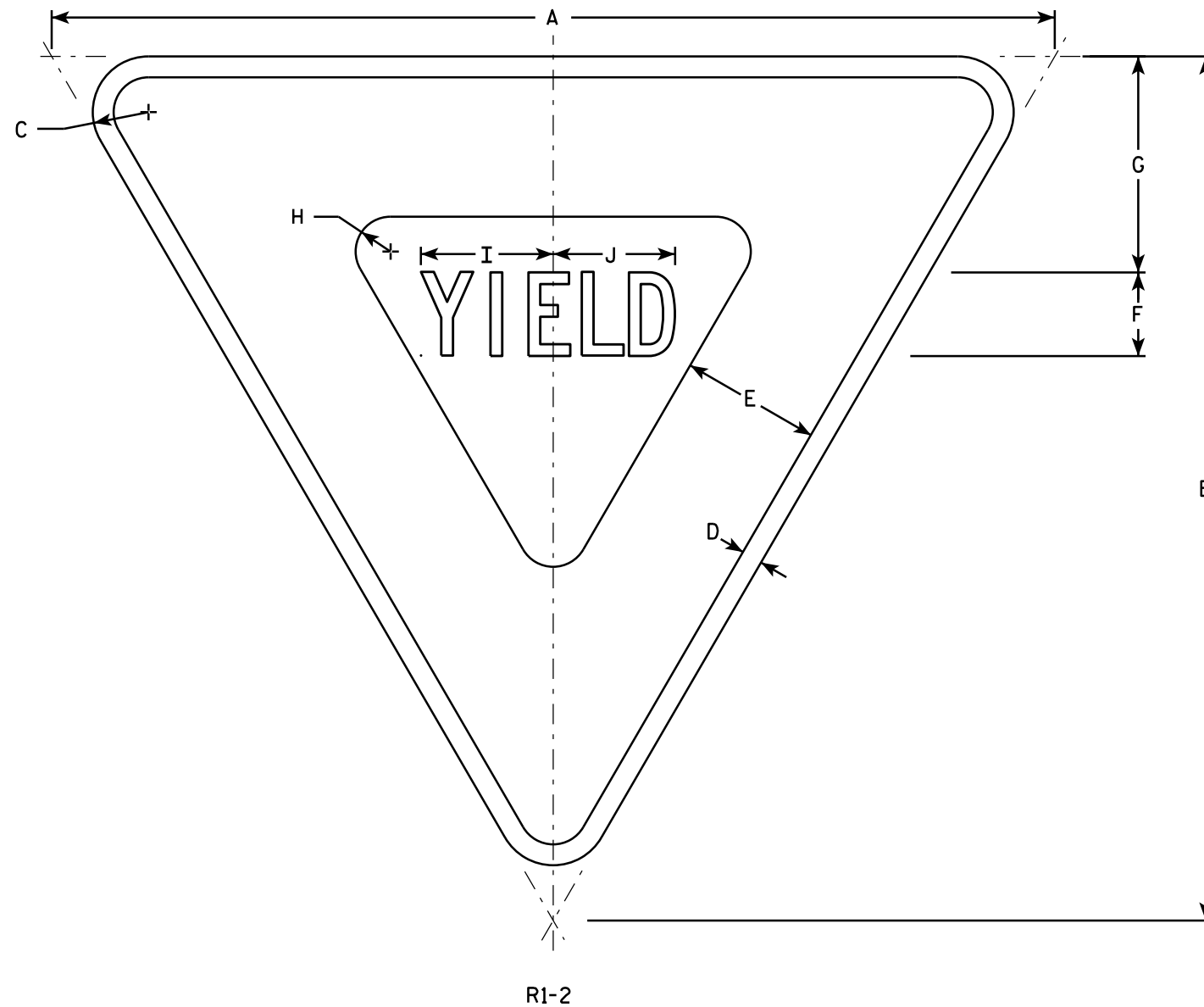
WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R Rauch*
For State Traffic Engineer

DATE 2/13/2023 PLATE NO. M6-1.16

NOTES

1. Sign is Type II - Type H Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
Background - White
Message - See note 5
3. Message Series - C
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
5. The border strip and word message are reflectorized red.



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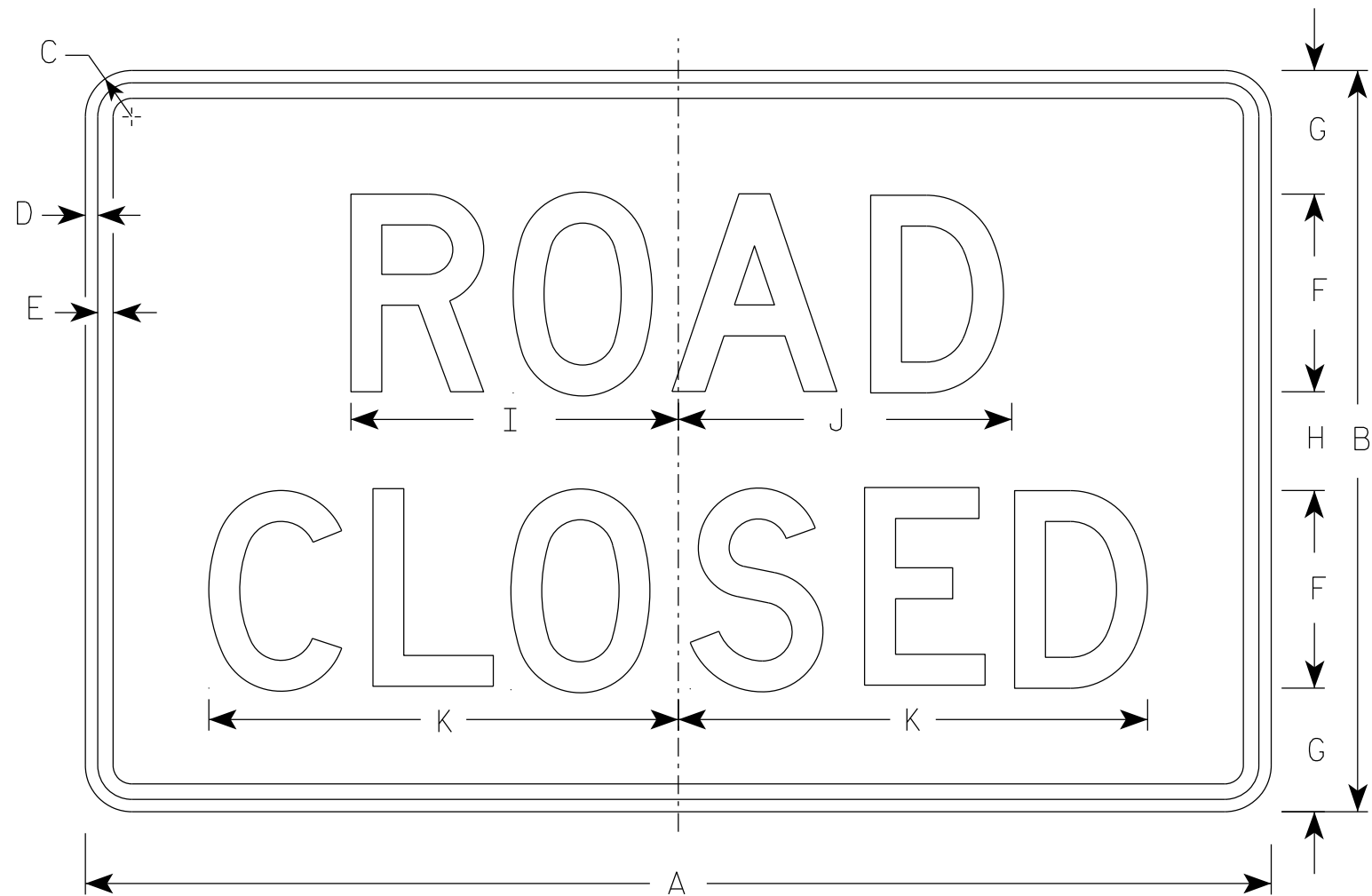
SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	30	26	1 1/2	5/8	4	2 1/2	6 3/8	7/8	4	3 5/8																	2.71
2S	36	31	2	3/4	5	3	7 3/4	1 1/4	4 3/4	4 3/8																	3.88
2M	48	42	3	1	6	4	9 3/4	2	6 1/4	5 7/8																	7.00
3	48	42	3	1	6	4	9 3/4	2	6 1/4	5 7/8																	7.00
4	48	42	3	1	6	4	9 3/4	2	6 1/4	5 7/8																	7.00
5	60	52	3	1 1/2	8	5	13	2 1/2	7 7/8	7 1/4																	10.83
6																											
7	18	15 1/2	1	3/8	2 1/2	1 1/2	3 7/8	5/8	2 3/8	2 1/4																	0.97

STANDARD SIGN
R1-2

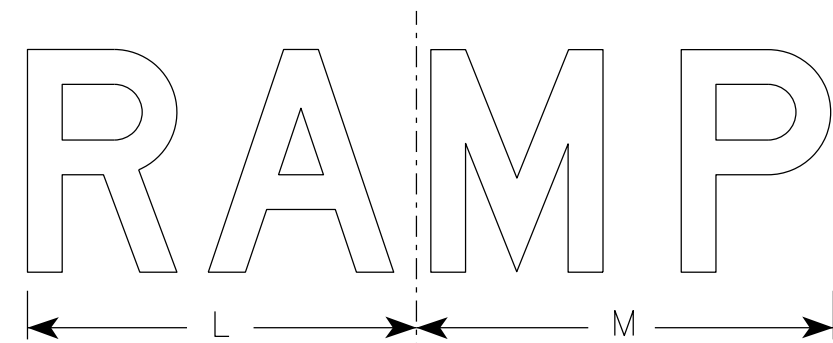
WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer

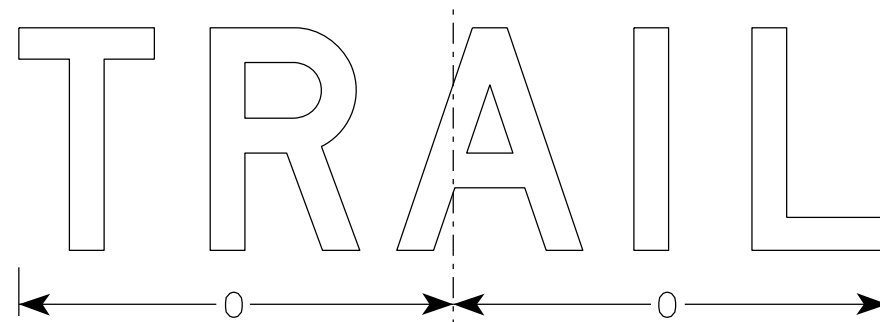
DATE 10/13/14 PLATE NO. R1-2.12



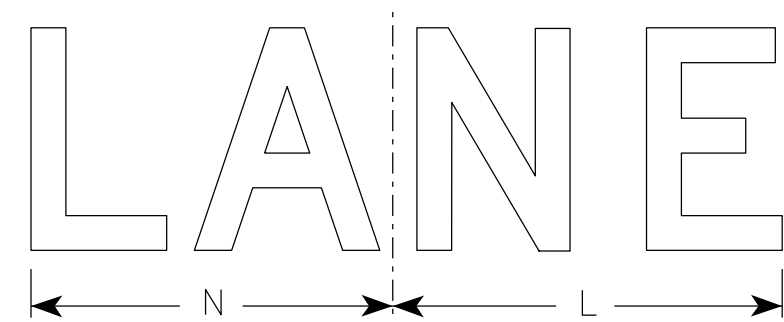
R11-2



R11-2R



R11-2T



R11-2L

NOTES

1. Sign is Type II - Type H Reflective
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.

7

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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 7/8	1/2	5/8	8	5	4	13 1/4	13 1/2	19	14	15	13	15 5/8												10.0
2M	48	30	1 7/8	1/2	5/8	8	5	4	13 1/4	13 1/2	19	14	15	13	15 5/8												10.0
3	48	30	1 7/8	1/2	5/8	8	5	4	13 1/4	13 1/2	19	14	15	13	15 5/8												10.0
4	48	30	1 7/8	1/2	5/8	8	5	4	13 1/4	13 1/2	19	14	15	13	15 5/8												10.0
5	48	30	1 7/8	1/2	5/8	8	5	4	13 1/4	13 1/2	19	14	15	13	15 5/8												10.0

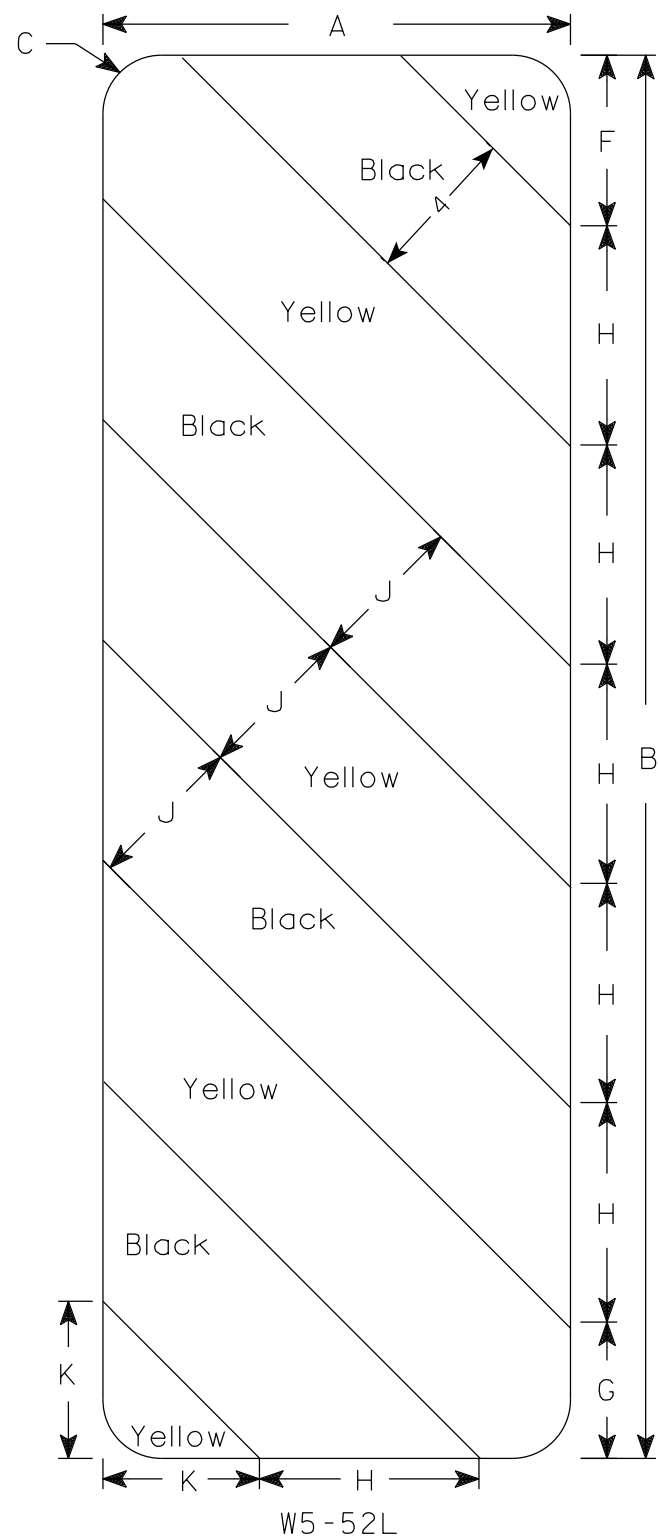
STANDARD SIGN
R11-2

WISCONSIN DEPT OF TRANSPORTATION

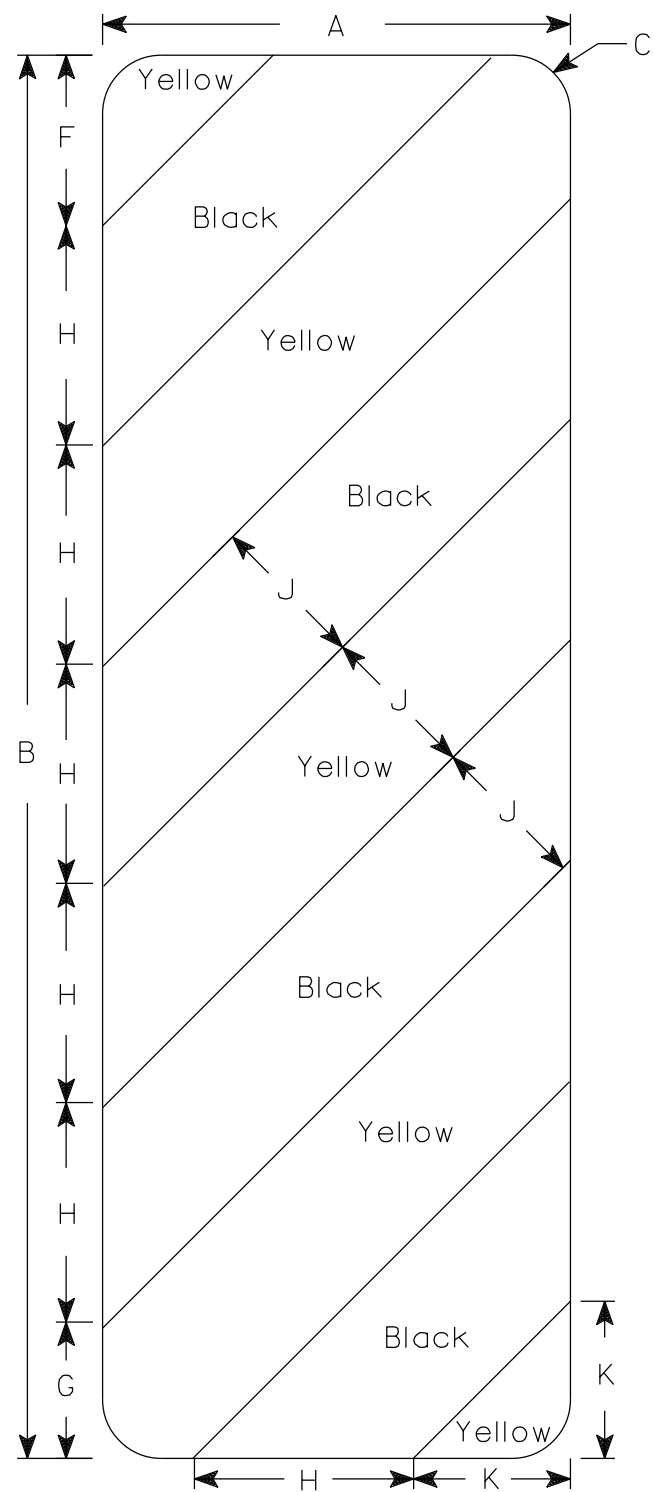
APPROVED Matthew R Rauch
For State Traffic Engineer

DATE 2/5/24 PLATE NO. R11-2.12

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



W5-52L



W5-52R

NOTES

1. Sign is Type II - Type F Reflective
2. Color:
Background - Yellow
Message - Black
3. Alternate colors of stripes as shown.

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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	12	36	1 1/2			4 3/8	3 1/2	5 5/8	45°	4	4																3.0
2M	12	36	1 1/2			4 3/8	3 1/2	5 5/8	45°	4	4																3.0
3	18	54	1 1/2			6	5 1/2	8 1/2	45°	6	6 9/16																6.75
4																											
5																											

STANDARD SIGN
W5-52L & W5-52R

WISCONSIN DEPT OF TRANSPORTATION

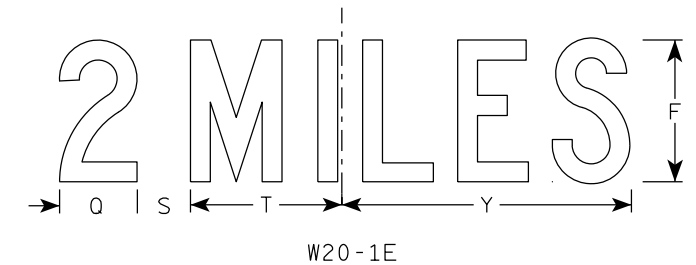
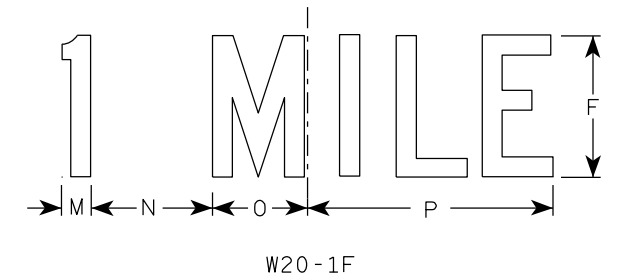
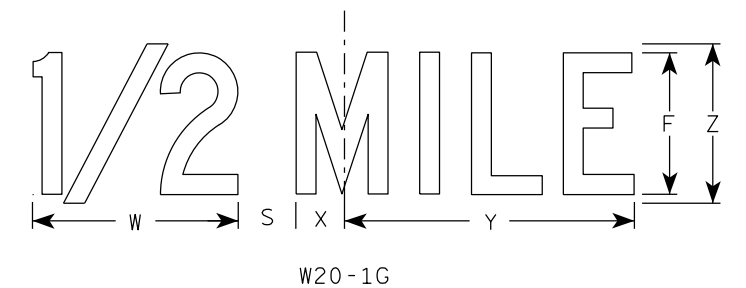
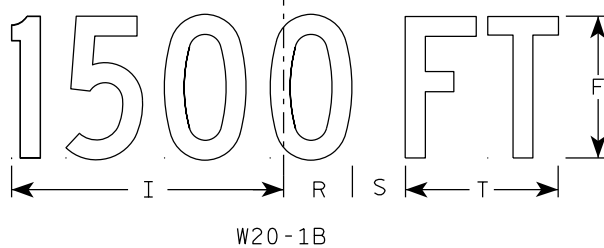
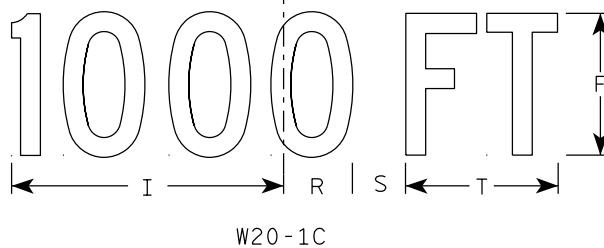
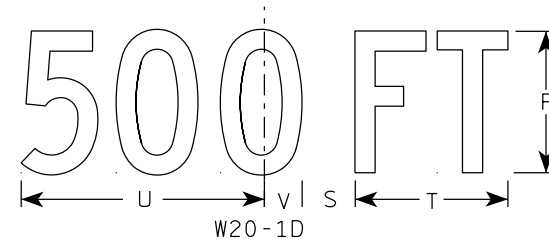
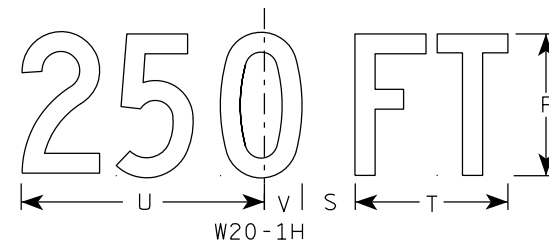
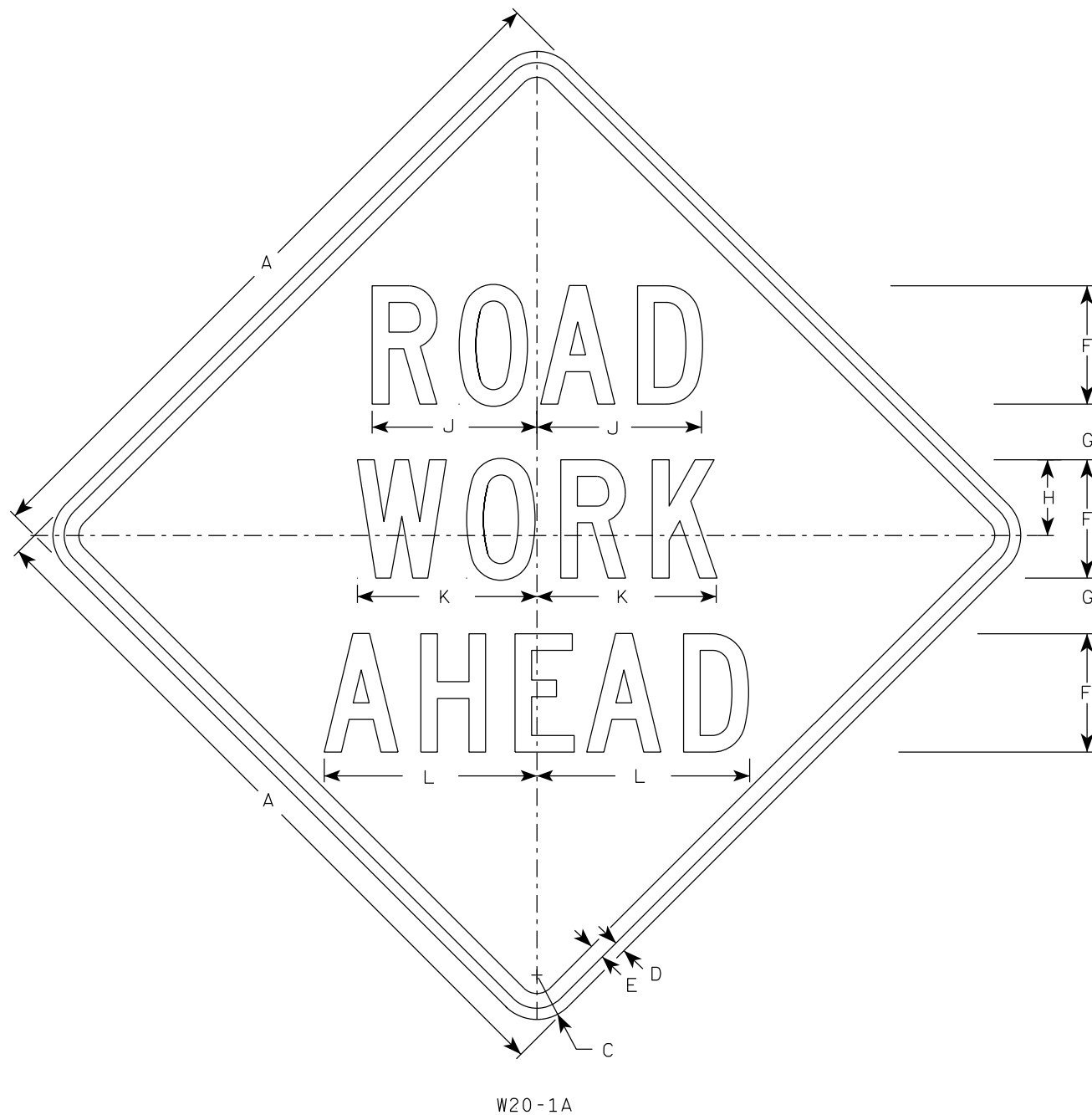
APPROVED *Matthew R. Rauch*
For State Traffic Engineer

DATE 3/4/2024 PLATE NO. W5-52.10

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

NOTES

1. Sign is Type II - Type F Reflective
2. Color:
Background - Orange
Message - Black
3. Message Series - C
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.



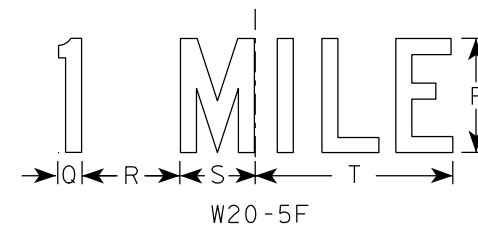
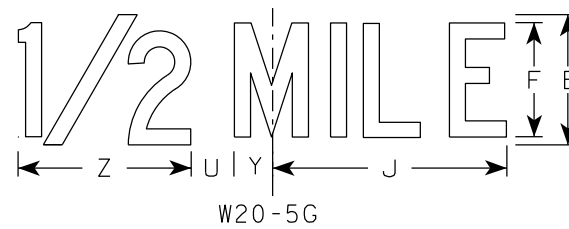
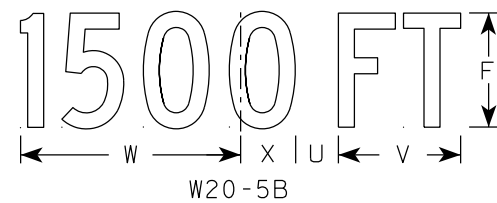
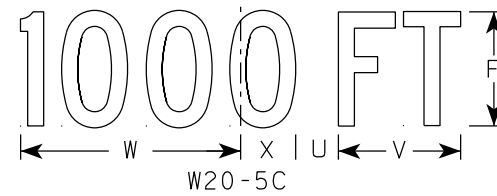
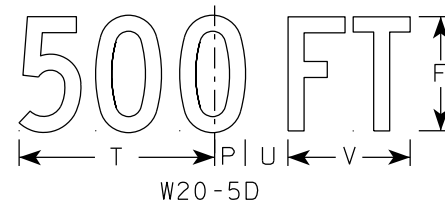
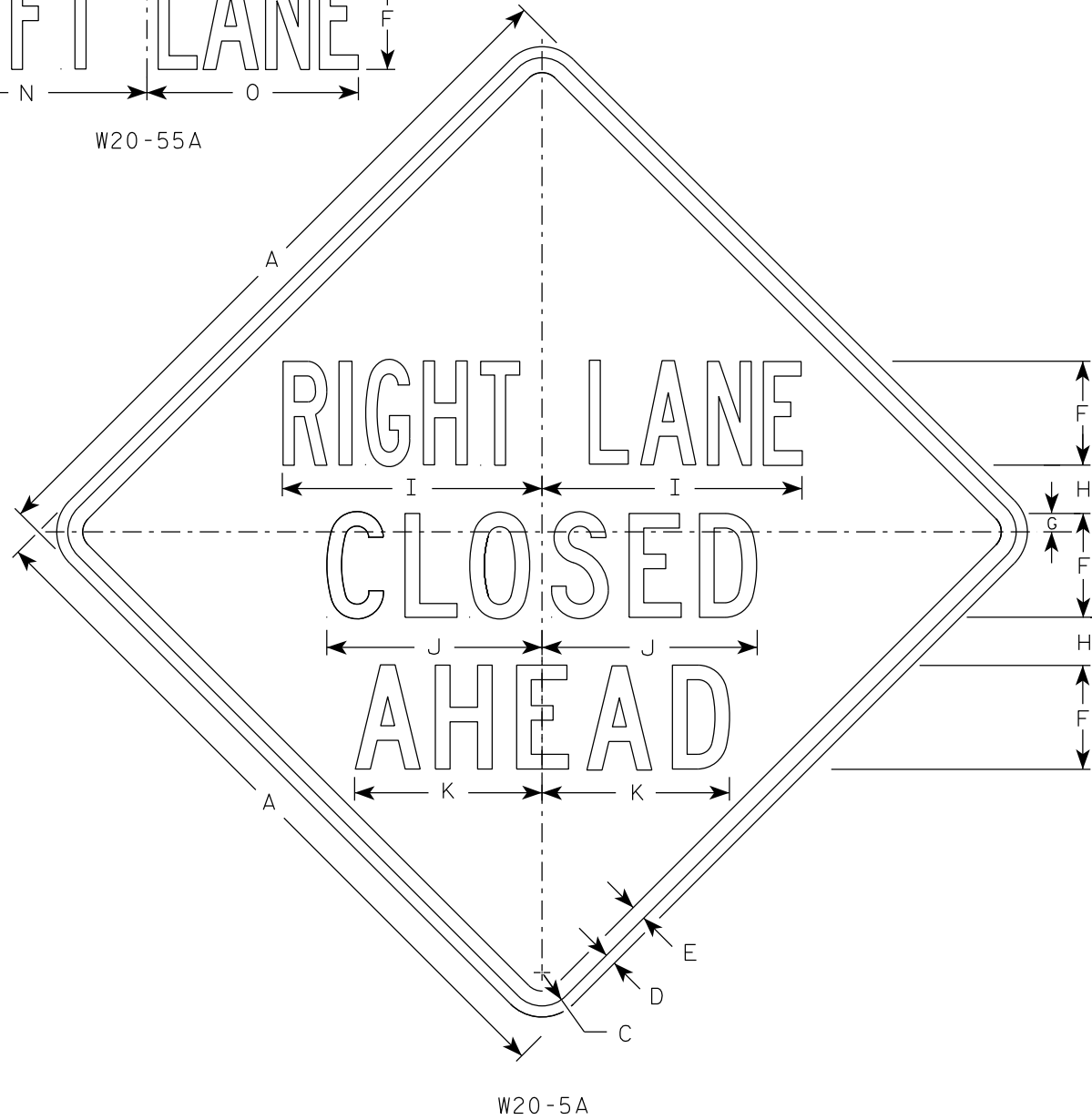
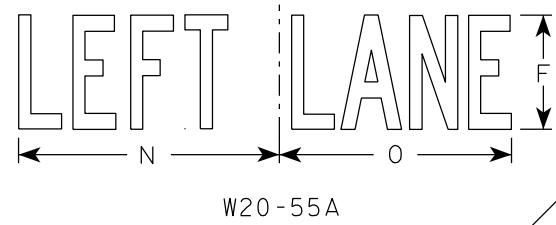
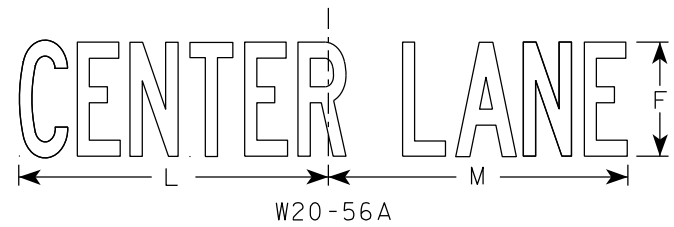
SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	36		2 1/4	5/8	3/4	5	2 5/8	3 1/4	10 1/8	7	7 5/8	8 7/8	1 1/8	4 1/2	3 1/2	9	3 1/4	2 1/2	2 1/4	5 5/8	9	1 3/8	8	1 3/4	10 3/4	6	9.0
2S	48		3	3/4	1	8	3 3/4	5 1/8	15 3/8	11 1/8	12 1/8	14 3/8	1 5/8	6 7/8	5 3/8	13 7/8	4 3/8	3 7/8	3	8 5/8	13 3/4	2 1/8	11 7/8	2 3/4	16 3/8	9	16.0
2M	48		3	3/4	1	8	3 3/4	5 1/8	15 3/8	11 1/8	12 1/8	14 3/8	1 5/8	6 7/8	5 3/8	13 7/8	4 3/8	3 7/8	3	8 5/8	13 3/4	2 1/8	11 7/8	2 3/4	16 3/8	9	16.0
3	48		3	3/4	1	8	3 3/4	5 1/8	15 3/8	11 1/8	12 1/8	14 3/8	1 5/8	6 7/8	5 3/8	13 7/8	4 3/8	3 7/8	3	8 5/8	13 3/4	2 1/8	11 7/8	2 3/4	16 3/8	9	16.0
4	48		3	3/4	1	8	3 3/4	5 1/8	15 3/8	11 1/8	12 1/8	14 3/8	1 5/8	6 7/8	5 3/8	13 7/8	4 3/8	3 7/8	3	8 5/8	13 3/4	2 1/8	11 7/8	2 3/4	16 3/8	9	16.0
5	48		3	3/4	1	8	3 3/4	5 1/8	15 3/8	11 1/8	12 1/8	14 3/8	1 5/8	6 7/8	5 3/8	13 7/8	4 3/8	3 7/8	3	8 5/8	13 3/4	2 1/8	11 7/8	2 3/4	16 3/8	9	16.0

STANDARD SIGN
W20-1A, B, C, D, E, F, G & H

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
For State Traffic Engineer

DATE 1/10/2024 PLATE NO. W20-1.12



NOTES

1. Sign is Type II - Type F Reflective
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. " _____ LANE" is Series B.
All other copy is Series C.

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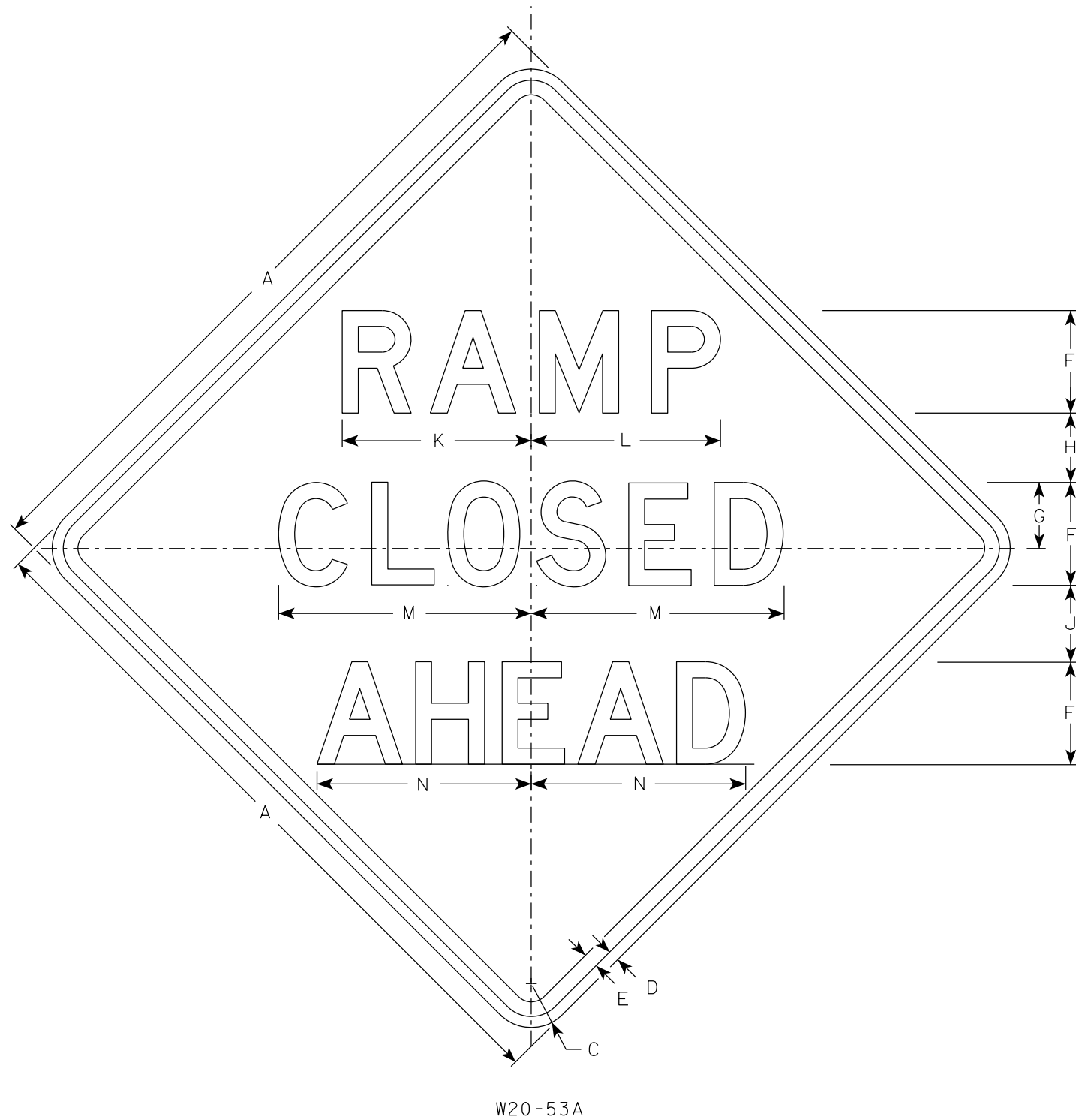
SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	36	6	2 1/4	5/8	3/4	5	7/8	2 1/2	13 1/8	10 3/4	9 1/2	14 1/4	13 5/8	12	12	1 3/8	1 1/8	4 1/2	3 1/2	9	1 7/8	5 5/8	10 1/8	2 1/2	1 3/4	8	9.0
2S	48	8	3	3/4	1	7	1 1/4	3 1/4	17 1/2	14 3/8	12 5/8	19	18 3/8	16	14 1/4	1 7/8	1 1/2	6	4 5/8	12	2 5/8	7 1/2	13 1/2	3 3/8	2 3/8	10 5/8	16.0
2M	48	8	3	3/4	1	7	1 1/4	3 1/4	17 1/2	14 3/8	12 5/8	19	18 3/8	16	14 1/4	1 7/8	1 1/2	6	4 5/8	12	2 5/8	7 1/2	13 1/2	3 3/8	2 3/8	10 5/8	16.0
3	48	8	3	3/4	1	7	1 1/4	3 1/4	17 1/2	14 3/8	12 5/8	19	18 3/8	16	14 1/4	1 7/8	1 1/2	6	4 5/8	12	2 5/8	7 1/2	13 1/2	3 3/8	2 3/8	10 5/8	16.0
4	48	8	3	3/4	1	7	1 1/4	3 1/4	17 1/2	14 3/8	12 5/8	19	18 3/8	16	14 1/4	1 7/8	1 1/2	6	4 5/8	12	2 5/8	7 1/2	13 1/2	3 3/8	2 3/8	10 5/8	16.0
5	48	8	3	3/4	1	7	1 1/4	3 1/4	17 1/2	14 3/8	12 5/8	19	18 3/8	16	14 1/4	1 7/8	1 1/2	6	4 5/8	12	2 5/8	7 1/2	13 1/2	3 3/8	2 3/8	10 5/8	16.0

STANDARD SIGN
W20-5A, B, C, D, F & G

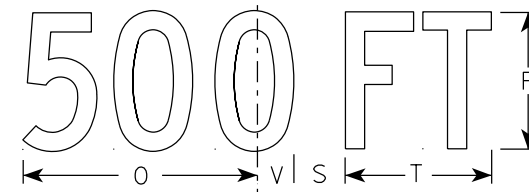
WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
For State Traffic Engineer

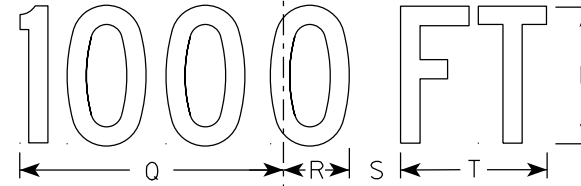
DATE 3/27/24 PLATE NO. W20-5.12



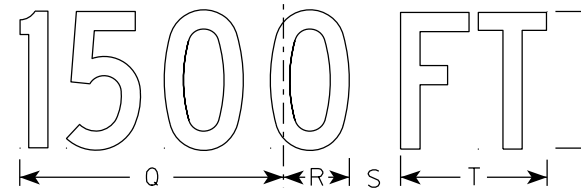
W20-53A



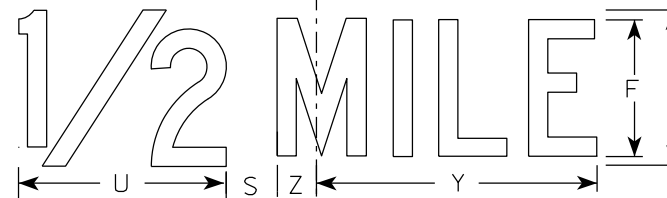
W20-53D



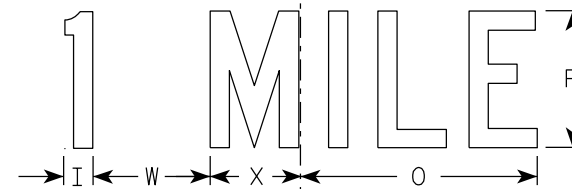
W20-53C



W20-53B



W20-53G



W20-53F

NOTES

1. Sign is Type II - Type F Reflective
2. Color:
Background - Orange
Message - Black
3. Message Series - see note 5
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
5. Lines 1 and 2 are Series D.
Line 3 is Series D for AHEAD and Series C for all other distances.

7

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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		2 1/4	5/8	3/4	5	3 3/8	3 1/2	1 1/8	4	9 1/4	9 1/4	12 1/2	11	9	6	10 1/8	2 1/2	1 7/8	5 5/8	8	1 3/8	4 1/2	3 1/2	10 3/4	1 3/4	9.0
2S	48		3	3/4	1	7	4 1/2	4 3/4	1 1/2	5 1/4	12 7/8	12 7/8	17 1/4	14 5/8	12	8	13 1/2	3 3/8	2 5/8	7 1/2	10 5/8	1 7/8	6	4 5/8	14 3/8	2 3/8	16.0
2M	48		3	3/4	1	7	4 1/2	4 3/4	1 1/2	5 1/4	12 7/8	12 7/8	17 1/4	14 5/8	12	8	13 1/2	3 3/8	2 5/8	7 1/2	10 5/8	1 7/8	6	4 5/8	14 3/8	2 3/8	16.0
3	48		3	3/4	1	7	4 1/2	4 3/4	1 1/2	5 1/4	12 7/8	12 7/8	17 1/4	14 5/8	12	8	13 1/2	3 3/8	2 5/8	7 1/2	10 5/8	1 7/8	6	4 5/8	14 3/8	2 3/8	16.0
4	48		3	3/4	1	7	4 1/2	4 3/4	1 1/2	5 1/4	12 7/8	12 7/8	17 1/4	14 5/8	12	8	13 1/2	3 3/8	2 5/8	7 1/2	10 5/8	1 7/8	6	4 5/8	14 3/8	2 3/8	16.0
5	48		3	3/4	1	7	4 1/2	4 3/4	1 1/2	5 1/4	12 7/8	12 7/8	17 1/4	14 5/8	12	8	13 1/2	3 3/8	2 5/8	7 1/2	10 5/8	1 7/8	6	4 5/8	14 3/8	2 3/8	16.0

STANDARD SIGN
W20-53A,B,C,D,F,G

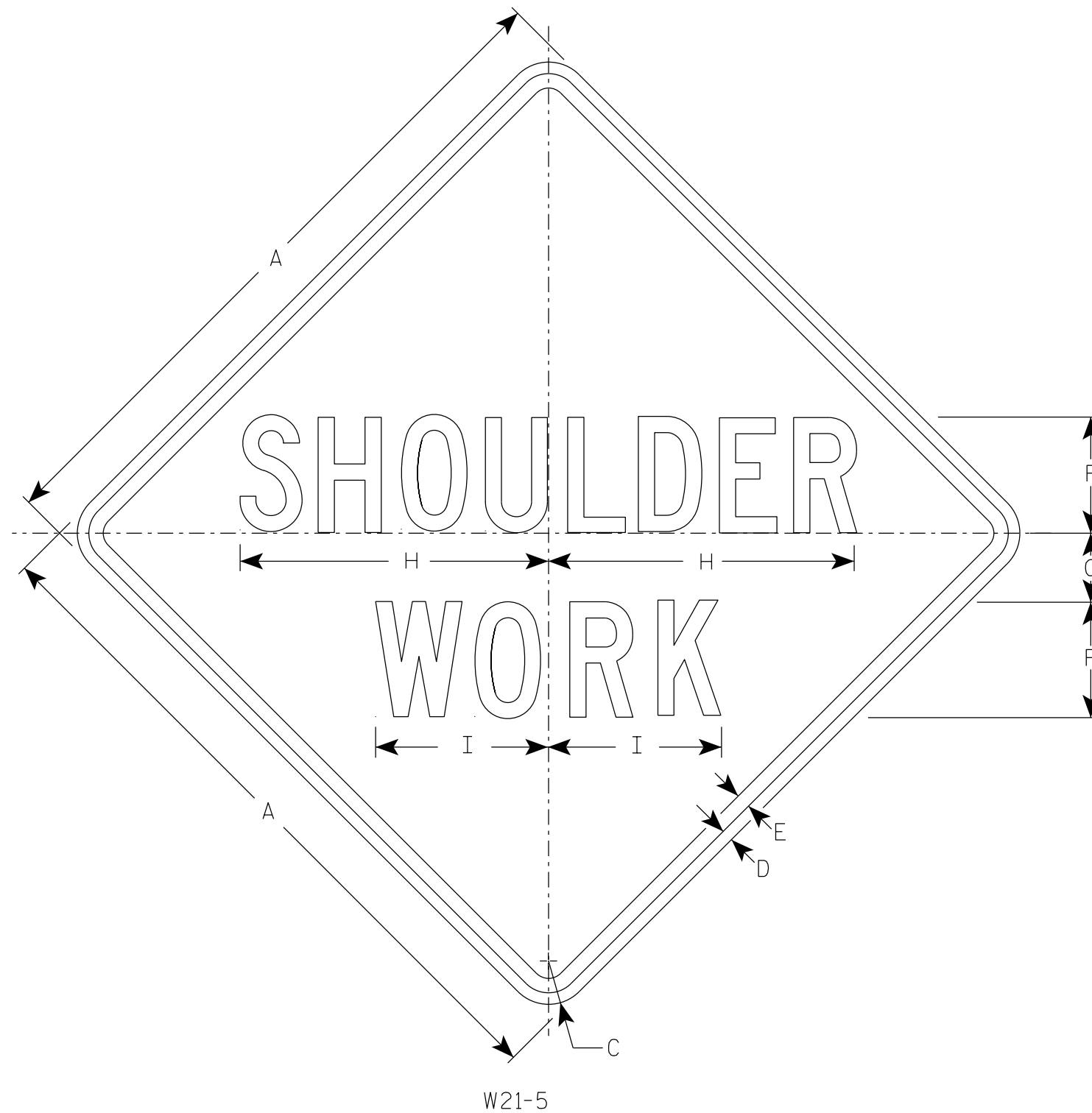
WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R Rauch*
for State Traffic Engineer

DATE 1/10/2024 PLATE NO. W20-53.2

NOTES

1. Sign is Type II - Type F Reflective
2. Color:
Background - Orange
Message - Black
3. Message Series - C



SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	36		2 1/4	5/8	3/4	6	3 1/2	16	9																		9.0
2S	48		3	3/4	1	8	5	21 3/8	11 1/4																		16.0
2M	48		3	3/4	1	8	5	21 3/8	11 1/4																		16.0
3	48		3	3/4	1	8	5	21 3/8	11 1/4																		16.0
4	48		3	3/4	1	8	5	21 3/8	11 1/4																		16.0
5	48		3	3/4	1	8	5	21 3/8	11 1/4																		16.0

STANDARD SIGN
W21-5

WISCONSIN DEPT OF TRANSPORTATION

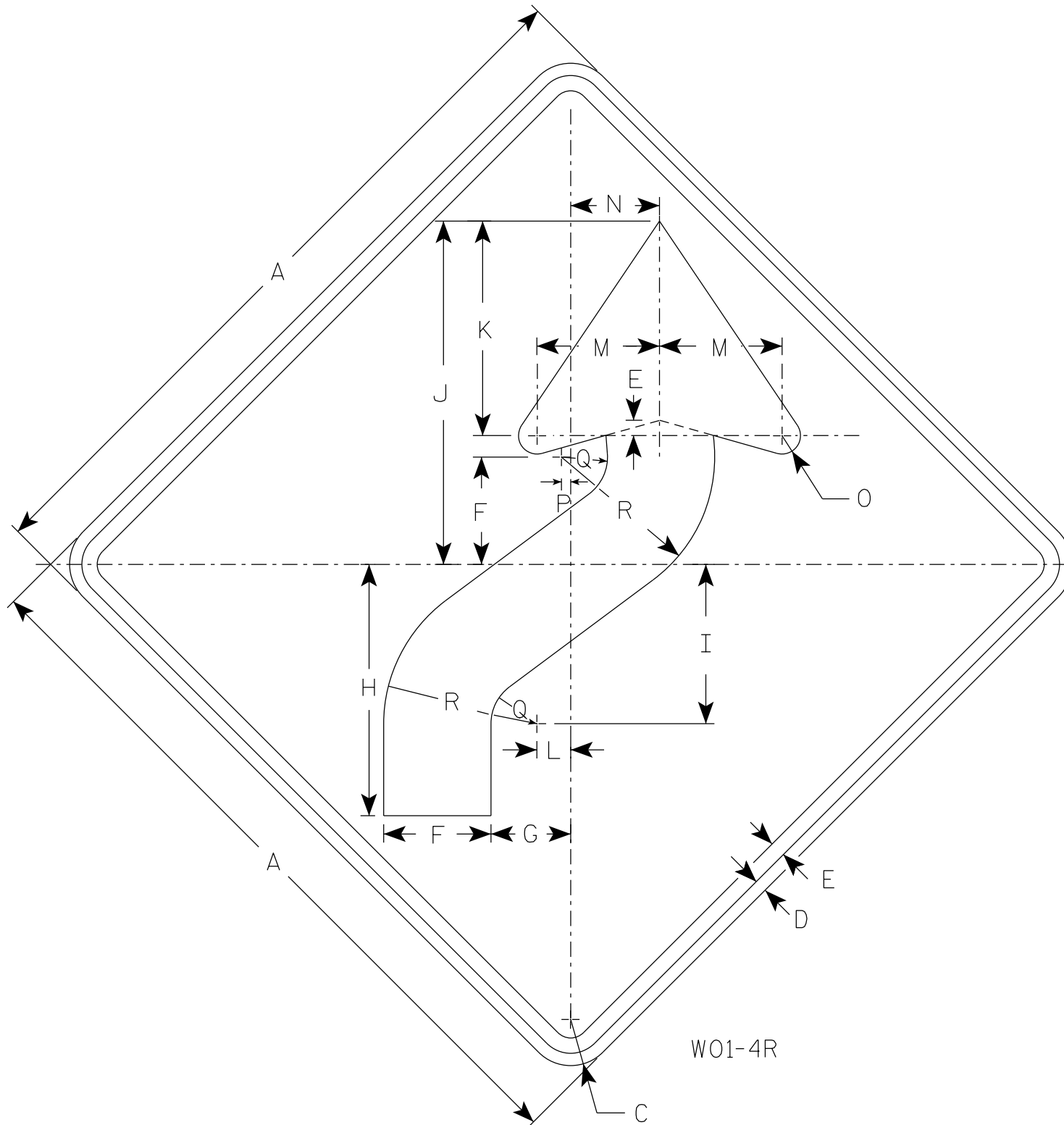
APPROVED *Matthew R. Rauch*
For State Traffic Engineer

DATE 1/11/2024 PLATE NO. W21-5.7

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

7

7



NOTES

1. Sign is Type II - Type F Reflective
2. Color:
Background - Orange
Message - Black
3. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
4. W01-4L is the same as W01-4R except the arrow is reversed along the vertical centerline.

7

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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		2 1/4	5/8	3/4	5 1/4	4	12 3/8	7 7/8	16 7/8	10 1/2	1 5/8	6	4 1/2	1	1/2	2 1/4	7 1/2									9.0
2S	48		3	3/4	1	7	5 1/4	16 1/2	10 1/2	22 1/2	14	2 1/4	8	6	1 1/4	5/8	3	10									16.0
2M	48		3	3/4	1	7	5 1/4	16 1/2	10 1/2	22 1/2	14	2 1/4	8	6	1 1/4	5/8	3	10									16.0
3	48		3	3/4	1	7	5 1/4	16 1/2	10 1/2	22 1/2	14	2 1/4	8	6	1 1/4	5/8	3	10									16.0
4	48		3	3/4	1	7	5 1/4	16 1/2	10 1/2	22 1/2	14	2 1/4	8	6	1 1/4	5/8	3	10									16.0
5	48		3	3/4	1	7	5 1/4	16 1/2	10 1/2	22 1/2	14	2 1/4	8	6	1 1/4	5/8	3	10									16.0

STANDARD SIGN
W01-4

WISCONSIN DEPT OF TRANSPORTATION

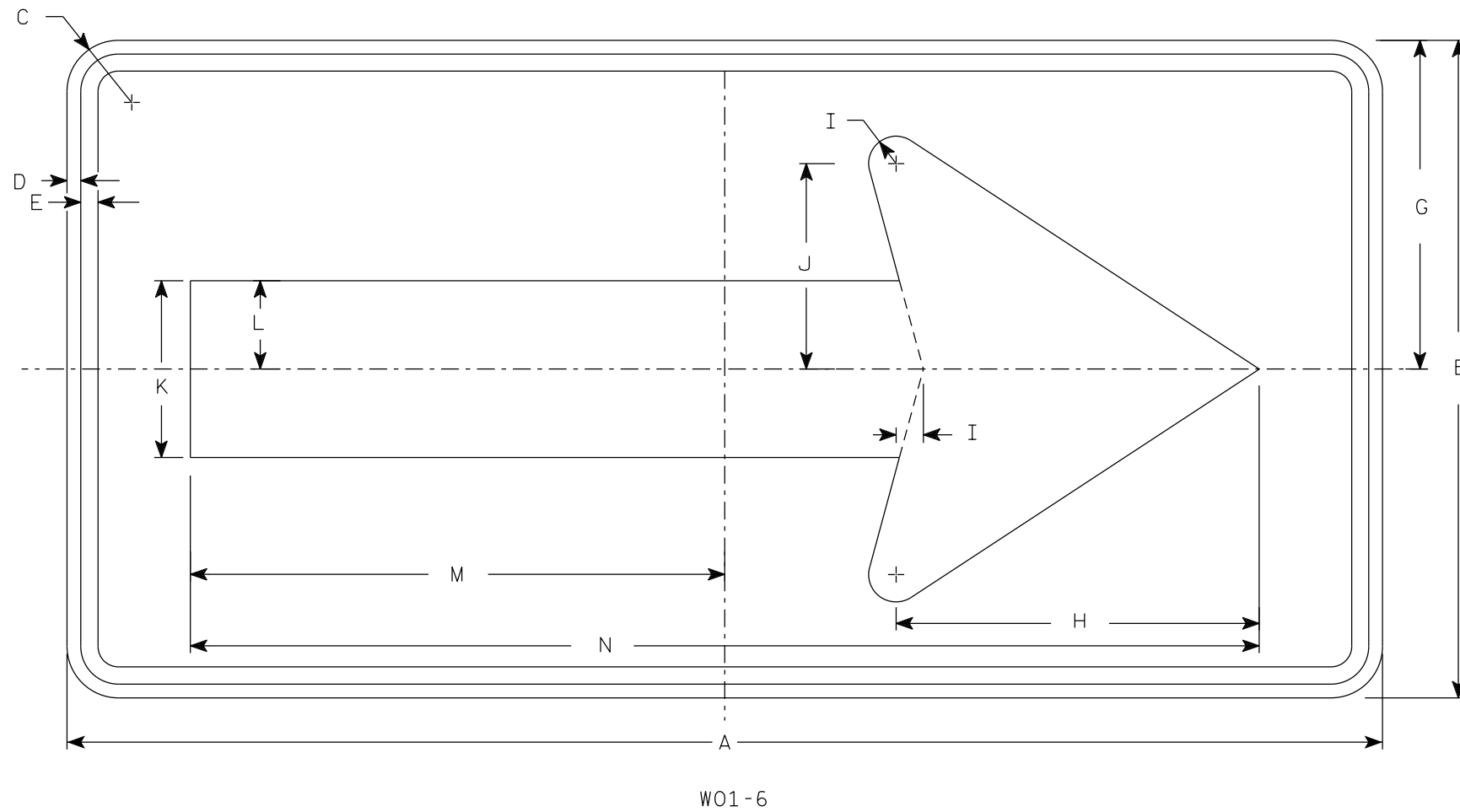
APPROVED *Matthew R Rauch*
for State Traffic Engineer

DATE 1/24/2024 PLATE NO. W01-4.2

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

NOTES

1. Sign is Type II - Type F Reflective
2. Color:
Background - Orange
Message - Black
3. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.



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	48	24	1 7/8	1/2	5/8		12	13 1/4	1	7 1/2	6 1/2	3 1/4	19 1/2	39													8.0
2M	48	24	1 7/8	1/2	5/8		12	13 1/4	1	7 1/2	6 1/2	3 1/4	19 1/2	39													8.0
3	60	30	1 7/8	1/2	5/8		15	16 1/4	1 1/4	9 1/4	8	4	24 3/8	48 3/4													12.5
4	60	30	1 7/8	1/2	5/8		15	16 1/4	1 1/4	9 1/4	8	4	24 3/8	48 3/4													12.5
5	60	30	1 7/8	1/2	5/8		15	16 1/4	1 1/4	9 1/4	8	4	24 3/8	48 3/4													12.5

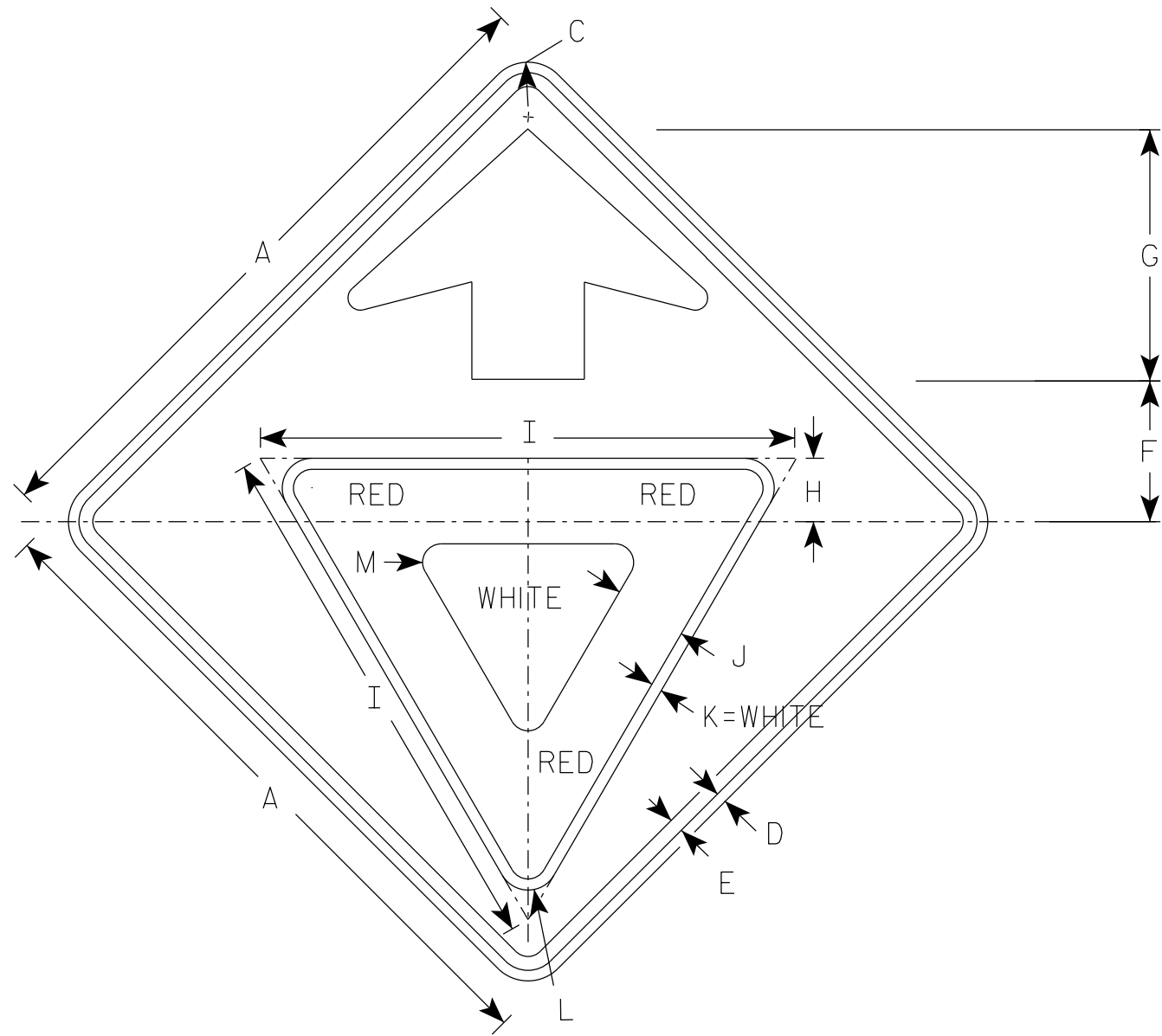
STANDARD SIGN
W01-6

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer

DATE 1/24/2024 PLATE NO. W01-6.2

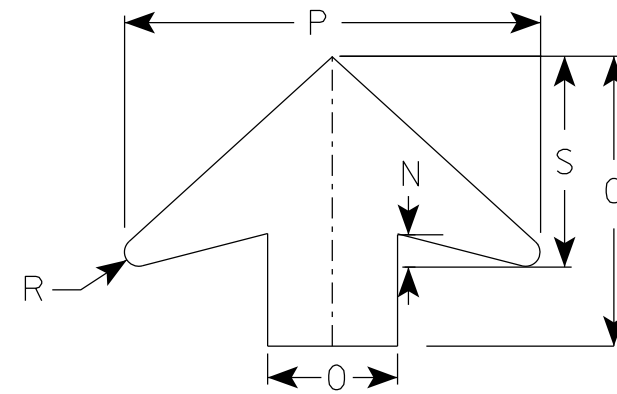
PROJECT NO: _____ HWY: _____ COUNTY: _____ SHEET NO: **E**



W03-2

NOTES

1. All Signs Type II - Type F Reflective
2. Color:
 - Background - ORANGE
 - Arrow & Border - BLACK
 - Yield Symbol - WHITE BORDER ON RED BACKGROUND



ARROW DETAIL

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	36		2 1/4	5/8	3/4	7 1/2	13 1/2	3 3/8	28	3 3/4	5/8	1 1/2	1	1 5/8	6	19 1/4		5/8	9 3/4								9.0
2S	48		3	3/4	1	10	17 7/8	4 1/2	38	5	3/4	2 1/8	1 3/8	2	8	25 5/8		7/8	13								16.0
2M	48		3	3/4	1	10	17 7/8	4 1/2	38	5	3/4	2 1/8	1 3/8	2	8	25 5/8		7/8	13								16.0
3	48		3	3/4	1	10	17 7/8	4 1/2	38	5	3/4	2 1/8	1 3/8	2	8	25 5/8		7/8	13								16.0
4	48		3	3/4	1	10	17 7/8	4 1/2	38	5	3/4	2 1/8	1 3/8	2	8	25 5/8		7/8	13								16.0
5	48		3	3/4	1	10	17 7/8	4 1/2	38	5	3/4	2 1/8	1 3/8	2	8	25 5/8		7/8	13								16.0

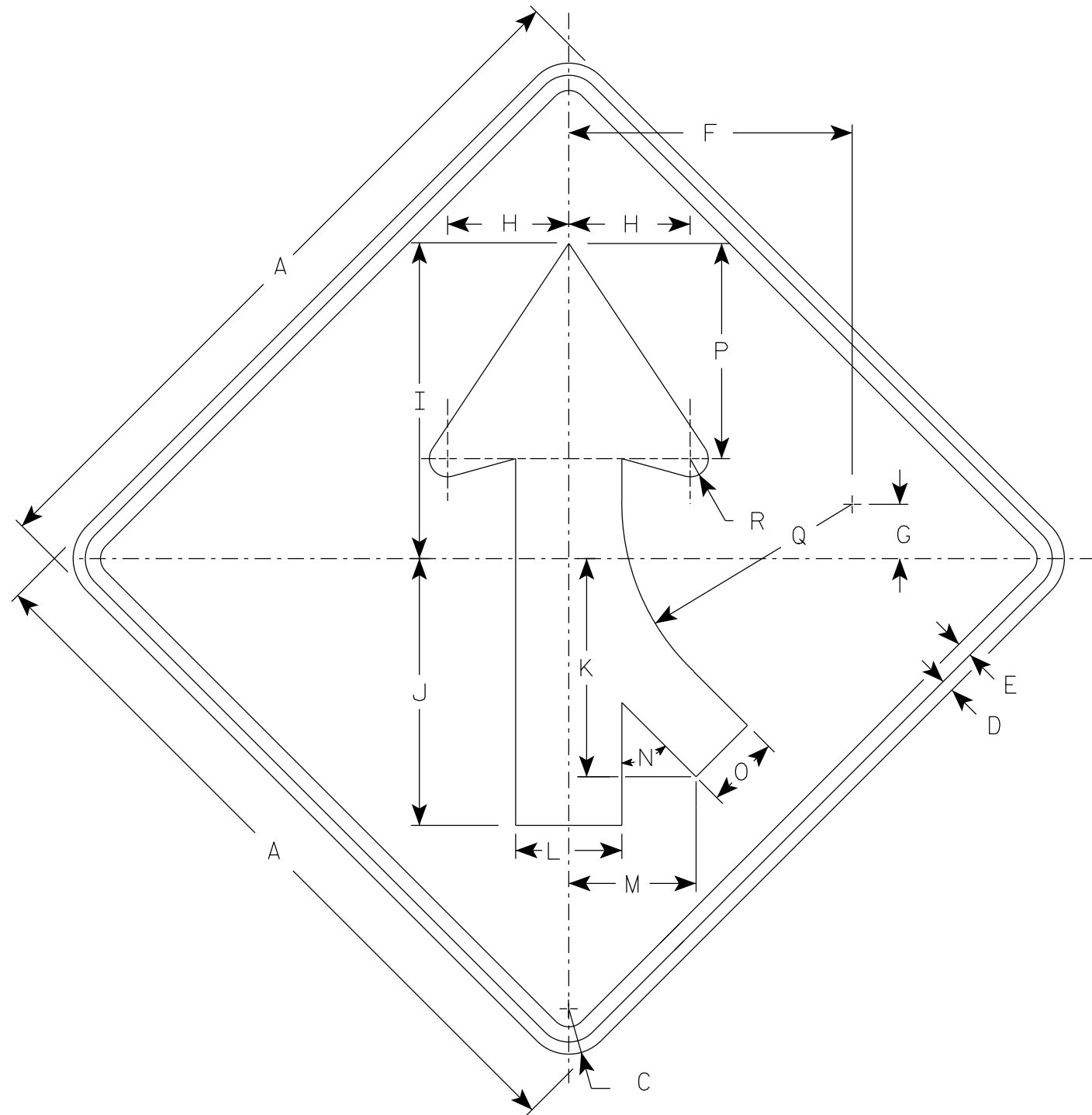
PROJECT NO:

SHEET NO:

E

7

7



W04-1R

NOTES

1. Sign is Type II - Type F Reflective
2. Color:
Background - Orange
Message - Black
3. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
4. W04-1L is the same as W04-1R except the arrow is reversed along the vertical centerline.

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	36		2 1/4	5/8	3/4	14	2 3/4	6	15 3/4	13 1/4	10 1/4	5 1/4	6 3/8	45°	3 5/8	10 5/8	11 3/8	7/8									9.0
2S	48		3	3/4	1	18 3/4	3 5/8	8	20 1/2	17 1/2	14 3/8	7	8 3/8	45°	4 3/4	14 1/4	15 1/4	1 1/4									16.0
2M	48		3	3/4	1	18 3/4	3 5/8	8	20 1/2	17 1/2	14 3/8	7	8 3/8	45°	4 3/4	14 1/4	15 1/4	1 1/4									16.0
3	48		3	3/4	1	18 3/4	3 5/8	8	20 1/2	17 1/2	14 3/8	7	8 3/8	45°	4 3/4	14 1/4	15 1/4	1 1/4									16.0
4	48		3	3/4	1	18 3/4	3 5/8	8	20 1/2	17 1/2	14 3/8	7	8 3/8	45°	4 3/4	14 1/4	15 1/4	1 1/4									16.0
5	48		3	3/4	1	18 3/4	3 5/8	8	20 1/2	17 1/2	14 3/8	7	8 3/8	45°	4 3/4	14 1/4	15 1/4	1 1/4									16.0

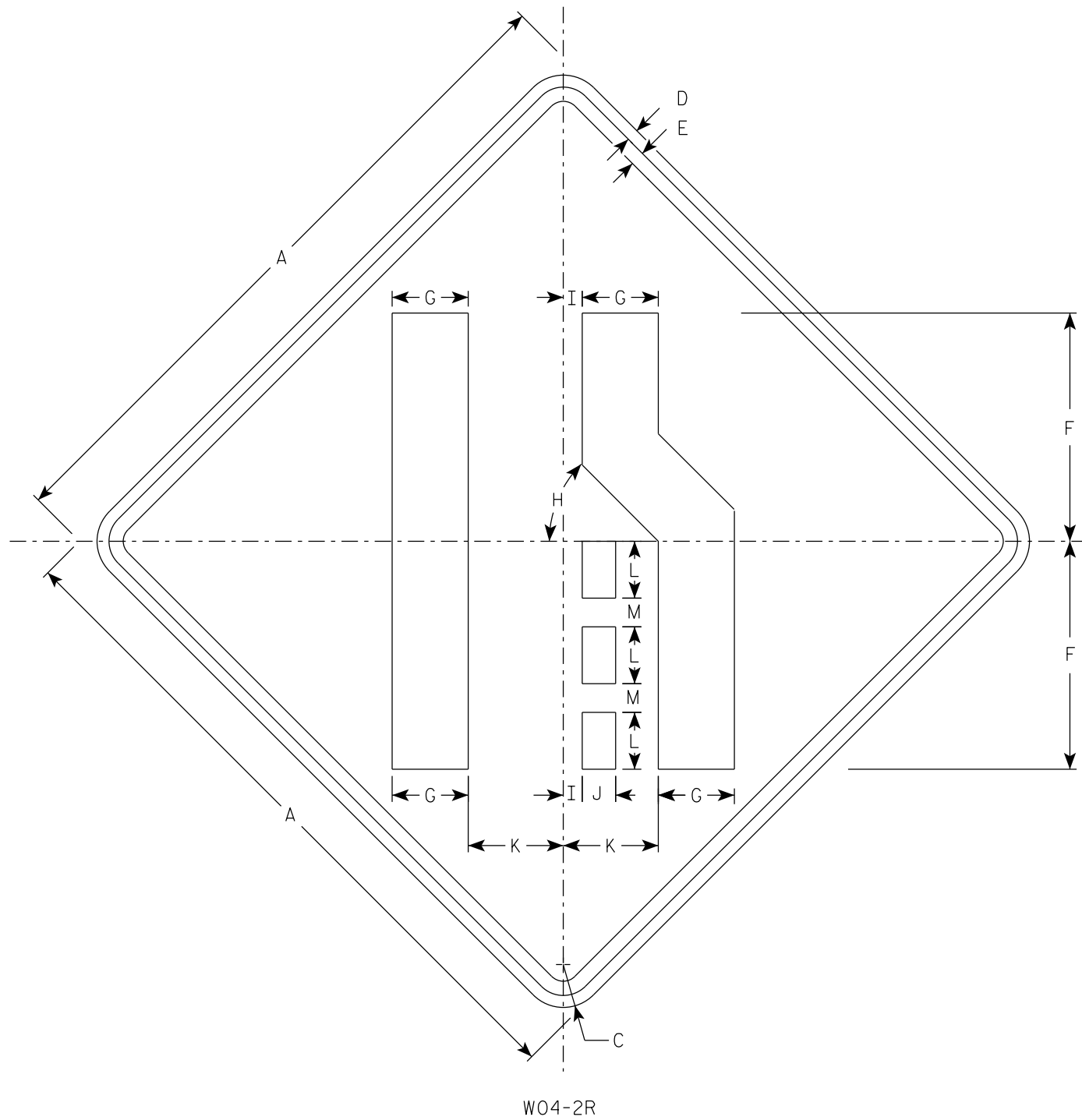
STANDARD SIGN
W04-1

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer

DATE 1/25/2024 PLATE NO. W04-1.3

PROJECT NO: HWY: COUNTY: SHEET NO: **E**



W04-2R

NOTES

1. Sign is Type II - Type F Reflective
2. Color:
Background - Orange
Message - Black
3. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
4. W04-2L is the same as W04-2R except the symbol is reversed along the vertical centerline.

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	36		2 1/4	5/8	3/4	12	4	45°	1	1 3/4	5	3	1 1/2														9.0
2S	48		3	3/4	1	16	5 3/8	45°	1 1/4	2 3/8	6 3/4	4	2														16.0
2M	48		3	3/4	1	16	5 3/8	45°	1 1/4	2 3/8	6 3/4	4	2														16.0
3	48		3	3/4	1	16	5 3/8	45°	1 1/4	2 3/8	6 3/4	4	2														16.0
4	48		3	3/4	1	16	5 3/8	45°	1 1/4	2 3/8	6 3/4	4	2														16.0
5	48		3	3/4	1	16	5 3/8	45°	1 1/4	2 3/8	6 3/4	4	2														16.0

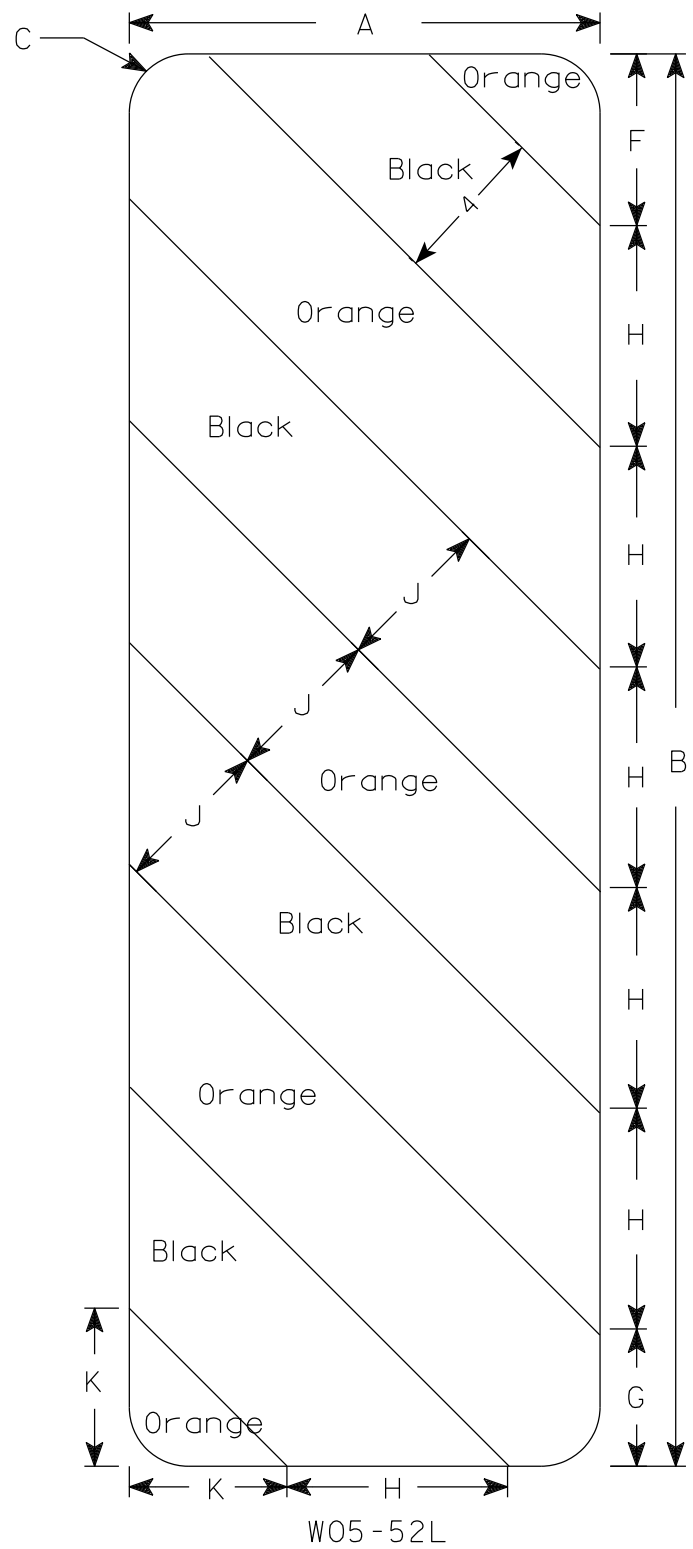
PROJECT NO: _____ SHEET NO: **E**

STANDARD SIGN
W04-2

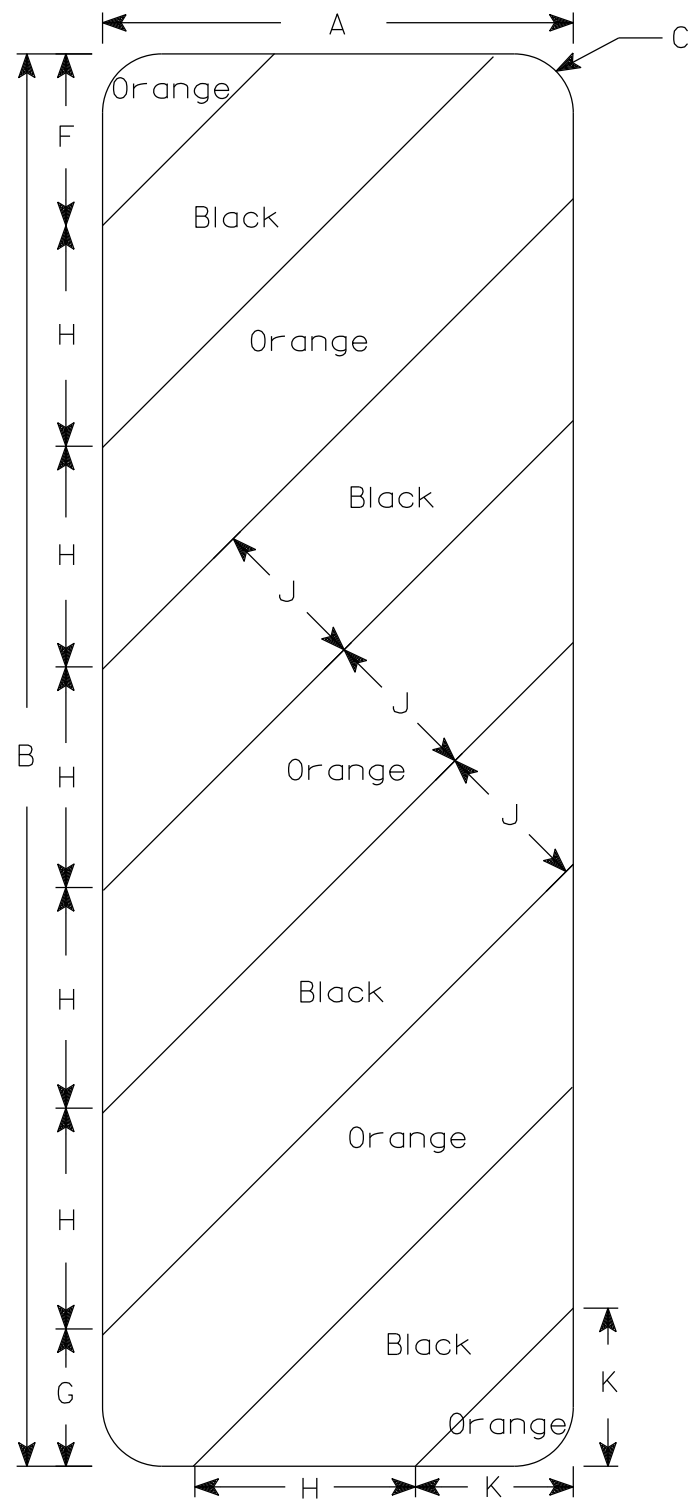
WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R Rauch*
For State Traffic Engineer

DATE 1/25/2024 PLATE NO. W04-2.2



W05-52L



W05-52R

NOTES

1. Sign is Type II - Type F Reflective
2. Color:
Background - Orange
Message - Black
4. Alternate colors of stripes as shown.

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	12	36	1 1/2			4 3/8	3 1/2	5 5/8	45°	4	4																3.0
2M	12	36	1 1/2			4 3/8	3 1/2	5 5/8	45°	4	4																3.0
3	18	54	1 1/2			6	5 1/2	8 1/2	45°	6	6 9/16																6.75
4																											
5																											

STANDARD SIGN
W05-52L & W05-52R

WISCONSIN DEPT OF TRANSPORTATION

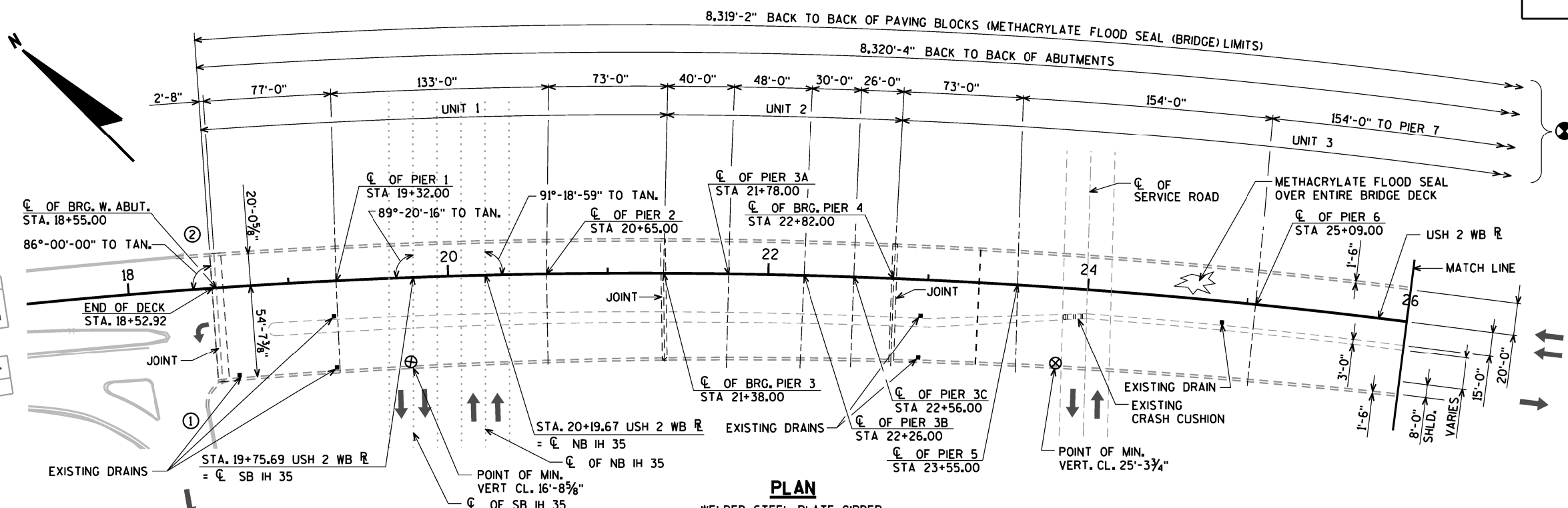
APPROVED *Matthew R. Rauch*
for State Traffic Engineer

DATE 3/13/2024 PLATE NO. W05-52.2

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

CURVE DATA

USH 2 WB R
 P.I. STA. 29+42.00
 $\Delta=43^{\circ}-08'-06.4''$
 $D=1^{\circ}-30'$
 $T=1,509.83'$
 $L=2,875.67'$
 $R=3,819.72'$
 $S.E.=0.036\%$
 P.C. STA. 14+32.17
 P.T. STA. 43+07.85



PLAN

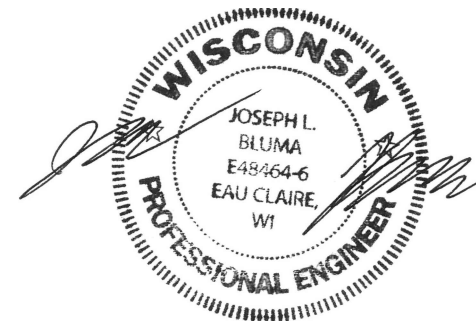
WELDED STEEL PLATE GIRDER,
 CONCRETE HAUNCHED SLAB, &
 STEEL TIED ARCH BRIDGE
 METHACRYLATE FLOOD SEAL

○ DENOTES WING NUMBER

⊗ MEASURED ALONG USH 2 WB R & USH 2 R, NOTE BASE LINE SHIFT AT STA. 43+07.85.

LIST OF DRAWINGS

1. GENERAL PLAN UNITS 1 THRU 3
2. GENERAL PLAN UNITS 3 THRU 5
3. GENERAL PLAN UNITS 5 THRU 7
4. GENERAL PLAN UNITS 7 THRU 9
5. GENERAL PLAN UNITS 9 THRU 12
6. GENERAL PLAN UNITS 12 THRU 14
7. GENERAL PLAN UNITS 14 & 15
8. GENERAL PLAN UNITS 15 THRU 18
9. GENERAL PLAN UNITS 18 & 19
10. GENERAL PLAN RAMP 69101
11. GENERAL PLAN RAMP 69101
12. GENERAL PLAN RAMP 69101
13. GENERAL PLAN RAMP 69102
14. GENERAL PLAN RAMP 69102
15. GENERAL PLAN RAMP 69102
16. GENERAL PLAN RAMP 69102
17. GENERAL PLAN RAMP 69102
18. GENERAL PLAN RAMP 69102
19. GENERAL PLAN RAMP 69109
20. CROSS SECTIONS UNITS 1-3
21. CROSS SECTIONS UNIT 4
22. CROSS SECTIONS UNITS 5 & 6
23. CROSS SECTION UNITS 7-12, 14-19
24. CROSS SECTION UNIT 13
25. DESIGN DATA, QUANTITIES AND NOTES
26. HANGER DETAILS
27. TIED ARCH REPAINTING DETAILS
28. TYPICAL FLOOR BEAM AND LATERAL BRACING
29. TIED ARCH BEARINGS
30. ARCH STRUT & CROSS BRACING DETAIL
31. PIER 29
32. PIER 29
33. PIER 30
34. PIER 30
35. STRIP SEAL GLAND REPLACEMENT JOINTS 17 & 18
36. EXPANSION JOINT 16 DETAILS
37. PIERS 3A, 3B, 3C



01/27/2025

NO.	DATE	REVISION	BY
STATE OF MINNESOTA DEPARTMENT OF TRANSPORTATION			
MINNESOTA BRIDGE NO. 69100			
STH 2 OVER THE ST. LOUIS RIVER I.H. 35 & RR			
CITY OF DULUTH		ST. LOUIS COUNTY	
APPROVED: _____		DATE _____	
STATE BRIDGE ENGINEER			
ORIGINAL PLANS PREPARED BY AYRES 3433 Oakwood Hills Parkway Eau Claire, WI 54701 www.AyresAssociates.com			
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
ACCEPTED: _____		DATE: 2/17/2025	
CHIEF STRUCTURES DESIGN ENGINEER		DATE	
STRUCTURE B-16-38/69100			
USH 2 OVER ST. LOUIS RIVER			
COUNTY: DOUGLAS CO., WI		TOWN/CITY/VILLAGE: ST. LOUIS CO., MN SUPERIOR, WI & DULUTH, MN	
DESIGN SPEC. REHABILITATION N/A			
DESIGNED BY: JLB	DESIGN CK'D.: AEB	DRAWN BY: CLP	PLANS CK'D.: JLB
GENERAL PLAN UNITS 1 THRU 3			SHEET 1 OF 37

BRIDGE OFFICE CONTACT:
 AARON BONK
 (608)-261-0261

CONSULTANT CONTACT:
 JOSEPH BLUMA
 (715)-834-3161

\$PRFNAME\$ I:\414\0903\USH 2 Bong Bridge Painting 86800004\Structures\Preliminary\24 42-0825 gp1.dgn

DATE: _____
 CHECKED BY: _____
 BACK CHECKED BY: _____
 CORRECTED BY: _____

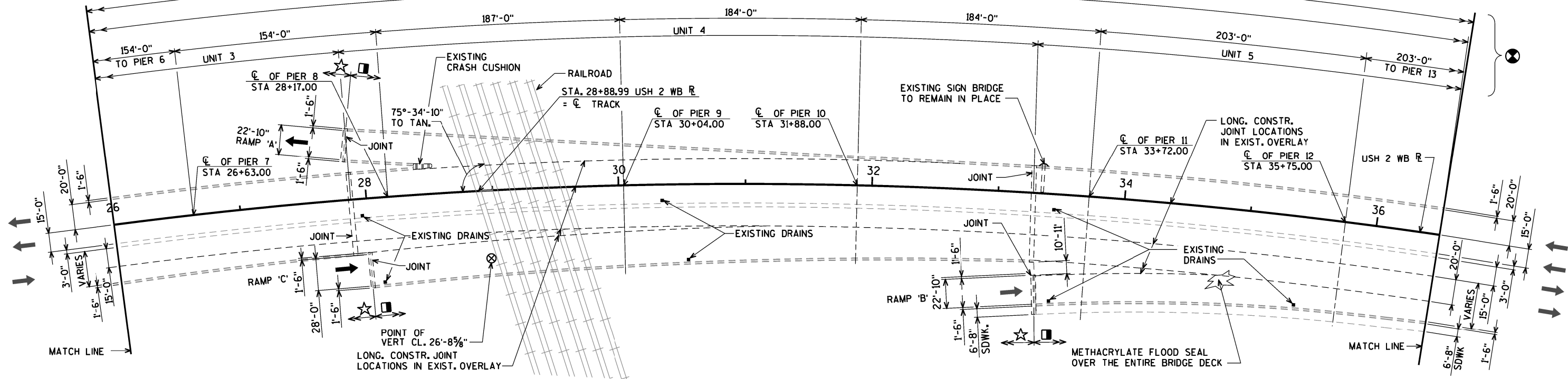
8

8

CURVE DATA

USH 2 WB R
 P.I. STA. 29+42.00
 $\Delta=43^{\circ}-08'-06.4''$
 $D=1^{\circ}-30'$
 $T=1,509.83'$
 $L=2,875.67'$
 $R=3,819.72'$
 $S.E.=0.036\%$
 P.C. STA. 14+32.17
 P.T. STA. 43+07.85

8,319'-2" BACK TO BACK OF PAVING BLOCKS (METHACRYLATE FLOOD SEAL (BRIDGE) LIMITS)
 8,320'-4" BACK TO BACK OF ABUTMENTS



PLAN

WELDED STEEL PLATE GIRDER,
 CONCRETE HAUNCHED SLAB, &
 STEEL TIED ARCH BRIDGE
 METHACRYLATE FLOOD SEAL

⊗ MEASURED ALONG USH 2 WB R
 & USH 2 R, NOTE BASE LINE
 SHIFT AT STA. 43+07.85.

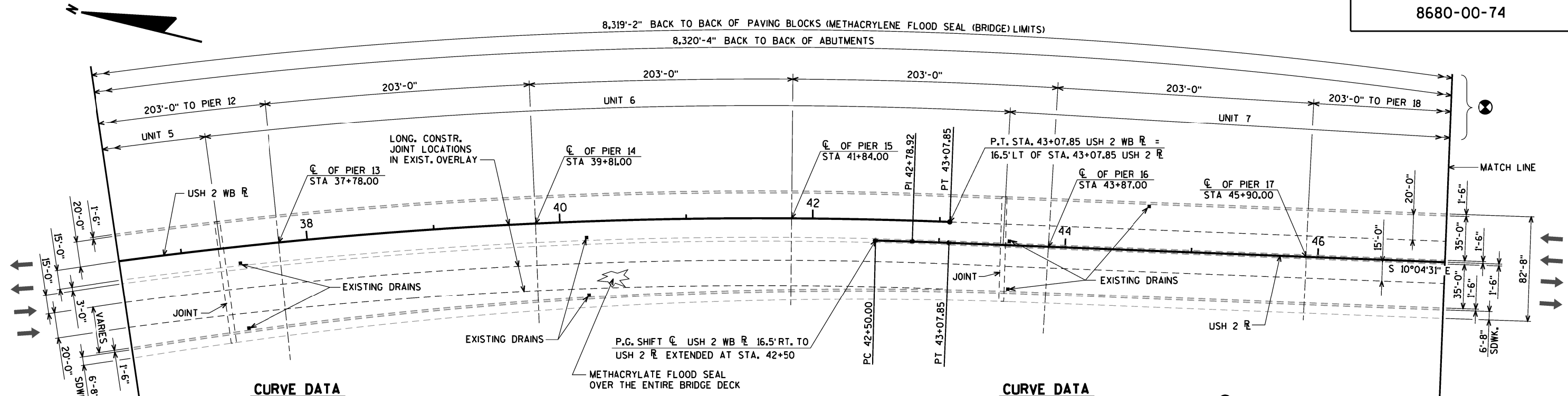
- ☆ LIMITS OF METHACRYLATE FLOOD SEAL (RAMPS)
- ▣ LIMITS OF METHACRYLATE FLOOD SEAL (BRIDGE)

\$PRNAME\$ I:\41410903_USH 2 Bong Bridge Painting 86800004\Structures\Preliminary\24 42-0825 gp2.dgn

8

8

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-16-38/69100			
DRAWN BY		CLP	PLANS CK'D. JLB
GENERAL PLAN UNITS 3 THRU 5			SHEET 2 OF 37



CURVE DATA

USH 2 WB R
 P.I. STA. 29+42.00
 $\Delta=43^{\circ}-08'-06.4''$
 $D=1^{\circ}-30'$
 $T=1,509.83'$
 $L=2,875.67'$
 $R=3,819.72'$
 $S.E.=0.036\%$
 P.C. STA. 14+32.17
 P.T. STA. 43+07.85

PLAN

WELDED STEEL PLATE GIRDER,
 CONCRETE HAUNCHED SLAB, &
 STEEL TIED ARCH BRIDGE
 METHACRYLATE FLOOD SEAL

CURVE DATA

USH 2 R
 P.I. STA. 42+78.92
 $\Delta=0^{\circ}-52'-17''$
 $D=1^{\circ}-30'-23''$
 $T=28.92'$
 $L=57.85'$
 $R=3,803.22'$
 $S.E.=0.036\%$
 P.C. STA. 42+50.00
 P.T. STA. 43+07.85

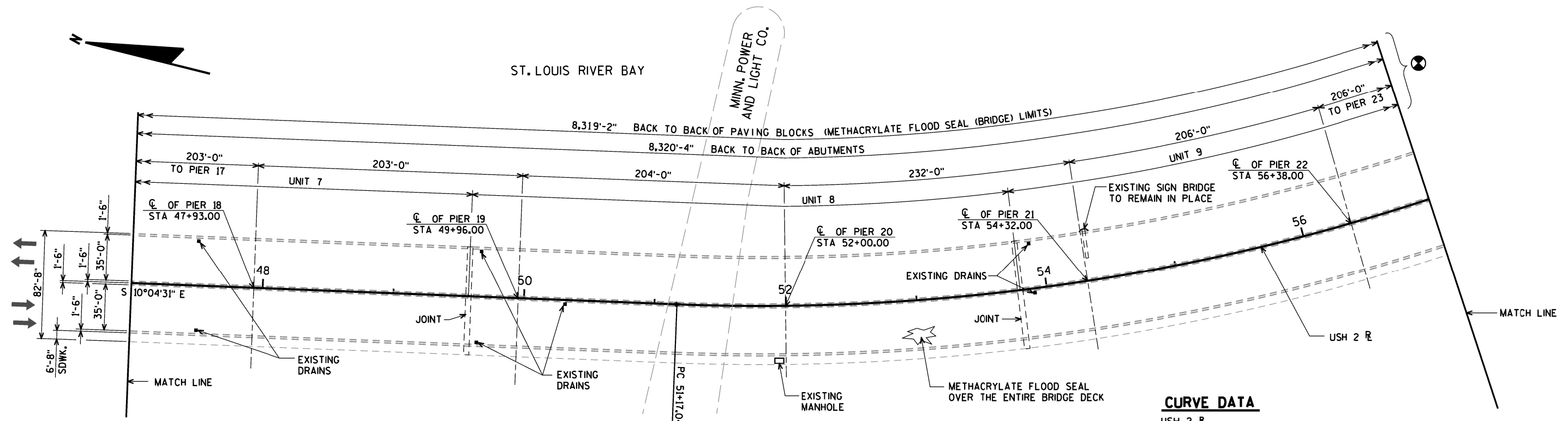
⊗ MEASURED ALONG USH 2 WB R & USH 2 R. NOTE BASE LINE SHIFT AT STA. 43+07.85.

\$PRNAME\$ I:\41410903_USH 2 Bong Bridge Painting 86800004\Structures\Preliminary\24 42-0825 gp3.dgn

8

8

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-16-38/69100			
DRAWN BY	CLP	PLANS CK'D.	JLB
GENERAL PLAN UNITS 5 THRU 7			SHEET 3 OF 37



CURVE DATA

USH 2 R
 P.I. STA. 61+39.96
 $\Delta=64^{\circ}-00'-00.1''$
 $D=3^{\circ}-30'$
 $T=1,022.93'$
 $L=1,828.57'$
 $R=1,637.02'$
 $S.E.=0.052\%$
 P.C. STA. 51+17.04
 P.T. STA. 69+45.61

⊗ MEASURED ALONG USH 2 WB R & USH 2 R. NOTE BASE LINE SHIFT AT STA. 43+07.85.

\$PRNAME\$ I:\41410903_USH 2 Bong Bridge Painting 86800004\Structures\Preliminary\24 42-0825 gp4.dgn

8

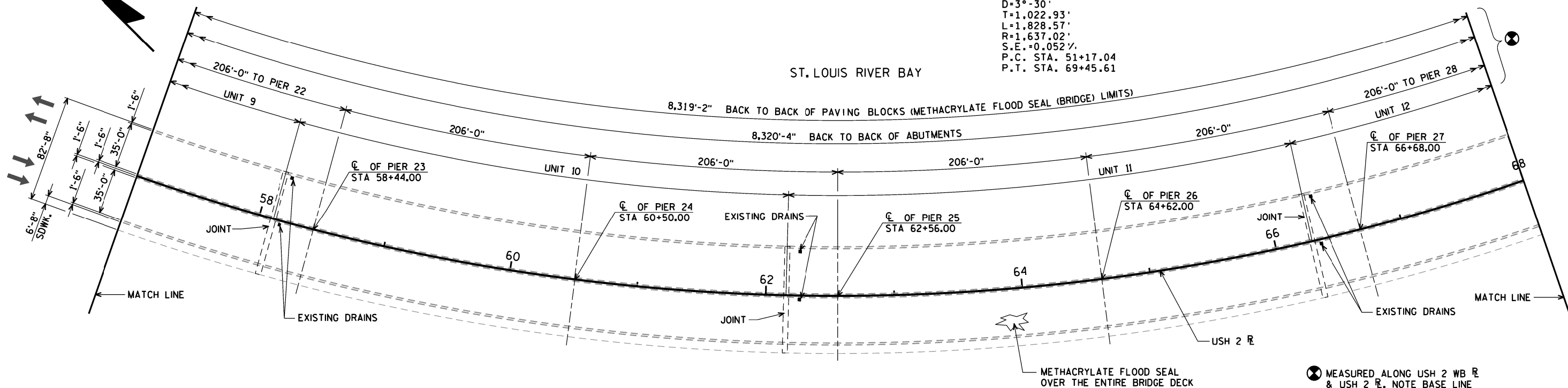
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NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-16-38/69100			
DRAWN BY CLP		PLANS CK'D. JLB	
GENERAL PLAN UNITS 7 THRU 9			SHEET 4 OF 37

CURVE DATA

USH 2 R
 P.I. STA. 61+39.96
 $\Delta=64^{\circ}-00'-00.1''$
 $D=3^{\circ}-30'$
 $T=1,022.93'$
 $L=1,828.57'$
 $R=1,637.02'$
 $S.E.=0.052\%$
 P.C. STA. 51+17.04
 P.T. STA. 69+45.61

ST. LOUIS RIVER BAY



⊗ MEASURED ALONG USH 2 WB R & USH 2 R, NOTE BASE LINE SHIFT AT STA. 43+07.85.

PLAN

WELDED STEEL PLATE GIRDER,
 CONCRETE HAUNCHED SLAB, &
 STEEL TIED ARCH BRIDGE
 METHACRYLATE FLOOD SEAL

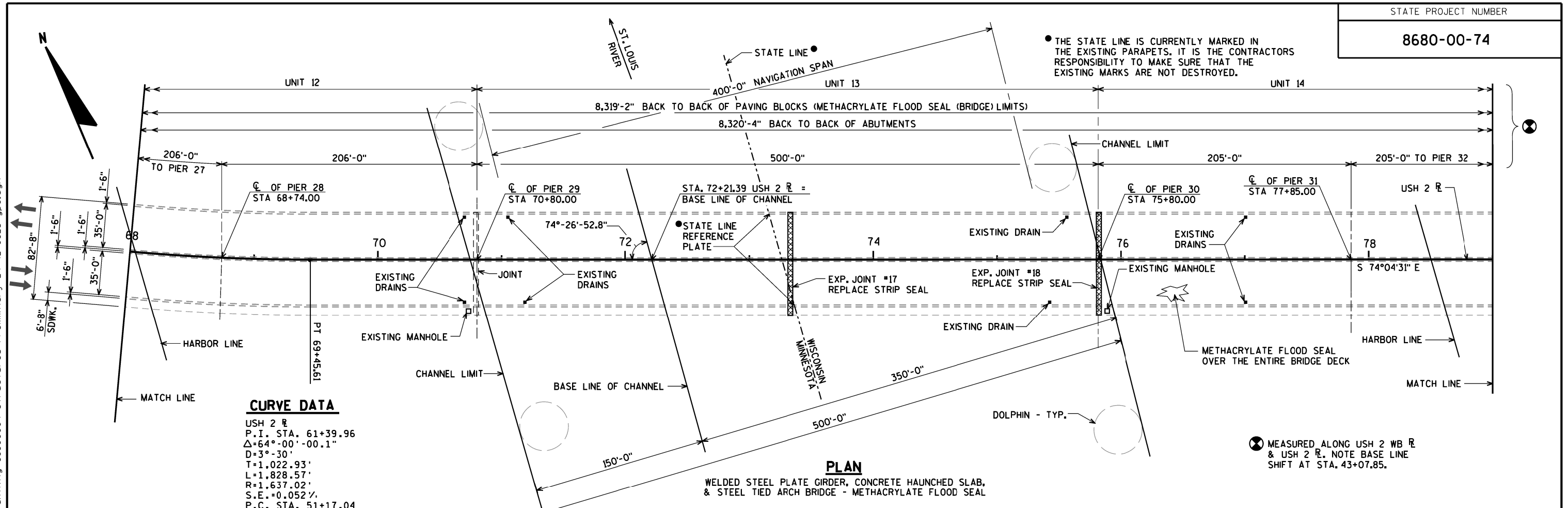
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NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-16-38/69100			
DRAWN BY CLP		PLANS CK'D. JLB	
GENERAL PLAN UNITS 9 THRU 12			SHEET 5 OF 37

\$PRNAME\$ I:\41410303_USH 2 Bong Bridge Painting 86800004+Structures+Preliminary+24 42-0825 gp6.dgn

8

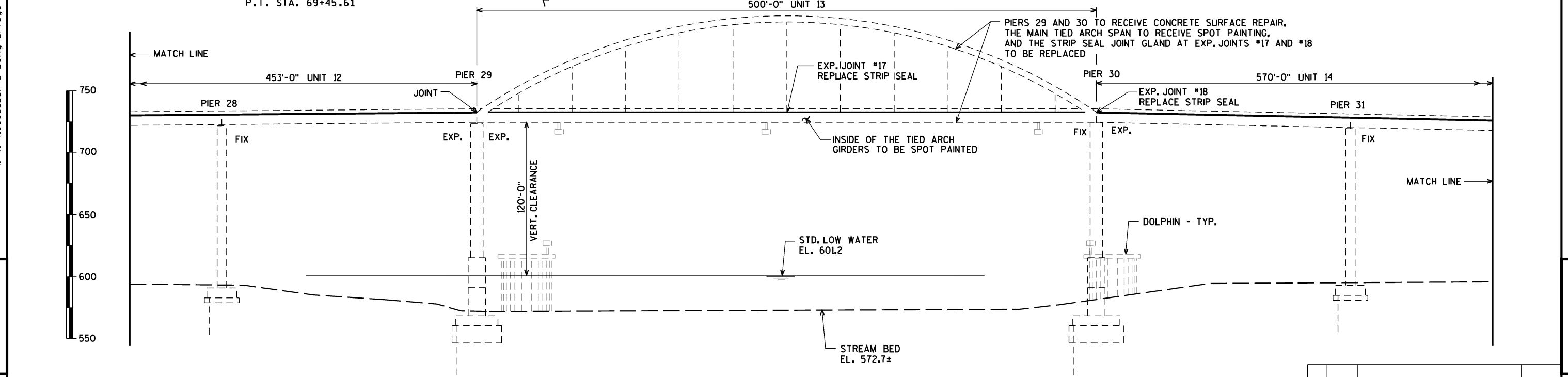
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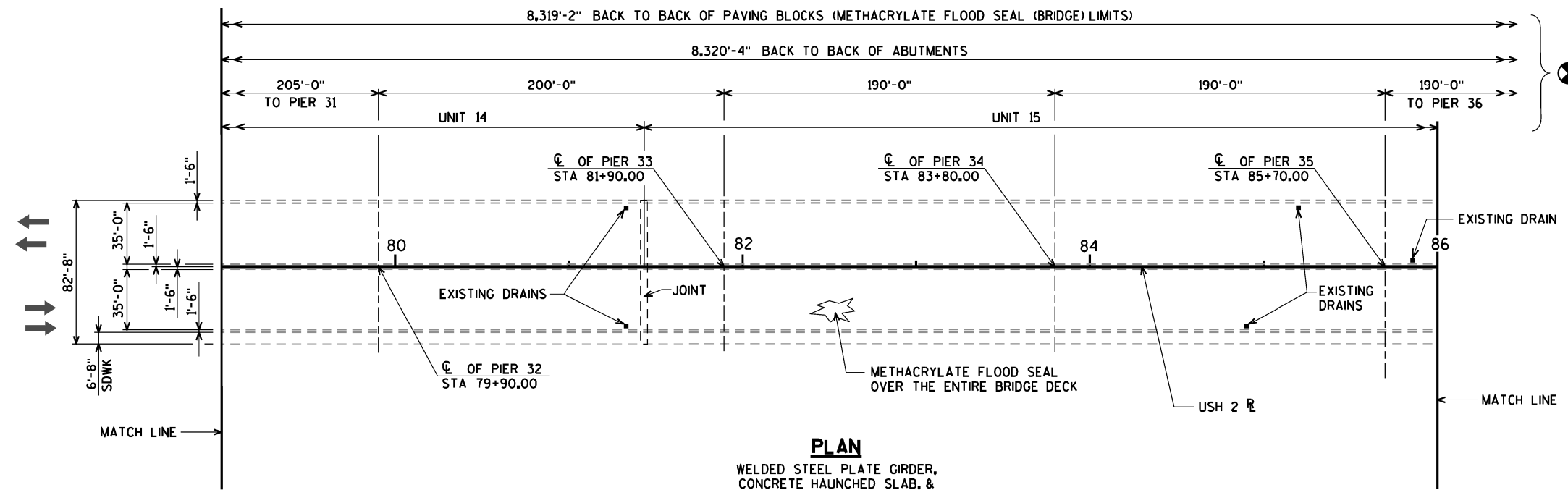
CURVE DATA
 USH 2 R
 P.I. STA. 61+39.96
 $\Delta = 64^\circ - 00' - 00.1''$
 $D = 3^\circ - 30'$
 $T = 1,022.93'$
 $L = 1,828.57'$
 $R = 1,637.02'$
 $S.E. = 0.052\%$
 P.C. STA. 51+17.04
 P.T. STA. 69+45.61

THE STATE LINE IS CURRENTLY MARKED IN THE EXISTING PARAPETS. IT IS THE CONTRACTORS RESPONSIBILITY TO MAKE SURE THAT THE EXISTING MARKS ARE NOT DESTROYED.

MEASURED ALONG USH 2 WB R & USH 2 R. NOTE BASE LINE SHIFT AT STA. 43+07.85.



NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-16-38/69100			
DRAWN BY CLP		PLANS CK'D. JLB	
GENERAL PLAN UNITS 12 THRU 14			SHEET 6 OF 37



PLAN
 WELDED STEEL PLATE GIRDER,
 CONCRETE HAUNCHED SLAB, &
 STEEL TIED ARCH BRIDGE
 METHACRYLATE FLOOD SEAL

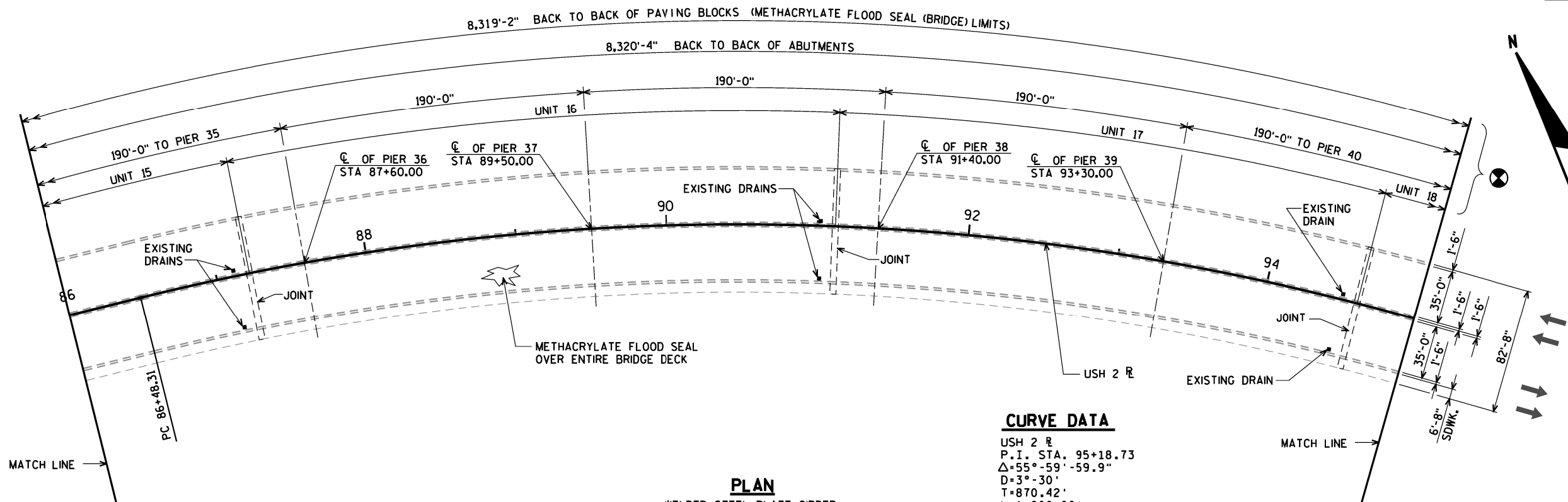
⊗ MEASURED ALONG USH 2 WB R
 & USH 2 R. NOTE BASE LINE
 SHIFT AT STA. 43+07.85.

\$PRNAME\$ I:\41410903_USH 2 Bong Bridge Painting 86800004+Structures+Preliminary+24 42-0825 gp7.dgn

8

8

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-16-38/69100			
DRAWN BY		CLP	PLANS CK'D. JLB
GENERAL PLAN UNITS 14 & 15			SHEET 7 OF 37



PLAN

WELDED STEEL PLATE GIRDER,
CONCRETE HAUNCHED SLAB, &
STEEL TIED ARCH BRIDGE
METHACRYLATE FLOOD SEAL

CURVE DATA

USH 2 R
P.I. STA. 95+18.73
 $\Delta=55^{\circ}-59'-59.9''$
D=3'-30'
T=870.42'
L=1,600.00'
R=1,637.02'
S.E.=0.052 %
P.C. STA. 86+48.31
P.T. STA. 102+48.31

⊗ MEASURED ALONG USH 2 WB R
& USH 2 R. NOTE BASE LINE
SHIFT AT STA. 43+07.85.

\$PRNAME\$ I:\41410903_USH 2 Bong Bridge Painting 86800004+Structures+Preliminary+24 42-0825 gp8.dgn

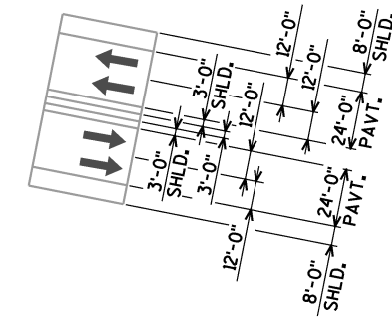
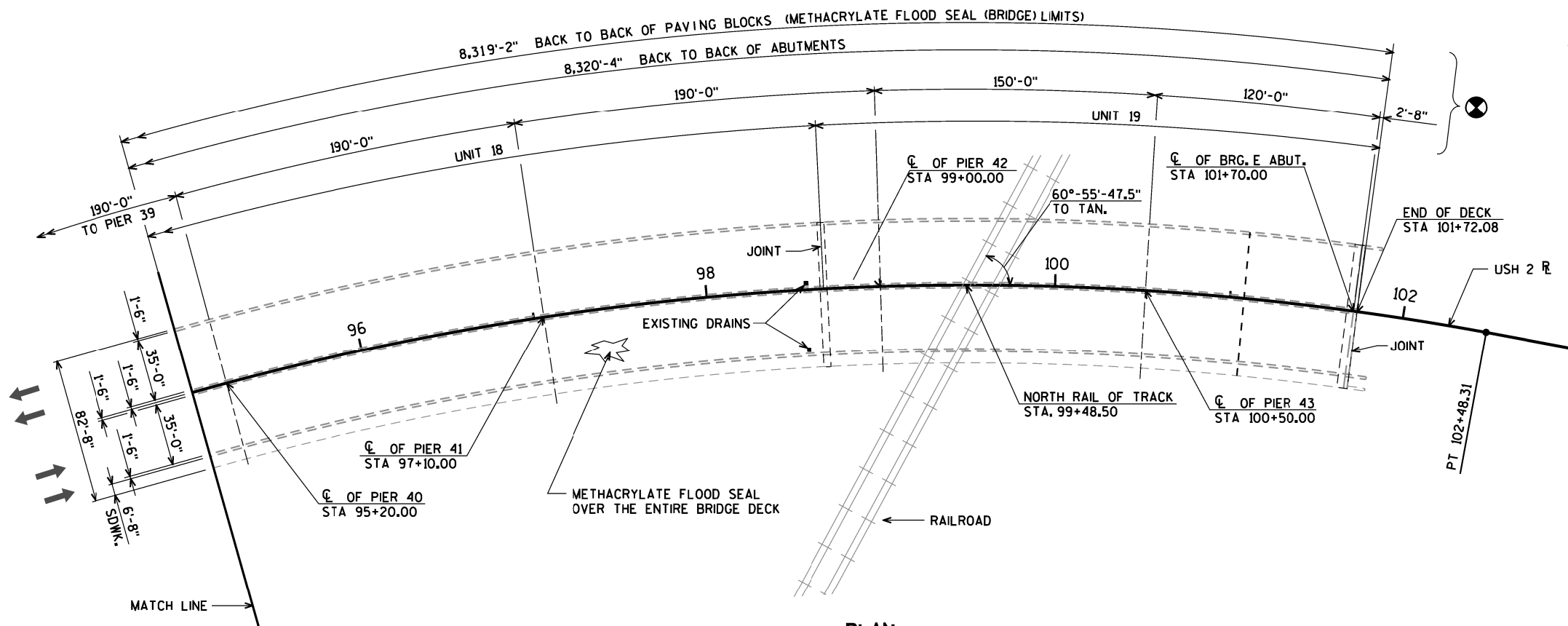
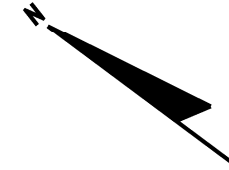
8

8

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-16-38/69100			
DRAWN BY		CLP	PLANS CK'D. JLB
GENERAL PLAN UNITS 15 THRU 18			SHEET 8 OF 37

CURVE DATA

USH 2 R
 P.I. STA. 95+18.73
 $\Delta=55^\circ-59'-59.9''$
 $D=3^\circ-30'$
 $T=870.42'$
 $L=1,600.00'$
 $R=1,637.02'$
 $S.E.=0.052\%$
 P.C. STA. 86+48.31
 P.T. STA. 102+48.31



⊗ MEASURED ALONG USH 2 WB R & USH 2 R. NOTE BASE LINE SHIFT AT STA. 43+07.85.

PLAN
 WELDED STEEL PLATE GIRDER,
 CONCRETE HAUNCHED SLAB, &
 STEEL TIED ARCH BRIDGE
 METHACRYLATE FLOOD SEAL

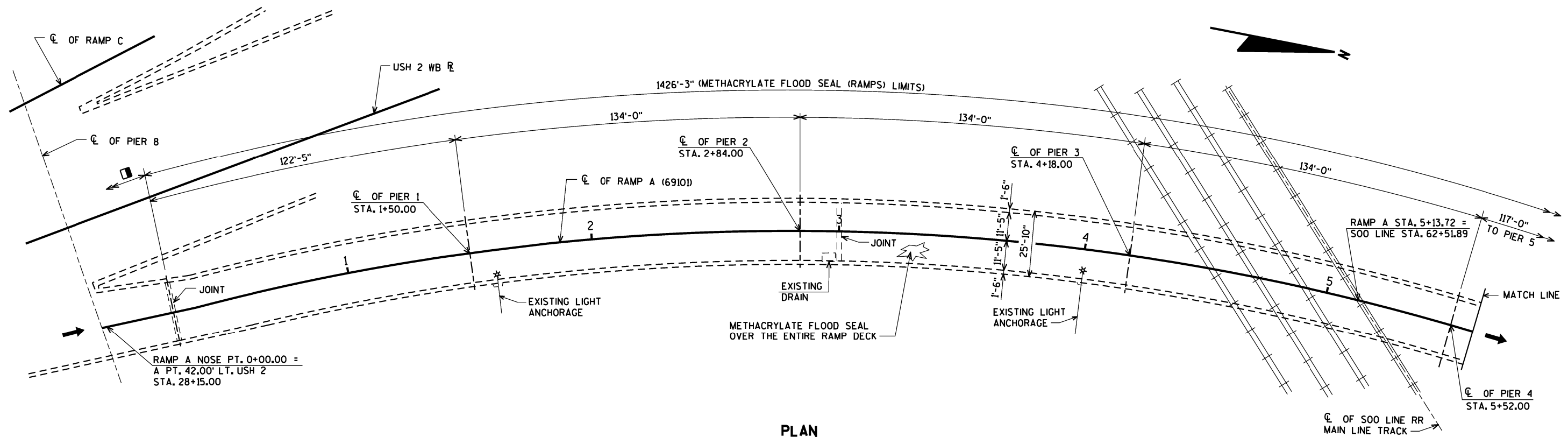
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8

8

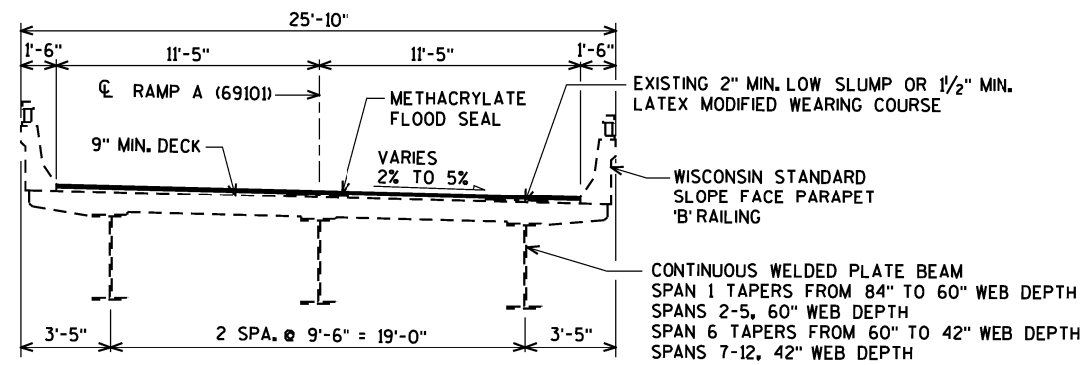
NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-16-38/69100			
DRAWN BY CLP		PLANS CK'D. JLB	
GENERAL PLAN UNITS 18 & 19			SHEET 9 OF 37

\$PRNAME\$ I:\41410903_USH 2 Bong Bridge Painting 86800004\Structures\Preliminary\24 42-0825 ramp101.dgn



PLAN
WELDED STEEL PLATE GIRDER
METHACRYLATE FLOOD SEAL

■ LIMITS OF METHACRYLATE FLOOD SEAL (BRIDGE)

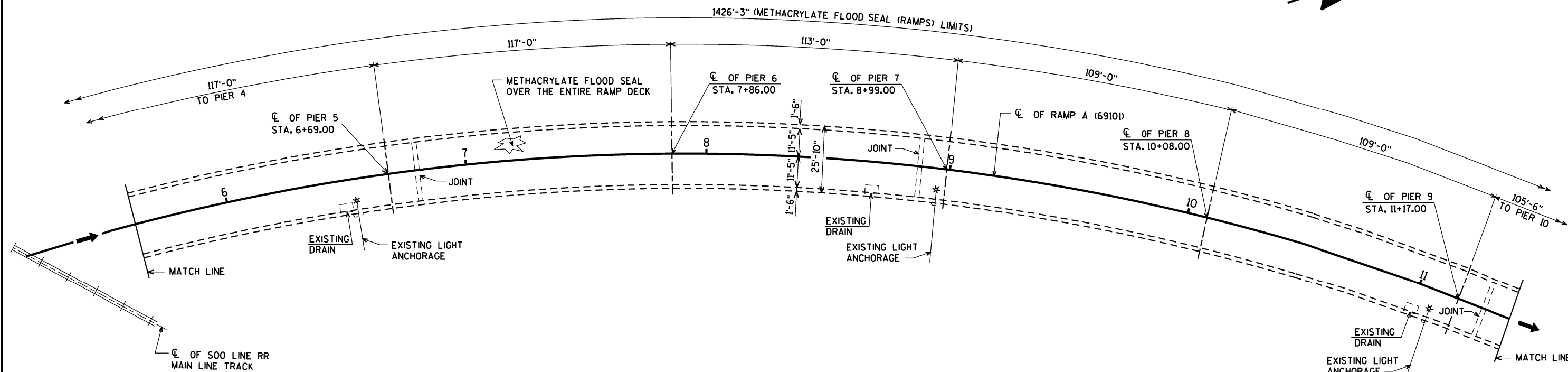


TRANSVERSE SECTION

8

8

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-16-38/69100			
DRAWN BY CLP		PLANS CK'D. JLB	
GENERAL PLAN RAMP 69101			SHEET 10 OF 37



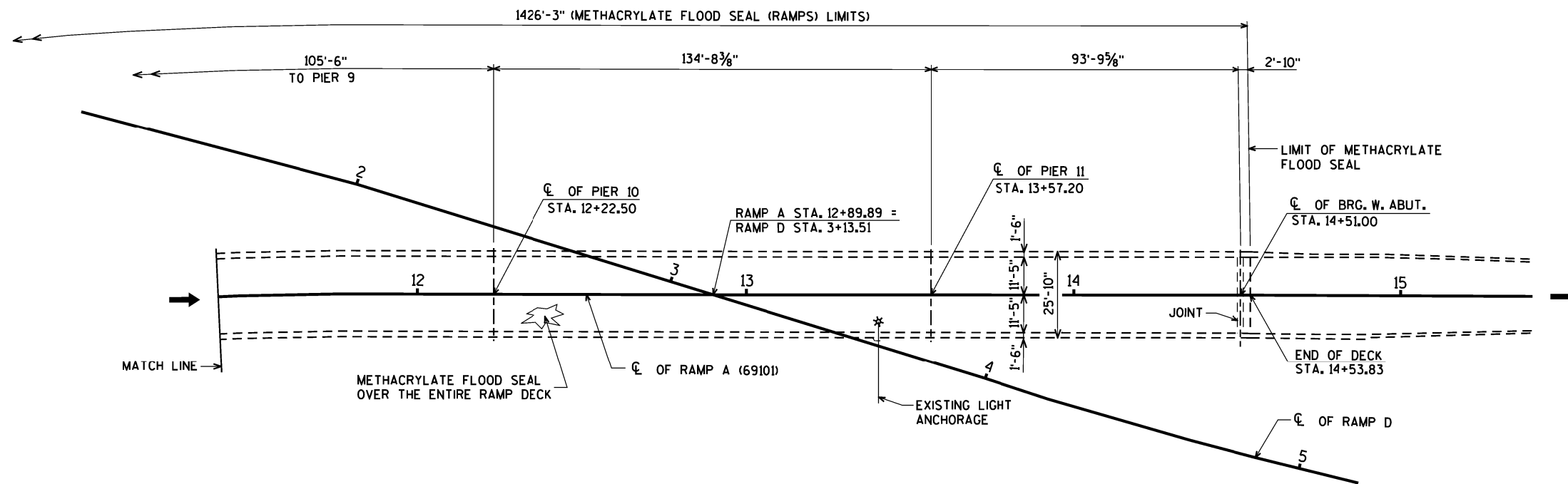
PLAN
WELDED STEEL PLATE GIRDER
METHACRYLATE FLOOD SEAL

\$PRNAME\$ I:\41410903_USH 2 Bong Bridge Painting 86800004Structures\Preliminary\24 42-0825 ramp101.dgn

8

8

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-16-38/69100			
DRAWN BY		CLP	PLANS CK'D. JLB
GENERAL PLAN RAMP 69101			SHEET 11 OF 37



PLAN

WELDED STEEL PLATE GIRDER
METHACRYLATE FLOOD SEAL

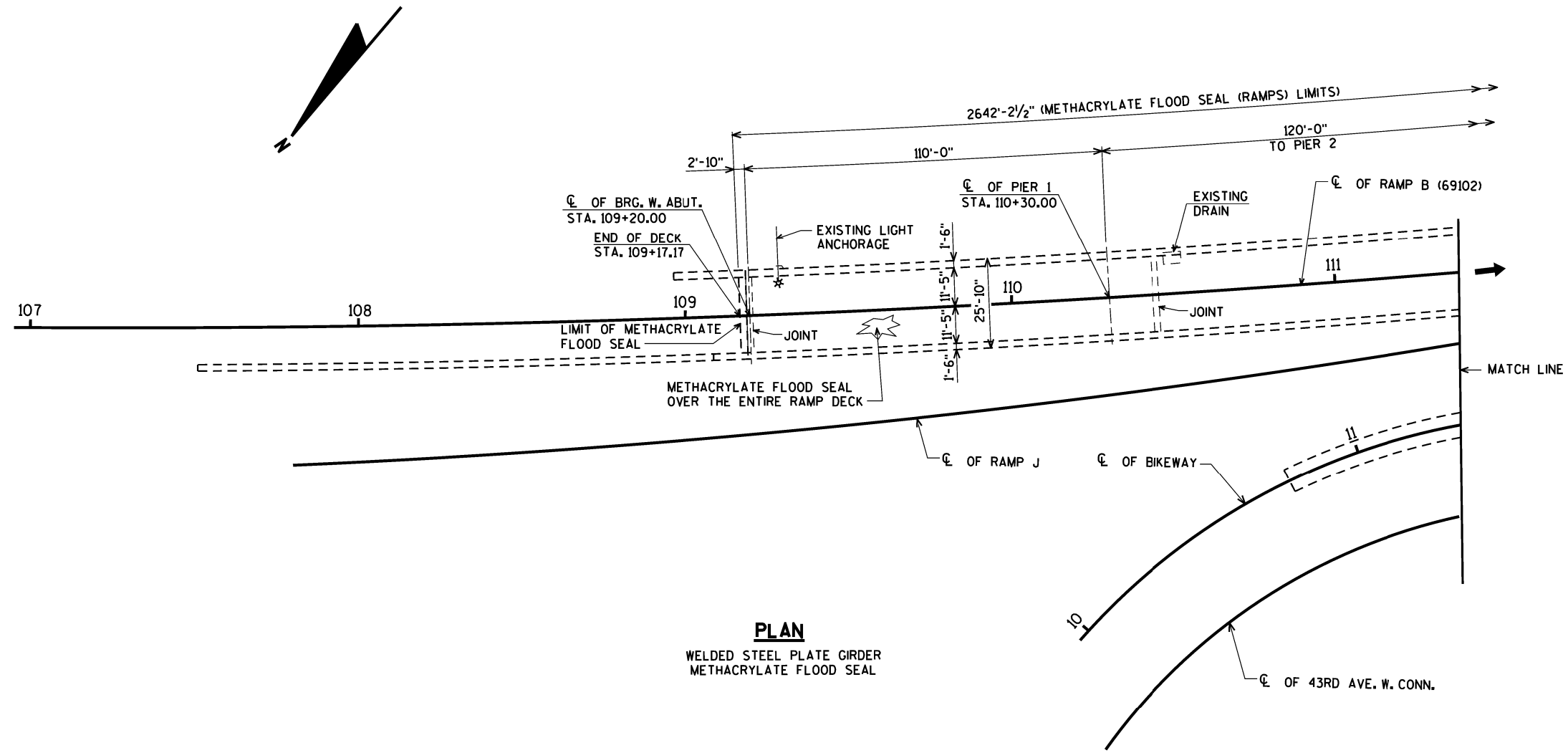
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8

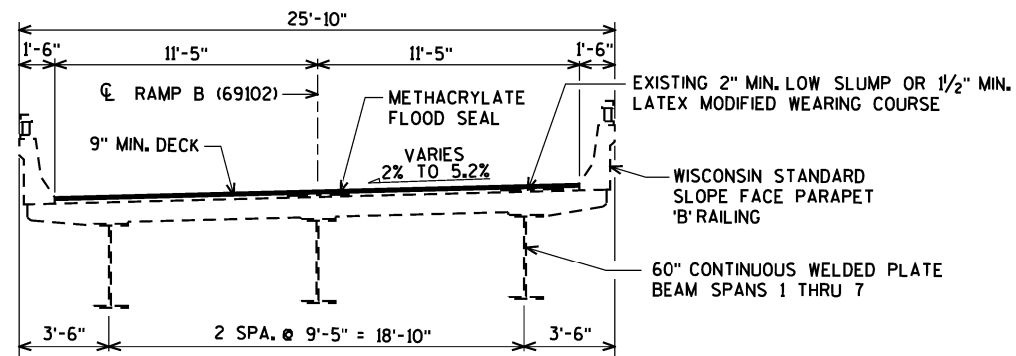
8

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-16-38/69100			
DRAWN BY		CLP	PLANS CK'D. JLB
GENERAL PLAN RAMP 69101			SHEET 12 OF 37

\$PRNAME\$ I:\41410903_USH 2 Bong Bridge Painting 86800004+Structures+Preliminary+24 42-0825 ramp102.dgn



PLAN
WELDED STEEL PLATE GIRDER
METHACRYLATE FLOOD SEAL

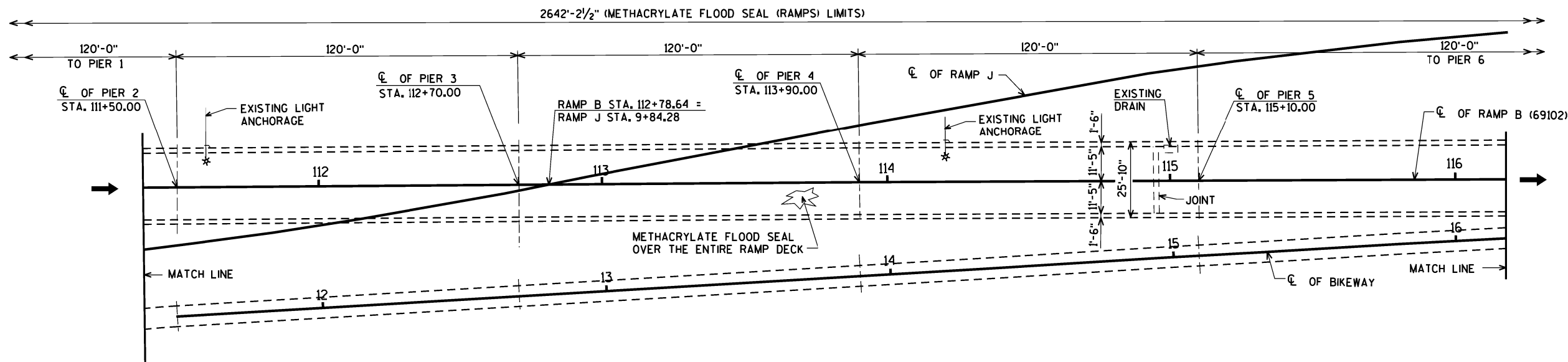


TRANSVERSE SECTION

8

8

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-16-38/69100			
DRAWN BY		CLP	PLANS CK'D. JLB
GENERAL PLAN RAMP 69102			SHEET 13 OF 37



PLAN
WELDED STEEL PLATE GIRDER
METHACRYLATE FLOOD SEAL

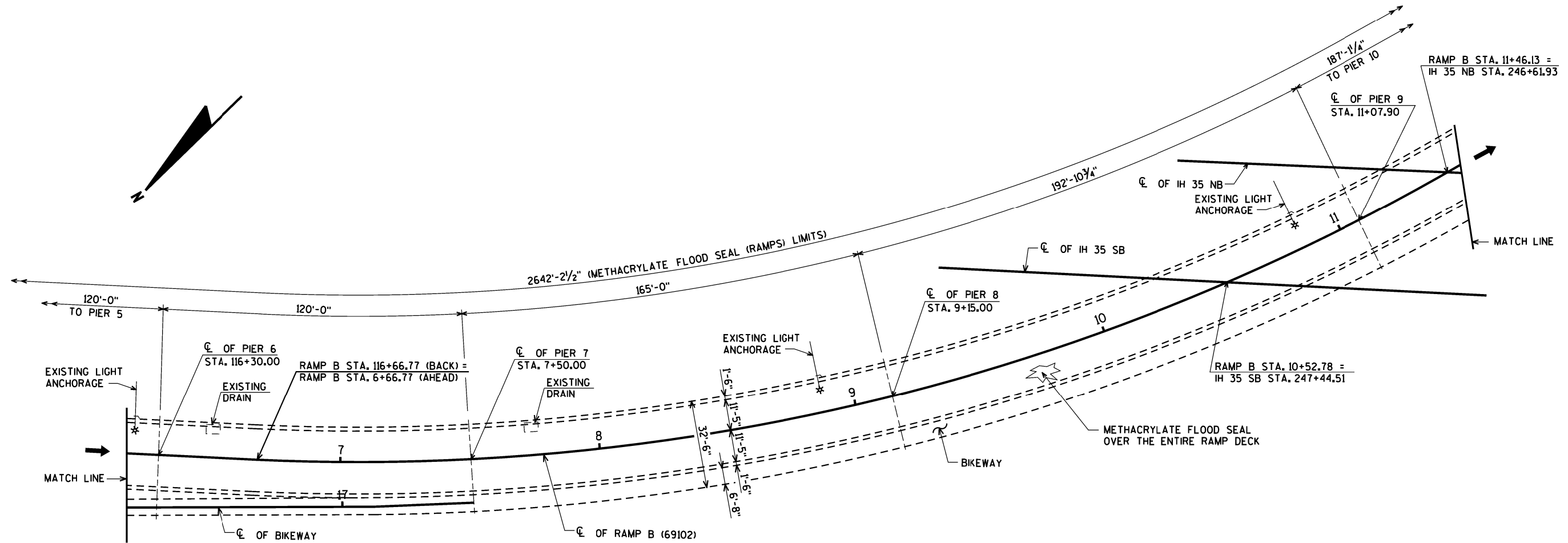
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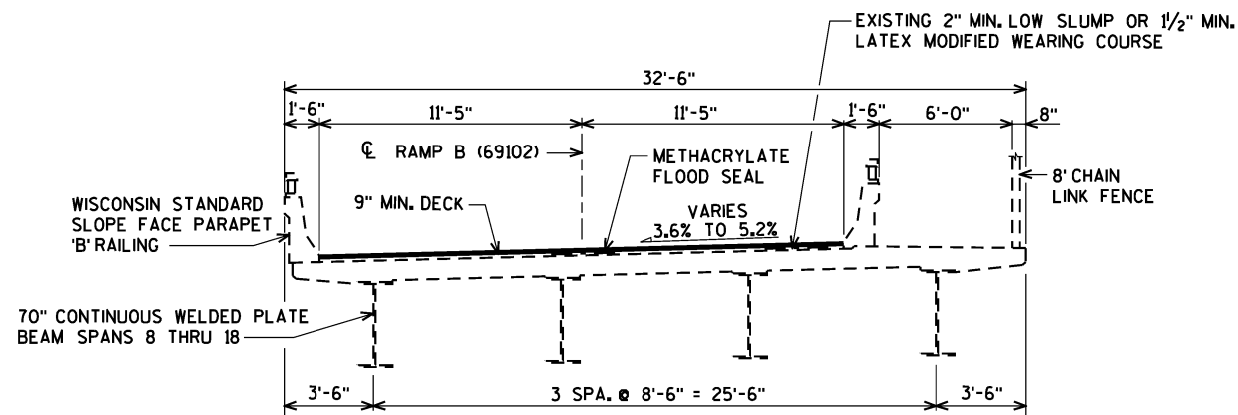
NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-16-38/69100			
DRAWN BY		CLP	PLANS CK'D. JLB
GENERAL PLAN RAMP 69102			SHEET 14 OF 37

\$PRNAME\$ I:\41410903_USH 2 Bong Bridge Painting 86800004\Structures\Preliminary\24 42-0825 ramp102.dgn



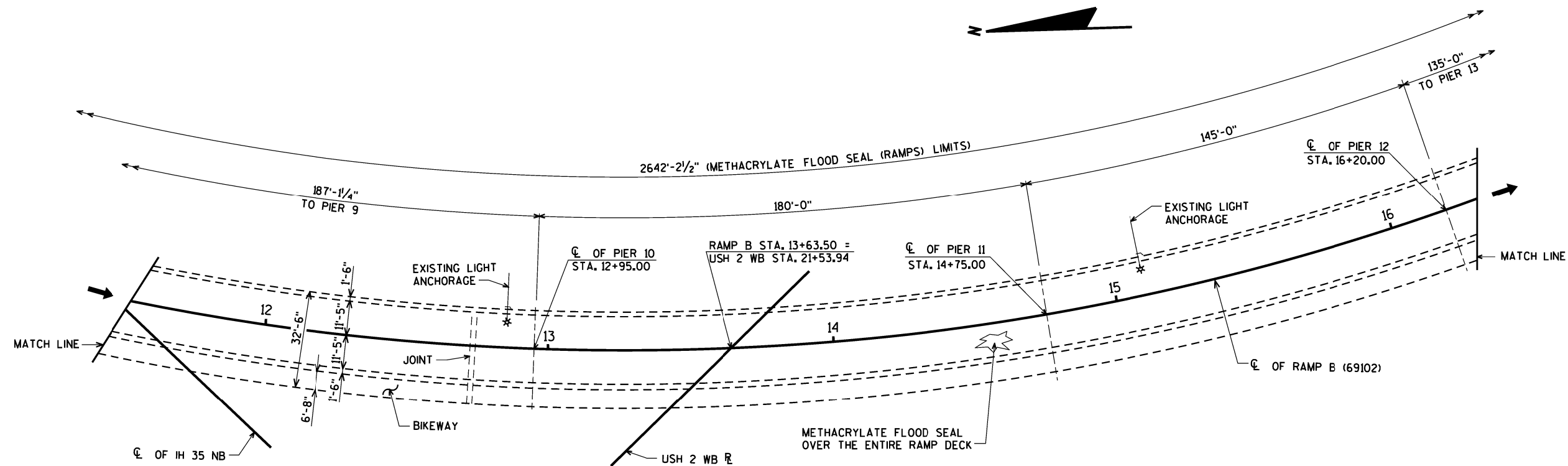
PLAN

WELDED STEEL PLATE GIRDER
METHACRYLATE FLOOD SEAL



TRANSVERSE SECTION

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-16-38/69100			
DRAWN BY CLP		PLANS CK'D. JLB	
GENERAL PLAN RAMP 69102			SHEET 15 OF 37



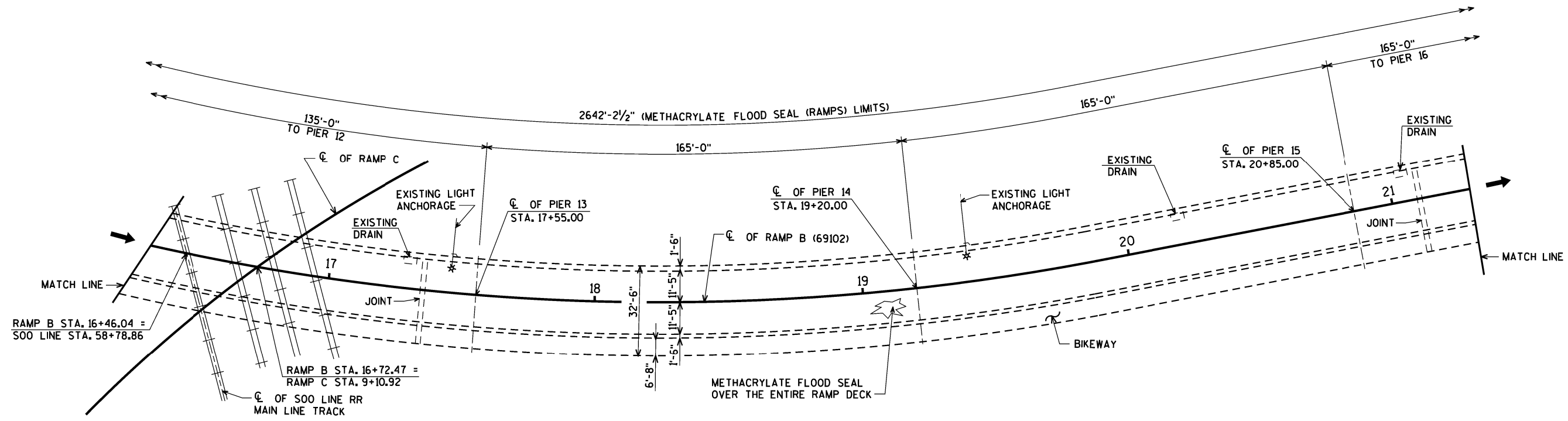
PLAN
WELDED STEEL PLATE GIRDER
METHACRYLATE FLOOD SEAL

\$PRNAME\$ I:\41410903_USH 2 Bong Bridge Painting 86800004\Structures\Preliminary\24 42-0825 ramp102.dgn

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NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-16-38/69100			
DRAWN BY		CLP	PLANS CK'D. JLB
GENERAL PLAN RAMP 69102			SHEET 16 OF 37



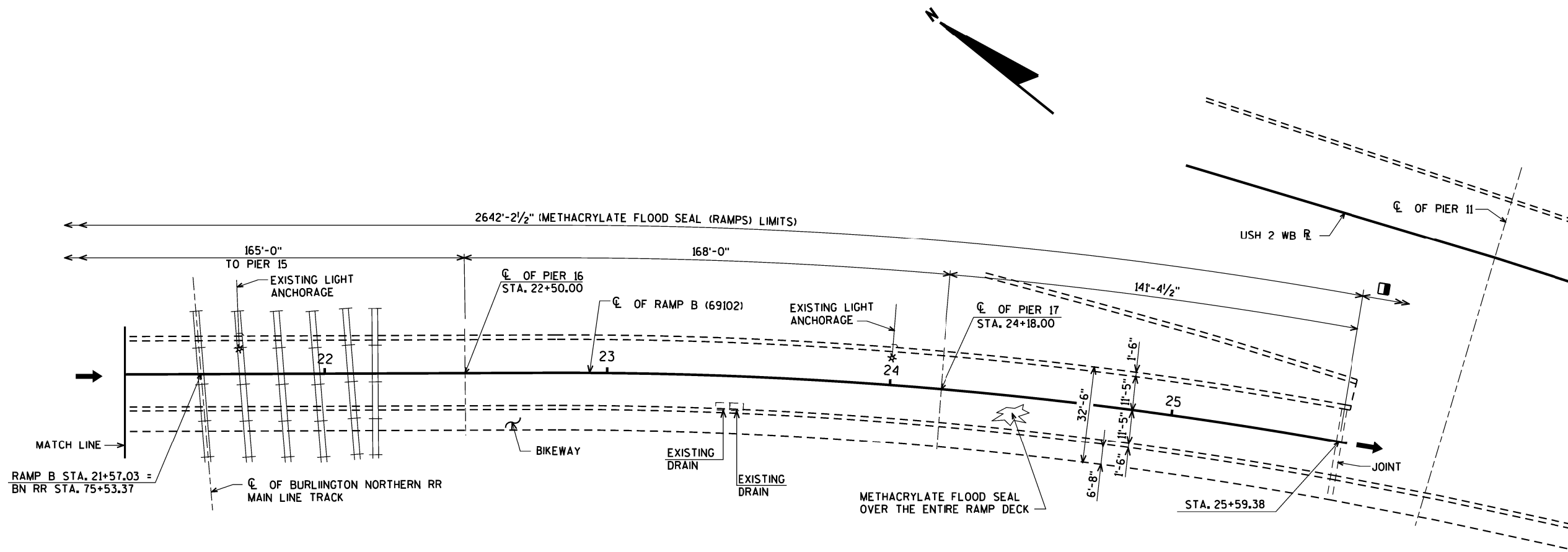
PLAN
 WELDED STEEL PLATE GIRDER
 METHACRYLATE FLOOD SEAL

\$PRNAME\$ I:\41410903_USH 2 Bong Bridge Painting 86800004\Structures\Preliminary\24 42-0825 ramp102.dgn

8

8

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-16-38/69100			
DRAWN BY		CLP	PLANS CK'D. JLB
GENERAL PLAN RAMP 69102			SHEET 17 OF 37



PLAN

WELDED STEEL PLATE GIRDER
METHACRYLATE FLOOD SEAL

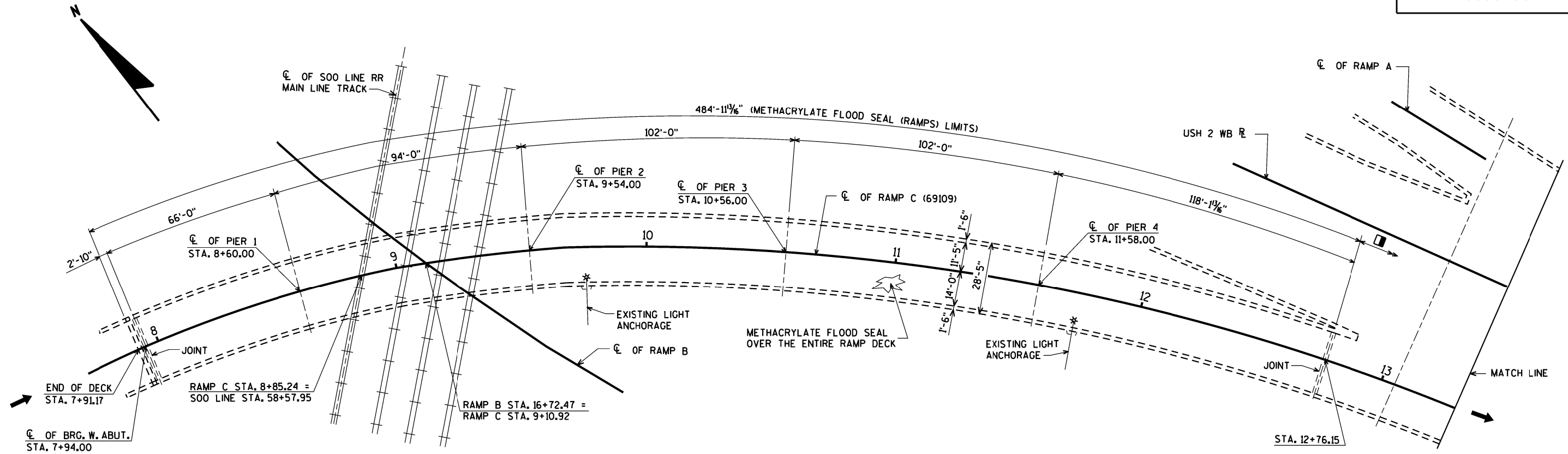
▣ LIMITS OF METHACRYLATE FLOOD SEAL (BRIDGE)

\$PRNAME\$ I:\41410903_U.S. 2 Bong Bridge Painting 86800004+Structures+Preliminary+24 42-0825 ramp102.dgn

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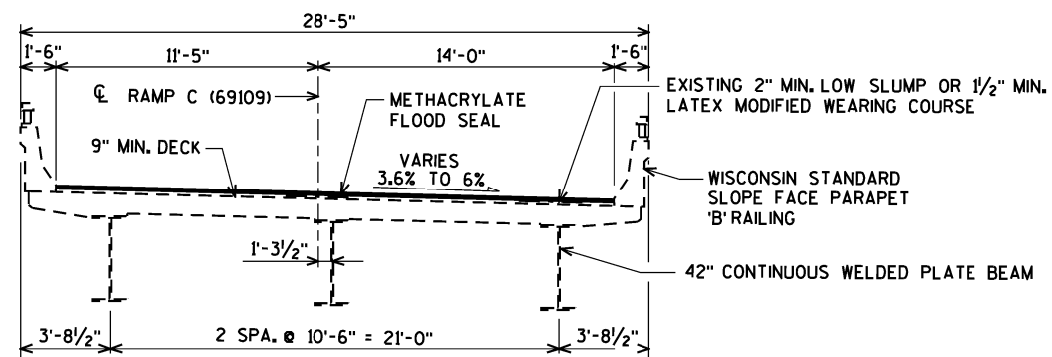
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NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-16-38/69100			
DRAWN BY	CLP	PLANS CK'D.	JLB
GENERAL PLAN RAMP 69102			SHEET 18 OF 37



PLAN
WELDED STEEL PLATE GIRDER
METHACRYLATE FLOOD SEAL

▣ LIMITS OF METHACRYLATE FLOOD SEAL (BRIDGE)



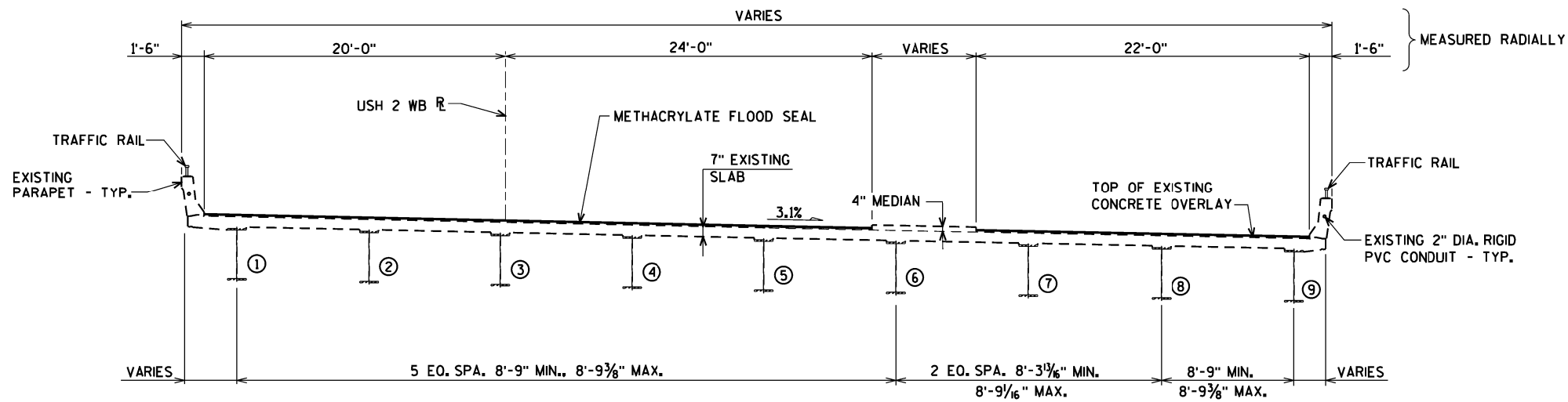
TRANSVERSE SECTION

\$PRNAME\$ I:\41410903_USH 2 Bong Bridge Painting 86800004Structures\Preliminary\24 42-0825 ramp109.dgn

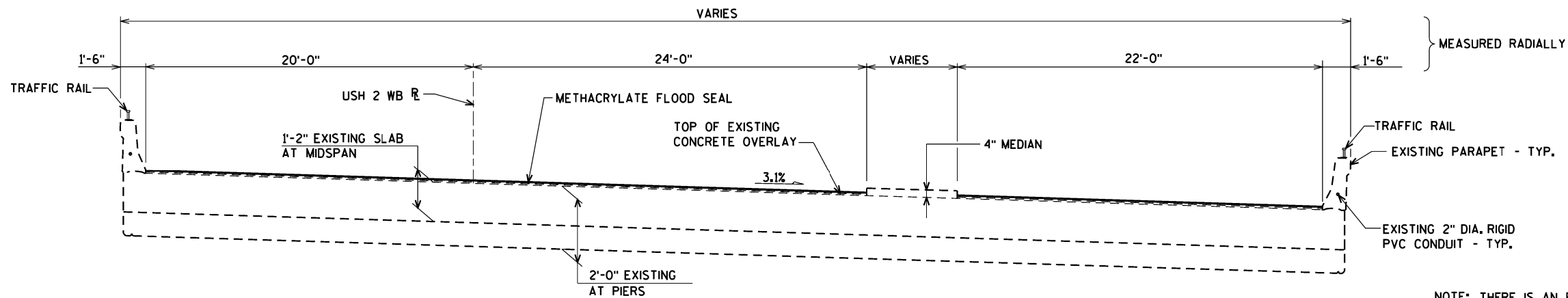
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8

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-16-38/69100			
DRAWN BY CLP		PLANS CK'D. JLB	
GENERAL PLAN RAMP 69109			SHEET 19 OF 37

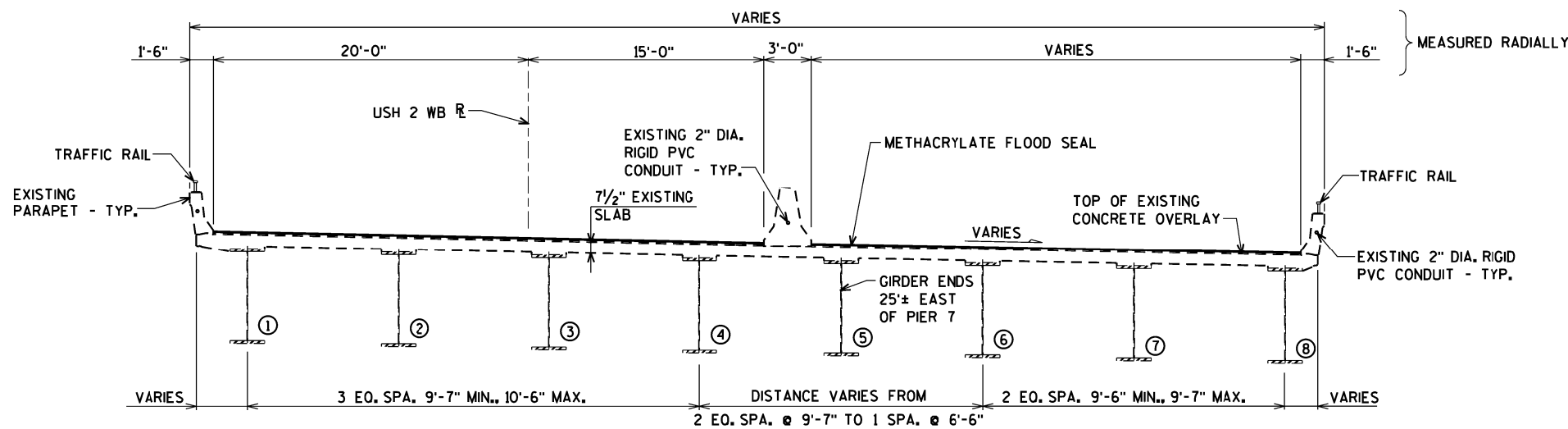


CROSS SECTION THRU ROADWAY - UNIT 1
(LOOKING EAST)



CROSS SECTION THRU ROADWAY - UNIT 2
(LOOKING EAST)

NOTE: THERE IS AN EXISTING TRANSVERSE 2" DIA. RIGID PVC CONDUIT IN THE SLAB AT STA. 22+35±



CROSS SECTION THRU ROADWAY - UNIT 3
(LOOKING EAST)

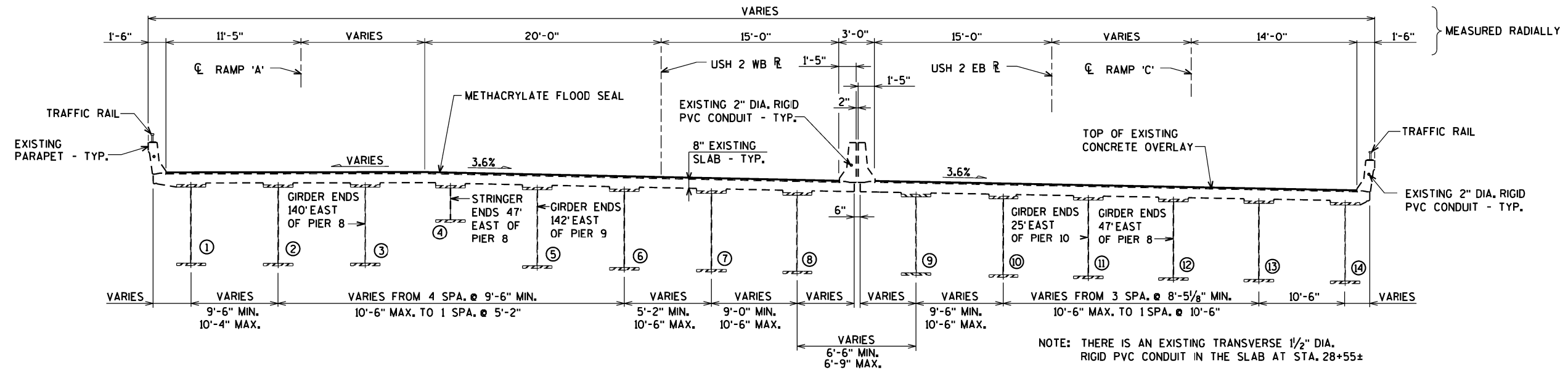
NOTE: THERE IS AN EXISTING TRANSVERSE 1 1/2" DIA. RIGID PVC CONDUIT IN THE SLAB AT STA. 25+38±

\$PRNAME\$ I:\410903-USH 2 Bong Bridge Painting 86800004\Structures\Preliminary\24 42-0825 TYP.dgn

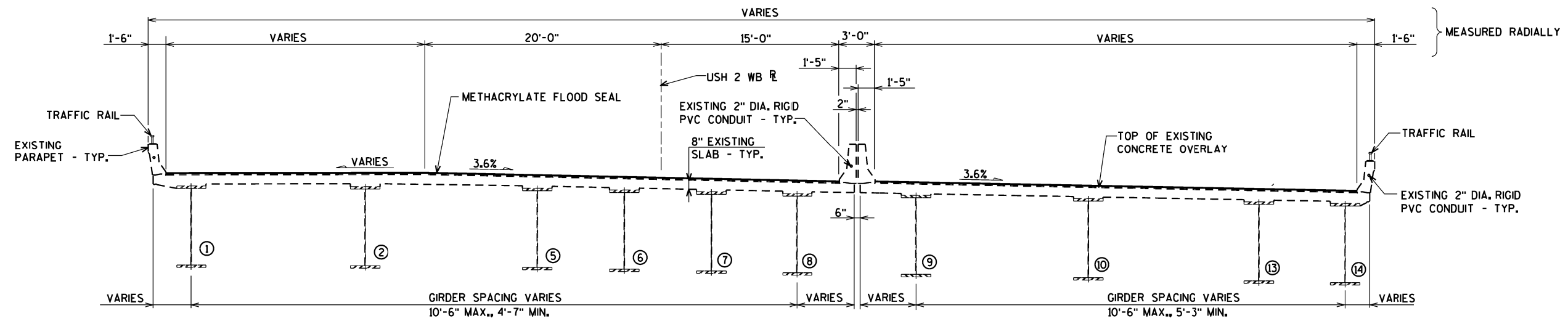
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8

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-16-38/69100			
DRAWN BY		CLP	PLANS CK'D. JLB
CROSS SECTIONS			SHEET 20 OF 37
UNITS 1 - 3			



NOTE: THERE IS AN EXISTING TRANSVERSE 1/2" DIA. RIGID PVC CONDUIT IN THE SLAB AT STA. 28+55±

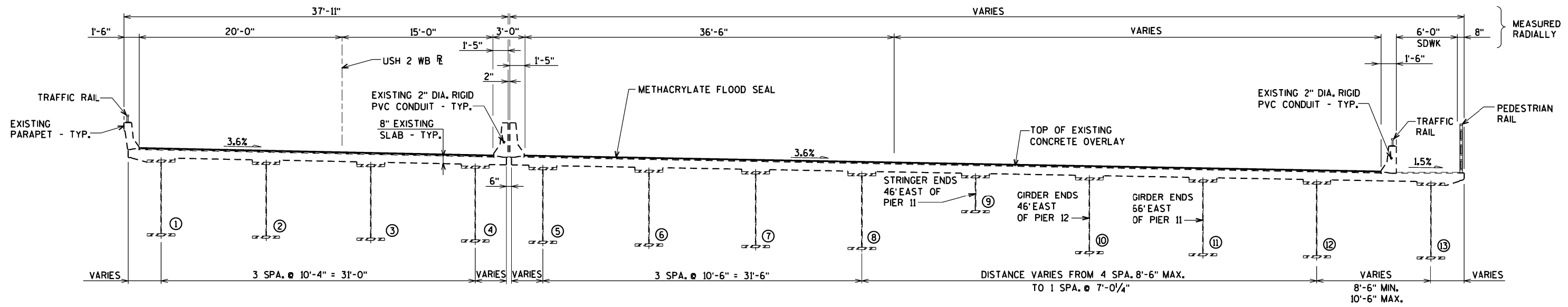


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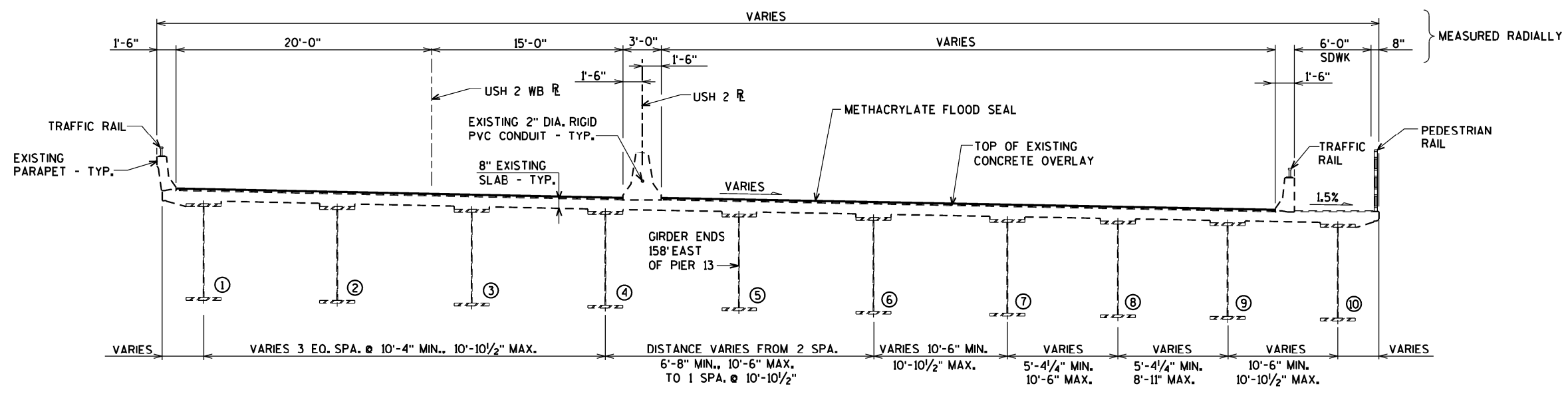
NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-16-38/69100			
DRAWN BY	CLP	PLANS CK'D.	JLB
CROSS SECTIONS UNIT 4			SHEET 21 OF 37



CROSS SECTION THRU ROADWAY - UNIT 5

(LOOKING EAST)

NOTE: THERE IS AN EXISTING TRANSVERSE 1/2" DIA. RIGID PVC CONDUIT IN THE SLAB AT STA. 34+25±



CROSS SECTION THRU ROADWAY - UNIT 6

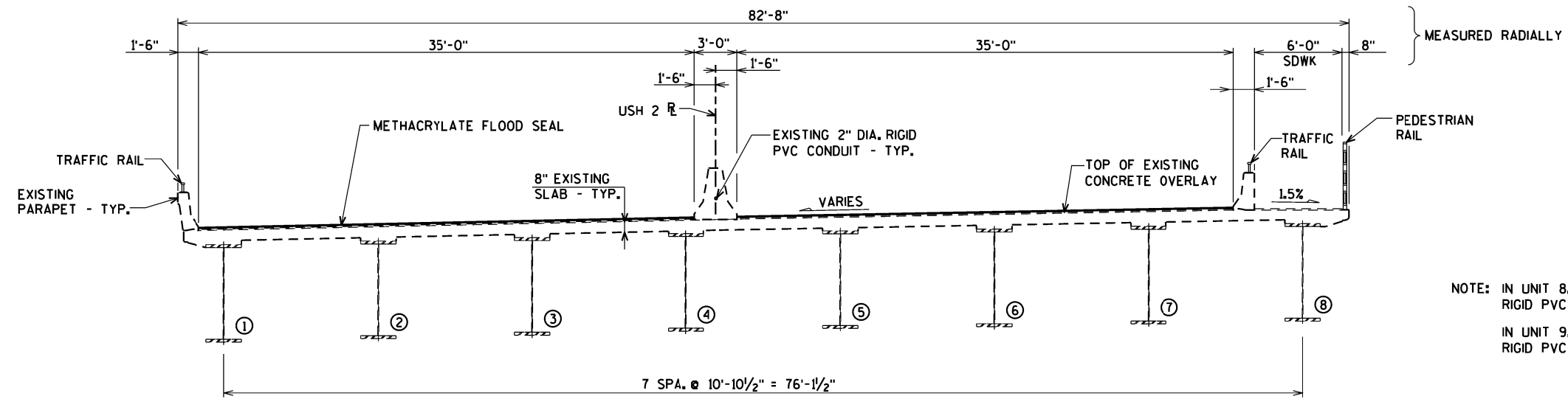
(LOOKING EAST)

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-16-38/69100			
DRAWN BY		CLP	PLANS CK'D. JLB
CROSS SECTIONS UNITS 5 & 6			SHEET 22 OF 37

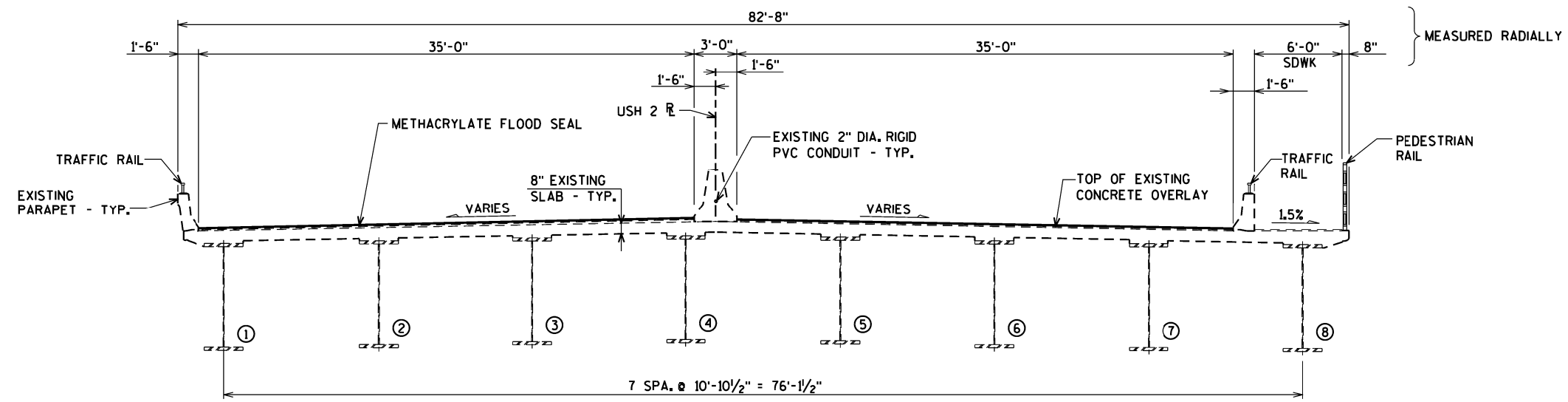
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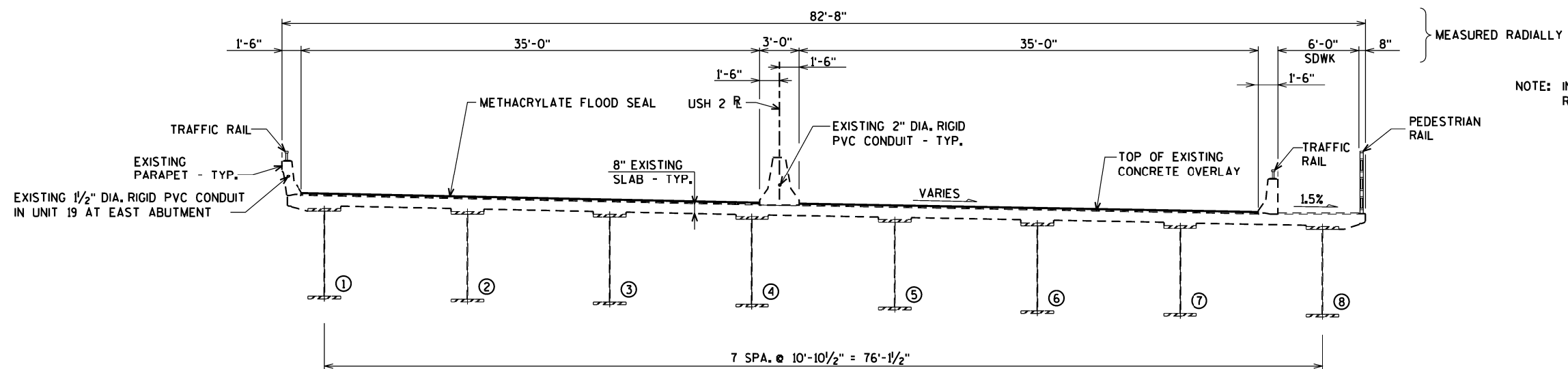
8



CROSS SECTION THRU ROADWAY - UNITS 8-12
(LOOKING EAST)



CROSS SECTION THRU ROADWAY - UNITS 7, 14-15
(LOOKING EAST)



CROSS SECTION THRU ROADWAY - UNITS 16-19
(LOOKING EAST)

NOTE: IN UNIT 8, THERE IS AN EXISTING TRANSVERSE 2" DIA. RIGID PVC CONDUIT IN THE SLAB AT STA. 52+00±
IN UNIT 9, THERE IS AN EXISTING TRANSVERSE 1 1/2" DIA. RIGID PVC CONDUIT IN THE SLAB AT STA. 54+48±

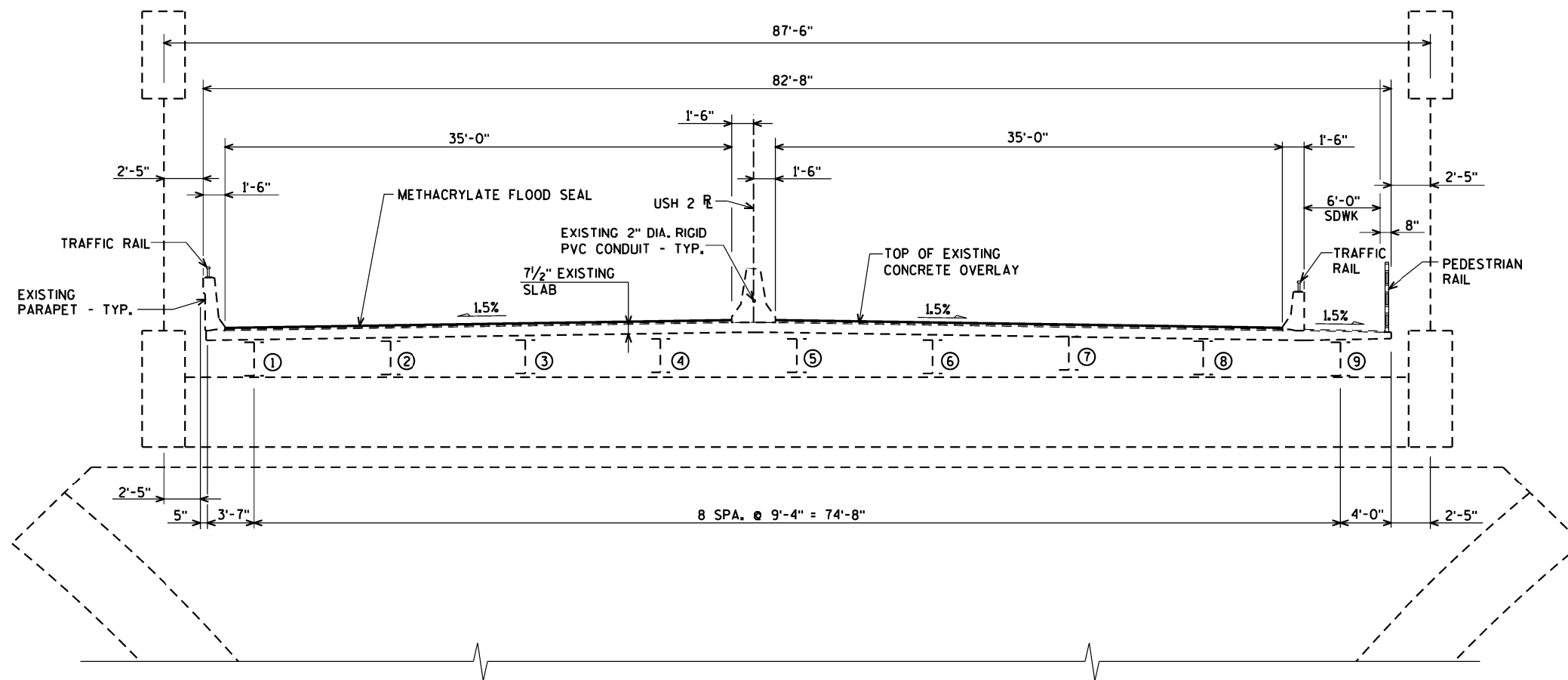
NOTE: IN UNIT 19, THERE IS AN EXISTING TRANSVERSE 1 1/2" DIA. RIGID PVC CONDUIT IN THE SLAB AT STA. 101+51±

\$PRNAME\$ I:\41\410903-USH 2 Bong Bridge Painting 86800004\Structures\Preliminary\24 42-0825 TYP.dgn

8

8

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-16-38/69100			
DRAWN BY		CLP	PLANS CK'D. JLB
CROSS SECTIONS UNITS 7-12, 14-19			SHEET 23 OF 37



CROSS SECTION THRU ROADWAY - UNIT 13
(LOOKING EAST)

\$PRNAME\$ I:\410903-USH 2 Bong Bridge Painting 86800004\Structures\Preliminary\24 42-0825 TYP.dgn

8

8

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-16-38/69100			
DRAWN BY		CLP	PLANS CK'D. JLB
CROSS SECTION UNIT 13			SHEET 24 OF 37

TOTAL ESTIMATED QUANTITIES

BID ITEM NUMBER	BID ITEMS	UNIT	TOTAL
502.3205	PIGMENTED SURFACE SEALER RESEAL	SY	4,950
* 509.1500	CONCRETE SURFACE REPAIR	SF	1,860
517.3001.S	STRUCTURE OVERCOATING CLEANING AND PRIMING B-16-38	EACH	1
517.4001.S	CONTAINMENT AND COLLECTION OF WASTE MATERIALS B-16-38	EACH	1
517.6001.S	PORTABLE DECONTAMINATION FACILITY	EACH	1
SPV.0060.10	RE-CAULK TIE GIRDER CASTING	EACH	22
SPV.0060.11	REMOVE AND REPLACE SIDEWALK COVER PLATE	EACH	1
SPV.0060.12	PAINTING PIER PILES	EACH	1
SPV.0090.02	STRIP SEAL GLAND REPLACEMENT	LF	166
SPV.0180.01	METHACRYLATE FLOOD SEAL (RAMPS)	SY	11,740
SPV.0180.02	METHACRYLATE FLOOD SEAL (BRIDGE)	SY	66,770

* AS DIRECTED BY THE ENGINEER FOR CENTER PARAPET ON B-16-38 AND PIERS 29 AND 30. ESTIMATED 360 SF FOR PARAPETS AND 1,500 SF FOR PIERS.

DESIGN DATA

LIVE LOAD: TAKEN FROM HSI 1/23/2025

DESIGN LOADING: HS-20

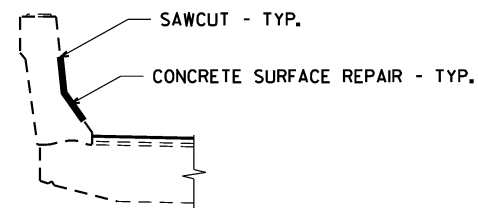
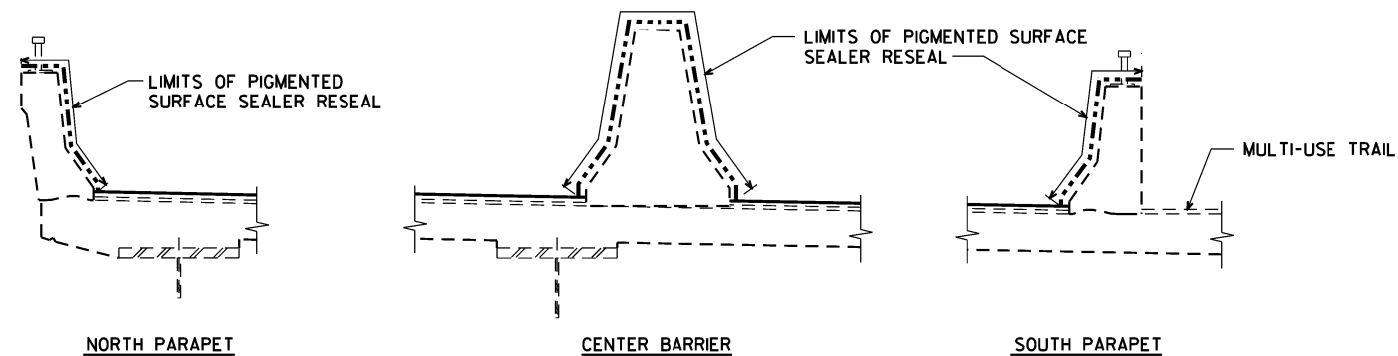
UNIT	INVENTORY RATING	OPERATING RATING	WIS-SPV
1	21	35	230
2	21	35	190
3	24	40	190
4	29	48	190
5	37	61	190
6	29	48	190
7	25	42	190
8	53	88	190
9	59	98	190
10	47	78	190
11	47	78	190
12	51	85	190
13	28	47	250
14	36	60	190
15	28	46	190
16	31	53	190
17	33	55	190
18	38	64	190
19	30	50	190

TRAFFIC DATA:

A.D.T. = 17,900 (2021)

A.D.T. = 21,480 (2041)

R.D.S. = 60 M.P.H.

**PARAPET REPAIR DETAIL****PIGMENTED SURFACE SEALER RESEAL DETAILS****GENERAL NOTES**

DRAWINGS SHALL NOT BE SCALED.

SEE ROADWAY PLANS FOR STAGING DETAILS.

DIMENSIONS SHOWN ARE BASED ON THE ORIGINAL PLANS.

ALL CONCRETE REMOVAL SHALL BE DEFINED BY A 1/2" DEEP SAW CUT.

CONCRETE SURFACE REPAIR SHALL BE AS DETERMINED BY THE ENGINEER IN THE FIELD.

ORIGINAL CONSTRUCTION YEAR IS 1981.

THE COLOR OF THE FINISH EPOXY TOP COAT FOR THE OUTSIDE OF THE ARCH, TIED ARCH GIRDERS, STRINGERS, FLOOR BEAMS, BEARINGS, AND ALL OTHER MISCELLANEOUS STEEL IN UNIT 13 SHALL BE BLUE (FEDERAL STANDARD COLOR NO. 25240).

THE COLOR OF THE FINISH EPOXY TOP COAT FOR ALL FRAMING STEEL SHALL BE BROWN (FEDERAL STANDARD COLOR NO. 20059).

THE COLOR OF THE FINISH EPOXY TOP COAT FOR ALL THE INSIDE OF THE TIED ARCH GIRDERS OF UNIT 13 SHALL BE WHITE (FEDERAL STANDARD COLOR NO. 27925).

PIGMENTED SURFACE SEALER RESEAL TO BE APPLIED AS SHOWN ON THE DETAIL ON THIS SHEET TO EXISTING PARAPETS ON B-16-38. COORDINATE PIGMENTED SURFACE SEALER RESEAL WITH REMOVAL AND REPLACEMENT OF CONCRETE PARAPETS AND EMBEDDED CONDUIT JUNCTION BOXES PLANS.

SCOPE OF WORK

CONCRETE SURFACE REPAIR ON PIERS 29 AND 30 AND PARAPETS OF B-16-38 AT LOCATIONS DETERMINED BY THE ENGINEER IN THE FIELD.

METHACRYLATE FLOOD SEAL OF THE ENTIRE DECK EXCLUDING PEDESTRIAN PATH ON B-16-38 (69100), RAMP A (69101), RAMP B (69102), AND RAMP C (69109).

REPLACING THE NEOPRENE STRIP SEAL GLAND AT JOINTS #17 AND #18.

RE-CAULKING TIE GIRDER COVER CASTINGS AND RESEALING CABLE HOLES IN COVER CASTINGS.

REPLACING THE SIDEWALK COVER PLATE AT JOINT 16.

PAINT THE STEEL PILES AS PIERS 3A, 3B, 3C.

SPOT REPAINTING OF UNIT 13 INCLUDING:

INSIDE TIE GIRDERS ALL STEEL WITHIN 4-FEET OF HANGER CONNECTIONS.

INSIDE TIE GIRDERS BOTTOM PLATE WITHIN 2-FEET OF BOTTOM SPLICE PLATES.

INSIDE TIE GIRDERS BOTTOM AND TOP PLATES AND 6-INCHES OF SIDE PLATES WITHIN 2-FEET OF VERTICAL DIAPHRAGMS. LIMITS SHOWN ON SHEET 27.

OUTSIDE TIE GIRDERS WHOLE LENGTH OF TOP AND AT ALL CORNERS.

OUTSIDE TIE GIRDERS WITHIN 2-FEET OF SPLICE CONNECTIONS.

ALL STRUCTURAL STEEL WITHIN 6-FEET OF A DECK JOINT.

FRAMING STEEL WITHIN 2-FEET OF ANY CONNECTION. A CONNECTION IS DEFINED AS ANY LOCATION WHERE A MEMBER INTERSECTS ANOTHER MEMBER WITH A GUSSET PLATE.

ENTIRE BOTTOM FLANGE AND LOWER 6-INCHES OF WEB OF FLOOR BEAMS.

ALL TIED ARCH BEARINGS. DO NOT DISASSEMBLE BEARINGS.

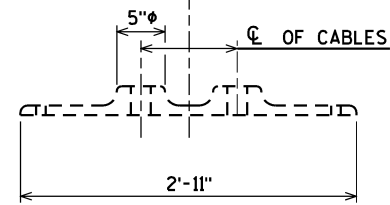
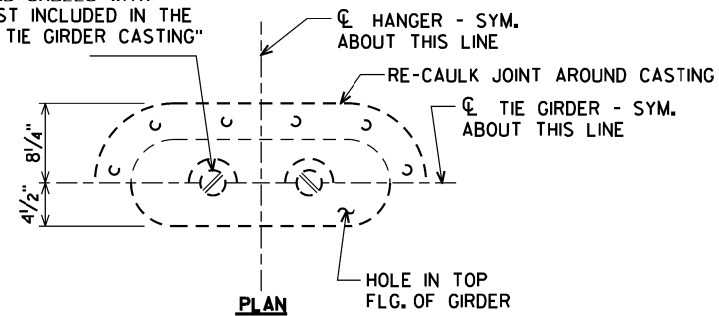
ALL FLAT HORIZONTAL SURFACES ON FRAMING STEEL WHERE WATER CAN POOL. EXAMPLES INCLUDE TOP CONNECTION PLATE ON FLOORBEAM, FLANGES OF WT ON CROSS BRACING, CONNECTION BARS ON CROSS BRACING, AND FLANGES OF STRINGERS.

ALL ARCH STEEL WITHIN 4'-8" OF THE \ominus OF BEARING.

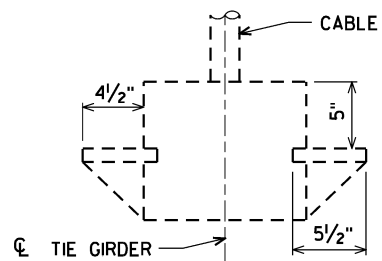
ANY LOCATIONS DETERMINED BY THE ENGINEER IN THE FIELD.

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-16-38/69100			
DRAWN BY		CLP	PLANS CK'D. JLB
DESIGN DATA, QUANTITIES AND NOTES			SHEET 25 OF 37

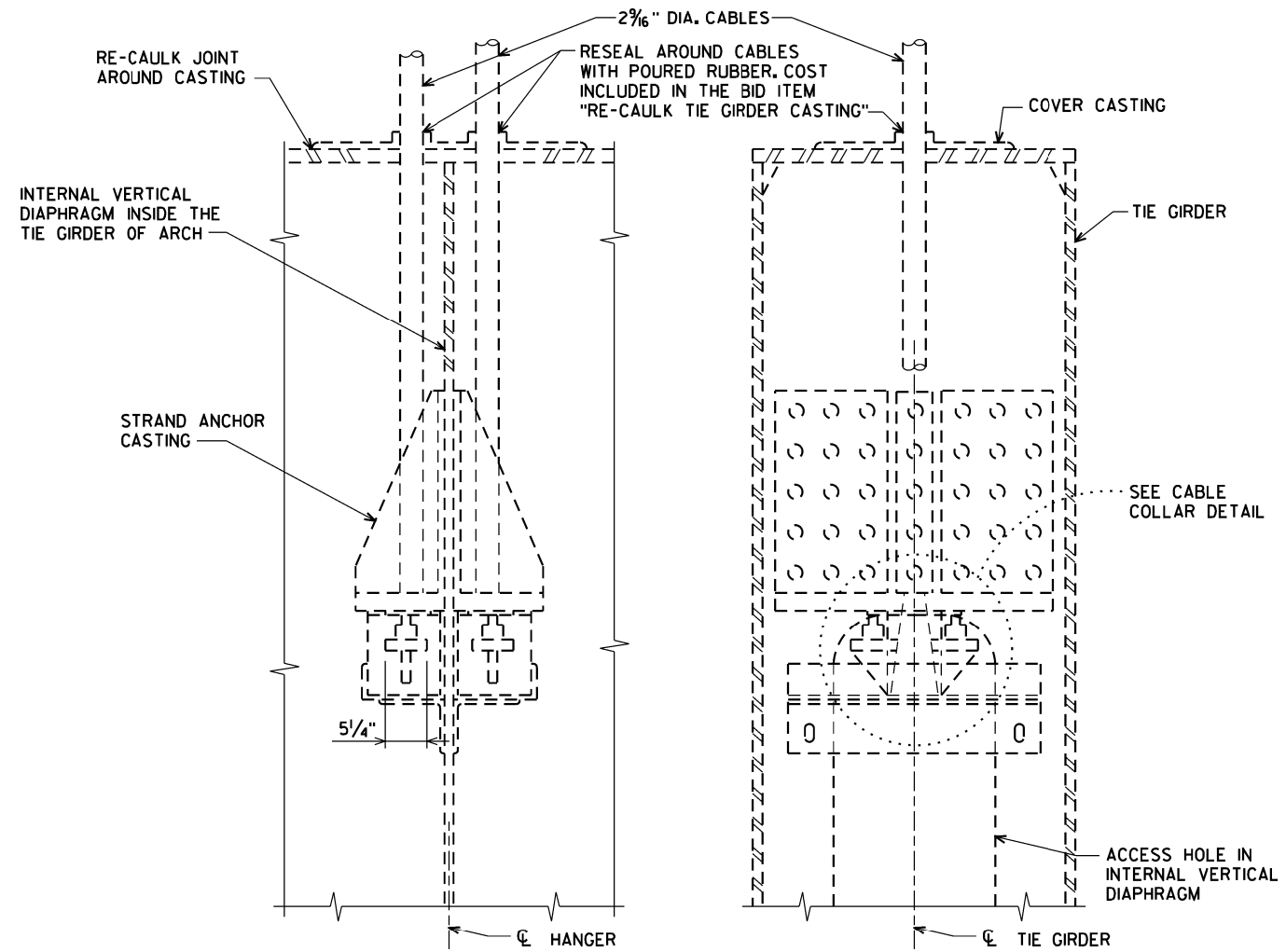
2 5/8" DIA. HOLES FOR 2 3/8" DIA. CABLES.
RESEAL JOINT AROUND CABLES WITH
POURED RUBBER. COST INCLUDED IN THE
BID ITEM "RE-CAULK TIE GIRDER CASTING"



TIE GIRDER COVER CASTING



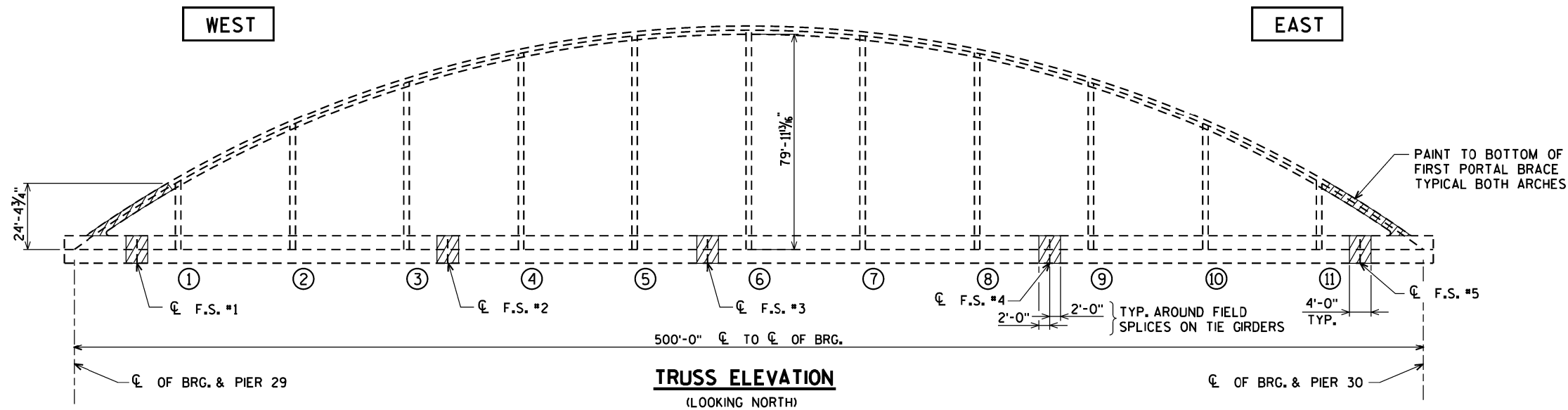
CABLE COLLAR DETAIL



PART ELEV. OF TIE GIRDER @ ϕ OF HANGERS

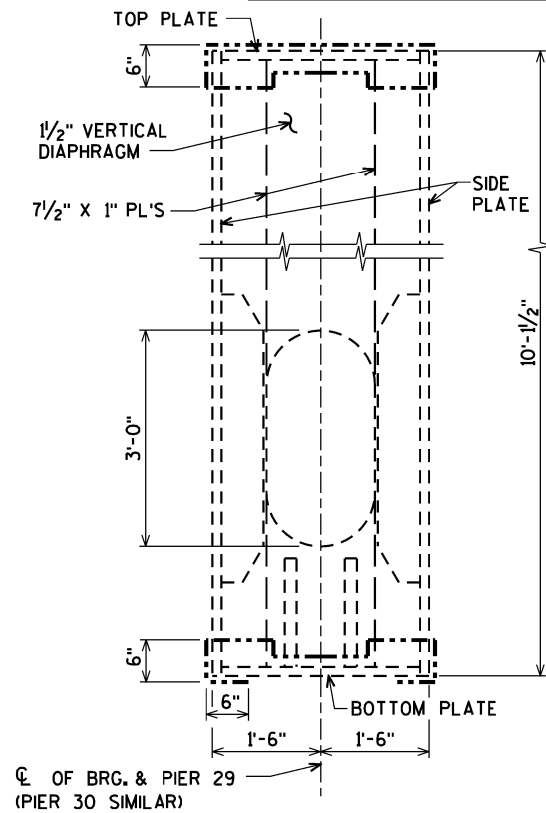
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NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-16-38/69100			
DRAWN BY		CLP	PLANS CK'D. JLB
HANGER DETAILS			SHEET 26 OF 37

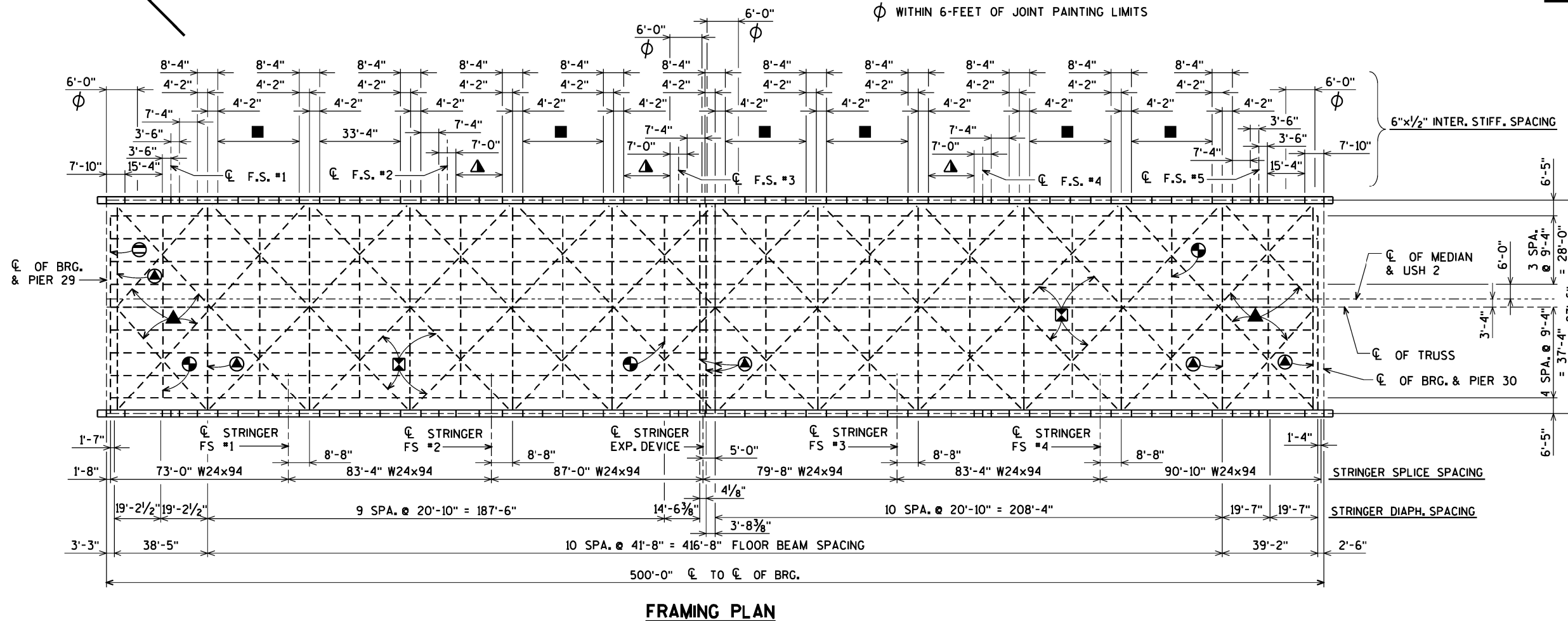


NOTE:
 PAINT ALL LEVEL SURFACES WHERE WATER CAN POOL ON FRAMING MEMEBERS UNDER DECK.
 PAINT ENTIRE BOTTOM FLANGE AND LOWER 6" OF WEB OF ALL FLOOR BEAMS.
 PAINT ALL FRAMING MEMBERS UNDER DECK WITHIN 6-FEET OF A JOINT IN THE DECK.
 PAINT ALL STEEL WITHIN 2-FEET OF ANY FRAMING MEMBER CONNECTION.
 AS DIRECTED BY THE ENGINEER.

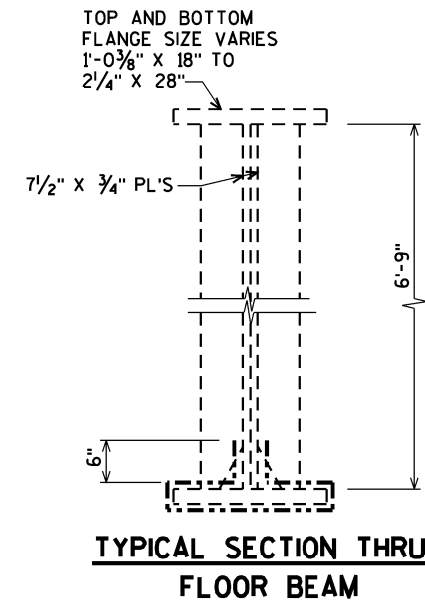
- ⊖ W16x36
- ⊙ C15x33.9
- ⊕ C12x20.7
- ▲ WT9x48
- ⊗ WT9x35
- 4 SPA. @ 8'-4" = 33'-4"
- ▲ 2 SPA. @ 9'-6" = 19'-0"
- ⊕ WITHIN 6-FEET OF JOINT PAINTING LIMITS
- DENOTES CABLE NUMBER
- ▨ PAINTING LIMITS
- ⋯ PAINTING LIMITS
- F.S. = FIELD SPLICE



TIE GIRDER TYPICAL SECTION
 (AT VERTICAL DIAPHRAGM)



FRAMING PLAN



TYPICAL SECTION THRU FLOOR BEAM

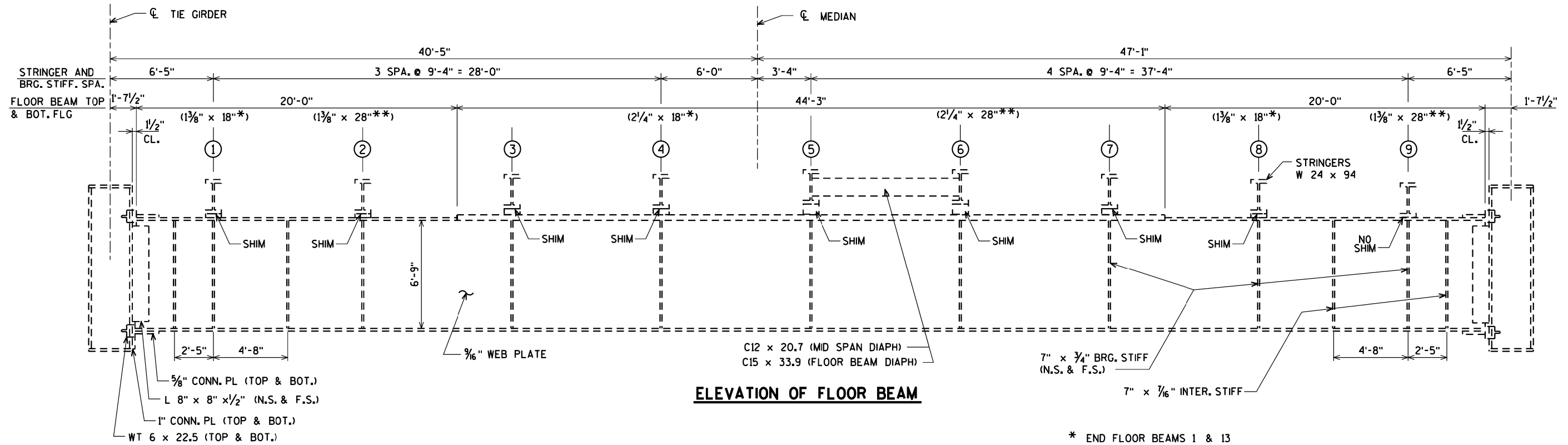
NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-16-38/69100			
DRAWN BY		CLP	PLANS CK'D. JLB
TIED ARCH REPAINTING DETAILS			SHEET 27 OF 37

\$PRNAME\$ I:\41410903.USH 2 Bong Bridge Painting 86800004\Structures\Preliminary\24 42-0825 TRUSS dtls.dgn

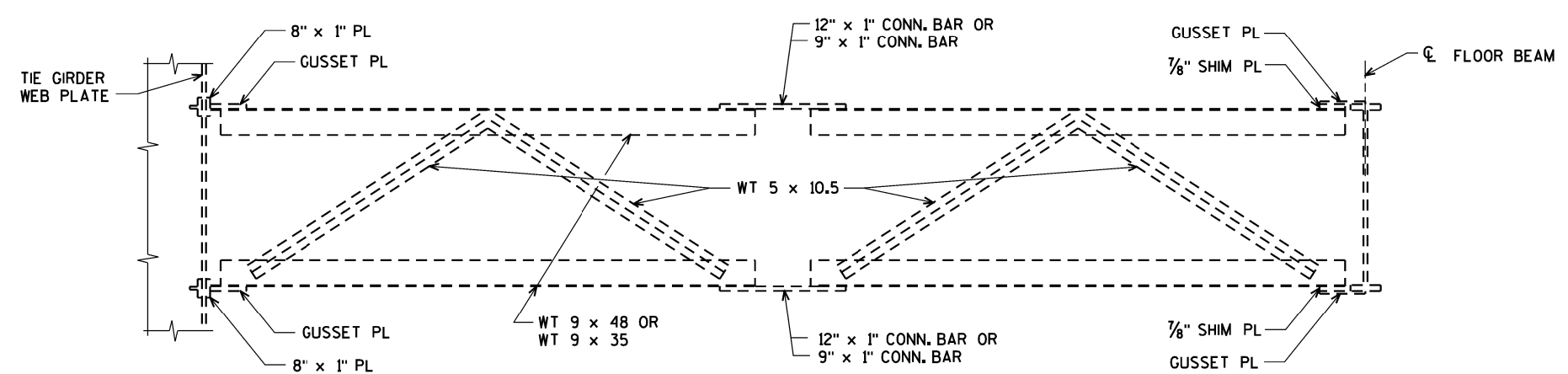
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\$PRNAME\$ I:\41410903.USH 2 Bong Bridge Painting 86800004\Structures\Preliminary\24 42-0825 TRUSS dtls.dgn



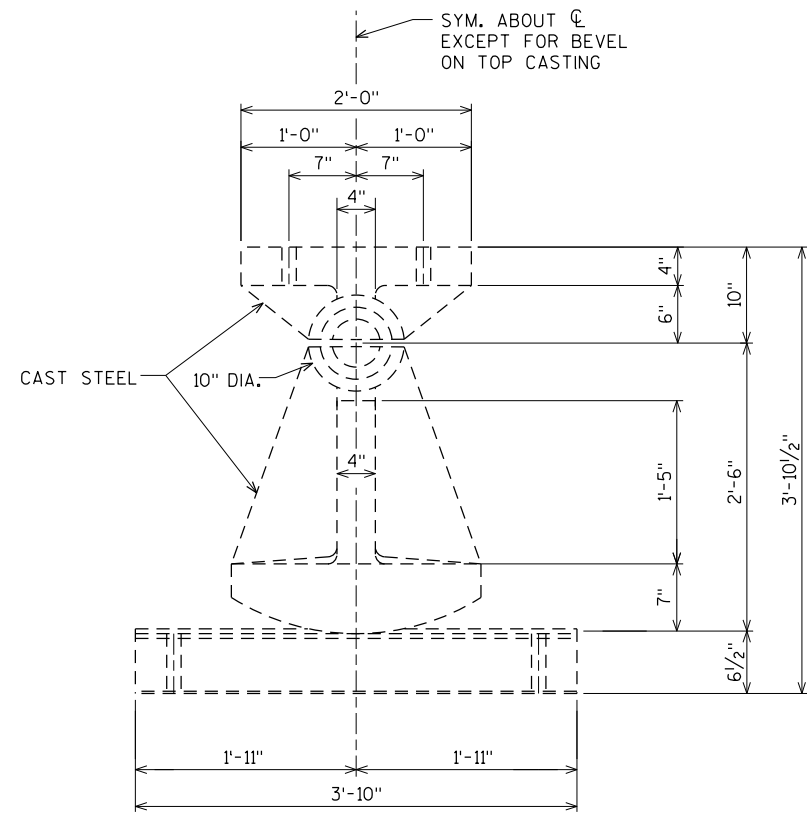
* END FLOOR BEAMS 1 & 13
 ** FLOOR BEAMS 2 THRU 12



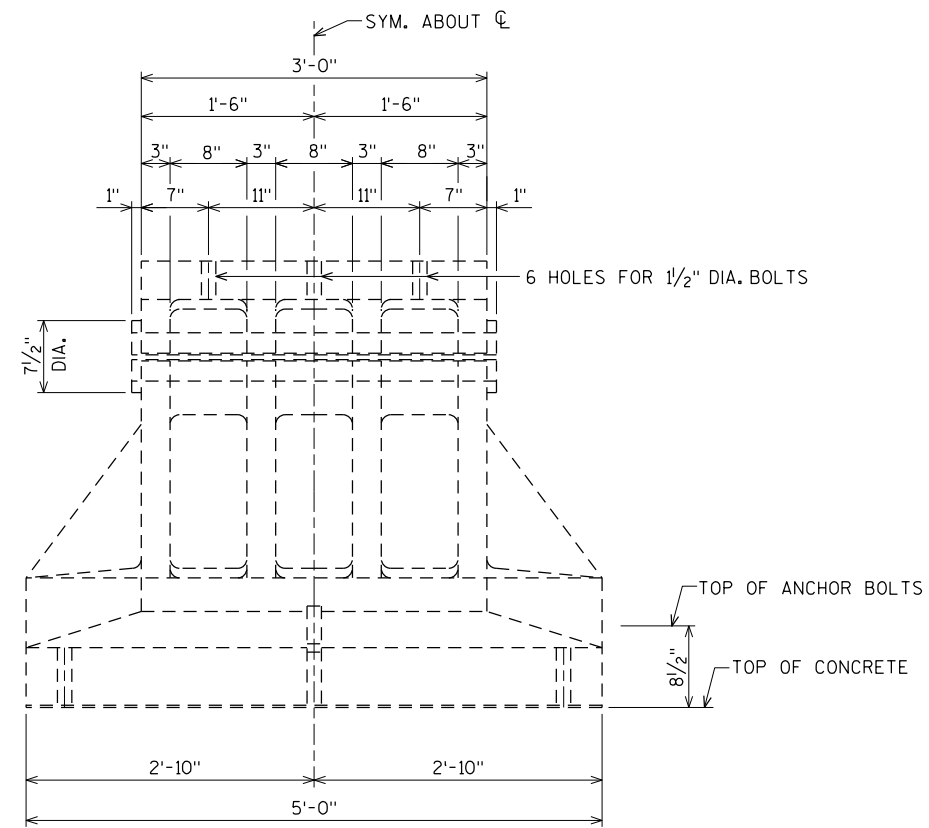
NOTE: SOME LATERAL BRACING DOES NOT HAVE A SPLICE.

FLOOR BEAM AND LATERAL BRACING DETAILS SHOWN FOR CLARITY. SEE SHEET 25 FOR PAINTING LIMITS.

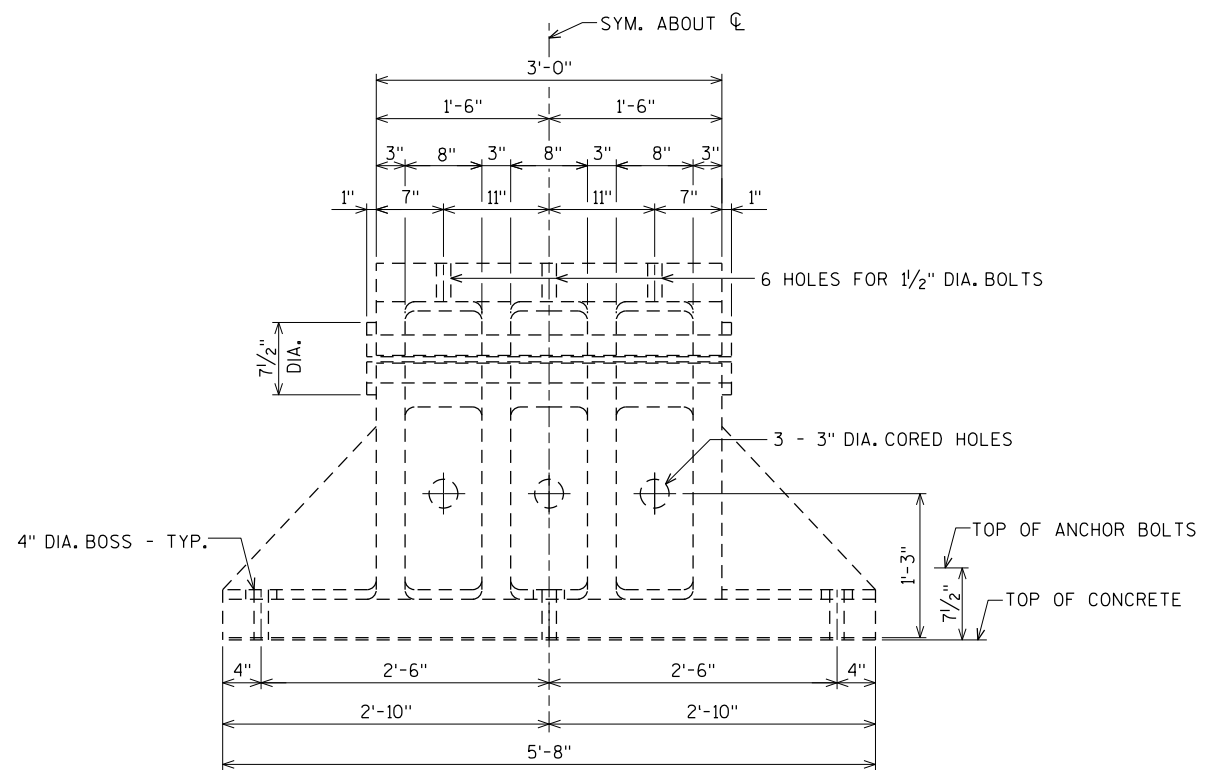
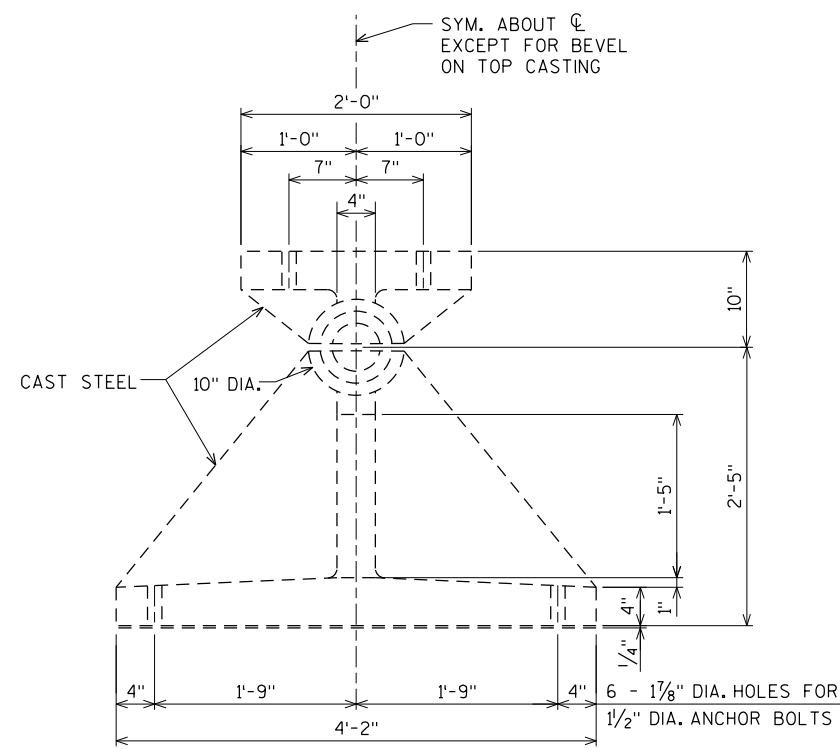
NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-16-38/69100			
DRAWN BY		CLP	PLANS CK'D.
TYPICAL FLOOR BEAM AND LATERAL BRACING			SHEET 28 OF 37



FIXED BEARING - PIER 29



FIXED BEARING - PIER 30



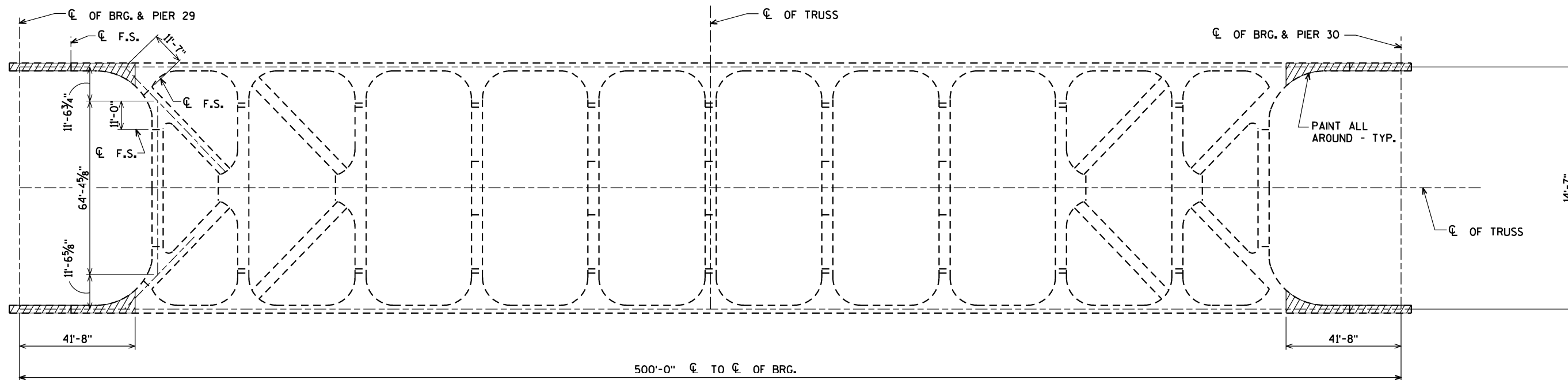
NOTE: PAINT ENTIRE BEARING ASSEMBLIES.
DO NOT DISASSEMBLE BEARINGS.

\$PRNAME\$
##dypres##_Active#41#410903_USH 2 Bong Bridge Painting 86800004#Structures#Preliminary#24 42-0825 TRUSS dtls.dgn

8

8

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-16-38/69100			
DRAWN BY		CLP	PLANS CK'D. JLB
TIED ARCH BEARINGS			SHEET 29 OF 37



PLAN ARCH STRUT AND CROSS BRACING

 PAINTING LIMITS

F.S. = FIELD SPLICE

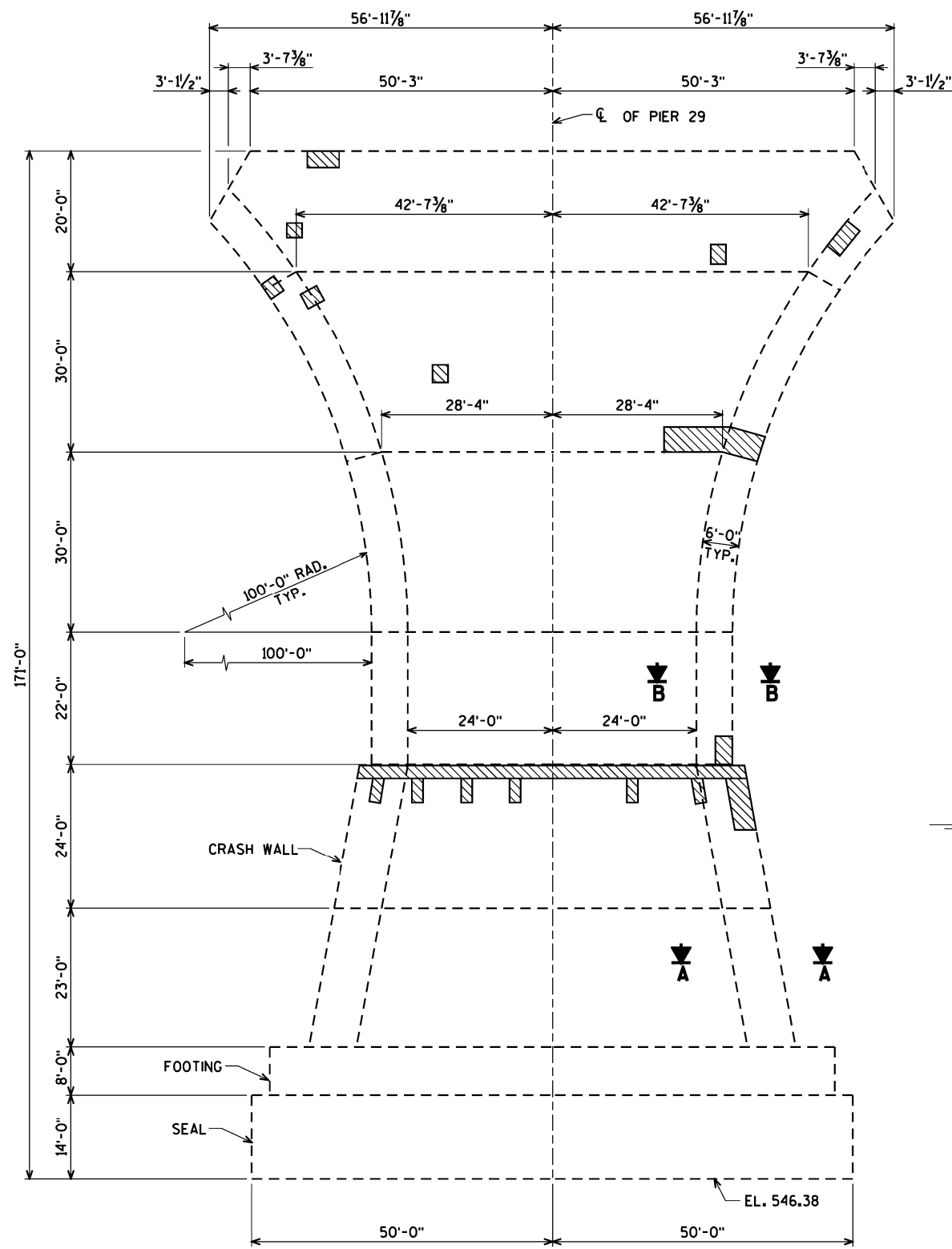
\$PRNAME\$ I:\41\410903-USH 2 Bong Bridge Painting 86800004\Structures\Preliminary\24 42-0825 TRUSS dtls.dgn

8

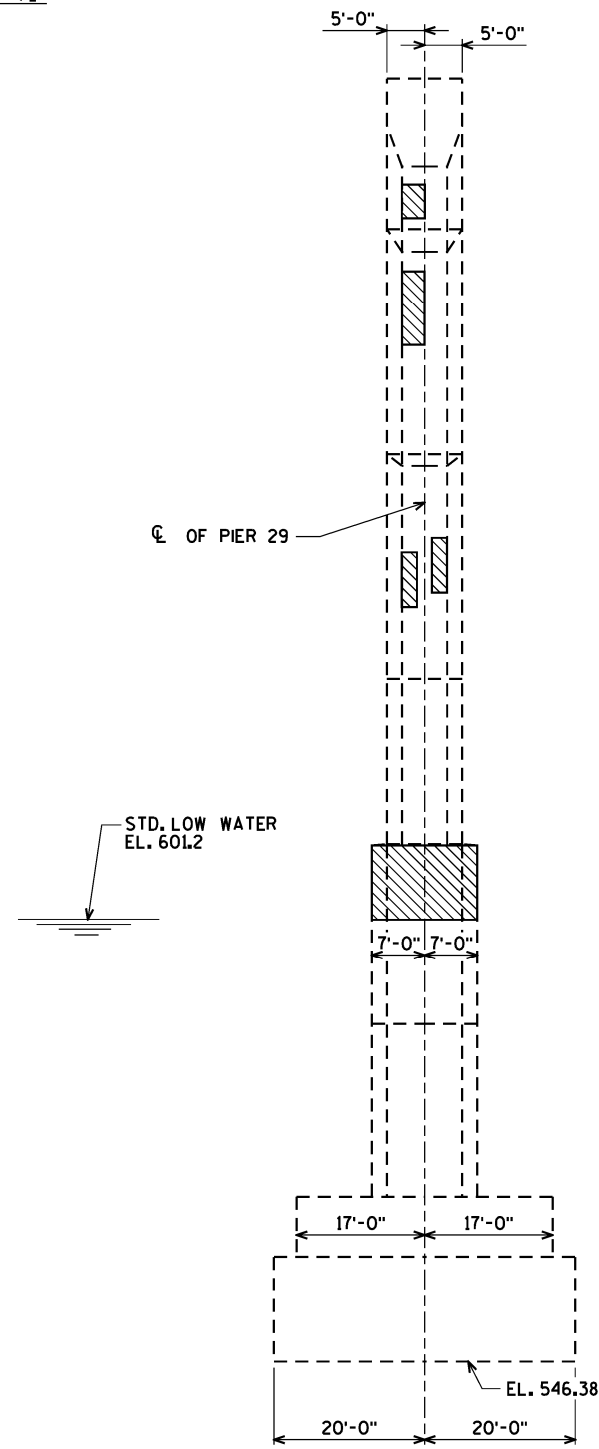
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NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-16-38/69100			
DRAWN BY		CLP	PLANS CK'D. JLB
ARCH STRUT & CROSS BRACING DETAIL			SHEET 30 OF 37

\$PRNAME\$ I:\41\410903_USH 2 Bong Bridge Painting 86800004\Structures\Preliminary\24 42-0825 pier 29_30.dgn

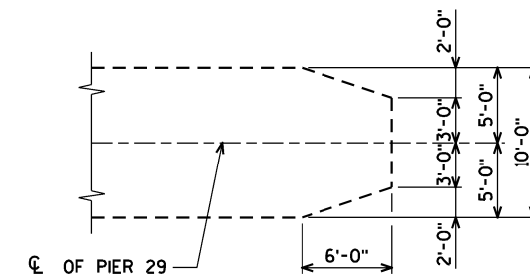


ELEVATION - PIER 29
(LOOKING EAST)

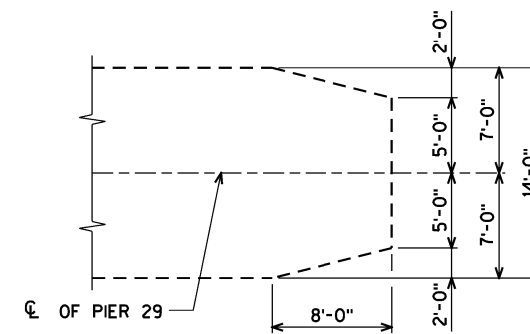


END VIEW - PIER 29
(LOOKING NORTH)

CONCRETE SURFACE REPAIR BASED ON AUGUST 2024 VISUAL FIELD INSPECTION



SECTION B-B



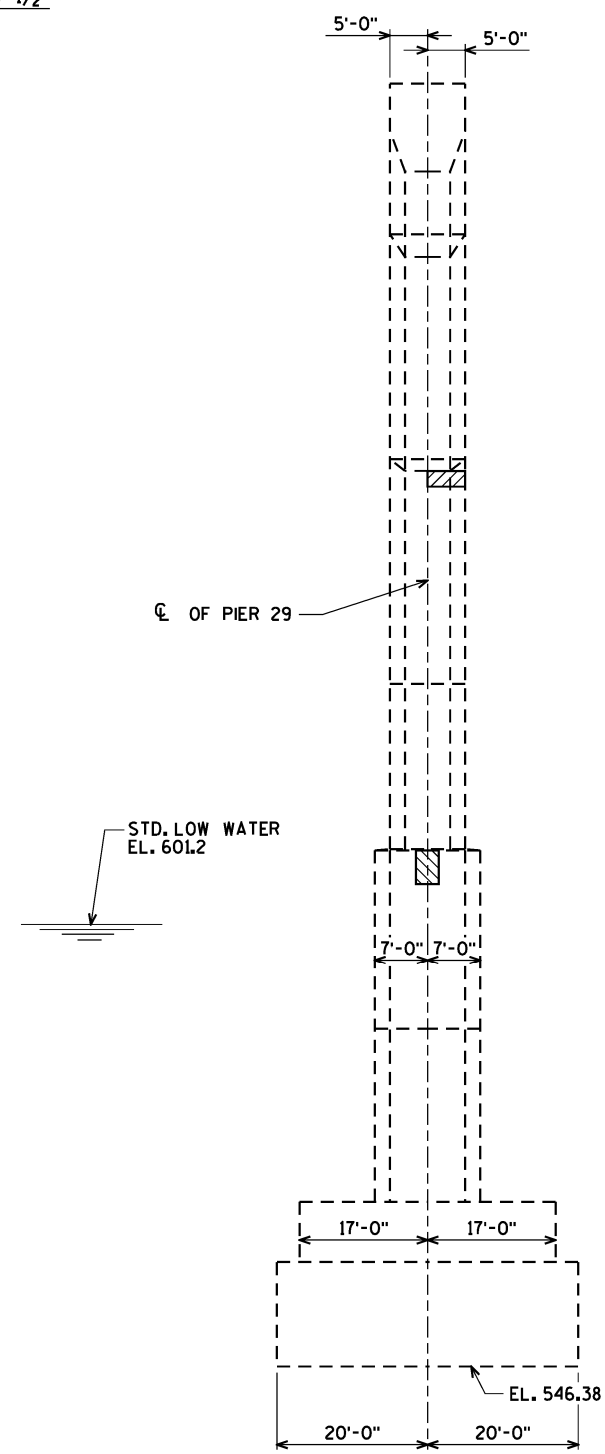
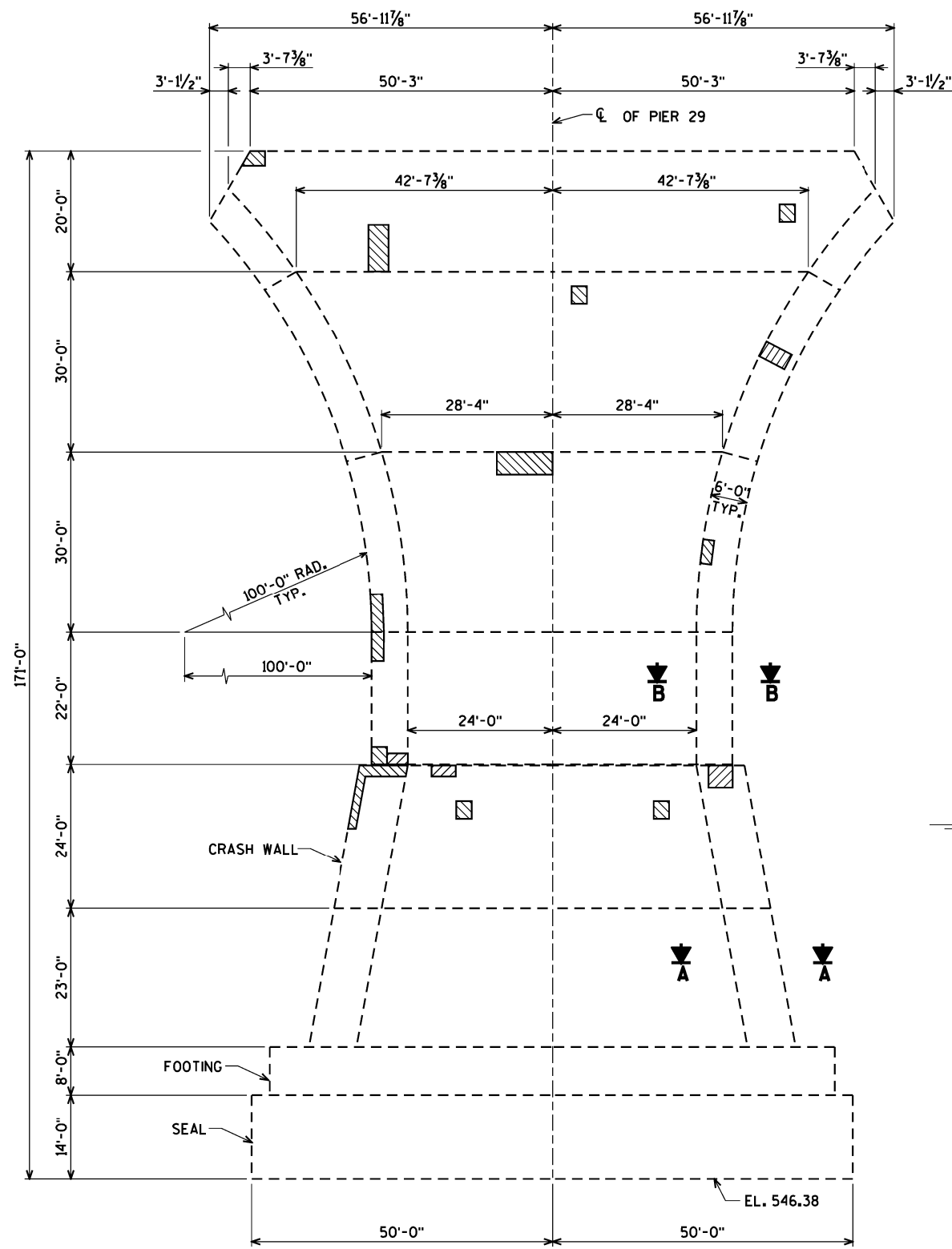
SECTION A-A

8

8

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-16-38/69100			
DRAWN BY		CLP	PLANS CK'D. JLB
PIER 29			SHEET 31 OF 37

\$PRNAME\$
I:\41\410903_USH 2 Bong Bridge Painting 86800004\Structures\Preliminary\24 42-0825 pier 29_30.dgn



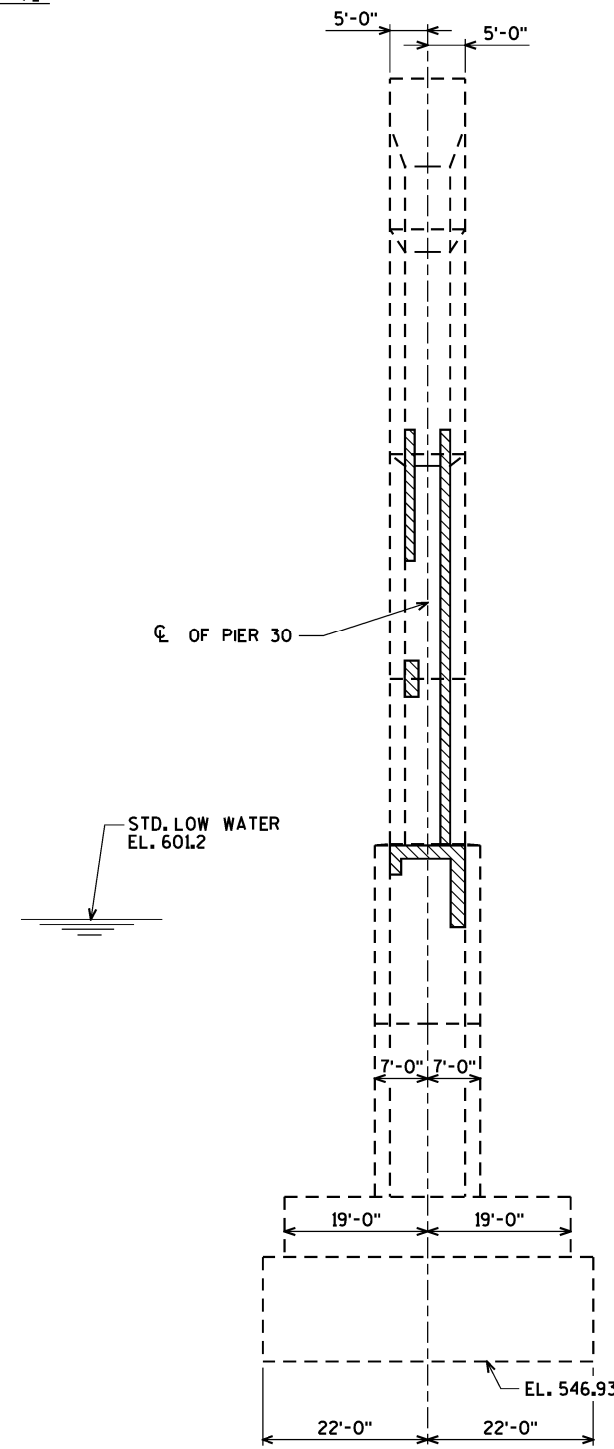
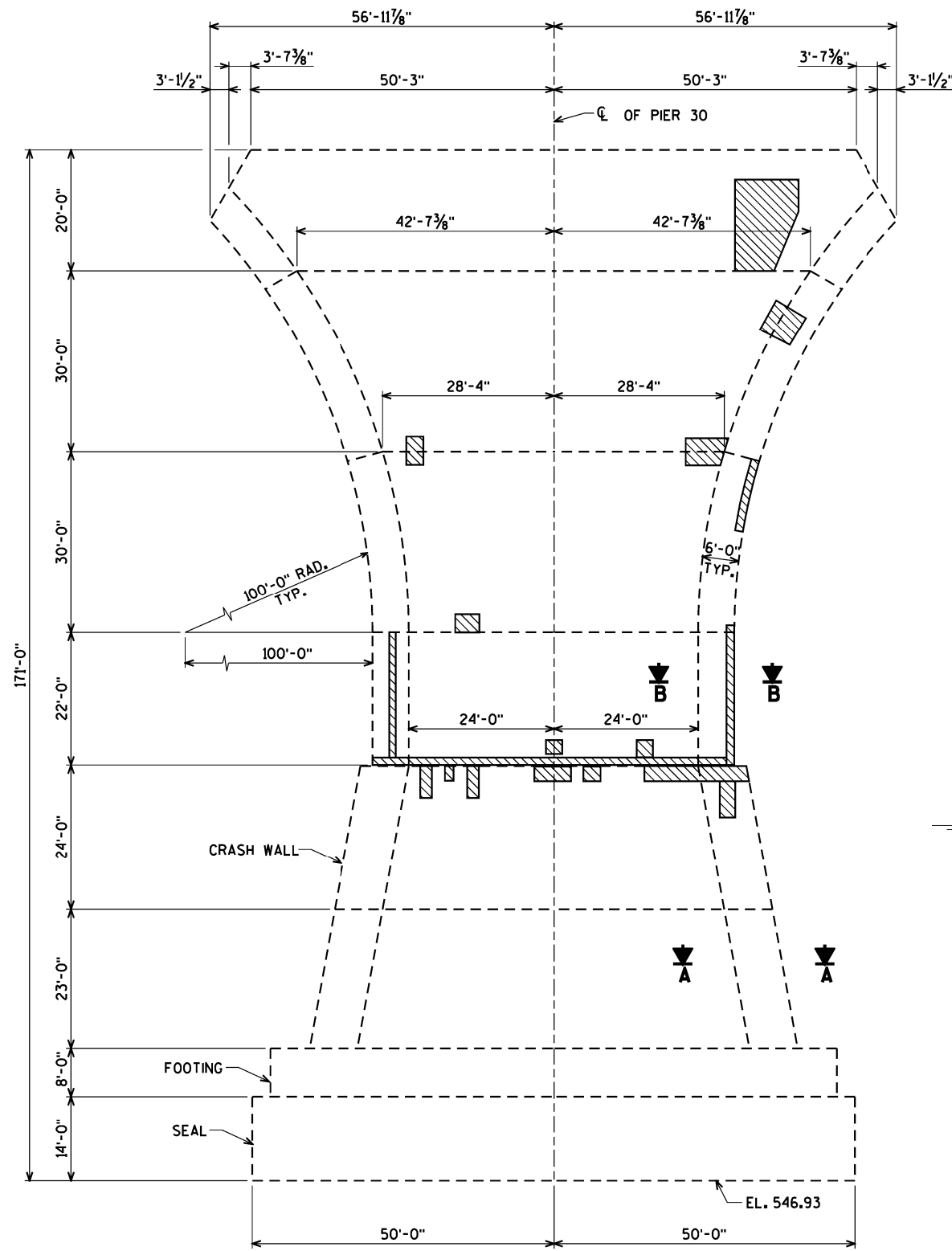
CONCRETE SURFACE REPAIR BASED ON AUGUST 2024 VISUAL FIELD INSPECTION

8

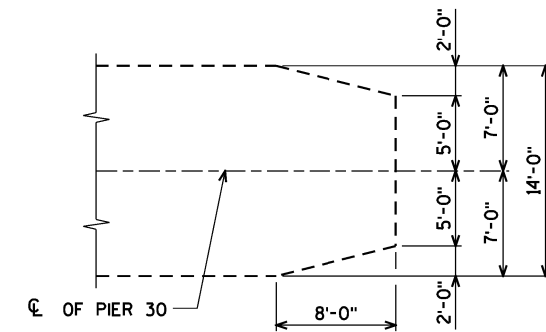
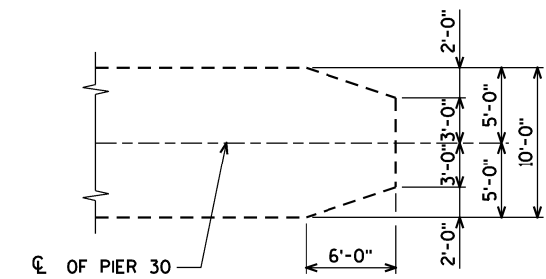
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NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-16-38/69100			
DRAWN BY		CLP	PLANS CK'D. JLB
PIER 29			SHEET 32 OF 37

\$PRNAME\$
I:\41410903_LUSH 2 Bong Bridge Painting 86800004\Structures\Preliminary\24 42-0825 pier 29_30.dgn



CONCRETE SURFACE REPAIR BASED ON AUGUST 2024 VISUAL FIELD INSPECTION

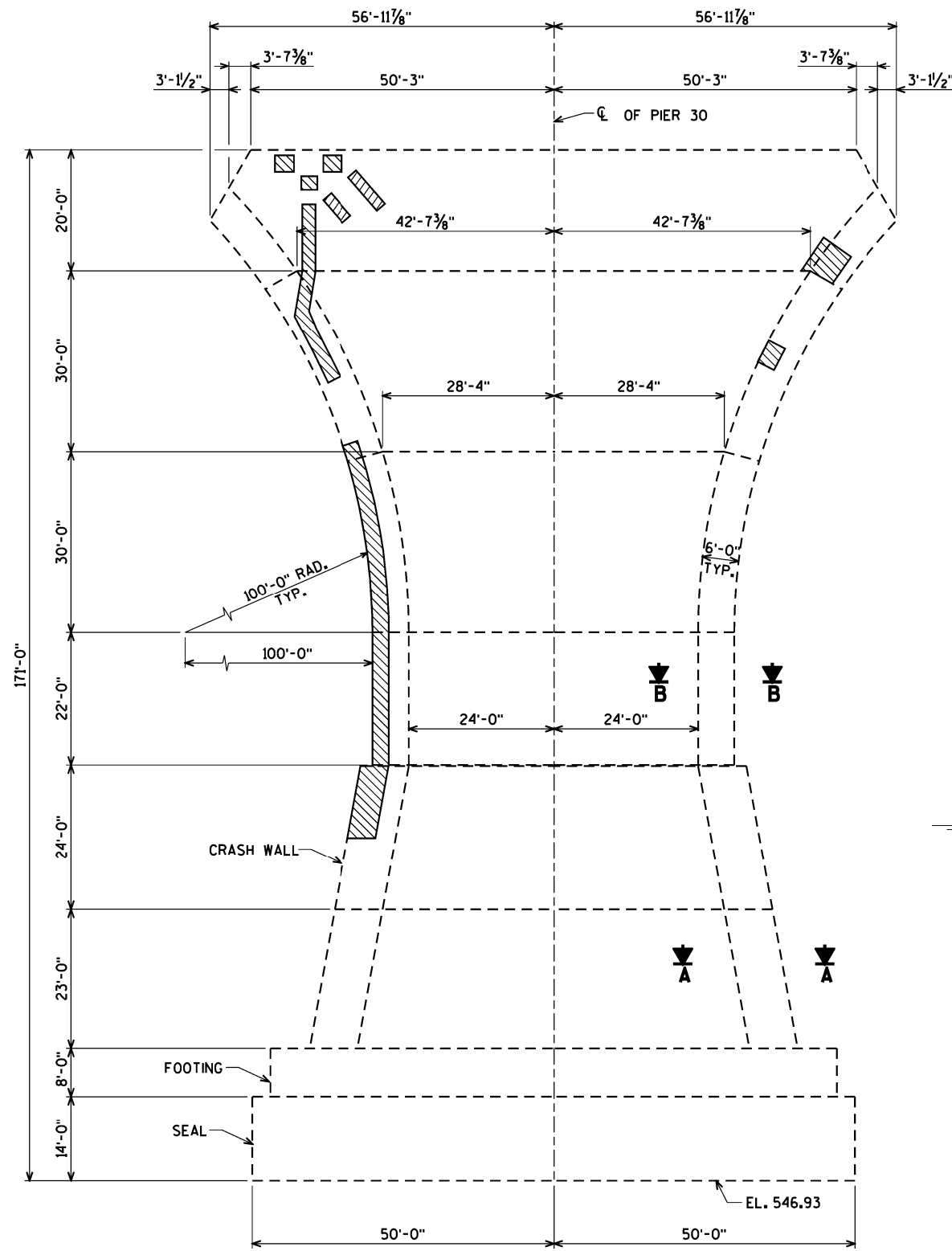


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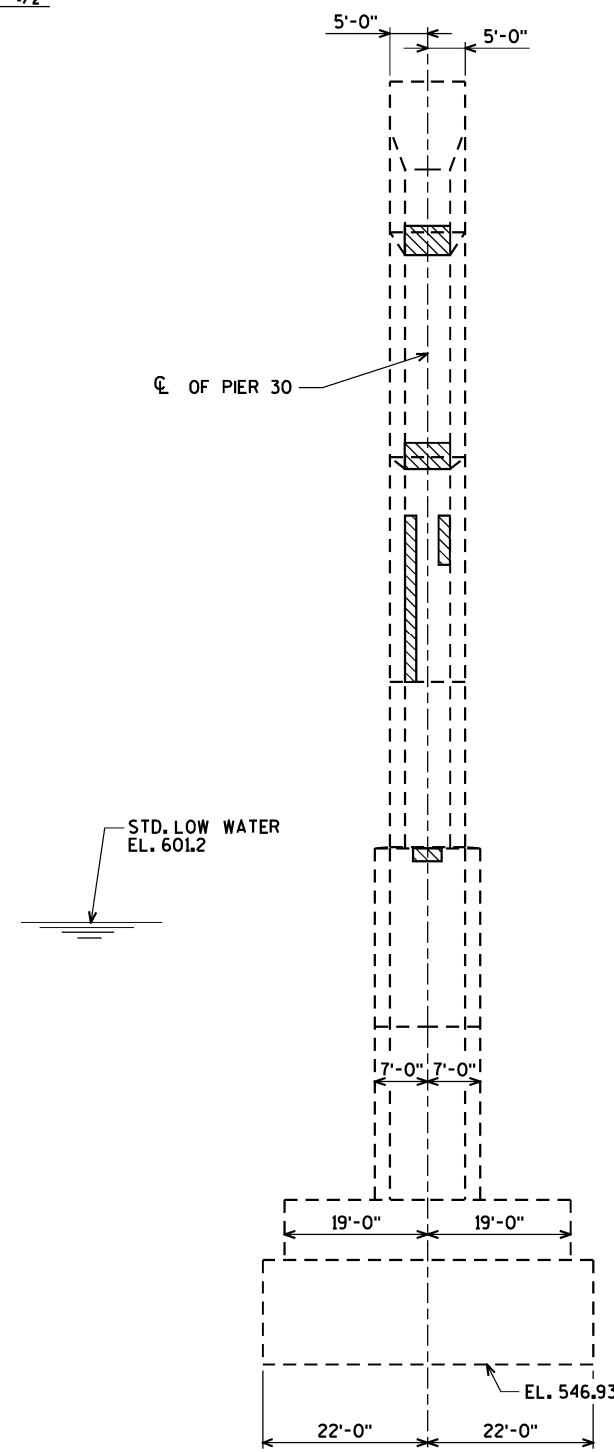
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NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-16-38/69100			
DRAWN BY		CLP	PLANS CK'D. JLB
PIER 30			SHEET 33 OF 37

\$PRNAME\$ I:\41\410903_USH 2 Bong Bridge Painting 86800004\Structures\Preliminary\24 42-0825 pier 29_30.dgn



ELEVATION - PIER 30
(LOOKING WEST)



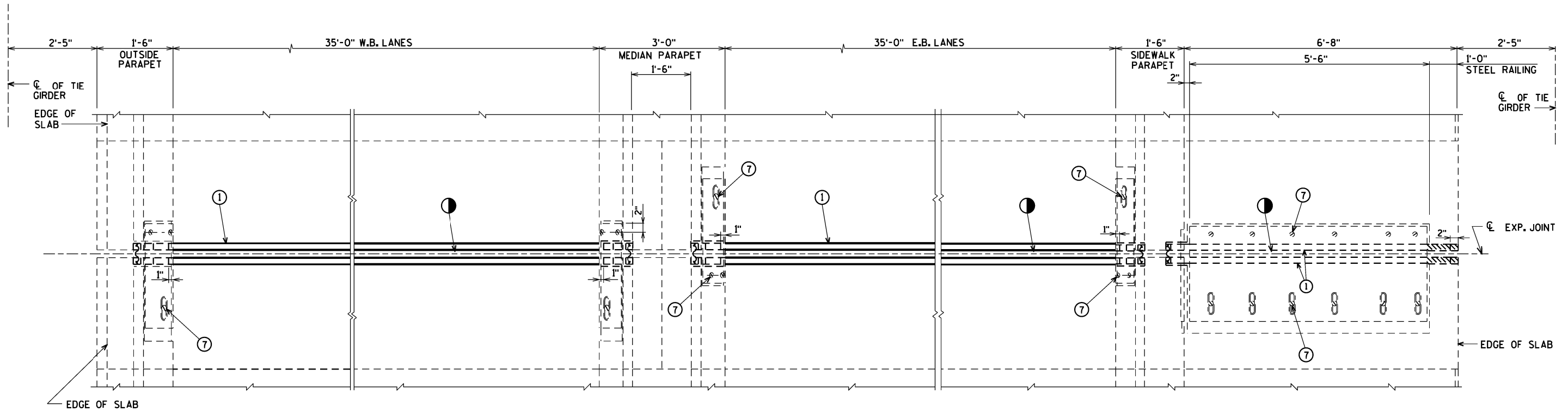
END VIEW - PIER 30
(LOOKING SOUTH)

CONCRETE SURFACE REPAIR BASED ON AUGUST 2024 VISUAL FIELD INSPECTION

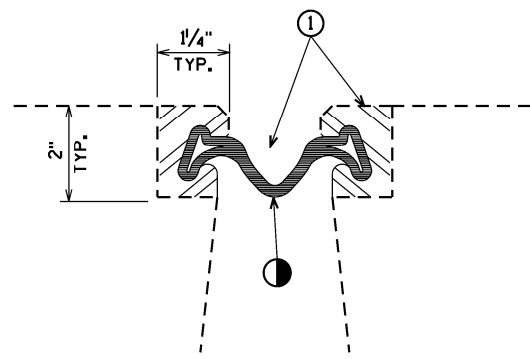
8

8

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-16-38/69100			
DRAWN BY		CLP	PLANS CK'D. JLB
PIER 30			SHEET 34 OF 37



PART PLAN AT JOINT 17
(JOINT 17 SHOWN, JOINT 18 SIMILAR)



SECTION THRU JOINT

● EXISTING NEOPRENE STRIP SEAL GLAND TO BE REMOVED AND REPLACED. EXISTING STRIP SEAL GLAND IS 4", 82'-8"± LENGTH AT JOINTS #17 AND #18. DO NOT SPLICE THE NEW STRIP SEAL GLANDS. FURNISH THE STRIP SEAL GLANDS IN LENGTHS SUITABLE FOR CONTINUOUS ONE-PIECE INSTALLATION AT EACH JOINT LOCATION PER THE SPECIAL PROVISIONS. REMOVING AND REPLACING STRIP SEAL GLANDS REQUIRES REMOVING COVER PLATES AT SIDEWALK AND PARAPETS. REUSE COVER PLATES AT SIDEWALK AND PARAPETS. REUSE COVER PLATES AND REINSTALL NEW BOLTS. THIS WORK IS INCLUDED IN THE BID ITEM "STRIP SEAL GLAND REPLACEMENT".

LEGEND

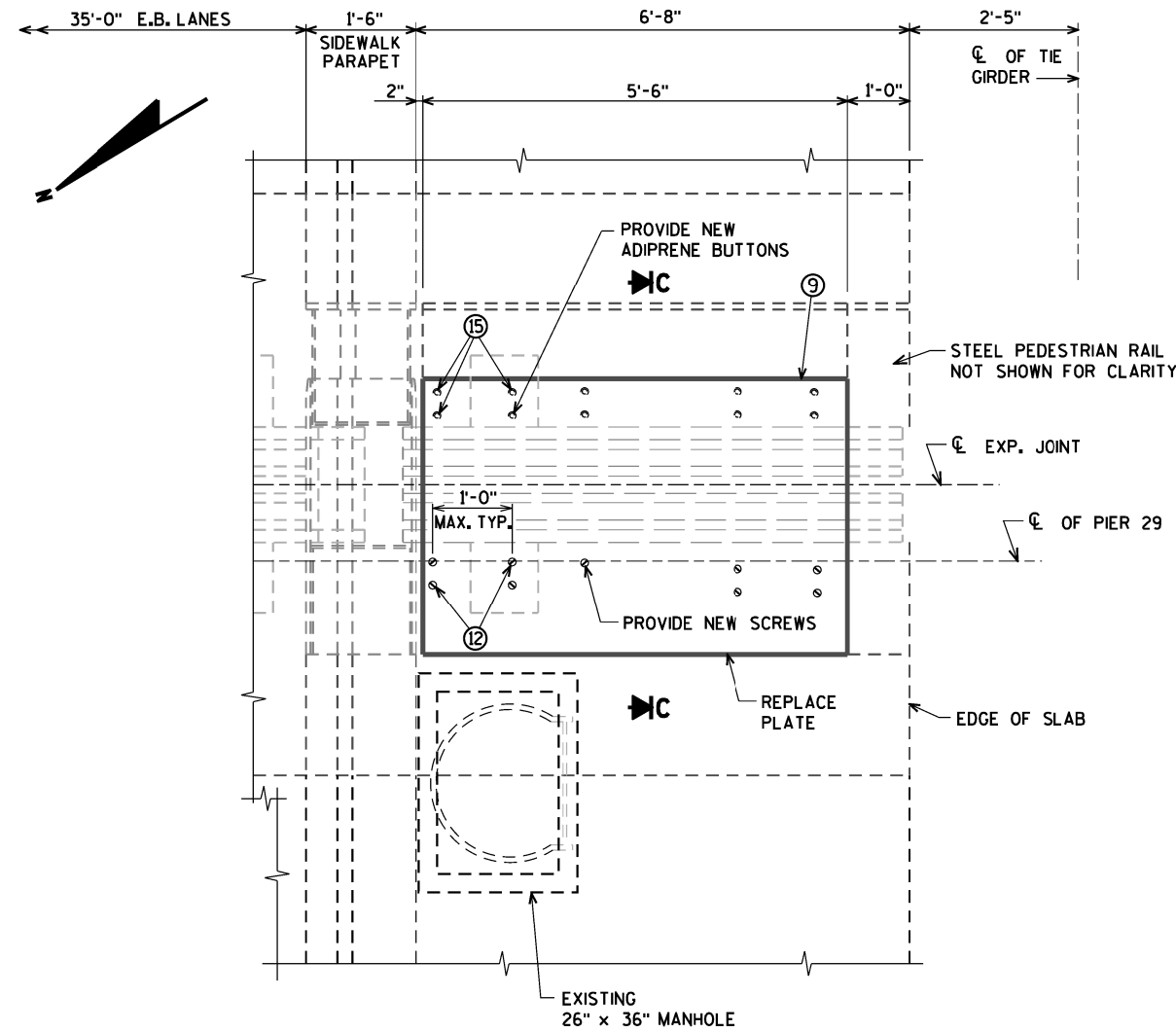
- ① NEOPRENE STRIP SEAL (4 - INCH) AND STEEL EXTRUSIONS.
- ⑦ 3/4" DIA. x 1 1/2" STAINLESS STEEL SOCKET FLAT HEAD SCREWS WITH ANIT-SEIZE LUBRICANT. PLACE IN COUNTERSUNK HOLE. RECESS 1/16" BELOW PLATE SURFACE.

\$PRNAME\$ I:\41\410903_USH 2 Bong Bridge Painting 86800004\Structures\Preliminary\24 42-0825 EXPJT 17 & 18 ss.dgn

8

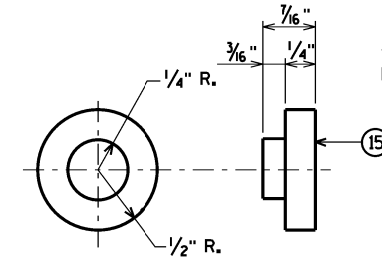
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NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-16-38/69100			
DRAWN BY		CLP	PLANS CK'D. JLB
STRIP SEAL GLAND REPLACEMENT JOINTS 17 & 18			SHEET 35 OF 37

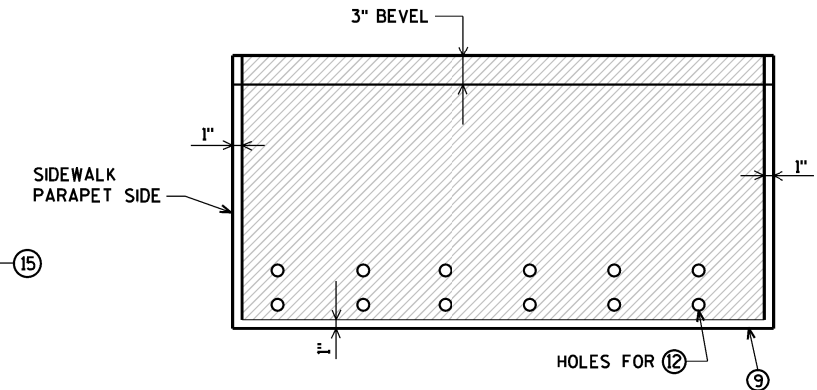


PART PLAN AT JOINT 16

NOTE:
 REMOVE AND REINSTALL EXISTING PEDESTRIAN RAILING, INCLUDING ANCHOR BOLTS, AS REQUIRED TO REPLACE PLATE. COST FOR REMOVING AND REINSTALLING PORTIONS OF THE RAILING IS INCIDENTAL TO THE BID ITEM "REMOVE AND REPLACE SIDEWALK COVER PLATE".



ADIPRENE BUTTON DETAIL



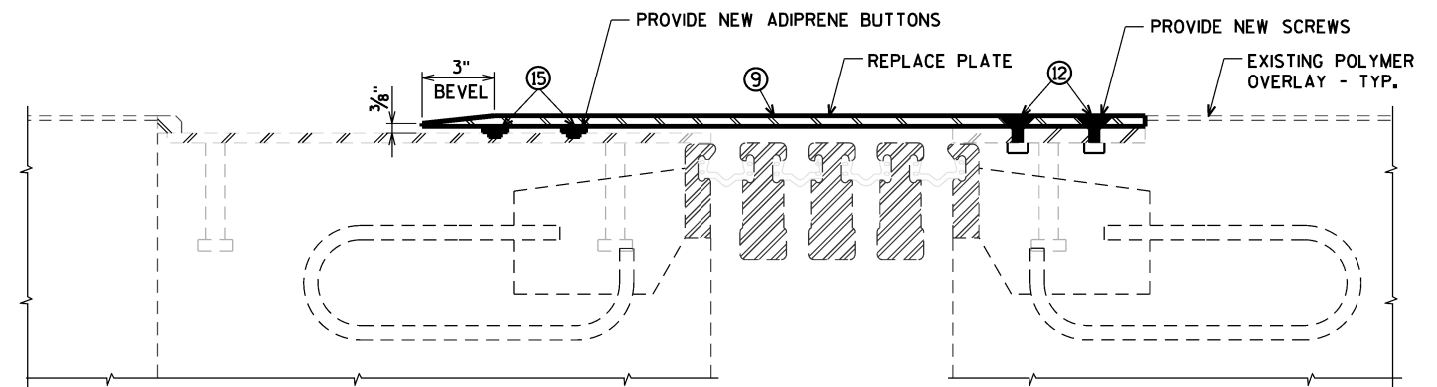
PLAN OF SIDEWALK COVER PLATE WITH SLIP-RESISTANT SURFACE

- ⑨ OUTSIDE PLATE. FABRICATE FROM 5/8" PLATE.
- ⑫ 3/4" φ x 2" STAINLESS STEEL FLAT CTSK. SLOTTED HEAD CAP SCREWS W/ANTI-SEIZE LUBRICANT. RECESS 1/16" BELOW PLATE SURFACE.
- ⑮ ADIPRENE BUTTON. SEE DETAIL. SET IN OUTSIDE PLATE.

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

▲ PLACE SLIP-RESISTANT SURFACE ON TOP WALKING SURFACE IN SHADED AREA ONLY GALVANIZE PLATE AFTER SLIP-RESISTANT SURFACE IS APPLIED.

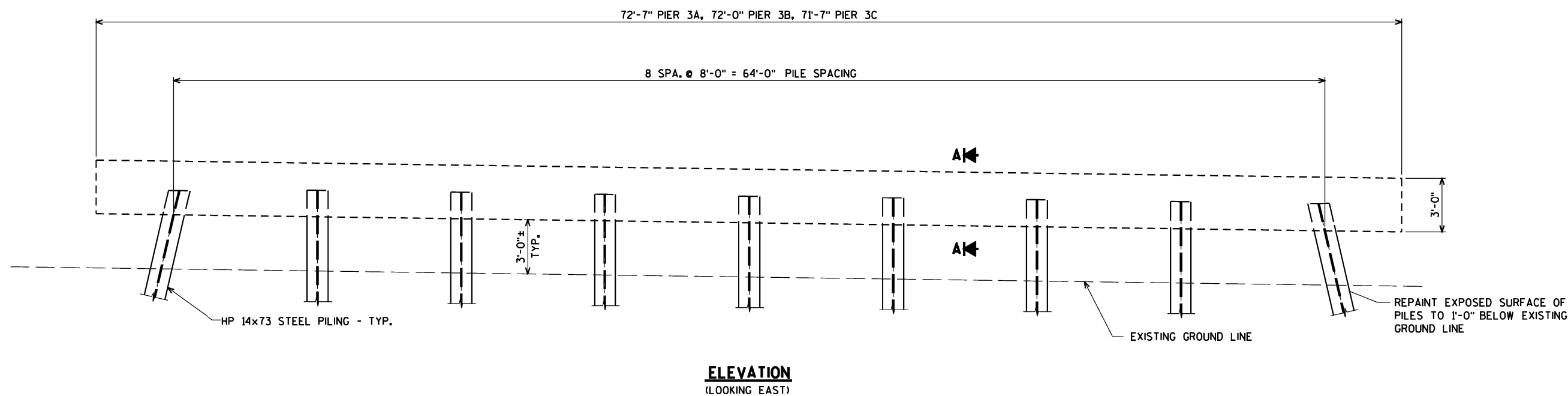
SLIP-RESISTANT SURFACE IS APPLIED TO SIDEWALK COVER PLATES BY THE MANUFACTURER AND THEN HOT DIPPED GALVANIZED TO THEIR RECOMMENDATIONS TO MAINTAIN THE INTEGRITY OF THIS SURFACE.



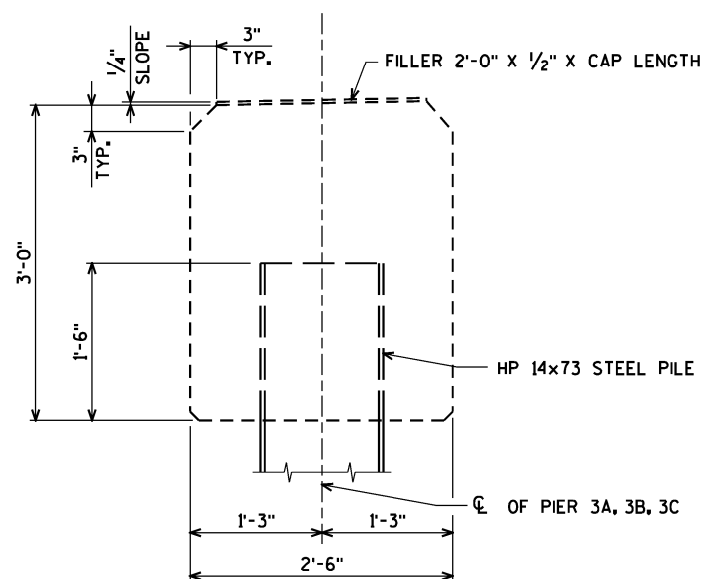
SECTION C

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-16-38/69100			
DRAWN BY		CLP	PLANS CK'D.
EXPANSION JOINT 16 DETAILS			SHEET 36 OF 37

\$PRNAME\$ I:\41\410903_USH 2 Bong Bridge Painting 86800004\Structures\Preliminary\24 42-0825 pier 3A B C.dgn



ELEVATION
(LOOKING EAST)



SECTION A

8

8

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-16-38/69100			
DRAWN BY		CLP	PLANS CK'D.
PIERS 3A, 3B, 3C			SHEET 37 OF 37

LIST OF DRAWINGS:

1. GENERAL PLAN (1 OF 5)
2. GENERAL PLAN (2 OF 5)
3. GENERAL PLAN (3 OF 5)
4. GENERAL PLAN (4 OF 5)
5. GENERAL PLAN (5 OF 5)
6. GENERAL NOTES, DESIGN DATA & QUANTITIES
7. TYPICAL SECTION UNIT 3
8. TYPICAL SECTION UNIT 4
9. TYPICAL SECTION UNIT 5
10. TYPICAL SECTION UNIT 6
11. TYPICAL SECTION UNIT 7
12. TYPICAL SECTION UNIT 8
13. TYPICAL SECTION UNIT 9
14. TYPICAL SECTION UNIT 10
15. TYPICAL SECTION UNIT 11
16. TYPICAL SECTION UNIT 12
17. TYPICAL SECTION UNIT 13
18. PARAPET REMOVAL DETAILS
19. PARAPET DETAILS UNIT 3
20. PARAPET DETAILS UNIT 4
21. PARAPET DETAILS UNIT 5
22. PARAPET DETAILS UNIT 6
23. PARAPET DETAILS UNIT 7
24. PARAPET DETAILS UNIT 8
25. PARAPET DETAILS UNIT 9
26. PARAPET DETAILS UNIT 10
27. PARAPET DETAILS UNIT 11
28. PARAPET DETAILS UNIT 12
29. PARAPET DETAILS UNIT 13
30. CONDUIT DETAILS
31. ANCHOR BOLT DETAIL

LEGEND

➡ DIRECTION OF TRAFFIC

STRUCTURE DESIGN CONTACTS:

WISDOT BRIDGE OFFICE:
 AARON BONK (608) 261-0261
 CONSULTANT:
 SHELLY HARRIS (715) 309-5224

NO.	DATE	REVISION	BY

STATE OF MINNESOTA
 DEPARTMENT OF TRANSPORTATION

MINNESOTA BRIDGE NO. 69100
 STH 2 OVER THE ST. LOUIS RIVER
 I.H. 35 & RR

CITY OF DULUTH ST. LOUIS COUNTY

ACCEPTED _____
 STATE BRIDGE ENGINEER DATE



STATE OF WISCONSIN
 DEPARTMENT OF TRANSPORTATION

ACCEPTED *[Signature]* **AMB** 2/17/2025
 CHIEF STRUCTURES DESIGN ENGINEER DATE

STRUCTURE B-16-38 / 69100

USH 2 OVER ST. LOUIS RIVER

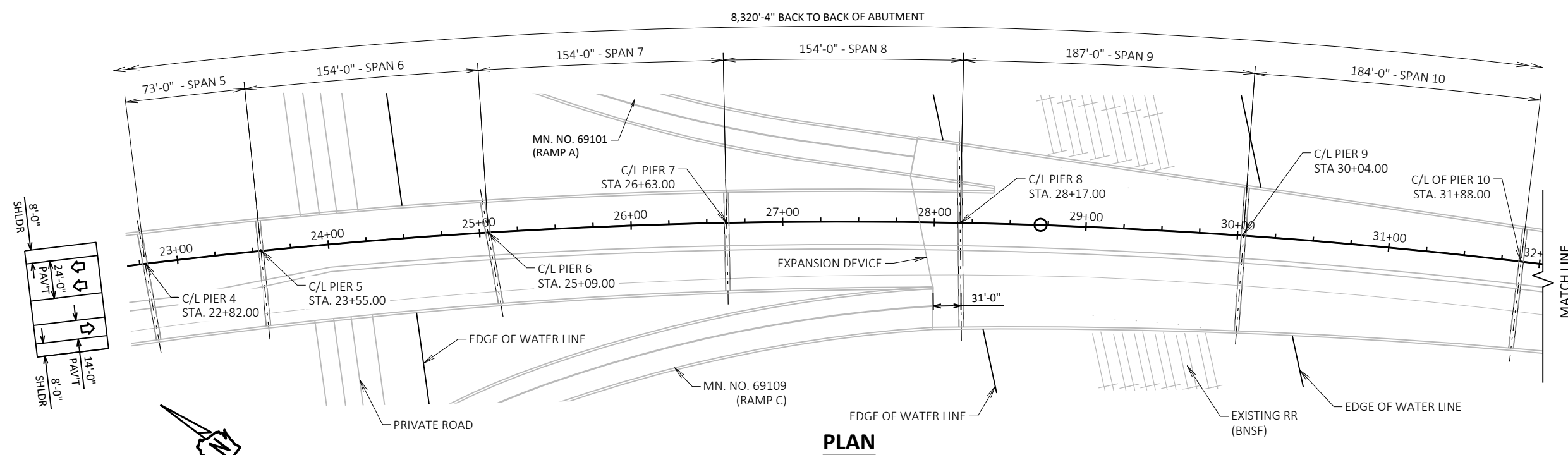
COUNTY DOUGLAS CITY SUPERIOR

DESIGN SPEC. REHABILITATION N/A	DESIGNED BY SKH	DESIGNED CK'D CDH	DRAWN BY STD	PLANS CK'D SKH
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GENERAL PLAN (1 OF 5)

SHEET 1 OF 31

8,320'-4" BACK TO BACK OF ABUTMENT



CURVE DATA

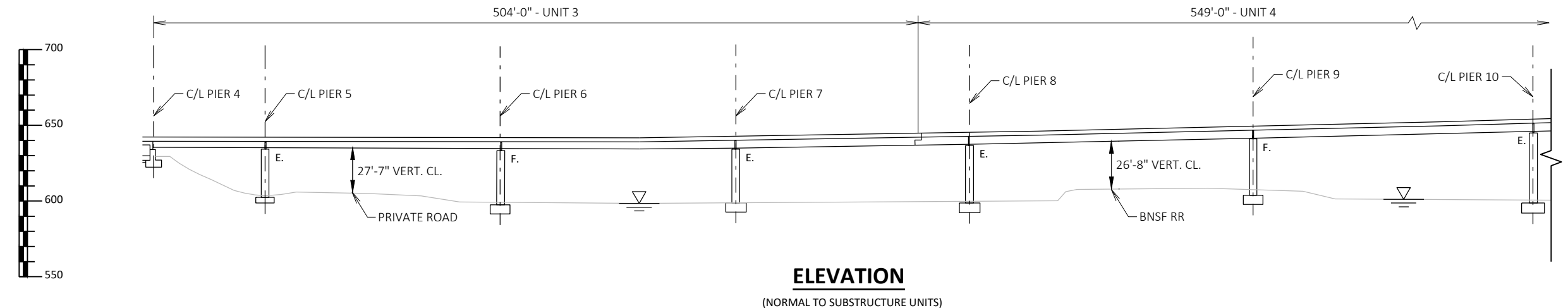
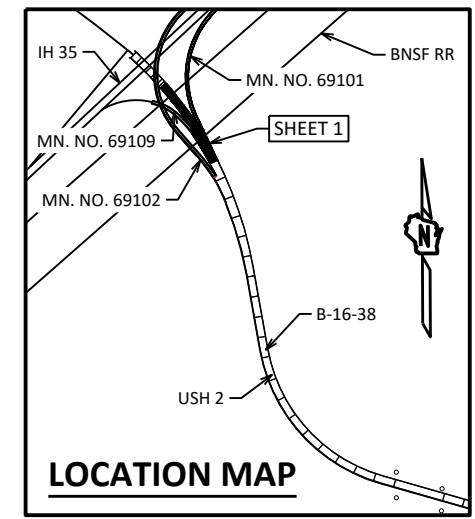
USH 2 WB
 P.I. = STA. 29+42.00
 Δ = 43°08'06.4"
 D = 1°30'
 T = 1509.83'
 L = 2875.67'
 R = 3819.72'
 S.E. = 0.036 1/
 R.O. = 175'
 P.C. = STA. 14+32.17
 P.T. = STA. 43+07.85

NOTE: ALL DIMENSIONS MEASURED ALONG BASE LINE WEST BOUND LANE & C/L OF MEDIAN. NOTE BASE LINE SHIFT AT STA. 43+07.85.



December 27, 2024

Shelly Harris

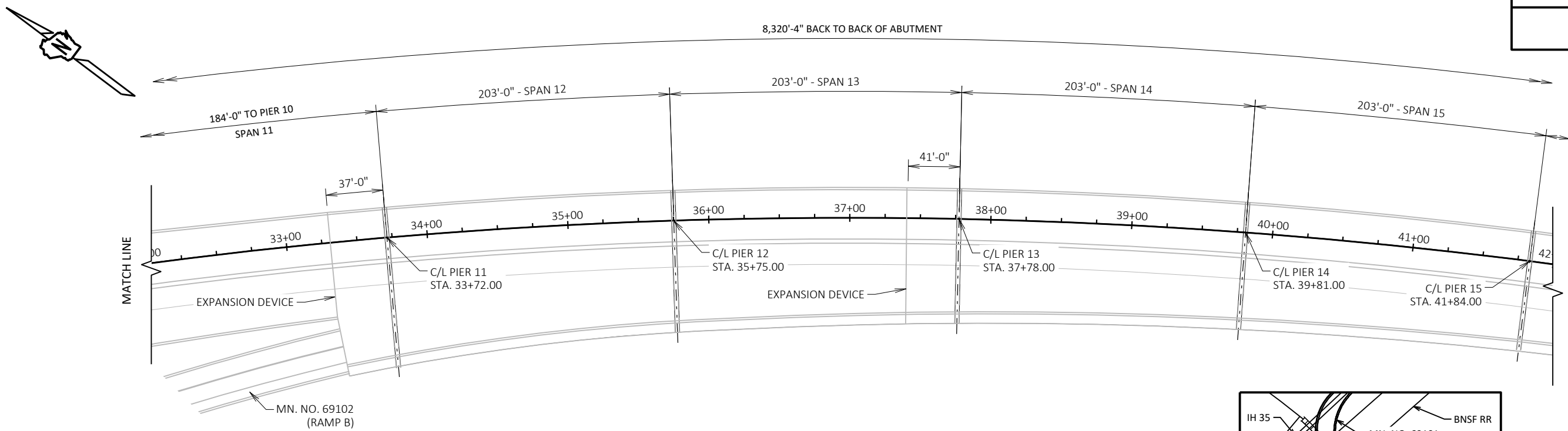


8

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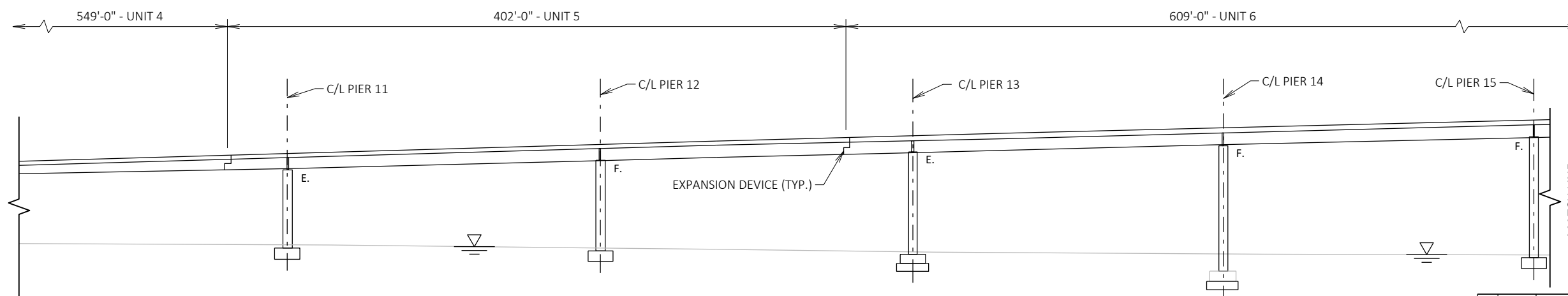
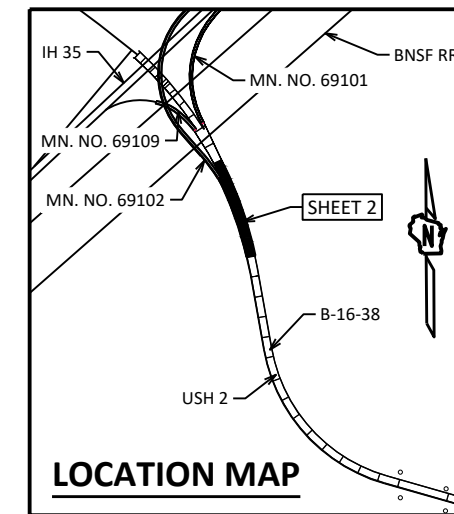
CURVE DATA

USH 2 WB
 P.I. = STA. 29+42.00
 $\Delta = 43^\circ 08' 06.4''$
 $D = 1^\circ 30'$
 $T = 1509.83'$
 $L = 2875.67'$
 $R = 3819.72'$
 $S.E. = 0.036' /'$
 $R.O. = 175'$
 P.C. = STA. 14+32.17
 P.T. = STA. 43+07.85



PLAN

NOTE: ALL DIMENSIONS MEASURED ALONG BASE LINE WEST BOUND LANE & C/L OF MEDIAN. NOTE BASE LINE SHIFT AT STA. 43+07.85.



ELEVATION

(NORMAL TO SUBSTRUCTURE UNITS)

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-16-38 / 69100			
DRAWN BY		STD	PLANS CK'D SKH
GENERAL PLAN (2 OF 5)			SHEET 2

CURVE DATA

USH 2 WB
 P.I. = STA. 61+39.96
 Δ = 64°00'00.1"
 D = 3°30'
 T = 1022.93'
 L = 1828.57'
 R = 1637.02'
 S.E. = 0.052'/'
 R.O. = 162'
 P.C. = STA. 51+17.04
 P.T. = STA. 69+45.61

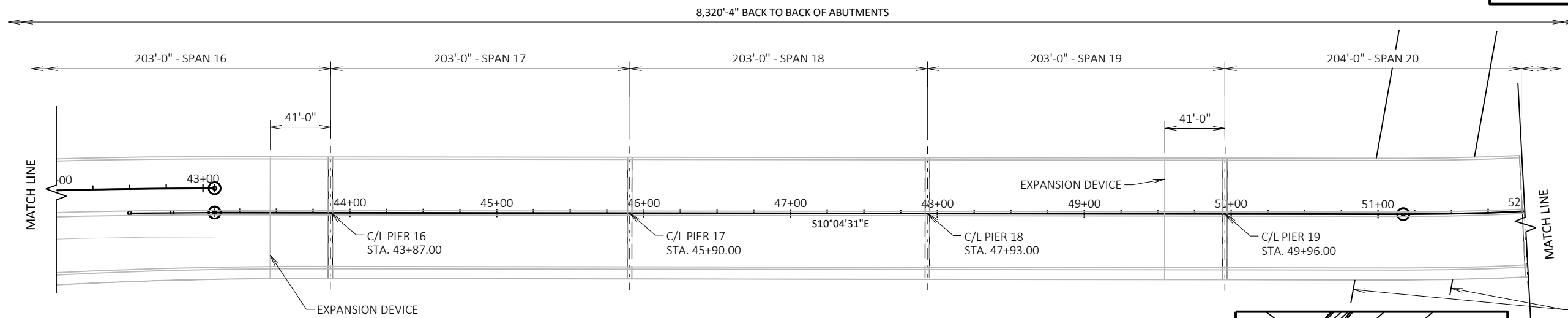
CURVE DATA

USH 2 WB
 P.I. = STA. 29+42.00
 Δ = 43°08'06.4"
 D = 1°30'
 T = 1509.83'
 L = 2875.67'
 R = 3819.72'
 S.E. = 0.036'/'
 R.O. = 175'
 P.C. = STA. 14+32.17
 P.T. = STA. 43+07.85

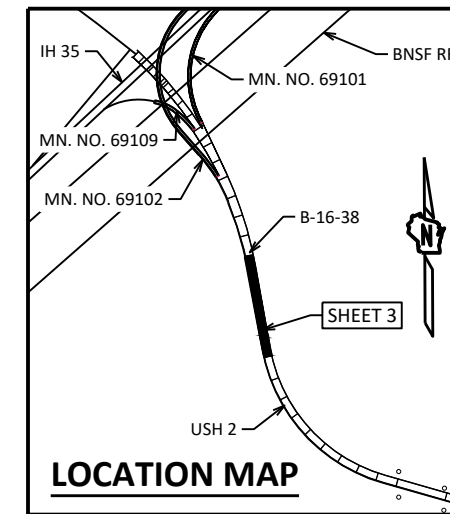
NOTE: ALL DIMENSIONS MEASURED ALONG BASE LINE WEST BOUND LANE & C/L OF MEDIAN. NOTE BASE LINE SHIFT AT STA. 43+07.85.



PLAN



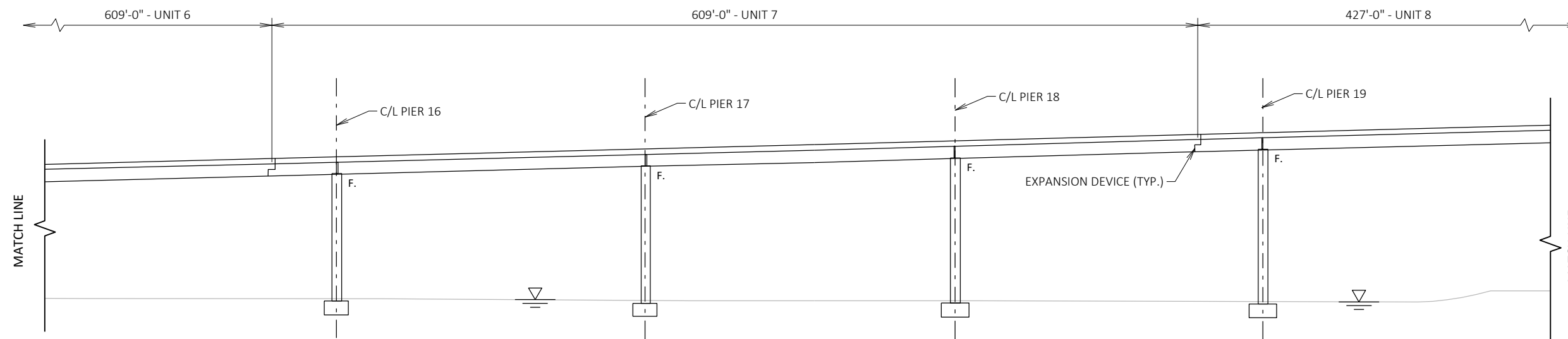
EDGE OF WATER LINE



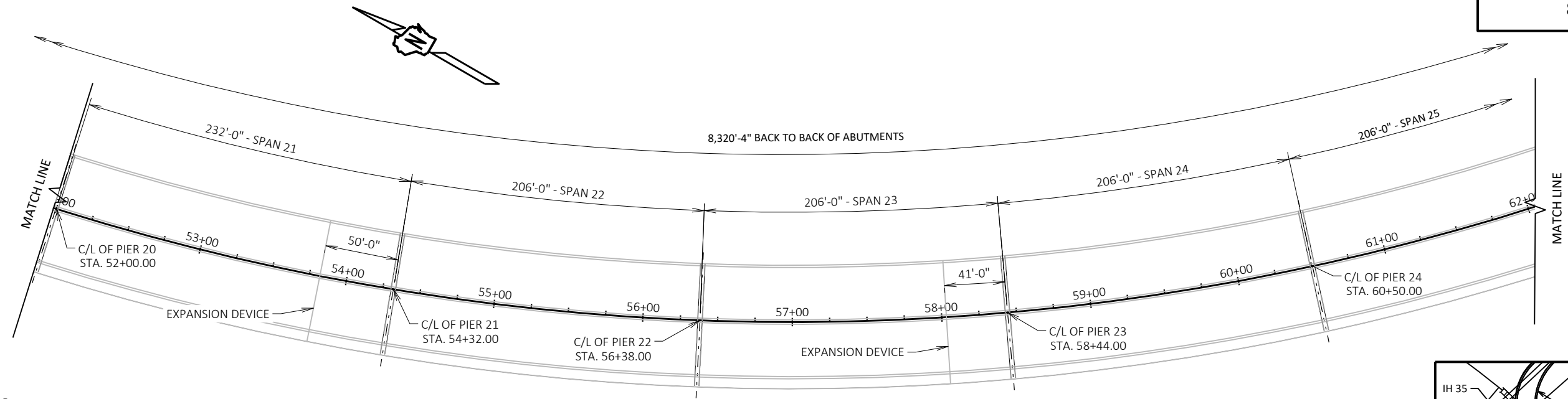
LOCATION MAP

ELEVATION

(NORMAL TO SUBSTRUCTURE UNITS)



NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-16-38 / 69100			
DRAWN BY		STD	PLANS CK'D SKH
GENERAL PLAN (3 OF 5)			SHEET 3



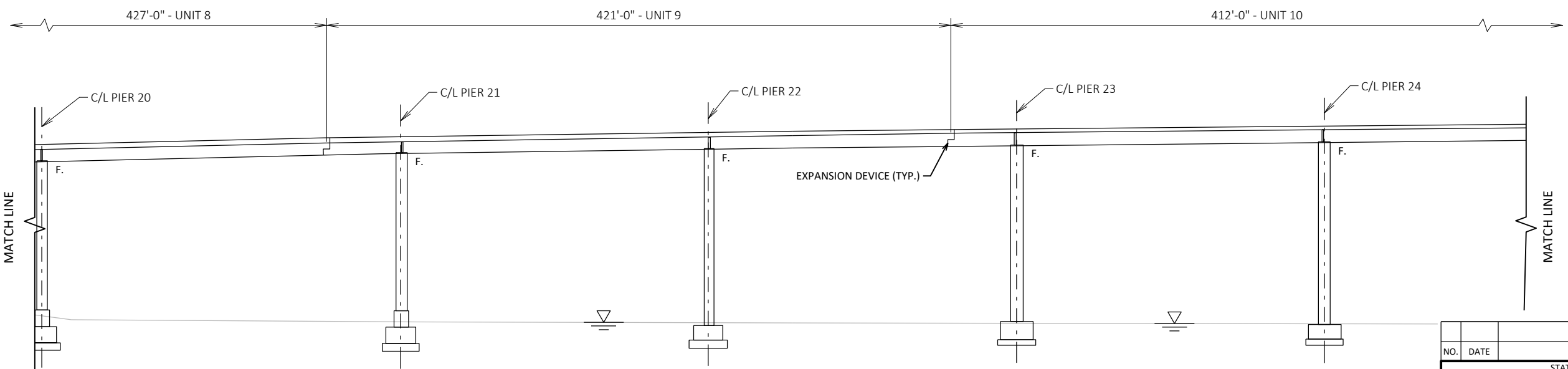
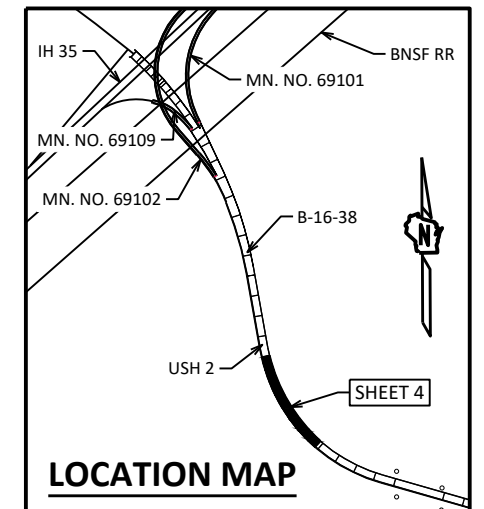
CURVE DATA

USH 2 WB

P.I. = STA. 61+39.96
 $\Delta = 64^{\circ}00'00.1''$
 D = 3°30'
 T = 1022.93'
 L = 1828.57'
 R = 1637.02'
 S.E. = 0.052 1/
 R.O. = 162'
 P.C. = STA. 51+17.04
 P.T. = STA. 69+45.61

NOTE: ALL DIMENSIONS MEASURED
 ALONG BASE LINE WEST BOUND LANE &
 C/L OF MEDIAN. NOTE BASE LINE SHIFT
 AT STA. 43+07.85.

PLAN



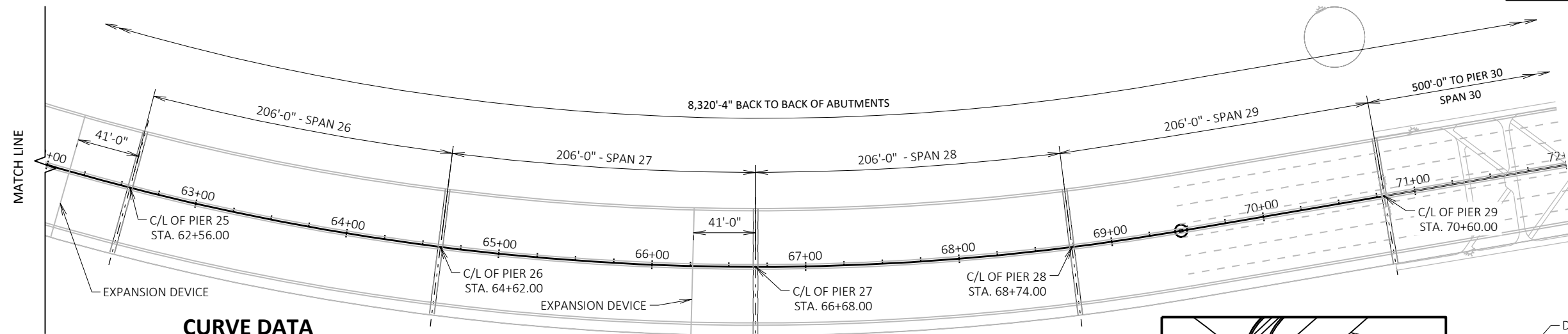
ELEVATION

(NORMAL TO SUBSTRUCTURE UNITS)

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-16-38 / 69100			
DRAWN BY		STD	PLANS CK'D SKH
GENERAL PLAN (4 OF 5)			SHEET 4

8

8

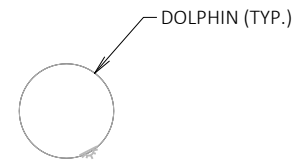
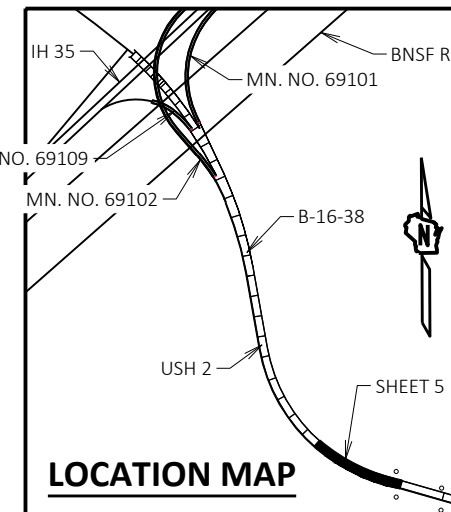


CURVE DATA

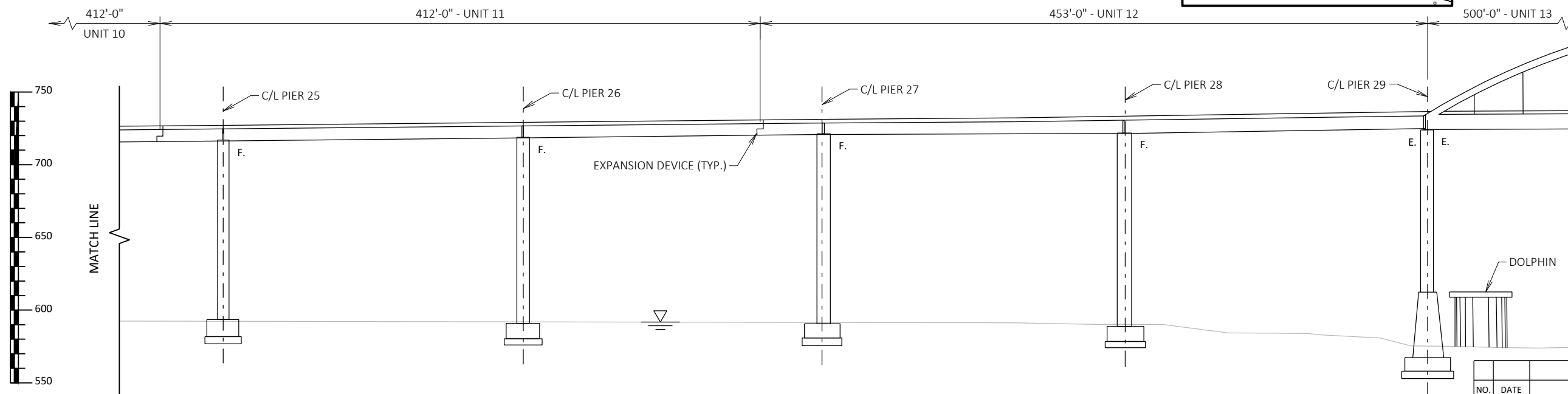
USH 2 WB
 P.I. = STA. 61+39.96
 $\Delta = 64^{\circ}00'00.1''$
 $D = 3^{\circ}30'$
 $T = 1022.93'$
 $L = 1828.57'$
 $R = 1637.02'$
 $S.E. = 0.052' /'$
 $R.O. = 162'$
 P.C. = STA. 51+17.04
 P.T. = STA. 69+45.61

NOTE: ALL DIMENSIONS MEASURED
 ALONG BASE LINE WEST BOUND LANE &
 C/L OF MEDIAN. NOTE BASE LINE SHIFT
 AT STA. 43+07.85.

PLAN



LOCATION MAP



ELEVATION

(NORMAL TO SUBSTRUCTURE UNITS)

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-16-38 / 69100			
DRAWN BY	STD	PLANS CK'D	SKH
GENERAL PLAN (5 OF 5)			SHEET 5

8

8

DESIGN DATA**LIVE LOAD:**

TAKEN FROM HSI 8/22/2024
DESIGN LOADING: HS 20

UNIT	INVENTORY RATING	OPERATING RATING	WIS-SPV
3	24	40	190
4	29	48	190
5	37	61	190
6	29	48	190
7	25	42	190
8	53	88	190
9	59	98	190
10	47	78	190
11	47	78	190
12	51	85	190
13	28	47	250

MATERIAL PROPERTIES:

CONCRETE MASONRY: _____ $f_c = 4,000$ PSI
SUPERSTRUCTURE _____

BAR STEEL REINFORCEMENT _____
GRADE 60 _____ $f_y = 60,000$ PSI

TRAFFIC DATA**USH 2:**

AADT = 14,800 (2020)
AADT = 16,130 (2044)
R.D.S. = 55 MPH

GENERAL NOTES

DRAWINGS SHALL NOT BE SCALED.

DIMENSIONS SHOWN ARE BASED ON THE ORIGINAL STRUCTURE PLANS.

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

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

BEVEL EXPOSED EDGES OF CONCRETE $\frac{3}{4}$ " OR MATCH EXISTING BEVELS, UNLESS OTHERWISE NOTED.

ALL REMOVAL LINES SHALL BE DEFINED BY A 1-INCH SAWCUT.

PIGMENTED SURFACE SEALER TO BE APPLIED TO THE FRONT FACE, TOP, AND BACKFACE OF THE PARAPETS.

SEAL ALL EXPOSED HORIZONTAL AND VERTICAL SURFACES OF JOINT FILLER WITH NON-STAINING NON-ASPHALTIC JOINT SEALER (1-INCH DEEP AND HOLD $\frac{1}{8}$ " BELOW SURFACE OF THE CONCRETE). COLOR TO MATCH ADJACENT SURFACES.

JOINT FILLER SHALL CONFORM TO THE REQUIREMENTS OF AASHTO M153 TYPE 1, 2, OR 3, OR AASHTO M213.

SEE ROADWAY PLANS FOR STAGING DETAILS.

"REMOVING STRUCTURE OVER WATERWAY DEBRIS CAPTURE" BID ITEM INCLUDES REMOVAL OF EXISTING PARAPETS, LIGHTING CONDUIT AND JUNCTION BOXES, AND OTHER REMOVALS AS REQUIRED FOR COMPLETION OF WORK.

DEBRIS CAPTURE SYSTEM WILL ONLY BE REQUIRED FOR UNITS 4 AND 5.

SCOPE OF WORK

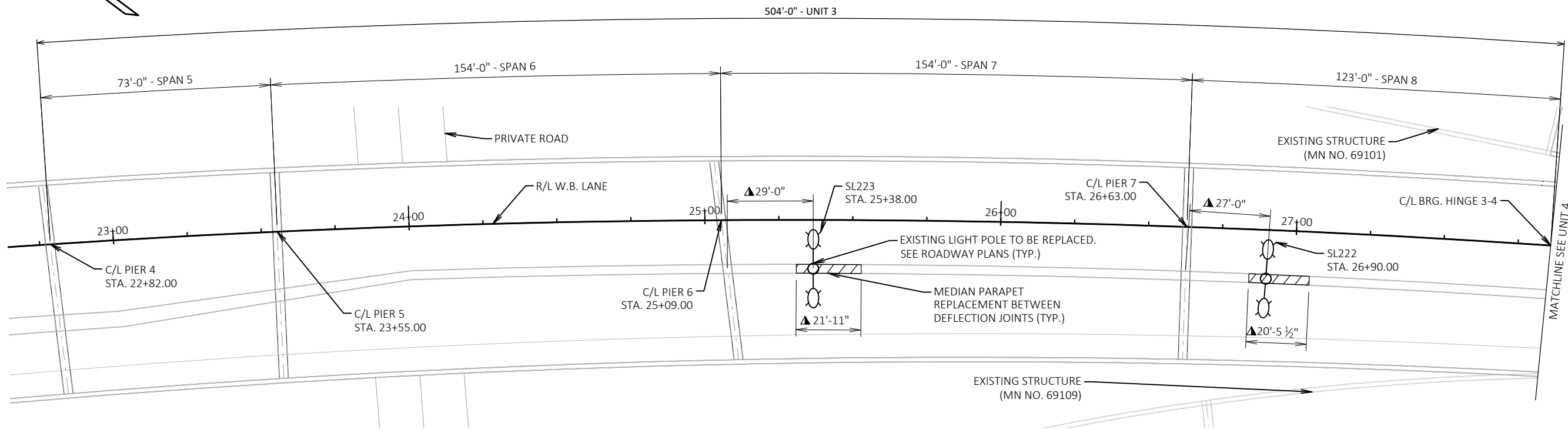
- REMOVAL AND REPLACEMENT OF CONCRETE PARAPETS AND EMBEDDED CONDUIT AND JUNCTION BOXES.

TOTAL ESTIMATED QUANTITIES

BID ITEM NUMBER	BID ITEMS	UNIT	UNIT 3	UNIT 4	UNIT 5	UNIT 6	UNIT 7	UNIT 8	UNIT 9	UNIT 10	UNIT 11	UNIT 12	UNIT 13	TOTALS
203.0270	REMOVING STRUCTURE OVER WATERWAY DEBRIS CAPTURE B-16-38	EACH	---	---	---	---	---	---	---	---	---	---	---	1
502.0100	CONCRETE MASONRY BRIDGES	CY	8.5	6.6	4.4	13.6	13.6	9.1	9.3	8.5	8.5	8.6	4.8	96
502.3210	PIGMENTED SURFACE SEALER	SY	35.0	29.0	20.0	57.0	57.0	38.0	38.0	35.0	35.0	35.0	20.0	399
502.4205	ADHESIVE ANCHORS NO. 5 BAR	EACH	60	96	64	94	97	63	65	60	60	60	34	753
505.0600	BAR STEEL REINFORCEMENT HS COATED STRUCTURES	LBS	670	1,090	740	1,050	1,070	700	720	670	670	670	380	8,430
531.8990	ANCHOR ASSEMBLIES POLES ON STRUCTURES	EACH	2	3	2	3	3	2	2	2	2	2	1	24
652.0310	CONDUIT RIGID NONMETALLIC SCHEDULE 80 1-INCH	LF	3	5	3	5	5	3	3	3	3	3	3	38
652.0320	CONDUIT RIGID NONMETALLIC SCHEDULE 80 1 1/2-INCH	LF	3	2	---	---	---	---	2	---	---	---	---	6
652.0325	CONDUIT RIGID NONMETALLIC SCHEDULE 80 2-INCH	LF	39	74	50	39	75	50	51	47	47	47	26	547
SPV.0060	JUNCTION BOXES 8X8X6-INCH	EACH	---	1	---	---	---	---	1	---	---	---	---	2
	NON-BID ITEMS													
	FILLER	SIZE		1"	1"									1"

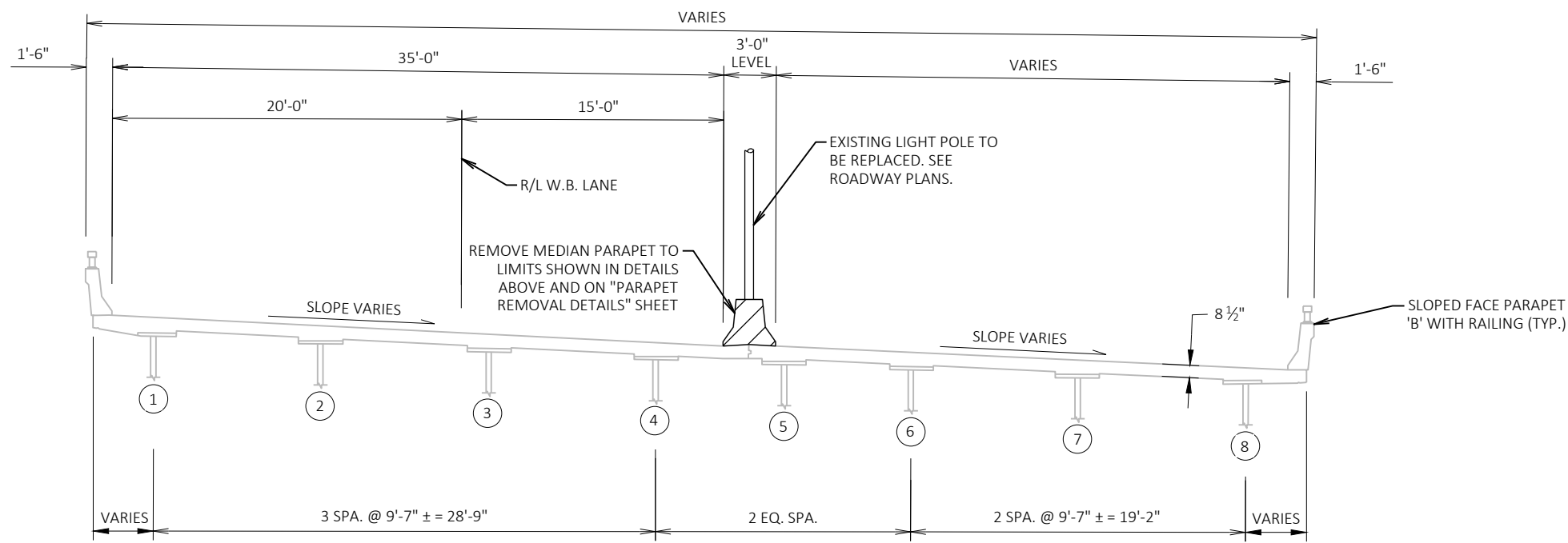
ALL ITEMS ARE INCLUDED IN CATEGORY 0030

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-16-38 / 69100			
DRAWN BY		STD	PLANS CK'D SKH
GENERAL NOTES, DESIGN DATA & QUANTITIES			SHEET 6



PLAN - UNIT 3

▲ MEASURED ALONG BASE LINE WEST BOUND LANE ACCORDING TO AS BUILTS. DIMENSIONS IN FIELD MAY VARY.



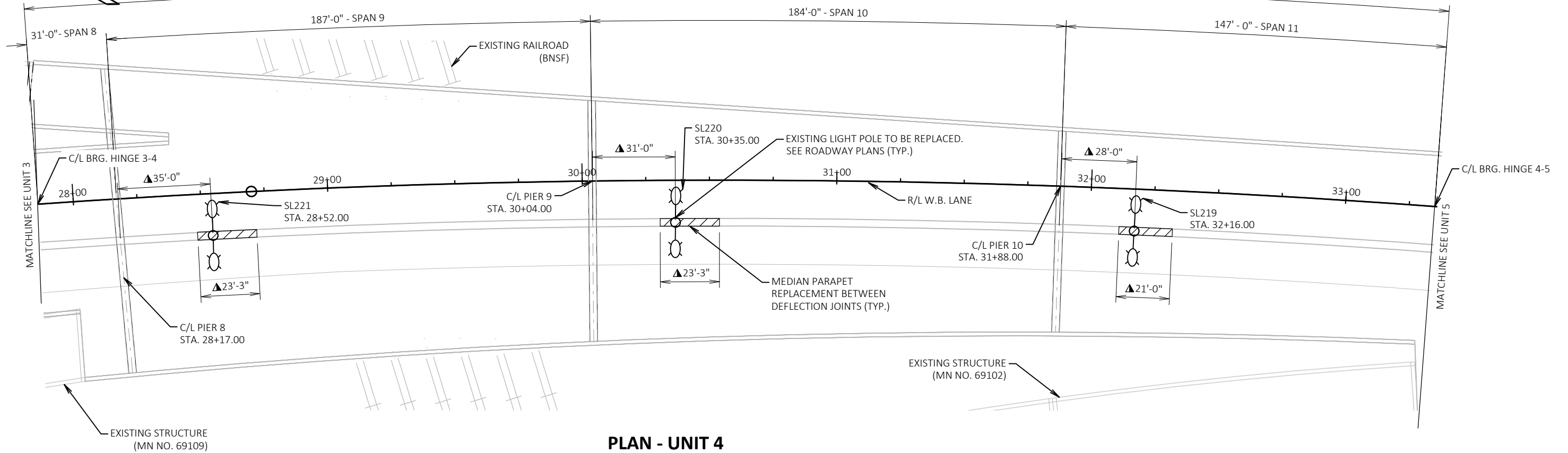
TYPICAL SECTION
LOOKING UPSTATION

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-16-38 / 69100			
DRAWN BY		PLANS CK'D	SKH
BY		KLK	SKH
TYPICAL SECTION UNIT 3			SHEET 7

8

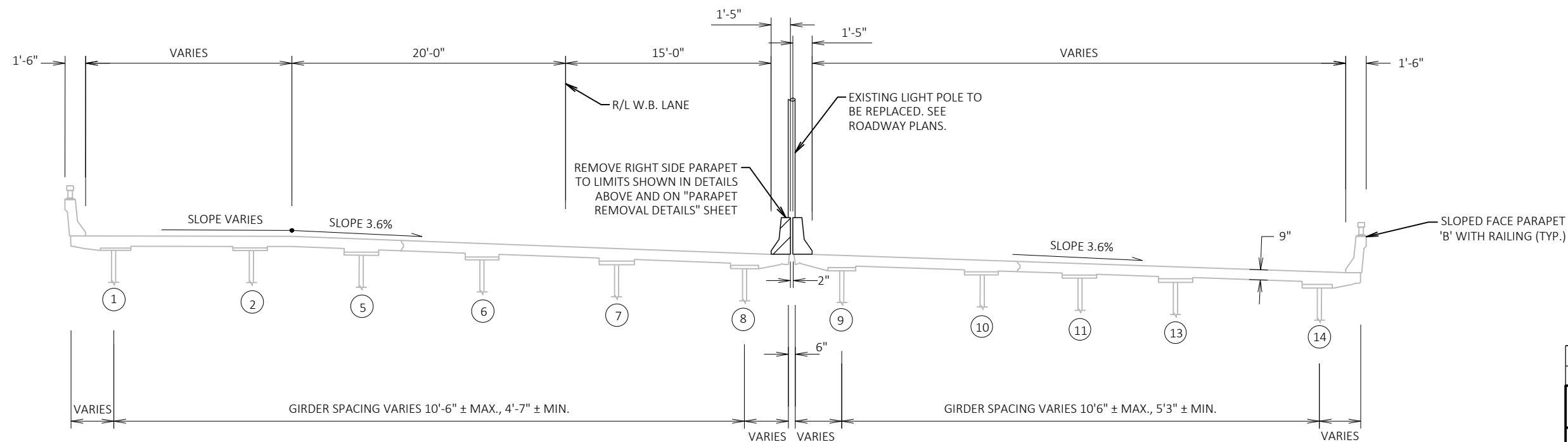
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549'-0" - UNIT 4



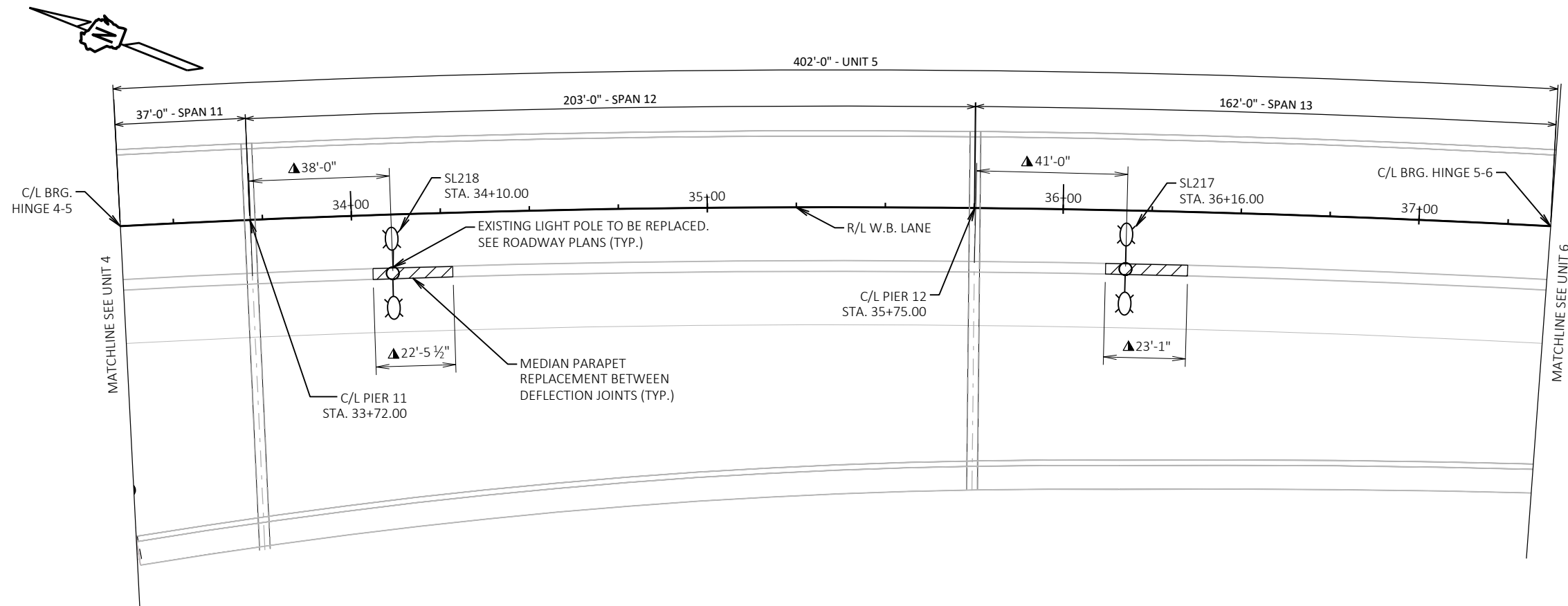
PLAN - UNIT 4

▲ MEASURED ALONG BASE LINE WEST BOUND LANE ACCORDING TO AS BUILTS. DIMENSIONS IN FIELD MAY VARY.



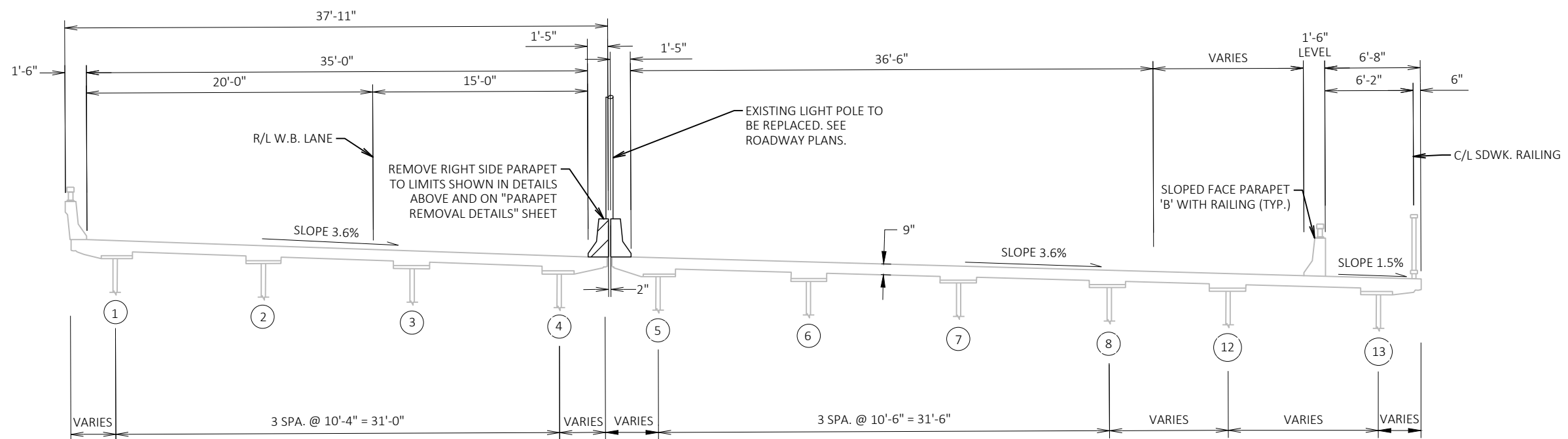
TYPICAL SECTION
LOOKING UPSTATION

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-16-38 / 69100			
DRAWN BY		PLANS CK'D	
KLK		SKH	
TYPICAL SECTION UNIT 4			SHEET 8



PLAN - UNIT 5

▲ MEASURED ALONG BASE LINE WEST BOUND LANE ACCORDING TO AS BUILTS. DIMENSIONS IN FIELD MAY VARY.

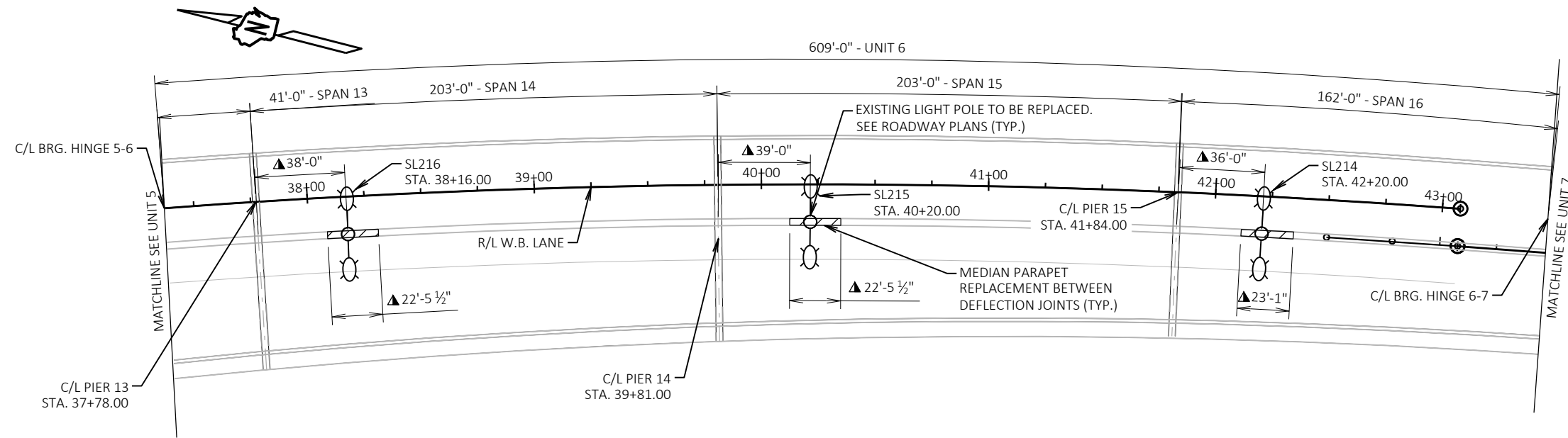


TYPICAL SECTION
LOOKING UPSTATION

8

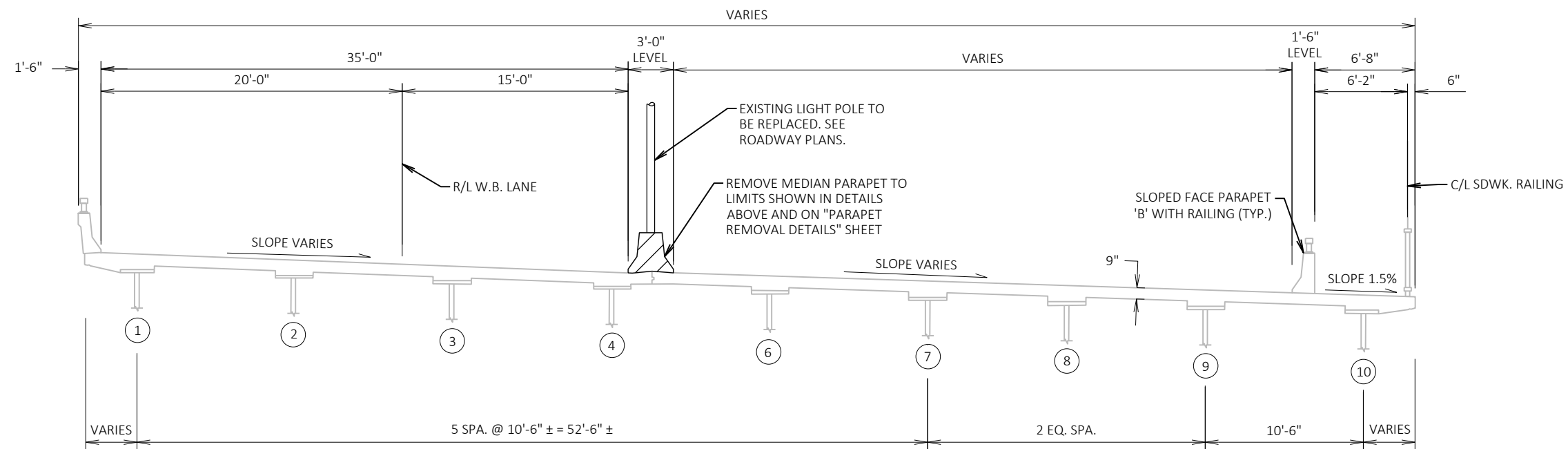
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NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-16-38 / 69100			
DRAWN BY		PLANS CK'D	SKH
BY		KLK	SKH
TYPICAL SECTION UNIT 5			SHEET 9



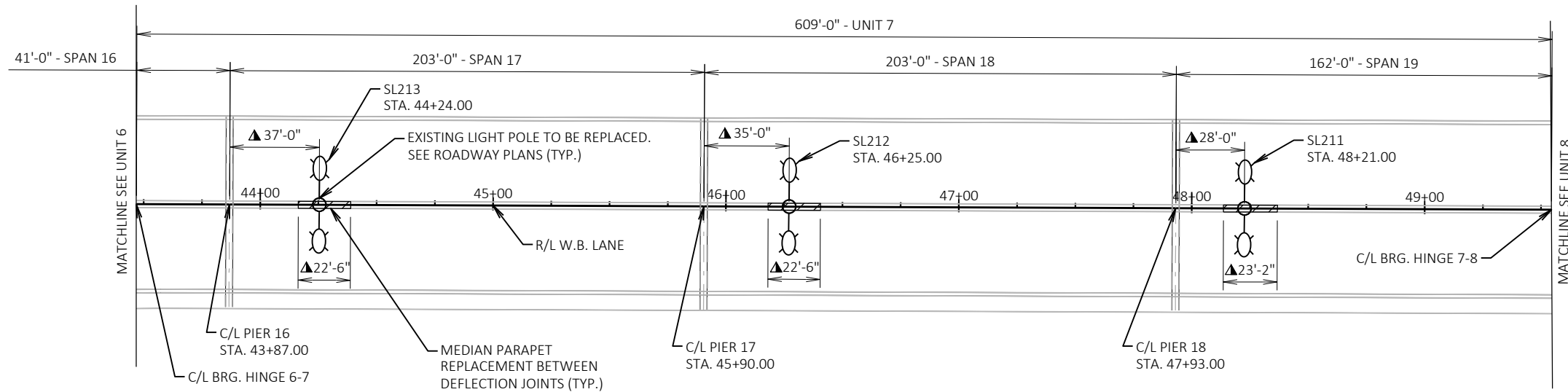
PLAN - UNIT 6

▲ MEASURED ALONG BASE LINE WEST BOUND LANE & C/L OF MEDIAN ACCORDING TO AS BUILTS. DIMENSIONS IN FIELD MAY VARY.



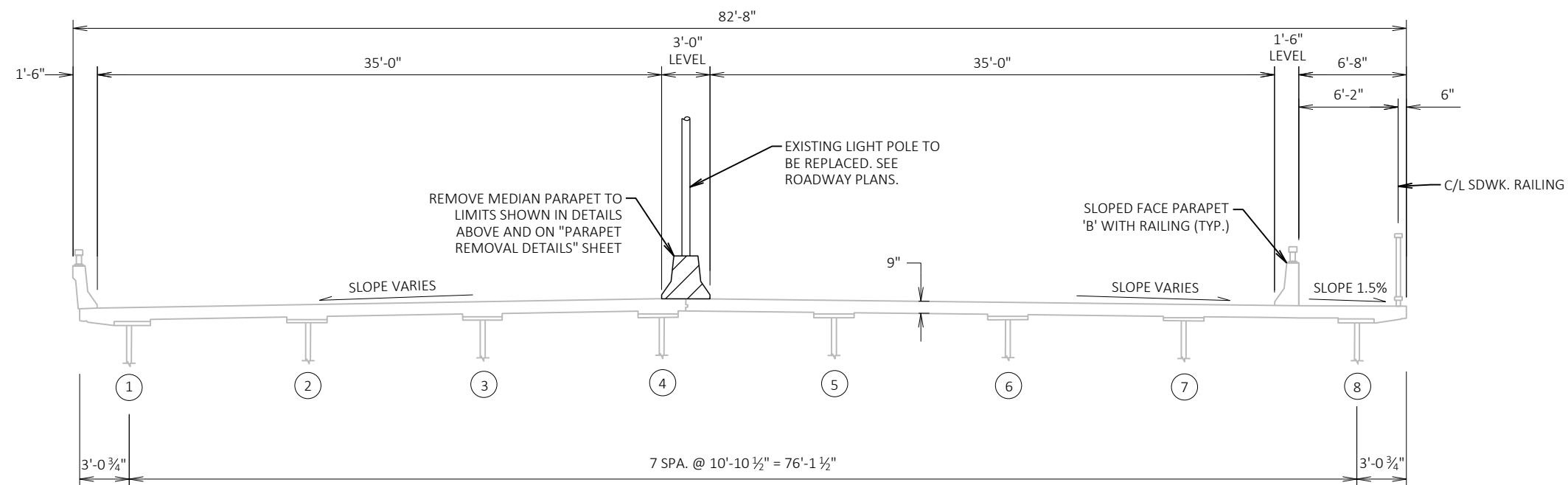
TYPICAL SECTION
LOOKING UPSTATION

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-16-38 / 69100			
DRAWN BY		PLANS CK'D	
KLK		SKH	
TYPICAL SECTION UNIT 6			SHEET 10



PLAN - UNIT 7

▲ MEASURED ALONG C/L OF MEDIAN ACCORDING TO AS BUILTS. DIMENSIONS IN FIELD MAY VARY.

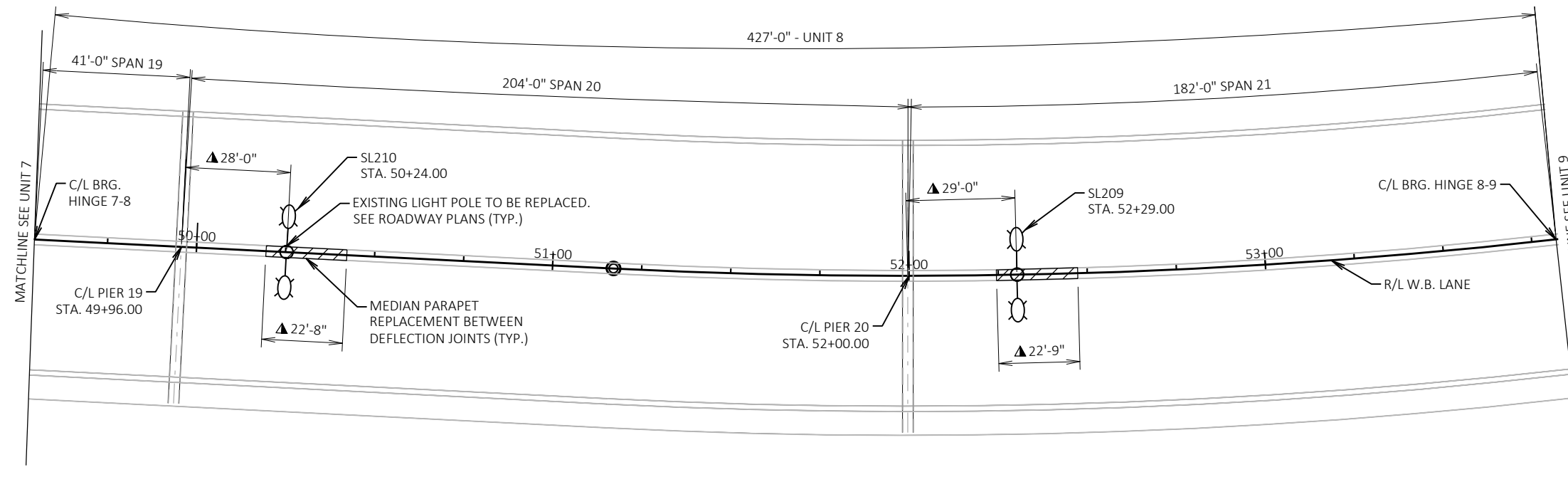


TYPICAL SECTION
LOOKING UPSTATION

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-16-38 / 69100			
DRAWN BY		PLANS CK'D	
KLK		SKH	
TYPICAL SECTION UNIT 7			SHEET 11

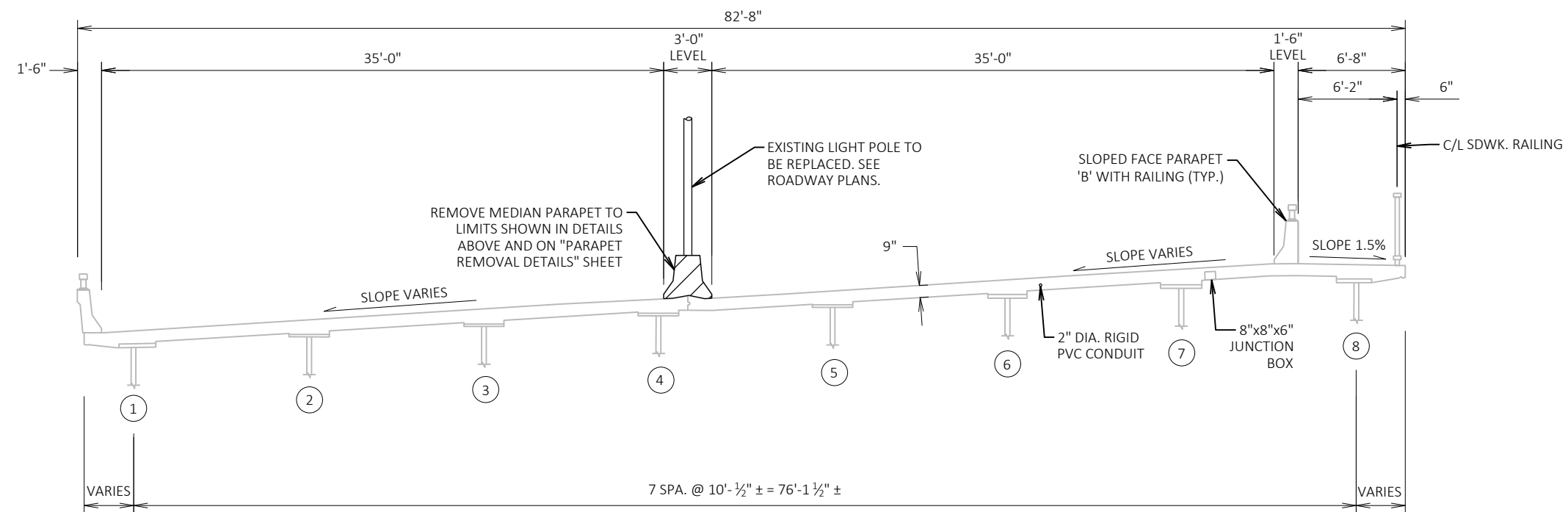
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8



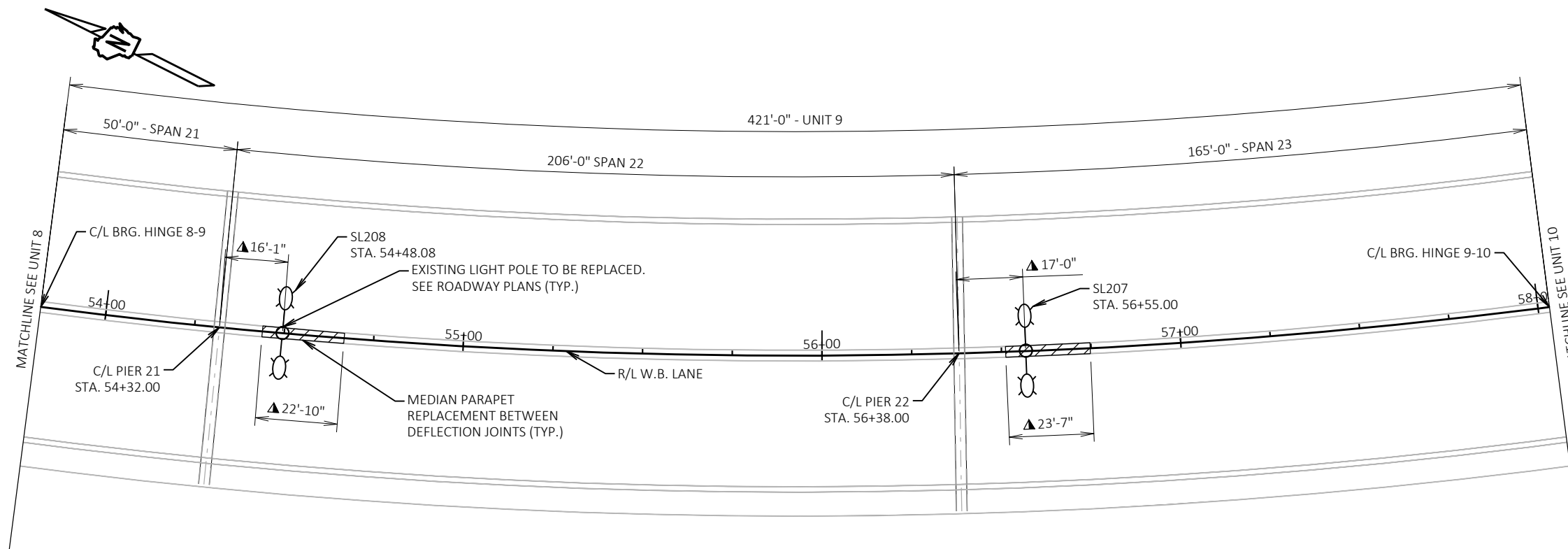
PLAN - UNIT 8

▲ MEASURED ALONG C/L OF MEDIAN ACCORDING TO AS BUILTS. DIMENSIONS IN FIELD MAY VARY.



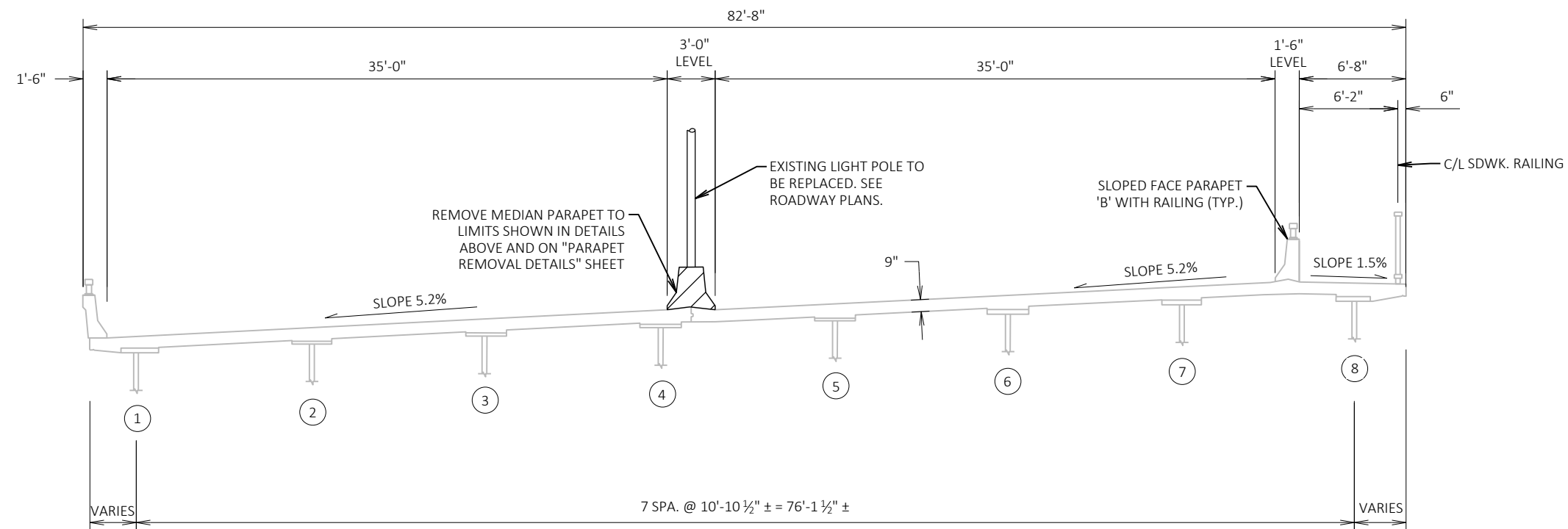
TYPICAL SECTION
LOOKING UPSTATION

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-16-38 / 69100			
DRAWN BY		PLANS CK'D	SKH
TYPICAL SECTION UNIT 8		SHEET 12	



PLAN - UNIT 9

▲ MEASURED ALONG C/L OF MEDIAN ACCORDING TO AS BUILTS. DIMENSIONS IN FIELD MAY VARY.

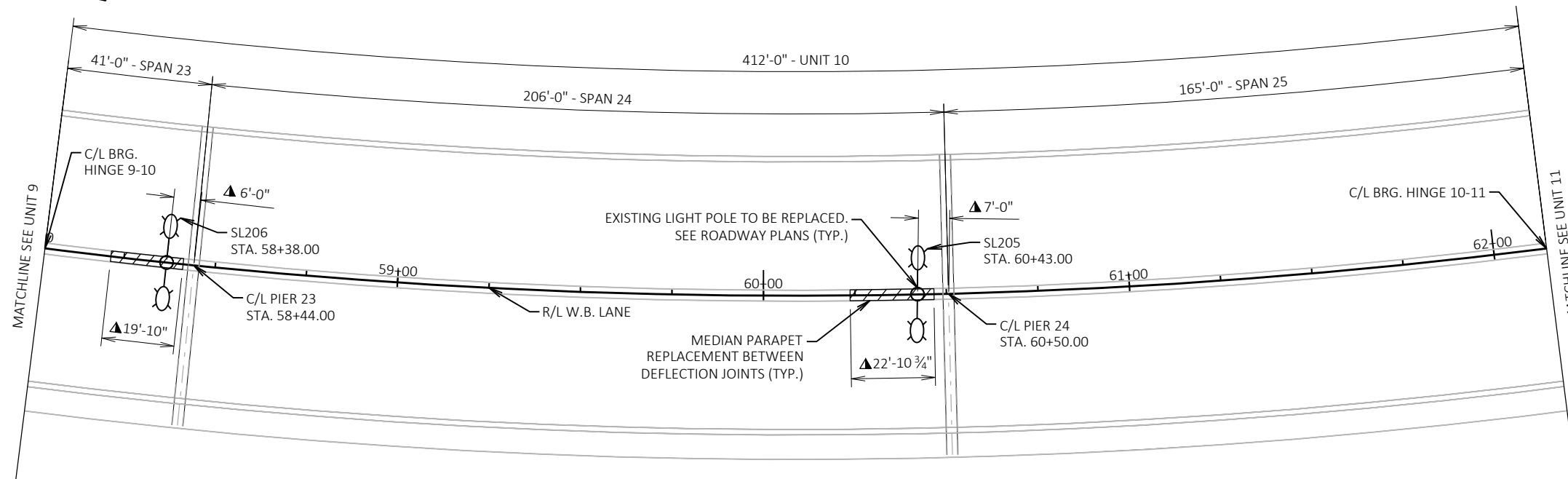


TYPICAL SECTION
LOOKING UPSTATION

8

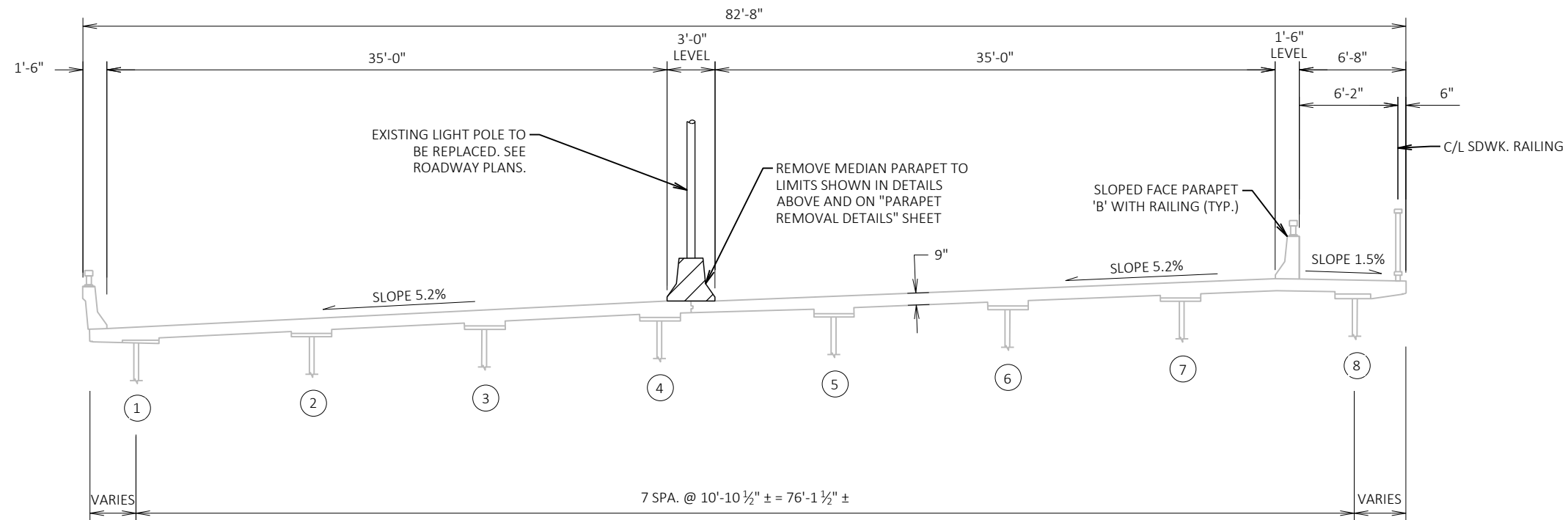
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NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-16-38 / 69100			
DRAWN BY		PLANS CK'D	SKH
BY		KLK	SKH
TYPICAL SECTION UNIT 9			SHEET 13



PLAN - UNIT 10

▲ MEASURED ALONG C/L OF MEDIAN ACCORDING TO AS BUILTS. DIMENSIONS IN FIELD MAY VARY.

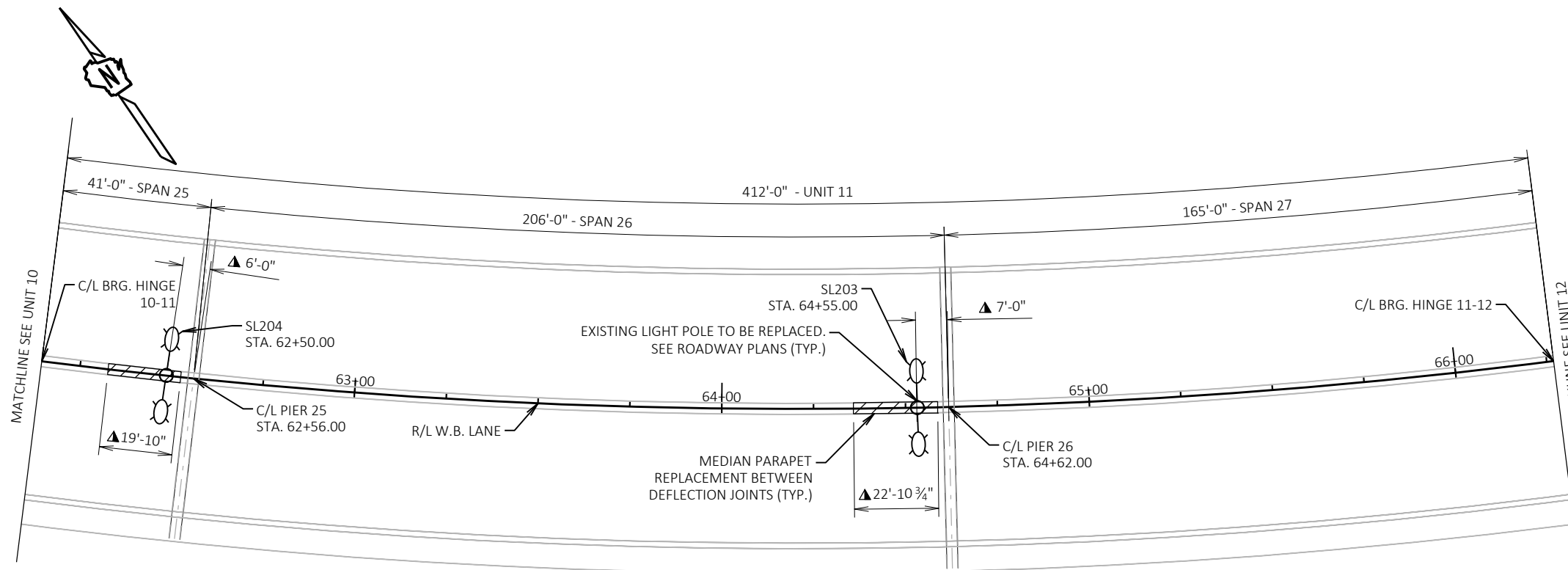


TYPICAL SECTION
 LOOKING UPSTATION

8

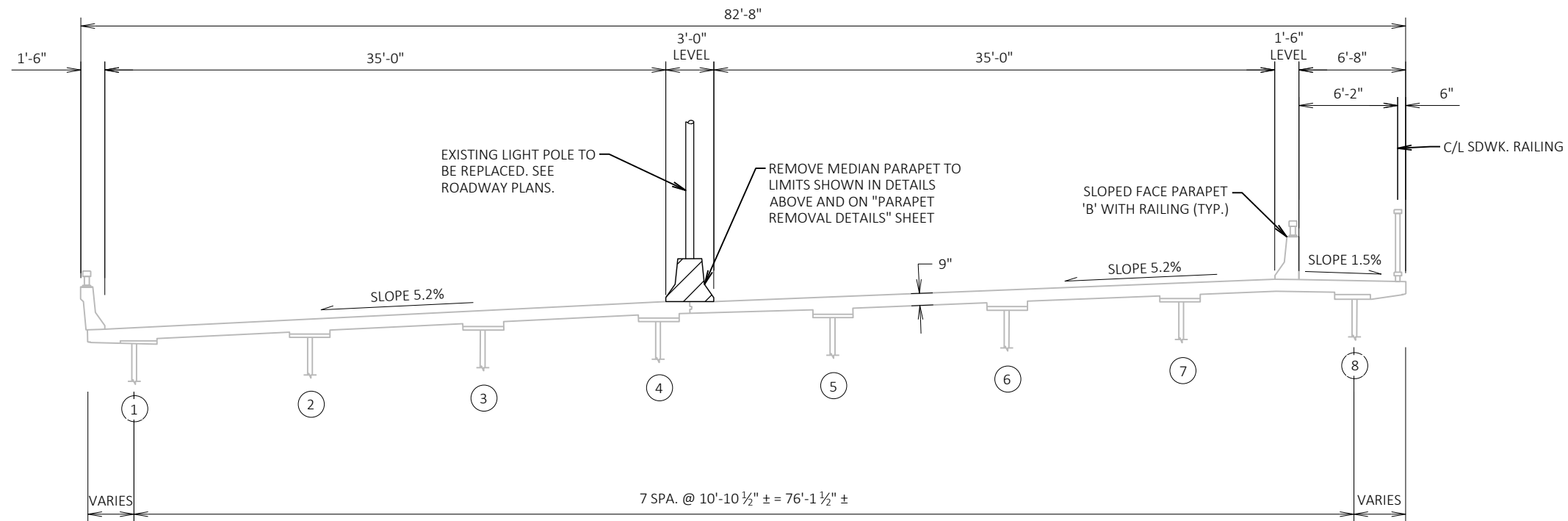
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NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-16-38 / 69100			
DRAWN BY		PLANS CK'D	SKH
BY		KLK	SKH
TYPICAL SECTION UNIT 10			SHEET 14



PLAN - UNIT 11

▲ MEASURED ALONG C/L OF MEDIAN ACCORDING TO AS BUILTS. DIMENSIONS IN FIELD MAY VARY.

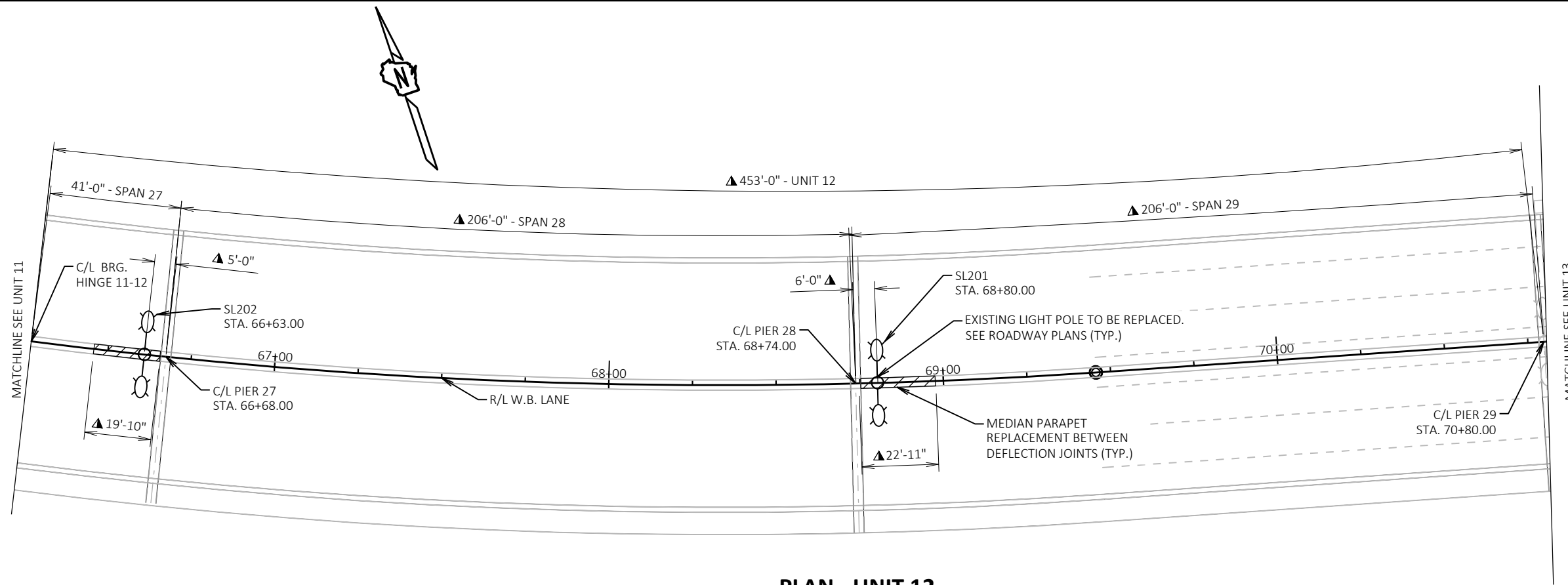


TYPICAL SECTION
 LOOKING UPSTATION

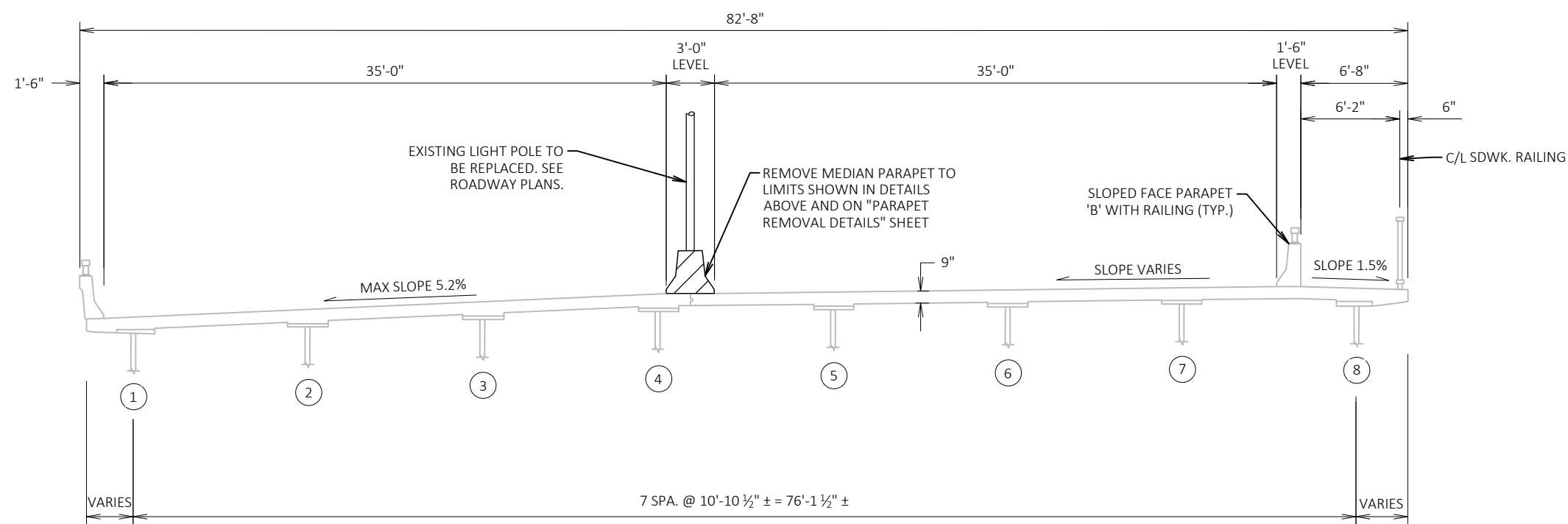
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8

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-16-38 / 69100			
DRAWN BY		PLANS CK'D	
KLK		SKH	
TYPICAL SECTION UNIT 11			SHEET 15



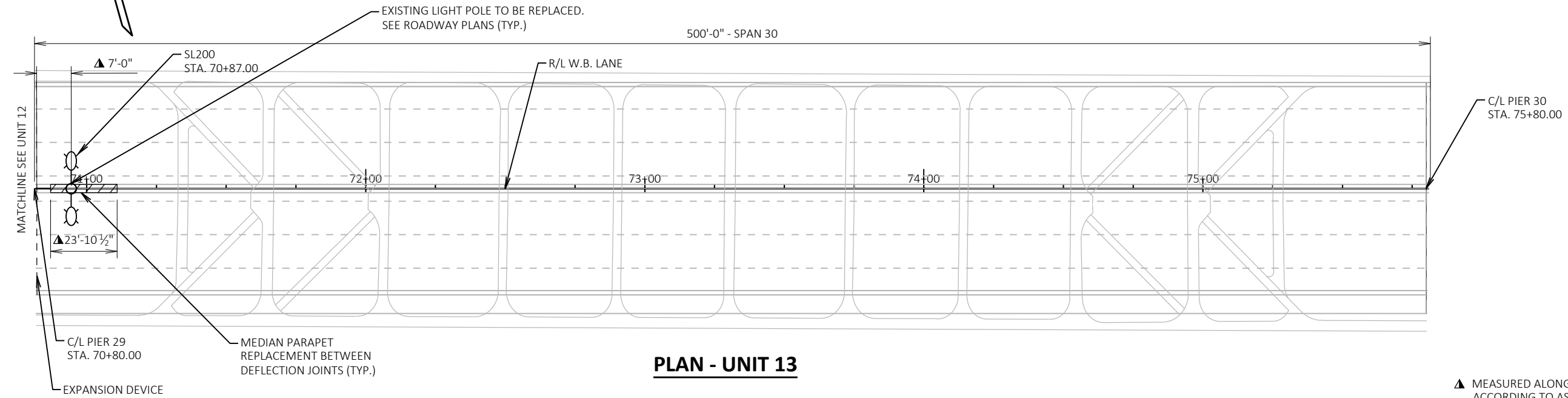
▲ MEASURED ALONG C/L OF MEDIAN ACCORDING TO AS BUILTS. DIMENSIONS IN FIELD MAY VARY.



8

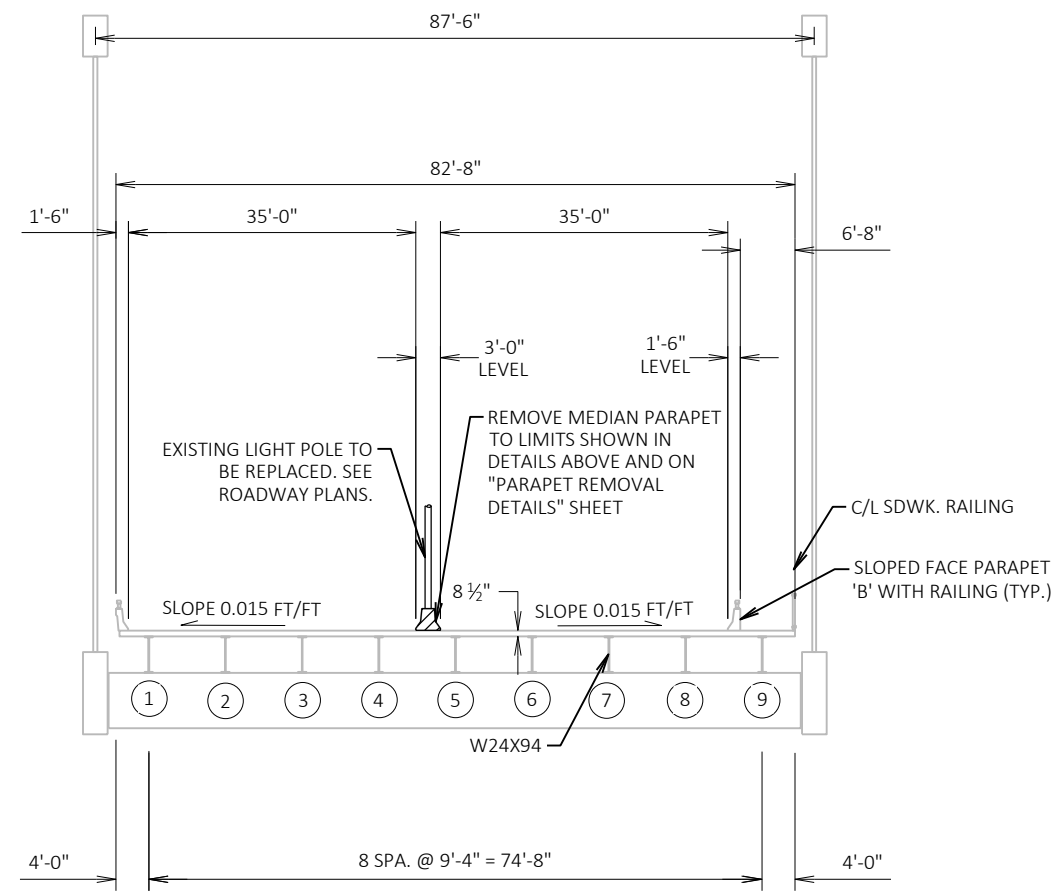
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NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-16-38 / 69100			
DRAWN BY		PLANS CK'D	SKH
BY		KLK	SKH
TYPICAL SECTION UNIT 12			SHEET 16



PLAN - UNIT 13

▲ MEASURED ALONG C/L OF MEDIAN ACCORDING TO AS BUILTS. DIMENSIONS IN FIELD MAY VARY.



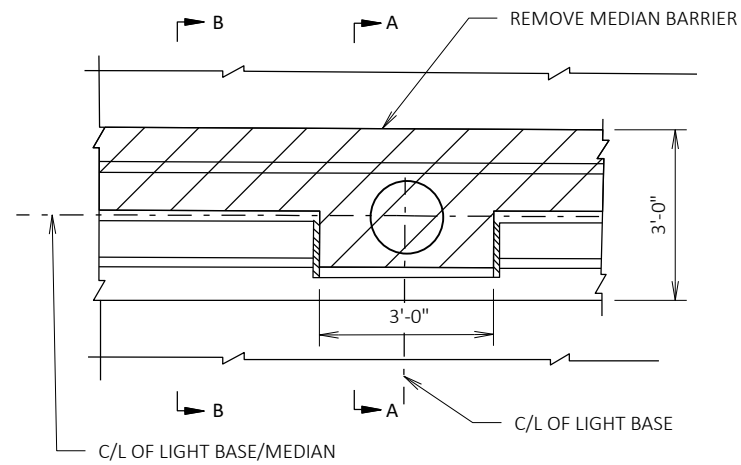
TYPICAL SECTION

LOOKING UPSTATION

8

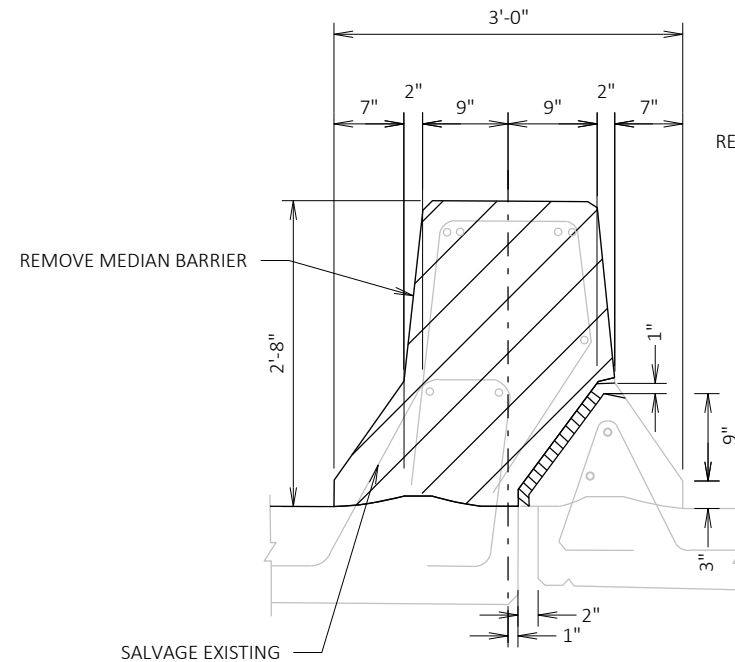
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NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-16-38 / 69100			
DRAWN BY		PLANS CK'D	SKH
BY		KLK	SKH
TYPICAL SECTION UNIT 13			SHEET 17

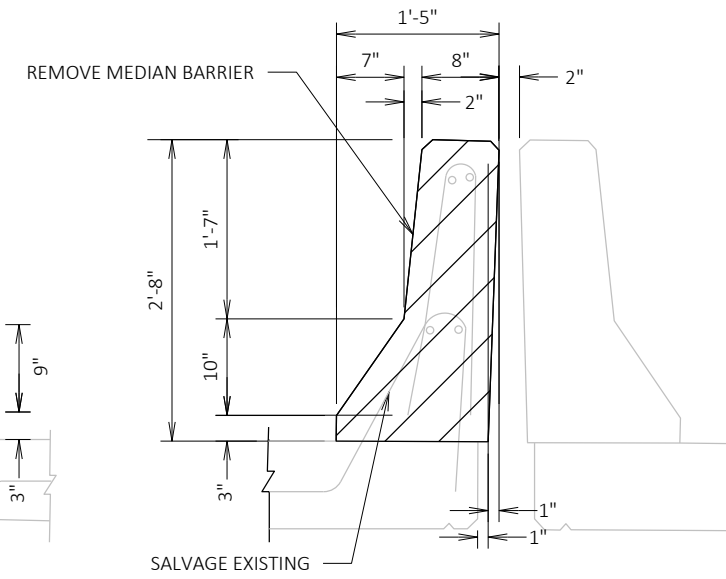


PLAN AT SEPARATED MEDIAN BARRIER

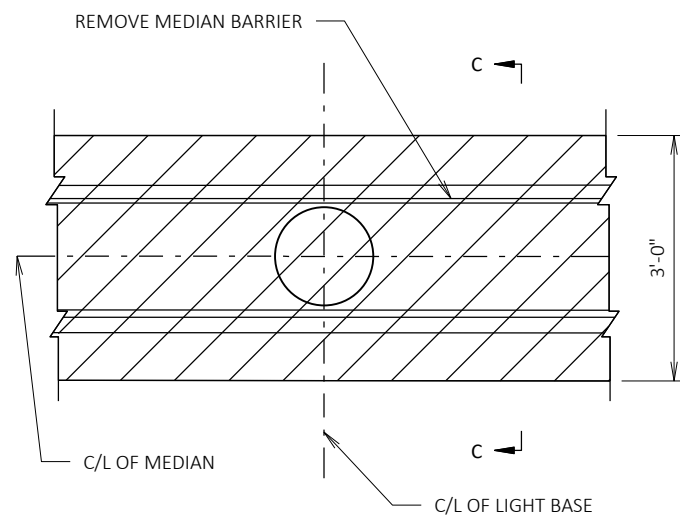
(UNITS 4 & 5)



SECTION A-A

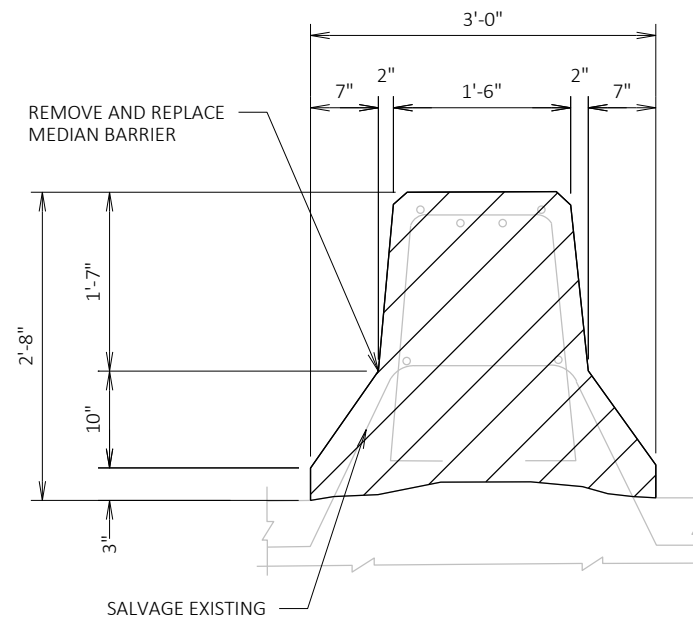


SECTION B-B



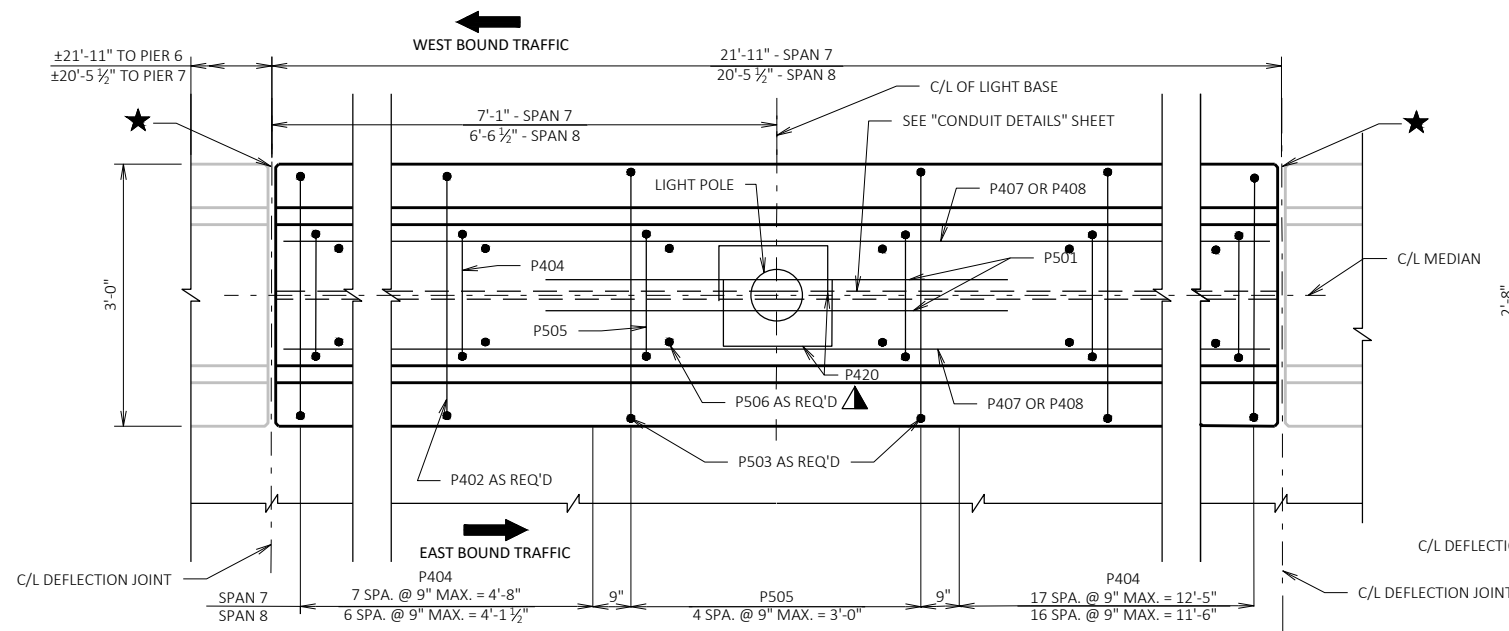
PLAN AT SOLID MEDIAN BARRIER

(UNITS 3, 6, 7, 8, 9, 10, 11, 12, 13)

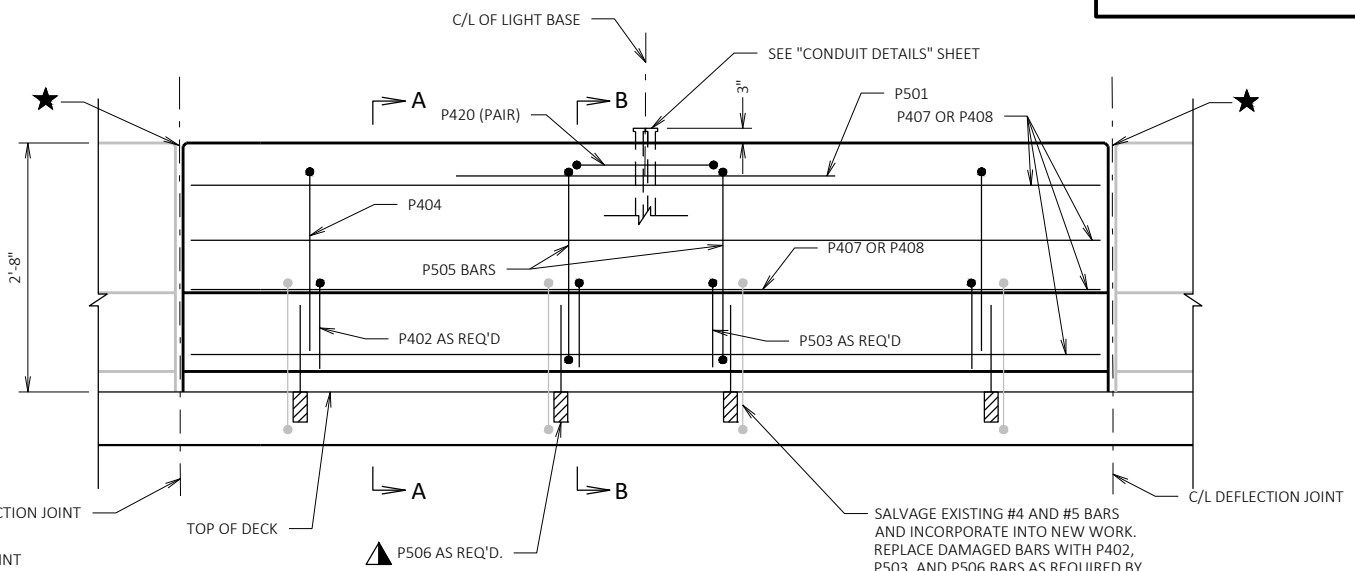


SECTION C-C

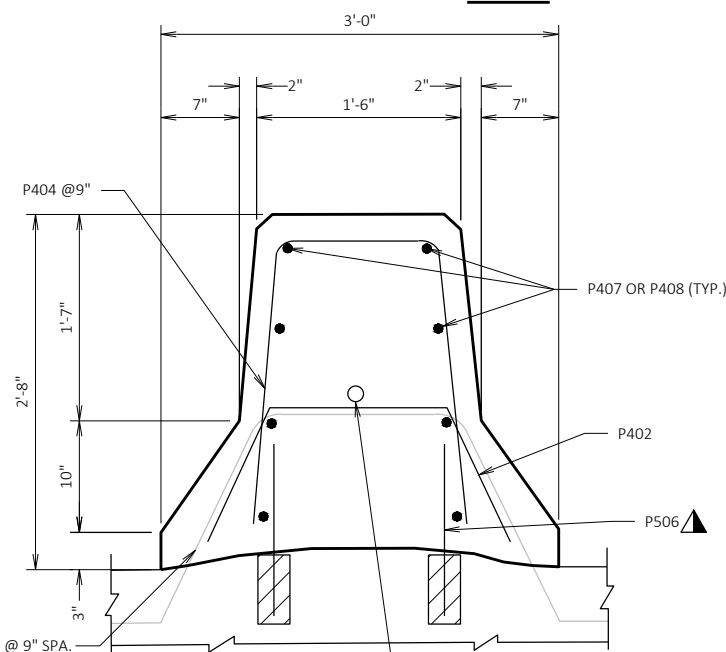
NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-16-38 / 69100			
DRAWN BY		PLANS CK'D	
KLK		SKH	
PARAPET REMOVAL DETAILS			SHEET 18



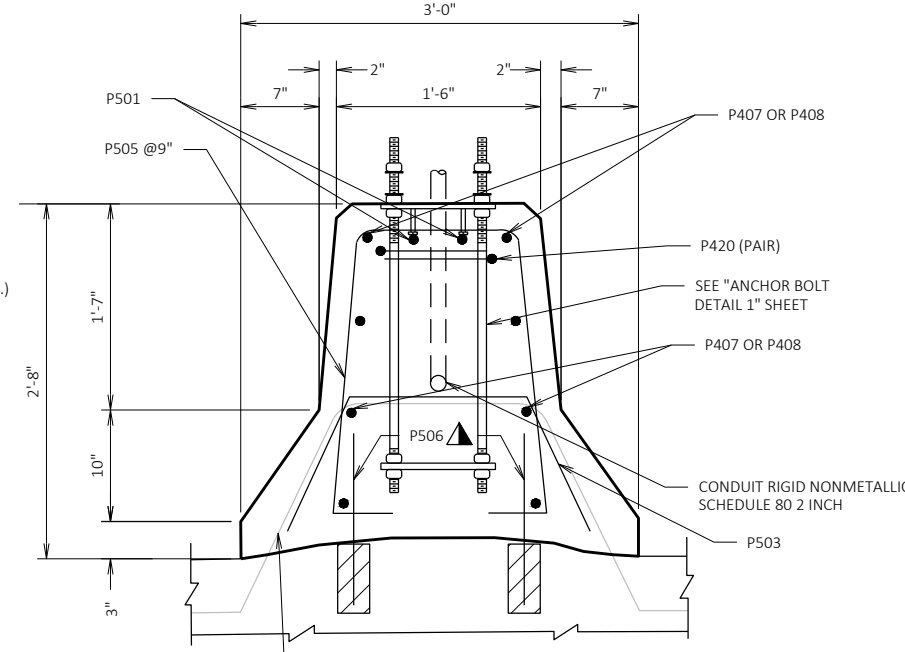
PLAN



ELEVATION



SECTION A-A



SECTION B-B

LEGEND

- 1" DIA. ANCHOR RODS ASTM F1554 GR 55, HEAVY HEX NUTS ASTM A563, AND WASHERS ASTM F436. ANCHOR ASSEMBLIES SHALL BE GALVANIZED PER SECTION 531 OF THE STANDARD SPECIFICATION. PROVIDE (2) WASHERS AND (7) NUTS PER ANCHOR ROD.
- ▲ ADHESIVE ANCHORS NO. 5 BAR. EMBEDDED 5 1/4" IN CONCRETE. ANCHORS SHALL BE APPROVED FOR USE IN CRACKED CONCRETE.
- 50% OF BARS ASSUMED TO BE REPLACED FOR QUANTITIES IN BILL OF BARS. ACTUAL QUANTITY OF BARS MAY VARY IN THE FIELD.
- ★ DEFLECTION JOINT. SALVAGE EXISTING 1/2" ALUMINUM OR ZINC PLATE. FILL WITH NON-STAINING GRAY NON-BITUMINOUS JOINT SEALER (TYP.)

UNIT 3 BILL OF BARS

COATED TOTAL = 670 LBS

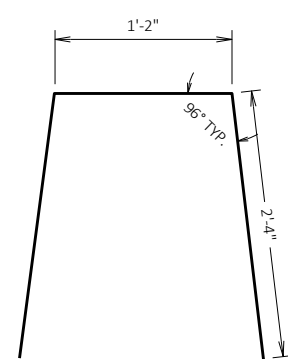
BAR MARK	NO.	LENGTH	COAT	BENT	LOCATION
P501	4	3'-6"	X		PARAPET HORIZ. - LIGHT BASE
P402	25	3'-2"	X	X	PARAPET VERT. - AS REQ'D
P503	5	3'-1"	X	X	PARAPET VERT. - AS REQ'D
P404	50	5'-8"	X	X	PARAPET VERT.
P505	10	7'-0"	X	X	PARAPET VERT. - LIGHT BASE
P506	60	1'-4"	X		PARAPET VERT. - ANCHORS
P407	8	21'-7"	X		PARAPET HORIZ. - SPAN 7
P408	8	20'-1"	X		PARAPET HORIZ. - SPAN 8
P420	4	3'-4"	X	X	PARAPET HORIZ. - LIGHT BASE

NOTES:

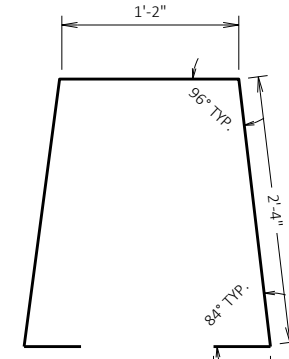
SEE "CONDUIT DETAILS" SHEET FOR CONDUIT AND JUNCTION BOX DETAILS

SALVAGE EXISTING #4 BARS @ 9" SPA. AND INCORPORATE INTO NEW WORK. REPLACE DAMAGED BARS WITH P402 AND P506 BARS AS REQUIRED BY THE ENGINEER.

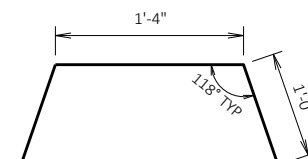
SALVAGE EXISTING #5 BARS @ 9" SPA. AND INCORPORATE INTO NEW WORK. REPLACE DAMAGED BARS WITH P503 AND P506 BARS AS REQUIRED BY THE ENGINEER.



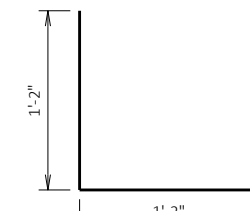
P404



P505

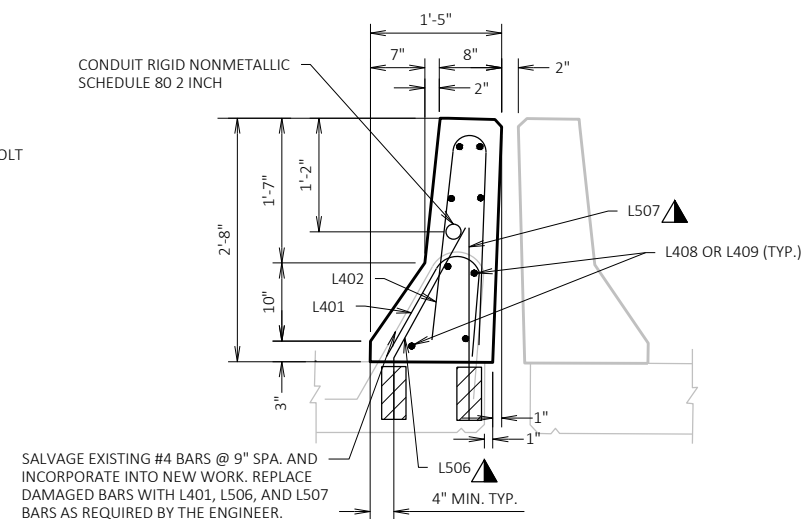
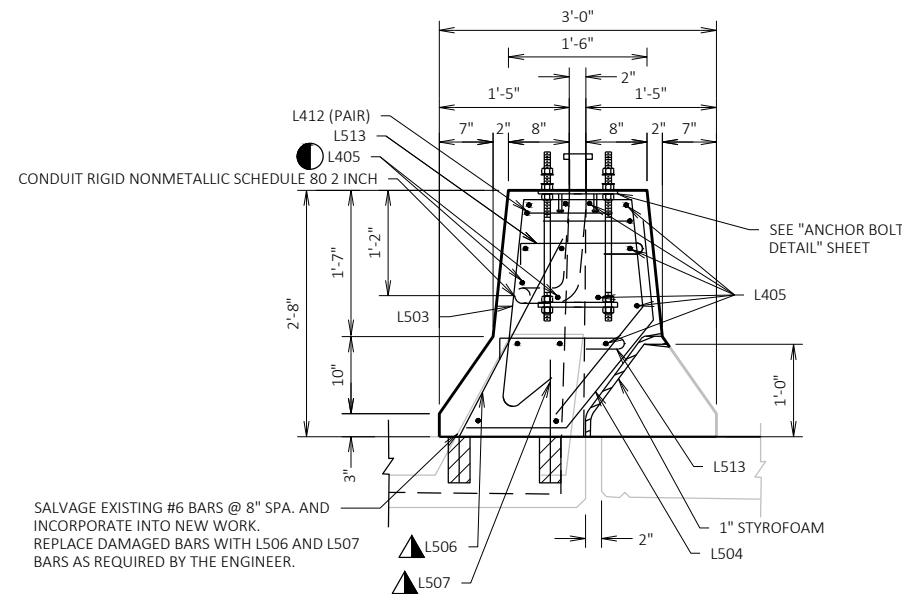
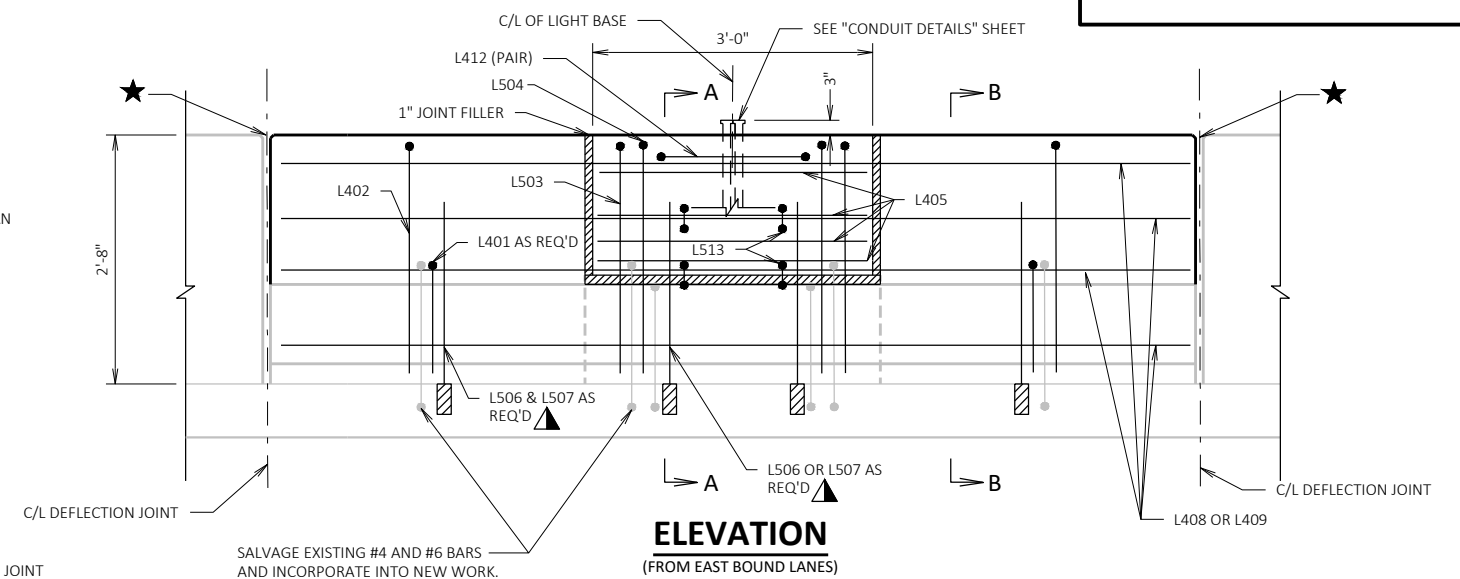
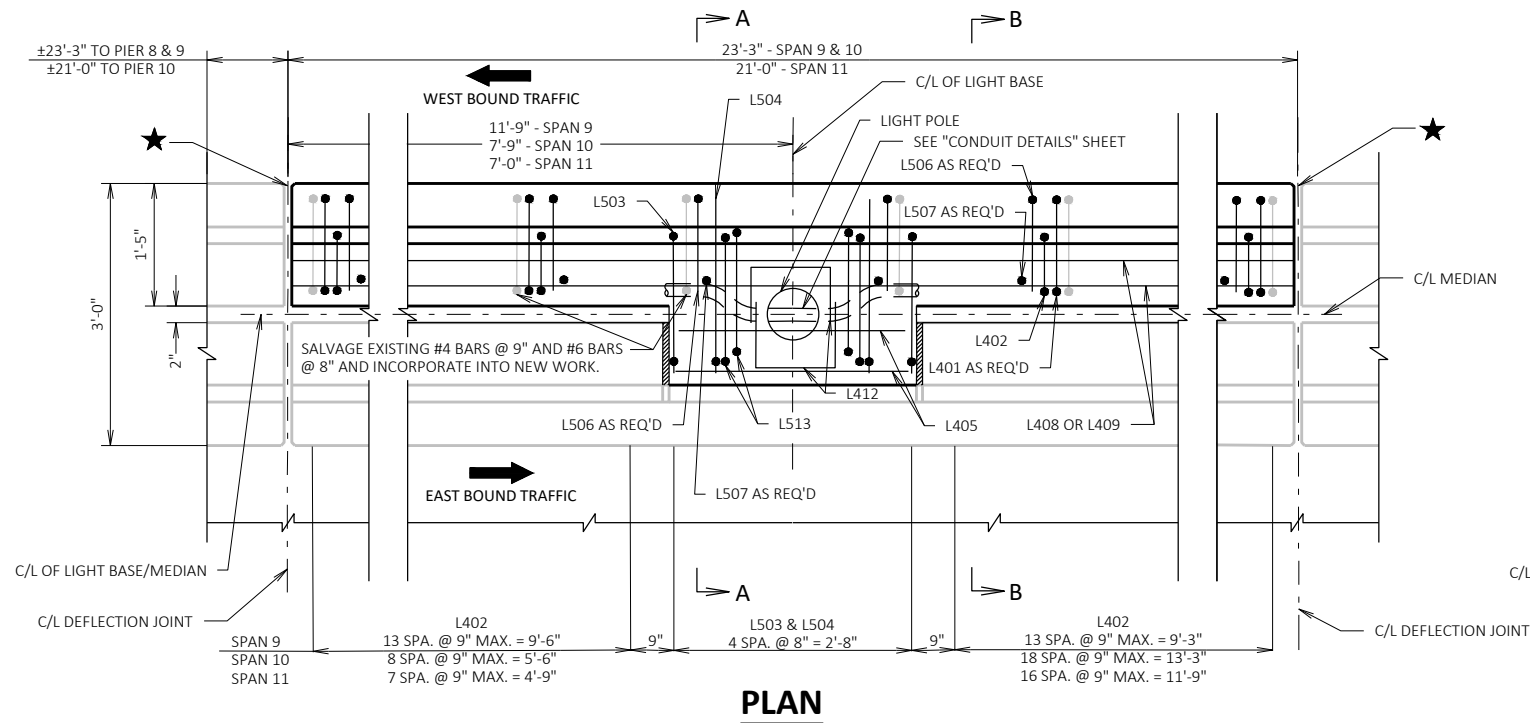


P402, P503



P420

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-16-38 / 69100			
DRAWN BY		PLANS CK'D	SKH
BY		KLK	SKH
PARAPET DETAILS UNIT 3			SHEET 19



LEGEND

- 1" DIA. ANCHOR RODS ASTM F1554 GR 55, HEAVY HEX NUTS ASTM A563, AND WASHERS ASTM F436. ANCHOR ASSEMBLIES SHALL BE GALVANIZED PER SECTION 531 OF THE STANDARD SPECIFICATION. PROVIDE (2) WASHERS AND (7) NUTS PER ANCHOR ROD.
- ADHESIVE ANCHORS NO. 5 BAR. EMBEDDED 5 1/4" IN CONCRETE. ANCHORS SHALL BE APPROVED FOR USE IN CRACKED CONCRETE.
- 50% OF BARS ASSUMED TO BE REPLACED FOR QUANTITIES IN BILL OF BARS. ACTUAL QUANTITY OF BARS MAY VARY IN THE FIELD.
- DEFLECTION JOINT. SALVAGE EXISTING 3/8" ALUMINUM OR ZINC PLATE. FILL WITH NON-STAINING GRAY NON-BITUMINOUS JOINT SEALER (TYP.)
- BAR MAY BE ADJUSTED IN THE FIELD TO AVOID CONDUIT.

UNIT 4 BILL OF BARS

COATED TOTAL = 1,090 LBS

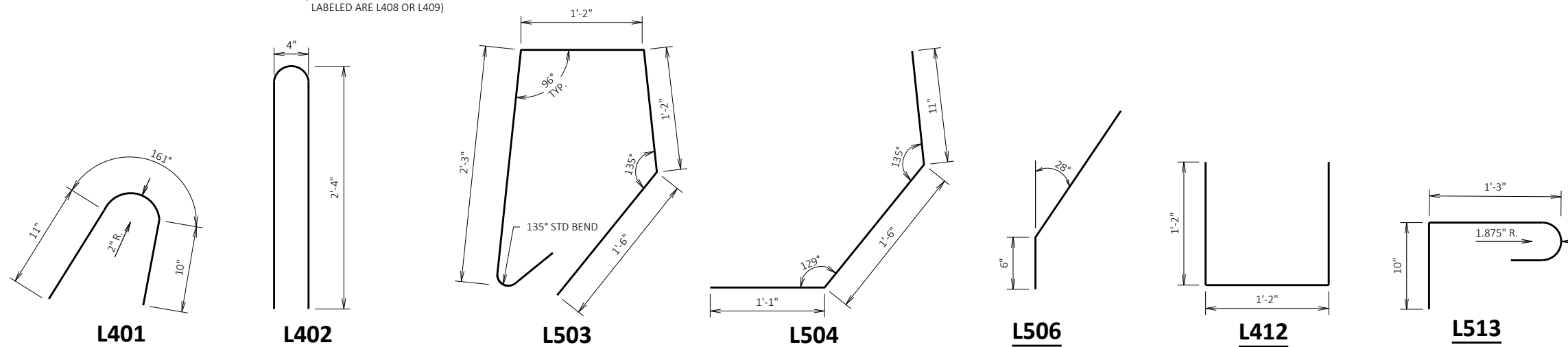
BAR MARK	NO.	LENGTH	COAT	BENT	LOCATION
L401	40	2'-0"	X	X	PARAPET VERT. - AS REQ'D
L402	81	4'-10"	X	X	PARAPET VERT.
L503	15	6'-2"	X	X	PARAPET VERT. - LIGHT BASE
L504	15	3'-4"	X	X	PARAPET VERT. - LIGHT BASE
L405	8	2'-8"	X		PARAPET HORIZ. - LIGHT BASE
L506	48	2'-11"	X	X	PARAPET VERT. - ANCHORS
L507	48	1'-4"	X	X	PARAPET VERT. - ANCHORS
L408	16	22'-11"	X		PARAPET HORIZ. - SPAN 9 & 10
L409	8	20'-8"	X		PARAPET HORIZ. - SPAN 11
L412	6	3'-4"	X	X	PARAPET HORIZ. - LIGHT BASE
L513	12	2'-7"	X	X	PARAPET TIE - LIGHT BASE

NOTES:
SEE "CONDUIT DETAILS" SHEET FOR CONDUIT AND JUNCTION BOX DETAILS

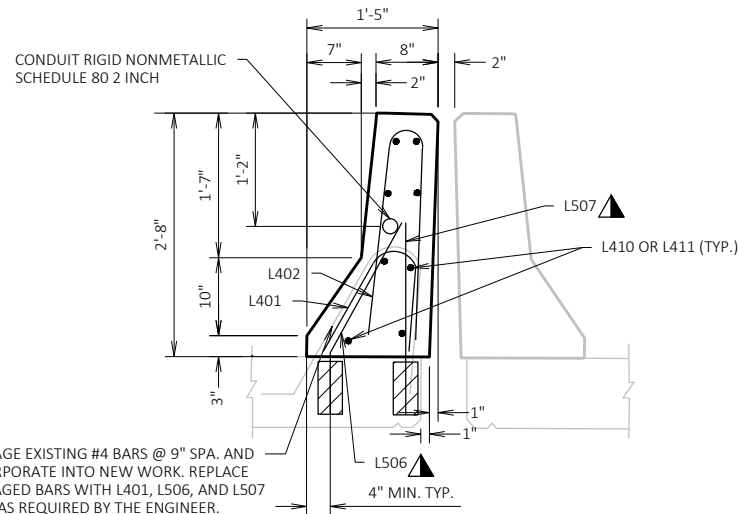
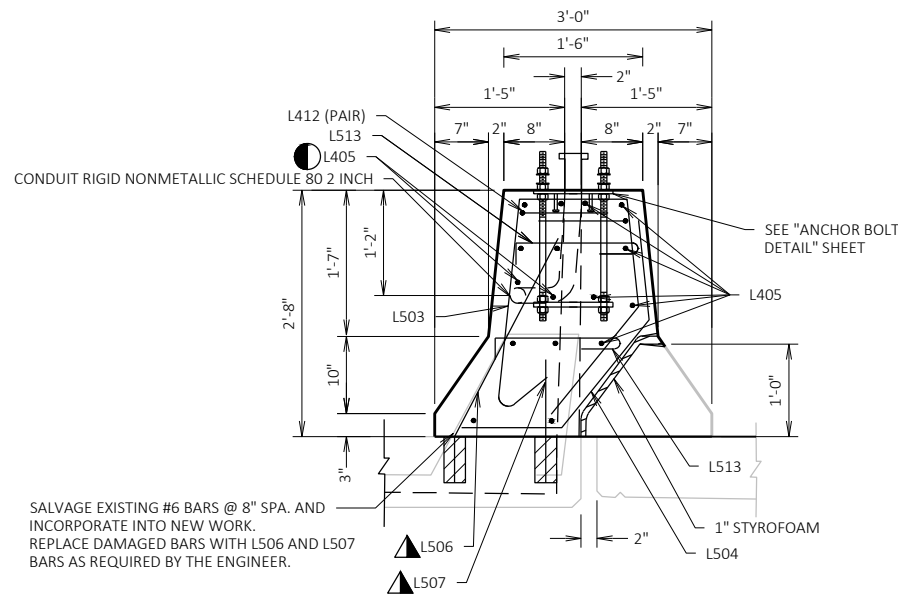
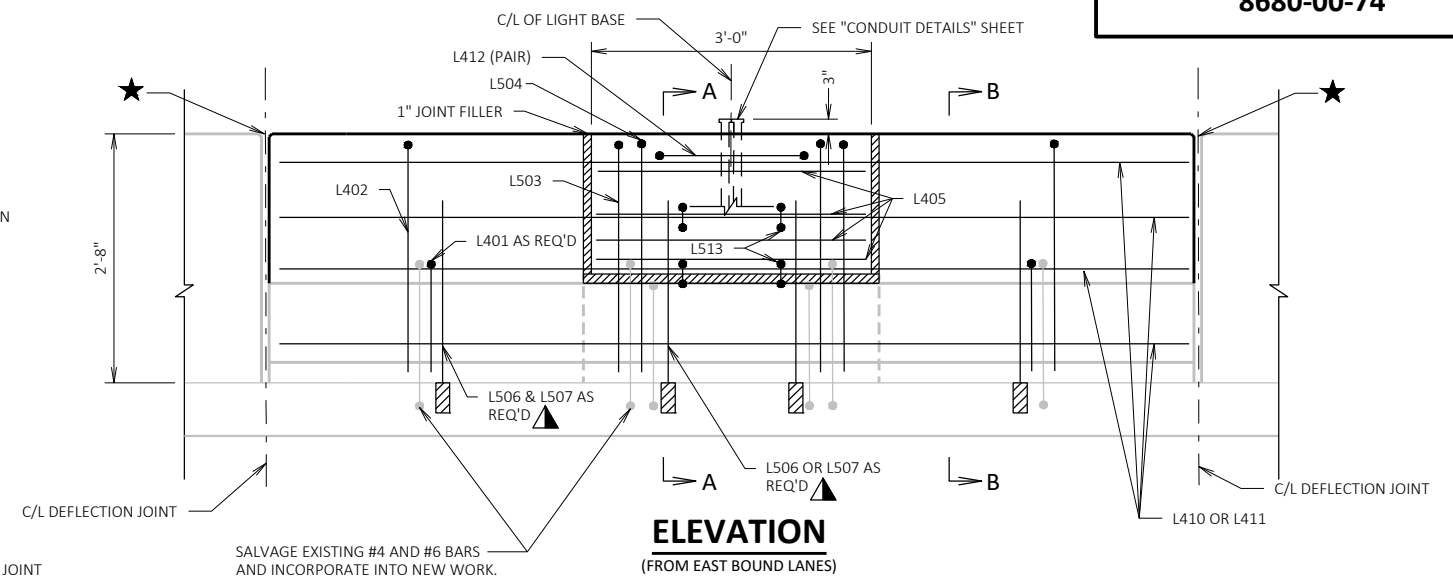
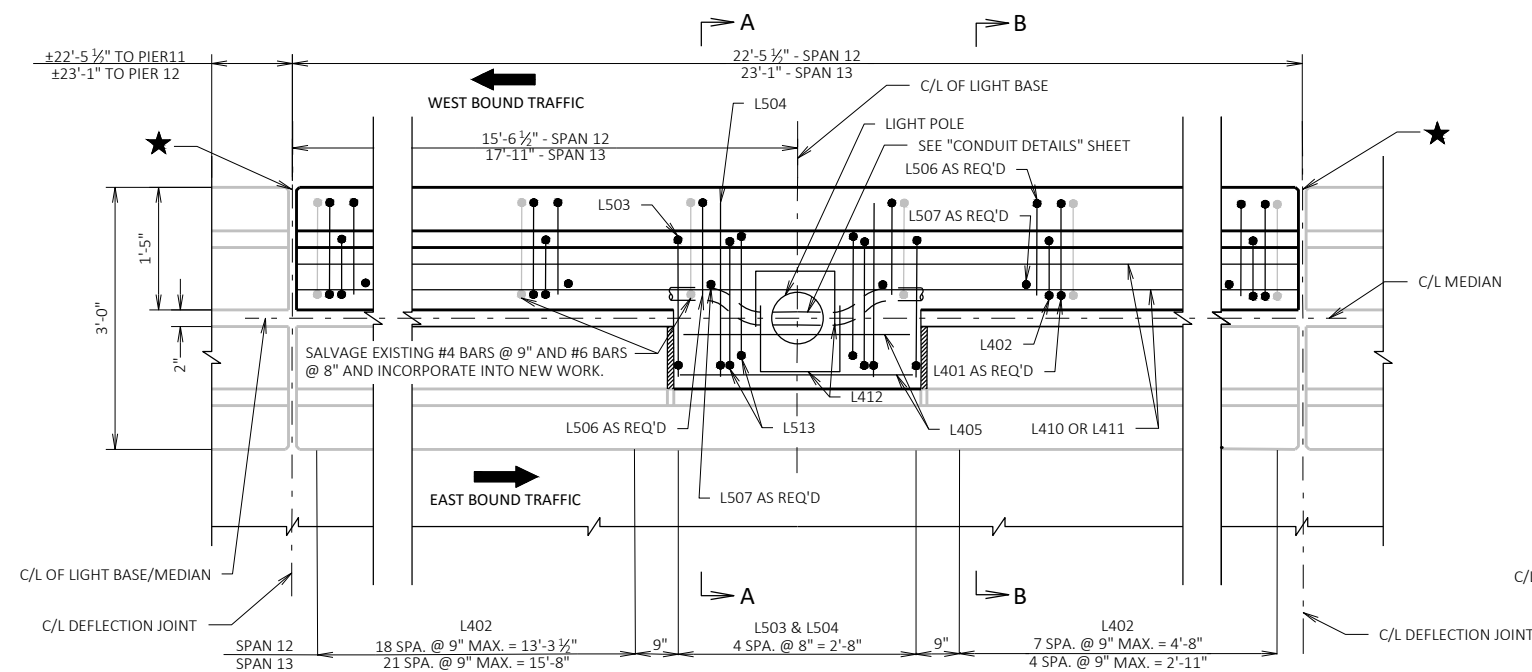
SECTION A-A

(ALL LONGITUDINAL BARS NOT LABELED ARE L408 OR L409)

SECTION B-B



NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-16-38 / 69100			
DRAWN BY KLK		PLANS CK'D SKH	
PARAPET DETAILS UNIT 4			SHEET 20



LEGEND

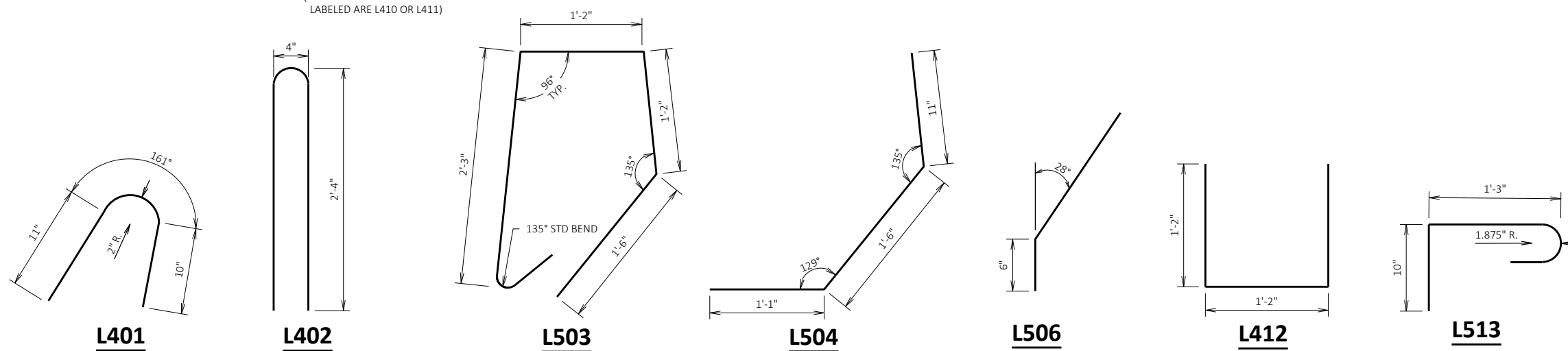
- 1" DIA. ANCHOR RODS ASTM F1554 GR 55, HEAVY HEX NUTS ASTM A563, AND WASHERS ASTM F436. ANCHOR ASSEMBLIES SHALL BE GALVANIZED PER SECTION 531 OF THE STANDARD SPECIFICATION. PROVIDE (2) WASHERS AND (7) NUTS PER ANCHOR ROD.
- ADHESIVE ANCHORS NO. 5 BAR. EMBEDDED 5 1/4" IN CONCRETE. ANCHORS SHALL BE APPROVED FOR USE IN CRACKED CONCRETE.
- 50% OF BARS ASSUMED TO BE REPLACED FOR QUANTITIES IN BILL OF BARS. ACTUAL QUANTITY OF BARS MAY VARY IN THE FIELD.
- DEFLECTION JOINT. SALVAGE EXISTING 1/2" ALUMINUM OR ZINC PLATE. FILL WITH NON-STAINING GRAY NON-BITUMINOUS JOINT SEALER (TYP.)
- BAR MAY BE ADJUSTED IN THE FIELD TO AVOID CONDUIT.

UNIT 5 BILL OF BARS

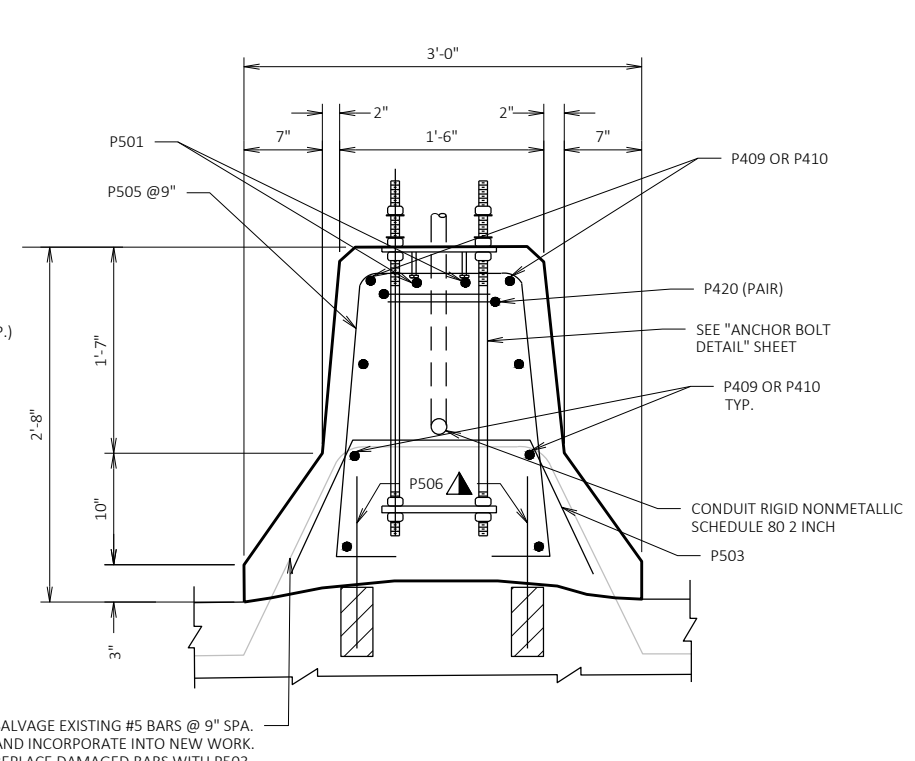
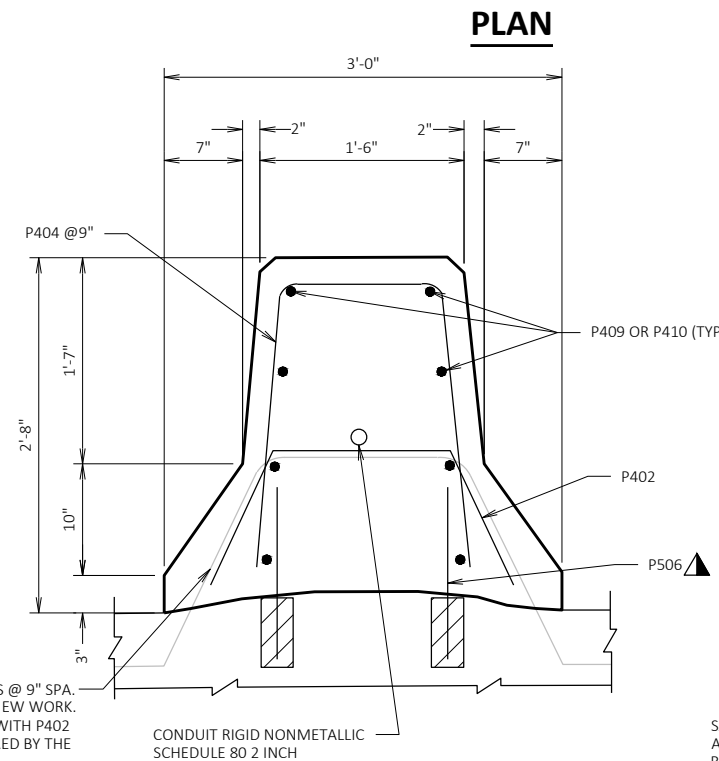
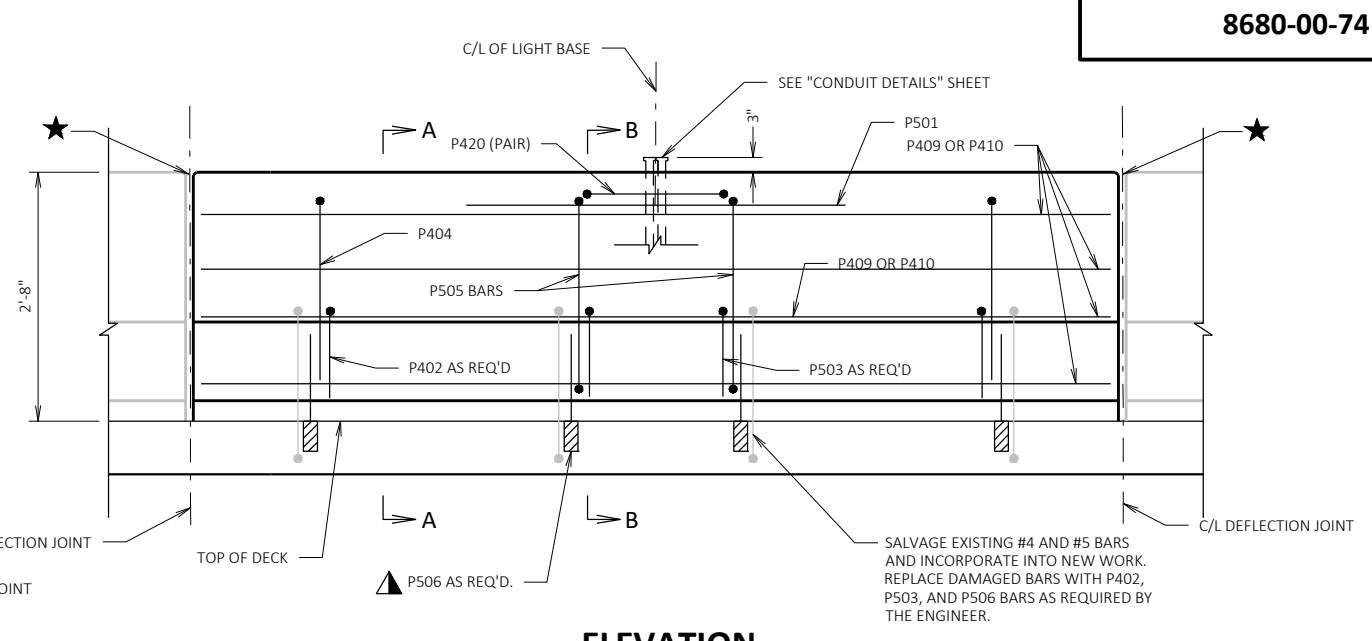
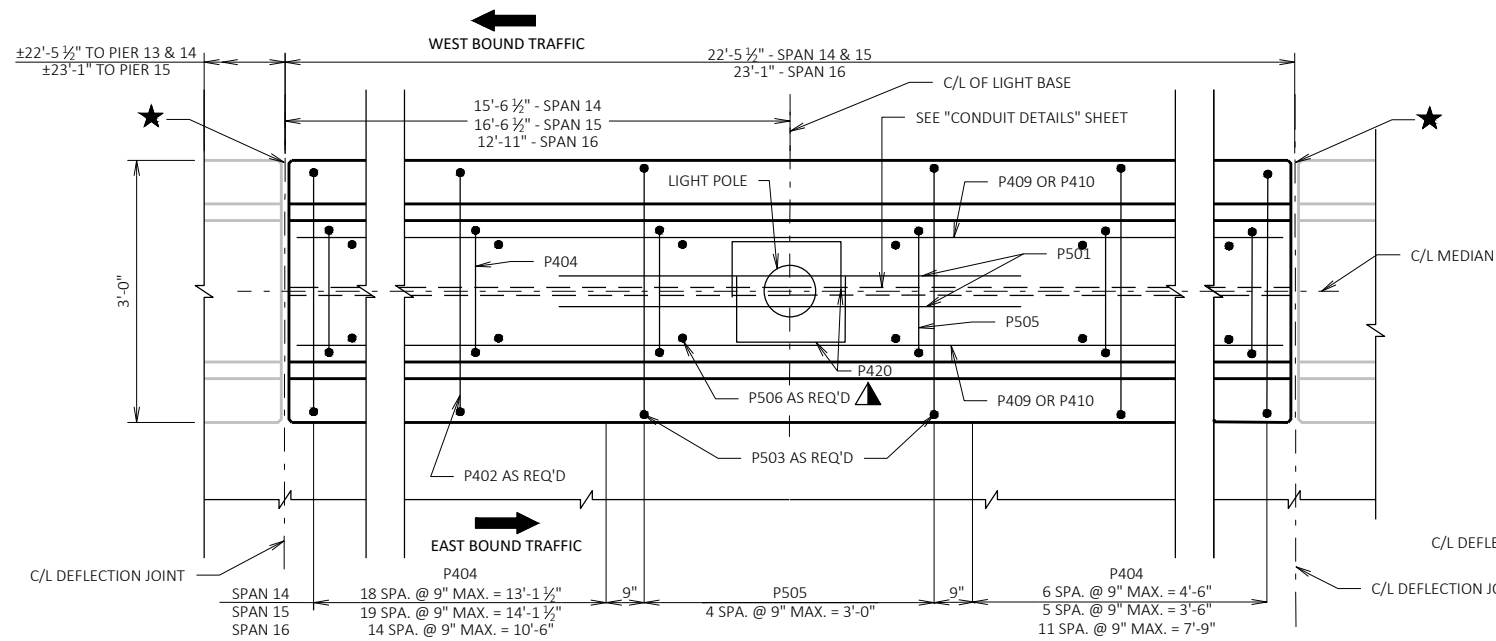
COATED TOTAL = 740 LBS

BAR MARK	NO.	LENGTH	COAT	BENT	LOCATION
L401	27	2'-0"	X	X	PARAPET VERT. - AS REQ'D
L402	54	4'-10"	X	X	PARAPET VERT.
L503	10	6'-2"	X	X	PARAPET VERT. - LIGHT BASE
L504	10	3'-4"	X	X	PARAPET VERT. - LIGHT BASE
L405	8	2'-8"	X		PARAPET HORIZ. - LIGHT BASE
L506	32	2'-11"	X	X	PARAPET VERT. - ANCHORS
L507	32	1'-4"	X		PARAPET VERT. - ANCHORS
L410	8	22'-1"	X		PARAPET HORIZ. - SPAN 12
L411	8	22'-9"	X		PARAPET HORIZ. - SPAN 13
L412	4	3'-4"	X	X	PARAPET HORIZ. - LIGHT BASE
L513	8	2'-7"	X	X	PARAPET TIE - LIGHT BASE

NOTES:
SEE "CONDUIT DETAILS" SHEET FOR CONDUIT AND JUNCTION BOX DETAILS



NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-16-38 / 69100			
DRAWN BY KLK		PLANS CK'D SKH	
PARAPET DETAILS UNIT 5			SHEET 21



LEGEND

- 1" DIA. ANCHOR RODS ASTM F1554 GR 55, HEAVY HEX NUTS ASTM A563, AND WASHERS ASTM F436. ANCHOR ASSEMBLIES SHALL BE GALVANIZED PER SECTION 531 OF THE STANDARD SPECIFICATION. PROVIDE (2) WASHERS AND (7) NUTS PER ANCHOR ROD.
- ADHESIVE ANCHORS NO. 5 BAR. EMBEDDED 5 1/2" IN CONCRETE. ANCHORS SHALL BE APPROVED FOR USE IN CRACKED CONCRETE.
- 50% OF BARS ASSUMED TO BE REPLACED FOR QUANTITIES IN BILL OF BARS. ACTUAL QUANTITY OF BARS MAY VARY IN THE FIELD.
- DEFLECTION JOINT. SALVAGE EXISTING 3/8" ALUMINUM OR ZINC PLATE. FILL WITH NON-STAINING GRAY NON-BITUMINOUS JOINT SEALER (TYP.)

UNIT 6 BILL OF BARS

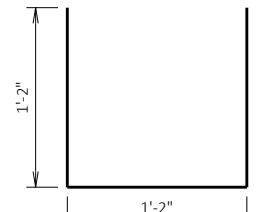
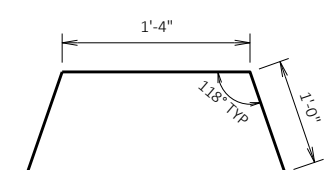
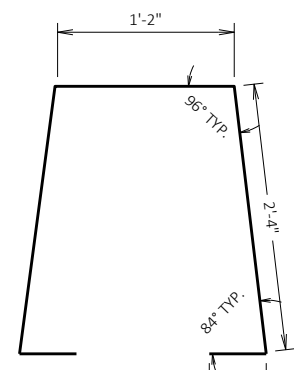
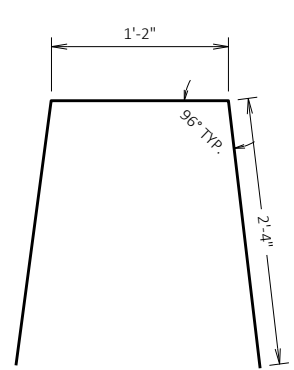
COATED TOTAL = 1,050 LBS

BAR MARK	NO.	LENGTH	COAT	BENT	LOCATION
P501	6	3'-6"	X		PARAPET HORIZ. - LIGHT BASE
P402	40	3'-2"	X	X	PARAPET VERT. - AS REQ'D
P503	8	3'-1"	X	X	PARAPET VERT. - AS REQ'D
P404	79	5'-8"	X	X	PARAPET VERT.
P505	15	7'-0"	X	X	PARAPET VERT. - LIGHT BASE
P506	94	1'-4"	X		PARAPET VERT. - ANCHORS
P409	16	22'-1"	X		PARAPET HORIZ. - SPAN 14 & 15
P410	8	22'-9"	X		PARAPET HORIZ. - SPAN 16
P420	6	3'-4"	X	X	PARAPET HORIZ. - LIGHT BASE

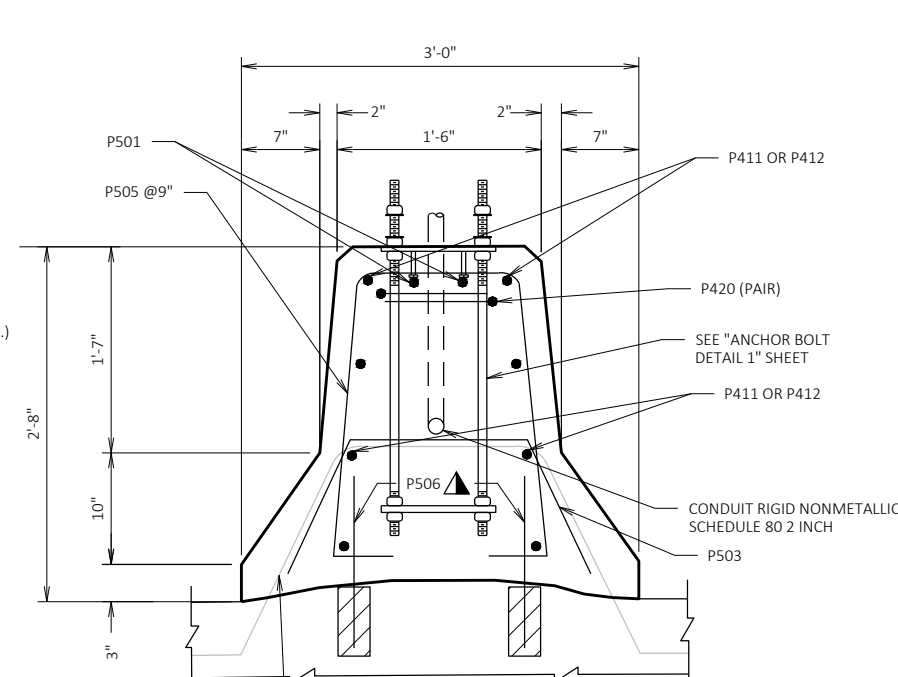
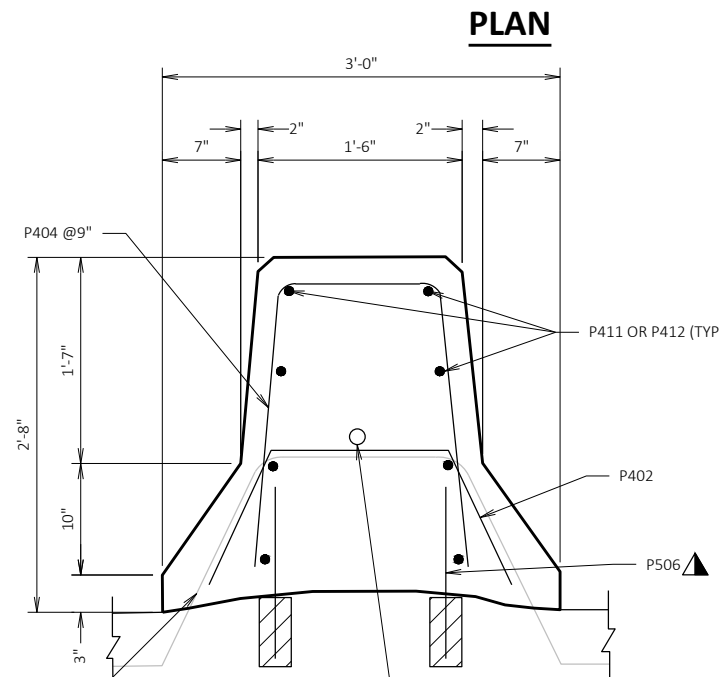
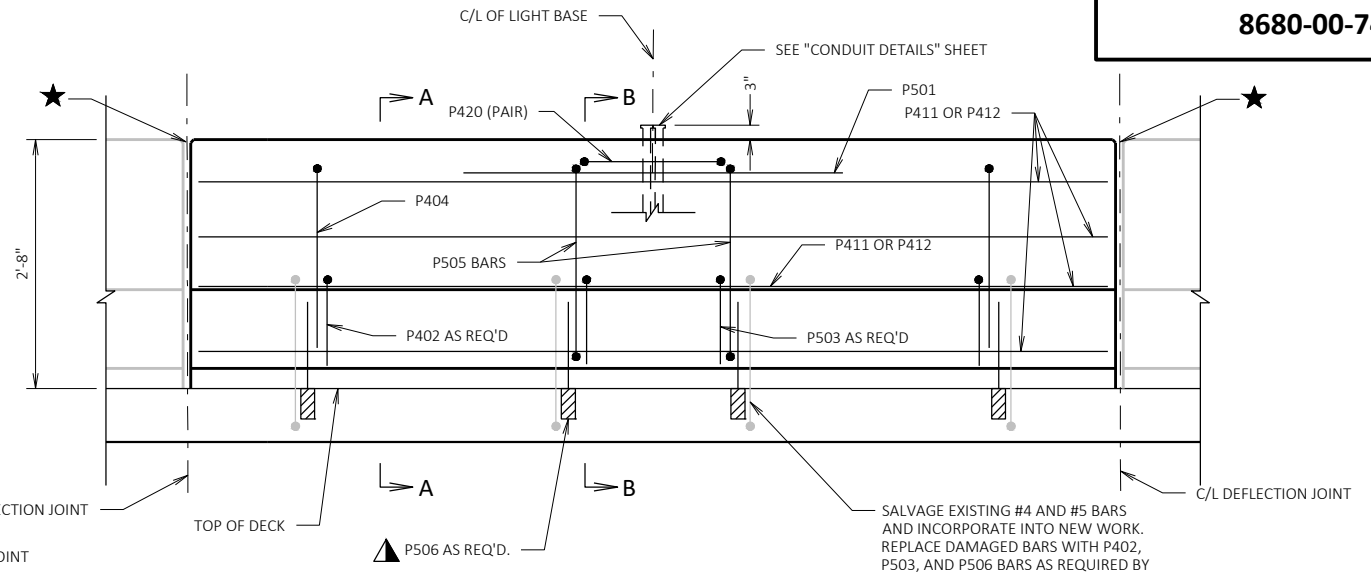
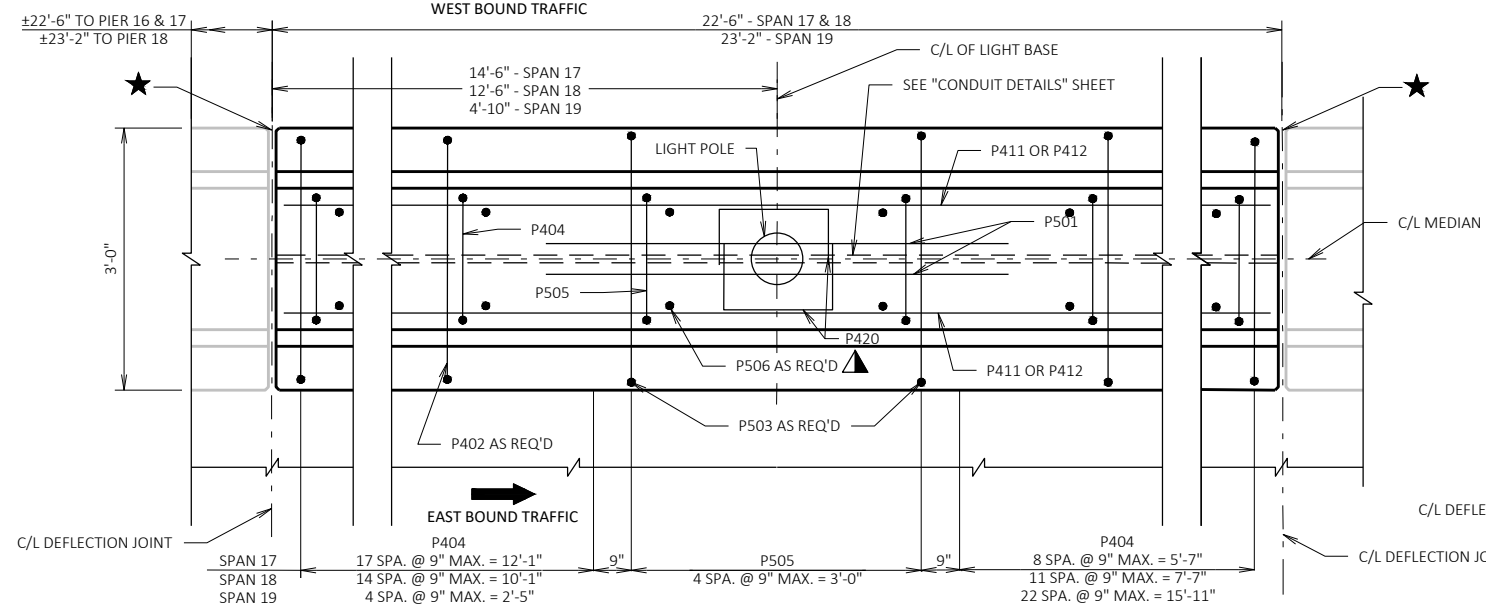
NOTES:
SEE "CONDUIT DETAILS" SHEET FOR CONDUIT AND JUNCTION BOX DETAILS

SALVAGE EXISTING #4 BARS @ 9" SPA. AND INCORPORATE INTO NEW WORK. REPLACE DAMAGED BARS WITH P402 AND P506 BARS AS REQUIRED BY THE ENGINEER.

SALVAGE EXISTING #5 BARS @ 9" SPA. AND INCORPORATE INTO NEW WORK. REPLACE DAMAGED BARS WITH P503 AND P506 BARS AS REQUIRED BY THE ENGINEER.



NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-16-38 / 69100			
DRAWN BY		KLK	PLANS CK'D SKH
PARAPET DETAILS UNIT 6			SHEET 22



LEGEND

- 1" DIA. ANCHOR RODS ASTM F1554 GR 55, HEAVY HEX NUTS ASTM A563, AND WASHERS ASTM F436. ANCHOR ASSEMBLIES SHALL BE GALVANIZED PER SECTION 531 OF THE STANDARD SPECIFICATION. PROVIDE (2) WASHERS AND (7) NUTS PER ANCHOR ROD.
- ADHESIVE ANCHORS NO. 5 BAR. EMBEDDED 5 1/4" IN CONCRETE. ANCHORS SHALL BE APPROVED FOR USE IN CRACKED CONCRETE.
- 50% OF BARS ASSUMED TO BE REPLACED FOR QUANTITIES IN BILL OF BARS. ACTUAL QUANTITY OF BARS MAY VARY IN THE FIELD.
- DEFLECTION JOINT. SALVAGE EXISTING 1/2" ALUMINUM OR ZINC PLATE. FILL WITH NON-STAINING GRAY NON-BITUMINOUS JOINT SEALER (TYP.)

UNIT 7 BILL OF BARS

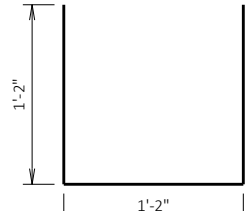
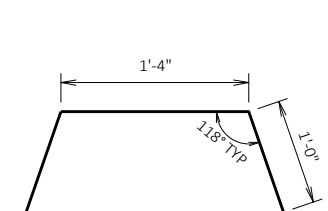
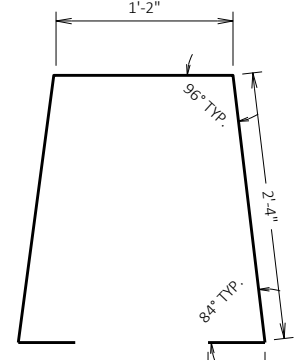
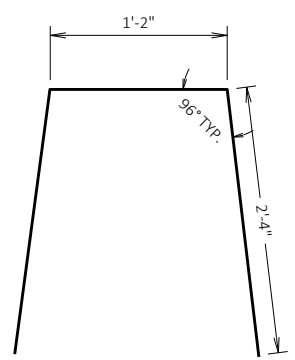
COATED TOTAL = 1,070 LBS

BAR MARK	NO.	LENGTH	COAT	BENT	LOCATION
P501	6	3'-6"	X		PARAPET HORIZ. - LIGHT BASE
P402	41	3'-2"	X	X	PARAPET VERT. - AS REQ'D
P503	8	3'-1"	X	X	PARAPET VERT. - AS REQ'D
P404	82	5'-8"	X	X	PARAPET VERT.
P505	15	7'-0"	X	X	PARAPET VERT. - LIGHT BASE
P506	97	1'-4"	X		PARAPET VERT. - ANCHORS
P411	16	22'-2"	X		PARAPET HORIZ. - SPAN 17 & 18
P412	8	22'-10"	X		PARAPET HORIZ. - SPAN 19
P420	6	3'-4"	X	X	PARAPET HORIZ. - LIGHT BASE

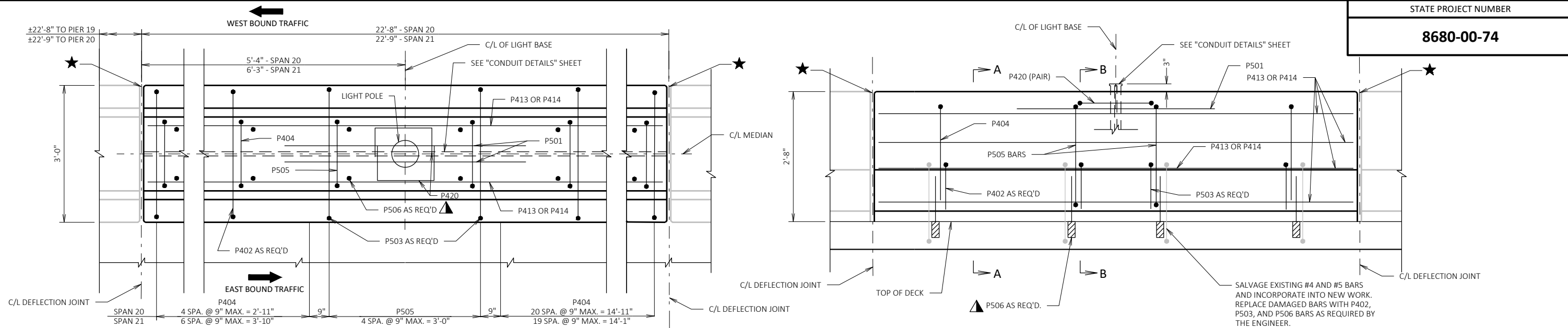
NOTES:
SEE "CONDUIT DETAILS" SHEET FOR CONDUIT AND JUNCTION BOX DETAILS

SALVAGE EXISTING #4 BARS @ 9" SPA. AND INCORPORATE INTO NEW WORK. REPLACE DAMAGED BARS WITH P402 AND P506 BARS AS REQUIRED BY THE ENGINEER.

SALVAGE EXISTING #5 BARS @ 9" SPA. AND INCORPORATE INTO NEW WORK. REPLACE DAMAGED BARS WITH P503 AND P506 BARS AS REQUIRED BY THE ENGINEER.

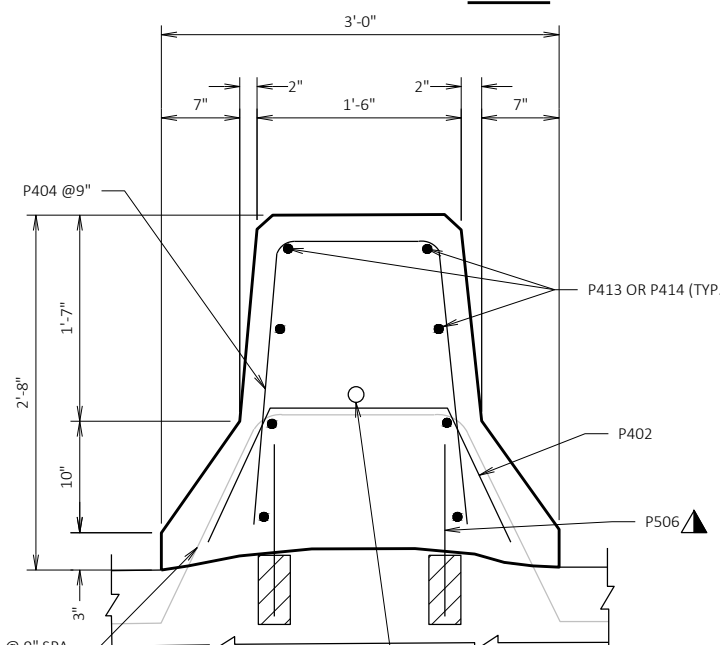


NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-16-38 / 69100			
DRAWN BY		KLK	PLANS CK'D SKH
PARAPET DETAILS UNIT 7			SHEET 23

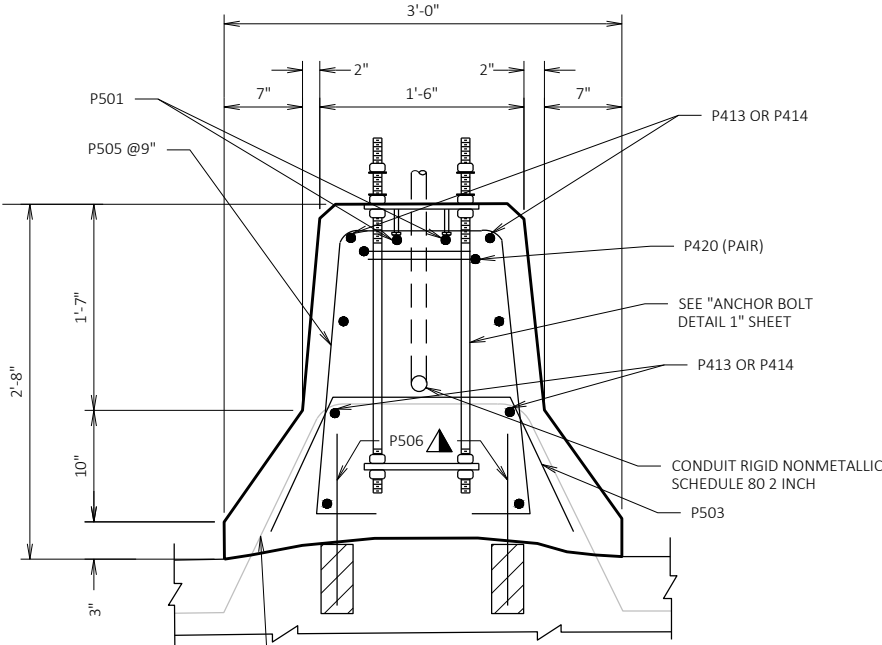


PLAN

ELEVATION



SECTION A-A



SECTION B-B

LEGEND

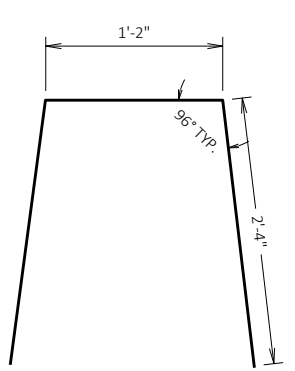
- 1" DIA. ANCHOR RODS ASTM F1554 GR 55, HEAVY HEX NUTS ASTM A563, AND WASHERS ASTM F436. ANCHOR ASSEMBLIES SHALL BE GALVANIZED PER SECTION 531 OF THE STANDARD SPECIFICATION. PROVIDE (2) WASHERS AND (7) NUTS PER ANCHOR ROD.
- ADHESIVE ANCHORS NO. 5 BAR, EMBEDDED 5 1/4" IN CONCRETE. ANCHORS SHALL BE APPROVED FOR USE IN CRACKED CONCRETE.
- 50% OF BARS ASSUMED TO BE REPLACED FOR QUANTITIES IN BILL OF BARS. ACTUAL QUANTITY OF BARS MAY VARY IN THE FIELD.
- DEFLECTION JOINT. SALVAGE EXISTING 3/8" ALUMINUM OR ZINC PLATE. FILL WITH NON-STAINING GRAY NON-BITUMINOUS JOINT SEALER (TYP.)

UNIT 8 BILL OF BARS

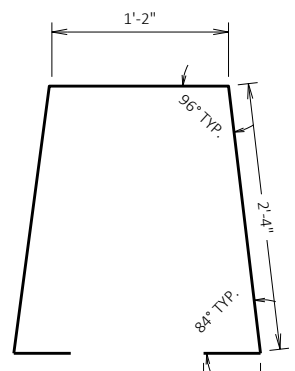
COATED TOTAL = 700 LBS

BAR MARK	NO	LENGTH	COAT	BENT	LOCATION
P501	4	3'-6"	X		PARAPET HORIZ. - LIGHT BASE
P402	27	3'-2"	X	X	PARAPET VERT. - AS REQ'D
P503	5	3'-1"	X	X	PARAPET VERT. - AS REQ'D
P404	53	5'-8"	X	X	PARAPET VERT.
P505	10	7'-0"	X	X	PARAPET VERT. - LIGHT BASE
P506	63	1'-4"	X		PARAPET VERT. - ANCHORS
P413	8	22'-4"	X		PARAPET HORIZ. - SPAN 20
P414	8	22'-5"	X		PARAPET HORIZ. - SPAN 21
P420	4	3'-4"	X	X	PARAPET HORIZ. - LIGHT BASE

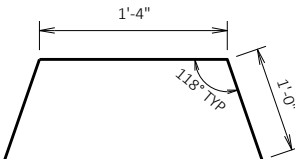
NOTES:
SEE "CONDUIT DETAILS" SHEET FOR CONDUIT AND JUNCTION BOX DETAILS



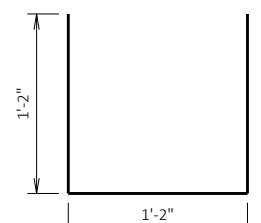
P404



P505

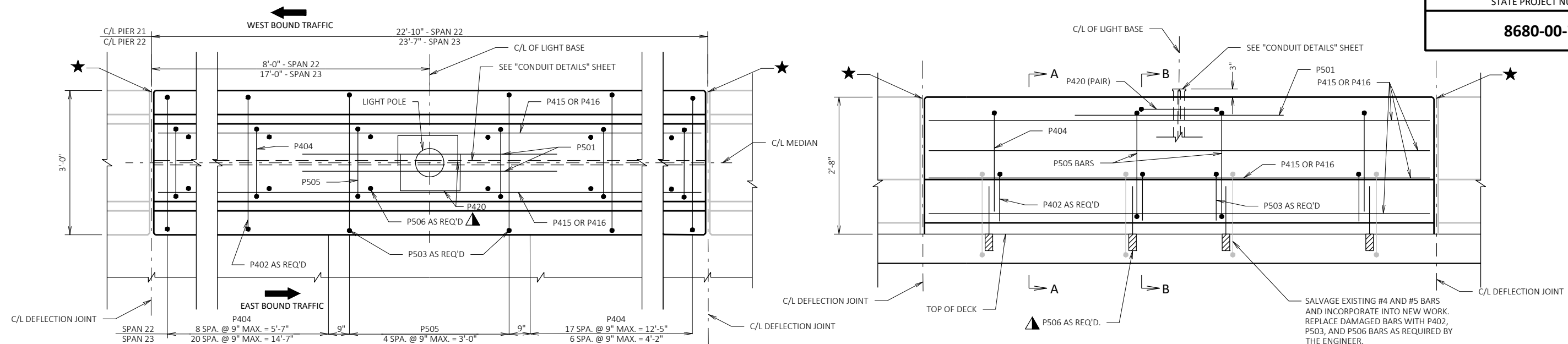


P402, P503



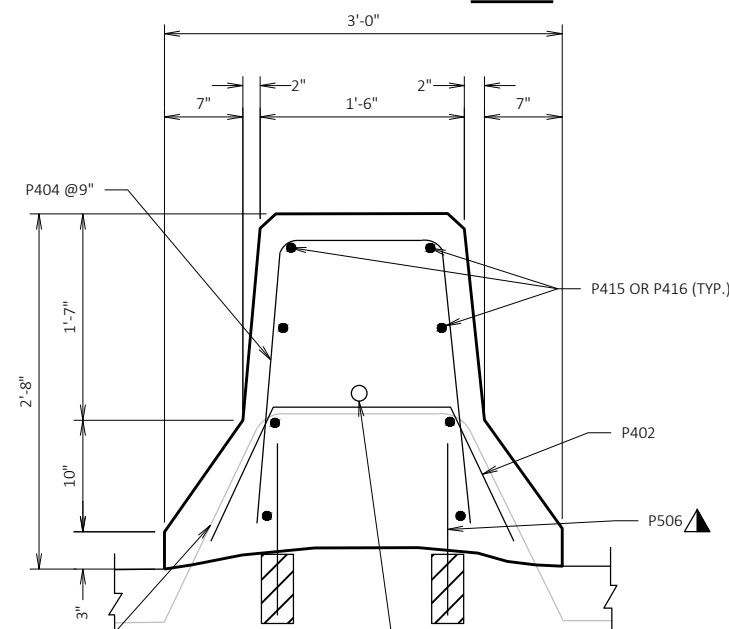
P420

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-16-38 / 69100			
DRAWN BY		KLK	PLANS CK'D SKH
PARAPET DETAILS UNIT 8			SHEET 24

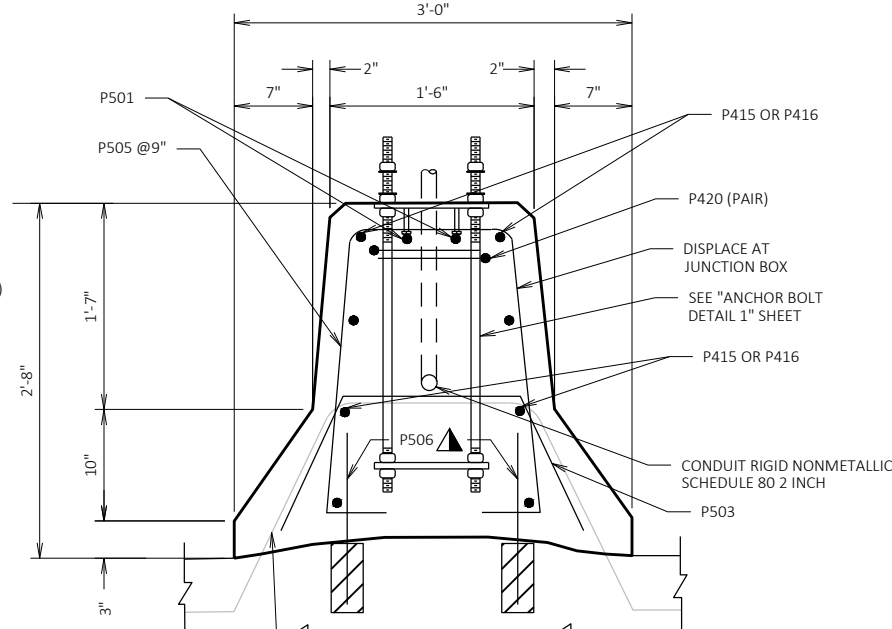


ELEVATION

PLAN



SECTION A-A



SECTION B-B

LEGEND

- 1" DIA. ANCHOR RODS ASTM F1554 GR 55, HEAVY HEX NUTS ASTM A563, AND WASHERS ASTM F436. ANCHOR ASSEMBLIES SHALL BE GALVANIZED PER SECTION 531 OF THE STANDARD SPECIFICATION. PROVIDE (2) WASHERS AND (7) NUTS PER ANCHOR ROD.
- ADHESIVE ANCHORS NO. 5 BAR. EMBEDDED 5 1/2" IN CONCRETE. ANCHORS SHALL BE APPROVED FOR USE IN CRACKED CONCRETE.
- 50% OF BARS ASSUMED TO BE REPLACED FOR QUANTITIES IN BILL OF BARS. ACTUAL QUANTITY OF BARS MAY VARY IN THE FIELD.
- DEFLECTION JOINT. SALVAGE EXISTING 1/2" ALUMINUM OR ZINC PLATE. FILL WITH NON-STAINING GRAY NON-BITUMINOUS JOINT SEALER (TYP.)

UNIT 9 BILL OF BARS

COATED TOTAL = 720 LBS

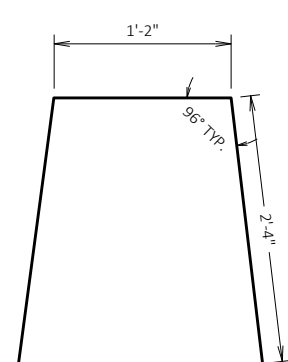
BAR MARK	NO.	LENGTH	COAT	BENT	LOCATION
P501	4	3'-6"	X		PARAPET HORIZ. - LIGHT BASE
P402	28	3'-2"	X	X	PARAPET VERT. - AS REQ'D
P503	5	3'-1"	X	X	PARAPET VERT. - AS REQ'D
P404	55	5'-8"	X	X	PARAPET VERT.
P505	10	7'-0"	X	X	PARAPET VERT. - LIGHT BASE
P506	65	1'-4"	X		PARAPET VERT. - ANCHORS
P415	8	22'-6"	X		PARAPET HORIZ. - SPAN 22
P416	8	23'-3"	X		PARAPET HORIZ. - SPAN 23
P420	4	3'-4"	X	X	PARAPET HORIZ. - LIGHT BASE

NOTES:
SEE "CONDUIT DETAILS" SHEET FOR CONDUIT AND JUNCTION BOX DETAILS

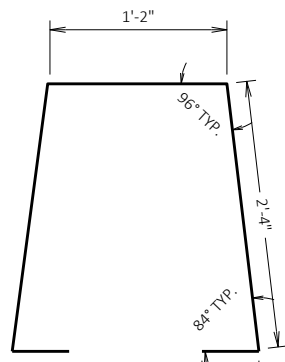
SALVAGE EXISTING #4 BARS @ 9" SPA. AND INCORPORATE INTO NEW WORK. REPLACE DAMAGED BARS WITH P402 AND P506 BARS AS REQUIRED BY THE ENGINEER.

CONDUIT RIGID NONMETALLIC SCHEDULE 80 2 INCH

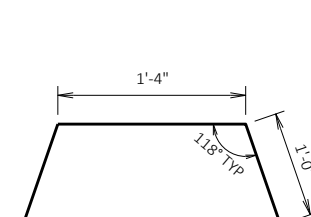
SALVAGE EXISTING #5 BARS @ 9" SPA. AND INCORPORATE INTO NEW WORK. REPLACE DAMAGED BARS WITH P503 AND P506 BARS AS REQUIRED BY THE ENGINEER.



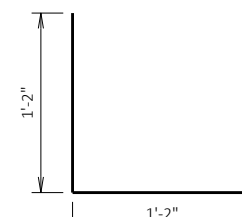
P404



P505

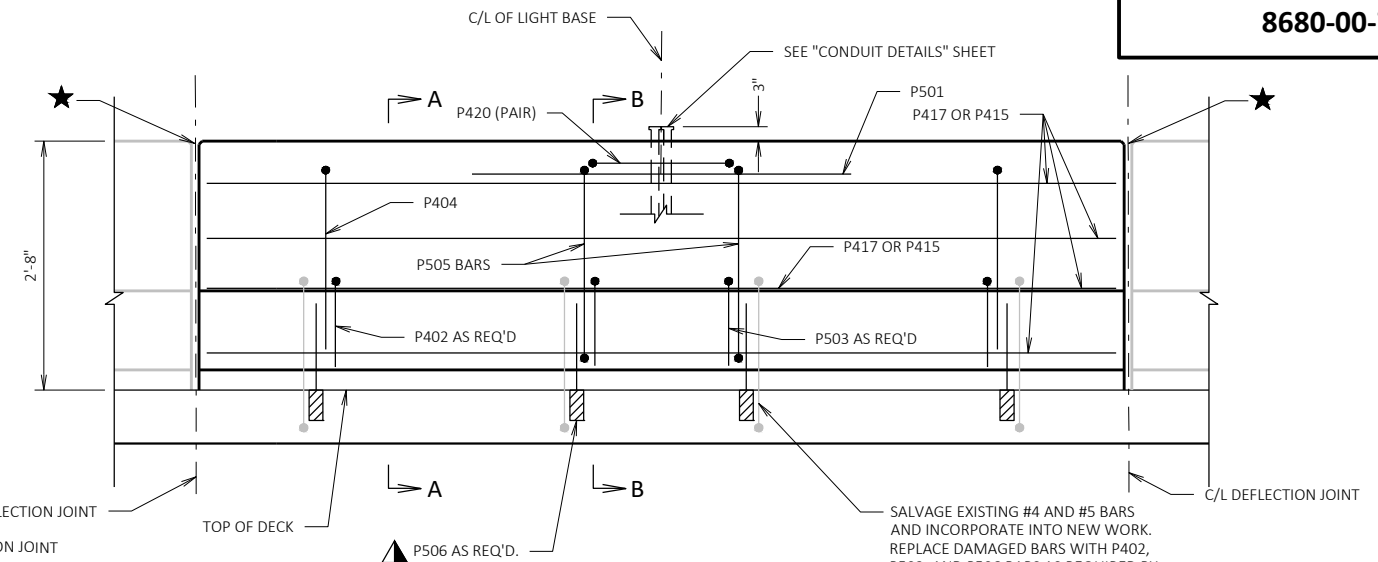
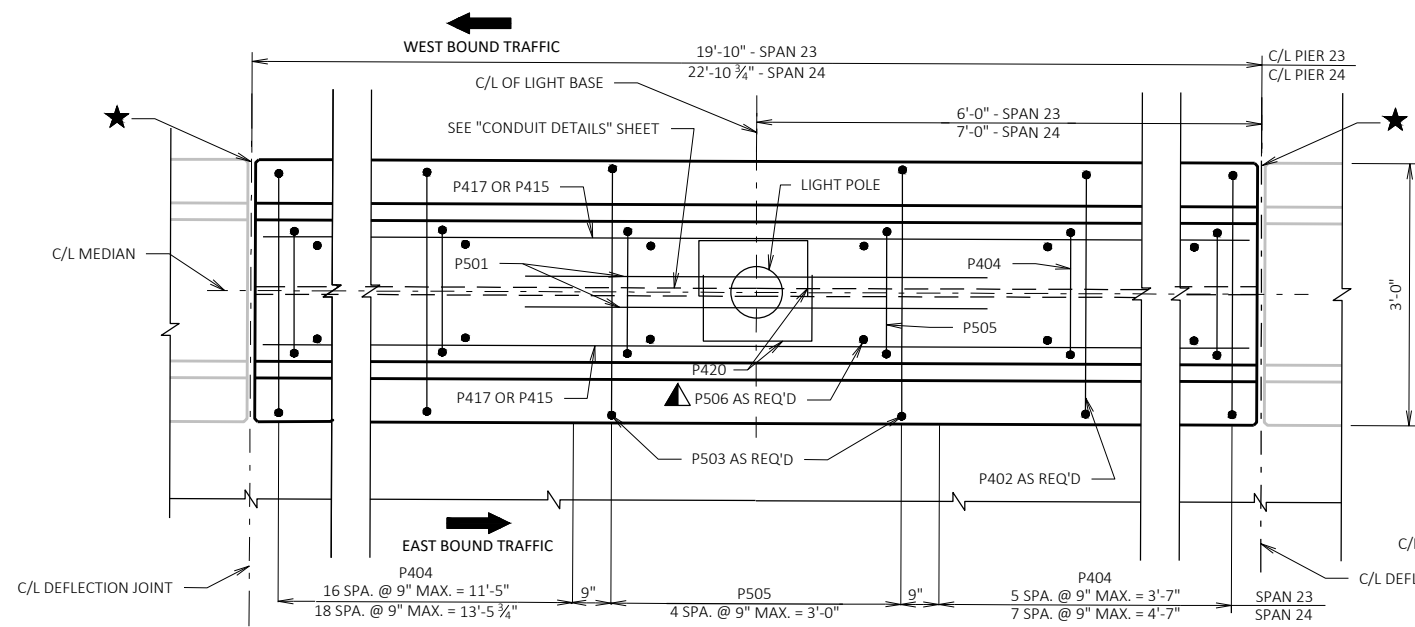


P402, P503



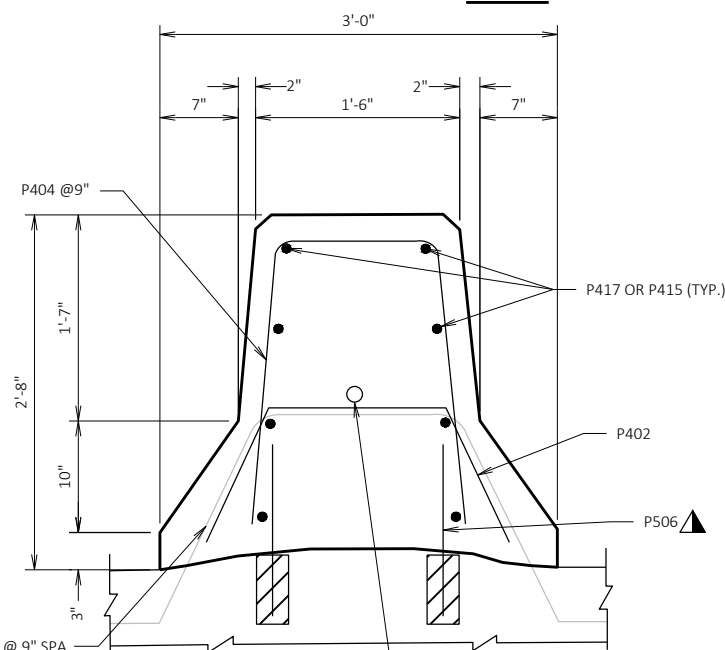
P420

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-16-38 / 69100			
DRAWN BY		KLK	PLANS CK'D SKH
PARAPET DETAILS UNIT 9			SHEET 25



ELEVATION

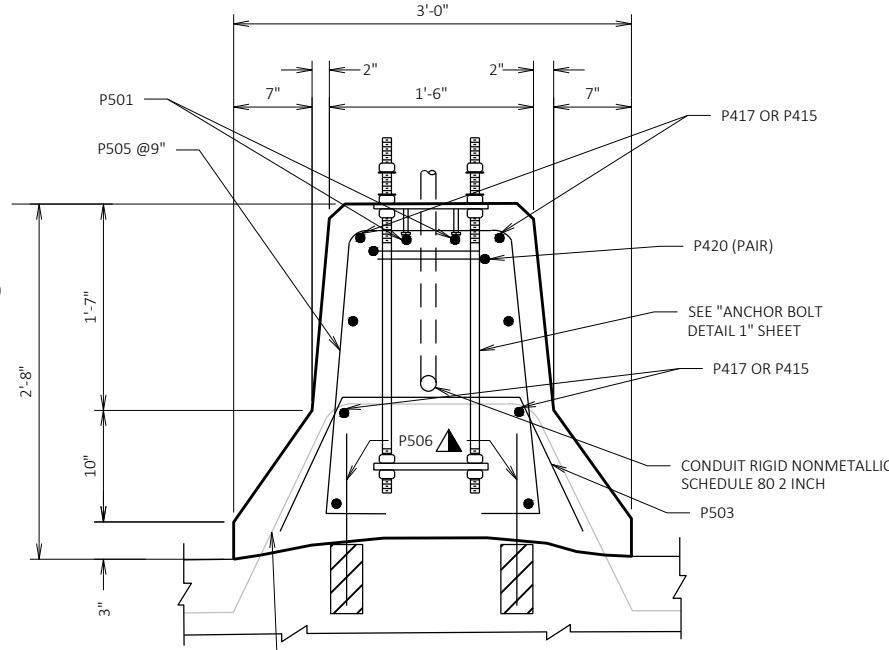
PLAN



SECTION A-A

SALVAGE EXISTING #4 BARS @ 9" SPA. AND INCORPORATE INTO NEW WORK. REPLACE DAMAGED BARS WITH P402 AND P506 BARS AS REQUIRED BY THE ENGINEER.

CONDUIT RIGID NONMETALLIC SCHEDULE 80 2 INCH



SECTION B-B

SALVAGE EXISTING #5 BARS @ 9" SPA. AND INCORPORATE INTO NEW WORK. REPLACE DAMAGED BARS WITH P503 AND P506 BARS AS REQUIRED BY THE ENGINEER.

LEGEND

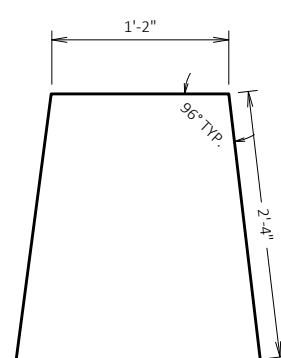
- 1" DIA. ANCHOR RODS ASTM F1554 GR 55, HEAVY HEX NUTS ASTM A563, AND WASHERS ASTM F436. ANCHOR ASSEMBLIES SHALL BE GALVANIZED PER SECTION 531 OF THE STANDARD SPECIFICATION. PROVIDE (2) WASHERS AND (7) NUTS PER ANCHOR ROD.
- ADHESIVE ANCHORS NO. 5 BAR. EMBEDDED 5 3/4" IN CONCRETE. ANCHORS SHALL BE APPROVED FOR USE IN CRACKED CONCRETE.
- 50% OF BARS ASSUMED TO BE REPLACED FOR QUANTITIES IN BILL OF BARS. ACTUAL QUANTITY OF BARS MAY VARY IN THE FIELD.
- DEFLECTION JOINT. SALVAGE EXISTING 3/8" ALUMINUM OR ZINC PLATE. FILL WITH NON-STAINING GRAY NON-BITUMINOUS JOINT SEALER (TYP.)

UNIT 10 BILL OF BARS

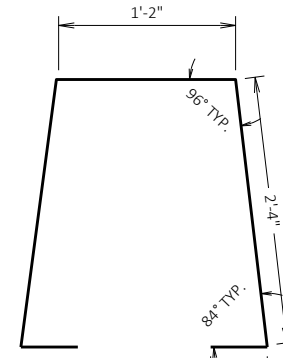
COATED TOTAL = 670 LBS

BAR MARK	NO.	LENGTH	COAT	BENT	LOCATION
P501	4	3'-6"	X		PARAPET HORIZ. - LIGHT BASE
P402	25	3'-2"	X	X	PARAPET VERT. - AS REQ'D
P503	5	3'-1"	X	X	PARAPET VERT. - AS REQ'D
P404	50	5'-8"	X	X	PARAPET VERT.
P505	10	7'-0"	X	X	PARAPET VERT. - LIGHT BASE
P506	60	1'-4"	X		PARAPET VERT. - ANCHORS
P415	8	22'-6"	X		PARAPET HORIZ. - SPAN 24
P417	8	19'-6"	X		PARAPET HORIZ. - SPAN 23
P420	4	3'-4"	X	X	PARAPET HORIZ. - LIGHT BASE

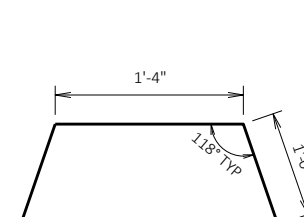
NOTES:
SEE "CONDUIT DETAILS" SHEET FOR CONDUIT AND JUNCTION BOX DETAILS



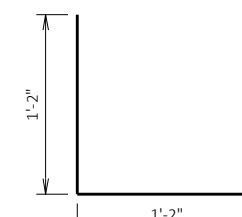
P404



P505

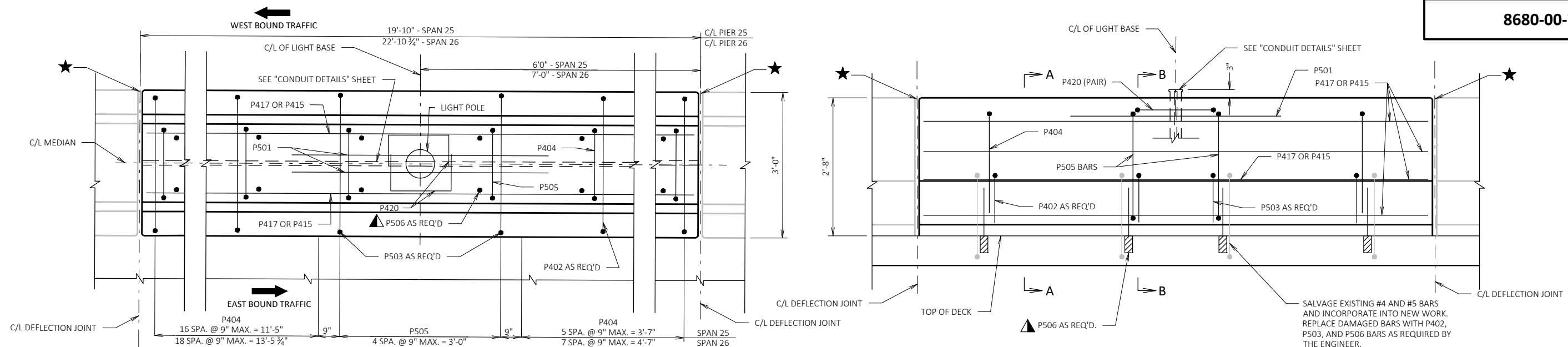


P402, P503



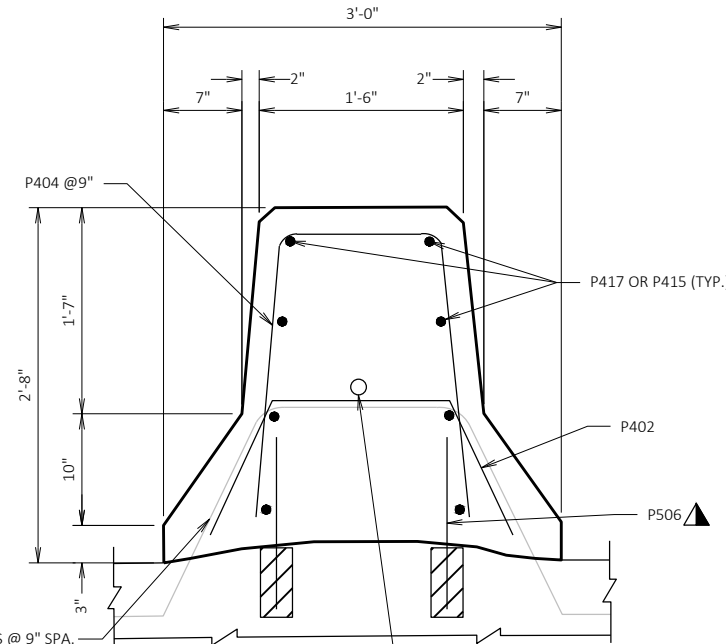
P420

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-16-38 / 69100			
DRAWN BY		KLK	PLANS CK'D SKH
PARAPET DETAILS UNIT 10			SHEET 26

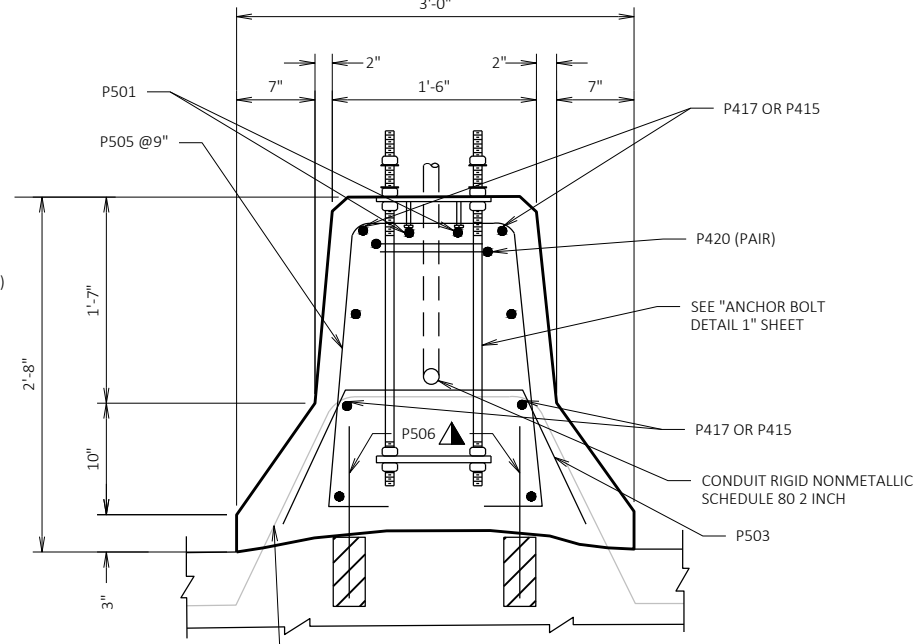


ELEVATION

PLAN



SECTION A-A



SECTION B-B

LEGEND

- 1" DIA. ANCHOR RODS ASTM F1554 GR 55, HEAVY HEX NUTS ASTM A563, AND WASHERS ASTM F436. ANCHOR ASSEMBLIES SHALL BE GALVANIZED PER SECTION 531 OF THE STANDARD SPECIFICATION. PROVIDE (2) WASHERS AND (7) NUTS PER ANCHOR ROD.
- ADHESIVE ANCHORS NO. 5 BAR, EMBEDDED 5 1/4" IN CONCRETE. ANCHORS SHALL BE APPROVED FOR USE IN CRACKED CONCRETE.
- 50% OF BARS ASSUMED TO BE REPLACED FOR QUANTITIES IN BILL OF BARS. ACTUAL QUANTITY OF BARS MAY VARY IN THE FIELD.
- DEFLECTION JOINT. SALVAGE EXISTING 3/8" ALUMINUM OR ZINC PLATE. FILL WITH NON-STAINING GRAY NON-BITUMINOUS JOINT SEALER (TYP.)

UNIT 11 BILL OF BARS

COATED TOTAL = 670 LBS

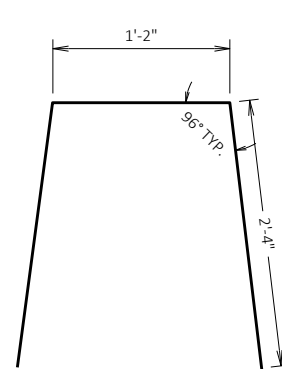
BAR MARK	NO.	LENGTH	COAT	BENT	LOCATION
P501	4	3'-6"	X		PARAPET HORIZ. - LIGHT BASE
P402	25	3'-2"	X	X	PARAPET VERT. - AS REQ'D
P503	5	3'-1"	X	X	PARAPET VERT. - AS REQ'D
P404	50	5'-8"	X	X	PARAPET VERT.
P505	10	7'-0"	X	X	PARAPET VERT. - LIGHT BASE
P506	60	1'-4"	X		PARAPET VERT. - ANCHORS
P415	8	22'-6"	X		PARAPET HORIZ. - SPAN 26
P417	8	19'-6"	X		PARAPET HORIZ. - SPAN 25
P420	4	3'-4"	X	X	PARAPET HORIZ. - LIGHT BASE

NOTES:
SEE "CONDUIT DETAILS" SHEET FOR CONDUIT AND JUNCTION BOX DETAILS

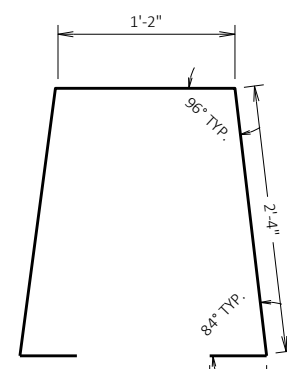
SALVAGE EXISTING #4 BARS @ 9" SPA. AND INCORPORATE INTO NEW WORK. REPLACE DAMAGED BARS WITH P402 AND P506 BARS AS REQUIRED BY THE ENGINEER.

CONDUIT RIGID NONMETALLIC SCHEDULE 80 2 INCH

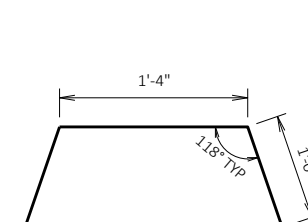
SALVAGE EXISTING #5 BARS @ 9" SPA. AND INCORPORATE INTO NEW WORK. REPLACE DAMAGED BARS WITH P503 AND P506 BARS AS REQUIRED BY THE ENGINEER.



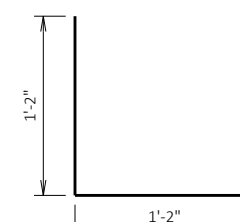
P404



P505

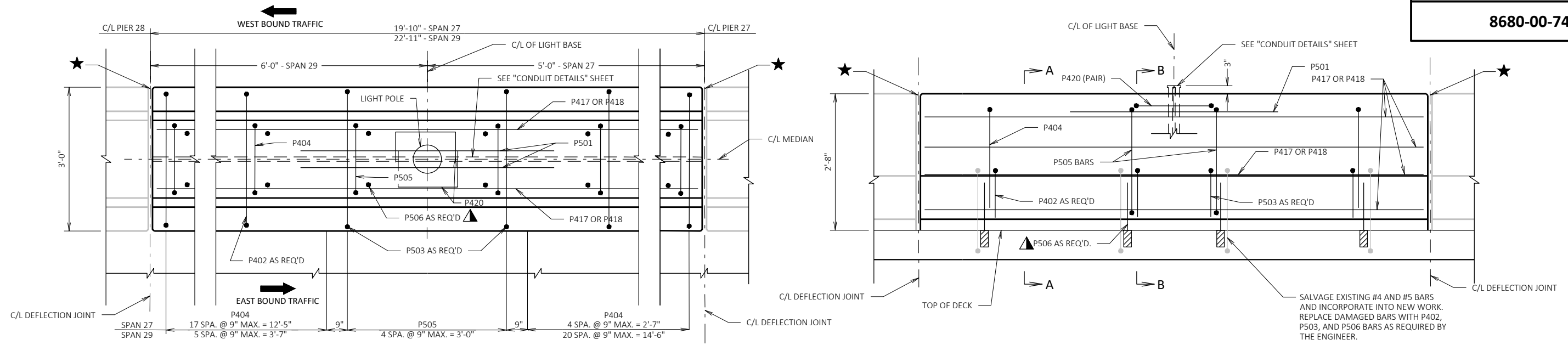


P402, P503



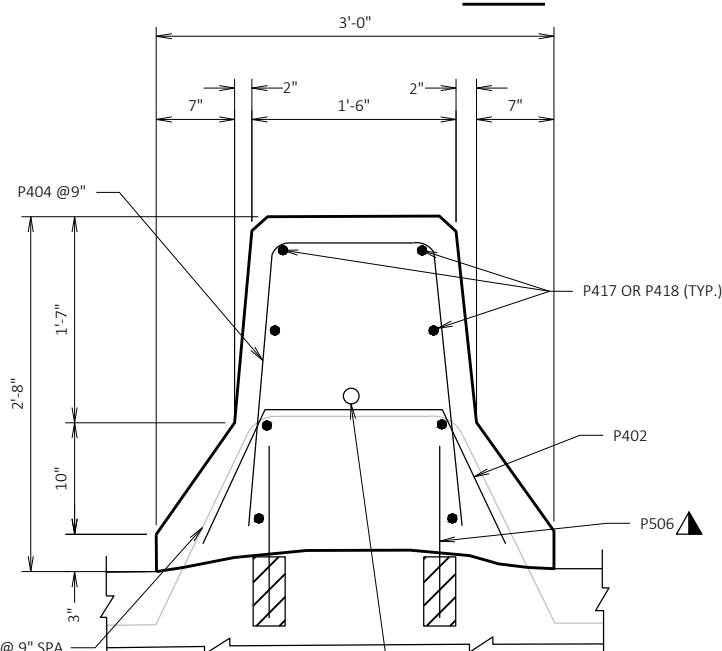
P420

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-16-38 / 69100			
DRAWN BY		PLANS CK'D	SKH
BY		KLK	SKH
PARAPET DETAILS UNIT 11			SHEET 27

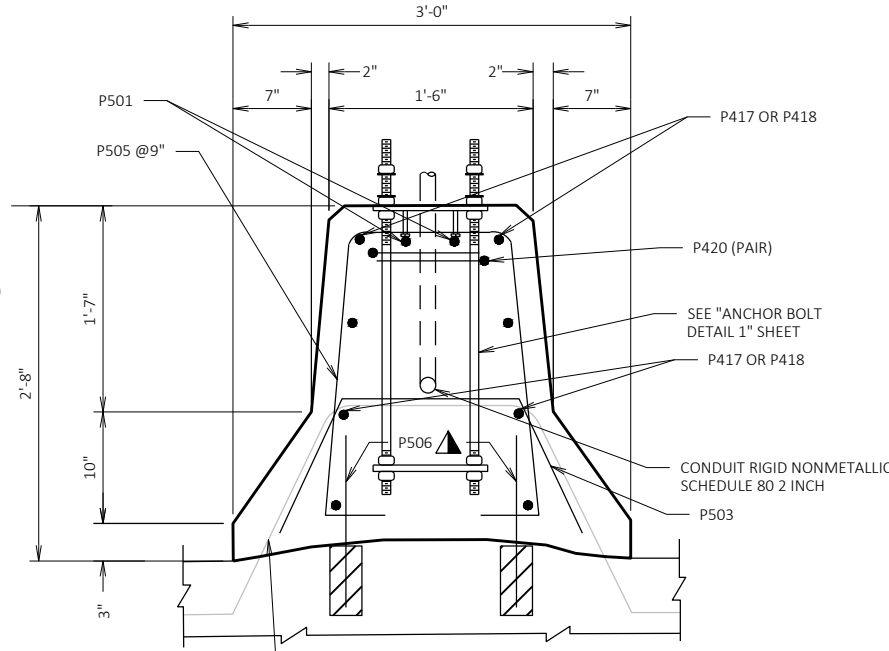


PLAN

ELEVATION



SECTION A-A



SECTION B-B

LEGEND

- 1" DIA. ANCHOR RODS ASTM F1554 GR 55, HEAVY HEX NUTS ASTM A563, AND WASHERS ASTM F436. ANCHOR ASSEMBLIES SHALL BE GALVANIZED PER SECTION 531 OF THE STANDARD SPECIFICATION. PROVIDE (2) WASHERS AND (7) NUTS PER ANCHOR ROD.
- ADHESIVE ANCHORS NO. 5 BAR. EMBEDDED 5 1/4" IN CONCRETE. ANCHORS SHALL BE APPROVED FOR USE IN CRACKED CONCRETE.
- 50% OF BARS ASSUMED TO BE REPLACED FOR QUANTITIES IN BILL OF BARS. ACTUAL QUANTITY OF BARS MAY VARY IN THE FIELD.
- DEFLECTION JOINT. SALVAGE EXISTING 1/2" ALUMINUM OR ZINC PLACE. FILL WITH NON-STAINING GRAY NON-BITUMINOUS JOINT SEALER (TYP.)

UNIT 12 BILL OF BARS

COATED TOTAL = 670 LBS

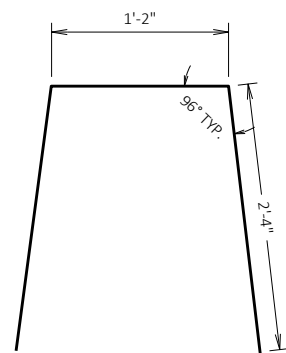
BAR MARK	NO.	LENGTH	COAT	BENT	LOCATION
P501	4	3'-6"	X		PARAPET HORIZ. - LIGHT BASE
P402	25	3'-2"	X	X	PARAPET VERT. - AS REQ'D
P503	5	3'-1"	X	X	PARAPET VERT. - AS REQ'D
P404	50	5'-8"	X	X	PARAPET VERT.
P505	10	7'-0"	X	X	PARAPET VERT. - LIGHT BASE
P506	60	1'-4"	X		PARAPET VERT. - ANCHORS
P417	8	19'-6"	X		PARAPET HORIZ. - SPAN 27
P418	8	22'-7"	X		PARAPET HORIZ. - SPAN 29
P420	4	3'-4"	X	X	PARAPET HORIZ. - LIGHT BASE

NOTES:
SEE "CONDUIT DETAILS" SHEET FOR CONDUIT AND JUNCTION BOX DETAILS

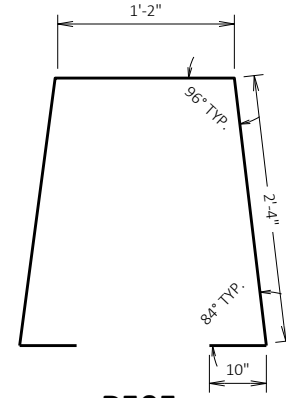
SALVAGE EXISTING #4 BARS @ 9" SPA. AND INCORPORATE INTO NEW WORK. REPLACE DAMAGED BARS WITH P402 AND P506 BARS AS REQUIRED BY THE ENGINEER.

CONDUIT RIGID NONMETALLIC SCHEDULE 80 2 INCH

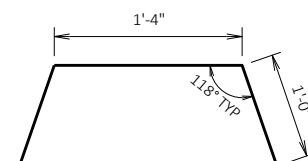
SALVAGE EXISTING #5 BARS @ 9" SPA. AND INCORPORATE INTO NEW WORK. REPLACE DAMAGED BARS WITH P503 AND P506 BARS AS REQUIRED BY THE ENGINEER.



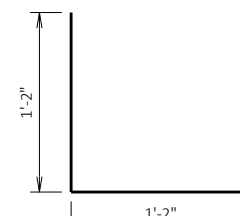
P404



P505

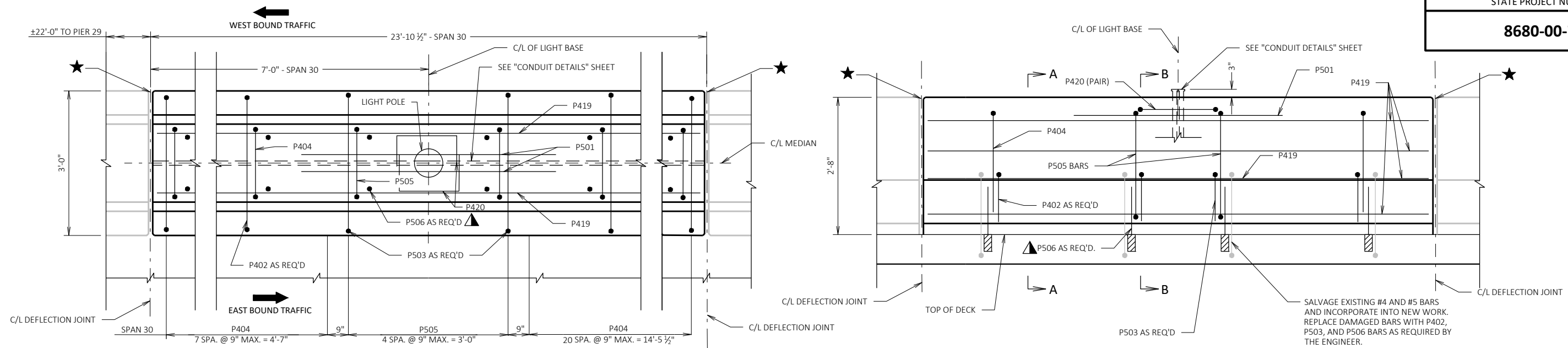


P402, P503



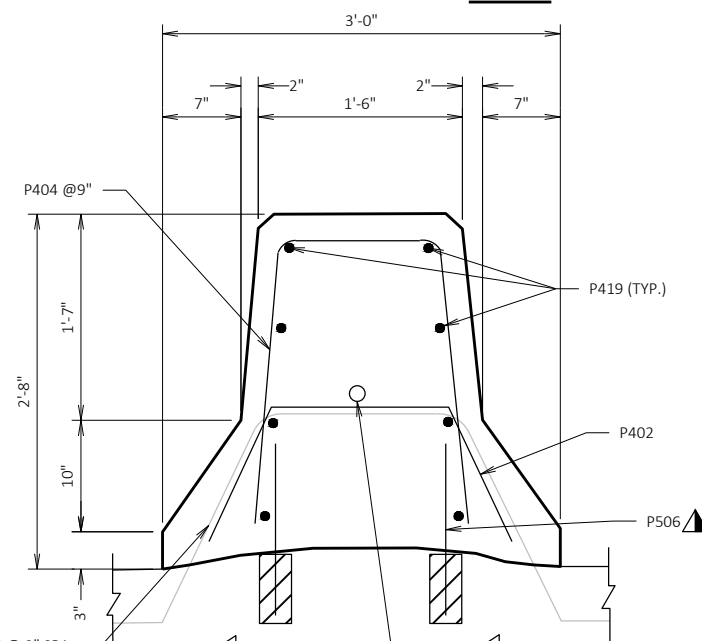
P420

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-16-38 / 69100			
DRAWN BY		PLANS CK'D	SKH
BY		KLK	SKH
PARAPET DETAILS UNIT 12			SHEET 28

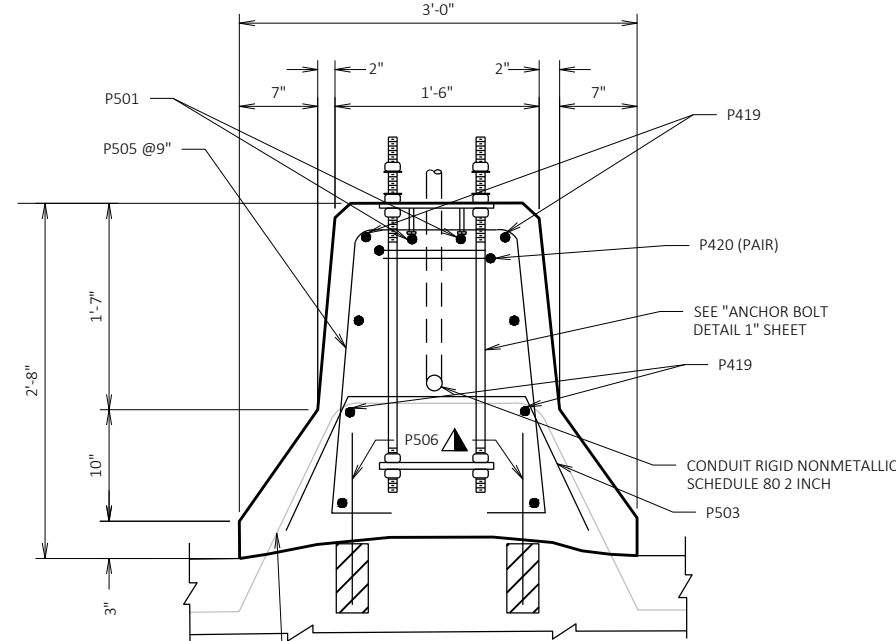


ELEVATION

PLAN



SECTION A-A



SECTION B-B

LEGEND

- 1" DIA. ANCHOR RODS ASTM F1554 GR 55, HEAVY HEX NUTS ASTM A563, AND WASHERS ASTM F436. ANCHOR ASSEMBLIES SHALL BE GALVANIZED PER SECTION 531 OF THE STANDARD SPECIFICATION. PROVIDE (2) WASHERS AND (7) NUTS PER ANCHOR ROD.
- ADHESIVE ANCHORS NO. 5 BAR. EMBEDDED 5 1/2" IN CONCRETE. ANCHORS SHALL BE APPROVED FOR USE IN CRACKED CONCRETE.
- 50% OF BARS ASSUMED TO BE REPLACED FOR QUANTITIES IN BILL OF BARS. ACTUAL QUANTITY OF BARS MAY VARY IN THE FIELD.
- DEFLECTION JOINT. SALVAGE EXISTING 3/8" ALUMINUM OR ZINC PLATE. FILL WITH NON-STAINING GRAY NON-BITUMINOUS JOINT SEALER (TYP.)

UNIT 13 BILL OF BARS

COATED TOTAL = 380 LBS

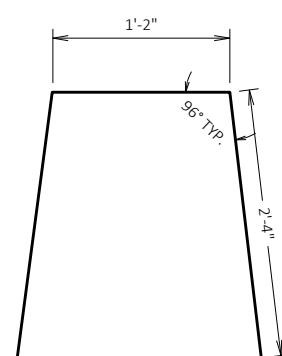
BAR MARK	NO.	LENGTH	COAT	BENT	LOCATION
P501	2	3'-6"	X		PARAPET HORIZ. - LIGHT BASE
P402	15	3'-2"	X	X	PARAPET VERT. - AS REQ'D
P503	3	3'-1"	X	X	PARAPET VERT. - AS REQ'D
P404	29	5'-8"	X	X	PARAPET VERT.
P505	5	7'-0"	X	X	PARAPET VERT. - LIGHT BASE
P506	34	1'-4"	X		PARAPET VERT. - ANCHORS
P419	8	23'-6"	X		PARAPET HORIZ. - SPAN 30
P420	2	3'-4"	X	X	PARAPET HORIZ. - LIGHT BASE

NOTES:
SEE "CONDUIT DETAILS" SHEET FOR CONDUIT AND JUNCTION BOX DETAILS

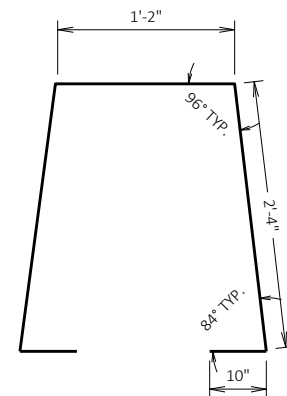
SALVAGE EXISTING #4 BARS @ 9" SPA. AND INCORPORATE INTO NEW WORK. REPLACE DAMAGED BARS WITH P402 AND P506 BARS AS REQUIRED BY THE ENGINEER.

CONDUIT RIGID NONMETALLIC SCHEDULE 80 2 INCH

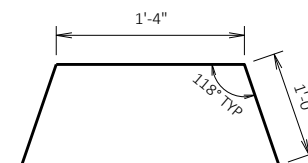
SALVAGE EXISTING #5 BARS @ 9" SPA. AND INCORPORATE INTO NEW WORK. REPLACE DAMAGED BARS WITH P503 AND P506 BARS AS REQUIRED BY THE ENGINEER.



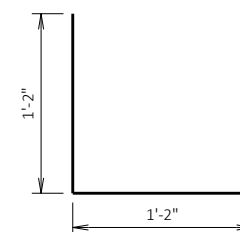
P404



P505

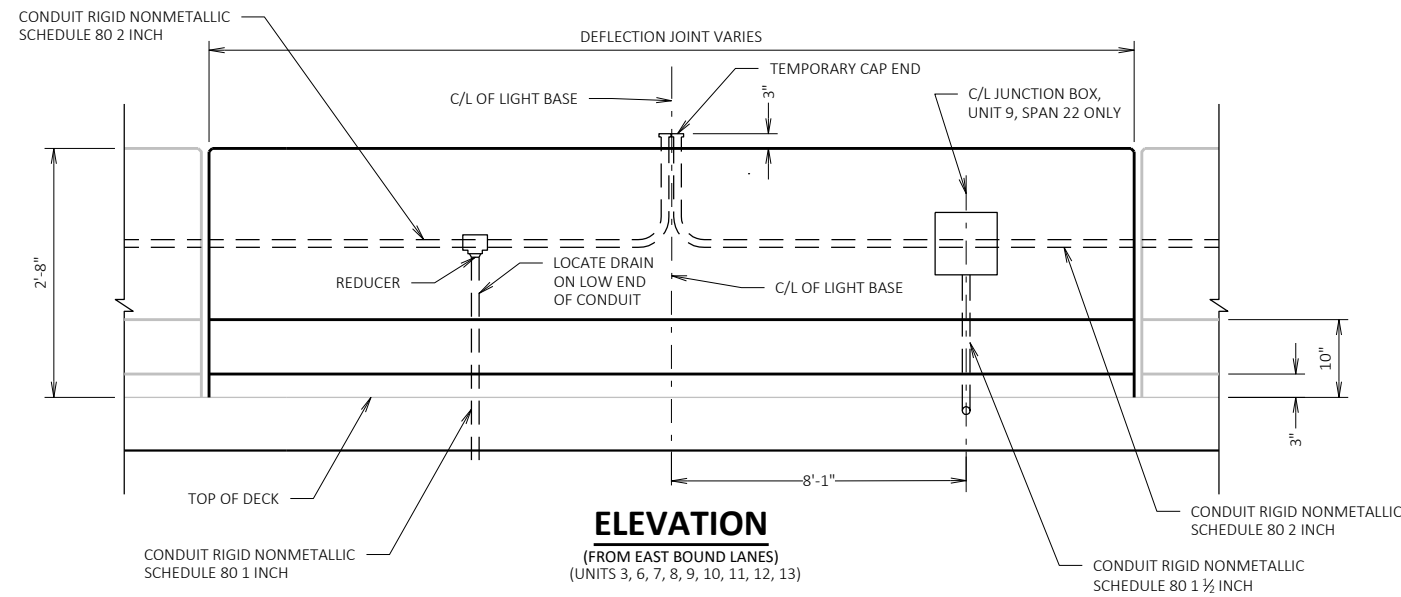


P402, P503

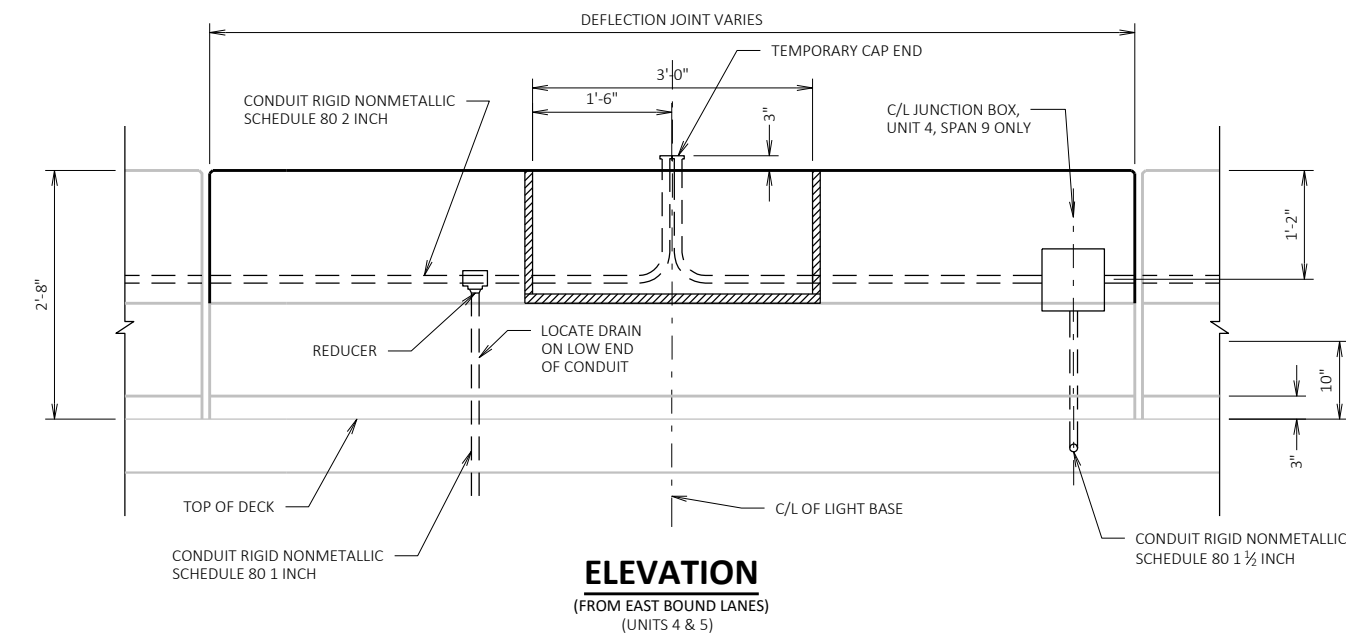


P420

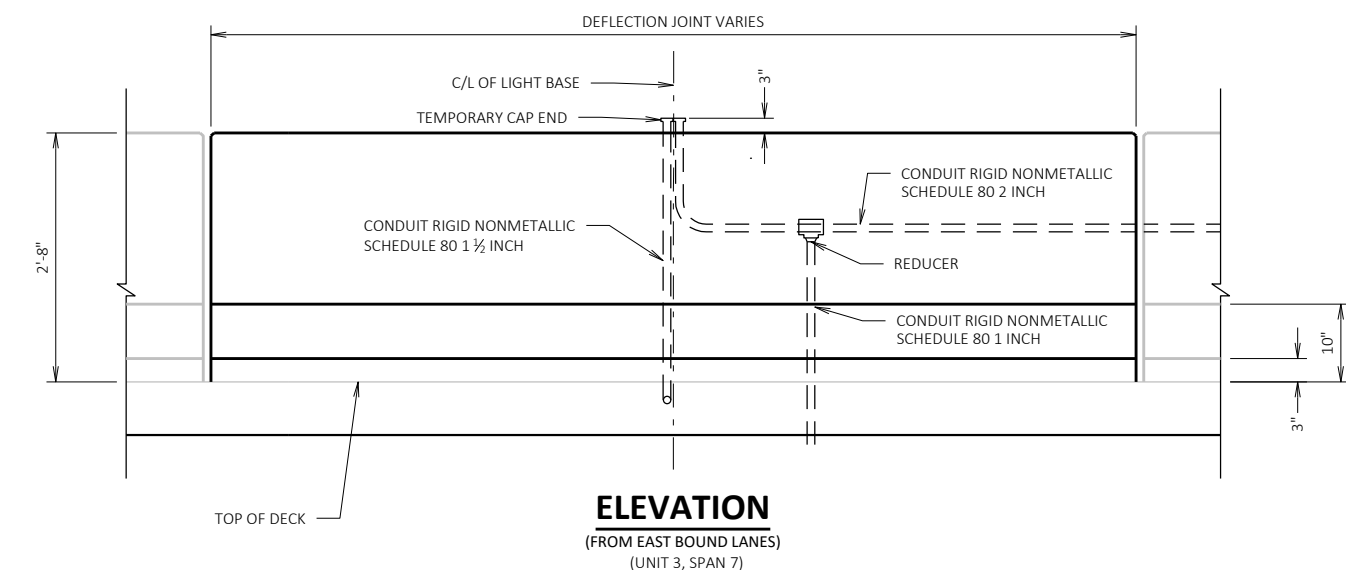
NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-16-38 / 69100			
DRAWN BY		KLK	PLANS CK'D SKH
PARAPET DETAILS UNIT 13			SHEET 29



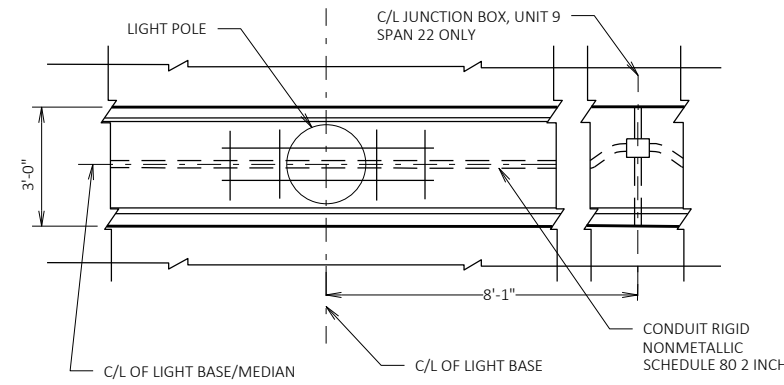
ELEVATION
(FROM EAST BOUND LANES)
(UNITS 3, 6, 7, 8, 9, 10, 11, 12, 13)



ELEVATION
(FROM EAST BOUND LANES)
(UNITS 4 & 5)

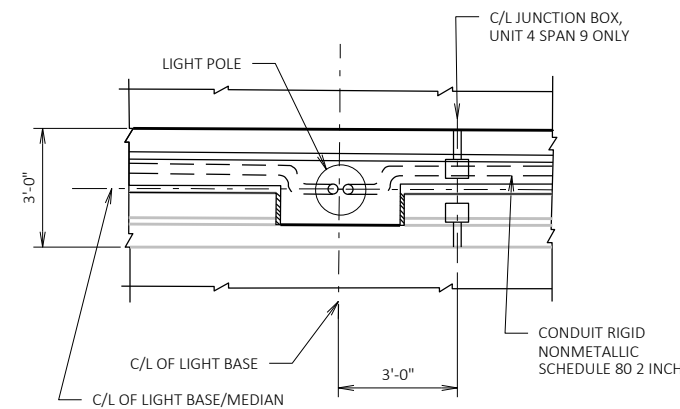


ELEVATION
(FROM EAST BOUND LANES)
(UNIT 3, SPAN 7)



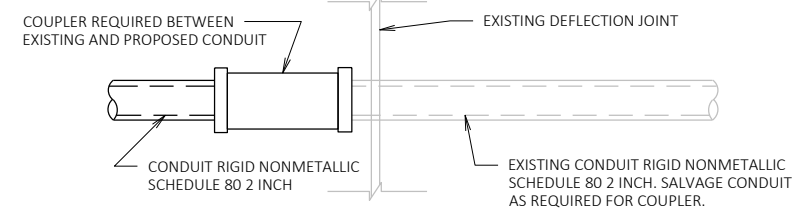
PLAN AT SOLID MEDIAN BARRIER

(UNITS 3, 6, 7, 8, 9, 10, 11, 12, 13)



PLAN AT SEPARATED MEDIAN BARRIER

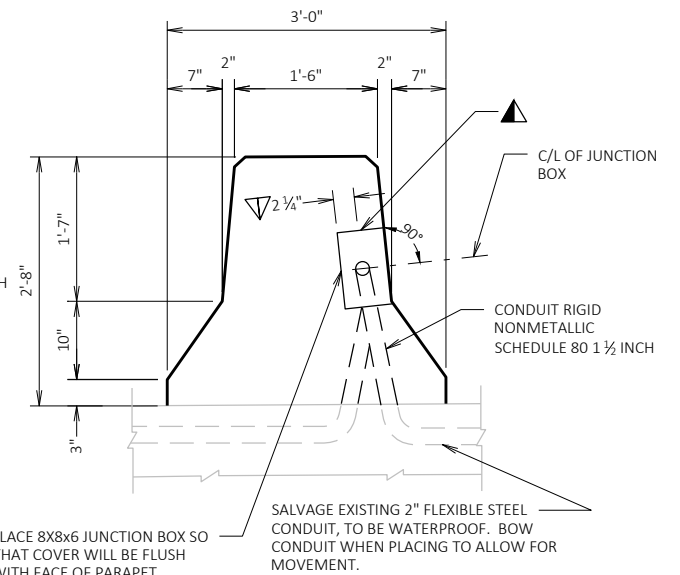
(UNITS 4 & 5)



COUPLER DETAILS

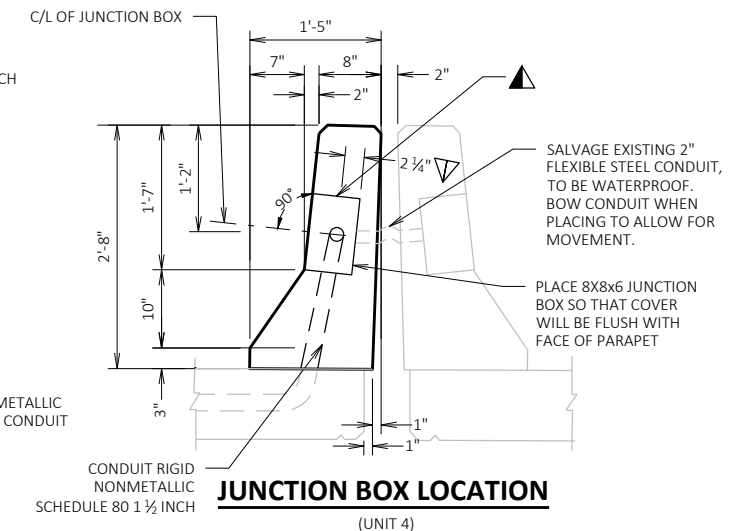
NOTES

CONDUIT SHALL BE EMBEDDED 2" CLEAR.
USE 2" DIA. RIGID NONMETALLIC CONDUIT (PVC) UNLESS NOTED OTHERWISE.
CONDUIT FITTINGS, CONDUIT BENDS, AND ADAPTER FITTINGS INCIDENTAL TO CONDUIT WORK.
CONDUIT BENDS SHALL CONFORM TO THE NATIONAL ELECTRIC CODE.
PROVIDE JUNCTION BOXES FROM THE APPROVED PRODUCT LIST.



JUNCTION BOX LOCATION

(UNIT 9)



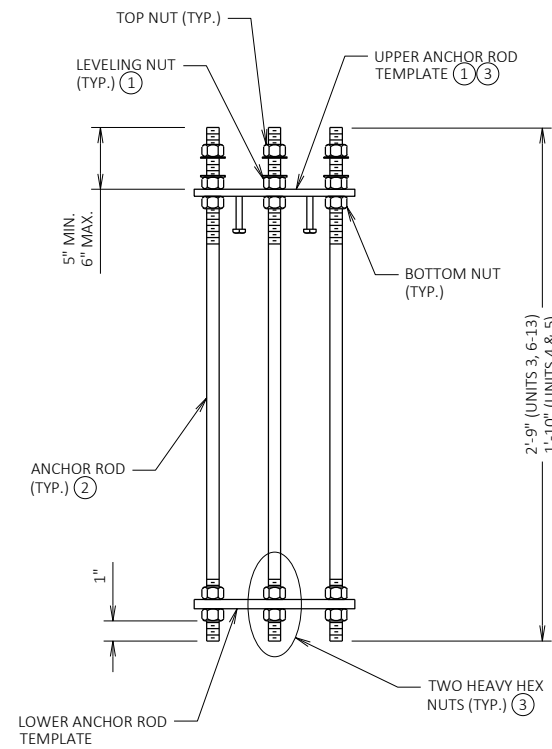
JUNCTION BOX LOCATION

(UNIT 4)

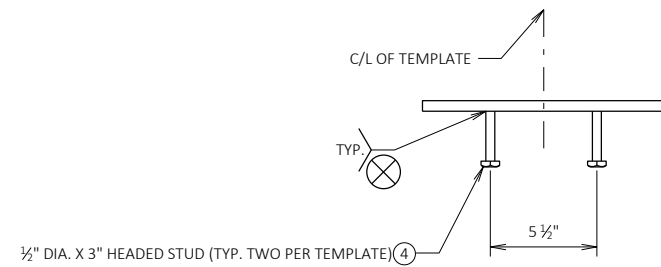
LEGEND

- ▲ 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.

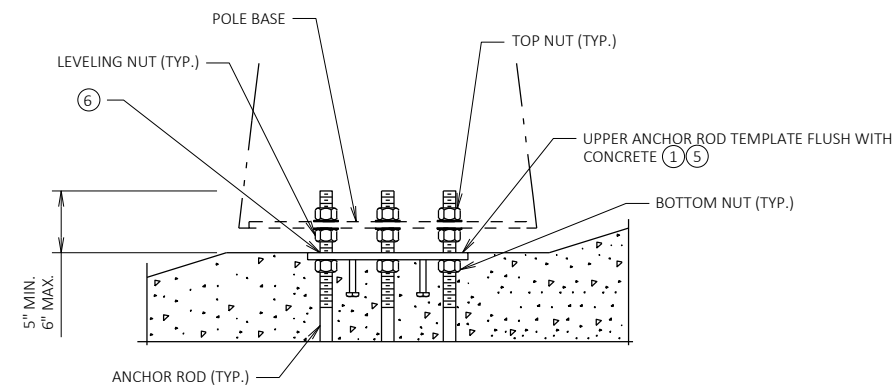
NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-16-38 / 69100			
DRAWN BY		KLK	PLANS CK'D SKH
CONDUIT DETAILS			SHEET 30



ANCHOR ROD ASSEMBLY



ELEVATION VIEW
UPPER ANCHOR ROD TEMPLATE



PARTIAL ELEVATION

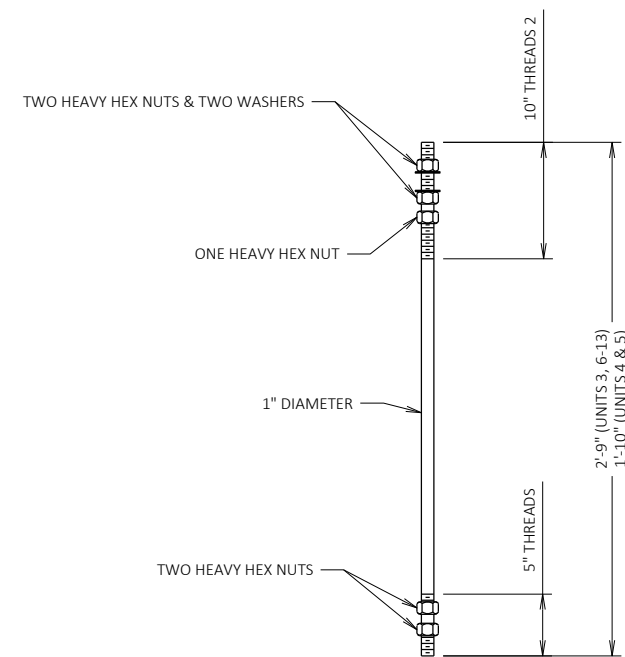
(SHOWING ANCHOR ROD ASSEMBLY & HEX NUT POSITIONS AFTER POLE INSTALLATION)

NOTES:

- INSTALL ANCHOR ROD ASSEMBLY PLUMB WITH UPPER ANCHOR ROD TEMPLATE LEVEL AND EMBEDDED IN CONCRETE AS SHOWN IN PARTIAL ELEVATION.
- PROTECT ANCHOR ROD THREADS AND LEVELING NUTS ABOVE THE UPPER ANCHOR ROD TEMPLATE FROM CONCRETE CONTAMINATION.
- FURNISH AND INSTALL GALVANIZED COMPONENTS OF ANCHOR ASSEMBLIES IN ACCORDANCE WITH STANDARD SPEC 531.
- TACK WELDING IS PROHIBITED.
- ALL ITEMS SHOWN ARE INCLUDED IN BID ITEM "ANCHOR ASSEMBLIES POLES ON STRUCTURES."

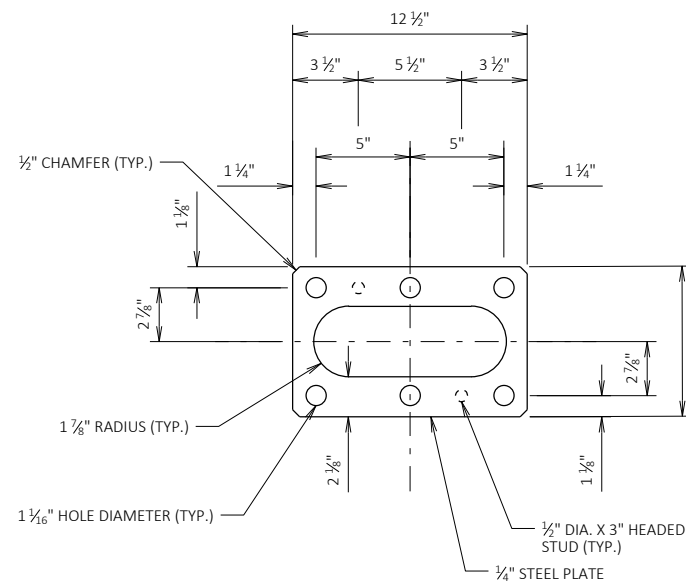
LEGEND

- ① TEMPORARILY SECURE THE UPPER ANCHOR ROD TEMPLATE WITH THE LEVELING NUTS BEFORE CONCRETE PLACEMENT. AFTER CONCRETE PLACEMENT, LEAVE LEVELING NUTS SECURED AGAINST THE TEMPLATE UNTIL THE CLEANING AND LUBRICATING OF THE ANCHOR ROD CONNECTIONS BEFORE POLE PLACEMENT IS INITIATED.
- ② PROTECT ANCHOR ROD THREADS AND LEVELING NUTS ABOVE THE UPPER ANCHOR ROD TEMPLATE FROM CONCRETE CONTAMINATION.
- ③ USE A 12" LONG WRENCH TO SNUG TIGHTEN NUTS PULLING THE HANDLE WITH ONE ARM IN ONE SMOOTH MOTION.
- ④ HEADED STUDS IN ACCORDANCE WITH STANDARD SPEC 506 ON UPPER ANCHOR ROD TEMPLATE ONLY.
- ⑤ LOCALLY ADJUST TOP-OF-BARRIER PROFILE AS REQUIRED TO PROVIDE A LEVEL ANCHOR ROD TEMPLATE PLACEMENT.
- ⑥ REMOVE SURFACE CONTAMINANTS AND APPLY SILICONE JOINT SEALER TO THE UPPER TEMPLATE AROUND THE ANCHOR RODS AND ANCHOR ROD HOLES, AND THE INNER AND OUTER EDGES WHERE THE PLATE MEETS CONCRETE. USE AN APPROVED SILICONE JOINT SEALANT FOUND ON MnDOT'S APPROVED /QUALIFIED PRODUCTS LIST UNDER BRIDGE PRODUCTS.



ANCHOR ROD & HARDWARE

SIX REQUIRED PER ASSEMBLY



ANCHOR ROD TEMPLATE

TWO REQUIRED PER ASSEMBLY

8

8

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-16-38 / 69100			
DRAWN BY		PLANS CK'D	SKH
BY		KLK	SKH
ANCHOR BOLT DETAIL			SHEET 31



Wisconsin Department of Transportation

Dedicated people creating transportation solutions through innovation and exceptional service.

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