

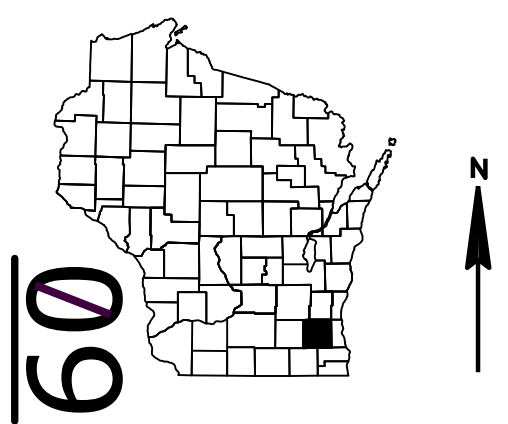
WKE
 PROJECT ID: 2025-15-71
 WITH: N/A
 COUNTY: WAUKESHA

AUGUST 2022

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 = 92



DESIGN DESIGNATION COUNTY YY

A.A.D.T.	2018	=	13,100
A.A.D.T.	2038	=	15,200
D.H.V.		=	1,733
D.D.		=	59/41
T.		=	4.1%
DESIGN SPEED		=	40 MPH
ESALS		=	N/A

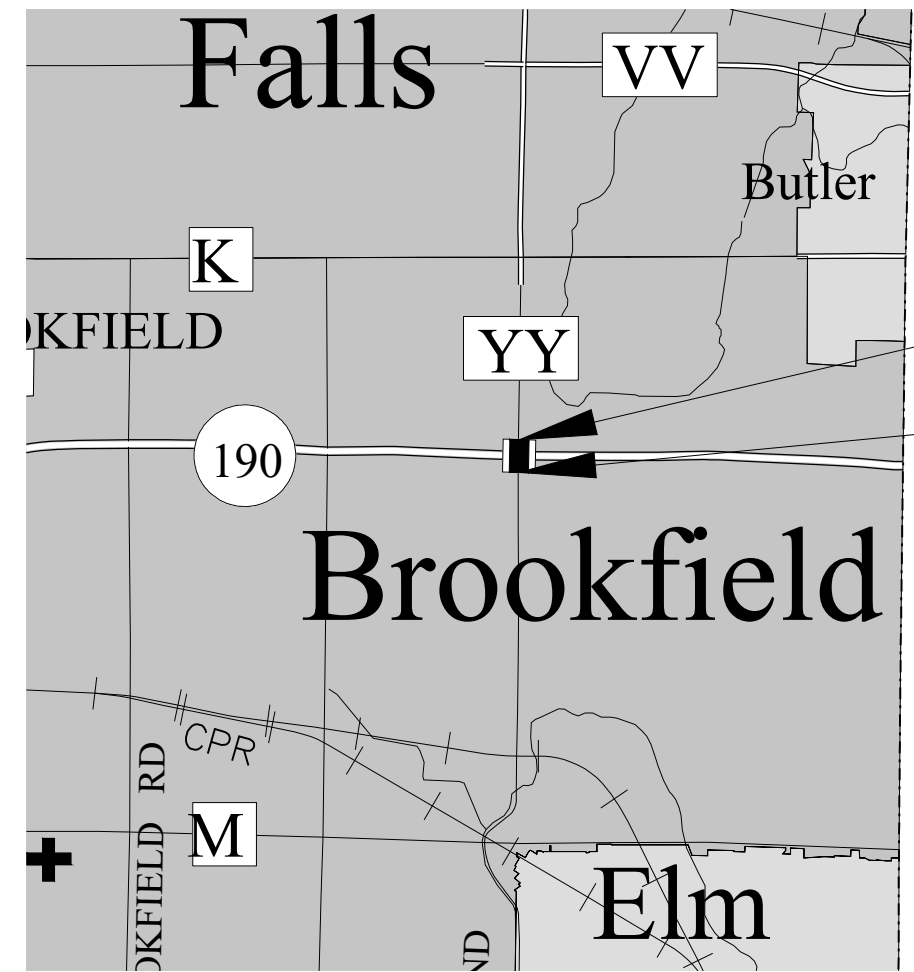
CONVENTIONAL SYMBOLS

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

STATE OF WISCONSIN
 DEPARTMENT OF TRANSPORTATION
 PLAN OF PROPOSED IMPROVEMENT
 PEWAUKEE TO MILWAUKEE
 PILGRIM RD/CAPITOL DR B-67-0086
 CTH YY
 WAUKESHA COUNTY

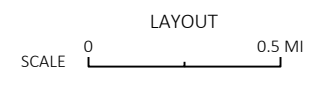
STATE PROJECT NUMBER
 2025-15-71

R-20-E



END PROJECT
 STA 20YY+61.49

BEGIN PROJECT
 STA 18YY+62.49



TOTAL NET LENGTH OF CENTERLINE = 0.037 MI

HORIZONTAL POSITIONS SHOWN ON THIS PLAN ARE WISCONSIN COORDINATE REFERENCE SYSTEM (WISCRS), WAUKESHA COUNTY NAD83 (2011), 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 PROJECT	FEDERAL PROJECT	
	PROJECT	CONTRACT
2025-15-71		

STRUCTURE SUMMARY TABLE

BRIDGES
 B-67-86

ORIGINAL PLANS PREPARED BY

HNTB 250 E. WISCONSIN AVE
 MILWAUKEE, WI 53202
 (414) 359-2300

WISCONSIN PROFESSIONAL ENGINEER
 DANIEL BAUMANN
 E-45498
 MILWAUKEE WI

6/7/2022 (Date) [Signature] (Signature)

STATE OF WISCONSIN
 DEPARTMENT OF TRANSPORTATION

Prepared By	WISDOT
Designer	HNTB CORP.
Project Manager	PAT CASHIN
Regional Examiner	WISDOT SE REGION
Regional Supervisor	JANET CANNON

APPROVED FOR THE DEPARTMENT
 DATE: 6/07/2022 [Signature] (Signature)

STANDARD ABBREVIATIONS

Table with 4 columns: Abbreviation, Description, Abbreviation, Description. Includes terms like AP (ACCESS POINT), AC (ACRE), ADJ (ADJUST), etc.

GENERAL NOTES

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

ORDER OF SECTION 2 SHEETS

GENERAL NOTES
PROJECT OVERVIEW
PERMANENT SIGNING
TRAFFIC CONTROL
DETOUR ROUTE
ALIGNMENT PLAN
NOTE
PAVEMENT MARKINGS SHOWN ON SECTION 5 PLAN SHEET

UTILITY CONTACTS

AT&T WISCONSIN - COMMUNICATIONS

NATHAN GILBERT
411 7TH STREET
RACINE, WI 53403
PHONE: (262) 720-8235
ng952w@att.com

WE ENERGIES - ELECTRIC

ERIC KICKHAVER
500 S 116TH ST
WEST ALLIS, WI 53214
PHONE: (414) 994-5971
DISPATCH: (800) 662-4797
Eric.Kickhaver@we-energies.com

EVERSTREAM - COMMUNICATION

SHAD GARCIA
324 E WISCONSIN AVE, SUITE 730
MILWAUKEE, WI 53202
PHONE: (414) 522-6685
sgarcia@everstream.net

BROOKFIELD WATER UTILITY - WATER

JASON HERZOG
2000 N. CALHOUN RD
BROOKFIELD, WI 53005
PHONE: (262) 787-3541
Herzog@ci.brookfield.wi.us

WE ENERGIES - GAS/PETROLEUM

JOE WOOD
S13 W33800 US 18
DELAFIELD, WI 53018
PHONE: (262) 365-6413
DISPATCH: (800) 261-5325
Joseph.Wood@we-energies.com

SPECTRUM - COMMUNICATION

NEIL LONG
1320 N DR MARTIN LUTHER KING DR
MILWAUKEE, WI 53212
PHONE: (414) 430-7189
Neil.long@charter.com

CITY OF BROOKFIELD - SEWER

JASON HERZOG
2000 N. CALHOUN RD
BROOKFIELD, WI 53005
PHONE: (262) 787-3541
Herzog@ci.brookfield.wi.us

LEVEL 3 COMMUNICATIONS - COMMUNICATION

BRAHIM GADDOUR
32353 INTERTECH DR
BROOKFIELD, WI 53045
brahim.gaddour@lumen.com

OTHER CONTACTS

WISDOT REGION CONTACT

JANET CANNON
141 NW BARSTOW ST
WAUKESHA, WI 53188
PHONE: (262) 347-5323
janet.cannon@dot.wi.gov

WISDNR CONTACT

CRAIG WEBSTER
141 NW BARSTOW ST, ROOM 180
WAUKESHA, WI 53188
PHONE: (262) 574-2141
craig.webster@wisconsin.gov

WAUKESHA COUNTY

KAREN BRAUN
515 W MORELAND BLVD
WAUKESHA, WI 53188
PHONE: (262) 548-7740
kbraun@waukeshacounty.gov

WISDOT SIGNALS

JOYCE MURPHY
141 NW BARSTOW ST
WAUKESHA, WI 53188
PHONE: (262) 548-933
joyce.murphy@dot.wi.gov

SEWRPC

ROB MERRY
W239 N1812 ROCKWOOD DR
P.O. BOX 1607
WAUKESHA, WI 53187-1607
PHONE: (262) 953-4289
CELL: (920) 912-1036
rmerry@sewrpc.org

CITY OF BROOKFIELD - ROAD FACILITY

JASON HERZOG
2000 N. CALHOUN RD
BROOKFIELD, WI 53005
PHONE: (262) 787-3541
Herzog@ci.brookfield.wi.us



Dial 811 or (800)242-8511

www.DiggersHotline.com

CITY OF BROOKFIELD



R/L STH 190 (CAPITOL DRIVE)

STH 190 EB OFF-RAMP

STH 190 EB ON-RAMP

BEGIN PROJECT
STA 18+62.49
Y=189,541.759
X=716,825.545

B-67-86

R/L PILGRIM ROAD (CTH YY)

PILGRIM ROAD (CTH YY)

WASHINGTON DRIVE

15YY

20YY

25YY

END PROJECT
STA 20+61.49

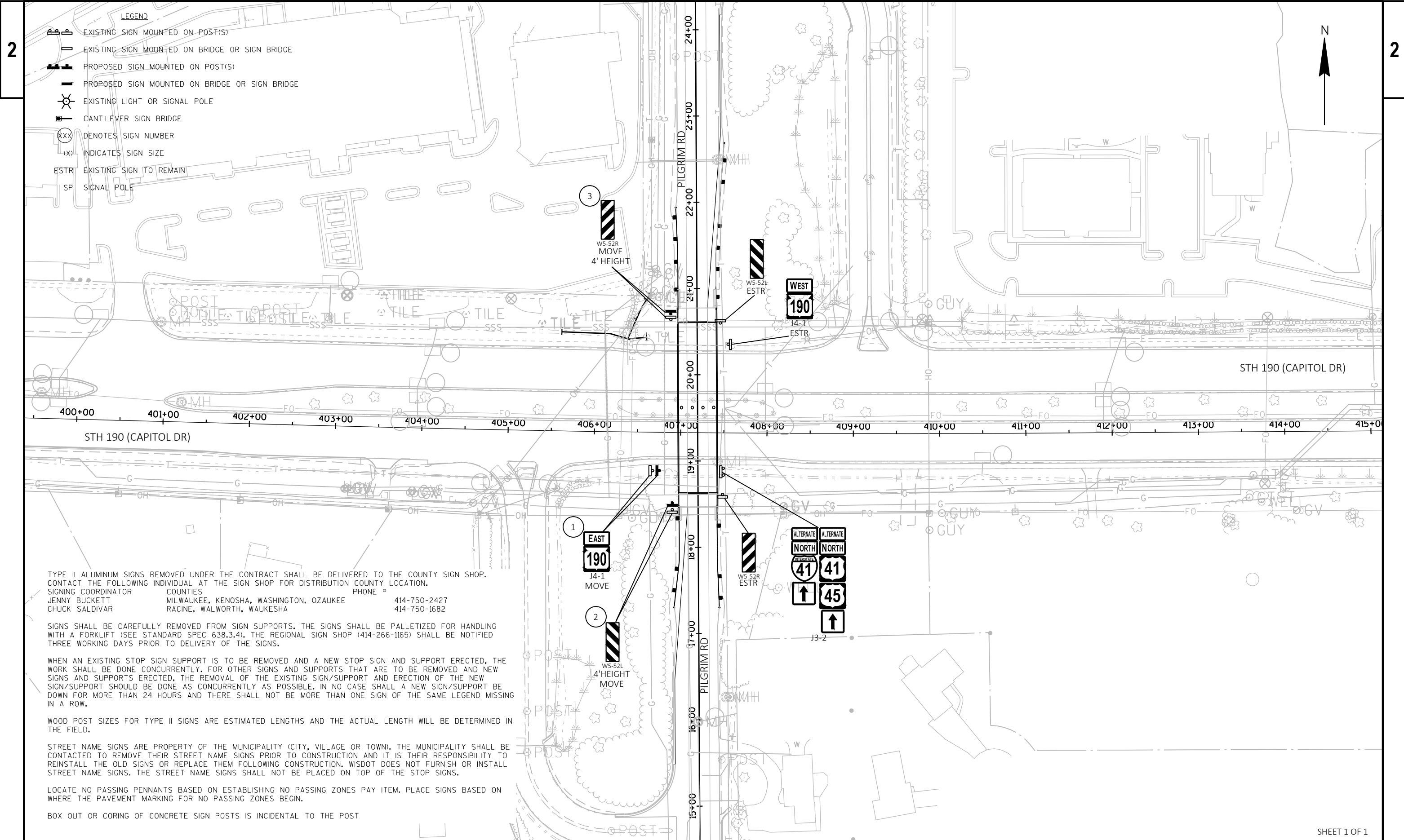
WETLAND BOUNDARY (TYP.)

STH 190 WB ON-RAMP

STH 190 WB OFF-RAMP

STH 190 (CAPITOL DRIVE)

410



2

2

- LEGEND**
- EXISTING SIGN MOUNTED ON POST(S)
 - EXISTING SIGN MOUNTED ON BRIDGE OR SIGN BRIDGE
 - PROPOSED SIGN MOUNTED ON POST(S)
 - PROPOSED SIGN MOUNTED ON BRIDGE OR SIGN BRIDGE
 - EXISTING LIGHT OR SIGNAL POLE
 - CANTILEVER SIGN BRIDGE
 - DENOTES SIGN NUMBER
 - INDICATES SIGN SIZE
 - ESTR EXISTING SIGN TO REMAIN
 - SP SIGNAL POLE



TYPE II ALUMINUM SIGNS REMOVED UNDER THE CONTRACT SHALL BE DELIVERED TO THE COUNTY SIGN SHOP. CONTACT THE FOLLOWING INDIVIDUAL AT THE SIGN SHOP FOR DISTRIBUTION COUNTY LOCATION.

SIGNING COORDINATOR	COUNTIES	PHONE #
JENNY BUCKETT	MILWAUKEE, KENOSHA, WASHINGTON, OZAUKEE	414-750-2427
CHUCK SALDIVAR	RACINE, WALWORTH, WAUKESHA	414-750-1682

SIGNS SHALL BE CAREFULLY REMOVED FROM SIGN SUPPORTS. THE SIGNS SHALL BE PALLETIZED FOR HANDLING WITH A FORKLIFT (SEE STANDARD SPEC 638.3.4). THE REGIONAL SIGN SHOP (414-266-1165) SHALL BE NOTIFIED THREE WORKING DAYS PRIOR TO DELIVERY OF THE SIGNS.

WHEN AN EXISTING STOP SIGN SUPPORT IS TO BE REMOVED AND A NEW STOP SIGN AND SUPPORT ERECTED, THE WORK SHALL BE DONE CONCURRENTLY. FOR OTHER SIGNS AND SUPPORTS THAT ARE TO BE REMOVED AND NEW SIGNS AND SUPPORTS ERECTED, THE REMOVAL OF THE EXISTING SIGN/SUPPORT AND ERECTION OF THE NEW SIGN/SUPPORT SHOULD BE DONE AS CONCURRENTLY AS POSSIBLE. IN NO CASE SHALL A NEW SIGN/SUPPORT BE DOWN FOR MORE THAN 24 HOURS AND THERE SHALL NOT BE MORE THAN ONE SIGN OF THE SAME LEGEND MISSING IN A ROW.

WOOD POST SIZES FOR TYPE II SIGNS ARE ESTIMATED LENGTHS AND THE ACTUAL LENGTH WILL BE DETERMINED IN THE FIELD.

STREET NAME SIGNS ARE PROPERTY OF THE MUNICIPALITY (CITY, VILLAGE OR TOWN). THE MUNICIPALITY SHALL BE CONTACTED TO REMOVE THEIR STREET NAME SIGNS PRIOR TO CONSTRUCTION AND IT IS THEIR RESPONSIBILITY TO REINSTALL THE OLD SIGNS OR REPLACE THEM FOLLOWING CONSTRUCTION. WISDOT DOES NOT FURNISH OR INSTALL STREET NAME SIGNS. THE STREET NAME SIGNS SHALL NOT BE PLACED ON TOP OF THE STOP SIGNS.

LOCATE NO PASSING PENNANTS BASED ON ESTABLISHING NO PASSING ZONES PAY ITEM. PLACE SIGNS BASED ON WHERE THE PAVEMENT MARKING FOR NO PASSING ZONES BEGIN.

BOX OUT OR CORING OF CONCRETE SIGN POSTS IS INCIDENTAL TO THE POST

LEGEND (TEMPORARY MARKING)

- 1 TEMPORARY MARKING LINE REMOVABLE TAPE 4-INCH (DOUBLE YELLOW)
- 2 TEMPORARY MARKING LINE REMOVABLE TAPE 4-INCH (WHITE)
- 3 TEMPORARY MARKING LINE REMOVABLE TAPE 8-INCH (WHITE)
- 4 TEMPORARY MARKING LINE REMOVABLE TAPE 4-INCH (3' LINE/9' GAP) (WHITE)
- 5 TEMPORARY MARKING LINE REMOVABLE TAPE 8-INCH (3' LINE/9' GAP) (WHITE)
- 6 TEMPORARY MARKING REMOVABLE MASK OUT TAPE 6-INCH
- 7 TEMPORARY MARKING REMOVABLE MASK OUT TAPE 10-INCH

END ROAD WORK
G20-2A
48"X24"



EXISTING MARKING LINE EPOXY 4-INCH (DOUBLE YELLOW) TO REMAIN

EXISTING MARKING LINE EPOXY 4-INCH (DOUBLE YELLOW) TO REMAIN

EXISTING MARKING LINE EPOXY 8-INCH TO REMAIN

PILGRIM ROAD (CTH YY)

EXISTING MARKING LINE EPOXY 4-INCH TO REMAIN

11YY

12YY

13YY

14YY

15YY

16

YY+25.00
12.00'RT

YY+49.08
-12.00'LT

YY+87.00
-28.00'LT

YY+86.96
-16.12'LT

BEGIN TEMPORARY MARKING
REMOVABLE MASK OUT TAPE

25' (TYP.)

500'

500'



MIDLAND DRIVE

DR



LEGEND (TRAFFIC CONTROL)

- DRUM
- DRUM WITH WARNING LIGHT TYPE C
- FLEXIBLE TUBULAR MARKER
- ▬ SIGN ON PERMANENT SUPPORT
- ▬ SIGN ON TEMPORARY SUPPORT
- ▬ BARRICADE TYPE III WITH SIGN & 2 TYPE A LIGHTS
- ⚡ FLASHING ARROW BOARD
- MB SIGN PCMS
- ➔ FLOW OF TRAFFIC
- ▨ WORK ZONE
- ▬ CONCRETE BARRIER TEMPORARY PRECAST

NOTES

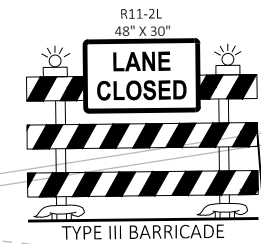
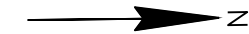
CONTRACTOR TO MAINTAIN ACCESS TO RESIDENTS AT ALL TIMES.

MATCH LINE 16+00

STH 190 EB ON RAMP

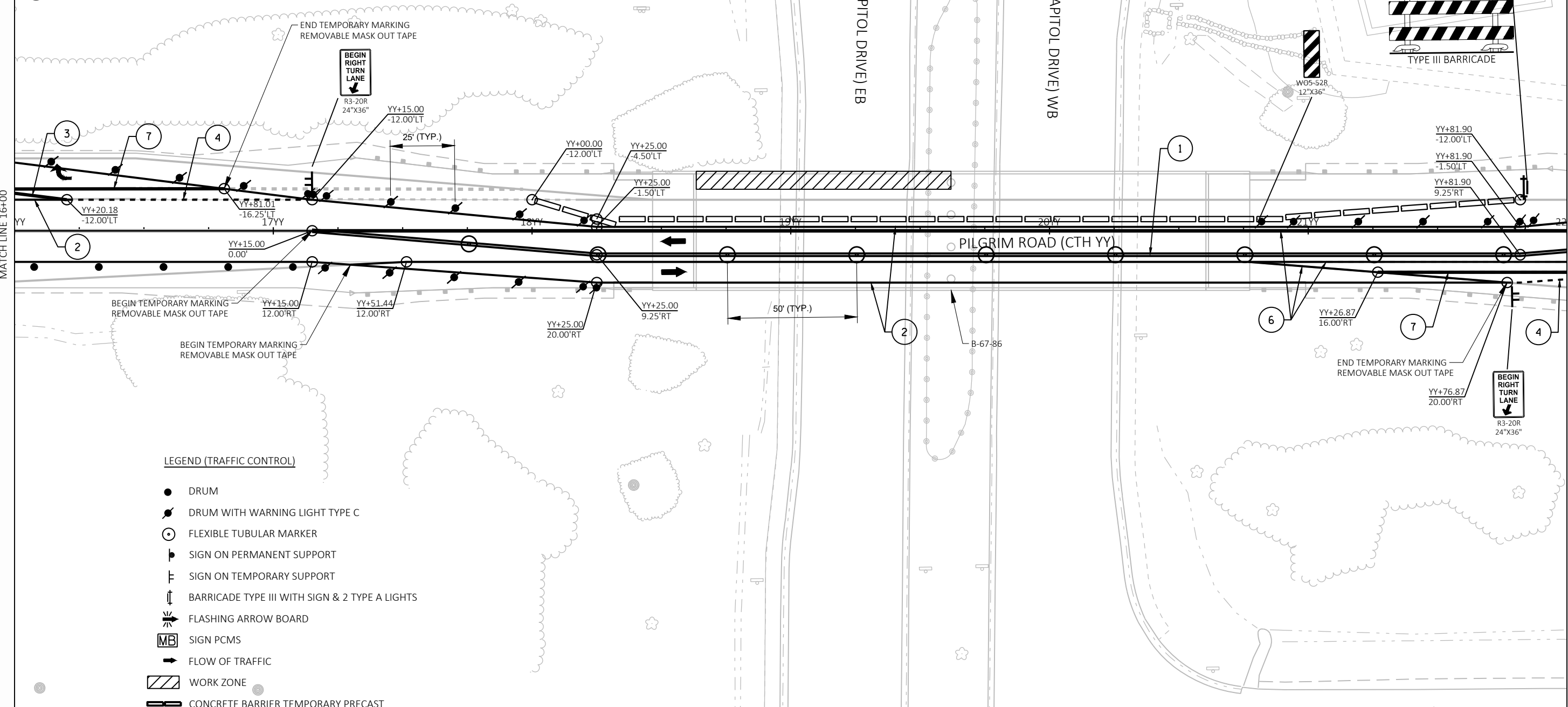
LEGEND (TEMPORARY MARKING)

- 1 TEMPORARY MARKING LINE REMOVABLE TAPE 4-INCH (DOUBLE YELLOW)
- 2 TEMPORARY MARKING LINE REMOVABLE TAPE 4-INCH (WHITE)
- 3 TEMPORARY MARKING LINE REMOVABLE TAPE 8-INCH (WHITE)
- 4 TEMPORARY MARKING LINE REMOVABLE TAPE 4-INCH (3' LINE/9' GAP) (WHITE)
- 5 TEMPORARY MARKING LINE REMOVABLE TAPE 8-INCH (3' LINE/9' GAP) (WHITE)
- 6 TEMPORARY MARKING REMOVABLE MASK OUT TAPE 6-INCH
- 7 TEMPORARY MARKING REMOVABLE MASK OUT TAPE 10-INCH



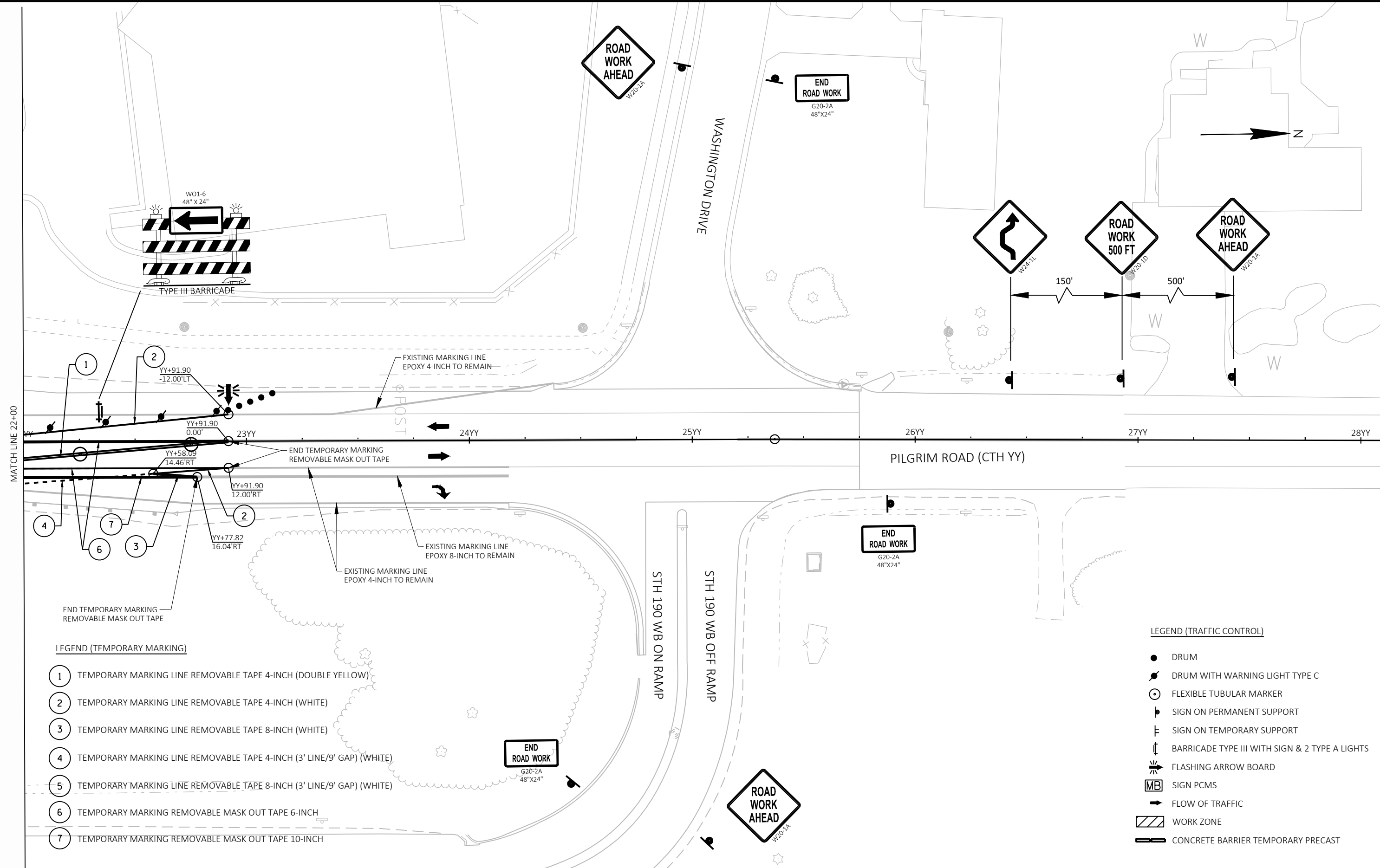
MATCH LINE 16+00

MATCH LINE 22+00



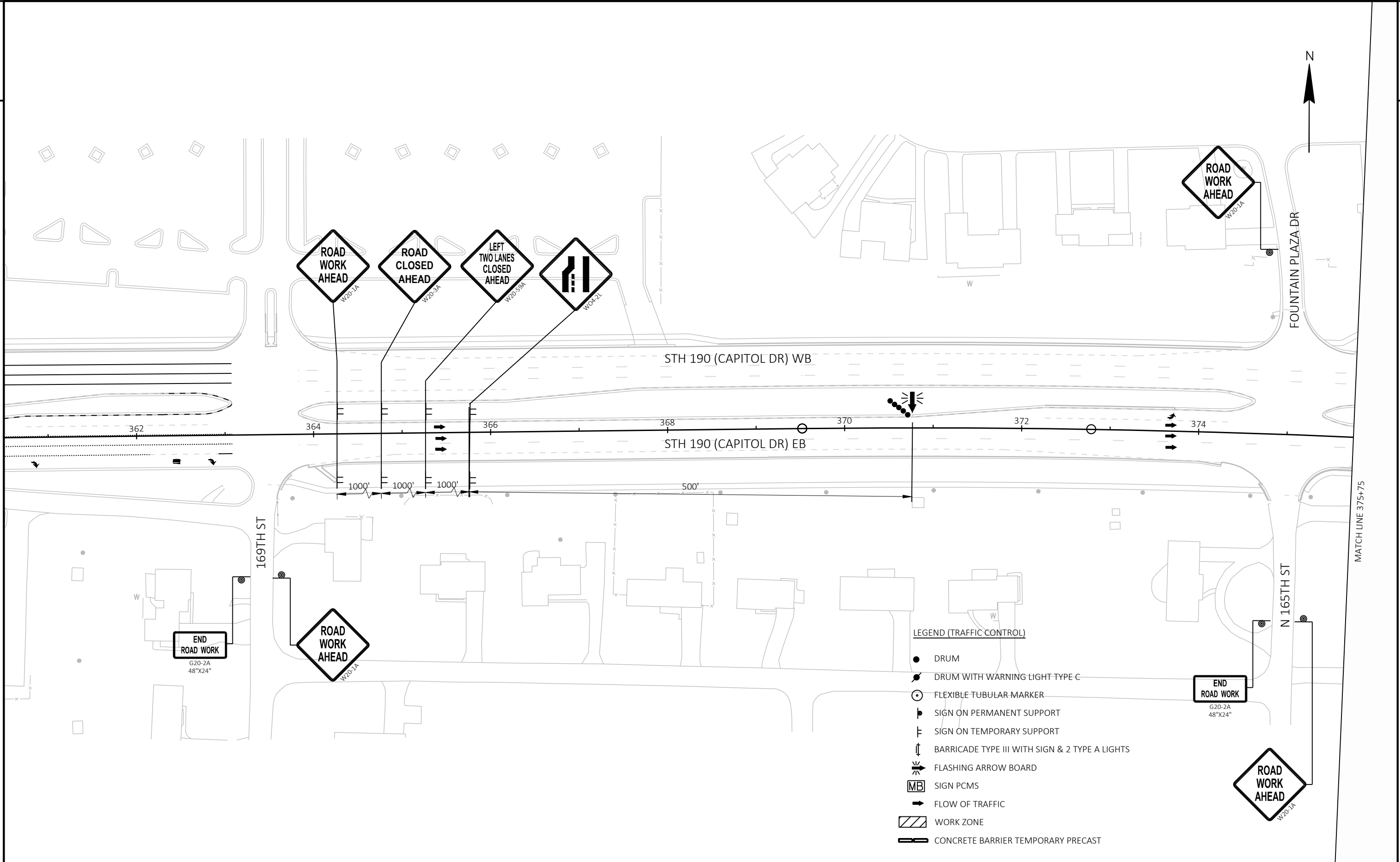
LEGEND (TRAFFIC CONTROL)

- DRUM
- DRUM WITH WARNING LIGHT TYPE C
- FLEXIBLE TUBULAR MARKER
- ▬ SIGN ON PERMANENT SUPPORT
- ▬ SIGN ON TEMPORARY SUPPORT
- ⚡ BARRICADE TYPE III WITH SIGN & 2 TYPE A LIGHTS
- ⚡ FLASHING ARROW BOARD
- MB SIGN PCMS
- ➔ FLOW OF TRAFFIC
- ▨ WORK ZONE
- ▬ CONCRETE BARRIER TEMPORARY PRECAST

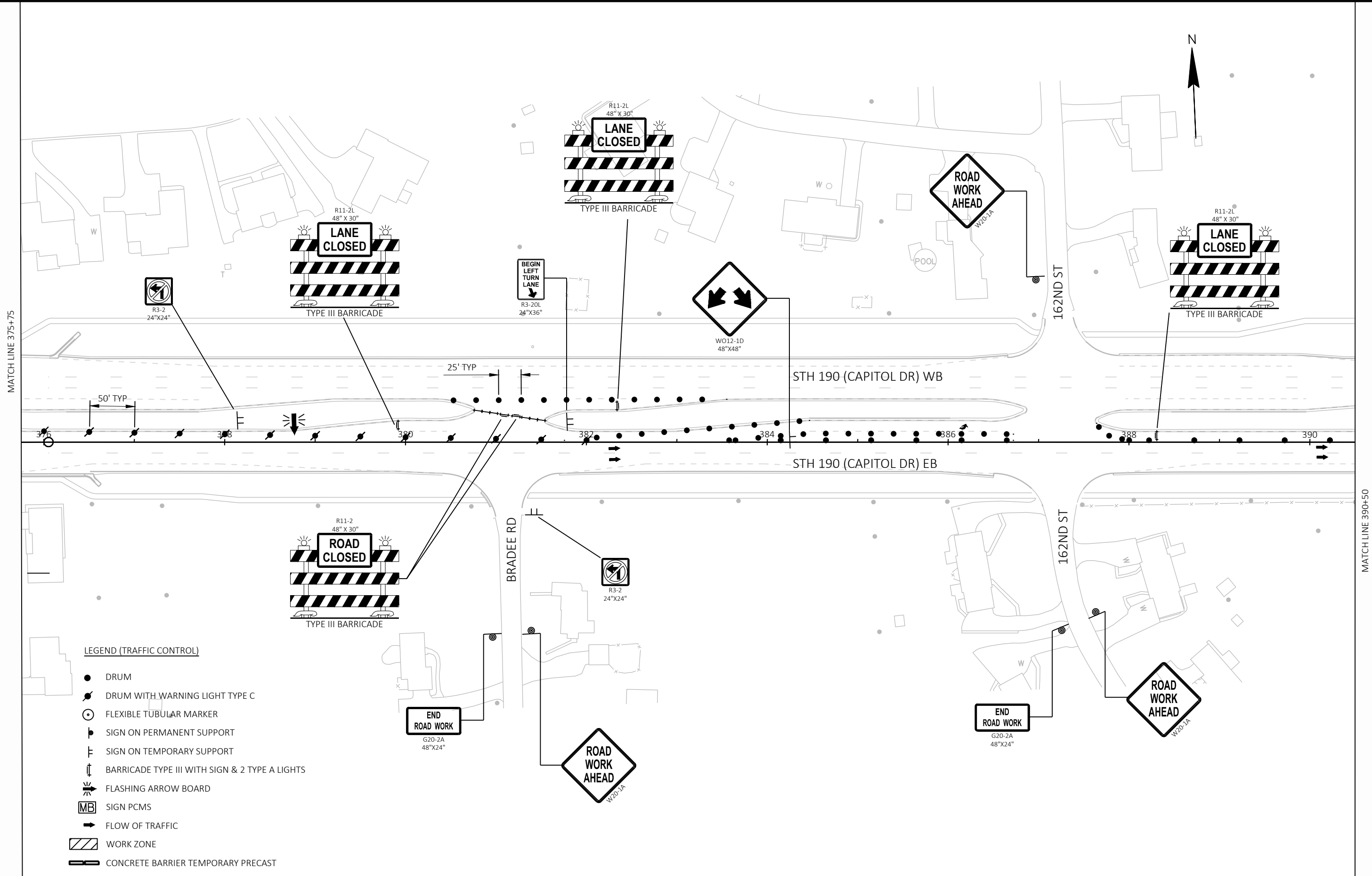


- LEGEND (TEMPORARY MARKING)**
- 1 TEMPORARY MARKING LINE REMOVABLE TAPE 4-INCH (DOUBLE YELLOW)
 - 2 TEMPORARY MARKING LINE REMOVABLE TAPE 4-INCH (WHITE)
 - 3 TEMPORARY MARKING LINE REMOVABLE TAPE 8-INCH (WHITE)
 - 4 TEMPORARY MARKING LINE REMOVABLE TAPE 4-INCH (3' LINE/9' GAP) (WHITE)
 - 5 TEMPORARY MARKING LINE REMOVABLE TAPE 8-INCH (3' LINE/9' GAP) (WHITE)
 - 6 TEMPORARY MARKING REMOVABLE MASK OUT TAPE 6-INCH
 - 7 TEMPORARY MARKING REMOVABLE MASK OUT TAPE 10-INCH

- LEGEND (TRAFFIC CONTROL)**
- DRUM
 - DRUM WITH WARNING LIGHT TYPE C
 - FLEXIBLE TUBULAR MARKER
 - ▬ SIGN ON PERMANENT SUPPORT
 - ▬ SIGN ON TEMPORARY SUPPORT
 - ▬ BARRICADE TYPE III WITH SIGN & 2 TYPE A LIGHTS
 - ⚡ FLASHING ARROW BOARD
 - MB SIGN PCMS
 - ➔ FLOW OF TRAFFIC
 - ▨ WORK ZONE
 - ▬ CONCRETE BARRIER TEMPORARY PRECAST

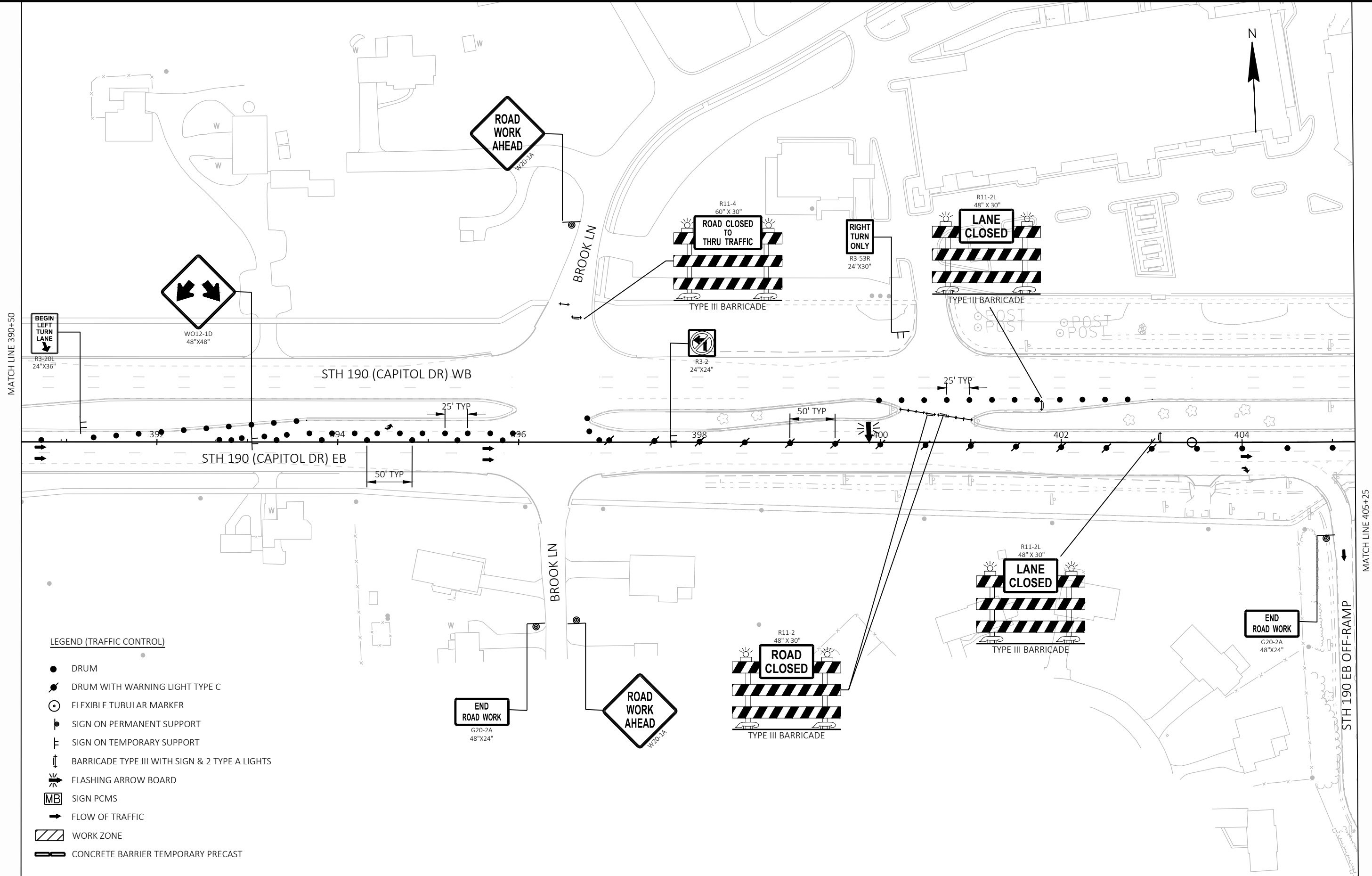


PROJECT NO: 2025-15-71	HWY: CTH YY	COUNTY: WAUKESHA	TRAFFIC CONTROL - CAPITOL DR S1 PARTIAL CLOSURE	SHEET E
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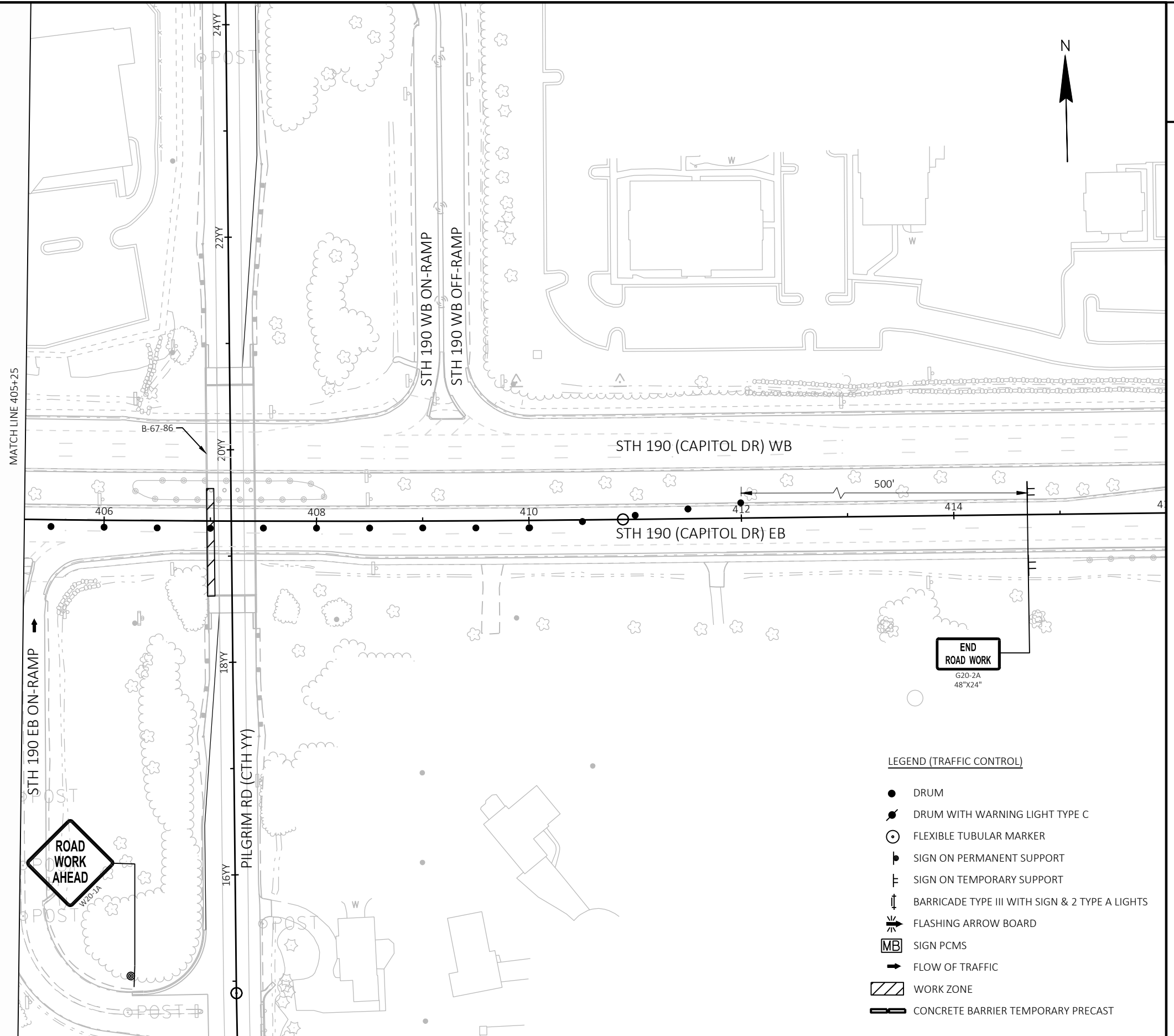
LEGEND (TRAFFIC CONTROL)

- DRUM
- ⦿ DRUM WITH WARNING LIGHT TYPE C
- FLEXIBLE TUBULAR MARKER
- ⌄ SIGN ON PERMANENT SUPPORT
- ⌄ SIGN ON TEMPORARY SUPPORT
- ⌄ BARRICADE TYPE III WITH SIGN & 2 TYPE A LIGHTS
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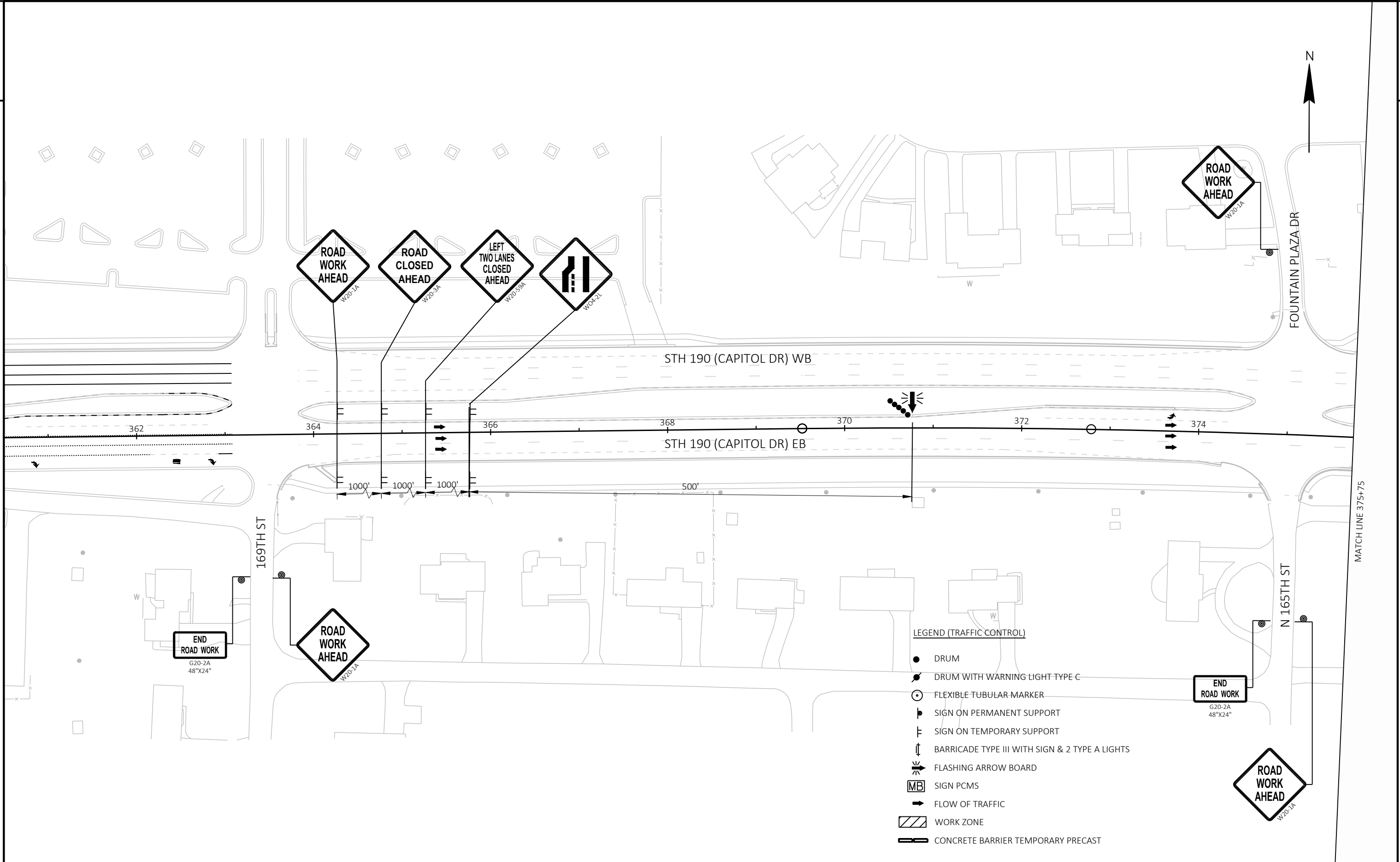


LEGEND (TRAFFIC CONTROL)

- DRUM
- ⦿ DRUM WITH WARNING LIGHT TYPE C
- FLEXIBLE TUBULAR MARKER
- ▬ SIGN ON PERMANENT SUPPORT
- ▬ SIGN ON TEMPORARY SUPPORT
- ⊥ BARRICADE TYPE III WITH SIGN & 2 TYPE A LIGHTS
- ⚡ FLASHING ARROW BOARD
- MB SIGN PCMS
- ➔ FLOW OF TRAFFIC
- ▨ WORK ZONE
- ▬ CONCRETE BARRIER TEMPORARY PRECAST

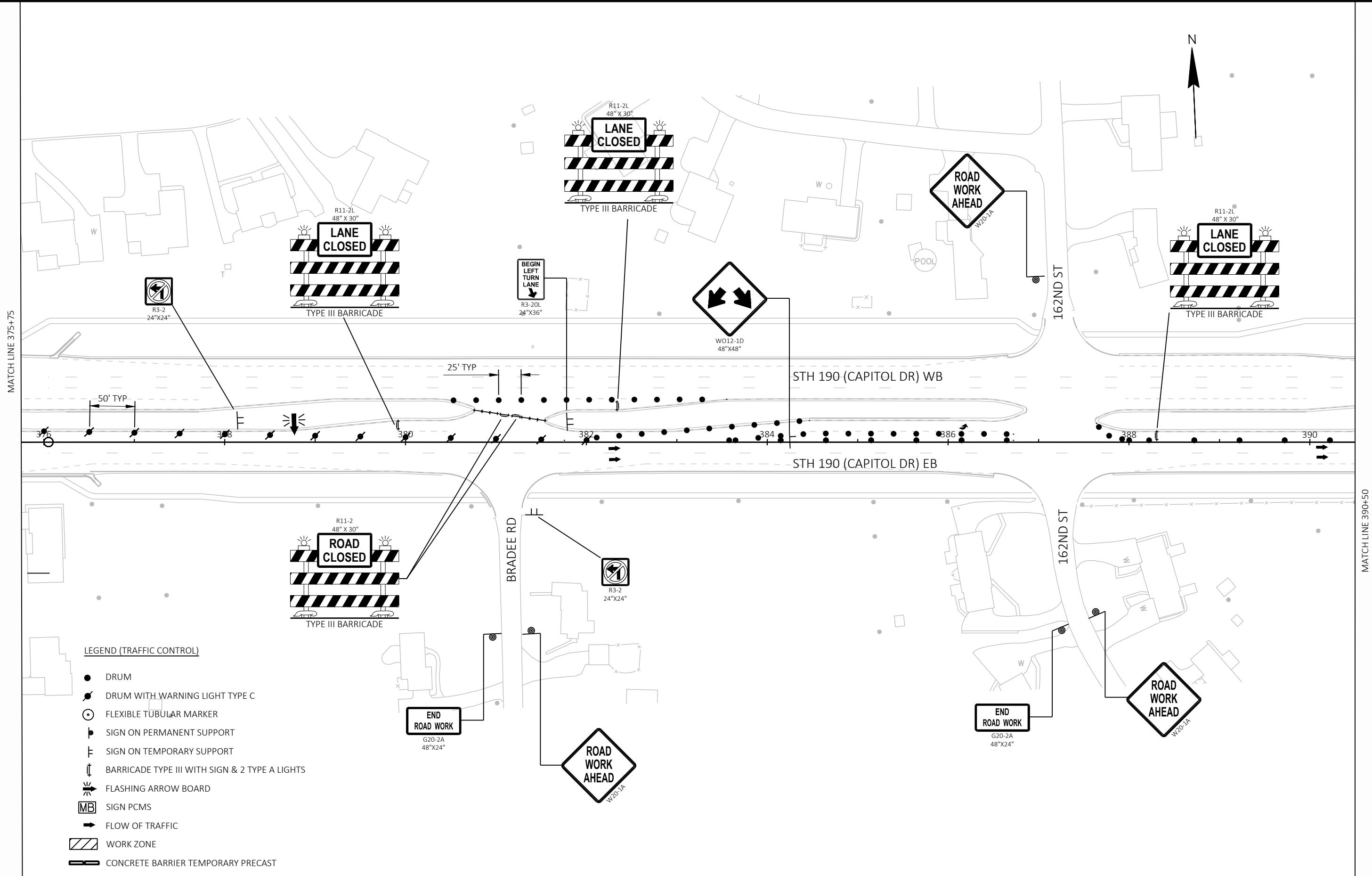


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 - ➔ FLOW OF TRAFFIC
 - ▨ WORK ZONE
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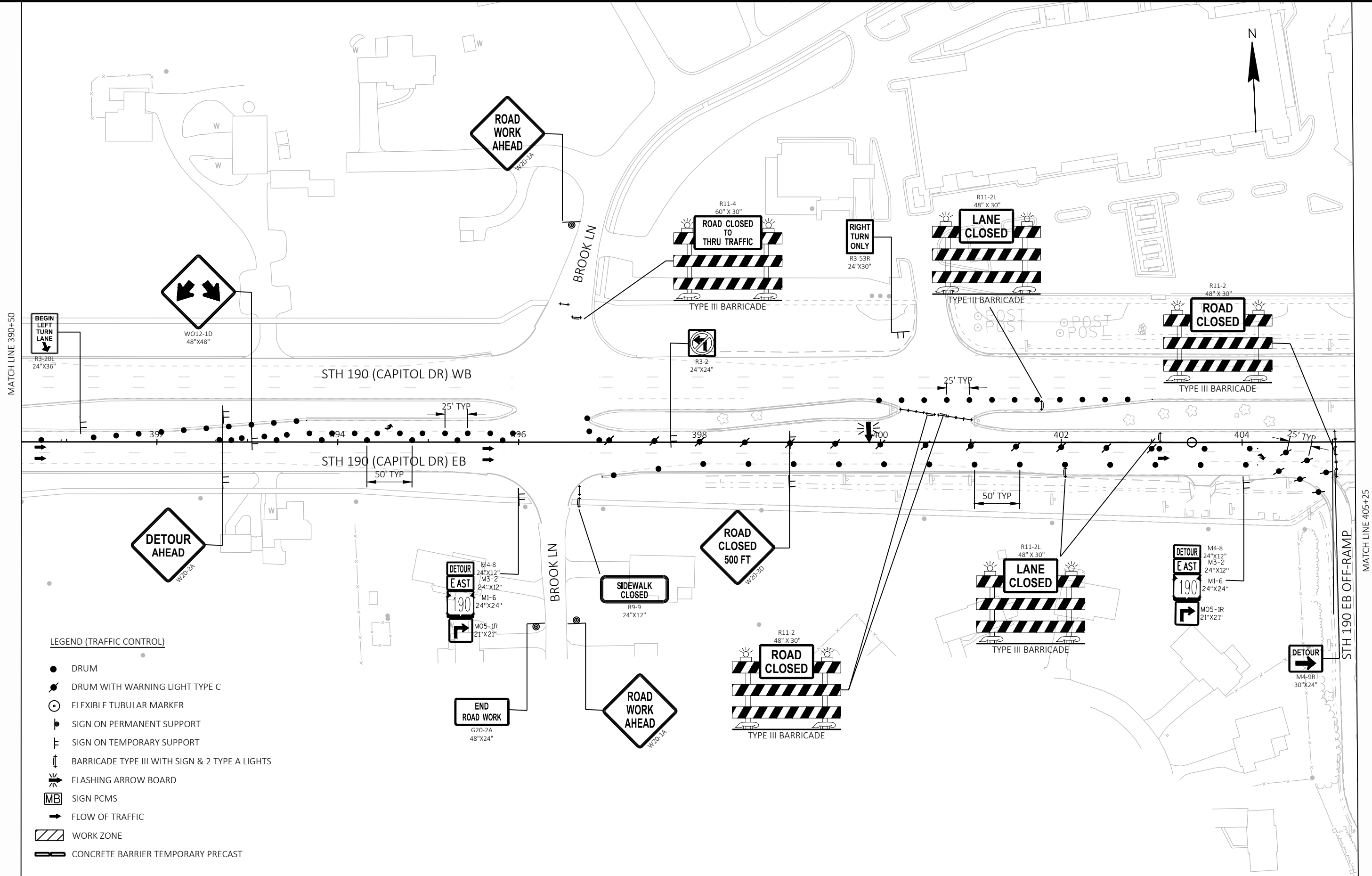
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- DRUM
- DRUM WITH WARNING LIGHT TYPE C
- FLEXIBLE TUBULAR MARKER
- ▬ SIGN ON PERMANENT SUPPORT
- ▬ SIGN ON TEMPORARY SUPPORT
- ⏏ BARRICADE TYPE III WITH SIGN & 2 TYPE A LIGHTS
- ⚡ FLASHING ARROW BOARD
- MB SIGN PCMS
- ➔ FLOW OF TRAFFIC
- ▨ WORK ZONE
- ▬ CONCRETE BARRIER TEMPORARY PRECAST



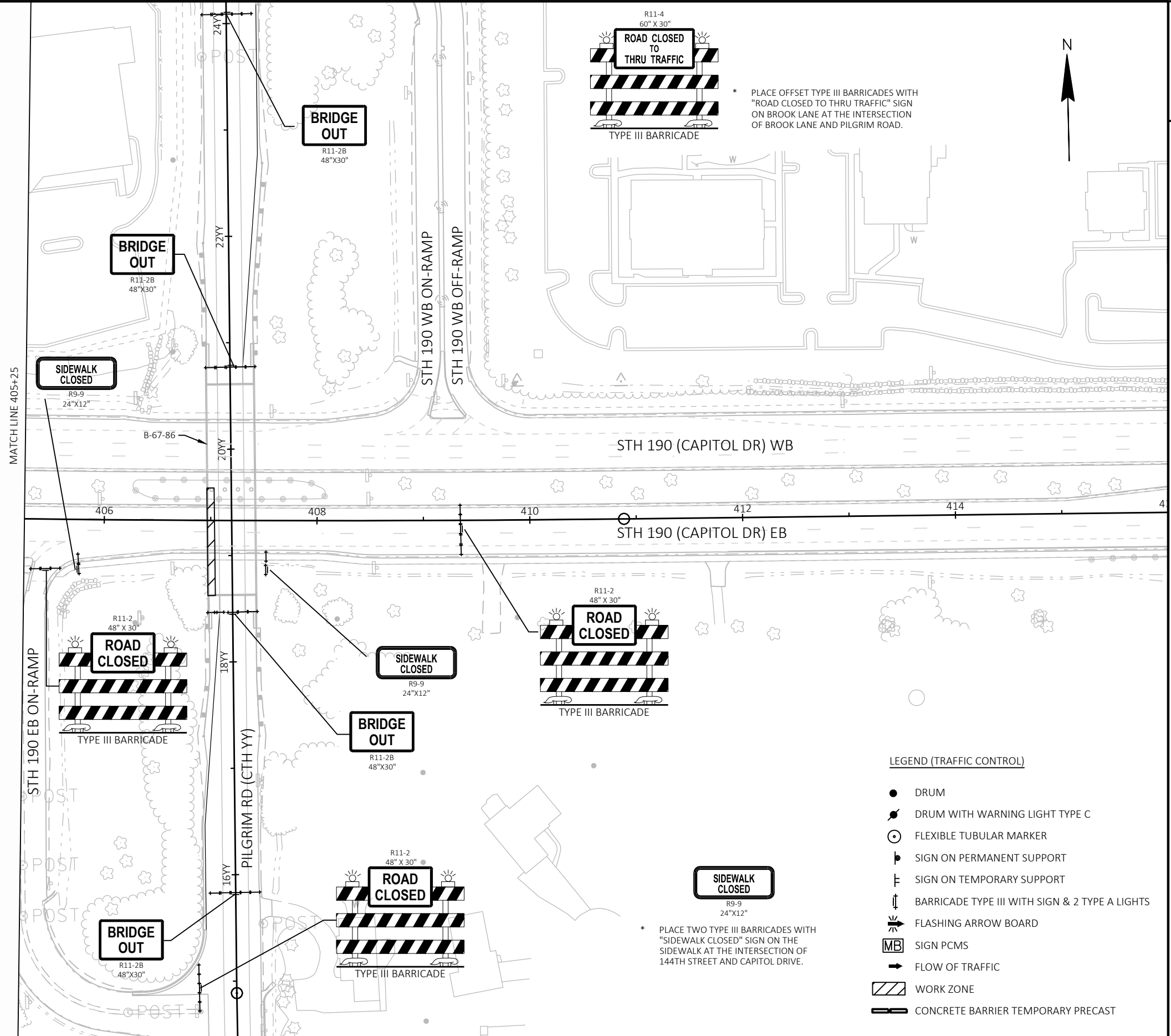
LEGEND (TRAFFIC CONTROL)

- DRUM
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- FLEXIBLE TUBULAR MARKER
- ⌄ SIGN ON PERMANENT SUPPORT
- ⌄ SIGN ON TEMPORARY SUPPORT
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LEGEND (TRAFFIC CONTROL)

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- FLEXIBLE TUBULAR MARKER
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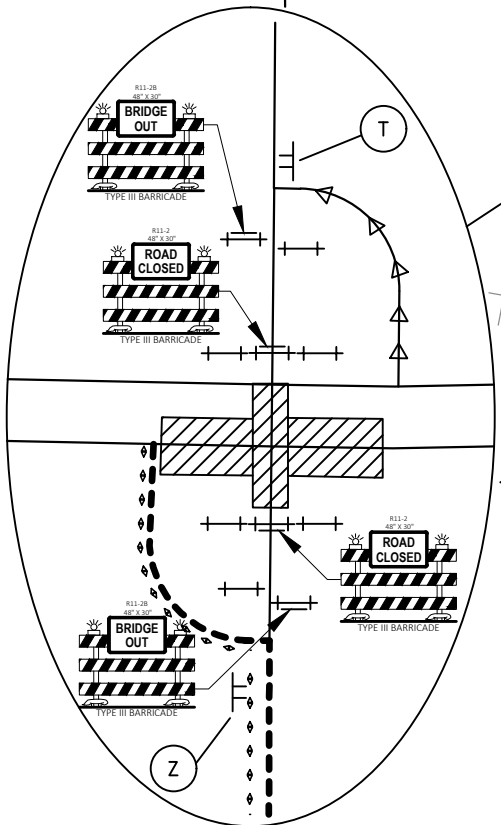
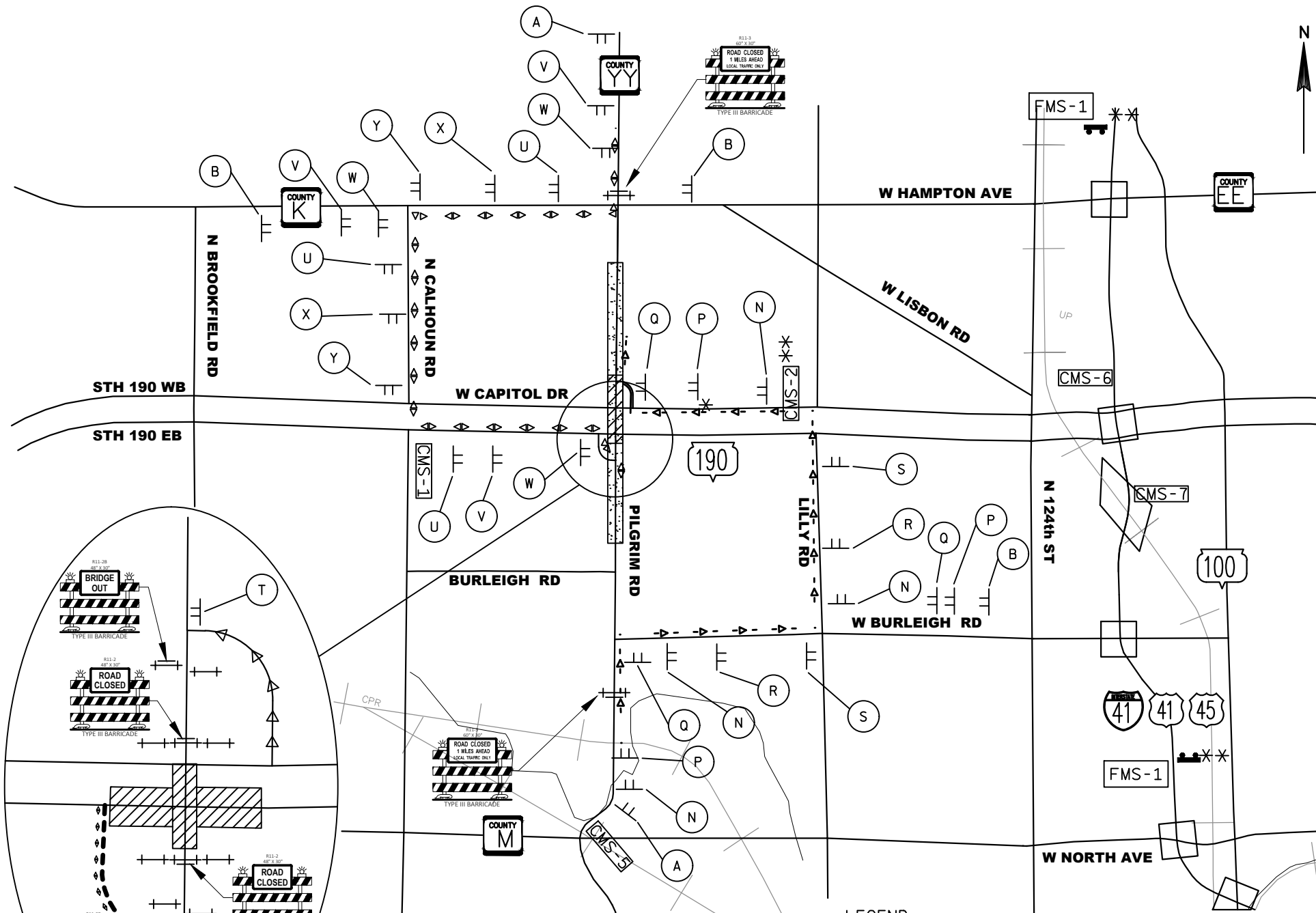


MATCH LINE 405+25

- LEGEND (TRAFFIC CONTROL)**
- DRUM
 - DRUM WITH WARNING LIGHT TYPE C
 - FLEXIBLE TUBULAR MARKER
 - ▬ SIGN ON PERMANENT SUPPORT
 - ▬ SIGN ON TEMPORARY SUPPORT
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 - ▬ FLASHING ARROW BOARD
 - MB SIGN PCMS
 - ➔ FLOW OF TRAFFIC
 - ▨ WORK ZONE
 - ▬ CONCRETE BARRIER TEMPORARY PRECAST

PILGRIM RD CLOSURE

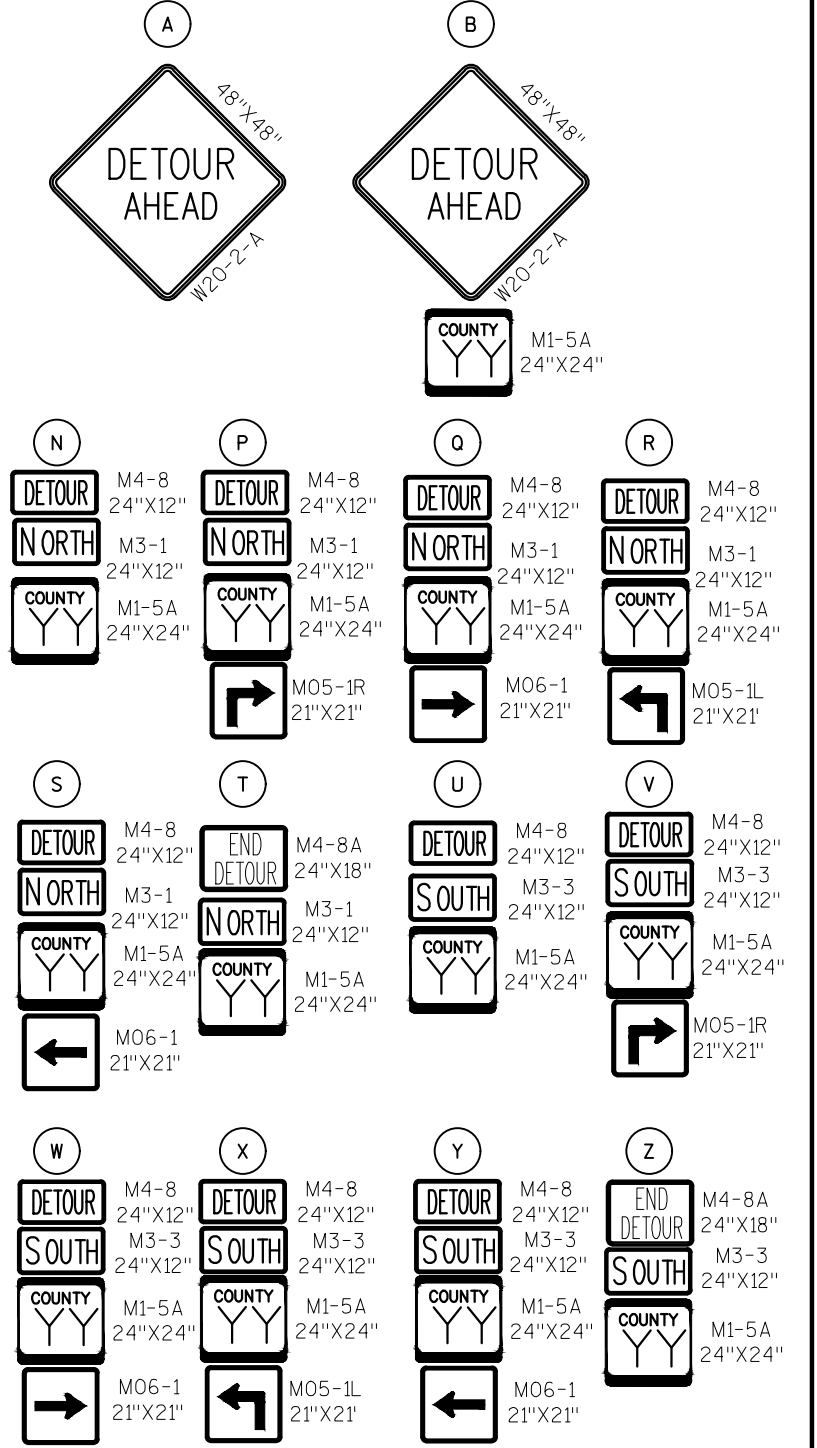
DETOUR DURING DECK DEMO



- LEGEND**
- BRIDGE OUT/WORK ZONE
 - ROAD CLOSED LOCAL TRAFFIC ONLY
 - SIGN ON TEMPORARY SUPPORT
 - FIXED MESSAGE SIGN (FMS)
 - CHANGEABLE MESSAGE SIGN-SIGN MESSAGE
 - CTH YY / PILGRIM RD SB DETOUR ROUTE
 - CTH YY / PILGRIM RD NB DETOUR ROUTE

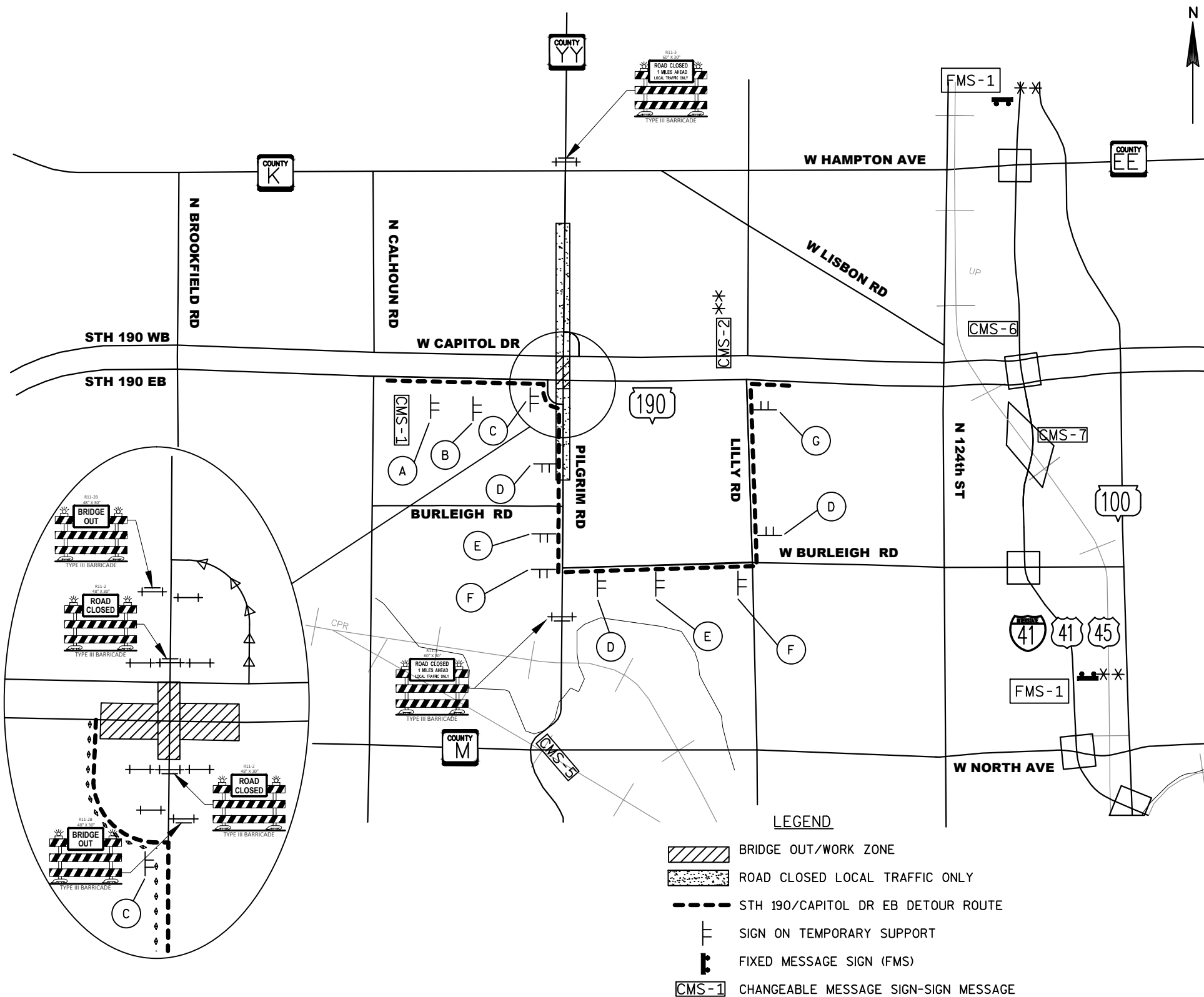
NOTES:

1. SIGN LOCATIONS ARE APPROXIMATE. THE ACTUAL LOCATION AND SPACING MAY BE ADJUSTED AS DIRECTED BY THE ENGINEER TO MEET FIELD CONDITIONS.
2. AFTER SIGNS HAVE BEEN LOCATED IN THE FIELD, BUT BEFORE INSTALLATION, THE PROJECT ENGINEER SHALL VERIFY EACH SIGN LOCATION.
3. CONTRACTOR SHOULD LOCATE FIXED MESSAGE SIGNS A MINIMUM OF 200' FROM EXISTING TYPE "I" SIGN.
4. SEE TEMPORARY SIGNING SHEETS FOR MORE INFORMATION.
5. THE MONTH AND DAY SHALL BE AS DIRECTED BY THE PROJECT ENGINEER FOR "BEGINS XXX XX" SIGNS.
6. ALL EXISTING SIGNS IN CONFLICT WITH THE TRAFFIC CONTROL "IN USE" SHALL BE COVERED. THE COVERING OF EXISTING WOOD POST MOUNTED SIGNS IS INCLUDED UNDER ITEM 643.0920 TRAFFIC CONTROL SIGNS TYPE II.
7. ANY "STOP" SIGNS THAT ARE REMOVED FOR A CONSTRUCTION OPERATION SHALL BE IMMEDIATELY RE-ESTABLISHED.
8. SEE TRAFFIC CONTROL PLAN FOR ADDITIONAL TRAFFIC CONTROL SIGNS.
9. DO NOT PLACE ANY SIGNS OR TRAFFIC CONTROL DEVICES WITHIN 50' OF RAILROAD RIGHT OF WAY.



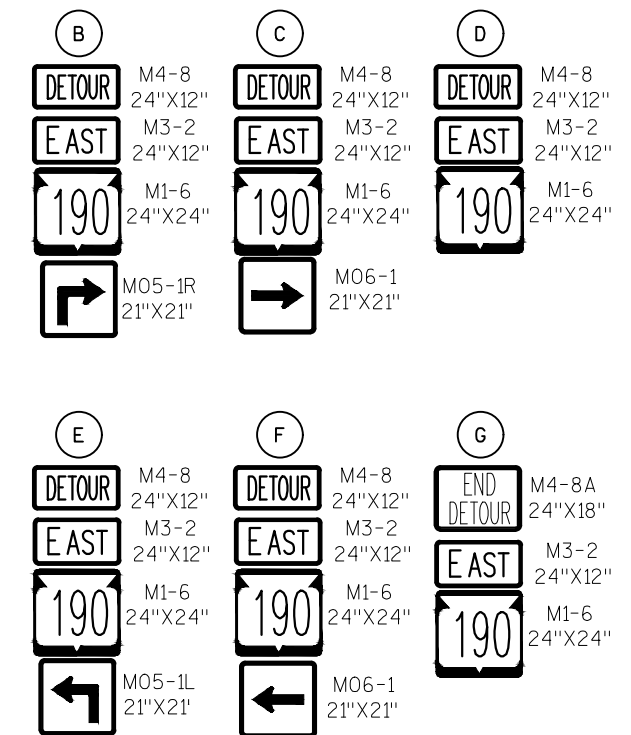
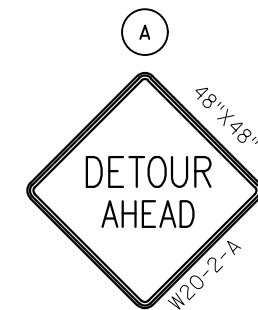
CAPITOL DR CLOSURE

DETOUR DURING DECK DEMO



NOTES:

- SIGN LOCATIONS ARE APPROXIMATE. THE ACTUAL LOCATION AND SPACING MAY BE ADJUSTED AS DIRECTED BY THE ENGINEER TO MEET FIELD CONDITIONS.
- AFTER SIGNS HAVE BEEN LOCATED IN THE FIELD, BUT BEFORE INSTALLATION, THE PROJECT ENGINEER SHALL VERIFY EACH SIGN LOCATION.
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- THE MONTH AND DAY SHALL BE AS DIRECTED BY THE PROJECT ENGINEER FOR "BEGINS XXX XX" SIGNS.
- ALL EXISTING SIGNS IN CONFLICT WITH THE TRAFFIC CONTROL "IN USE" SHALL BE COVERED. THE COVERING OF EXISTING WOOD POST MOUNTED SIGNS IS INCLUDED UNDER ITEM 643.0920 TRAFFIC CONTROL SIGNS TYPE II.
- ANY "STOP" SIGNS THAT ARE REMOVED FOR A CONSTRUCTION OPERATION SHALL BE IMMEDIATELY RE-ESTABLISHED.
- SEE TRAFFIC CONTROL PLAN FOR ADDITIONAL TRAFFIC CONTROL SIGNS.
- DO NOT PLACE ANY SIGNS OR TRAFFIC CONTROL DEVICES WITHIN 50' OF RAILROAD RIGHT OF WAY.



MESSAGE PRIOR TO DECK DEMOLITION

MESSAGE DURING DECK DEMOLITION

MESSAGE DURING DECK DEMOLITION

CMS 1
(10 DAYS PRIOR)

FRAME 1	FRAME 2
WIS 190 CLOSED XXXDAY	WIS 190 REOPENS XXXDAY

CMS 1

FRAME 1	FRAME 2
WIS 190 CLOSED AHEAD	FOLLOW DETOUR

CMS 5

FRAME 1	FRAME 2
BRIDGE CLOSED 2 MILES	FOLLOW DETOUR

CMS 2
(10 DAYS PRIOR)

FRAME 1	FRAME 2
WIS 190 CLOSED XXXDAY	WIS 190 REOPENS XXXDAY

CMS 2

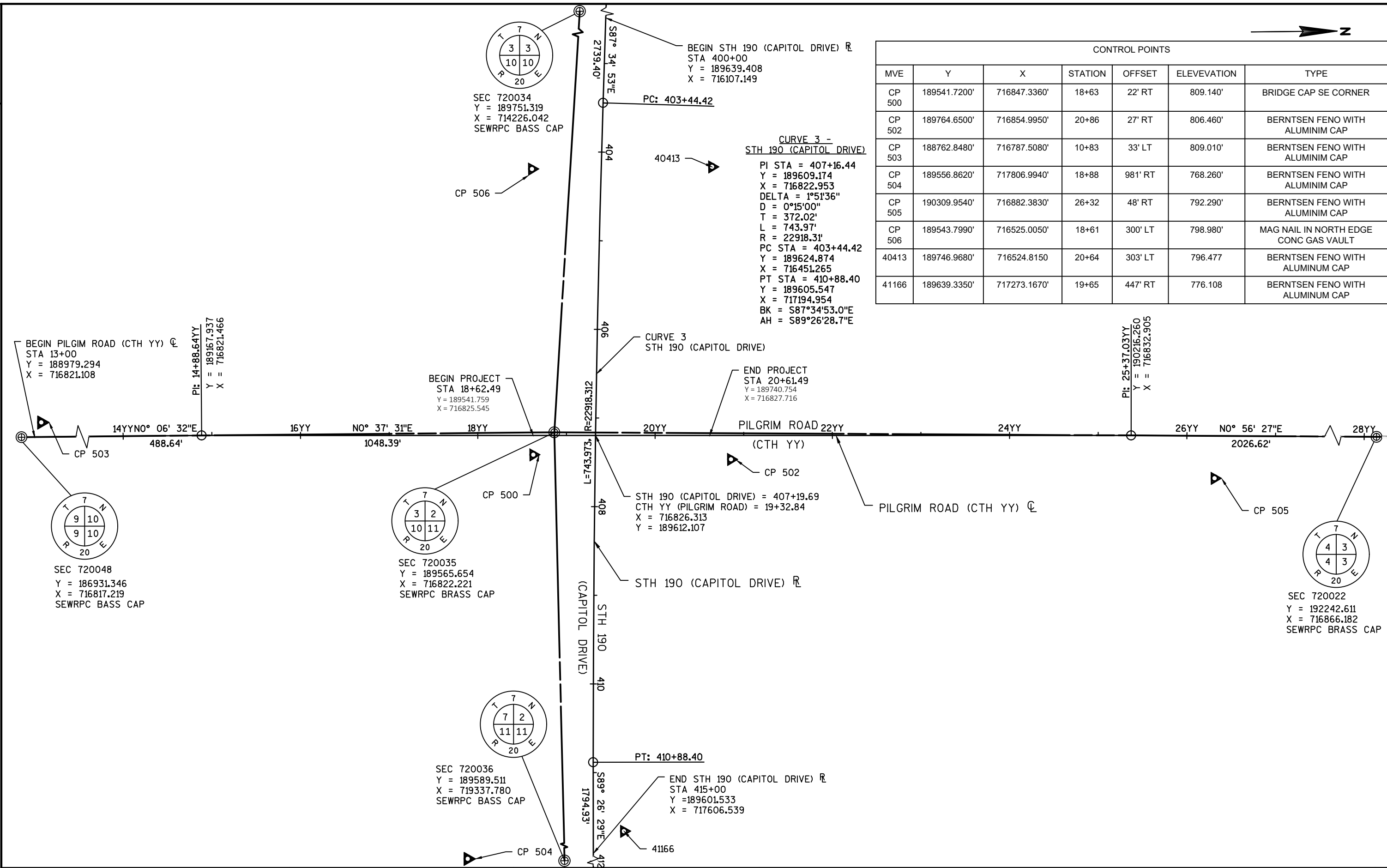
FRAME 1	FRAME 2
WIS 190 CLOSED AHEAD	FOLLOW DETOUR

CMS 6

FRAME 1	FRAME 2
WB 190 CLOSED 2 MILES	FOLLOW DETOUR

CMS 7

FRAME 1	FRAME 2
WB 190 CLOSED 2 MILES	FOLLOW DETOUR



Estimate Of Quantities

2025-15-71

Line	Item	Item Description	Unit	Total	Qty
0002	203.0220	Removing Structure (structure) 01.B-67-86	EACH	1.000	1.000
0004	213.0100	Finishing Roadway (project) 01. 2025-15-71	EACH	1.000	1.000
0006	502.0100	Concrete Masonry Bridges	CY	23.000	23.000
0008	502.3101	Expansion Device	LF	6.000	6.000
0010	502.3200	Protective Surface Treatment	SY	42.000	42.000
0012	502.3210	Pigmented Surface Sealer	SY	33.000	33.000
0014	502.4106	Adhesive Anchors 3/4-inch	EACH	1.000	1.000
0016	505.0600	Bar Steel Reinforcement HS Coated Structures	LB	4,960.000	4,960.000
0018	506.0105	Structural Steel Carbon	LB	11,630.000	11,630.000
0020	506.3025	Welded Stud Shear Connectors 7/8x8-Inch	EACH	264.000	264.000
0022	517.0600	Painting Epoxy System (structure) 01.B-67-86	LS	1.000	1.000
0024	517.0901.S	Preparation and Coating of Top Flanges (structure) 01.B-67-86	EACH	1.000	1.000
0026	517.3001.S	Structure Overcoating Cleaning and Priming (structure) 01.B-67-86	EACH	1.000	1.000
0028	517.4001.S	Containment and Collection of Waste Materials (structure) 01.B-67-86	EACH	1.000	1.000
0030	603.8000	Concrete Barrier Temporary Precast Delivered	LF	383.000	383.000
0032	603.8125	Concrete Barrier Temporary Precast Installed	LF	383.000	383.000
0034	618.0100	Maintenance And Repair of Haul Roads (project) 01. 2025-15-71	EACH	1.000	1.000
0036	619.1000	Mobilization	EACH	1.000	1.000
0038	628.7020	Inlet Protection Type D	EACH	2.000	2.000
0040	634.0618	Posts Wood 4x6-Inch X 18-FT	EACH	4.000	4.000
0042	637.2210	Signs Type II Reflective H	SF	20.000	20.000
0044	637.2230	Signs Type II Reflective F	SF	20.000	20.000
0046	638.2102	Moving Signs Type II	EACH	4.000	4.000
0048	638.2602	Removing Signs Type II	EACH	1.000	1.000
0050	638.3000	Removing Small Sign Supports	EACH	4.000	4.000
0052	642.5201	Field Office Type C	EACH	1.000	1.000
0054	643.0300	Traffic Control Drums	DAY	6,189.000	6,189.000
0056	643.0420	Traffic Control Barricades Type III	DAY	1,632.000	1,632.000
0058	643.0500	Traffic Control Flexible Tubular Marker Posts	EACH	15.000	15.000
0060	643.0600	Traffic Control Flexible Tubular Marker Bases	EACH	15.000	15.000
0062	643.0705	Traffic Control Warning Lights Type A	DAY	3,264.000	3,264.000
0064	643.0715	Traffic Control Warning Lights Type C	DAY	1,568.000	1,568.000
0066	643.0800	Traffic Control Arrow Boards	DAY	47.000	47.000
0068	643.0900	Traffic Control Signs	DAY	9,985.000	9,985.000
0070	643.0920	Traffic Control Covering Signs Type II	EACH	15.000	15.000
0072	643.1000	Traffic Control Signs Fixed Message	SF	90.000	90.000
0074	643.1050	Traffic Control Signs PCMS	DAY	175.000	175.000
0076	643.5000	Traffic Control	EACH	1.000	1.000
0078	646.1020	Marking Line Epoxy 4-Inch	LF	796.000	796.000
0080	646.5020	Marking Arrow Epoxy	EACH	1.000	1.000
0082	646.5120	Marking Word Epoxy	EACH	1.000	1.000
0084	646.9300	Marking Removal Special Marking	EACH	2.000	2.000
0086	649.0150	Temporary Marking Line Removable Tape 4-Inch	LF	3,064.000	3,064.000
0088	649.0250	Temporary Marking Line Removable Tape 8-Inch	LF	53.000	53.000
0090	649.0960	Temporary Marking Removable Mask Out Tape 6-Inch	LF	1,816.000	1,816.000
0092	649.0970	Temporary Marking Removable Mask Out Tape 10-Inch	LF	245.000	245.000
0094	715.0502	Incentive Strength Concrete Structures	DOL	500.000	500.000
0096	SPV.0060	Special 01. Heat Straightening of Damaged Girders	EACH	1.000	1.000
0098	SPV.0060	Special 02. Counterweight Structure	EACH	1.000	1.000

3

3

FINISHING ROADWAY

	213.0100.01
	FINISHING ROADWAY
ROADWAY	EACH
PROJECT 2025-15-71	1
PROJECT 2025-15-71 TOTAL	1

CONCRETE BARRIER TEMPORARY

	603.8000	603.8125
	CONCRETE BARRIER TEMPORARY PRECAST DELIVERED	CONCRETE BARRIER TEMPORARY PRECAST INSTALLED
ROADWAY	LF	LF
PILGRIM ROAD (CTH YY)	383	383
PROJECT 2025-15-71 TOTAL	383	383

MAINTENANCE AND REPAIR OF HAUL ROADS

	618.0100
	ROADWAY
	EACH
PROJECT 2025-15-71	1
PROJECT 2025-15-71 TOTAL	1

MOBILIZATION

	619.1000
	MOBILIZATION
ROADWAY	EACH
PROJECT 2025-15-71	1
PROJECT 2025-15-71 TOTAL	1

FIELD OFFICE TYPE C

	642.5201
	FIELD OFFICE TYPE C
ROADWAY	EACH
PROJECT 2025-15-71	1
PROJECT 2025-15-71 TOTAL	1

TRAFFIC CONTROL

	643.5000
	TRAFFIC CONTROL
	EACH
PROJECT 2025-15-71	1
PROJECT 2025-15-71 TOTAL	1

PAVEMENT MARKINGS

	646.1020	646.5020	646.5120	646.9310
	MARKING LINE EPOXY 4-INCH (WHITE)	MARKING ARROW EPOXY (YELLOW)	MARKING ARROW WORD (TYPE 2)	MARKING REMOVAL SPECIAL MARKING WATER BLASTING
ROADWAY	LF	LF	EACH	EACH
PILGRIM ROAD (CTH YY)	398	398	1	1
PROJECT 2025-15-71 TOTAL	796	1	1	2

INLET PROTECTION

	628.7020
	INLET PROTECTION TYPE D
ROADWAY	EACH
PROJECT 2025-15-71	2
PROJECT 2025-15-71 TOTAL	2

TEMPORARY PAVEMENT MARKINGS

	649.0150	649.0250	649.0960	649.0970
	TEMPORARY MARKING LINE REMOVABLE TAPE 4-INCH	TEMPORARY MARKING LINE REMOVABLE TAPE 8-INCH	TEMPORARY MARKING REMOVABLE MASK OUT TAPE 6-INCH	TEMPORARY MARKING REMOVABLE MASK OUT TAPE 10-INCH
ROADWAY	3-FT LINE (WHITE) LF	(WHITE) LF (YELLOW) LF	(WHITE) LF	(WHITE) LF
PILGRIM ROAD (CTH YY)	44	1,864	1,156	53
PROJECT 2025-15-71 TOTALS	3,064	53	1,816	245

ALL ITEMS CATEGORY 0010 UNLES OTHERWISE NOTED

TRAFFIC CONTROL ITEMS

ROADWAY	STAGE DURATION DAYS	643.0300		643.0420*		643.0500		643.0600		643.0705*		643.0715		643.0800		643.0900*		643.0920*	
		TRAFFIC CONTROL DRUMS EACH^	DAYS	TRAFFIC CONTROL BARRICADES EACH^	TYPE III DAYS	TUBULAR MARKER FLEXIBLE POSTS EACH	TUBULAR MARKER FLEXIBLE BASES EACH	WARNING LIGHTS TYPE A EACH^	DAYS	WARNING LIGHTS TYPE C EACH^	DAYS	TRAFFIC CONTROL ARROW BOARDS EACH^	DAYS	TRAFFIC CONTROL SIGNS EACH^	DAYS	TRAFFIC CONTROL COVERING SIGNS TYPE II EACH^			
PILGRIM ROAD (CTH YY)	56	57	3,192	2	112	12		12		4	224	28	1,568	--	--	18	1,008	--	
STH 190 (CAPITOL DRIVE) FULL CLOSURE	9	153	1,377	68	612	--		--		136	1,224	--	--	3	27	65	585	--	
STH 190 (CAPITOL DRIVE) PARTIAL CLOSURE	20	81	1,620	1	20	--		--		2	40	--	--	1	20	20	400	--	
UNDISTRIBUTED		--	--	--	--	3		3		--	--	--	--	--	--	--	--	10	
TRAFFIC CONTROL ITEMS SUBTOTAL			6,189		744	15		15		1,488		1,568		47		1,993		10	

^ FOR INFORMATION ONLY
* ADDITIONAL QUANTITIES ELSEWHERE

DETOUR ITEMS

ROADWAY	STAGE DURATION DAYS	643.0420*		643.0705*		643.0900*		643.0920*		643.1000		643.1050	
		TRAFFIC CONTROL BARRICADES EACH^	DAYS	TRAFFIC CONTROL WARNING LIGHTS TYPE A EACH^	DAYS	TRAFFIC CONTROL SIGNS EACH^	DAYS	TRAFFIC CONTROL COVERING SIGNS TYPE II EACH^	DAYS	TRAFFIC CONTROL FIXED MESSAGE SF	TRAFFIC CONTROL SIGNS PCMS EACH^	DAYS	
PILGRIM ROAD (CTH YY)	65	12	780	24	1,560	117	7,605	--	--	2	130		
STH 190 (CAPITOL DRIVE)	9	12	108	24	216	43	387	--	90	5	45		
UNDISTRIBUTED		--	--	--	--	--	--	5	--	--	--		
DETOUR ITEMS TOTAL			888		1,776		7,992	5	90		175		

^ FOR INFORMATION ONLY
* ADDITIONAL QUANTITIES ELSEWHERE

ALL ITEMS CATEGORY 0010
UNLES OTHERWISE NOTED

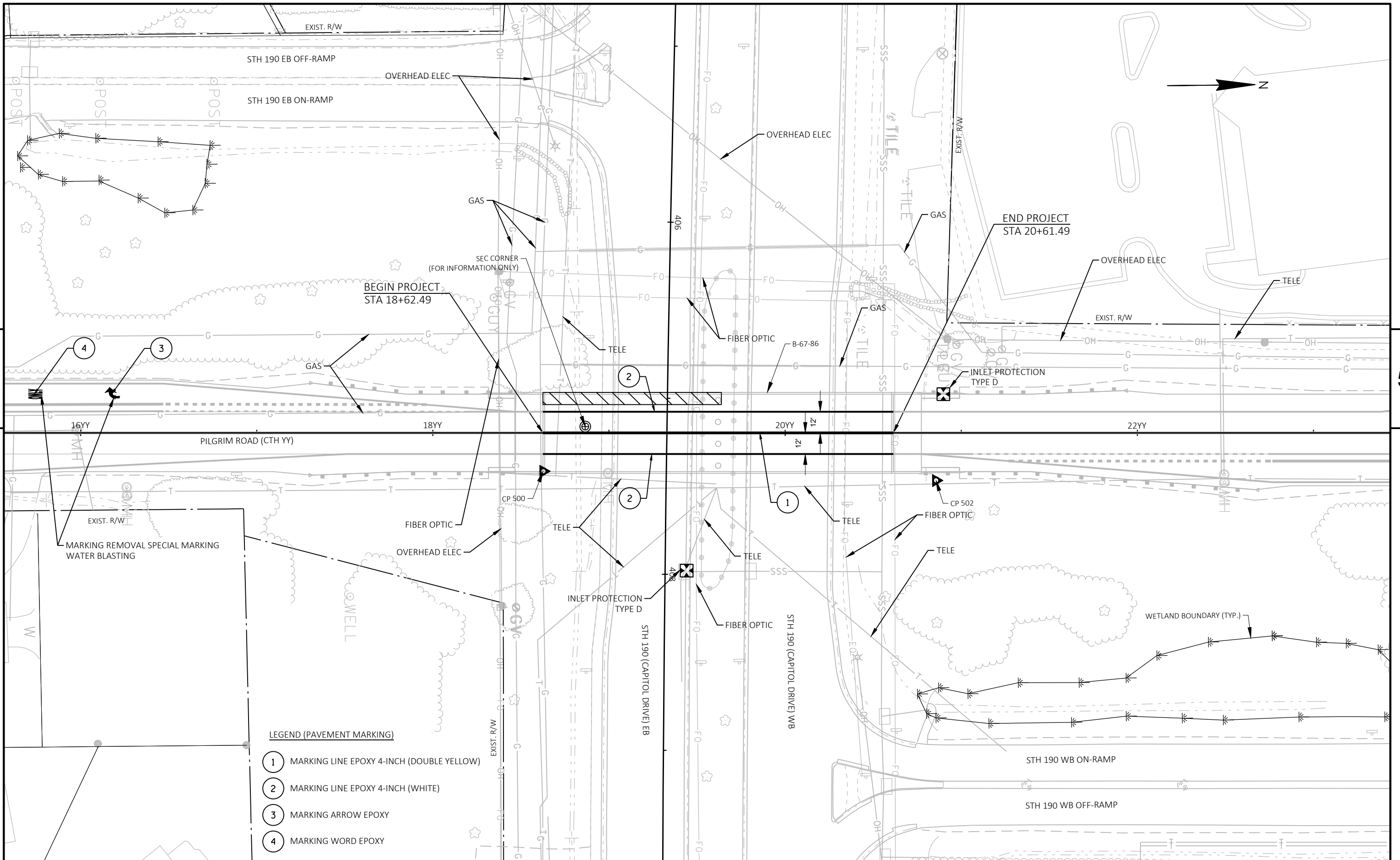
TYPE II PERMANENT SIGNING

2025-15-71

SIGN NO.	SIGN CODE & SIZE	SIGN MESSAGE	SIGN SIZE			637.2210	637.2230	638.2102	638.2602	638.3000	634.0618	MOUNT ON SAME POST AS SIGN #	REMARKS / NEW SIGN LOCATION
			W [IN.]	x x	H [IN.]	REFLECTIVE H [SF]	RELLECTIVE F [SF]	MOVING SIGNS TYPE II [EA]	REMOVING SIGNS TYPE II (EA)	REM SMALL SIGN SUP [EA]	POSTS WOOD 4" X 6" X 18' [EA]		
1	J4-1							1		1	1		MOVE IF NECESSARY
2	W5-52L							1		1	1		MOVE IF NECESSARY
3	W5-52R							1		1	1		MOVE IF NECESSARY
		UNDISTRIBUTED				20.000	20.000	1	1	1	1		
TOTALS						20.000	20.000	4	1	4	4		

3

3



LEGEND (PAVEMENT MARKING)

- 1 MARKING LINE EPOXY 4-INCH (DOUBLE YELLOW)
- 2 MARKING LINE EPOXY 4-INCH (WHITE)
- 3 MARKING ARROW EPOXY
- 4 MARKING WORD EPOXY

PROJECT NO: 2025-15-71

HWY: CTH YY

COUNTY: WAUKESHA

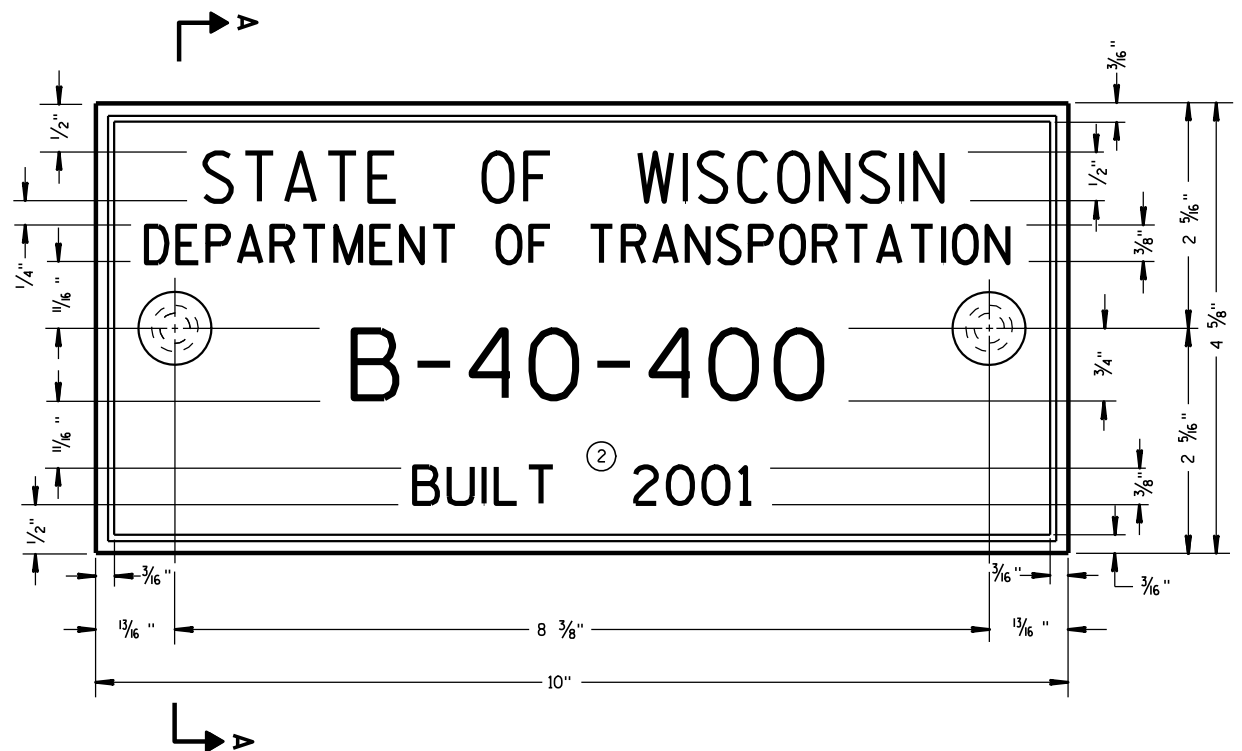
PLAN AND PAVEMENT MARKING SHEET

SHEET

E

Standard Detail Drawing List

12A03-10	NAME PLATE (STRUCTURES)
14B07-15A	CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"
14B07-15B	CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"
14B07-15C	CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"
14B07-15D	CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"
14B07-15E	CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"
14B07-15F	CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"
14B07-15G	CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"
14B07-15H	CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"
14B07-15I	CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"
15C02-08A	BARRICADES AND SIGNS FOR MAINLINE CLOSURES
15C02-08B	BARRICADES AND SIGNS FOR VARIOUS CLOSURES
15C02-08C	DETOUR SIGNING FOR MAINLINE CLOSURES
15C03-05	BARRICADES AND SIGNS FOR SIDEROAD CLOSURES
15C06-09	SIGNING & MARKING FOR TWO LANE BRIDGES
15C07-15B	PAVEMENT MARKING WORDS
15C07-15C	PAVEMENT MARKING ARROWS
15C08-20A	LONGITUDINAL MARKING (MAINLINE)
15C11-09A	CHANNELIZING DEVICES FLEXIBLE TUBULAR MARKER POST
15C11-09B	CHANNELIZING DEVICES DRUMS, CONES, BARRICADES AND VERTICAL PANELS
15D06-05	TRAFFIC CONTROL, TWO LANE TWO WAY OPERATION
15D12-10A	TRAFFIC CONTROL, LANE CLOSURE
15D22-05	TRAFFIC CONTROL, TWO LANE CLOSURE, NON-FREEWAY/EXPRESSWAY



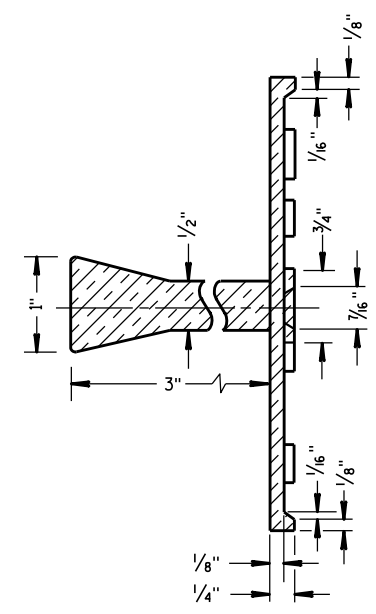
TYPICAL NAME PLATE
(BRIDGES, CULVERTS, AND RETAINING WALLS)

GENERAL NOTES

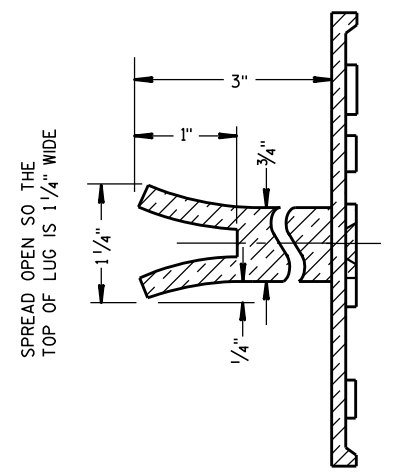
NAME PLATES TO BE INSTALLED ON BRIDGES, CULVERTS, AND RETAINING WALLS SHALL CONFORM TO THE REQUIREMENTS OF SECTION 502.3.11 OF THE STANDARD SPECIFICATIONS.

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

- ① EPOXY RESIN SHALL BE FROM AN APPROVED MANUFACTURER AND USED IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS.
- ② REHABILITATION OF AN EXISTING STRUCTURE SHOULD USE THE DATE OF ORIGINAL STRUCTURE CONSTRUCTION.



SECTION A-A



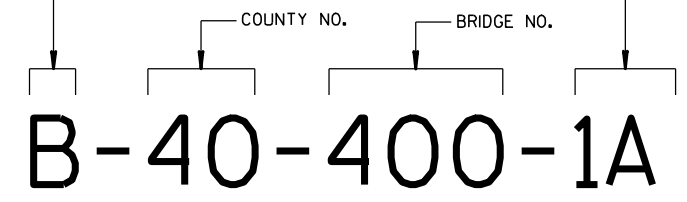
ALTERNATE LUG

6

6

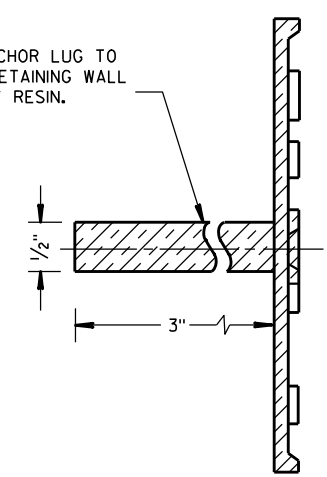
FOR MULTI-UNIT STRUCTURES
LINE 3 ABOVE SHALL READ

- B = BRIDGE
- C = CULVERT
- R = RETAINING WALL
- UNIT NO. FOR MULTIPLE UNIT BRIDGE



**NUMBERING DESIGNATION
MULTI-UNIT STRUCTURES**

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

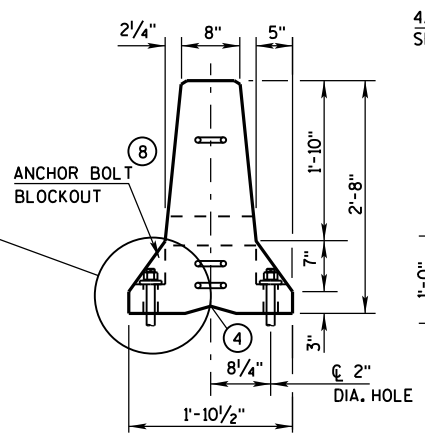
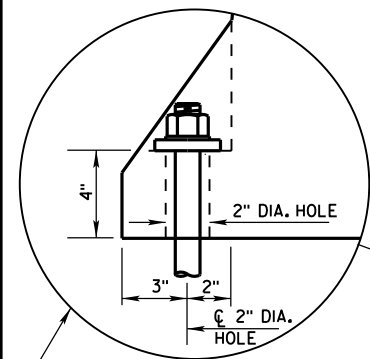


ALTERNATE LUG
(FOR ATTACHMENT TO PRECAST STRUCTURES)

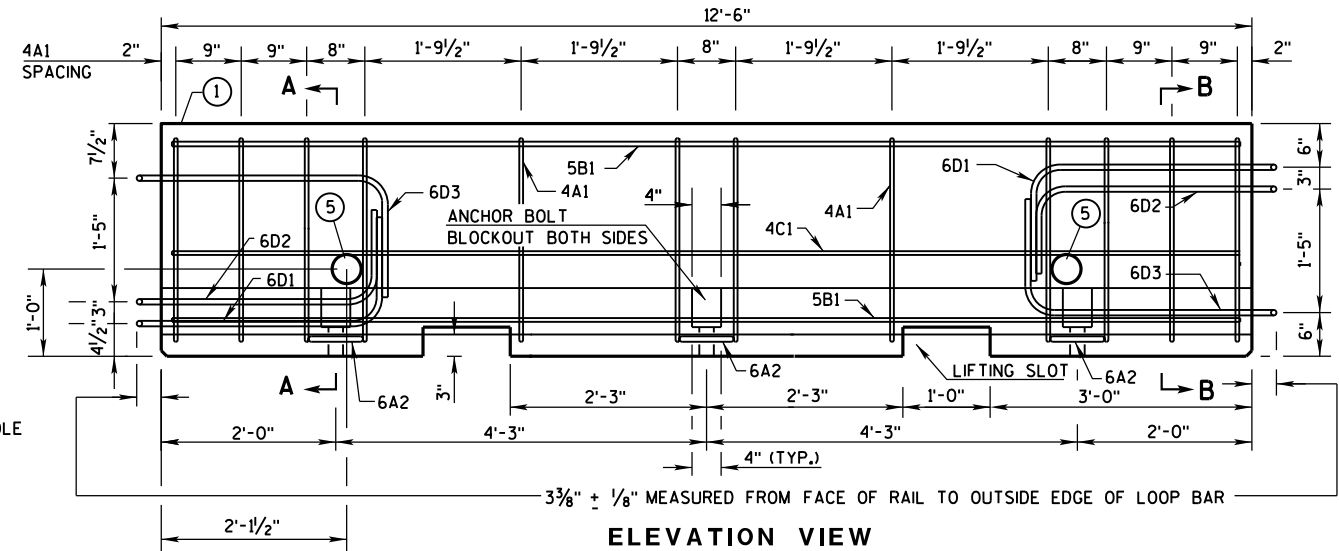
S.D.D. 12 A 3-10

S.D.D. 12 A 3-10

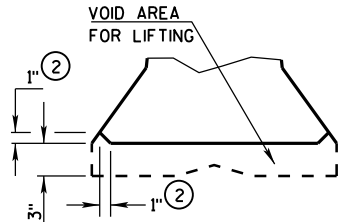
NAME PLATE (STRUCTURES)	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED DATE 3/26/10	/S/ Scot Becker CHIEF STRUCTURAL DEVELOPMENT ENGINEER
FHWA	



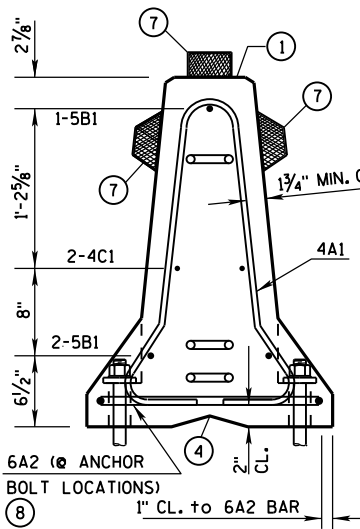
END VIEW



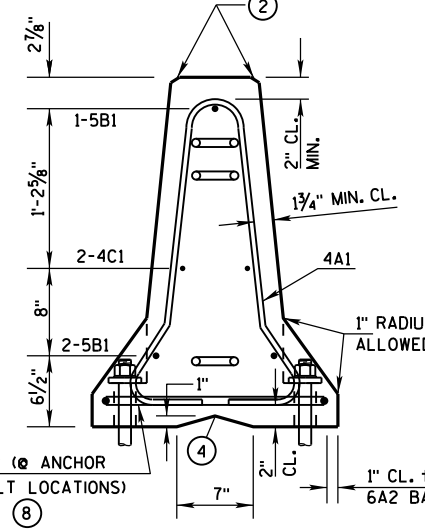
ELEVATION VIEW



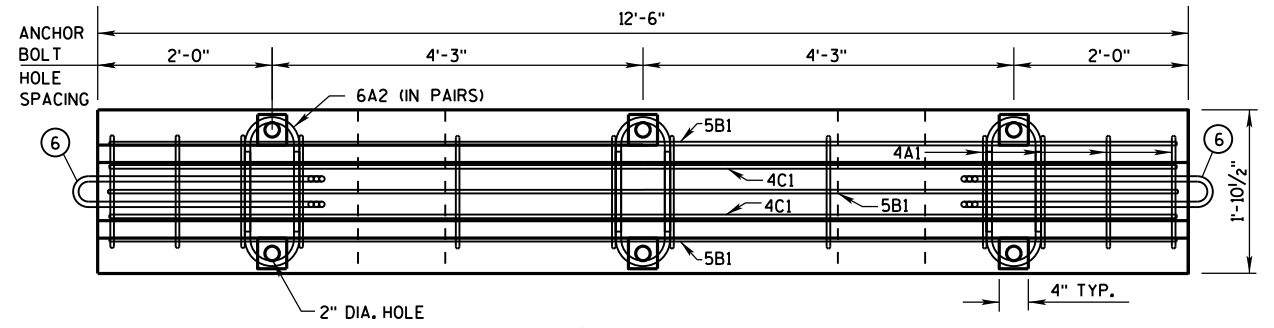
**DETAIL "B"
LIFTING SLOT DETAIL**



**SECTION A-A
(STIRRUP PLACEMENT)**



**SECTION B-B
(STIRRUP PLACEMENT)**



PLAN VIEW

DETAILS OF BARRIER SECTION

GENERAL NOTES

THESE GENERAL NOTES APPLY TO SHEETS 14B7-15(d) THRU 14B7-15(i).

DO NOT INTERMIX CONCRETE BARRIER TEMPORARY PRECAST, 12'-6" (CBTP12.5) WITH OTHER TEMPORARY CONCRETE BARRIERS.

USE ASTM A-615, GRADE 60, DEFORMED STEEL BARS FOR BARS 4A1, 6A2, 5B1 AND 4C1 IN THE BARRIER SECTION AND FOR 4V1, 4V2, 4V3, 4V4, 4V5, 4V6, 4F1, 4F2 AND 5F3 IN THE BARRIER TAPER SECTION.

LOOP BARS 6D1, 6D2 AND 6D3 SHALL BE 3/4" SMOOTH STEEL BARS WITH A MINIMUM YIELD STRENGTH OF 60 KSI, A TENSILE STRENGTH OF NOT LESS THAN 1.25 TIMES THE YIELD STRENGTH BUT A MINIMUM OF 80 KSI, A MINIMUM 14% ELONGATION IN 8 INCHES AND PASSING A 180 DEGREE BEND TEST USING A 3-1/2" PIN BEND DIAMETER FOR BEND TESTS. THE LOOPS SHALL BE INSTALLED WITHIN 1/8" OF THE PLAN DIMENSION.

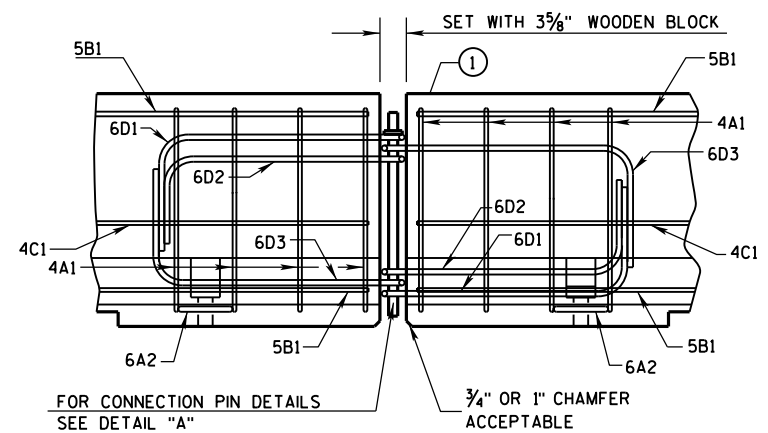
CONSTRUCT LIFTING SLOTS AS SPECIFIED ON THE PLANS TO FACILITATE THE DRAINAGE OF WATER AFTER INSTALLATION.

PLACE BARRIER ON A PAVED SURFACE. REMOVE ALL LOOSE DIRT AND SAND FROM THE ROADWAY SURFACE PRIOR TO PLACEMENT OF THE BARRIER.

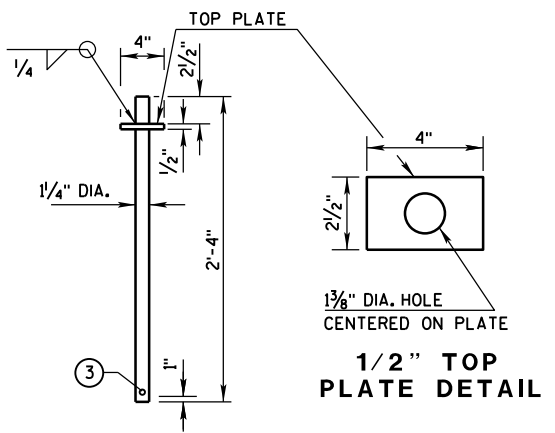
INSTALL MECHANICAL OR ADHESIVE ANCHORS PER MANUFACTURER'S RECOMMENDATIONS. PROVIDE MANUFACTURER'S INFORMATION TO PROJECT ENGINEER.

- ① MARK ONE END OF EACH BARRIER PERMANENTLY BY FORMING INTO THE BARRIER THE FOLLOWING INFORMATION:
 - a. TYPE: WICBTP
 - b. MANUFACTURER
 - c. DATE MANUFACTURED (MONTH AND YEAR)
- ② 1" CHAMFER TO PREVENT SPALLING.
- ③ A 3/8" HOLE IN THE CONNECTION PIN, AT THE LOCATION SHOWN, IS ACCEPTABLE, BUT NOT REQUIRED..
- ④ "V" NOTCH IS OPTIONAL.
- ⑤ THE 4" DIAMETER, 11 GAUGE STEEL, ROUND MECHANICAL TUBING SLEEVE FOR LIFTING (OPTIONAL).
- ⑥ NEVER USE LOOP BARS (6D1, 6D2 OR 6D3) TO LIFT, MOVE OR REPOSITION THE BARRIER.
- ⑦ USE DELINEATORS CONFORMING TO SECTION 633 OF THE STANDARD SPECIFICATIONS. CONTRACTOR MAY USE ALTERNATE SHAPES AND HOUSING. INSTALL DELINEATORS ACCORDING TO MANUFACTURER'S INSTRUCTION. INSTALL YELLOW REFLECTORS WHEN BARRIER IS LOCATED TO THE LEFT OF TRAFFIC AND WHITE REFLECTORS WHEN BARRIER IS LOCATED TO THE RIGHT OF TRAFFIC. SPACE DELINEATORS A MAXIMUM OF 25 FEET APART. PROVIDE TOP MOUNTED DELINEATORS IN ADDITION TO THE SIDE MOUNTED DELINEATORS ON ALL BARRIER INSTALLATIONS LOCATED ON A CURVED ALIGNMENT LONGER THAN 200 FEET AND ON BARRIERS USED TO SEPARATE OPPOSING TRAFFIC.
- ⑧ SEE SHEET D FOR HOW TO ANCHOR BARRIER. SEE SHEET E FOR WHEN TO ANCHOR BARRIER.
- ⑨ 1" CHAMFER OPTIONAL.

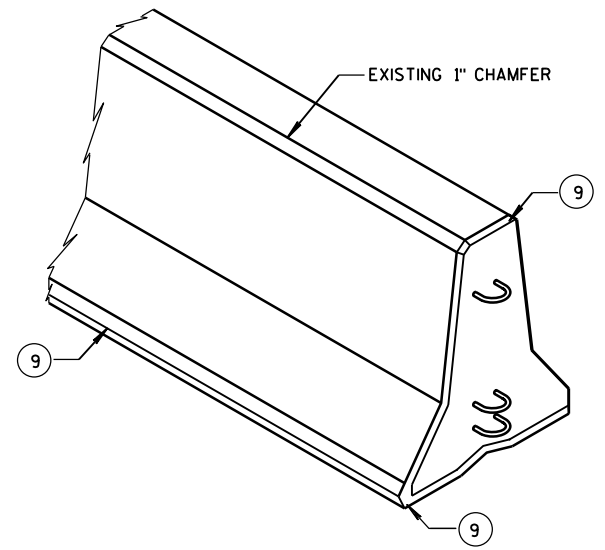
f'c = 4,000 psi



DETAILS OF BARRIER CONNECTION



**DETAIL "A"
CONNECTION PIN
(A36 STEEL (10.9 LB EACH))**



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

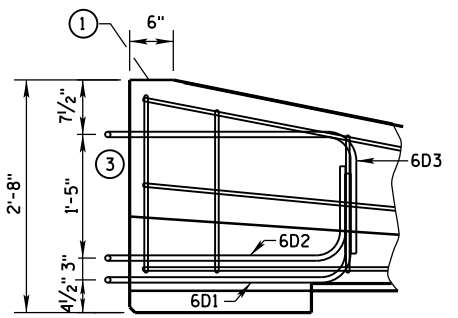
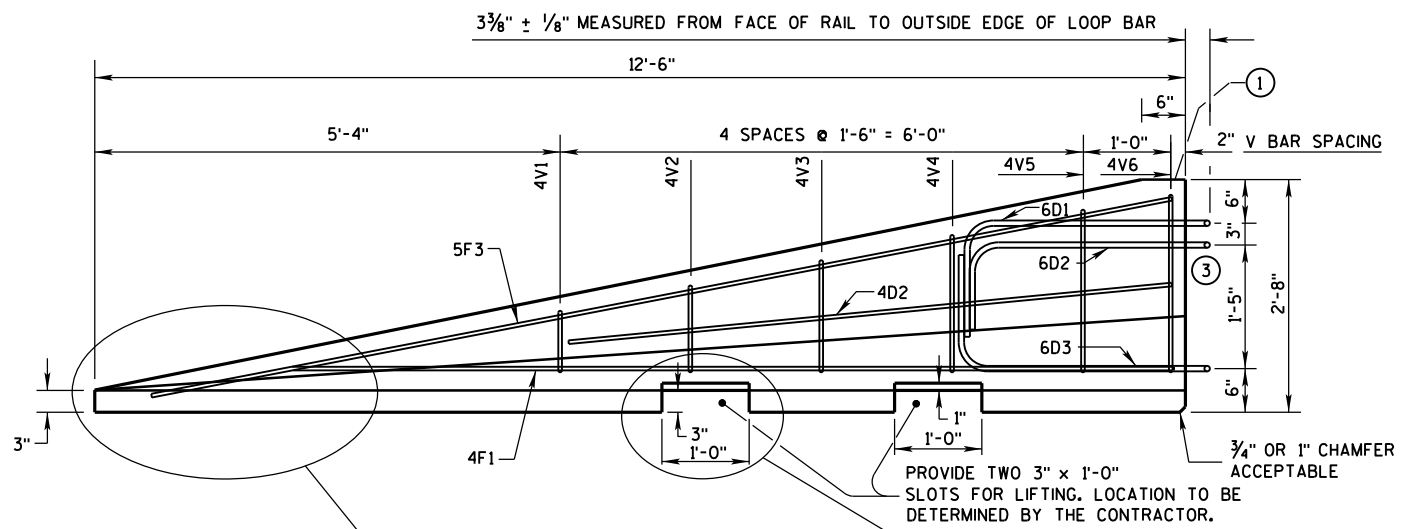
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

6

6

S.D.D. 14 B 7-15a

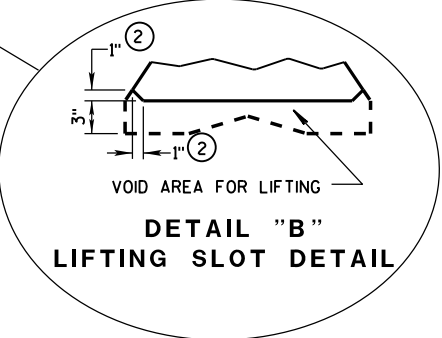
S.D.D. 14 B 7-15a



GENERAL NOTES

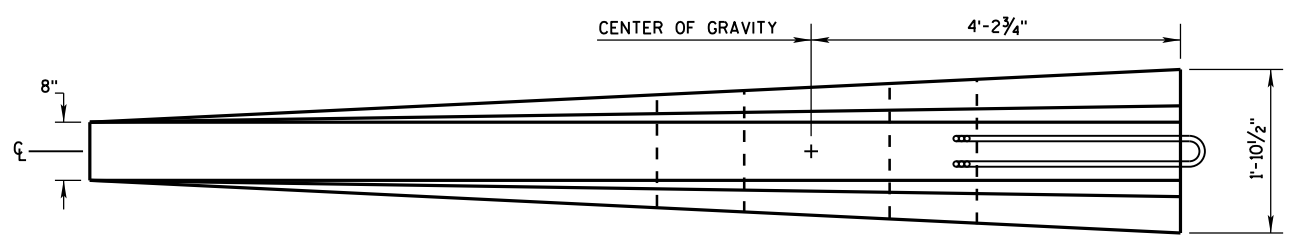
- ① MARK ONE END OF EACH BARRIER PERMANENTLY BY FORMING INTO THE BARRIER THE FOLLOWING INFORMATION:
 - a. TYPE WICBTP
 - b. MANUFACTURER
 - c. DATE MANUFACTURED (MONTH AND YEAR)
- ② 1" CHAMFER TO PREVENT SPALLING.
- ③ NEVER USE LOOP BARS (6D1, 6D2 OR 6D3) TO LIFT, MOVE OR REPOSITION THE BARRIER.

SIDE ELEVATION
 LOOP BAR ASSEMBLY INVERTED FOR OPPOSITE END.
 (FOR CONNECTION TO RIGHT END OF BARRIER)

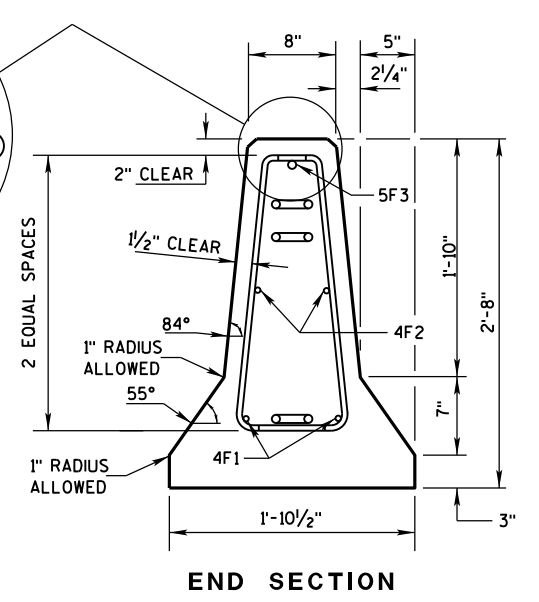
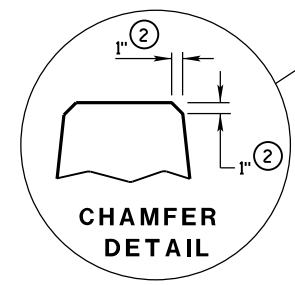


SIDE ELEVATION
 (FOR CONNECTION TO LEFT END OF BARRIER)

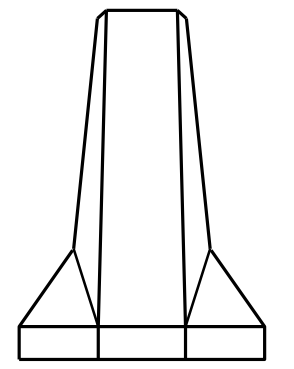
SEE DETAIL "C", BENT BAR DETAIL



PLAN VIEW

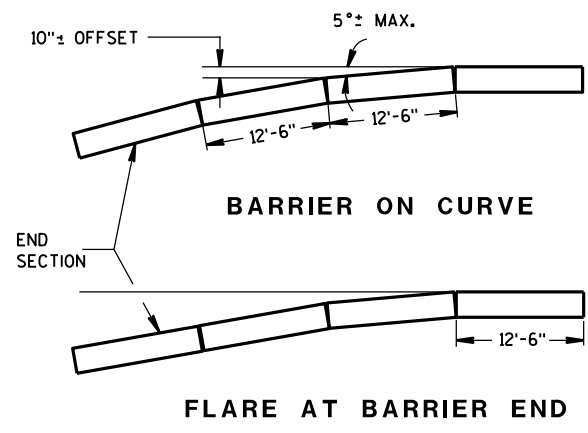


END SECTION



FRONT ELEVATION

DETAILS OF BARRIER TAPER SECTION



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

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

STATE OF WISCONSIN
 DEPARTMENT OF TRANSPORTATION

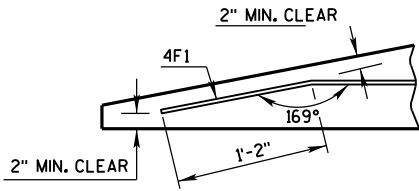
GENERAL NOTES

① NEVER USE LOOP BARS (6D1, 6D2 OR 6D3) TO LIFT, MOVE OR REPOSITION THE BARRIER.

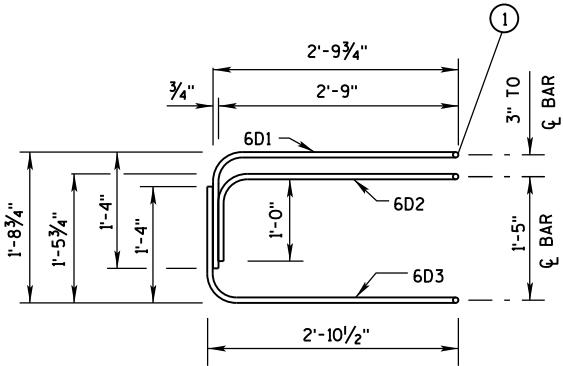
**BARRIER TAPER SECTION
BILL OF MATERIALS**
(PER 12'-6" BARRIER TAPER SECTION)

BAR	BAR SIZE	NO. OF BARS	LENGTH FT.
4V1	4	2	1'-11"
4V2	4	2	2'-2"
4V3	4	2	2'-6"
4V4	4	2	2'-9"
4V5	4	2	3'-2"
4V6	4	2	3'-4"
4F1	4	2	12'-0"
4F2	4	2	7'-6"
5F3	5	1	11'-9"

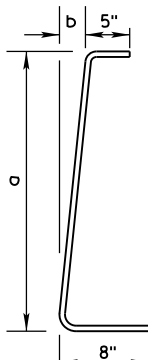
LOOP ASSEMBLY			
6D1	6	1	8'-5"
6D2	6	1	7'-7"
6D3	6	1	8'-6"



**DETAIL "C"
BENT BAR DETAIL**



**ELEVATION
LOOP BAR ASSEMBLY**



BAR	a	b
V1	10"	1"
V2	1'-1"	1/4"
V3	1'-5"	1 5/8"
V4	1'-8"	1 7/8"
V5	2'-0 1/2"	2 3/8"
V6	2'-3"	2 3/4"

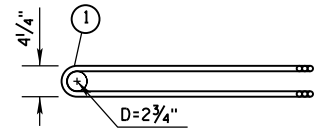
4V BARS
2 AT EACH SIZE REQUIRED
FOR STIRRUP ASSEMBLY

TAPER BARRIER SECTION

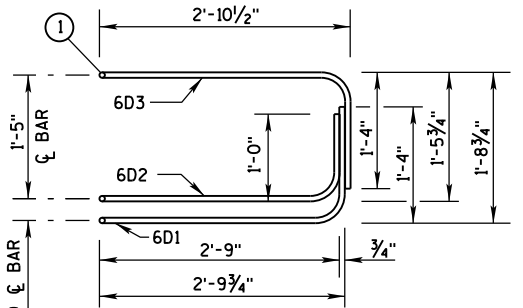
**BARRIER SECTION
BILL OF MATERIALS**
(PER 12'-6" BARRIER SECTION)

BAR	BAR SIZE	NO. OF BARS	LENGTH FT.
4A1	4	12	6'-0"
6A2	6	6	2'-11"
5B1	5	3	12'-2"
4C1	4	2	12'-2"

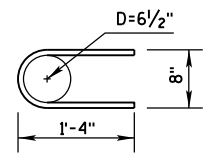
LOOP ASSEMBLY			
6D1	6	2	8'-5"
6D2	6	2	7'-7"
6D3	6	2	8'-6"



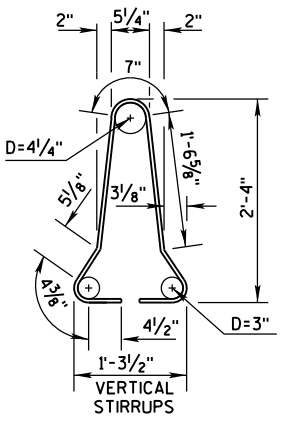
**PLAN VIEW
LOOP BAR ASSEMBLY**
(MARKED END SHOWN, INVERT FOR OTHER END)



ELEVATION VIEW



6A2

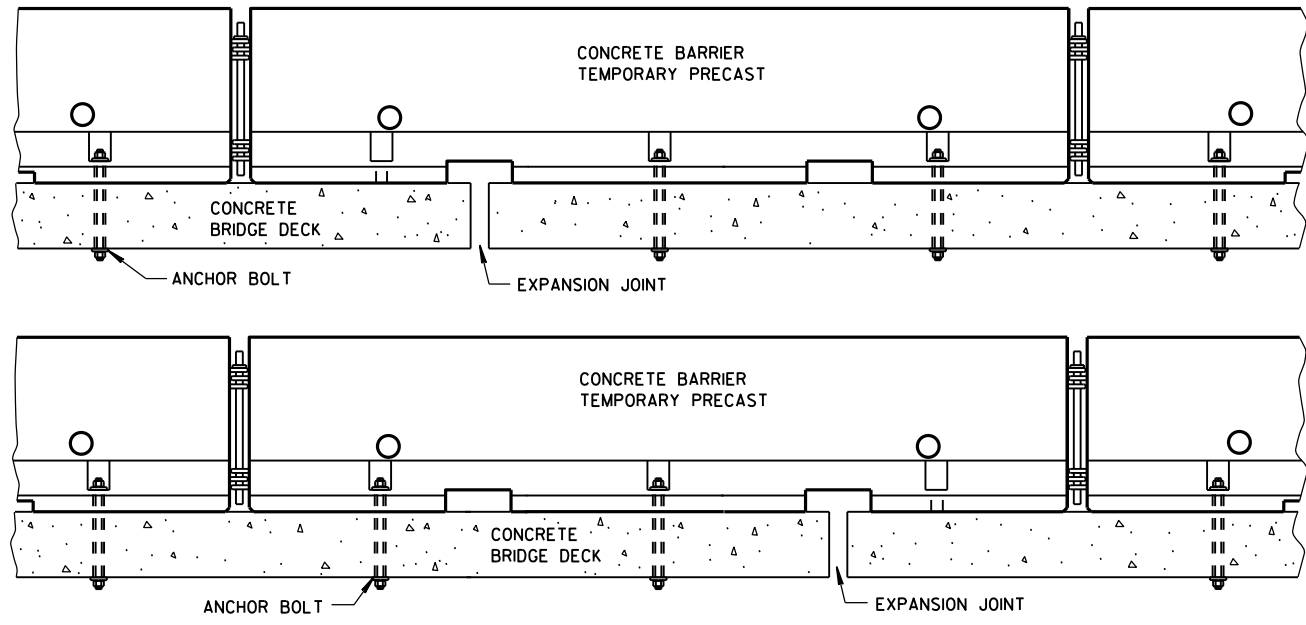


4A1

BARRIER SECTION

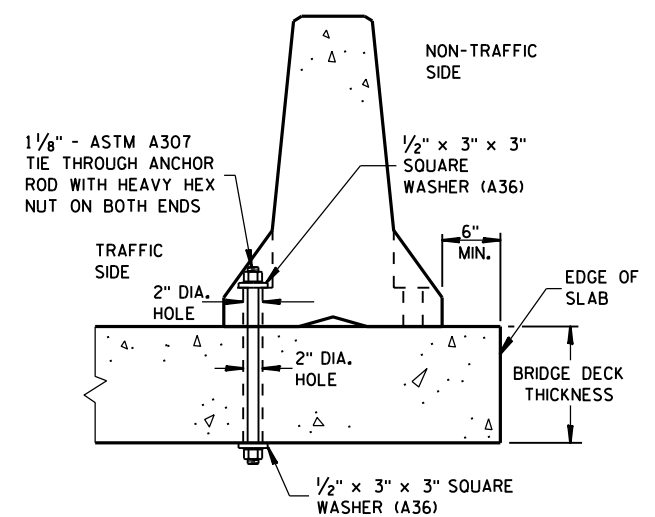
CONCRETE BARRIER
TEMPORARY PRECAST, 12'-6"

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



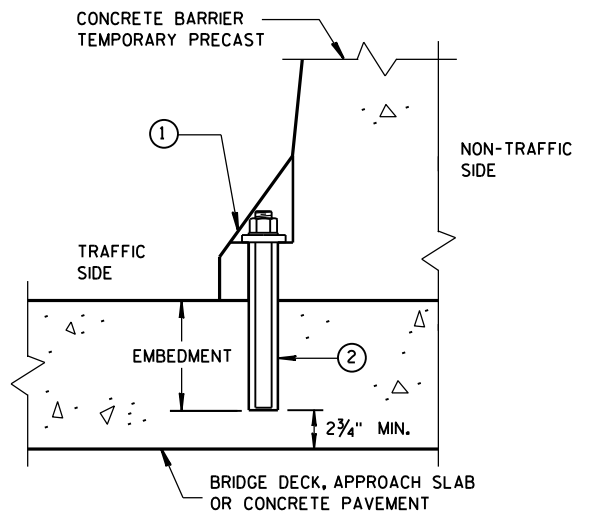
TREATMENT AT BRIDGE DECK EXPANSION JOINTS

(NO SINGLE CONCRETE BARRIER SECTION SHALL BE ANCHORED TO BOTH THE BRIDGE DECK AND THE APPROACH SLAB. ALL ANCHOR BOLT LOCATIONS SHALL BE ANCHORED TO THE DECK IN ACCORDANCE WITH THE DETAIL. NO MORE THAN ONE ANCHOR BOLT SHALL BE ELIMINATED FROM A BARRIER SECTION WHEN SPANNING AN EXPANSION JOINT.)



THROUGH BOLTED ANCHOR INSTALLATION ON BRIDGE DECK

(DO NOT USE ON CONCRETE BRIDGE DECK WITH ASPHALT OVERLAY)



REMOVABLE ADHESIVE ANCHOR INSTALLATION ON CONCRETE BRIDGE DECK, CONCRETE APPROACH SLAB, OR CONCRETE PAVEMENT

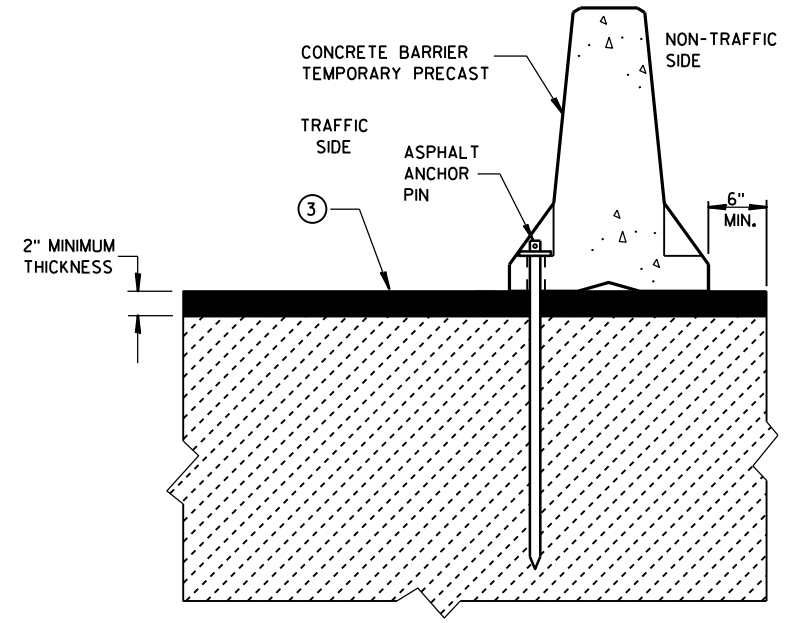
(DO NOT USE ON CONCRETE WITH AN ASPHALTIC OVERLAY)

GENERAL NOTES

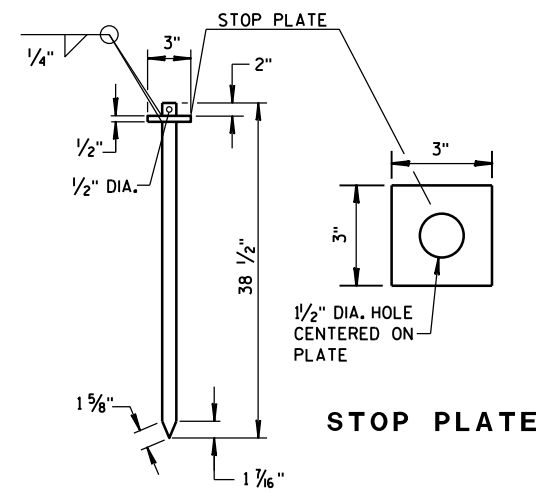
SEE SHEET E FOR WHEN TO ANCHOR. OTHER PARTS OF THE PLAN MAY SHOW ADDITIONAL LOCATIONS REQUIRING ANCHORING.

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.

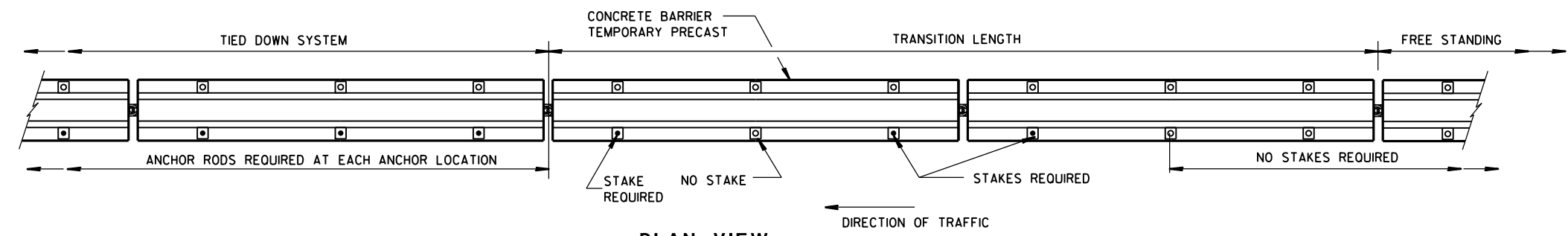
- ① 1/8" DIAMETER A307 THREADED ROD, 1/2" X 3" X 3" SQUARE PLATE WASHER WITH ASTM A36 STEEL, ASTM A563A HEAVY HEX NUT.
- ② ADHESIVE ANCHORS WITH A MINIMUM BOND STRENGTH OF 1,800 PSI AND 5/4" EMBEDMENT. SEE 603.2 AND 603.3.1.2 OF THE WISCONSIN STANDARD SPECIFICATIONS FOR MORE INFORMATION ON ADHESIVE ANCHORS.
- ③ ASPHALT SURFACE SHOWN. CONTRACTOR MAY DRILL THROUGH CONCRETE PAVEMENT AND THEN DRIVE ASPHALT ANCHOR PIN.



STAKE DOWN INSTALLATION FOR ASPHALTIC SURFACE



ASPHALT ANCHOR PIN (ASTM A36 STEEL)



FREE STANDING TRANSITION TO TIED-DOWN SYSTEM

(PLACE TRANSITION IN A TANGENT SECTION OF BARRIER PARALLEL TO THE ROADWAY. IF TRANSITION OCCURS ON STRUCTURAL SLAB, ANCHOR AS SHOWN.)

CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION

6

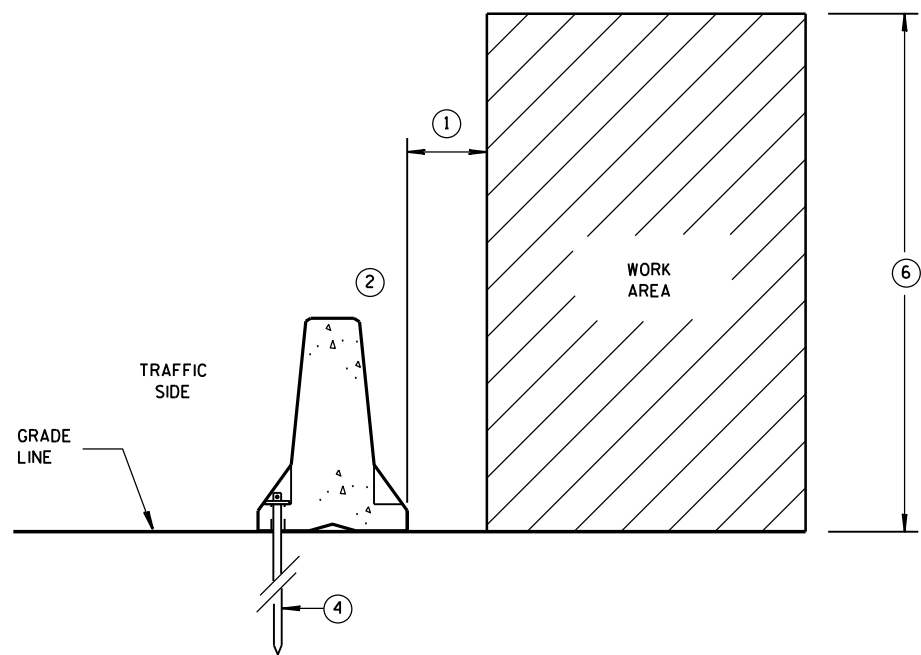
6

S.D.D. 14 B 7-15d

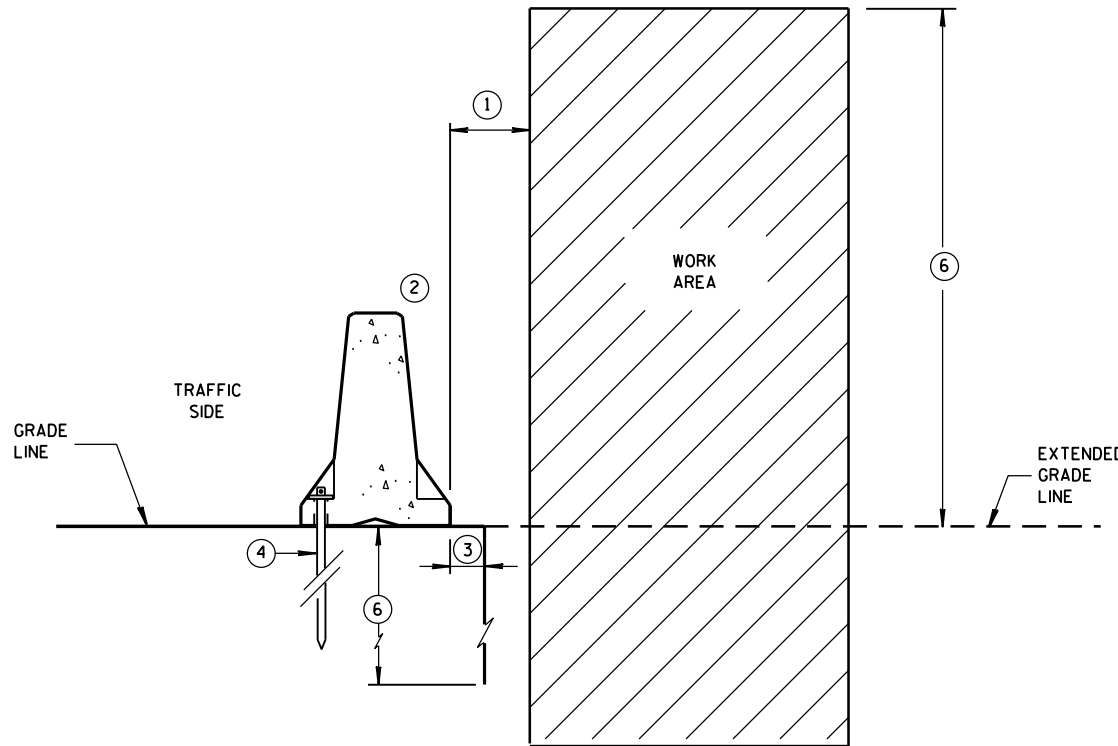
S.D.D. 14 B 7-15d

GENERAL NOTES

- ① WHEN OBJECTS EXTEND ABOVE THE GRADE, A MINIMUM OF 1 FOOT IS REQUIRED FROM BACK OF BARRIER TO OBJECT. SEE OTHER DETAILS FOR THE MINIMUM OFFSET FROM BACK OF BARRIER TO SLOPES OR VERTICAL DROPS.
- ② OBJECTS ARE NOT TO BE PLACED ON, MOUNTED TO, OR LEANED AGAINST THE BARRIER WITHOUT PERMISSION OF THE PROJECT ENGINEER.
- ③ SEE OTHER DETAIL ON SHEET "D" FOR SPACE REQUIREMENTS.
- ④ SEE BOLT THROUGH DECK, REMOVABLE ADHESIVE ANCHOR, OR A STAKE DOWN FOR ASPHALTIC SURFACE TREATMENT DETAILS. ASPHALTIC ANCHOR SHOWN.
- ⑤ DEPTH OF 3 FEET OR MORE.
- ⑥ Y = 6'-6".

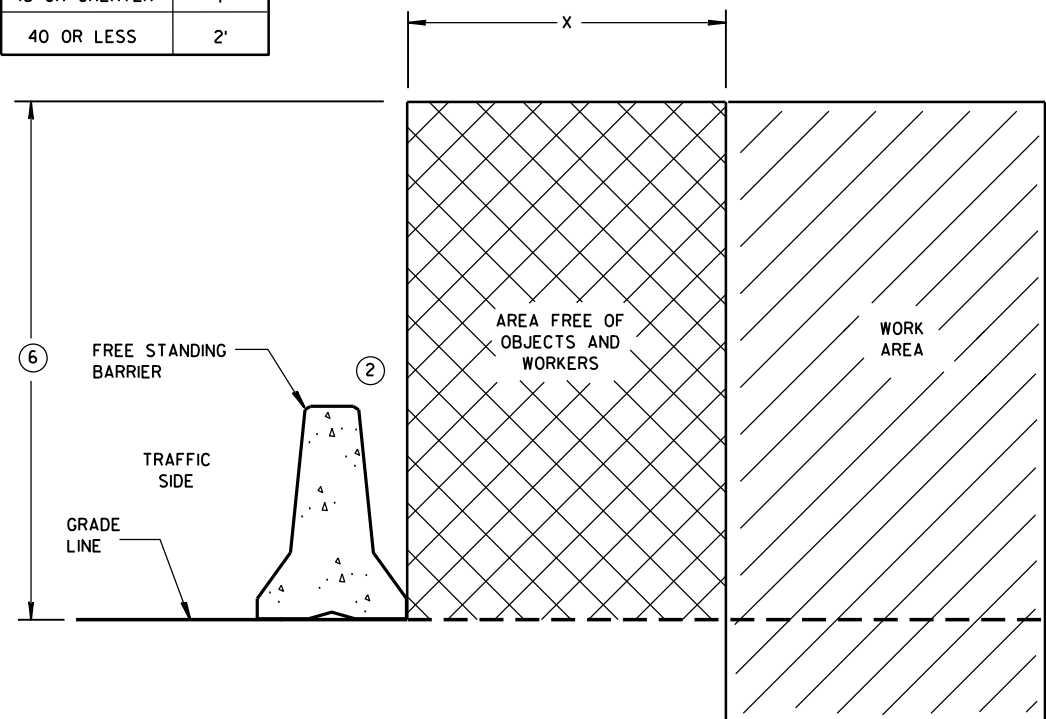


ANCHORED BARRIER SPACE REQUIREMENTS FOR HAZARDS EXTENDED ABOVE THE GRADE LINE

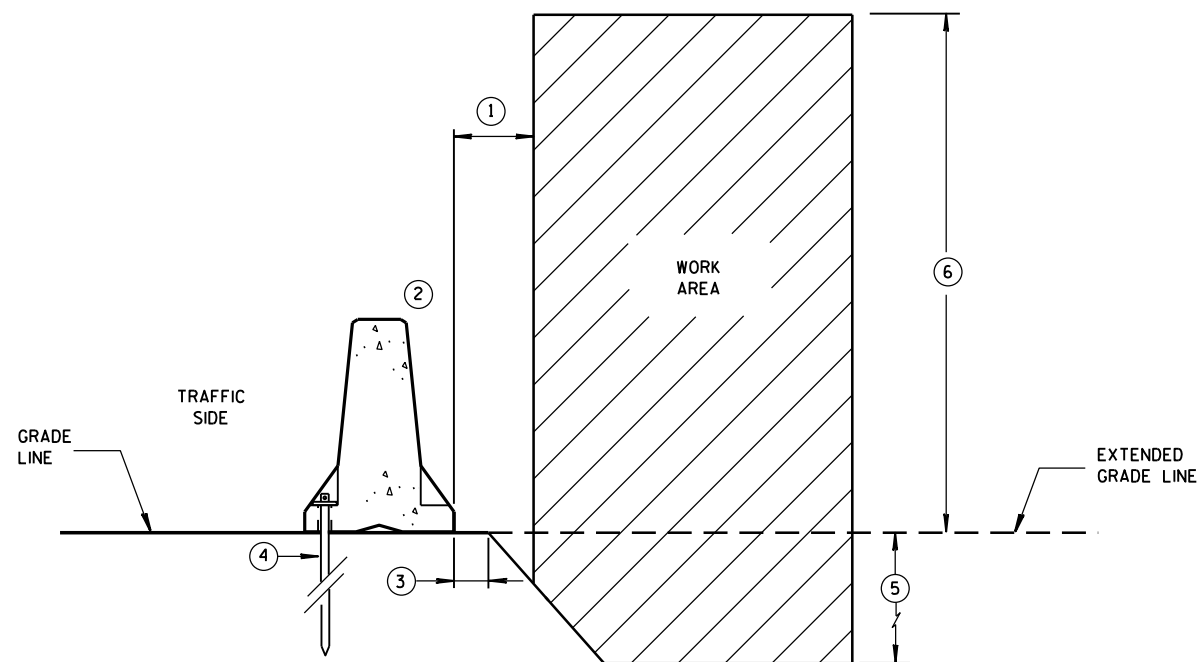


ANCHORED BARRIER SPACE REQUIREMENTS ON VERTICAL DROP OFFS

POSTED SPEED MPH	X
45 OR GREATER	4'
40 OR LESS	2'



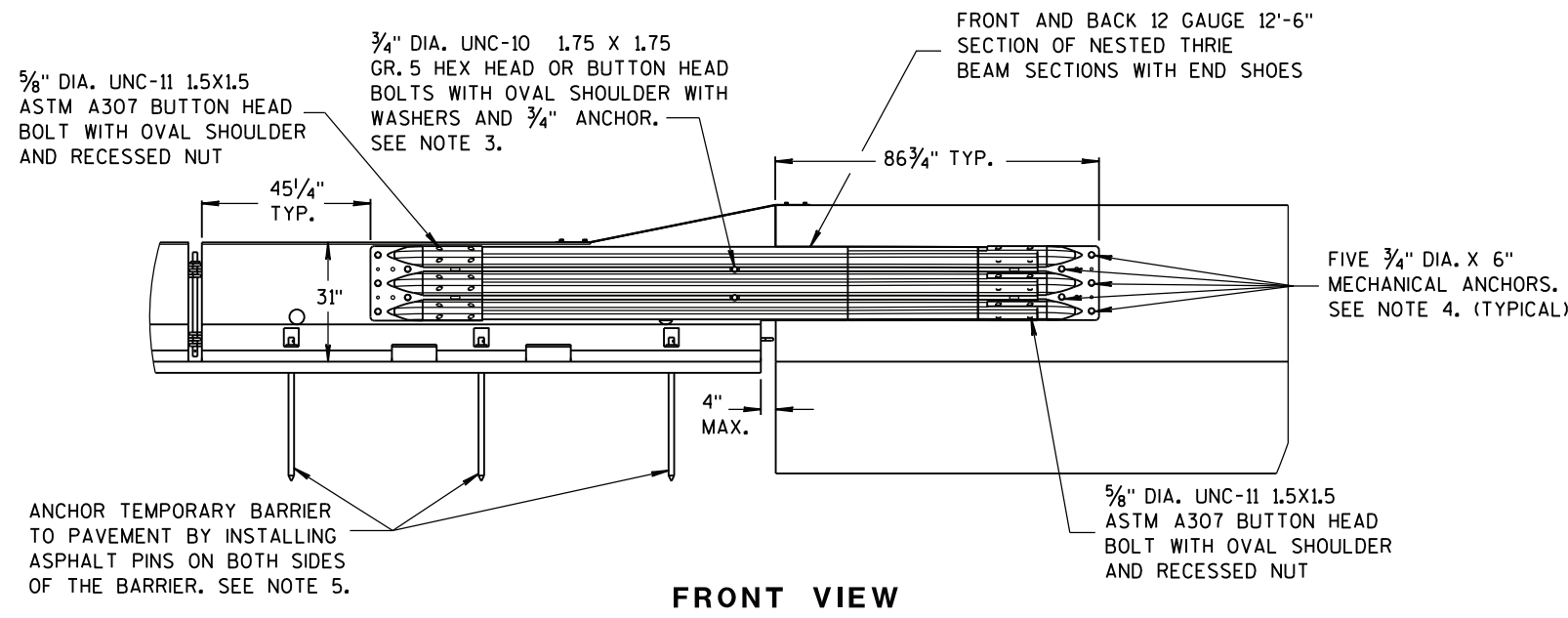
FREE STANDING BARRIER SPACE REQUIREMENTS



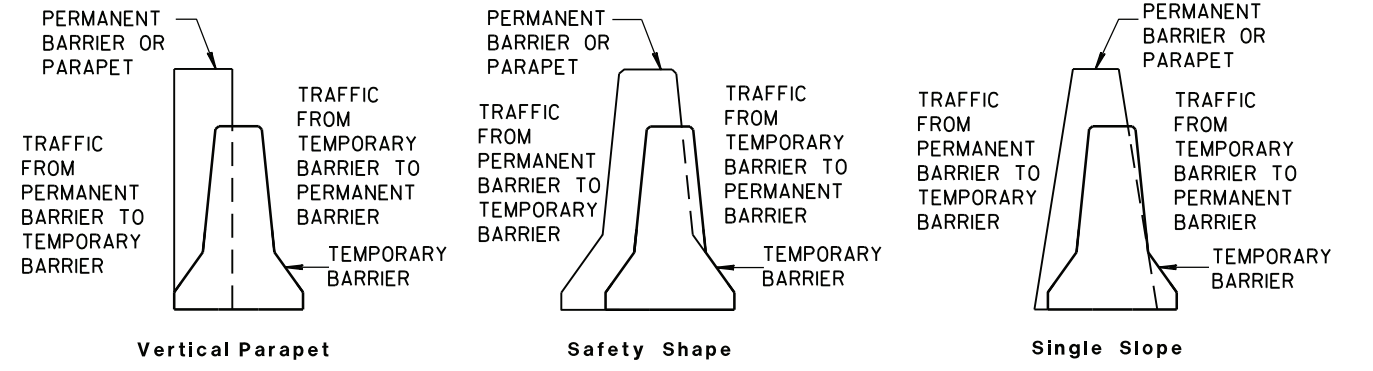
ANCHORED BARRIER SPACE REQUIREMENTS ON SLOPES

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

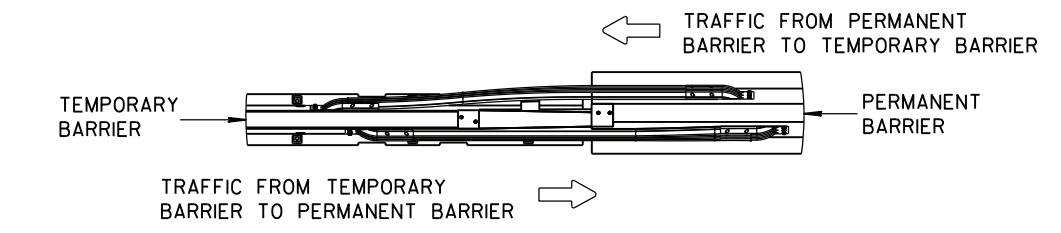
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



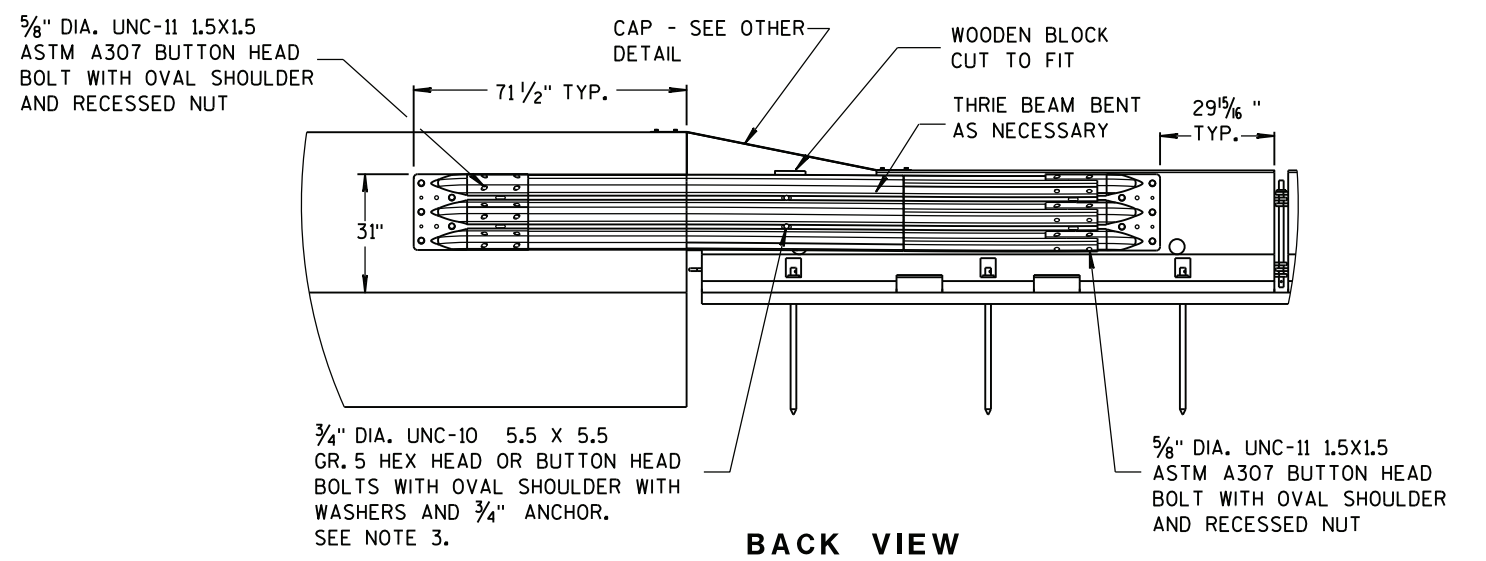
FRONT VIEW



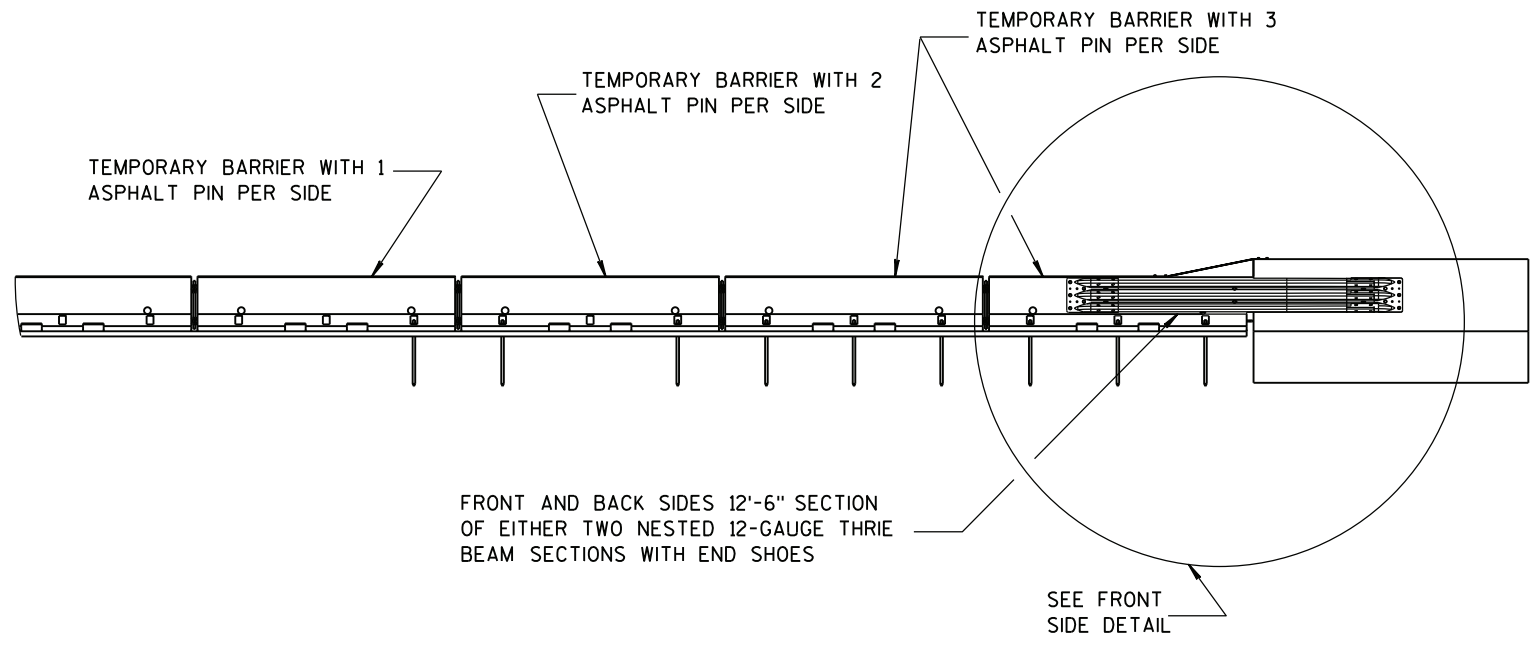
TEMPORARY BARRIER PLACEMENT FOR TRANSITION TO TIED DOWN SYSTEM



- NOTES**
- NESTED THRIE BEAM IS REQUIRED ON BOTH SIDES OF THE TEMPORARY BARRIER FOR ALL INSTALLATIONS REGARDLESS OF TRAFFIC.
- CAP END PLATE PLACED FLUSH WITH UPSTREAM END OF PERMANENT BARRIER OR PARAPET.
 - THRIE BEAM PIECES ARE OFFSET 15 1/4" TO PREVENT INTERFERENCE FROM THE ANCHORS ON OPPOSING SIDES.
 - MINIMUM MECHANICAL OR ADHESIVE ANCHOR STRENGTH REQUIREMENTS: ULTIMATE TENSILE LOAD 9.48 KIPS AND ULTIMATE SHEAR LOAD 10.48 KIPS.
 - MINIMUM MECHANICAL OR ADHESIVE ANCHOR STRENGTH REQUIREMENTS: ULTIMATE TENSILE LOAD 17.9 KIPS AND ULTIMATE SHEAR LOAD 21.96 KIPS.
 - MAY BE USED ON CONCRETE OR ASPHALT PAVEMENTS. ASPHALT OPTION SHOWN. FOR CONCRETE OPTION SEE OTHER DETAILS.
 - MINIMUM MECHANICAL OR ADHESIVE ANCHOR STRENGTH REQUIREMENTS: ULTIMATE TENSILE LOAD 12.14 KIPS AND ULTIMATE SHEAR LOAD 17.5 KIPS.

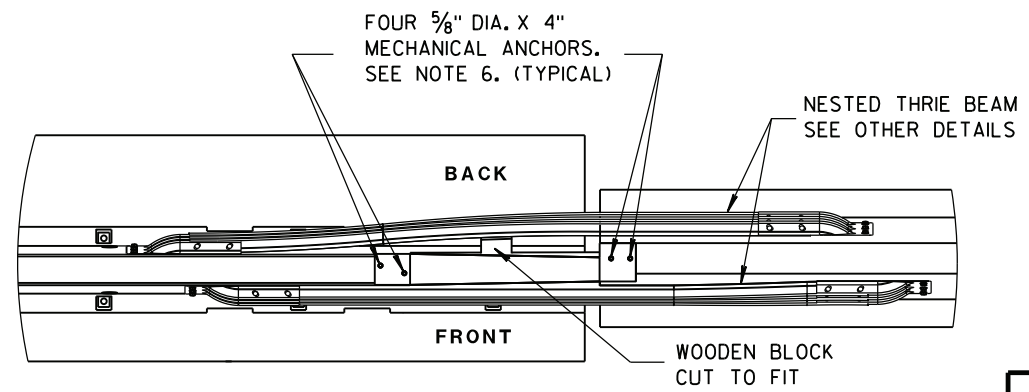


BACK VIEW



FRONT VIEW

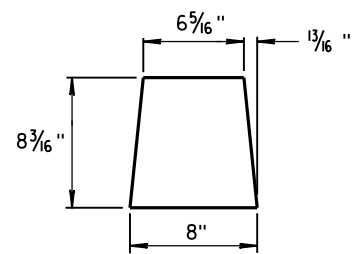
TRANSITION TO TIED DOWN SYSTEM



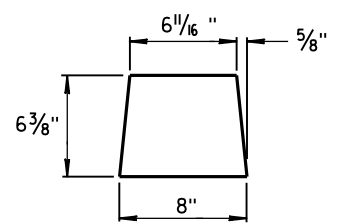
PLAN VIEW

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

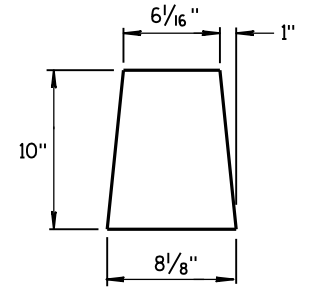
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



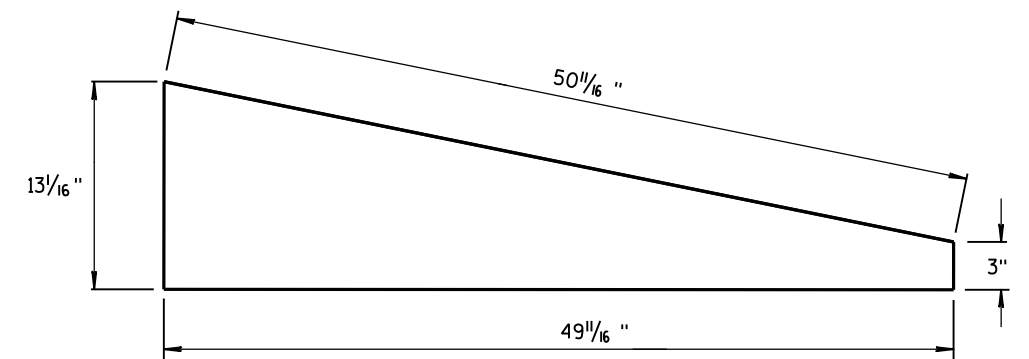
GUSSET 1



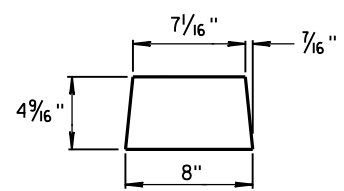
GUSSET 2



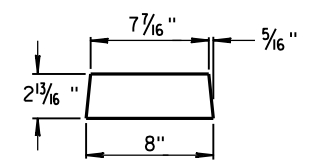
END PLATE



SIDE PLATE

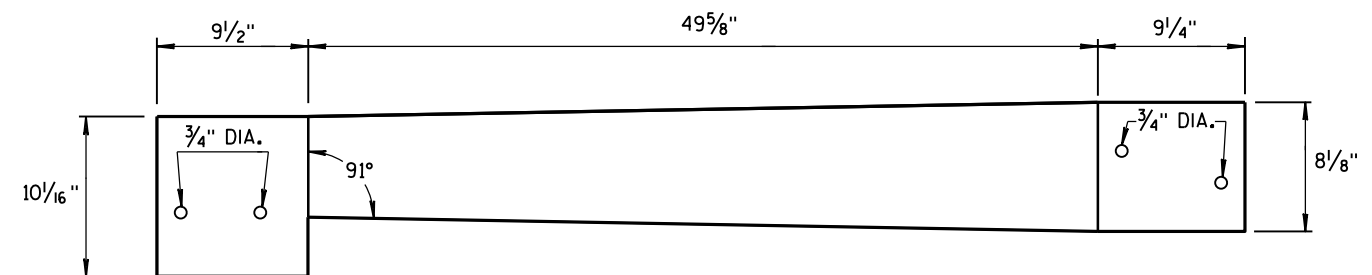


GUSSET 3

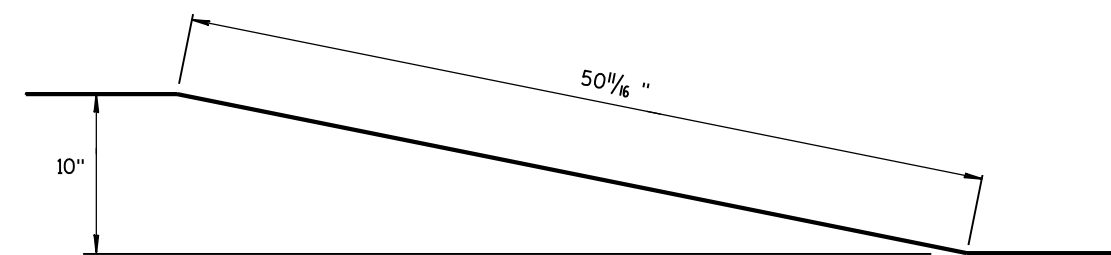


GUSSET 4

GUSSETS

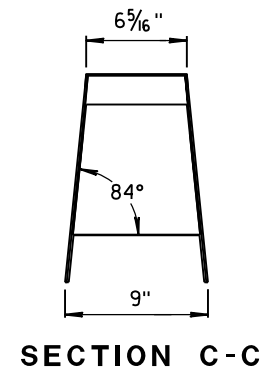
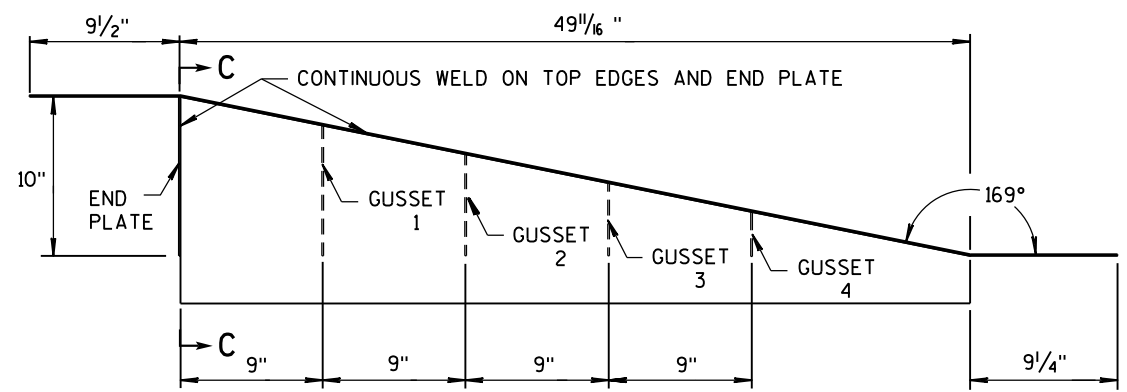
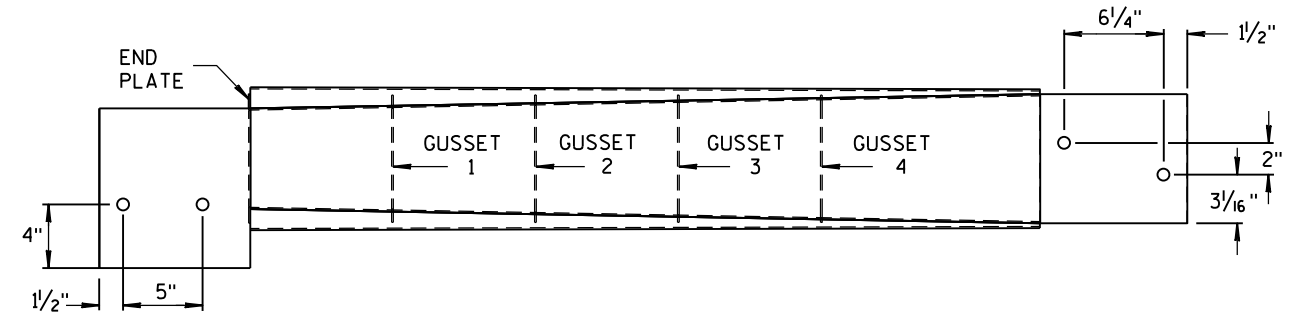


TOP PLATE



SIDE, TOP AND END PLATES FOR CAP FROM TEMPORARY CONCRETE BARRIER TO 42" PERMANENT CONCRETE BARRIER

SIDE PLATES, TOP PLATE, END PLATE AND GUSSETS ARE 12 GAUGE ASTM A36 GALVANIZED STEEL.



SECTION C-C

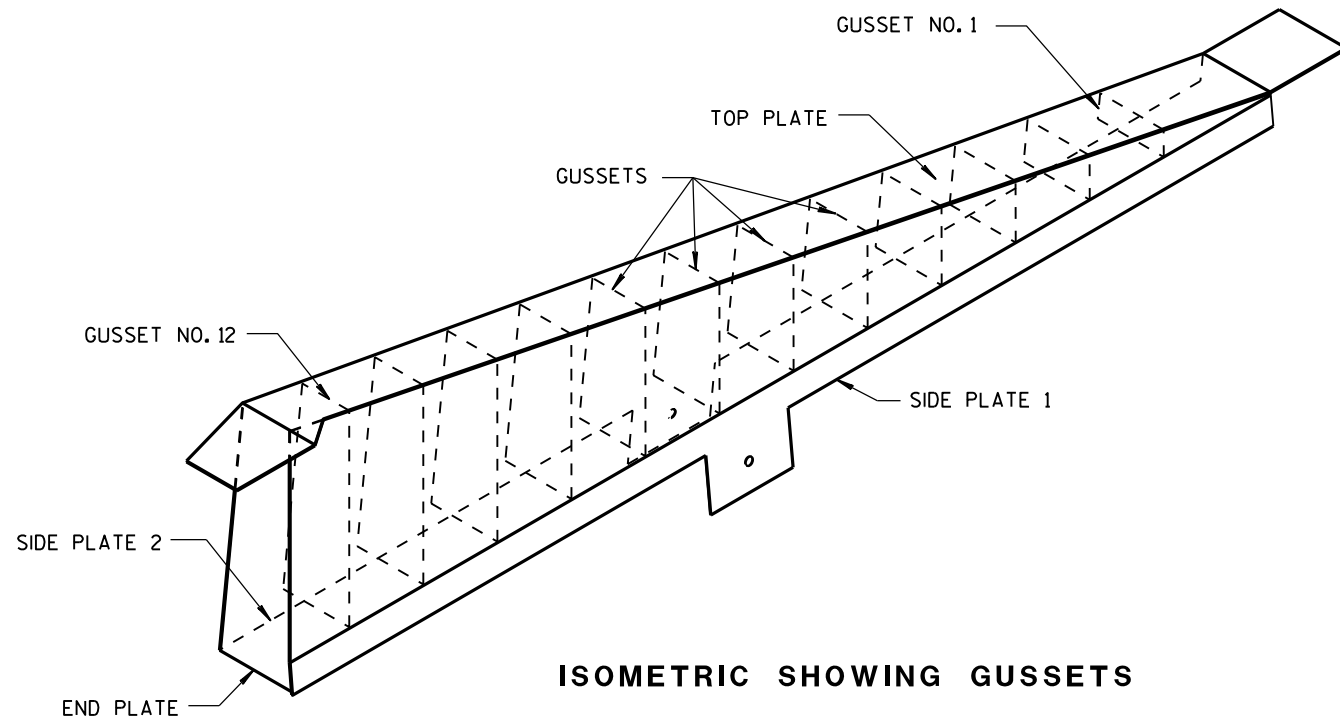
NOTES

1. FOUR GUSSETS AND END PLATE ARE STITCH WELDED ON THREE SIDES.
2. TWO TRIANGULAR SIDE PLATES ARE STITCH WELDED TO TOP PLATE, END PLATE, AND GUSSETS.

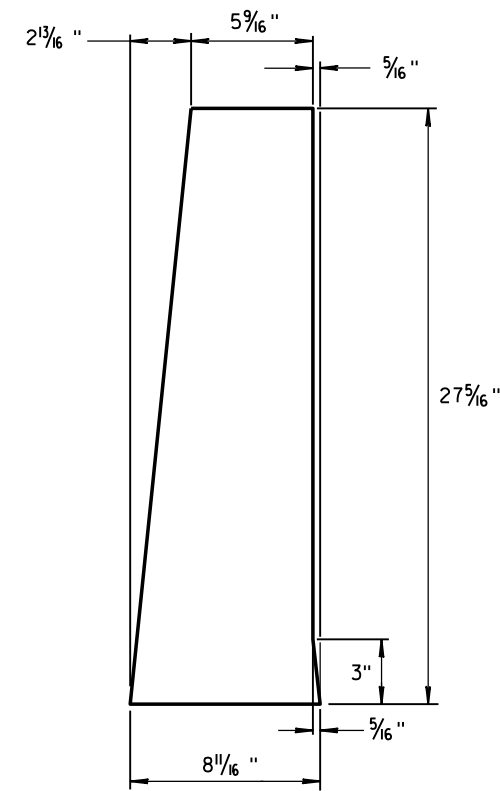
CAP DETAILS FOR TEMPORARY CONCRETE BARRIER TO 42" PERMANENT CONCRETE BARRIER

CONCRETE BARRIER
TEMPORARY PRECAST, 12'-6"

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

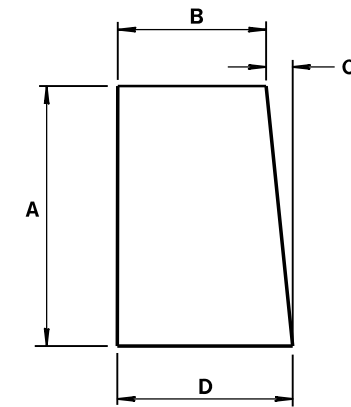


ISOMETRIC SHOWING GUSSETS



END PLATE

1/8" STEEL PLATE



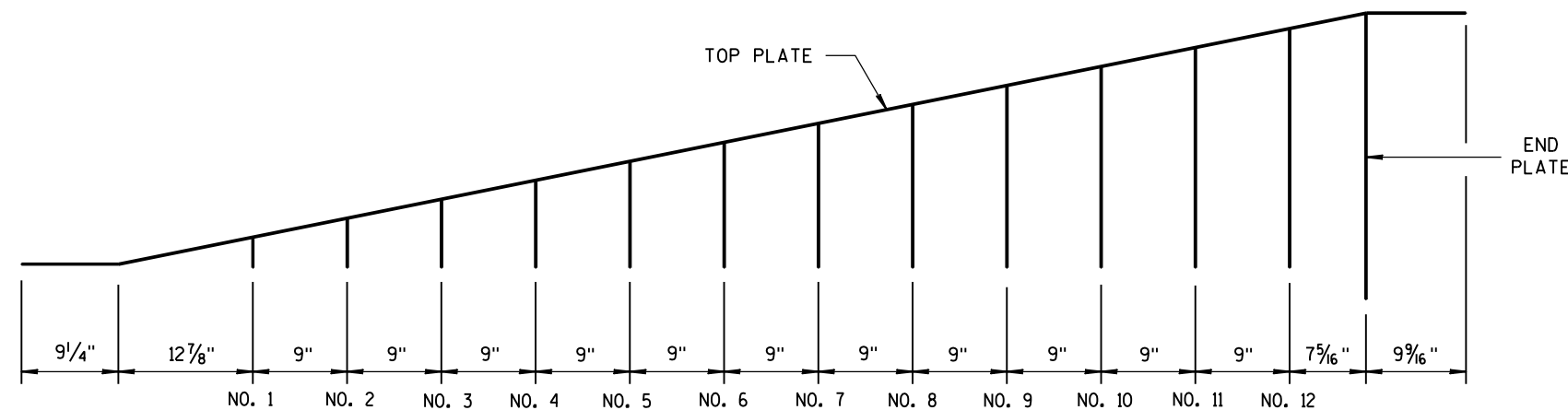
GUSSETS 1 - 12

ALL GUSSETS 1/8" STEEL PLATE

GUSSET DIMENSIONS				
GUSSET NO.	A	B	C	D
1	2 7/8"	7 3/4"	1/4"	8
2	4 1/16"	7 7/16"	1/2"	8
3	6 1/2"	7 3/8"	1 1/16"	8 1/16"
4	8 5/16"	7 3/16"	7/8"	8 1/16"
5	10 1/8"	7"	1 1/16"	8 1/16"
6	11 5/16"	6 13/16"	1 1/4"	8 1/16"
7	13 3/4"	6 5/8"	1 7/16"	8 1/16"
8	15 3/16"	6 7/16"	1 9/16"	8 1/16"
9	17 3/8"	6 1/4"	1 13/16"	8 1/16"
10	19 3/16"	6 1/16"	1 15/16"	8 1/16"
11	21"	5 7/8"	2 3/16"	8 1/16"
12	22 13/16"	5 11/16"	2 5/16"	8 1/16"

SIDE PLATES, TOP PLATE, END PLATE AND GUSSETS ARE 12 GAUGE ASTM A36 STEEL AND GALVANIZED.

GUSSETS AND END PLATE ARE STITCH WELDED ON 3 SIDES. TWO TRIANGULAR SIDE PLATES ARE STITCH WELDED TO TOP PLATE, END PLATE AND GUSSETS.

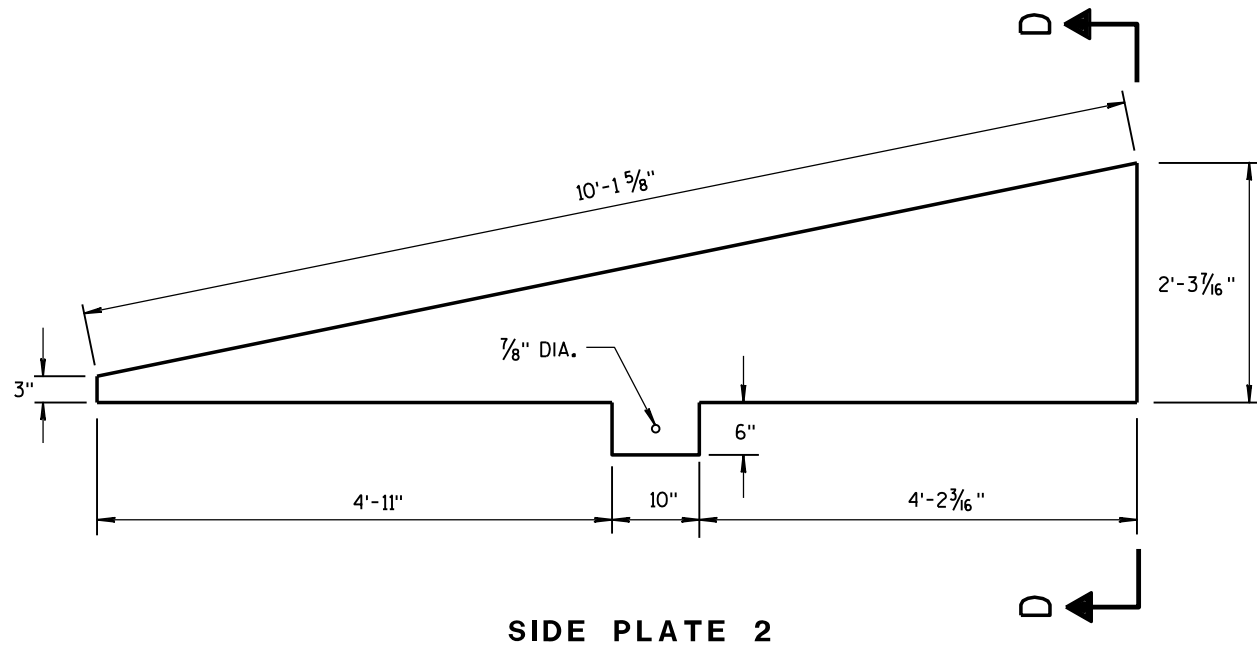


GUSSET LOCATION

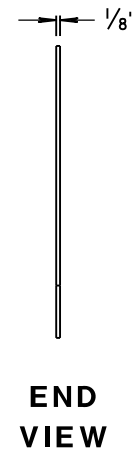
CAP DETAILS FOR TEMPORARY CONCRETE BARRIER TO 56" PERMANENT CONCRETE BARRIER

CONCRETE BARRIER
TEMPORARY PRECAST, 12'-6"

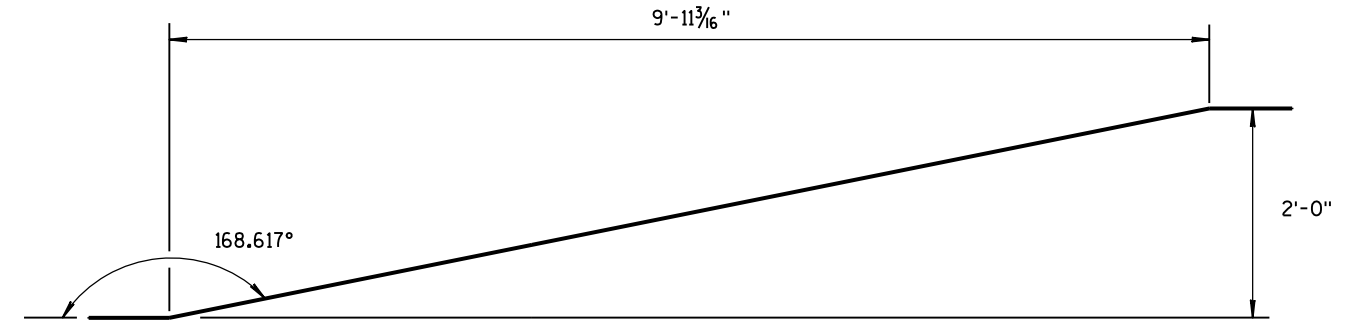
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



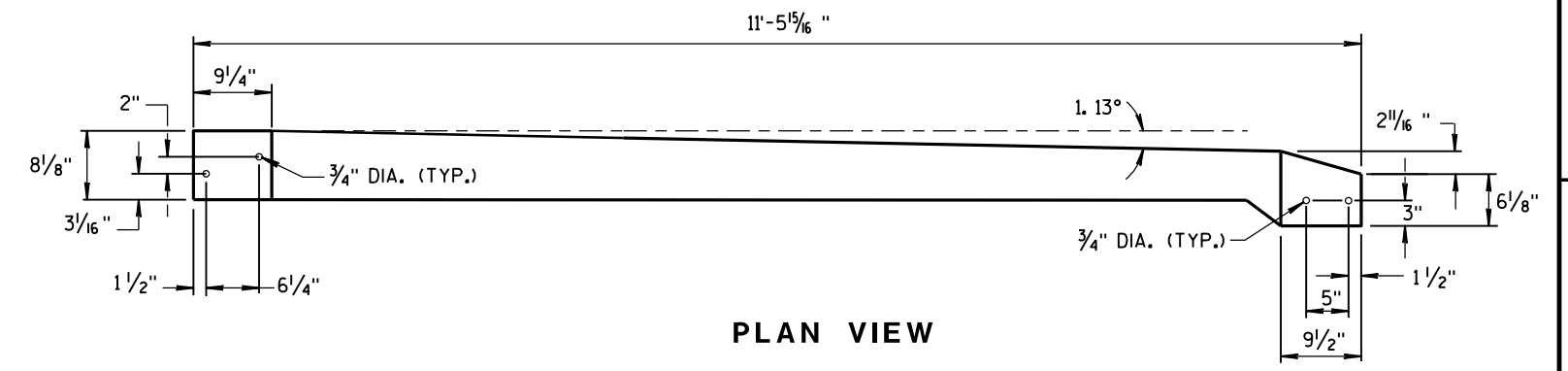
SIDE PLATE 2



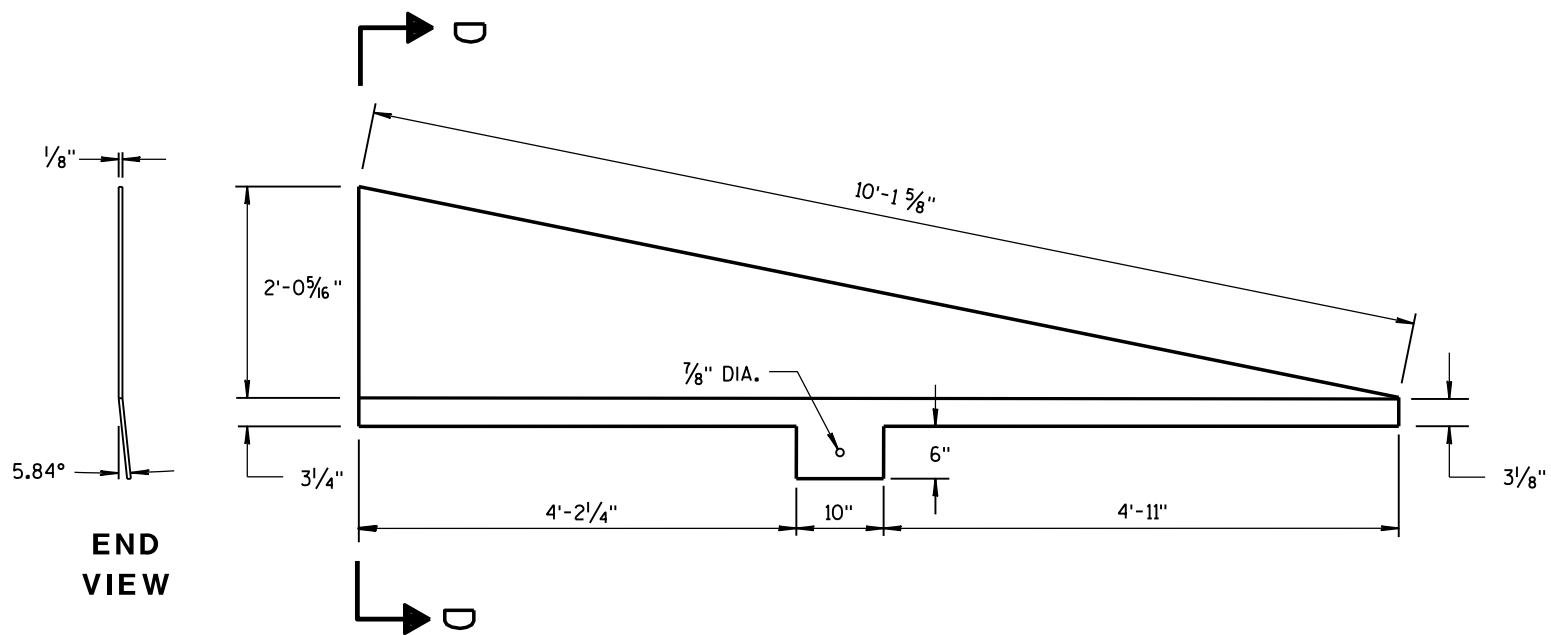
END VIEW



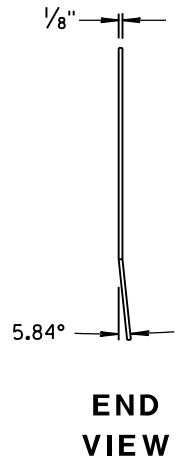
**SIDE VIEW
TOP PLATE**



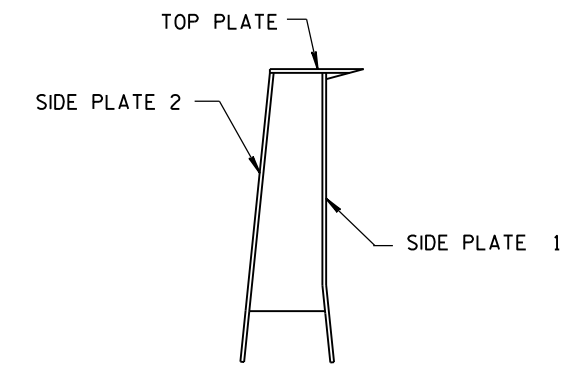
**PLAN VIEW
TOP PLATE**



SIDE PLATE 1



END VIEW



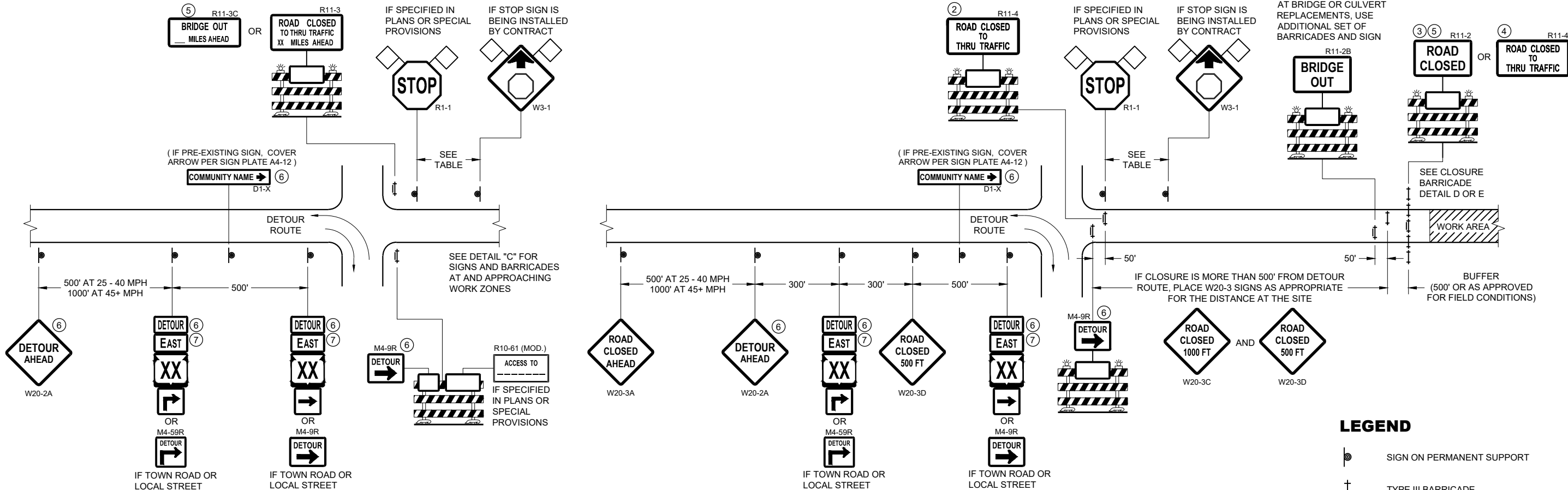
SECTION D-D

CAP DETAILS FOR TEMPORARY CONCRETE BARRIER TO 56" PERMANENT CONCRETE BARRIER

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

**STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION**

APPROVED
June 2017 /S/ Rodney Taylor
DATE ROADWAY STANDARD DEVELOPMENT
FHWA UNIT SUPERVISOR



**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**

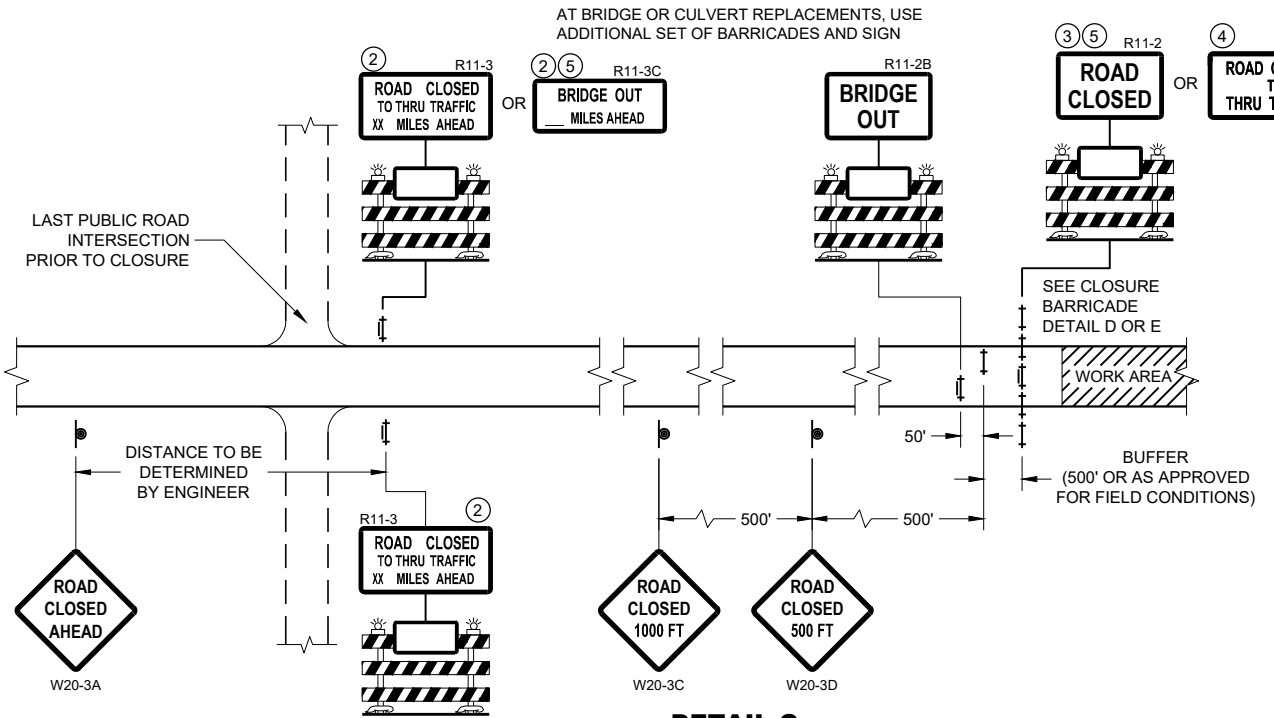
WORK ZONE LESS THAN 1/2 MILE FROM
DETOUR ROUTE (1000 FEET IF URBAN)

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 OR M1 - 6 OR M1 - 5A
- M05 - 1 OR M06 - 1



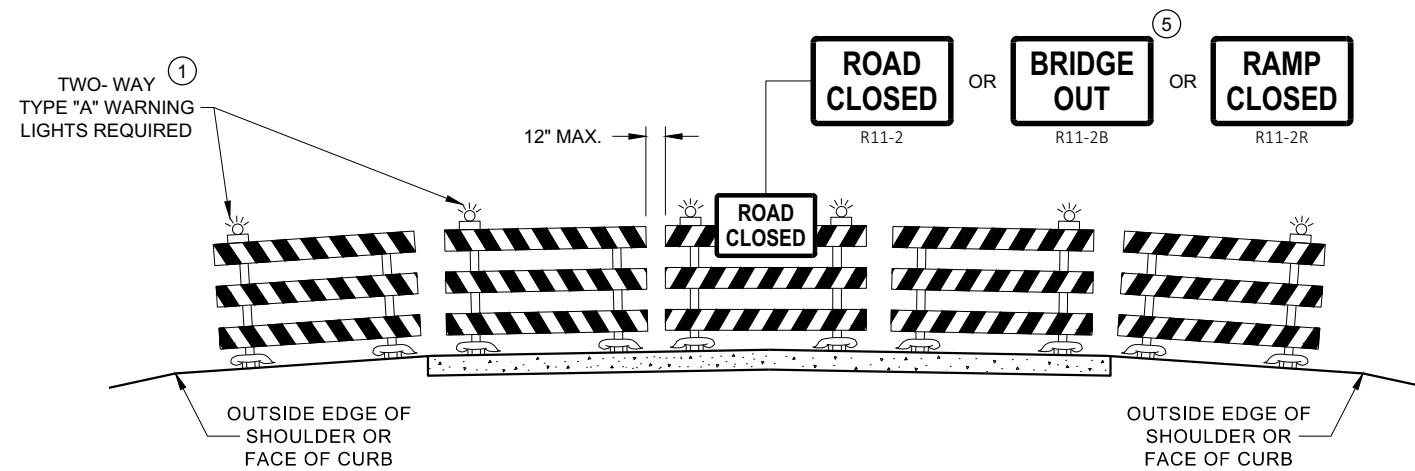
**DETAIL C
MAINLINE CLOSURE, NO POSTED DETOUR**

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

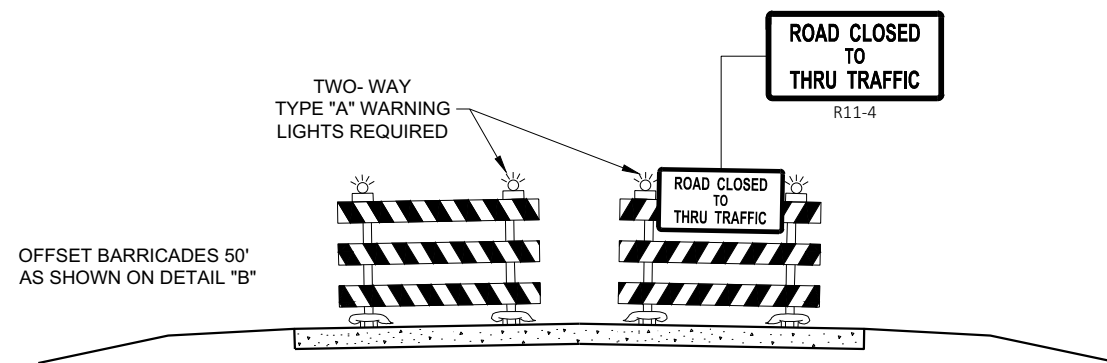
**BARRICADES AND SIGNS
FOR MAINLINE CLOSURES**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
February 2020 /S/ Andrew Heidtke
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"

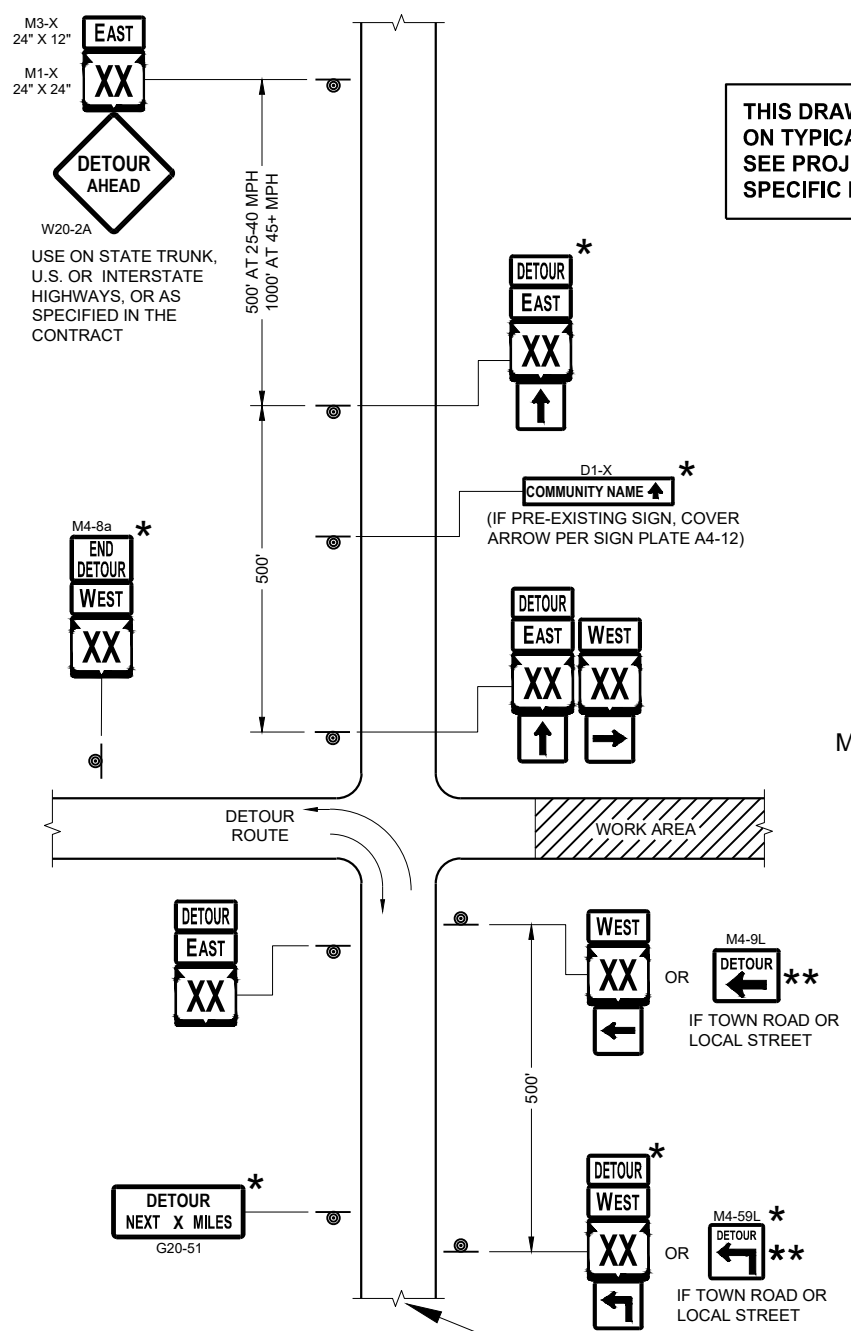
- ① TWO WARNING LIGHTS SHALL BE PROVIDED ON THE CENTER BARRICADE AND A MINIMUM OF ONE WARNING LIGHT SHALL BE PROVIDED ON EACH OF THE OTHER BARRICADES WITHIN THE ROADWAY LIMITS. SPACING OF THE WARNING LIGHTS SHALL BE UNIFORM TO THE EDGE OF ROADWAY AS SHOWN (APPROX. 8 FOOT LIGHT SPACING).
- ② THESE SIGNS 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
February 2020 /S/ Andrew Heidtke
DATE WORK ZONE ENGINEER

FHWA



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.

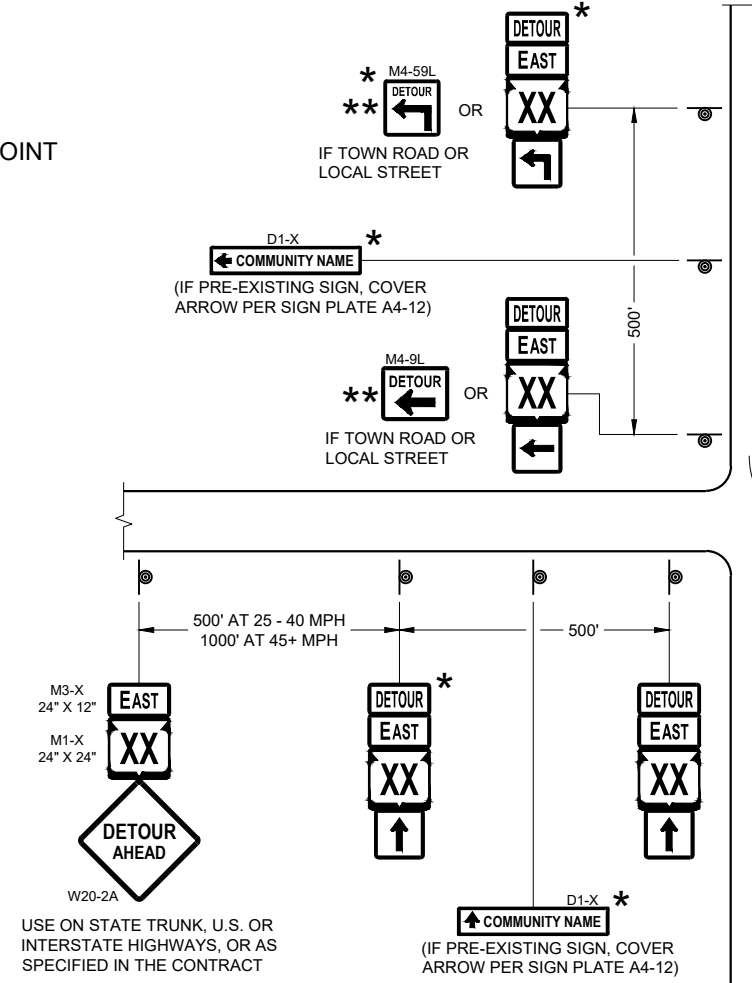
"MO" SIGNS ARE THE SAME AS "M" SIGNS EXCEPT THE BACKGROUND IS ORANGE.

SIGN SIZES SHALL BE AS FOLLOWS:

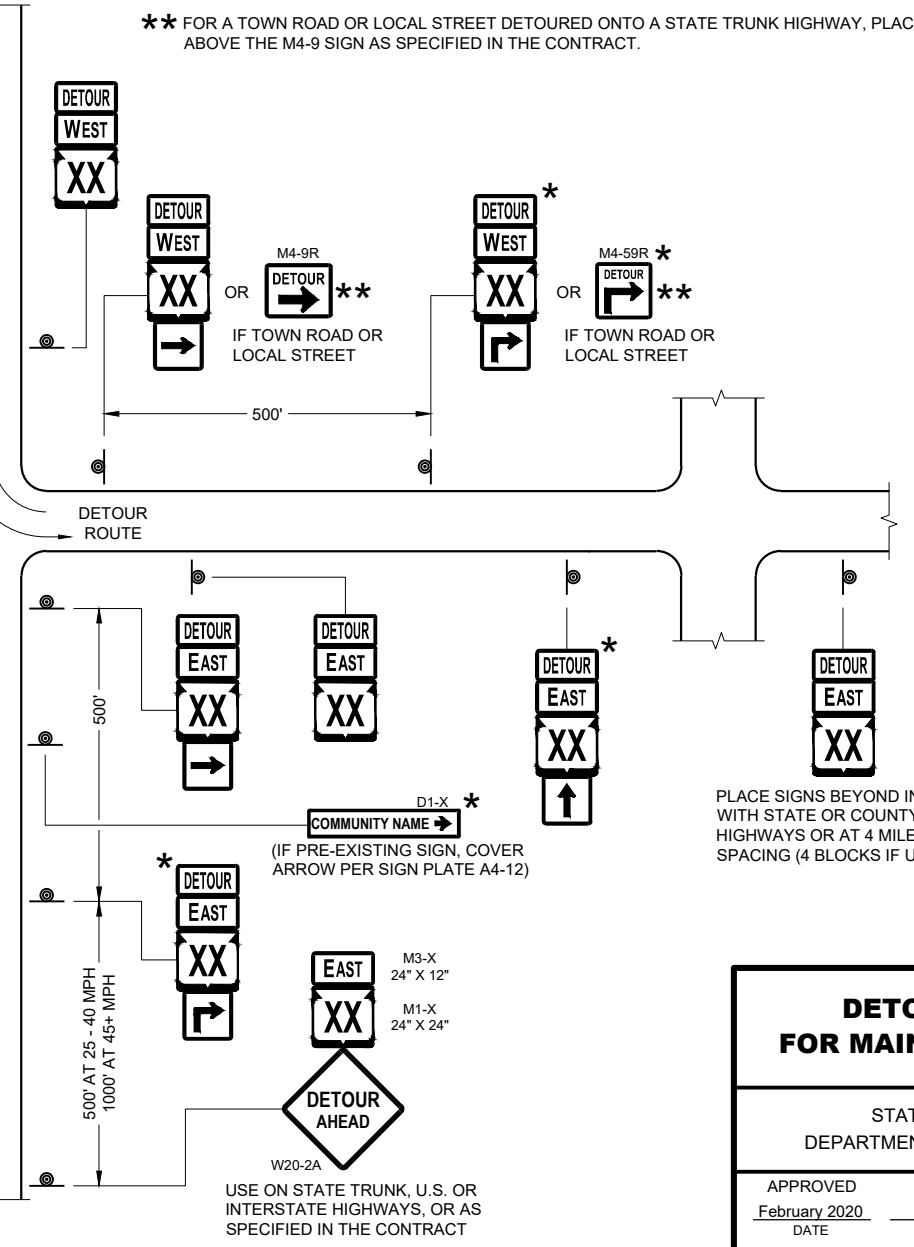
- M3-X SHALL BE 24" X 12" (36" X 18" IF NEEDED TO MATCH EXISTING SIGNS)
- M4-8 SHALL BE 24" X 12" (36" X 18" IF NEEDED TO MATCH EXISTING SIGNS)
- M1-4, M1-5A AND M1-6 SHALL BE 24" X 24" (36" X 36" IF NEEDED TO MATCH EXISTING SIGNS)
- M05-1 AND M06-1 SHALL BE 21" X 21" (30" X 30" IF NEEDED TO MATCH EXISTING 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



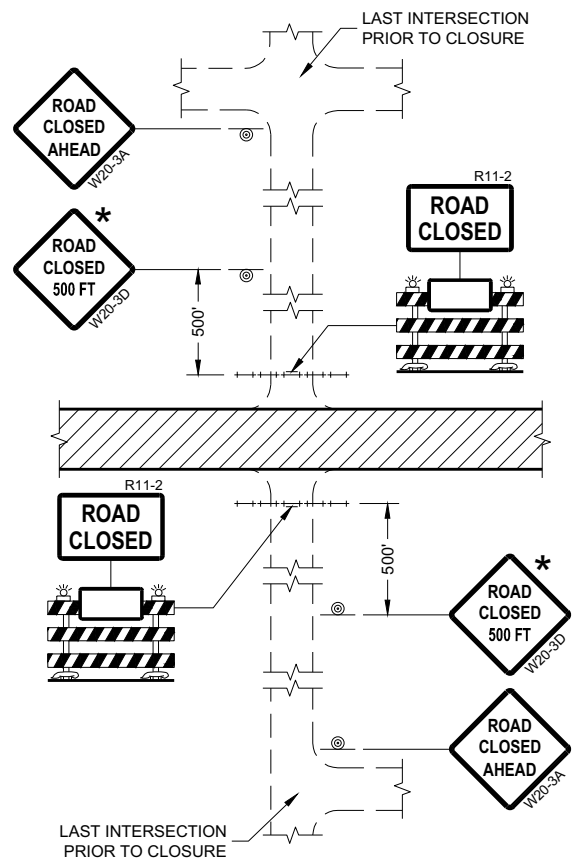
**DETAIL F
DETOUR SIGNING**



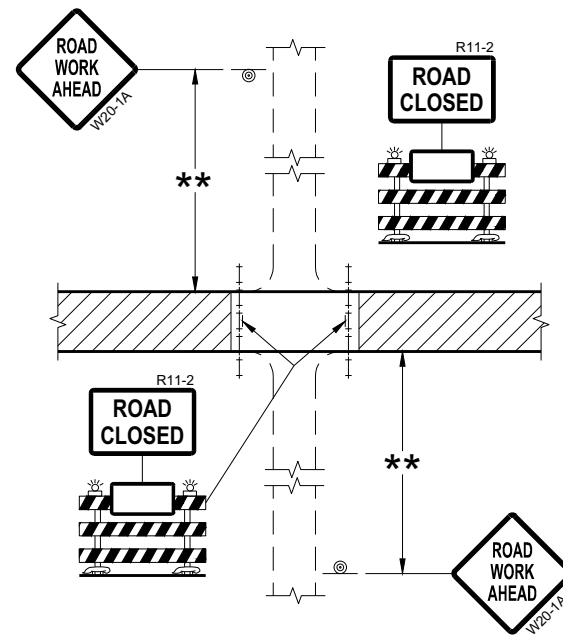
PLACE SIGNS BEYOND INTERSECTIONS WITH STATE OR COUNTY TRUNK HIGHWAYS OR AT 4 MILE MAXIMUM SPACING (4 BLOCKS IF URBAN AREA)

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

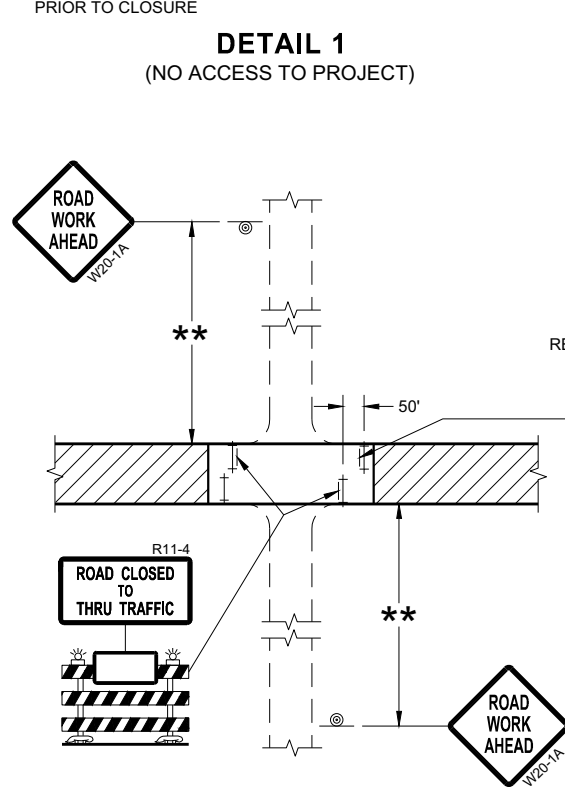
DETOUR SIGNING FOR MAINLINE CLOSURES	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED February 2020 DATE	/S/ Andrew Heidtke WORK ZONE ENGINEER
FHWA	



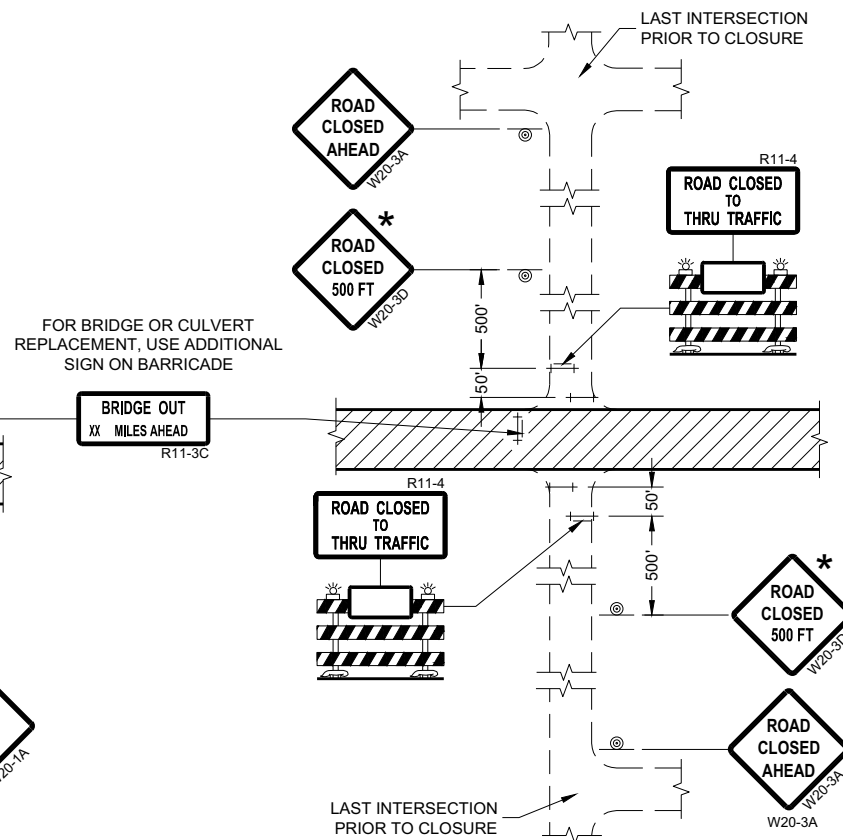
DETAIL 1
(NO ACCESS TO PROJECT)



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

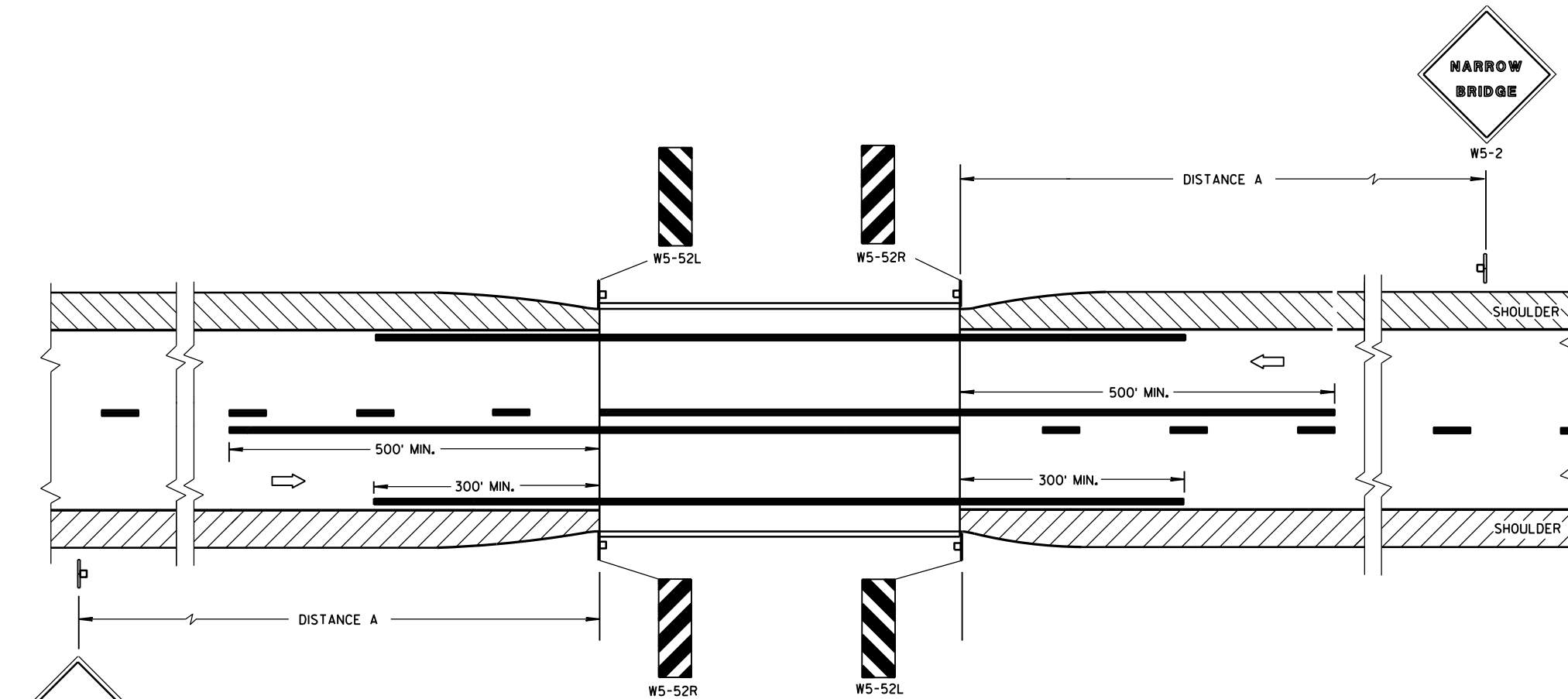
DETAILS OF TRAFFIC CONTROL DEVICES AND INSTALLATION NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS, THE SPECIAL PROVISIONS, AND THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES.

LOCATE W5-52 SIGN POST(S) BEHIND GUARDRAIL WHEN PRESENT.

PLACE THE EDGE OF THE W5-52 SIGN IN LINE WITH FACE OF CURB OR PARAPET.

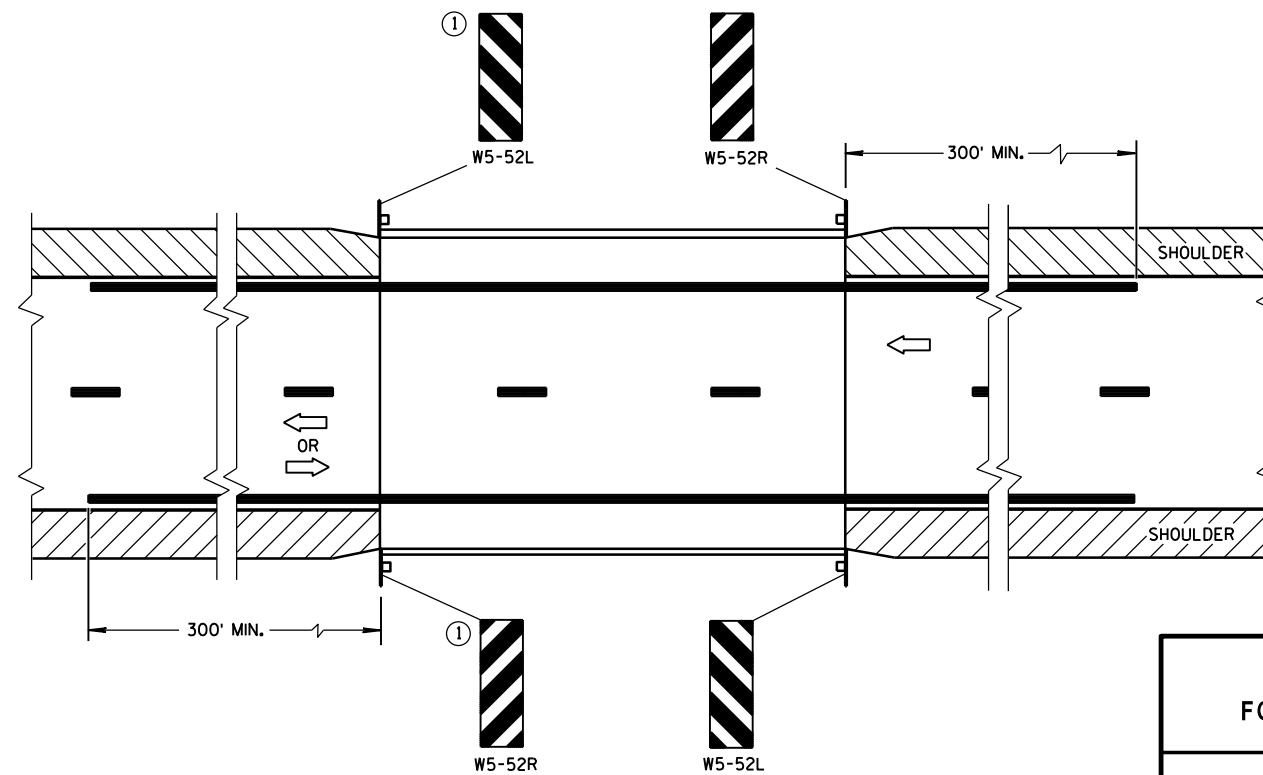
① OMIT ON ONE-WAY TRAVELLED WAYS.

➡ DIRECTION OF TRAFFIC



SITUATION 1

WARRANTING CRITERIA:
BRIDGE WIDTH IS AT LEAST 16 FEET BUT LESS THAN 24 FEET.



SITUATION 2

WARRANTING CRITERIA:
1. BRIDGE WIDTH IS AT LEAST 24 FEET AND
2. BRIDGE SHOULDER WIDTH IS LESS THAN 6 FEET.

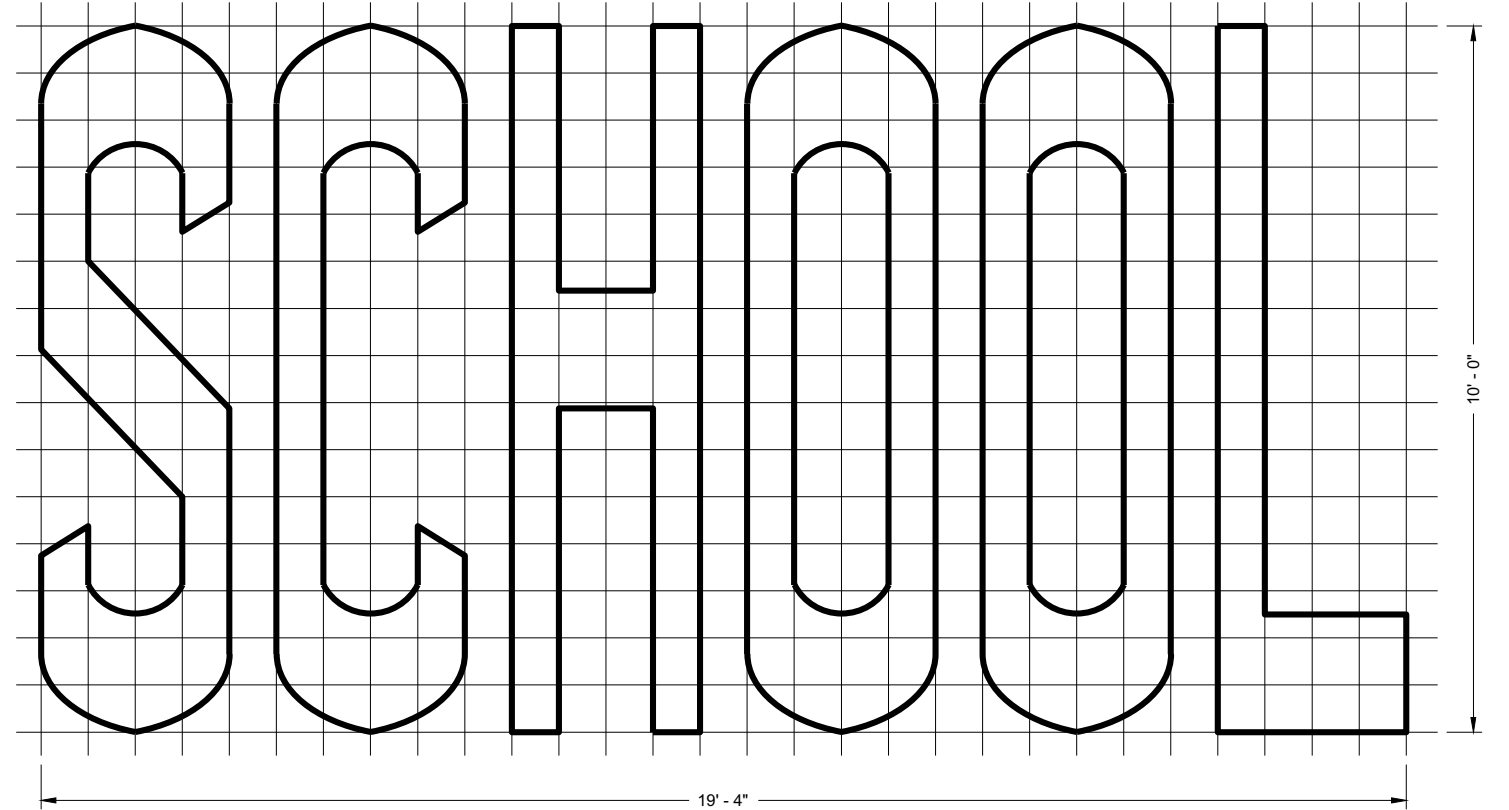
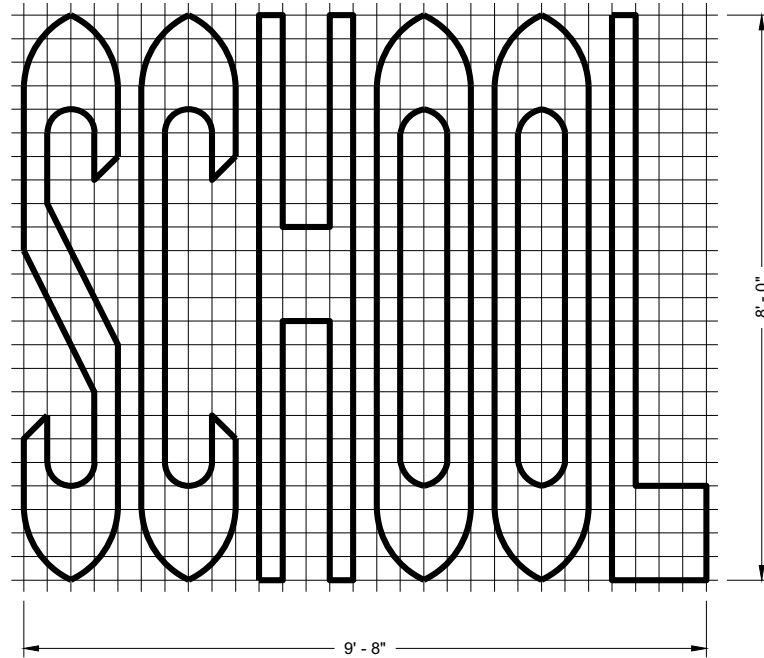
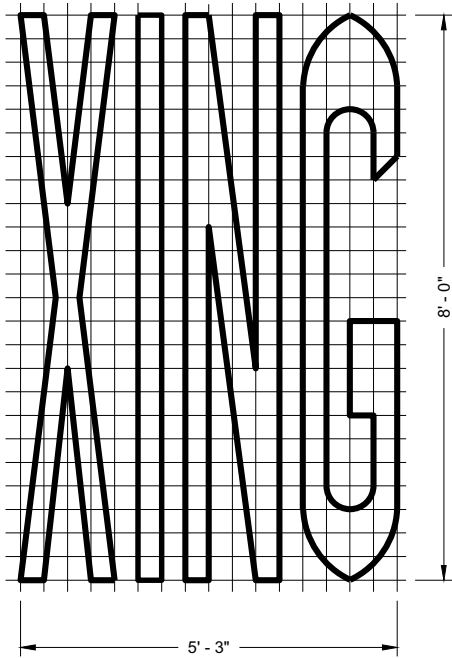
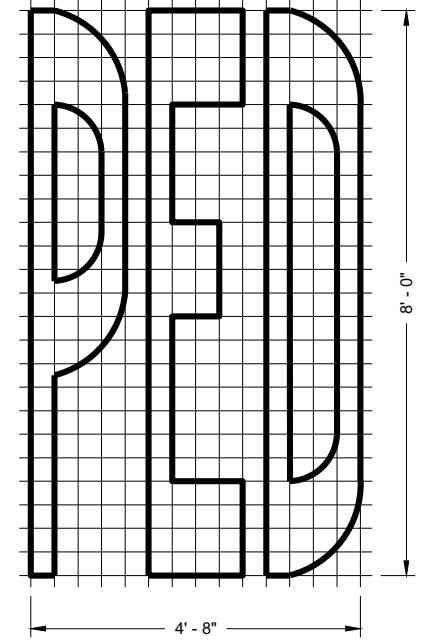
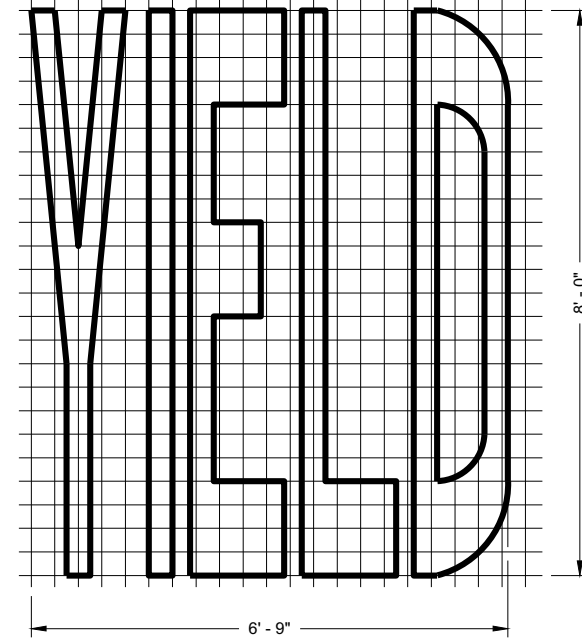
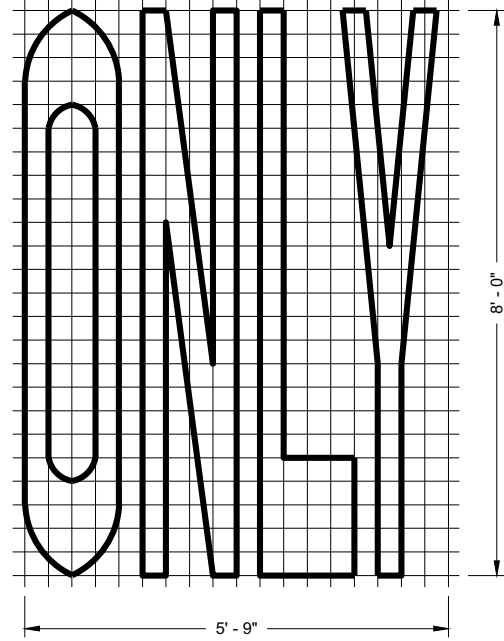
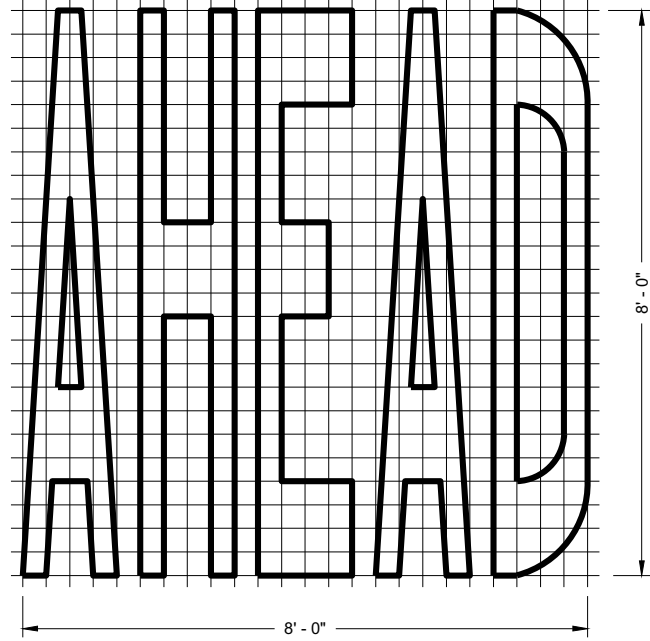
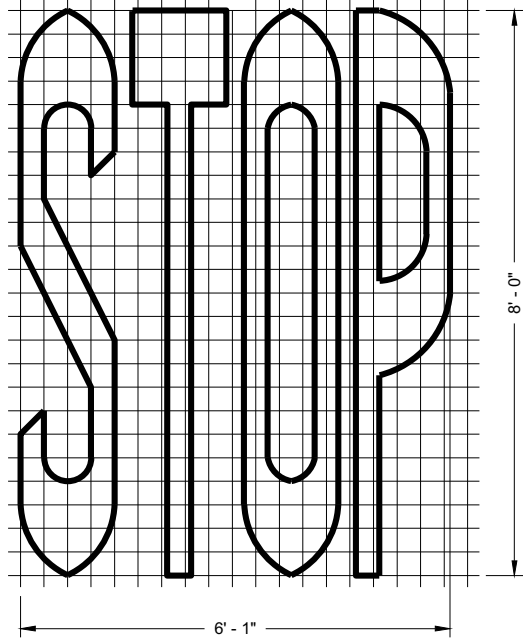
DISTANCE TABLE

POSTED OR 85th PERCENTILE SPEED	DISTANCE "A"
25	150'
30	200'
35	250'
40	300'
45	400'
50	550'
55	750'

SIGNING & MARKING FOR TWO LANE BRIDGES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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



SINGLE LANE

TWO - LANE

GENERAL NOTES

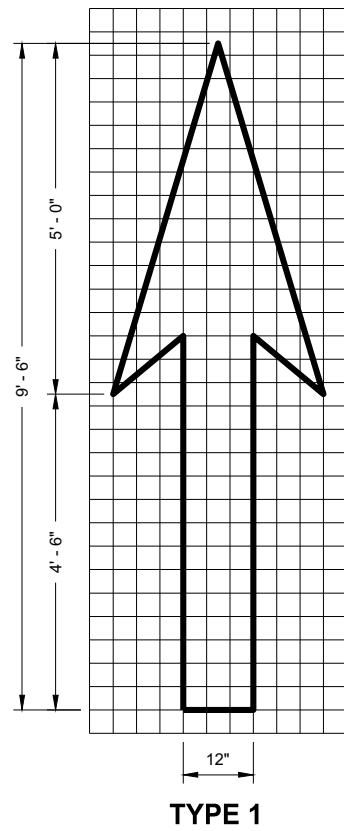
DETAILS OF INSTALLATION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND APPLICABLE SPECIAL PROVISIONS.

PAVEMENT MARKING WORDS

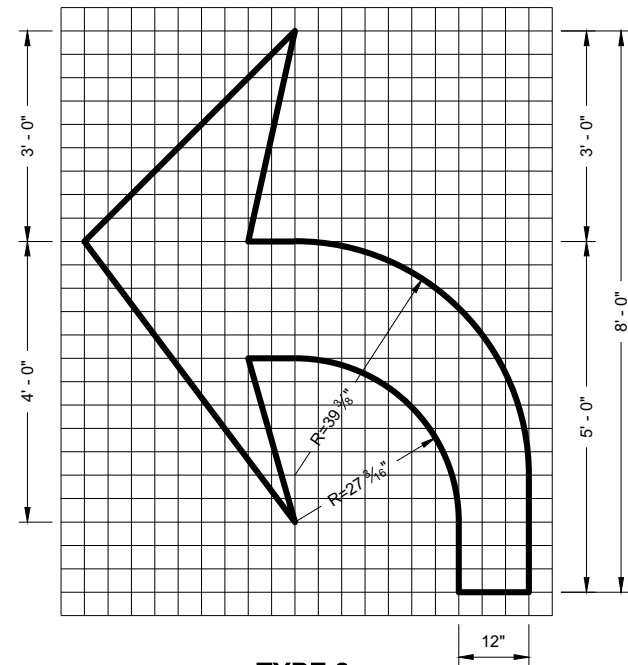
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
November 2019 /S/ Matthew Rauch
DATE STATE SIGNING AND MARKING
ENGINEER

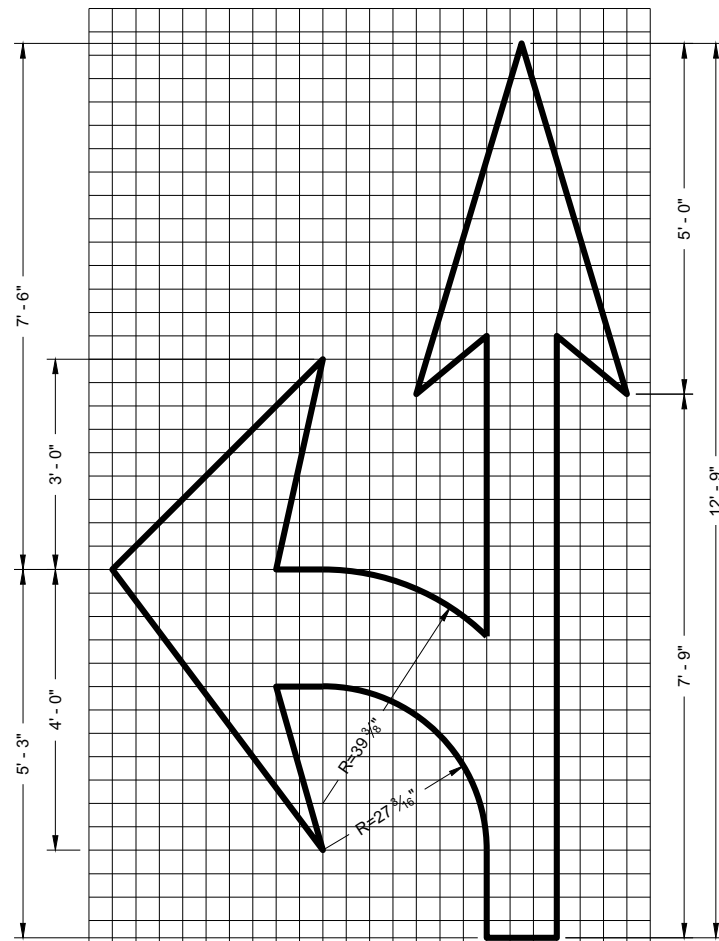
FHWA



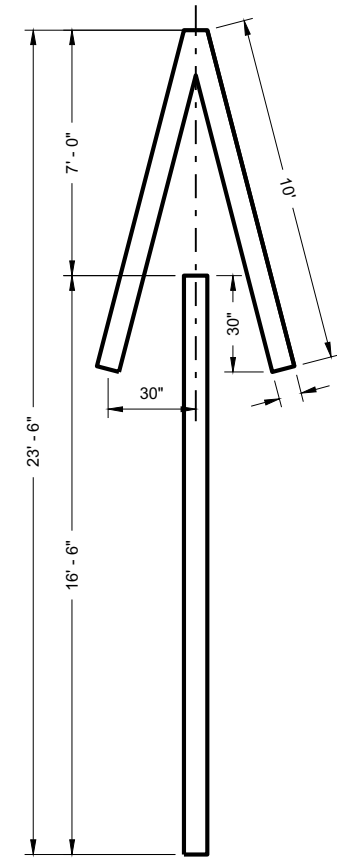
TYPE 1



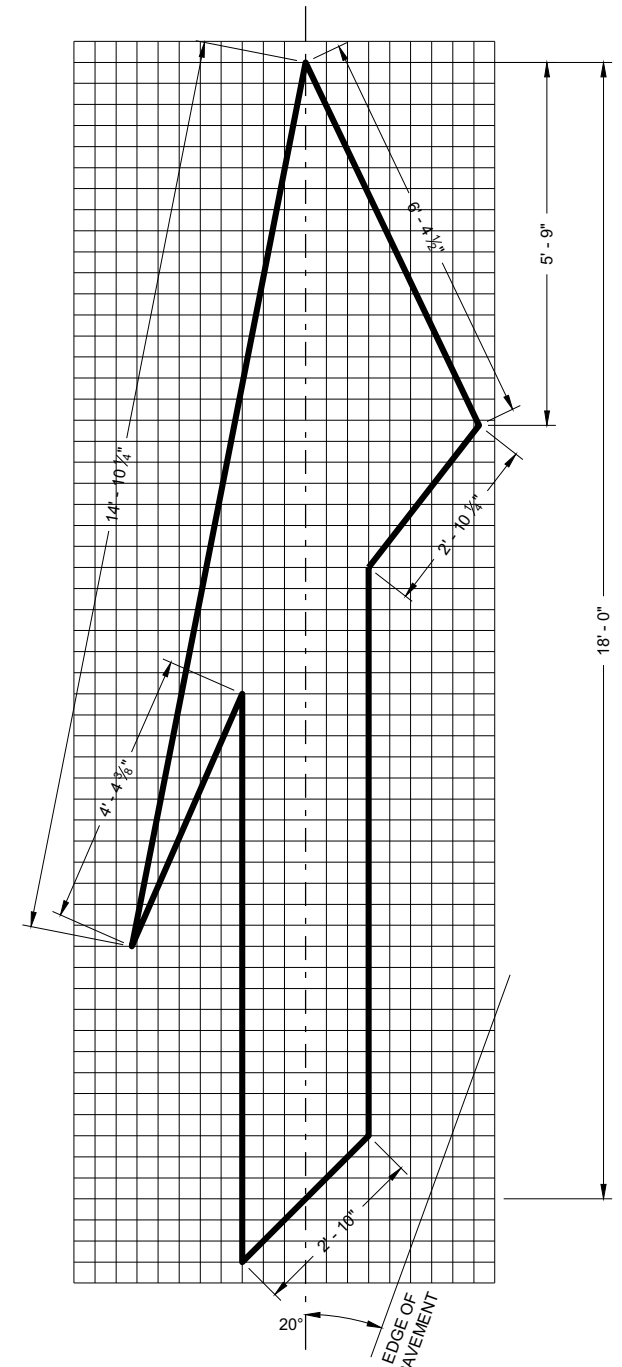
TYPE 2



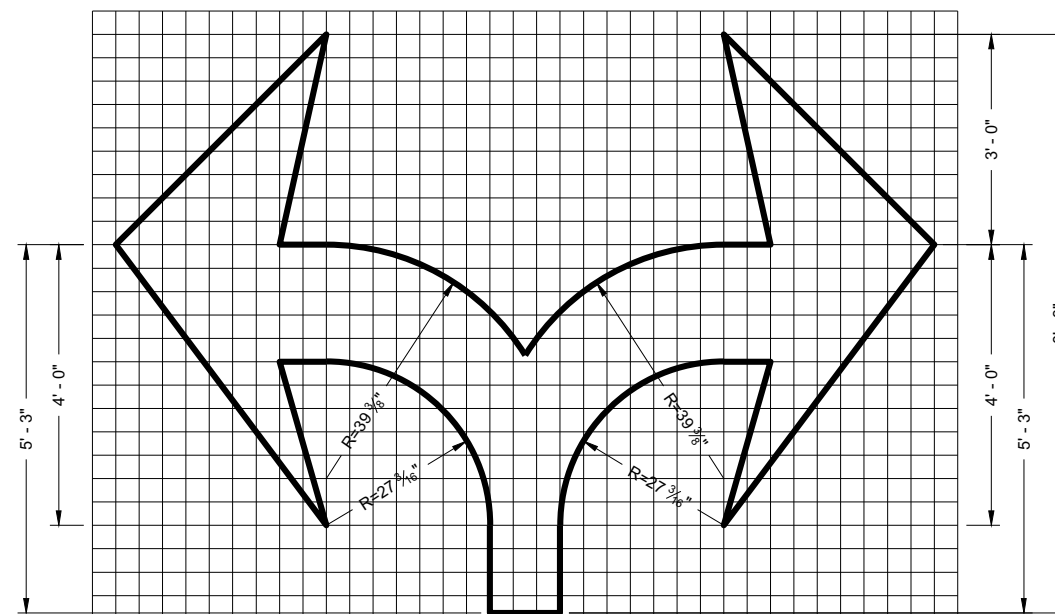
TYPE 3



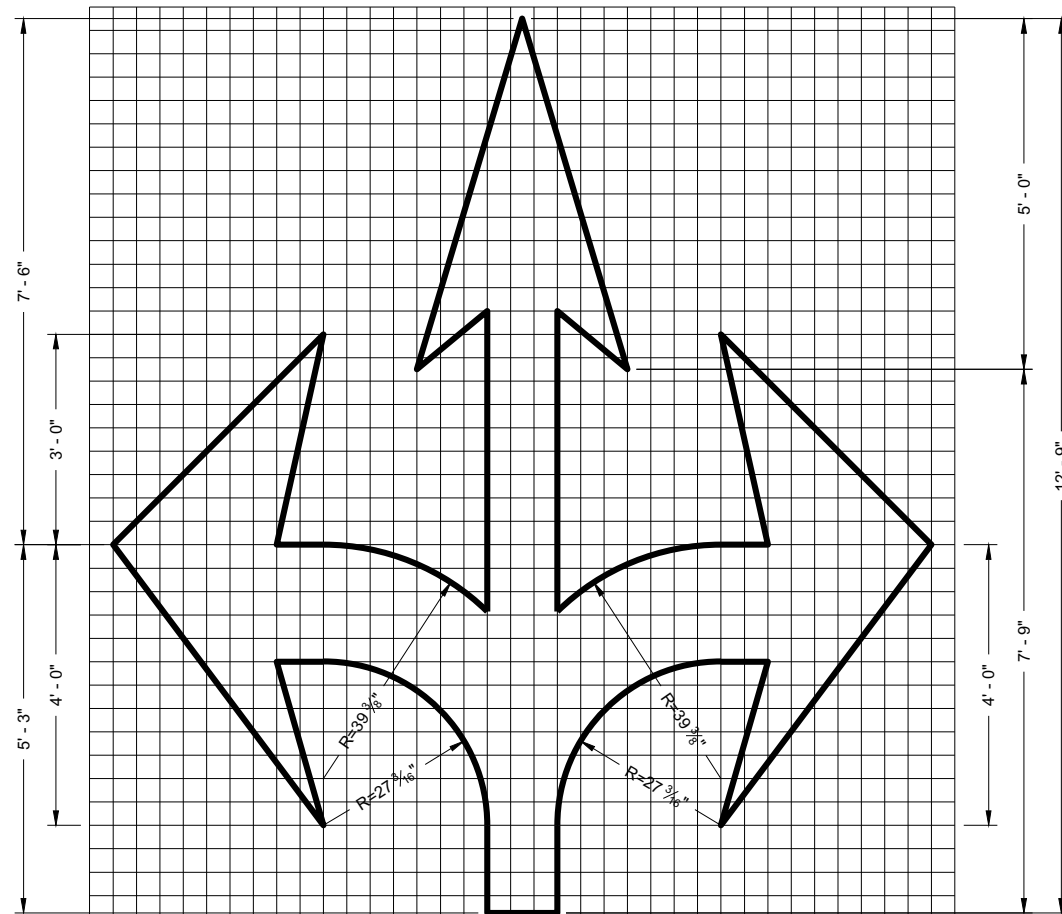
TYPE 4



TYPE 5 LANE DROP ARROW



TYPE 7



TYPE 6

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

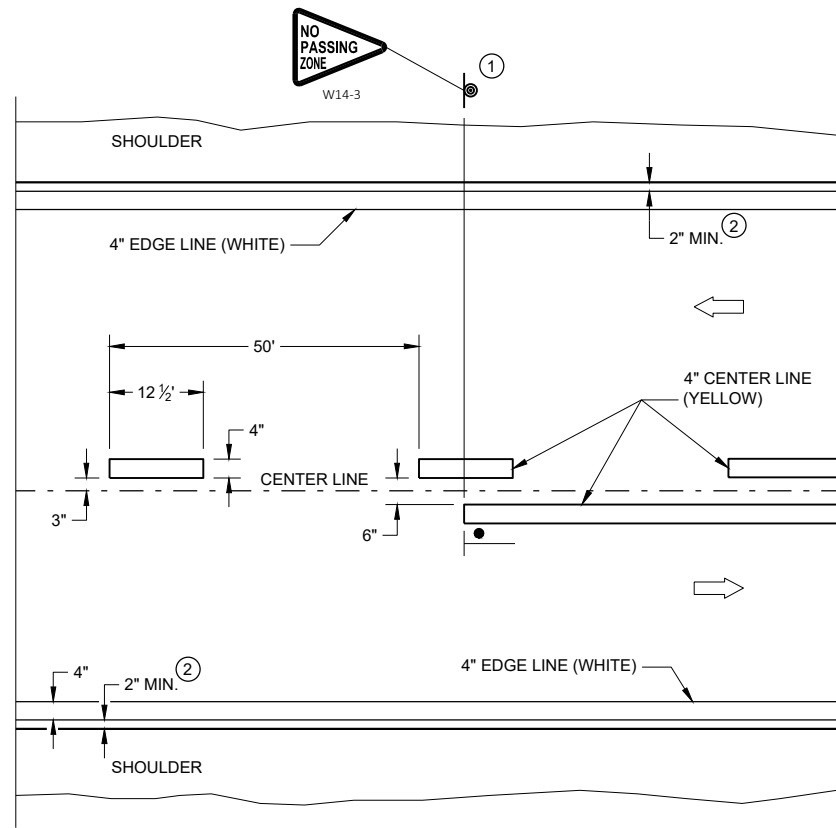
APPROVED

November 2019

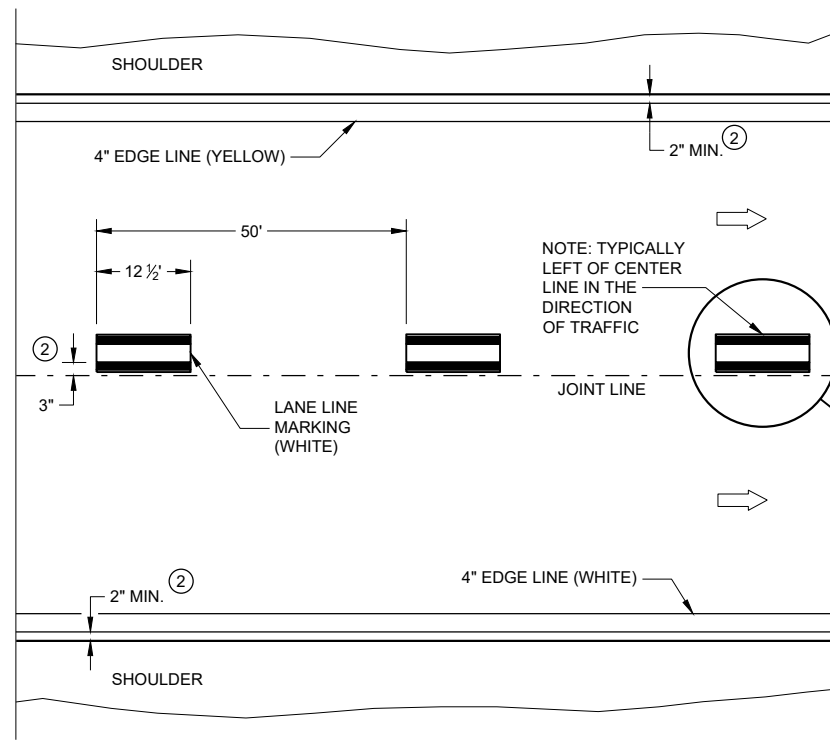
DATE

FHWA

/s/ Matthew Rauch
STATE SIGNING AND MARKING
ENGINEER

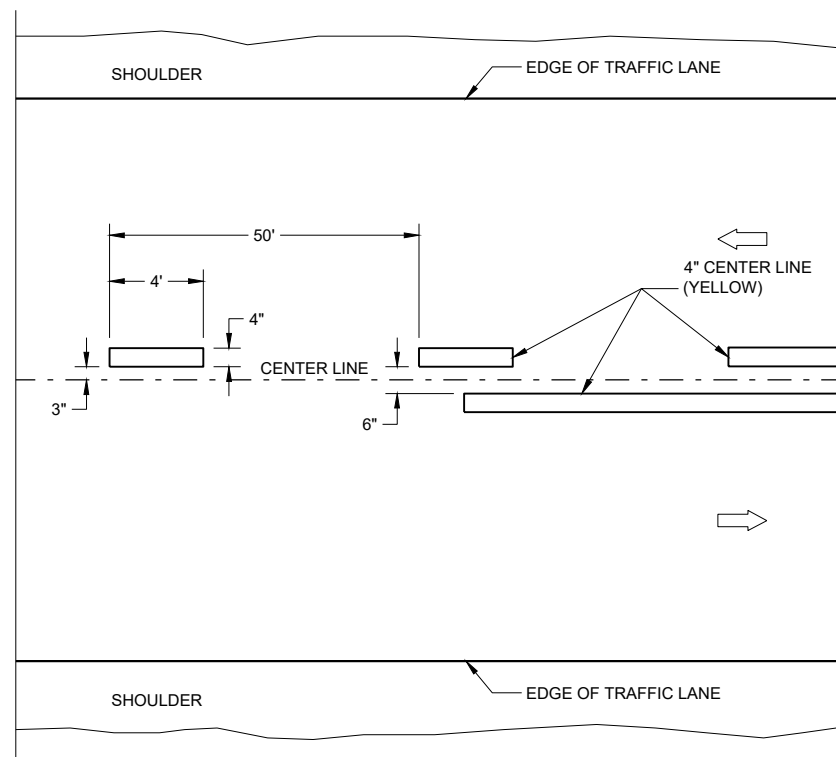


TWO WAY TRAFFIC

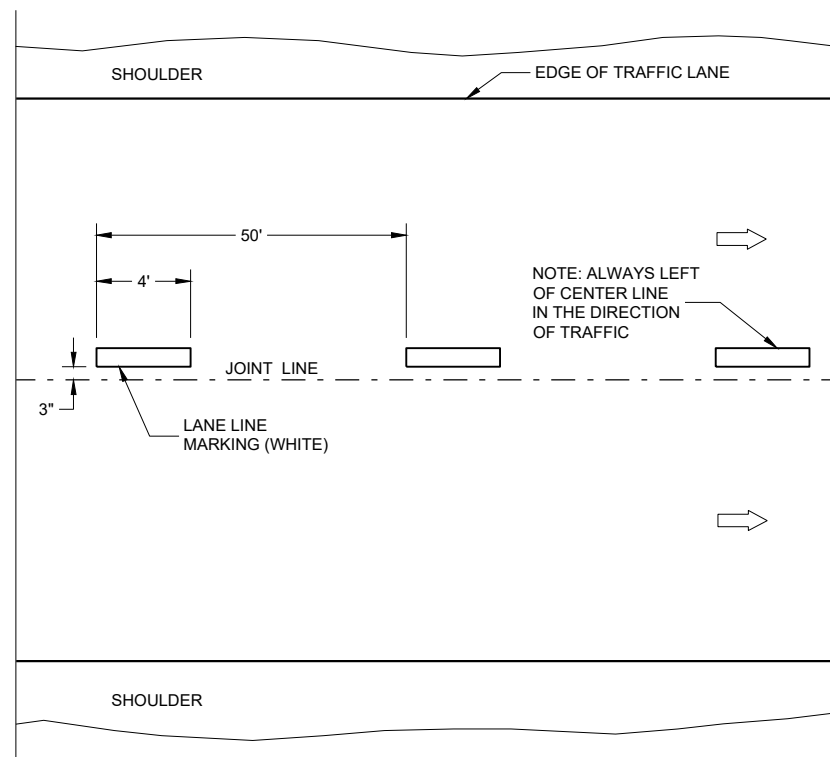


ONE WAY TRAFFIC

PERMANENT PAVEMENT MARKING



TWO WAY TRAFFIC



ONE WAY TRAFFIC

TEMPORARY PAVEMENT MARKING

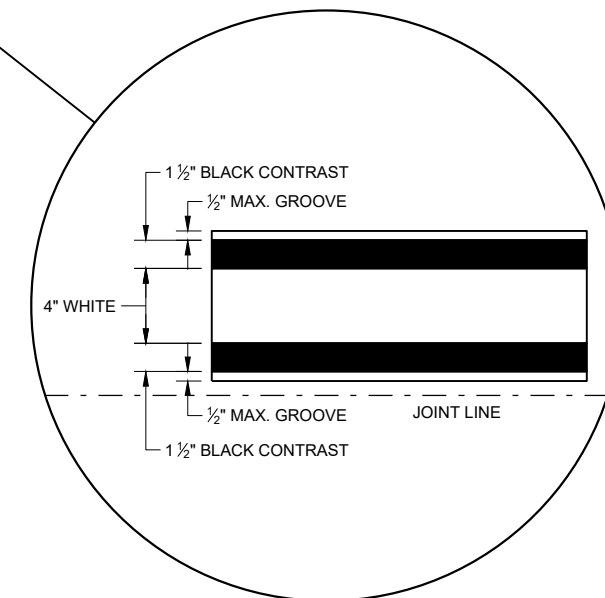
GENERAL NOTES

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

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

LEGEND

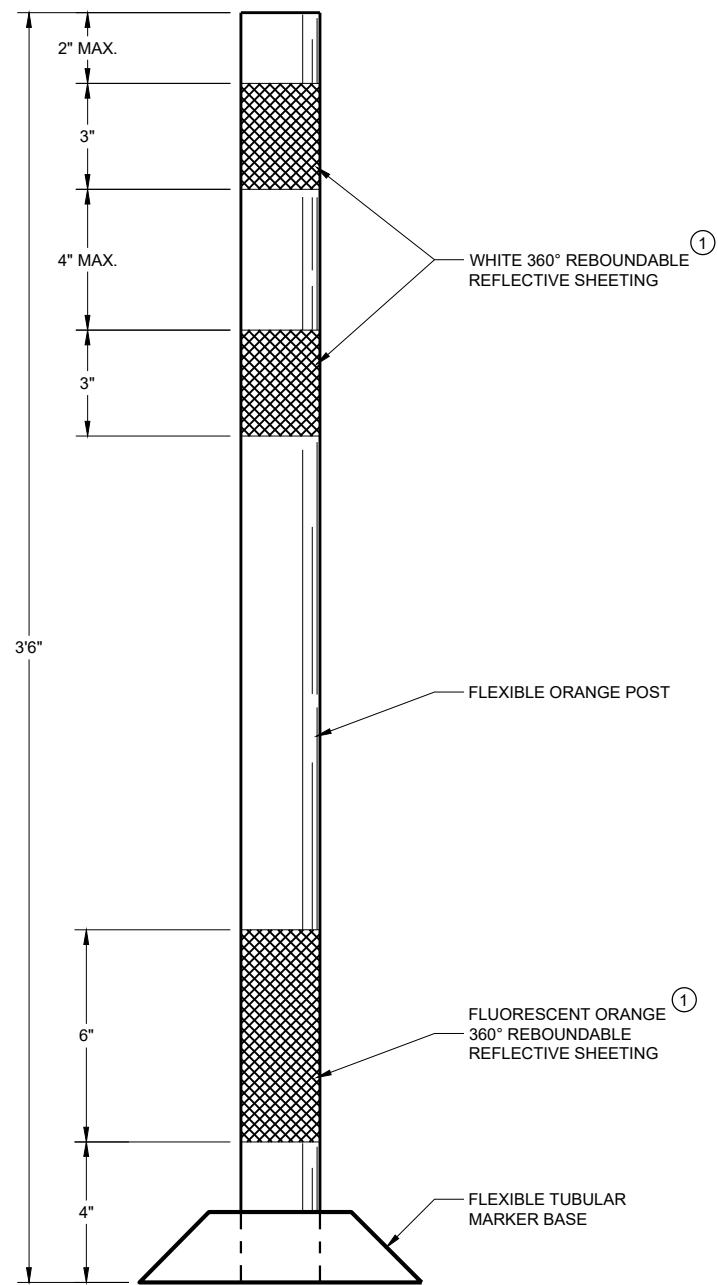
- |— "T" MARKING
- SIGN ON PERMANENT SUPPORT
- DIRECTION OF TRAFFIC



**LONGITUDINAL MARKING
(MAINLINE)**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
February 2020 /S/ Matthew Rauch
DATE STATEWIDE SIGNING AND MARKING
ENGINEER



FLEXIBLE TUBULAR MARKER POST WORK ZONE

GENERAL NOTES

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

SURFACE MOUNTED BASES SHALL BE FURNISHED IN ACCORDANCE WITH MANUFACTURERS RECOMMENDATIONS TO BE COMPATIBLE WITH FLEXIBLE TUBULAR MARKER POSTS TO A SIZE AND SHAPE THAT WILL PROVIDE A STABLE POST FOUNDATION WHEN SECURED TO THE PAVEMENT.

THE ASPHALTIC ADHESIVE OR BUTYL PAD FURNISHED SHALL BE IN ACCORDANCE WITH MANUFACTURERS RECOMMENDATIONS, UNLESS DIRECTED BY THE ENGINEER TO USE BOLTS.

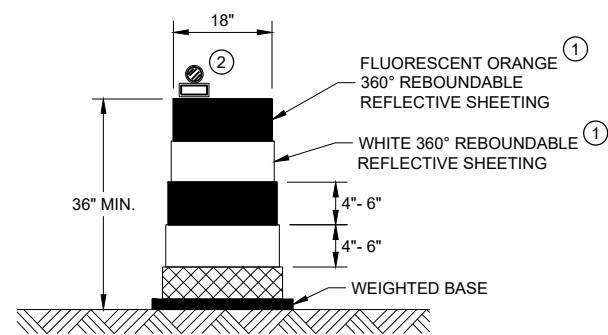
① REFLECTIVE SHEETING SHALL FOLLOW THE REQUIREMENTS IN THE APPROVED PRODUCTS LISTING FOR SIGN SHEETING.

**CHANNELIZING DEVICES
FLEXIBLE TUBULAR
MARKER POST**

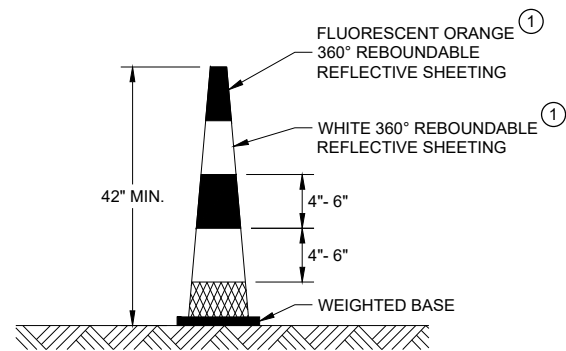
STATE OF WISCONSIN
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APPROVED
May 2021 /S/ Andrew Heidtke
DATE WORK ZONE ENGINEER

FHWA

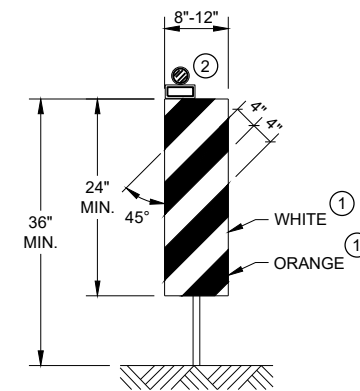


DRUM



42" CONE

DO NOT USE IN TAPERS
 1/2 SPACING OF DRUMS

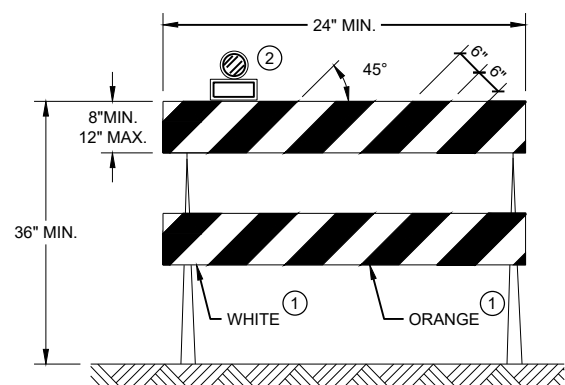


VERTICAL PANEL

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

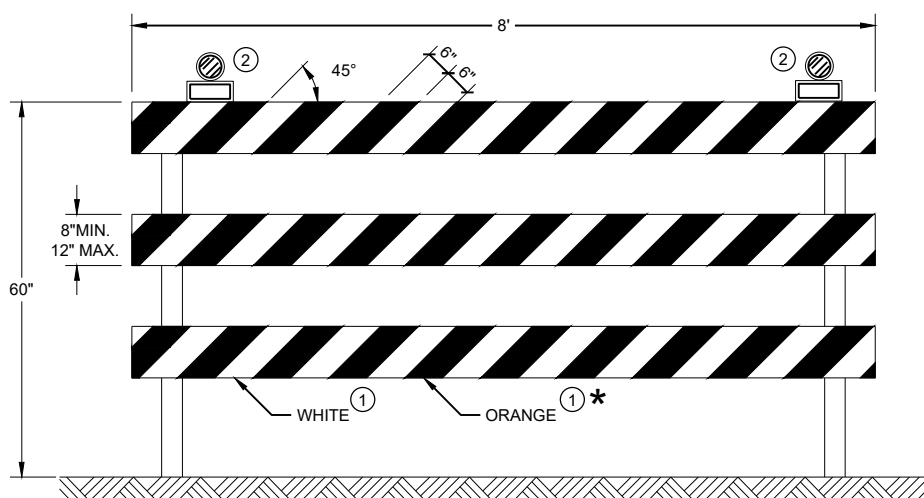
GENERAL NOTES

- 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 May 2021 DATE	/S/ Andrew Heidtke WORK ZONE ENGINEER
<small>FHWA</small>	

LEGEND

-  SIGN ON PERMANENT SUPPORT
-  DELINEATOR, FLEXIBLE/TUBULAR MARKER
-  DIRECTION OF TRAFFIC

GENERAL NOTES

ALL SIGNS ARE 48"X48" UNLESS OTHERWISE NOTED.

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

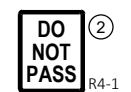
ANY SIGNS TEMPORARY OR EXISTING, WHICH CONFLICT WITH THE TRAFFIC CONTROL "IN USE" SHALL BE REMOVED OR COVERED AS NEEDED AND AS APPROVED BY THE ENGINEER. NO WARNING LIGHTS SHALL BE WORKING ON COVERED OR "DOWNED" SIGNS.

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

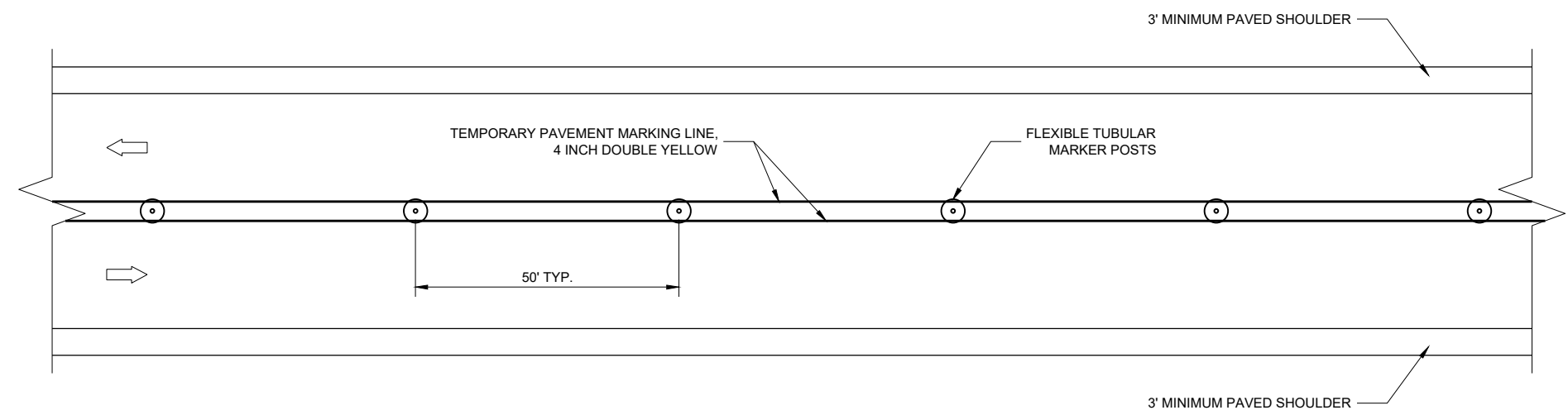
THE SPACING BETWEEN SIGNS SHOULD BE ADJUSTED TO NOT CONFLICT WITH AND TO PROVIDE A MINIMUM OF 200 FEET (500' DESIRABLE) DISTANCE TO EXISTING SIGNS.

A SINGLE ROW OF FLEXIBLE TUBULAR MARKERS ON CENTERLINE EXTEND FOR THE ENTIRE LENGTH OF TWO-WAY TRAFFIC AT 50 FOOT SPACING.

COVER EXISTING CENTERLINE STRIPE WITH TEMPORARY PAVEMENT MARKING LINE, 4 INCH DOUBLE YELLOW.



- ① THE W06-3 AND W057-51 SHALL BE LOCATED 200 FEET BEYOND THE END OF THE ACCELERATION LANE OF EACH ENTRANCE RAMP AND / OR 500 FEET BEYOND ANY SIDE ROAD. THE R4-1 SHALL BE LOCATED 1000 FEET BEYOND THE W06-3 AND THE W057-51 AND THE SIGNS SHALL BE ALTERNATED WITH ONE MILE INTERVALS BETWEEN THE SIGNS.
- ② CONVENTIONAL: 24" X 30"
 FREEWAY AND EXPRESSWAY: 36" X 48"



TWO LANE, TWO WAY OPERATION

6

6

SDD 15D06 - 05

SDD 15D06 - 05

TRAFFIC CONTROL TWO LANE TWO WAY OPERATION	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED February 2022 DATE	/S/ Andrew Heidtke WORK ZONE ENGINEER
FHWA	

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.

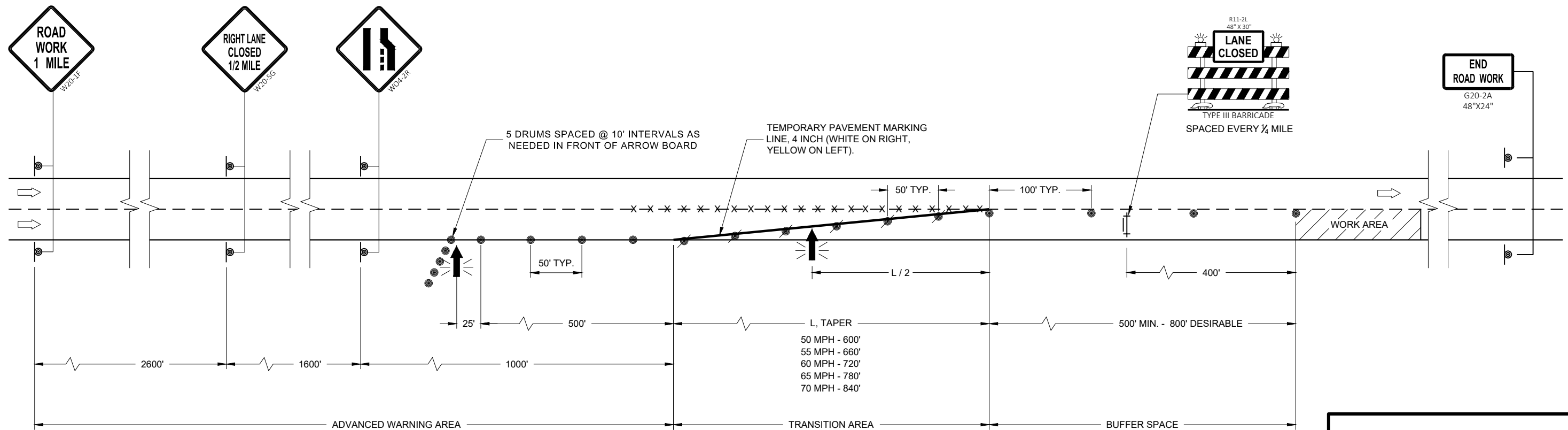
CONSIDER ROADWAY GEOMETRICS WHEN LOCATING SIGNS AND ARROW BOARD SO THE DRIVER HAS A CLEAR VIEW OF THE ARROW BOARD AND LANE CLOSURE DRUMS.

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
-  FLASHING ARROW BOARD

6

SDD 15D12 - 10a














6

SDD 15D12 - 10a

TRAFFIC CONTROL LANE CLOSURE	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED February 2022 DATE	/S/ Andrew Heidtke WORK ZONE ENGINEER
<small>FHWA</small>	

LEGEND

-  SIGN ON PERMANENT SUPPORT
-  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)
-  FLASHING ARROW BOARD
-  DIRECTION OF TRAFFIC
-  REMOVE PAVEMENT MARKING (SEE GENERAL NOTES)
-  WORK AREA

GENERAL NOTES

FOR WORK ON ROADWAYS WITH SPEEDS GREATER THAN 45 MPH, USE SDD 15D14.

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

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 LINES 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.

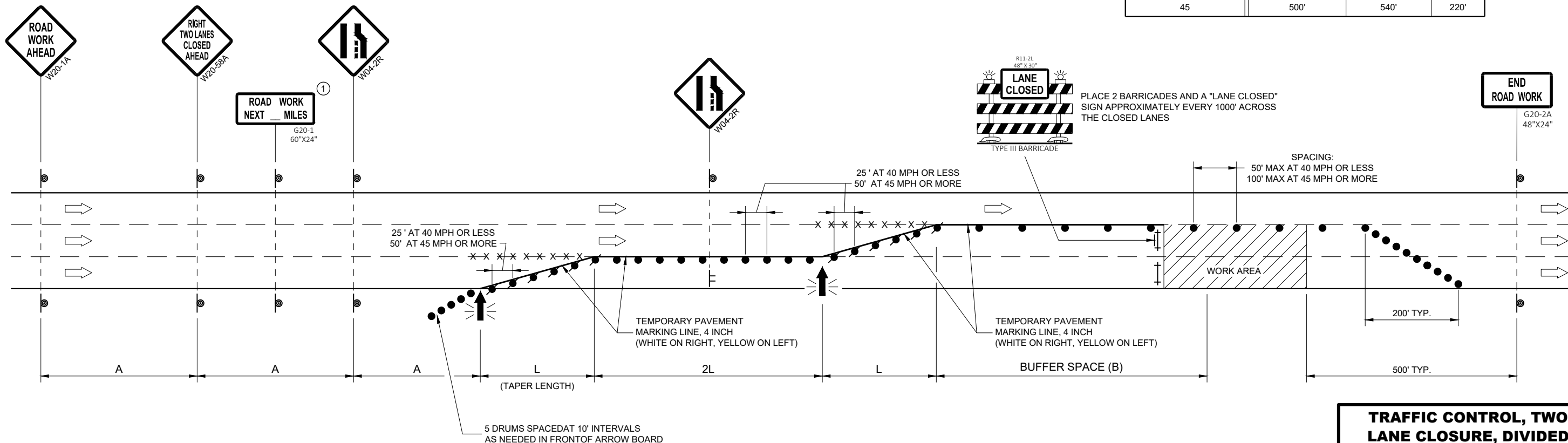
BARRICADES IN A CLOSED LANE THAT MUST BE MOVED FOR A WORK OPERATION SHALL BE IMMEDIATELY REESTABLISHED UPON COMPLETION OF THE OPERATION, OR FOR CONTINUING OPERATIONS, AT THE END OF EACH WORKING DAY.

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.

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'

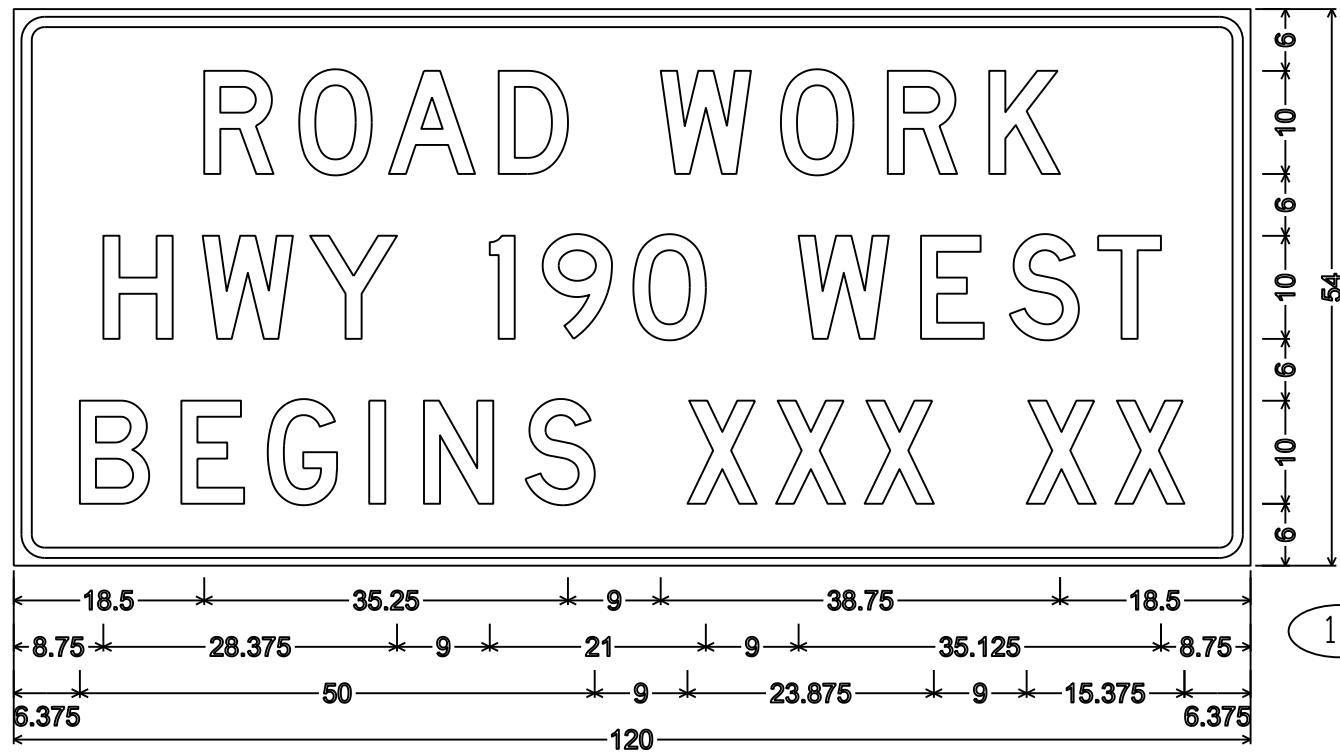


TRAFFIC CONTROL, TWO LANE CLOSURE, DIVIDED NON-FREEWAY/EXPRESSWAY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
February 2022 /S/ Andrew Heidtke
DATE WORK ZONE ENGINEER

FHWA

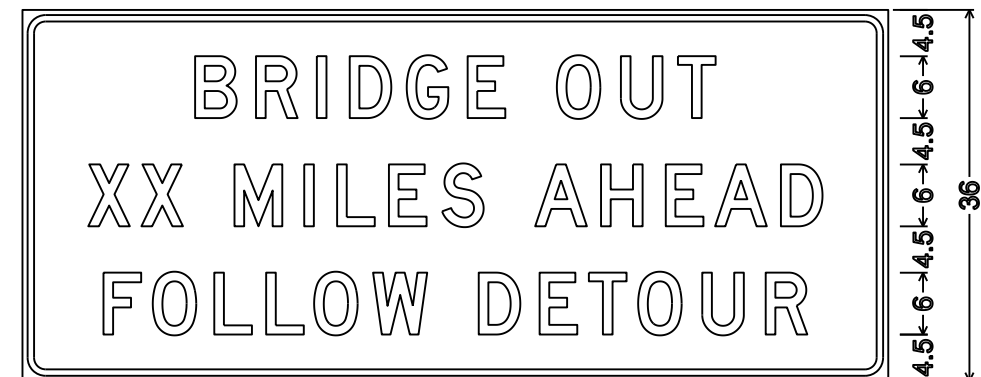


3.000" Radius, 1.000" Border, 0.750" Indent

1

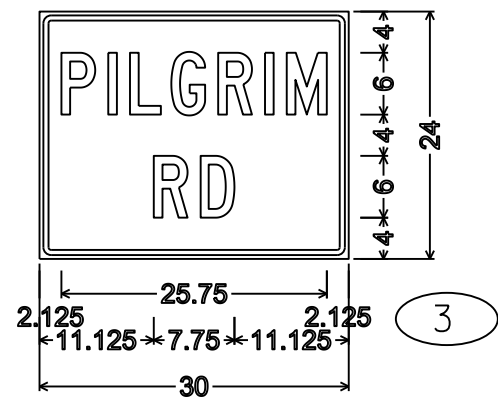
NOTES

1. Fixed Message Type II Signs - Type F Reflective
2. Color:
Background - Orange
Message - Black
3. Message Series - D except as noted



2.250" Radius, 0.625" Border, 0.500" Indent

2



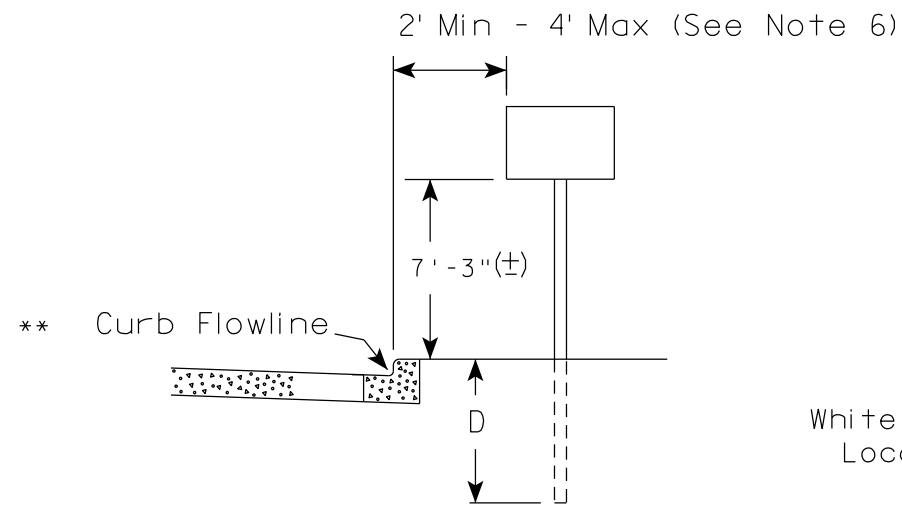
1.125" Radius, 0.500" Border, 0.375" Indent
"PILGRIM" C; "RD" C

3

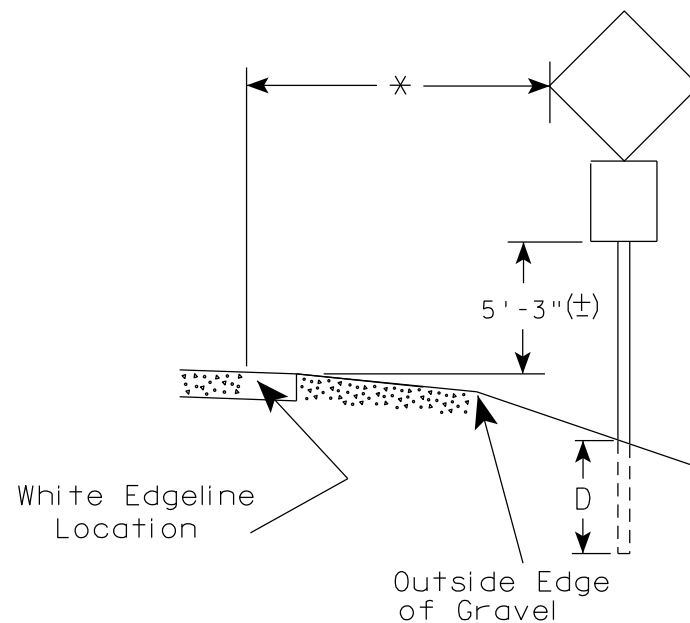
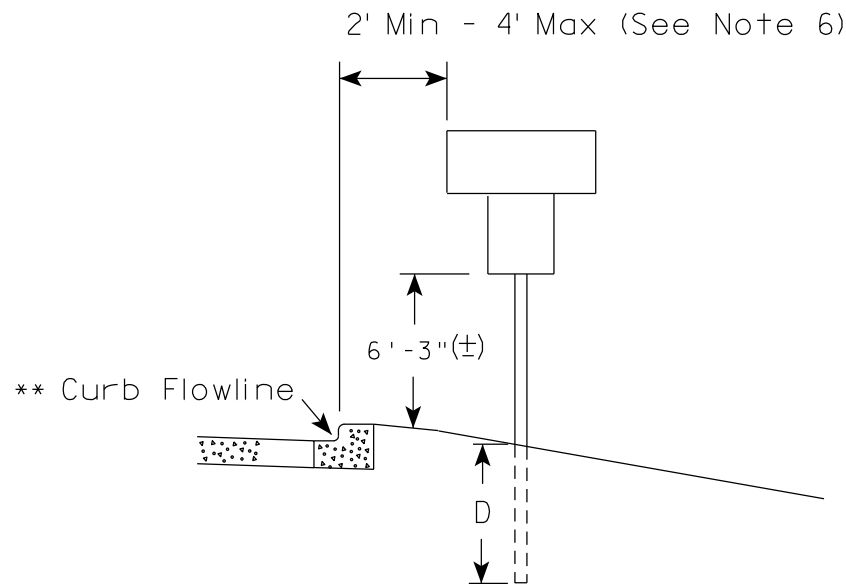
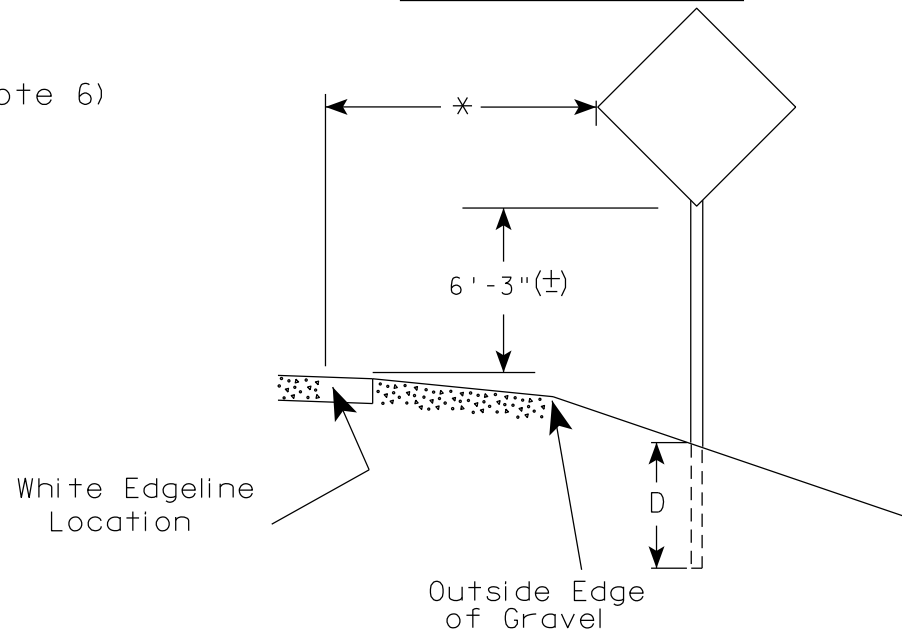
7

7

URBAN AREA



RURAL AREA (See Note 2)



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" (±). 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. For expressways and freeways, mounting height is 7'- 3" (±) or 6'-3" (±) depending upon existence of a sub-sign.
4. Minimum mounting height for signs mounted on traffic signal poles is 5'- 3" (±).
5. Offset distance shall be consistent with existing signs or consistent throughout length of project.
6. The (±) tolerance for mounting height is 3 inches.
7. Folding signs shall be mounted at a height of 5'-3" (±) or as directed by the Engineer.

POST EMBEDMENT DEPTH

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

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

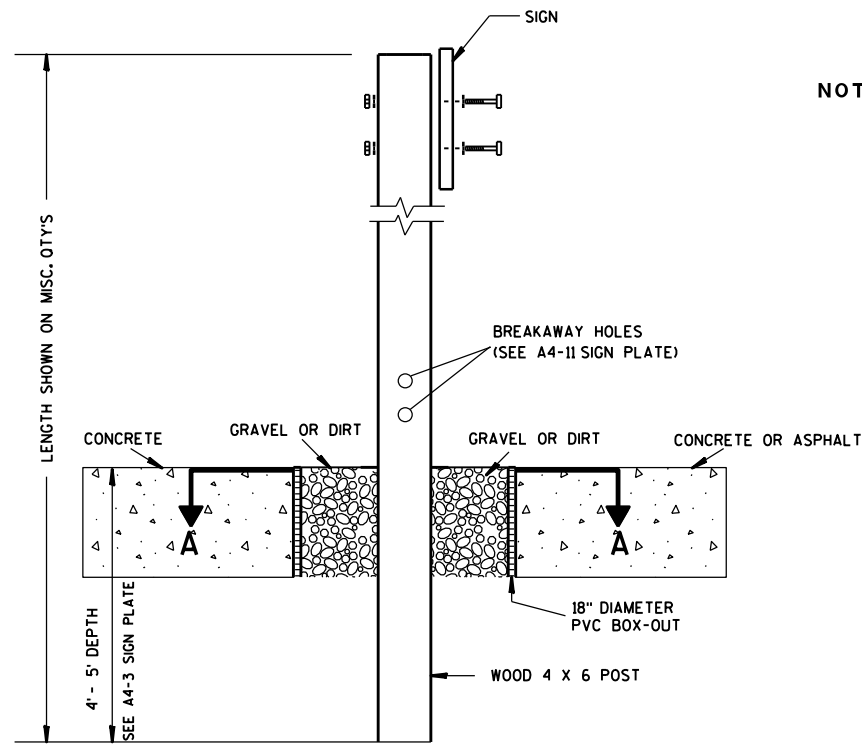
* 6 feet from edge of a paved shoulder or 12 feet from the edge of pavement (edge line location) or 2 feet from outside edge of gravel, whichever is greater unless directed by project engineer.

TYPICAL INSTALLATION OF PERMANENT TYPE II SIGNS ON SINGLE POSTS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer

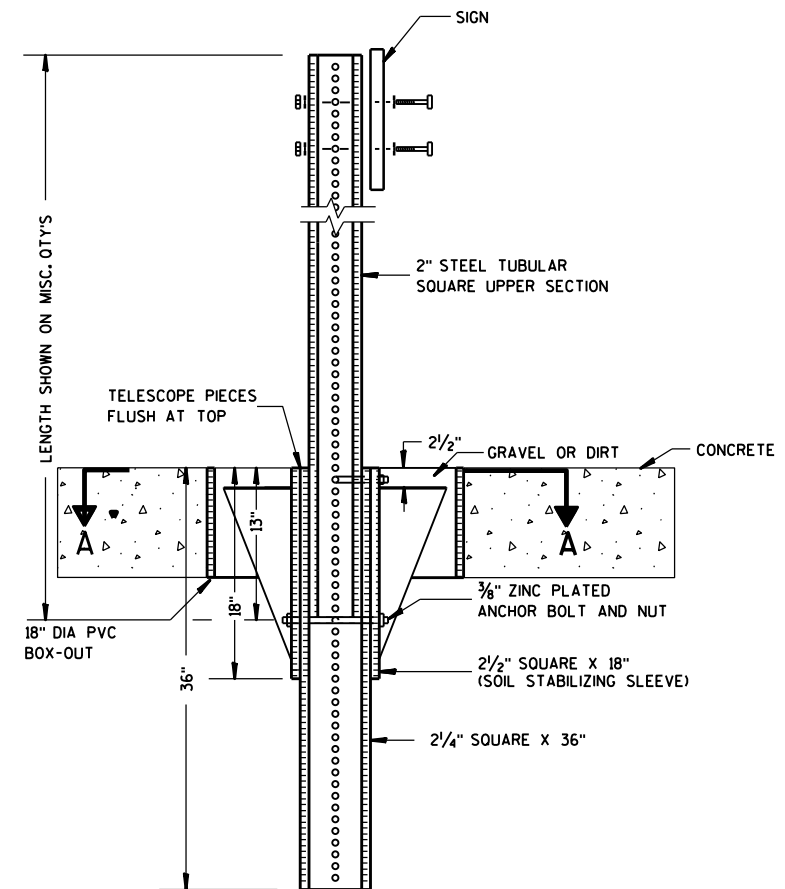
DATE 5/13/2020 PLATE NO. A4-3.22



ELEVATION VIEW

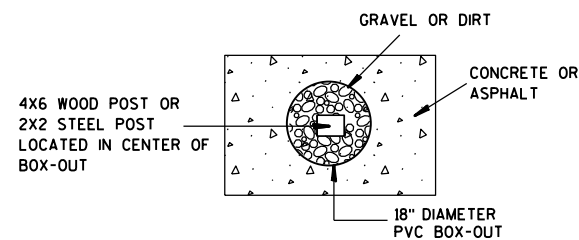
DETAIL OF WOOD 4 X 6 SIGN POST IN BOX-OUT

- 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

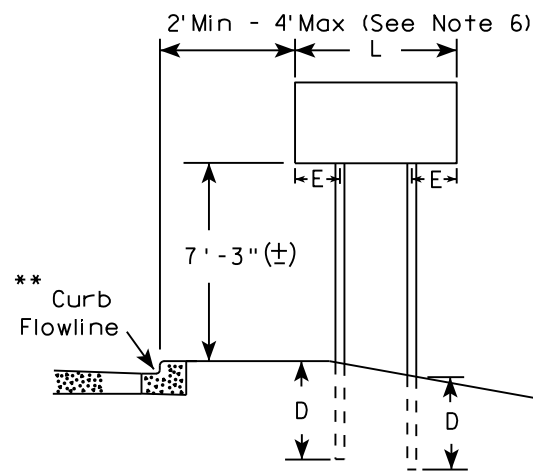
FOR NEW CONCRETE/ ASPHALT INSTALLATIONS

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>

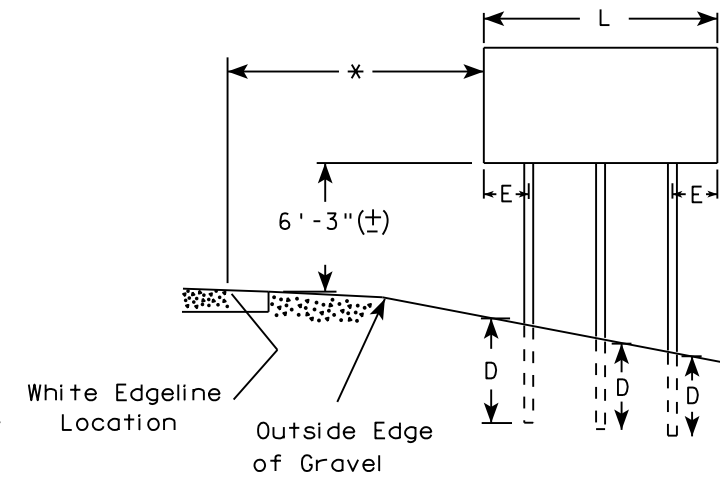
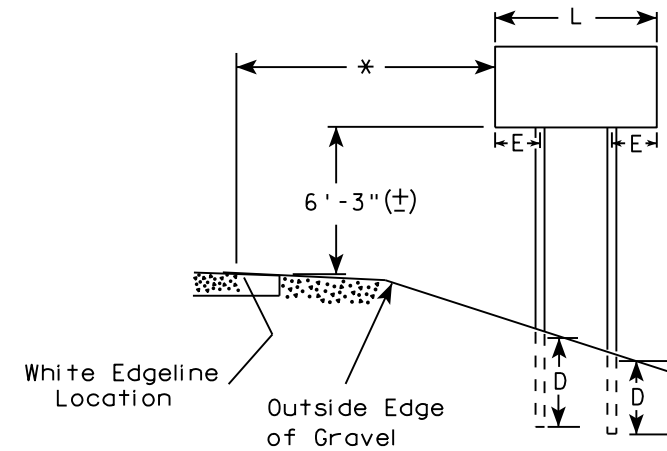
GENERAL NOTES

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

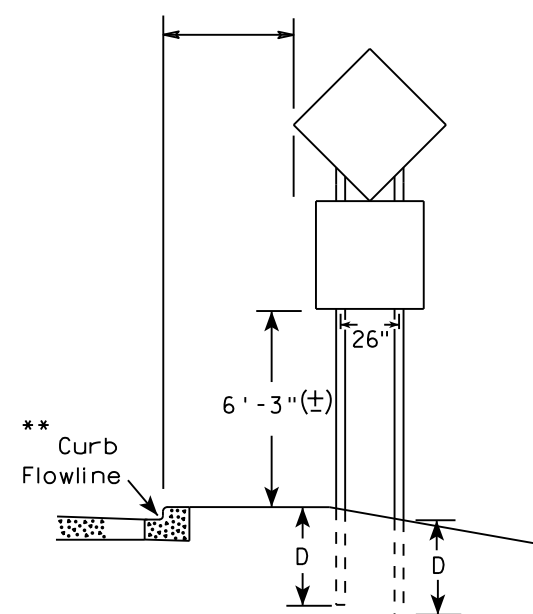
URBAN AREA



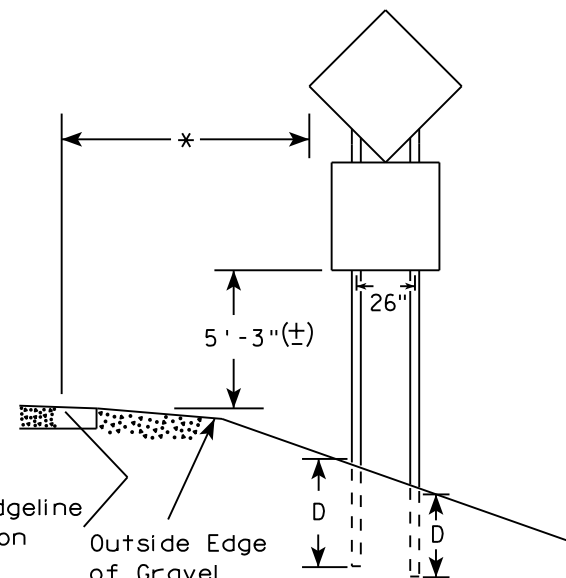
RURAL AREA (See Note 3)



2' Min - 4' Max (See Note 6)



48" DIAMOND WARNING SIGN



48" DIAMOND WARNING SIGN

* 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.

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

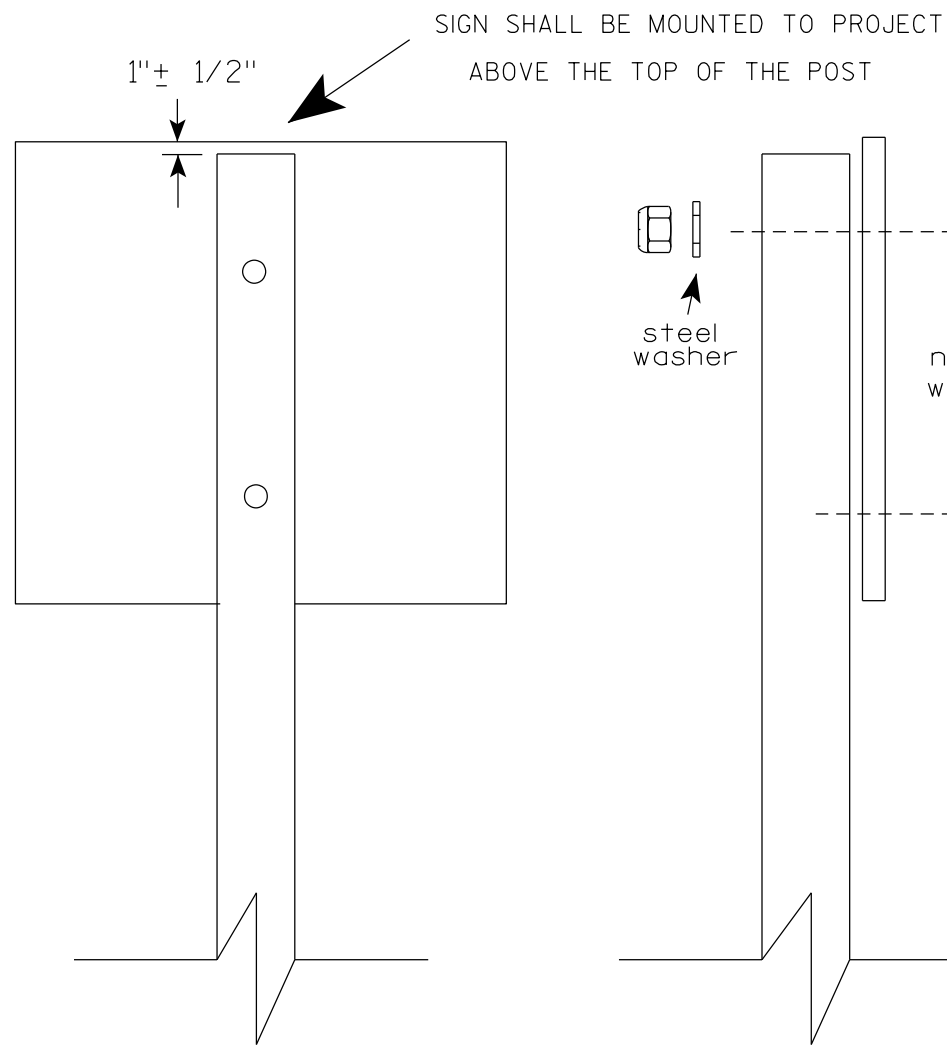
SIGN SHAPE OTHER THAN DIAMOND (THREE POSTS REQUIRED)	
L	E
Greater than 108" to 144"	12"

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 8/21/17 PLATE NO. A4-4.15



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

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

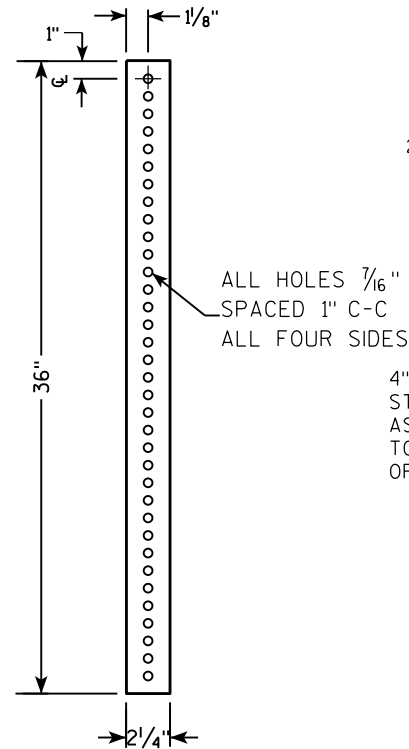
- STRINGER BOLTING TO ALUMINUM SIGNS (SEE SIGN PLATE A4-18)
- MACHINE BOLTS - $\frac{5}{16}$ " X 1-3/4" Length w/ lock nuts
- WOOD POSTS (4" x 6")
- LAG SCREWS - $\frac{3}{8}$ " X 3" (NO STRINGERS ON BACK OF SIGN)
 $\frac{3}{8}$ " X 4" (STRINGERS ON BACK OF SIGN)
- SQUARE STEEL POSTS (2" x 2")
- MACHINE 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.

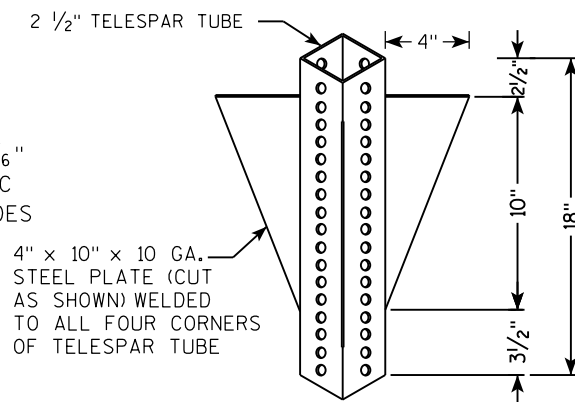
ATTACHMENT OF SIGNS TO POSTS	
WISCONSIN DEPT OF TRANSPORTATION	
APPROVED	<i>Matthew R Rauch</i> For State Traffic Engineer
DATE 4/1/2020	PLATE NO. A4-8.9

**TELESCOPIC TUBING ANCHORS
TWO PIECE SYSTEM**

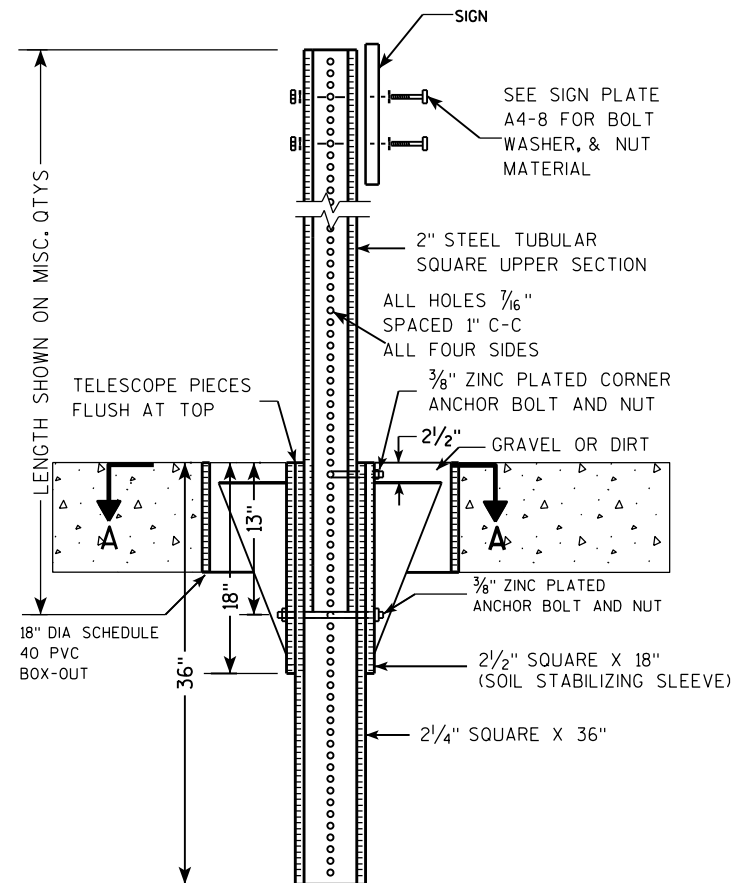
**2 1/4" SQUARE
12 GAUGE
PERFORATED
GALVANIZED FINISH**



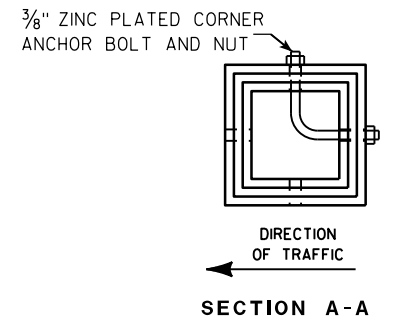
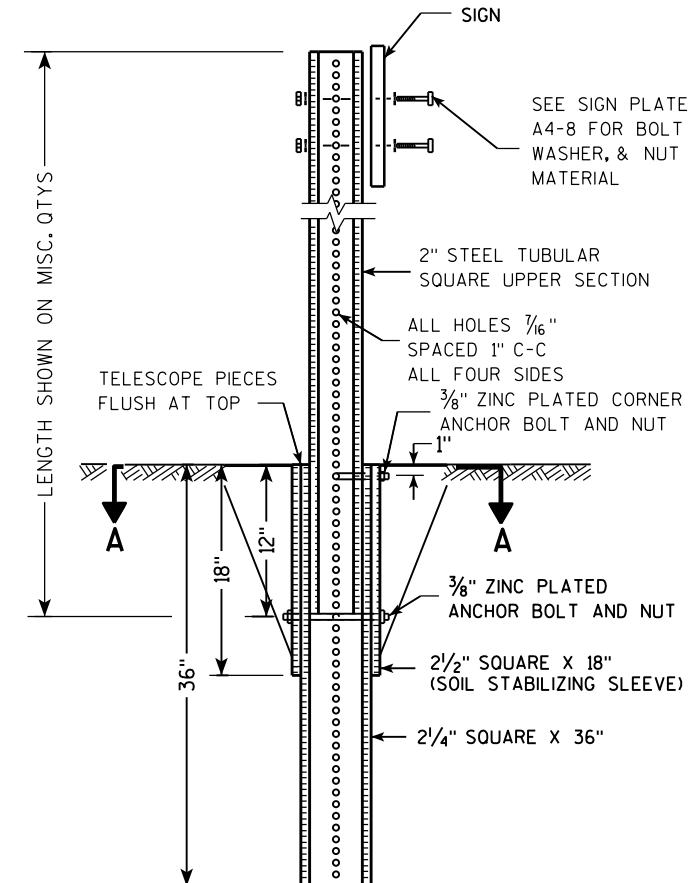
**2 1/2" SQUARE
12 GAUGE
OMNI-DIRECTIONAL
PERFORATED
SOIL STABILIZING SLEEVE
GALVANIZED FINISH**



**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

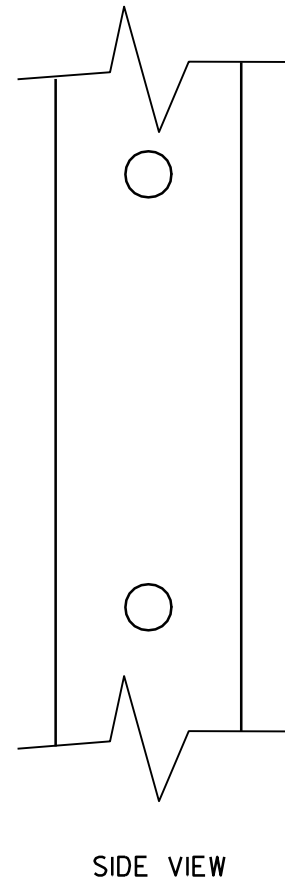
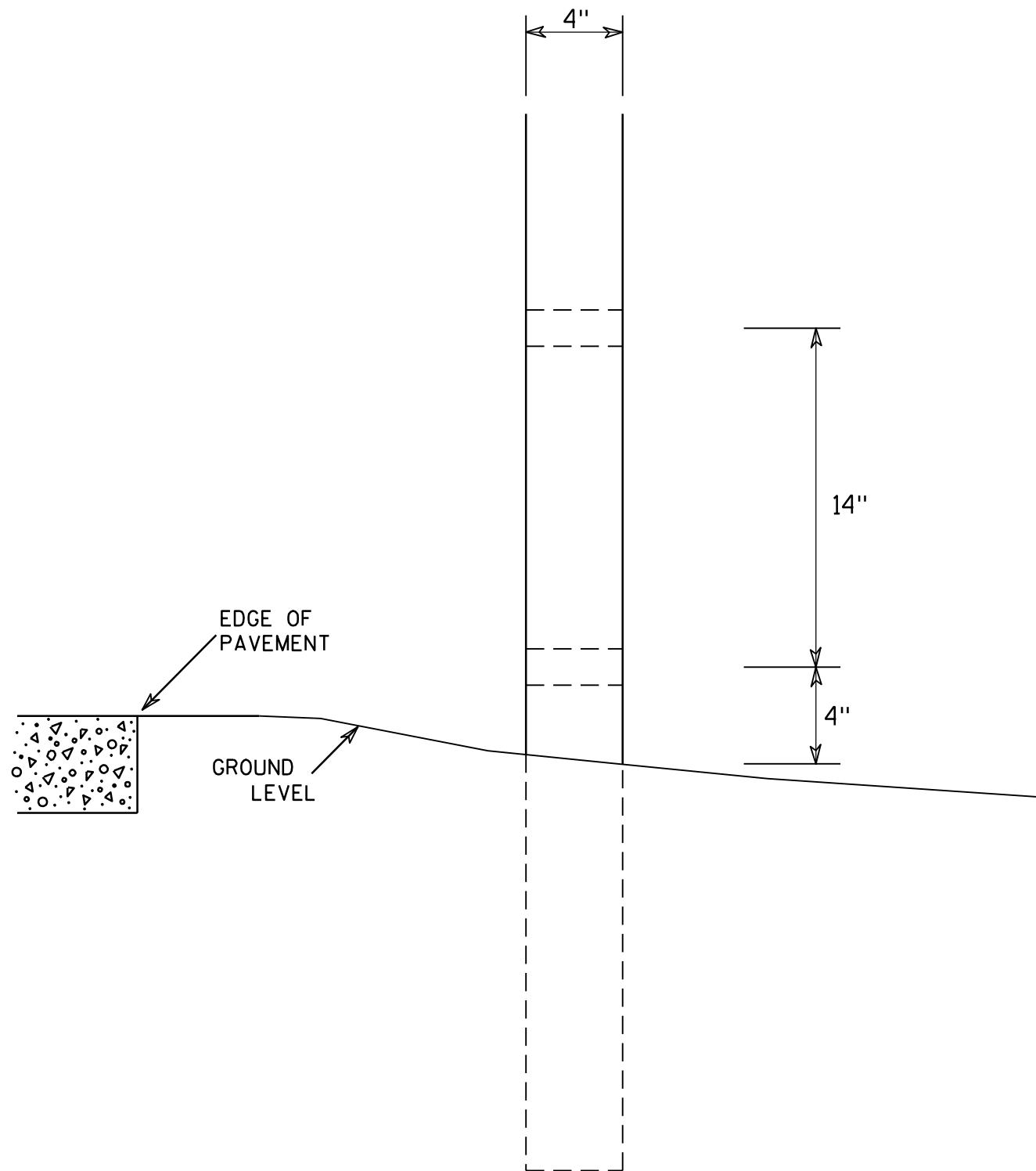
Signs wider than 3 feet or larger than 9 sq. ft shall be mounted on multiple posts (see above table).

**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.

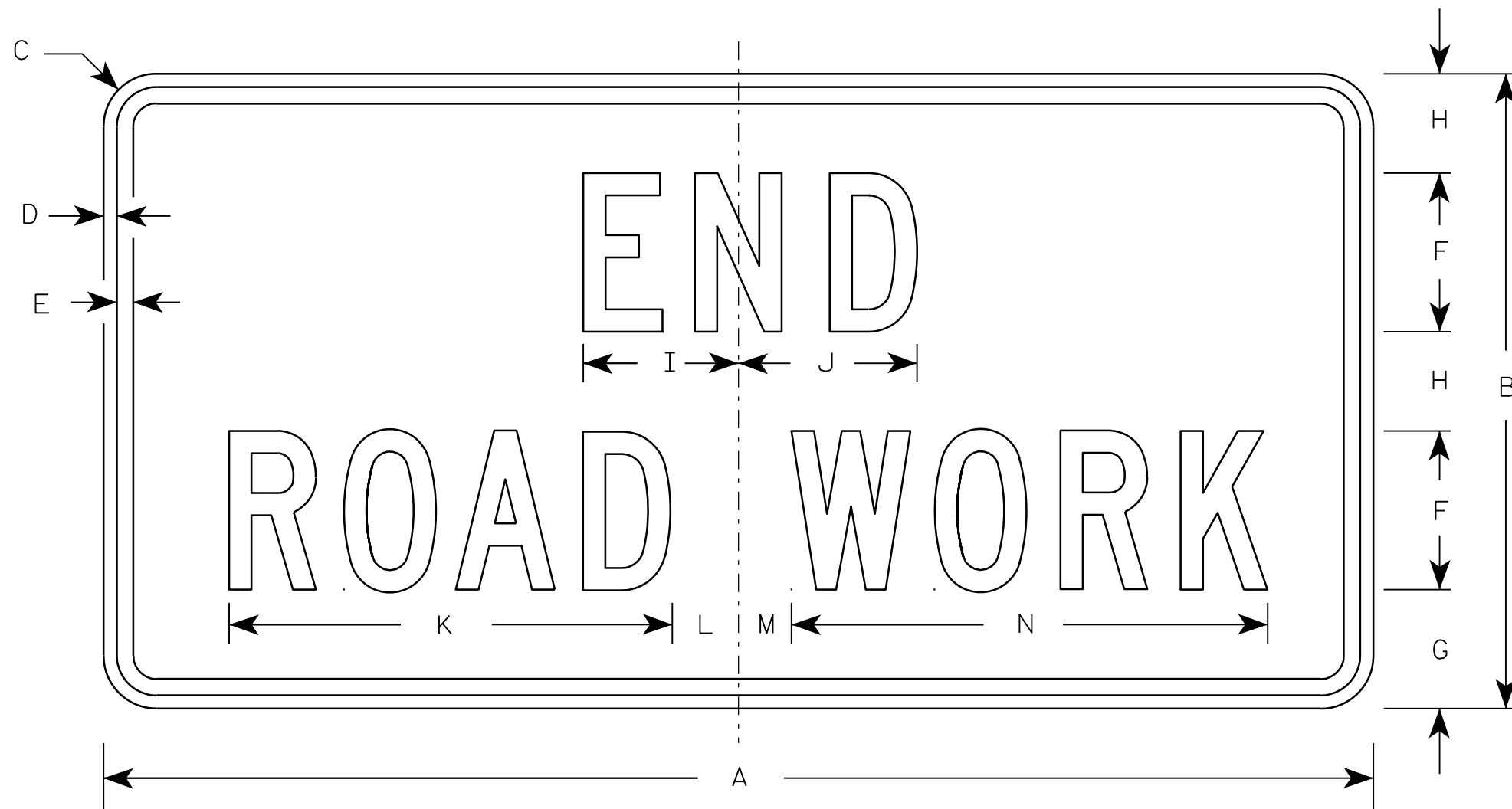
7

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>

NOTES

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

7

7

Metric equivalent for this sign is:

SIZE	
1	900 mm X 450 mm
2	1200 mm X 600 mm
3	1200 mm X 600 mm
4	1200 mm X 600 mm
5	1200 mm X 600 mm

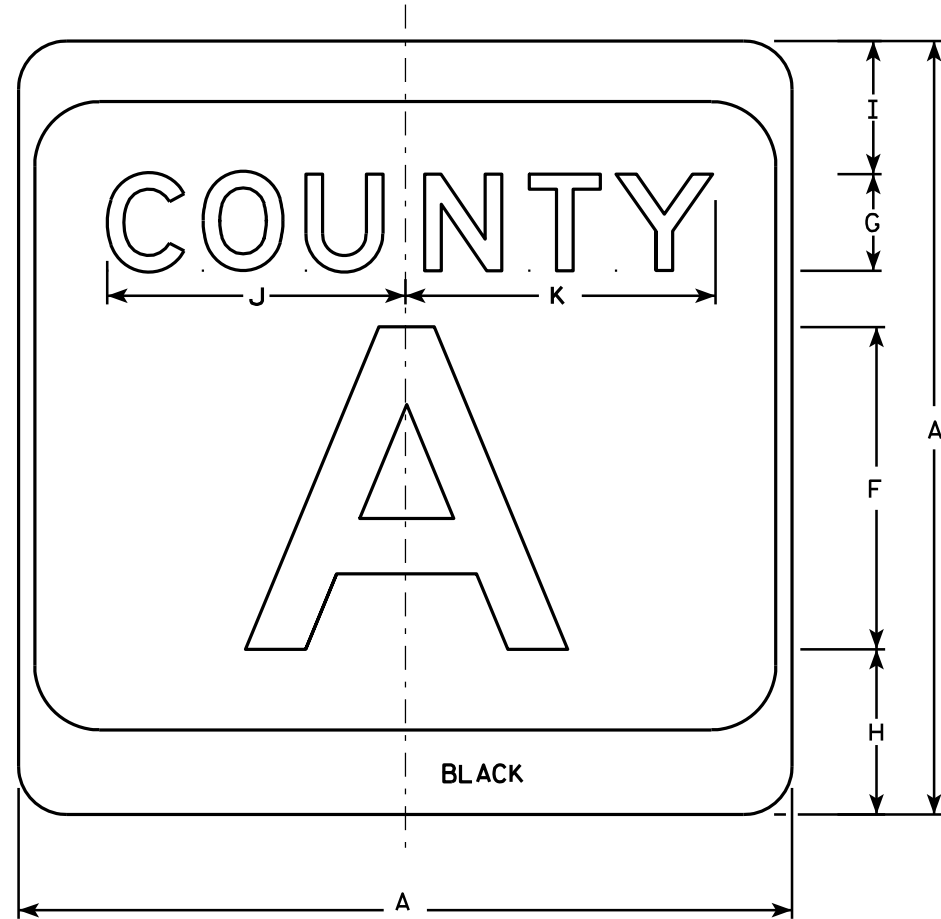
SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.	Area sq.
1	36	18	1 1/8	3/8	1/2	4	3 3/4	2 1/2	4 1/8	4 1/8	11 1/8	2	1	12 1/8													4.5	0.41
2	48	24	1 1/2	1/2	5/8	6	4 1/2	3 3/4	5 7/8	6 3/4	16 3/4	2 1/2	1 3/4	18 1/2													8.0	0.72
3	48	24	1 1/2	1/2	5/8	6	4 1/2	3 3/4	5 7/8	6 3/4	16 3/4	2 1/2	1 3/4	18 1/2													8.0	0.72
4	48	24	1 1/2	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	0.72
5	48	24	1 1/2	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	0.72

STANDARD SIGN	
G20-2A	
WISCONSIN DEPT OF TRANSPORTATION	
APPROVED	<i>Matthew R. Rauch</i> For State Traffic Engineer
DATE 9/30/09	PLATE NO. G20-2A.8

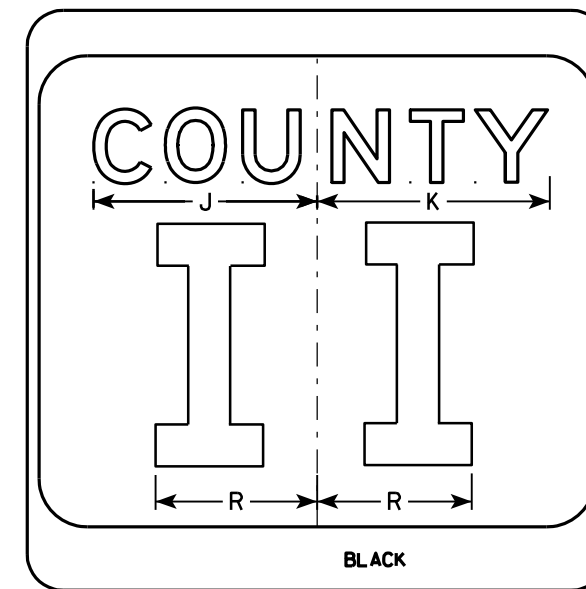
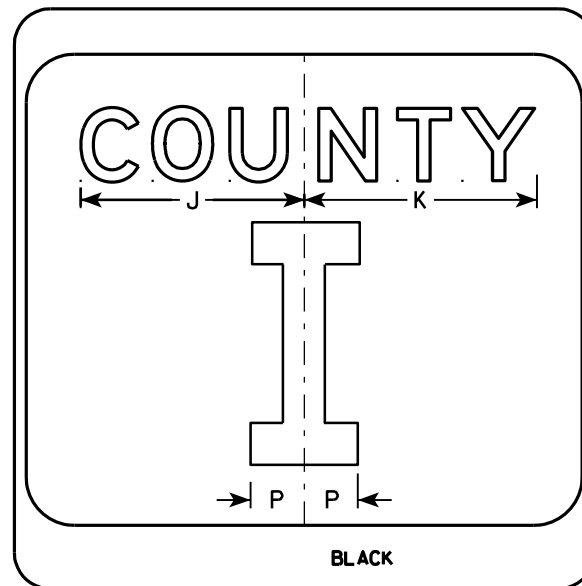
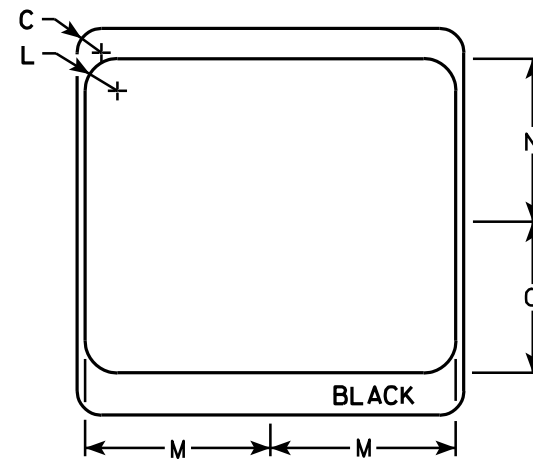
PROJECT NO:	HWY:	COUNTY:	SHEET NO:	E
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NOTES

1. Sign is Type II - see Note 7 - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
Background - White & Black - See Note 7
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. Message Series E for 1 letter.
Message Series D for 2 letters unless message is too big then Series C.
Message Series C for 3 letters unless message is too big then Series B.
6. Substitute appropriate letters & optically center to achieve proper balance.
7. Permanent Signs
Background - Type H Reflective
Detour or temporary Signs
Background - Reflective



M1-5A



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	24		1 1/2			10	3	5 1/8	4 1/8	9 1/4	9 5/8	2	11 1/2	10 1/8	9 3/8	2 1/4		6 5/8									4.0
3	36		2 1/4			16	4	7 5/8	5 5/8	12 1/4	12 7/8	3	17 1/8	15 1/4	14	3 3/8		10									9.0
4	36		2 1/4			16	4	7 5/8	5 5/8	12 1/4	12 7/8	3	17 1/8	15 1/4	14	3 3/8		10									9.0
5	36		2 1/4			16	4	7 5/8	5 5/8	12 1/4	12 7/8	3	17 1/8	15 1/4	14	3 3/8		10									9.0

CTH MARKER
M1-5A FOR ASSEMBLIES

WISCONSIN DEPT OF TRANSPORTATION

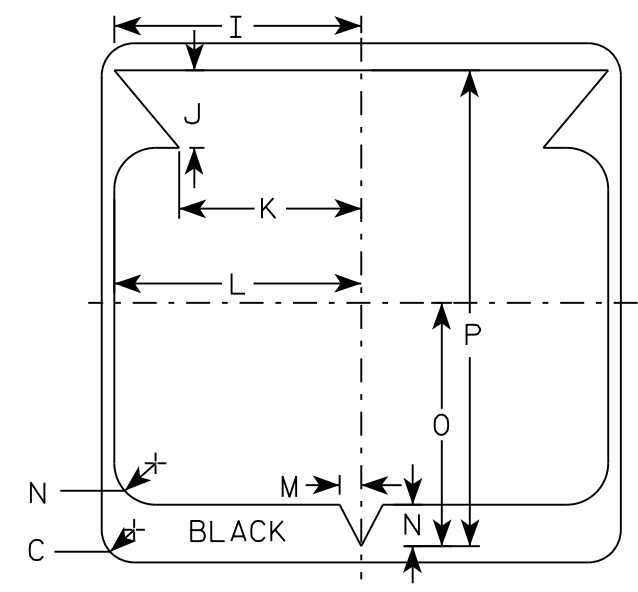
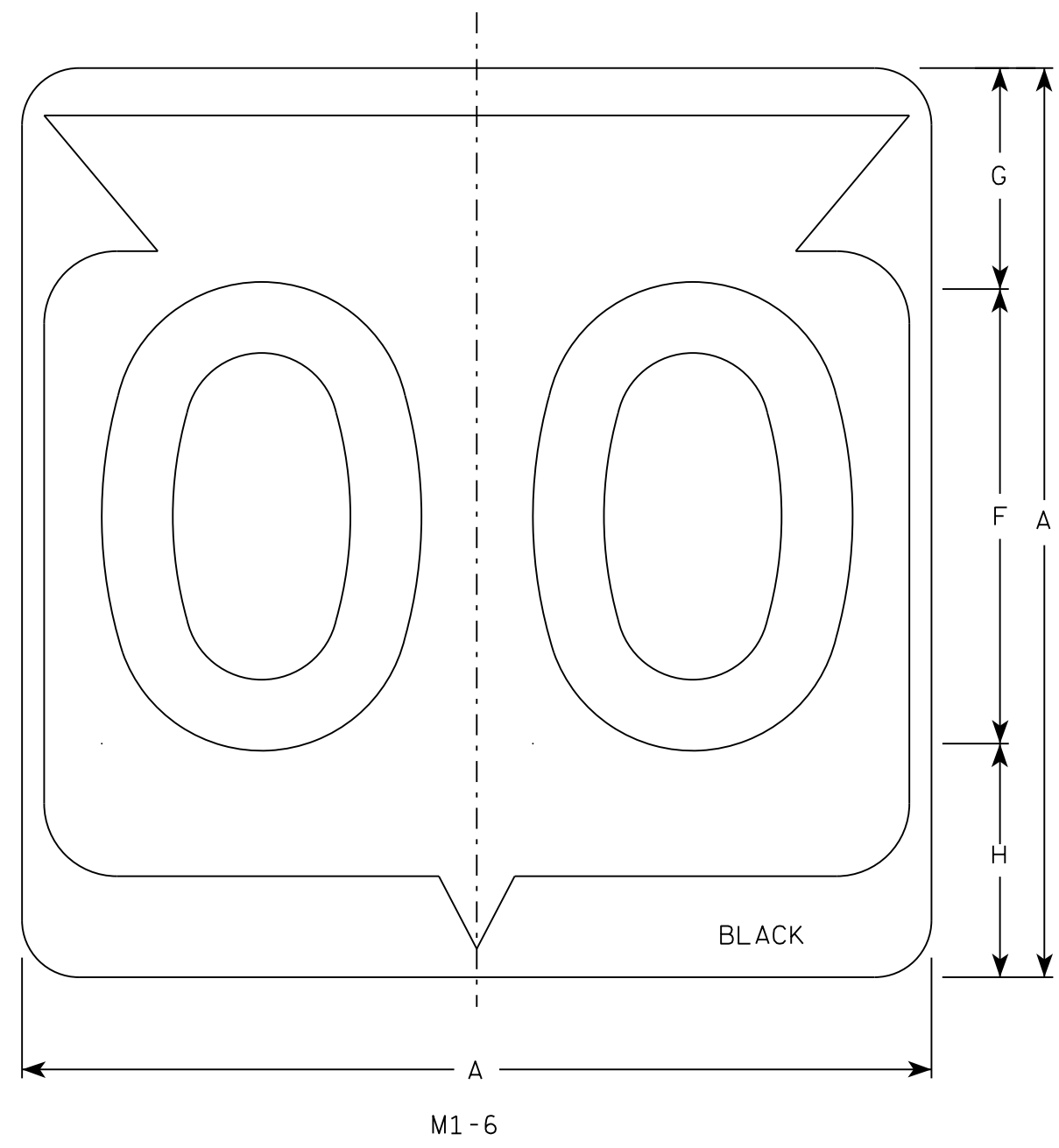
APPROVED *Matthew R. Raub*
For State Traffic Engineer

DATE 9/27/11 PLATE NO. MI-5A.8

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
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.



7

7

M1-6

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		1 1/2			12	5 1/2	6 1/2	10 1/4	2 1/2	8 7/8	11 1/2	1	1 7/8	11 1/4	21 7/8											4.0
3	36		2 1/4			18	8 3/4	9 1/4	15 3/8	5 3/8	12 5/8	17 1/8	1 1/2	2 7/8	16 7/8	33											9.0
4	36		2 1/4			18	8 3/4	9 1/4	15 3/8	5 3/8	12 5/8	17 1/8	1 1/2	2 7/8	16 7/8	33											9.0
5	36		2 1/4			18	8 3/4	9 1/4	15 3/8	5 3/8	12 5/8	17 1/8	1 1/2	2 7/8	16 7/8	33											9.0

STATE ROUTE MARKER
M1-6 FOR ASSEMBLIES

WISCONSIN DEPT OF TRANSPORTATION

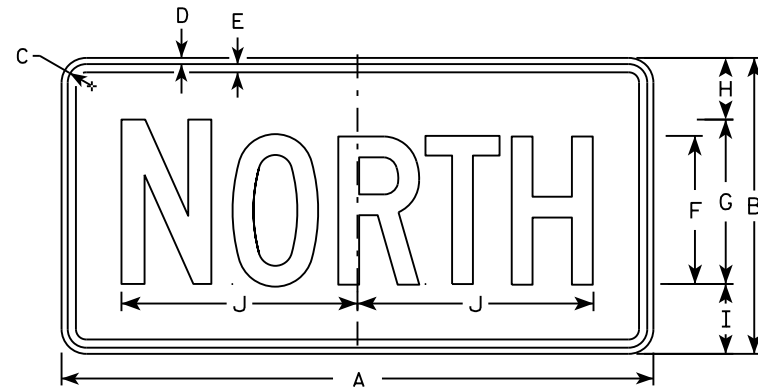
APPROVED *Matthew R. Rauch*
for State Traffic Engineer

DATE 3/16/18 PLATE NO. M1-6.10

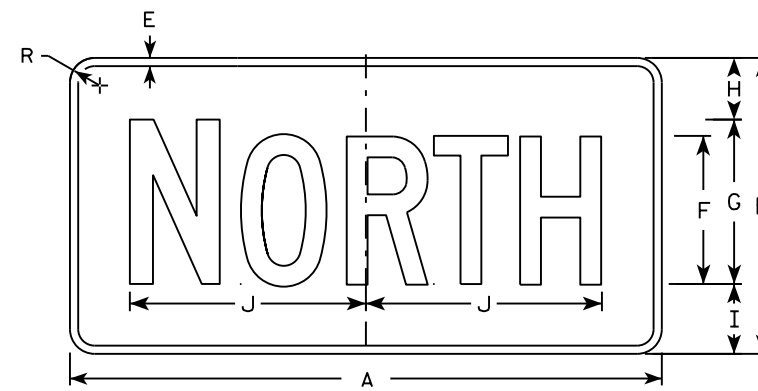
PROJECT NO: _____ HWY: _____ COUNTY: _____ SHEET NO: _____ **E**

NOTES

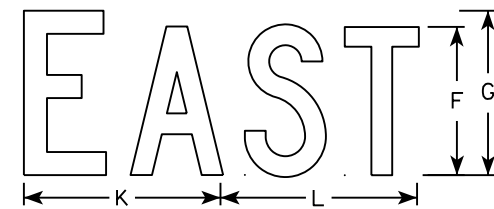
- All Signs Type II - Type H
- Color:
 - Background - See note 5
 - Message - See note 5
- Message Series - C
- Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
- M3-1 thru M3-4 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.



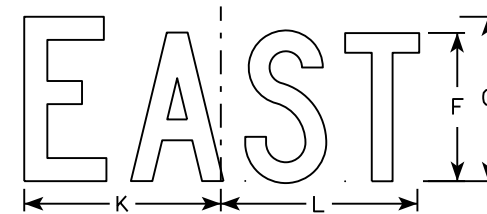
M3-1
MM3-1
MP3-1



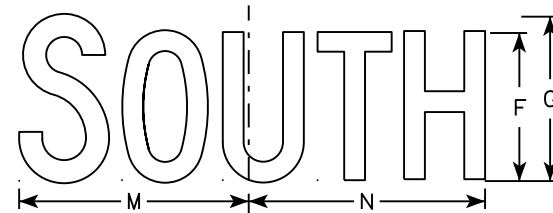
MB3-1
MK3-1
MN3-1



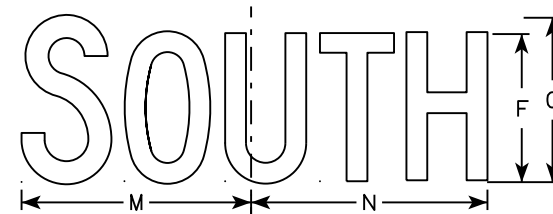
M3-2
MM3-2
MP3-2



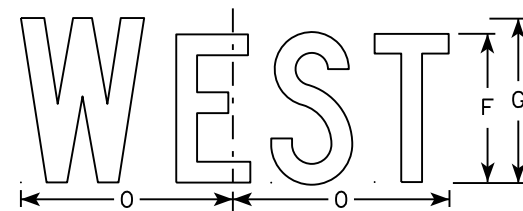
MB3-2
MK3-2
MN3-2



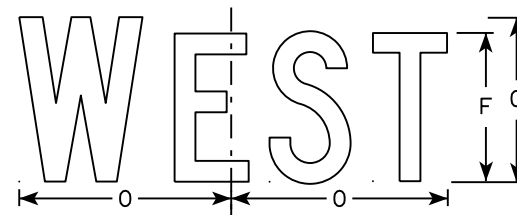
M3-3
MM3-3
MP3-3



MB3-3
MK3-3
MN3-3



M3-4
MM3-4
MP3-4



MB3-4
MK3-4
MN3-4

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	24	12	1 1/8	3/8	3/8	6	7	2 1/4	2 3/4	10 1/4	7 7/8	8 3/8	10 1/4	9 3/4	8 3/4			1 1/2									2.00
3	36	18	1 1/8	3/8	1/2	9	10	3 3/4	4 1/4	14 3/8	12	12 1/8	14	14 1/8	13			1 1/2									4.5
4	36	18	1 1/8	3/8	1/2	9	10	3 3/4	4 1/4	14 3/8	12	12 1/8	14	14 1/8	13			1 1/2									4.5
5	36	18	1 1/8	3/8	1/2	9	10	3 3/4	4 1/4	14 3/8	12	12 1/8	14	14 1/8	13			1 1/2									4.5

STANDARD SIGNS
M3-1 thru M3-4
SERIES

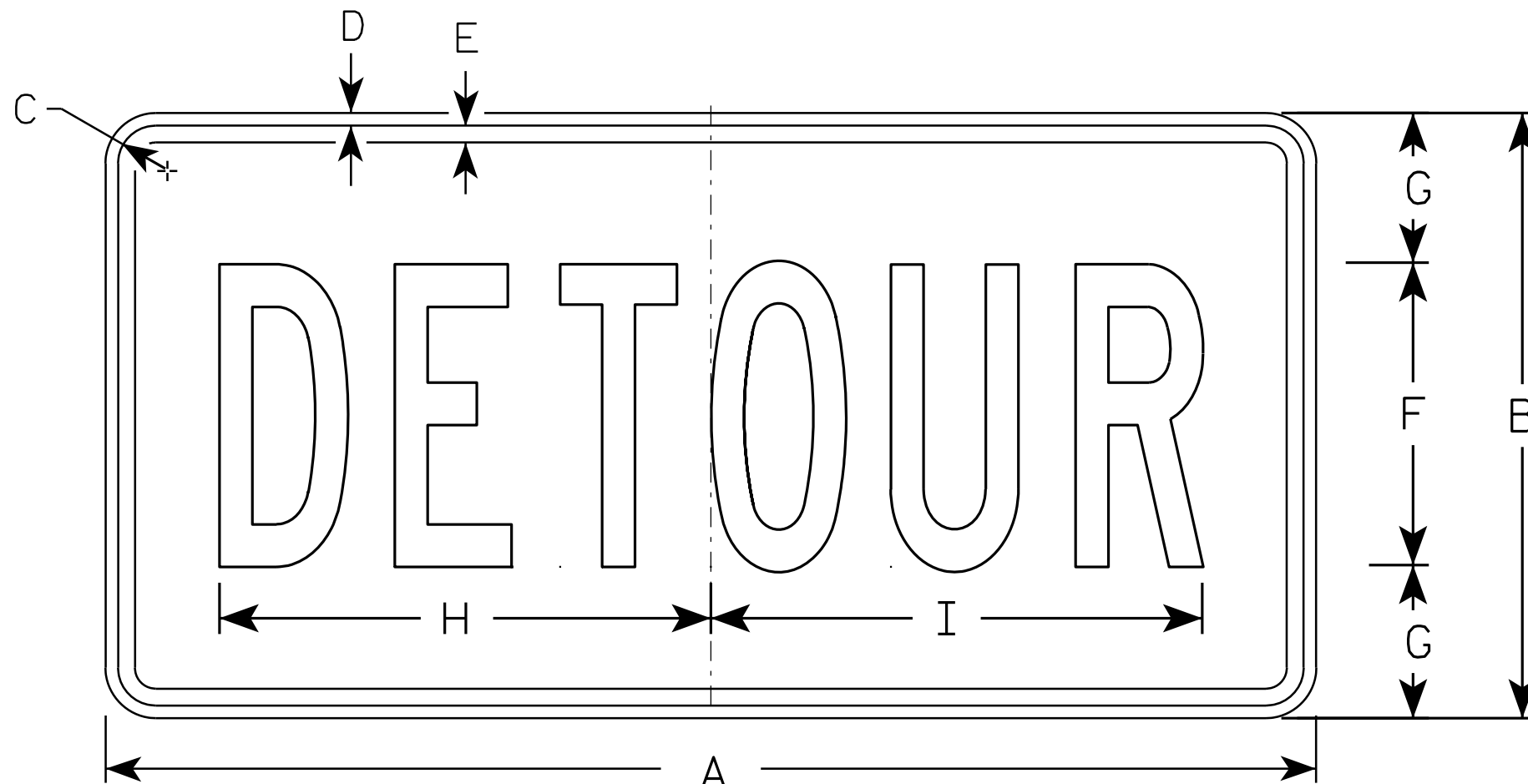
WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer

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

NOTES

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



M4-8

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

STANDARD SIGN
M4-8

WISCONSIN DEPT OF TRANSPORTATION

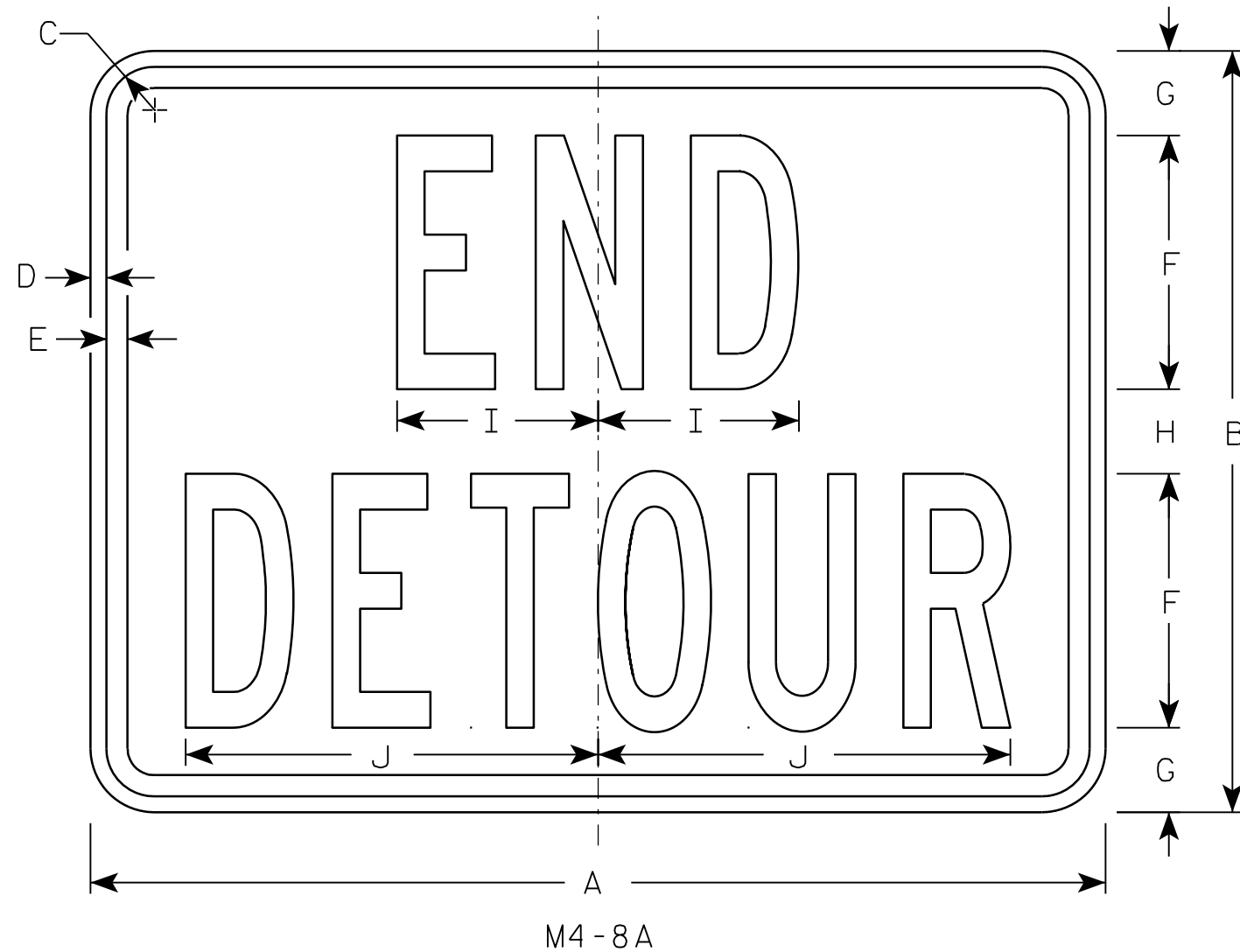
APPROVED *Matthew R. Rauch*
for State Traffic Engineer

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

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

NOTES

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



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	24	18	1 1/8	3/8	1/2	6	2	2	4 3/4	9 3/4																	3.0
3	30	24	1 1/8	3/8	1/2	8	2 1/2	3	6 3/4	13																	5.0
4																											
5																											

STANDARD SIGN
M4-8A

WISCONSIN DEPT OF TRANSPORTATION

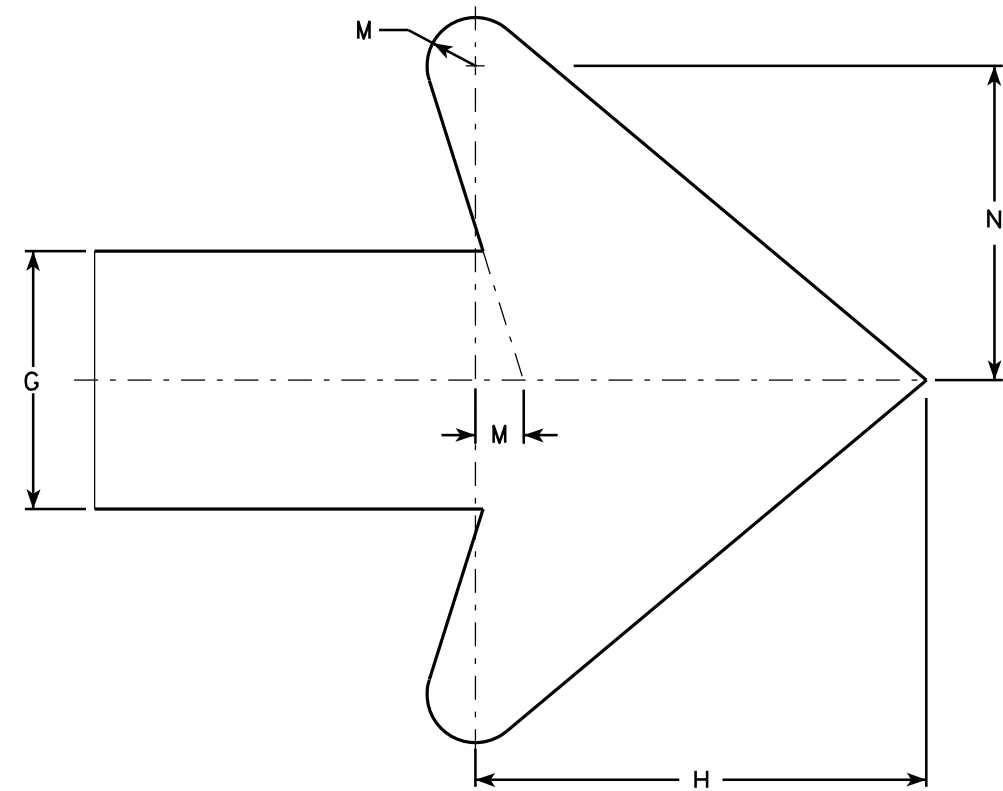
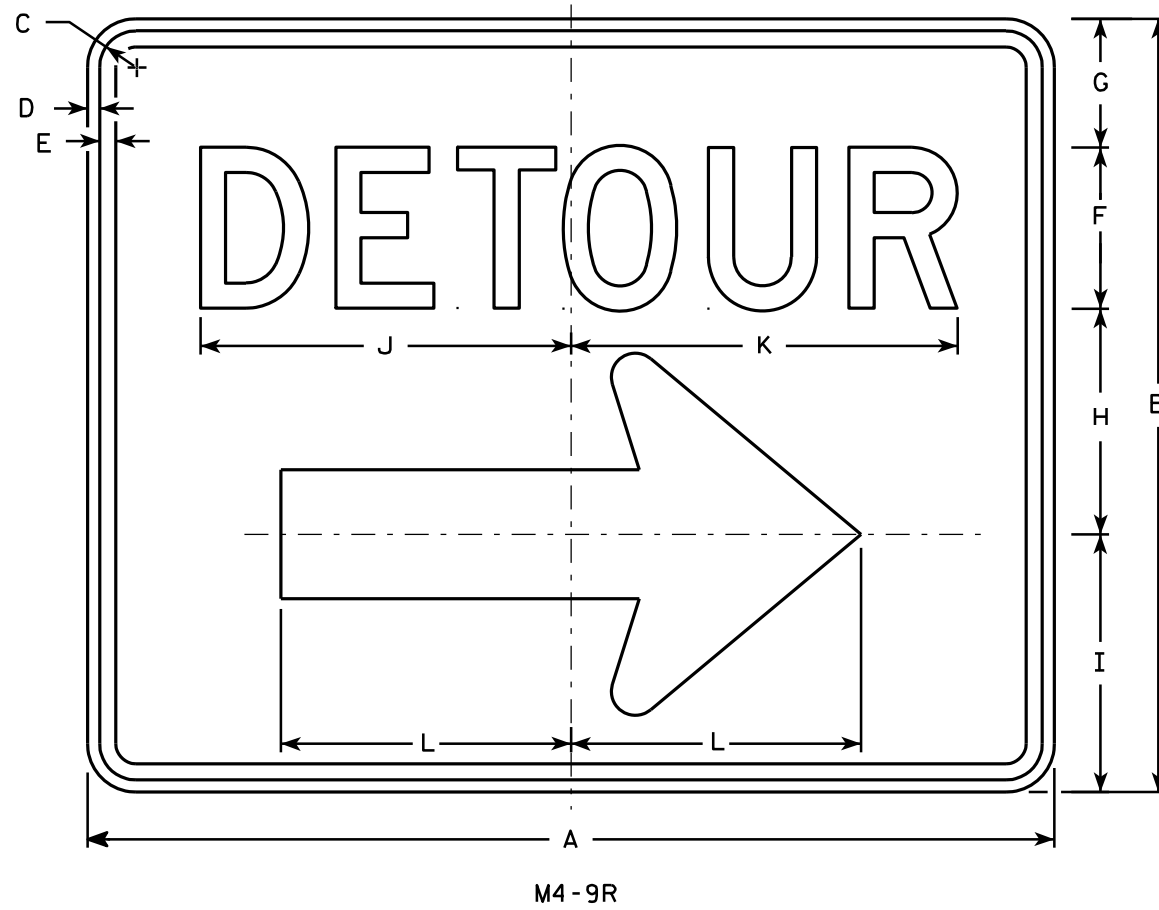
APPROVED *Matthew R. Rauch*
for State Traffic Engineer

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

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

NOTES

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



Arrow Detail

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	30	24	1 1/8	3/8	1/2	5	4	7	8	11 1/2	12	9	3/4	4 7/8													5.00
3	30	24	1 1/8	3/8	1/2	5	4	7	8	11 1/2	12	9	3/4	4 7/8													5.00
4	48	36	1 3/8	1/2	5/8	8	6	10 1/2	11 5/8	20 5/8	20 1/2	13 1/4	1 1/8	6 7/8													12.0
5	48	36	1 3/8	1/2	5/8	8	6	10 1/2	11 5/8	20 5/8	20 1/2	13 1/4	1 1/8	6 7/8													12.0

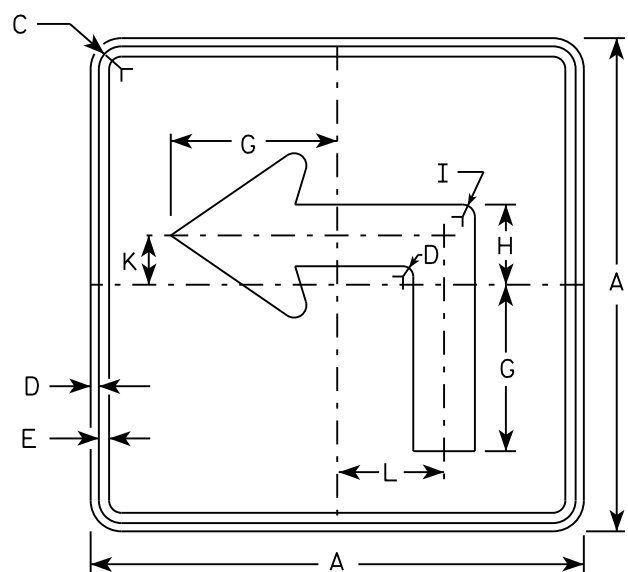
STANDARD SIGN
M4-9 R & L

WISCONSIN DEPT OF TRANSPORTATION

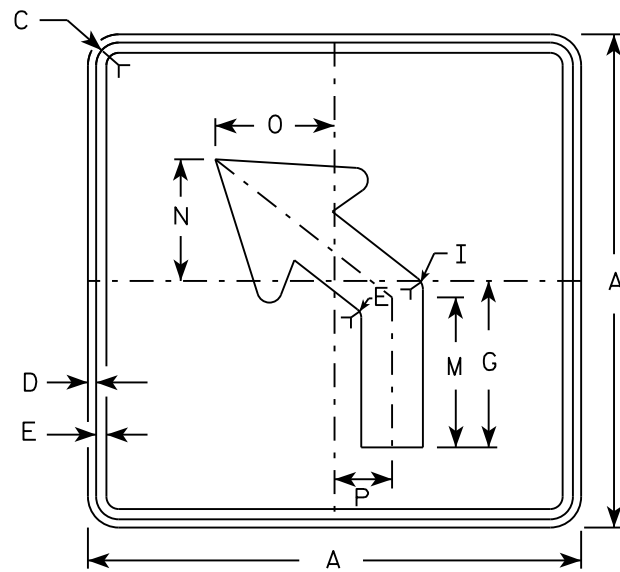
APPROVED *Matthew R. Rauch*
For State Traffic Engineer

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

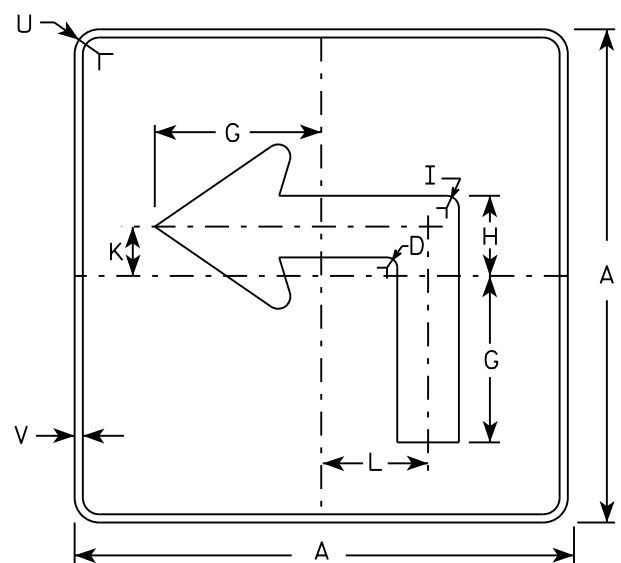
PROJECT NO: _____ HWY: _____ COUNTY: _____ SHEET NO: **E**



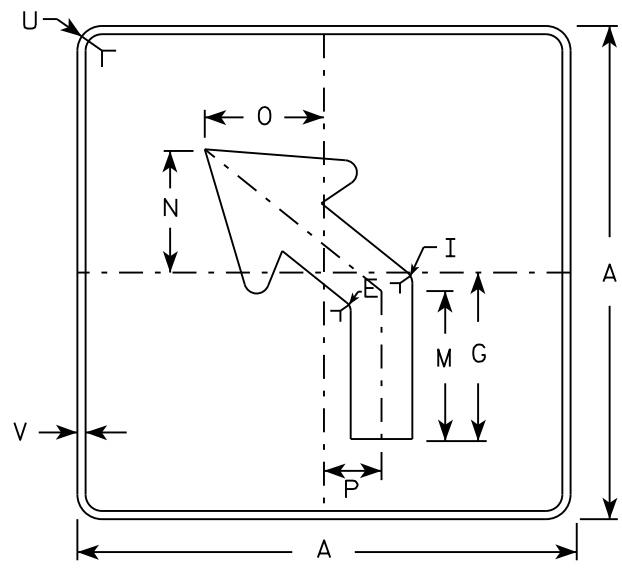
M5-1L
MM5-1L
M05-1L
MP5-1L



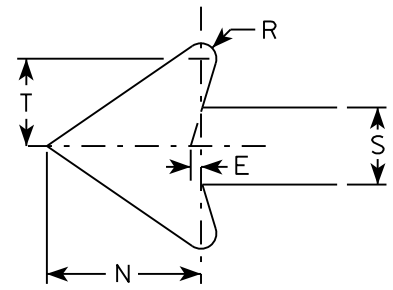
M5-2L
MM5-2L
M05-2L
MP5-2L



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



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



NOTES

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

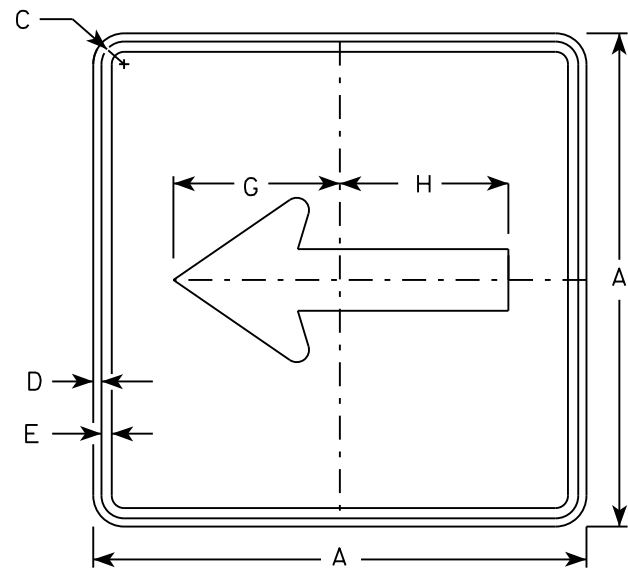
SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2	21		1 1/8	3/8	3/8		7	3 3/8	5/8		2 1/8	4 1/2	6 3/8	5 1/4	5	2 1/2		1/2	2 5/8	3	1 1/2	1/2					3.06
3	30		1 3/8	1/2	5/8		10 1/8	4 7/8	7/8		3	6 1/2	9 1/8	7 1/2	7 1/4	3 1/2		3/4	3 3/4	4 1/4	1 7/8	1/2					6.25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

STANDARD SIGN
M5-1 & M5-2

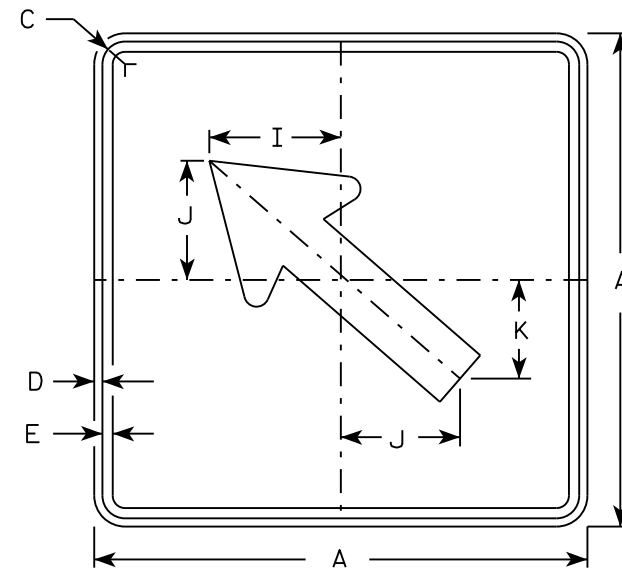
WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer

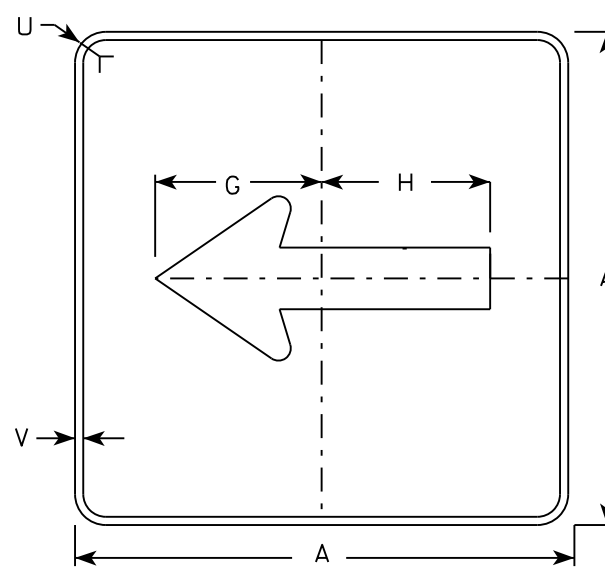
DATE 10/15/15 PLATE NO. M5-1.13



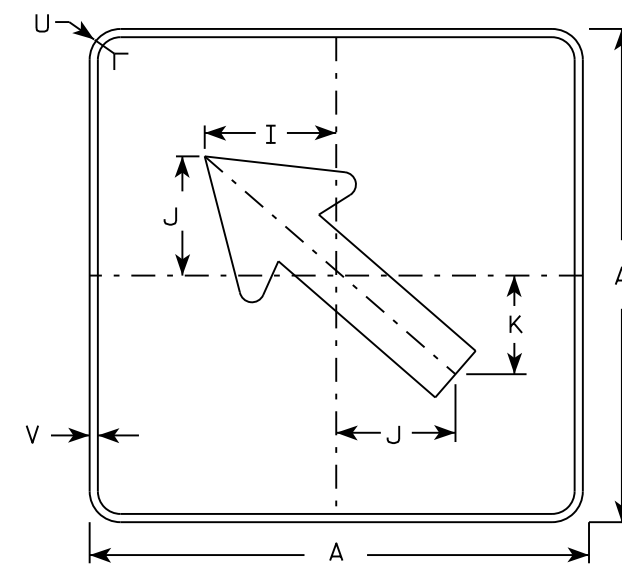
M6-1
MM6-1
M06-1
MP6-1



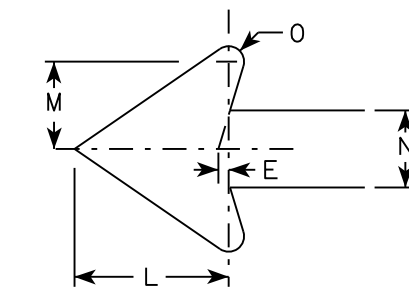
M6-2
MM6-2
M06-2
MP6-2



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



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



NOTES

- Signs are Type II - Type H 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.
- 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

7

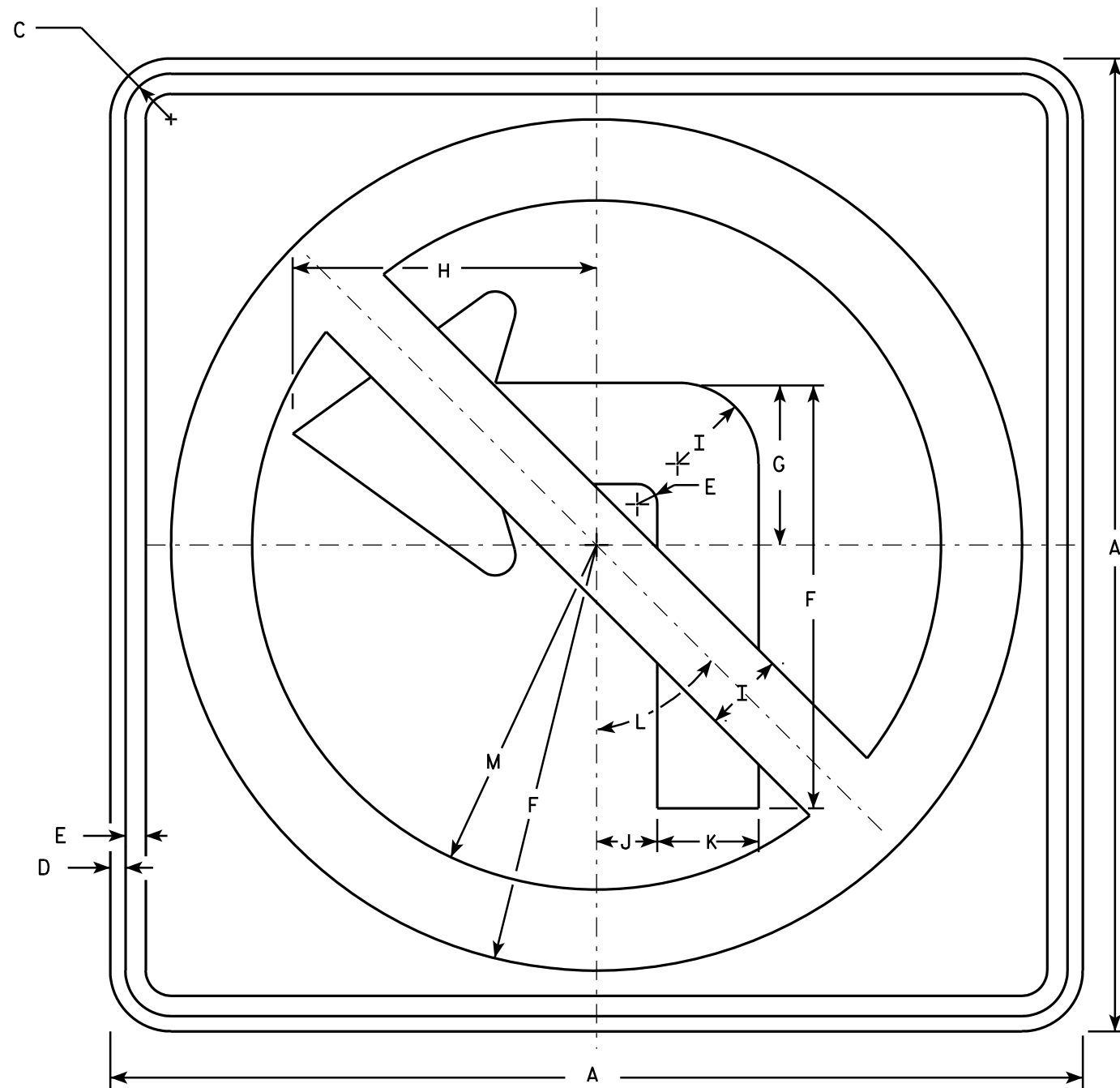
SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2	21		1 1/8	3/8	3/8		7 1/2	7 1/8	5 5/8	5	4 1/4	5 1/4	3	2 5/8	1/2						1 1/2	1/2					3.06
3	30		1 3/8	1/2	5/8		10 3/4	10 1/4	8	7 1/4	6	7 1/2	4 1/4	3 3/4	3/4						1 7/8	1/2					6.25
4	30		1 3/8	1/2	5/8		10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

STANDARD SIGN
M6-1 & M6-2
SERIES

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer

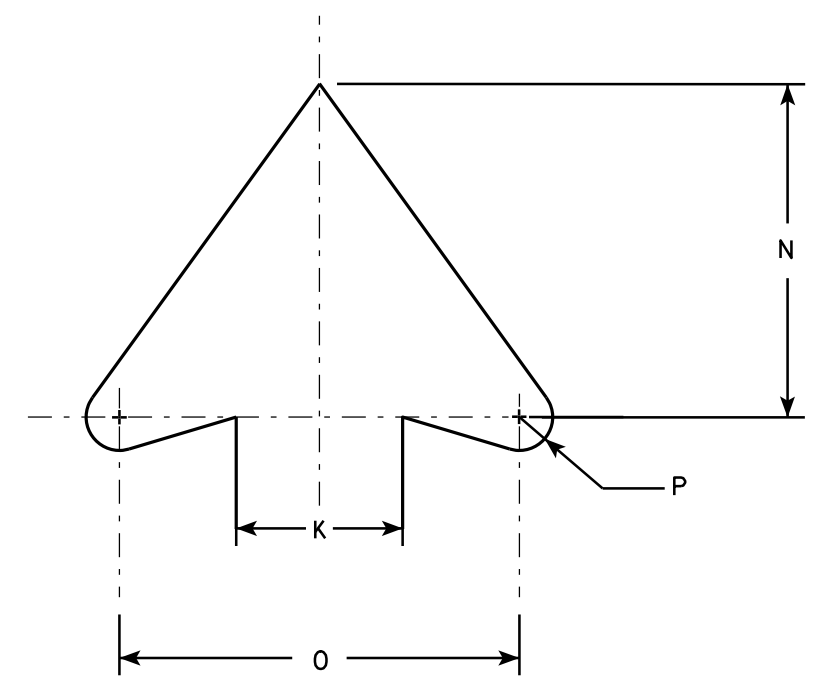
DATE 10/15/15 PLATE NO. M6-1.15



R3-2

NOTES

1. Sign is Type II - Type H Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
Background - White
Message - 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. Border & Arrow are non reflective black, the circle with diagonal bar is reflective red.



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	24		1 1/8	3/8	1/2	10 1/2	4	7 1/2	2	1 1/2	2 1/2	45°	8 1/2	5	6	1/2											4.0
2S	24		1 1/8	3/8	1/2	10 1/2	4	7 1/2	2	1 1/2	2 1/2	45°	8 1/2	5	6	1/2											4.0
2M	36		1 5/8	5/8	3/4	15 3/4	6	11 1/4	3	2 1/4	3 3/4	45°	12 3/4	7 1/2	9	3/4											9.0
3	36		1 5/8	5/8	3/4	15 3/4	6	11 1/4	3	2 1/4	3 3/4	45°	12 3/4	7 1/2	9	3/4											9.0
4	36		1 5/8	5/8	3/4	15 3/4	6	11 1/4	3	2 1/4	3 3/4	45°	12 3/4	7 1/2	9	3/4											9.0
5	48		2 1/4	3/4	1	21	8	15	4	3	5	45°	17	10	12	1											16.0

STANDARD SIGN
R3-2

WISCONSIN DEPT OF TRANSPORTATION

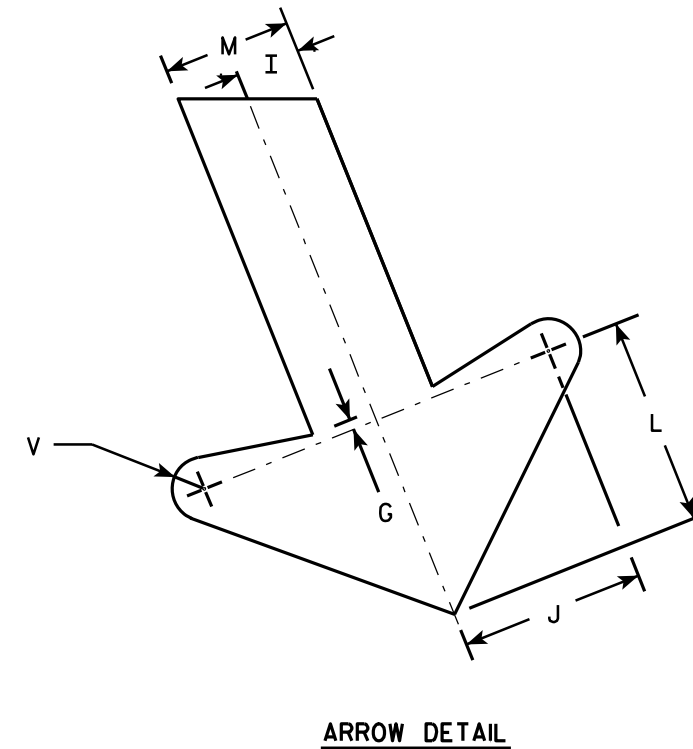
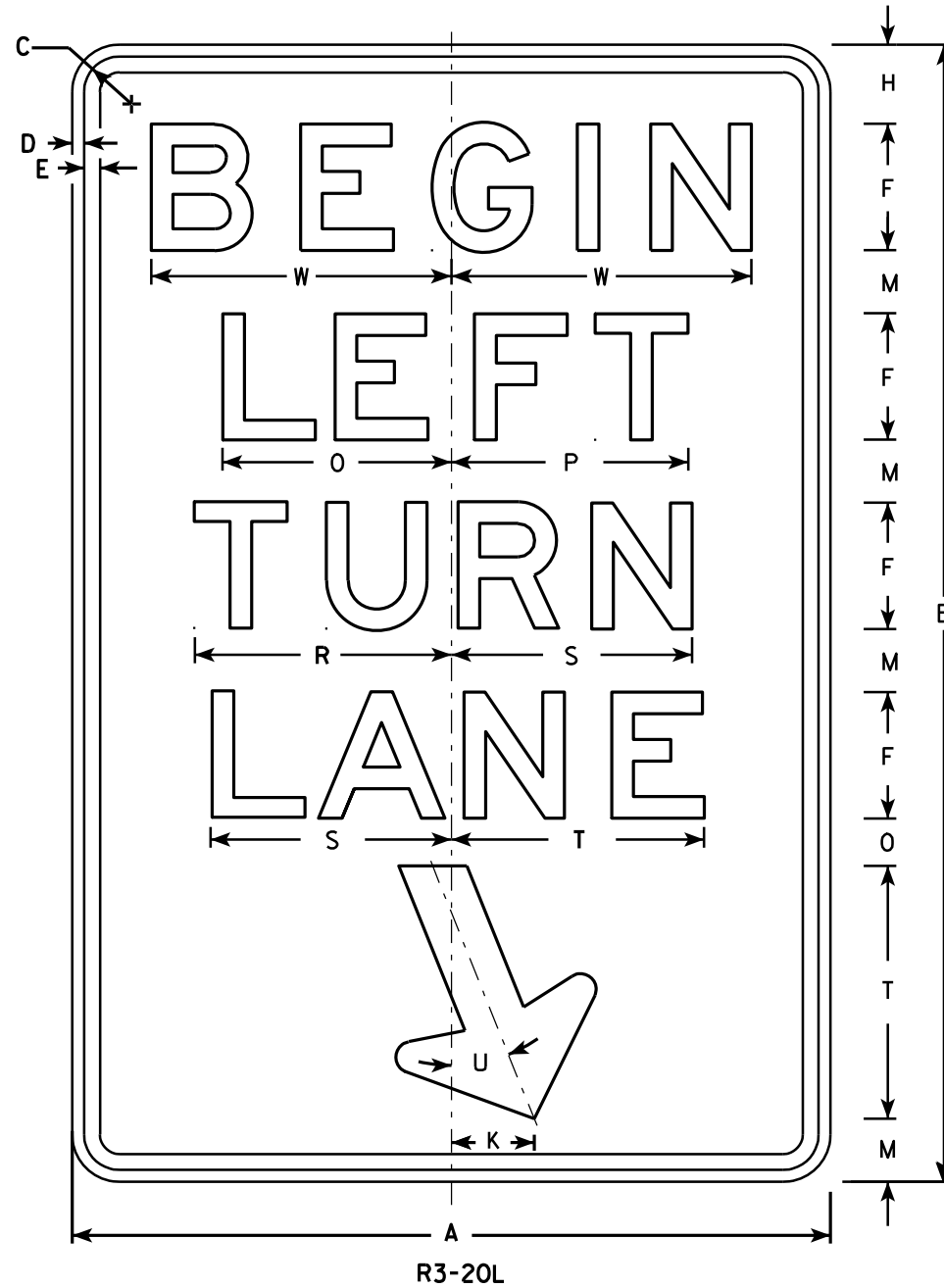
APPROVED *Matthew R. Rauch*
For State Traffic Engineer

DATE 12/08/10 PLATE NO. R3-2.10

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

NOTES

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



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	24	36	1 1/8	3/8	1/2	4	1/4	2 1/2	1	2 7/8	2 5/8	3 1/4	2	1 1/2	7 1/4	7 1/2		8 1/8	7 5/8	8	22°	1/2	9 1/2				6.0
2M	24	36	1 1/8	3/8	1/2	4	1/4	2 1/2	1	2 7/8	2 5/8	3 1/4	2	1 1/2	7 1/4	7 1/2		8 1/8	7 5/8	8	22°	1/2	9 1/2				6.0
3	36	54	1 3/4	1/2	5/8	6	3/8	3 3/4	1 1/2	4 1/4	4	4 7/8	3	2 1/4	10 7/8	11 1/4		12 1/4	11 1/2	12	22°	3/4	13 1/4				13.5
4																											
5																											

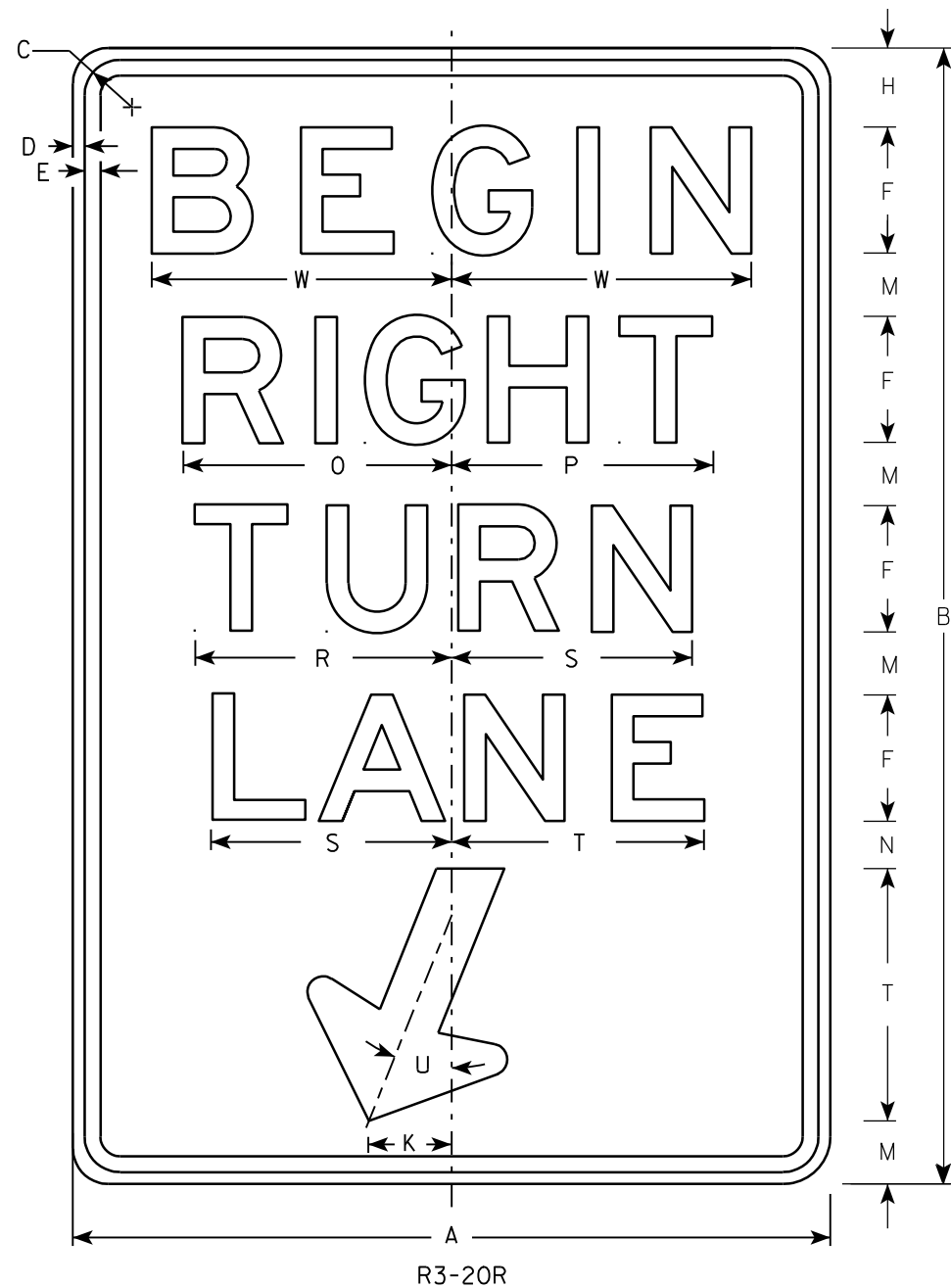
STANDARD SIGN
R3-20L

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer

DATE 10/18/10 PLATE NO. R3-20L.7

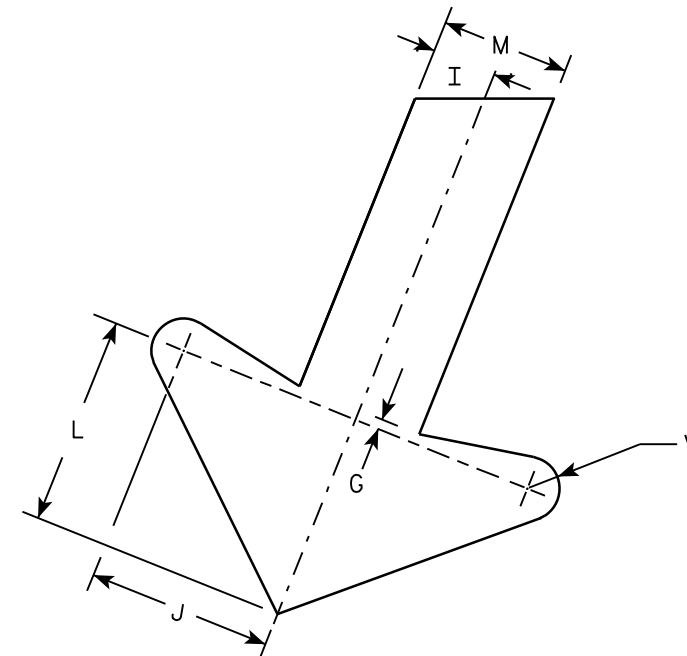
PROJECT NO: _____ HWY: _____ COUNTY: _____ SHEET NO: _____ E



R3-20R

NOTES

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



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	24	36	1 1/8	3/8	1/2	4	1/4	2 1/2	1	2 7/8	2 5/8	3 1/4	2	1 1/2	8 1/2	8 1/4		8 1/8	7 5/8	8	22°	1/2	9 1/2				6.0	
2M	24	36	1 1/8	3/8	1/2	4	1/4	2 1/2	1	2 7/8	2 5/8	3 1/4	2	1 1/2	8 1/2	8 1/4		8 1/8	7 5/8	8	22°	1/2	9 1/2				6.0	
3	36	54	1 3/4	1/2	5/8	6	3/8	3 3/4	1 1/2	4 1/4	4	4 7/8	3	2 1/4	12 3/4	12 1/2		12 1/4	11 1/2	12	22°	3/4	13 1/4				13.5	
4																												
5																												

STANDARD SIGN
R3-20R

WISCONSIN DEPT OF TRANSPORTATION

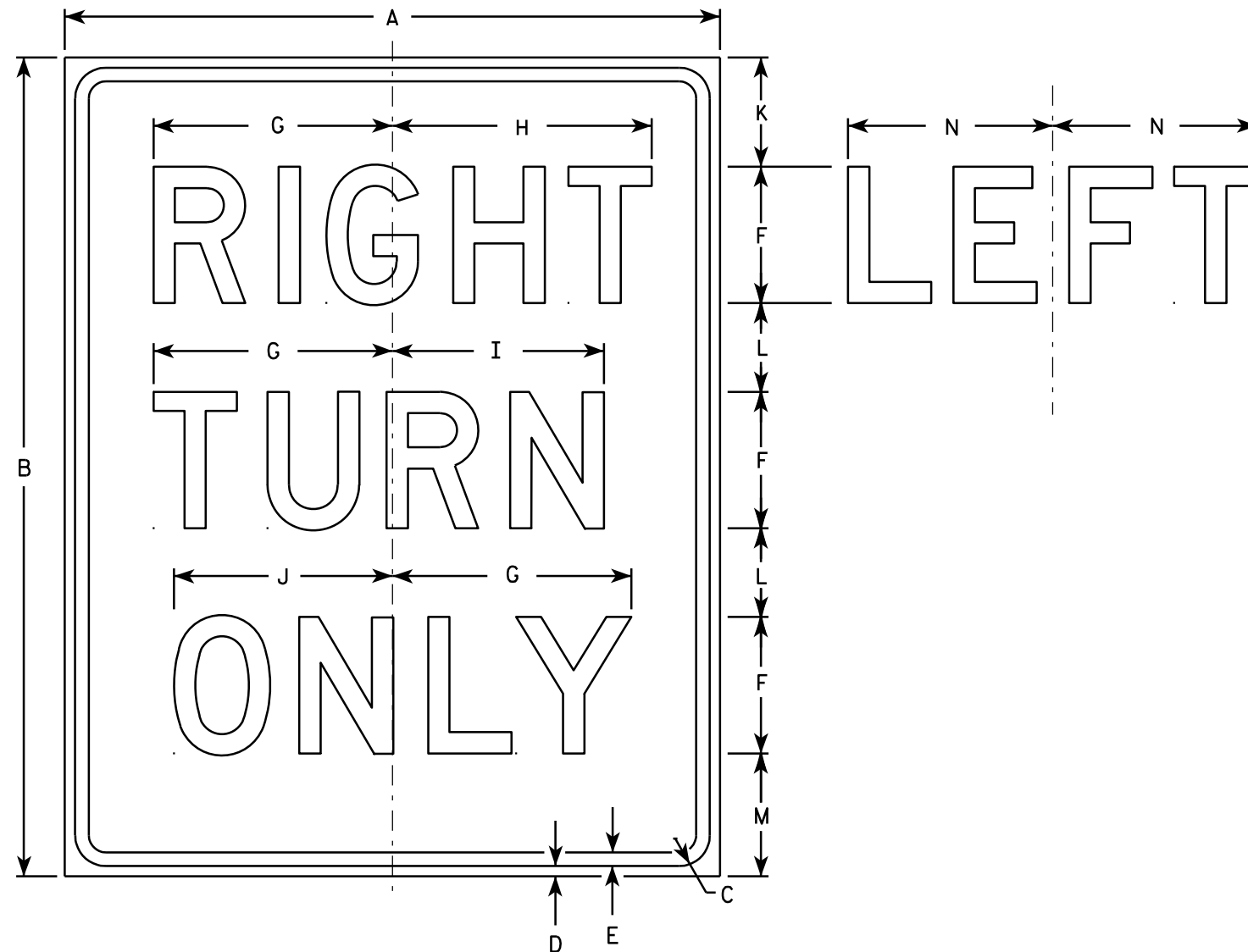
APPROVED *Matthew R. Rauch*
For State Traffic Engineer

DATE 10/18/10 PLATE NO. R3-20R.6

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

NOTES

1. Sign is Type II - Type H Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
Background - White
Message - Black
3. Message Series - 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. R3-53L same as R3-53R except LEFT is substituted for RIGHT.



R3-53R

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	24	30	1 1/8	3/8	1/2	5	8 3/4	9 1/2	7 3/4	8	4	3 1/4	4 1/2	7 1/2													5.0
2M	24	30	1 1/8	3/8	1/2	5	8 3/4	9 1/2	7 3/4	8	4	3 1/4	4 1/2	7 1/2													5.0
3	24	30	1 1/8	3/8	1/2	5	8 3/4	9 1/2	7 3/4	8	4	3 1/4	4 1/2	7 1/2													5.0
4																											
5																											

STANDARD SIGN
R3-53

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
For State Traffic Engineer

DATE 3/24/2011 PLATE NO. R3-53.8

PROJECT NO:

HWY:

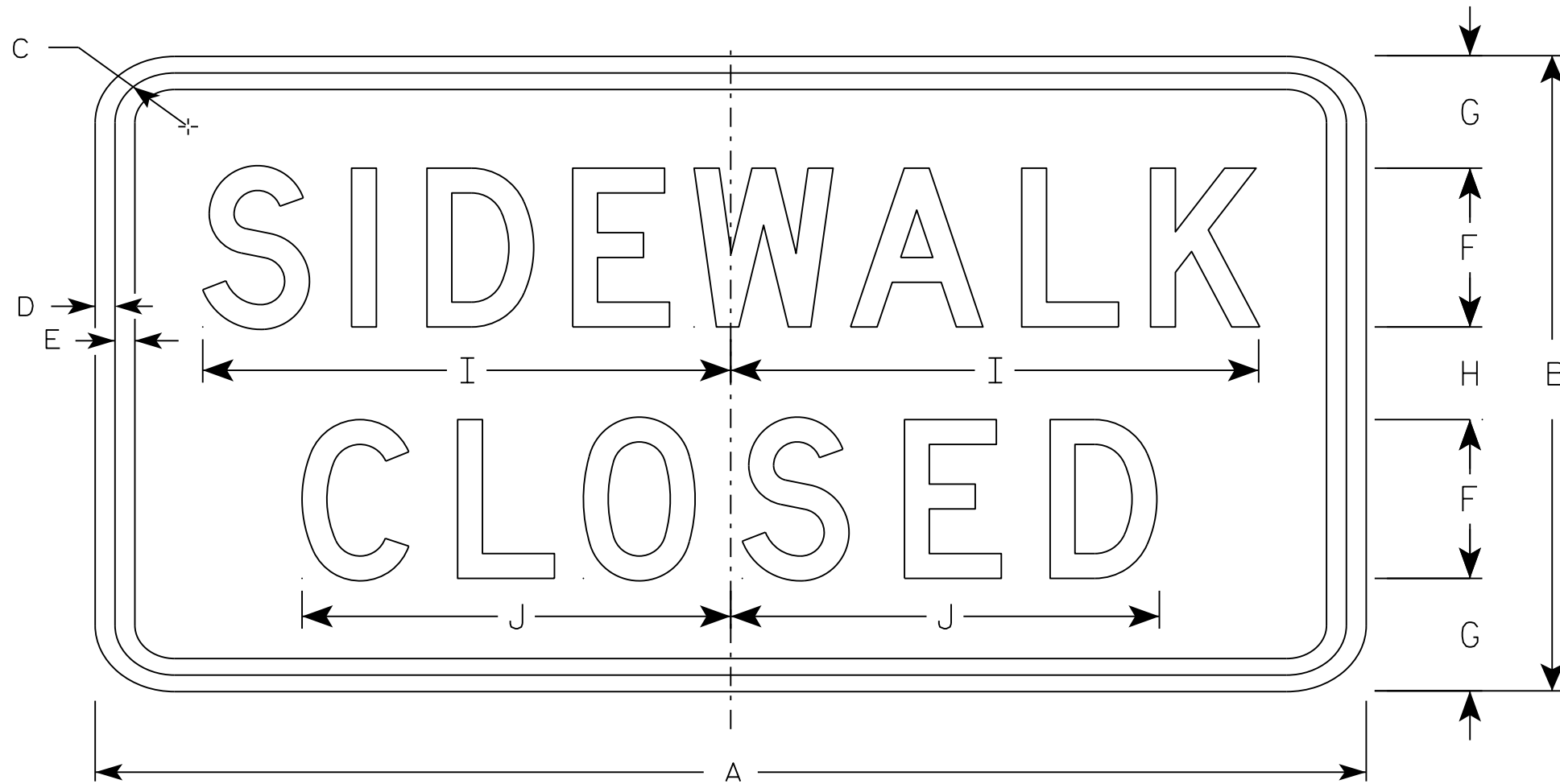
COUNTY:

SHEET NO:

E

NOTES

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



R9-9

7

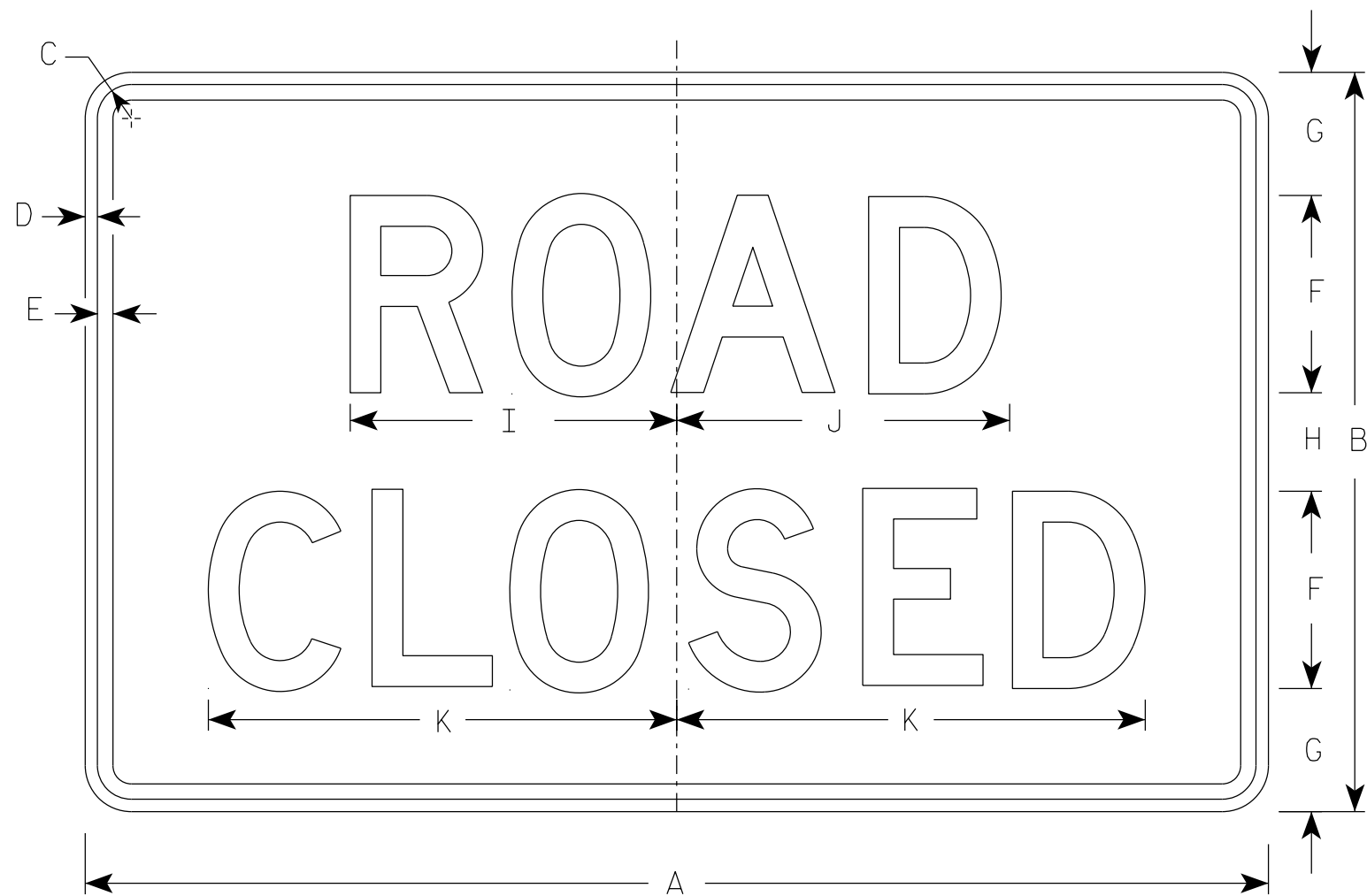
SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2S	24	12	1 3/4	1/2	1/2	3	2 1/8	1 3/4	10	8 1/8																	2.0
2M	24	12	1 3/4	1/2	1/2	3	2 1/8	1 3/4	10	8 1/8																	2.0
3	30	18	1 3/4	1/2	1/2	4	3 1/2	3	12 1/2	10 1/4																	3.75
4	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

STANDARD SIGN
R9-9

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
For State Traffic Engineer

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



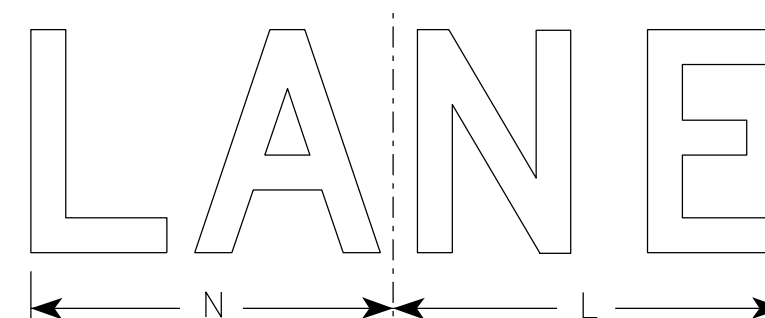
R11-2



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

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	30	1 3/8	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 3/8	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 3/8	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 3/8	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 3/8	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

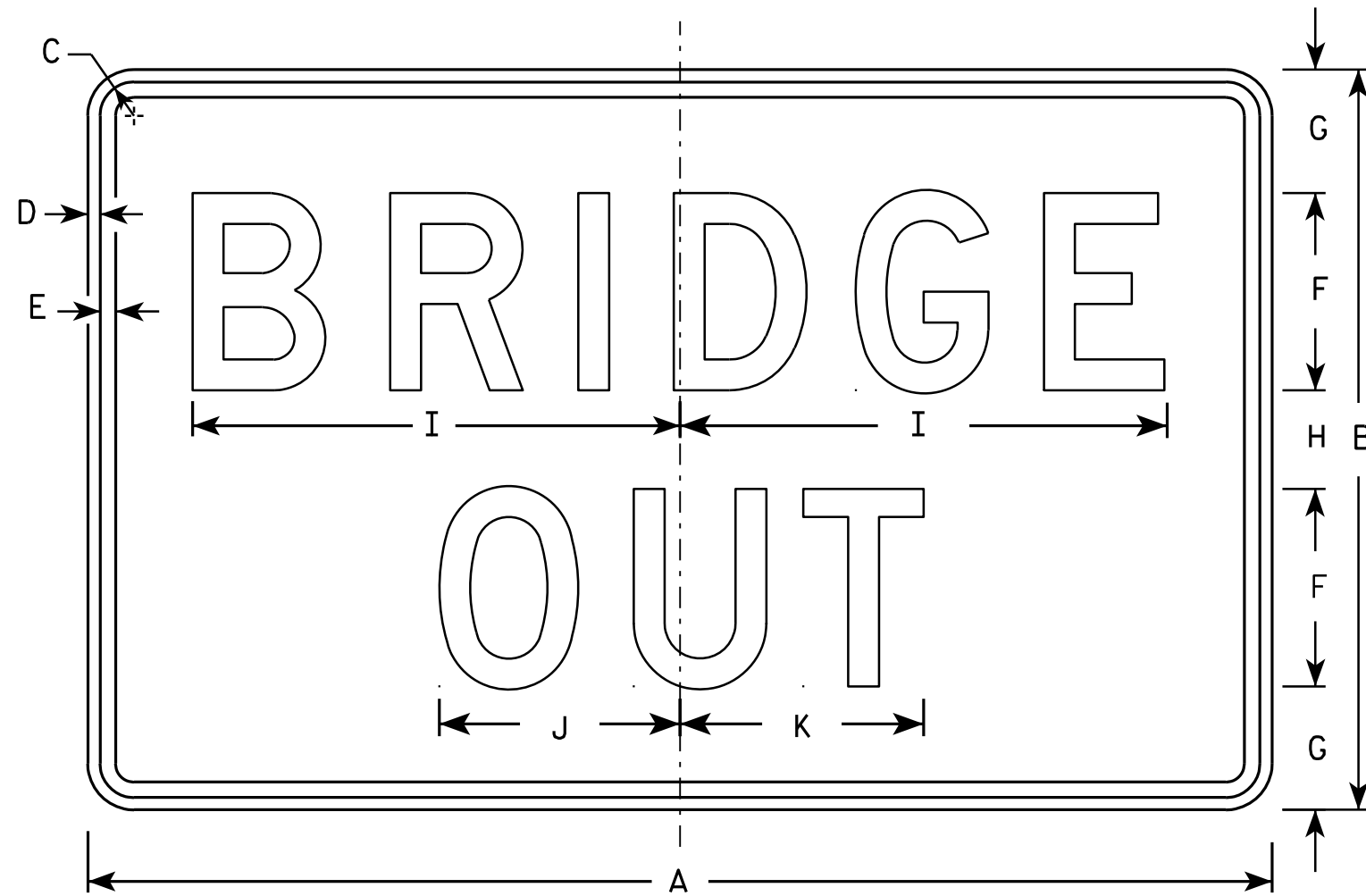
APPROVED *Matthew R Rauch*
For State Traffic Engineer

DATE 3/29/2021 PLATE NO. R11-2.11

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

NOTES

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



R11-2B

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	30	1 3/8	1/2	5/8	8	5	4	19 3/4	9 3/4	9 7/8																10.0
2M	48	30	1 3/8	1/2	5/8	8	5	4	19 3/4	9 3/4	9 7/8																10.0
3	48	30	1 3/8	1/2	5/8	8	5	4	19 3/4	9 3/4	9 7/8																10.0
4	48	30	1 3/8	1/2	5/8	8	5	4	19 3/4	9 3/4	9 7/8																10.0
5	48	30	1 3/8	1/2	5/8	8	5	4	19 3/4	9 3/4	9 7/8																10.0

STANDARD SIGN
R11-2B

WISCONSIN DEPT OF TRANSPORTATION

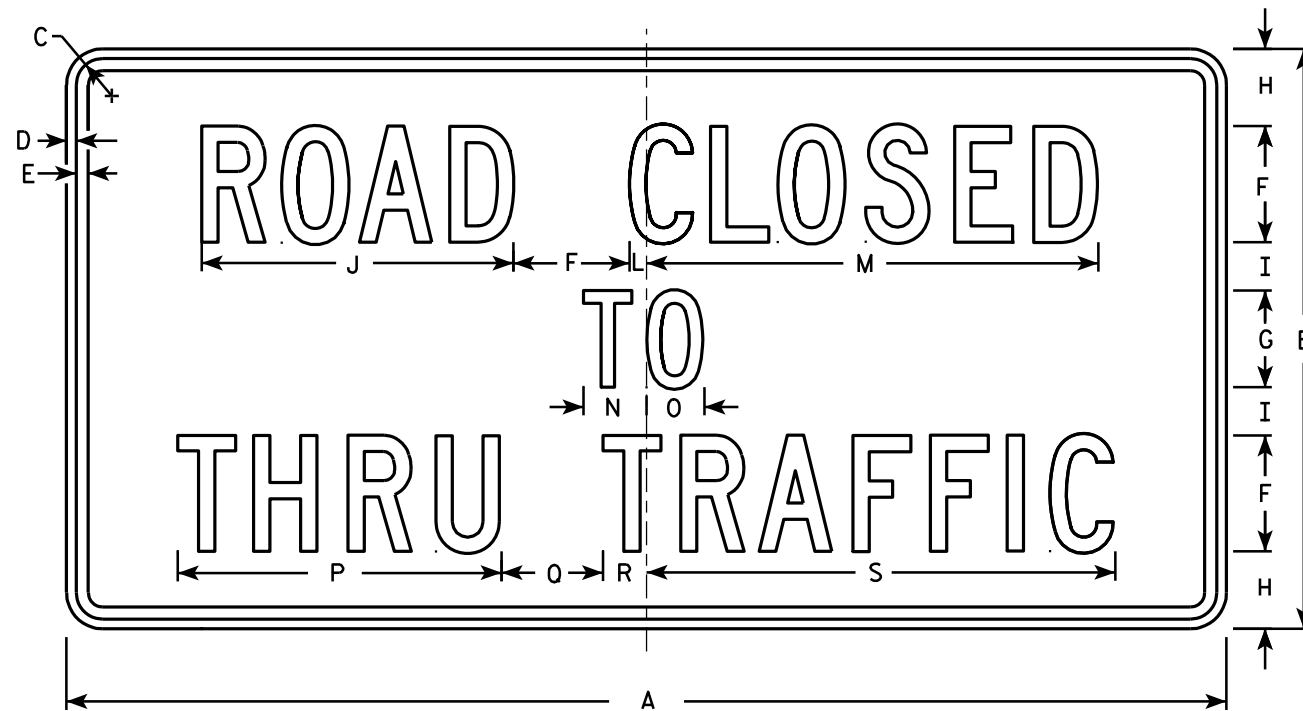
APPROVED *Matthew R. Rauch*
For State Traffic Engineer

DATE 4/1/11 PLATE NO. R11-2B.2

PROJECT NO: _____ SHEET NO: _____ E

NOTES

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



R11-4

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	60	30	1 3/8	1/2	5/8	6	5	4	2 1/2	16 1/8		7/8	23 3/8	3 1/4	3	16 3/4	5 1/4	2 1/4	24 1/4								12.5
2M	60	30	1 3/8	1/2	5/8	6	5	4	2 1/2	16 1/8		7/8	23 3/8	3 1/4	3	16 3/4	5 1/4	2 1/4	24 1/4								12.5
3																											
4																											
5																											

STANDARD SIGN
R11 - 4

WISCONSIN DEPT OF TRANSPORTATION

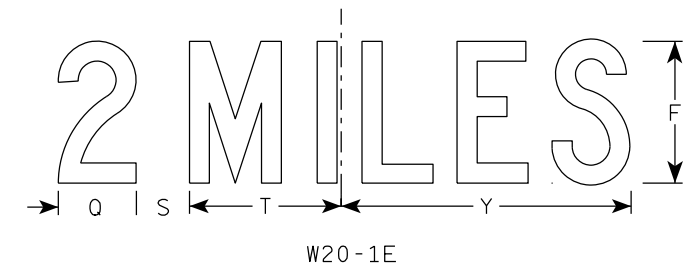
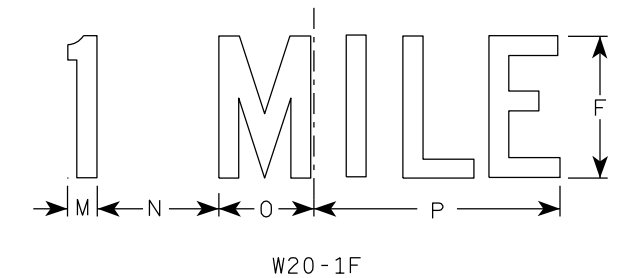
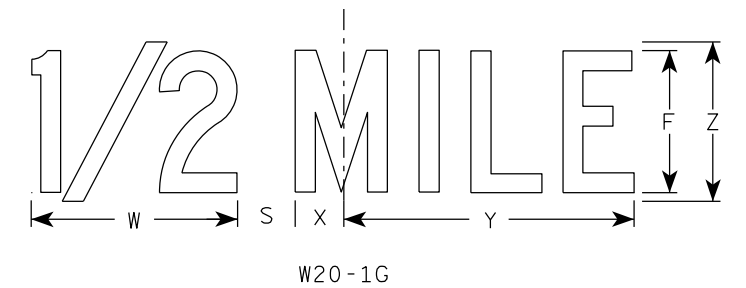
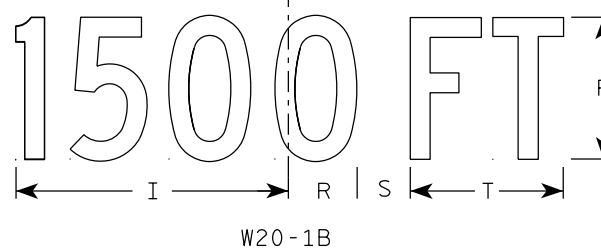
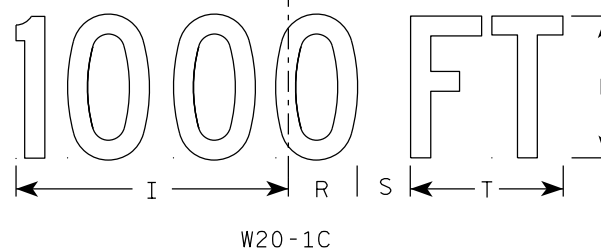
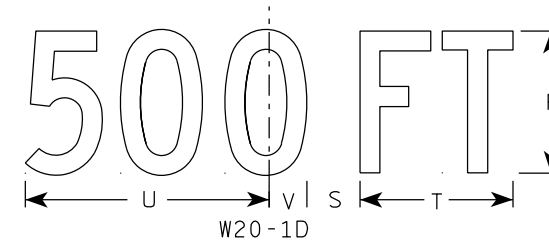
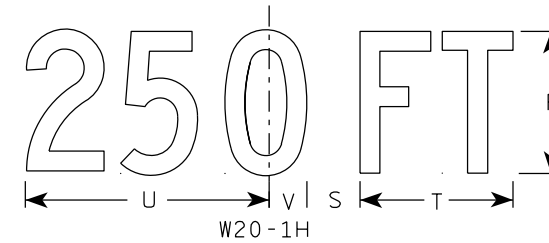
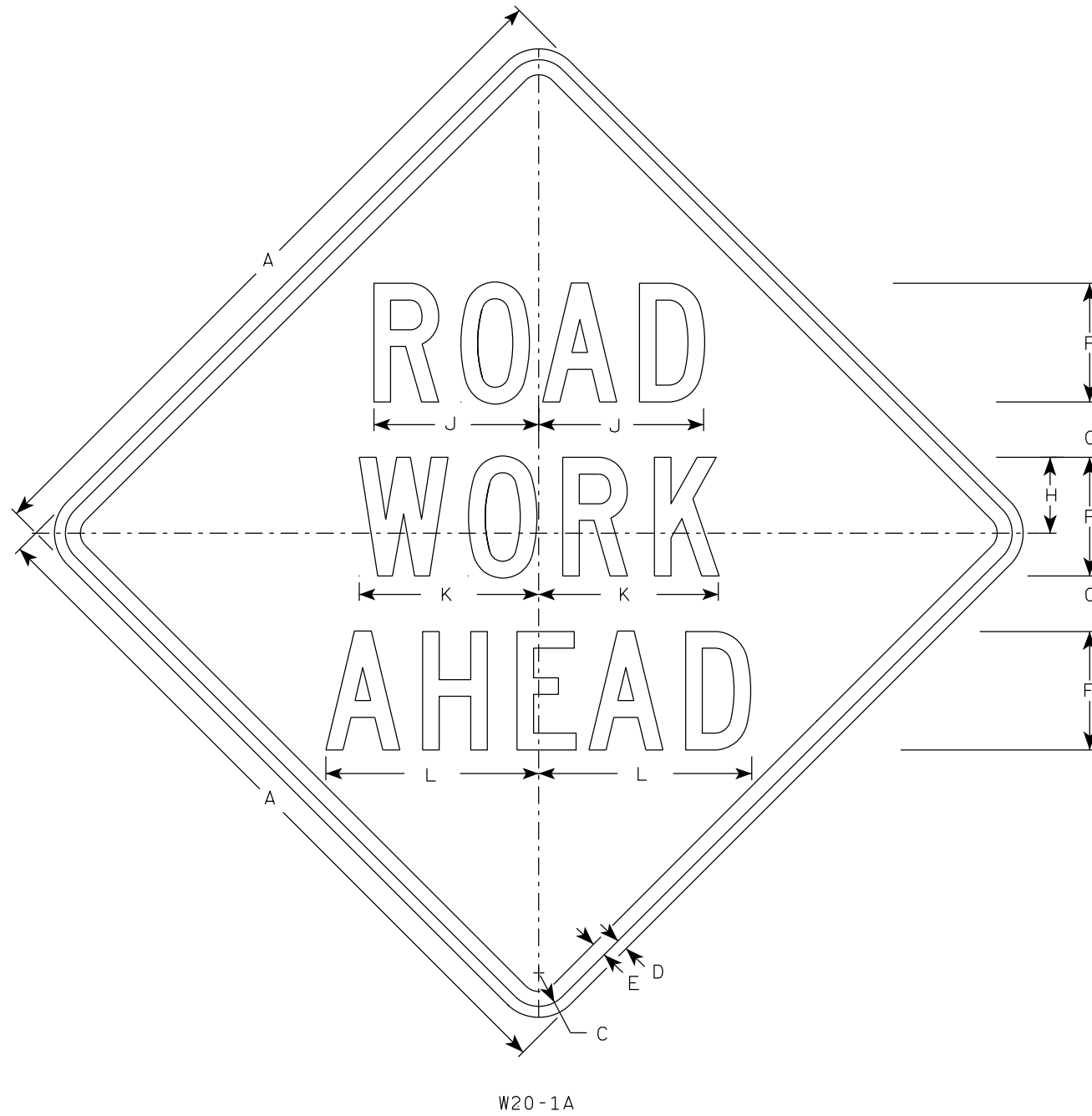
APPROVED *Matthew R. Raush*
for State Traffic Engineer

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

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.



W20-1A

W20-1C

W20-1B

W20-1G

W20-1F

W20-1E

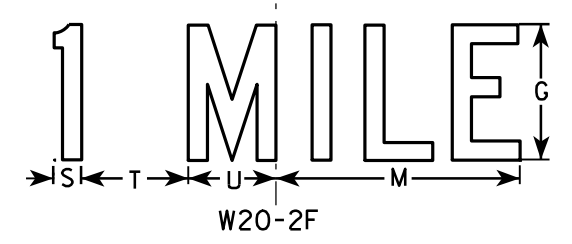
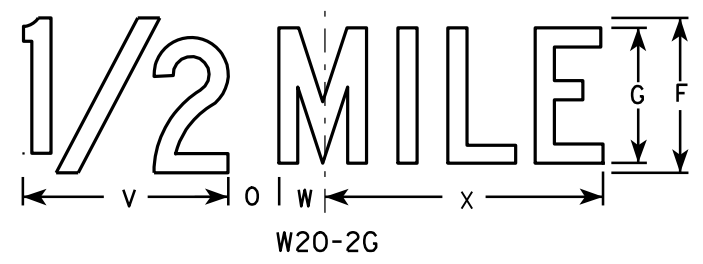
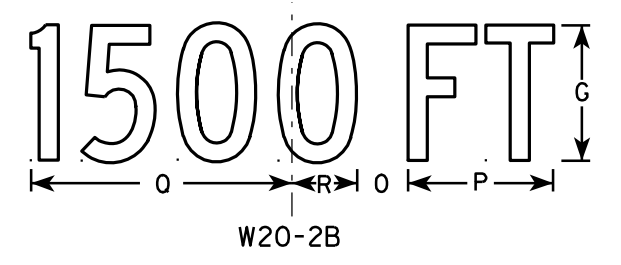
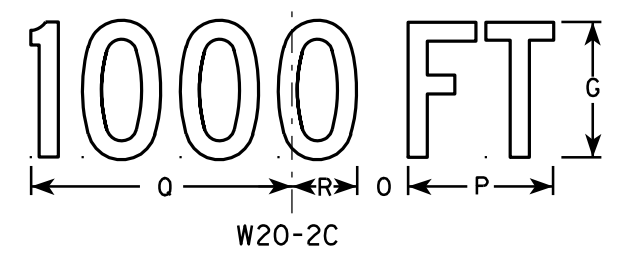
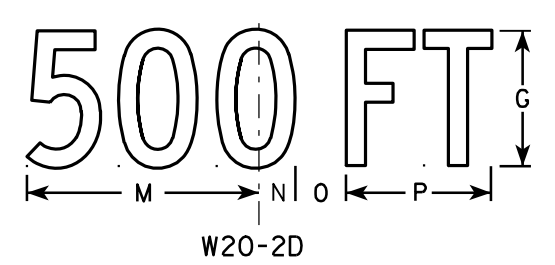
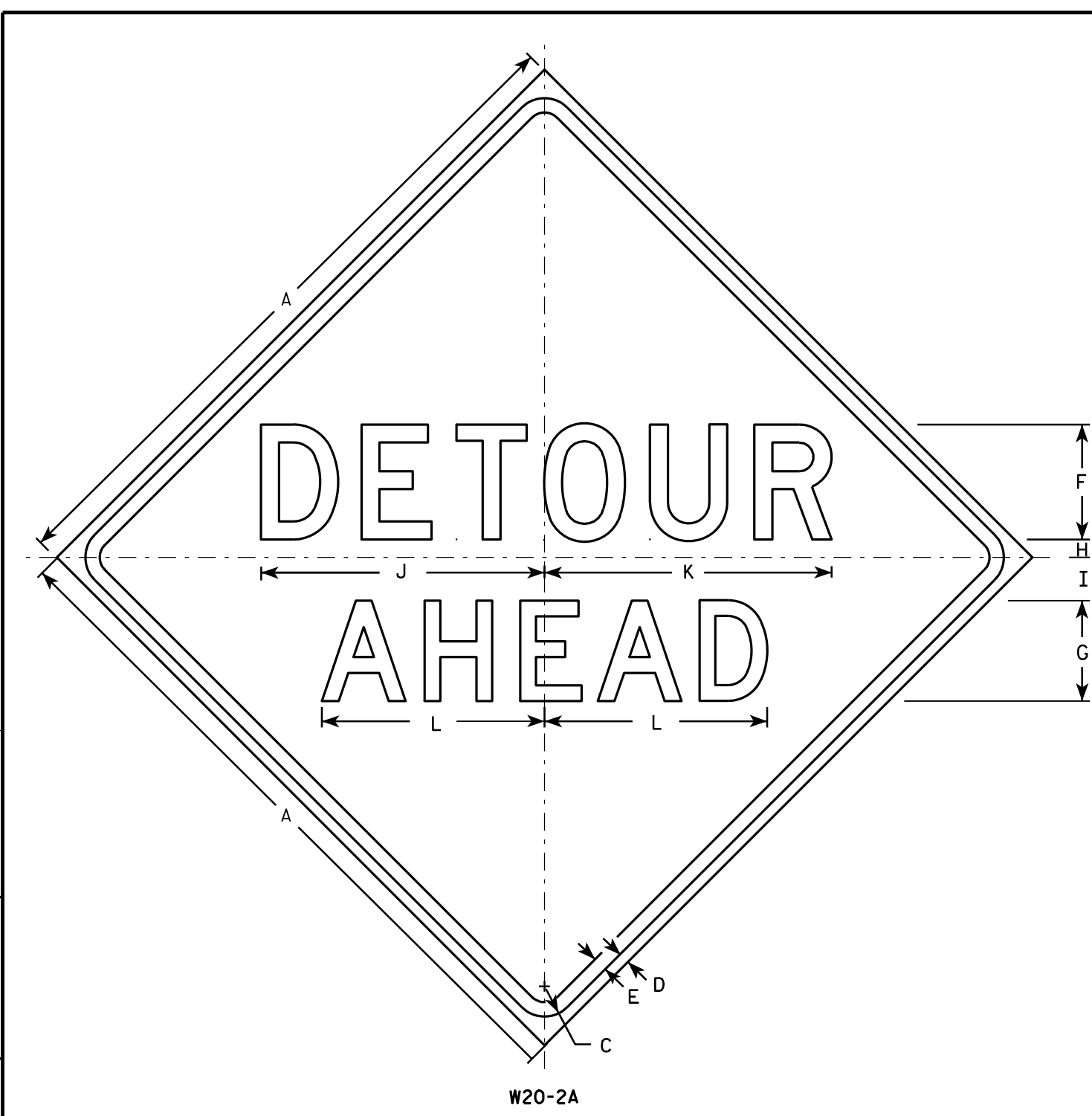
SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	36		1 5/8	5/8	3/4	5	2 5/8	3 1/4	10 1/8	7	7 5/8	8 7/8	1 1/8	4 1/2	3 1/2	9	3 1/4	2 1/2	2 1/4	5 5/8	9	1 3/8	8	1 3/4	10 3/4	6	9.0
2S	48		2 1/4	3/4	1	8	3 3/4	5 1/8	15 3/8	11 1/8	12 1/8	14 3/8	1 5/8	6 7/8	5 3/8	13 7/8	4 3/8	3 7/8	3	8 5/8	13 3/4	2 1/8	11 7/8	2 3/4	16 3/8	9	16.0
2M	48		2 1/4	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		2 1/4	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		2 1/4	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		2 1/4	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 3/25/2020 PLATE NO. W20-1.11



NOTES

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

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		1 5/8	5/8	3/4	6	5	1	2 1/4	14 3/4	15	11 5/8	9	1 3/8	1 7/8	5 5/8	10 1/8	2 1/2	1 1/8	4 1/2	3 1/2	8	1 3/4	10 3/4			9.0
2S	48		2 1/4	3/4	1	8	7	1 1/4	3	19 3/4	20	15 1/2	12	1 7/8	2 5/8	7 1/2	13 1/2	3 3/8	1 1/2	6	4 5/8	10 5/8	2 3/8	14 3/8			16.0
2M	48		2 1/4	3/4	1	8	7	1 1/4	3	19 3/4	20	15 1/2	12	1 7/8	2 5/8	7 1/2	13 1/2	3 3/8	1 1/2	6	4 5/8	10 5/8	2 3/8	14 3/8			16.0
3	48		2 1/4	3/4	1	8	7	1 1/4	3	19 3/4	20	15 1/2	12	1 7/8	2 5/8	7 1/2	13 1/2	3 3/8	1 1/2	6	4 5/8	10 5/8	2 3/8	14 3/8			16.0
4	48		2 1/4	3/4	1	8	7	1 1/4	3	19 3/4	20	15 1/2	12	1 7/8	2 5/8	7 1/2	13 1/2	3 3/8	1 1/2	6	4 5/8	10 5/8	2 3/8	14 3/8			16.0
5	48		2 1/4	3/4	1	8	7	1 1/4	3	19 3/4	20	15 1/2	12	1 7/8	2 5/8	7 1/2	13 1/2	3 3/8	1 1/2	6	4 5/8	10 5/8	2 3/8	14 3/8			16.0

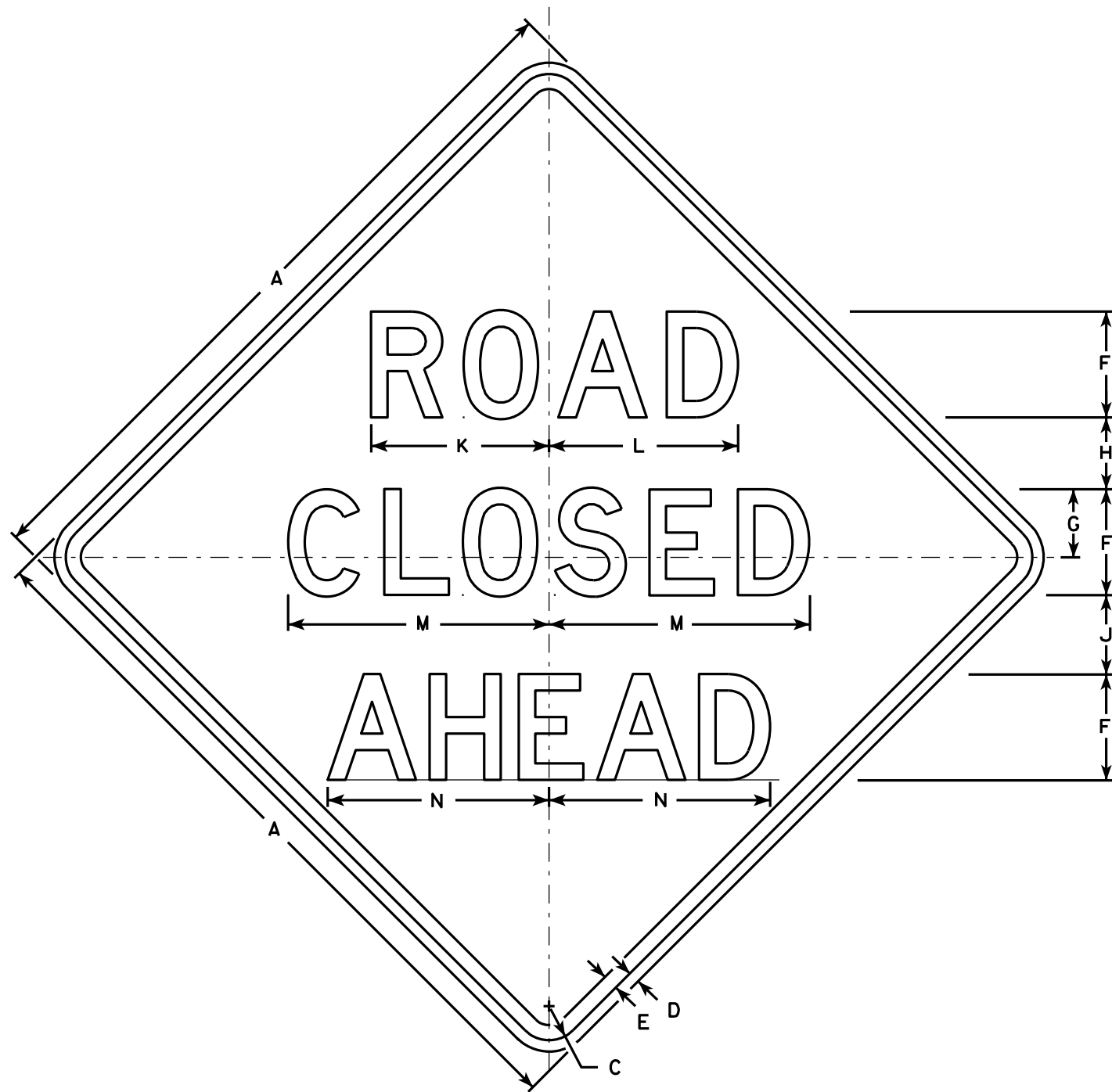
STANDARD SIGN
W20-2A, B, C, D, F & G

WISCONSIN DEPT OF TRANSPORTATION

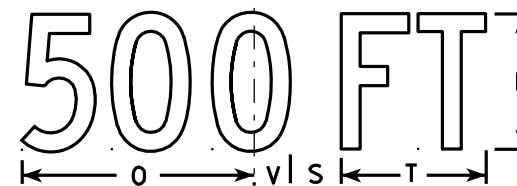
APPROVED *Matthew R. Raub*
for State Traffic Engineer

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

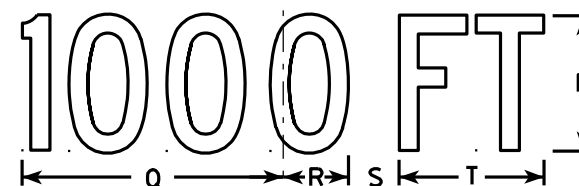
PROJECT NO: _____ HWY: _____ COUNTY: _____ SHEET NO: _____ E



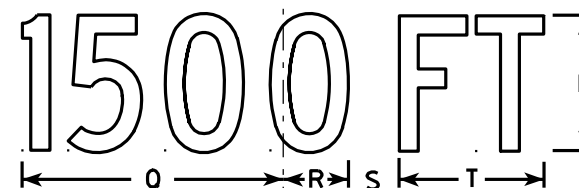
W20-3A



W20-3D



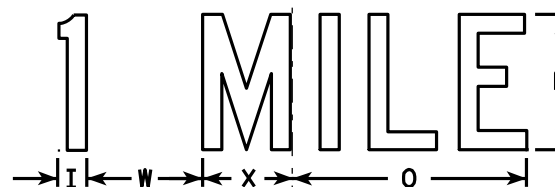
W20-3C



W20-3B



W20-3G



W20-3F

NOTES

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

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		1 5/8	5/8	3/4	5	3 3/8	3 1/2	1 1/8	4	8 3/8	8 7/8	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		2 1/4	3/4	1	7	4 1/2	4 3/4	1 1/2	5 1/4	11 3/4	12 1/2	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		2 1/4	3/4	1	7	4 1/2	4 3/4	1 1/2	5 1/4	11 3/4	12 1/2	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		2 1/4	3/4	1	7	4 1/2	4 3/4	1 1/2	5 1/4	11 3/4	12 1/2	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		2 1/4	3/4	1	7	4 1/2	4 3/4	1 1/2	5 1/4	11 3/4	12 1/2	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		2 1/4	3/4	1	7	4 1/2	4 3/4	1 1/2	5 1/4	11 3/4	12 1/2	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
W20-3A, B, C, D, F & G

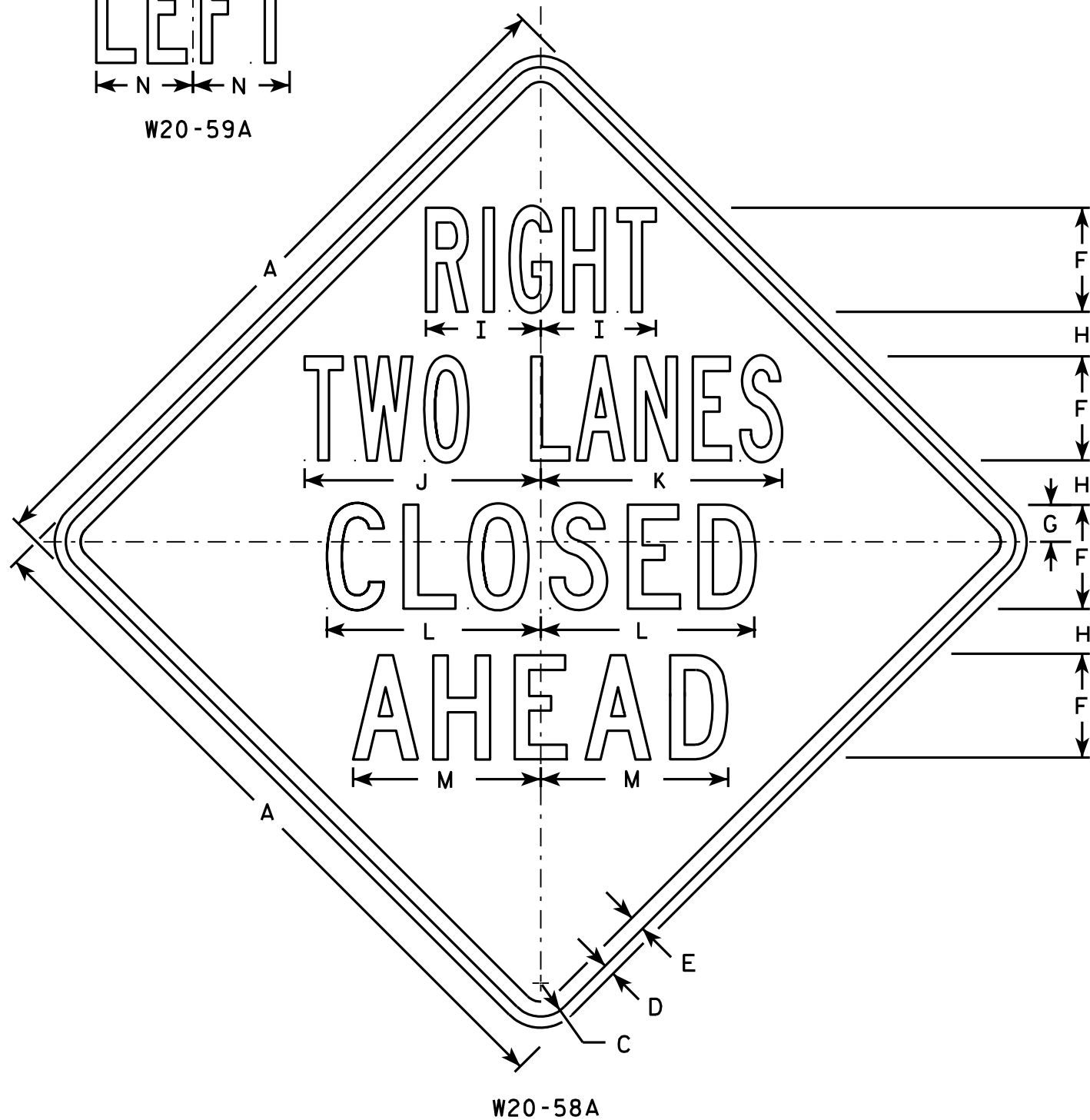
WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
For State Traffic Engineer

DATE 3/18/11 PLATE NO. W20-3.7

LEFT

W20-59A



500 FT

W20-58D

1000 FT

W20-58C

1500 FT

W20-58B

1/2 MILE

W20-58G

1 MILE

W20-58F

NOTES

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

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		1 5/8	5/8	3/4	5	1 7/8	2 1/4	5 7/8	11 7/8	12 1/8	10 3/4	9 1/2	4 7/8	6	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		2 1/4	3/4	1	7	2 1/2	3	7 3/4	15 7/8	16 1/4	14 3/8	12 5/8	6 1/2	8	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		2 1/4	3/4	1	7	2 1/2	3	7 3/4	15 7/8	16 1/4	14 3/8	12 5/8	6 1/2	8	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		2 1/4	3/4	1	7	2 1/2	3	7 3/4	15 7/8	16 1/4	14 3/8	12 5/8	6 1/2	8	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		2 1/4	3/4	1	7	2 1/2	3	7 3/4	15 7/8	16 1/4	14 3/8	12 5/8	6 1/2	8	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		2 1/4	3/4	1	7	2 1/2	3	7 3/4	15 7/8	16 1/4	14 3/8	12 5/8	6 1/2	8	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
W20-58A, B, C, D, F & G

WISCONSIN DEPT OF TRANSPORTATION

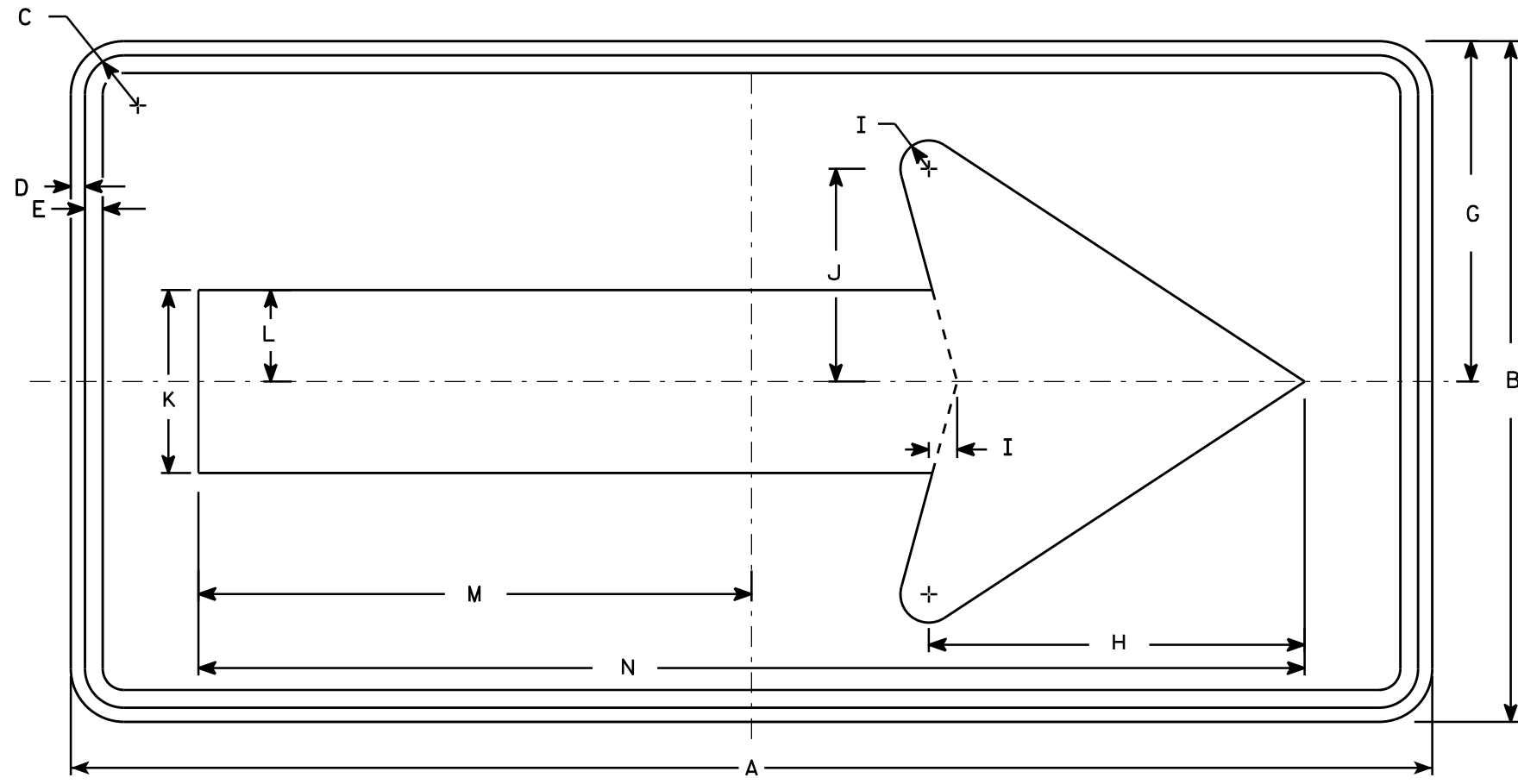
APPROVED *Matthew R. Rauch*
for State Traffic Engineer

DATE 3/18/11 PLATE NO. W20-58.4

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

NOTES

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



W01-6

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 3/8	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 3/8	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 3/8	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 3/8	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 3/8	1/2	5/8		15	16 1/4	1 1/4	9 1/4	8	4	24 3/8	48 3/4													12.5

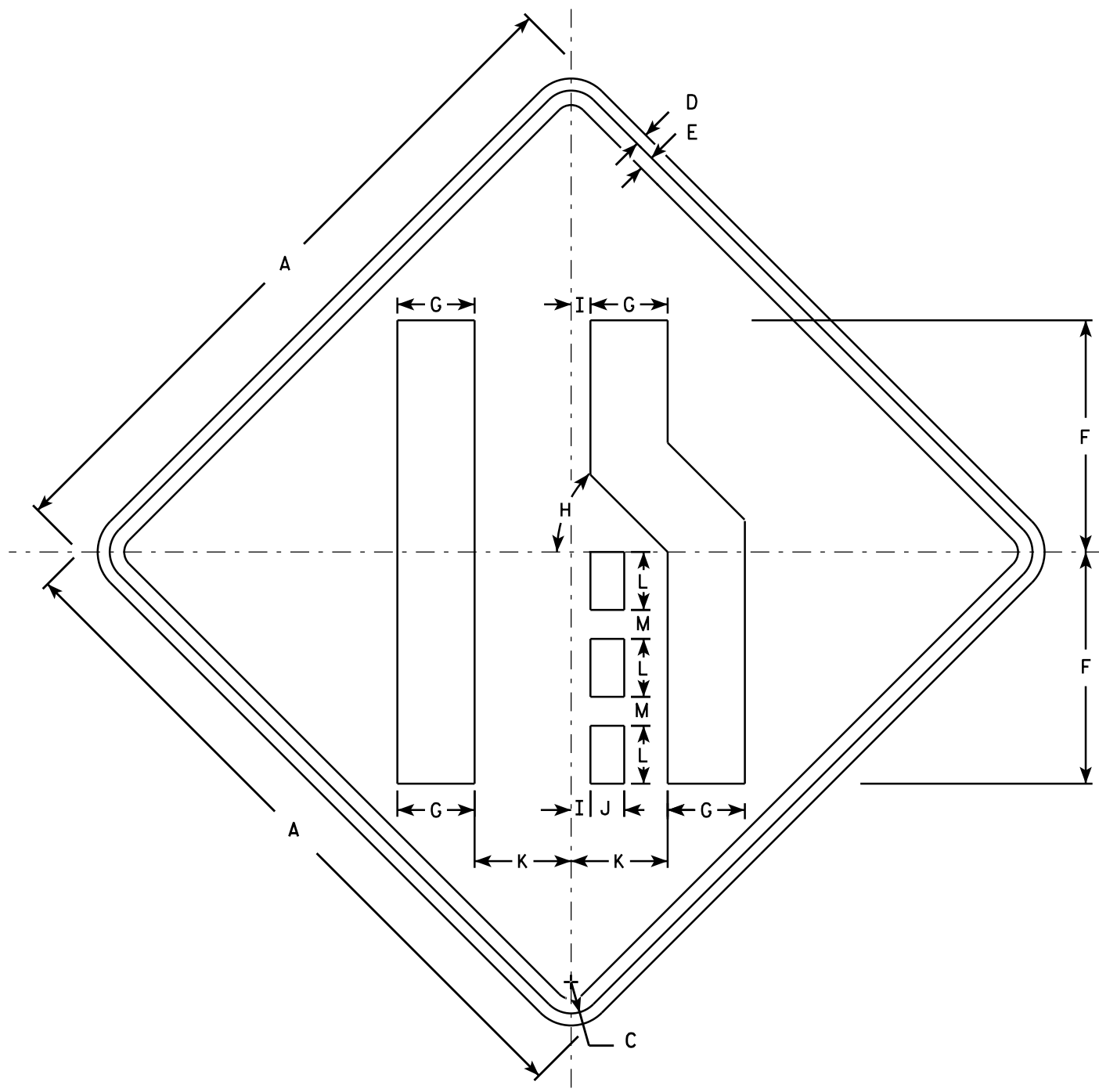
STANDARD SIGN
W01-6

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer

DATE 11/18/13 PLATE NO. W01-6.1

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



W04-2R

NOTES

1. Sign is Type II - Type F Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
Background - Orange
Message - Black
3. 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 symbols 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		1 5/8	5/8	3/4	12	4	45°	1	1 3/4	5	3	1 1/2														9.0
2S	48		2 1/4	3/4	1	16	5 3/8	45°	1 1/4	2 3/8	6 3/4	4	2														16.0
2M	48		2 1/4	3/4	1	16	5 3/8	45°	1 1/4	2 3/8	6 3/4	4	2														16.0
3	48		2 1/4	3/4	1	16	5 3/8	45°	1 1/4	2 3/8	6 3/4	4	2														16.0
4	48		2 1/4	3/4	1	16	5 3/8	45°	1 1/4	2 3/8	6 3/4	4	2														16.0
5	48		2 1/4	3/4	1	16	5 3/8	45°	1 1/4	2 3/8	6 3/4	4	2														16.0

STANDARD SIGN
W04-2

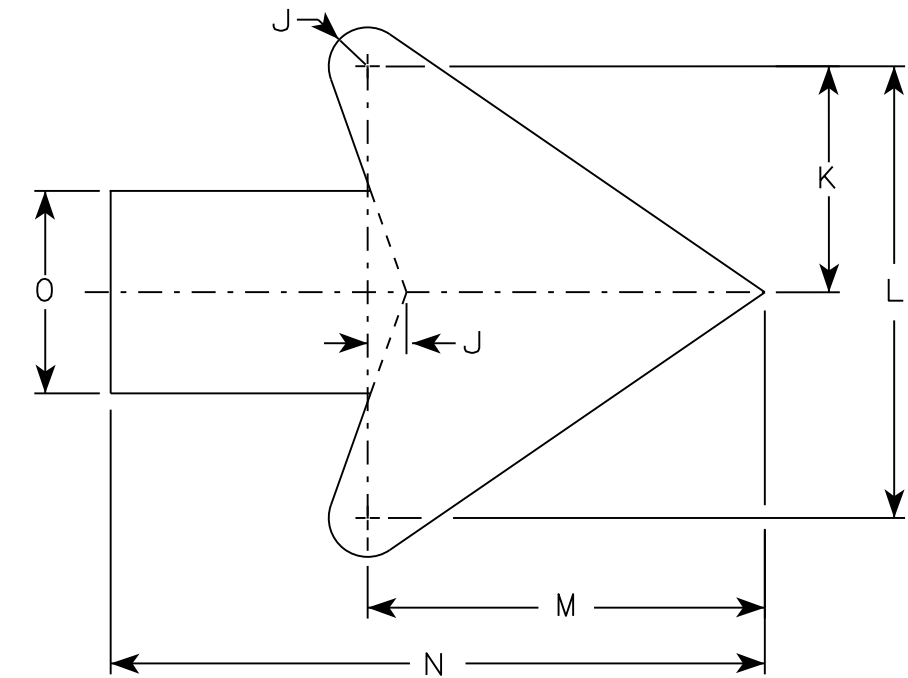
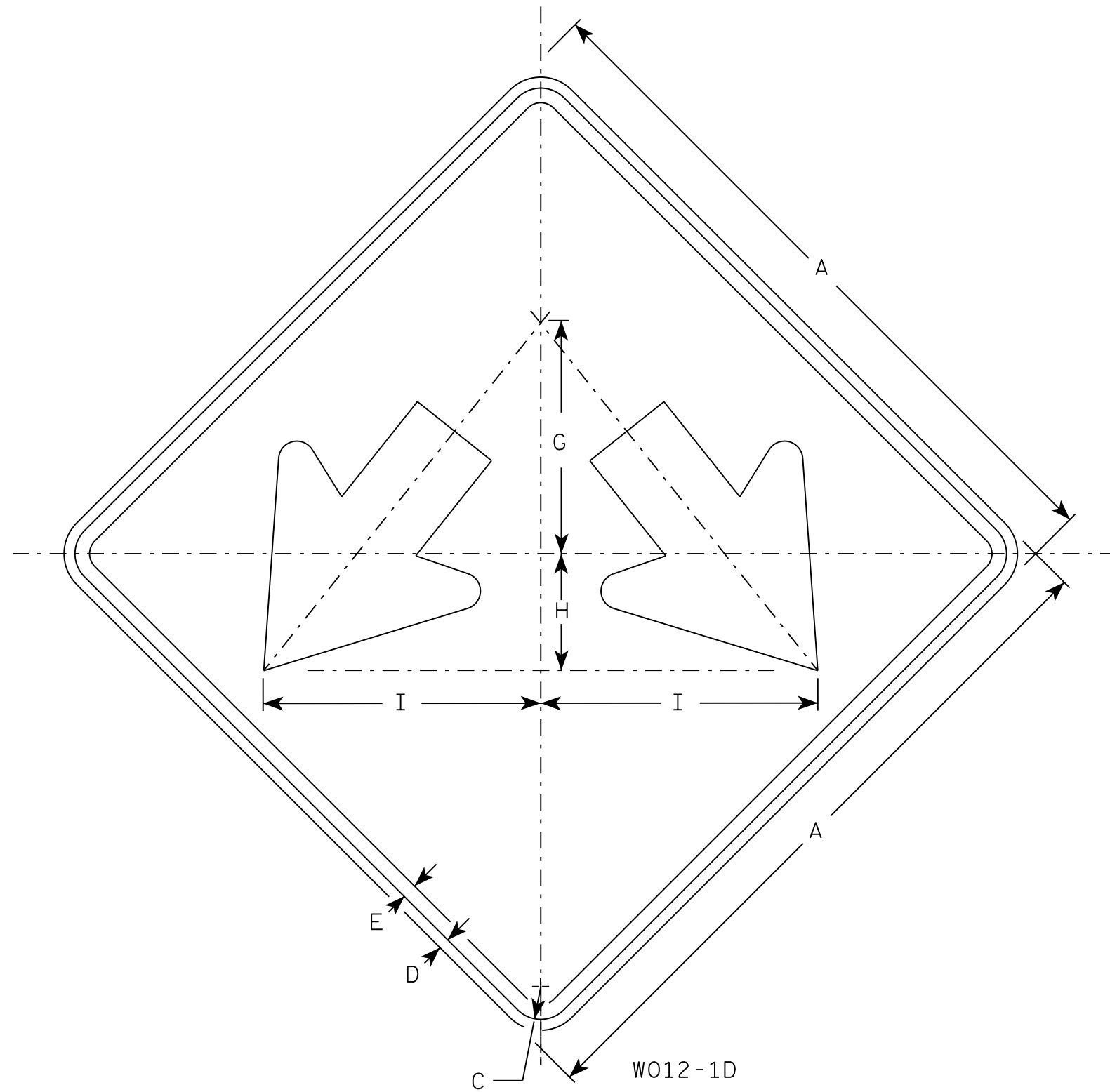
WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
For State Traffic Engineer

DATE 11/20/13 PLATE NO. W04-2.1

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.



Arrow Detail

7

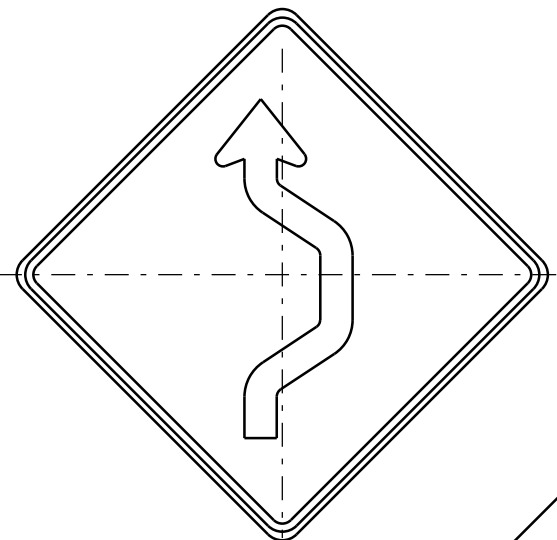
SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	24		1 1/8	1/2	3/8		8	4	9 1/2	3/8	3 3/8	7 1/4	6 3/8	10 3/8	3 1/4												4.0
2S	24		1 1/8	1/2	3/8		8	4	9 1/2	3/8	3 3/8	7 1/4	6 3/8	10 3/8	3 1/4												4.0
2M	24		1 1/8	1/2	3/8		8	4	9 1/2	3/8	3 3/8	7 1/4	6 3/8	10 3/8	3 1/4												4.0
3	30		1 3/8	1/2	5/8		10	5	11 7/8	3/4	4 1/2	9	7 7/8	13	4												6.25
4	36		1 3/8	1/2	5/8		12	6	14 1/4	1	5 1/2	10 7/8	9 5/8	15 3/4	4 3/4												9.0
5	36		1 3/8	1/2	5/8		12	6	14 1/4	1	5 1/2	10 7/8	9 5/8	15 3/4	4 3/4												9.0

STANDARD SIGN
W012-1D

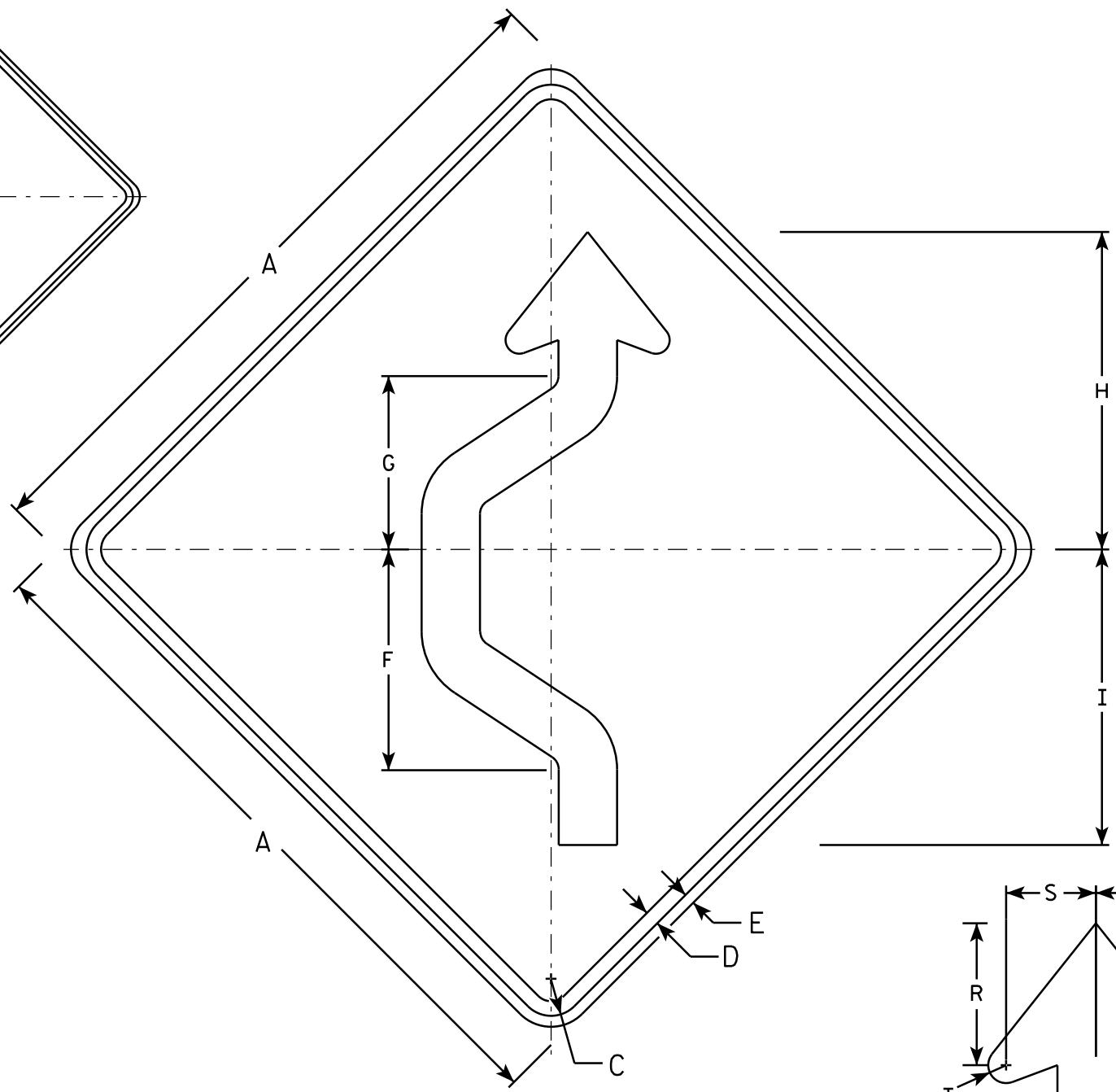
WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer

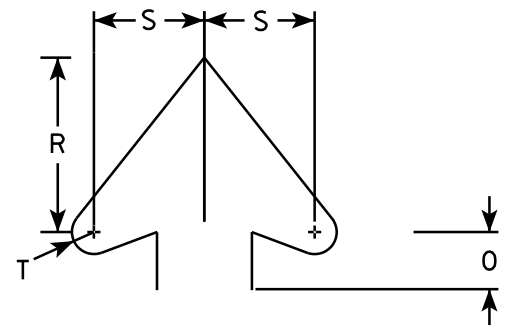
DATE 7/28/16 PLATE NO. W012-1D.2



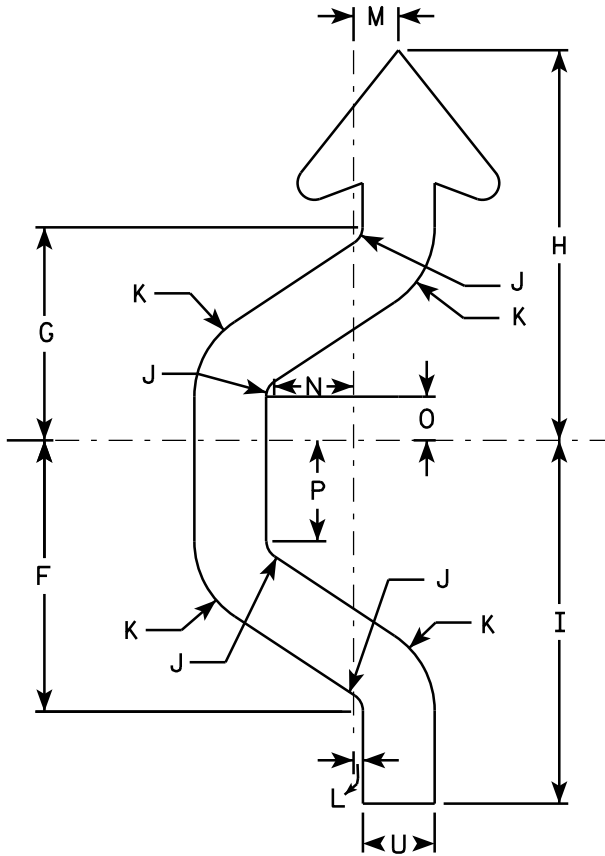
W024-1R



W024-1L



Arrowhead Detail



Arrow Detail

NOTES

1. Sign is Type II - Type F Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
Background - Orange
Message - Black
3. 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. W024-1R is the same as W024-1L except reversed along the vertical centerline.

7

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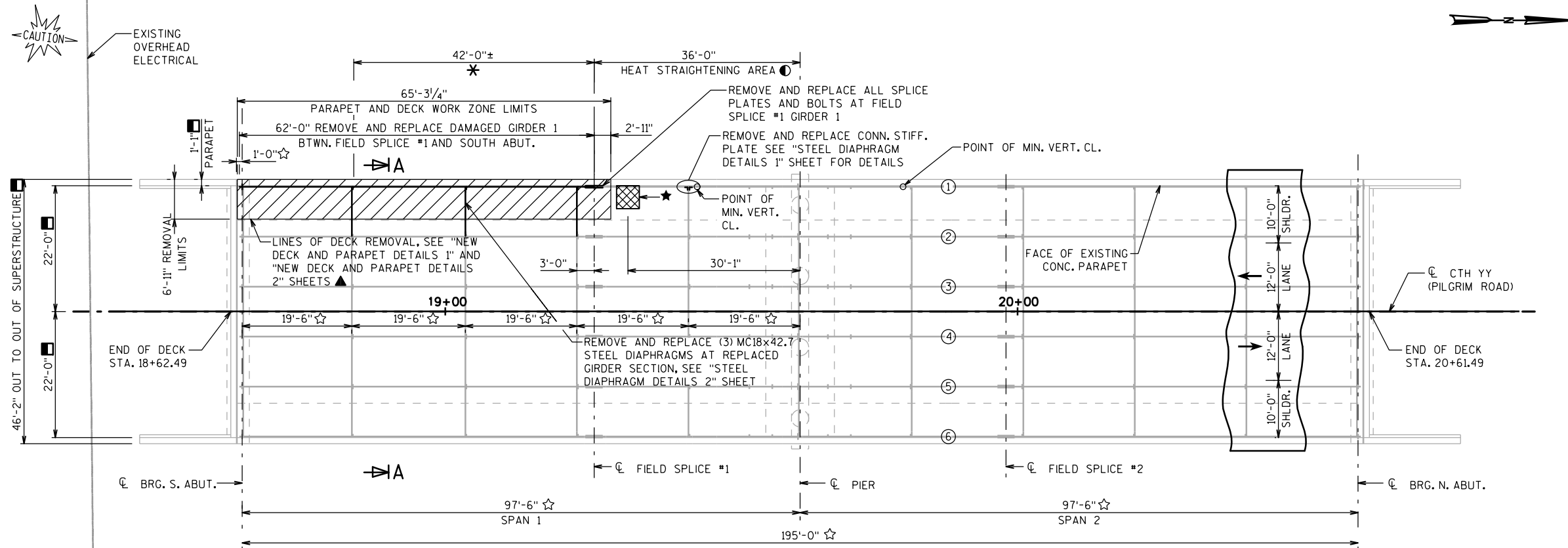
SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	36		1 3/8	5/8	1/2	11 3/8	8 7/8	16 3/8	15 1/4	3/4	3 3/4	3/8	2	3 3/8	1 7/8	4 1/4		5 1/2	3 1/2	5/8	3						9
2S	48		2 1/4	1	3/4	15 1/8	11 7/8	21 3/4	20 1/4	1	5	1/2	2 1/2	4 3/8	2 3/8	5 5/8		7 3/8	4 3/4	7/8	4						16
2M	48		2 1/4	1	3/4	15 1/8	11 7/8	21 3/4	20 1/4	1	5	1/2	2 1/2	4 3/8	2 3/8	5 5/8		7 3/8	4 3/4	7/8	4						16
3	48		2 1/4	1	3/4	15 1/8	11 7/8	21 3/4	20 1/4	1	5	1/2	2 1/2	4 3/8	2 3/8	5 5/8		7 3/8	4 3/4	7/8	4						16
4	48		2 1/4	1	3/4	15 1/8	11 7/8	21 3/4	20 1/4	1	5	1/2	2 1/2	4 3/8	2 3/8	5 5/8		7 3/8	4 3/4	7/8	4						16
5	48		2 1/4	1	3/4	15 1/8	11 7/8	21 3/4	20 1/4	1	5	1/2	2 1/2	4 3/8	2 3/8	5 5/8		7 3/8	4 3/4	7/8	4						16

STANDARD SIGN
W024-1 L & R

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer

DATE 9/25/2013 PLATE NO. W024-1.1



PLAN

(2 SPAN CONTINUOUS STEEL PLATE GIRDER)
(FOR SECTION A-A, SEE "TYPICAL SECTION" SHEET)

TRAFFIC VOLUME

CTH YY (PILGRIM ROAD)

ADT = 10,300 (2018)
ADT = 12,360 (2038)
R.D.S. = 40 M.P.H.

STH 190 (CAPITOL DRIVE)

ADT = 36,900 (2018)
ADT = 44,280 (2038)
R.D.S. = 55 M.P.H.

LIST OF DRAWINGS

1. PARTIAL DECK/GIRDER REPLACEMENT
2. TYPICAL SECTION
3. GENERAL AND SEQUENCING NOTES, AND QUANTITIES
4. NEW GIRDER DETAILS 1
5. NEW GIRDER DETAILS 2
6. STEEL DIAPHRAGM DETAILS 1
7. STEEL DIAPHRAGM DETAILS 2
8. NEW DECK AND PARAPET DETAILS 1
9. NEW DECK AND PARAPET DETAILS 2
10. EXPANSION JOINT DETAILS 1
11. EXPANSION JOINT DETAILS 2

DESIGN DATA

LIVE LOAD: LFD

DESIGN RATING: HS-20
INVENTORY RATING: HS-18
OPERATING RATING: HS-30
WISCONSIN STANDARD PERMIT VEHICLE LOAD: 171 KIPS

MATERIAL PROPERTIES:

CONCRETE MASONRY:
SUPERSTRUCTURE..... f'c = 4,000 PSI
BAR STEEL REINFORCEMENT:
GRADE 60..... Fy = 60,000 PSI
STRUCTURAL CARBON STEEL:
ASTM A709, GRADE 36..... Fy = 36,000 PSI
HIGH STRENGTH STRUCTURAL
STEEL (OPTIONAL):
ASTM A709, GRADE 50..... Fy = 50,000 PSI

LEGEND

- HEAT STRAIGHTEN EXISTING GIRDER WEB AND BOTTOM FLANGE BETWEEN PIER AND FIELD SPLICE #1 AT GIRDER 1
- ★ 4'-0" x 4'-0" COUNTER WEIGHT LOCATION TOTAL WEIGHT = 18,000 LBS.
- * HEAT STRAIGHTENING OR MECHANICAL HOT WORKING ALLOWED ON EXISTING SECTION OF GIRDER 1 IN THIS AREA AS REQUIRED TO STRAIGHTEN GIRDER WEB AND BOTTOM FLANGE BETWEEN PIER AND FIELD SPLICE #1
- ▲ PRIOR TO CONCRETE DEMOLITION, DEFINE LINES OF REMOVAL WITH A 1/2" MIN. SAW CUT, TYPICAL AT TOP AND BOTTOM EDGES OF DECK AND TOP AND BOTH SIDES OF PARAPET. DEPTH OF SAW CUT SHALL BE LIMITED TO 1/2" AT ALL LOCATIONS IN ORDER TO PREVENT DAMAGE TO EXISTING REINFORCING TO BE INCORPORATED INTO NEW WORK. THIS WORK SHALL BE CONSIDERED INCIDENTAL TO "REMOVING STRUCTURE B-67-86".

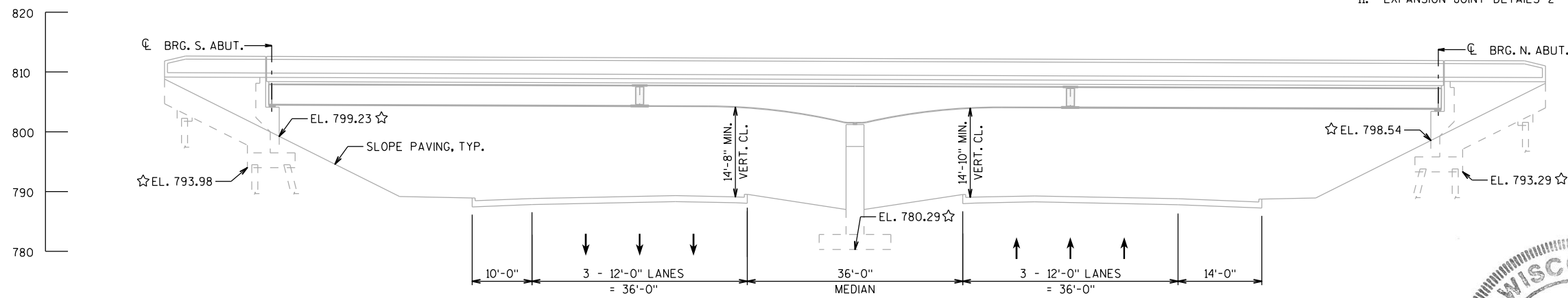
→ TRAFFIC DIRECTION

☆ TAKEN FROM EXISTING 1965 AS-BUILT STRUCTURE PLAN

■ TAKEN FROM EXISTING 2019 AS-BUILT STRUCTURE PLAN

STRUCTURES DESIGN CONTACTS

BRIDGE OFFICE:
AARON BONK (608) 261-0261
CONSULTANT:
PAT CASHIN (414) 359-2300



ELEVATION

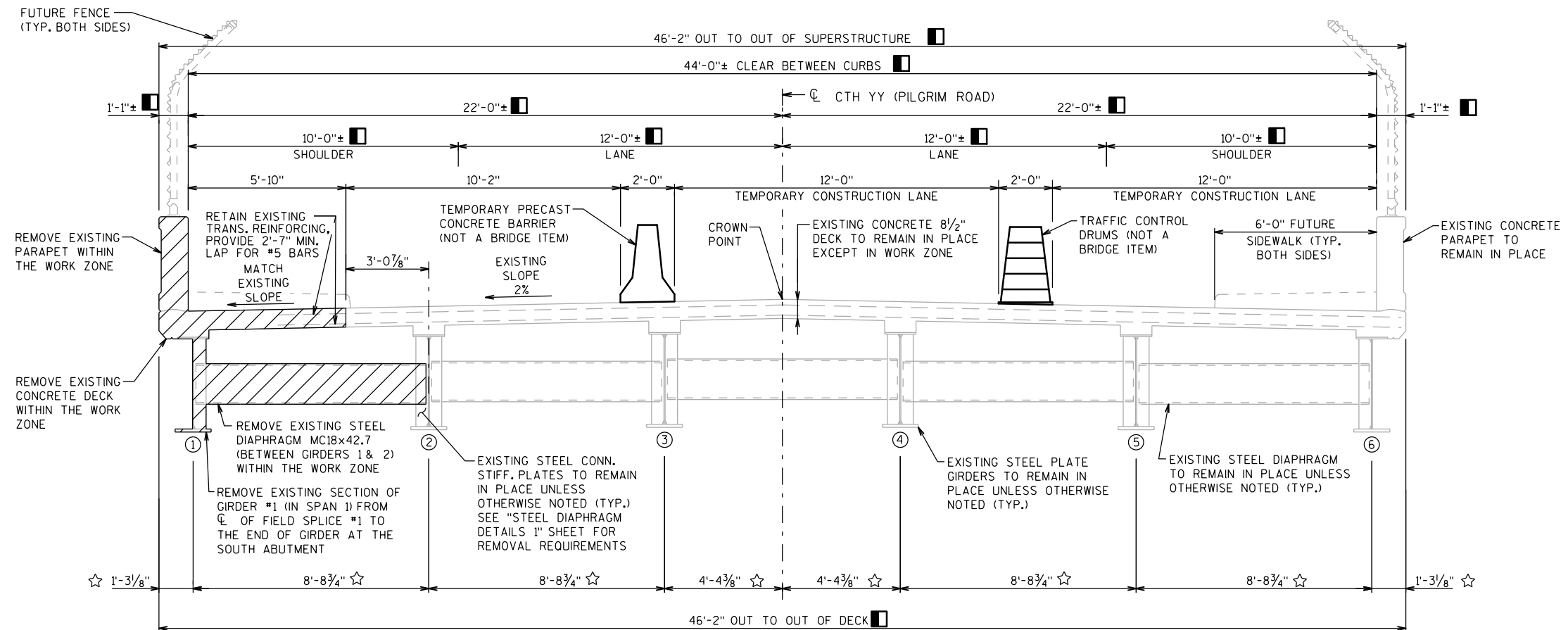
(LOOKING WEST)



NO.	DATE	REVISION	BY
ORIGINAL PLANS PREPARED BY			
HNTB (414) 359-2300			
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
ACCEPTED	[Signature]		6/22/22
CHIEF STRUCTURES DESIGN ENGINEER		DATE	
STRUCTURE B-67-86			
PEWAUKEE TO MILWAUKEE PILGRIM RD./CAPITOL DR.			
COUNTY	WAUKESHA	CITY	BROOKFIELD
DESIGN SPEC. REHABILITATION N/A			
DESIGNED BY	JWO	DESIGN CK'D.	CNK
DRAWN BY	JWO	PLANS CK'D.	CNK
PARTIAL DECK/GIRDER REPLACEMENT			SHEET 1 OF 11

LEGEND

- ☆ TAKEN FROM EXISTING 1965 AS-BUILT STRUCTURE PLAN
- TAKEN FROM EXISTING 2019 AS-BUILT STRUCTURE PLAN



CROSS SECTION A-A THRU EXISTING - SHOWING REMOVAL
(LOOKING NORTH)

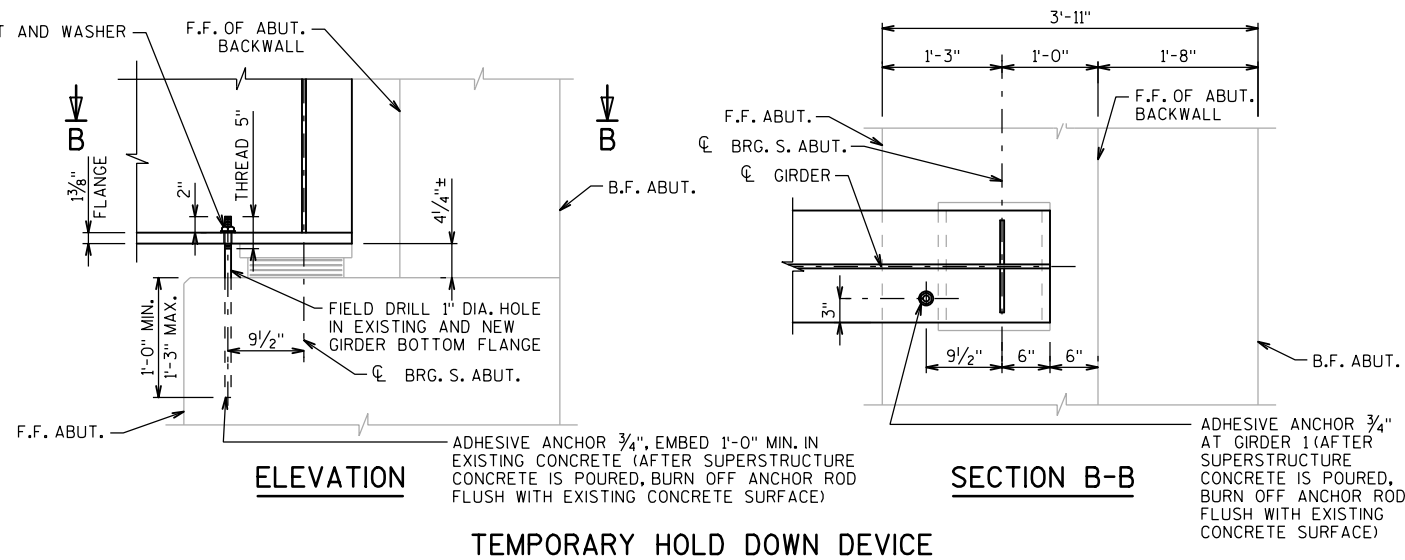
8

8

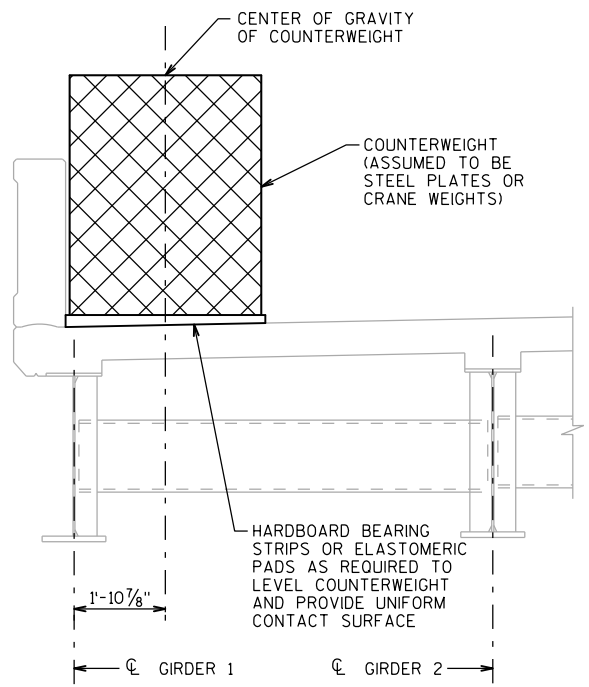
NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-67-86			
DRAWN BY JWO		PLANS CK'D. CNK	
TYPICAL SECTION			SHEET 2 OF 11

SEQUENCING NOTES

- REMOVE THE 4TH DIAPHRAGM FROM THE SOUTH ABUTMENT ALONG GIRDER 1 AND DRILL OUT THE MARKED CRACK TIPS ALONG GIRDER 1 FIELD PIECE TO BE REPLACED PRIOR TO HEAT STRAIGHTENING. REFERENCE REPORT BY COLLINS ENGINEERS, INC. DATED FEB. 8, 2022. THIS WORK SHALL BE PAID FOR UNDER THE BID ITEM "HEAT STRAIGHTENING OF DAMAGED GIRDERS".
- HEAT STRAIGHTEN EXISTING GIRDER WEB AND BOTTOM FLANGE BETWEEN PIER AND FIELD SPLICE #1 AT GIRDER LINE 1. SEE SPECIAL PROVISIONS FOR REQUIREMENTS.
- DRESS THE EXISTING BOTTOM FLANGE PER "BOTTOM FLANGE REPAIR DETAIL" ON SHEET "STEEL DIAPHRAGM DETAILS 2".
- REPLACE THE DAMAGED/TORN CONNECTION STIFFENER ON GIRDER 1 LOCATED BETWEEN PIER AND FIELD SPLICE #1 AND RE-ATTACH DIAPHRAGM. SEE "STEEL DIAPHRAGM DETAILS 1" SHEET.
- TAKE/RECORD TOP OF DECK ELEVATIONS AT SPAN TENTH POINTS ALONG GIRDER 1. THESE ELEVATIONS WILL BE USED TO DETERMINE THE GIRDER HAUNCH HEIGHTS, 'T'.
- REMOVE PARAPET TO THE EXTENTS SHOWN ON THE PLAN.
- ADD THE COUNTERWEIGHT AS SHOWN ON "PARTIAL DECK/GIRDER REPLACEMENT" SHEET. THE CENTER OF GRAVITY OF THE COUNTERWEIGHT MUST BE LOCATED AS SHOWN FROM THE CENTER OF PIER AND GIRDER.
- REMOVE THE DECK TO THE EXTENTS SHOWN ON THE PLAN.
- REMOVE THE (3) EXISTING DIAPHRAGMS ATTACHED TO GIRDER 1 BETWEEN FIELD SPLICE #1 AND SOUTH ABUTMENT. GRIND WELDS AT THE EXISTING CONNECTION STIFFENERS OF GIRDER 2 SMOOTH AT REMOVED DIAPHRAGM LOCATIONS. EXISTING CONNECTION STIFFENERS AT GIRDER 2 TO REMAIN. ALSO INSTALL BLOCKING TO VERTICALLY SUPPORT THE SOUTH ABUTMENT DIAPHRAGM LOCATED BETWEEN GIRDER 1 AND GIRDER 2 AND THEN REMOVE THE BOLTS CONNECTING THE ABUTMENT DIAPHRAGM TO THE BEARING STIFFENER ON GIRDER LINE 1. ABUTMENT DIAPHRAGM TO REMAIN IN PLACE.
- REMOVE BOLTS FROM THE TOP AND BOTTOM FLANGE SPLICE PLATES AND THE WEB SPLICE PLATES ON THE REPLACEMENT SIDE OF THE FIELD SPLICE ONLY AT GIRDER 1.
- SUPPORT THE SECTION OF GIRDER 1 TO BE REMOVED. REMOVE THE REMAINING BOLTS AT FIELD SPLICE #1 AND REMOVE THE SPLICE PLATES.
- REMOVE DAMAGED PORTION OF GIRDER 1 BETWEEN FIELD SPLICE #1 AND THE SOUTH ABUTMENT.
- REMOVE BEARING ASSEMBLY FROM GIRDER 1. GRIND WELDS AT THE SOLE PLATE SMOOTH. INSTALL EXISTING BEARING ASSEMBLY ON NEW SECTION OF GIRDER 1 AND FIELD WELD IN PLACE. (ALTERNATIVELY, FIELD WELD EXISTING BEARING ASSEMBLY TO THE NEW SECTION OF GIRDER 1 AFTER SWINGING NEW SECTION INTO PLACE.)
- SWING NEW SECTION OF GIRDER 1 INTO PLACE AND INSTALL THE NEW SPLICE PLATES BY INSTALLING ALL THE BOLTS INTO EXISTING GIRDER PORTION/SIDE OF THE FIELD SPLICE WHILE THE NEW GIRDER SECTION IS SUPPORTED BY THE CRANE OR LIFT.
- CLAMP THE SPLICE PLATES AND REQUIRED FILLER PLATES AT GIRDER 1 TO THE NEW GIRDER SECTION TO BRING THEM TIGHT TO THE TOP AND BOTTOM FLANGES OF THE NEW GIRDER SECTION. AFTER PLATES ARE CLAMPED AT FIELD SPLICE #1 ALLOW THE GIRDERS TO REST ON THE SPLICE PLATES AND BE SUPPORTED BY THE STRUCTURE.
- AFTER REMOVING GIRDER FROM THE CRANE/LIFT, FIELD DRILL ALL THE SPLICE BOLT HOLES THROUGH THE NEW PORTION OF GIRDER 1 USING THE SHOP DRILLED SPLICE PLATES AS TEMPLATES. INSTALL THE BOLTS THROUGH THE FIELD DRILLED HOLES ON THE NEW GIRDER SIDE OF THE SPLICE AND REMOVE CLAMPS.
- INSTALL THE (3) NEW DIAPHRAGMS AS DETAILED ON THE "STEEL DIAPHRAGM DETAILS 2" SHEET. PAY PARTICULAR ATTENTION TO THE INSTALLATION PROCEDURE/DETAIL FOR THE CONNECTION AT GIRDER 2 AS NOT ALL BOLTS WILL BE INSTALLED AT THESE LOCATIONS UNTIL AFTER THE NEW DECK IS POURED. REATTACH THE SOUTH ABUTMENT DIAPHRAGM TO THE NEW GIRDER BEARING STIFFENER WITH BOLTS AS DETAILED AND REMOVE BLOCKING.
- INSTALL TEMPORARY HOLD DOWN AT GIRDER 1. SEE THIS SHEET FOR DETAILS.
- REMOVE COUNTERWEIGHT.
- FORM THE NEW PORTION OF DECK, INSTALL SHEAR STUDS, AND INSTALL DECK AND EMBEDDED PARAPET REINFORCING. POUR CONCRETE DECK.
- INSTALL REMAINDER OF CONNECTION BOLTS AT THE DIAPHRAGMS AT GIRDER 2 (SEE "STEEL DIAPHRAGM DETAILS 2" SHEET).
- FORM PARAPET AND INSTALL PARAPET REINFORCING. POUR CONCRETE PARAPET.
- REMOVE TEMPORARY HOLD DOWN. CUT/BURN OFF ANCHOR BOLT FLUSH WITH TOP OF EXISTING CONCRETE.
- FIELD PAINT PORTIONS OF STRUCTURE IN HEAT STRAIGHTENED AREAS AND OTHER AREAS WHERE PAINT WAS REMOVED AND APPLY FINISH COATS AT FIELD SPLICE LOCATIONS.



TEMPORARY HOLD DOWN DEVICE
(THIS SHALL BE INCLUDED IN BID ITEM "ADHESIVE ANCHORS 3/4-INCH")



PARTIAL SECTION SHOWING COUNTERWEIGHT LOCATION

TOTAL ESTIMATED QUANTITIES

ITEM NO.	BID ITEM	UNIT	TOTAL
203.0220	REMOVING STRUCTURE B-67-86	EACH	1
502.0100	CONCRETE MASONRY BRIDGES	CY	23
502.3101	EXPANSION DEVICE	LF	6
502.3200	PROTECTIVE SURFACE TREATMENT	SY	42
502.3210	PIGMENTED SURFACE SEALER	SY	33
502.4106	ADHESIVE ANCHORS 3/4-INCH	EACH	1
505.0600	BAR STEEL REINFORCEMENT HS COATED STRUCTURES	LB	4,960
506.0105	STRUCTURAL STEEL CARBON	LB	11,630
506.3025	WELDED STUD SHEAR CONNECTORS 7/8X8-INCH	EACH	264
517.0600	PAINTING EPOXY SYSTEM B-67-86	LS	1
517.0901.S	PREPARATION AND COATING OF TOP FLANGES B-67-86	EACH	1
517.3001.S	STRUCTURE OVERCOATING CLEANING AND PRIMING B-67-86	EACH	1
517.4001.S	CONTAINMENT AND COLLECTION OF WASTE MATERIALS B-67-86	EACH	1
SPV.0060.01	HEAT STRAIGHTENING OF DAMAGED GIRDERS	EACH	1
SPV.0060.02	COUNTERWEIGHT STRUCTURE	EACH	1

ALL ITEMS ARE CATEGORY 0010

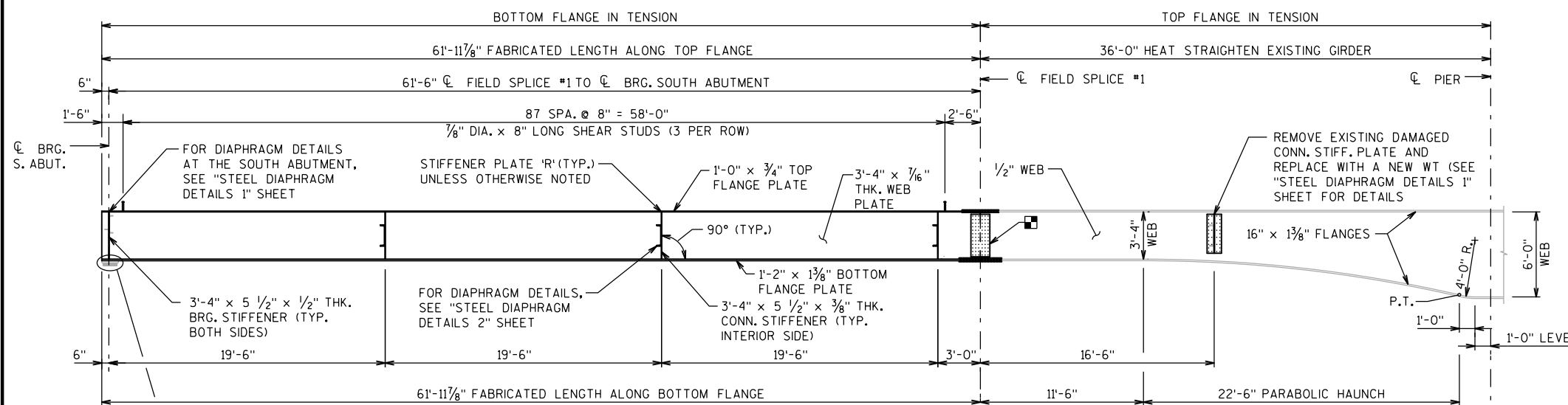
GENERAL NOTES

- DRAWINGS SHALL NOT BE SCALED.
- DIMENSIONS SHOWN ARE BASED ON THE EXISTING 1965 & 2019 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 3/4" UNLESS OTHERWISE NOTED.
- PROTECTIVE SURFACE TREATMENT TO BE APPLIED TO THE ENTIRE TOP OF REPLACED DECK SURFACE.
- PIGMENTED SURFACE SEALER TO BE APPLIED TO THE FRONT FACE AND THE TOP OF NEW PARAPET.
- THE HAUNCH CONCRETE QUANTITY IS BASED ON THE AVERAGE HAUNCH SHOWN ON THE "NEW DECK AND PARAPET DETAILS 1" SHEET.
- THE COLOR OF THE FINISH EPOXY TOP COAT SHALL BE LIGHT GRAY (AMS STANDARD COLOR NO. 26293) OR SIMILAR COLOR APPROVED BY THE ENGINEER.
- ALL FIELD CONNECTIONS SHALL BE MADE WITH 3/4" DIAMETER A325 HIGH-TENSILE STRENGTH BOLTS UNLESS OTHERWISE SHOWN OR NOTED.
- TEMPORARY HOLD DOWN REQUIRED AT SOUTH ABUTMENT - GIRDER 1 (INSTALL PRIOR TO REMOVING COUNTERWEIGHT).
- MATCH NEW PARAPET TO EXISTING PARAPET.
- MATCH NEW DECK TO EXISTING DECK.
- NEW STEEL PIECES TO BE SHOP PAINTED AND PAID FOR UNDER BID ITEM "PAINTING EPOXY SYSTEM B-67-86".
- FIELD PAINTING OF EXISTING STEEL SHALL BE PAID FOR UNDER THE BID ITEM "STRUCTURE OVERCOATING CLEANING AND PRIMING B-67-86".
- ALL CONSTRUCTION RELATED MATERIALS AND EQUIPMENT, WITH THE EXCEPTION OF THE TEMPORARY CONCRETE BARRIER, SHALL BE REMOVED FROM THE STRUCTURE DURING THE FOLLOWING PERIODS:
- FROM THE TIME JUST BEFORE THE EXISTING FIELD SPLICE PLATES/BOLTS OF THE GIRDER ARE REMOVED UNTIL THE NEW GIRDER SECTION WITH ALL NEW FIELD SPLICE PLATES/BOLTS HAVE BEEN INSTALLED.
 - FROM THE TIME JUST AFTER THE DECK POUR (PRIOR TO DECK TAKING ITS INITIAL SET) UNTIL THE REQUIREMENTS OF SECTION 502.3.10 OF THE STANDARD SPECIFICATIONS ARE MET.
- SEE ROADWAY PLANS FOR TRAFFIC CONTROL REQUIREMENTS AND CLOSURES.
- A DAMAGE INSPECTION REPORT FOR B-67-0086, INCLUDING NON-DESTRUCTIVE TESTING RESULTS, WAS PREPARED BY COLLINS ENGINEERS, INC. DATED FEBRUARY 8, 2022 AND IS AVAILABLE FROM THE DEPARTMENT UPON REQUEST.

▲ - ALL STEEL INCLUDING FLANGE AND WEB PLATES AND HS BOLTS. HIGH STRENGTH STRUCTURAL STEEL ASTM A709, GRADE 50 MAY BE SUBSTITUTED TO EXPEDITE PLATE PROCUREMENT. THE STEEL WEB PLATE AND FLANGES ACCOUNT FOR 9,650 LBS OF THE STRUCTURAL CARBON STEEL QUANTITY.

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-67-86			
DRAWN BY		JWO	PLANS CKD. CNK
GENERAL AND SEQUENCING NOTES, AND QUANTITIES			SHEET 3 OF 11

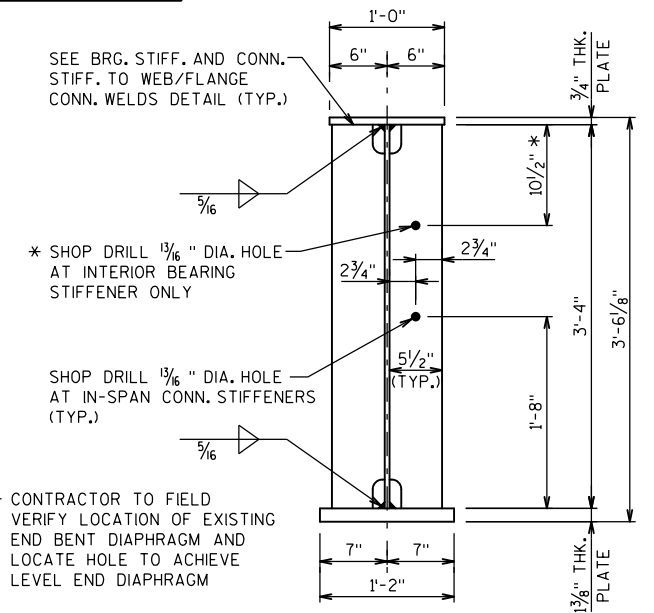
NOTE:
ALL STIFFENER PLATES
SHALL BE ASTM A709,
GRADE 36.



GIRDER 1 ELEVATION

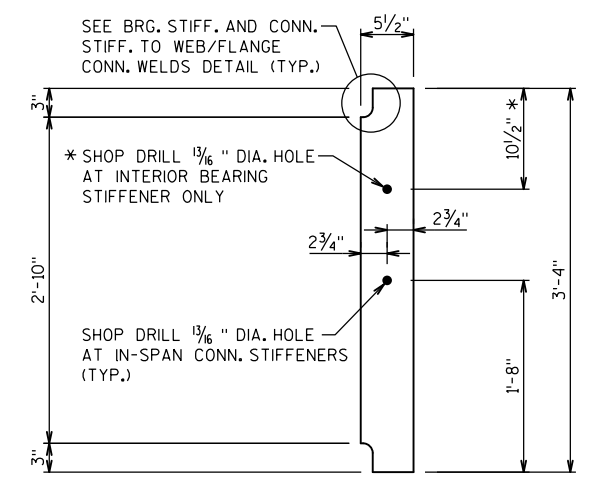
NOTE: OPTIONAL WELDED SHOP SPLICES MAY BE USED FOR ALL FLANGE AND WEB PLATES OVER 40'-0" LONG. IF USED, THE LOCATION OF THE SPLICE SHALL BE ON THE SHOP DRAWINGS AND WILL BE SUBJECT TO THE APPROVAL OF THE STRUCTURES DESIGN SECTION.

FIELD DRILL ALL HOLES THROUGH THE NEW GIRDER SECTION USING THE SHOP DRILLED PLATES AS A TEMPLATE.



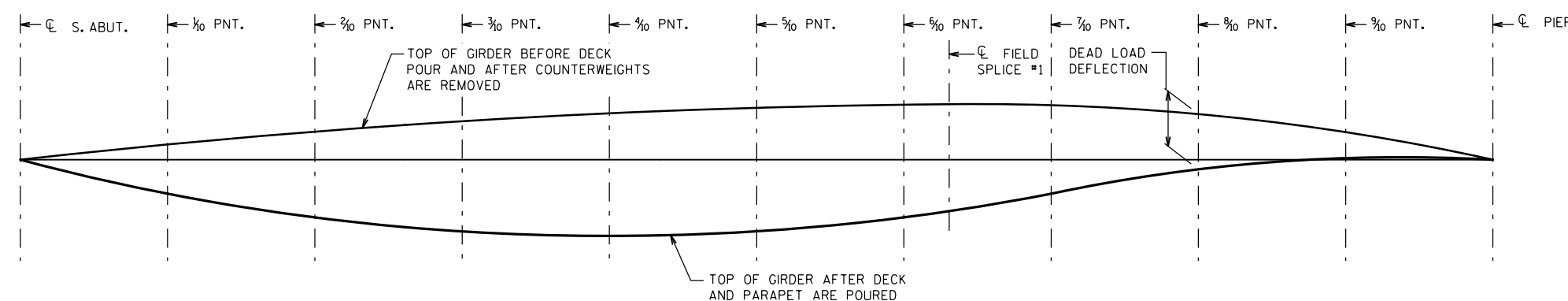
SECTION THRU GIRDER

(BRG. STIFFENERS AT BOTH SIDES)
(IN-SPAN CONN. STIFFENERS AT INTERIOR SIDE ONLY)



STIFFENER PLATE 'R' DETAIL

(2 - 1/2" THK. BRG. STIFF. PLATES REQUIRED)
(3 - 3/8" THK. IN-SPAN CONN. STIFF. PLATES REQUIRED)

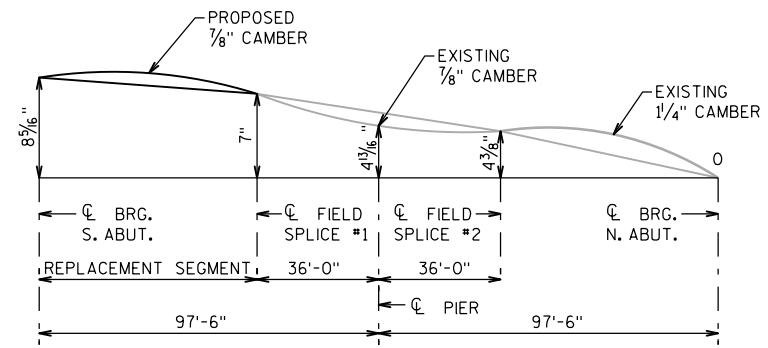


	CL BRG. S. ABUT.	1/10 PNT.	2/10 PNT.	3/10 PNT.	4/10 PNT.	5/10 PNT.	6/10 PNT.	7/10 PNT.	8/10 PNT.	9/10 PNT.	CL PIER
CONC. ONLY (INCHES)	0.0	0.5	0.9	1.2	1.4	1.3	1.1	1.1	0.9	0.5	0.3

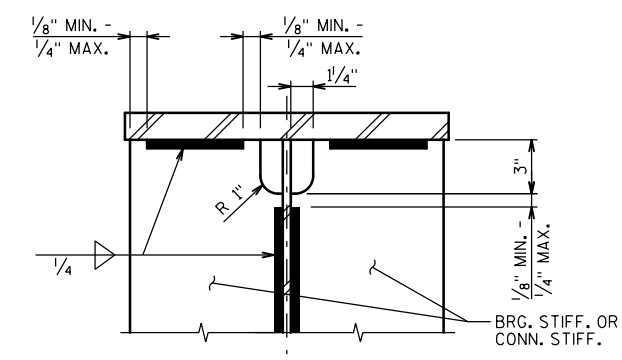
SPAN 1 DEAD LOAD DEFLECTIONS - GIRDER 1

NOTE: DEFLECTIONS SHOWN ARE APPROXIMATE AND MAY VARY SLIGHTLY FROM ACTUAL DEFLECTIONS DUE TO LOAD SHEDDING TO THE UNAFFECTED GIRDERS (GIRDERS 2 THRU 6) IN THE ADJACENT SPANS.

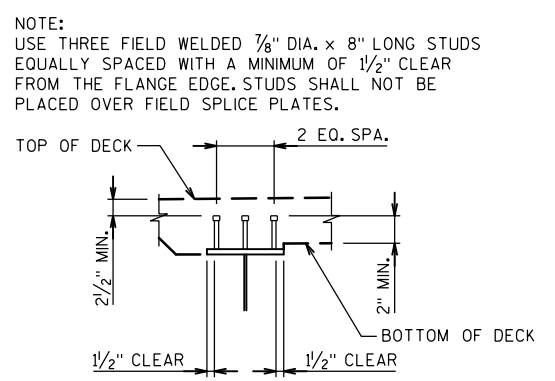
NOTE: MATCH THE 1/8" CAMBER FROM THE ORIGINAL CONSTRUCTION FOR THE REPLACEMENT SECTION FABRICATION. THE SEGMENTS NORTH OF FIELD SPLICE 1 ARE SHOWN FOR INFORMATION ONLY TO SUPPORT THE SHOP DRAWING DEVELOPMENT AND FACILITATE ERECTION FIT.



CAMBER AND BLOCKING DIAGRAM

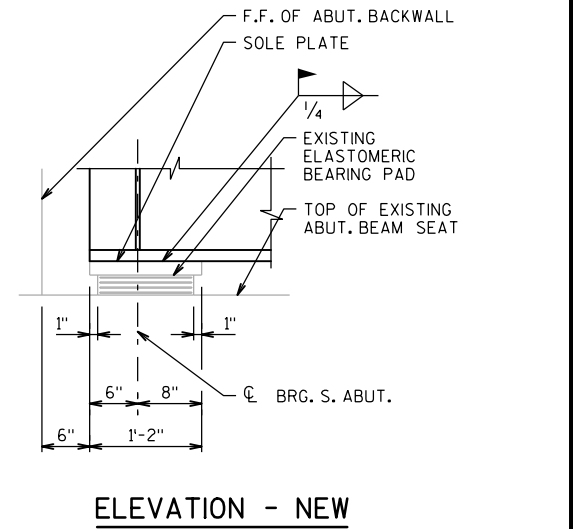
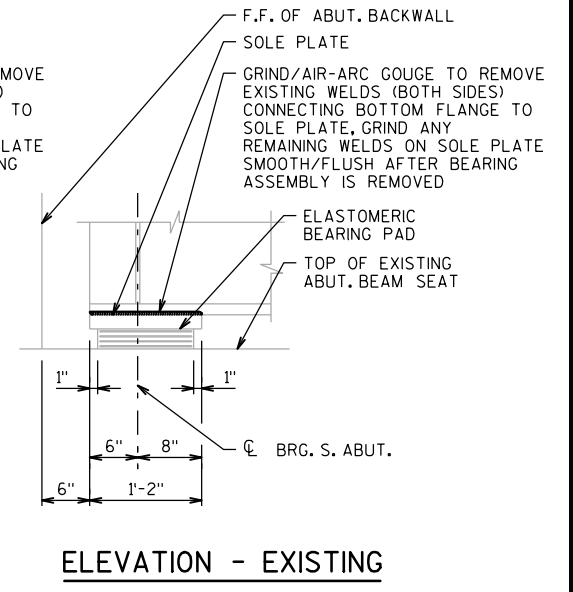
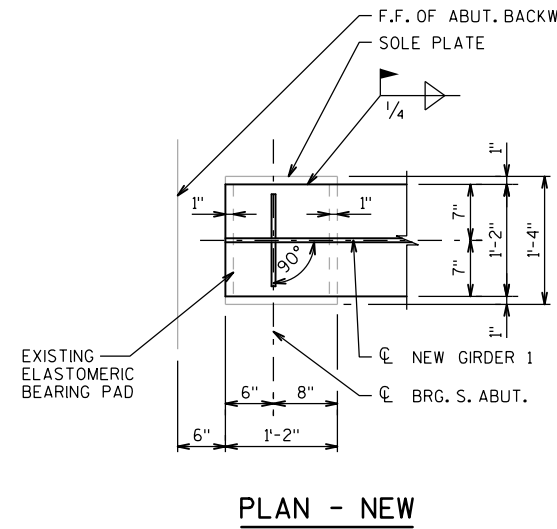
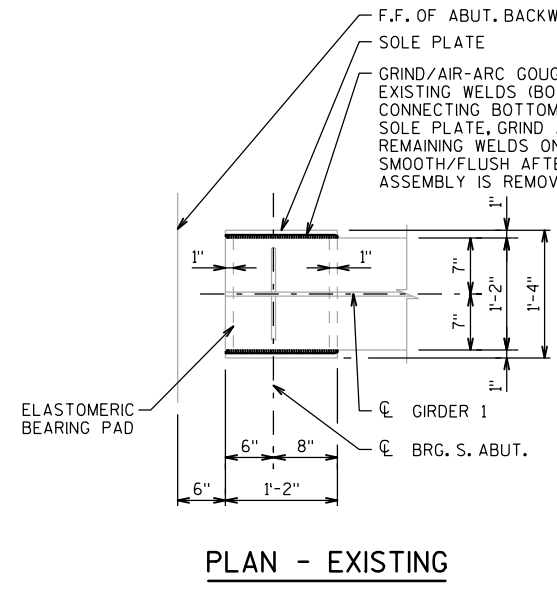
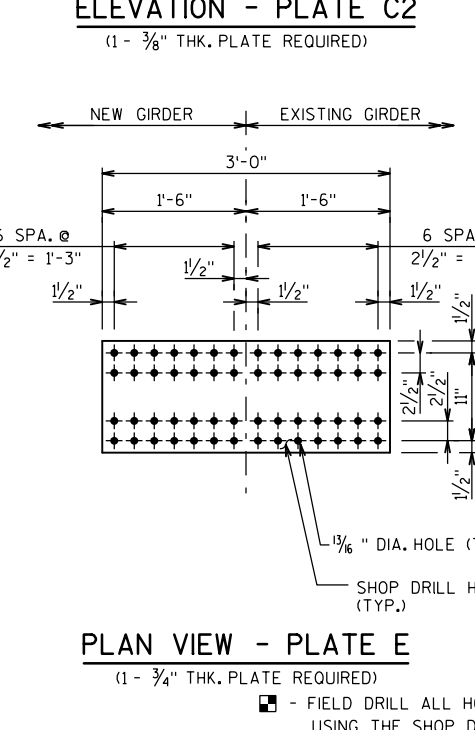
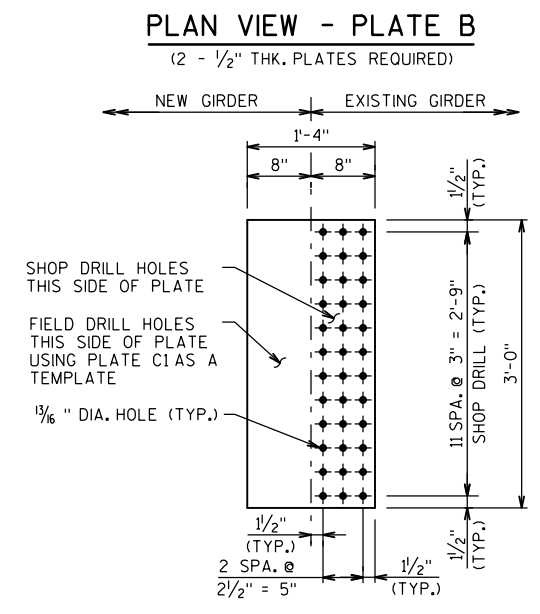
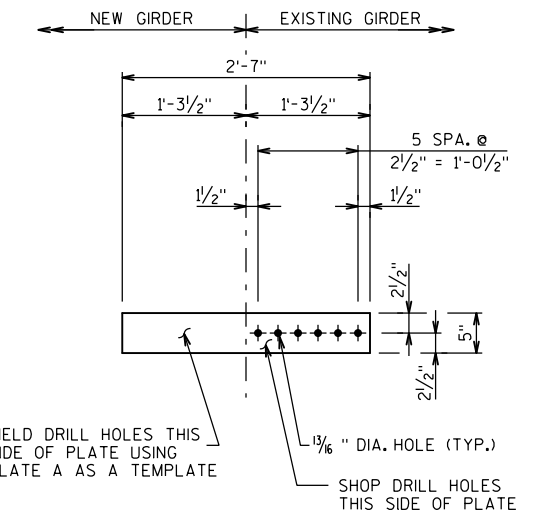
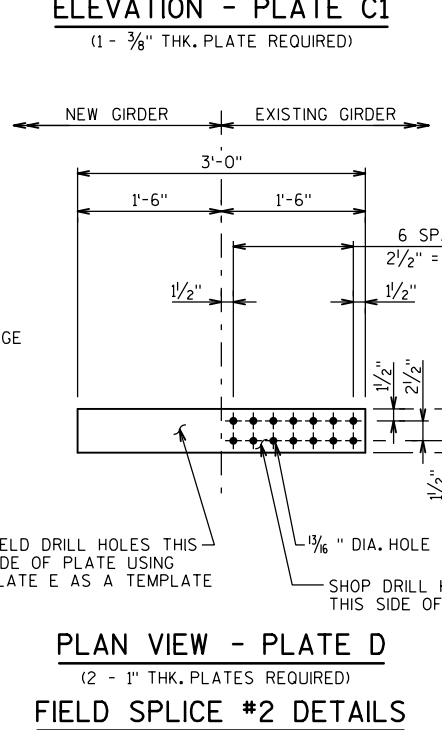
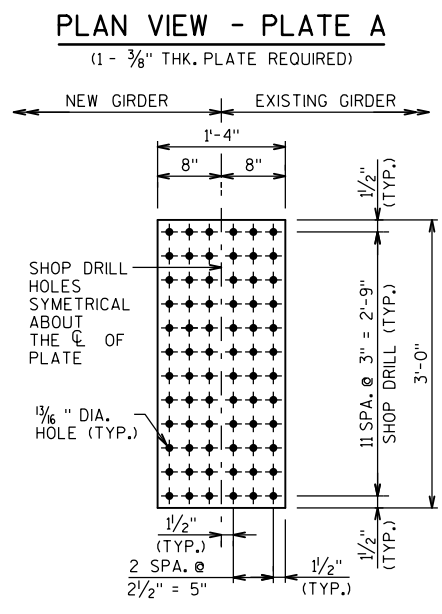
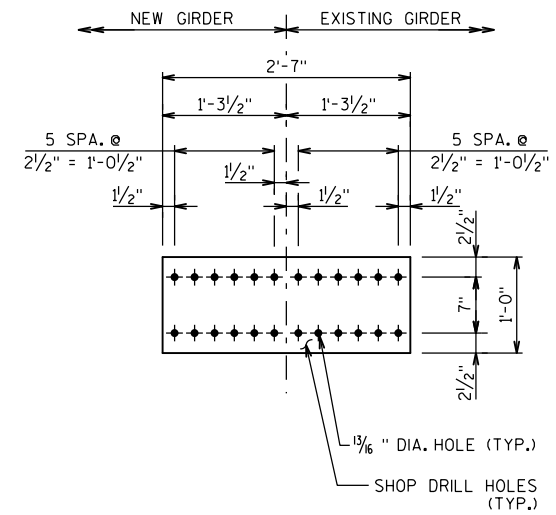
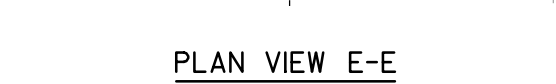
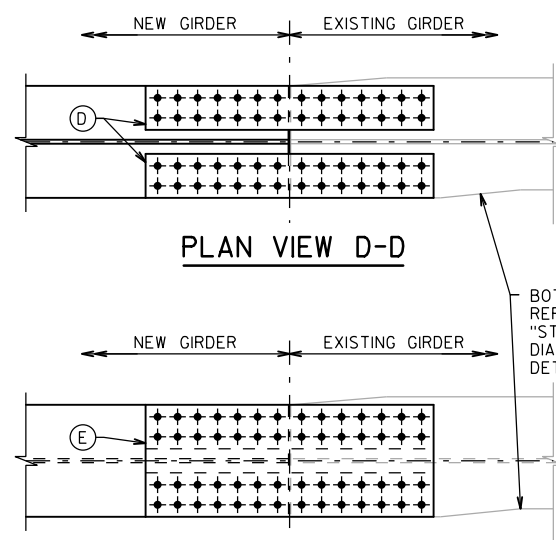
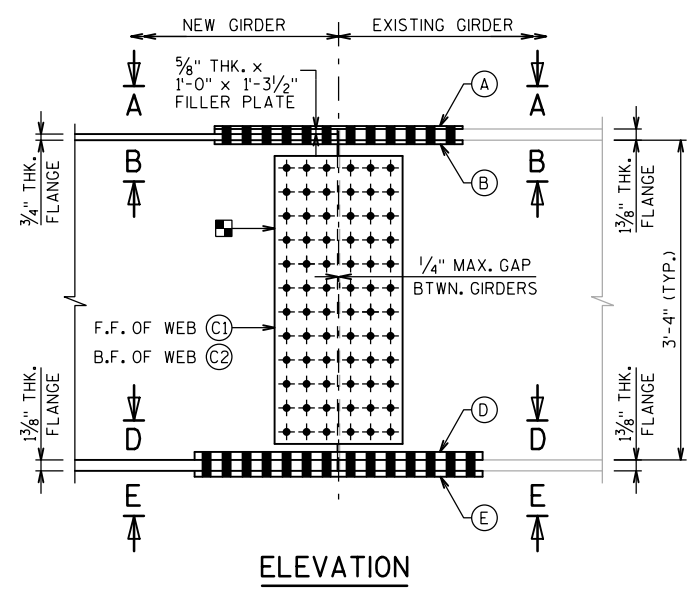
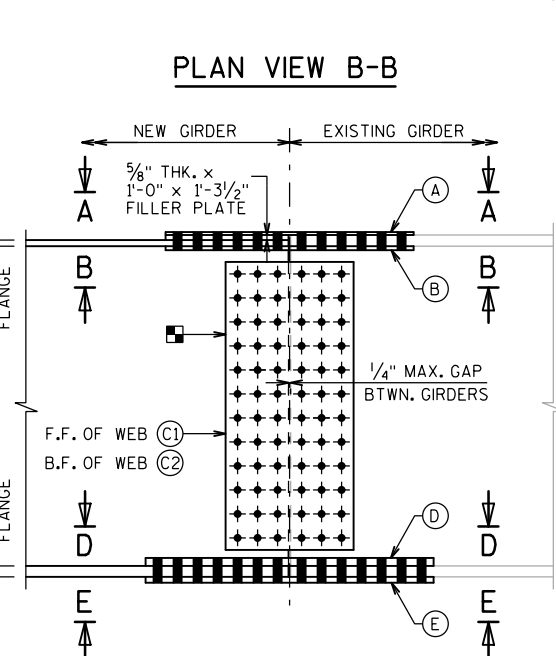
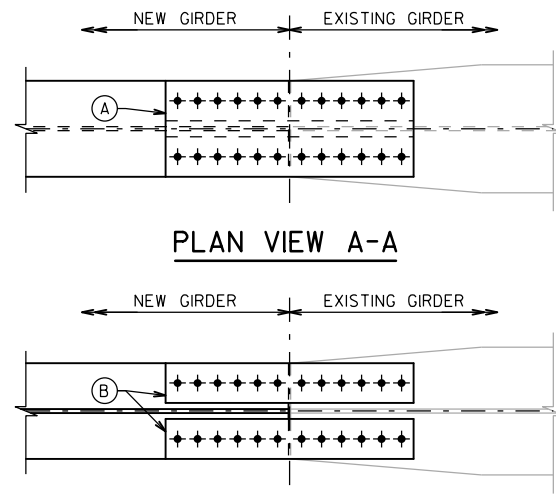


BRG. STIFF. AND CONN. STIFF. TO WEB/FLANGE CONN. WELDS DETAIL



SHEAR CONNECTOR DETAIL

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-67-86			
DRAWN BY		JWO	PLANS CKD. CNK
NEW GIRDER DETAILS 1			SHEET 4 OF 11



BEARING ASSEMBLY DETAILS

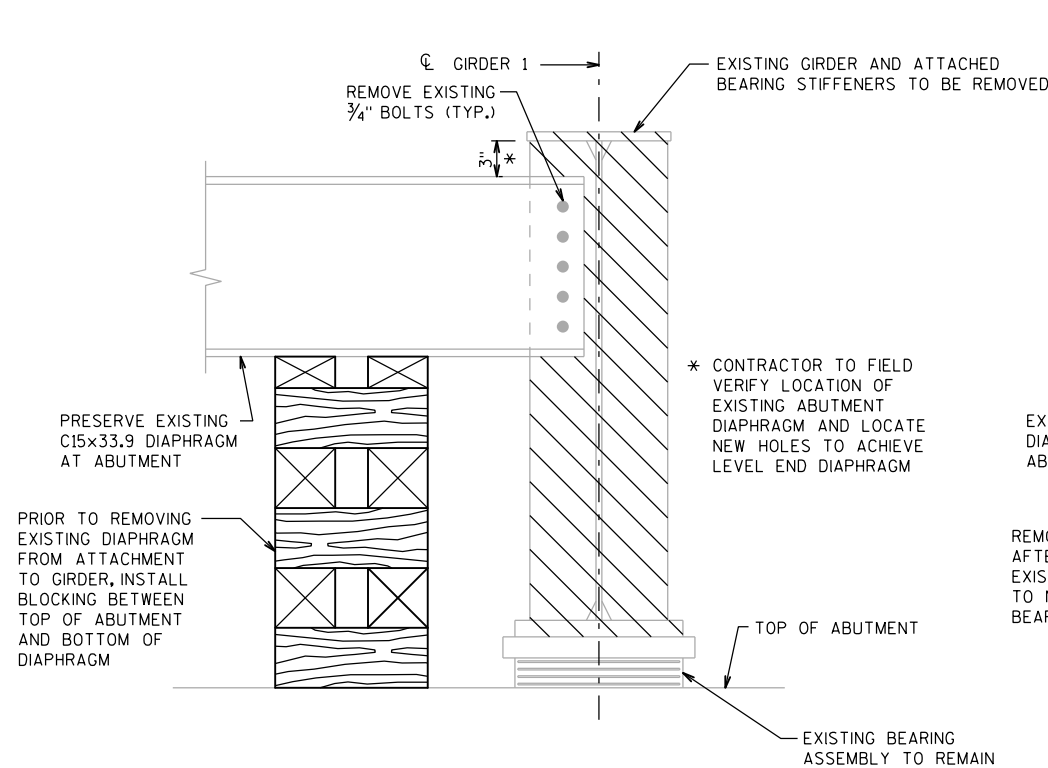
(THIS SHALL BE INCLUDED IN BID ITEM "STRUCTURAL STEEL CARBON")

NOTE:
ALL FIELD SPLICE PLATES SHALL BE ASTM A709, GRADE 36.

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-67-86			
DRAWN BY		JWO	PLANS CK'D. CNK
NEW GIRDER DETAILS 2			SHEET 5 OF 11

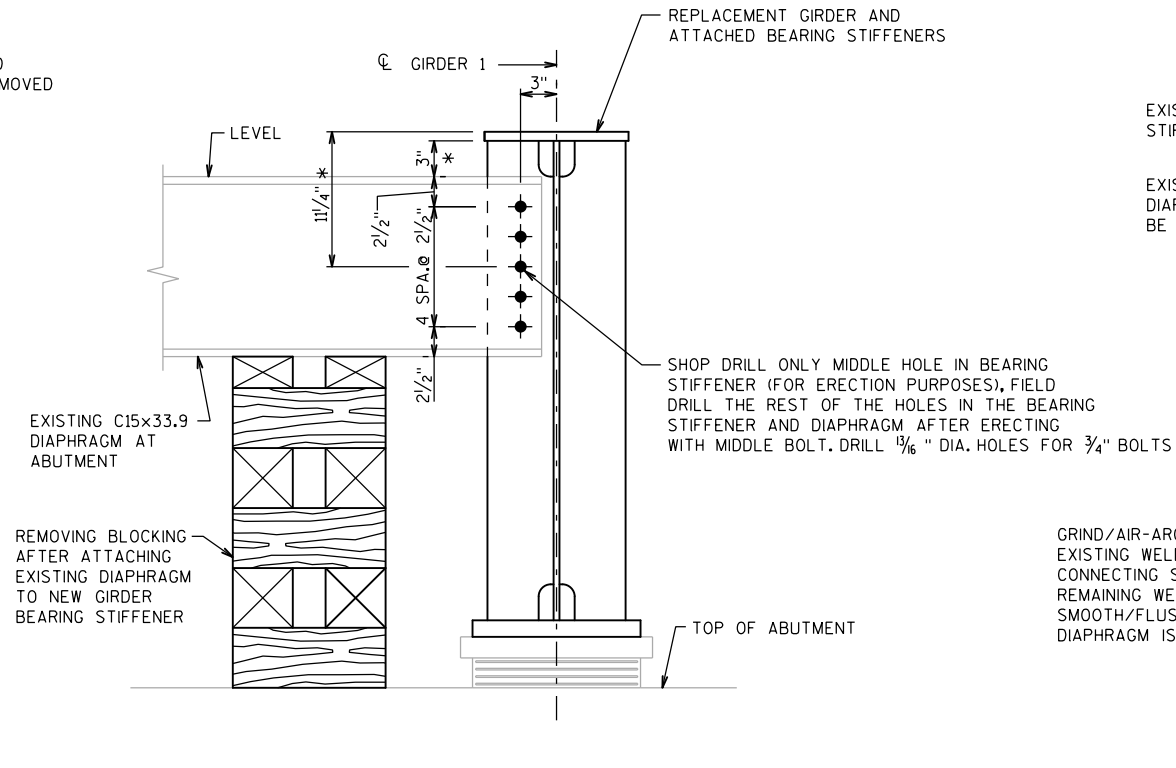
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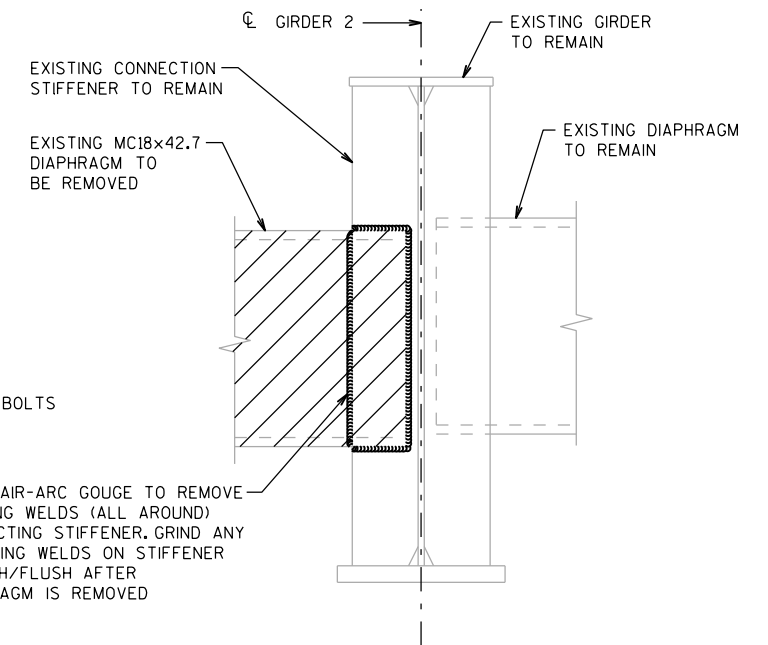


REMOVAL DETAIL AT ABUTMENT DIAPHRAGM

(THIS SHALL BE INCLUDED IN BID ITEM "REMOVING STRUCTURE B-67-86")

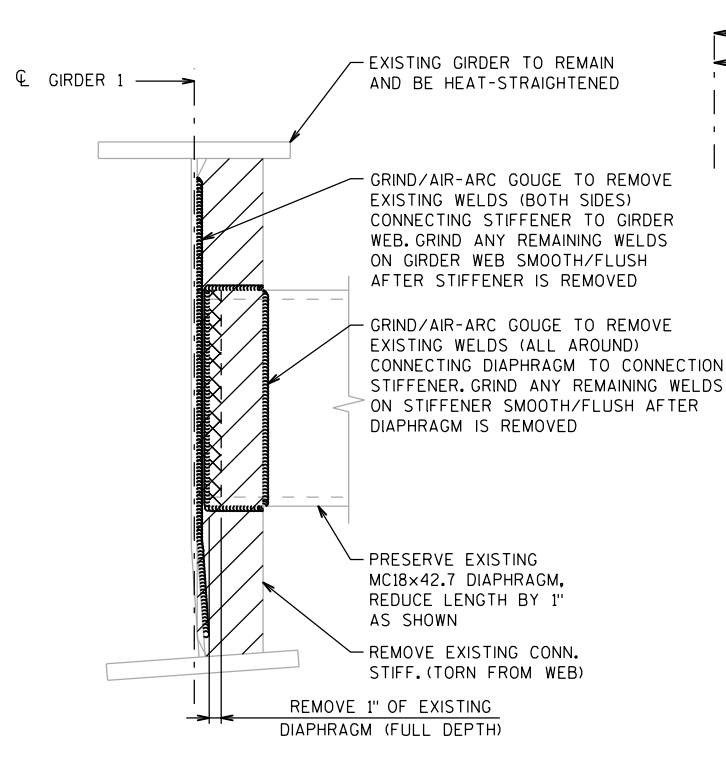


REPLACEMENT DETAIL AT ABUTMENT DIAPHRAGM



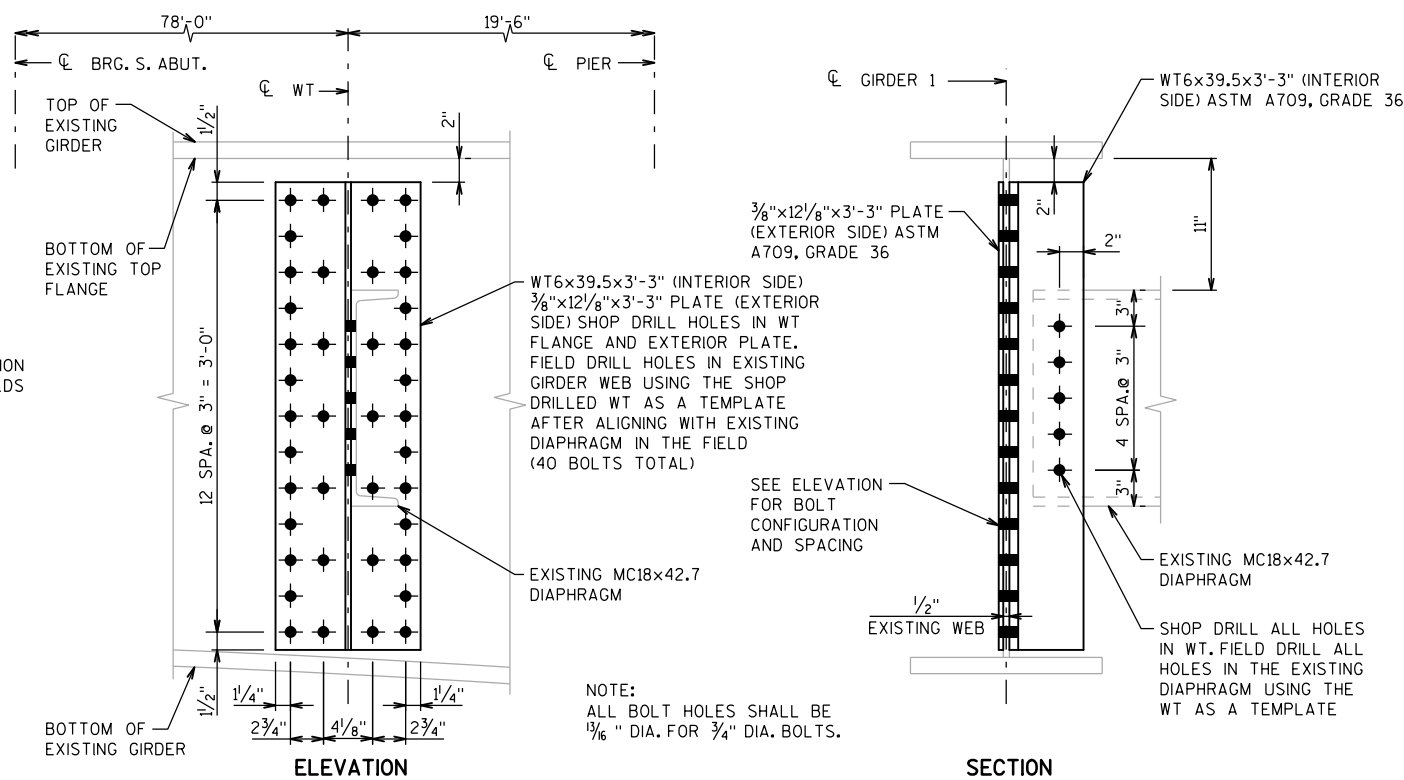
REMOVAL DETAIL AT CONNECTION STIFFENERS ON GIRDER 2

(THIS SHALL BE INCLUDED IN BID ITEM "REMOVING STRUCTURE B-67-86")
(SEE "IN-SPAN STEEL DIAPHRAGM ATTACHMENT DETAIL" ON "STEEL DIAPHRAGM DETAILS 2" SHEET FOR REPLACEMENT DIAPHRAGM CONNECTION TO EXISTING CONNECTION STIFFENER)



REMOVAL DETAIL AT DAMAGED CONN. STIFF.

(THIS SHALL BE INCLUDED IN BID ITEM "REMOVING STRUCTURE B-67-86")



ELEVATION

SECTION

NOTE:
ALL BOLT HOLES SHALL BE 1/8 inch DIA. FOR 3/4 inch DIA. BOLTS.

REPLACEMENT DETAIL AT DAMAGED CONN. STIFF.

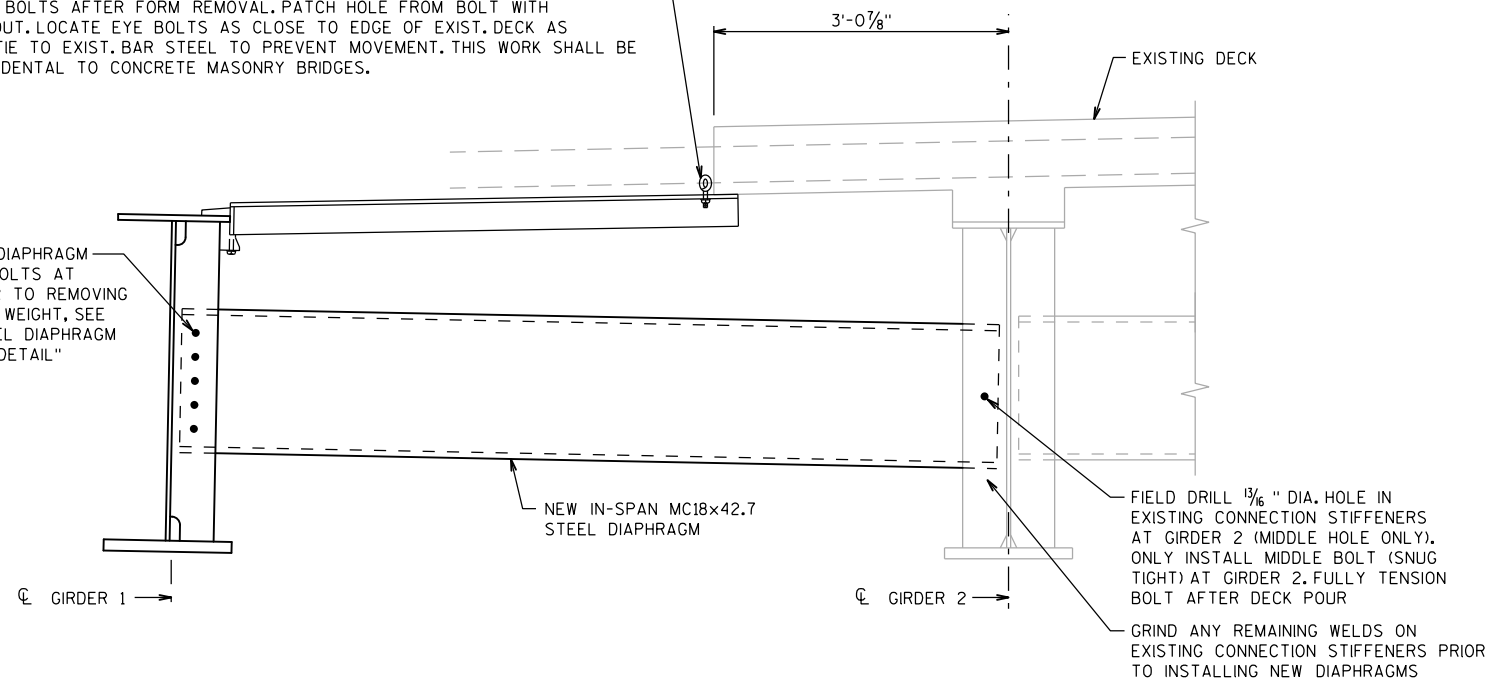
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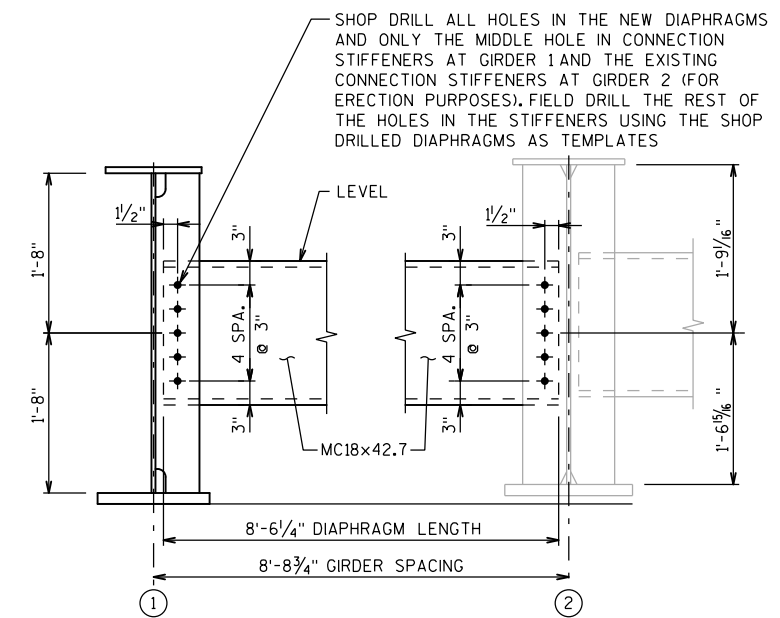
NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-67-86			
DRAWN BY		JWO	PLANS CK'D. CNK
STEEL DIAPHRAGM DETAILS 1			SHEET 6 OF 11

AT CONTRACTORS OPTION, SUPPORT FORM WORK BETWEEN EXISTING DECK AND GIRDERS USING EYEBOLTS OR SIMILAR THREADED RODS HUNG FROM THE EXISTING DECK'S BAR STEEL (#5 EXIST. TRANS. BARS). PROVIDE THREADED COUPLERS TO FACILITATE REMOVAL OF PROTRUDING BOLTS AFTER FORM REMOVAL. PATCH HOLE FROM BOLT WITH NON-SHRINK GROUT. LOCATE EYE BOLTS AS CLOSE TO EDGE OF EXIST. DECK AS POSSIBLE AND TIE TO EXIST. BAR STEEL TO PREVENT MOVEMENT. THIS WORK SHALL BE CONSIDERED INCIDENTAL TO CONCRETE MASONRY BRIDGES.

INSTALL ALL DIAPHRAGM CONNECTION BOLTS AT GIRDER 1 PRIOR TO REMOVING THE COUNTER WEIGHT, SEE "IN-SPAN STEEL DIAPHRAGM ATTACHMENT DETAIL" THIS SHEET

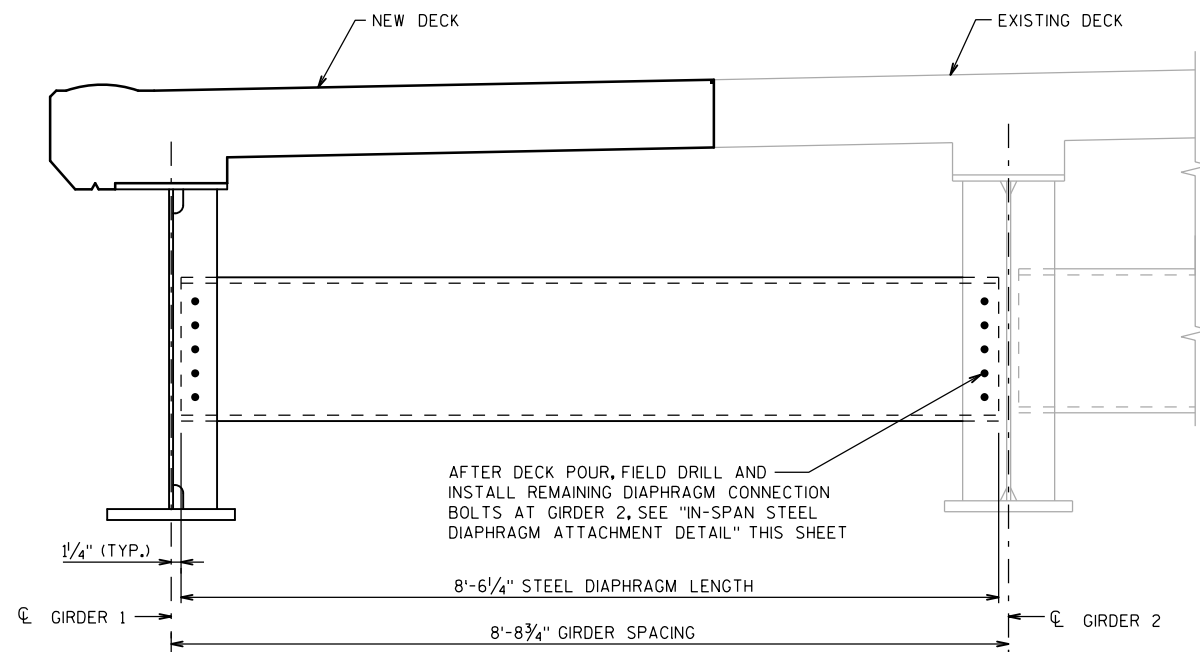


PARTIAL SECTION - BEFORE DECK POUR

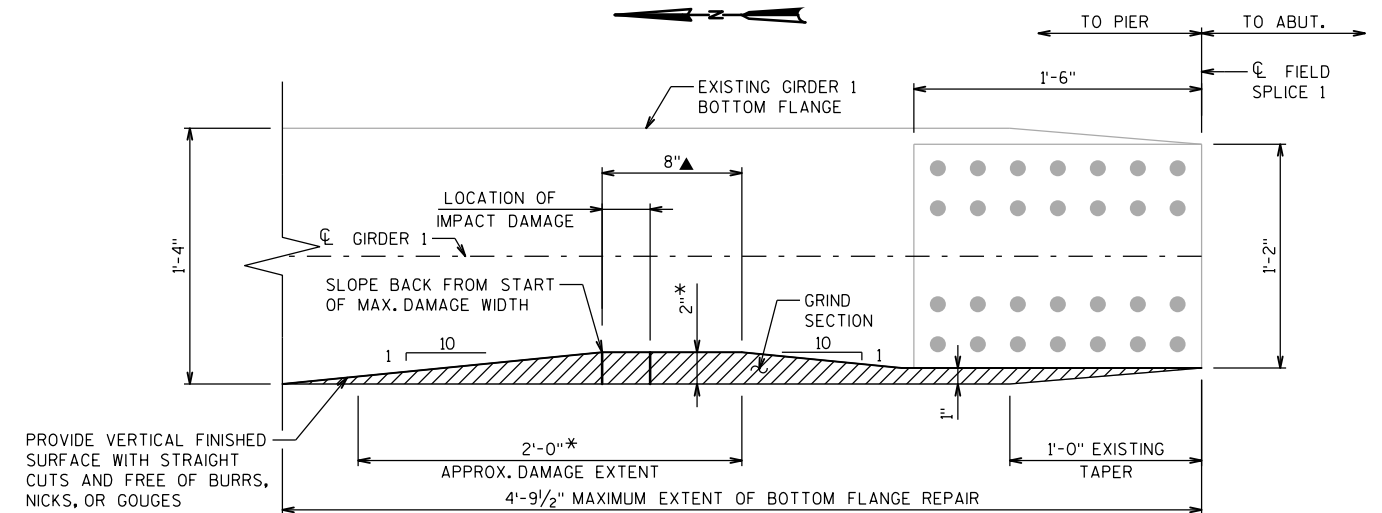


IN-SPAN STEEL DIAPHRAGM ATTACHMENT DETAIL

NOTE:
ALL DIAPHRAGM STEEL SHALL BE ASTM A709, GRADE 36.



PARTIAL SECTION - AFTER DECK POUR



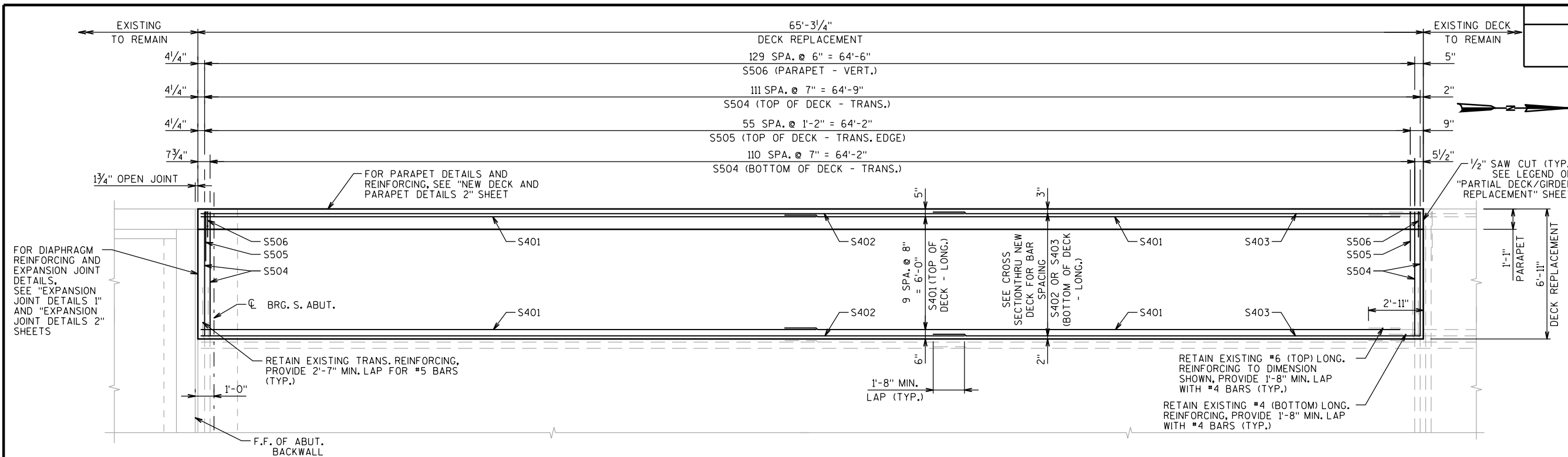
BOTTOM FLANGE REPAIR DETAIL

LEGEND

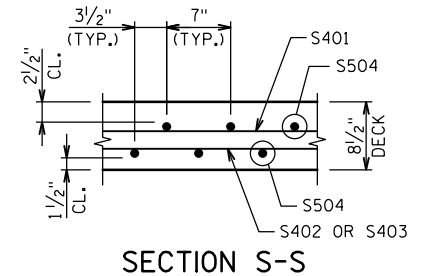
* DETAIL ACCOMODATES A 2" MAXIMUM WIDTH OF DAMAGE IN EXISTING GIRDER BOTTOM FLANGE. DAMAGE MAY BE LESS THAN 2" IN WIDTH. DO NOT EXTEND GRINDING OR REPAIR BEYOND THE WIDTH OF DAMAGE.

▲ A SECTION TAPER PARALLEL TO GIRDER C.L. IS REQUIRED AFTER GRIND TAPER.

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-67-86			
DRAWN BY		JWO	PLANS CK'D. CNK
STEEL DIAPHRAGM DETAILS 2			SHEET 7 OF 11



PLAN VIEW OF DECK REINFORCEMENT



BILL OF BARS

DIMENSIONS IN BENDING DETAILS ARE OUT TO OUT OF BAR.

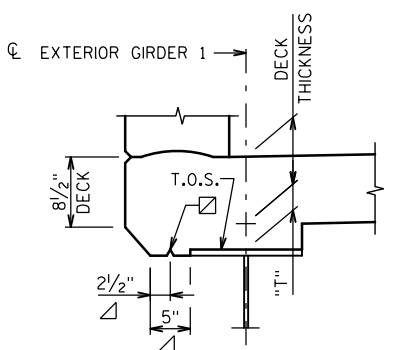
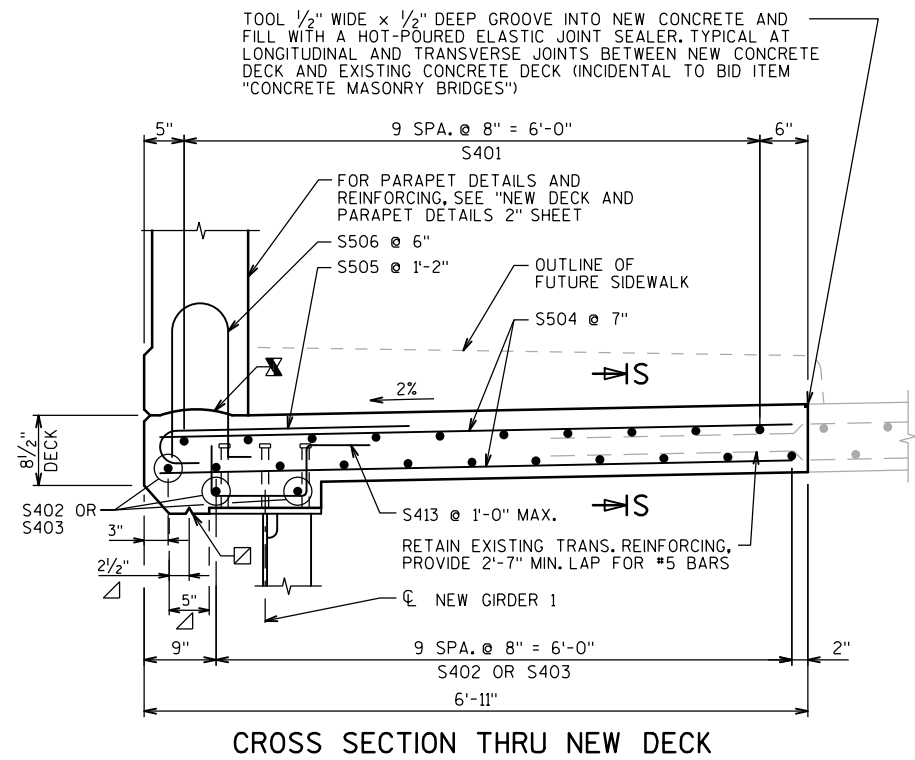
BAR MARK	COAT	NO. REQ'D.	LENGTH	BENT	SERIES	LOCATION
S401	X	20	32'-9"			DECK - TOP LONG.
S402	X	13	40'-8"			DECK - BOTTOM LONG.
S403	X	13	26'-0"			DECK - BOTTOM LONG.
S504	X	223	6'-7"			DECK - TOP AND BOTTOM TRANS.
S505	X	56	3'-2"	X		DECK - TOP TRANS. EDGE
S506	X	130	4'-4"	X		PARAPET - VERT.
S407	X	7	4'-10"	X		DIAPHRAGM - VERT.
S608	X	5	5'-3"			DIAPHRAGM - BOTTOM HORIZ.
S409	X	2	5'-3"			DIAPHRAGM - TOP HORIZ.
S410	X	2	5'-3"			EXPANSION DEVICE - HORIZ.
S511	X	16	33'-9"			PARAPET - HORIZ.
S512	X	130	6'-7"	X		PARAPET - VERT.
S413	X	65	2'-8"	X		DECK - HAUNCH HAT BAR

NOTE

FOR PARAPET DETAILS, SEE "NEW DECK AND PARAPET DETAILS 2" SHEET.

LEGEND

- X - CONST. JOINT - STRIKE OFF AS SHOWN AND LEAVE ROUGH.
- - 3/4" GROOVE REQUIRED EXTEND TO 2'-0" FROM FRONT FACE ABUTMENT.
- △ - MATCH FIELD DIMENSION



CONCRETE HAUNCH DETAILS

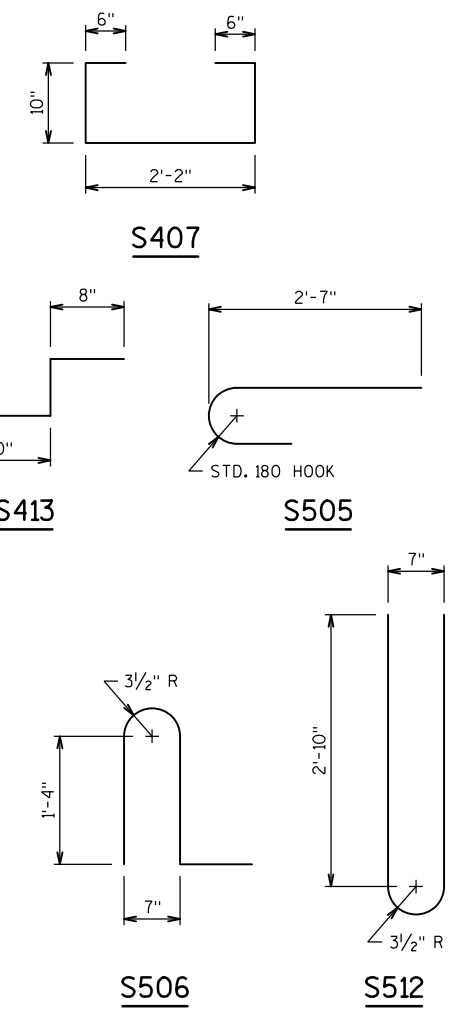
TO DETERMINE 'T': AFTER THE PORTION OF DECK HAS BEEN REMOVED AND STRUCTURE TOP STEEL HAS BEEN ERECTED, ELEVATIONS OF THE TOP FLANGES, TOP OF SPLICE PLATES, OR TOP OF COVER PLATES, WHICHEVER APPLIES, SHALL BE TAKEN AT CENTERLINE OF BEARINGS, CENTERLINE OF FIELD SPLICES, AND AT 0.1 POINTS.

TOP OF DECK ELEVATION AT FINAL GRADE
 - TOP OF STEEL ELEVATION AFTER STEEL ERECTION
 + CONC. ONLY DEFLECTION: DOWNWARD DEFLECTION IS ADDED, UPWARD DEFLECTION IS SUBTRACTED

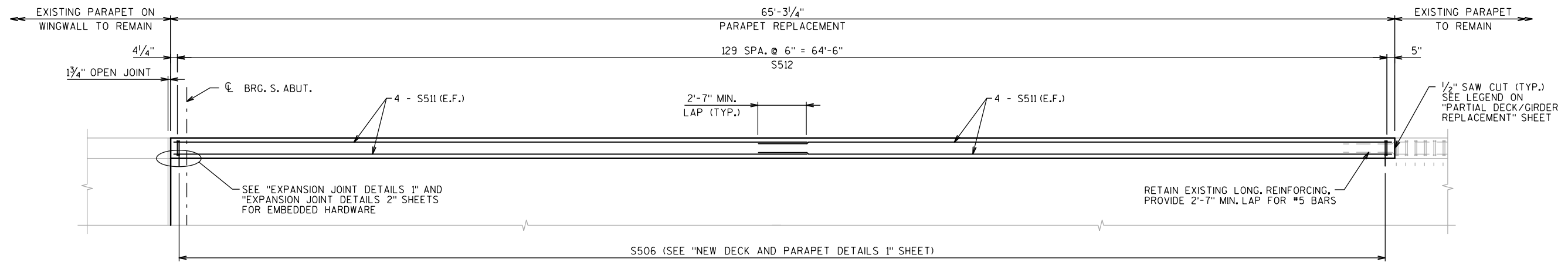
- DECK THICKNESS (8 1/2")

= 'T' VALUE FOR SETTING HAUNCH

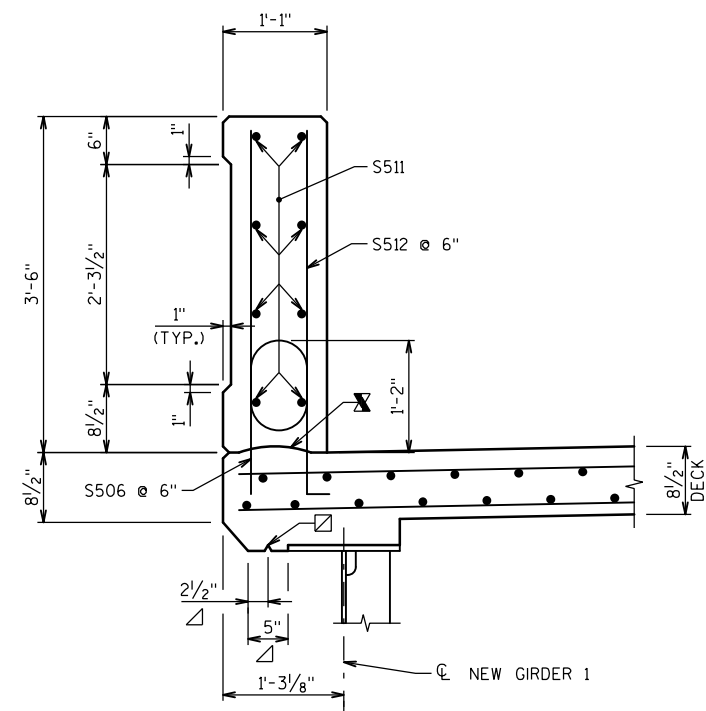
NOTE: AN AVERAGE HAUNCH ('T') OF 5.1" WAS USED IN THE QUANTITIES "CONCRETE MASONRY BRIDGES".



NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-67-86			
DRAWN BY		JWO	PLANS CKD. CNK
NEW DECK AND PARAPET DETAILS 1			SHEET 8 OF 11



PLAN OF PARAPET



**PARAPET SECTION ON BRIDGE
VERTICAL FACE PARAPET TYPE 'A' (MODIFIED)**

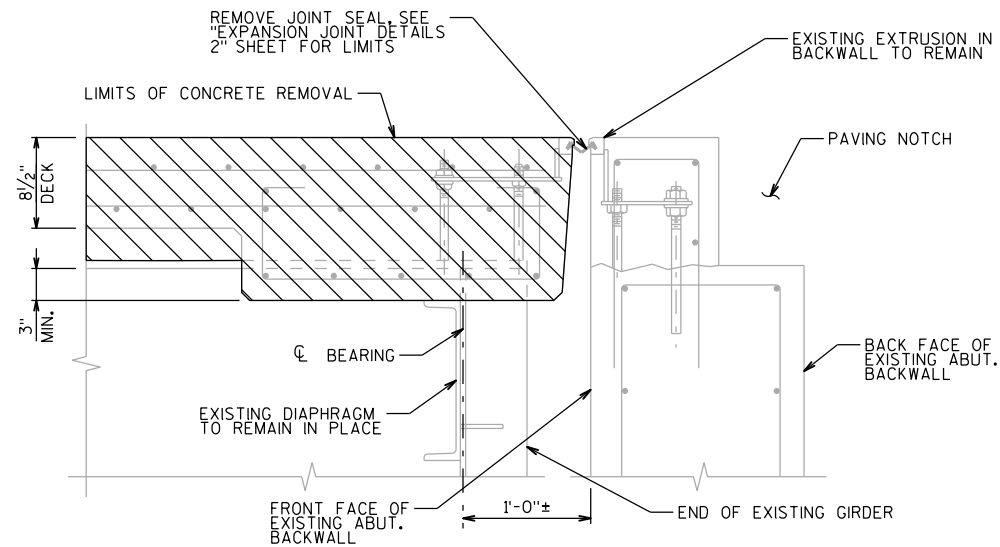
NOTE

FOR DECK DETAILS, BAR BENDING DIAGRAMS, AND BILL OF BARS, SEE "NEW DECK AND PARAPET DETAILS 1" SHEET.

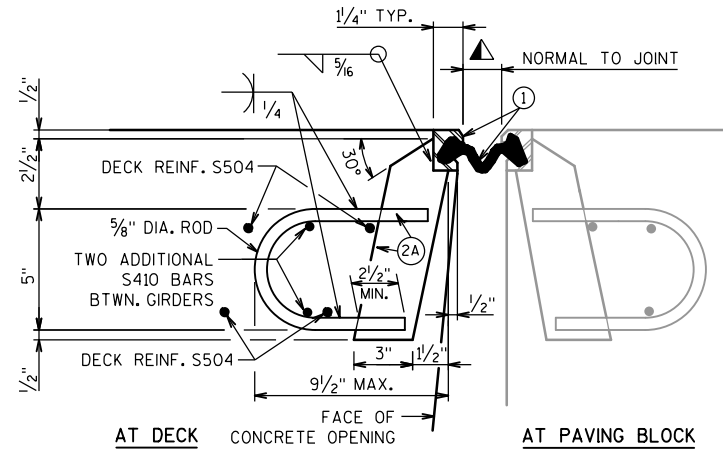
LEGEND

- ✕ - CONST. JOINT - STRIKE OFF AS SHOWN AND LEAVE ROUGH.
- ☐ - 3/4" GROOVE REQUIRED EXTEND TO 2'-0" FROM FRONT FACE ABUTMENT.
- △ - MATCH FIELD DIMENSION

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EXISTING SECTION AT SOUTH ABUTMENT
NORMAL TO ϕ SUBSTRUCTURE



SECTION THRU JOINT
(AT DECK REPLACEMENT)

DIMENSIONS TAKEN NORMAL TO ϕ SUBSTRUCTURE
(INSIDE OF EXTERIOR GIRDER)

EXPANSION JOINT NOTES

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

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

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

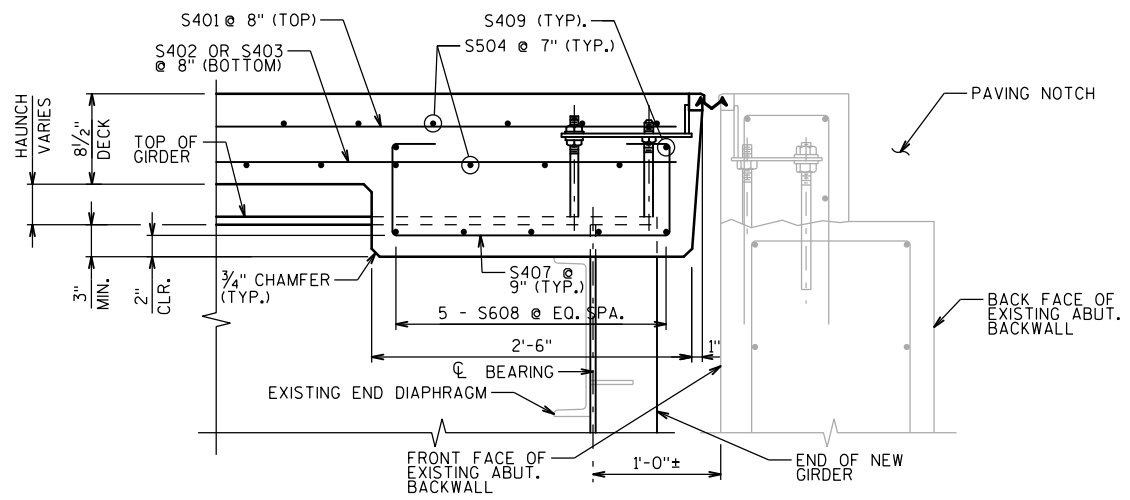
SANDBLAST PLATES, SUPPORTS AND EXTRUSION AFTER FABRICATION IN ACCORDANCE WITH SSPC SP. #6 "COMMERCIAL BLAST CLEANING". AFTER BLAST CLEANING, THE PLATES, SUPPORTS AND EXTRUSION SHALL BE HOT DIPPED GALVANIZED.

STRIP SEAL EXPANSION JOINT ASSEMBLY, INCLUDING ANCHOR STUDS AND HARDWARE WILL BE PAID FOR AT THE LUMP SUM PRICE BID FOR "EXPANSION DEVICE B-67-86".

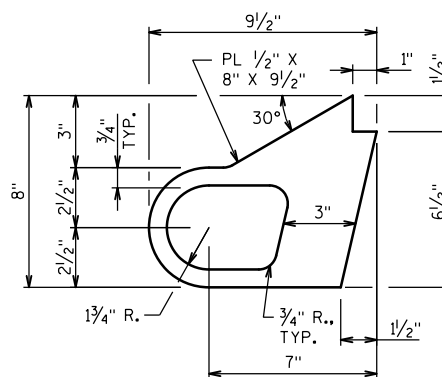
REFER TO "EXPANSION JOINT DETAILS 2" SHEET FOR ADDITIONAL INFORMATION AND DETAILS.

LEGEND

- ① NEOPRENE STRIP SEAL (4 - INCH) AND STEEL EXTRUSION.
- ② STUDS $\frac{5}{8}$ " DIA. x $6\frac{3}{8}$ " LONG AT 6" ALTERNATE CENTERS, WELD TO EXTRUSION AND BEND AS SHOWN AFTER WELDING.
- ②A $\frac{1}{2}$ " THICK ANCHOR PLATE WITH $\frac{5}{8}$ " DIA. ROD (OR ALTERNATE STRIP SEAL ANCHOR), WELD ROD TO ANCHOR PLATE, WELD ANCHOR PLATE TO NO. 1 AT 1'-6" CENTERS BETWEEN GIRDERS.
- ③ $\frac{3}{4}$ " DIA. THREADED ROD WITH 2 NUTS AND PLATE WASHERS. FOR STEEL GIRDERS WELD THREADED ROD TO TOP FLANGE OR ATTACH BY BOLTING THRU FLANGE.
- ④ $\frac{3}{4}$ " DIA. THREADED ROD WITH NUT. TACK WELD NUT TO NO. 5.
- ⑤ FABRICATE SUPPORT FROM 3" x $\frac{1}{2}$ " BAR AS SHOWN OR EQUIVALENT, ONE PER GIRDER PER SIDE. SHOP OR FIELD WELD TO NO. 1. IF FIELD WELDED, COVER WELDED AREAS WITH EPOXY-COATING MATERIAL. PROVIDE $\frac{1}{2}$ " DIA. HOLE FOR NO. 3 AND 1" DIA. HOLE FOR NO. 4.
- ▲ MATCH EXISTING JOINT OPENING ($1\frac{3}{4}$ " ASSUMED).

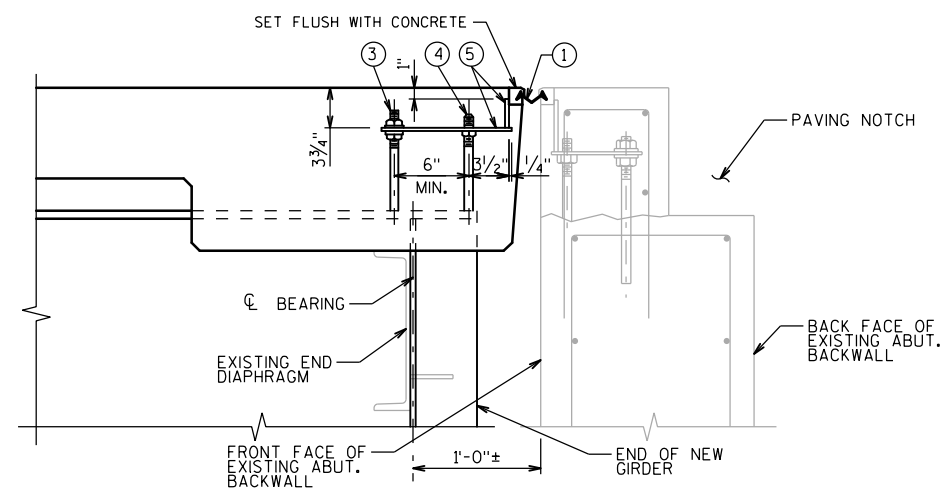


PROPOSED SECTION AT SOUTH ABUTMENT (REINFORCEMENT DETAILS)
NORMAL TO ϕ SUBSTRUCTURE

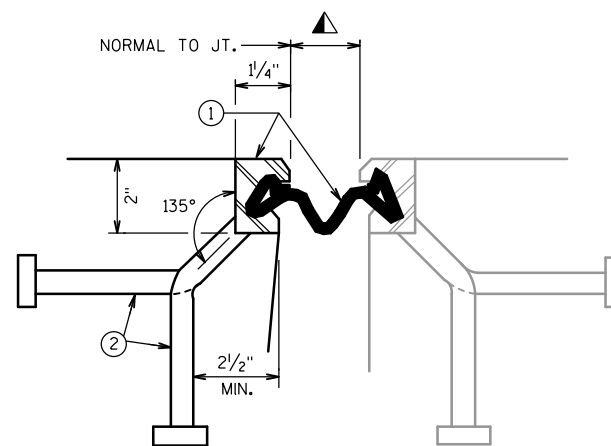


ALTERNATE STRIP SEAL ANCHOR

CONTRACTOR HAS THE OPTION TO REMOVE EXISTING STEEL COVER PLATE, CAREFULLY REMOVE CONCRETE ADJACENT TO EXTRUSION AND ASSEMBLY, REMOVE THE CONNECTION TO EXISTING EXTERIOR GIRDER, PROTECT, CLEAN AND INCORPORATE INTO NEW WORK. INCLUDE COST FOR THIS OPTION IF CHOSEN IN THE PRICE BID FOR EXPANSION DEVICE B-67-86. DAMAGE TO THE ASSEMBLY DURING REMOVAL MUST BE REPAIRED BY THE CONTRACTOR AT NO ADDITIONAL COST TO THE DEPARTMENT.

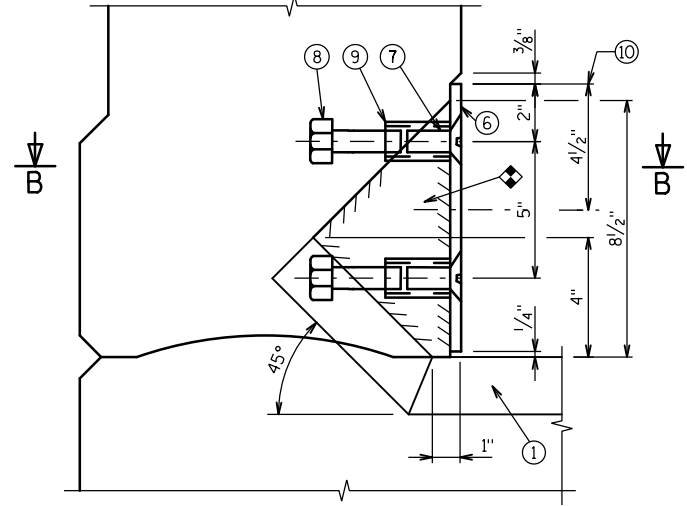


PROPOSED SECTION AT SOUTH ABUTMENT (EXPANSION DEVICE COMPONENTS)
NORMAL TO ϕ SUBSTRUCTURE

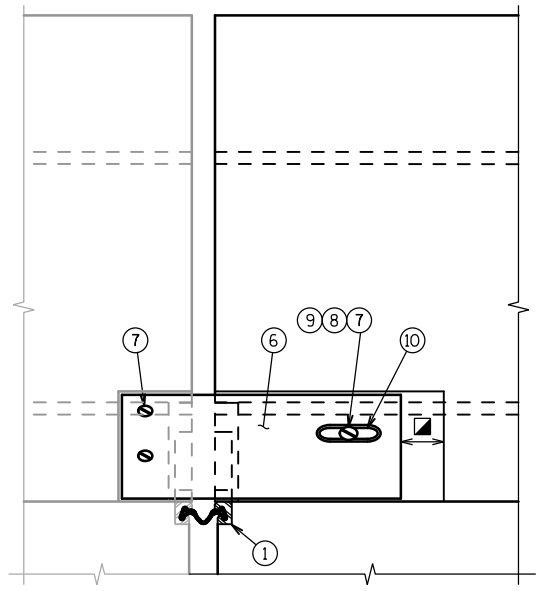


SECTION THRU JOINT
(TO PARAPET)

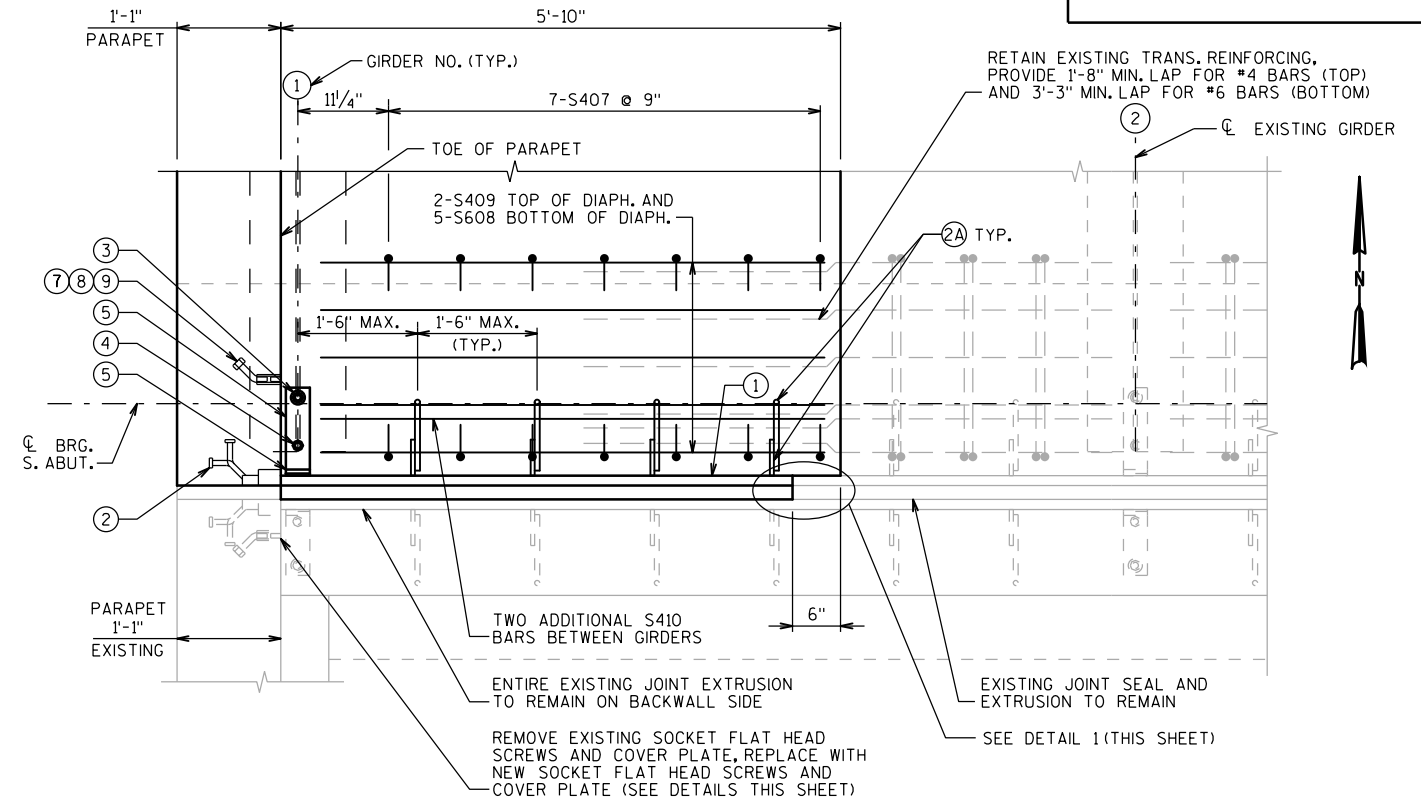
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EXPANSION JOINT DETAILS 1			SHEET 10 OF 11



SECTION A-A



VIEW OF PARAPET PLATE FROM ROADWAY



SOUTH ABUTMENT EXPANSION JOINT REPLACEMENT

(DECK REINFORCEMENT NOT SHOWN FOR CLARITY)

LEGEND

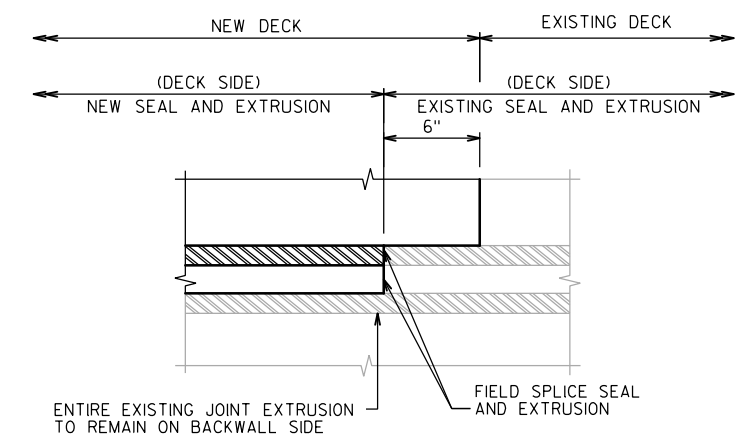
- ① NEOPRENE STRIP SEAL (4 - INCH) AND STEEL EXTRUSION.
- ② STUDS 5/8" DIA. x 6 3/8" LONG AT 6" ALTERNATE CENTERS. WELD TO EXTRUSION AND BEND AS SHOWN AFTER WELDING.
- ②A 1/2" THICK ANCHOR PLATE WITH 5/8" DIA. ROD (OR ALTERNATE STRIP SEAL ANCHOR). WELD ROD TO ANCHOR PLATE, WELD ANCHOR PL. TO NO. 1 AT 1'-6" CENTERS BETWEEN GIRDERS.
- ③ 3/4" DIA. THREADED ROD WITH 2 NUTS AND PLATE WASHERS. WELD THREADED ROD TO TOP FLANGE OR ATTACH BY BOLTING THRU FLANGE.
- ④ 3/4" DIA. THREADED ROD WITH NUT. TACK WELD NUT TO NO. 5.
- ⑤ FABRICATE SUPPORT FROM 3" x 1/2" BAR AS SHOWN OR EQUIVALENT. ONE PER GIRDER PER SIDE. SHOP OR FIELD WELD TO NO. 1. IF FIELD WELDED, COVER WELDED AREAS WITH EPOXY-COATING MATERIAL. PROVIDE 1/2" DIA. HOLE FOR NO. 3 AND 1" DIA. HOLE FOR NO. 4.
- ⑥ GALVANIZED PLATE 3/8" x 10" x 2'-2" LONG WITH HOLES FOR NO. 7.
- ⑦ 3/4" DIA. x 1 1/2" STAINLESS STEEL SOCKET FLAT HEAD SCREWS WITH ANTI-SEIZE LUBRICANT. PLACE IN COUNTERSUNK HOLE. RECESS 1/16" BELOW PLATE SURFACE.
- ⑧ 3/4" DIA. x 4" GALVANIZED HEX HEAD BOLT. BEND 45°.
- ⑨ 3/4" DIA. x 2 1/4" GALVANIZED THREADED COUPLING.
- ⑩ 1" x 5" SLOTTED COUNTERSUNK HOLE FOR NO. 7. PLACE SLOT PARALLEL TO DIRECTION OF MOVEMENT.
- ◆ BLOCK OUT CONCRETE 2" EACH SIDE OF JOINT OPENING.
- JOINT OPENING DIMENSION PLUS 1/2".

NOTES

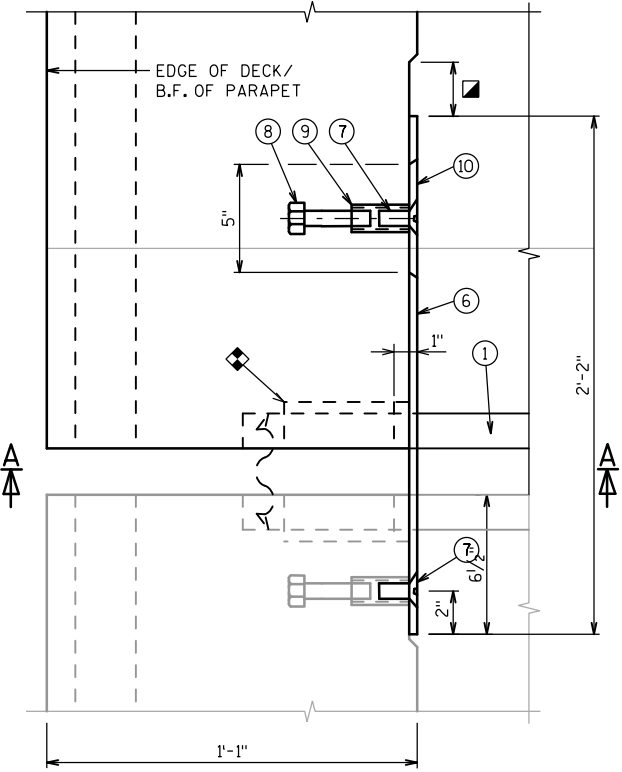
SEE "EXPANSION JOINT DETAILS 1" SHEET FOR ADDITIONAL INFORMATION AND DETAILS.

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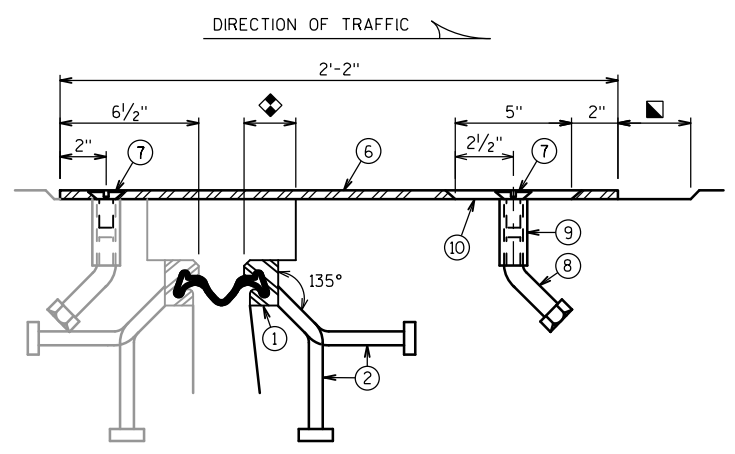
ANCHOR SYSTEM NO. 8 AND NO. 9 SHALL CONFORM TO ASTM A307 AND SHALL BE GALVANIZED IN ACCORDANCE WITH ASTM A153 CLASS C AND D.



DETAIL 1



PLAN



SECTION B-B

COVER PLATE DETAILS

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