

MAD

NOVEMBER 2017

PROJECT ID: 1111-02-63  
WITH PROJECTID2

COUNTY: DANE

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
<del>Section No. 4</del>	<del>Right of Way Plan</del>
Section No. 5	Plan and Profile
Section No. 6	Standard Detail Drawings
<del>Section No. 7</del>	<del>Sign Plans</del>
Section No. 8	Structure Plans
<del>Section No. 9</del>	<del>Computer Earthwork Data</del>
<del>Section No. 9</del>	<del>Grade Sections</del>

TOTAL SHEETS = 28



DESIGN DESIGNATION	
A.A.D.T. (2016)	= 50,000
A.A.D.T. (2036)	= 55,000
D.H.V. (TWO WAYXK30)	= 5,500
D.D. (X)	= 59/41
T. (D.H.V.) (X)	= 4.5
DESIGN SPEED (MPH)	= 70
ESALS	= N/A

CONVENTIONAL SYMBOLS

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

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

ROCK	---
LABEL	---
95.36	---
E	---
FO	---
G	---
SAN	---
SS	---
T	---
W	---
W	---
W	---
W	---

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

PLAN OF PROPOSED IMPROVEMENT

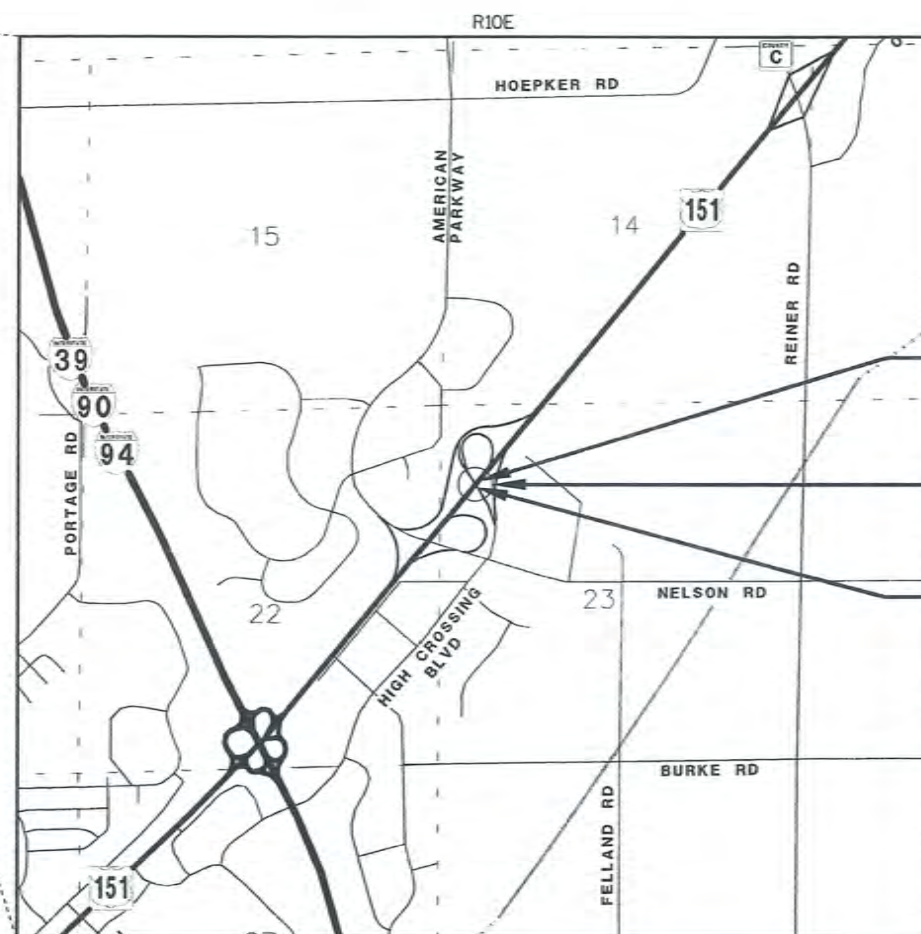
MADISON - SUN PRAIRIE

DUAL RAMP BRIDGES B-13-0395 & B-13-0396

USH 151

DANE COUNTY

STATE PROJECT NUMBER  
1111-02-63



LAYOUT  
SCALE 0 1/4 mi.

TOTAL NET LENGTH OF CENTERLINE 0.25 mi.

HORIZONTAL POSITIONS SHOWN ON THIS PLAN ARE WISCONSIN COUNTY COORDINATES, DANE COUNTY ZONE, NAD83 (2012), IN U.S. SURVEY FEET. VALUES ARE GRID COORDINATES, GRID BEARINGS, AND GRID DISTANCES. GRID DISTANCES MAY BE USED AS GROUND DISTANCES.

ELEVATIONS SHOWN ON THIS PLAN ARE REFERENCED TO THE NORTH AMERICAN VERTICAL DATUM OF 1988, NAVD88 (2012).

STATE PROJECT	FEDERAL PROJECT	
	PROJECT	CONTRACT
1111-02-63	WISC 2017605	1

ORIGINAL PLANS PREPARED BY:

AYRES  
ASSOCIATES



6/30/17

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

PREPARED BY	
Surveyor	AYRES ASSOCIATES
Designer	AYRES ASSOCIATES
Project Manager	CHRISTOPHER HODGES
Regional Examiner	
Regional Supervisor	KARLA KNORR

APPROVED FOR THE DEPARTMENT  
DATE: 6/30/17 *CHAS. H.*  
(Signature)

E

GENERAL NOTES

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

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

PROJECT CONTACTS

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FAX: 608-246-7996  
Chris.Hodges@dot.wi.gov

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UTILITY CONTACTS

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100 CENTURYLINK DRIVE  
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kyle.tostenon@centurylink.com

MADISON GAS & ELECTRIC COMPANY - GAS/PETROLEUM  
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133 SOUTH BLAIR STREET  
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(608) 252-1552  
sbeversdorf@mge.com

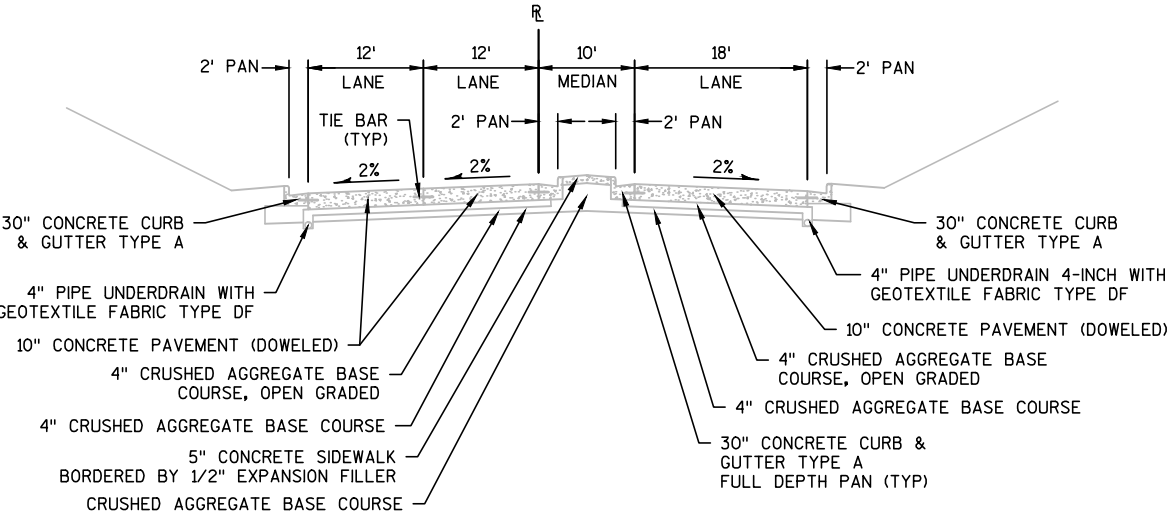
MADISON WATER UTILITY - WATER  
ADAM WIEDERHOEFT  
119 E OLIN AVE  
MADISON, WI 53713-1431  
(608) 266-9121  
awiederhoeft@madisonwater.org

PAETEC COMMUNICATIONS, LLC - COMMUNICATIONS  
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WISCONSIN DEPARTMENT OF TRANSPORTATION - COMMUNICATIONS  
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(608) 246-5367  
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ABBREVIATIONS

A.D.T.	AVERAGE DAILY TRAFFIC
ATMS	ARTERIAL TRAFFIC MANAGEMENT SYSTEM
BM	BENCHMARK
BOC	BACK OF CURB
BTWN	BETWEEN
C&G	CURB AND GUTTER
C.E.	COMMERCIAL ENTRANCE
CONST	CONSTRUCTION
CP	CONTROL POINT
CTR.	CENTER
D.D.	DIRECTIONAL DISTRIBUTION
D.H.V.	DESIGN HOURLY VOLUME
DMS	DYNAMIC MESSAGE SIGN
EB	EASTBOUND
EXIST	EXISTING
GALV.	GALVANIZED
HMA	HOT MIX ASPHALT
H.S.	HIGH STRENGTH
ITS	INTELLIGENT TRAFFIC SYSTEM
MAX	MAXIMUM
MIN	MINIMUM
NB	NORTHBOUND
NOR	NORMAL
PC	POINT OF CURVATURE
PCC	POINT OF COMMON CURVATURE
PGL	PROFILE GRADE LINE
PI	POINT OF INTERSECTION
PRC	POINT OF REVERSE CURVATURE
PT	POINT OF TANGENCY
PVT	PAVEMENT
R/L	REFERENCE LINE
REQ'D	REQUIRED
SB	SOUTHBOUND
SYM	SYMMETRICAL
T.	PERCENT TRUCKS
TCC	TRAFFIC CONDITION CAMERA
TYP	TYPICAL
VAR	VARIABLE
WB	WESTBOUND
Wt.	WEIGHT
X-WALK	CROSS WALK



TYPICAL EXISTING SECTION - RAMPS UNDER BRIDGES



## NOTES

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

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

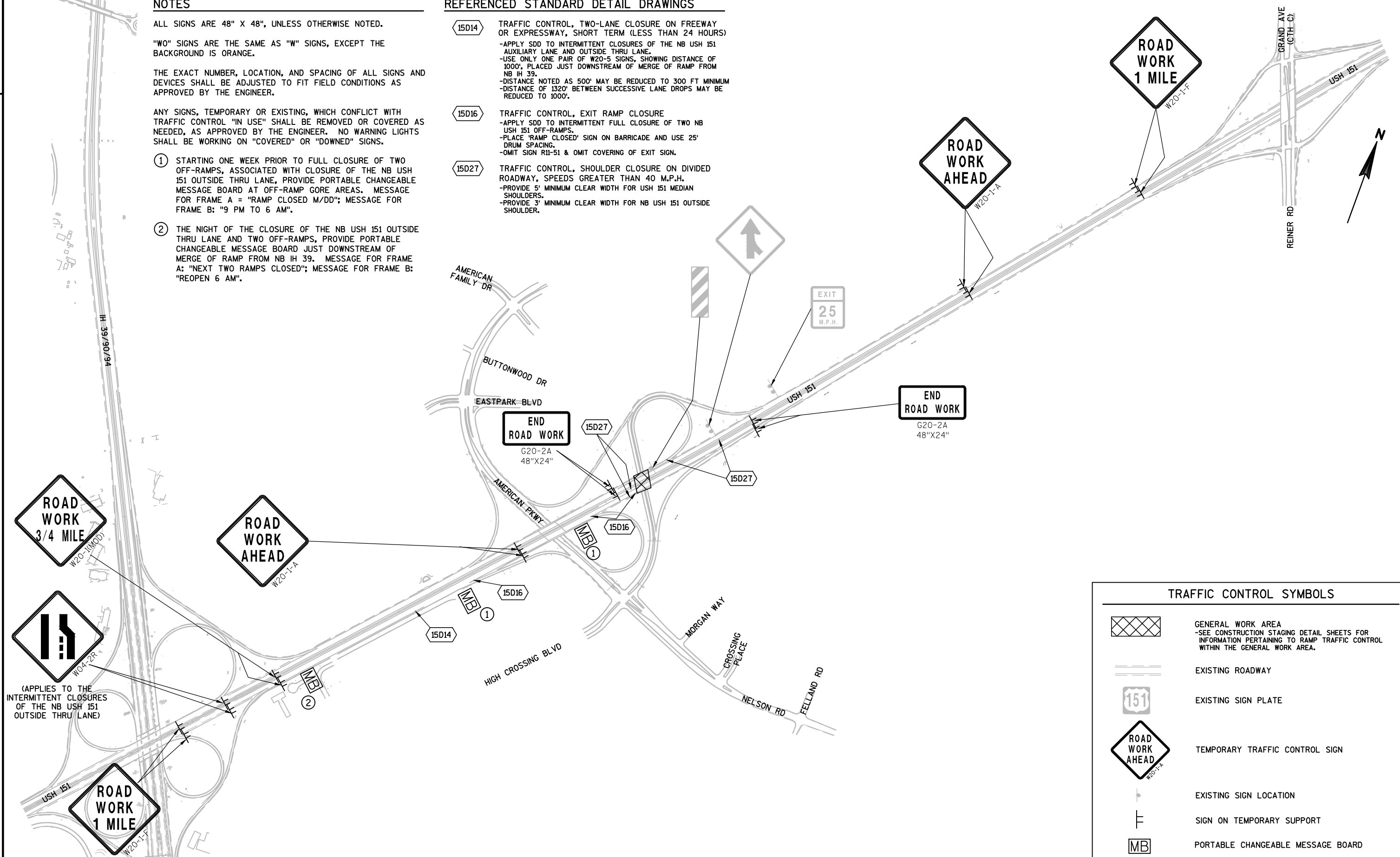
THE EXACT NUMBER, LOCATION, AND SPACING OF ALL SIGNS AND DEVICES SHALL BE ADJUSTED TO FIT FIELD CONDITIONS AS APPROVED BY THE ENGINEER.

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

- ① STARTING ONE WEEK PRIOR TO FULL CLOSURE OF TWO OFF-RAMPS, ASSOCIATED WITH CLOSURE OF THE NB USH 151 OUTSIDE THRU LANE, PROVIDE PORTABLE CHANGEABLE MESSAGE BOARD AT OFF-RAMP GORE AREAS. MESSAGE FOR FRAME A = "RAMP CLOSED M/DD"; MESSAGE FOR FRAME B: "9 PM TO 6 AM".
- ② THE NIGHT OF THE CLOSURE OF THE NB USH 151 OUTSIDE THRU LANE AND TWO OFF-RAMPS, PROVIDE PORTABLE CHANGEABLE MESSAGE BOARD JUST DOWNSTREAM OF MERGE OF RAMP FROM NB IH 39. MESSAGE FOR FRAME A: "NEXT TWO RAMPS CLOSED"; MESSAGE FOR FRAME B: "REOPEN 6 AM".

## REFERENCED STANDARD DETAIL DRAWINGS

- 15D14 TRAFFIC CONTROL, TWO-LANE CLOSURE ON FREEWAY OR EXPRESSWAY, SHORT TERM (LESS THAN 24 HOURS)  
-APPLY SDD TO INTERMITTENT CLOSURES OF THE NB USH 151 AUXILIARY LANE AND OUTSIDE THRU LANE.  
-USE ONLY ONE PAIR OF W20-5 SIGNS, SHOWING DISTANCE OF 1000', PLACED JUST DOWNSTREAM OF MERGE OF RAMP FROM NB IH 39.  
-DISTANCE NOTED AS 500' MAY BE REDUCED TO 300 FT MINIMUM  
-DISTANCE OF 1320' BETWEEN SUCCESSIVE LANE DROPS MAY BE REDUCED TO 1000'.
- 15D16 TRAFFIC CONTROL, EXIT RAMP CLOSURE  
-APPLY SDD TO INTERMITTENT FULL CLOSURE OF TWO NB USH 151 OFF-RAMPS.  
-PLACE 'RAMP CLOSED' SIGN ON BARRICADE AND USE 25' DRUM SPACING.  
-OMIT SIGN R11-51 & OMIT COVERING OF EXIT SIGN.
- 15D27 TRAFFIC CONTROL, SHOULDER CLOSURE ON DIVIDED ROADWAY, SPEEDS GREATER THAN 40 M.P.H.  
-PROVIDE 5' MINIMUM CLEAR WIDTH FOR USH 151 MEDIAN SHOULDERS.  
-PROVIDE 3' MINIMUM CLEAR WIDTH FOR NB USH 151 OUTSIDE SHOULDER.





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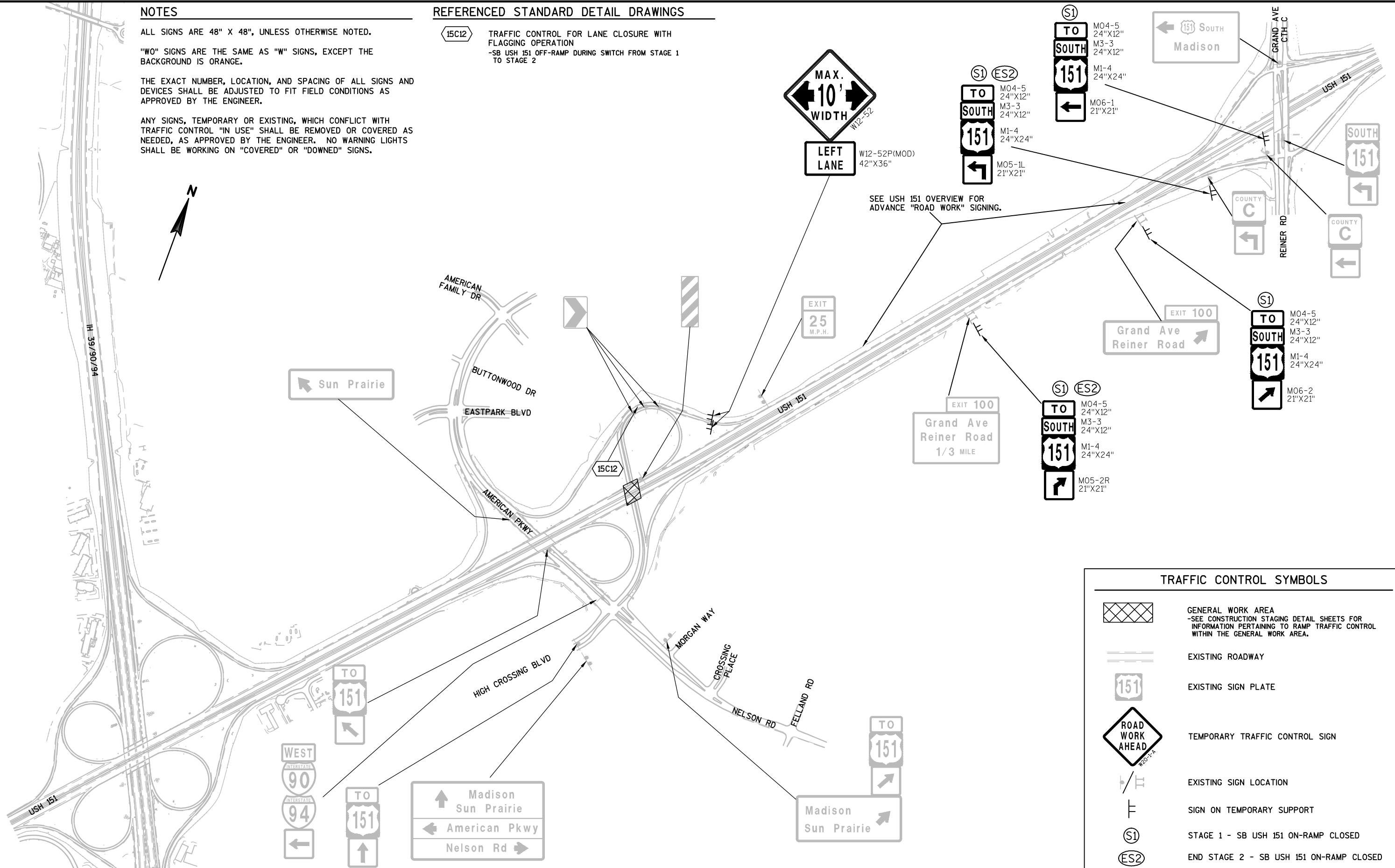
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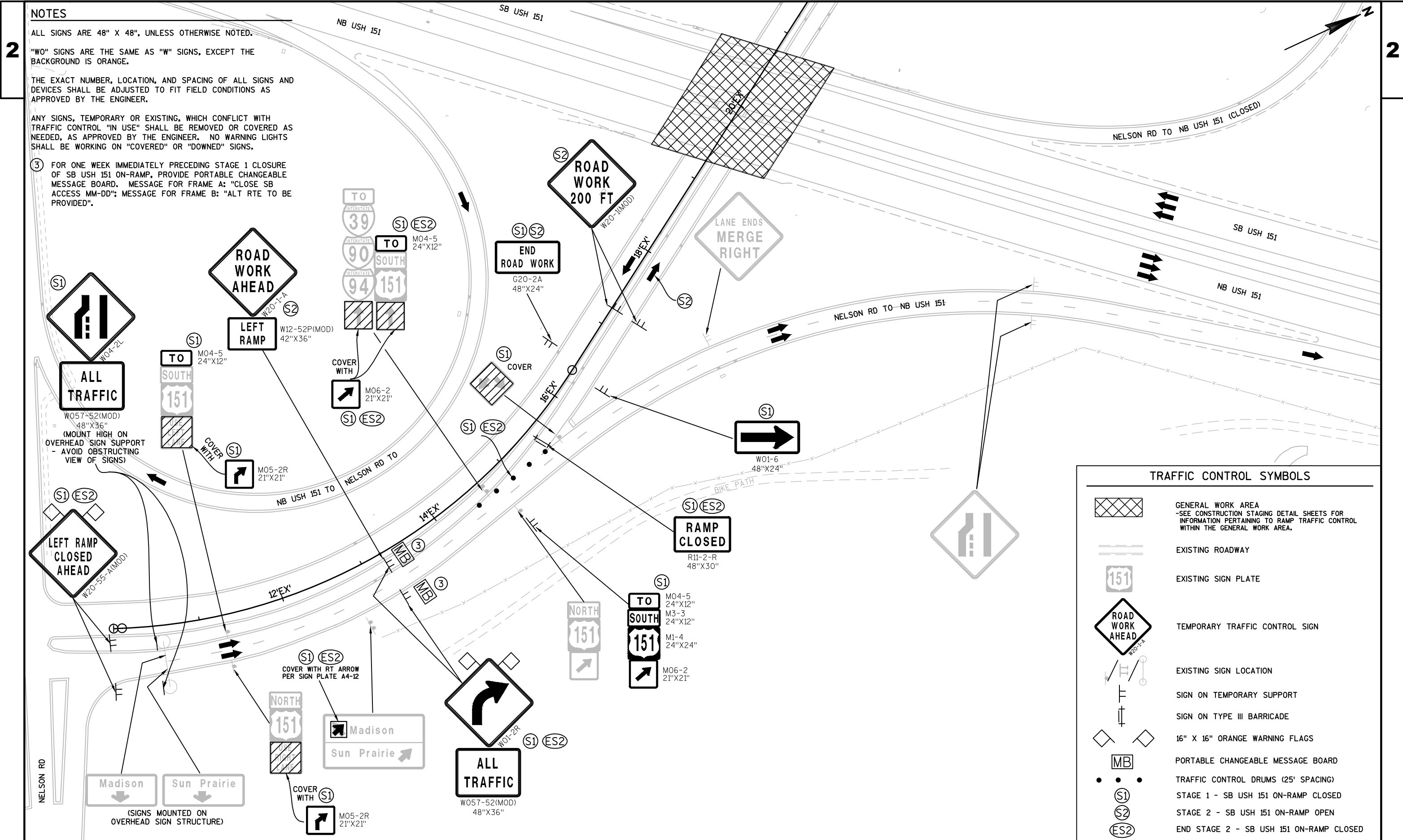
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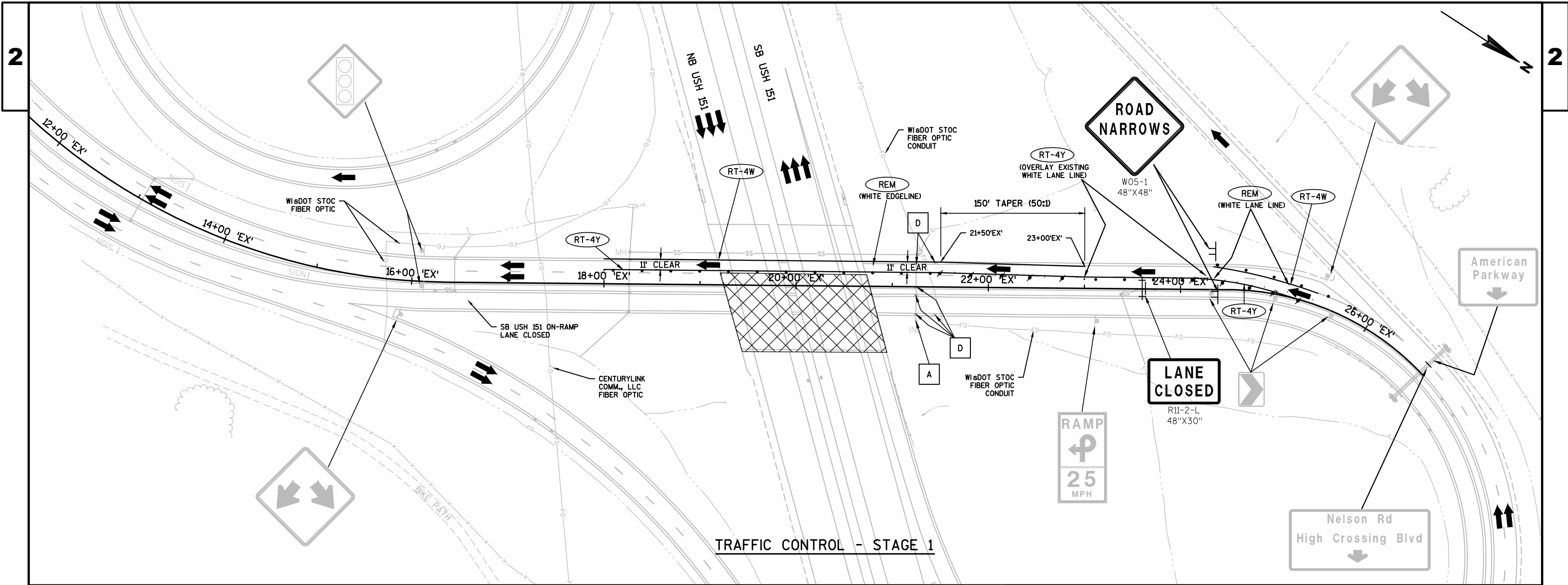
## REFERENCED STANDARD DETAIL DRAWINGS

15C12

TRAFFIC CONTROL FOR LANE CLOSURE WITH  
FLAGGING OPERATION  
-SB USH 151 OFF-RAMP DURING SWITCH FROM STAGE 1  
TO STAGE 2







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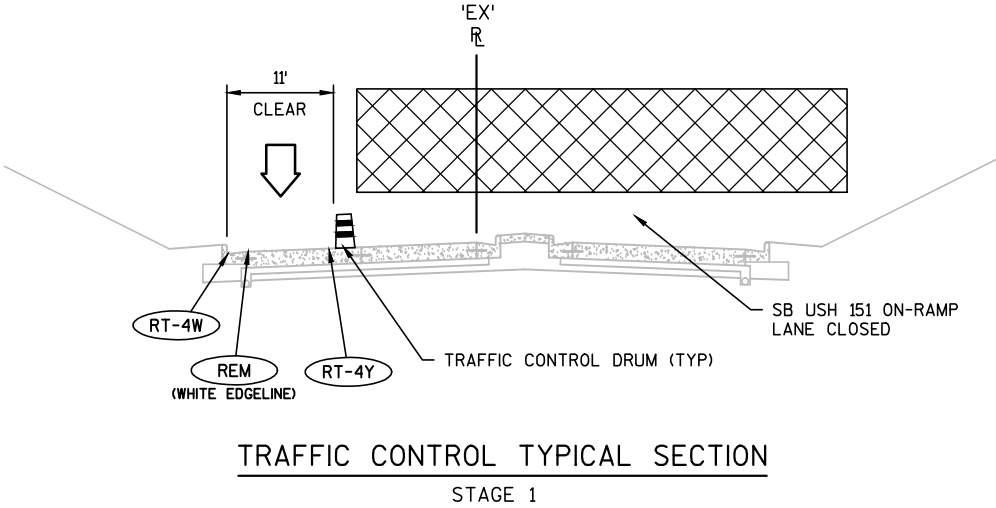
TEMPORARY PAVEMENT MARKING

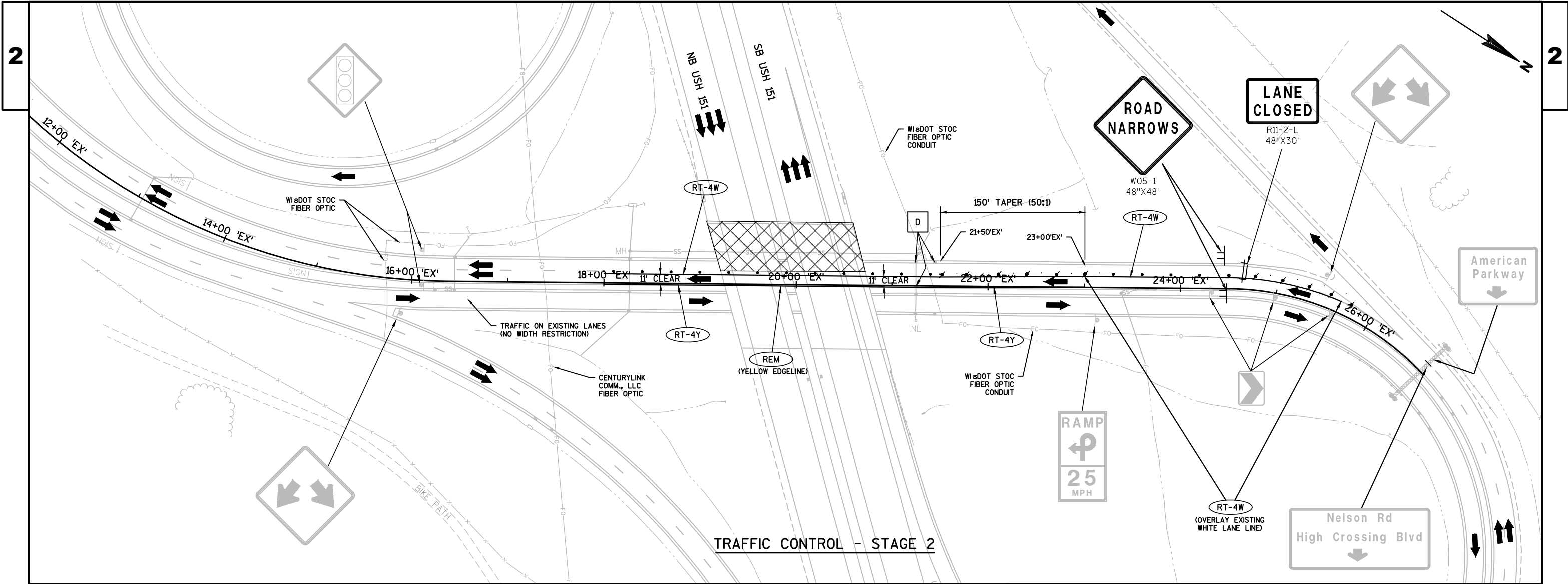
- RT-4W TEMPORARY PAVEMENT MARKING REMOVABLE TAPE 4-INCH (WHITE)
- RT-4Y TEMPORARY PAVEMENT MARKING REMOVABLE TAPE 4-INCH (YELLOW)
- REM REMOVING PAVEMENT MARKINGS

TRAFFIC CONTROL SYMBOLS

- GENERAL WORK AREA
- TRAFFIC FLOW ARROW
- EXISTING ROADWAY
- TRAFFIC CONTROL DRUMS (25' SPACING)
- TRAFFIC CONTROL DRUMS WITH LIGHTS (25' SPACING)
- INLET PROTECTION TYPE A OR D

- EXISTING SIGN
- TEMPORARY TRAFFIC CONTROL SIGN
- EXISTING SIGN LOCATION
- SIGN ON TEMPORARY SUPPORT
- TYPE III BARRICADE WITH ATTACHED SIGN





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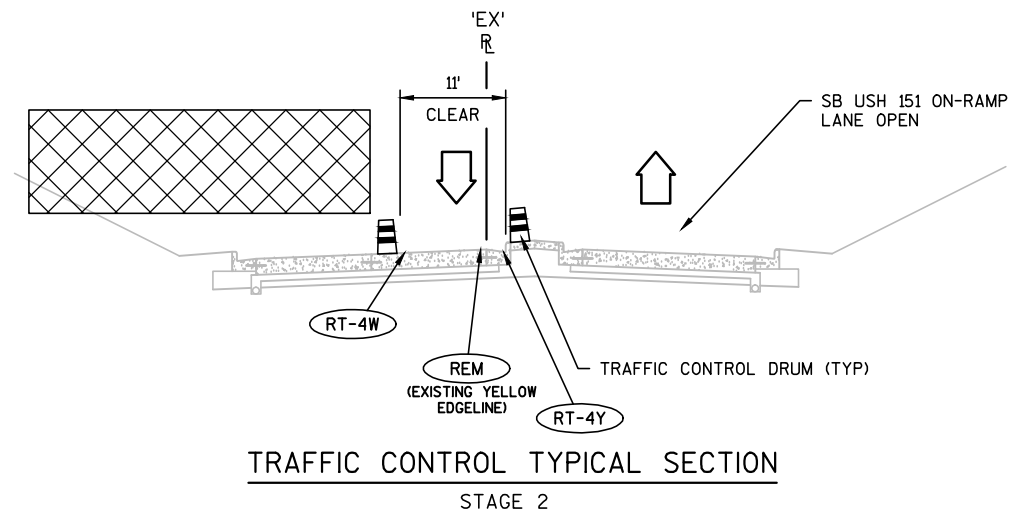
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TEMPORARY PAVEMENT MARKING

- RT-4W TEMPORARY PAVEMENT MARKING REMOVABLE TAPE 4-INCH (WHITE)
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- REM REMOVING PAVEMENT MARKINGS

TRAFFIC CONTROL SYMBOLS

	GENERAL WORK AREA		EXISTING SIGN
	TRAFFIC FLOW ARROW		TEMPORARY TRAFFIC CONTROL SIGN
	EXISTING ROADWAY		EXISTING SIGN LOCATION
	TRAFFIC CONTROL DRUMS (25' SPACING)		SIGN ON TEMPORARY SUPPORT
	TRAFFIC CONTROL DRUMS WITH LIGHTS (25' SPACING)		TYPE III BARRICADE WITH ATTACHED SIGN
	INLET PROTECTION TYPE A OR D		



Estimate Of Quantities

1111-02-63					
Line	Item	Item Description	Unit	Total	Qty
0002	213.0100	Finishing Roadway (project) 01. 1111-02-63	EACH	1.000	1.000
0004	509.1500	Concrete Surface Repair	SF	200.000	200.000
0006	517.1800.S	Structure Repainting Recycled Abrasive (structure) 01. B-13-395	LS	1.000	1.000
0008	517.1800.S	Structure Repainting Recycled Abrasive (structure) 02. B-13-396	LS	1.000	1.000
0010	517.2000.S	Painting Warranted (structure) 01. B-13-395	LS	1.000	1.000
0012	517.2000.S	Painting Warranted (structure) 02. B-13-396	LS	1.000	1.000
0014	517.4500.S	Negative Pressure Containment and Collection of Waste Materials (structure) 01. B-13-395	LS	1.000	1.000
0016	517.4500.S	Negative Pressure Containment and Collection of Waste Materials (structure) 02. B-13-396	LS	1.000	1.000
0018	517.6001.S	Portable Decontamination Facility	EACH	1.000	1.000
0020	604.9015.S	Reseal Crushed Aggregate Slope Paving	SY	1,310.000	1,310.000
0022	618.0100	Maintenance And Repair of Haul Roads (project) 01. 1111-02-63	EACH	1.000	1.000
0024	619.1000	Mobilization	EACH	1.000	1.000
0026	624.0100	Water	MGAL	1.000	1.000
0028	628.7005	Inlet Protection Type A	EACH	1.000	1.000
0030	628.7020	Inlet Protection Type D	EACH	6.000	6.000
0032	642.5201	Field Office Type C	EACH	1.000	1.000
0034	643.0100	Traffic Control (project) 01. 1111-02-63	EACH	1.000	1.000
0036	643.0300	Traffic Control Drums	DAY	6,500.000	6,500.000
0038	643.0420	Traffic Control Barricades Type III	DAY	200.000	200.000
0040	643.0705	Traffic Control Warning Lights Type A	DAY	400.000	400.000
0042	643.0715	Traffic Control Warning Lights Type C	DAY	1,200.000	1,200.000
0044	643.0800	Traffic Control Arrow Boards	DAY	368.000	368.000
0046	643.0900	Traffic Control Signs	DAY	5,000.000	5,000.000
0048	643.0920	Traffic Control Covering Signs Type II	EACH	3.000	3.000
0050	643.1050	Traffic Control Signs PCMS	DAY	44.000	44.000
0052	646.0106	Pavement Marking Epoxy 4-Inch	LF	2,080.000	2,080.000
0054	646.0600	Removing Pavement Markings	LF	1,025.000	1,025.000
0056	649.0400	Temporary Pavement Marking Removable Tape 4-Inch	LF	2,500.000	2,500.000



FINISHING ROADWAY (ID 1111-02-63)					MAINTENANCE AND REPAIR OF HAUL ROADS		MOBILIZATION		WATER	
213.0100.01					ID 1111-02-63		619.1000		624.0100	
LOCATION LS					CATEGORY EACH		CATEGORY EACH		APPLICATION MGAL	
1111-02-63					0010		0010		DUST CONTROL	
1					1		0.30		1.0	
TOTAL					TOTAL		TOTAL		TOTAL	
1					1		1.0		1.0	
INLET PROTECTION					FIELD OFFICE TYPE C		TRAFFIC CONTROL		TRAFFIC CONTROL COVERING SIGNS TYPE II	
628.7005 628.7020					642.5201		643.0100		643.0920	
STA O/S STAGE TYPE A TYPE D					CATEGORY EACH		PROJECT EACH		STAGE LOCATION TO BE COVERED EACH	
21+25 'EX' 25' LT 1 & 2					0010		1111-02-63		1 12+75'EX' RT ARROW TO MADISON	
1					0.30		1		1	
21+25 'EX' 1' RT 1 & 2					0020		TOTAL		1 15+70'EX' RT ENTIRE DOUBLE-DOWN ARROW SIGN	
1					0.35		1		1	
21+25 'EX' 9' RT 1 --					0030		TOTAL		2 (LATE) 12+75'EX' RT ARROW TO MADISON	
1					0.35		1		1	
21+25 'EX' 29' RT 1 --					TOTAL		TOTAL		TOTAL	
1					1		1		3	
21+25 'EX' 37' RT 1 1 --					TOTAL		TOTAL		TOTAL	
1					1		1		3	
21+45 'EX' 25' LT 1 & 2 --					TOTAL		TOTAL		TOTAL	
1					1		1		3	
21+45 'EX' 29' RT 1 --					TOTAL		TOTAL		TOTAL	
1					1		1		3	
TOTALS					TOTALS		TOTALS		TOTALS	
1					6		6		6	
TRAFFIC CONTROL SIGNS PCMS					643.1050		TRAFFIC CONTROL ARROW BOARDS		643.0800	
STAGE LOCATION					SERVICE NO. IN PAY		STAGE LOCATION		SERVICE NO. IN PAY	
PERIOD DAYS EACH DAY					PERIOD DAYS EACH DAY		PERIOD DAYS EACH DAY		PERIOD DAYS EACH DAY	
1 (EARLY) NB USH 151, GORES AT OFF-RAMPS TO HIGH CROSSING BLVD/AMERICAN PKWY					7 2 14		1 (EARLY) CLOSE NB USH 151 AUXILIARY & OUTSIDE THRU LANES		2 3 6	
1 (EARLY) NB USH 151, NORTH OF MERGE OF RAMP FROM NB IH 39					1 1 1		1 NB & SB USH 151 INSIDE & OUTSIDE SHOULDERS		53 4 212	
1 (EARLY) ON-RAMPS TO USH 151, APPROACHING SPLIT OF NB FROM SB					7 2 14		2 NB & SB USH 151 INSIDE & OUTSIDE SHOULDERS		36 4 144	
2 (LATE) NB USH 151, GORES AT OFF-RAMPS TO HIGH CROSSING BLVD/AMERICAN PKWY					7 2 14		2 (LATE) CLOSE NB USH 151 AUXILIARY & OUTSIDE THRU LANES		2 3 6	
2 (LATE) NB USH 151, NORTH OF MERGE OF RAMP FROM NB IH 39					1 1 1		TOTAL		368	
TOTAL					44		TOTAL		368	

ALL QUANTITIES CATEGORY 0010 UNLESS OTHERWISE NOTED

TRAFFIC CONTROL ITEMS

		643.0300 DRUMS			643.0420 BARRICADES TYPE III		643.0705 WARNING LIGHTS TYPE A		643.0715 WARNING LIGHTS TYPE C		643.0900 SIGNS	
STAGE	LOCATION	SERVICE PERIOD DAYS	NO. IN SERVICE EACH	PAY QUANTITY DAY	NO. IN SERVICE EACH	PAY QUANTITY DAY	NO. IN SERVICE EACH	PAY QUANTITY DAY	NO. IN SERVICE EACH	PAY QUANTITY DAY	NO. IN SERVICE EACH	PAY QUANTITY DAY
1 (EARLY)	CLOSE NB USH 151 OUTSIDE THRU LANE & NB OFF-RAMPS	1	70	70	4	4	8	8	30	30	12	12
1	PROJECT-WIDE	53	65	3445	2	106	4	212	10	530	65	3445
SUBTOTALS STAGE 1				3515		110		220		560		3457
2	PROJECT-WIDE	36	60	2160	1	36	2	72	10	360	35	1260
2 (LATE)	CLOSE NB USH 151 OUTSIDE THRU LANE	1	70	70	4	4	8	8	30	30	12	12
2 (LATE)	CLOSE ON-RAMP TO SB USH 151 (REMOVE PAINT EQPT)	1	5	5	1	1	2	2	--	--	15	15
SUBTOTALS STAGE 2				2235		41		82		390		1287
UNDISTRIBUTED		--	--	750	--	49	--	98	--	250	--	256
PROJECT TOTALS				6,500		200		400		1,200		5,000

REMOVING PAVEMENT MARKINGS

						646.0600
STAGE	STA	TO	STA	LOCATION	DESCRIPTION	LF
1	18+00 'EX'	-	23+00 'EX'	OFF-RAMP FROM SB USH 151	SOLID WHITE EDGELINE	500
1	24+30 'EX'	-	25+30 'EX'	OFF-RAMP FROM SB USH 151	SKIP DASH WHITE LANE LINE	25
2	18+00 'EX'	-	23+00 'EX'	OFF-RAMP FROM SB USH 151	SOLID YELLOW EDGELINE	500
TOTAL						1,025

TEMPORARY PAVEMENT MARKING REMOVABLE TAPE 4-INCH

						649.0400	
						YELLOW	WHITE
STAGE	STA	TO	STA	LOCATION	DESCRIPTION	LF	
1	18+00 'EX'	-	25+50 'EX'	ON-RAMP	SOLID YELLOW EDGELINE	750	--
1	18+00 'EX'	-	23+00 'EX'	OFF-RAMP	SOLID WHITE EDGELINE	--	500
2	18+00 'EX'	-	25+50 'EX'	ON-RAMP	SOLID WHITE EDGELINE	--	750
2	18+00 'ON'	-	23+00 'EX'	ON-RAMP	SOLID YELLOW EDGELINE	500	--
SUBTOTALS						1,250	1,250
TOTAL						2,500	

PAVEMENT MARKING EPOXY 4-INCH

						646.0106		
						YELLOW EDGELINE	WHITE LANE LINE	WHITE EDGELINE
STAGE	STA	TO	STA	O/S	LOCATION	LF	LF	LF
2	19+00 'EX'	-	21+00 'EX'	RT	ON-RAMP	200	--	200
2	18+00 'EX'	-	25+40 'EX'	RL & LT	OFF-RAMP	740	--	740
2	18+00 'EX'	-	25+40 'EX'	LT	OFF-RAMP	--	200	--
SUBTOTALS						940	200	940
TOTAL						2,080		

ALL QUANTITIES CATEGORY 0010 UNLESS OTHERWISE NOTED



Standard Detail Drawing List

08E10-02	INLET PROTECTION TYPE A, B, C AND D
15C02-06A	BARRICADES AND SIGNS FOR MAINLINE CLOSURES
15C02-06B	BARRICADES AND SIGNS FOR MAINLINE CLOSURES
15C02-06C	DETOUR SIGNING FOR MAINLINE CLOSURES
15C08-17A	LONGITUDINAL MARKING (MAINLINE)
15C12-05	TRAFFIC CONTROL FOR LANE CLOSURE WITH FLAGGING OPERATION
15C19-04C	MOVING PAVEMENT MARKING OPERATION MULTI-LANE DIVIDED ROADWAY
15D14-03	TRAFFIC CONTROL, TWO LANE CLOSURE ON FREEWAY OR EXPRESSWAY, SHORT-TERM (LESS THAN 24 HOURS)
15D16-03	TRAFFIC CONTROL, EXIT RAMP CLOSURE
15D27-03	TRAFFIC CONTROL, SHOULDER CLOSURE ON DIVIDED ROADWAY, SPEEDS GREATER THAN 40 MPH
15D29-04	TRAFFIC CONTROL, VEHICLE ENTRANCE/EXIT OR HAUL ROAD
15D38-01A	TEMPORARY TRAFFIC CONTROL FIXED MESSAGE SIGNS
15D38-01B	ATTACHMENT OF SIGNS TO POSTS





**INLET PROTECTION, TYPE A**

**GENERAL NOTES**

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

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

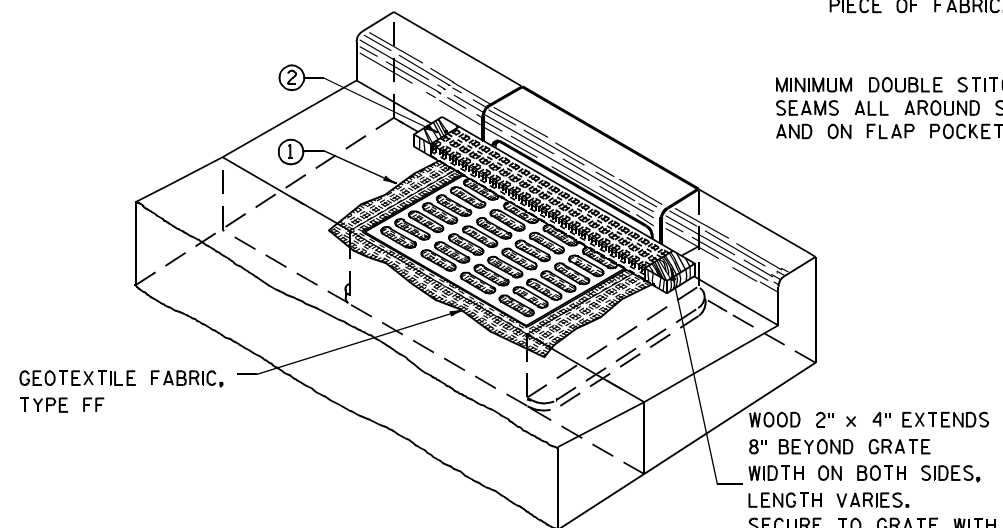
WHEN REMOVING OR MAINTAINING INLET PROTECTION, CARE SHALL BE TAKEN SO THAT THE SEDIMENT TRAPPED ON THE GEOTEXTILE FABRIC DOES NOT FALL INTO THE INLET. ANY MATERIAL FALLING INTO THE INLET SHALL BE REMOVED IMMEDIATELY.

- ① FINISHED SIZE, INCLUDING FLAP POCKETS WHERE REQUIRED, SHALL EXTEND A MINIMUM OF 10" AROUND THE PERIMETER TO FACILITATE MAINTENANCE OR REMOVAL.
- ② FOR INLET PROTECTION, TYPE C (WITH CURB BOX), AN ADDITIONAL 18" OF FABRIC IS WRAPPED AROUND THE WOOD AND SECURED WITH STAPLES. THE WOOD SHALL NOT BLOCK THE ENTIRE HEIGHT OF THE CURB BOX OPENING.
- ③ FLAP POCKETS SHALL BE LARGE ENOUGH TO ACCEPT WOOD 2X4.



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

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



**INLET PROTECTION, TYPE C (WITH CURB BOX)**

**INSTALLATION NOTES**

**TYPE B & C**

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

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

**TYPE D**

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

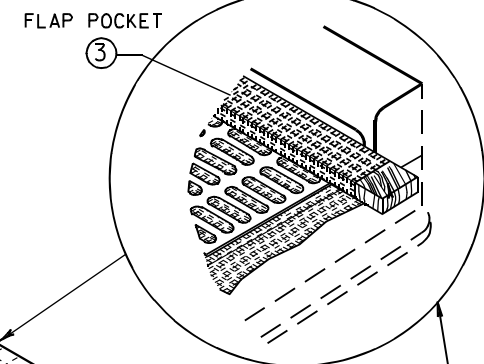
TRIM EXCESS FABRIC IN THE FLOW LINE TO WITHIN 3" OF THE GRATE.

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



**INLET PROTECTION, TYPE D**

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



USE REBAR OR STEEL ROD FOR REMOVAL OR  
FOR INLETS WITH CAST CURB BOX USE WOOD 2" X 4", EXTEND 10" BEYOND GRATE WIDTH ON BOTH SIDES, LENGTH VARIES. SECURE TO GRATE WITH WIRE OR PLASTIC TIES

4" X 6" OVAL HOLE SHALL BE HEAT CUT INTO ALL FOUR SIDE PANELS.

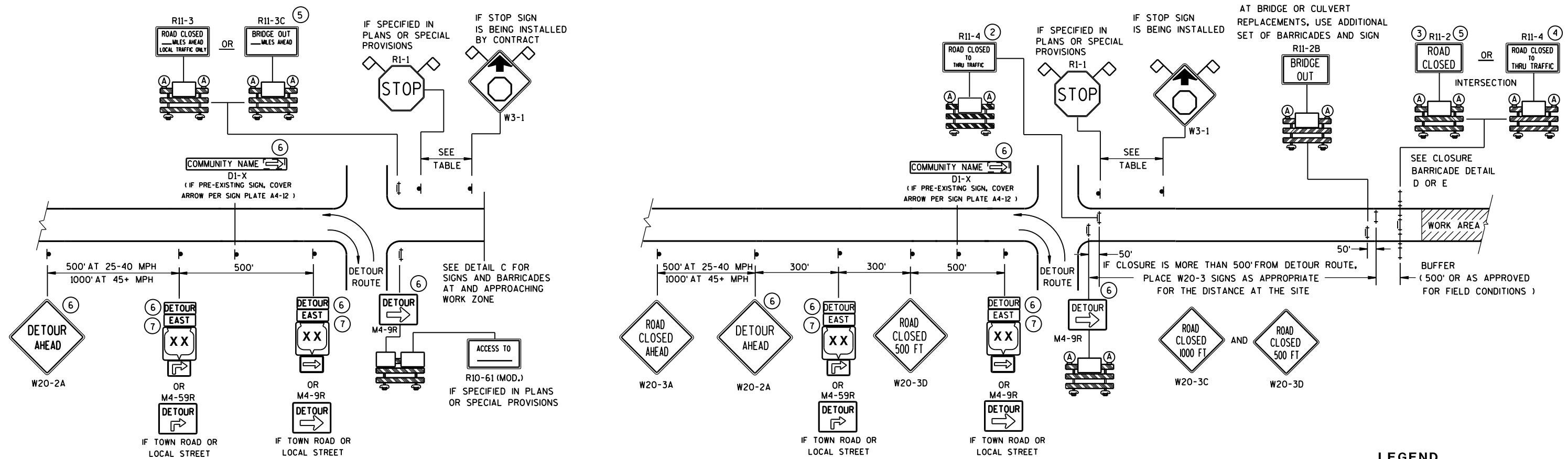
MINIMUM DOUBLE STITCHED SEAMS ALL AROUND SIDE PIECES AND ON FLAP POCKETS.

WOOD 2" X 4" EXTENDS 8" BEYOND GRATE WIDTH ON BOTH SIDES, LENGTH VARIES. SECURE TO GRATE WITH WIRE OR PLASTIC TIES

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

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

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



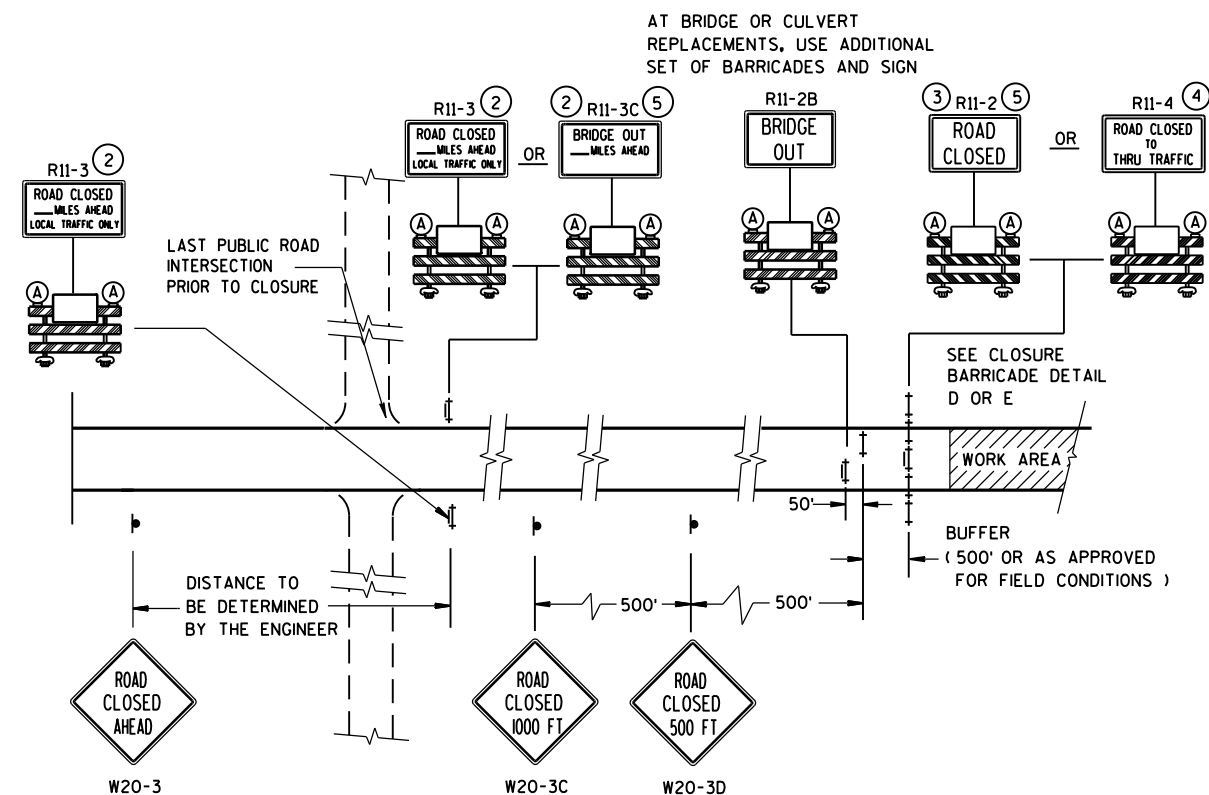
DETAIL A

**MAINLINE CLOSURE WITH POSTED DETOUR**

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
















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



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

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

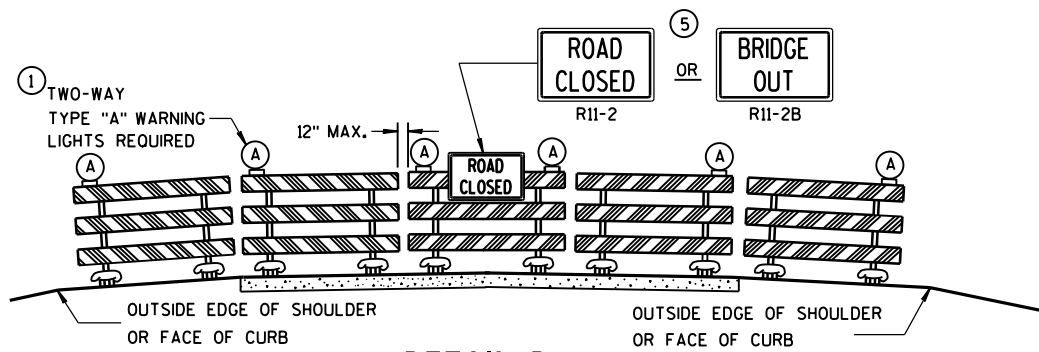
- # LEGEND
-  SIGN ON PERMANENT SUPPORT
-  TYPE III BARRICADE
-  TYPE III BARRICADE WITH ATTACHED SIGN
-  TYPE "A" WARNING LIGHT (FLASHING)
-  WORK AREA
-  M4-8
-  M3-X
-  M1-4
- OR
-  M1-5A
- OR
-  M1-6
-  M05-1
- OR
-  M06-1
-  FLAGS, 16" X 16" MIN., (ORANGE)

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

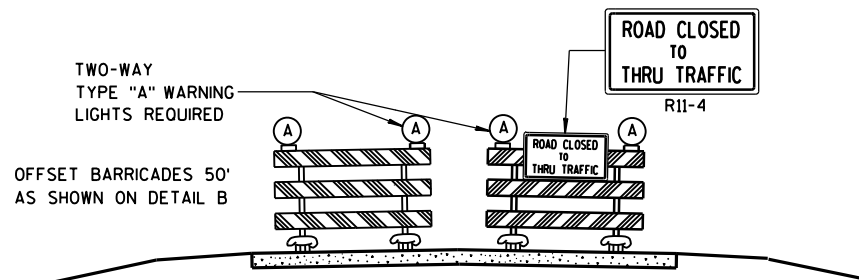
## BARRICADES AND SIGNS FOR MAINLINE CLOSURES

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

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



DETAIL D  
ROAD CLOSURE BARRICADE DETAIL  
APPROACH VIEW



DETAIL E  
LANE CLOSURE BARRICADE DETAIL  
APPROACH VIEW

SEE SDD 15C2-SHEET "a" FOR LEGEND

## GENERAL NOTES

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

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

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

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

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

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

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

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

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

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

R11-2 SHALL BE 48" X 30".

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

M4-9 SHALL BE 30" X 24".

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

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

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

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

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

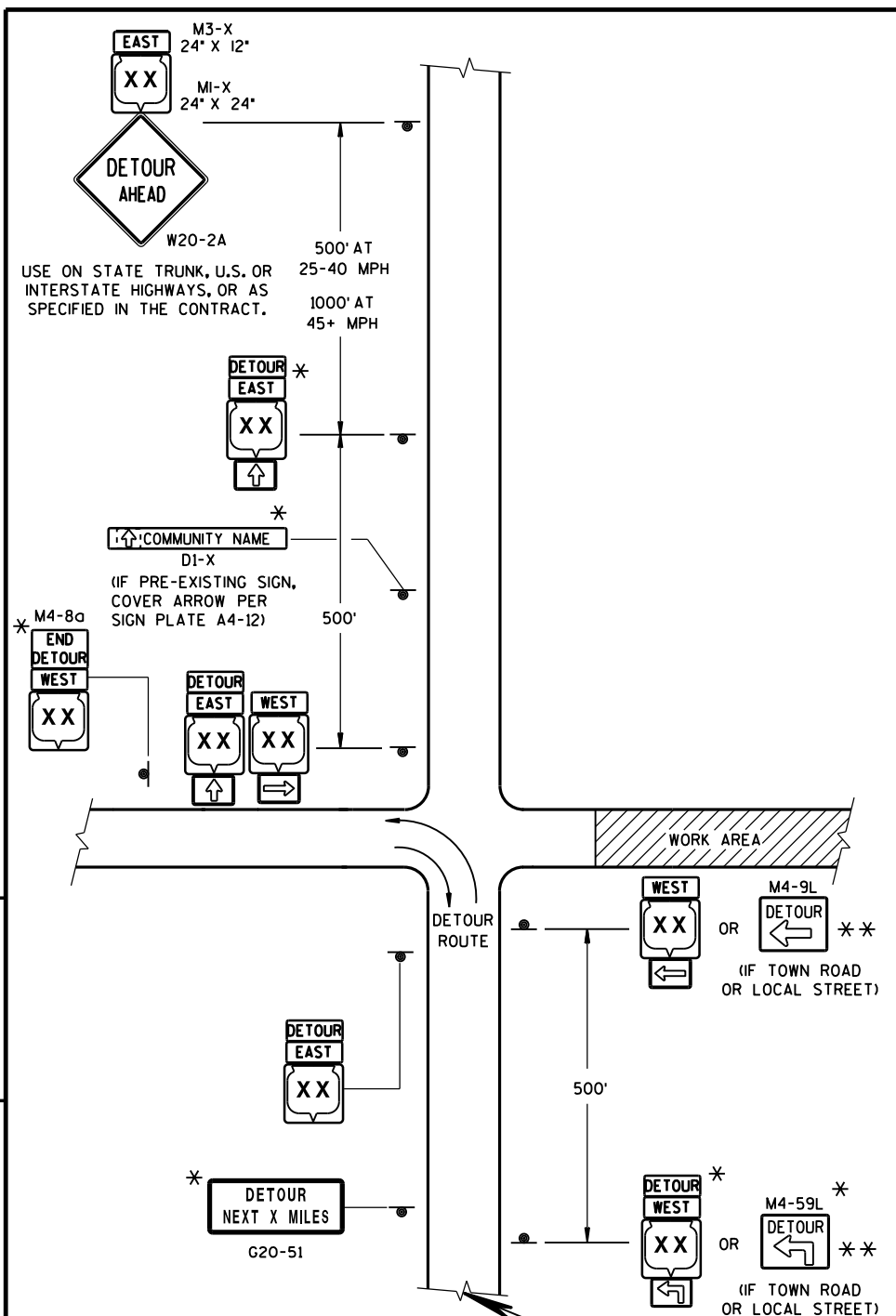
R1-1 SHALL BE 36" X 36".

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

## BARRICADES AND SIGNS FOR MAINLINE CLOSURES

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

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



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

MATCH POINT

DETAIL F  
DETOUR SIGNING

GENERAL NOTES

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

IF THERE ARE EXISTING ROUTE MARKER ASSEMBLIES THAT WILL REMAIN IN PLACE, ADJUST THE LOCATION OF THE DETOUR ROUTE SIGNS TO CORRESPOND WITH THE EXISTING ASSEMBLIES. SEE SPECIFIC PROJECT DETOUR SIGNING DETAIL SHEETS, MODIFY EXISTING SIGNS WHERE POSSIBLE.

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

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

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

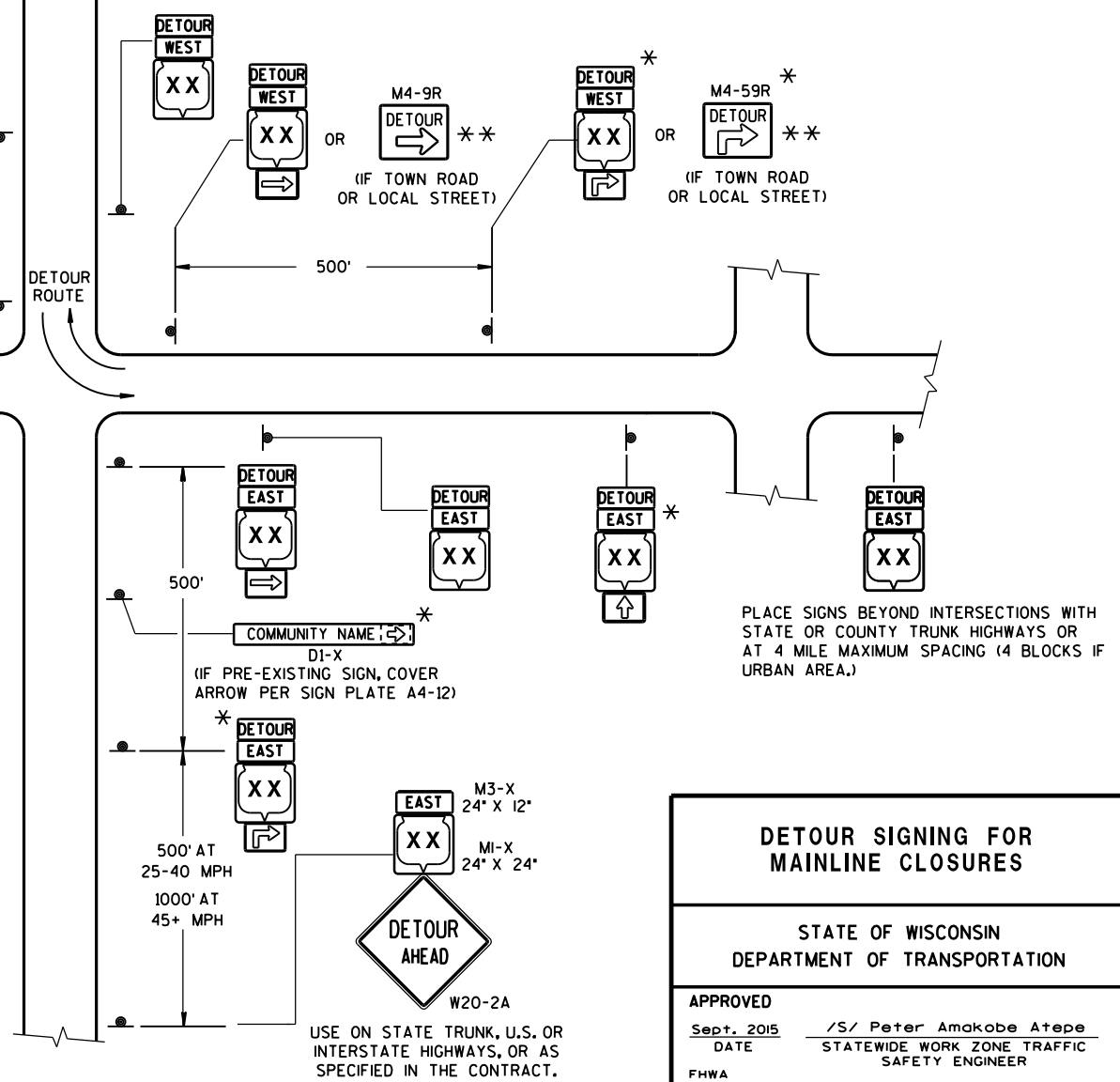
"MO" SIGNS ARE THE SAME AS "M" SIGNS EXCEPT THE BACKGROUND IS ORANGE.

SIGN SIZES SHALL BE AS FOLLOWS:

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

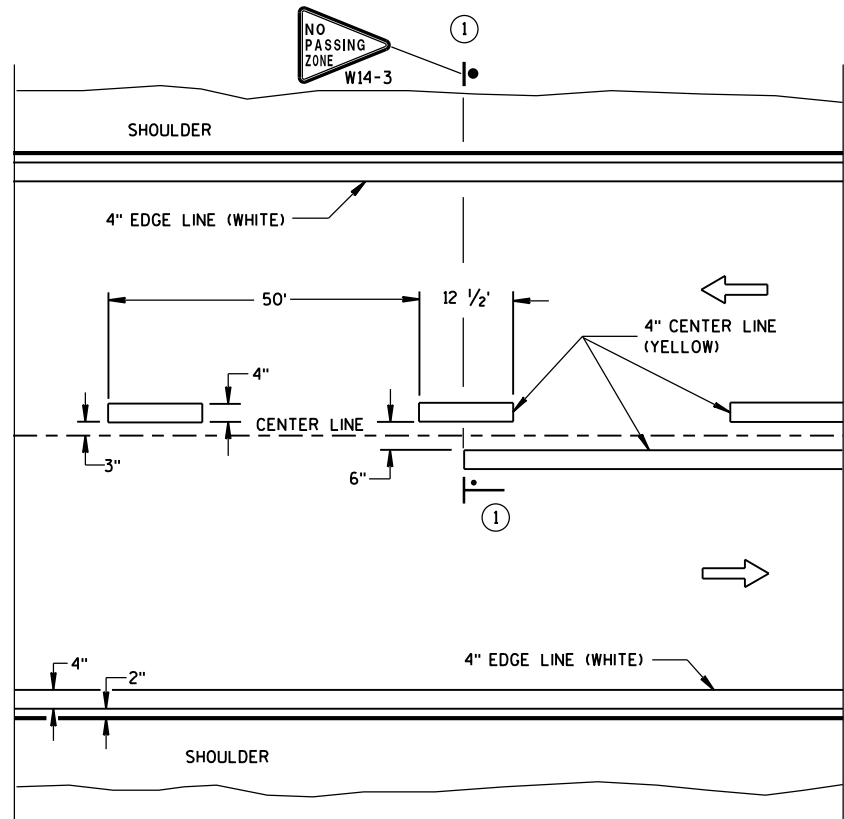
\* OPTIONAL SIGNS. SEE SPECIFIC PROJECT DETOUR SIGNING DETAIL SHEETS.

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

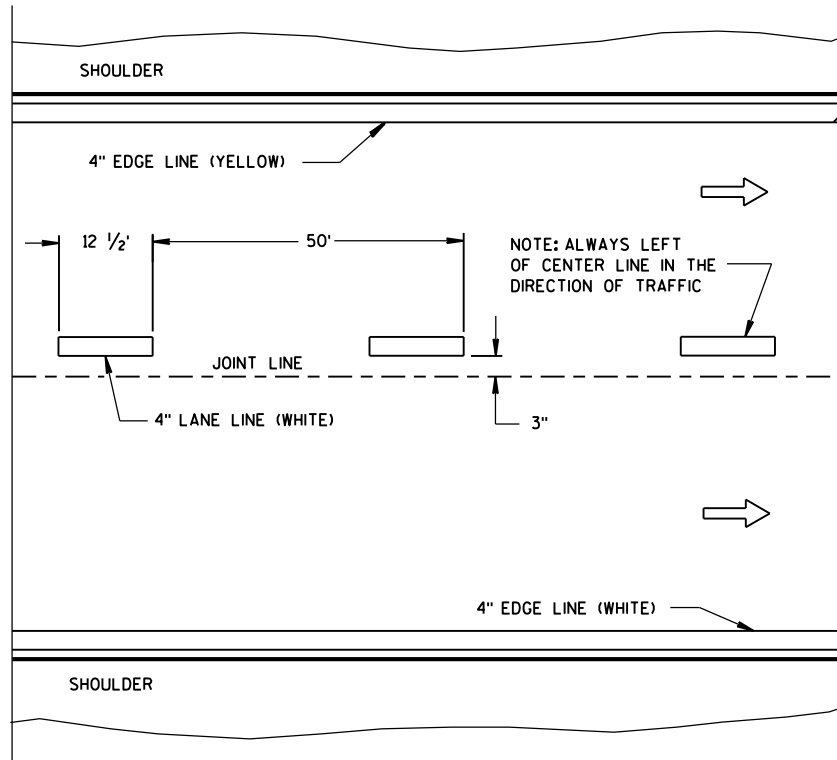


DETOUR SIGNING FOR MAINLINE CLOSURES	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED DATE	/S/ Peter Amakobe Atepe STATEWIDE WORK ZONE TRAFFIC SAFETY ENGINEER
FHWA	



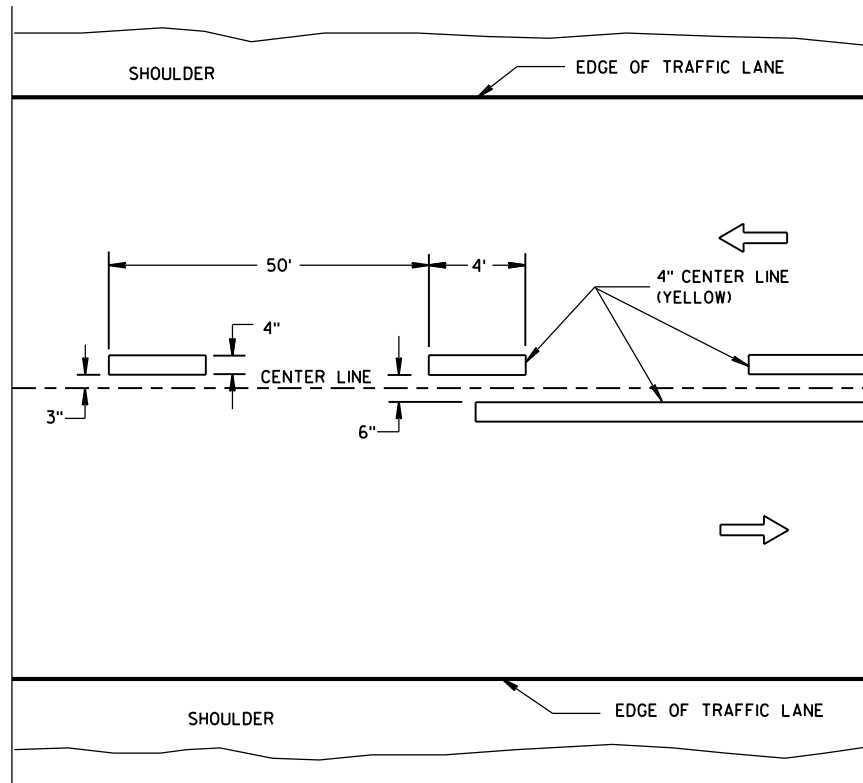


TWO WAY TRAFFIC

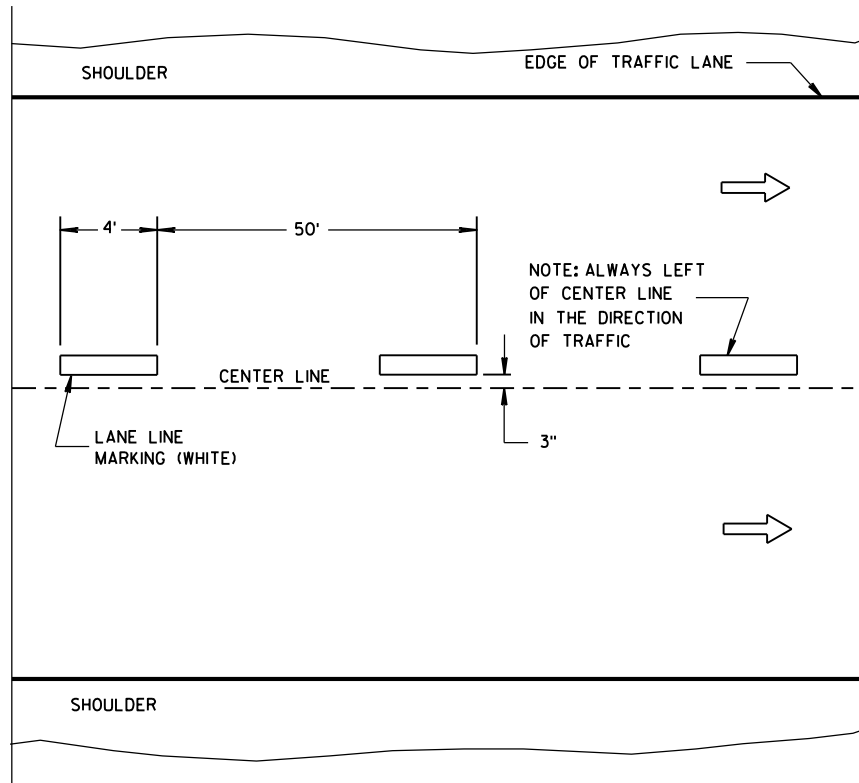


ONE WAY TRAFFIC

PERMANENT PAVEMENT MARKING



TWO WAY TRAFFIC



ONE WAY TRAFFIC

TEMPORARY PAVEMENT MARKING

GENERAL NOTES

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

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

NOTE

ARROW SYMBOL ( → ) SHOWS DIRECTION OF TRAVEL

LEGEND

—●— "T" MARKING

● POST MOUNTED SIGN

LONGITUDINAL MARKING  
(MAINLINE)

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

APPROVED  
Sept., 2016 /S/ Matthew R. Rauch  
DATE STATE SIGNING AND MARKING ENGINEER  
FHWA

LEGEND

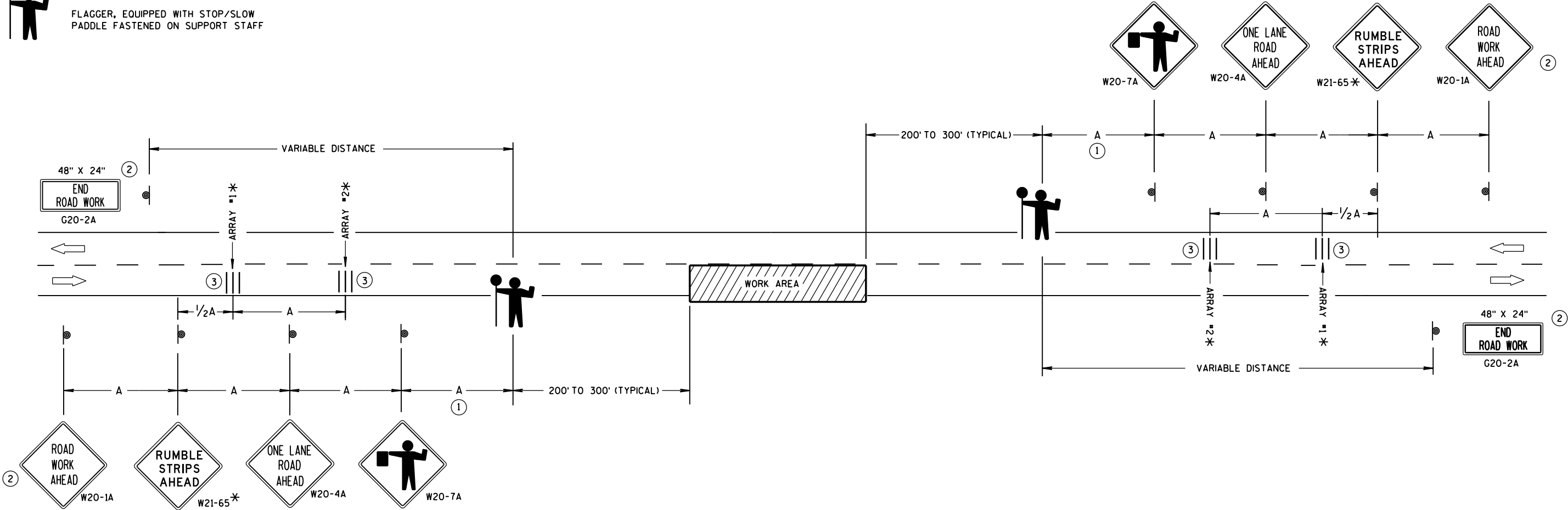
- SIGN ON PORTABLE OR PERMANENT SUPPORT
- DIRECTION OF TRAFFIC
- WORK AREA
- FLAGGER, EQUIPPED WITH STOP/SLOW PADDLE FASTENED ON SUPPORT STAFF

SIGN AND TEMPORARY RUMBLE STRIP ARRAY SPACING TABLE

SPEED LIMIT	SPACING A
25-35 MPH	200'
35-40 MPH	350'
45-55 MPH	500'



USE OF THE "BE PREPARED TO STOP" SIGN IS OPTIONAL. WHEN USED, THIS SIGN SHALL BE LOCATED BETWEEN THE W20-7A AND W20-4A SIGNS, USING SPACING A.



TRAFFIC CONTROL FOR LANE CLOSURE WITH FLAGGING OPERATION

GENERAL NOTES

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

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

THE FIRST ADVANCE WARNING SIGN SHOULD TYPICALLY BE LOCATED IN ADVANCE OF THE ANTICIPATED TRAFFIC BACKUP OR QUEUE.

"W0" SIGNS ARE THE SAME AS "W" SIGNS EXCEPT THE BACKGROUND IS ORANGE.

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

INSTALL TEMPORARY RUMBLE STRIPS PER MANUFACTURER'S RECOMMENDATIONS. PLACE ADVANCE SIGNING PRIOR TO INSTALLING TEMPORARY RUMBLE STRIPS.

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

FLAGGERS SHALL BE IN SIGHT OF EACH OTHER OR IN DIRECT COMMUNICATION AT ALL TIMES. THEY SHALL BE EQUIPPED WITH STOP/SLOW PADDLES FASTENED ON SUPPORT STAFFS. WHEN THE FLAGGING OPERATION IS NOT IN EFFECT, REMOVE TEMPORARY RUMBLE STRIPS PRIOR TO COVERING OR REMOVING ALL ADVANCE SIGNING.

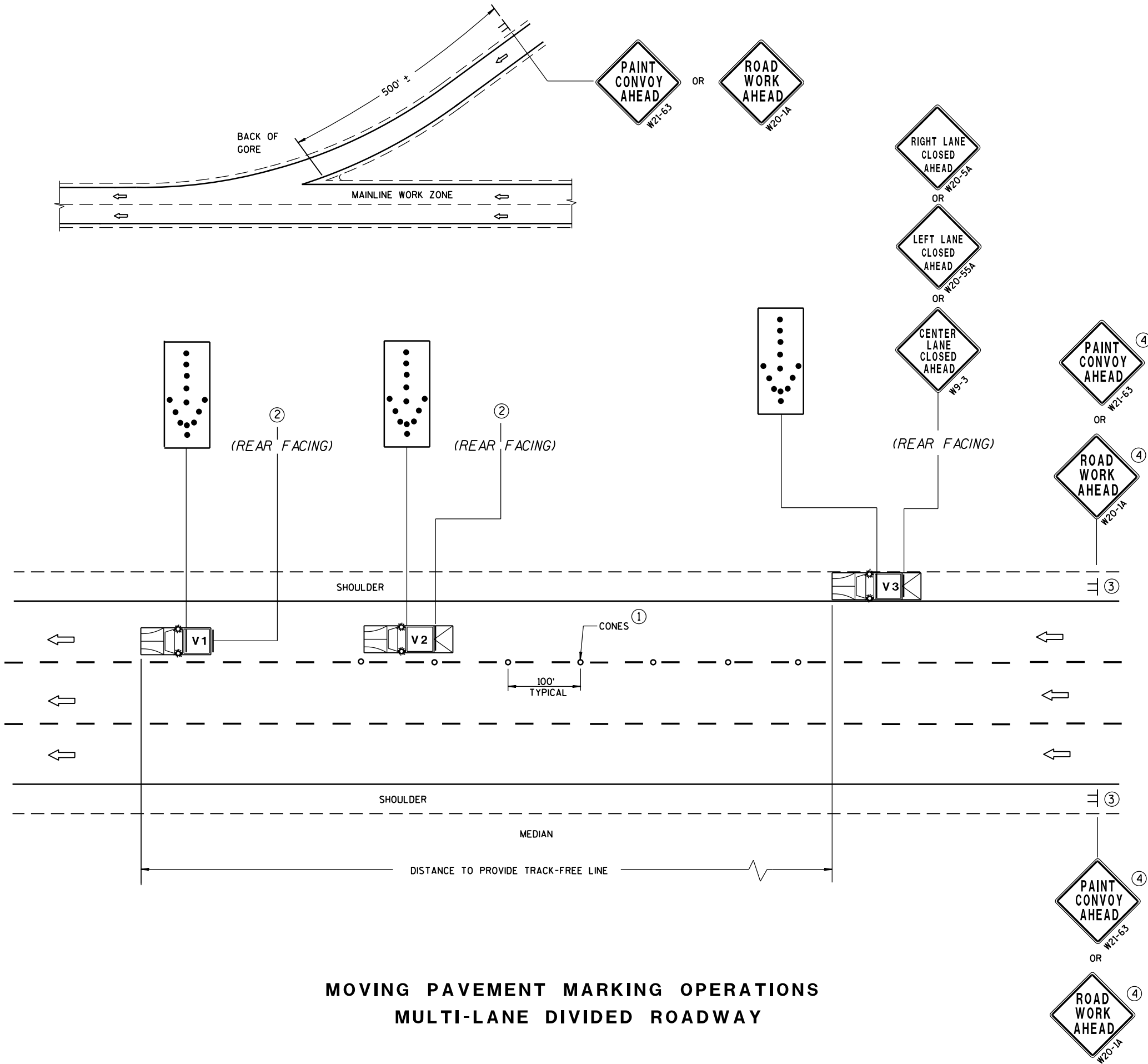
\* UTILIZE TEMPORARY RUMBLE STRIPS WHEN FLAGGING OPERATION IS ANTICIPATED TO BE STATIONARY IN EXCESS OF TWO HOURS.

- FOR A MOVING WORK OPERATION, SIGNING AND TEMPORARY RUMBLE STRIPS (IF USED) SHALL BE REESTABLISHED (AS SIMULTANEOUSLY AS PRACTICAL) AT APPROXIMATELY 3,500 FOOT INTERVALS IN THE MOVING WORK OPERATION OR AS APPROVED BY THE ENGINEER.
- SIGN NOT REQUIRED IF FLAGGING OPERATION OCCURS WITHIN A SIGNED ROAD WORK ZONE AREA.
- EACH TEMPORARY RUMBLE STRIP ARRAY CONSISTS OF THREE RUMBLE STRIPS SPACED ACCORDING TO MANUFACTURER'S RECOMMENDATION, PLACED TRANSVERSE ACROSS THE LANE AT LOCATIONS SHOWN.

TRAFFIC CONTROL FOR LANE CLOSURE WITH FLAGGING OPERATION

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

APPROVED  
December, 2016 /S/ Andrew Heldtke  
DATE WORK ZONE ENGINEER  
FHWA



GENERAL NOTES

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

ALL VEHICLES SHALL BE EQUIPPED WITH REAR FACING TYPE B OR C FLASHING ARROW PANEL. SIGNS PLACED ON VEHICLES MUST NOT OBSCURE THE ARROW PANEL.

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

IF SPEED LIMIT IS 40 MPH OR LESS STATIONARY SIGNS MAY BE OMITTED IF CONES ARE USED.

ALTERNATE SIGN MESSAGES, SUCH AS "PAINT CREW AHEAD" OR "ROAD PAINTING AHEAD" MAY BE USED.

DISTANCE BETWEEN VEHICLES MAY VARY ACCORDING TO TERRAIN, SIGHT DISTANCE, PAINT DRYING TIME, AND OTHER FACTORS. WHENEVER ADEQUATE STOPPING SIGHT DISTANCE EXISTS TO THE REAR, SHADOW VEHICLES SHOULD MAINTAIN THE MINIMUM DISTANCE FROM THE WORK VEHICLE AND PROCEED AT THE SAME SPEED AS THE WORK VEHICLE. SHADOW VEHICLES SHOULD SLOW DOWN IN ADVANCE OF VERTICAL OR HORIZONTAL CURVES THAT RESTRICT SIGHT DISTANCE.

WHEN WORK ACTIVITY BLOCKS THE LEFT LANE, REVERSE TRAFFIC CONTROL.

WHEN A RAMP INTERSECTS THE FACILITY ON WHICH THE WORK IS BEING PERFORMED, PROVIDE ADDITIONAL TRAFFIC CONTROLS AS SPECIFIED IN THE CONTRACT OR AS APPROVED BY THE ENGINEER.

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

FOR EDGE LINE MARKING OR IF CONES ARE NOT USED, POSITION THE REARMOST SHADOW VEHICLE ON THE SHOULDER AS SHOWN IN THE MUTCD IF THE SHOULDER HAS ADEQUATE WIDTH. USE DOUBLE ARROWS WHEN CONVOY IS IN CENTER LANE ONLY.

WHEN NO WORK ACTIVITY IS TAKING PLACE, REMOVE OR TURN THE STATIONARY WARNING SIGNS AWAY FROM TRAFFIC.

THIS DRAWING SHALL BE USED FOR EDGE LINE OR LANELINE MARKING FOR MULTILANE DIVIDED ROADWAYS.

- ① CONES MAY BE OMITTED ON PAINTED LINE IF APPROVED BY THE ENGINEER. CONSIDER PAVEMENT MARKING DRY OR CURE TIMES AND TRAFFIC VOLUME.
- ② USE STANDARD SIGN W21-64 WITH APPROPRIATE ARROW.
- ③ SIGNS SHALL BE REPEATED AFTER EVERY ON RAMP OR EVERY THREE MILES.
- ④ IF CONSTRUCTION WORK ZONE SIGNS ARE IN PLACE, W20-1 OR W21-63 ARE NOT REQUIRED.

LEGEND









- V1 LEAD VEHICLE
- V2 SHADOW VEHICLE
- V3 TRAIL VEHICLE WITH TMA
- TMA TRUCK-MOUNTED ATTENUATOR
- SIGN ON TEMPORARY SUPPORT
- DIRECTION OF TRAFFIC
- CONES
- FLASHING ARROW PANEL (MERGE)

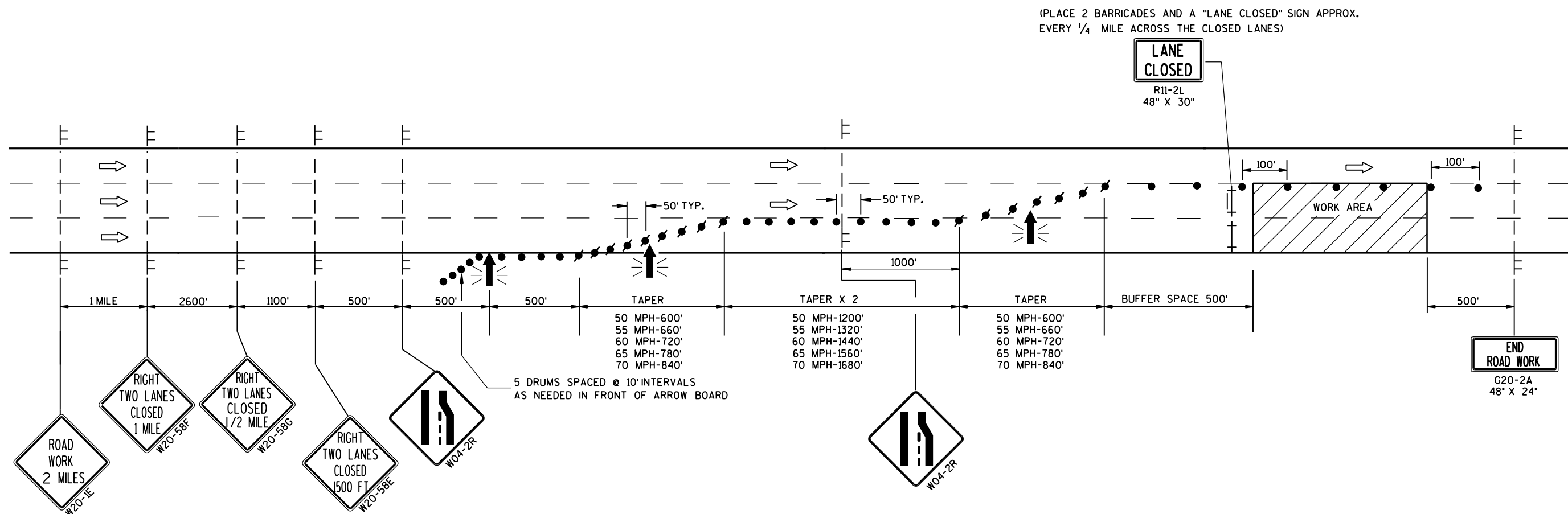
MOVING PAVEMENT MARKING OPERATION MULTI-LANE DIVIDED ROADWAY

STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION

APPROVED June 2016 /S/ Peter Amakobe Atepe  
DATE STATEWIDE WORK ZONE TRAFFIC SAFETY ENGINEER  
FHWA

### LEGEND

-  TYPE III BARRICADE
-  TYPE III BARRICADE WITH ATTACHED SIGN
-  SIGN ON TEMPORARY SUPPORT
-  TRAFFIC CONTROL DRUM WITH TYPE "C" STEADY BURN LIGHT
-  TRAFFIC CONTROL DRUM
-  FLASHING ARROW BOARD
-  DIRECTION OF TRAFFIC
-  WORK AREA



### GENERAL NOTES

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

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

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

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

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

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

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

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

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

BARRICADES IN A CLOSED LANE 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.

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.

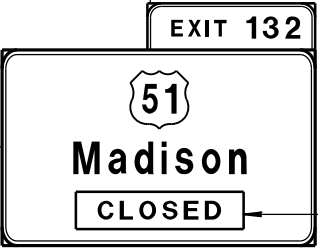
<b>TRAFFIC CONTROL. TWO LANE CLOSURE ON FREEWAY OR EXPRESSWAY, SHORT TERM (LESS THAN 24 HOURS)</b>	
<b>STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION</b>	
<b>APPROVED</b> July 14, 2015 DATE	/S/ Peter Amakobe Atepe STATEWIDE WORK ZONE TRAFFIC SAFETY ENGINEER
FHWA	





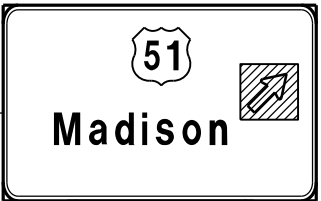
G20-60  
108"x24"

OR



G20-60  
108"x24"

PLACE SIGN G20-60 OVER MILEAGE  
ON EXISTING E1-1A SIGN



COVER ARROW ON  
EXISTING E4-1A  
SIGN (COVERING  
SIGNS TYPE I)

G20-61  
120"x30"

## GENERAL NOTES

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

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

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

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

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

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

PLACE TEMPORARY PAVEMENT MARKING, REMOVABLE TAPE IF RAMP CLOSURE IS TO BE IN PLACE FOR 4 OR MORE CONTINUOUS DAYS AND NIGHTS.

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

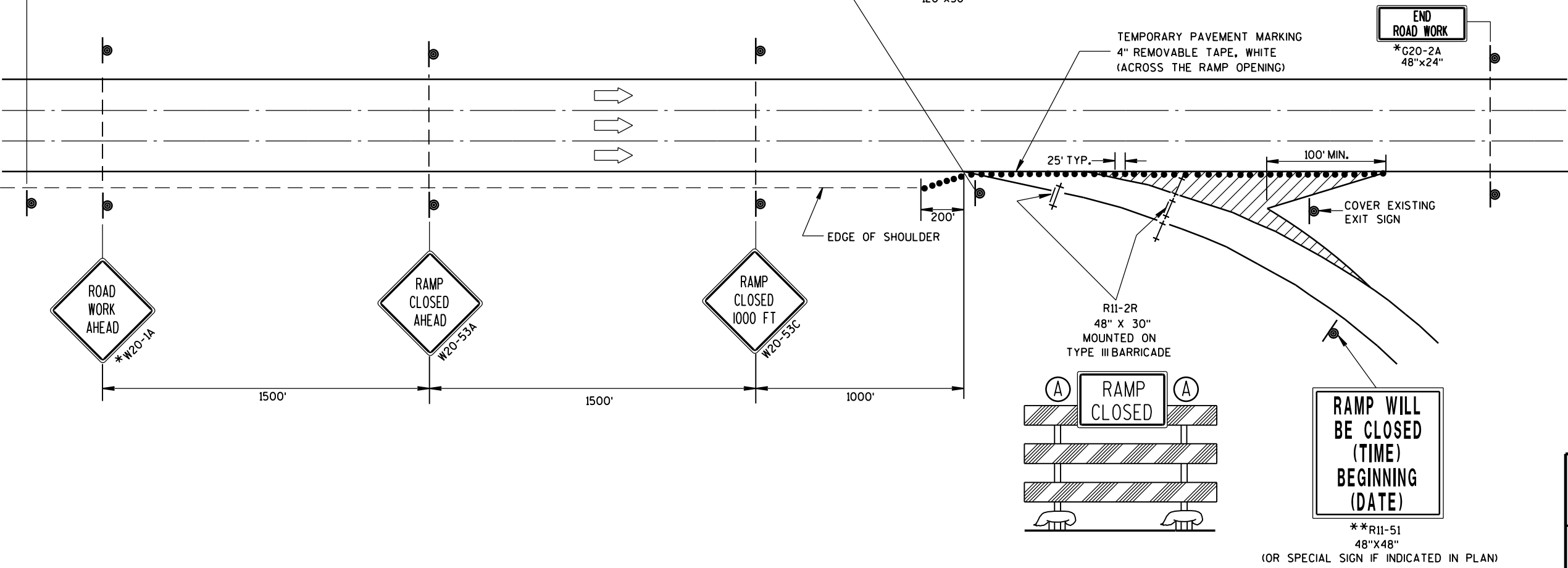
WHERE MEDIAN BARRIER IS IN PLACE, SIGNS SHOWN ON LEFT SIDE OF ROADWAY MAY BE OMITTED FOR RIGHT SIDE RAMP CLOSURES OF LESS THAN 12-HOUR DURATION.

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

\*\* PLACE "RAMP WILL BE CLOSED" SIGN 7 CALENDAR DAYS PRIOR TO CLOSURE OR AS DIRECTED BY THE ENGINEER. SEE WISCONSIN STANDARD SIGN PLATES FOR SIGN LAYOUT.

6

6



## LEGEND

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

## TRAFFIC CONTROL, EXIT RAMP CLOSURE

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

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

S.D.D. 15 D 16-3

S.D.D. 15 D 16-3

LEGEND

- TRAFFIC CONTROL DRUM
- ⦿ SIGN ON PERMANENT SUPPORT
- ➡ DIRECTION OF TRAFFIC
- ⚡➡ FLASHING ARROW BOARD
- ▨ WORK AREA

GENERAL NOTES

THIS DETAIL IS TYPICAL FOR CLOSING THE RIGHT SHOULDER. FOR CLOSING THE LEFT SHOULDER, REVERSE THE TRAFFIC CONTROL.

THIS DETAIL MAY BE USED FOR DIVIDED ROADWAYS WITH ANY NUMBER OF TRAVEL LANES.

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

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

SIGN LAYOUTS SHALL BE IN ACCORDANCE WITH THE FHWA'S MANUAL OF STANDARD HIGHWAY SIGNS OR THE WISCONSIN STANDARD SIGN PLATES.

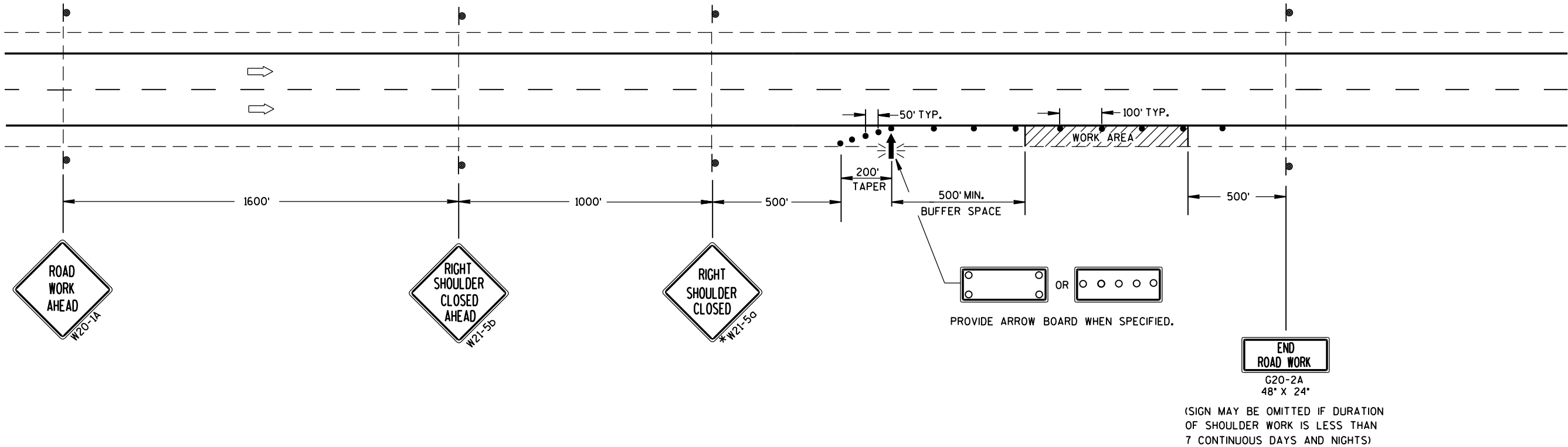
SIGNS THAT WILL BE IN PLACE LESS THAN 7 CONTINUOUS DAYS AND NIGHTS MAY BE MOUNTED ON PORTABLE SUPPORTS.

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

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

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

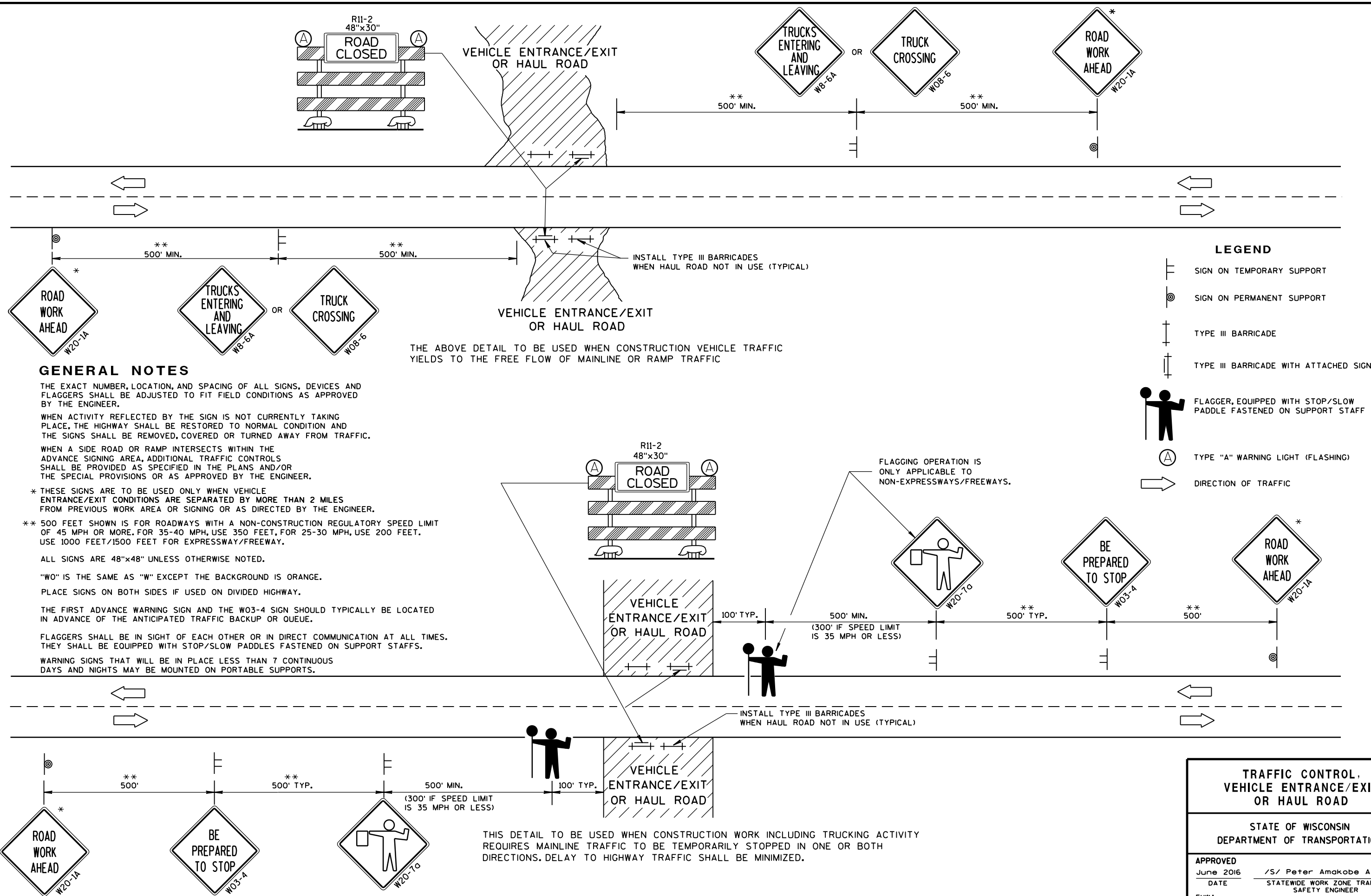
\*FOR SHORT DURATION SHOULDER WORK OF LESS THAN ONE HOUR, THE W21-5a SIGN MAY BE OMITTED.



TRAFFIC CONTROL  
SHOULDER CLOSURE ON DIVIDED  
ROADWAY, SPEEDS GREATER  
THAN 40 MPH

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

APPROVED  
June 2016 /S/ Peter Amakobe Atepe  
DATE STATEWIDE WORK ZONE TRAFFIC  
FHWA SAFETY ENGINEER

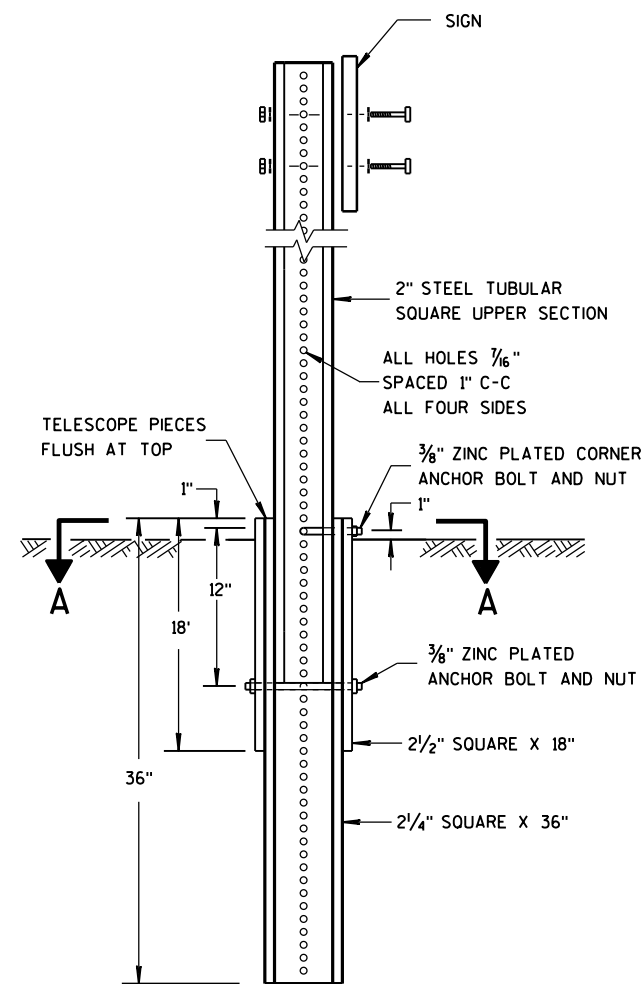


# TRAFFIC CONTROL, VEHICLE ENTRANCE/EXIT OR HAUL ROAD

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

APPROVED  
June 2016  
DATE  
FHWA

/S/ Peter Amakobe Atepe  
STATEWIDE WORK ZONE TRAFFIC  
SAFETY ENGINEER



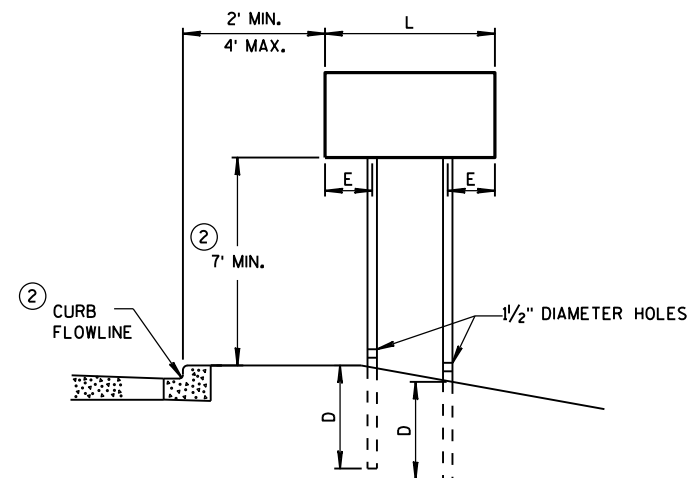
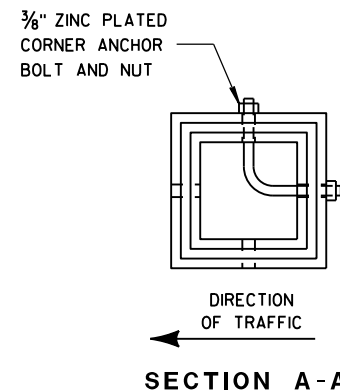
DETAIL OF TUBULAR STEEL SIGN POST

TUBULAR STEEL POSTS

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

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

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

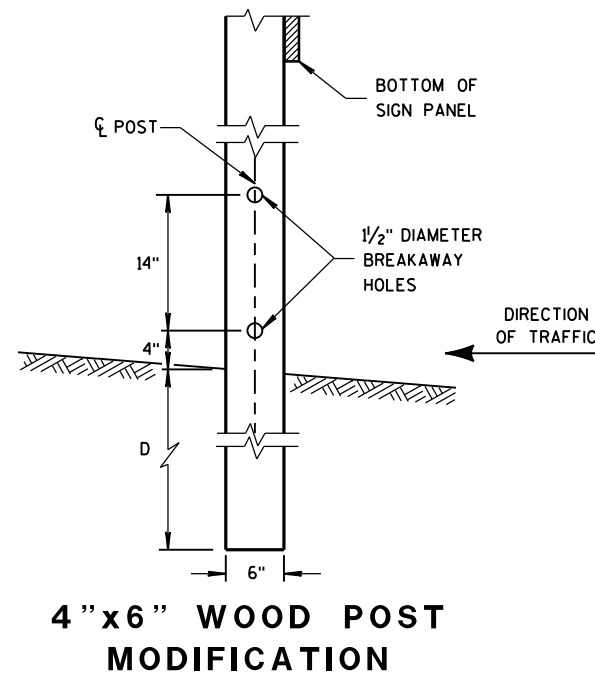


URBAN AREA

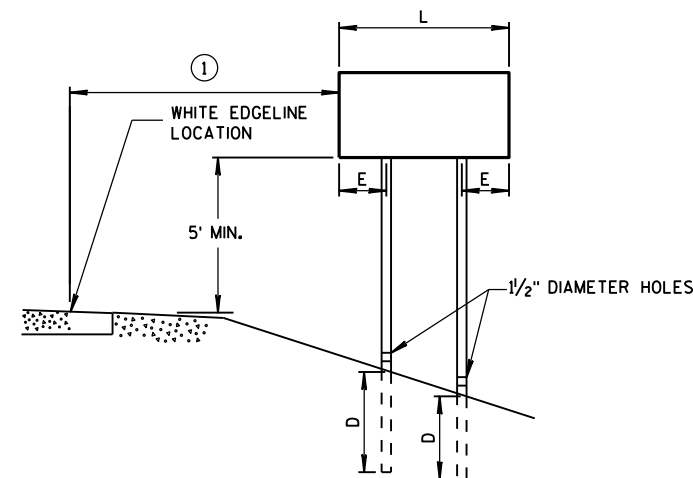
POST MOUNTING DETAIL FOR TEMPORARY TRAFFIC CONTROL FIXED MESSAGE SIGNS

WOOD POST EMBEDMENT DEPTH

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



4"x6" WOOD POST MODIFICATION



RURAL AREA

4" X 6" WOOD POST

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

SEE NOTE ③

GENERAL NOTES

- ① 6 FEET FROM THE EDGE OF PAVEMENT (EDGE LINE LOCATION) UNLESS OTHERWISE DIRECTED BY THE PROJECT ENGINEER. LATERAL OFFSET SHOULD BE ADJUSTED TO AVOID THE DITCH FLOWLINE.
- ② THE EXISTENCE OF CURB AND GUTTER DOES NOT IN ITSELF MANDATE THE VERTICAL CLEARANCE ILLUSTRATED. THAT HEIGHT IS TYPICALLY MEASURED WHERE THERE IS SIDEWALK ADJACENT TO THE ROADWAY OR PARKING IS PERMITTED. IN THE ABSENCE OF SIDEWALK, VERTICAL CLEARANCE IS MEASURED FROM THE TOP OF THE CURB. IF NO SIDEWALK AND NO PARKING, VERTICAL CLEARANCE MAY BE REDUCED TO 5 FOOT MINIMUM. OFFSET OF SIGNS IS MEASURED FROM THE CURB FLOWLINE.
- ③ FOR SIGNS REQUIRING 4 POSTS, SPACE INTERMEDIATE POSTS EVENLY.

TEMPORARY TRAFFIC CONTROL  
FIXED MESSAGE SIGNS

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION





NUTS, BOLTS AND LAGS USED FOR MOUNTING SIGNS  
SHALL HAVE HEXAGONAL HEADS AND SHALL BE EITHER:

- A. HOT DIP GALVANIZED IN ACCORDANCE WITH ASTM  
DESIGNATION: A 153, CLASS D, OR SC 3
- B. ELECTRO-GALVANIZED IN ACCORDANCE WITH ASTM  
DESIGNATION: B 633, TYPE III, SC 3

THREADS ON BOLTS AND NUTS SHALL BE MANUFACTURED WITH  
SUFFICIENT ALLOWANCE FOR THE CADMIUM PLATE OR GALVANIZED  
COATING TO PERMIT THE NUTS TO RUN FREELY ON THE BOLTS.

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

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

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

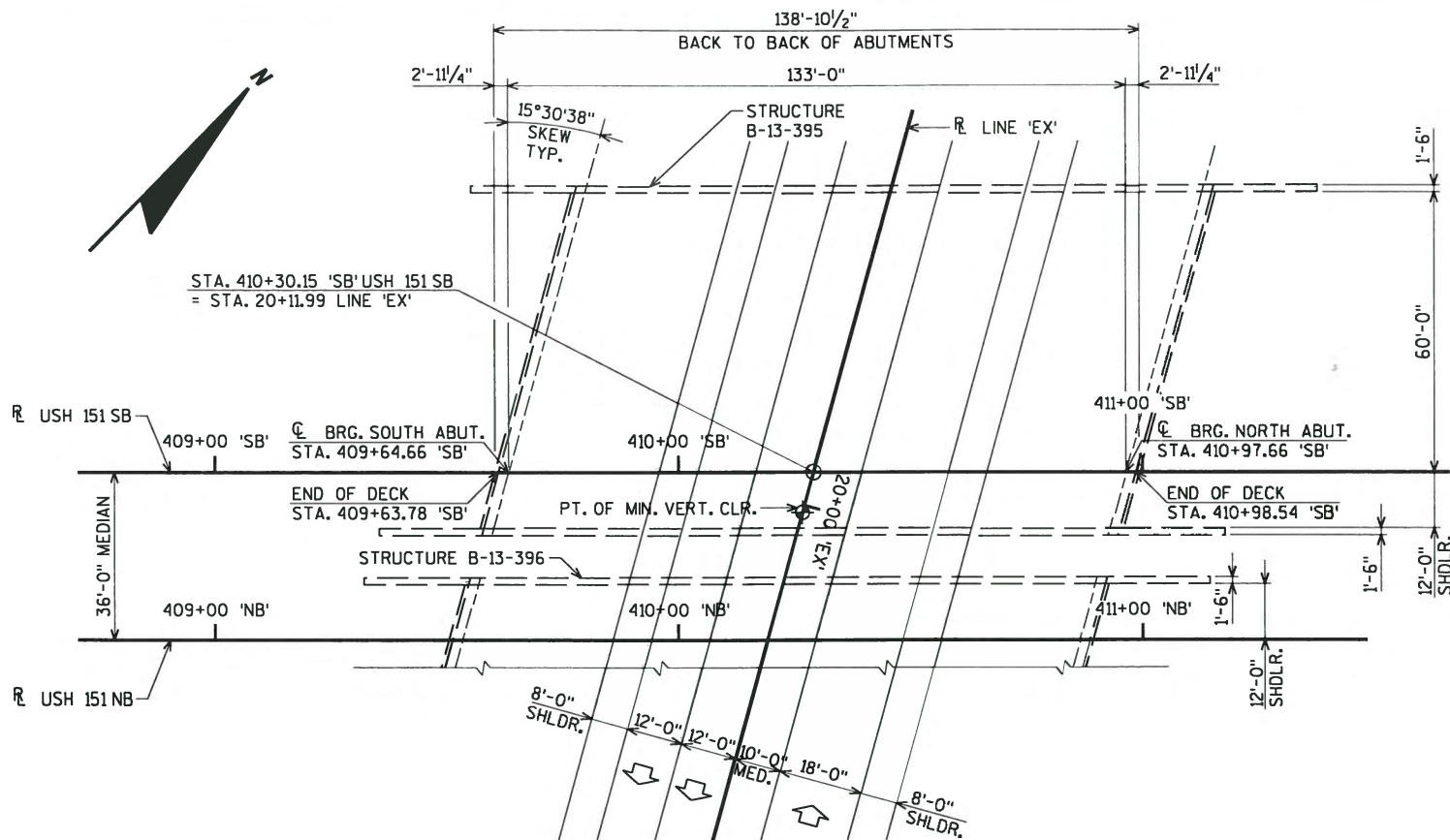
\* TWO DIFFERENT FASTENING SYSTEMS ARE SHOWN FOR  
ILLUSTRATION PURPOSES. ON ANY INDIVIDUAL SIGN, EITHER  
ONE OR THE OTHER SYSTEM SHALL BE USED. ACTUAL NUMBER  
OF FASTENERS PER SIGN VARIES WITH THE SIGN AREA.  
FOR A SINGLE POST INSTALLATION, ALL SIGNS GREATER THAN  
9 SQ. FT. REQUIRE THE USE OF 3 FASTENERS.

ATTACHMENT OF SIGNS TO POSTS		
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION		
APPROVED Feb. 2015	/S/ Travis Feltes	
DATE	STATE TRAFFIC ENGINEER OF DESIGN	
FHWA		

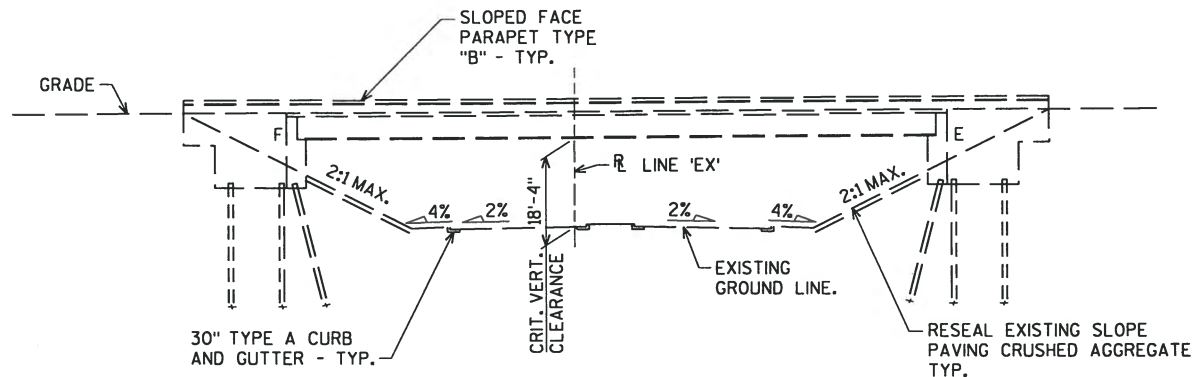
\$PRJNAME\$ U:\41-0692.00 - USH 151 Bridge Painting\B-13-395\B-13-0395-gp.dgn

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

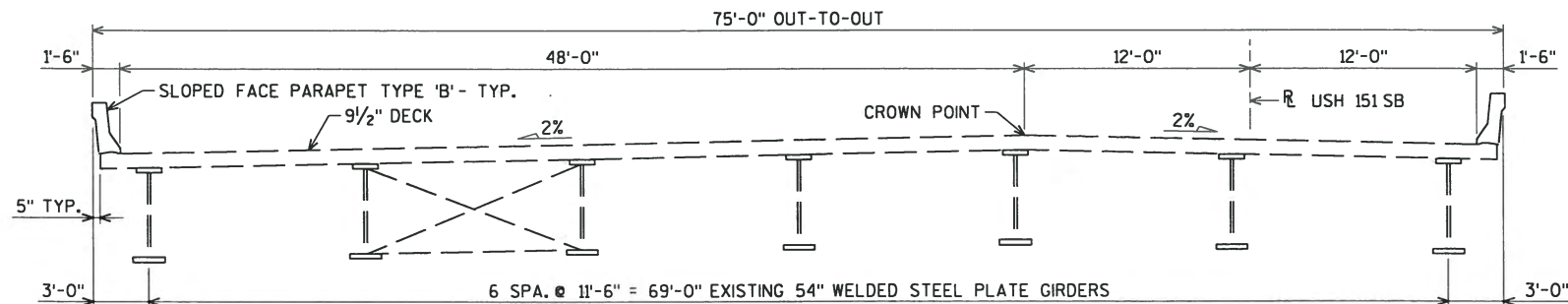
8



PLAN  
SINGLE SPAN 54" WELDED STEEL PLATE GIRDER  
BRIDGE PAINTING



ELEVATION  
NORMAL TO USH 151



EXISTING CROSS SECTION THRU ROADWAY  
(LOOKING NORTH)

STATE PROJECT NUMBER

1111-02-63

### TOTAL ESTIMATED QUANTITIES

BID ITEM NUMBER	BID ITEMS	UNIT	TOTAL
509.1500	CONCRETE SURFACE REPAIR	SF	100
517.1800.S.01	STRUCTURE REPAINTING RECYCLED ABRASIVE B-13-395	LS	1
517.4500.S.01	NEGATIVE PRESSURE CONTAINMENT AND COLLECTION OF WASTE MATERIALS B-13-395	LS	1
517.6001.S	PORTABLE DECONTAMINATION FACILITY	EACH	0.5
604.9015.S	RESEAL CRUSHED AGGREGATE SLOPE PAVING	SY	720

UNDISTRIBUTED FOR ABUTMENTS AS DIRECTED BY THE ENGINEER.

### DESIGN DATA

LIVE LOAD (TAKEN FROM HSI - 7/23/2013):

DESIGN LOADING: HS-20  
INVENTORY RATING: HS-27  
OPERATING RATING: HS-45  
WISCONSIN STANDARD PERMIT VEHICLE (WIS-SPV) = 220 KIPS

### TRAFFIC DATA

USH 151 SB

A.D.T. = 57,000 (2016)  
A.D.T. = 66,200 (2036)  
R.D.S. = 60 M.P.H.

DUAL RAMP

A.D.T. = 2,300 (2016)  
A.D.T. = 3,200 (2036)  
R.D.S. = 25 M.P.H.

### GENERAL NOTES

DRAWINGS SHALL NOT BE SCALED.

DIMENSIONS AND VERTICAL CLEARANCES ARE BASED ON ORIGINAL PLANS.

THE COLOR OF THE FINISH EPOXY TOP COAT FOR THE GIRDERS AND CONNECTING STRUCTURAL STEEL SHALL BE REDDISH-BROWN (FEDERAL STANDARD COLOR NO. 20152).

ALL CONCRETE REMOVAL SHALL BE DEFINED BY A 1-INCH DEEP SAW CUT.



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

CONSULTANT CONTACT:  
CHRIS MCMAHON  
(715)-834-3161

NO.	DATE	REVISION	BY
ORIGINAL PLANS PREPARED BY <b>AYRES ASSOCIATES</b> 3433 Oakwood Hills Parkway Eau Claire, WI 54701 www.AyresAssociates.com			
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION ACCEPTED <i>William C. Dreher</i> SD 11/19/15 CHIEF STRUCTURES DESIGN ENGINEER DATE			
STRUCTURE B-13-395			
USH 151 SB OVER DUAL RAMP			
COUNTY	DANE	TOWN/CITY/VILLAGE	BURKE
DESIGN SPEC.	REHABILITATION	N/A	
DESIGNED BY	CBM	DESIGN CKD.	JWZ
DRAWN BY	CJM	PLANS CKD.	CBM
GENERAL PLAN (PAINTING)			SHEET 1 OF 1

BID ITEM NUMBER	BID ITEMS	UNIT	TOTAL
509.1500	CONCRETE SURFACE REPAIR	SF	100
517.1800.S.02	STRUCTURE REPAINTING RECYCLED ABRASIVE B-13-396	LS	1
517.4500.S.02	NEGATIVE PRESSURE CONTAINMENT AND COLLECTION OF WASTE MATERIALS B-13-396	LS	1
517.6001.S	PORTABLE DECONTAMINATION FACILITY	EACH	0.5
604.9015.S	RESEAL CRUSHED AGGREGATE SLOPE PAVING	SY	590

DATE:



## ***Wisconsin Department of Transportation***

Dedicated people creating transportation solutions  
through innovation and exceptional service.

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