

WKE
PROJECT ID: 1000-68-92
WITH:
COUNTY: SE REGION WIDE

MAY 2017		
ORDER OF SHEETS		
Section No. 1	Title	
Section No. 3	Estimate of Quantities	
Section No. 3	Miscellaneous Quantities	
Section No. 6	Standard Detail Drawings	

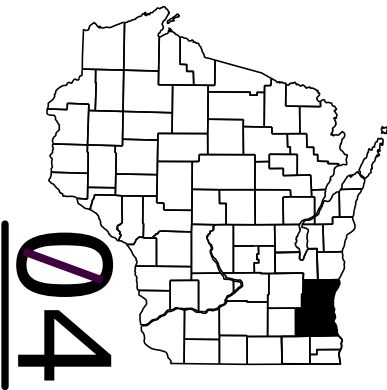
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

PLAN OF PROPOSED IMPROVEMENT
HIGHWAY LIGHTING MAINTENANCE 2017
VARIOUS HIGHWAYS
SE REGION - WIDE

TOTAL SHEETS = 32

STATE PROJECT NUMBER
1000-68-92

STATE PROJECT	FEDERAL PROJECT	
	PROJECT	CONTRACT
1000-68-92		



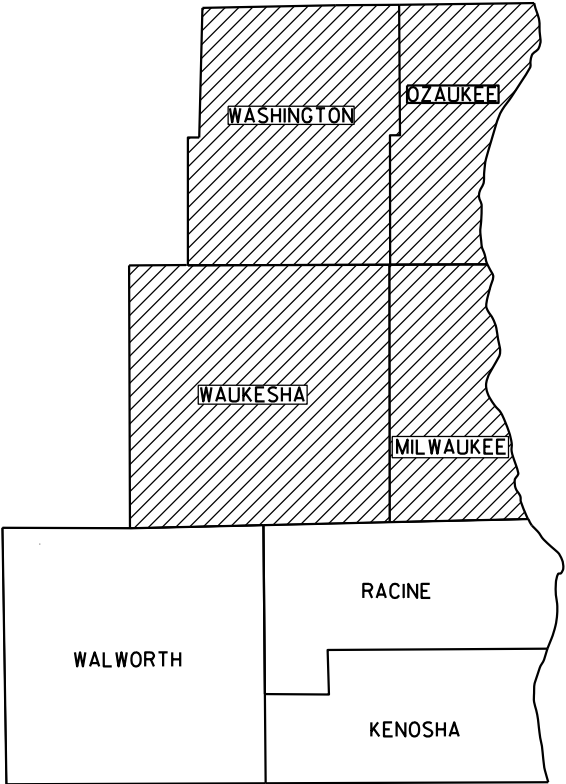
DESIGN DESIGNATION

A.D.T.	= N/A
A.D.T.	= N/A
D.H.V.	= N/A
D.D.	= N/A
T.	= N/A
DESIGN SPEED	= N/A
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	
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	



LAYOUT
SCALE 0 * MI.

TOTAL NET LENGTH OF CENTERLINE = 0.000 MI.

"Coordinates on this plan are referenced to the Wisconsin County Coordinate System (WCCS), 'countyname' County."

STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
PREPARED BY	
Surveyor	
Designer	ERIC PEREA
Project Manager	ERIC PEREA
Region Examiner	
Region Supervisor	MITZI DOBERSEK
C.O. Examiner	
APPROVED FOR REGION OFFICE	
DATE: 1/4/2017	
(Signature)	

UTILITY CONTACTS

TO OBTAIN LOCATION OF
PARTICIPANTS' UNDERGROUND
FACILITIES BEFORE YOU
DIG IN WISCONSIN

WIS. STATUTE 182.0175 (1974)
REQUIRES MIN. OF 3 WORK DAYS
NOTICE BEFORE YOU EXCAVATE



MILWAUKEE COUNTY - HIGHWAY MAINTENANCE

MR. GREG HEISEL
HIGHWAY MAINTENANCE MANAGER
10190 WATERTOWN PLK ROAD
WAUWATOSA, WI 53266
414-257-6566
GREG.HEISEL@MILWCNTY.COM

MILWAUKEE COUNTY - HIGHWAY MAINTENANCE

MILWAUKEE COUNTY - HIGHWAY MAINTENANCE
MR. STANLEY L. JACKSON
ELECTRICAL MECHANIC SUPERVISOR
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WAUWATOSA, WI 53226
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STANLEY.JACKSON@MILWCNTY.COM

WISCONSIN DEPT. OF TRANSPORTATION

MS. RHONDA MOGILKA
SE REGION ELECTRICAL FIELD UNIT (EFU)
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414-266-1167
RHONDA.MOGILKA@DOT.WI.GOV

STATE AGENCIES

WISCONSIN DEPARTMENT OF NATURAL RESOURCES

MS. KRISTINA BETZOLD - DNR TRANSPORTATION LIASON
DNR SOUTHEAST REGION HQ
2300 N. MARTIN LUTHER KING DRIVE
MILWAUKEE, WI 53212
(414) 263-8517
KRISTINA.BETZOLD@WISCONSIN.GOV

WISCONSIN DEPARTMENT OF TRANPORTATION

MR. ERIC PEREA - PROJECT MANAGER
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WISCONSIN DEPARTMENT OF TRANSPORTATION

MR. JOHN KANZENBACH PROJECT MANAGER
141 NW BARSTOW ST
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





WISCONSIN DEPARTMENT OF TRANSPORTATION

MS. LAURA LONGLEY - SE REGION UTILITY COORDINATOR
141 NW BARSTOW ST
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(262) 548-6425
LAURA.LONGLEY@DOT.WI.GOV

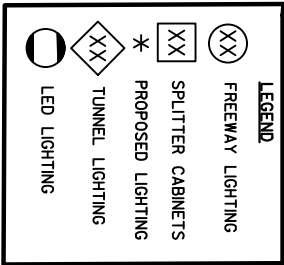
GENERAL NOTES

- 1. THE LOCATIONS ON EXISTING AND PROPOSED UTILITY INSTALLATIONS AS SHOWN ON THE PLANS ARE APPROXIMATE. THERE MAY BE OTHER UTILITY INSTALLATIONS WITHIN THE PROJECT AREA THAT ARE NOT SHOWN. SEE UTILITY OCCUPATION PLANS FOR ADDITIONAL INFORMATION.
- 2. 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.
- 3. TRAFFIC CONTROL DEVICES SHALL BE ADJUSTED TO FIT FIELD CONDITIONS AS DIRECTED BY THE ENGINEER.
- 4. TEMPORARY STORAGE OF ANY EXCAVATED MATERIAL WILL NOT BE PERMITTED IN WETLANDS

TRAFFIC CONTROL PLAN LEGEND

	TYPE III BARRICADE
	TYPE III BARRICADE WITH ATTACHED SIGN
	TRAFFIC CONTROL DRUM
	TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
	FLASHING ARROW BOARD
	SIGN ON PERMANENT SUPPORT
	SIGN ON TEMPORARY SUPPORT
	DELINEATOR FLEXIBLE/TUBULAR MARKER
	TYPE A WARNING LIGHT (FLASHING)
	TYPE B WARNING LIGHT (HIGH INTENSITY FLASHING)
	TYPE C WARNING LIGHT (STEADY BURN)
	CONCRETE BARRIER TEMPORARY PRECAST
	WORK AREA
	TEMPORARY RAISED PAVEMENT MARKER (ONE WAY REFLECTOR)
	TEMPORARY RAISED PAVEMENT MARKER (TWO WAY REFLECTOR)
	FLAGGER, EQUIPPED WITH STOP/SLOW PADDLE FASTENED ON SUPPORT STAFF
	DIRECTION OF TRAFFIC
	PORTABLE CHAGEABLE MESSAGE BOARD

04



HIGHWAY LIGHTING DISTRIBUTION CENTERS



LEGEND

XX

FREEMWAY LIGHTING

XX

SPLITTER CABINETS

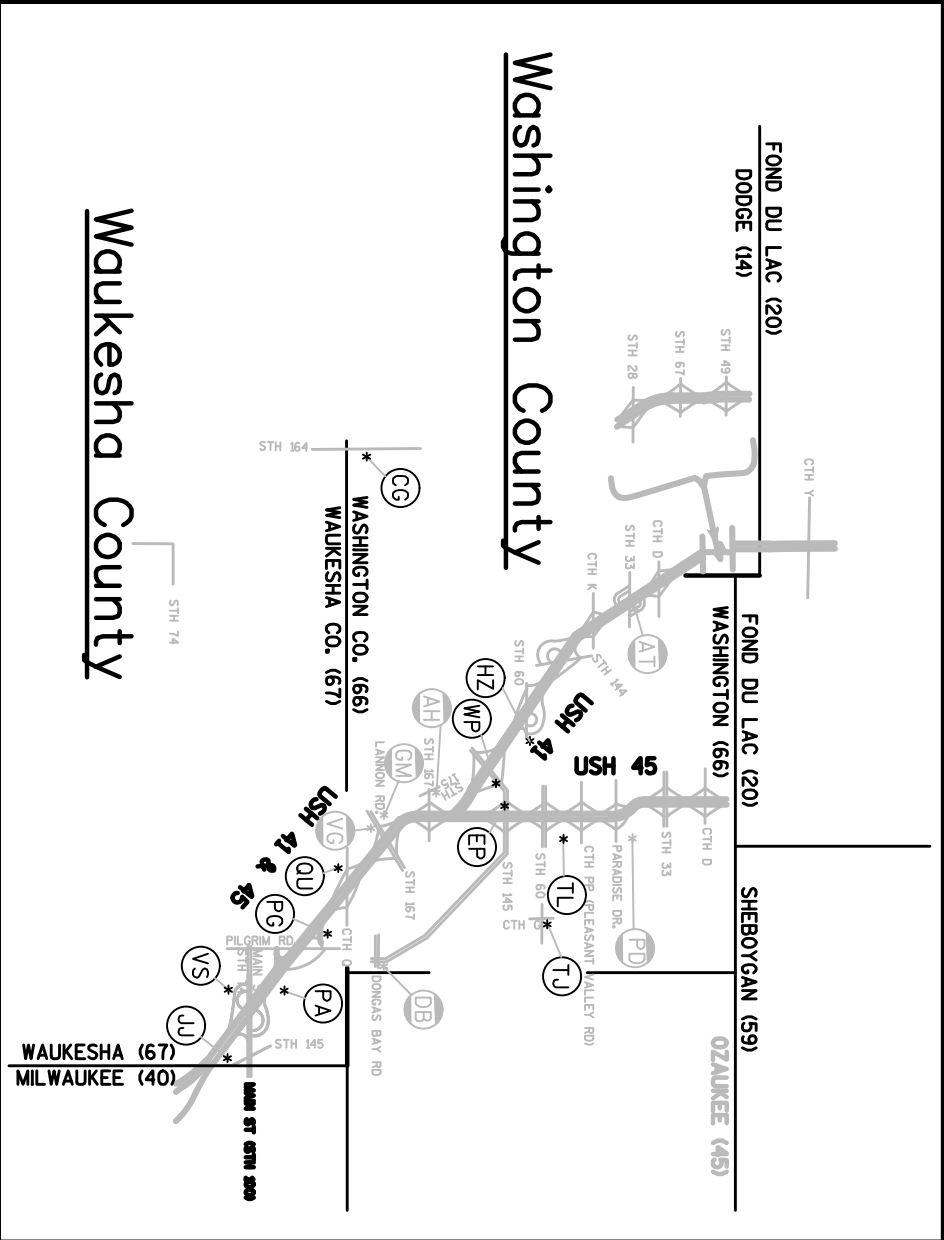
*

PROPOSED LIGHTING

XX

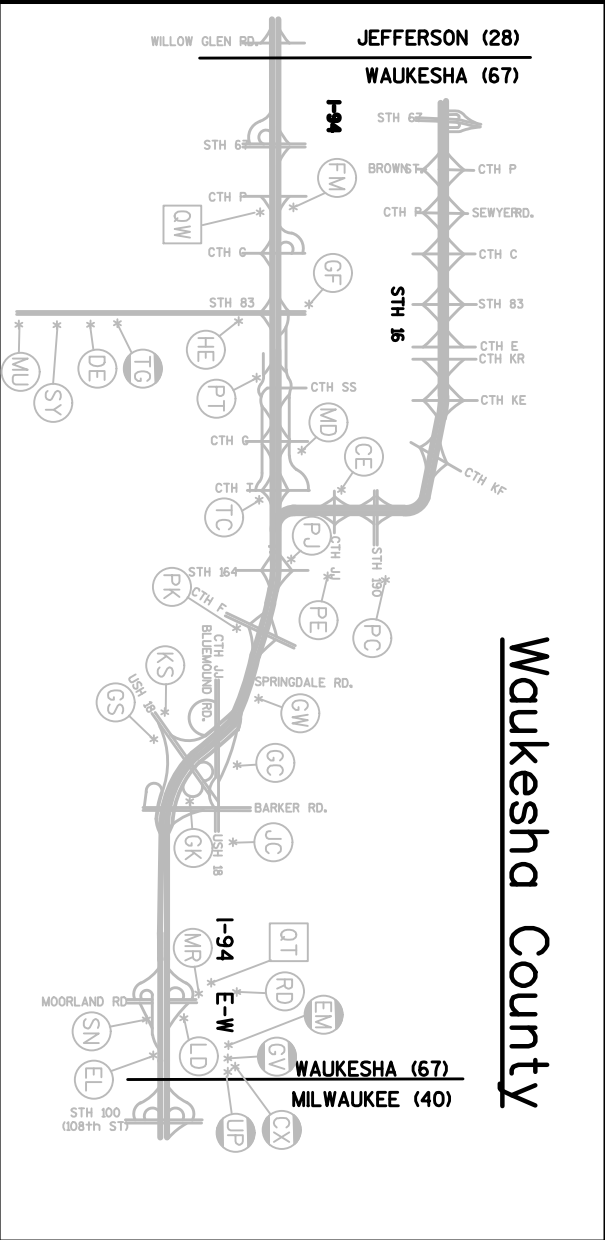
TUNNEL LIGHTING

LED LIGHTING

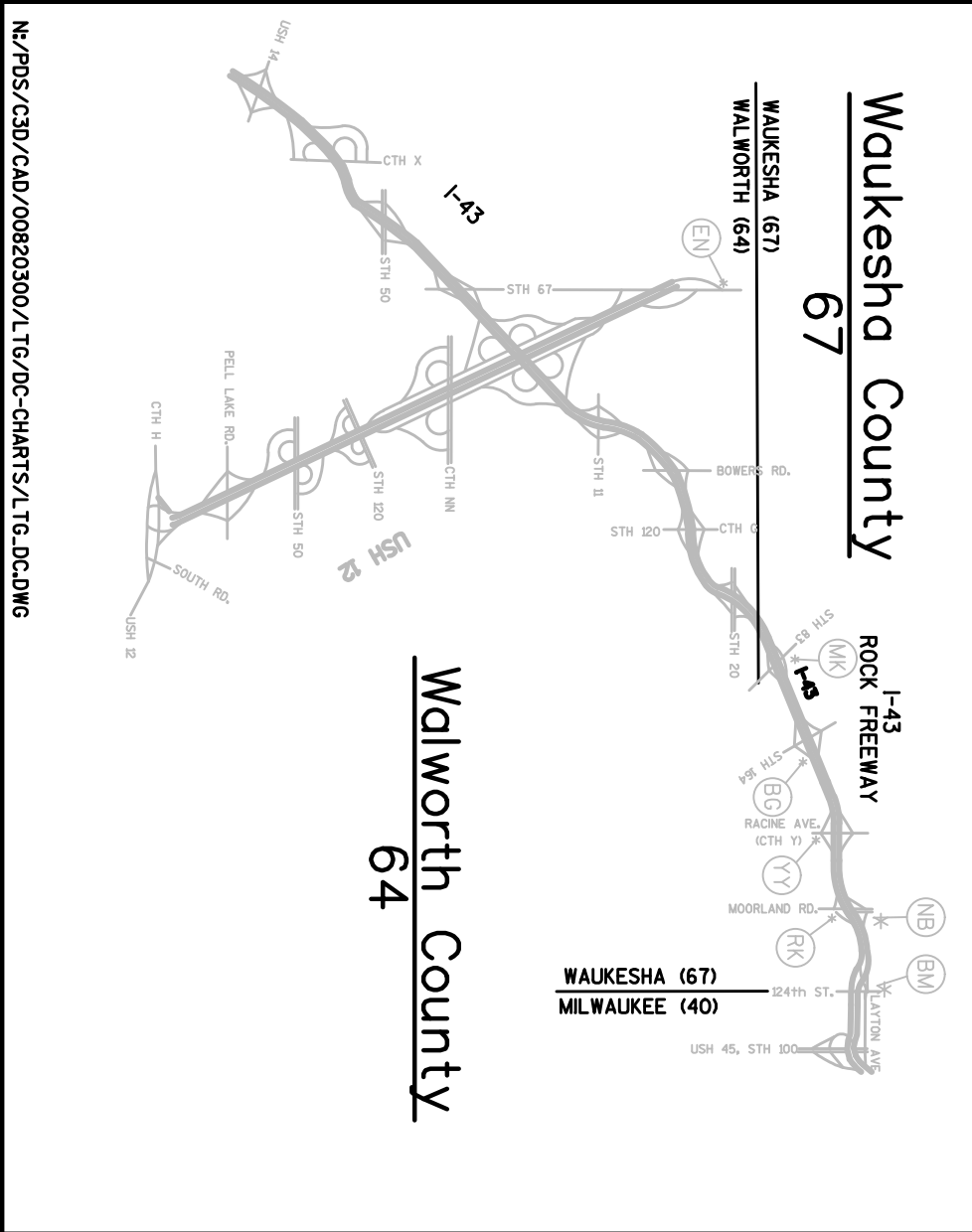


Washington County

Waukesha County

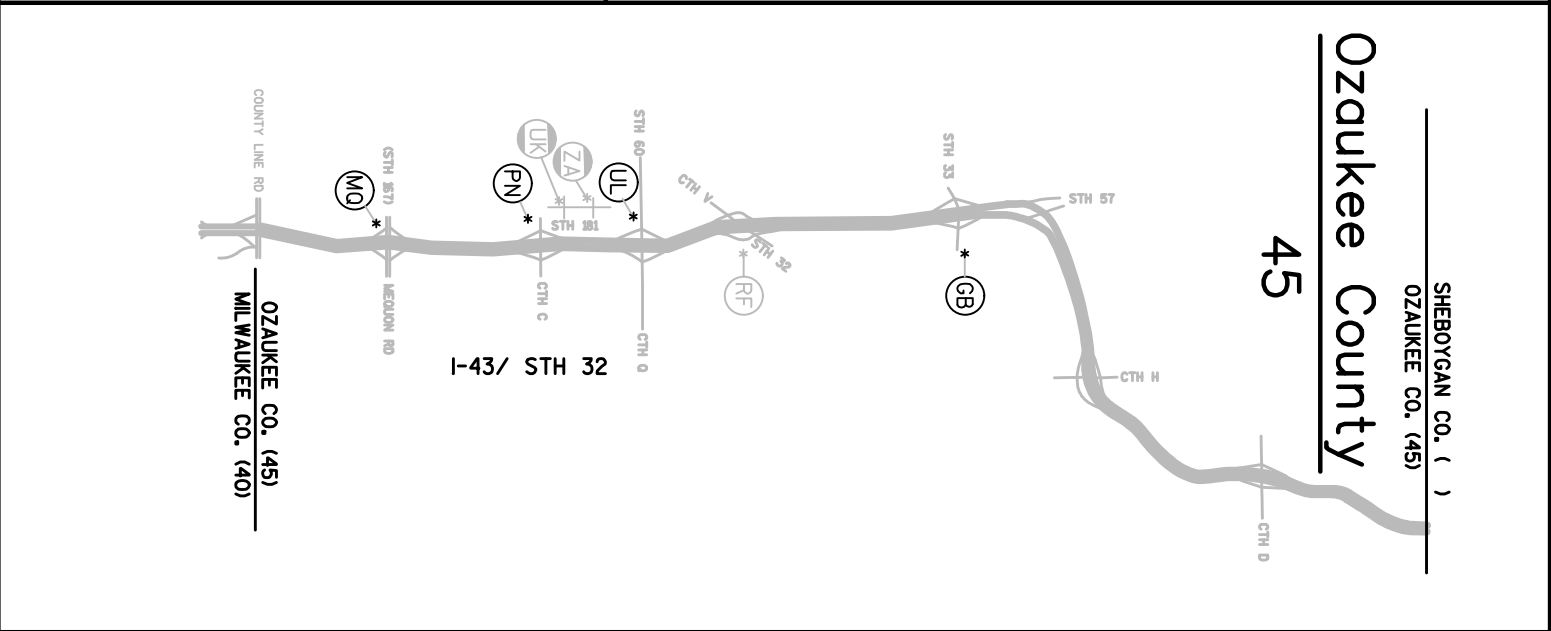


Waukesha County

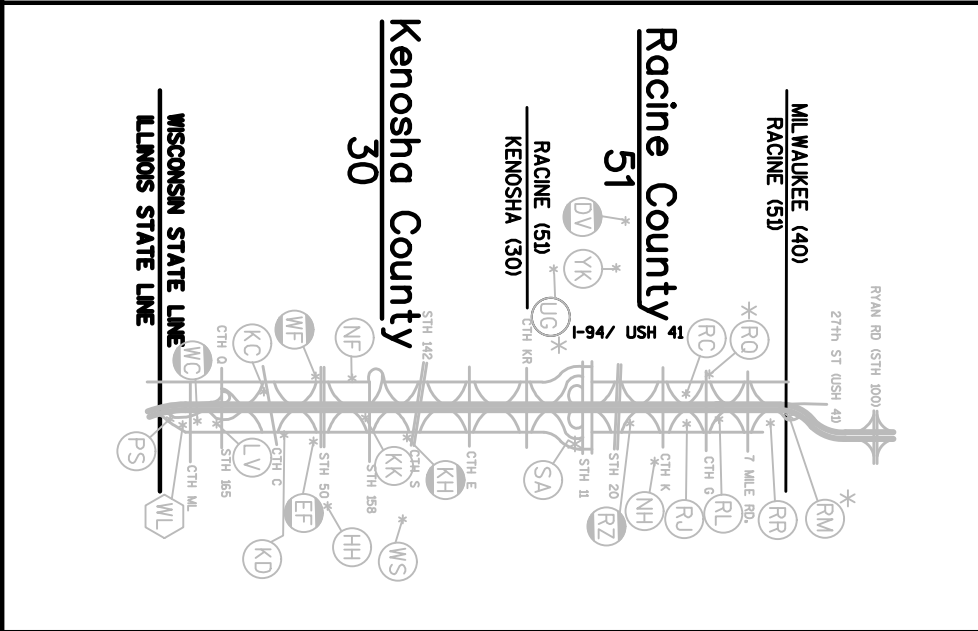


Waukesha County

Walworth County

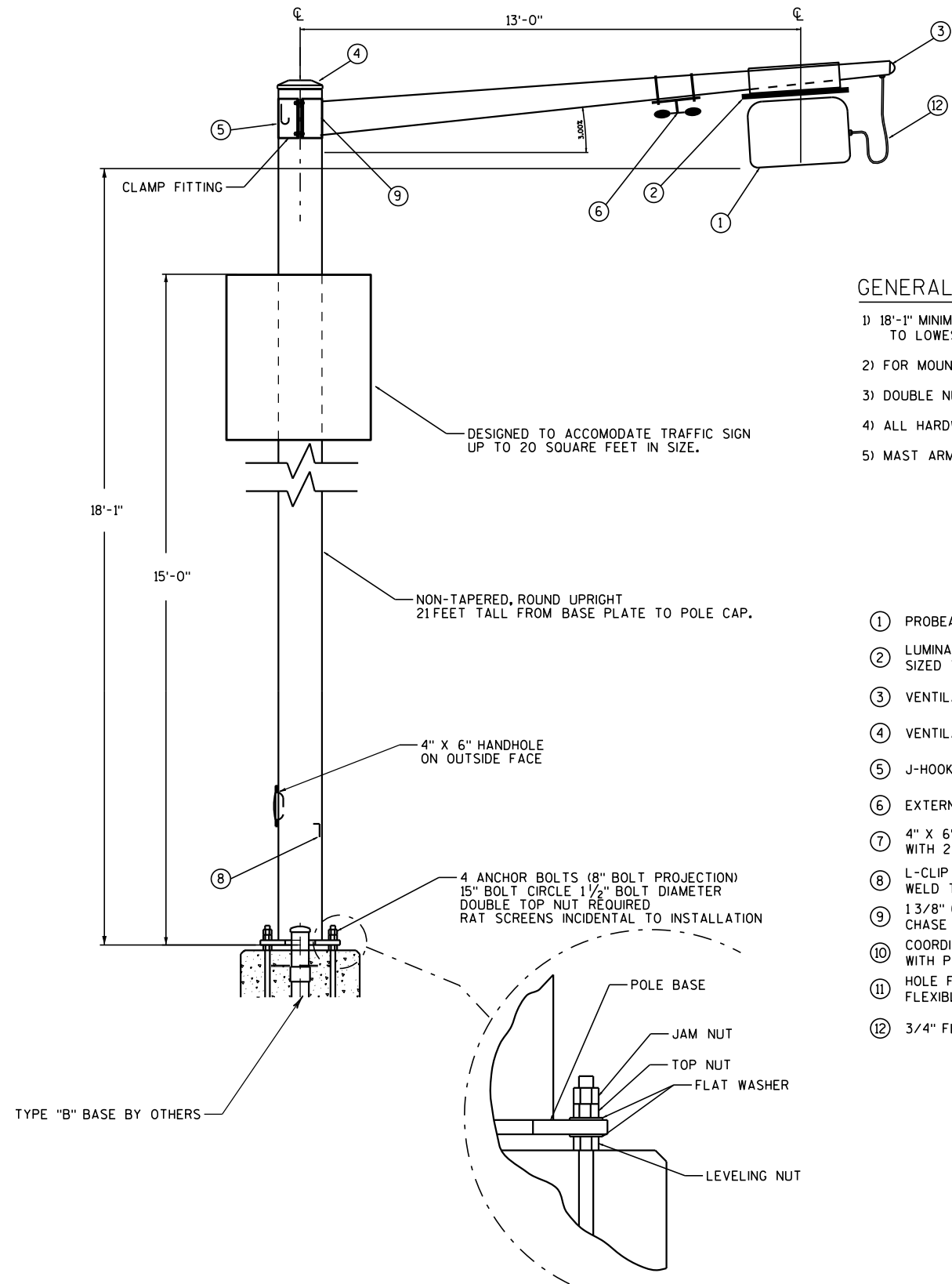


Ozaukee County



Racine County

Kenosha County



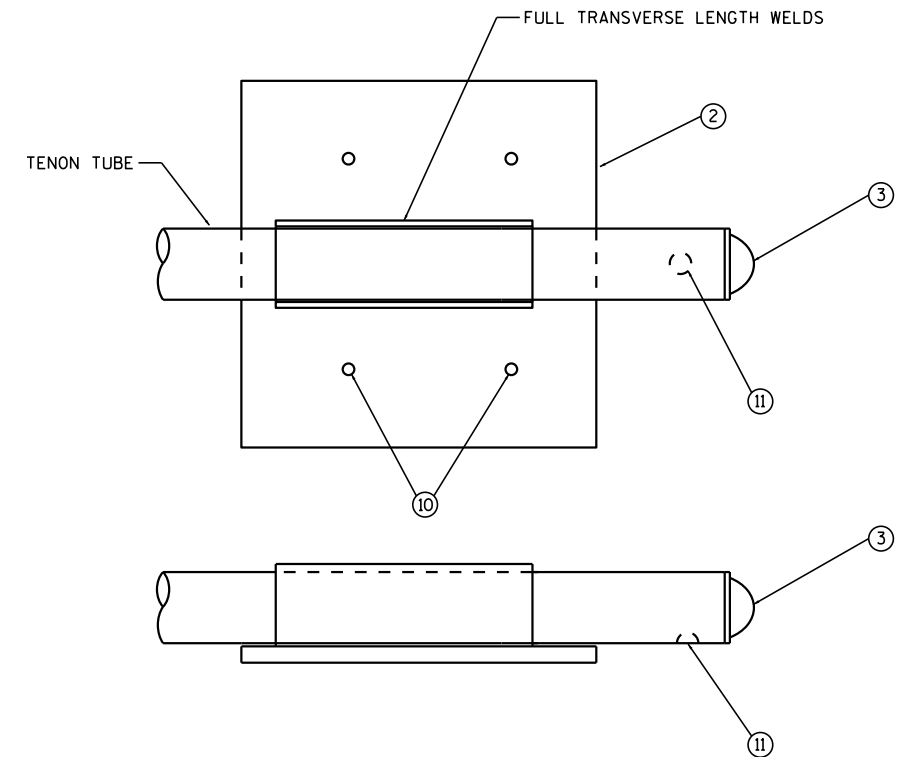
POLE MOUNT FOR PROBEAM LUMINAIRE ON B-BASE

NOT TO SCALE
SEE ELECTRICAL DRAWINGS
FOR ADDITIONAL INFORMATION

GENERAL NOTES

- 1) 18'-1" MINIMUM DISTANCE FROM BOTTOM OF BASE PLATE TO LOWEST POINT ON ARM/LUMINAIRE.
- 2) FOR MOUNTING OF PROBEAM LUMINAIRES ONLY.
- 3) DOUBLE NUT AND RAT SCREENING REQUIRED.
- 4) ALL HARDWARE TO BE STAINLESS STEEL.
- 5) MAST ARM MOUNTED 3% ABOVE HORIZONTAL UNDER LOAD

- ① PROBEAM LUMINAIRE (PAID SEPARATELY)
- ② LUMINAIRE MOUNTING PLATE SIZED TO ACCOMMODATE LUMINAIRE
- ③ VENTILATING, REMOVABLE END CAP
- ④ VENTILATING, REMOVABLE POLE CAP
- ⑤ J-HOOK FOR CABLE STRAIN RELIEF
- ⑥ EXTERNAL VIBRATION DAMPER
- ⑦ 4" X 6" HANDHOLE COVER PLATE WITH 2 - 1/4X20 SS HEX BOLTS
- ⑧ L-CLIP FOR GROUNDING LUG WELD TO POLE PRIOR TO GALVANIZING
- ⑨ 13/8" CABLE HOLE WITH GROMMET OR CHASE NIPPLE, 0° TO HANDHOLE
- ⑩ COORDINATE MOUNTING HOLE PATTERN WITH PROBEAM LUMINAIRE
- ⑪ HOLE FOR 3/4" LIQUIDTIGHT FLEXIBLE METALLIC CONDUIT
- ⑫ 3/4" FLEXIBLE METALLIC CONDUIT

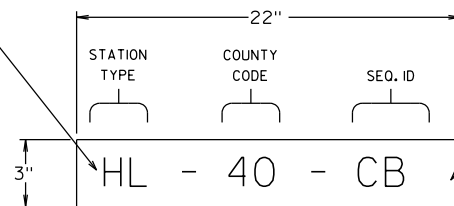


PROBEAM LUMINAIRE POLE MOUNTING DETAIL
NOT TO SCALE

GENERAL NOTES:

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

LETTERS AND NUMBERS 2"
SERIES "D" SELF ADHESIVE
VINYL CUTOUTS



BASE MATERIAL TO BE
SHEET ALUMINUM, 0.060"
MIN. THICKNESS

PLAQUE FACE BACKGROUND
SELF ADHESIVE SHEETING
WHITE (NON-RETROREFLECTIVE)

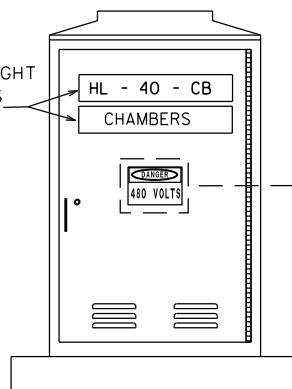
SPACING BETWEEN LETTERS
AND NUMBERS TO BE 1/2"
(IF QUANTITY OF NUMERALS
OR LETTERS IS LESS THAN
SHOWN, LEAVE SPACE AT
RIGHT SIDE OF PLAQUE)

DISTRIBUTION CENTER
IDENTIFICATION PLAQUE

CHAMBERS

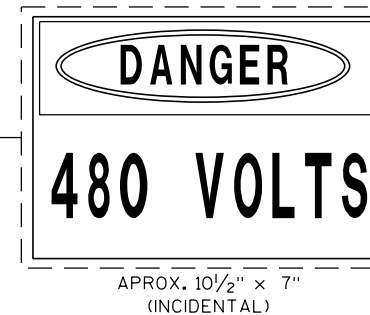
MNEMONIC
(SEE MISC. QTYS.)
(NO. OF CHARACTERS VARIES
THIRD PLAQUE MAY BE
NECESSARY)

FASTEN LEFT, CENTER AND RIGHT
OF PLAQUE WITH 3 STAINLESS
STEEL POP RIVETS

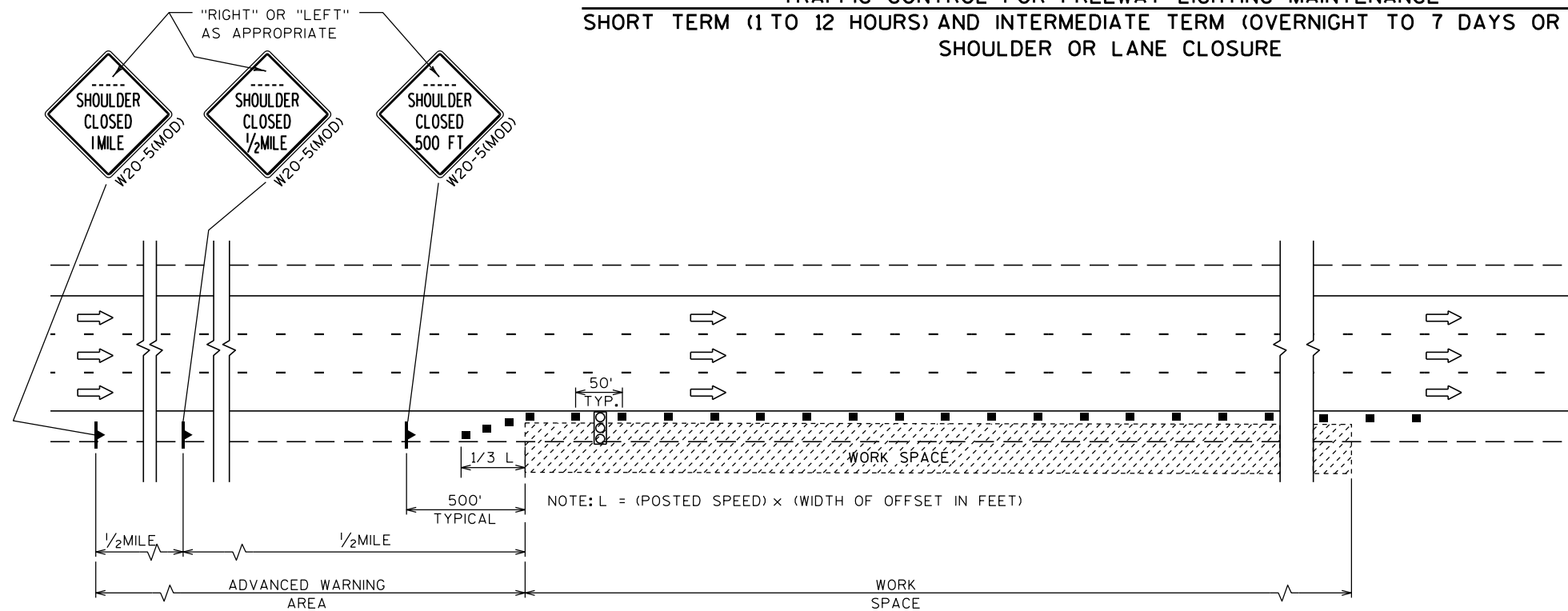


NOTES:
1. TWO OR MORE PLAQUES PER
CABINET REQUIRED

DISTRIBUTION CENTER IDENTIFICATION PLAQUE
REQUIREMENTS AND PLACEMENTS
(TYPICAL ALL CONTROL CABINETS)

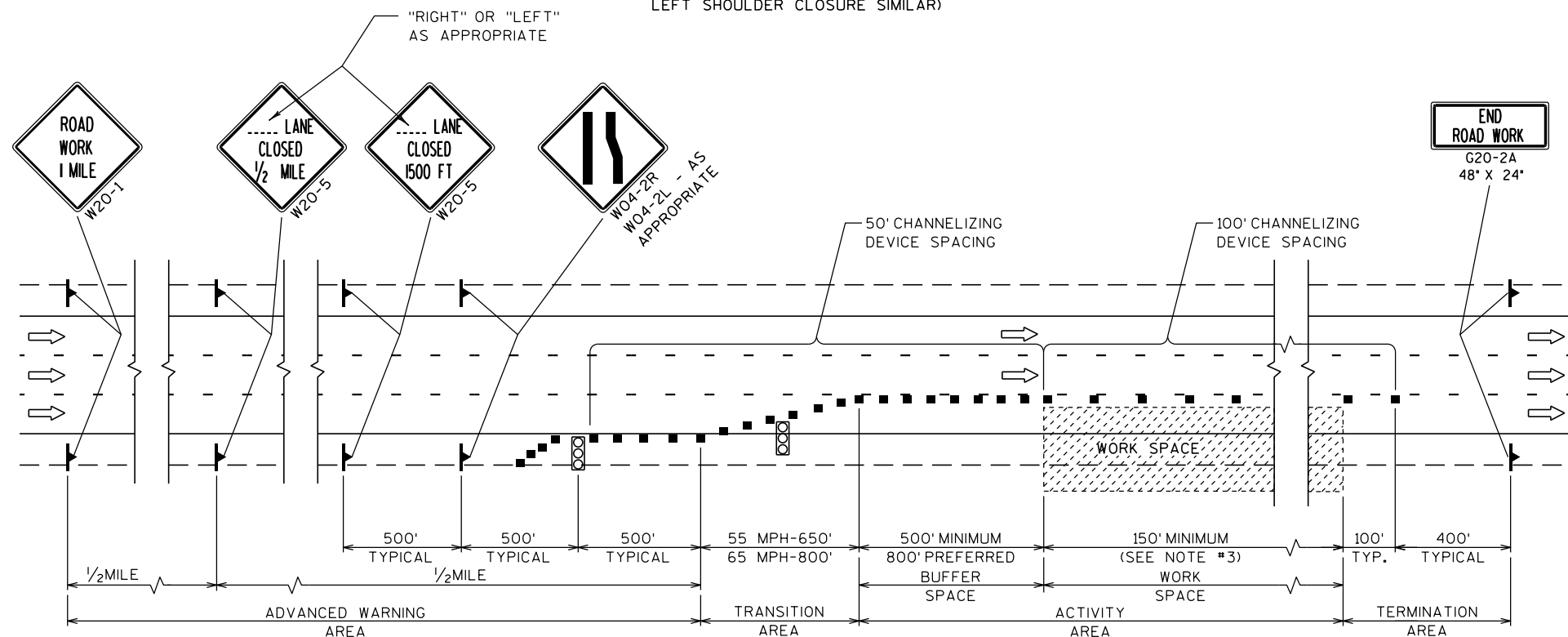


TRAFFIC CONTROL FOR FREEWAY LIGHTING MAINTENANCE
SHORT TERM (1 TO 12 HOURS) AND INTERMEDIATE TERM (OVERNIGHT TO 7 DAYS OR LESS)
SHOULDER OR LANE CLOSURE



TYPICAL SHOULDER CLOSURE

(RIGHT SHOULDER CLOSURE SHOWN,
LEFT SHOULDER CLOSURE SIMILAR)



TYPICAL ONE-LANE CLOSURE

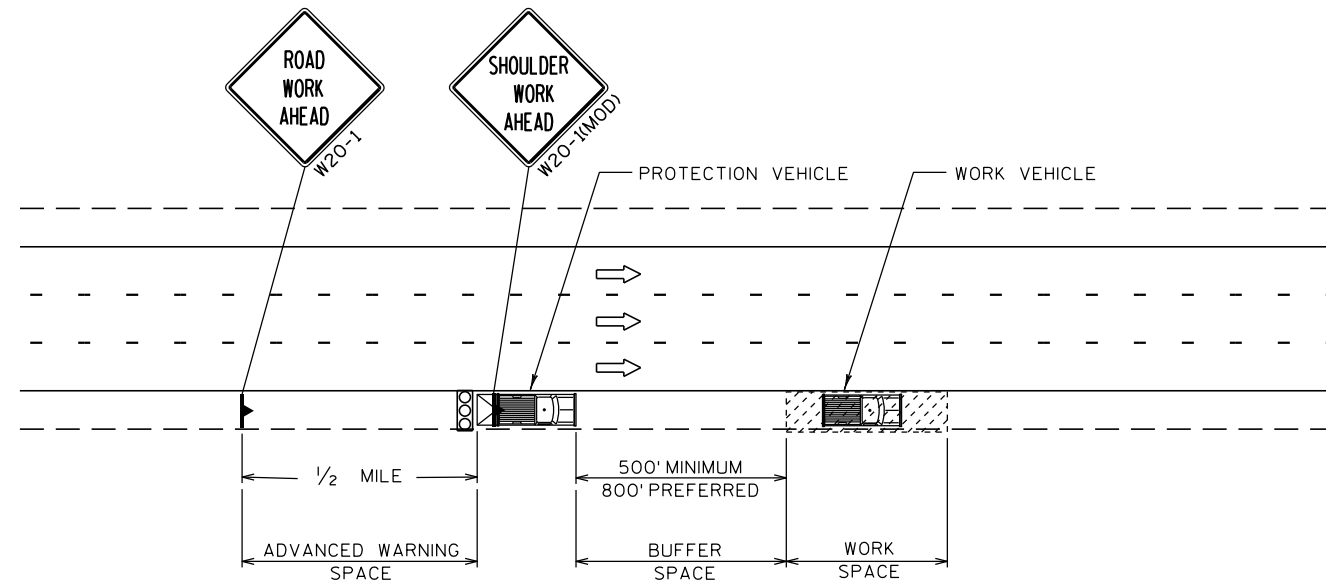
(RIGHT LANE CLOSURE SHOWN,
LEFT LANE CLOSURE SIMILAR)

GENERAL NOTES: TRAFFIC CONTROL

1. THE CONTRACTOR SHALL FURNISH, ERECT, MAINTAIN, MOVE AND REMOVE ALL TRAFFIC CONTROL SIGNS, SIGN SUPPORTS, CHANNELIZING DEVICES, ARROW BOARDS, WARNING LIGHTS, ETC. AS SPECIFIED IN THIS DETAIL, THE STANDARD SPECIFICATIONS, THE PLANS AND/OR THE SPECIAL PROVISIONS AND/OR AS DIRECTED BY THE ENGINEER.
2. THE EXACT NUMBER, LOCATION AND SPACING OF ALL SIGNS AND CHANNELIZING DEVICES SHALL BE ADJUSTED TO FIT FIELD CONDITIONS AND/OR AS DIRECTED BY THE ENGINEER.
3. IF THE HORIZONTAL ALIGNMENT IS SUCH THAT A CURVE MAY REQUIRE ADDITIONAL DELINEATION, THE CHANNELIZING DEVICE SPACING MAY BE DECREASED TO 50' IN THE WORK SPACE.
4. FOR DAYTIME ONLY OPERATION: WARNING LIGHTS ARE NOT REQUIRED. ALL LANE CLOSURE SIGNS SHALL BE COVERED OR TURNED FROM THE MOTORIST'S VIEW AND CHANNELIZING DEVICES SHALL BE REMOVED BEYOND THE SHOULDER AT THE END OF THE WORKDAY IF THE LANE IS RESTORED TO A SAFE OPERATING CONDITION.
5. FOR NIGHT TIME OPERATION: CHANNELIZING DEVICES IN THE TRANSITION SPACE SHALL HAVE TYPE "C" (STEADY BURN) WARNING LIGHTS, BARRICADES SHIELDING AN ISOLATED HAZARD, SHALL HAVE TYPE "A" (LOW INTENSITY FLASHING) WARNING LIGHTS.
6. ALL SIGNS ARE 48" X 48" UNLESS OTHERWISE NOTED.
7. "WO" SIGN DESIGNATIONS ARE THE SAME AS "W" SIGN DESIGNATIONS EXCEPT THAT BACKGROUND IS ORANGE.
8. IF LANE CLOSURE IS MORE THAN 1 MILE, PLACE TYPE III BARRICADES APPROXIMATELY EVERY 1000' ACROSS THE CLOSED LANE TO HELP ENFORCE THE DELINEATION.
9. CONSIDER GEOMETRICS WHEN LOCATING SIGNS AND ARROW BOARD SO THE DRIVER HAS A CLEAR VIEW OF THE ARROW BOARD AND LANE CLOSURE DRUMS FOR A MINIMUM 1500' IN FRONT OF DRUMS.

LEGEND:

- SIGN ON TEMPORARY SUPPORT
- CHANNELIZING DEVICE (CONE OR DRUM)
- ARROW BOARD







**MOBILE OPERATION ON SHOULDER
FOR 10' OR WIDER SHOULDERS ONLY**
(RIGHT SHOULDER CLOSURE SHOWN,
LEFT SHOULDER CLOSURE SIMILAR)

**TRAFFIC CONTROL FOR FREEWAY LIGHTING MAINTENANCE
MOBILE OPERATIONS - SHOULDER CLOSURE**
CONTINUOUS OR INTERMITTENT MOVEMENT (STOPS LESS THAN 15 MINUTES)

GENERAL NOTES: TRAFFIC CONTROL

1. THE CONTRACTOR SHALL FURNISH, ERECT, MAINTAIN, MOVE AND REMOVE ALL TRAFFIC CONTROL SIGNS, SIGN SUPPORTS, CHANNELIZING DEVICES, TMAs, ARROW BOARDS, WARNING LIGHTS, ETC. AS SPECIFIED IN THIS DETAIL, THE STANDARD SPECIFICATIONS, THE PLANS AND/OR THE SPECIAL PROVISIONS AND/OR AS DIRECTED BY THE ENGINEER.
2. THE EXACT NUMBER, LOCATION AND SPACING OF ALL SIGNS AND CHANNELIZING DEVICES SHALL BE ADJUSTED TO FIT FIELD CONDITIONS AND/OR AS DIRECTED BY THE ENGINEER.
3. IF THE HORIZONTAL ALIGNMENT IS SUCH THAT A CURVE REDUCES VISIBILITY, PROTECTION VEHICLE OPERATORS SHOULD INCREASE THE LENGTH OF THE BUFFER SPACE TO MAINTAIN VISIBILITY TO VEHICLES APPROACHING FROM THE REAR.
4. MOBILE OPERATIONS ARE PERMITTED FOR DAYTIME OPERATIONS ONLY.
5. THE ENGINEER IN THE FIELD MAY PROHIBIT MOBILE OPERATIONS DURING RAIN OR WHEN FOGGY.
6. ALL SIGNS ARE 48" X 48" UNLESS OTHERWISE NOTED.
7. "WO" SIGN DESIGNATIONS ARE THE SAME AS "W" SIGN DESIGNATIONS EXCEPT THAT BACKGROUND IS ORANGE.

LEGEND:

-  SIGN ON TEMPORARY SUPPORT
-  ARROW BOARD
-  TMA (TRUCK MOUNTED ATTENUATOR)
-  WORK VEHICLE

Estimate Of Quantities

1000-68-92

Line	Item	Item Description	Unit	Total	Qty
0010	204.9060.S	Removing (item description) 01. Luminaires	EACH	503.000	503.000
0020	619.1000	Mobilization	EACH	1.000	1.000
0030	643.0100	Traffic Control (project) 01. 1000-68-92	EACH	1.000	1.000
0040	643.0300	Traffic Control Drums	DAY	200.000	200.000
0050	643.0420	Traffic Control Barricades Type III	DAY	25.000	25.000
0060	643.0705	Traffic Control Warning Lights Type A	DAY	20.000	20.000
0070	643.0715	Traffic Control Warning Lights Type C	DAY	20.000	20.000
0080	643.0800	Traffic Control Arrow Boards	DAY	65.000	65.000
0090	643.0900	Traffic Control Signs	DAY	150.000	150.000
0100	643.1050	Traffic Control Signs PCMS	DAY	10.000	10.000
0110	643.1055.S	Truck or Trailer Mounted Attenuator	DAY	55.000	55.000
0120	655.0610	Electrical Wire Lighting 12 AWG	LF	200.000	200.000
0130	SPV.0060	Special 01. Plaques Sequence Identification	EACH	40.000	40.000
0140	SPV.0060	Special 02. Light Tower Rat Screens	EACH	20.000	20.000
0150	SPV.0060	Special 03. Fuse Holders	EACH	50.000	50.000
0160	SPV.0060	Special 04. Fuses Type FNQ	EACH	100.000	100.000
0170	SPV.0060	Special 05. Installing State-Furnished Luminaires LED	EACH	503.000	503.000
0180	SPV.0060	Special 06. Plumbing Light Poles	EACH	10.000	10.000
0190	SPV.0060	Special 07. Distribution Center Preventative Maintenance	EACH	22.000	22.000
0200	SPV.0060	Special 08. Group Luminaire Maintenance Sign Light 250W MV	EACH	18.000	18.000
0210	SPV.0060	Special 09. Tunnel Luminaire Maintenance 100W HPS	EACH	35.000	35.000
0220	SPV.0060	Special 10. Tunnel Luminaire Maintenance 150W HPS	EACH	31.000	31.000
0230	SPV.0060	Special 11. Tunnel Luminaire Maintenance 200W HPS	EACH	22.000	22.000
0240	SPV.0060	Special 12. Tunnel Luminaire Maintenance 250W HPS	EACH	8.000	8.000
0250	SPV.0060	Special 13. Tunnel Luminaire Maintenance 400W HPS	EACH	153.000	153.000
0260	SPV.0060	Special 14. Group Clean Tunnel Luminaires	EACH	869.000	869.000

WISCONSIN DEPARTMENT OF TRANSPORTATION - SOUTHEAST REGION - WAUKESHA
HIGHWAY LIGHTING DISTRIBUTION CENTERS

LABEL HL- OR A S SHOWN	FORMAT	MAINTENANCE \ FIRST RESPONSE	COUNTY	HIGHWAY	DISTRIBUTION CENTER LOCATION	BRANCH CIRCUIT VOLTAGE	FIELD WIRING METHOD
40-BR	SERVICE	MILW CO\ MILW CO	MILW	I-43	BROWN DEER PARK-RIDE	240/480	ISOL NEUTRAL
40-FR	SERVICE	MILW CO\ MILW CO	MILW	STH 794	SAINT FRANCIS AVENUE EAST OF STH 794	480Y/277	ISOL NEUTRAL
40-HO	SERVICE W/ITS DERIVED	MILW CO\ MILW CO	MILW	STH 38	WEST SIDE STH 38 AT NORTH TUNNEL PORTAL	480Y/277	ISOL NEUTRAL
40-KI	SERVICE	MILW CO\ MILW CO	MILW	I-43	CIVIC CENTER GARAGE	480 delta	PHASE-PHASE
40-NM	SERVICE W/ RAMP GATE DERIVED	MILW CO\ MILW CO	MILW	I-43	SE QUADRANT BROWN DEER RD	240/480	ISOL NEUTRAL
40-QA	SERVICE WITH ITS DERIVED	MILW CO\ MILW CO	MILW	I-43	NORTHEAST QUADRANT IH 43 AND WELL	480Y/277	ISOL NEUTRAL
40-RH	SERVICE W/ ITS DERIVED	MILW CO\ MILW CO	MILW	I-43	COUNTY LINE SB ON RAMP	120/240	ISOL NEUTRAL
45-GB	SERVICE	STATE/ STATE	OZAU	STH 33	SE QUADRANT MARKET ST ROUNDABOUT	240/480	ISOL NEUTRAL
45-MQ	SERVICE W/ ITS DERIVED	STATE/ STATE	OZAU	I-43	MEQUON RD SB ON RAMP	120/240	ISOL NEUTRAL
45-PN	SERVICE W/ ITS DERIVED	STATE/ STATE	OZAU	I-43	PIONEER RD SB ON RAMP	120/240	ISOL NEUTRAL
45-UL	SERVICE W/ ITS DERIVED	STATE/ STATE	OZAU	I-43	STH 60 SB ON RAMP	120/240	ISOL NEUTRAL
66-CG	SERVICE	STATE/ STATE	WASH	STH 164	NE QUADRANT STH 164/ CTH Q	240/480	ISOL NEUTRAL
66-EP	SERVICE	STATE/ STATE	WASH	STH 145	SW QUADRANT STH 145 AND US 45 SB ON RAMP	240/480	ISOL NEUTRAL
66-HZ	SERVICE	STATE/ STATE	WASH	STH 60	NW QUADRANT STH 60 & HILLSIDE RD	120/240	ISOL NEUTRAL
66-TJ	SERVICE	STATE/ STATE	WASH	STH 60	NE QUADRANT STH 60 & CTH G	240/480	ISOL NEUTRAL
66-TL	SERVICE	STATE/ STATE	WASH	STH 60	N SIDE OF STH 60 BETWEEN TILLIE AND US 45	240/480	ISOL NEUTRAL
66-WP	SERVICE	STATE/ STATE	WASH	STH 145	SW QUADRANT STH 145 AND I- 41 NB ON RAMP	240/480	ISOL NEUTRAL
67-JJ	SERVICE	MILW CO\ STATE	WAUK	I-41	EAST SIDE I-41 W OF 124TH ST	480Y/277	ISOL NEUTRAL
67-PA	SERVICE	MILW CO\ STATE	WAUK	I-41	PATRITA DRIVE W OF FOUNTAIN BLVD	480Y/277	ISOL NEUTRAL
67-PG	SERVICE	MILW CO\ STATE	WAUK	I-41	I-41 PILGRIM NB ON-RAMP	240/480	ISOL NEUTRAL
67-QU	SERVICE	MILW CO\ STATE	WAUK	I-41	CTH Q SB ON RAMP TO I-41	240/480	ISOL NEUTRAL
67-VS	SERVICE	MILW CO\ STATE	WAUK	I-41	I-41 MAIN ST SB ON RAMP	480Y/277	ISOL NEUTRAL

GROUP CABINET AND LUMINAIRE MAINTENANCE

SPV.0060.07 DISTRIBUTION CENTER PREVENTIVE MAINTENANCE
SPV.0060.08 Group Luminaire Maintenance Sign Light 250W MV

* ADDITIONAL QUANTITIES FOUND ELSEWHERE

LABEL HL-	HIGHWAY AND SEGMENT	COMMENTS	SPV.0060.07 DISTRIB CENTER MAINT EACH	SPV.0060.08 SIGN LIGHT 250 MV EACH
40-BR	I-43	SEE RETROFIT TABLE	1	--
40-FR	STH 794	SEE TUNNEL TABLE	1	--
40-HO	STH 38	SEE TUNNEL TABLE	1	--
40-KI	I-43	SEE TUNNEL TABLE	1	--
40-NM	I-43	SEE RETROFIT TABLE	1	--
40-QA	I-43	SEE TUNNEL TABLE	1	--
40-RH	I-43	SEE RETROFIT TABLE	1	--
45-GB	STH 33	SEE RETROFIT TABLE	1	--
45-MQ	I-43	SEE RETROFIT TABLE	1	--
45-PN	I-43	SEE RETROFIT TABLE	1	--
45-UL	I-43	SEE RETROFIT TABLE	1	--
66-CG	STH 164	SEE RETROFIT TABLE	1	--
66-EP	STH 145	SEE RETROFIT TABLE	1	--
66-HZ	STH 60	SEE RETROFIT TABLE	1	--
66-TJ	STH 60	SEE RETROFIT TABLE	1	--
66-TL	STH 60	SEE RETROFIT TABLE	1	--
66-WP	STH 145	SEE RETROFIT TABLE	1	--
67-JJ	I-41	SEE RETROFIT TABLE	1	5
67-PA	I-41	SEE RETROFIT TABLE	1	4
67-PG	I-41	SEE RETROFIT TABLE	1	6
67-QU	I-41	SEE RETROFIT TABLE	1	--
67-VS	I-41	SEE RETROFIT TABLE	1	3
TOTAL			22	18

204.9060.S REMOVING LUMINAIRES
SPV.0060.05 INSTALLING STATE FURNISHED LUMINAIRES LED

* ADDITIONAL QUANTITIES SHOWN ELSEWHERE

SYSTEM	HIGHWAY SEGMENT	204.9060.S REMOVING LUMINAIRES EACH	SPV.0060.05				COMMENTS
			LUMINAIRES UTILITY LED A EACH	LUMINAIRES UTILITY LED C EACH	LUMINAIRES UTILITY LED D EACH	LUMINAIRES UNDERDECK LED B EACH	
40-BR	I-43	37	--	21	16	--	BROWN DEER
40-NM	I-43	46	--	23	15	8	BROWN DEER
40-RH	I-43	4	--	2	2	--	RIVER HILLS
45-GB	STH 33	48	10	38	--	--	GREEN BAY
45-MQ	I-43	4	--	2	2	--	MEQUON RD
45-PN	I-43	4	--	2	2	--	PIONEER ROAD
45-UL	I-43	4	--	4	--	--	ULAO
66-CG	STH 164	24	10	14	--	--	COLGATE
66-EP	STH 145	29	--	29	--	--	EAST POLK
66-HZ	STH 60	22	22	--	--	--	HILLSIDE
66-TJ	STH 60	20	20	--	--	--	TOWN OF JACKSON
66-TL	STH 60	55	47	--	--	8	TILLY LAKE RD
66-WP	STH 145	29	--	29	--	--	WEST POLK
67-JJ	I-41	36	--	--	36	--	LEON TERRACE
67-PA	I-41	15	--	7	8	--	PATRITA AVENUE
67-PG	I-41	60	--	17	39	4	PILGRIM ROAD
67-QU	I-41	43	--	14	25	4	CTH Q
67-VS	I-41	23	--	2	21	--	MAIN STREET
TOTAL		503	109	204	166	24	

TUNNEL LUMINAIRE MAINTENANCE

SPV.0060.09 TO SPV.0060 .13
SPV.0060.14

TUNNEL LUMINAIRE MAINTENANCE (VARIOUS)
GROUP CLEAN TUNNEL LUMINAIRES

* ADDITIONAL QUANTITIES SHOWN ELSEWHERE

LABEL	TUNNEL	SPV.0060.09	SPV.0060.10	SPV.0060.11	SPV.0060.12	SPV.0060.13	SPV.0060.14
		TUNNEL	TUNNEL	TUNNEL	TUNNEL	TUNNEL	GROUP
		LUMINAIRE	LUMINAIRE	LUMINAIRE	LUMINAIRE	LUMINAIRE	CLEAN
		100W HPS	150W HPS	200W HPS	250W HPS	400W HPS	TUNNEL LUMINAIRES
		EACH	EACH	EACH	EACH	EACH	EACH
HL-40-FR	ST. FRANCIS TUNNEL BOTH WAYS	5	--	--	5	17	103
HL-40-HO	HOWELL TUNNEL BOTH WAYS	18	18	--	--	94	448
HL-40-KI	KILBOURN NB ENTRANCE	13	13	--	3	5	83
HL-40-QA	KILBOURN EB EXIT	--	--	22	--	37	235
TOTAL		35	31	22	8	153	869

MOBILIZATION ITEMS

ITEM	ITEM	UNIT	QUANTITY
619.1000	MOBILIZATION	EACH	1

WORK ZONE TRAFFIC CONTROL

ITEM	ITEM	UNIT	QUANTITY
643.0100	TRAFFIC CONTROL PROJECT 1000-68-92	EACH	1
643.0300	TRAFFIC CONTROL DRUMS ***	DAY	200
643.0420	TRAFFIC CONTROL BARRICADES TYPE III	DAY	25
643.0705	TRAFFIC CONTROL WARNING LIGHTS TYPE A	DAY	20
643.0715	TRAFFIC CONTROL WARNING LIGHTS TYPE C	DAY	20
643.0800	TRAFFIC CONTROL ARROW BOARDS	DAY	65
643.0900	TRAFFIC CONTROL SIGNS	DAY	150
643.1050	TRAFFIC CONTROL SIGNS PCMS	DAY	10
643.1055.S	TRUCK OR TRAILER MOUNTED ATTENUATOR	DAY	55

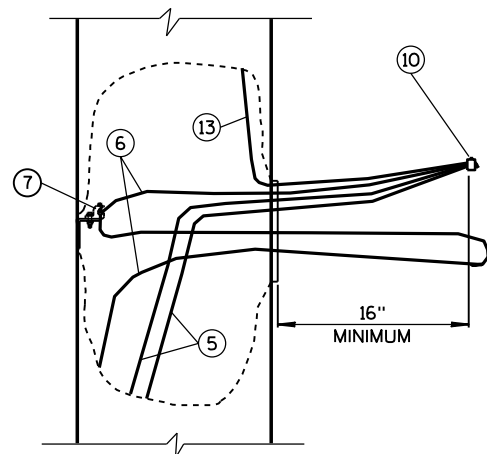
*** APPROVED TRAFFIC CONES WILL BE ACCEPTED FOR THIS ITEM FOR SHORT-TERM DAYTIME
WORK, BUT WILL NOT BE MEASURED FOR PAYMENT.
SEE THE SPECIAL PROVISIONS.

UNDISTRIBUTED HIGHWAY LIGHTING MAINTENANCE

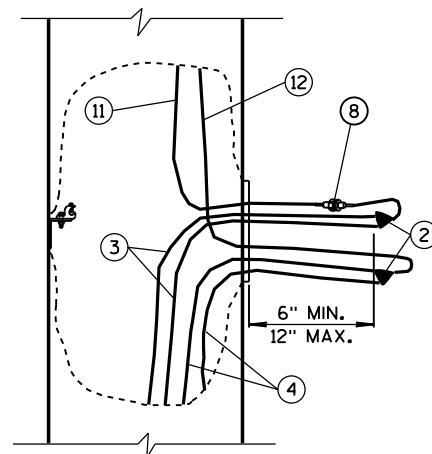
ITEM	QTY.	UNIT	DESCRIPTION
655.0610	200	L.F.	ELECTRICAL WIRE LIGHTING 12 AWG (POLE WIRE)
SPV.0060.01	40	EACH	PLAQUES SEQUENCE IDNTIFICATION
SPV.0060.02	20	EACH	LIGHT TOWER RAT SCREENS
SPV.0060.03	50	EACH	FUSE HOLDERS
SPV.0060.04	100	EACH	FUSES TYPE FNQ
SPV.0060.06	10	EACH	PLUMBING LIGHT POLES

Standard Detail Drawing List

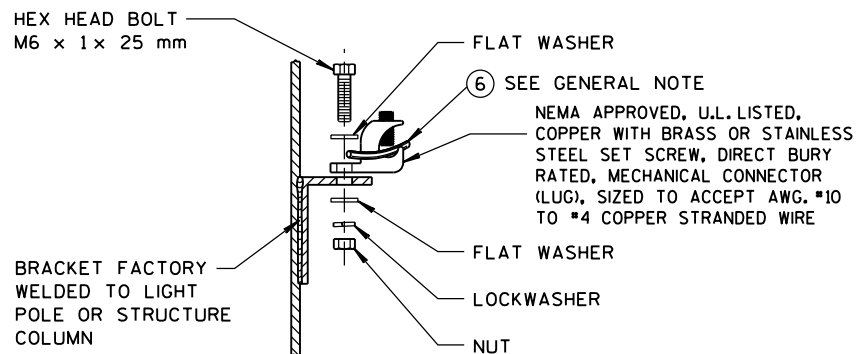
10A01-03	ELECTRICAL HANDHOLE WIRING
10A02-03	IDENTIFICATION PLAQUES LIGHT POLES
10A05-02	ELECTRICAL DETAILS GROUND MOUNT LIGHT POLES ISOLATED NEUTRAL SYSTEMS
10A06-02	ELECTRICAL DETAILS GROUND MOUNT LIGHT POLES GROUNDED NEUTRAL SYSTEMS
15C02-06A	BARRICADES AND SIGNS FOR MAINLINE CLOSURES
15C02-06B	BARRICADES AND SIGNS FOR MAINLINE CLOSURES
15C04-03	TRAFFIC CONTROL, ADVANCE WARNING SIGNS 45 M.P.H. OR GREATER TWO-WAY UNDIVIDED ROAD OPEN TO TRAFFIC
15C05-03	TRAFFIC CONTROL, ADVANCE WARNING SIGNS 40 M.P.H. OR LESS
15C12-04	TRAFFIC CONTROL FOR LANE CLOSURE (SUITABLE FOR MOVING OPERATIONS)
15D03-03	TRAFFIC CONTROL, LANE CLOSURE, SPEEDS GREATER THAN 40 M.P.H. WITH BARRIER
15D14-03	TRAFFIC CONTROL, TWO LANE CLOSURE ON FREEWAY OR EXPRESSWAY, SHORT-TERM (LESS THAN 24 HOURS)
15D15-02	TRAFFIC CONTROL, EXIT AND ENTRANCE RAMP WITHIN LANE CLOSURE
15D16-03	TRAFFIC CONTROL, EXIT RAMP CLOSURE
15D27-03	TRAFFIC CONTROL, SHOULDER CLOSURE ON DIVIDED ROADWAY, SPEEDS GREATER THAN 40 MPH



EQUIPMENT GROUNDING
CONDUCTOR SLACK



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



HANDHOLE GROUNDING LUG

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

CONDUCTOR COLOR CODES

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

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



1 POLE (1P)



2 POLE (2P)

FUSE ASSEMBLIES

GENERAL NOTES

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

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

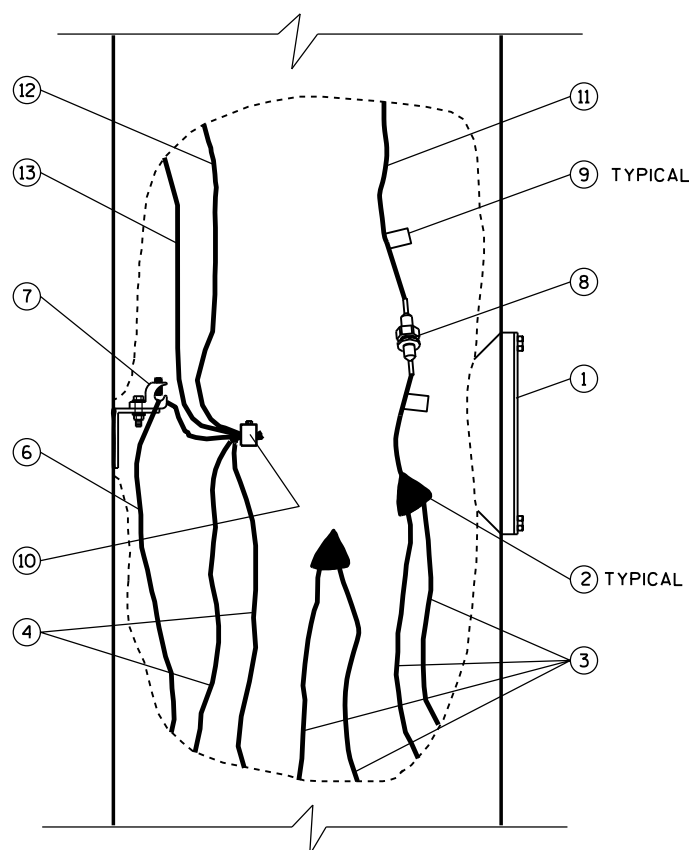
THE GROUNDING ELECTRODE CONDUCTOR SHALL BE CONTINUOUS WITHOUT
SPICES FROM THE GROUNDING ELECTRODE THROUGH THE HANDHOLE GROUNDING
LUG TO THE CONNECTOR.

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

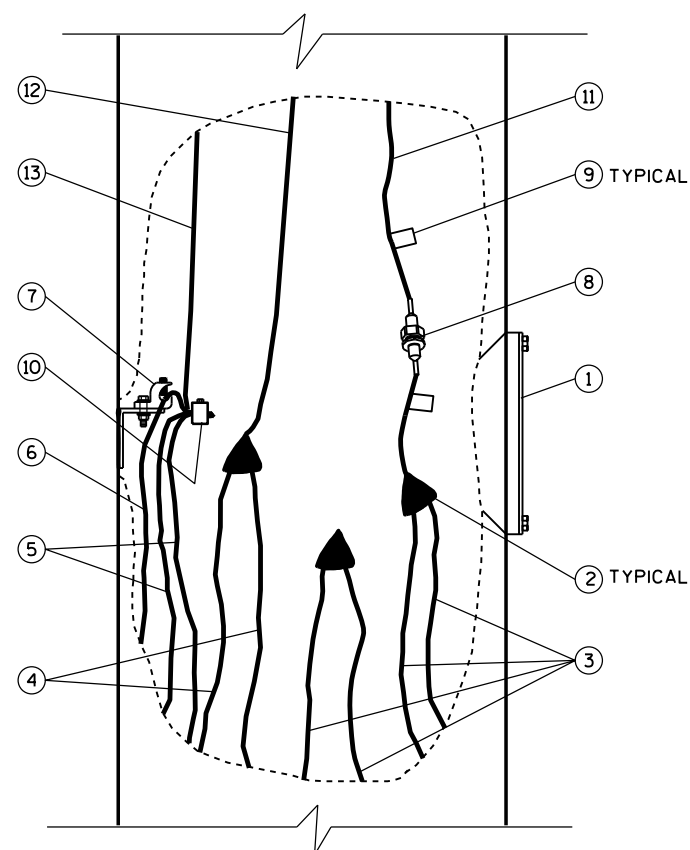
IN 3-PHASE SYSTEMS, THERE WILL BE ONE MORE UNGROUNDED LINE WIRE,
WHICH IS OMITTED FROM THE DRAWING FOR CLARITY.

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

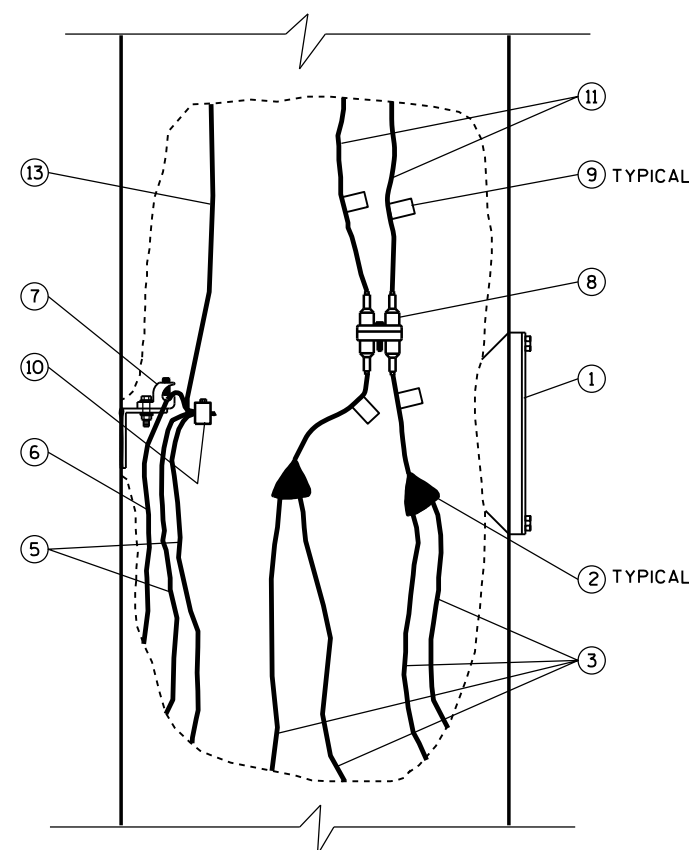
TYPICAL CONDUCTOR SLACK AT HANDHOLES



CUTAWAY HANDHOLE DETAIL
GROUNDED NEUTRAL SYSTEMS
1-φ



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



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

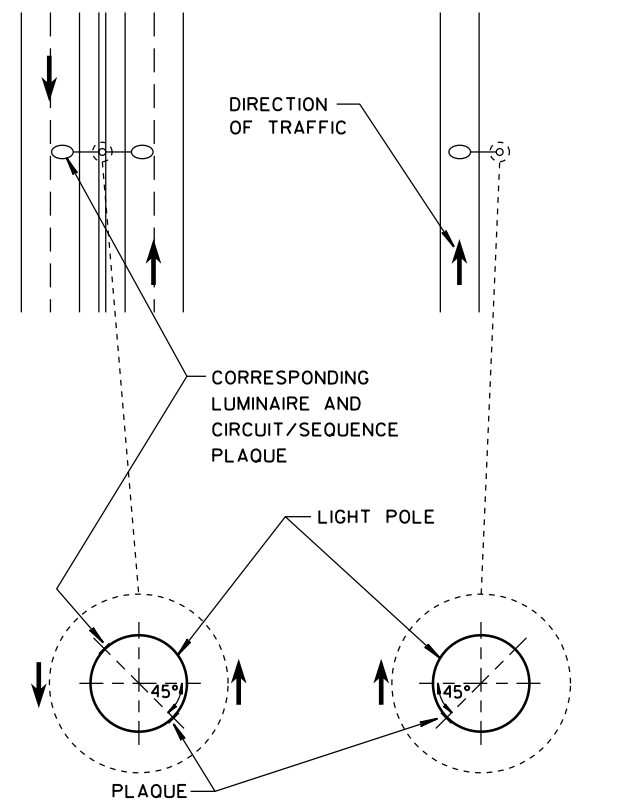
- HANDHOLE AND COVER
- INSULATED SPLICE
- UNGROUND LINE WIRE
- GROUNDED LINE WIRE
- SYSTEM GROUNDING LINE WIRE
- GROUNDING ELECTRODE CONDUCTOR
- HANDHOLE GROUNDING LUG
- FUSE ASSEMBLY, 1P OR 2P AS REQUIRED
- CIRCUIT TAG (SEE GENERAL NOTE)
- REVERSIBLE PRESSURE OR COMPRESSION
GROUNDING CONNECTOR (NOT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

ELECTRICAL HANDHOLE WIRING

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

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



MEDIAN POLE SINGLE ARM POLE

LOCATION OF LIGHT POLE
CIRCUIT/SEQUENCE PLAQUE

GENERAL NOTES

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

PLAQUES SHALL BE INCIDENTAL TO ALL NEW INSTALLATIONS.

WHERE SHOWN IN THE PLANS, REPLACEMENT PLAQUES WILL BE MEASURED AND PAID SEPARATELY.

FASTEN TOP, CENTER AND BOTTOM OF PLAQUE TO POLE OR OTHER LOCATION AS FOLLOWS:

GALVANIZED STEEL SHAFT - STAINLESS STEEL POP RIVETS

A588 STEEL SHAFT - SHIM FOR DRAINAGE WITH STAINLESS WASHERS;
FASTEN WITH STAINLESS SELF-TAPPING SCREWS

ALUMINUM SHAFTS - ALUMINUM POP RIVETS

MOUNTING HEIGHT SHALL BE APPROXIMATELY 5.0' ABOVE CURB OR SHOULDER. ADJUST IF IT IS KNOWN THAT REQUIRED TRAFFIC SIGNS WILL OBSTRUCT.

PLAQUE MATERIALS:

BASE - SHEET ALUMINUM, 0.060" THICK.

FACE - WHITE, SELF-ADHESIVE VINYL SHEETING, NON-RETROREFLECTIVE

LINES - BLACK, 1/2" WIDE, SELF-ADHESIVE

CHARACTERS - BLACK, SELF-ADHESIVE, SERIES "D", SIZE AS SHOWN

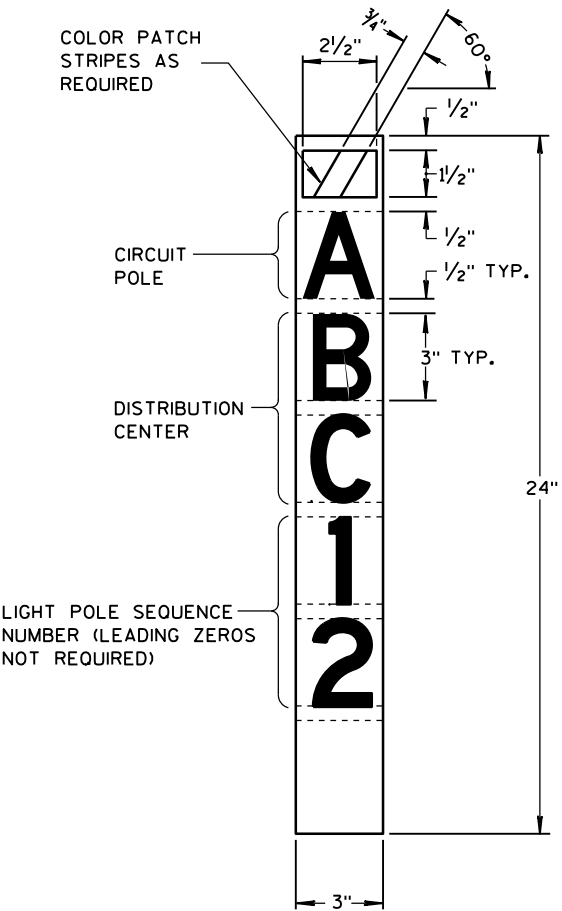
COLOR PATCHES - VARIOUS COLORS, SELF-ADHESIVE VINYL SHEETING

WITH THE APPROVAL OF THE ENGINEER, THE BASE MATERIAL MAY BE OMITTED AND THE FACE ADHERED DIRECTLY TO THE SURFACE, IN CASES SUCH AS SMOOTH, CLEAN ALUMINUM POLES.

ALTERNATIVE COMPUTER-GENERATED SIGN LETTERING MAY BE ACCEPTED IF THE ENGINEER FINDS IT TO BE EQUIVALENT.

COLOR PATCH CODE FOR HPS AND LED LUMINAIRES

HPS	LED	COLOR PATCH CODE
1000 WATT		NO PATCH
400 WATT	CATEGORY D	ORANGE
310 WATT		BLUE
250 WATT	CATEGORY C	ORANGE WITH WHITE STRIPE
200 WATT		RED
150 WATT	CATEGORY B	GREEN
100 WATT	CATEGORY A	BROWN
70 WATT	CATEGORY UDL	BROWN WITH WHITE STRIPE



LIGHT POLE CIRCUIT/SEQUENCE
PLAQUE

IDENTIFICATION PLAQUES
LIGHT POLES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
Feb. 2015
DATE

/S/ Ahmet Demirebilek
STATE ELECTRICAL ENGINEER

FHWA

GENERAL NOTES

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

USE THIS DETAIL IN CONJUNCTION WITH THE DETAIL FOR ELECTRICAL HANDHOLE WIRING.

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

WIRING FOR SINGLE LUMINAIRE POLES IS SHOWN WITH SOLID LINES. WIRING FOR THE SECOND LUMINAIRE OF TWIN LUMINAIRE POLES IS SHOWN WITH DOTTED LINES.

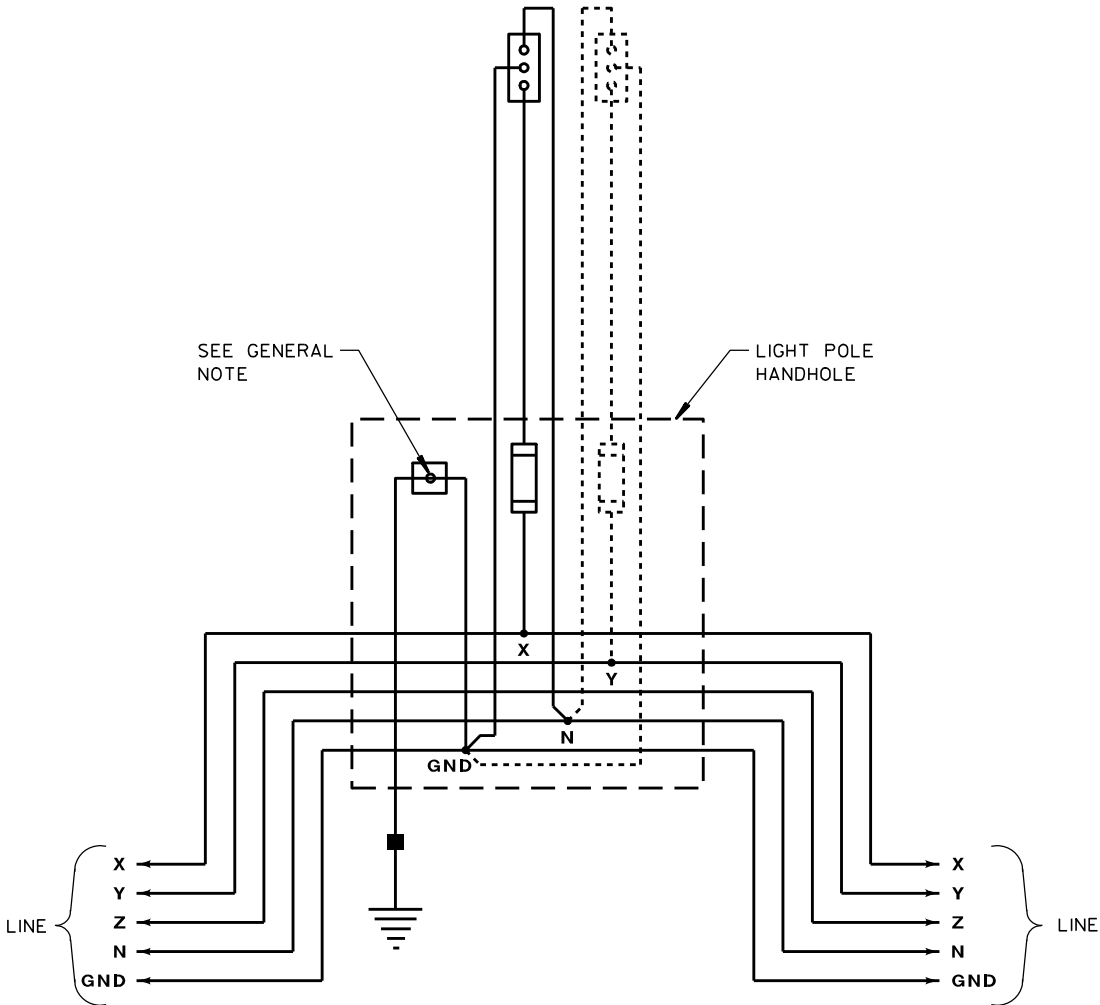
THE PLANS WILL SHOW WHICH CIRCUIT LEG(S) ARE CONNECTED TO EACH INSTALLATION.

HANDHOLE FUSE SCHEDULES

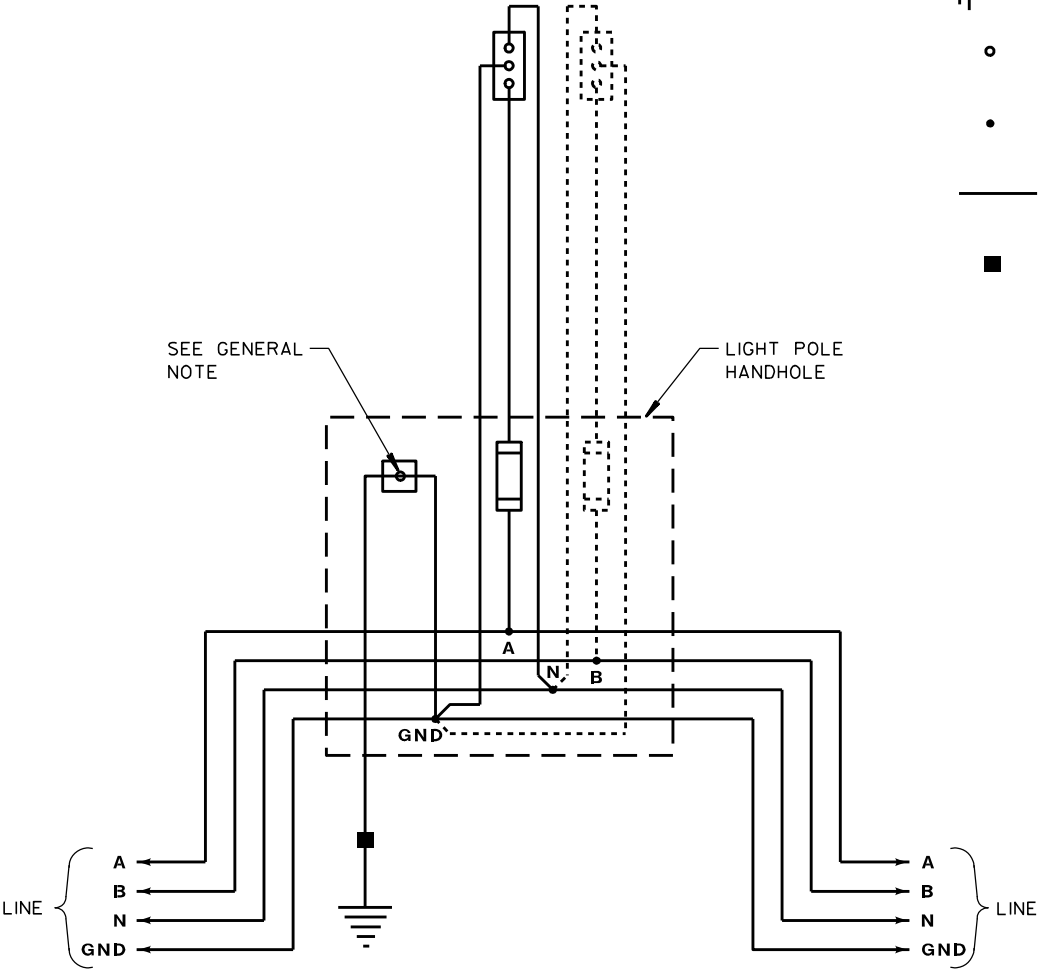
LINE VOLTAGE φ-GROUND	BALLAST WATTAGE	
	70-200 W	250-400 W
120 VAC	5 A	10 A
240 VAC	5 A	5 A
277 VAC	5 A	5 A
480 VAC	3 A	5 A

LEGEND

- A, B, X, Y, Z UNGROUNDED CIRCUIT CONDUCTORS
- N GROUNDED CIRCUIT CONDUCTORS
- GND EQUIPMENT GROUNDING CONDUCTOR
- P POLE (ELECTRICAL CIRCUIT)
- φ PHASE (ELECTRICAL CURRENT)
- [Symbol] HANDHOLE GROUND LUG
- [Symbol] SINGLE-POLE (1P) FUSE ASSEMBLY
- [Symbol] TWO-POLE (2P) FUSE ASSEMBLY
- [Symbol] UNFUSED LUMINAIRE
- [Symbol] EQUIPMENT GROUNDING ELECTRODE
- TERMINAL
- SPLICE
- CONDUCTOR
- EXOTHERMIC WELD



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



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

ELECTRICAL DETAILS
GROUND MOUNT LIGHT POLES
ISOLATED NEUTRAL SYSTEM

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
10/25/2010 /S/ John Corbin
DATE STATE ELECTRICAL ENGINEER FOR HWYS
FHWA

GENERAL NOTES

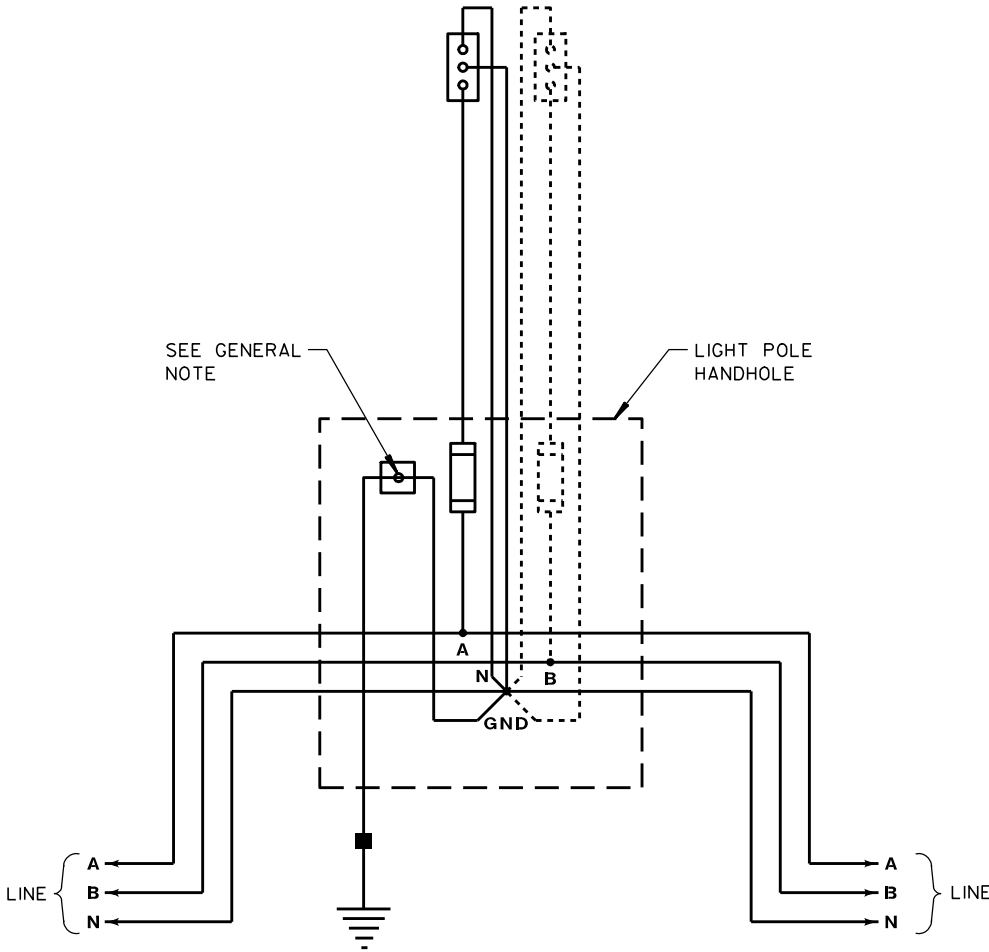
DETAILS OF CONSTRUCTION AND WORKMANSHIP NOT SHOWN IN THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE CONTRACT.

USE THIS DETAIL IN CONJUNCTION WITH THE DETAIL FOR ELECTRICAL HANDHOLE WIRING.

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

WIRING FOR SINGLE LUMINAIRE POLES IS SHOWN WITH SOLID LINES. WIRING FOR THE SECOND LUMINAIRE OF TWIN LUMINAIRE POLES IS SHOWN WITH DOTTED LINES.

THE PLANS WILL SHOW WHICH CIRCUIT LEG(S) ARE CONNECTED TO EACH INSTALLATION.



TYPICAL WIRING DIAGRAM
GROUNDED NEUTRAL SYSTEM
1- ϕ 240/480VAC 3 WIRE OR 480VAC 2 WIRE

HANDHOLE FUSE SCHEDULES

LINE VOLTAGE ϕ -GROUND	BALLAST WATTAGE	
	70-200 W	250-400 W
120 VAC	5 A	10 A
240 VAC	5 A	5 A
277 VAC	5 A	5 A
480 VAC	3 A	5 A

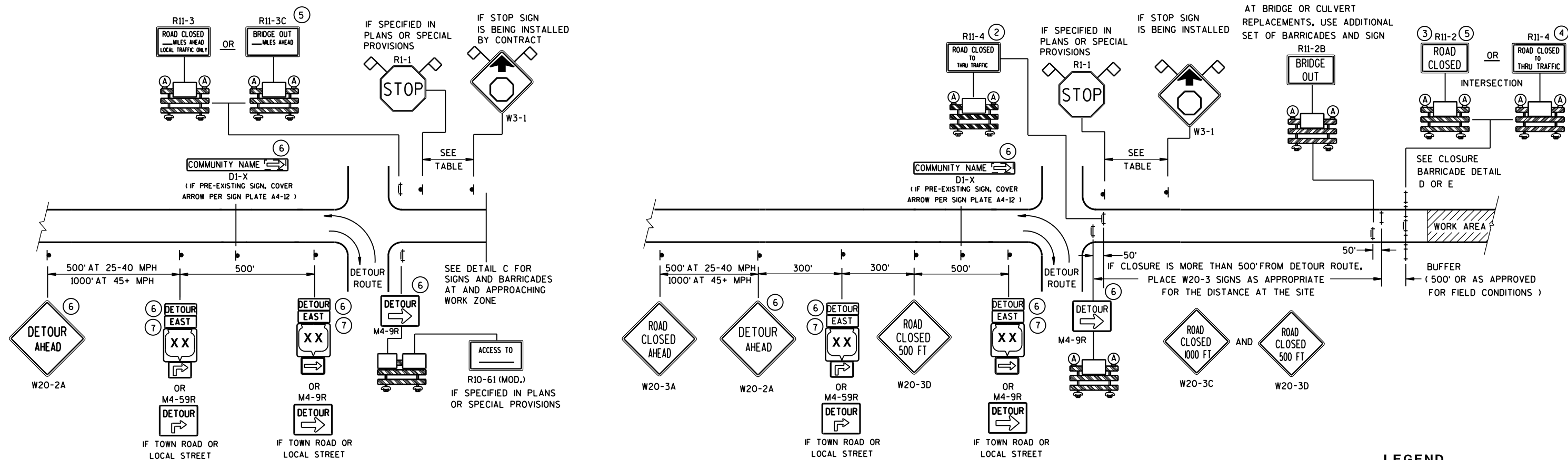
LEGEND

- A, B, X, Y, Z UNGROUNDED CIRCUIT CONDUCTORS
- N GROUNDED CIRCUIT CONDUCTORS
- GND EQUIPMENT GROUNDING CONDUCTOR
- P POLE (ELECTRICAL CIRCUIT)
- ϕ PHASE (ELECTRICAL CURRENT)
- [Symbol] HANDHOLE GROUND LUG
- [Symbol] SINGLE-POLE (1P) FUSE ASSEMBLY
- [Symbol] TWO-POLE (2P) FUSE ASSEMBLY
- [Symbol] UNFUSED LUMINAIRE
- [Symbol] EQUIPMENT GROUNDING ELECTRODE
- o TERMINAL
- SPLICE
- CONDUCTOR
- EXOTHERMIC WELD

ELECTRICAL DETAILS
GROUND MOUNT LIGHT POLES
GROUNDED NEUTRAL SYSTEMS

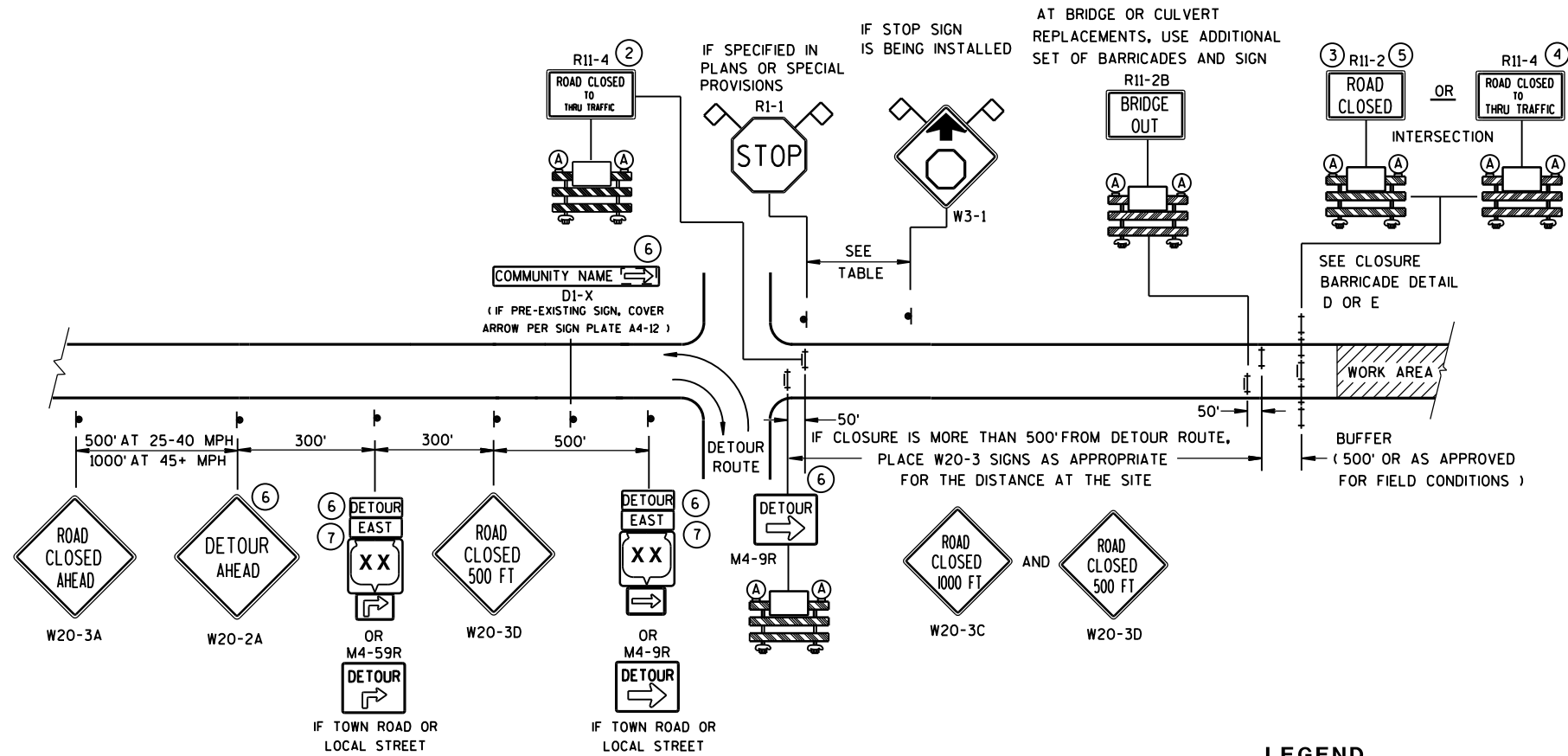
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
10/25/2010 /S/ John Corbin
DATE STATE ELECTRICAL ENGINEER FOR HWYS
FHWA



DETAIL A
MAINLINE CLOSURE WITH POSTED DETOUR

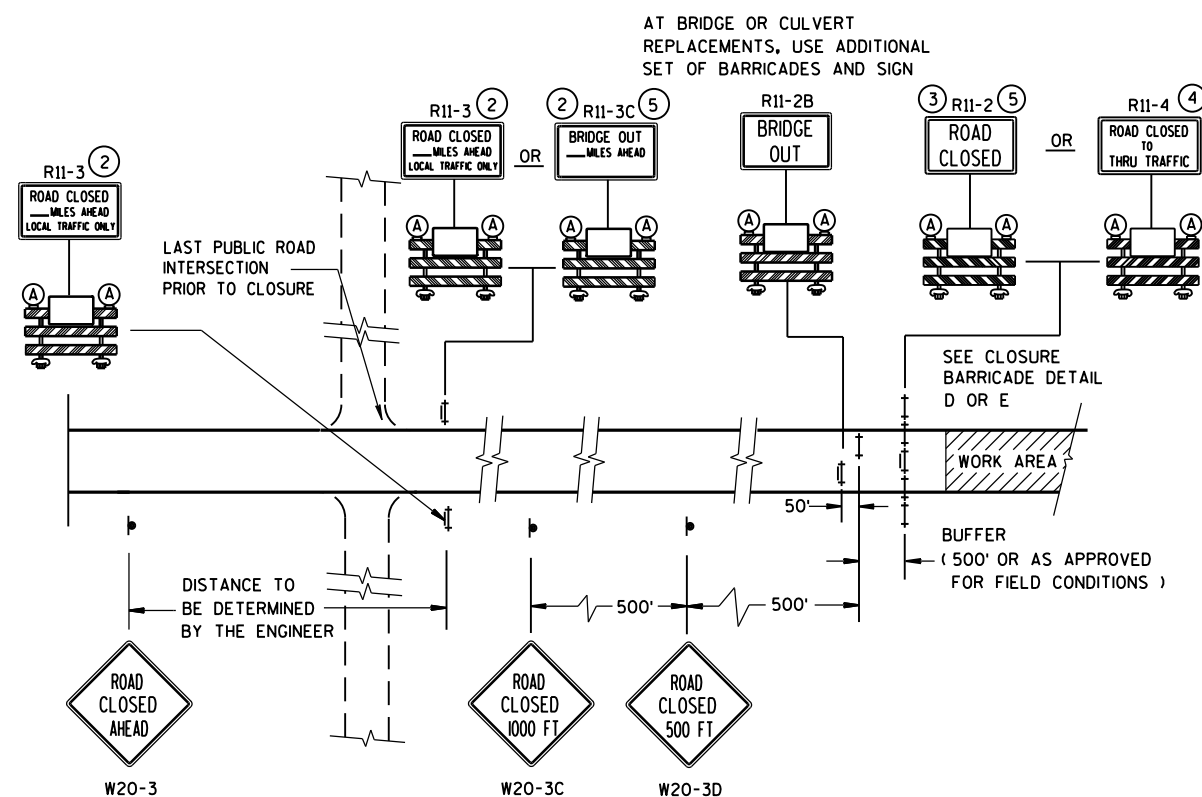
WORK ZONE GREATER THAN 1/2 MILE FROM DETOUR ROUTE (1000 FEET IF URBAN)



DETAIL B

MAINLINE CLOSURE WITH POSTED DETOUR














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



DETAIL C

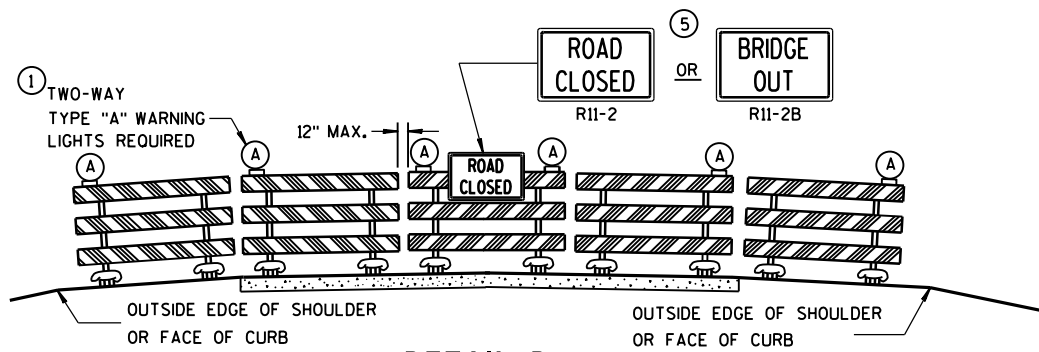
MAINLINE CLOSURE, NO POSTED DETOUR

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

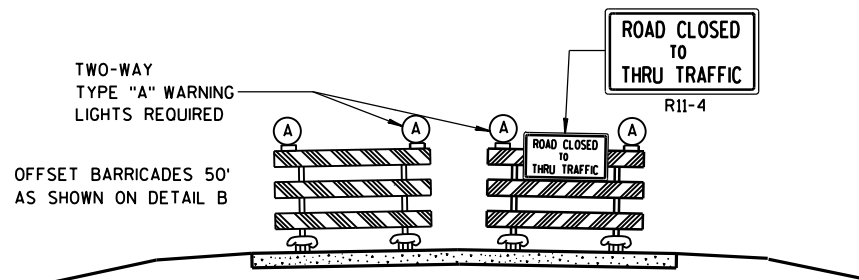
- # LEGEND
-  SIGN ON PERMANENT SUPPORT
-  TYPE III BARRICADE
-  TYPE III BARRICADE WITH ATTACHED SIGN
-  TYPE "A" WARNING LIGHT (FLASHING)
-  WORK AREA
-  M4-8
 M3-X
-  M1-4 OR  M1-5A OR  M1-6
-  M05-1 OR  M06-1
-  FLAGS, 16" X 16" MIN., (ORANGE)

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

<p>BARRICADES AND SIGNS FOR MAINLINE CLOSURES</p>	
<p>STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION</p>	
<p><u>Sept. 2015</u></p> <p><u>DATE</u></p>	<p><u>/S/ Peter Amakobe Atepe</u></p> <p><u>STATEWIDE WORK ZONE TRAFFIC SAFETY ENGINEER</u></p>
<p>FHWA</p>	



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.

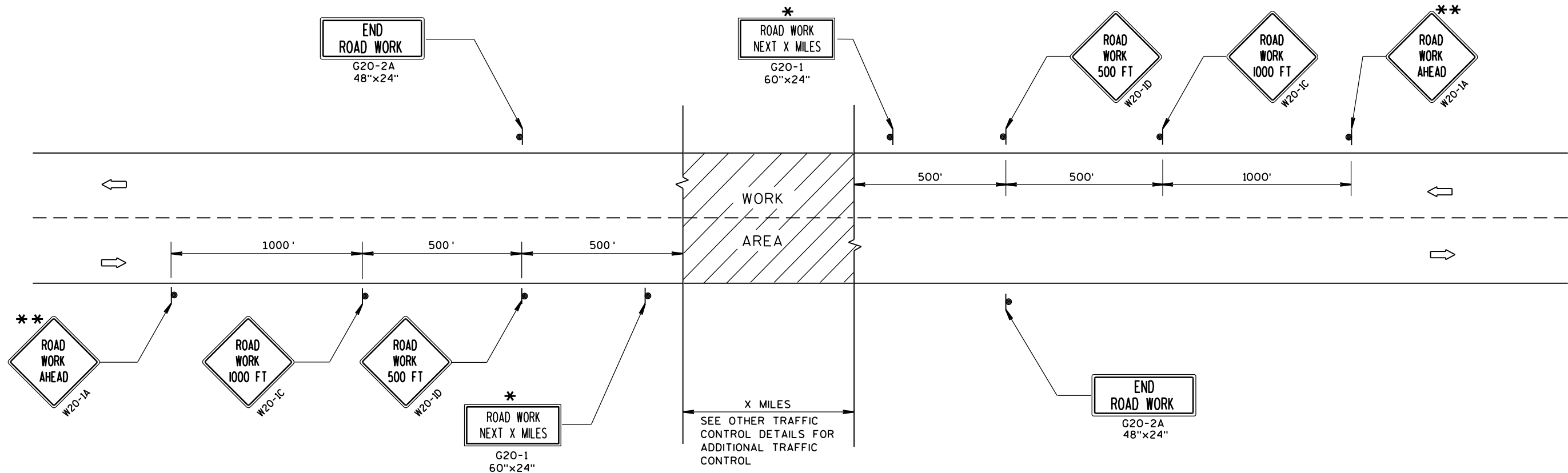
R1-1 SHALL BE 36" X 36".

- 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



TYPICAL SIDEROAD APPROACH WARNING SIGN DETAIL

GENERAL NOTES

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

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

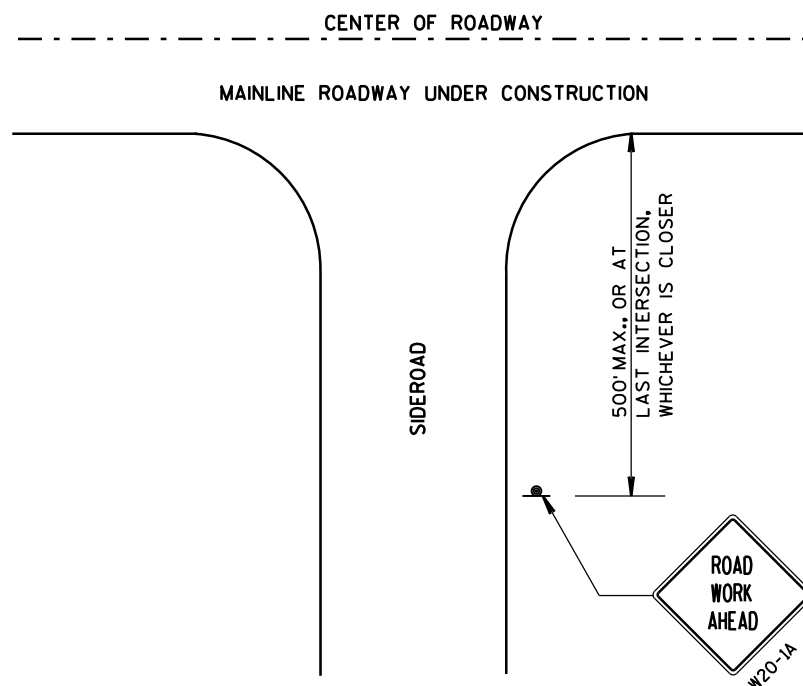
ALL SIGNS ARE 48"x48" UNLESS OTHERWISE NOTED.

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

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

* OMIT G20-1 SIGNS IF LENGTH OF WORK AREA IS 2 MILES OR LESS.

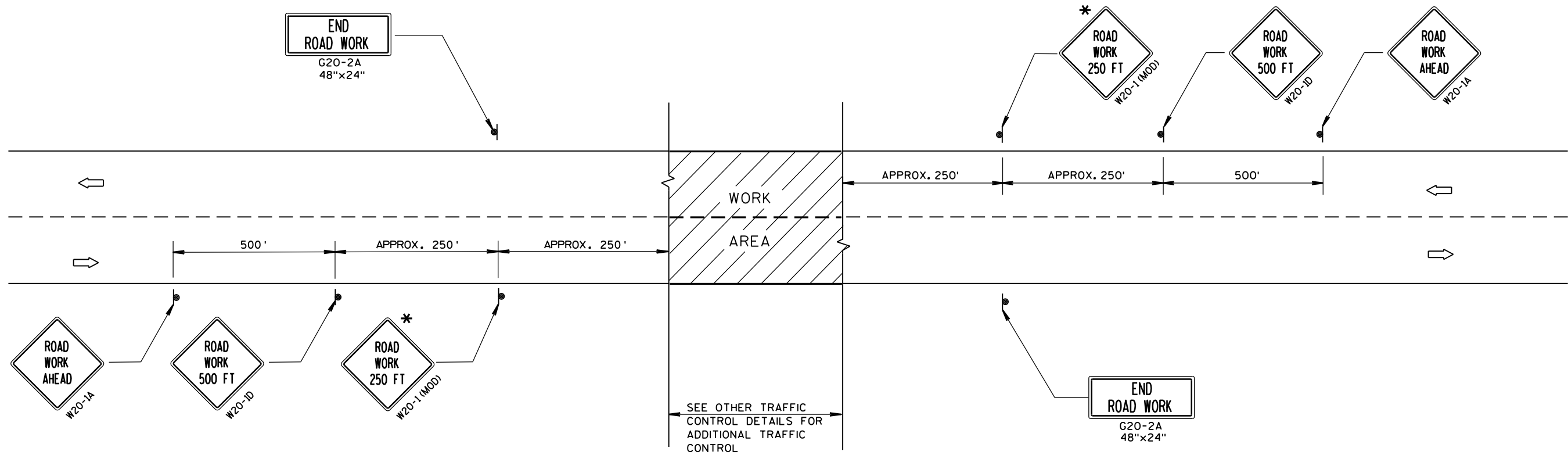
** PLACE ADDITIONAL W20-1A "ROAD WORK AHEAD" SIGN IF WORK AREA WITHIN THE PROJECT IS SEPARATED BY MORE THAN 2 MILES FROM PREVIOUS WORK AREA.



LEGEND

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

TRAFFIC CONTROL, ADVANCE WARNING SIGNS 45 M.P.H. OR GREATER TWO-WAY UNDIVIDED ROAD OPEN TO TRAFFIC	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED DATE	/S/ Peter Amokobe Atepe STATEWIDE WORK ZONE TRAFFIC SAFETY ENGINEER
FHWA	



TYPICAL SIDEROAD APPROACH WARNING SIGN DETAIL

GENERAL NOTES

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

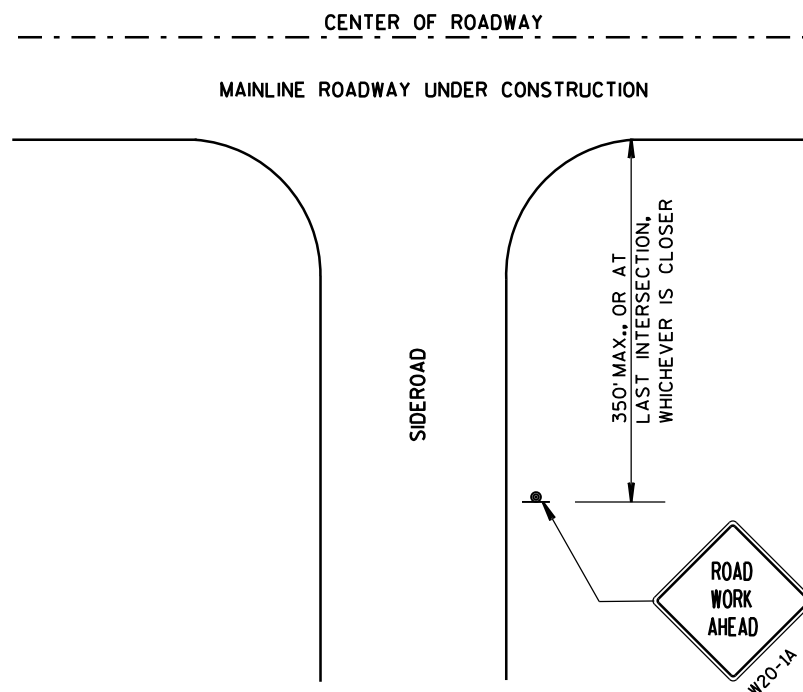
THE SPACING BETWEEN TRAFFIC CONTROL SIGNS SHOULD BE ADJUSTED TO NOT CONFLICT WITH AND SHOULD PROVIDE A DESIRABLE MINIMUM OF 200 FEET CLEARANCE TO EXISTING SIGNS THAT WILL REMAIN IN PLACE.

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

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

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

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



LEGEND

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

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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

LEGEND

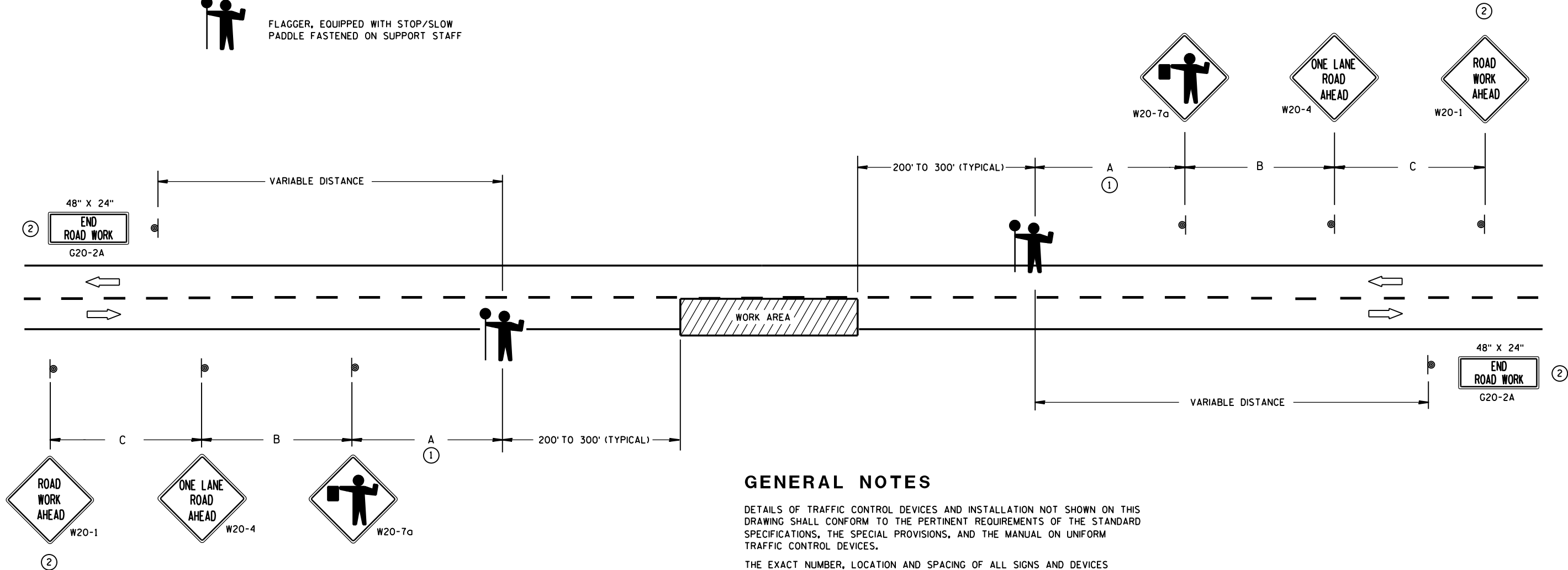
-  SIGN ON PORTABLE OR PERMANENT SUPPORT
-  DIRECTION OF TRAFFIC
-  WORK AREA
-  FLAGGER, EQUIPPED WITH STOP/SLOW PADDLE FASTENED ON SUPPORT STAFF

SIGN SPACING TABLE

SPEED LIMIT	SIGN SPACING A,B,C
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 W20-4 SIGNS. A 500' TYPICAL SPACING SHALL BE PROVIDED BETWEEN THE SIGNS.



- ① FOR A MOVING WORK OPERATION, SIGNING FOR BOTH DIRECTIONS SHALL BE REESTABLISHED (AS SIMULTANEOUSLY AS PRACTICAL) AT APPROXIMATELY 3500 FOOT INTERVALS IN THE MOVING WORK OPERATION OR AS APPROVED BY THE ENGINEER.
- ② SIGN NOT REQUIRED IF FLAGGING OPERATION OCCURS WITHIN A SIGNED ROAD WORK ZONE AREA.

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.

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.

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, COVER OR REMOVE ALL TEMPORARY TRAFFIC CONTROL SIGNS.

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

TRAFFIC CONTROL FOR LANE CLOSURE (SUITABLE FOR MOVING OPERATIONS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

LEGEND

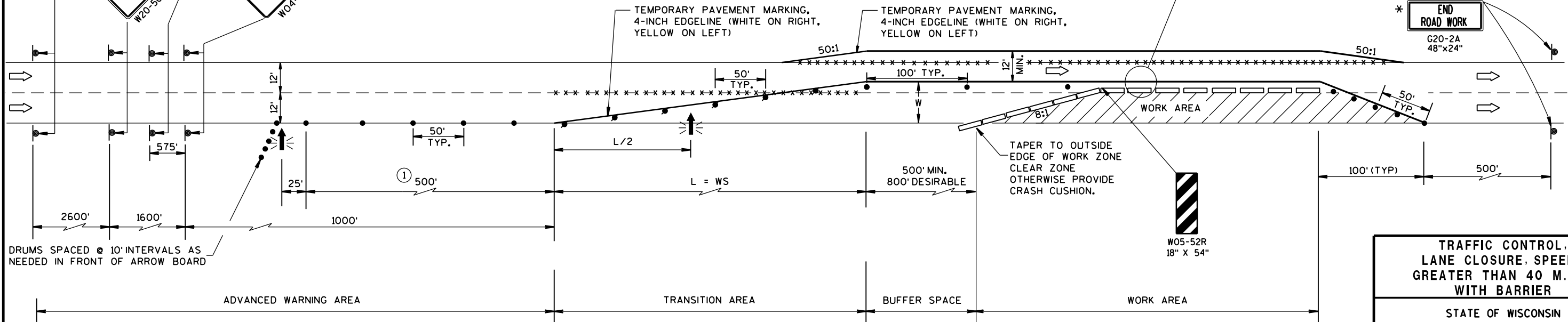
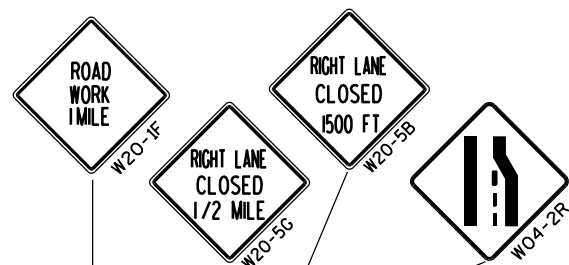
- SIGN ON PERMANENT SUPPORT
- TRAFFIC CONTROL DRUM WITH TYPE "C" STEADY BURN LIGHT
- TRAFFIC CONTROL DRUM
- FLASHING ARROW BOARD
- REMOVING PAVEMENT MARKING

CONCRETE BARRIER TEMPORARY PRECAST

DIRECTION OF TRAFFIC

WORK AREA

L. TAPER LENGTH (MPH)									
SPEED (MPH)	W. LATERAL OFFSET (FT)								
	10	11	12	13	14	15	16	17	18
45	450	495	540	585	630	675	720	765	810
50	500	550	600	650	700	750	800	850	900
55	550	605	660	715	770	825	880	935	990
60	600	660	720	780	840	900	960	1020	1080
65	650	715	780	845	910	975	1040	1105	1170
70	700	770	840	910	980	1050	1120	1190	1260



DRUMS SPACED @ 10' INTERVALS AS NEEDED IN FRONT OF ARROW BOARD

ADVANCED WARNING AREA

TRANSITION AREA

BUFFER SPACE

WORK AREA

GENERAL NOTES

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

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.

ALL SIGNS ARE 48"x48" UNLESS OTHERWISE NOTED.

"W0" 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.

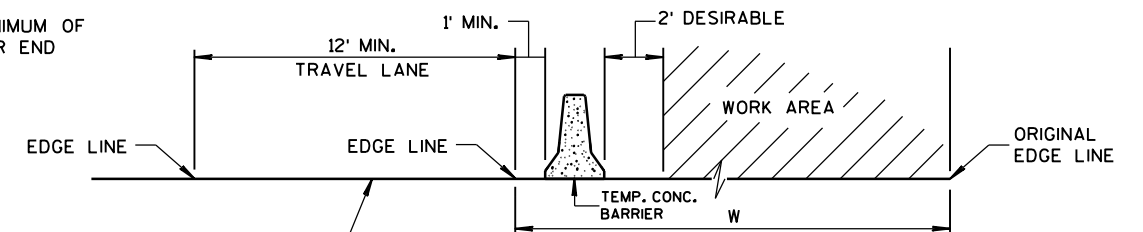
- CONSIDER ROADWAY GEOMETRICS WHEN LOCATING SIGNS AND ARROW BOARD SO THE DRIVER HAS A CLEAR VIEW OF THE ARROW BOARD AND LANE CLOSURE DRUMS FOR A MINIMUM 1500 FEET IN FRONT OF DRUM TAPER.

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

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

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

ADJUSTMENTS IN BUFFER SPACE NEED TO BE INCORPORATED WHEN THE LANE 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 1/2 THE LENGTH OF THE TRANSITION AREA. THE ENTRANCE RAMP SHOULD BE FOLLOWED BY THE ORIGINAL BUFFER SPACE LENGTH OF 800 FEET DESIRABLE PRIOR TO ANOTHER TRAFFIC CONTROL CHANGE SUCH AS A CROSSOVER MANEUVER.



TYPICAL SECTION











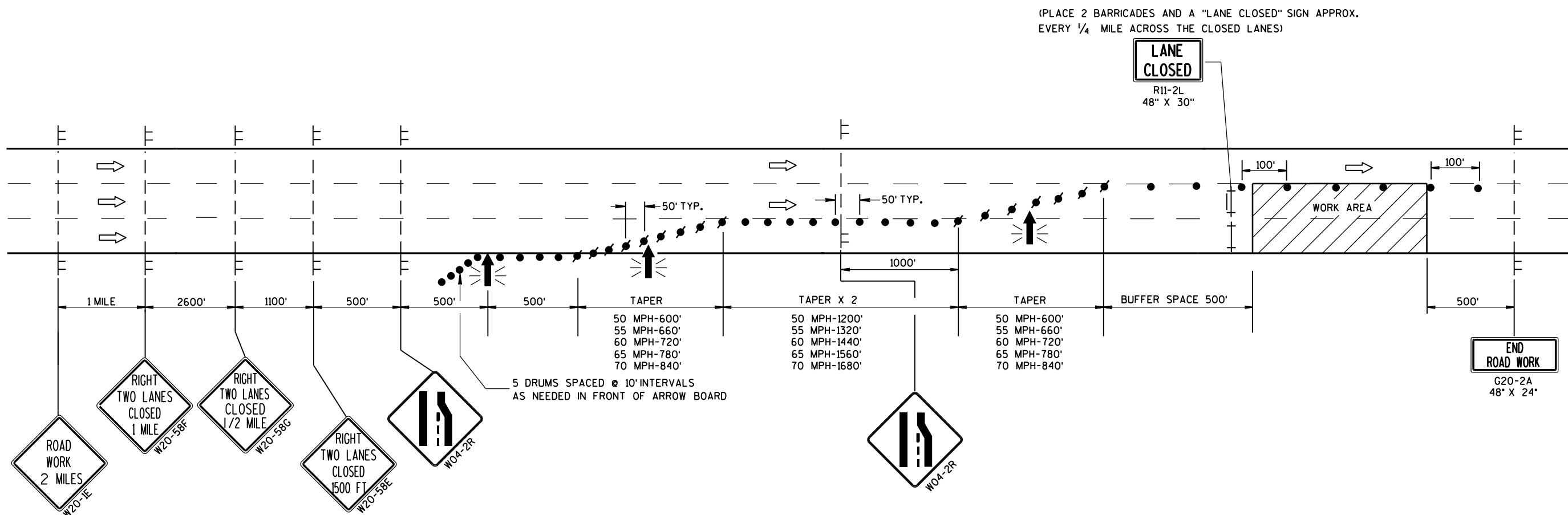
TRAFFIC CONTROL,
LANE CLOSURE, SPEEDS
GREATER THAN 40 M.P.H.
WITH BARRIER

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

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.

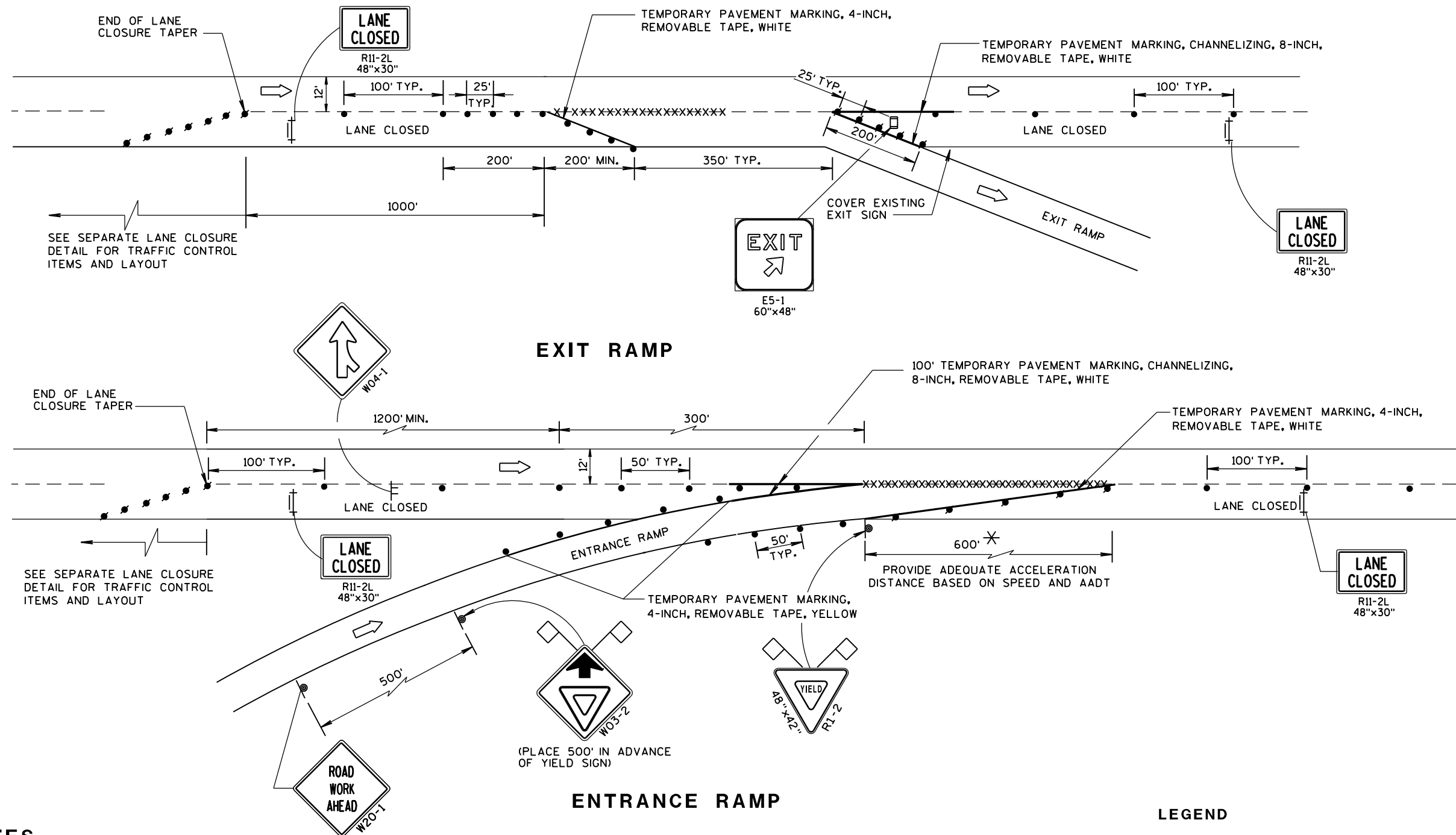
WHEN A RAMP OR SIDE ROAD INTERSECTS THE FACILITY ON WHICH THE WORK IS BEING PERFORMED, ADDITIONAL TRAFFIC CONTROLS SHALL BE PROVIDED AS SPECIFIED IN THE PLANS AND/OR SPECIAL PROVISIONS OR AS APPROVED BY THE ENGINEER.

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.

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



GENERAL NOTES

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

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

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

ALL SIGNS ARE 48"x48" UNLESS OTHERWISE NOTED.

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

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

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

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

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

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

REMOVE PAVEMENT MARKINGS AND PLACE TEMPORARY PAVEMENT MARKING, REMOVABLE TAPE IF LANE CLOSURE IS TO BE IN PLACE FOR 7 OR MORE CONTINUOUS DAYS AND NIGHTS.

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

* LENGTH OF OPENING MAY BE REDUCED TO 150 FEET DURING STAGING OF WORK IN IMMEDIATE AREA OF RAMP TAPER.

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

TRAFFIC CONTROL,
EXIT AND ENTRANCE RAMP
WITHIN LANE CLOSURE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
Sept. 2015
DATE

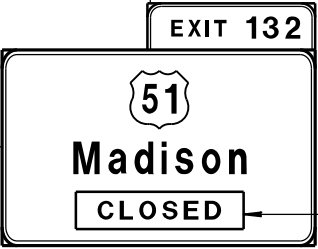
/S/ Peter Amokobe Atepe
STATEWIDE WORK ZONE TRAFFIC
SAFETY ENGINEER

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.

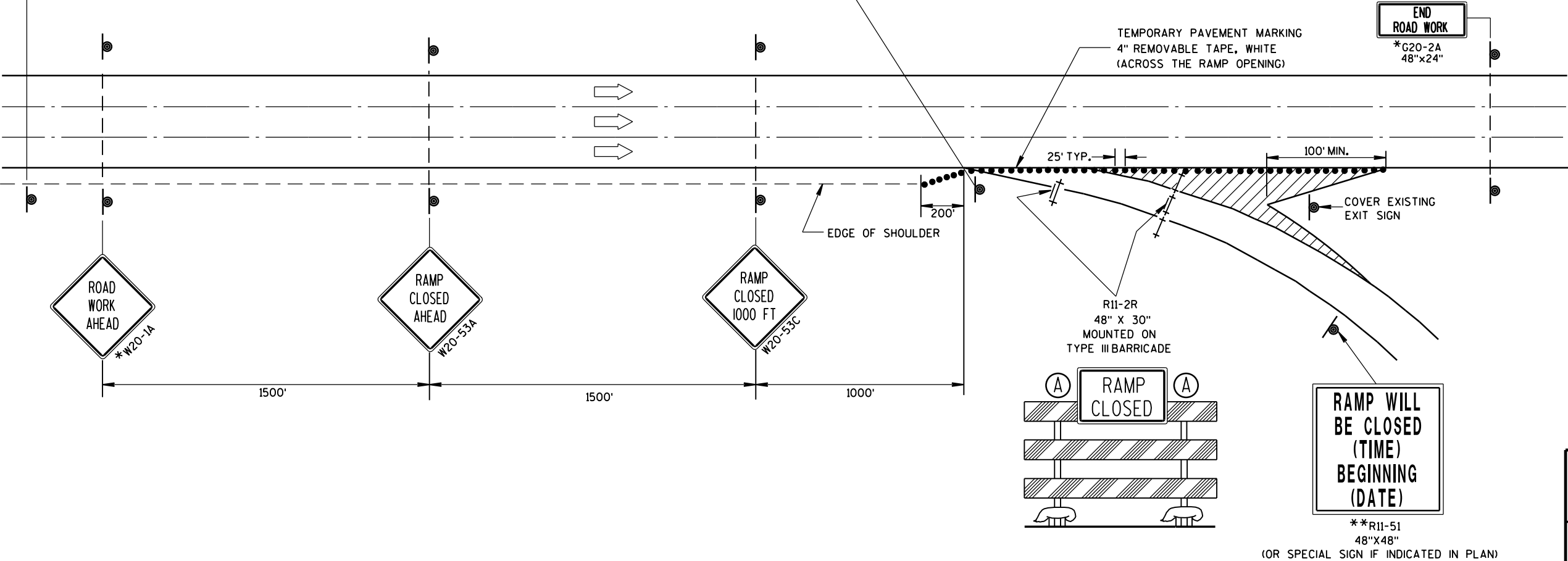
WHERE MEDIAN BARRIER IS IN PLACE, SIGNS SHOWN ON LEFT SIDE OF ROADWAY MAY BE OMITTED FOR RIGHT SIDE RAMP CLOSURES OF LESS THAN 12-HOUR DURATION.

* 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.

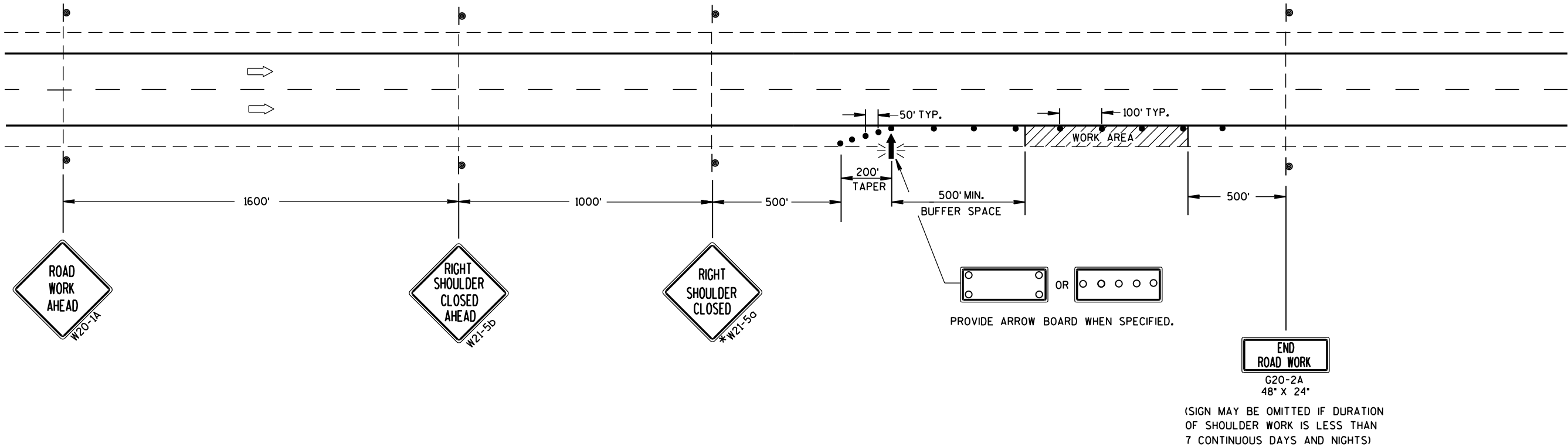
SIGNS THAT WILL BE IN PLACE LESS THAN 7 CONTINUOUS DAYS AND NIGHTS MAY BE MOUNTED ON PORTABLE SUPPORTS.

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

Notes



Wisconsin Department of Transportation

Dedicated people creating transportation solutions
through innovation and exceptional service.

<http://www.dot.wisconsin.gov>