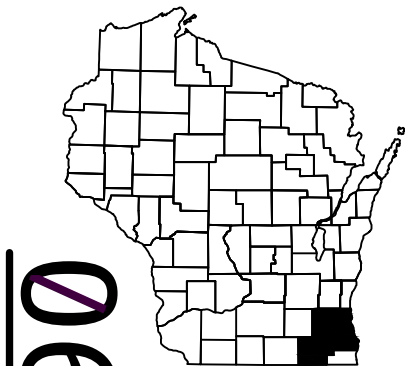


JUNE 2019

ORDER OF SHEETS

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

TOTAL SHEETS = 40



DESIGN DESIGNATION

A.A.D.T.	=
A.A.D.T.	=
D.H.V.	=
D.D.	=
T.	=
DESIGN SPEED	=
ESALS	=

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	95.36
CULVERT (Profile View)	-----
UTILITIES	
ELECTRIC	-----
FIBER OPTIC	-----
GAS	-----
SANITARY SEWER	-----
STORM SEWER	-----
TELEPHONE	-----
WATER	-----
UTILITY PEDESTAL	-----
POWER POLE	-----
TELEPHONE POLE	-----

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

PLAN OF PROPOSED IMPROVEMENT

VAR LOCATION ON STN PER ANNUAL PLAN

CRACK SEALING - FY 2020

CONST/CRACK SEALING  
VAR HWY  
SOUTHEAST REGIONWIDE

STATE PROJECT NUMBER
4890-00-75

STATE PROJECT	FEDERAL PROJECT	
	PROJECT	CONTRACT
4890-00-75		

MILWAUKEE & WAUKESHA

RACINE & WAUKESHA

NET EXCEPTION TO C LENGTH  
0.20 MI. SOUTH OF N. CAPE RD.  
TO 0.05 MI. NORTH OF RYAN RD (CTH H)

END CONSTRUCTION  
STH 36 (0.056 MI. SOUTH OF STH 100)

END CONSTRUCTION  
STH 36 (0.18 MI. SOUTH OF MUSKEGO DAM DR.)

BEGIN CONSTRUCTION  
STH 36 (0.32 MI. NORTH OF CTH G)

BEGIN CONSTRUCTION  
STH 36 (0.056 MI. NORTH OF LOOMIS RD.)

R-21-E  
RACINE

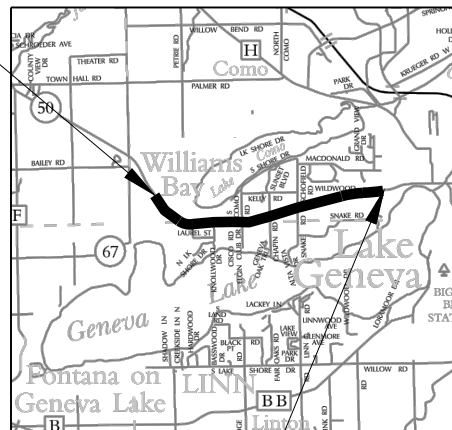
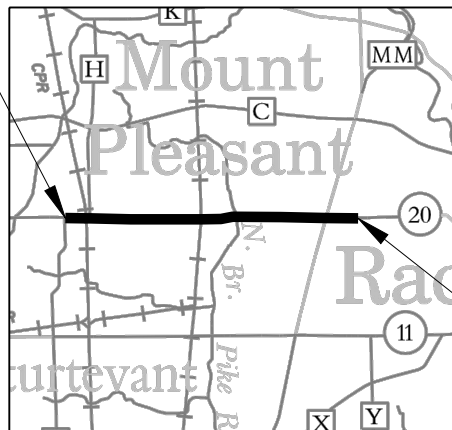
R-20-E  
WALWORTH

BEGIN CONSTRUCTION  
STH 20 (0.19 MI. EAST OF RENAISSANCE BLVD)

BEGIN CONSTRUCTION  
STH 50 (GENEVA NATIONAL AVE.)

END CONSTRUCTION  
STH 20 (ROOSEVELT AVE.)

END CONSTRUCTION  
STH 50 (PEARSON DR.)



STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
PREPARED BY	
Surveyor	SURVEYOR
Designer	EB HAZBAVI
Project Manager	DOUG CAIN
Regional Examiner	
Regional Supervisor	BENEDICT ERUCHALU
APPROVED FOR THE DEPARTMENT	
DATE: 02/01/2019	



SE REGION STATE HIGHWAY MAINTENANCE CONTACTS:

PAUL AMBROSE  
MAINTAINENCE PROGRAM ENGINEER  
WISDOT SE REGION  
141 NW BARSTOW STREET  
WAUKESHA, WI 53188  
PHONE: (262) 548-6730

WAUKESHA  
GARY WOLF  
AREA MAINTENANCE COORDINATOR  
WISDOT SE REGION  
141 NW BARSTOW STREET  
WAUKESHA,WI 53188  
PHONE: (414) 750-2715

MILWAUKEE (NORTH)  
KEVIN PEIFFER  
AREA MAINTENANCE COORDINATOR  
WISDOT SE REGION  
141 NW BARSTOW STREET  
WAUKESHA, WI 53188  
PHONE: (414) 750-1408

RACINE COUNTY  
GAIL LANTZ  
AREA MAINTENANCE COORDINATOR  
WISDOT SE REGION  
141 NW BARSTOW STREET  
WAUKESHA, WI 53188  
PHONE: (414) 750-0994

WALWORTH & KENOSHA  
MICHELLE LEDZIAN  
AREA MAINTENANCE COORDINATOR  
WISDOT SE REGION  
141 NW BARSTOW STREET  
WAUKESHA, WI 53188  
PHONE: (414) 750-1563

DNR CONTACTS :

MILWAUKEE COUNTY  
KRISTINA BETZOLD  
WDNR - SE REGION  
2300 N. MARTIN LUTHER KING DR.  
MILWAUKEE, WI 53212  
PHONE: (414) 263-8517  
[kristina.betzold@wisconsin.gov](mailto:kristina.betzold@wisconsin.gov)

KENOSHA, RACINE, WALWORTH, & WAUKESHA  
CRAIG WEBSTER  
141 NW BARSTOW STREET  
ROOM 180  
WAUKESHA, WI 53188  
PHONE: (262) 574-2141  
[craig.webster@wisconsin.gov](mailto:craig.webster@wisconsin.gov)

OTHER CONTACTS  
DOUG CAIN  
WISDOT PROJECT MANAGER  
141 NW BARSTOW STREET  
WAUKESHA, WI 53188  
PHONE: (262) 548-5603

GENERAL NOTES

NO UTILITY FACILITIES ARE IDENTIFIED IN THE PLAN. CONTRACTOR IS RESPONSIBLE TO CONFIRM THIS.

IDENTIFY ALL UTILITIES IN THE AREA BY CONTACTING DIGGERS HOTLINE.  
NOT ALL UTILITIES ARE MEMBERS OF DIGGERS HOTLINE.

QUANTITY FOR ROUTE & SEAL IS ESTIMATED AT 3 LINEAR FEET (LF) PER 1 POUND (LB) OF MATERIAL.

QUANTITY FOR CRACK SEALING IS ESTIMATED AT 4 LF PER 1 LB OF MATERIAL.

ROUTE & SEAL AND CRACK SEALING LOCATIONS ARE APPROXIMATE AND WILL BE DETERMINED BY THE ENGINEER IN THE FIELD.

ROUTE & SEAL AND CRACK SEALING AREAS INCLUDE MAINLINE TRAVEL LANES, SHOULDERS, TURNLANES, AUXILLARY LANES AND TAPER SECTIONS.

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

ANY OPEN DISTURBED AREAS WILL BE RESTORED AT THE DIRECTION OF THE ENGINEER.  
MINIMIZING DUST AT THE DIRECTION OF THE ENGINEER.  
PAVEMENT TO BE CLEANED AT THE DIRECTION OF THE ENGINEER.

AN ECIP OR ECIP AMENDMENT WOULD BE REQUIRED FOR ANY SELECT SITES OR STAGING AREAS OFF THE PROJECT FOOT PRINT.

DIGGERS



HOTLINE

Dial

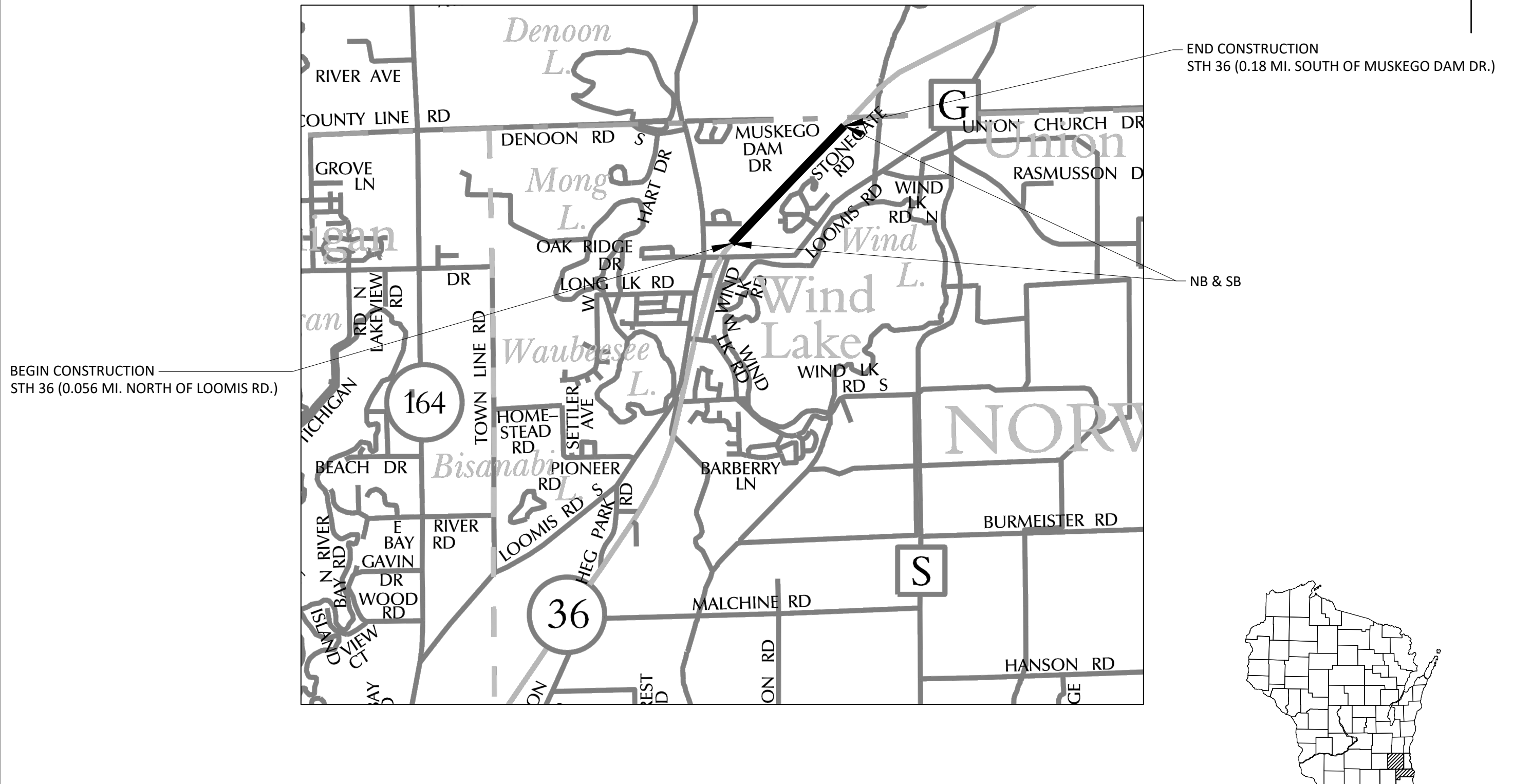


or (800) 242-8511

[www.DiggersHotline.com](http://www.DiggersHotline.com)



# RACINE & WAUKESHA





# MILWAUKEE & WAUKESHA

NET EXCEPTION TO  $\frac{1}{2}$  LENGTH  
0.20 MI. SOUTH OF N. CAPE RD.  
TO 0.05 MI. NORTH OF RYAN RD. (CTH H)

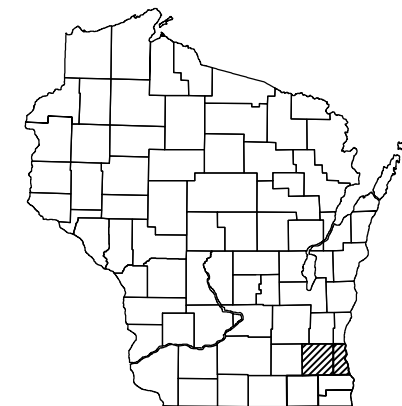
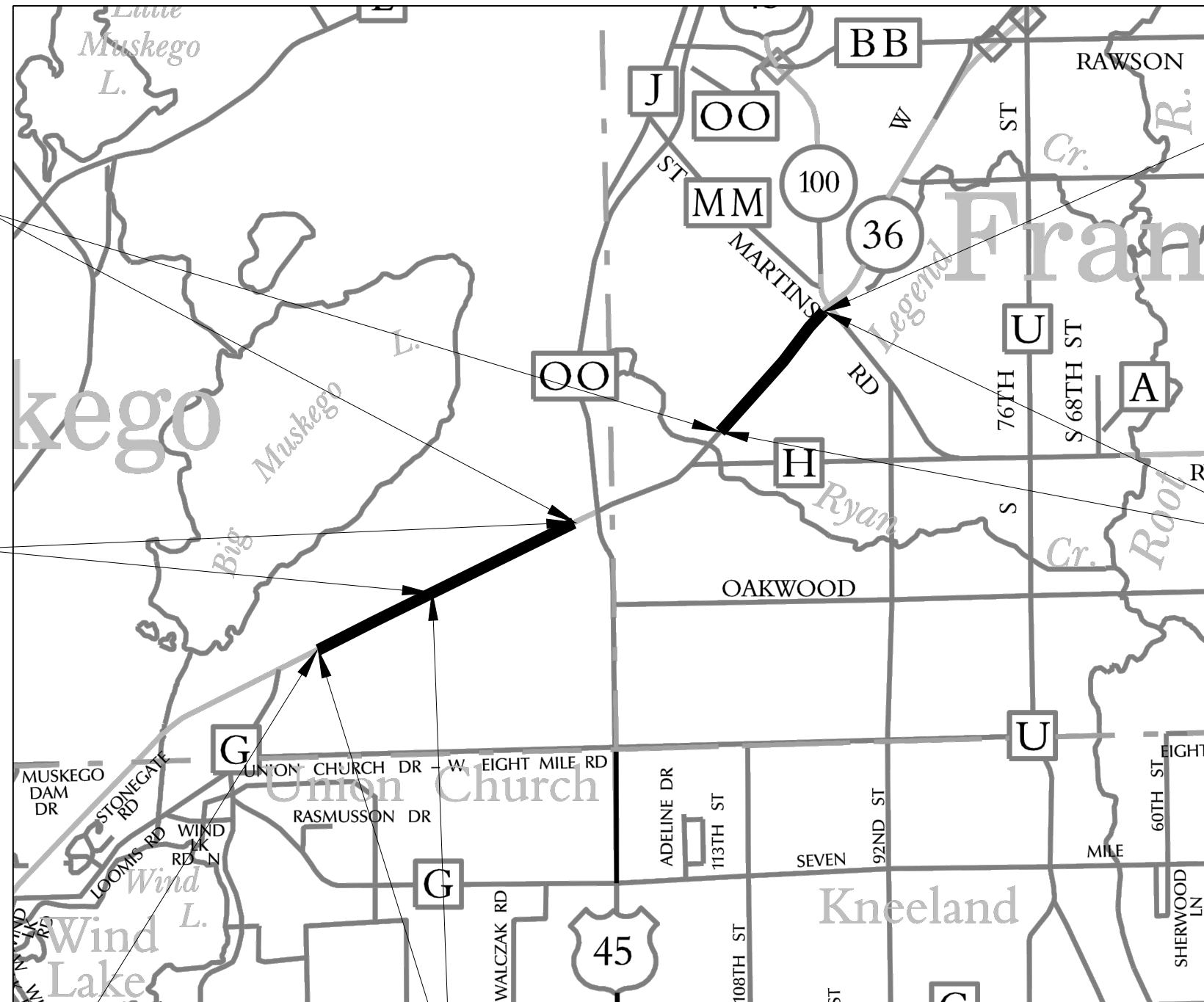
NB & SB  
(CHAMPIONS DR. - 0.20 MI.  
SOUTH OF N. CAPE RD.)

BEGIN CONSTRUCTION  
STH 36 (0.32 MI. NORTH OF CTH G)

NB ONLY (0.32 MI. NORTH OF CTH G - CHAMPIONS DR.)

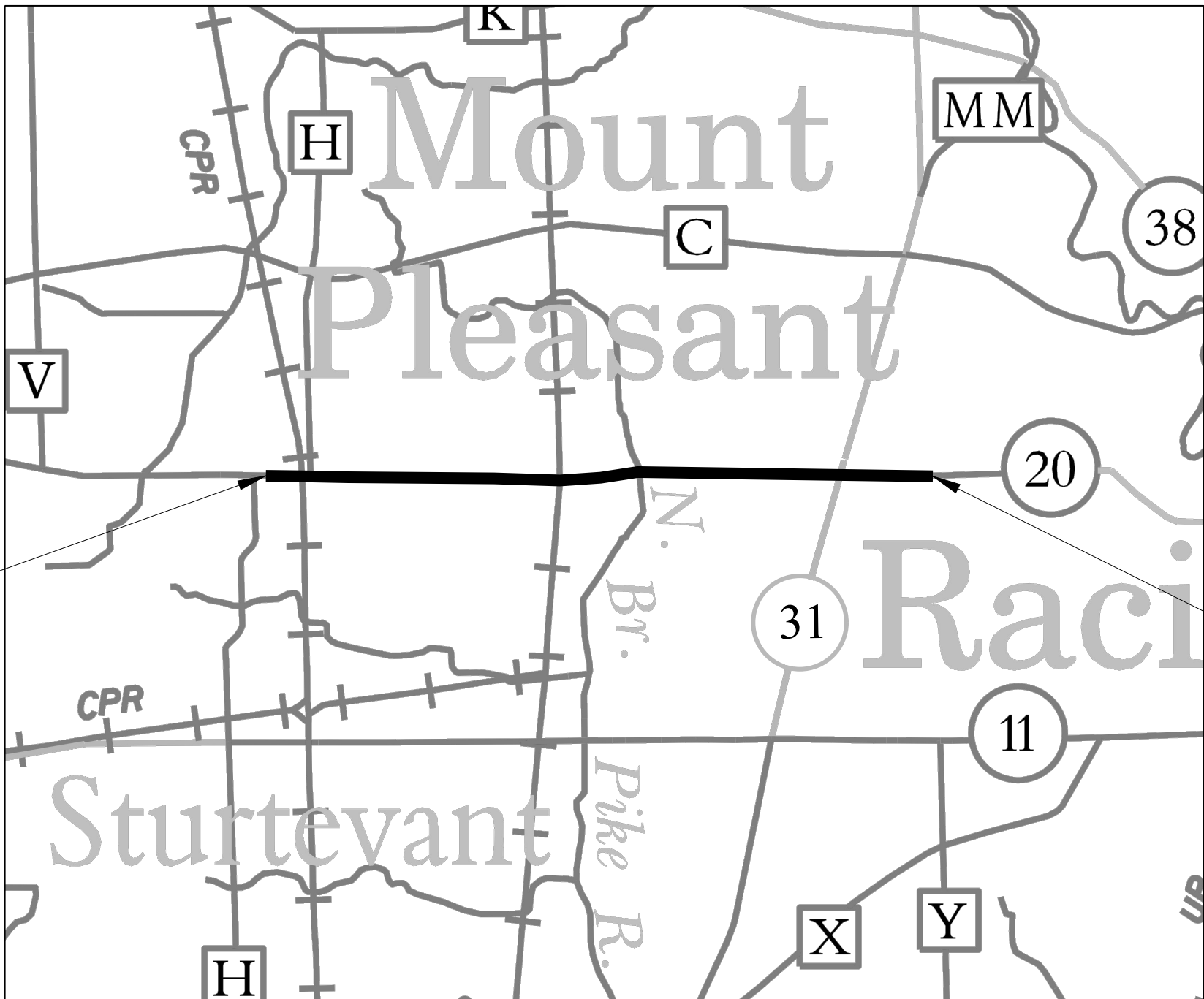
END CONSTRUCTION  
STH 36 (0.05 MI. SOUTH OF STH 100)

NB ONLY



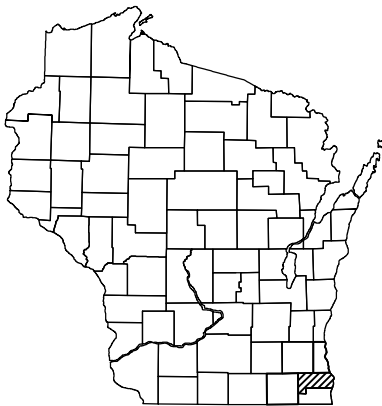


RACINE



BEGIN CONSTRUCTION  
STH 20 (0.19 MI. EAST OF RENAISSANCE BLVD)

END CONSTRUCTION  
STH 20 (ROOSEVELT AVE.)

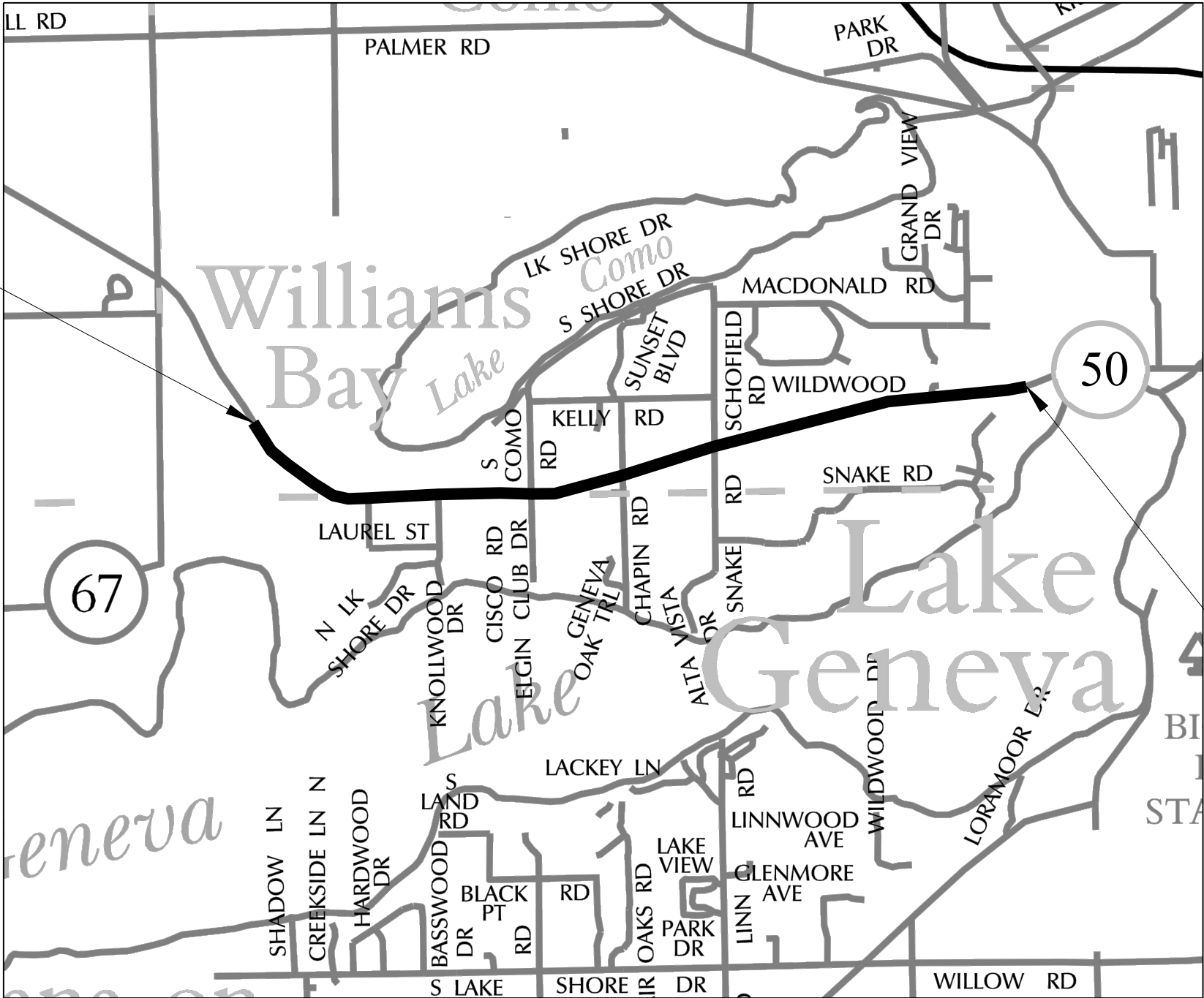




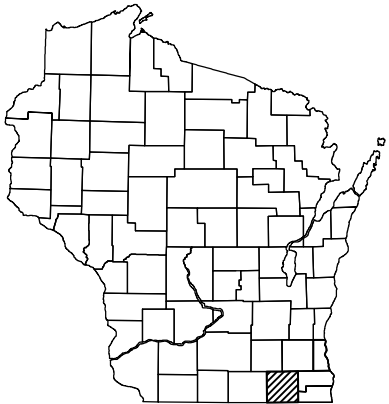
WALWORTH



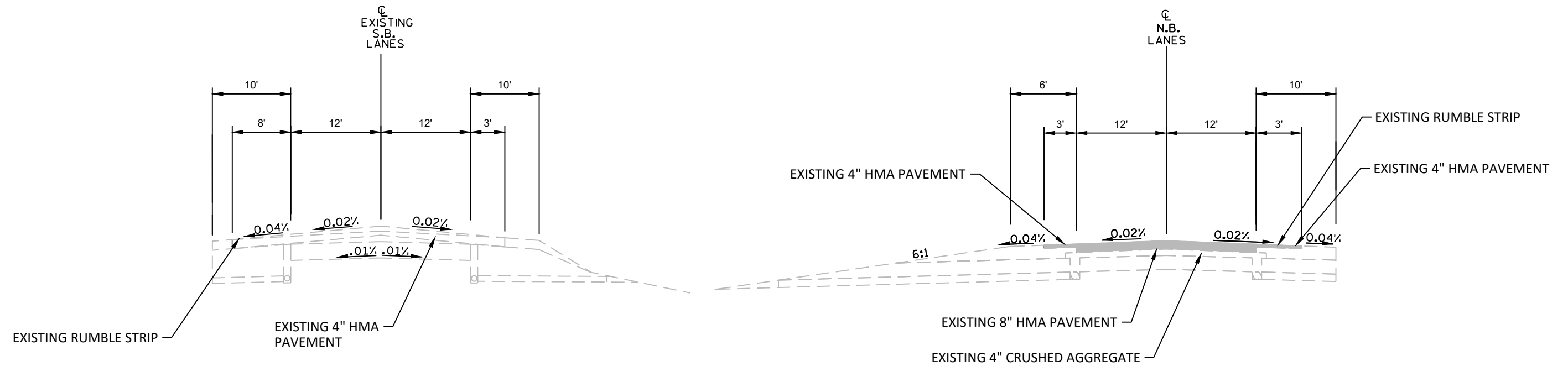
BEGIN CONSTRUCTION  
STH 50 (GENEVA NATIONAL AVE.)



END CONSTRUCTION  
STH 50 (PEARSON DR.)







### EXISTING TYPICAL SECTION - STH 36

LOOMIS RD. - MUSKEGO DAM DR.

FOR INFORMATION ONLY

PROJECT NO: 4890-00-75

HWY: VARIOUS HIGHWAY

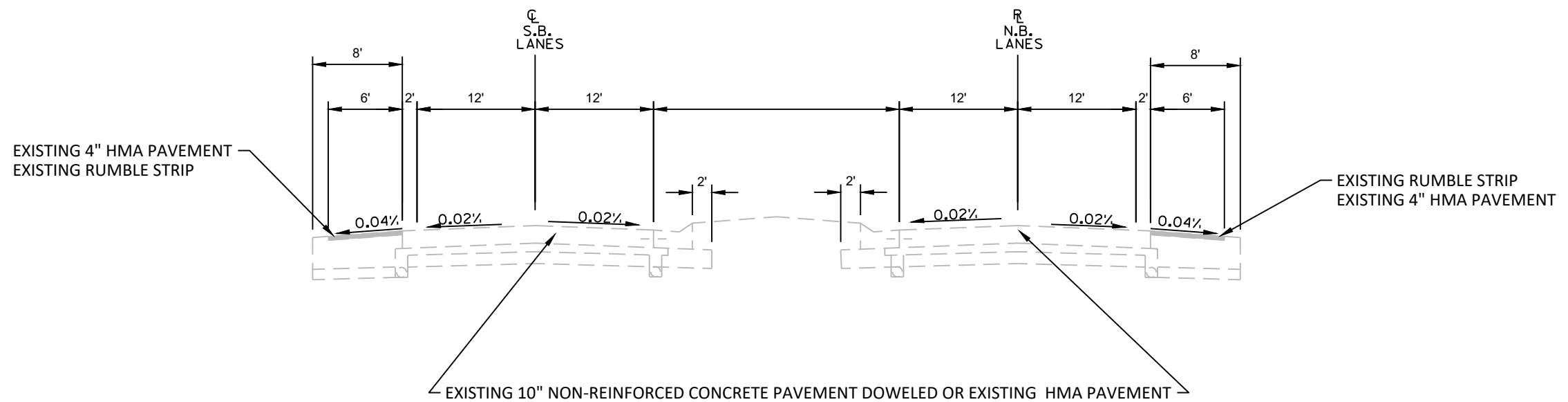
COUNTY: MILWAUKEE/WAUKESHA

TYPICAL SECTIONS

SHEET

E





### EXISTING TYPICAL SECTION - STH 36

CTH G - STH 100

FOR INFORMATION ONLY

PROJECT NO: 4890-00-75

HWY: VARIOUS HIGHWAY

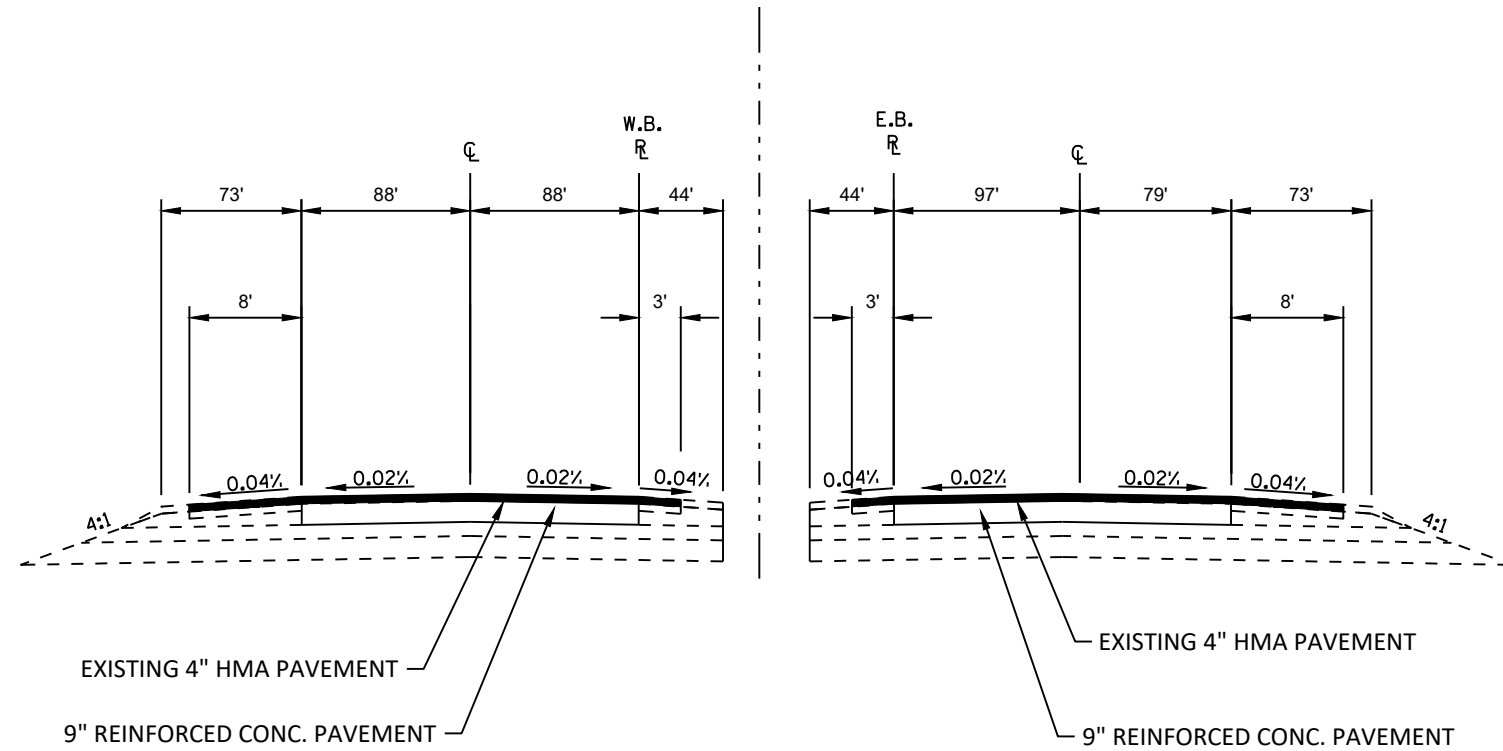
COUNTY: MILWAUKEE/WAUKESHA

TYPICAL SECTIONS

SHEET

E



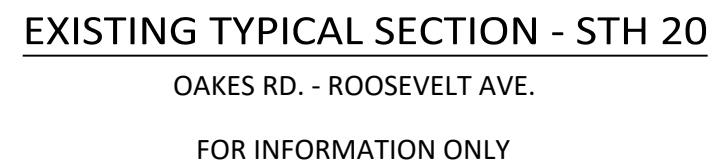


### EXISTING TYPICAL SECTION - STH 20

RENAISSANCE BLVD - OAKES RD.

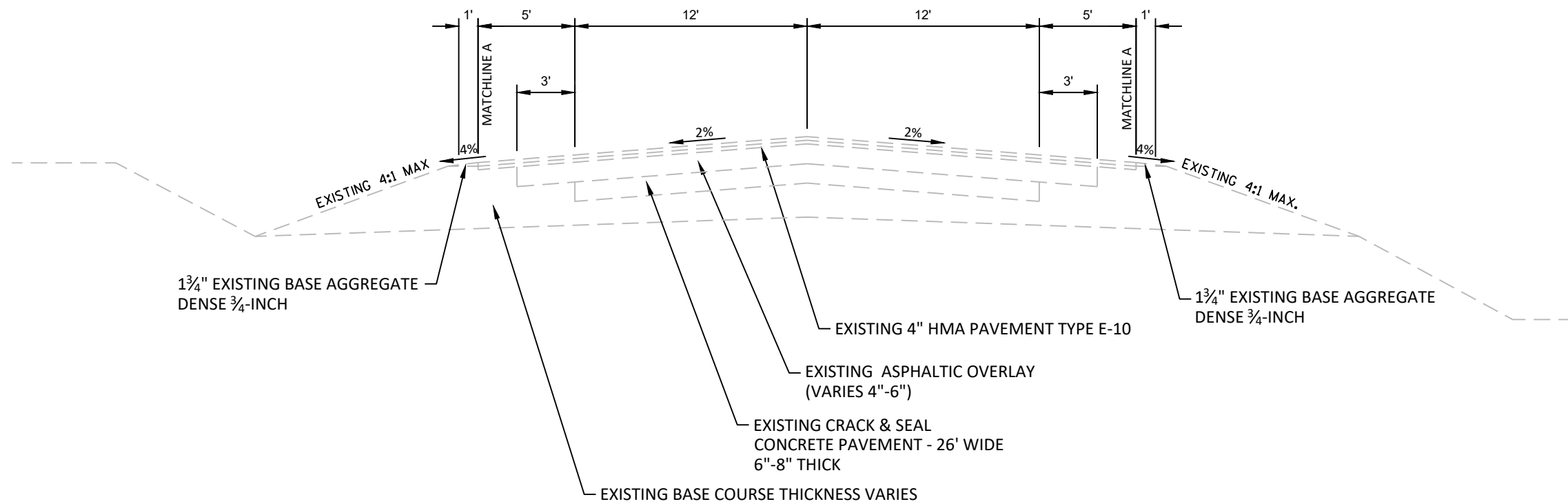
FOR INFORMATION ONLY





FILE NAME :	N:\PDS\C3D\CAD\48900005\020301_TS.DWG	PLOT DATE :	1/15/2019 9:35 AM	PLOT BY :	HAZBAVI, EBTESAM	PLOT NAME :		PLOT SCALE :	1 IN:100 FT	WISDOT/CADDS SHEET 42
-------------	---------------------------------------	-------------	-------------------	-----------	------------------	-------------	--	--------------	-------------	-----------------------



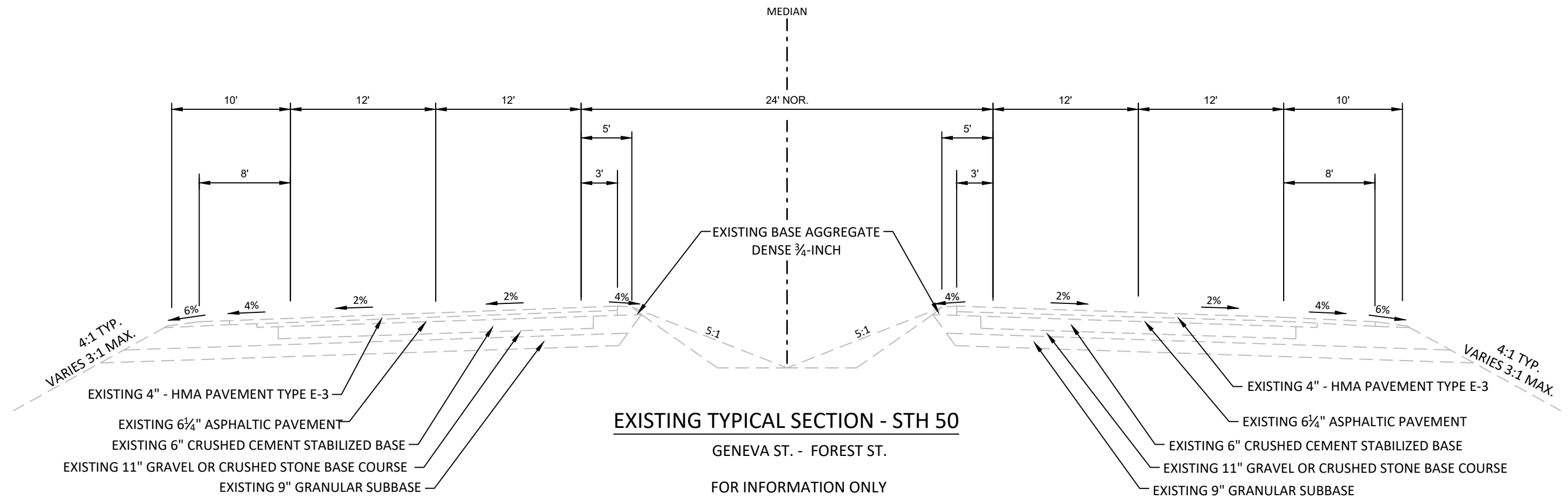


### EXISTING TYPICAL SECTION - STH 50

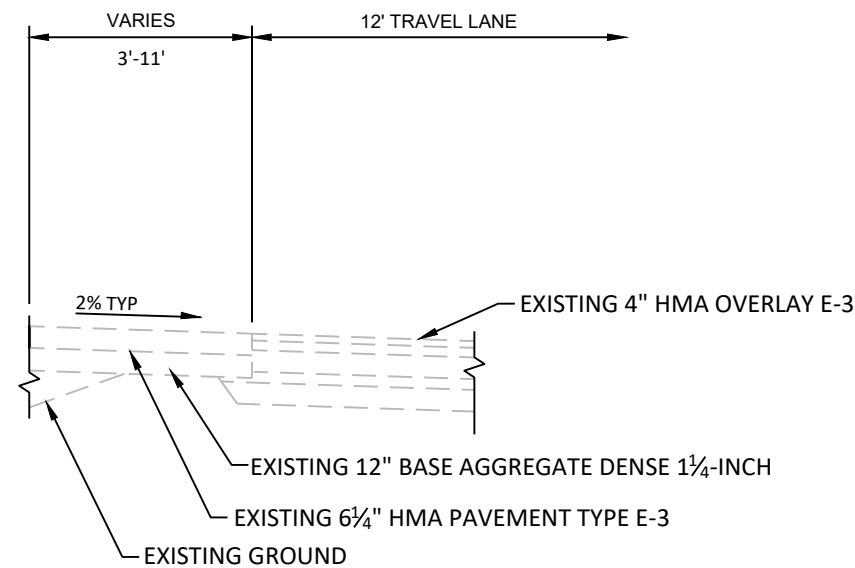
GENEVA NATIONAL AVE. - GENEVA ST.

FOR INFORMATION ONLY



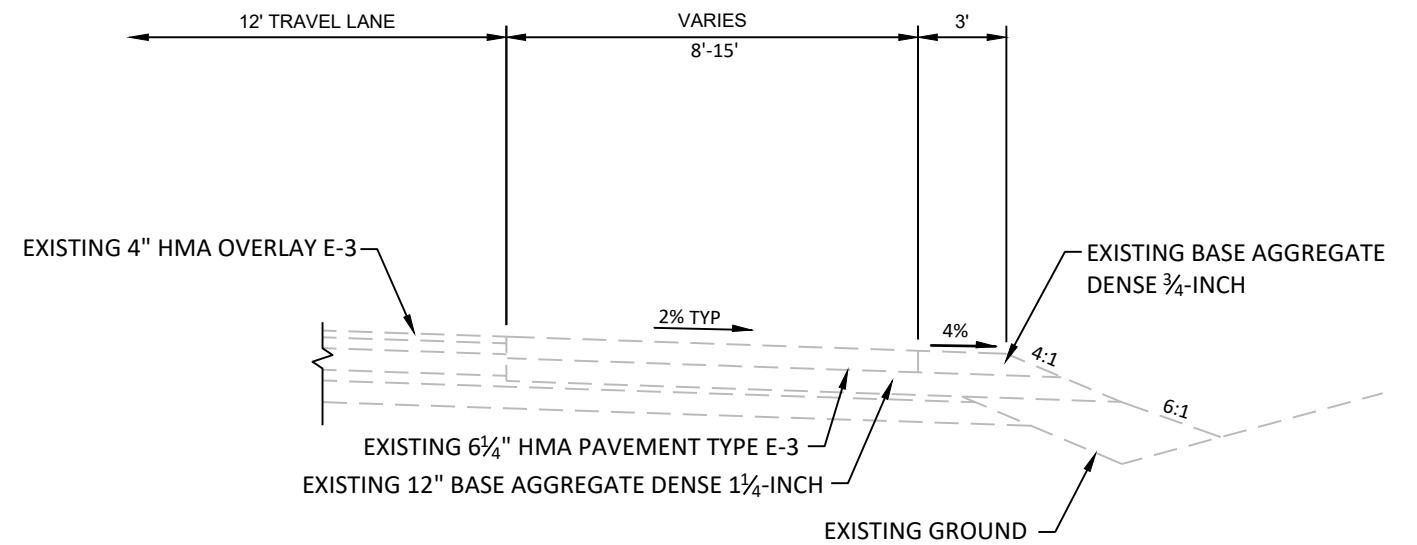






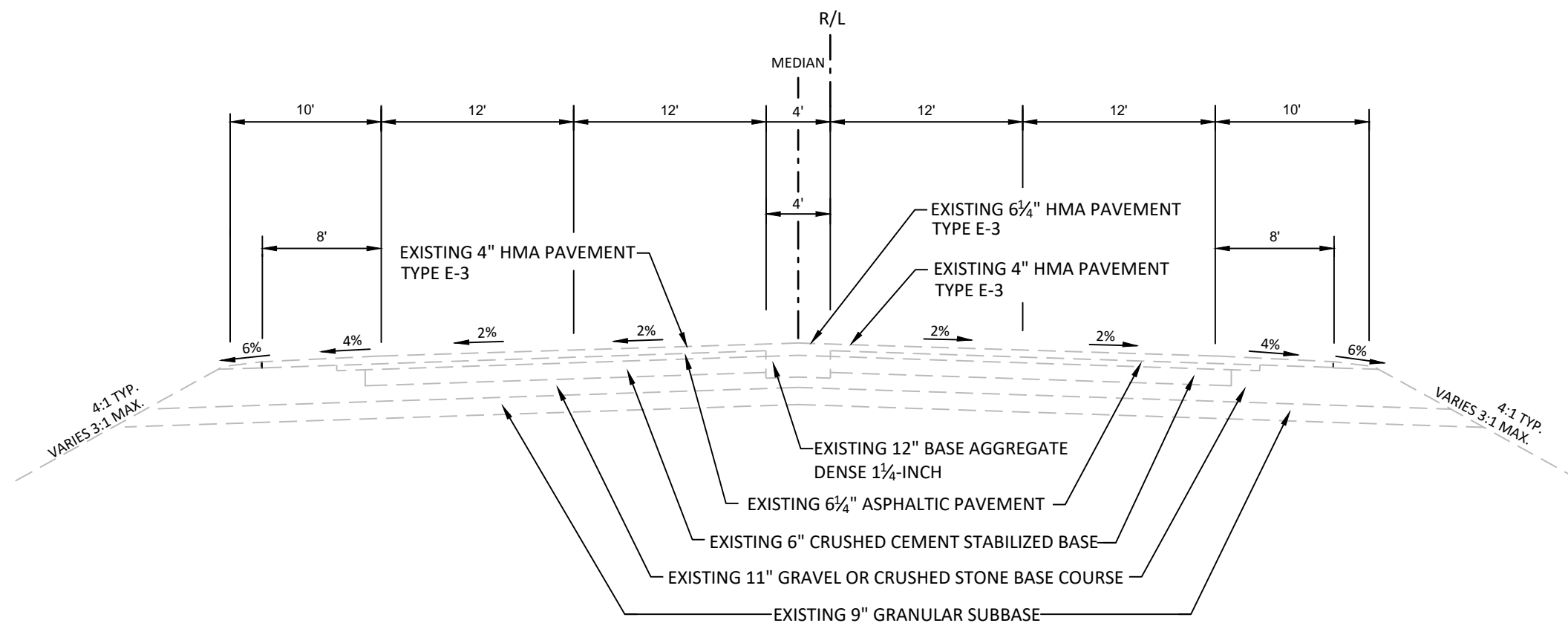
**EXISTING LEFT TURN BAY DETAIL - STH 50**

EB SHOWN - WB IS MIRROR



**EXISTING RIGHT TURN BAY DETAIL - STH 50**

EB SHOWN - WB IS MIRROR

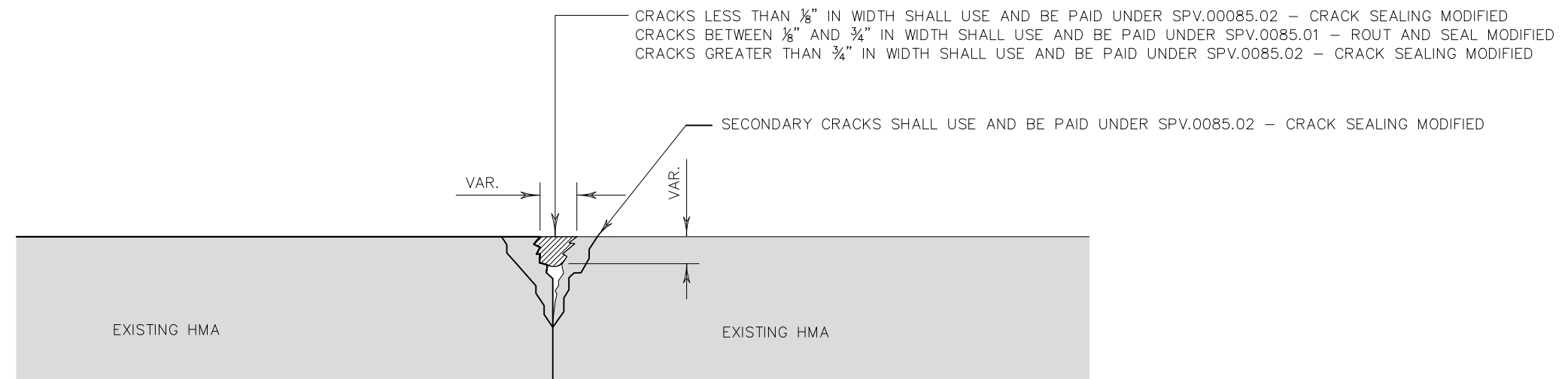


**EXISTING TYPICAL SECTION - STH 50**

FOREST ST. - PEARSON DR.

FOR INFORMATION ONLY

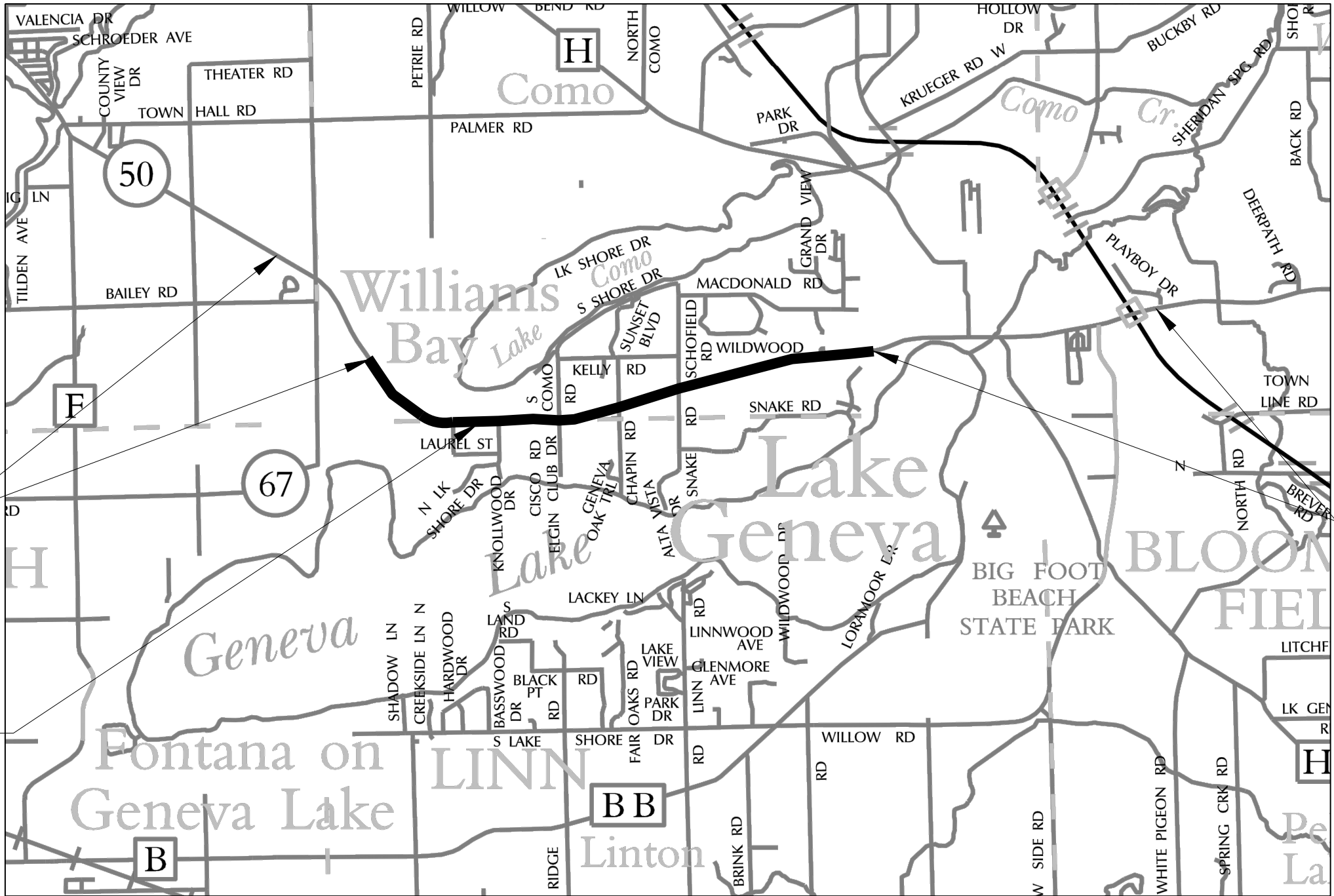




LONGITUDINAL AND / OR TRANSVERSE  
CRACK SEALING – DETAIL



# WALWORTH

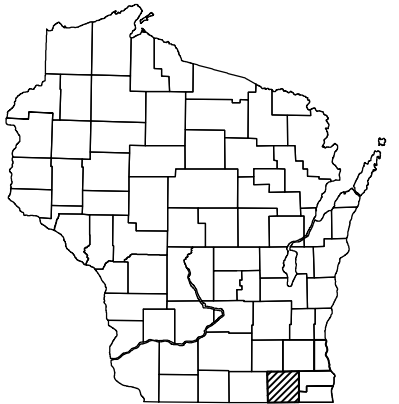


\* OSOW CLOSURE  
SIGNING R-12-70 B&C

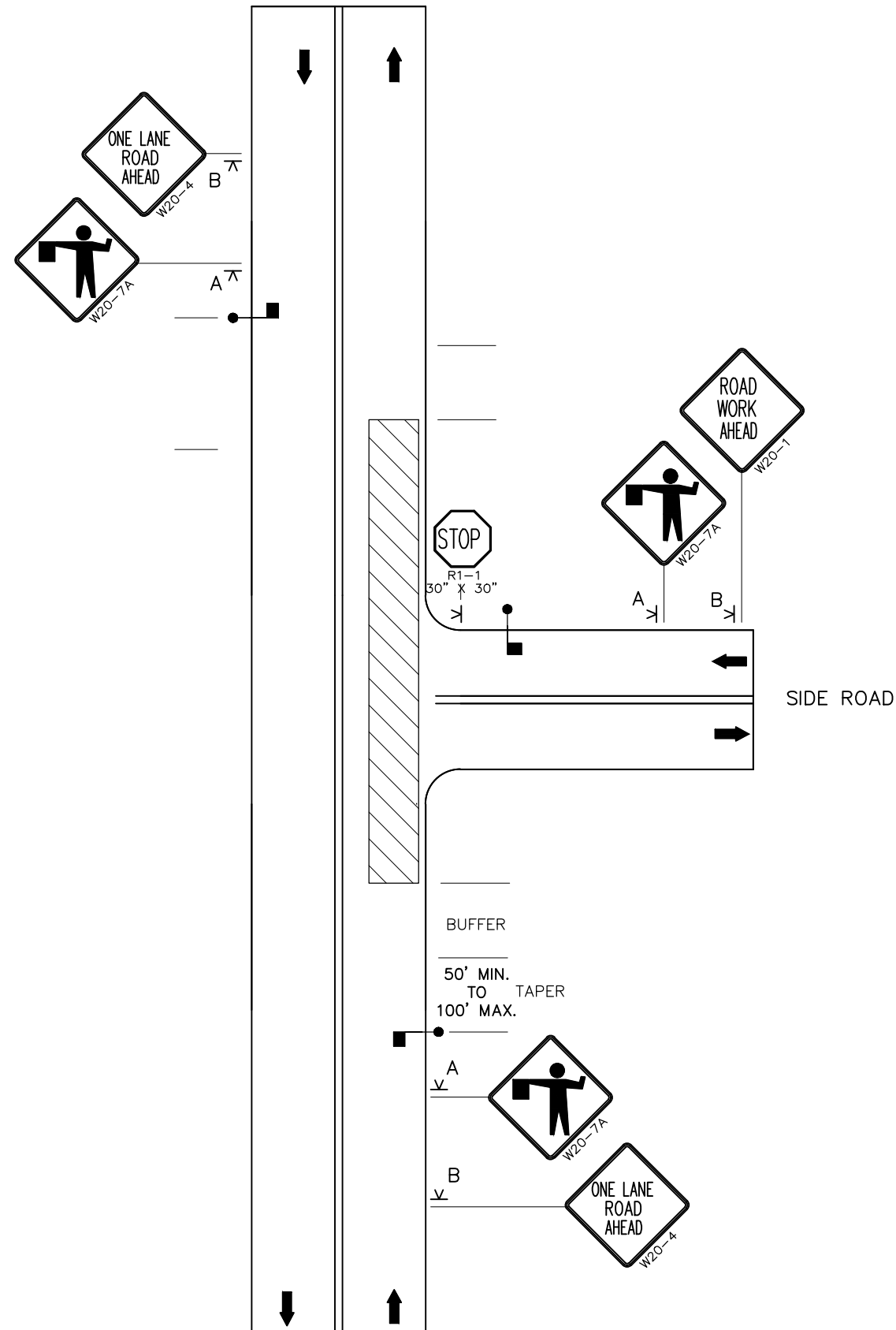
\* OSOW CLOSURE  
SIGNING R12-70 B&C

CONSTRUCTION LIMITS  
STH 50 (GENEVA NATIONAL AVE.  
TO PEARSON DR.)

\* See S.D.D 15c2-f Width Restriction Signing







## LEGEND

- PORTABLE SIGN SUPPORT
- WORK AREA
- TRAFFIC FLOW
- FLAGGER



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.

SPEED LIMIT (MPH)	SIGN SPACING A, B, (FT)
25	200
30	200
35	350
40	350
45	500
50	500
55	500

## NOTES

- Depending on traffic conditions, consider additional traffic control on the side road approaches, such as flaggers and appropriate signs.

## GENERAL NOTES

DETAILS OF TRAFFIC CONTROL DEVICES AND INSTALLATION NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATION, 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 DIRECTED BY THE ENGINEER.

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

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, THE "FLAGGER AHEAD", THE "ROAD CONSTRUCTION AHEAD" AND THE ONE LANE ROAD AHEAD" SIGNS SHALL BE COVERED OR REMOVED AND THE HIGHWAY RESTORED TO NORMAL OPERATION.

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

LANE CLOSURE THROUGH AN INTERSECTION  
FLAGGER ON SIDE ROAD  
(Work Area on Through Road)



Estimate Of Quantities

4890-00-75					
Line	Item	Item Description	Unit	Total	Qty
0002	213.0100	Finishing Roadway (project) 01. 4890-00-75	EACH	1.000	1.000
0004	619.1000	Mobilization	EACH	1.000	1.000
0006	624.0100	Water	MGAL	17.000	17.000
0008	643.0300	Traffic Control Drums	DAY	11,675.000	11,675.000
0010	643.0420	Traffic Control Barricades Type III	DAY	918.000	918.000
0012	643.0715	Traffic Control Warning Lights Type C	DAY	476.000	476.000
0014	643.0800	Traffic Control Arrow Boards	DAY	68.000	68.000
0016	643.0900	Traffic Control Signs	DAY	3,033.000	3,033.000
0018	643.1000	Traffic Control Signs Fixed Message	SF	112.000	112.000
0020	643.1050	Traffic Control Signs PCMS	DAY	68.000	68.000
0022	643.5000	Traffic Control	EACH	1.000	1.000
0024	646.1020	Marking Line Epoxy 4-Inch	LF	80,192.000	80,192.000
0026	646.1050	Marking Line Grooved Permanent Tape 4-Inch	LF	165.000	165.000
0028	646.3020	Marking Line Epoxy 8-Inch	LF	550.000	550.000
0030	SPV.0085	Special 01. Route and Seal Modified	LB	276,435.000	276,435.000
0032	SPV.0085	Special 02. Crack Sealing Modified	LB	106,140.000	106,140.000



ROUTE AND SEAL/ CRACK SEALING

HIGHWAY	LIMIT		LIMIT	NUMBER OF LANES	CL LENGTH (LF)	SPV.0085.01 CRACK SEALING MODIFIED (LB)	SPV.0085.02 ROUTE AND SEAL MODIFIED (LB)	624.0100 WATER (MGAL)
STH 50	Geneva National Ave	--	Pearson Dr	4	24,714	54,876	93,552	6.00
STH 36	300' N Loomis Rd	--	1000' S Muskego Dam	4	10,300	5,885	25,432	3.00
STH 36	1700' N. of Loomis DR(CTH G)		300' S. STH 100	4	NB =17124' , SB=1611'	4,379	19,486	2.00
STH 20	1000' E. Renaissance Blvd	--	OAKS RD	4	10,984	12,749	50,692	3.00
STH 20	OAKS RD	--	Roosevelt Ave.	6	8,026	7,023	31,986	3.00
UNDISTRIBUTED						21,228	55,287	
TOTALS						106,140	276,435	17.00



TRAFFIC CONTROL

HIGHWAY	LIMIT		LIMIT	OPERATIONS	LANES BEING CLOSED	PROJECT LENGTH (LF)	643.0300 DRUMS (DAY)	643.0420 BARRICADES TYPE III (DAY)	643.0715 WARNING LIGHTS TYPE C (DAY)	643.0800 ARROW BOARDS (DAY)	643.0900 SIGNS (DAY)	643.1000 SIGNS FIXED MESSAGE (SF)	643.1050 SIGNS PCMS (DAY)
STH 50	Geneva National Ave	--	Pearson Dr	LANE CLOSURE	1	24,714	6474	544	224	32	1808	112	32
STH 36	300' N Loomis Rd	--	1000' S Muskego Dam	LANE CLOSURE	1	10300	728	47	56	8	144	--	8
STH 36	1700' N. of Loomis DR(CTH G)	--	300' S. STH 100	LANE CLOSURE	1	NB =17124' , SB=1611'	884	36	42	6	108	--	6
STH 20	1000' E. Renaissance Blvd	--	OAKS RD	LANE CLOSURE	1	10,984	1992	154	98	14	497	--	14
STH 20	OAKS RD	--	Roosevelt Ave.	LANE CLOSURE	1	8,026	1597	136	56	8	476	--	8
TOTALS							11675	918	476	68	3033	112	68

\*FOR STH 50 LANE CLOSURE UTILIZE "S.D.D. 15D12-07A TRAFFIC CONTROL, LANE CLOSURE" AND "S.D.D. 15C12-06 TRAFIC CONTROL FOR LANE CLOSURE WITH FLAGGING OPERATION" AND "S.D.D. 15D21-06 TRAFFIC CONTROL, INTERSECTION WITHIN SINGLE LANE CLOSURE"

\*\* FOR STH 36 LANE CLOSURE UTILIZE "S.D.D. 15D12-07A" AND "S.D.D. 15D21-06"

\*\*\* FOR STH 20 LANE CLOSURE UTILIZE "S.D.D 15D20-04 TRAFFIC CONTROL, SINGLE LANE CLOSURE, NON FREEWAY/EXPRESSWAY" AND "S.D.D. 15D21-06" AND " S.D.D. 15D12-07A"



PAVEMENT MARKING ITEMS

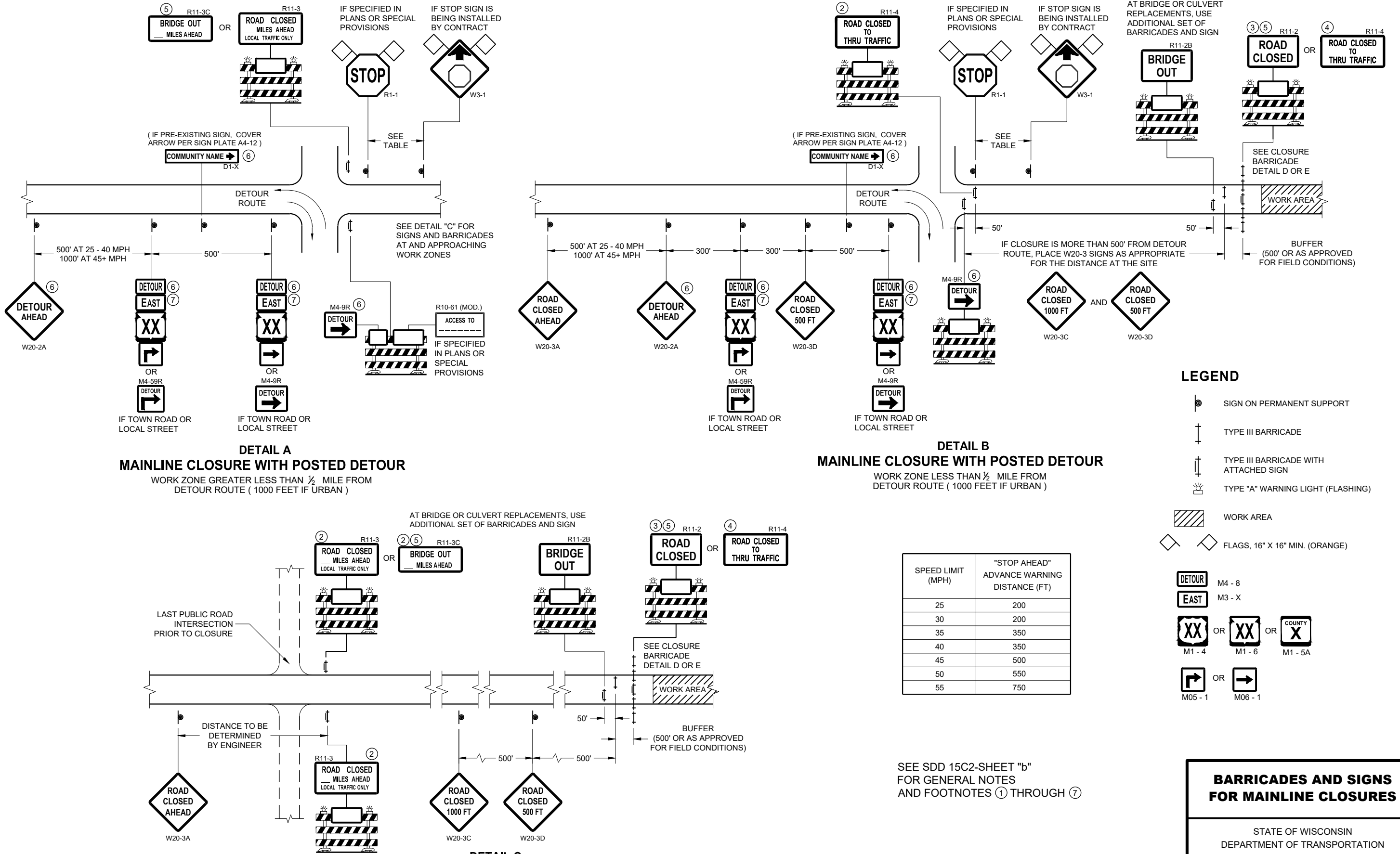
HIGHWAY	LIMIT		LIMIT	NUMBER OF LANES	PROJECT LENGTH (LF)	646.1020 PAVEMENT MARKING EPOXY 4-INCH (SOLID WHITE)	646.1020 PAVEMENT MARKING EPOXY 4-INCH (DASH WHITE)	646.1020 PAVEMENT MARKING EPOXY 4-INCH (SOLID YELLOW)	646.1050 MARKING LINE GROOVED PERMANENT TAPE 4-INCH (DASHED WHITE)	646.3020 PAVEMENT MARKING EPOXY 8-INCH (SOLID WHITE)	646.3020 PAVEMENT MARKING EPOXY 8-INCH (DASH WHITE)
						LF	LF	LF	LF	LF	LF
STH 50	Geneva National Ave	--	Pearson Dr	4	24,714	36,784	0	12,644	150	500	0
STH 36	300' N Loomis Rd	--	1000' S Muskego Dam	4	3,871	0	0	0	0	0	0
STH 36	1700' N. of Loomis DR(CTH G)		300' S. STH 100	4	NB =17124' , SB=1611'	0	0	0	0	0	0
STH 20	1000' E. Renaissance Blvd	--	OAKS RD	4	10,984	12568	2878	0	0	0	0
STH 20	OAKS RD	--	Roosevelt Ave.	6	8,026	0	8026	0	0	0	0
SUBTOTAL						49,352	10,904	12,644	150	500	0
UNDISTRIBUTED						4,936	1,091	1,265	15	50	0
TOTALS						54,288	11,995	13,909	165	550	0
							80,192			550	



Standard Detail Drawing List

15C02-07A	BARRICADES AND SIGNS FOR MAINLINE CLOSURES
15C02-07B	BARRICADES AND SIGNS FOR VARIOUS CLOSURES
15C02-07F	ADVANCED WIDTH RESTRICTION SIGNING
15C04-05	TRAFFIC CONTROL, ADVANCE WARNING SIGNS 45 M.P.H. OR GREATER TWO-WAY UNDIVIDED ROAD OPEN TO TRAFFIC
15C05-05	TRAFFIC CONTROL, ADVANCE WARNING SIGNS 40 M.P.H. OR LESS
15C08-19A	LONGITUDINAL MARKING (MAINLINE)
15C08-19B	PAVEMENT MARKING (TURN LANES)
15C08-19C	PAVEMENT MARKING (TURN LANES)
15C11-07A	CHANNELIZING DEVICES FLEXIBLE TUBULAR MARKER POST
15C11-07B	CHANNELIZING DEVICES DRUMS, CONES, BARRICADES AND VERTICAL PANELS
15C12-06	TRAFFIC CONTROL FOR LANE CLOSURE WITH FLAGGING OPERATION
15C21-08	SIGNING AND MARKING FOR TWO LANE TO FOUR LANE DIVIDED TRANSITIONS
15D12-07A	TRAFFIC CONTROL, LANE CLOSURE
15D20-04	TRAFFIC CONTROL, SINGLE LANE CLOSURE, NON-FREEWAY/EXPRESSWAY
15D21-06	TRAFFIC CONTROL, INTERSECTION WITHIN SINGLE LANE CLOSURE
15D38-02A	TEMPORARY TRAFFIC CONTROL SIGN MOUNTING
15D38-02B	ATTACHMENT OF SIGNS TO POSTS





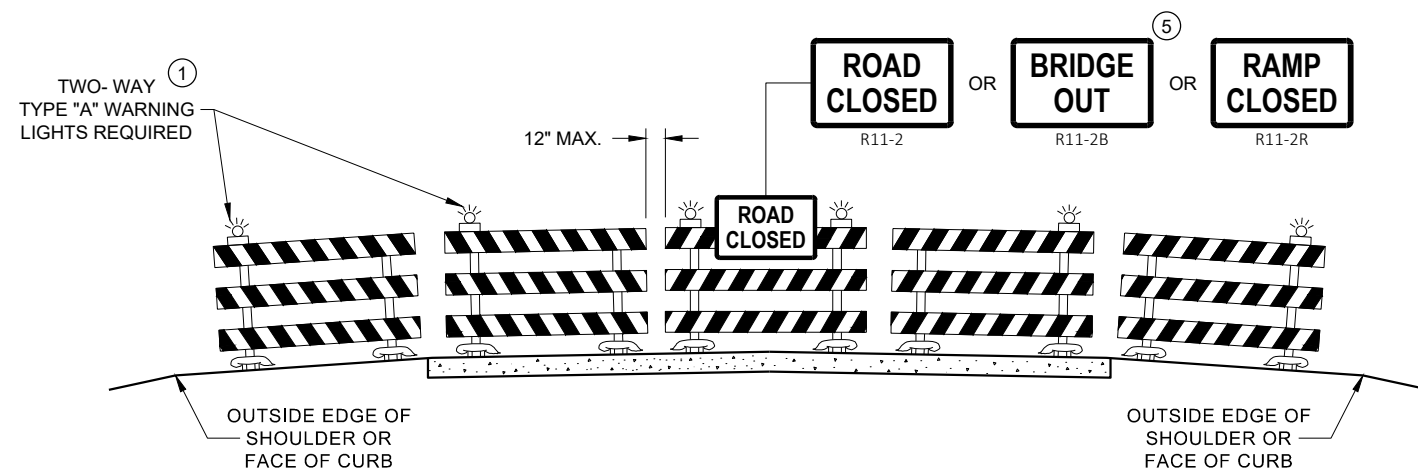
**BARRICADES AND SIGNS  
FOR MAINLINE CLOSURES**

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

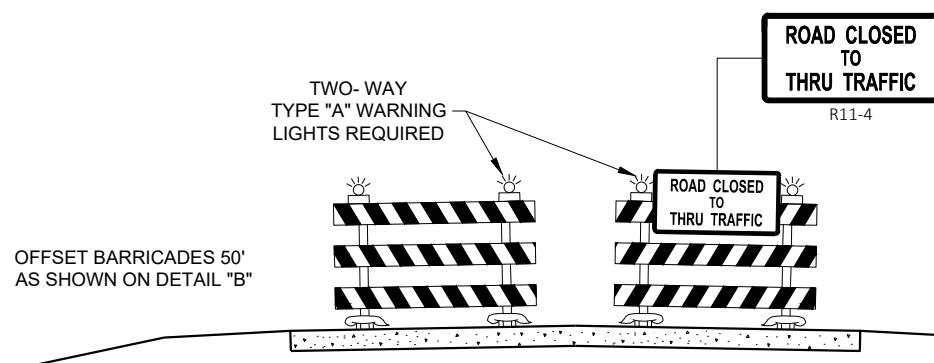
APPROVED  
November 2018 /S/ Andrew Heidtke  
DATE WORK ZONE ENGINEER

FHWA





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



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

SEE SDD 15C2 - SHEET "a" FOR LEGEND

## GENERAL NOTES

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

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

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

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

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

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

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

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

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

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

- R11 - 2 SHALL BE 48" X 30"
- R11 - 3 SHALL, R11 - 4 AND R10 - 61 SHALL BE 60" X 30"
- M4 - 9 SHALL BE 30" X 24"
- M3 - X SHALL BE 24" X 12" (36" X 18" IF NEEDED TO MATCH EXISTING SIGNS)
- M4 - 8 SHALL BE 24" X 12" (36" X 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)
- MO5 - 1 AND MO6 - 1 SHALL BE 21" X 21" (30" X 30" IF NEEDED TO MATCH EXISTING SIGNS)
- D1 - X SHALL BE AS SHOWN ON SPECIFIC PROJECT SIGNING DETAIL SHEETS.
- R1 - 1 SHALL BE 36" X 36"

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

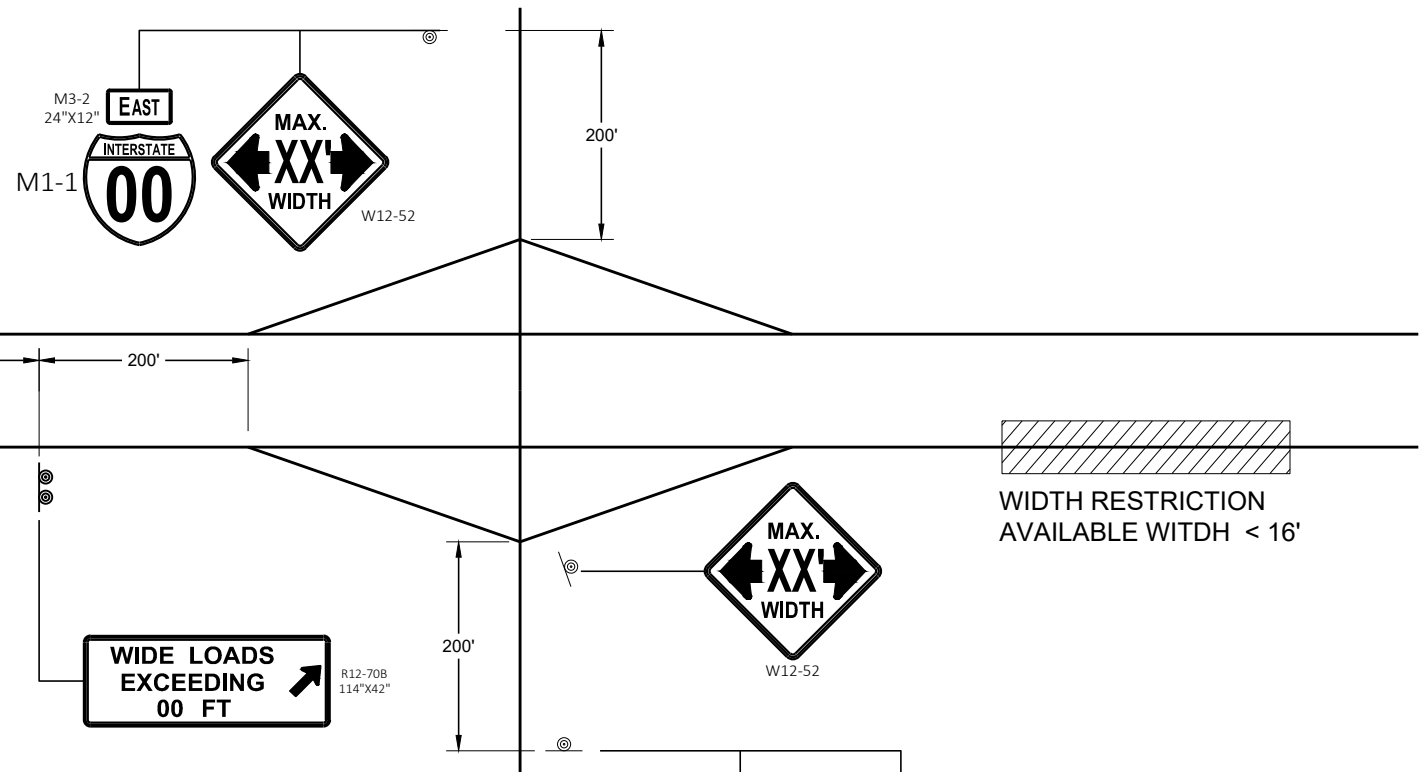
## BARRICADES AND SIGNS FOR VARIOUS CLOSURES

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

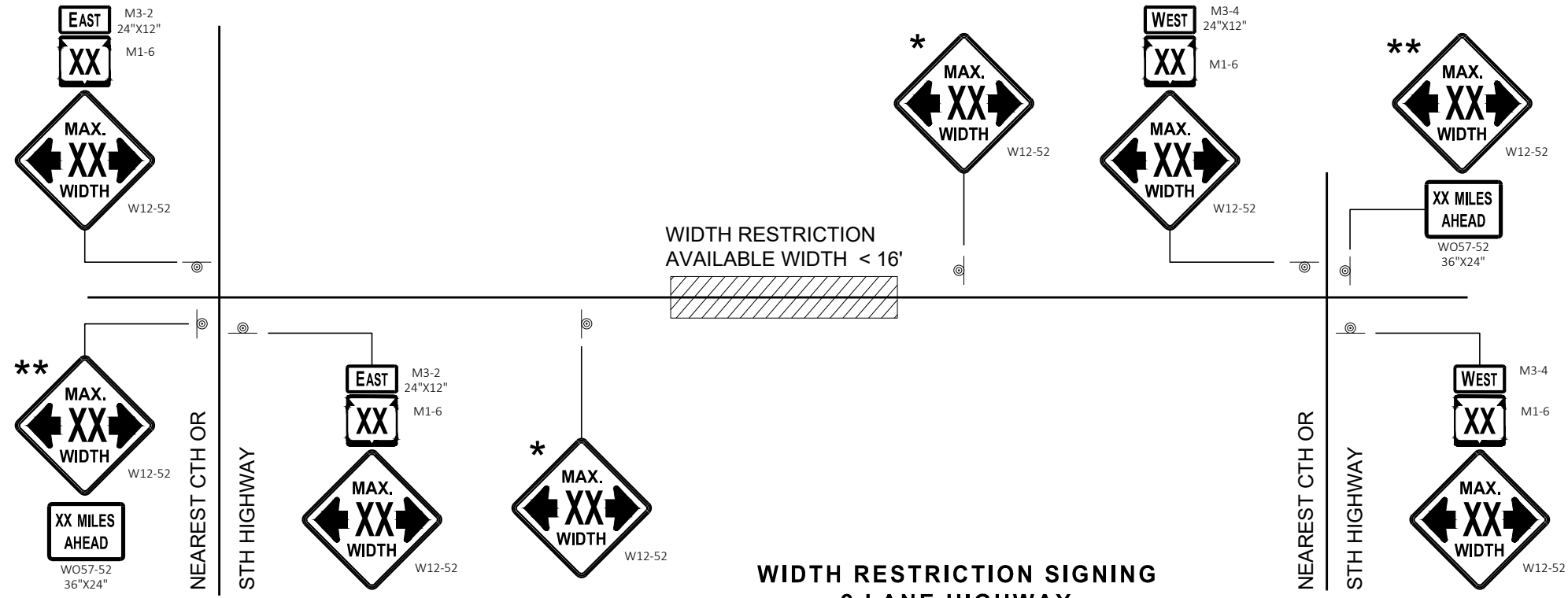
APPROVED  
November 2018 /S/ Andrew Heidtke  
DATE WORK ZONE ENGINEER

FHWA





WIDTH RESTRICTION SIGNING



WIDTH RESTRICTION SIGNING  
2 LANE HIGHWAY

LEGEND

SIGN ON PERMANENT SUPPORT

GENERAL NOTES

- THE EXACT NUMBER, LOCATION AND SPACING OF ALL SIGNS 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 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.
- ALL SIGNS ARE 48" X 48" UNLESS OTHERWISE NOTED.
- "WO" SIGNS ARE THE SAME AS "W" SIGNS EXCEPT THE BACKGROUND IS ORANGE.
- WIDTH ON SIGN TO BE APPROXIMATELY ONE FOOT LESS THAN AVAILABLE WIDTH.
- \*** PLACE 500 FEET BEFORE THE W20 - 1A AND 500 FEET BEFORE ADDITIONAL SIGNS FOR ROADWAYS WITH A PRE - CONSTRUCTION SPEED LIMIT OF 45 MPH OR MORE. FOR 35-40 MPH, USE 350 FOOT TYPICAL SPACING. FOR 25-30 MPH, USE 200 FOOT TYPICAL SPACING.
- \*\*** SIGN SHALL BE VISIBLE FROM ROADWAY.
- \*\*\*** ADDITIONAL SIGNS NEEDED IF THERE IS AN ON RAMP BETWEEN SIGNS.



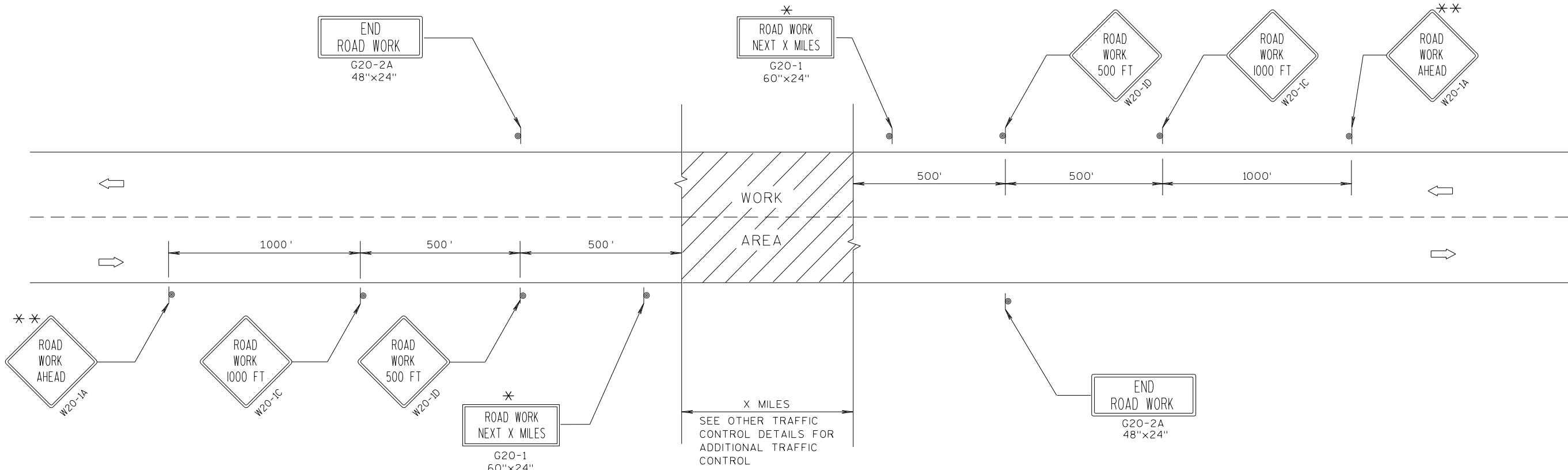
ADVANCED WIDTH  
RESTRICTION SIGNING

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DEPARTMENT OF TRANSPORTATION

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November 2018 /S/ Andrew Heidtke  
DATE WORK ZONE ENGINEER

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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.

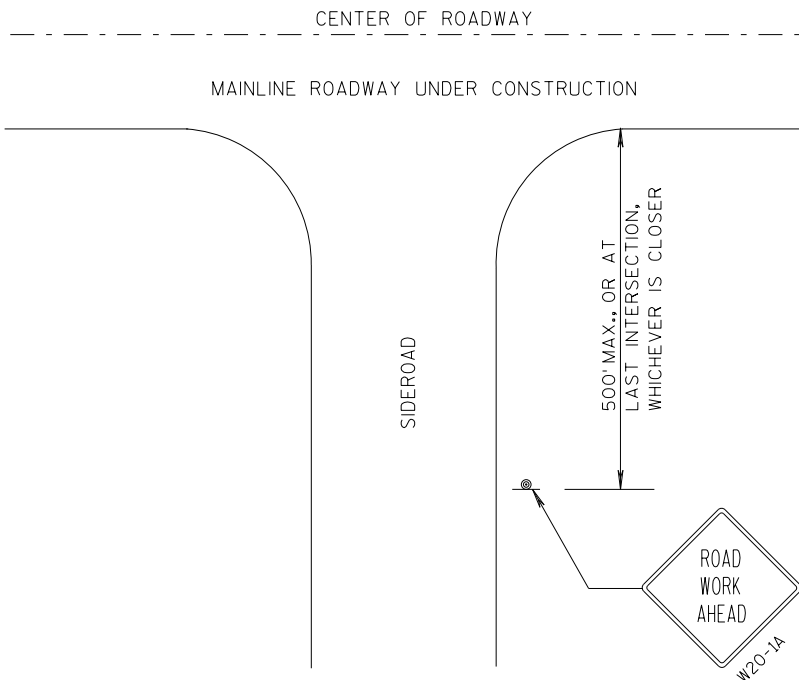
ALL SIGNS ARE 48"x48" UNLESS OTHERWISE NOTED.

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

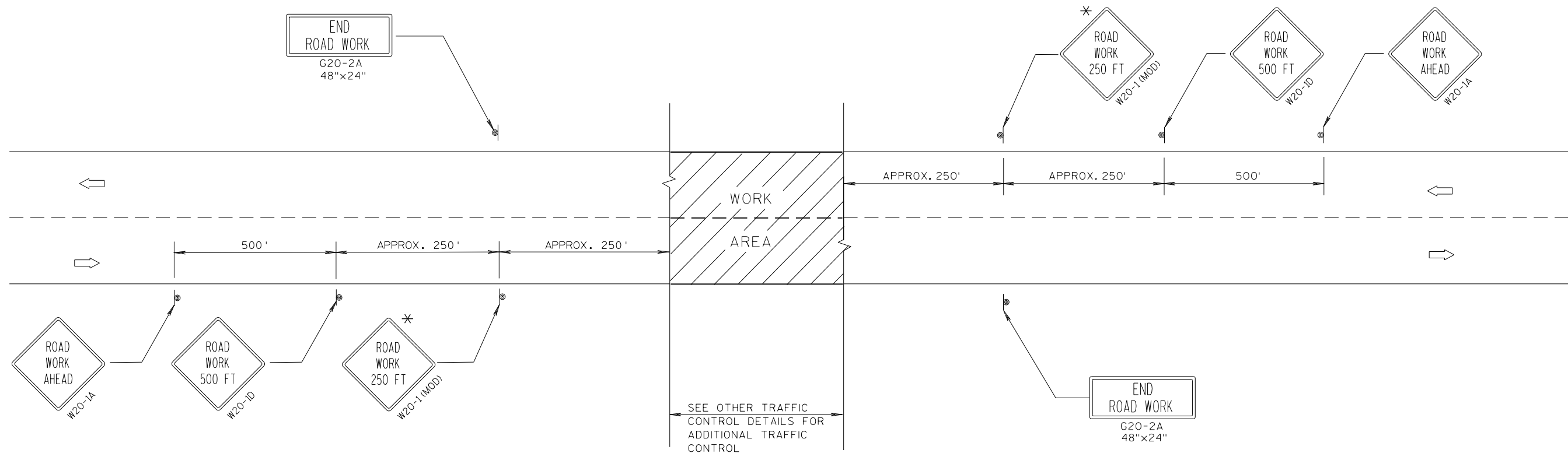
- ⦿ SIGN ON PERMANENT SUPPORT
- ➡ DIRECTION OF TRAFFIC
- ▨ WORK AREA

TRAFFIC CONTROL, ADVANCE  
WARNING SIGNS 45 M.P.H.  
OR GREATER TWO-WAY  
UNDIVIDED ROAD OPEN TO TRAFFIC

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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.

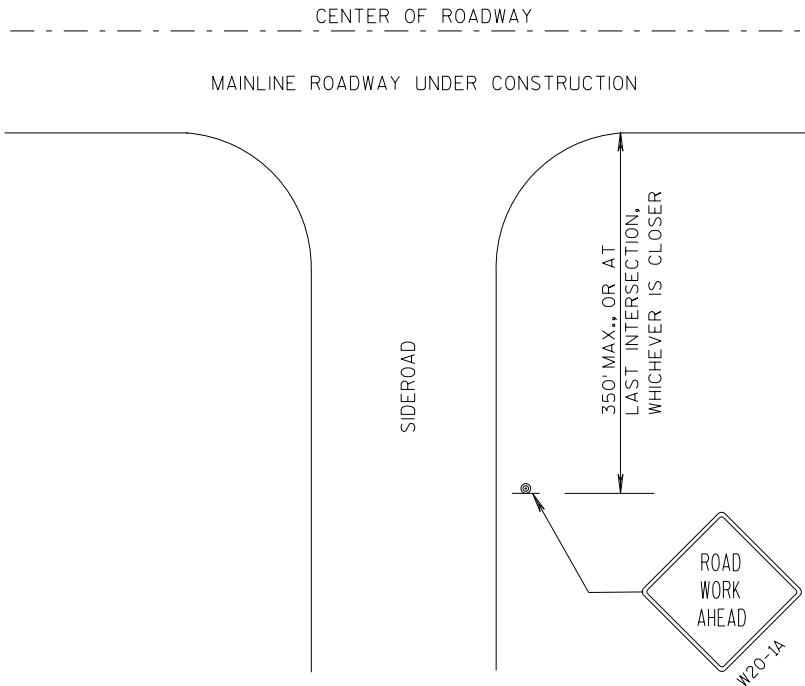
THE SPACING BETWEEN TRAFFIC CONTROL SIGNS SHOULD BE ADJUSTED TO NOT CONFLICT WITH AND SHOULD PROVIDE A DESIRABLE MINIMUM OF 200 FEET CLEARANCE TO EXISTING SIGNS THAT WILL REMAIN IN PLACE.

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.

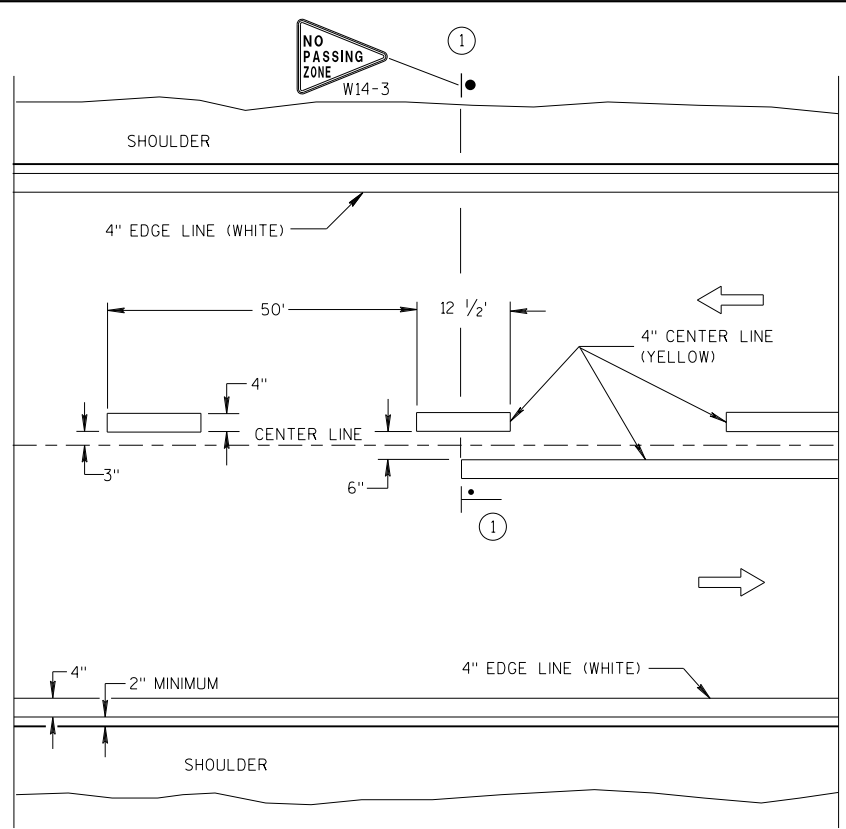


LEGEND

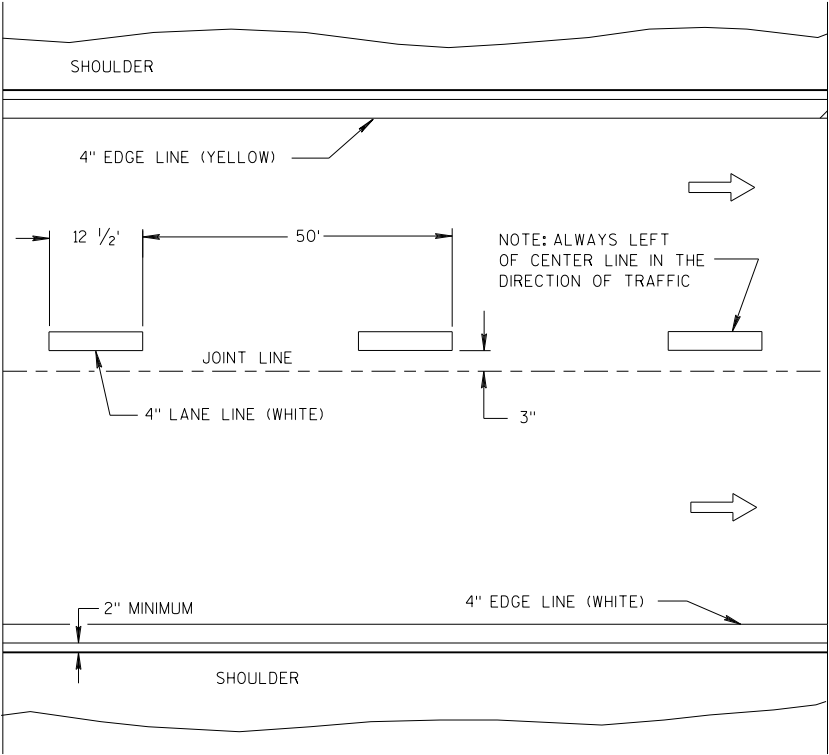
- ⊙ SIGN ON PERMANENT SUPPORT
- ➡ DIRECTION OF TRAFFIC
- ▨ WORK AREA

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 7/2018 DATE	/S/ Andrew Heidtke WORK ZONE ENGINEER
FHWA	



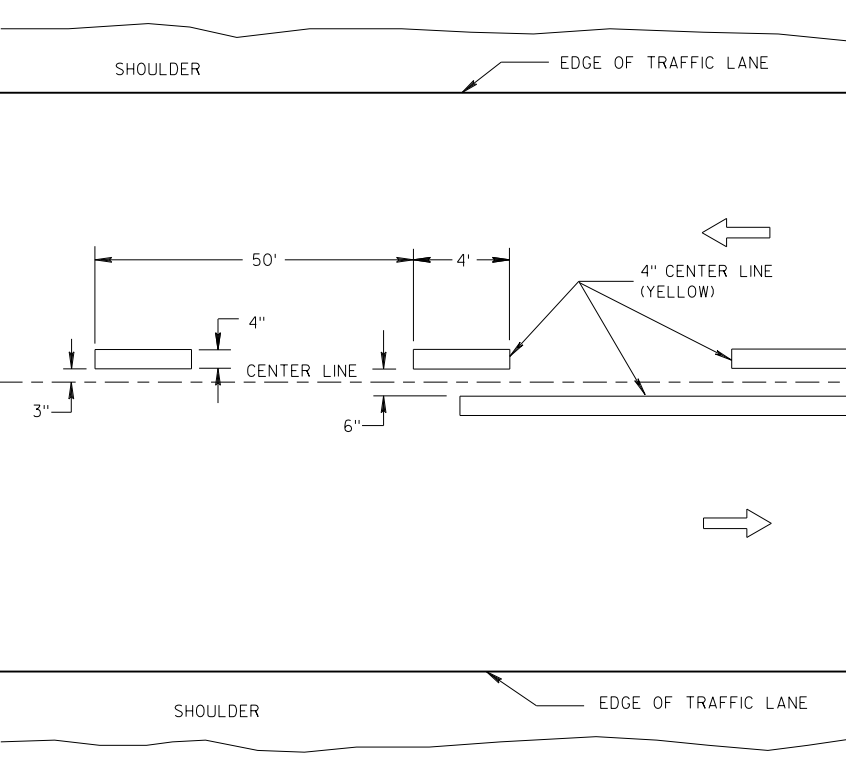


TWO WAY TRAFFIC

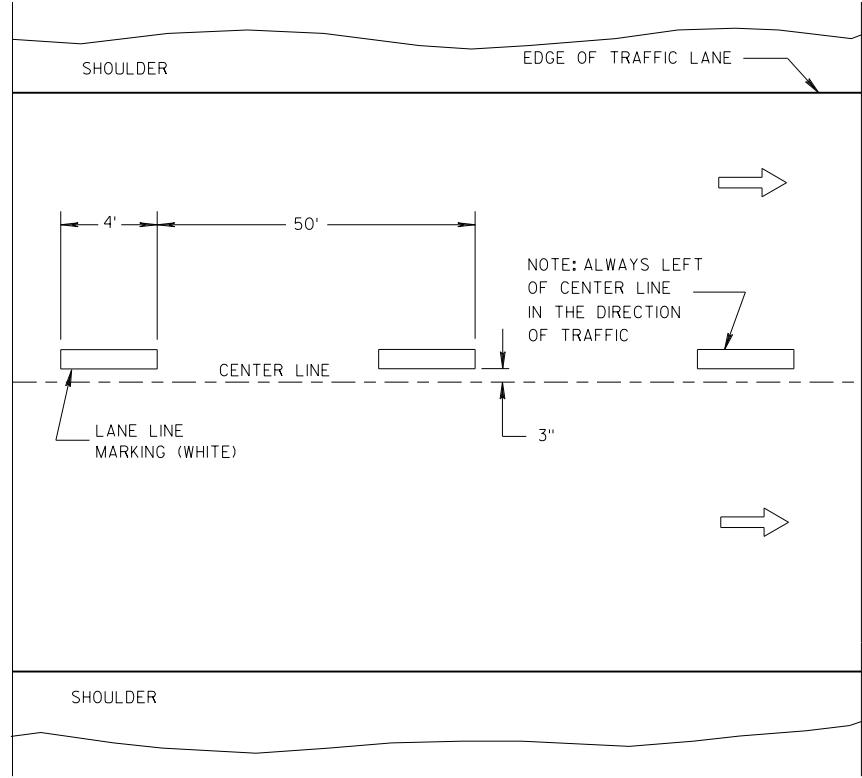


ONE WAY TRAFFIC

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 LOCATE THE NO PASSING ZONE W14-3 SIGN WITHIN 50 FEET OF THE "T" MARKING.

NOTE

ARROW SYMBOL (➡) SHOWS DIRECTION OF TRAVEL

LEGEND

- "T" MARKING
- POST MOUNTED SIGN

LONGITUDINAL MARKING (MAINLINE)

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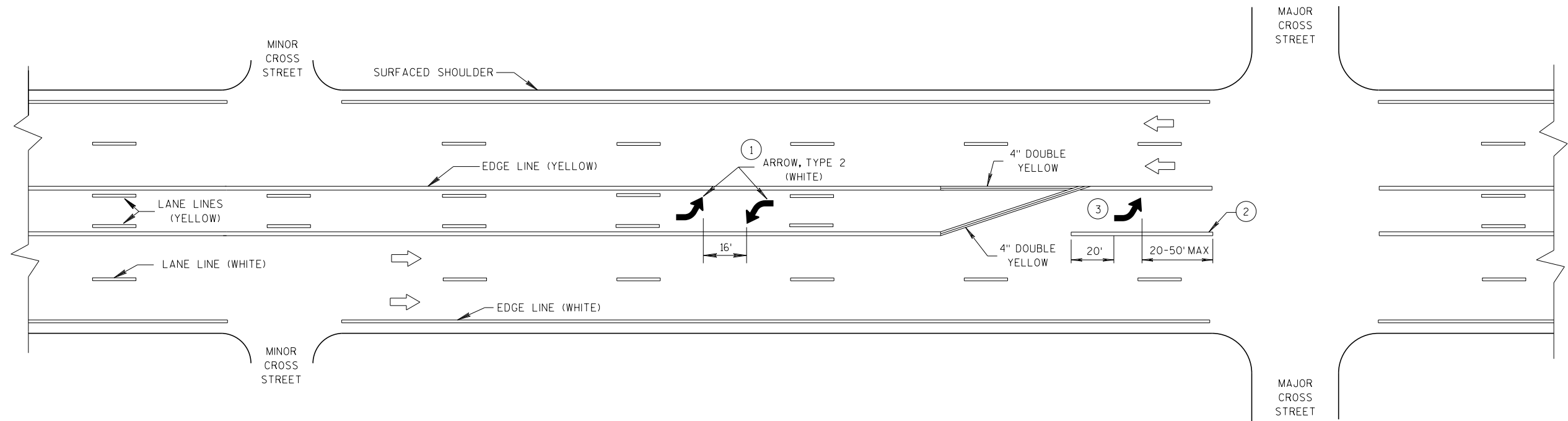
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7/2018 /S/ Matthew R. Rauch  
DATE STATE SIGNING AND MARKING ENGINEER  
FHWA



GENERAL NOTES

- 1 A SET OF ARROWS IS REQUIRED EVERY 400 FEET OR NEAR INTERSECTIONS OR DRIVEWAYS WITH TURNING TRAFFIC.
- 2 8" WHITE
- 3 TURN BAY LENGTH OF LESS THAN 48'DOES NOT REQUIRE PAVEMENT ARROWS OR TEXT

➡ DIRECTION OF TRAFFIC



TWO WAY LEFT TURN LANE

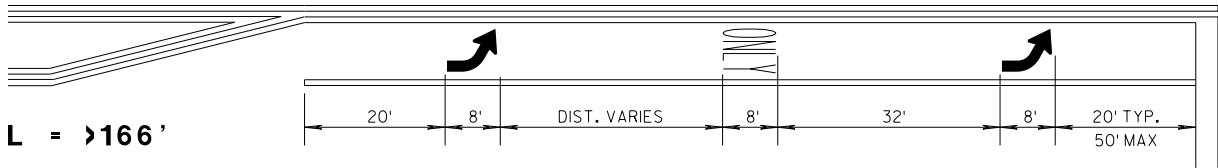
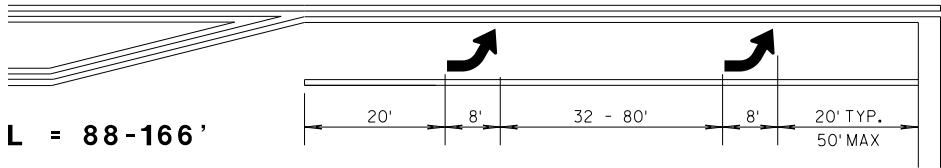
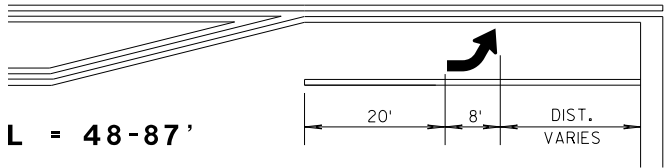
PAVEMENT MARKING  
(TURN LANES)

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION



TURN LANE OPTIONS

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



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

GENERAL NOTES

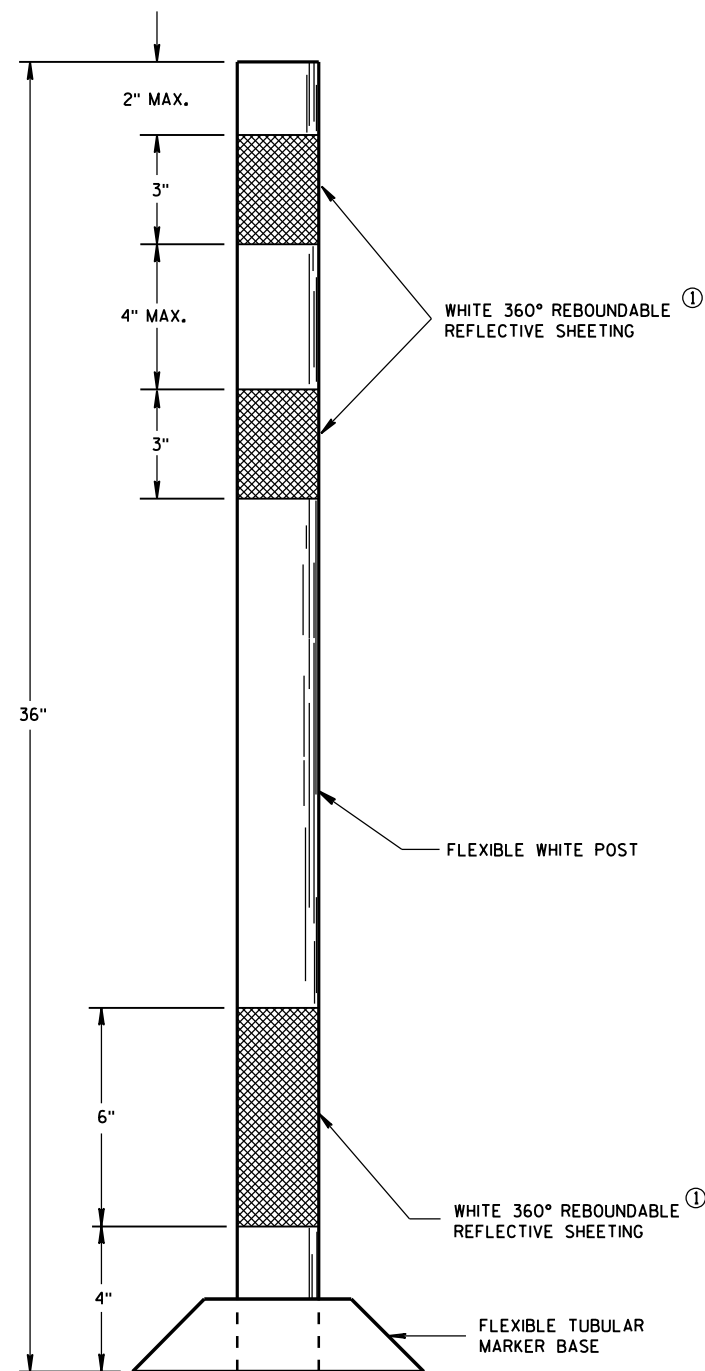
- ① 8" WHITE
- ② QUANTITY AND LOCATION OF TYPE 3 ARROW ARE THE SAME AS THE TYPE II ARROWS IN THE ADJACENT TURN LANE. FOR TURN LANES WITH A PHYSICAL SEPARATION, THE ARROWS AND ONLY MARKING ARE ELIMINATED.

→ DIRECTION OF TRAFFIC  
L = LENGTH OF TURN BAY

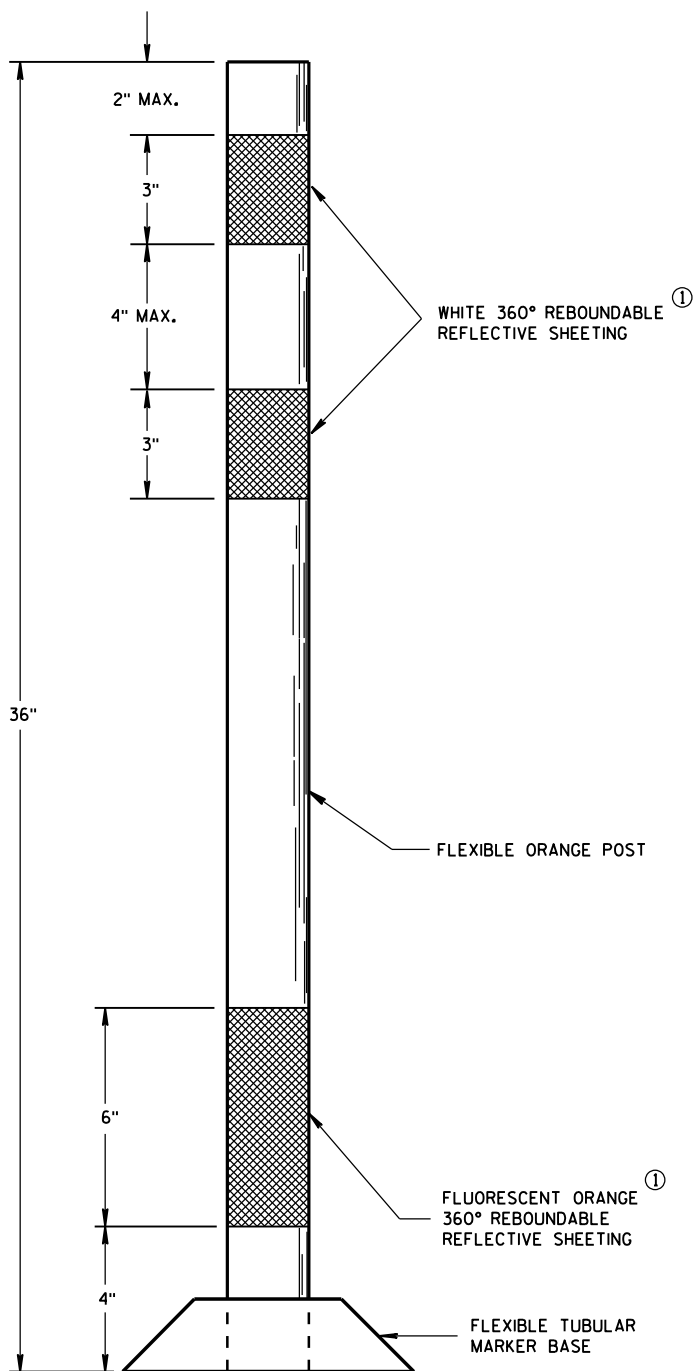
PAVEMENT MARKING  
(TURN LANES)

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION





**FLEXIBLE  
TUBULAR MARKER POST  
PERMANENT CROSSOVER**



**FLEXIBLE  
TUBULAR MARKER POST  
WORK ZONE**

## GENERAL NOTES

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

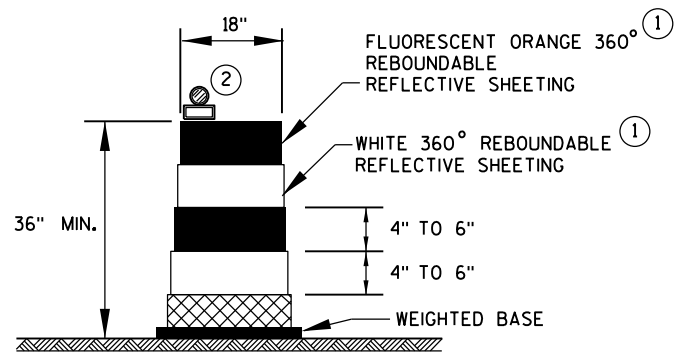
SURFACE MOUNTED BASES SHALL BE FURNISHED IN ACCORDANCE WITH MANUFACTURERS RECOMMENDATIONS TO BE COMPATIBLE WITH FLEXIBLE TUBULAR MARKER POSTS TO A SIZE AND SHAPE THAT WILL PROVIDE A STABLE POST FOUNDATION WHEN SECURED TO THE PAVEMENT.

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

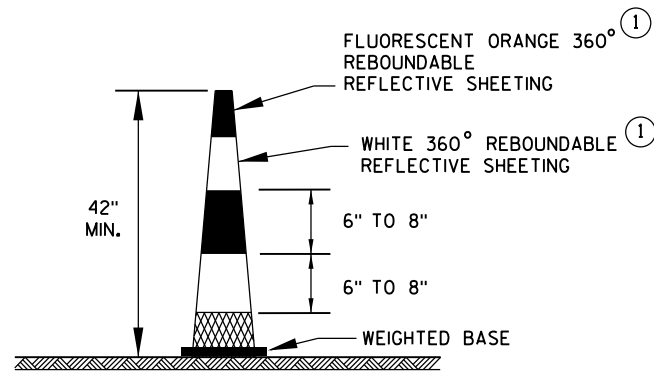
- ① REFLECTIVE SHEETING SHALL FOLLOW THE REQUIREMENTS IN THE APPROVED PRODUCTS LISTING FOR SIGN SHEETING.

CHANNELIZING DEVICES FLEXIBLE TUBULAR MARKER POST	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED June 2017 DATE	/S/ Andrew Heldtke WORK ZONE ENGINEER
FHWA	





**DRUM**

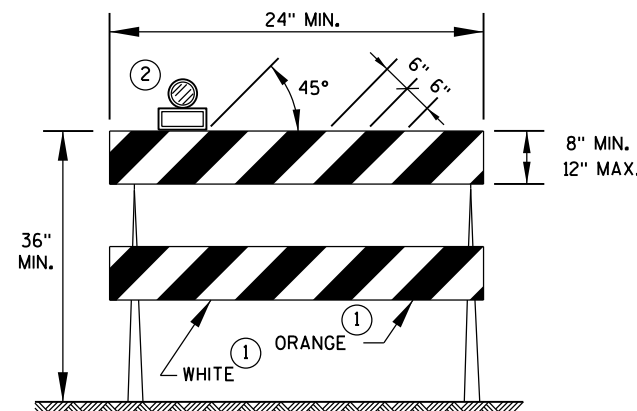


**42" CONE**

DO NOT USE IN TAPERS  
1/2 SPACING OF DRUMS

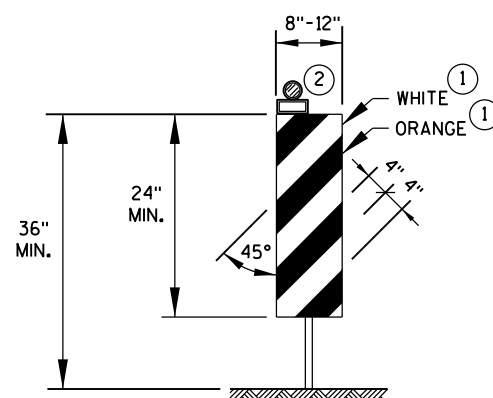
**GENERAL NOTES**

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



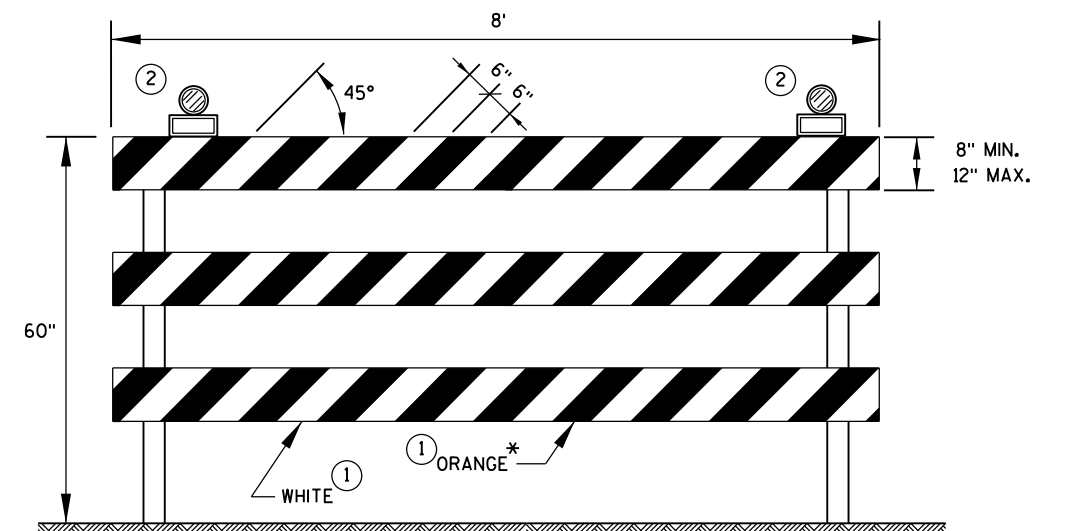
**TYPE 2 BARRICADE**

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



**VERTICAL PANEL**

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



**TYPE 3 BARRICADE**

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

\* IF USED FOR A PERMANENT APPLICATION, USE RED SHEETING.

CHANNELIZING DEVICES  
DRUMS, CONES, BARRICADES  
AND VERTICAL PANELS

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

APPROVED

June 2017  
DATE

FHWA

/S/ Andrew Heidtke  
WORK ZONE ENGINEER



LEGEND

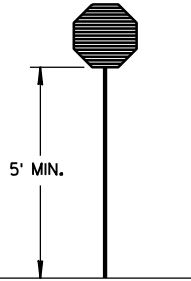
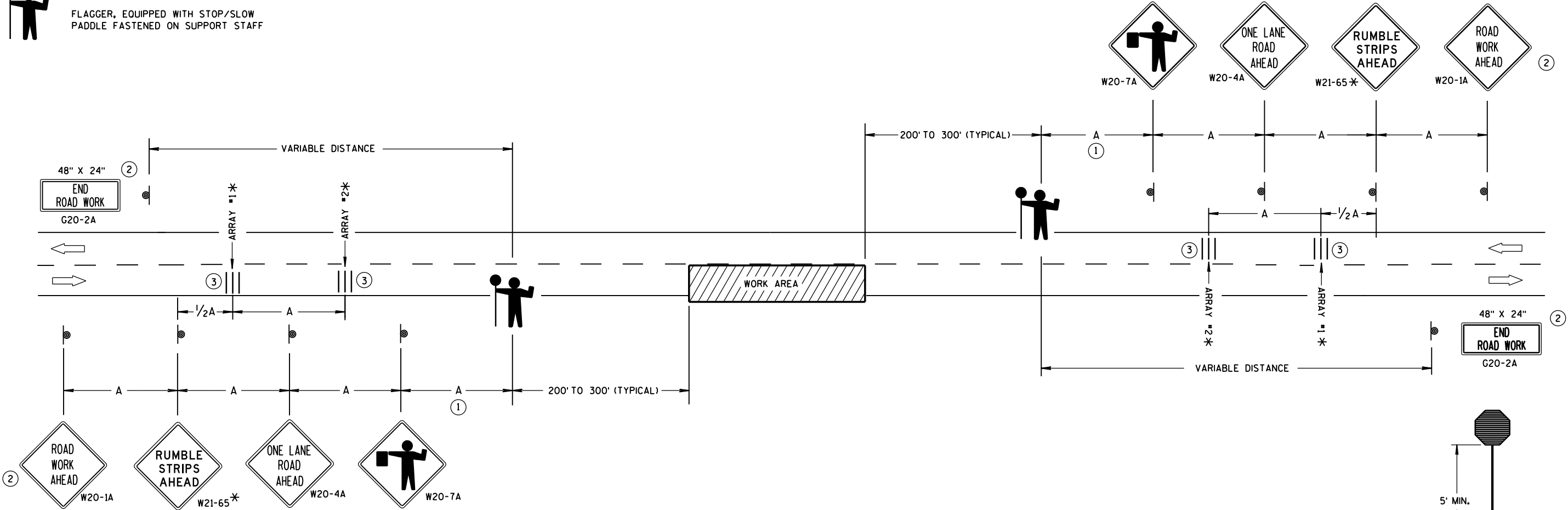
- SIGN ON PORTABLE OR PERMANENT SUPPORT
- DIRECTION OF TRAFFIC
- WORK AREA
- FLAGGER, EQUIPPED WITH STOP/SLOW PADDLE FASTENED ON SUPPORT STAFF

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.



STOP/SLOW PADDLE ON SUPPORT STAFF

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  
June 2017 /S/ Andrew Heldtke  
DATE WORK ZONE ENGINEER  
FHWA



GENERAL NOTES

SIGNING AND MARKING IS SHOWN AS TYPICAL PLACEMENT. FIELD CONDITIONS MAY DICTATE CHANGES IN SIGNING AND MARKING PLACEMENT.

A DISTANCE DEPENDENT ON SPEED (SEE TABLE)

1 USED ONLY WHEN APPROVED BY REGION TRAFFIC ENGINEER.

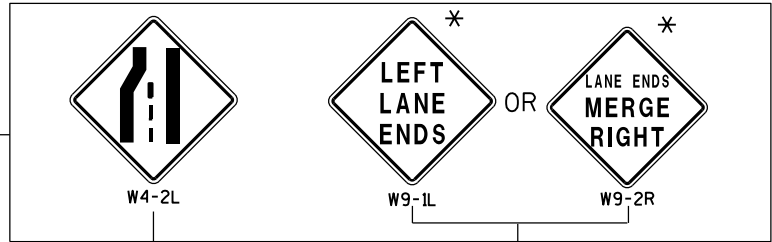
SYMBOLS

- \* SIGNS MAY BE OMITTED IF SPACE DOES NOT PERMIT
- \* \* IF POSTED SPEED 45 MPH OR GREATER, PLACE W5-54 SIGN UNDER R4-7 SIGN. MOUNT W5-54 SIGN AT 4' MOUNTING HEIGHT (TOP OF ROADWAY TO BOTTOM OF SIGN)
- POST MOUNTED SIGN
- DIRECTION OF TRAFFIC FLOW

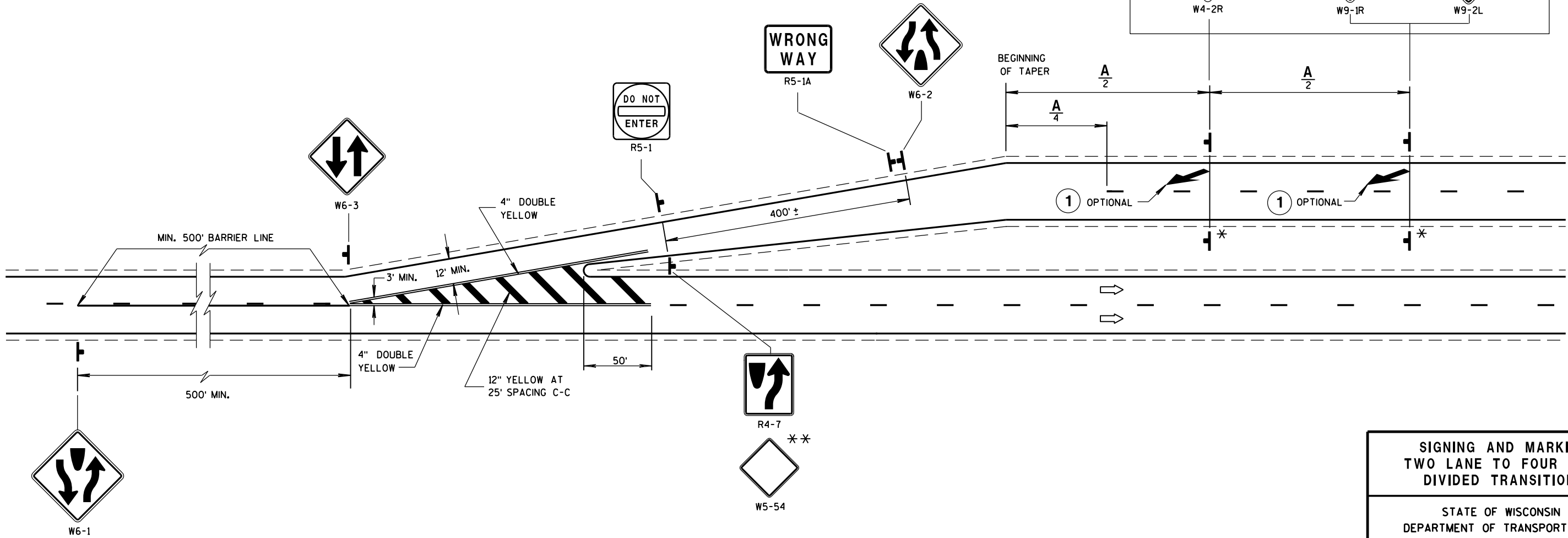
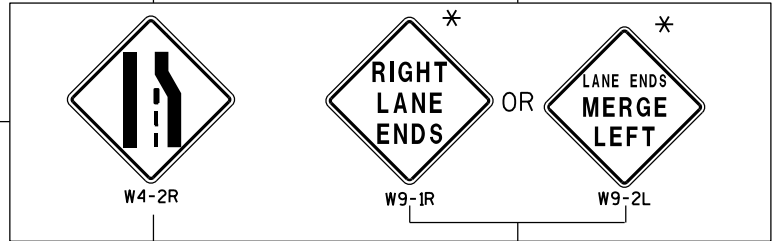
DISTANCE TABLE

POSTED OR 85th PERCENTILE SPEED	DISTANCE "A"
25	325
30	460
35	565
40	670
45	775
50	885
55	990

OPTION 2



OPTION 1



SIGNING AND MARKING  
TWO LANE TO FOUR LANE  
DIVIDED TRANSITIONS

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

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



GENERAL NOTES

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

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

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

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

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

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

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

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

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

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

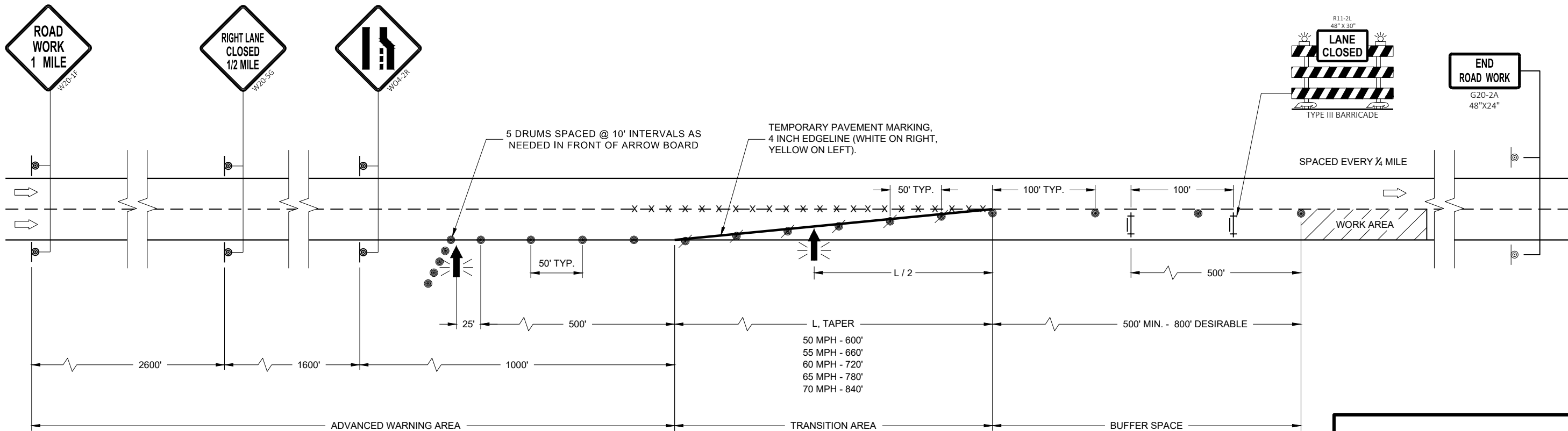
ADJUSTMENTS IN BUFFER SPACE NEED TO BE INCORPORATED WHEN THE LANE CLOSURE OCCURS

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

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

LEGEND

- TYPE III BARRICADE WITH ATTACHED SIGN
- SIGN ON PERMANENT SUPPORT
- TRAFFIC CONTROL DRUM WITH TYPE "C" STEADY BURN LIGHT
- TRAFFIC CONTROL DRUM
- TYPE "A" WARNING LIGHT (FLASHING)
- REMOVING PAVEMENT MARKING
- DIRECTION OF TRAFFIC
- WORK AREA
- FLASHING ARROW BOARD



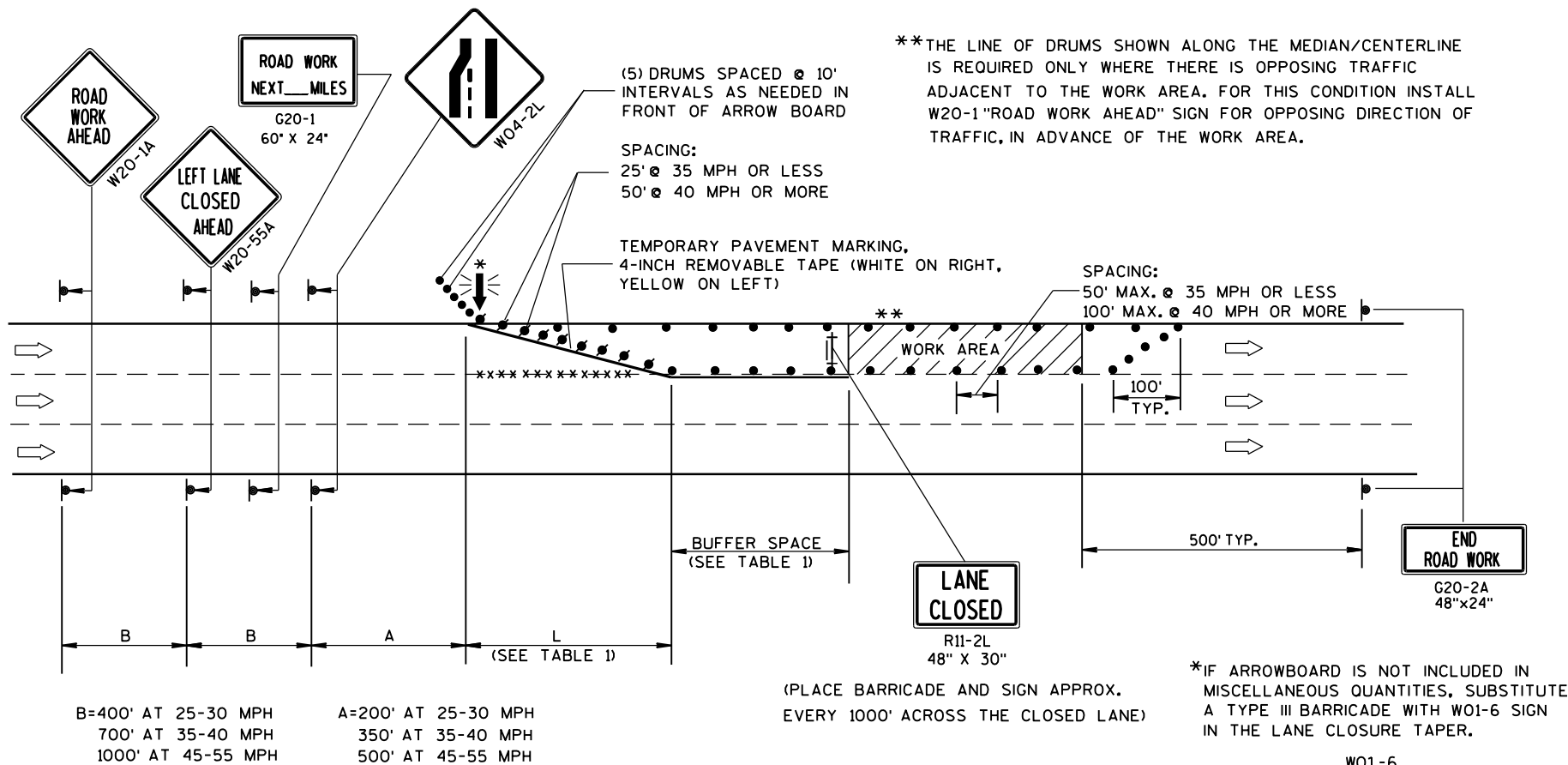
TRAFFIC CONTROL  
LANE CLOSURE

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

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

FHWA





GENERAL NOTES

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

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

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 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 IN URBAN AREAS, 36" X 36" SIGNS MAY BE USED IF APPROVED BY DISTRICT TRAFFIC UNIT.

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

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.

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 4 OR MORE CONTINUOUS DAYS AND NIGHTS.

ON UNDIVIDED ROADWAYS, OMIT THE SIGNS SHOWN ON LEFT SIDE OF ROAD.

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

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

CONSIDER GEOMETRICS WHEN LOCATING SIGNS AND ARROWBOARDS SO THE APPROACHING DRIVER HAS A CLEAR VIEW OF THE ARROWBOARDS AND LANE CLOSURE DRUMS.

PLACE THE ARROWBOARD AS CLOSE AS POSSIBLE TO THE BEGINNING OF THE LANE CLOSURE TAPER, PREFERABLY ON THE SHOULDER OR TERRACE.

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

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.

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

TABLE 1  
TAPER AND BUFFER SPACE  
FOR 12' LANE WIDTH

S	L	BUFFER SPACE
25	125'	55'
30	180'	85'
35	245'	120'
40	320'	170'
45	540'	220'
50	600'	280'
55	660'	335'

FOR LANE WIDTH OTHER THAN 12':

L = WS AT 45 MPH OR GREATER

$L = \frac{WS^2}{60}$  AT 40 MPH OR LESS

L = TAPER LENGTH IN FEET

S = NON-CONSTRUCTION SPEED LIMIT (MPH)

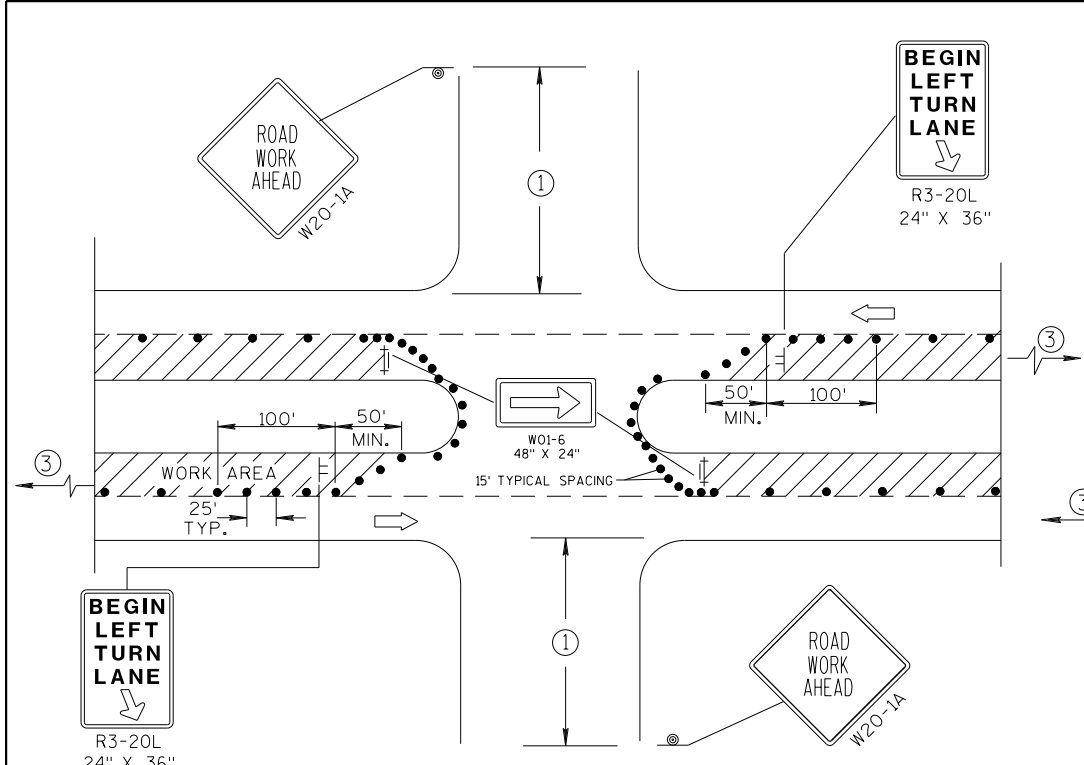
W = WIDTH OF LANE CLOSURE

LEGEND

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

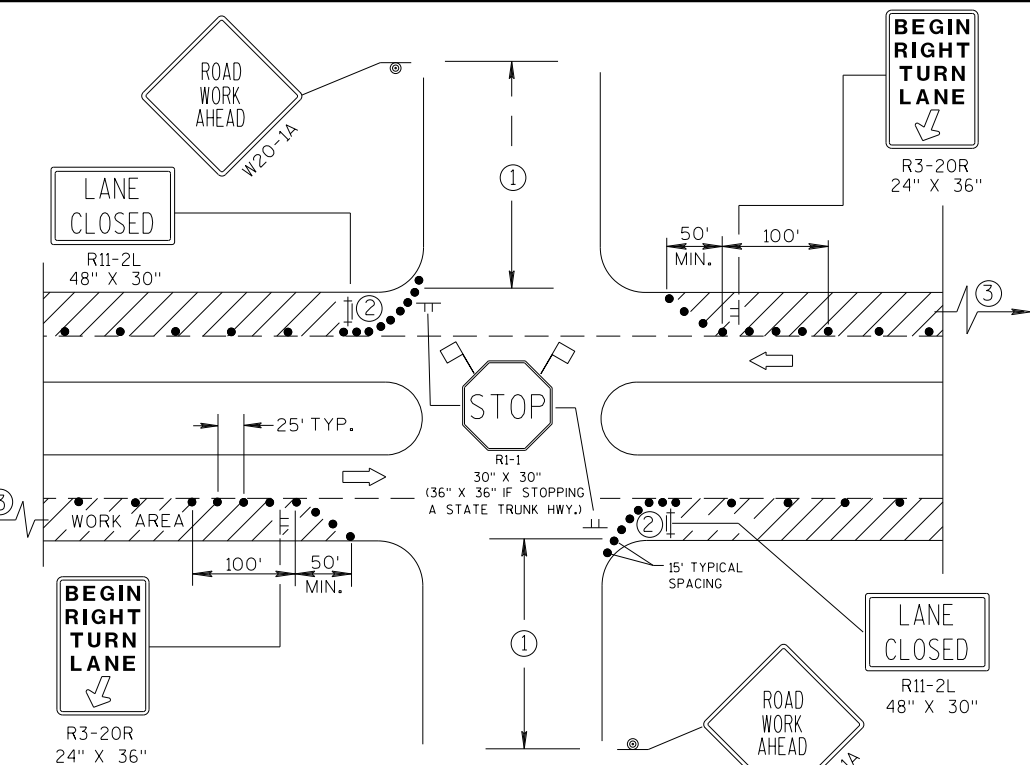
TRAFFIC CONTROL, SINGLE LANE CLOSURE, NON-FREEWAY/EXPRESSWAY	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED June 2016 DATE	/S/ Peter Amakobe Atepe STATEWIDE WORK ZONE TRAFFIC SAFETY ENGINEER
FHWA	





DETAIL A  
FOR LEFT LANE CLOSURE AT  
INTERSECTION OR MEDIAN OPENING

PROVIDE TURN LANES AT  
INTERSECTIONS WHENEVER  
STAGING OF WORK ALLOWS.  
TAPER AND TURN LANE  
LENGTHS BASED ON FIELD  
CONDITIONS AS APPROVED  
BY THE ENGINEER.



DETAIL B  
FOR RIGHT LANE CLOSURE  
AT INTERSECTION

GENERAL NOTES

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

THE SPACING BETWEEN SIGNS SHOULD BE ADJUSTED TO NOT CONFLICT WITH AND 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 IN URBAN AREAS, 36" X 36" SIGNS MAY BE USED IF APPROVED BY DISTRICT TRAFFIC UNIT.

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

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, OR THAT WILL BE PLACED IN A CLOSED LANE, 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.

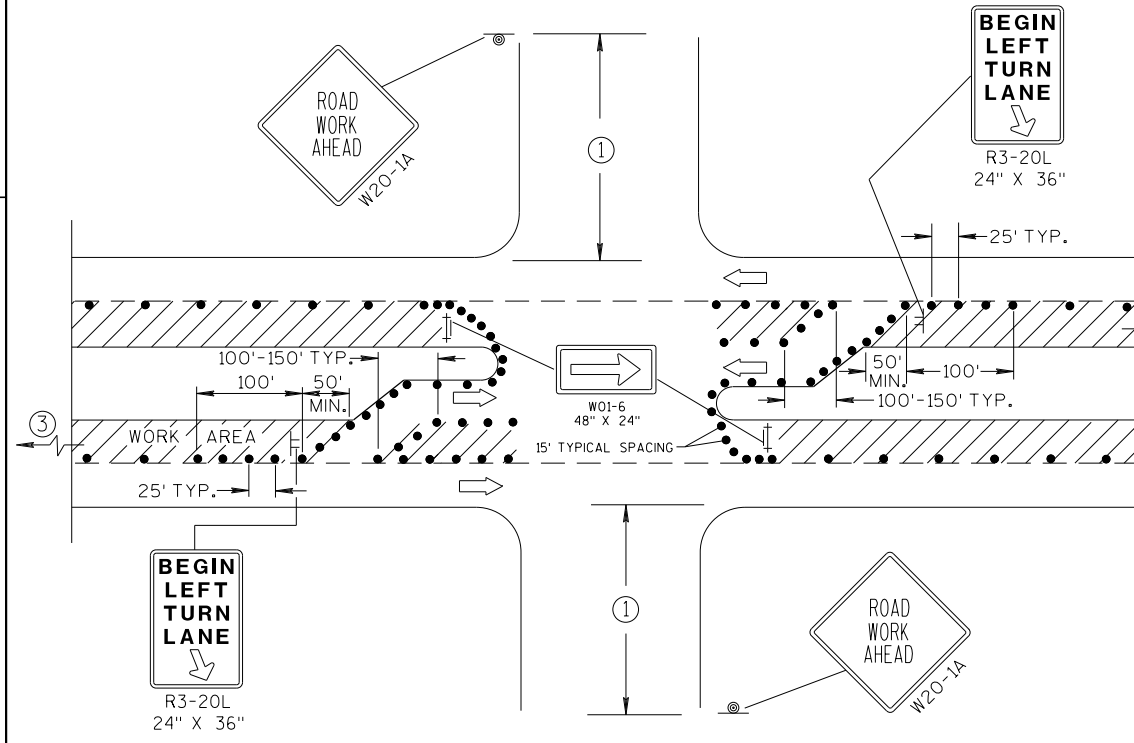
CHANNELIZING DEVICES PLACED ADJACENT TO WORK AREA SHALL BE PULLED BACK FROM THE TRAVEL LANE WHEN WORK IS NOT IN PROGRESS.

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.

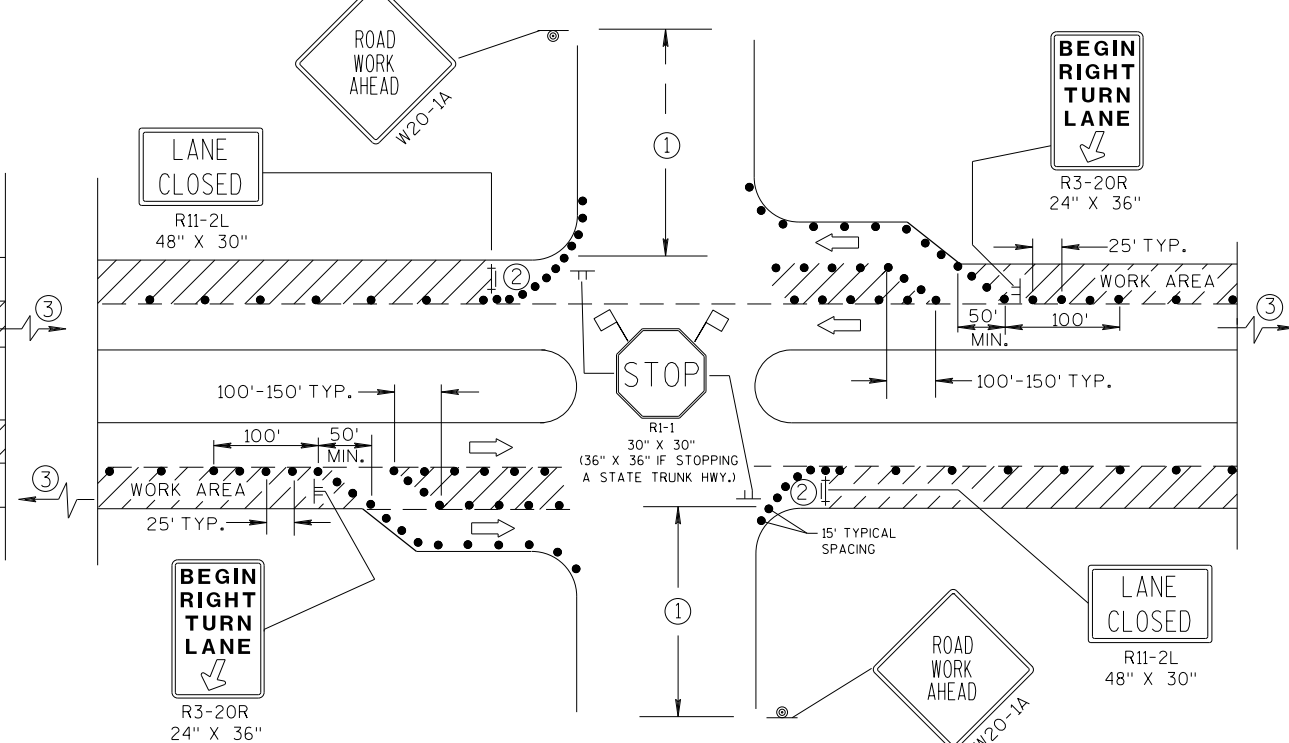
- ① 500' TYPICAL OR AT LAST INTERSECTION, WHICHEVER IS CLOSER.  
350' IF 35-40 MPH.  
200' IF 25-30 MPH.
- ② ALSO USE BARRICADE AND 15-FOOT TYPICAL DRUM SPACING AT COMMERCIAL DRIVEWAYS.
- ③ SEE SEPARATE LANE CLOSURE DETAIL FOR ADDITIONAL TRAFFIC CONTROL.

LEGEND

- TRAFFIC CONTROL DRUM
- ⊙ SIGN ON PERMANENT SUPPORT
- ≡ SIGN ON TEMPORARY SUPPORT (5' MIN. MOUNTING HEIGHT)
- ⋈ TYPE III BARRICADE WITH ATTACHED SIGN AND TYPE "A" WARNING LIGHT (FLASHING)
- ➡ DIRECTION OF TRAFFIC
- 🚩 FLAGS, 16" X 16" MIN., (ORANGE)
- ▨ WORK AREA



DETAIL C  
FOR LEFT LANE CLOSURE AT INTERSECTION OR  
MEDIAN OPENING (WITH LEFT TURN BAY OPEN)



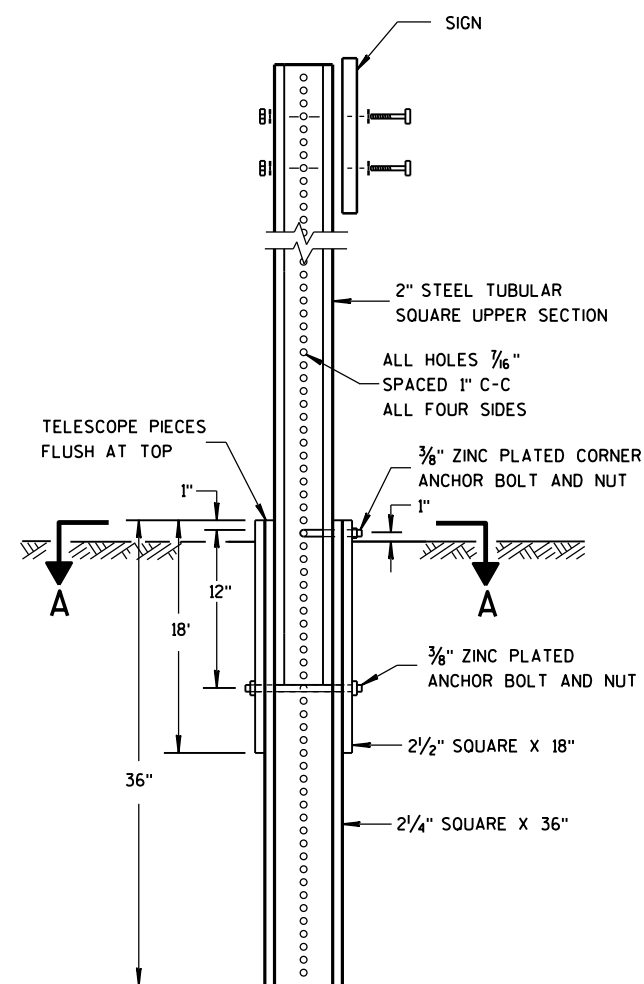
DETAIL D  
FOR RIGHT LANE CLOSURE AT INTERSECTION  
(WITH RIGHT TURN BAY OPEN)

TRAFFIC CONTROL,  
INTERSECTION WITHIN  
SINGLE LANE CLOSURE

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

APPROVED  
7/2018 /S/ Andrew Heidtke  
DATE WORK ZONE ENGINEER  
FHWA





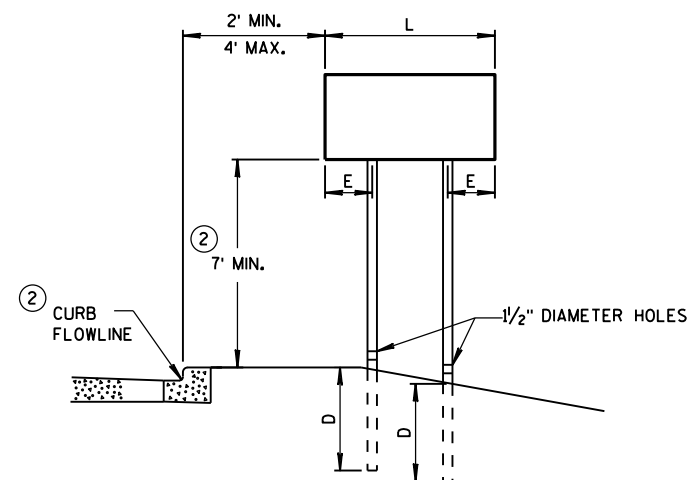
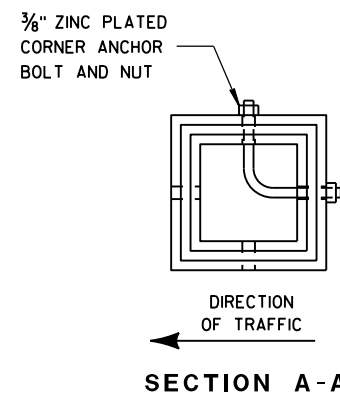
## DETAIL OF TUBULAR STEEL SIGN POST

## 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.

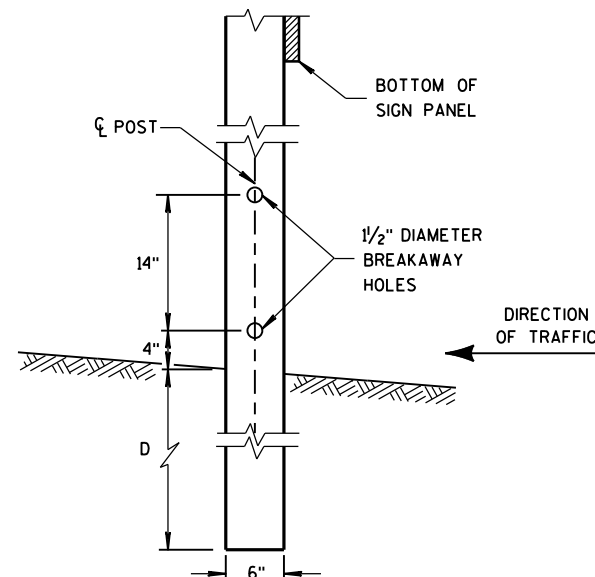


**URBAN AREA**

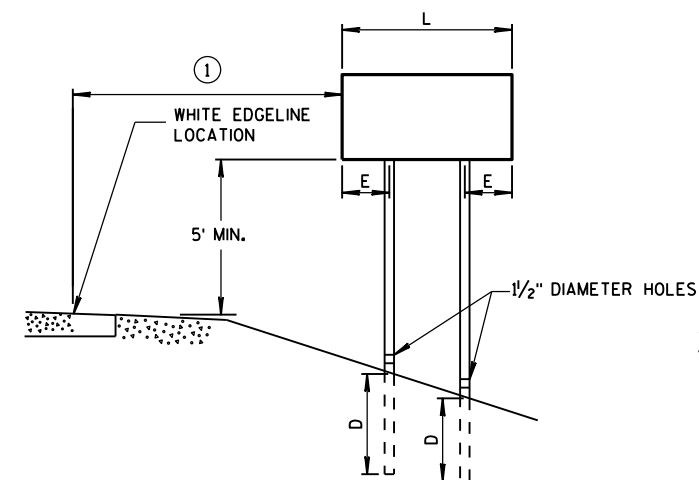
## POST MOUNTING DETAIL FOR TEMPORARY TRAFFIC CONTROL FIXED MESSAGE SIGNS

WOOD POST  
EMBEDMENT DEPTH

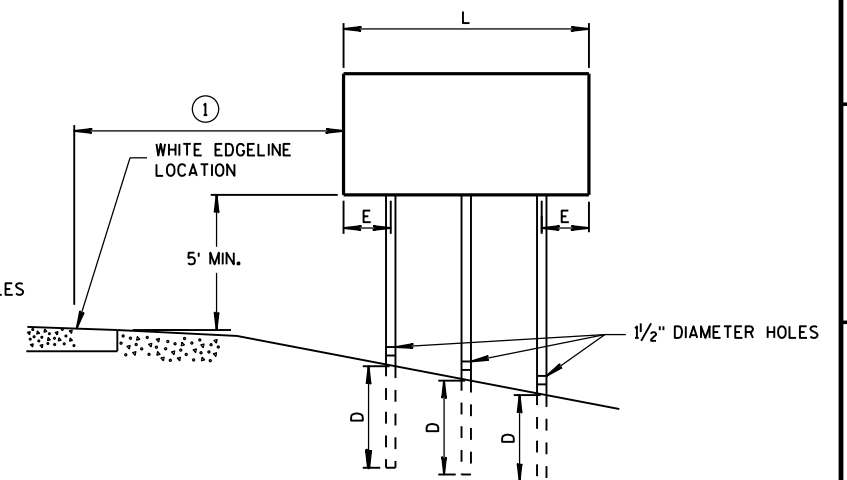
AREA OF SIGN INSTALLATION (SQ. FT.)	D (MIN)
20 OR LESS	4'
GREATER THAN 20	5'



## 4"x6" WOOD POST MODIFICATION



RURAL AREA



## 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.

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)

## TEMPORARY TRAFFIC CONTROL SIGN MOUNTING

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 June 2017 DATE	/S/ Andrew Heidtke WORK ZONE ENGINEER
FHWA	



## Notes





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

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