



Standard Detail Drawings Updates

*Implementation Schedule: These drawings will be included when applicable in plans scheduled for the **February 2024** PS&E due date of the proposal preparation process schedule (refer to [FDM 19-1 Attachment 1.5](#)).*

Standard Detail Drawing (SDD) revisions are shown in the following pages. Objects from the original SDD that were changed or removed are shown in gray while revisions and new items are shown in red. Objects that did not change remain black.

For a more detailed review of the SDD's, download this PDF and open it in a PDF editor or viewer. All objects within the original and revised SDD's are on separate layers and can be isolated or hidden for a more in-depth review of the changes.

The designer notes do not display the new transmittal edits.



[SDD Table of Contents](#) - summary list with new or edited SDDs highlighted.

15C6	v.12	Designer Notes Updated: Bid item Marking Line (Material) (Width) replaced specific width bid items .
15C8	v.23	Designer Notes Updated: Bid item Marking Line (Material) (Width) replaced specific width bid items.
15C31	v.6	Added black lag markings to all applicable auxiliary and lane lines. Designer notes updated: Bid item Marking Line (Material) (Width) replaced specific width bid items.
15C35	v.6	Designer Notes Updated: Bid item Marking Line (Material)(Width) replaced specific width bid items.
15D12	v.12	New SDD sheet (sheet f) and designer note added for "Traffic Control, Lane Closure, with Temporary Rumble Strips"
15D41	v.4	New SDD sheet (sheet b) and designer note added for "Traffic Control, Multiple Lane Shift Divided Road Temporary Rumble Strips." Sheet A: Added table for partial shift tapers and corrected some dimensional errors.

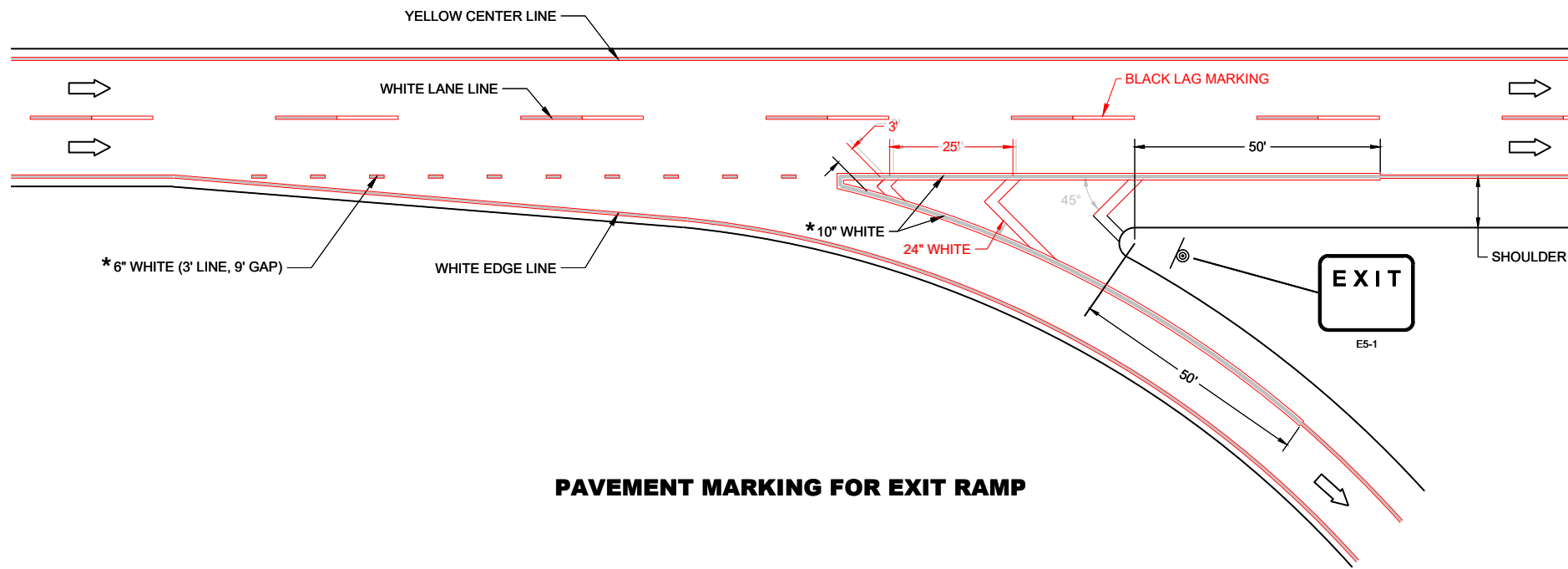
GENERAL NOTES

PLACE GROOVE 3 INCHES LEFT OF JOINT.

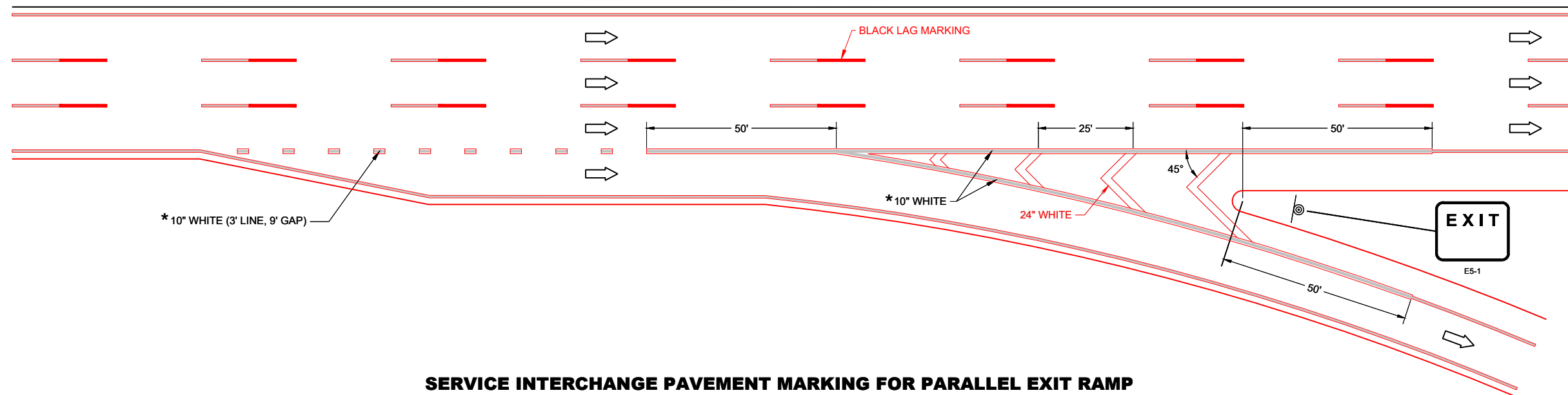
LEGEND

-  SIGN ON PERMANENT SUPPORT
-  DIRECTION OF TRAVEL

* CONFIRM MARKING LINE WIDTH WITH THE MISCELLANEOUS QUANTITIES



PAVEMENT MARKING FOR EXIT RAMP



SERVICE INTERCHANGE PAVEMENT MARKING FOR PARALLEL EXIT RAMP



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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

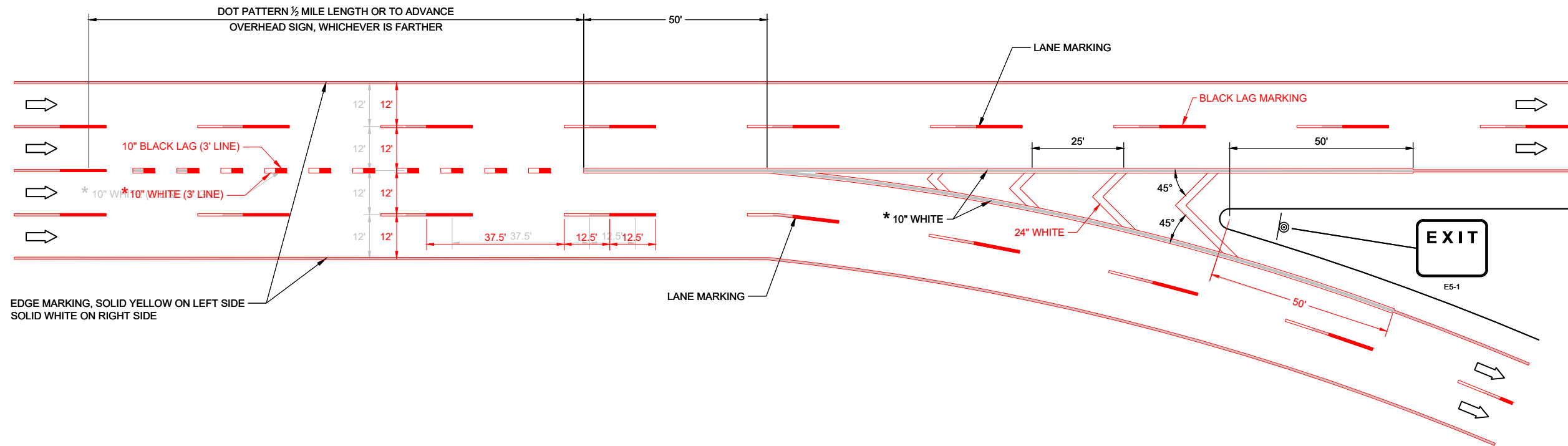
GENERAL NOTES

PLACE GROOVE 3 INCHES LEFT OF JOINT.

LEGEND

-  SIGN ON PERMANENT SUPPORT
-  DIRECTION OF TRAVEL

* CONFIRM MARKING LINE WIDTH WITH THE MISCELLANEOUS QUANTITIES



6

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SDD 15C31-06b

SDD 15C31-06b

**PAVEMENT MARKING,
MAJOR SPLIT
FREEWAY TO FREEWAY**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

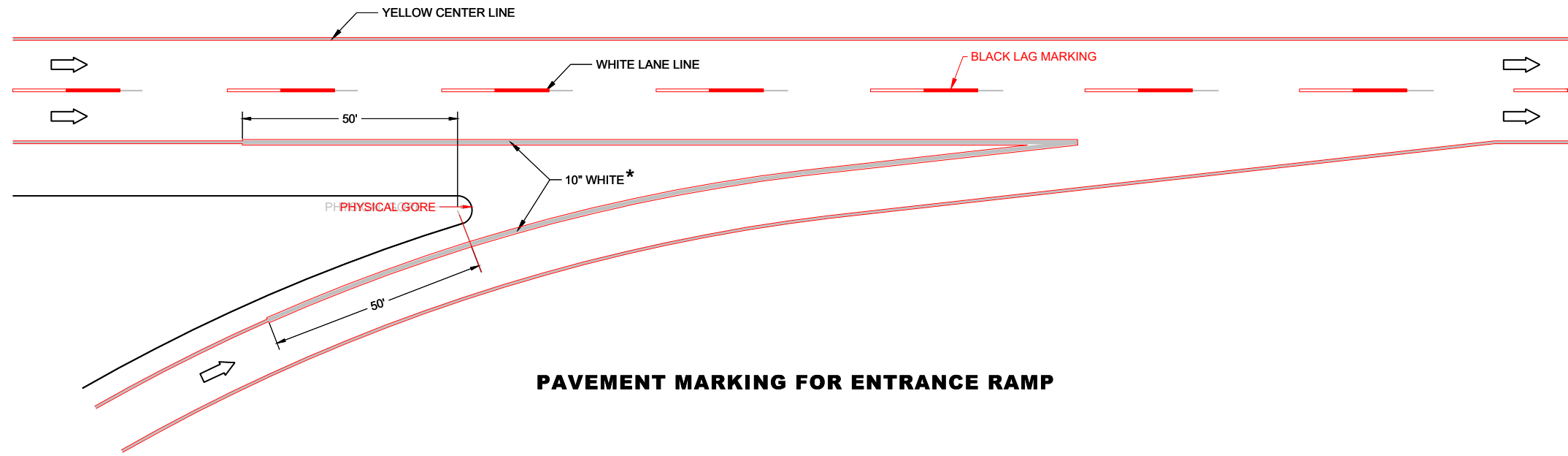
GENERAL NOTES

- PLACE GROOVE 3 INCHES LEFT OF JOINT.
- ① ½ LENGTH OF FULL WIDTH ACCELERATION LANE.

LEGEND

➡ DIRECTION OF TRAVEL

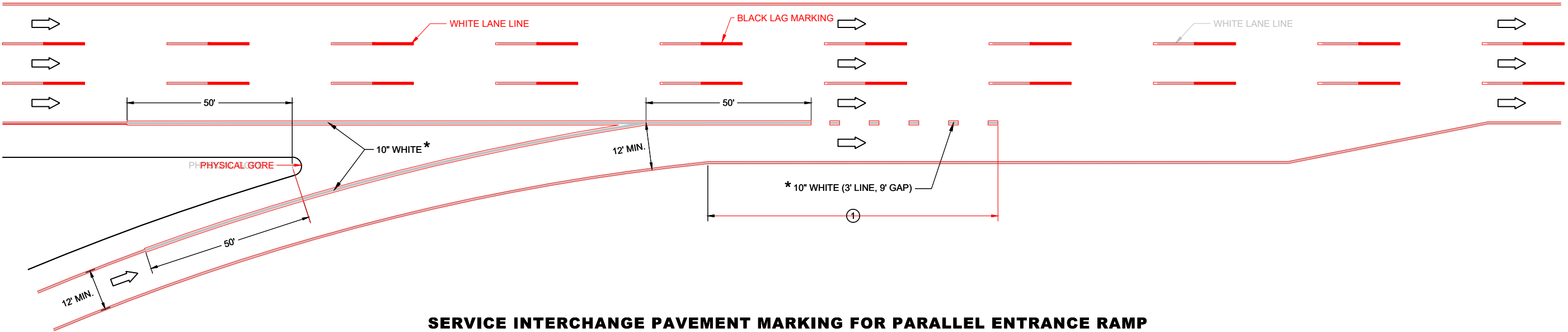
* CONFIRM MARKING LINE WIDTH WITH THE MISCELLANEOUS QUANTITIES



PAVEMENT MARKING FOR ENTRANCE RAMP

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SERVICE INTERCHANGE PAVEMENT MARKING FOR PARALLEL ENTRANCE RAMP

SDD 15C31-06c

SDD 15C31-06c

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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

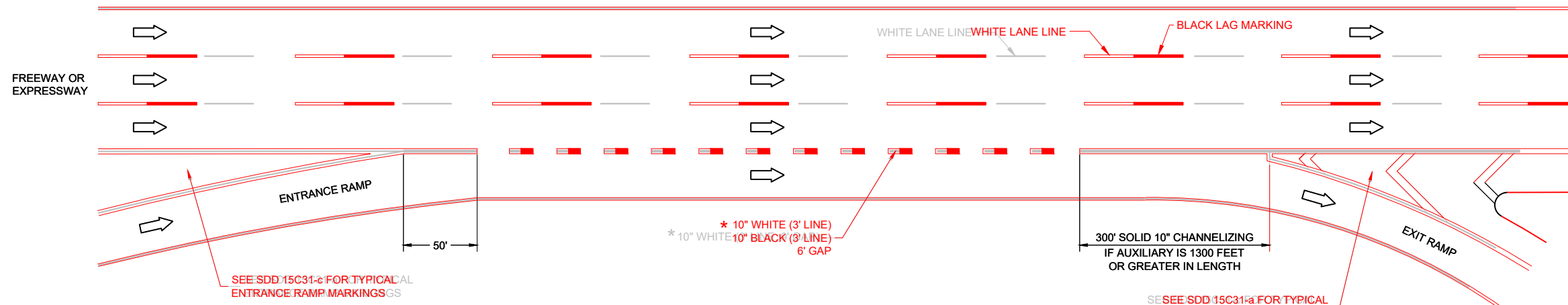
LEGEND

➔ DIRECTION OF TRAVEL

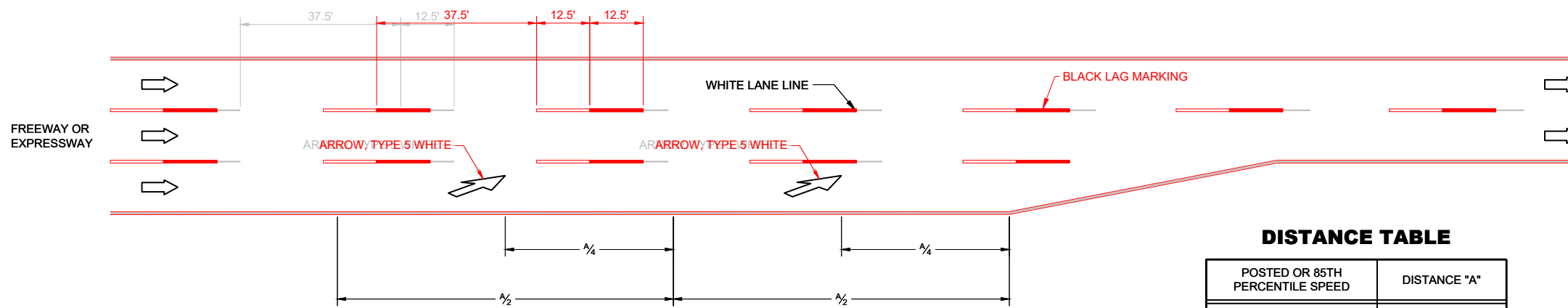
* CONFIRM MARKING LINE WIDTH WITH THE MISCELLANEOUS QUANTITIES

GENERAL NOTES

PLACE GROOVE 3 INCHES LEFT OF JOINT.



SERVICE INTERCHANGE LANE DROP MARKINGS



LANE REDUCTION MARKINGS

DISTANCE TABLE

POSTED OR 85TH PERCENTILE SPEED	DISTANCE "A"
40	670'
45	775'
50	885'
55	990'
60	1100'
65	1200'
70	1250'

PAVEMENT MARKING, LANE DROP AND LANE REDUCTION

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

September 2023
DATE

/s/ Matthew Rauch
ROADWAY STANDARDS DEVELOPMENT
UNIT SUPERVISOR

FHWA

GENERAL NOTES

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

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

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

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

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

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

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

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

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

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

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

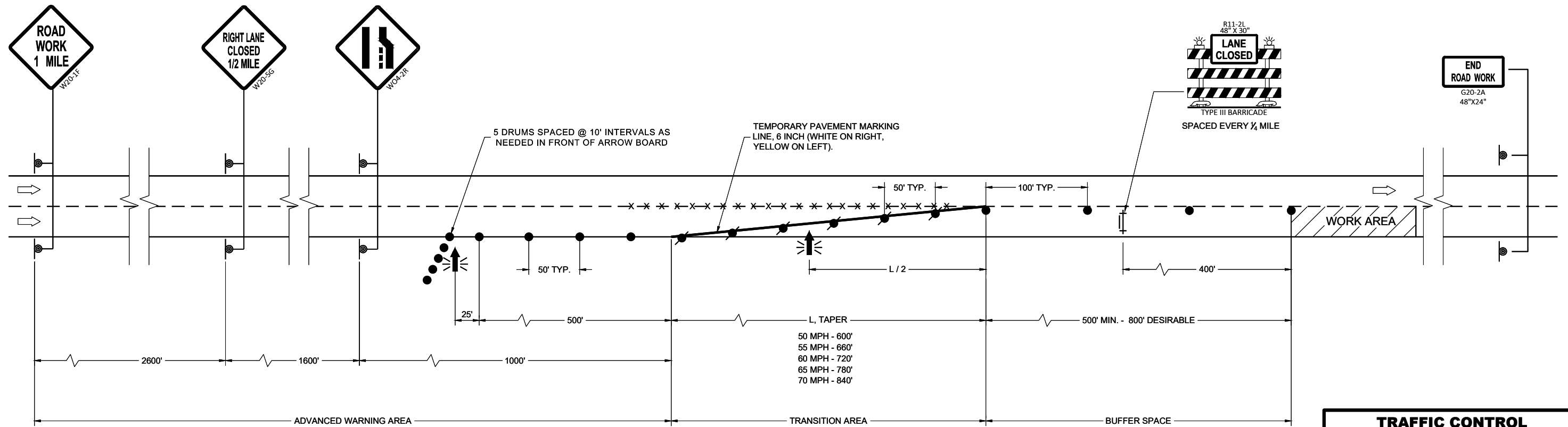
CONSIDER ROADWAY GEOMETRICS WHEN LOCATING SIGNS AND ARROW BOARD SO THE DRIVER HAS A CLEAR VIEW OF THE ARROW BOARD AND LANE CLOSURE DRUMS.

LEGEND

- ⊙ SIGN ON PERMANENT SUPPORT
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE "C" STEADY BURN LIGHT
- ⊥ TYPE III BARRICADE WITH ATTACHED SIGN
- ⚡ TYPE "A" WARNING LIGHT (FLASHING)
- ✖ ✖ ✖ REMOVING PAVEMENT MARKINGS
- ➡ DIRECTION OF TRAFFIC
- ▨ WORK AREA
- ➡ FLASHING ARROW BOARD

6

SDD 15D12-12a



6

SDD 15D12-12a

TRAFFIC CONTROL LANE CLOSURE	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED September 2023 DATE	/s/ Andrew Heidtke ROADWAY STANDARDS DEVELOPMENT UNIT SUPERVISOR

GENERAL NOTES

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

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

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

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

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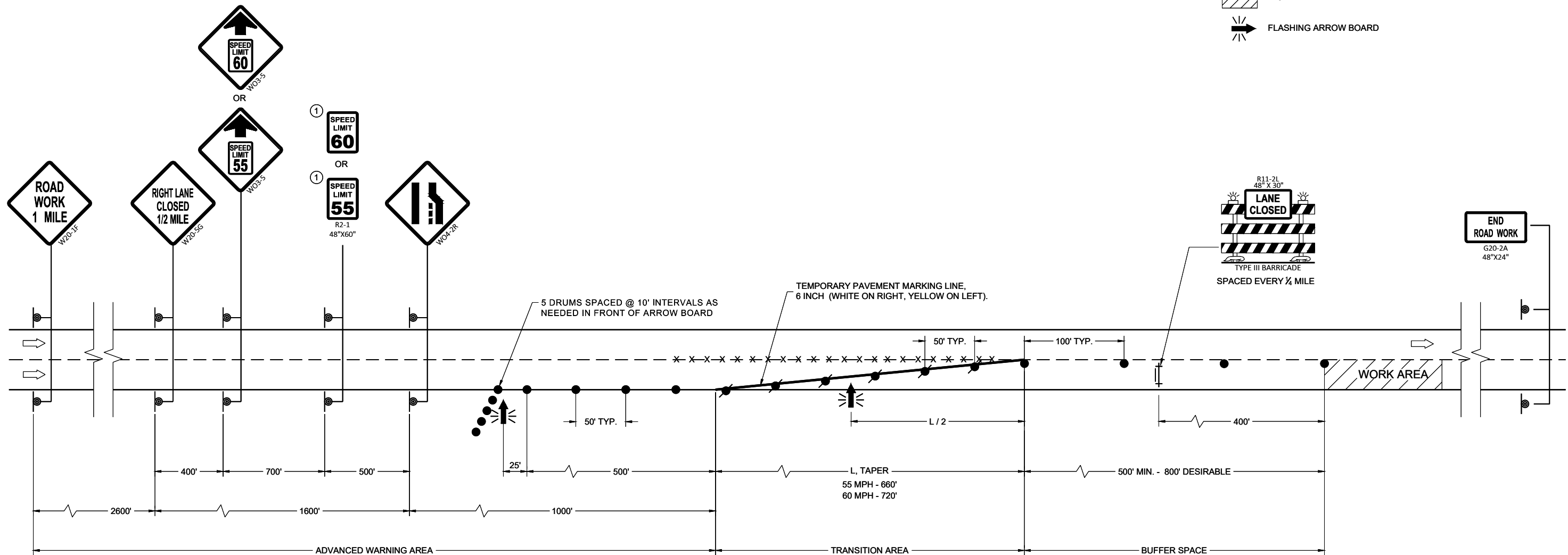
① A SPEED LIMIT SIGN SHALL BE LOCATED 1500 FEET BEYOND THE END OF THE ACCELERATION LANE OF EACH ENTRANCE RAMP. PLACE A SPEED LIMIT SIGN A MINIMUM OF EVERY 3 MILES. INCLUDE A RESUME SPEED LIMIT SIGN 200 FEET MINIMUM (500 FEET DESIRABLE) BEYOND THE "END OF ROADWORK" SIGN.

LEGEND

- ⊙ SIGN ON PERMANENT SUPPORT
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE "C" STEADY BURN LIGHT
- ⊥ TYPE III BARRICADE WITH ATTACHED SIGN
- ⚡ TYPE "A" WARNING LIGHT (FLASHING)
- * * * REMOVING PAVEMENT MARKINGS
- ➡ DIRECTION OF TRAFFIC
- ▨ WORK AREA
- ➡ FLASHING ARROW BOARD

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SDD 15D12-12b



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SDD 15D12-12b

TRAFFIC CONTROL, LANE CLOSURE, SPEED REDUCTION	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED September 2023 DATE	/s/ Andrew Heidtke ROADWAY STANDARDS DEVELOPMENT UNIT SUPERVISOR
FHWA	

LEGEND

- SIGN ON PERMANENT SUPPORT
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE "C" STEADY BURN LIGHT
- TYPE III BARRICADE WITH ATTACHED SIGN
- TYPE "A" WARNING LIGHT (FLASHING)
- REMOVING PAVEMENT MARKINGS
- DIRECTION OF TRAFFIC
- WORK AREA
- FLASHING ARROW BOARD
- PCMS PORTABLE CHANGEABLE MESSAGE SIGN
- PORTABLE TRAFFIC SENSOR (PTS)
- FBS FLASHING BEACON SIGNS

STOPPED OR SLOW TRAFFIC WHEN FLASHING

WO8-76
96" x 48"
96" x 48"

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.

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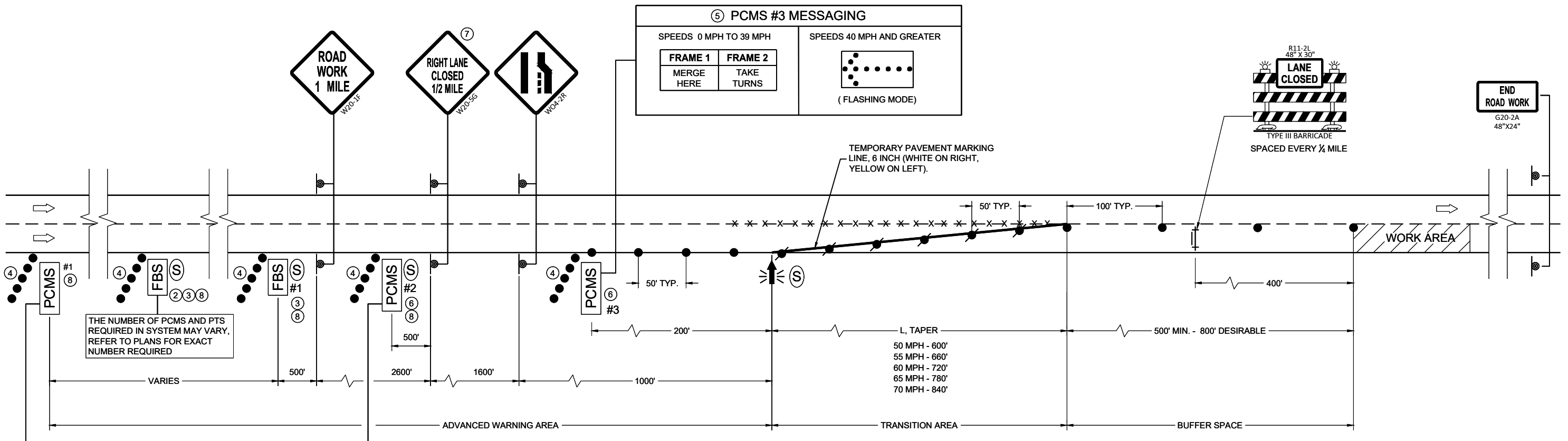
CONSIDER ROADWAY GEOMETRICS WHEN LOCATING SIGNS AND ARROW BOARD SO THE DRIVER HAS A CLEAR VIEW OF THE ARROW BOARD AND LANE CLOSURE DRUMS.

PORTABLE TRAFFIC SENSOR (PTS) MAY BE MOUNTED ON PCMS, FBS, ARROW BOARD OR OTHER TRAILER DEVICES.

- ① IF THERE ARE MORE THAN TWO LANES, CHANGE FRAME 2 OF THE PCMS TO STATE "USE ALL LANES".
- ② PLACE FLASHING BEACON SIGNS EVERY ONE MILE BETWEEN PCMS #1 AND FBS #1. THE NUMBER OF FBS MAY BE MORE THAN SHOWN ON THIS DETAIL.
- ③ FOR THREE LANE CONFIGURATION, PLACE FBS ON BOTH SIDES OF ROADWAY. CHANGE PCMS #1 FRAME 2 MESSAGE TO "USE ALL LANES".
- ④ 5 DRUMS SPACED @ 10' INTERVALS AS NEEDED.
- ⑤ PCMS SHALL FOLLOW ARROW BOARD STANDARDS WHEN DISPLAYING FLASHING FOUR CORNER CAUTION MODE OR FLASHING ARROW MERGE MODE.
- ⑥ TO MINIMIZE OBSTRUCTION OF THE ARROW BOARD BY THE PCMS, OFFSET THE PCMS AS NEEDED FROM THE EDGE LINE
- ⑦ IF THERE IS AN APPROVED TEMPORARY SPEED DECLARATION, ADD WO-3-5 SIGNS 400 FEET AFTER THE W20-5G SIGNS AND ADD R2-1 SIGNS (48"x60") 700 FEET AFTER THE WO3-5 SIGNS. A SPEED LIMIT SIGN SHALL BE LOCATED 1500 FEET BEYOND THE END OF THE ACCELERATION LANE OF EACH ENTRANCE RAMP. PLACE A SPEED LIMIT SIGN A MINIMUM OF EVERY 3 MILES. INCLUDE A "RESUME SPEED LIMIT" SIGN 200 FEET MINIMUM (800 FEET DESIRABLE) BEYOND THE G30-3A "END ROAD WORK" SIGN.
- ⑧ IF THERE ARE MORE THAN TWO LANES OR IF SPECIFIED IN THE PLANS, PLACE PCMS AND FBS ON THE SAME SIDE OF THE ROADWAY.

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⑤ PCMS #3 MESSAGING

SPEEDS 0 MPH TO 39 MPH		SPEEDS 40 MPH AND GREATER	
FRAME 1	FRAME 2	 (FLASHING MODE)	
MERGE HERE	TAKE TURNS		

③⑤① PCMS #1 MESSAGING

SPEEDS 0 MPH TO 39 MPH		SPEEDS 40 MPH AND GREATER	
FRAME 1	FRAME 2	 (FLASHING CAUTION MODE)	
STOPPED TRAFFIC AHEAD	USE BOTH LANES		

⑤ PCMS #2 MESSAGING

SPEEDS 0 MPH TO 39 MPH		SPEEDS 40 MPH AND GREATER	
FRAME 1	FRAME 2	 (FLASHING CAUTION MODE)	
STAY IN LANE	DO NOT MERGE		

**TRAFFIC CONTROL,
DYNAMIC LANE
MERGE SYSTEM**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION












APPROVED
September 2023 DATE /S/ Erin Schwark
ROADWAY STANDARDS DEVELOPMENT UNIT SUPERVISOR

FHWA

SDD 15D12-12C

SDD 15D12-12C

LEGEND

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

GENERAL NOTES

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

REMOVE PAVEMENT MARKINGS AND PLACE TEMPORARY PAVEMENT MARKING LINE IF LANE CLOSURE IS TO BE IN PLACE 4 OR MORE CONTINUOUS DAYS AND NIGHTS. WARNING LIGHTS ARE NOT REQUIRED IF THE LANE CLOSURE IS A DAYTIME ONLY OPERATION.

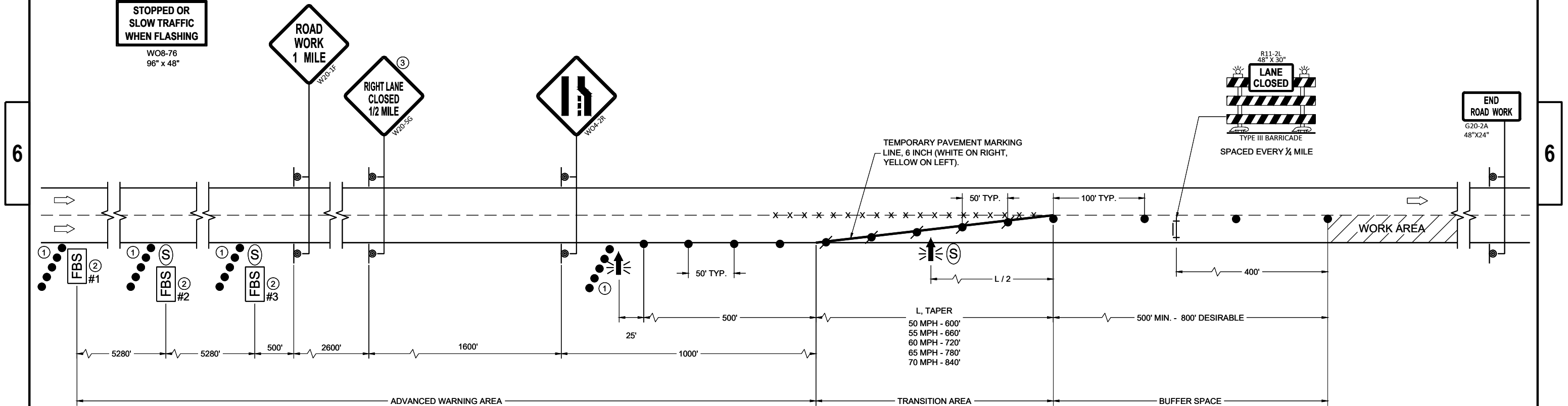
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CONSIDER ROADWAY GEOMETRICS WHEN LOCATING SIGNS AND ARROW BOARD SO THE DRIVER HAS A CLEAR VIEW OF THE ARROW BOARD AND LANE CLOSURE DRUMS.

PORTABLE TRAFFIC SENSOR (PTS) MAY BE MOUNTED ON THE FBS, ARROW BOARD OR OTHER TRAILER DEVICES.

- ① 5 DRUMS SPACED AT 10 FOOT INTERVALS AS NEEDED.
- ② IF THERE ARE MORE THAN TWO LANES OR IF SPECIFIED IN THE PLANS, PLACE FBS ON BOTH SIDES OF THE ROADWAY.
- ③ IF THERE IS AN APPROVED TEMPORARY SPEED DECLARATION, ADD WO-3-5 SIGNS 400 FEET AFTER THE W20-5G SIGNS AND ADD R2-1 SIGNS (48"x60") 700 FEET AFTER THE WO3-5 SIGNS. A SPEED LIMIT SIGN SHALL BE LOCATED 1500 FEET BEYOND THE END OF THE ACCELERATION LANE OF EACH ENTRANCE RAMP. PLACE A SPEED LIMIT SIGN A MINIMUM OF EVERY 3 MILES. INCLUDE A "RESUME SPEED LIMIT" SIGN 200 FEET MINIMUM (800 FEET DESIRABLE) BEYOND THE G30-3A "END ROAD WORK" SIGN.



SDD 15D12-12d

SDD 15D12-12d












TRAFFIC CONTROL, LANE CLOSURE, BASIC TRAFFIC QUEUE WARNING SYSTEM

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
September 2023 DATE /S/ Erin Schwark
ROADWAY STANDARDS DEVELOPMENT UNIT SUPERVISOR

FHWA

LEGEND

-  SIGN ON PERMANENT SUPPORT
-  TRAFFIC CONTROL DRUM
-  TRAFFIC CONTROL DRUM WITH TYPE "C" STEADY BURN LIGHT
-  TYPE III BARRICADE WITH ATTACHED SIGN
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-  REMOVING PAVEMENT MARKINGS
-  DIRECTION OF TRAFFIC
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-  PORTABLE TRAFFIC SENSOR (PTS)

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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.

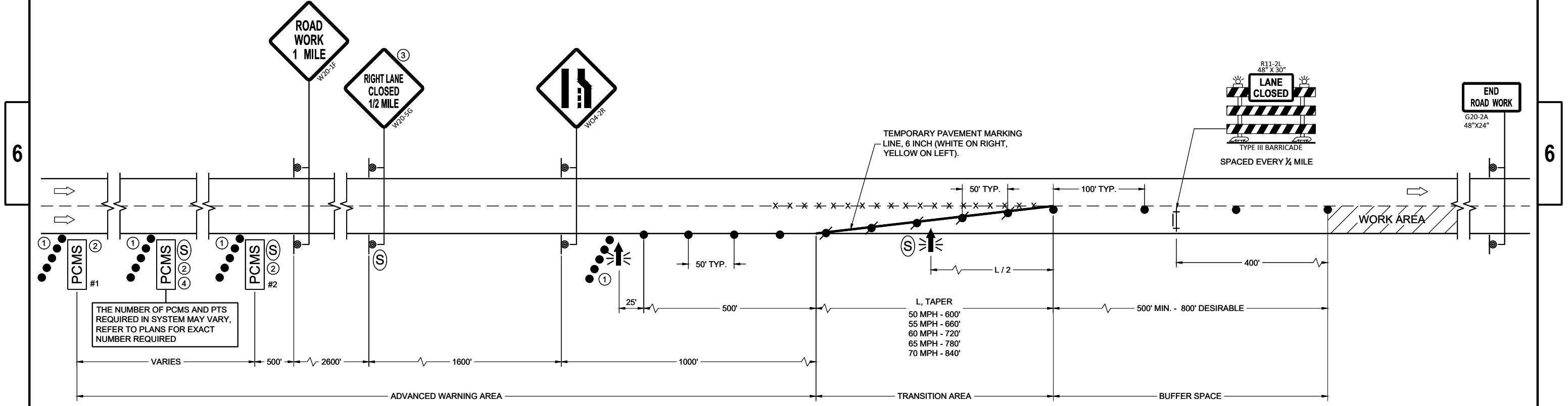
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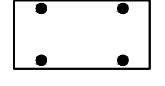
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- CONSIDER ROADWAY GEOMETRICS WHEN LOCATING SIGNS AND ARROW BOARD SO THE DRIVER HAS A CLEAR VIEW OF THE ARROW BOARD AND LANE CLOSURE DRUMS.
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- ① 5 DRUMS SPACED AT 10 FOOT INTERVALS AS NEEDED.
 - ② IF THERE ARE MORE THAN TWO LANES OR IF SPECIFIED IN THE PLANS, PLACE PCMS ON BOTH SIDES OF THE ROADWAY.
 - ③ IF THERE IS AN APPROVED TEMPORARY SPEED DECLARATION, ADD WO-3-5 SIGNS 400 FEET AFTER THE W20-5G SIGNS AND ADD R2-1 SIGNS (48"x60") 700 FEET AFTER THE WO3-5 SIGNS. A SPEED LIMIT SIGN SHALL BE LOCATED 1500 FEET BEYOND THE END OF THE ACCELERATION LANE OF EACH ENTRANCE RAMP. PLACE A SPEED LIMIT SIGN A MINIMUM OF EVERY 3 MILES. INCLUDE A "RESUME SPEED LIMIT" SIGN 200 FEET MINIMUM (800 FEET DESIRABLE) BEYOND THE G30-3A "END ROAD WORK" SIGN.
 - ④ PLACE PCMS EVERY ONE MILE BETWEEN PCMS #1 AND PCMS #2, OR AS THE ENGINEER DIRECTS. THE NUMBER OF PCMS MAY BE MORE THAN SHOWN ON THIS DETAIL.
 - ⑤ PCMS SHALL FOLLOW ARROW BOARD STANDARDS WHEN DISPLAYING FLASHING FOUR CORNER CAUTION MODE OR FLASHING ARROW MERGE MODE.



THE NUMBER OF PCMS AND PTS REQUIRED IN SYSTEM MAY VARY, REFER TO PLANS FOR EXACT NUMBER REQUIRED

⑤ PCMS MESSAGING					
SPEEDS 0 MPH TO 19 MPH		SPEEDS 20 MPH TO 39 MPH		SPEEDS 40 MPH AND GREATER	
FRAME 1	FRAME 2	FRAME 1	FRAME 2	 (FLASHING CAUTION MODE)	
STOPPED TRAFFIC AHEAD	EXPECT DELAYS	SLOW TRAFFIC AHEAD	PREPARE TO STOP		

TRAFFIC CONTROL, LANE CLOSURE, TRAFFIC QUEUE WARNING SYSTEM

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION


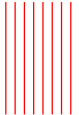
APPROVED
September 2023 DATE /S/ Erin Schwark
ROADWAY STANDARDS DEVELOPMENT UNIT SUPERVISOR

FHWA

SDD 15D12-12e

SDD 15D12-12e

LEGEND

-  SIGN ON PERMANENT SUPPORT
-  TRAFFIC CONTROL DRUM
-  TRAFFIC CONTROL DRUM WITH TYPE "C" STEADY BURN LIGHT
-  TYPE III BARRICADE WITH ATTACHED SIGN
-  REMOVING PAVEMENT MARKINGS
-  DIRECTION OF TRAFFIC
-  WORK AREA
-  FLASHING ARROW BOARD
-  PORTABLE TRAFFIC SENSOR (PTS)
-  TEMPORARY RUMBLE STRIPS (VARIABLE SPACING)

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

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

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

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

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

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.

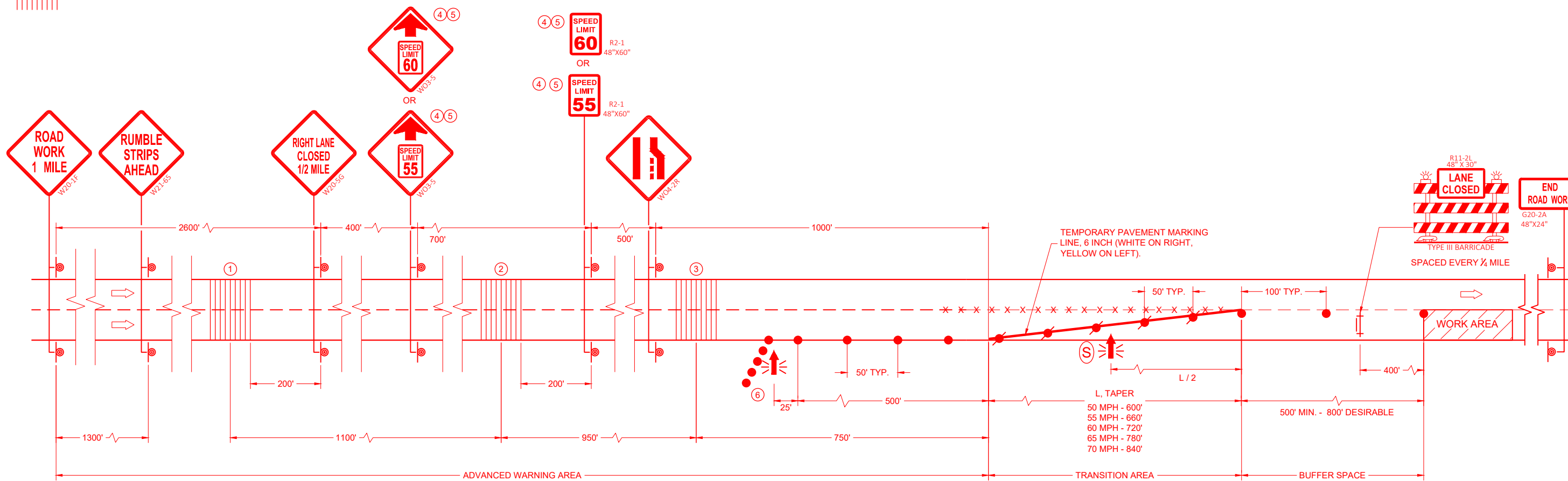
CONSIDER ROADWAY GEOMETRICS WHEN LOCATING SIGNS AND ARROW BOARD SO THE DRIVER HAS A CLEAR VIEW OF THE ARROW BOARD AND LANE CLOSURE DRUMS.

USE THIS DETAIL FOR PLACEMENT OF TEMPORARY RUMBLE STRIPS AND W21-65 SIGNS. SEE APPROPRIATE LANE CLOSURE SDD FOR DETAILS OF OTHER TRAFFIC CONTROL DEVICES AND SIGNS.

- ① NINE RUMBLE STRIPS WITH 10 FOOT SPACING BETWEEN EACH INDIVIDUAL STRIP.
- ② NINE RUMBLE STRIPS WITH 5 FOOT SPACING BETWEEN EACH INDIVIDUAL STRIP.
- ③ NINE RUMBLE STRIPS WITH 1.5 FOOT SPACING BETWEEN EACH INDIVIDUAL STRIP.
- ④ COVER OR REMOVE PER APPROVED TEMPORARY SPEED DECLARATION.
- ⑤ IF NO APPROVED SPEED DECLARATION, OMIT SIGNS.
- ⑥ 5 DRUMS SPACED AT 10 FOOT INTERVALS AS NEEDED.

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**TRAFFIC CONTROL,
LANE CLOSURE, WITH
TEMPORARY RUMBLE STRIPS**





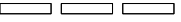

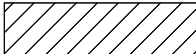
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION





APPROVED _____ /S/ Andrew Heidtke
 September 2023 DATE ROADWAY STANDARDS DEVELOPMENT
FWHA UNIT SUPERVISOR

SDD 15D12-12f

SDD 15D12-12f

LEGEND

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

 OR 
 W03-5 R2-1 48"x60"
 OR
 OR 
 W03-5 R2-1 48"x60"
 LOCATED 3000 FEET BEYOND THE "ROAD WORK 1 MILE" (W20-1F) SIGN (BLACK AND WHITE)
 LOCATED 700 FEET BEYOND THE W03-5 SIGN

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

GENERAL NOTES

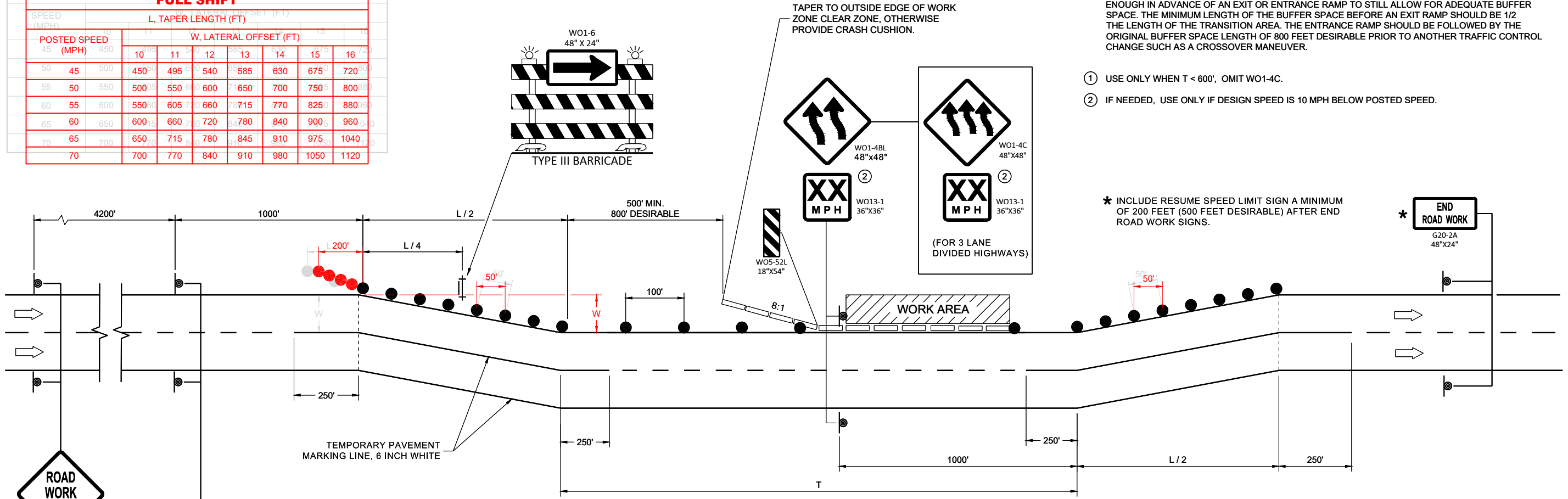
- THE EXACT NUMBER, LOCATION, AND SPACING OF ALL SIGNS AND DEVICES SHALL BE ADJUSTED TO FIT FIELD CONDITIONS AS APPROVED BY THE ENGINEER.
- THE SPACING BETWEEN SIGNS SHOULD BE ADJUSTED TO NOT CONFLICT WITH AND TO PROVIDE A MINIMUM OF 200 FEET, (500 FEET DESIRABLE) DISTANCE TO EXISTING SIGNS.
- THIS LANE CLOSURE IS TYPICAL FOR LANE SHIFT RIGHT - REVERSE FOR SHIFTING LEFT.
- ALL SIGNS ARE 48"x48" UNLESS OTHERWISE NOTED.
- "WO" IS THE SAME AS "W" EXCEPT THE BACKGROUND IS ORANGE.
- ANY SIGNS TEMPORARY OR EXISTING, WHICH CONFLICT WITH TRAFFIC CONTROL "IN USE" SHALL BE REMOVED OR COVERED AS NEEDED AND AS APPROVED BY THE ENGINEER.
- FOR A LANE CLOSURE THAT IS IN PLACE LESS THAN 7 CONTINUOUS DAYS AND NIGHTS, THE ADVANCED WARNING SIGNS MAY BE MOUNTED ON PORTABLE SUPPORTS.
- REMOVE PAVEMENT MARKINGS AND PLACE TEMPORARY PAVEMENT MARKING LINES IF LANE CLOSURE IS TO BE IN PLACE FOR 4 OR MORE CONTINUOUS DAYS AND NIGHTS.
- IF THE HORIZONTAL ALIGNMENT IS SUCH THAT A CURVE MAY REQUIRE ADDITIONAL DELINEATION, THE DEVICE SPACING MAY BE DECREASED TO 50 FEET.
- ADJUSTMENTS IN BUFFER SPACE NEED TO BE INCORPORATED WHEN THE LANE SHIFT OCCURS NEAR AN INTERCHANGE EXIT OR ENTRANCE RAMP. THE LANE SHIFT MUST TAKE PLACE FAR ENOUGH IN ADVANCE OF AN EXIT OR ENTRANCE RAMP TO STILL ALLOW FOR ADEQUATE BUFFER SPACE. THE MINIMUM LENGTH OF THE BUFFER SPACE BEFORE AN EXIT RAMP SHOULD BE 1/2 THE LENGTH OF THE TRANSITION AREA. THE ENTRANCE RAMP SHOULD BE FOLLOWED BY THE ORIGINAL BUFFER SPACE LENGTH OF 800 FEET DESIRABLE PRIOR TO ANOTHER TRAFFIC CONTROL CHANGE SUCH AS A CROSSOVER MANEUVER.


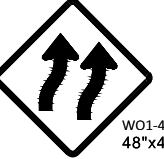


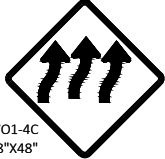


- ① USE ONLY WHEN T < 600', OMIT W01-4C.
- ② IF NEEDED, USE ONLY IF DESIGN SPEED IS 10 MPH BELOW POSTED SPEED.

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

FULL SHIFT

POSTED SPEED (MPH)	W, LATERAL OFFSET (FT)								
	10	11	12	13	14	15	16	17	
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



 W20-1F
 OR
 W01-4BR 48"x48"
 OR
 W22-1BR
 ①
 W013-1 36"x36"
 ②
 W01-4C 48"x48"
 OR
 W24-1BR
 ①
 W013-1 36"x36"
 ②
 (FOR 3 LANE DIVIDED HIGHWAYS)

PARTIAL SHIFT

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

**TRAFFIC CONTROL
MULTIPLE LANE SHIFT
MULTILANE DIVIDED ROAD**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
September 2023 DATE /S/ Andrew Heidtke
ROADWAY STANDARDS DEVELOPMENT UNIT SUPERVISOR

FHWA





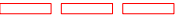


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SDD 15D41-04a

SDD 15D41-04a

LEGEND

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

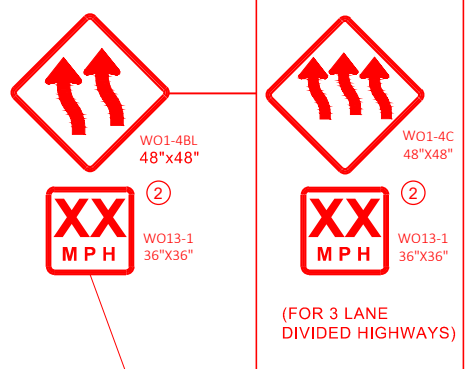
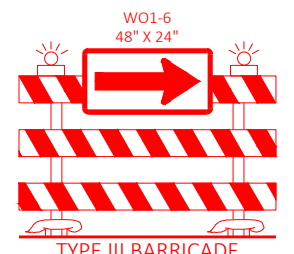


IF THE REGULATORY SPEED HAS BEEN REDUCED, A SPEED LIMIT SIGN SHALL BE LOCATED 1500 FEET BEYOND THE END OF THE ACCELERATION LANE OF EACH ENTRANCE RAMP. PLACE A SPEED LIMIT SIGN INCORPORATED A MINIMUM OF EVERY 3 MILES.

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

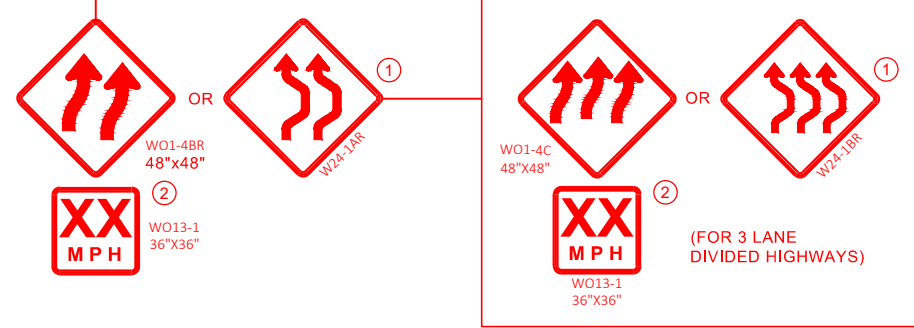
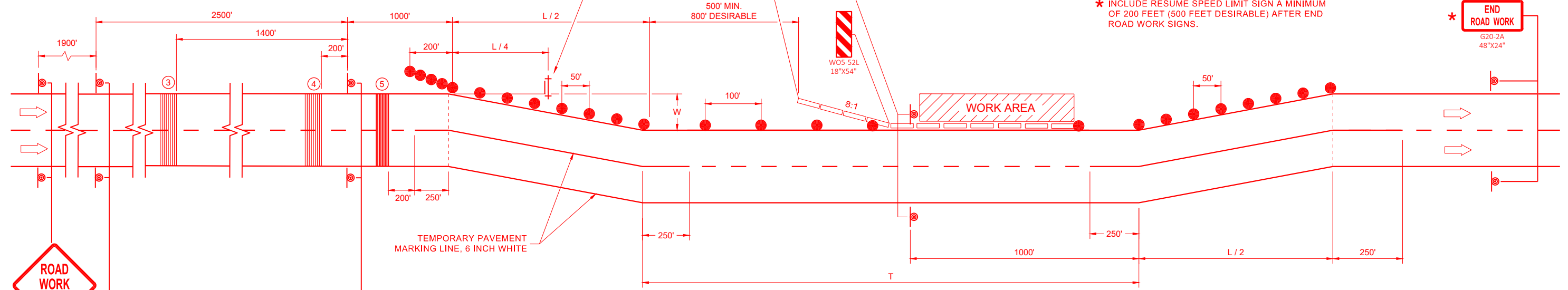
TAPER TO OUTSIDE EDGE OF WORK ZONE CLEAR ZONE, OTHERWISE PROVIDE CRASH CUSHION.

FULL SHIFT							
L, TAPER LENGTH (FT)							
POSTED SPEED (MPH)	W, LATERAL OFFSET (FT)						
	10	11	12	13	14	15	16
45	450	495	540	585	630	675	720
50	500	550	600	650	700	750	800
55	550	605	660	715	770	825	880
60	600	660	720	780	840	900	960
65	650	715	780	845	910	975	1040
70	700	770	840	910	980	1050	1120



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

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



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

TRAFFIC CONTROL MULTIPLE LANE SHIFT DIVIDED ROAD TEMPORARY RUMBLE STRIPS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
September 2023 /S/ Andrew Heidtke
DATE ROADWAY STANDARDS DEVELOPMENT UNIT SUPERVISOR