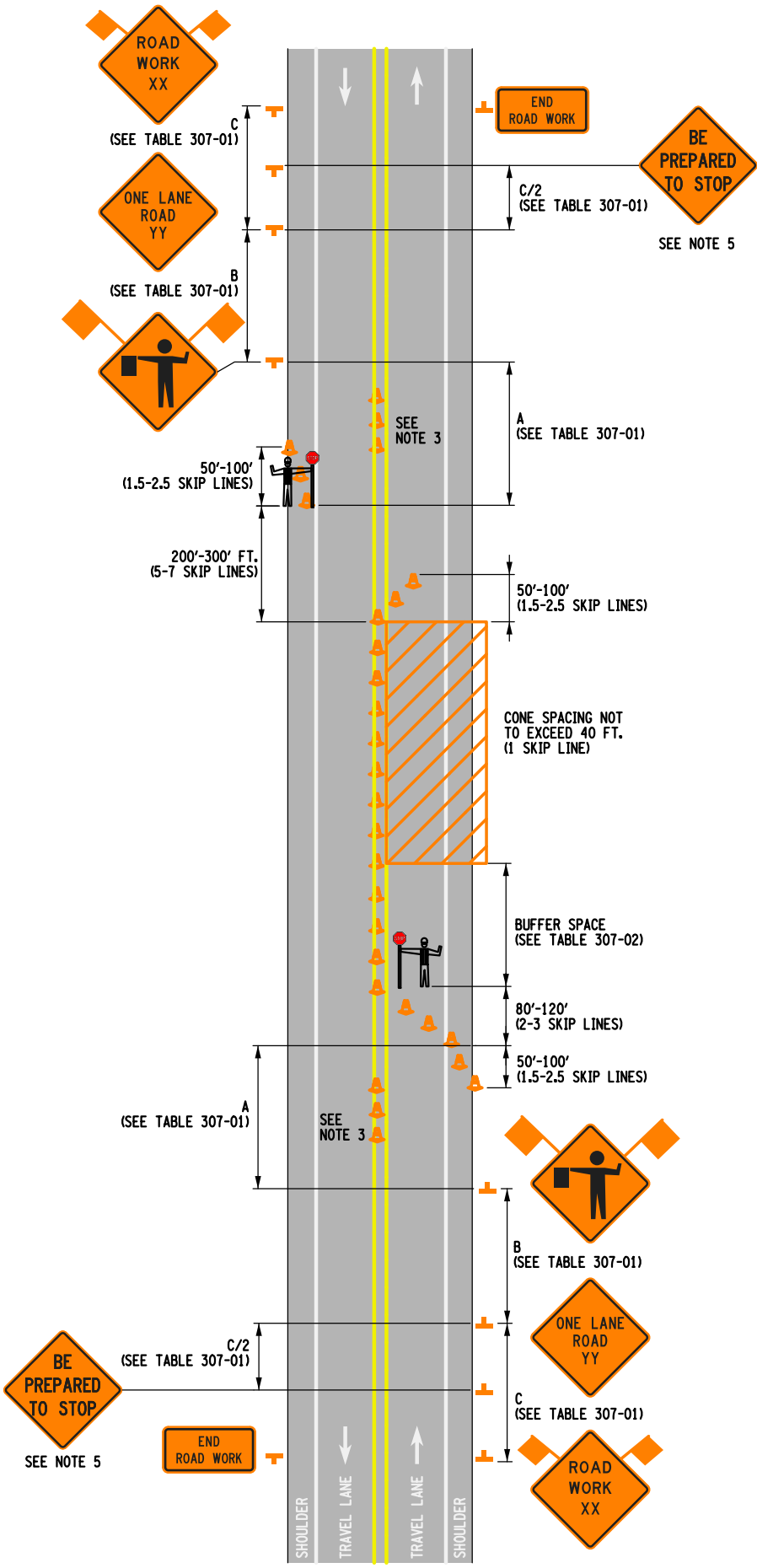
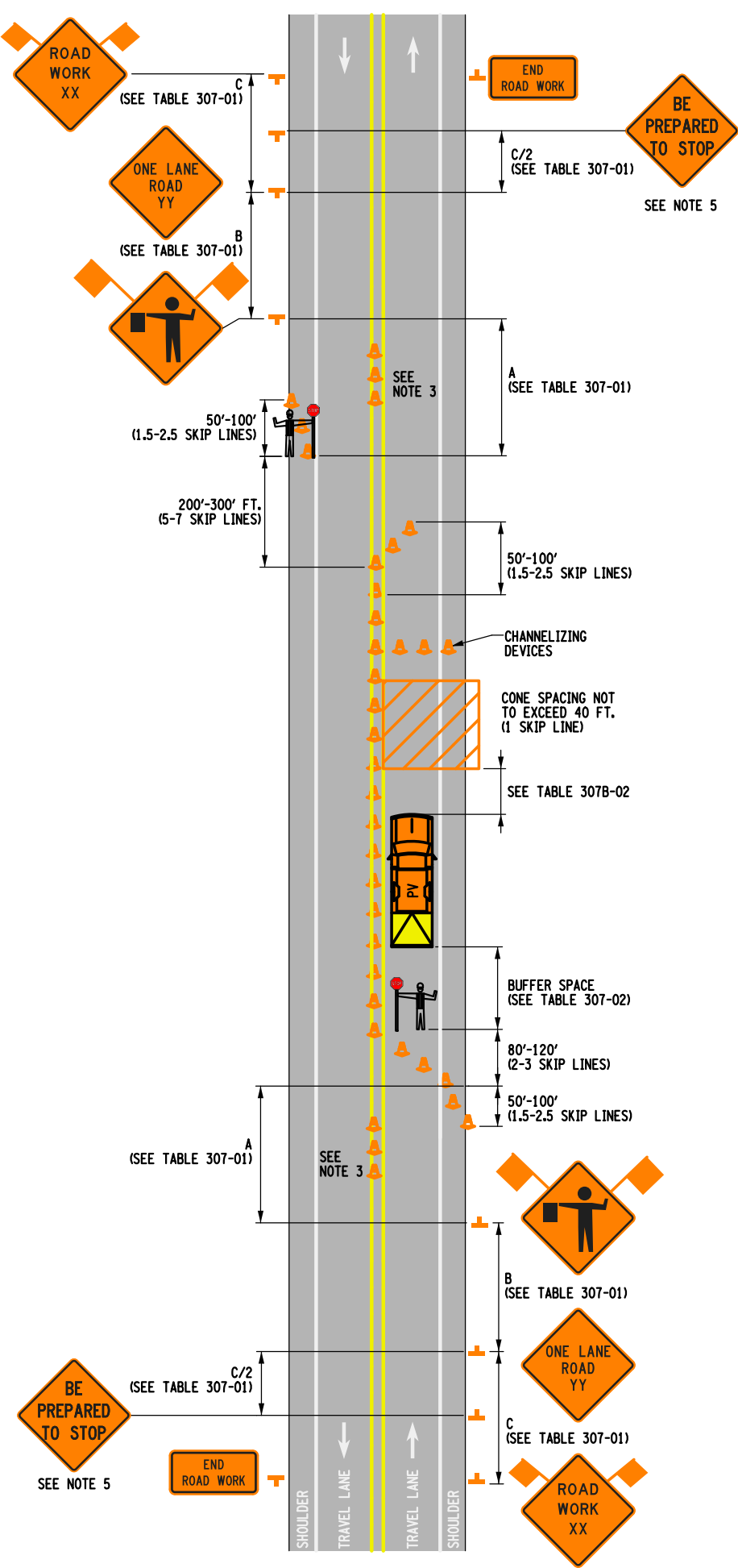


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307A: REQUIRED SETUP

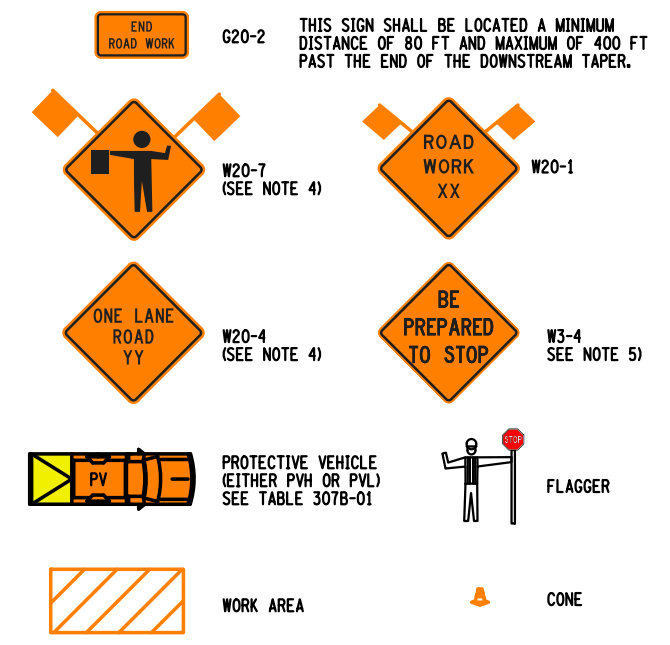
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307B: OPTIONAL SETUP WITH PROTECTIVE VEHICLE (SEE NOTE 6)

NOTES:

- SHORT-TERM STATIONARY IS DAYTIME WORK THAT OCCUPIES A LOCATION FOR MORE THAN 1 HOUR WITHIN A SINGLE DAY PERIOD.
- IN URBAN CONDITIONS, ADVANCE WARNING SIGN SPACINGS MAY BE ADJUSTED IN ORDER TO ACCOMMODATE SIDE STREETS AND DRIVEWAYS. IF THERE IS A CONFLICT, MOVE THE SIGN UPSTREAM.
- CENTERLINE CONES MAY BE ADDED TO ENHANCE THE VISIBILITY OF THE FLAGGER STATION. IF CONES ARE USED, PLACE THEM 100 FT. (MINIMUM) FROM FLAGGER.
- FLAGGER SYMBOL SIGN (W20-7) AND "ONE LANE ROAD AHEAD" SIGN (W20-4) SHALL BE REMOVED, COVERED OR TURNED AWAY FROM ROAD USERS WHEN FLAGGING OPERATIONS ARE NOT OCCURRING.
- IF THE TRAFFIC IS EXPECTED TO QUEUE PAST THE W20-4 SIGN, A W3-4 SIGN SHOULD BE ADDED.
- PROTECTIVE VEHICLE WITH APPROPRIATE ROLL AHEAD DISTANCE MAY BE USED IN ADVANCE OF THE WORK AREA, IF DEEMED NECESSARY BY THE DOT ENGINEER OR THEIR DESIGNEE. TO USE PROTECTIVE VEHICLE, BUFFER SPACE SHALL BE PROVIDED ACCORDINGLY.
- WHEN A SIDE ROAD OR DRIVEWAY INTERSECTS THE ROADWAY WITHIN A WORK ZONE TRAFFIC CONTROL AREA, ADDITIONAL TEMPORARY TRAFFIC CONTROL DEVICES AND/OR FLAGGERS SHALL BE PLACED AS NEEDED. ADDITIONAL FLAGGERS SHALL BE LOCATED AT ALL INTERSECTIONS AND COMMERCIAL DRIVEWAYS LOCATED WITHIN OR NEAR THE ACTIVE WORK SPACE.
- CHANNELIZING DEVICE SPACING (CENTER TO CENTER) SHALL NOT EXCEED 40' IN THE ACTIVE WORK SPACE.
- CHANNELIZING DEVICES SHALL BE PLACED TRANSVERSELY A MINIMUM OF EVERY 800' AS SHOWN WHEN A PAVED SHOULDER HAVING A WIDTH OF 8' OR GREATER IS CLOSED FOR A DISTANCE GREATER THAN 800'.
- ALL FLAGGERS SHALL USE 24" (MIN.) OCTAGON SHAPED STOP/SLOW PADDLES HAVING 6' STAFF. THE PADDLE IS THE PREFERRED DEVICE, BUT THE FLAG MAY BE USED AT INTERSECTIONS WHERE THE STOP/SLOW PADDLE WOULD OFFER CONTRADICTING INFORMATION TO DRIVERS TRAVELING IN OPPOSITE DIRECTIONS/LEGS OF THE INTERSECTION OR DURING INCIDENT MANAGEMENT SITUATIONS.



REFER TO SHEET 2 OF 2 FOR ALL TABLES

		Department of Transportation
U.S. CUSTOMARY STANDARD SHEET		
WORK ZONE TRAFFIC CONTROL TWO-LANE TWO-WAY ROADWAY LANE CLOSURE WITH FLAGGERS SHORT TERM OPERATION (SHEET 1 OF 2)		
APPROVED DECEMBER 2, 2021 <i>Robert Limoges</i> ROBERT LIMOGES, P.E. DIRECTOR, OTSM	ISSUED UNDER EI 21-028 619-307	

ERRATA 2 EFF. 09/01/23
 ISSUED WITH EB 23-016
 ERRATA 1 EFF. 01/01/23
 ISSUED WITH EB 22-050

TABLE 307-01: ADVANCE WARNING SIGN SPACING					
ROAD TYPE	DISTANCE BETWEEN SIGNS			SIGN LEGEND	
	A (FT.)	B (FT.)	C (FT.)	XX	YY
URBAN (≤ 30 MPH*)	100	100	100	AHEAD	AHEAD
URBAN (35-40 MPH*)	200	200	200	AHEAD	AHEAD
URBAN (≥ 45 MPH*)	350	350	350	1000 FT.	AHEAD
RURAL	500	500	500	1500 FT.	1000 FT.

* PRECONSTRUCTION POSTED SPEED LIMIT

TABLE 307-02: LONGITUDINAL BUFFER SPACE	
PRECONSTRUCTION POSTED SPEED LIMIT (MPH)	LONGITUDINAL BUFFER SPACE DISTANCE (FT.)/* OF SKIP LINES
25	155/4
30	200/5
35	250/6
40	305/8
45	360/9
50	425/11
55	495/13

TABLE 307-03: REQUIRED SIGN SIZES*		
SIGN	NON-FREEWAY	FREEWAY
G20-2	36x18	48x24
W3-4	36x36	48x48
W20-1	36x36	48x48
W20-4	36x36	48x48
W20-7	36x36	48x48
WARNING FLAG	18x18	18x18

*FREEWAY SIZES MAY BE USED ON NON-FREEWAY, IF SPACE CONSTRAINTS DO NOT EXIST.

TABLE 307B-01: PROTECTIVE VEHICLE REQUIREMENTS				
CLOSURE TYPE	ROAD TYPE & SPEED	NON-FREEWAY		
		≥ 45 MPH	35 - 40 MPH	≤ 30 MPH
LANE CLOSURE OR ENCROACHMENT	WORKERS ON FOOT OR WORK VEHICLE EXPOSED TO TRAFFIC	PVH+TMIA	PVL+TMIA	PVL
	-NO WORKERS ON FOOT -NO WORK VEHICLE EXPOSED TO TRAFFIC -OTHER HAZARDS EXPOSED (IE EQUIPMENT, MATERIALS)	PVH+TMIA	PVL	SEE NOTE 2
SHOULDER CLOSURE OR ENCROACHMENT	WORKERS ON FOOT OR WORK VEHICLE EXPOSED TO TRAFFIC	PVH+TMIA	PVL	PVL
	-NO WORKERS ON FOOT -NO WORK VEHICLE EXPOSED TO TRAFFIC -OTHER HAZARDS EXPOSED (IE EQUIPMENT, MATERIALS, EXCAVATION)	PVH+TMIA	PVL	SEE NOTE 2

LEGEND
PVL - PROTECTIVE VEHICLE LIGHT (MINIMUM GROSS WEIGHT 9,500 LBS. OR GREATER) (SEE NOTE 4)
PVH - PROTECTIVE VEHICLE HEAVY (MINIMUM GROSS WEIGHT 22,000 LBS. OR GREATER)
TMIA - TRUCK/TRAILER MOUNTED IMPACT ATTENUATOR

NOTES
1. THE EXPOSURE CONDITIONS ASSUME THERE IS NO POSITIVE PROTECTION PRESENT.
2. EITHER A PROTECTIVE LIGHT (PVL) OR THE STANDARD BUFFER SPACE (SEE TABLE 011-03) SHALL BE PROVIDED.
3. TRUCK/TRAILER MOUNTED IMPACT ATTENUATORS (TMIA) SHALL NOT BE MOUNTED/INSTALLED ON VEHICLES WITH A GROSS VEHICLE WEIGHT (GVW) LESS THAN WHAT IS MINIMALLY REQUIRED BY THE MANUFACTURER OF THE TMIA.
4. THE USE OF A PROTECTIVE VEHICLE LIGHT (PVL) AS A SHADOW VEHICLE IS LIMITED TO NON-FREEWAY ROADWAYS WHERE THE POSTED SPEED LIMITS IS ≤ 40 MPH UNLESS OTHERWISE AUTHORIZED BY THE ENGINEER.

TABLE 307B-02: ROLL AHEAD DISTANCE FOR PROTECTIVE VEHICLES		
ROLL AHEAD DISTANCE (FT.)/* OF SKIP LINES FOR VEHICLES		
PRECONSTRUCTION POSTED SPEED LIMIT (MPH)	STATIONARY OPERATION	
	PROTECTIVE VEHICLES WEIGHING 9,500 TO 21,999 LBS. GVW	PROTECTIVE VEHICLES WEIGHING 22,000 LBS. OR GREATER GVW
45 - 55	160/4	120/3
≤ 40	120/3	80/2



Department of Transportation

U.S. CUSTOMARY STANDARD SHEET

WORK ZONE TRAFFIC CONTROL
TWO-LANE TWO-WAY ROADWAY
LANE CLOSURE WITH FLAGGERS
SHORT TERM OPERATION
(SHEET 2 OF 2)

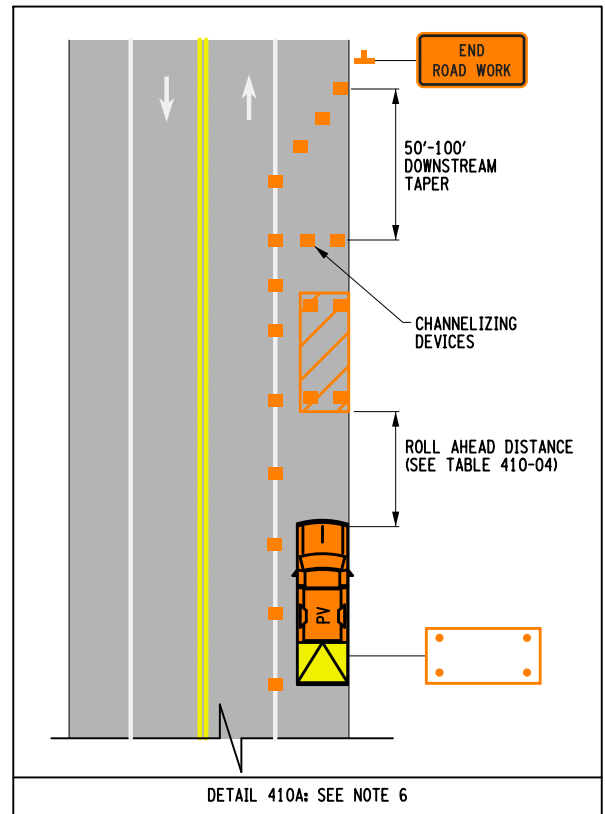
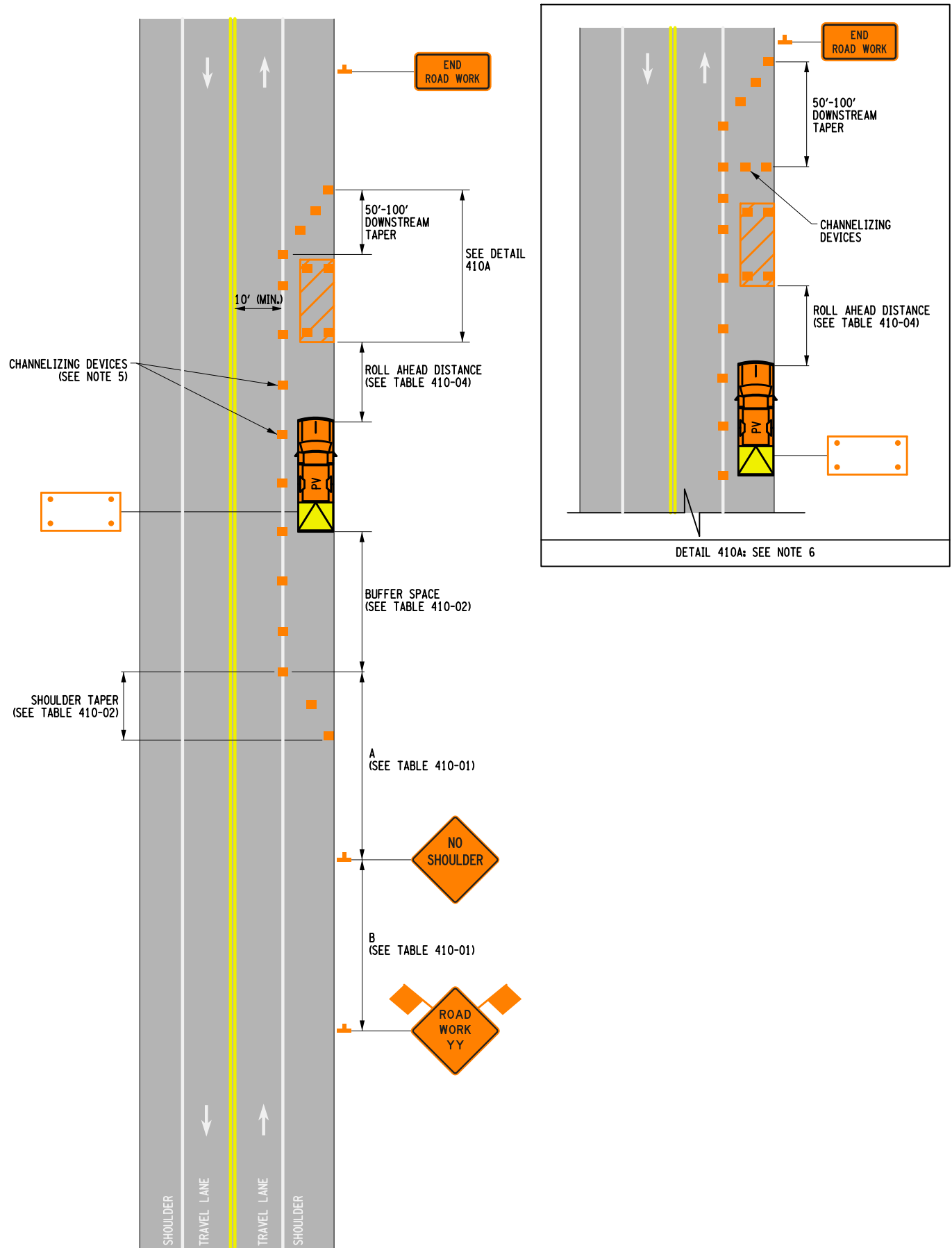
APPROVED DECEMBER 2, 2021

ISSUED UNDER EI 21-028

Robert Limoges
ROBERT LIMOGES, P.E.
DIRECTOR, OTSM

619-307

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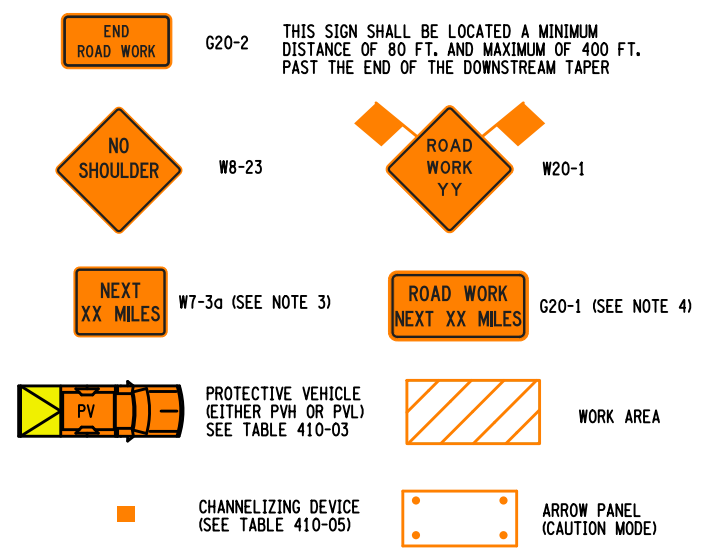


NOTES:

- INTERMEDIATE-TERM IS STATIONARY WORK THAT OCCUPIES A LOCATION MORE THAN ONE DAYLIGHT PERIOD UP TO 3 CONSECUTIVE DAYS, OR NIGHTTIME WORK LASTING MORE THAN 1 HOUR.
- NO WORK ACTIVITY OR STORAGE OF EQUIPMENT, VEHICLES, OR MATERIAL SHOULD OCCUR WITHIN A BUFFER SPACE.
- XX IS THE EXPECTED OVERALL LENGTH OF THE OPERATION TO BE COMPLETED WITHIN THE WORK DAY. A SUPPLEMENTAL DISTANCE PLAQUE W7-3a SHALL BE USED WITH SIGN W20-1 WHEN THE DISTANCE BETWEEN THE ADVANCE WARNING SIGNS AND WORK MAY BECOME GREATER THAN 2 MILES AS A RESULT OF THE FOLLOWING SITUATIONS:
 - MULTIPLE WORK LOCATIONS ARE ANTICIPATED WITHIN XX MILES FROM THE W20-1 SIGN
 - WORK AREA WILL BE RELOCATED DURING THE DURATION OF THE WORK WITHIN XX MILES FROM THE W20-1 SIGN
 THE SUPPLEMENT SIGN W7-3a SHALL INDICATE THE MAXIMUM ANTICIPATED DISTANCE BETWEEN THE W20-1 SIGN AND THE FARTHEST WORK LOCATION.
- WHEN MULTIPLE WORK LOCATIONS EXIST WITHIN XX MILES FROM THE W20-1 SIGN, A G20-1 SIGN SHALL BE PLACED EVERY TWO MILES INDICATING THE DISTANCE FROM THE SIGN TO THE FARTHEST WORK LOCATION.
- CHANNELIZING DEVICE SPACING (CENTER TO CENTER) SHALL NOT EXCEED 20' IN THE ACTIVE WORK SPACE.
- CHANNELIZING DEVICES SHALL BE PLACED TRANSVERSELY A MINIMUM OF EVERY 800' AS SHOWN WHEN A PAVED SHOULDER HAVING A WIDTH OF 8' OR GREATER IS CLOSED FOR A DISTANCE GREATER THAN 800'.
- THE PROTECTIVE VEHICLE(S) SHALL MAINTAIN THE APPROPRIATE ROLL AHEAD DISTANCE, BE AN UNOCCUPIED TRUCK POSITIONED PARALLEL TO TRAFFIC, PARKING BRAKE SET, PLACED IN 2ND GEAR (MANUAL TRANSMISSIONS /ENGINE OFF) OR PARK / NEUTRAL (AUTOMATIC TRANSMISSIONS) AND HAVE THE FRONT WHEELS ALIGNED WITH THE LANE STRIPING.

NOTES FOR NIGHTTIME OPERATIONS:

- WORK OCCURRING AFTER SUNSET AND BEFORE SUNRISE WILL BE CONSIDERED NIGHTTIME OPERATIONS.
- ALL SIGNS, STOP/SLOW PADDLES AND RED FLAGS USED TO WARN/ALERT/CONTROL TRAFFIC SHALL BE RETROREFLECTIVE.
- ALL WORKERS INVOLVED SHALL WEAR PROTECTIVE HELMETS AND NIGHTTIME APPAREL IN ACCORDANCE WITH §107-05A. HIGH VISIBILITY APPAREL AT ALL TIMES.
- VEHICLES OPERATING ON THE PAVEMENT OF A CLOSED ROADWAY OR TRAVEL LANE SHALL DISPLAY ROTATING AMBER BEACONS OR FLASHING LED BEACONS AT ALL TIMES.
- LEVEL I ILLUMINATION SHALL BE PROVIDED NEAR THE BEGINNING OF LANE CLOSURE TAPERS AND AT ROAD CLOSURES, INCLUDING THE SETUP AND REMOVAL OF THE CLOSURE TAPERS.
- LEVEL II ILLUMINATION SHALL BE PROVIDED FOR FLAGGING STATIONS, ASPHALT PAVING, MILLING, AND CONCRETE PLACEMENT AND/OR REMOVAL OPERATIONS, INCLUDING BRIDGE DECKS, 50 FEET AHEAD OF AND 100 FEET BEHIND A PAVING OR MILLING MACHINE.
- LEVEL III ILLUMINATION SHALL BE PROVIDED FOR PAVEMENT OR STRUCTURAL CRACK FILLING, JOINT REPAIR, PAVEMENT PATCHING AND REPAIRS, INSTALLATION OF SIGNAL EQUIPMENT OR OTHER ELECTRICAL/MECHANICAL EQUIPMENT, AND OTHER TASKS INVOLVING FINE DETAILS OR INTRICATE PARTS AND EQUIPMENT.
- ALL LIGHTING SHALL BE DESIGNED, INSTALLED, AND OPERATED TO AVOID GLARE THAT AFFECTS TRAFFIC ON THE ROADWAY OR THAT CAUSES ANNOYANCE OR DISCOMFORT FOR RESIDENCES ADJOINING THE ROADWAY.
- PRIOR TO THE START OF NIGHTTIME OPERATIONS, A WRITTEN NIGHTTIME OPERATIONS AND LIGHTING PLAN IS REQUIRED FOR APPROVAL FROM THE DOT ENGINEER.
- SEE STANDARD SPECIFICATIONS §619 FOR ADDITIONAL REQUIREMENTS AND CONSIDERATIONS.
- FLAGGERS SHALL USE A FLASHLIGHT WITH RED GLOW CONE/RED LED BATON FOR FLAGGING IN NON-ILLUMINATED FLAGGER STATIONS DURING NIGHTTIME OPERATIONS.



NOT TO SCALE

REFER TO SHEET 2 OF 2 FOR ALL TABLES

		Department of Transportation
U.S. CUSTOMARY STANDARD SHEET		
WORK ZONE TRAFFIC CONTROL TWO-LANE TWO-WAY ROADWAY SHOULDER CLOSURE INTERMEDIATE TERM OPERATION (SHEET 1 OF 2)		
APPROVED DECEMBER 2, 2021 <i>Robert Limoges</i> ROBERT LIMOGES, P.E. DIRECTOR, OTSM	ERRATA 2 EFF. 09/01/23 ISSUED WITH EB 23-016 ERRATA 1 EFF. 01/01/23 ISSUED WITH EB 22-050	ISSUED UNDER EI 21-028 619-410

TABLE 410-01: ADVANCE WARNING SIGN SPACING		
ROAD TYPE	DISTANCE BETWEEN SIGNS	
	A (FT.)	B (FT.)
URBAN (≤ 30 MPH*)	100	100
URBAN (35-40 MPH*)	200	200
URBAN (≥ 45 MPH*)	350	350
RURAL	500	500

* PRECONSTRUCTION POSTED SPEED LIMIT

TABLE 410-05: CHANNELIZING DEVICE APPLICATION FOR INTERMEDIATE-TERM STATIONARY WORK ZONES										
WORK ZONE PROVISIONS	MAXIMUM DEVICE SPACING (CENTER TO CENTER)	MUTCD COMPLIANT CHANNELIZING DEVICE								
		DRUMS	STANDARD CONES	TALL CONES	EXTRA TALL CONES	TEMPORARY TUBULAR MARKERS	INTERIM TUBULAR MARKERS	VERTICAL PANELS	OVERSIZED VERTICAL PANELS	TYPE III BARRICADES
INTERMEDIATE-TERM STATIONARY WORK ZONES INVOLVE WORK THAT OCCUPIES A LOCATION FOR MORE THAN 1 DAYLIGHT PERIOD UP TO 3 CONSECUTIVE DAYS, OR NIGHTTIME WORK THAT OCCUPIES A LOCATION FOR MORE THAN 1 HOUR										
SHOULDER/MERGING/SHIFTING TAPERS	20 FT. *	X							X	
	40 FT.	X							X	
MARKING FOR TRANSVERSE BUMPS ¹	N/A	X ²	X		X ²				X ²	
TRANSVERSE DEVICE WITHIN CLOSED TRAFFIC LANE AND/OR SHOULDER	800 FT.	X		X	X			X	X	0
REMOVAL OF EXISTING GUIDE RAIL	80 FT.	X		X	X	X		X	X	0
	40 FT.	X		X	X	X		X	X	0

NOTES: X = ALLOWED, BLANK = NOT ALLOWED, 0 = OPTIONAL
 1. - A TYPE 1 OBJECT MARKER MAY BE USED IN LIEU OF CHANNELIZING DEVICE.
 2. - CHANNELIZING DEVICES SHALL BE EQUIPPED WITH A FLASHING WARNING LIGHT.

* SEE NOTE 5 ON SHEET 1 OF 2.

TABLE 410-02: LONGITUDINAL BUFFER SPACE AND TAPER LENGTHS												
PRECONSTRUCTION POSTED SPEED LIMIT (MPH)	LONGITUDINAL BUFFER SPACE DISTANCE (FT.) / * OF SKIP LINES	TAPER LENGTH: (FT.) / * OF SKIP LINES / * OF CHANNELIZING DEVICES			SHOULDER TAPER LENGTH: (FT.) / * OF SKIP LINES / * OF CHANNELIZING DEVICES							
		FOR LANE WIDTH IN FT. (LATERAL SHIFT OF TRAFFIC FLOW PATH)			FOR SHOULDER WIDTH							
		10	11	12	≤ 4 FT.	5 - 7 FT.	8 FT.	9 FT.	10 FT.	11 FT.	12 FT.	
25	155/4	120/3/4	120/3/4	120/3/4	40/1/2	40/1/2	40/1/2	40/1/2	40/1/2	40/1/2	40/1/2	
30	200/5	160/4/5	160/4/5	200/5/6	40/1/2	40/1/2	40/1/2	40/1/2	80/2/3	80/2/3	80/2/3	
35	250/6	200/5/6	240/6/7	240/6/7	40/1/2	40/1/2	80/2/3	80/2/3	80/2/3	80/2/3	80/2/3	
40	305/8	280/7/8	320/8/9	320/8/9	40/1/2	80/2/3	80/2/3	80/2/3	120/3/4	120/3/4	120/3/4	
45	360/9	440/11/12	520/13/14	560/14/15	80/2/3	80/2/3	120/3/4	120/3/4	120/3/4	120/3/4	160/4/5	
50	425/11	520/13/14	560/14/15	600/15/16	80/2/3	120/3/4	160/4/5	160/4/5	160/4/5	160/4/5	160/4/5	
55	495/13	560/14/15	600/15/16	680/17/18	80/2/3	120/3/4	160/4/5	160/4/5	160/4/5	200/5/6	200/5/6	

TABLE 410-03: PROTECTIVE VEHICLE REQUIREMENTS				
CLOSURE TYPE	ROAD TYPE & SPEED	NON-FREEWAY		
		≥ 45 MPH	35 - 40 MPH	≤ 30 MPH
LANE CLOSURE OR ENCROACHMENT	WORKERS ON FOOT OR WORK VEHICLE EXPOSED TO TRAFFIC	PVH+TMIA	PVL+TMIA	SEE NOTE 2
	-NO WORKERS ON FOOT -NO WORK VEHICLE EXPOSED TO TRAFFIC -OTHER HAZARDS EXPOSED (IE EQUIPMENT, MATERIALS)	PVH+TMIA	SEE NOTE 2	SEE NOTE 2
SHOULDER CLOSURE OR ENCROACHMENT	WORKERS ON FOOT OR WORK VEHICLE EXPOSED TO TRAFFIC	PVH+TMIA	SEE NOTE 2	SEE NOTE 2
	-NO WORKERS ON FOOT -NO WORK VEHICLE EXPOSED TO TRAFFIC -OTHER HAZARDS EXPOSED (IE EQUIPMENT, MATERIALS, EXCAVATION)	SEE NOTE 3	SEE NOTE 2	SEE NOTE 2


TABLE 410-04: ROLL AHEAD DISTANCE FOR PROTECTIVE VEHICLES		
ROLL AHEAD DISTANCE (FT.) / * OF SKIP LINES FOR VEHICLES		
PRECONSTRUCTION POSTED SPEED LIMIT (MPH)	STATIONARY OPERATION	
	PROTECTIVE VEHICLES WEIGHING 9,500 TO 21,999 LBS. GVW	PROTECTIVE VEHICLES WEIGHING 22,000 LBS. OR GREATER GVW
45 - 55	160/4	120/3
≤ 40	120/3	80/2

LEGEND
 PVL - PROTECTIVE VEHICLE LIGHT (MINIMUM GROSS WEIGHT 9,500 LBS. OR GREATER) (SEE NOTE 5)
 PVH - PROTECTIVE VEHICLE HEAVY (MINIMUM GROSS WEIGHT 22,000 LBS. OR GREATER)
 TMIA - TRUCK/TRAILER MOUNTED IMPACT ATTENUATOR

NOTES
 1. THE EXPOSURE CONDITIONS ASSUME THERE IS NO POSITIVE PROTECTION PRESENT.
 2. EITHER A PROTECTIVE LIGHT (PVL) OR THE STANDARD BUFFER SPACE (SEE TABLE 011-03) SHALL BE PROVIDED.
 3. EITHER A PROTECTIVE LIGHT (PVL) OR THE STANDARD BUFFER SPACE (SEE TABLE 011-03) SHALL BE PROVIDED.
 4. TRUCK/TRAILER MOUNTED IMPACT ATTENUATORS (TMIA) SHALL NOT BE MOUNTED/INSTALLED ON VEHICLES WITH A GROSS VEHICLE WEIGHT (GVW) LESS THAN WHAT IS MINIMALLY REQUIRED BY THE MANUFACTURER OF THE TMIA.
 5. THE USE OF A PROTECTIVE VEHICLE LIGHT (PVL) AS A SHADOW VEHICLE IS LIMITED TO NON-FREEWAY ROADWAYS WHERE THE POSTED SPEED LIMITS IS ≤ 40 MPH UNLESS OTHERWISE AUTHORIZED BY THE ENGINEER.

TABLE 410-06: REQUIRED SIGN SIZES*		
SIGN	NON-FREEWAY	FREEWAY
G20-2	36x18	48x24
W20-1	36x36	48x48
W21-5	36x36	48x48
W7-3a	24x18	36x30
G20-1	36x18	48x24
WARNING FLAG	18x18	18x18

*FREEWAY SIZES MAY BE USED ON NON-FREEWAY, IF SPACE CONSTRAINTS DO NOT EXIST.

	Department of Transportation
U.S. CUSTOMARY STANDARD SHEET	
WORK ZONE TRAFFIC CONTROL TWO-LANE TWO-WAY ROADWAY SHOULDER CLOSURE INTERMEDIATE TERM OPERATION (SHEET 2 OF 2)	
APPROVED APRIL 8, 2022	ISSUED UNDER EI 22-008
<i>Robert Limoges</i> ROBERT LIMOGES, P.E. DIRECTOR, OTSM	619-410