

**SINGLE LANE CLOSURE**

**GENERAL NOTES:**

1. L = Taper Length  
B = Buffer Length  
X = Work Zone Sign Distance  
See Index 102-600 for "L", "B", "X", and channelizing device spacing values.
2. On undivided highways the median signs as shown are to be omitted.
3. On limited access facilities, omit "Shoulder Closed Ahead" signs (W21-5a) and associated work zone sign spacing distances.
4. If the paved shoulder is less than 4' in width, omit the taper and channelizing devices from the paved shoulder.
5. Extend SWZ PCMS upstream, as needed, to ensure the first PCMS viewable to traffic is at least 1/2 mile in advance of expected traffic backup. If SWZ PCMS coverage is extended, also extend SWZ Vehicle Detector coverage to within 1/2 mile of the SWZ PCMS coverage.
6. For Limited Access facilities, spacing of SWZ Vehicle Detectors and SWZ PCMS may be adjusted due to actual field conditions as directed or approved by the Engineer. For long work zones, place SWZ Vehicle Detectors every half mile downstream from beginning of work area. Spacing of SWZ Vehicle Detectors and SWZ PCMS shown apply to urban areas. For rural areas, SWZ PCMS 2 with SWZ Vehicle Detector may be deleted and spacing of SWZ Vehicle Detectors through long work areas may be increased to one mile. Device spacing for suburban areas should be determined based on whether traffic is most similar to urban or rural conditions.

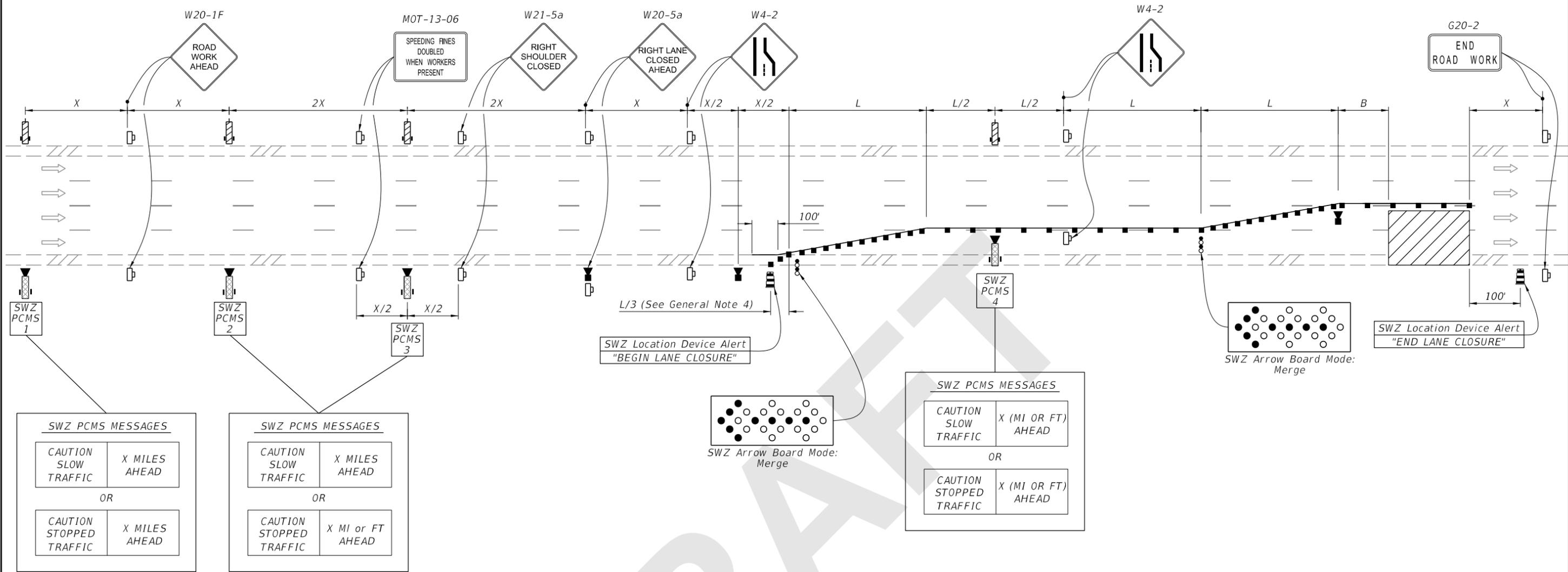
**SYMBOLS:**

- Work Area
- Channelizing Device (See Index 102-600)
- Work Zone Sign
- SWZ Arrow Board
- Lane Identification and Direction of Traffic
- (3) SWZ Portable Changeable Message Sign (PCMS) with Portable SWZ Vehicle Detector
- (3) SWZ Vehicle Detector
- (2) SWZ Location Device

SWZ PORTABLE CHANGEABLE MESSAGE SIGN SYSTEM LOGIC		
Road Type	Condition	Message
Arterials and Collectors with Work Zone Speed ≤ 40 mph	35 MPH - 15 MPH	SLOW TRAFFIC
	< 15 MPH	STOPPED TRAFFIC
Arterials and Collectors with Work Zone Speed ≥ 45 mph	45 MPH - 20 MPH	SLOW TRAFFIC
	< 20 MPH	STOPPED TRAFFIC
Limited Access Roadways	55 MPH - 35 MPH	SLOW TRAFFIC
	< 35 MPH	STOPPED TRAFFIC

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DOUBLE LANE CLOSURE

**SYMBOLS:**

-  Work Area
-  Channelizing Device (See Index 102-600)
-  Work Zone Sign
-  (2) SWZ Arrow Board
-  Lane Identification and Direction of Traffic
-  (4) SWZ Portable Changeable Message Sign (PCMS) with Portable SWZ Vehicle Detector
-  (4) SWZ Portable Changeable Message Sign (PCMS)
-  (3) SWZ Vehicle Detector
-  (2) SWZ Location Device

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LAST REVISION xx/xx/23	REVISION	DESCRIPTION:
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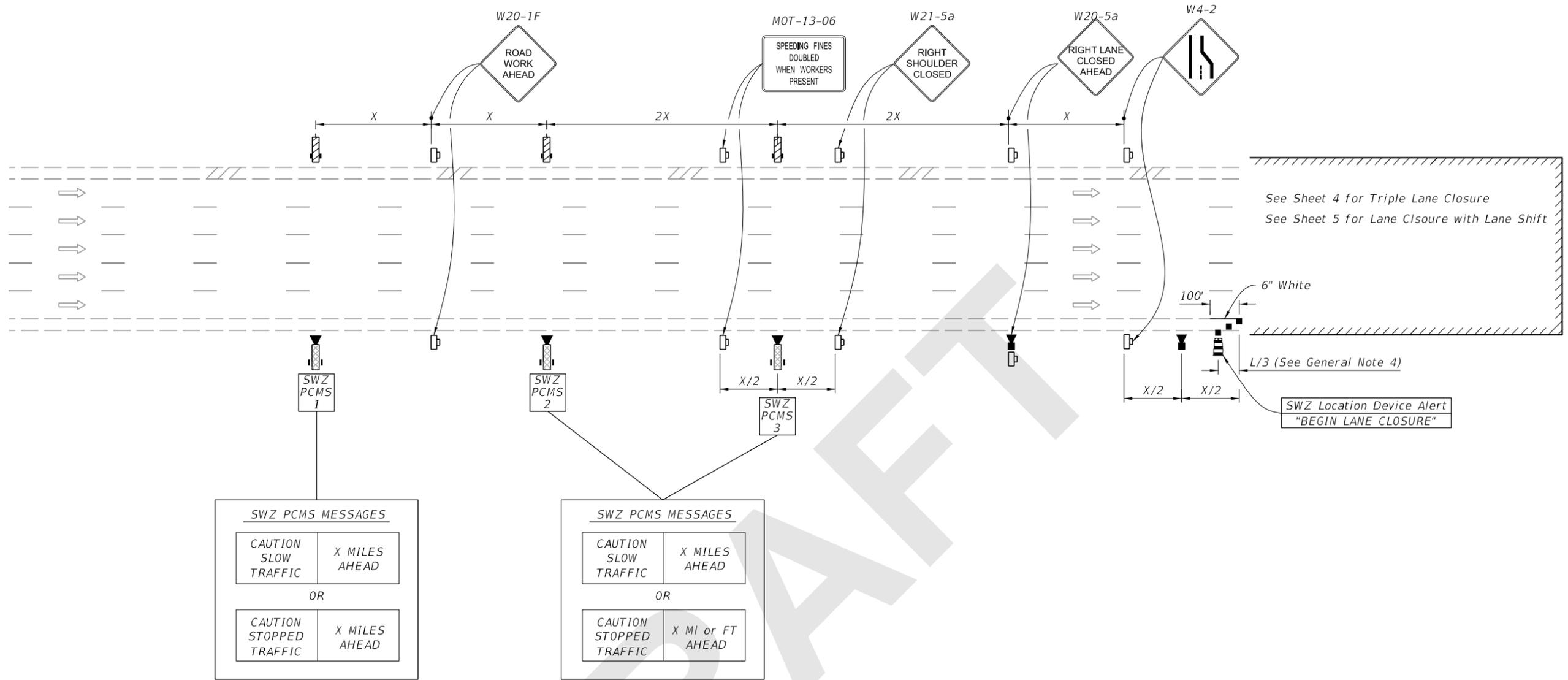


**DEVELOPMENTAL  
STANDARD PLANS**

**DYNAMIC QUEUE DETECTION AND  
WARNING - LANE CLOSURE**

INDEX  
**D102-613b**

SHEET  
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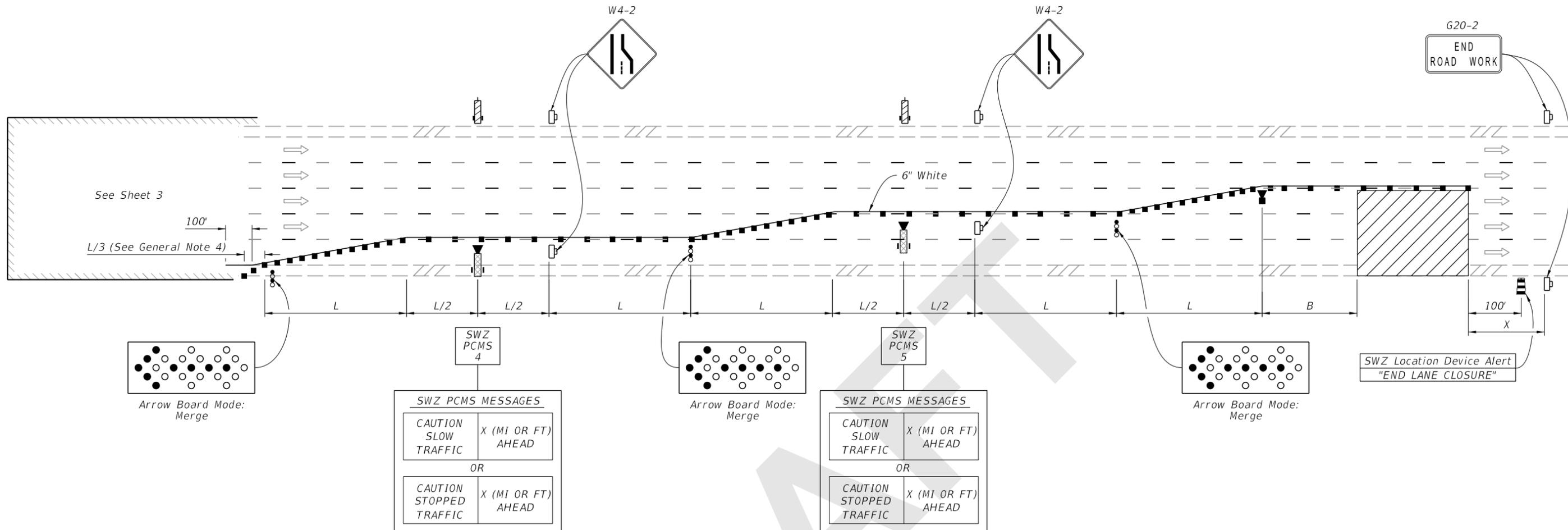
ADVANCE SWZ DETAIL FOR TRIPLE LANE CLOSURE AND LANE CLOSURE WITH SHIFT

**SYMBOLS:**

- Work Area
- Channelizing Device (See Index 102-600)
- Work Zone Sign
- Lane Identification and Direction of Traffic
- (3) SWZ Portable Changeable Message Sign (PCMS) with Portable SWZ Vehicle Detector
- (3) SWZ Portable Changeable Message Sign (PCMS)
- (2) SWZ Vehicle Detector
- (1) SWZ Location Device

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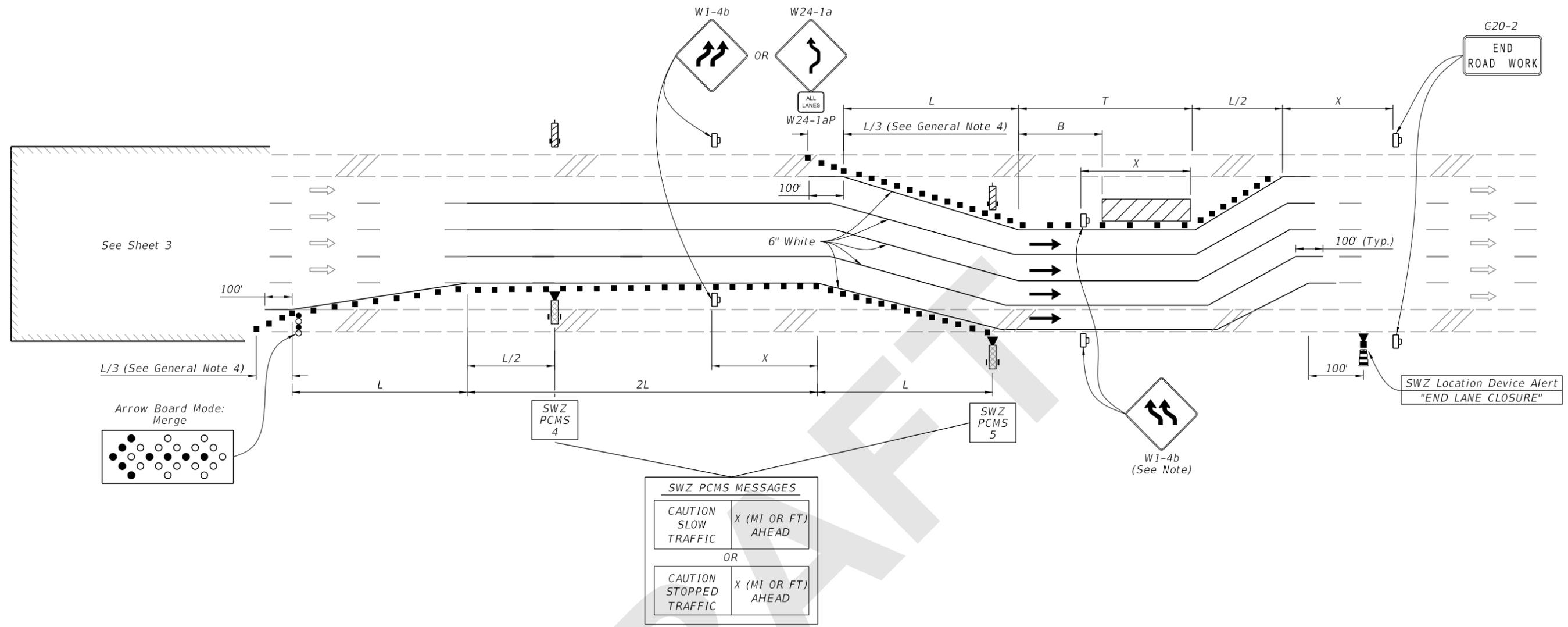
TRIPLE LANE CLOSURE

SYMBOLS:

- Work Area
- Channelizing Device (See Index 102-600)
- Work Zone Sign
- (3) SWZ Arrow Board
- Lane Identification and Direction of Traffic
- (2) SWZ Portable Changeable Message Sign (PCMS)
- (2) SWZ Portable Changeable Message Sign (PCMS) With SWZ Vehicle Detectors
- (1) SWZ Vehicle Detector
- (1) SWZ Location Device

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LANE CLOSURE WITH LANE SHIFT

**NOTE:**

If the tangent distance "T" is less than 600', then use "Double Reverse Curve" signs (W24-1a) instead of the first pair of "Reverse Curve" signs (W1-4b) and omit the second pair of "Reverse Curve" signs.

**SYMBOLS:**

-  Work Area
-  Channelizing Device (See Index 102-600)
-  Work Zone Sign
-  SWZ Arrow Board
-  Lane Identification and Direction of Traffic
-  (2) SWZ Portable Changeable Message Sign (PCMS)
-  (2) SWZ Portable Changeable Message Sign (PCMS) With SWZ Vehicle Detectors
-  (1) SWZ Vehicle Detector
-  (1) SWZ Location Device

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