
ORIGINATION FORM

Proposed Revisions to a Standard Plans Index (Please provide all information — Incomplete forms will be returned)

Contact Information:

Date: May 26, 2020

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Standard Plans:

Index Number: 102-613

Sheet Number (s): 2

Index Title: Multilane, Work Within the Travel Way -
Median or Outside Lane**Summary of the changes:**

Sheet 1: Revised Detail; Deleted 'Distance Between Signs', 'Table I Device Spacing', and 'Table II Buffer Space and Taper Length' Tables (Moved to 102-600); Deleted Duration Notes and Conditions; Revised 'General Notes'; Changed Index Title.

Sheet 2: Deleted Current Details and Added Index 102-623 as Sheet 2; Revised Detail; Deleted 'Distance Between Signs', 'Table I Device Spacing', and 'Table II Buffer Space and Taper Length' Tables (Moved to 102-600); Deleted Duration Notes and Conditions; Consolidated 'General Notes' and Moved to Sheet 1; Changed Index Title.

Sheet 3: Added New Sheet 3 with 'Triple Lane Closure' Detail.

Sheet 4: Added Index 102-614, Sheet 2 as New Sheet 4; Revised Detail; Deleted 'Table I Device Spacing', and 'Table II Buffer Space and Taper Length' Tables (Moved to 102-600); Deleted Duration Notes, Proposed Work Zone Speeds Table, Conditions, and Condition Notes; Changed Index Title.

Sheet 5: Added Index 102-670 as New Sheet 5; Revised Detail and Notes; Deleted 'Table I Device Spacing', and 'Table II Buffer Space and Taper Length' Tables (Moved to 102-600); Changed Index Title.

Commentary / Background:**Other Affected Offices / Documents:** (Provide name of person contacted)

Yes	No	
☐	☐	Other Standard Plans –
☐	☐	FDOT Design Manual –
☐	☐	Basis of Estimates Manual –
☐	☐	Standard Specifications –
☐	☐	Approved Product List –
☐	☐	Construction –
☐	☐	Maintenance –

Origination Package Includes:

(Email or hand deliver package to Rick Jenkins)

Yes	N/A	
☒	☐	Redline Mark-ups
☐	☐	Proposed Standard Plan Instruction (SPI)
☐	☐	Revised SPI
☐	☐	Other Support Documents

Implementation:

- ☐ Design Bulletin (Interim)
- ☐ DCE Memo
- ☐ Program Mgmt. Bulletin
- ☒ FY-Standard Plans (Next Release)

Contact the Roadway Design Office for assistance in completing this form

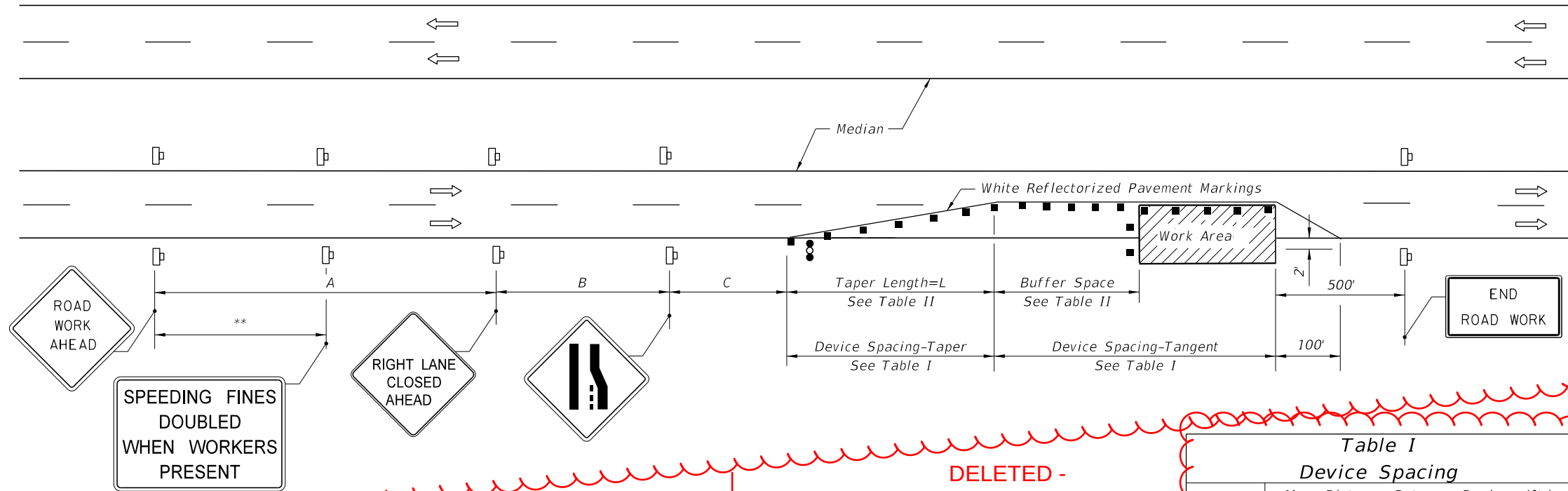


Table II
Buffer Space and Taper Length

Speed (mph)	Buffer Space	Taper Length (12' Lateral Transition)	
	Dist. (ft.)	L (ft.)	Notes (Merge)
25	155	125	$L = \frac{WS^2}{60}$
30	200	180	
35	250	245	
40	305	320	
45	360	540	$L = WS$
50	425	600	
55	495	660	
60	570	720	
65	645	780	
70	730	840	

When Buffer Space cannot be attained due to geometric constraints, the greatest attainable length shall be used, but not less than 200 ft.

For lateral transitions other than 12', use formula for L shown in notes column. Where:

L = Length of taper in feet
W = Width of lateral transition in feet
S = Posted speed limit (mph)

Table I
Device Spacing

Speed (mph)	Max. Distance Between Devices (ft.)			
	Cones or Tubular Markers		Type I or Type II Barricades or Vertical Panels or Drums	
	Taper	Tangent	Taper	Tangent
25	25	50	25	50
30 to 45	25	50	30	50
50 to 70	25	50	50	100

DURATION NOTES

- Temporary white edgeline may be omitted for work operations less than 3 consecutive calendar days.
- For work operations up to approximately 15 minutes, signs, channelizing devices, arrow board, and buffer space may be omitted if all of the following conditions are met:
 - Speed limit is 45 mph or less.
 - No sight obstructions to vehicles approaching the work area for a distance equal to the buffer space and the taper length combined.
 - Volume and complexity of the roadway has been considered.
 - The closed lane is occupied by a class 5 or larger, medium duty truck(s) with a minimum gross weight vehicle rating (GVWR) of 16,001 lb with high-intensity, rotating, flashing, oscillating, or strobe lights mounted above the cab height and operating.
- For work operations up to 60 minutes, arrow board and buffer space may be omitted if conditions a, b, and c in DURATION NOTE 2 are met, and vehicles in the work area have high-intensity, rotating, flashing, oscillating, or strobe lights operating.

CONDITIONS

WHERE ANY VEHICLE, EQUIPMENT, WORKERS OR THEIR ACTIVITIES ENCROACH ON THE LANE ADJACENT TO EITHER SHOULDER AND THE AREA 2' OUTSIDE THE EDGE OF TRAVEL WAY.

DISTANCE BETWEEN SIGNS

Speed	Spacing (ft.)		
	A	B	C
40 mph or less	200	200	200
45 mph	350	350	350
50 mph	500	500	500
*55 mph or greater	2640	1640	1000

* The ROAD WORK 1 MILE sign may be used as an alternate to the ROAD WORK AHEAD sign and the RIGHT LANE CLOSED ½ MILE sign may be used as an alternate to the RIGHT LANE CLOSED AHEAD sign.

** 500' beyond the ROAD WORK AHEAD sign or midway between signs whichever is less.

SYMBOLS

- Work Area
- Channelizing Device (See Index 102-600)
- Work Zone Sign
- Advance Warning Arrow Board

GENERAL NOTES

- Work operations shall be confined to one traffic lane, leaving the adjacent lane open to traffic.
- On undivided highways the median signs as shown are to be omitted.
- When work is performed in the median lane on divided highways, the channelizing device plan is inverted and left lane closed and lane ends signs substituted for the right lane closed and lane end signs.

The same applies to undivided highways with the following exceptions:

 - Work shall be confined within one median lane.
 - Additional barricades, cones, or drums shall be placed along the centerline abutting the work area and across the trailing end of the work area.

When work on undivided highways occurs across the centerline so as to encroach on both median lanes, the inverted plan is applied to the approach of both roadways.
- Signs and traffic control devices are to be modified in accordance with INTERMITTENT WORK STOPPAGE details (sheet 2 of 2) when no work is being performed and the highway is open to traffic.
- The two channelizing devices directly in front of the work area may be omitted provided vehicles in the work area have high-intensity rotating, flashing, oscillating, or strobe lights operating.
- When paved shoulders having a width of 8 ft. or more are closed, channelizing devices shall be used to close the shoulder in advance of the merging taper to direct vehicular traffic to remain within the travel way. See Index 102-612 for shoulder taper formulas.
- When a side road intersects the highway within the TTC zone, additional TTC devices shall be placed in accordance with other applicable TCZ Indexes.
- This TCZ plan does not apply when work is being performed in the middle lane(s) of a six or more lane highway. See Index 102-614.
- For general TCZ requirements and additional information, refer to Index 102-600.

11/01/20

2021-22

MULTILANE ROADWAY,
LANE CLOSURES

REVISED NOTES



FY 2020-21
STANDARD PLANS

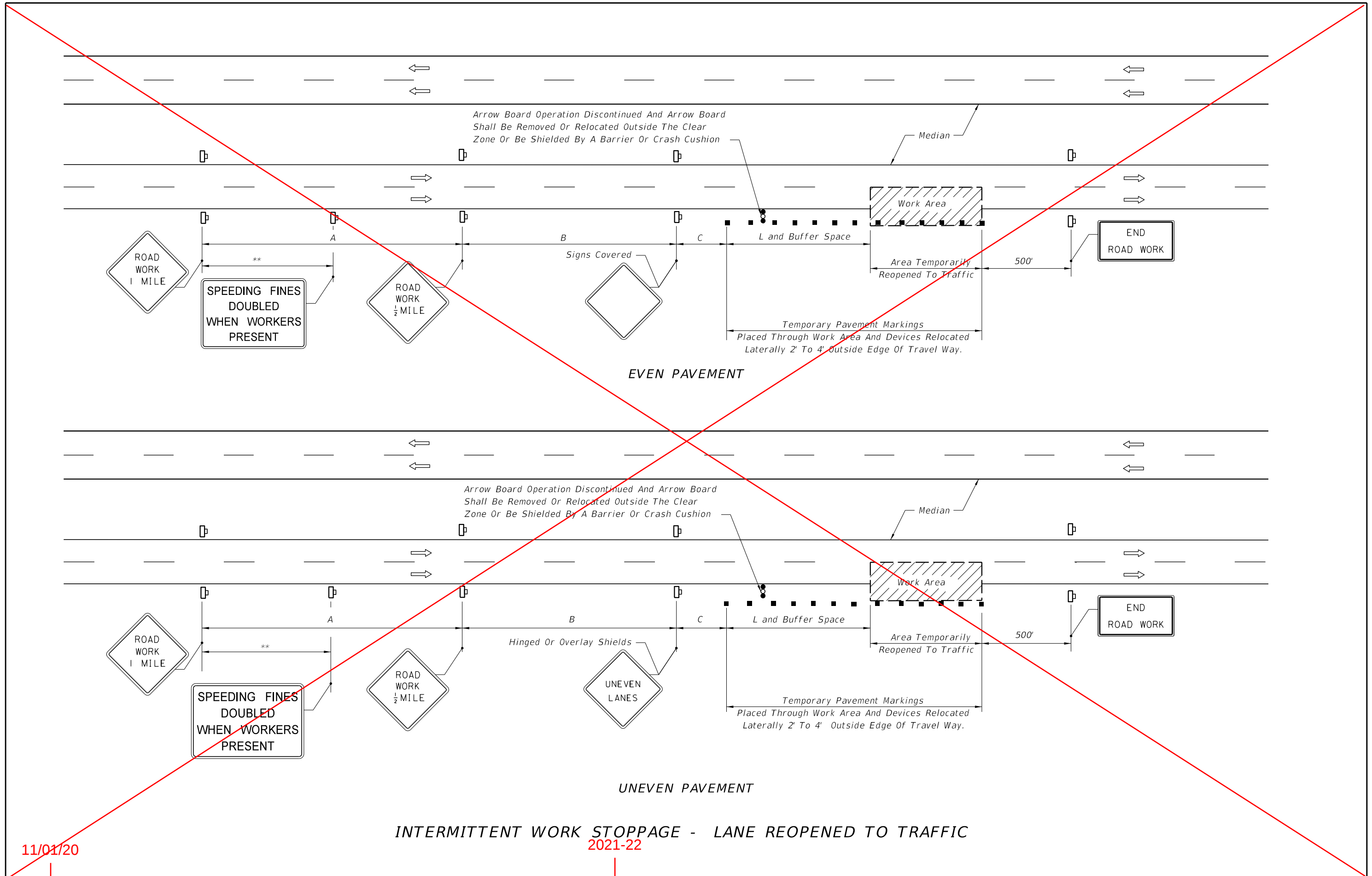
MULTILANE, WORK WITHIN TRAVEL WAY
MEDIAN OR OUTSIDE LANE

INDEX
102-613

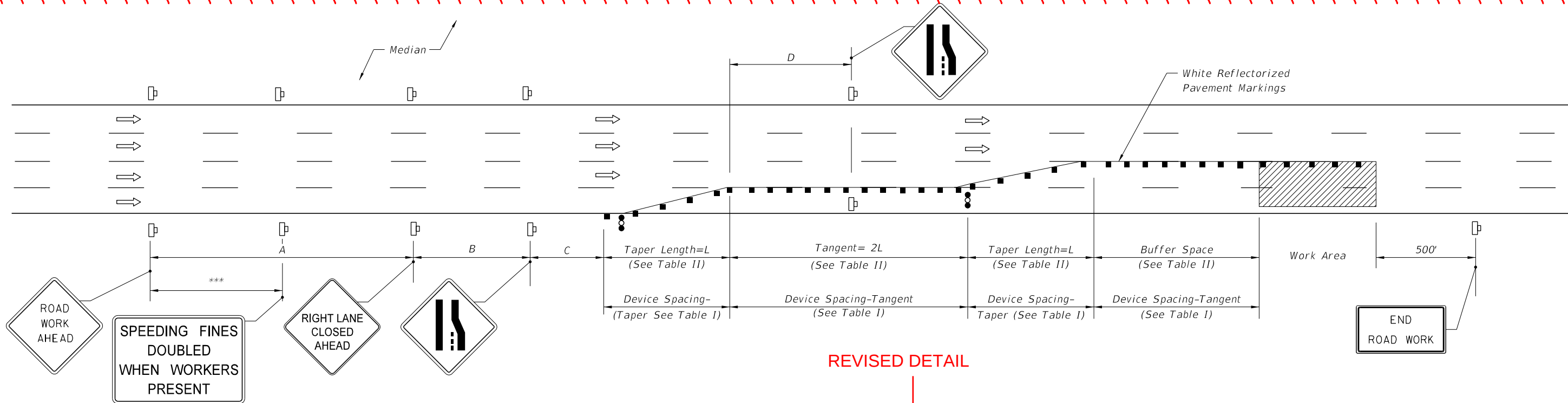
SHEET
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LAST REVISION 11/01/17	REVISION	DESCRIPTION:	FDOT FY 2020-21 STANDARD PLANS	MULTILANE, WORK WITHIN TRAVEL WAY MEDIAN OR OUTSIDE LANE	INDEX 102-613	SHEET 2 of 2
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ADDED "TRIPLE LANE CLOSURE" DETAIL

DELETED - CONSOLIDATED AND MOVED TO 102-600

DISTANCE BETWEEN SIGNS				
Speed	Spacing (ft.)			
	A	B	C	D**
40 mph or less	200	200	200	L
45 mph	350	350	350	L
50 mph	500	500	500	L
*55 mph or greater	2640	1640	1000	L

* The ROAD WORK 1 MILE sign may be used as an alternate to the ROAD WORK AHEAD sign MILE sign may be used as an alternate to the RIGHT LANE CLOSED AHEAD sign.

** See Table II for L

*** 500' beyond the ROAD WORK AHEAD sign or midway between signs whichever is less.

Table I Device Spacing				
Speed (mph)	Max. Distance Between Devices (ft.)			
	Cones or Tubular Markers		Type I or Type II Barricades or Vertical Panels or Drums	
	Taper	Tangent	Taper	Tangent
25	25	50	25	50
30 to 45	25	50	30	50
50 to 70	25	50	50	100

Table II Buffer Space and Taper Length				
Speed (mph)	Buffer Space	Taper Length (12' Lateral Transition)		Tangent
	Dist. (ft.)	L (ft.)	Notes (Merge)	2L (ft.)
25	155	125	$L = \frac{WS^2}{60}$	250
30	200	180		360
35	250	245		490
40	305	320		640
45	360	540	L = WS	1080
50	425	600		1200
55	495	660		1320
60	570	720		1440
65	645	780		1560
70	730	840		1680

When Buffer Space cannot be attained due to geometric constraints, the greatest attainable length shall be used, but not less than 200 ft.

For lateral transitions other than 12', use formula for L shown in the notes column.

Where:

L= Length of taper in feet

W= Width of lateral transition in feet

S= Posted speed limit (mph)

GENERAL NOTES

- Work operations shall be confined to the two outside traffic lanes, leaving the adjacent lane(s) open to traffic.
- On undivided highways the median signs as shown are to be omitted.
- When work is performed in the median lane on divided highways, the channelizing device plan is inverted and left lanes closed and lane ends signs substituted for the right lanes closed and lane end signs.
- When a side road intersects the highway within the TTC zone, additional TTC devices shall be placed in accordance with other applicable TCZ Indexes.
- For general TCZ requirements and additional information, refer to Index 102-600.
- When paved shoulders having a width of 8 ft. or more are closed, channelizing devices shall be used to close the shoulder in advance of the merging taper to direct vehicular traffic to remain within the travel way. See Index 102-612 for shoulder taper formulas.

DURATION

Temporary white edgeline may be omitted for work operations less than three (3) days.

CONDITIONS

WHERE ANY VEHICLE, EQUIPMENT, WORKERS OR THEIR ACTIVITIES ENCROACH ON THE TWO LANES ADJACENT TO EITHER SHOULDER.

DELETED - CONSOLIDATED AND MOVED TO SHEET 1

2021-22

MULTILANE ROADWAY, LANE CLOSURES

613

2

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LAST REVISION 11/01/17

REVISION

DESCRIPTION:



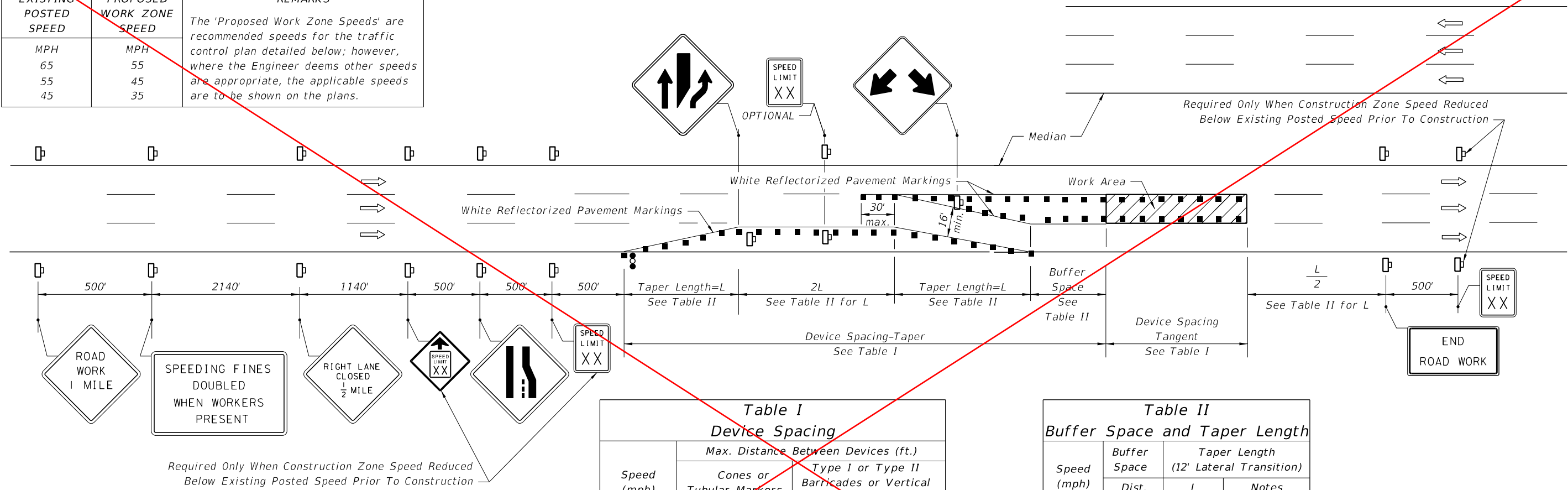
FY 2020-21
STANDARD PLANS

MULTILANE, WORK WITHIN THE TRAVEL WAY
DOUBLE LANE CLOSURE

INDEX
102-623

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EXISTING POSTED SPEED	PROPOSED WORK ZONE SPEED	REMARKS
MPH	MPH	The 'Proposed Work Zone Speeds' are recommended speeds for the traffic control plan detailed below; however, where the Engineer deems other speeds are appropriate, the applicable speeds are to be shown on the plans.
65	55	
55	45	
45	35	



Required Only When Construction Zone Speed Reduced Below Existing Posted Speed Prior To Construction

Table I Device Spacing				
Speed (mph)	Max. Distance Between Devices (ft.)			
	Cones or Tubular Markers		Type I or Type II Barricades or Vertical Panels or Drums	
	Taper	Tangent	Taper	Tangent
25	25	50	25	50
30 to 45	25	50	30	50
50 to 70	25	50	50	100

Table II Buffer Space and Taper Length			
Speed (mph)	Buffer Space	Taper Length (12' Lateral Transition)	
	Dist. (ft.)	L (ft.)	Notes (Merge)
25	155	125	$L = \frac{WS^2}{60}$
30	200	180	
35	250	245	
40	305	320	
45	360	540	$L = WS$
50	425	600	
55	495	660	
60	570	720	
65	645	780	
70	730	840	

When Buffer Space cannot be attained due to geometric constraints, the greatest attainable length shall be used, but not less than 200 ft.

For lateral transitions other than 12', use formula for L shown in the notes column. Where:
L = Length of taper in feet
W = Width of lateral transition in feet
S = Posted speed limit (mph)

CONDITION NOTES

1. The RIGHT LANE CLOSED and lane reduction signs are to be removed or fully covered when no work is being performed and the center lane is opened to traffic.
2. For work performed in the median or outside lane, refer to Index 102-613.
3. When the lane closure exceeds a continuous 24 hour period, all existing pavement markings within the realignment which conflict with the revised traffic pattern are to be removed and removable pavement marking used for marking new edge lines and centerline.

GENERAL NOTES

1. When a side road intersects the highway within the TTC zone, additional TTC devices shall be placed in accordance with other applicable TCZ Indexes.
2. For general TCZ requirements and additional information, refer to Index 102-600.

DURATION NOTES

1. Temporary pavement markings may be omitted for work operations less than 3 days.

CONDITIONS

WHERE ANY VEHICLE, EQUIPMENT, WORKERS OR THEIR ACTIVITIES ENCROACH ON ANY PORTION OF A CENTER LANE OF A MULTILANE HIGHWAY, AND TWO DRIVING LANES ARE MAINTAINED ON THE TRAVEL WAY.

SYMBOLS

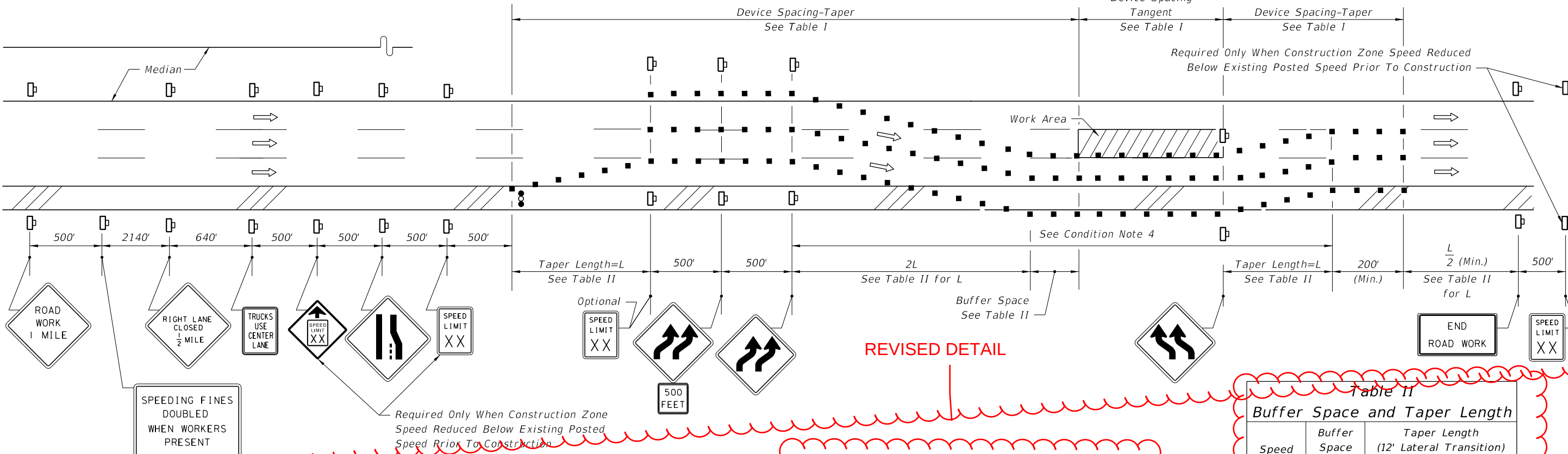
- Work Area
- Channelizing Device (See Index 102-600)
- Work Zone Sign
- Advance Warning Arrow Board
- Lane Identification + Direction of Traffic

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2021-22

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EXISTING POSTED SPEED	PROPOSED WORK ZONE SPEED	REMARKS
MPH	MPH	The 'Proposed Work Zone Speeds' are recommended speeds for the traffic control plan detailed below; however, where the Engineer deems other speeds are appropriate, the applicable speeds.
65	55	
55	45	
45	35	

Table I Device Spacing				
Speed (mph)	Max. Distance Between Devices (ft.)			
	Cones or Tubular Markers		Type I or Type II Barricades or Vertical Panels or Drums	
	Taper	Tangent	Taper	Tangent
	25	50	25	50
30 to 45	25	50	30	50
50 to 70	25	50	50	100

Table II Buffer Space and Taper Length			
Speed (mph)	Buffer Space	Taper Length (12' Lateral Transition)	
	Dist. (ft)	L (ft)	Notes (Merge)
25	155	125	$L = \frac{WS^2}{60}$
30	200	180	
35	250	245	
40	305	320	
45	360	540	$L = WS$
50	425	600	
55	495	660	
60	570	720	
65	645	780	
70	730	840	

When Buffer Space cannot be attained due to geometric constraints, the greatest attainable length shall be used, but not less than 200 ft.

For lateral transitions other than 12', use formula for L shown in the notes column. Where:
L = Length of taper in feet
W = Width of lateral transition in feet
S = Posted speed limit (mph)

- CONDITION NOTES**
- See General Notes, Sheet 1.
 - Length of time that traffic is using shoulder should be minimized. For example, remove lane closure and lane shift at night (unless performing night work) if practical.
 - The RIGHT LANE CLOSED, lane reduction and reverse curve signs are to be removed or fully covered when no work is being performed and the travel way is open to traffic.
 - When the lane closure exceeds a continuous 24 hour period, all existing pavement markings within the realignment which conflict with the revised traffic pattern are to be removed and removable pavement markings used for marking new edge lines and centerlines.
 - For general TCZ requirements and additional information, refer to Index 102-600.

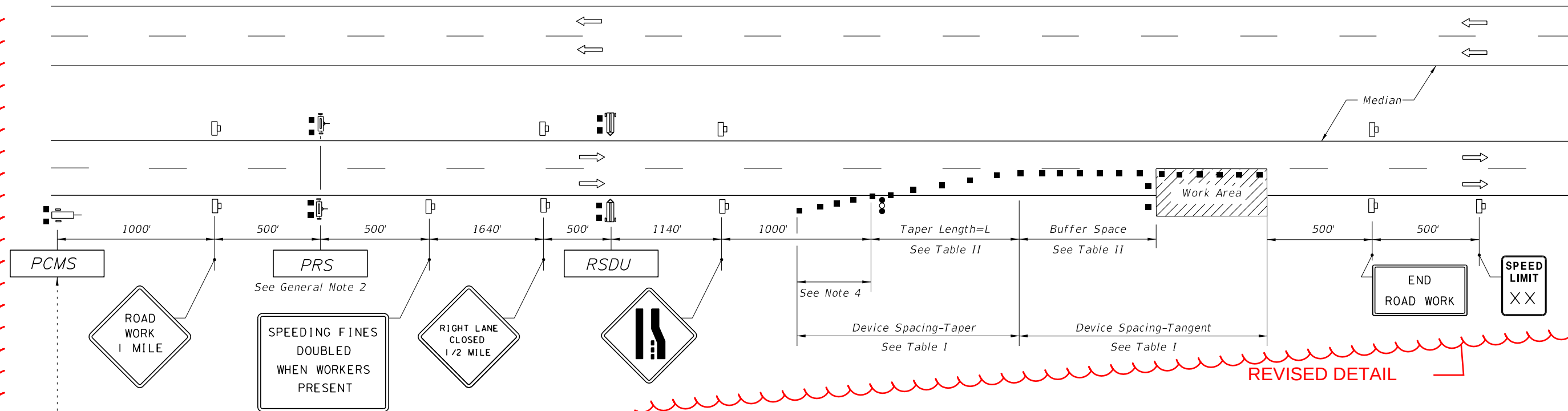
SYMBOLS

- Work Area
- Channelizing Device (See Index 102-600)
- Work Zone Sign
- Advance Warning Arrow Board

CONDITIONS

WHERE ANY VEHICLE, EQUIPMENT, WORKERS OR THEIR ACTIVITIES ENCROACH ON ANY PORTION OF A CENTER LANE OF A MULTILANE HIGHWAY, AND TWO DRIVING LANES ARE MAINTAINED, AND, THE OUTSIDE SHOULDER PAVEMENT IS TEMPORARILY USED AS A TRAVEL LANE.

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TYPICAL PCMS DISPLAY

With speed reduction:
Message 1: WORKERS PRESENT AHEAD
Message 2: SPEED REDUCED NEXT XMI

Without speed reduction:
Message 1: WORKERS PRESENT AHEAD
Message 2: NEXT X MILES

SYMBOLS

- Work Area
- Channelizing Device (See Index 102-600)
- Work Zone Sign
- Advance Warning Arrow Board
- Lane Identification + Direction of Traffic
- (1) PCMS= Portable Changeable(Variable) Message Sign
- (2) PRS= Portable Regulatory Sign- Speed Limit When Flashing
- (2) RSDU= Radar Speed Display Unit

Table I Device Spacing				
Posted Speed (mph)	Max. Distance Between Devices (ft.)			
	Cones or Tubular Markers		Type I or Type II Barricades or Vertical Panels or Drums	
	Taper	Tangent	Taper	Tangent
55 to 70	25	50	50	100

Table II Buffer Space and Taper Length			
Posted Speed (mph)	Buffer Space	Taper Length (12' Lateral Transition)	
	Dist. (ft.)	L (ft.)	Notes (Merge)
55	495	660	L = WS
60	570	720	
65	645	780	
70	730	840	

DELETED -
CONSOLIDATED
AND MOVED TO
102-600

When Buffer Space cannot be attained due to geometric constraints, the greatest attainable length shall be used, but not less than 200 ft.

For lateral transitions other than 12', use formula for L shown in the notes column.

Where:

L= Length of taper in feet

W= Width of lateral transition in feet

S= Posted speed limit (mph)

GENERAL NOTES:

- Use the MAS for lane closures of 5 day or more on multilane divided facilities with a posted speed of 55 MPH or greater when workers are present and not protected by a barrier.
- For posted speeds of 65 MPH or greater, reduce Work Zone Speeds by 10 MPH. For posted speeds of 60 MPH, use a Work Zone Speed of 55 MPH.
- Right lane closure shown, left lane closure similar using left lane signing.
- Use shoulder taper in accordance with Index 102-612 for shoulder widths 8 feet or greater.
- See Index 102-600 for general TCZ requirements and additional information.

REVISOR

MULTILANE ROADWAY,
LANE CLOSURES

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FY ~~2020-21~~
2021-22
STANDARD PLANS

2021-22

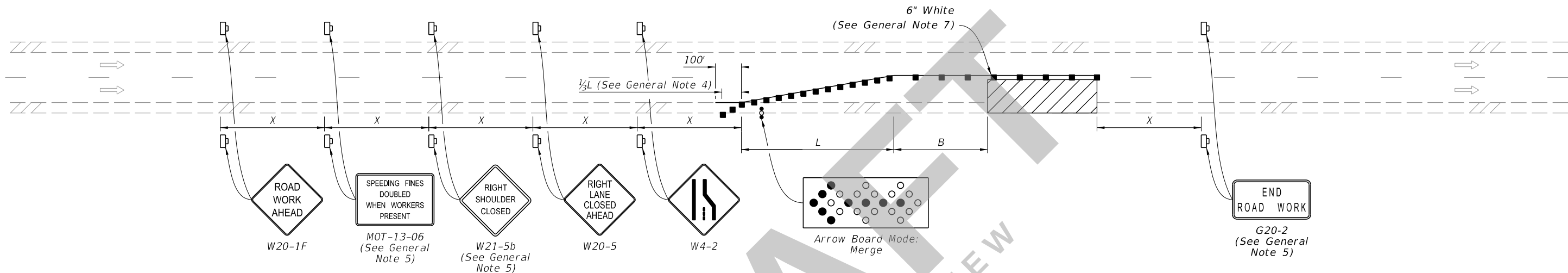
MOTORIST AWARENESS SYSTEM (MAS)

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102-670

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LAST
REVISION
11/01/17

DESCRIPTION:



SINGLE LANE CLOSURE

SYMBOLS:

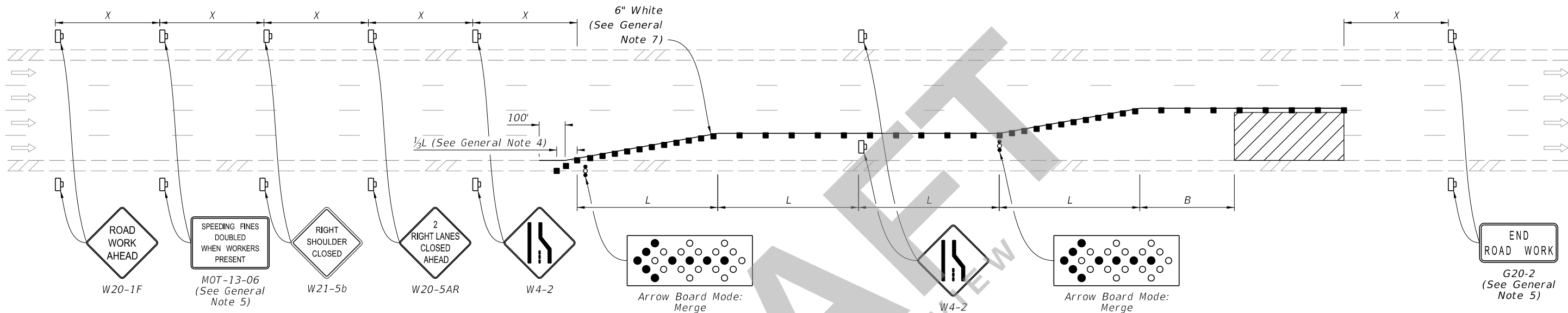
- Work Area
- Channelizing Device (See Index 102-600)
- Work Zone Sign
- Lane Identification and Direction of Traffic
- Arrow Board

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 (W21-5b) 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. The "Speeding Fines Doubled When Workers Present" signs (MOT-13-06) and "End Road Work" signs (G20-2) and "Shoulder Closed Ahead" (W21-5b), along with associated work zone sign distances, may be omitted when the work zone will be in place for 24 hours or less.
6. Use inverted plan of the illustrations for work on left side of roadways.
7. Temporary pavement markings may be omitted when the temporary condition is in place for 24 hours or less.
8. If the work encroaches on a marked bicycle lane or rideable shoulder, close the lane or shoulder in accordance with the Plans.

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DOUBLE LANE CLOSURE

SYMBOLS:

- Work Area
- Channelizing Device (See Index 102-600)
- Work Zone Sign
- Lane Identification and Direction of Traffic
- Arrow Board

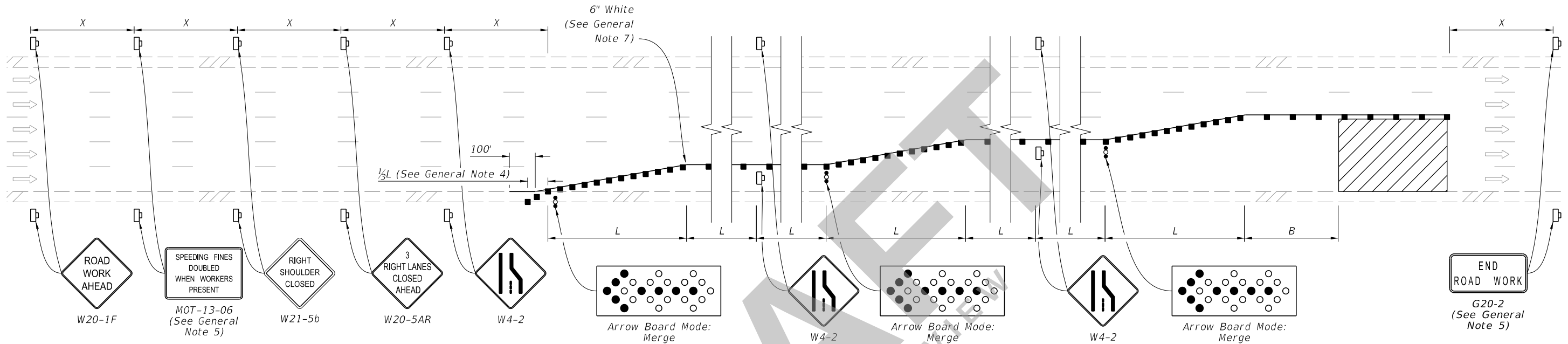


FY 2021-22
STANDARD PLANS

MULTILANE ROADWAY, LANE CLOSURES

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TRIPLE LANE CLOSURE

SYMBOLS:

- Work Area
- Channelizing Device (See Index 102-600)
- Work Zone Sign
- Lane Identification and Direction of Traffic
- Arrow Board



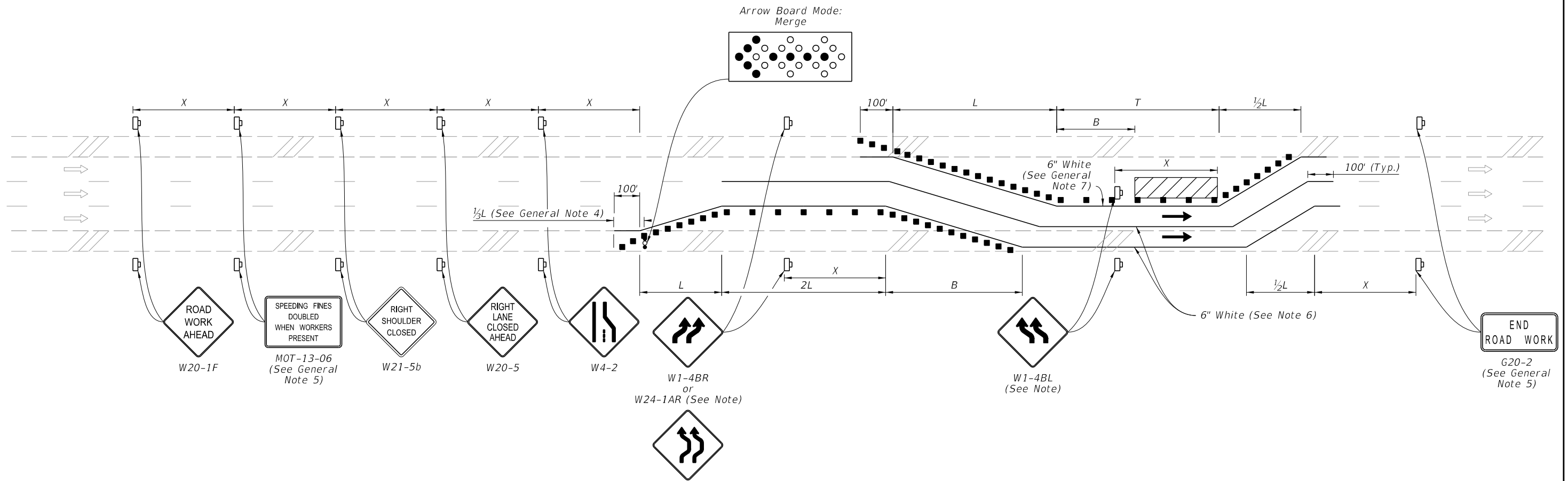
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MULTILANE ROADWAY, LANE CLOSURES

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LANE CLOSURE WITH LANE SHIFT

SYMBOLS:

- Work Area
- Channelizing Device (See Index 102-600)
- Work Zone Sign
- Lane Identification and Direction of Traffic
- Arrow Board

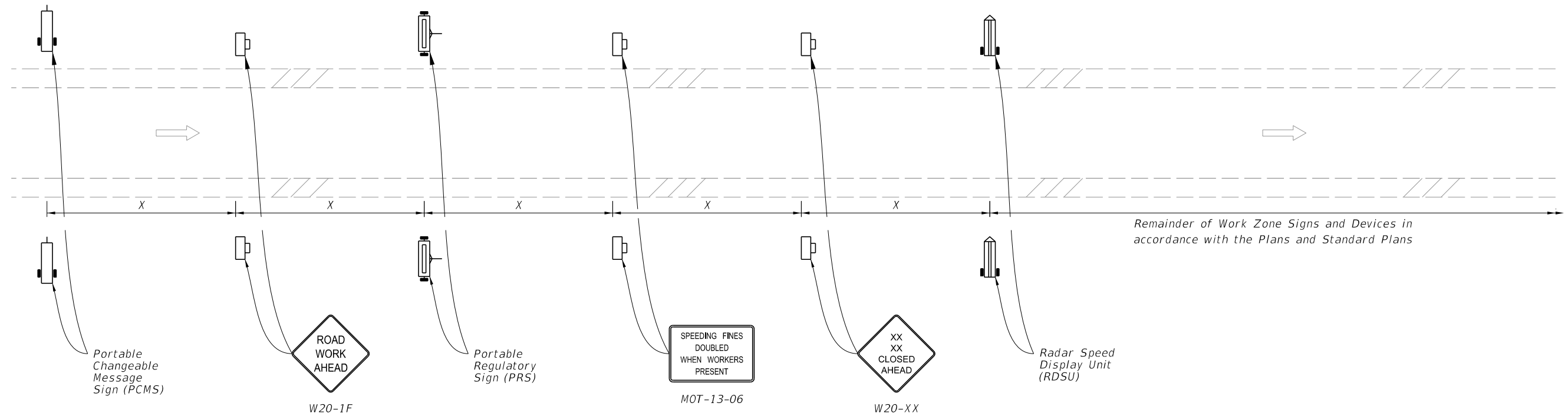
NOTE:

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.

FINAL WORKING DRAFT

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MOTORIST AWARENESS SYSTEM

SYMBOLS:

-  Work Zone Sign
-  Lane Identification and Direction of Traffic
-  (1) PCMS= Portable Changeable (Variable) Message Sign
-  (2) PRS= Portable Regulatory Sign-Speed Limit When Flashing
-  (2) RSDU= Radar Speed Display Unit

NOTES:

- When called for in the Plans, use the Motorist Awareness System (MAS) in accordance with the Plans and this Index. When using this detail, place the MAS devices (i.e., PCMS, PRS, and RDSU) in advance of the "Road Work Ahead" sign (W20-1F) as shown.
- For a posted speed of 65 mph or greater, display speed with a ten mph reduction. For a posted speed of 60 mph, display a reduced speed of 55 mph. Use posted speed as the work zone speed.
- Omit the PCMS in the median for roadways with three lanes or less in the same direction of traffic.

TYPICAL PCMS DISPLAY:

- With speed reduction:
Message 1: WORKERS PRESENT AHEAD
Message 2: SPEED REDUCED NEXT XXMI
- Without speed reduction:
Message 1: WORKERS PRESENT AHEAD
Message 2: NEXT XX MILES

FINAL WORKING DRAFT

LAST REVISION	DESCRIPTION:	FDOT	FY 2021-22 STANDARD PLANS	MULTILANE ROADWAY, LANE CLOSURES	INDEX	SHEET
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