
ORIGINATION FORM

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

Contact Information:

Date: December 20, 2020

Originator: Derwood Sheppard

Phone: (850) 414-4334

Email: derwood.sheppard@dot.state.fl.us

Standard Plans:

Index Number: 102-600

Sheet Number (s): 5, 6, and 7 of 11

Index Title: General Information for Traffic Control Through Work Zones

Summary of the changes:

Sheet 5: Changed the Height reference note to "See Index 700-102 for Special Sign Details" and deleted the 60" Width in the 3 POST SUPPOR MOUNTING DETAILS; Moved TEMPORARY SIGN SUPPORT NOTE 9 to TABLE 7, as Note 5; Deleted the 60x64 and the 120x60* Rectangle signs and associated note from TABLE 7; Deleted "(See Note 7)" reference from the Diamond sign in TABLE 7.

Sheet 6: Rearranged all signs: Added signs: R4-11, W11-1, and W16-1p: Deleted all of the "MOT" signs.

Sheet 7: Added the SIDE ROAD INTERSECTING THE WORK ZONE details form Index 102-606.

Commentary / Background:

The duration provisions of the index are intended to apply to the length time needed to perform the specific temporary traffic control "operation" shown, which is independent of the duration of an overall construction project. The term "Work Zone" is being replaced with "Work Operation" to clarify the intent.

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

- | Yes | No | |
|--------------------------|-------------------------------------|-----------------------------|
| <input type="checkbox"/> | <input checked="" type="checkbox"/> | Other Standard Plans – |
| <input type="checkbox"/> | <input checked="" type="checkbox"/> | FDOT Design Manual – |
| <input type="checkbox"/> | <input checked="" type="checkbox"/> | Basis of Estimates Manual – |
| <input type="checkbox"/> | <input checked="" type="checkbox"/> | Standard Specifications – |
| <input type="checkbox"/> | <input checked="" type="checkbox"/> | Approved Product List – |
| <input type="checkbox"/> | <input checked="" type="checkbox"/> | Construction – |
| <input type="checkbox"/> | <input checked="" type="checkbox"/> | Maintenance – |

Origination Package Includes:

(Email or hand deliver package to Rick Jenkins)

- | Yes | N/A | |
|-------------------------------------|--------------------------|------------------------------------------|
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | Redline Mark-ups |
| <input type="checkbox"/> | <input type="checkbox"/> | Proposed Standard Plan Instruction (SPI) |
| <input type="checkbox"/> | <input type="checkbox"/> | Revised SPI |
| <input type="checkbox"/> | <input type="checkbox"/> | Other Support Documents |

Implementation:

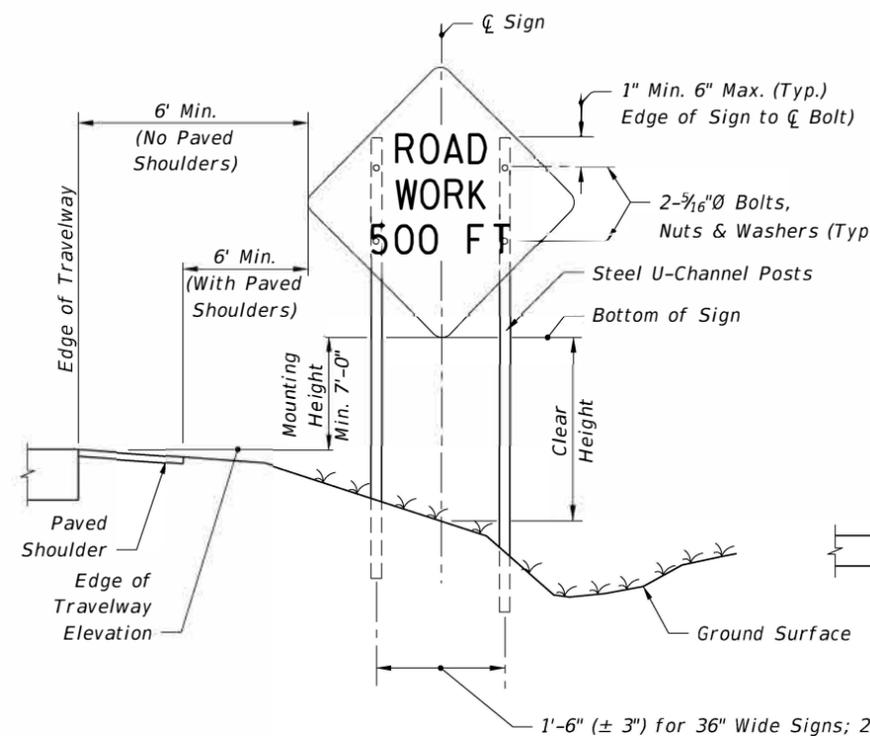
- | | |
|-------------------------------------|----------------------------------|
| <input type="checkbox"/> | Design Bulletin (Interim) |
| <input type="checkbox"/> | DCE Memo |
| <input type="checkbox"/> | Program Mgmt. Bulletin |
| <input checked="" type="checkbox"/> | FY-Standard Plans (Next Release) |

Contact the Roadway Design Office for assistance in completing this form

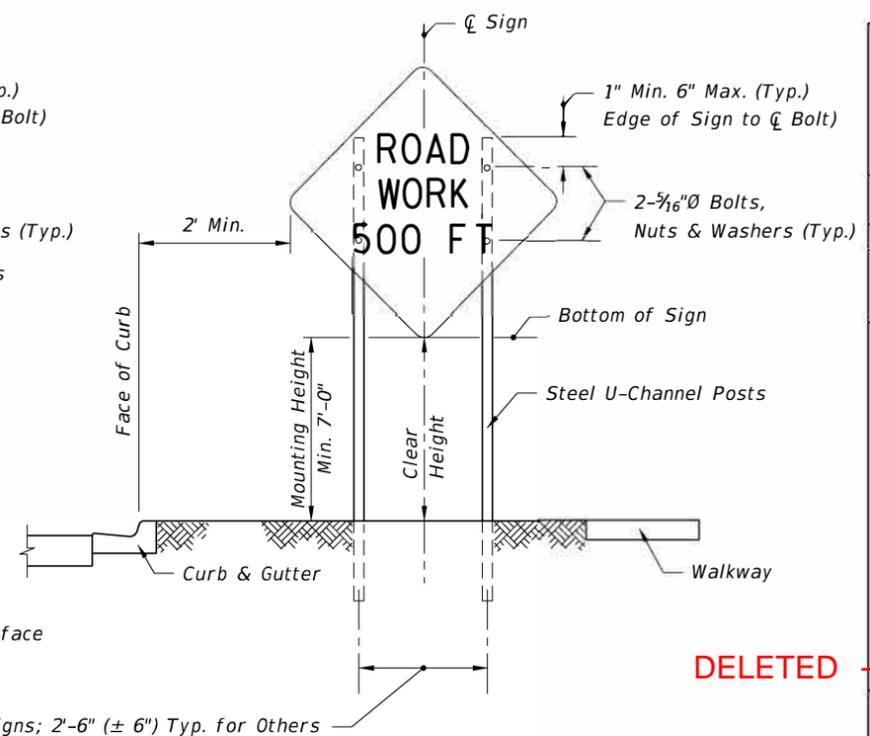
TEMPORARY SIGN SUPPORT NOTES:

- All signs shall be post mounted when work operations exceed one day except for:
 - Road closure signs mounted in accordance with the vendor drawing for the Type III Barricade shown on the APL.
 - Pedestrian and bicycle advanced warning or pedestrian regulatory signs mounted on sign supports in accordance with the vendor drawing shown on the APL.
 - Median barrier mounted signs per Index 700-013.
 - Bridge mounted signs per Index 700-012.
- Unless shielded with barrier or outside of the Clear Zone, signs mounted on temporary supports or barricades, and barricade/sign combination must be crashworthy in accordance with NCHRP 350 requirements and included on the Approved Products List (APL).
- Use only approved systems listed on the Department's Approved Products List (APL).
- Manufacturers seeking approval of U-Channel and steel square tube sign support assemblies for inclusion on the Approved Products List (APL) must submit a APL application, design calculations (for square tube only), and detailed drawings showing the product meets all the requirements of this Index.
- Provide 3 lb/ft Steel U-Channel Posts with a minimum section modulus of 0.43 in³ for 60 ksi steel, a minimum section modulus of 0.37 in³ for 70 ksi steel, or a minimum section modulus of 0.34 in³ for 80 ksi steel.
- Provide 4 lb/ft Steel U-Channel Posts with a minimum section modulus of 0.56 in³ for 60 ksi steel, or a minimum section modulus of 0.47 in³ for 70 ksi or 80 ksi steel.
- U-channel posts shall conform with ASTM A 499, Grade 60, or ASTM A 576, Grade 1080 (with a minimum yield strength of 60 ksi). Square tube posts shall conform with ASTM A 653, Grade 50, or ASTM A 1011, Grade 50.
- Sign attachment bolts, washers, nuts, and spacers shall conform with ASTM A307 or A 36.
- For diamond warning signs with supplement plaque (up to 5 ft² in area), use 4 lb/ft posts for up to 10 ft Clear Height (measure to the bottom of diamond warning sign).
- Renumbered detail shown on the APL.
- The contractor may install 3 lb/ft Steel U-Channel Posts with approved breakaway splice in accordance with the manufacturer's detail shown on the APL.
- Install all posts plumb.
- The contractor may set posts in preformed holes to the specified depth with suitable backfill tamped securely on all sides, or drive 3 lb/ft sign posts and any size base post in accordance with the manufacturer's detail shown on the APL.

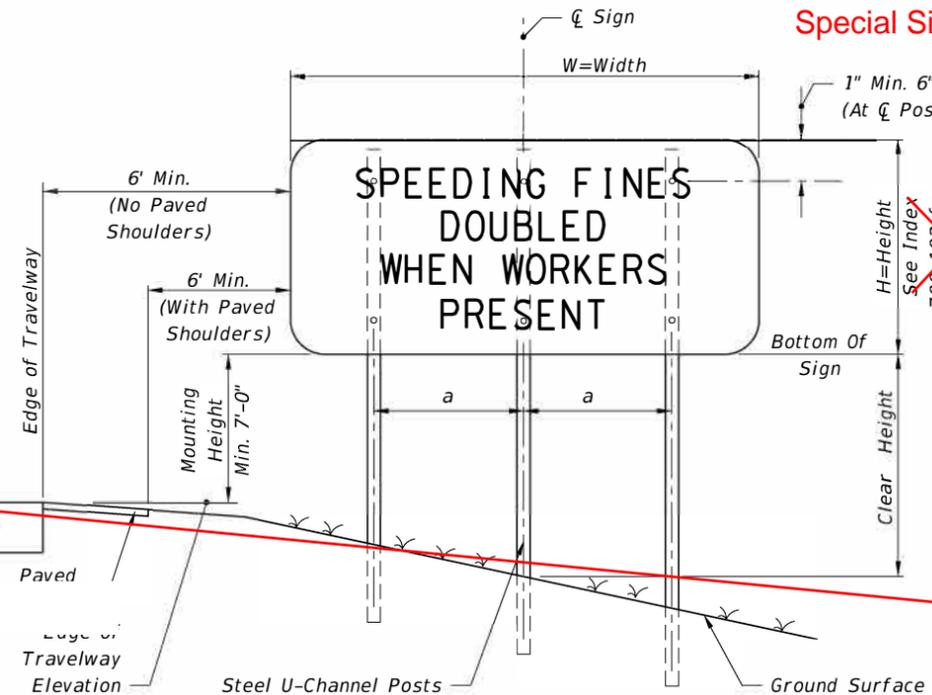
MOVED TO: Table 7 Notes.



2 POST SIGN SUPPORT MOUNTING DETAILS (SINGLE POST SIMILAR) RURAL



2 POST SIGN SUPPORT MOUNTING DETAILS (SINGLE POST SIMILAR) URBAN

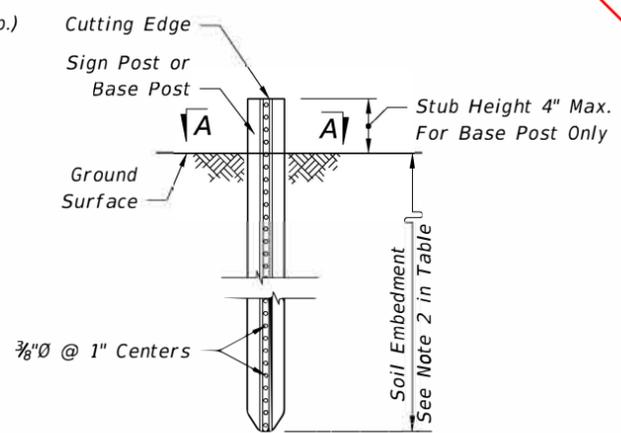


3 POST SIGN SUPPORT MOUNTING DETAILS

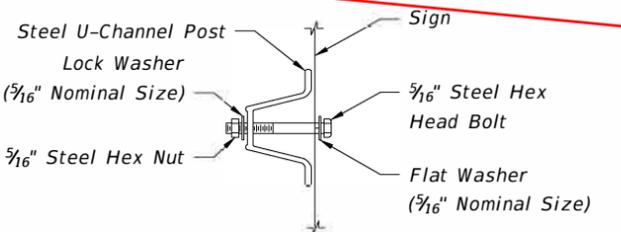
Where $W = 48": a = 1' - 4\frac{1}{2}" (\pm 1")$
 ~~$W = 60": a = 1' - 9" (\pm 1")$~~
 $W = 72": a = 2' - 1" (\pm 1")$

Deleted

See Index 700-102 for Special Sign Details



TYPICAL FOUNDATION DETAIL
See APL for post, splice and connection details. No bolts installed closer than 1" to cutting edge.



SECTION A-A (SCHEMATIC)

SIGN ATTACHMENT DETAIL (WITHOUT Z-BRACKET)

TABLE 7 POST AND FOUNDATION TABLE FOR WORK ZONE SIGNS

SIGN SHAPE	SIGN SIZE (inches)	NUMBER OF STEEL U CHANNEL POSTS
Octagon	30x30	1
Triangle	36x36x36	1
	48x48x48	1
	60x60x60	2
Rectangle (W x H)	24x18	1
	24x30	1
	30x24	1
	36x18	1
	36x24	1
	48x18	1
	48x24	1
	36x48	2
	48x30	2
	48x36	2
	54x36	2
	48x60	3
Square	60x54	3
	72x48	3
	120x60*	4*
Diamond (See Note 7)	30x30	1
	36x36	2
	48x48	2
Circle	36Ø	2

Notes For Table:

- Use 3 lb/ft posts for Clear Height up to 10' and 4 lb/ft posts for Clear Height up to 12'.
- Minimum foundation depth is 4.0' for 3 lb/ft posts and 4.5' for 4 lb/ft posts.
- For both 3 lb/ft and 4 lb/ft base or sign posts installed in rock, a minimum cumulative depth of 2' of rock layer is required.
- The soil plate as shown on the APL vendor drawing is not required for base posts or sign posts installed in existing rock (as defined in Note 3), asphalt roadway, shoulder pavement or soil under sidewalk.

DELETED

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MOVED: Note 9 as Note 5 in Table 7

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10/13/2020

REARRANGED

E5-2 B/O	E5-2a B/O	G20-1 B/O	G20-2 B/O	G20-4 B/O	M4-8 B/O	M4-8A B/O	M4-9L B/O	M4-9R B/O	M4-10L O/B	M4-10R O/B	OM-3R B/Y	R1-1 W/R	R1-2 RW/R	R2-1 B/W	R4-1 B/W	R4-2 B/W	R4-5 B/W	R4-7 B/W	R4-8 B/W	R4-7AL B/W
R4-7AR B/W	R4-7BL B/W	R4-7BR B/W	R5-1 WR/W	R9-8 B/W	R9-9 B/W	R9-10 B/W	R9-11 B/W	R9-11a B/W	R11-2 B/W	W1-1R B/O	W1-2R B/O	W1-3R B/O	W1-4R B/O	W1-4b B/O	W1-4c B/O	W1-6 B/O	W1-7 B/O	W1-8 B/O	W3-1 RB/O	W3-2 RB/O
W3-3 B(RYG)/O	W3-4 B/O	W3-5 B/O	W4-1 B/O	W4-2 B/O	W5-1 B/O	W5-2 B/O	W5-3 B/O	W6-1 B/O	W6-2 B/O	W6-3 B/O	W8-1 B/O	W8-2 B/O	W8-3 B/O	W8-4 B/O	W8-5 B/O	W8-6 B/O	W8-7 B/O	W8-8 B/O	W8-9 B/O	W8-9a B/O
W8-11 B/O	W9-1L B/O	W9-1R B/O	W9-2L B/O	W9-2R B/O	W10-1 B/Y	W11-2 B/O	W12-1 B/O	W12-2 B/O	W13-1 B/O	W20-1A B/O	W20-1B B/O	W20-1C B/O	W20-1D B/O	W20-1E B/O	W20-1F B/O	W20-2A B/O	W20-2B B/O	W20-2C B/O	W20-2D B/O	W20-2E B/O
W20-3 B/O	W20-4 B/O	W20-5a B/O	W20-5L B/O	W20-5R B/O	W20-5C B/O	W20-7A B/O	W20-7 B/O	W21-1A B/O	W21-1 B/O	W21-5 B/O	W21-5a B/O	W21-6 B/O	W21-7 B/O							

ADDED SIGNS:
 R4-11
 W11-1
 W16-1P

W16-2P B/O

COLOR CODES
 Legend and/or Symbol Background
 O-Orange (Reflectorized) R-Red (Reflectorized)
 B-Black (Non-Reflectorized) Y-Yellow (Reflectorized)
 W-White (Reflectorized) G-Green (Reflectorized)

Notes:
 1. The size of diamond shaped Temporary Traffic Control (TTC) warning signs shall be a minimum of 48" X 48".
 2. Fluorescent orange shall be used for all orange colored work zone signs.
 3. The sign shields, symbols and messages contained on this sheet are provided for ready reference to those signs used in the development of the 102 Series of Indexes and are commonly used in the development of traffic control plans. For additional signs and sign detail information refer to the STANDARD HIGHWAY SIGNS MANUAL as specified in the MUTCD. Special signs for traffic control plans will be as approved by the State Traffic Plans Engineer.

The sign codes shown on this sheet are for the purpose of identifying cell names found in the Traffic Control Cell Library (TCZ.Cel).
 The STANDARD HIGHWAY SIGNS MANUAL should be referenced for the official sign codes for use in the development of traffic control plans.

See Index 700-102 for MOT sign details.

MOT-1-06 B/O	MOT-4-06 B/O	MOT-5-06 B/O	MOT-7-06 B/O	MOT-8-06 B/O	MOT-9-06 B/O	MOT-10-06 B/O	MOT-11-06 BLUE/W	MOT-12-06R B/W	MOT-12-06L B/W	MOT-13-06 (Limited access facilities)	MOT-14-06 (All other facilities)	MOT-15-06 B/O	MOT-16-06 B/O	MOT-17-06 B/O	MOT-18-10 B/O
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DELETED ALL OF THE MOT SIGNS

COMMONLY USED WARNING AND REGULATORY SIGNS IN WORK ZONES

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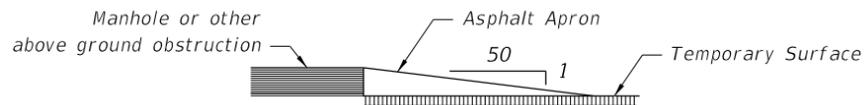
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REARRANGED

MANHOLES/CROSSWALKS/JOINTS

Manholes extending 1" or more above the travel lane and crosswalks having an uneven surface greater than 1/4" shall have a temporary asphalt apron constructed as shown in the diagram below.

All transverse joints that have a difference in elevation of 1" or more shall have a temporary asphalt apron constructed as shown in the diagram below.



The apron is to be removed prior to constructing the next lift of asphalt. The cost of the temporary asphalt shall be included in the contract unit price for Maintenance of Traffic, LS.

SIGNALS

Existing traffic signal operations that require modification in order to carry out work zone traffic control shall be included in the Plans and be approved by the District Traffic Operations Engineer.

Refer to Specification 102-9 for additional information.

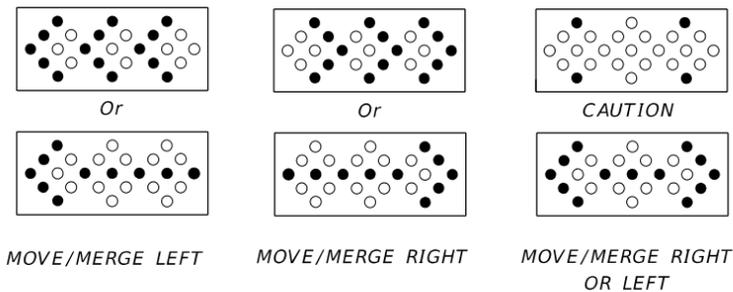
ADVANCE WARNING ARROW BOARDS

An arrow board in the arrow or chevron mode shall be used only for stationary or moving lane closures on multilane roadways.

For shoulder work, blocking the shoulder, for roadside work near the shoulder, or for temporarily closing one lane on a two-lane, two-way roadway, an arrow board shall be used only in the caution mode.

A single arrow board shall not be used to merge traffic laterally more than one lane. When arrow boards are used to close multiple lanes, a single board shall be used at the merging taper for each closed lane.

When Advance Warning Arrow Boards are used at night, the intensity of the flashers shall be reduced during darkness when lower intensities are desirable.



MODES

TRUCK/TRAILER-MOUNTED ATTENUATORS

Truck/Trailer-mounted attenuators (TMA) can be used for moving operations and short-term stationary operations. For moving operations, see Index 102-607. For short-term, stationary operations, see Part VI of the MUTCD.

CHANNELIZING DEVICES

Channelizing devices for work zone traffic control shall be as prescribed in Part VI of the MUTCD, subject to supplemental revisions provided in the contract documents and the 102 Series of Indexes. Lighting Devices must not be used to supplement channelization.

CHANNELIZING DEVICE CONSISTENCY

Barricades, vertical panels, cones, tubular markers and drums shall not be intermixed within either the lateral transition or within the tangent alignment.

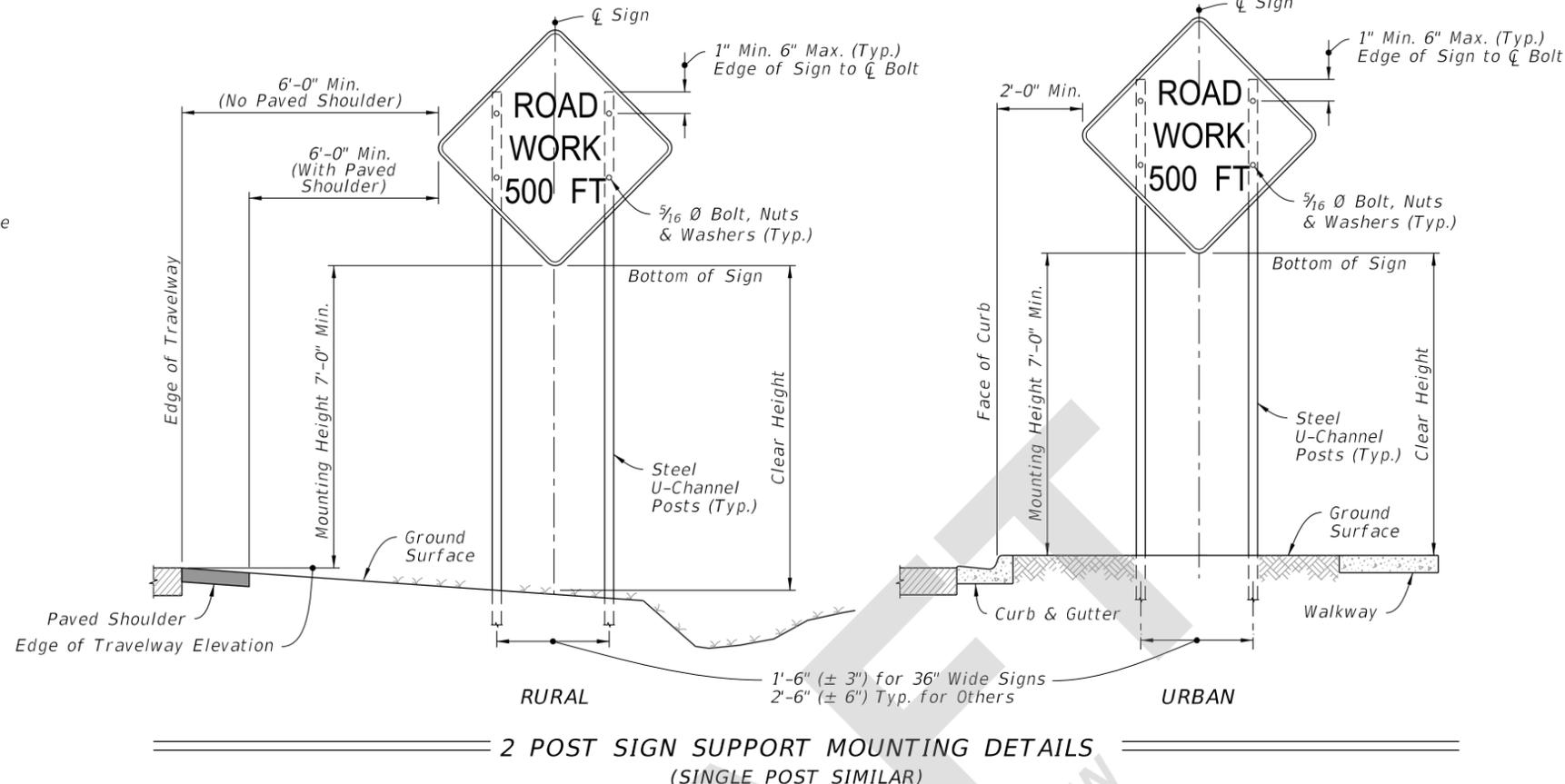
ADDED:
SIDE ROAD INTERSECTING THE WORK ZONE
 detail from Index 102-606

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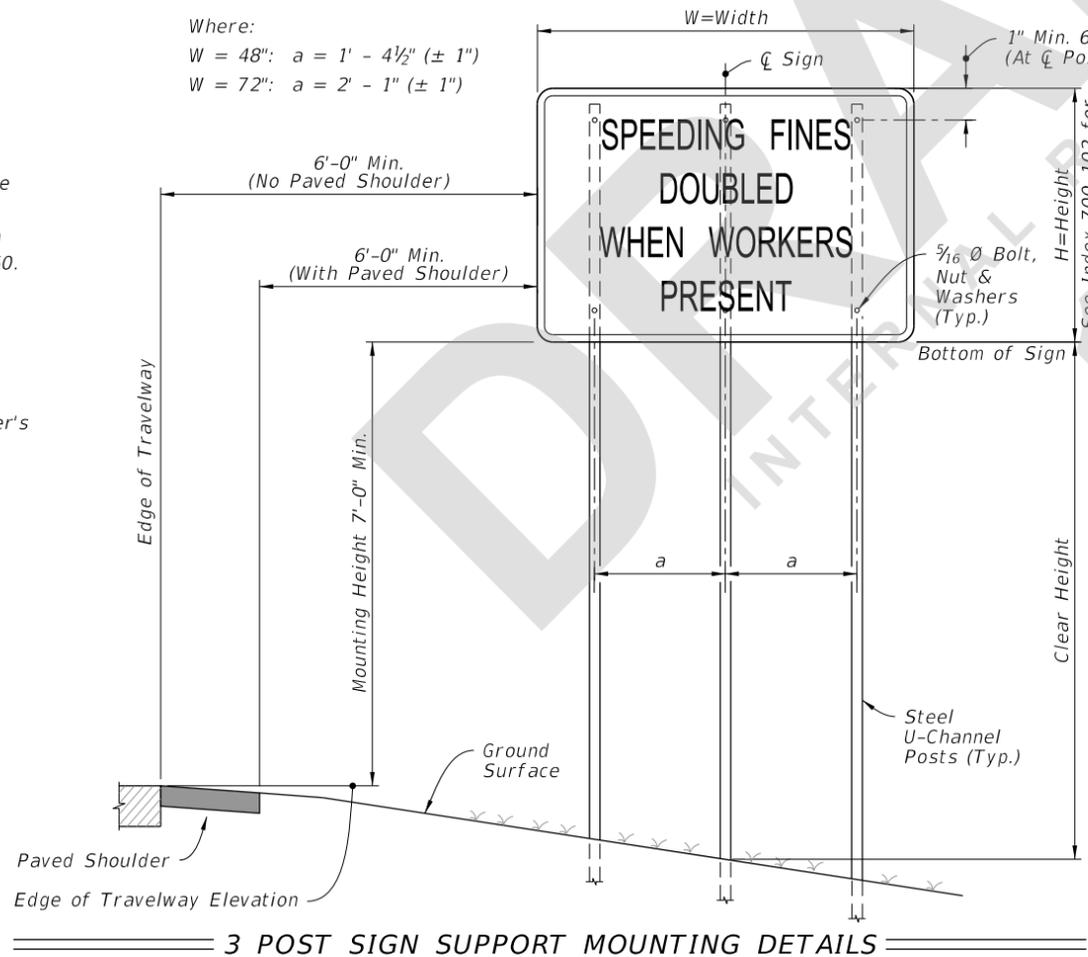
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NOTES:

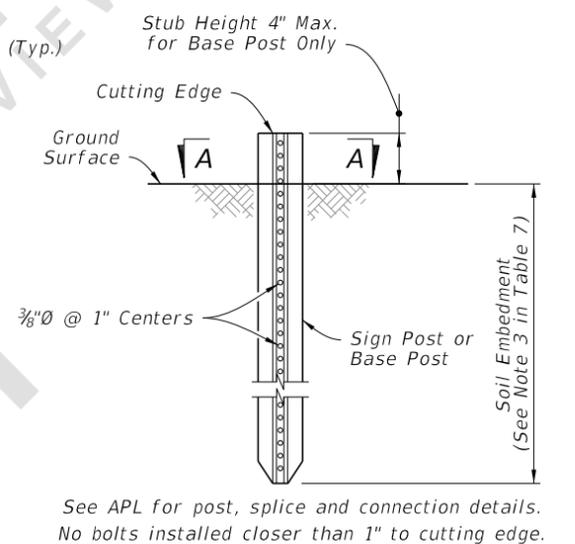
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- Use only approved systems listed on the Department's Approved Products List (APL).
- Manufacturers seeking approval of U-Channel and steel square tube sign support assemblies for inclusion on the Approved Products List (APL) must submit a APL application, design calculations (for square tube only), and detailed drawings showing the product meets all the requirements of this Index.
- Provide 3 lb/ft Steel U-Channel Posts with a minimum section modulus of 0.43 in³ for 60 ksi steel, a minimum section modulus of 0.37 in³ for 70 ksi steel, or a minimum section modulus of 0.34 in³ for 80 ksi steel.
- Provide 4 lb/ft Steel U-Channel Posts with a minimum section modulus of 0.56 in³ for 60 ksi steel, or a minimum section modulus of 0.47 in³ for 70 ksi or 80 ksi steel.
- U-channel posts shall conform with ASTM A 499, Grade 60, or ASTM A 576, Grade 1080 (with a minimum yield strength of 60 ksi). Square tube posts shall conform with ASTM A 653, Grade 50, or ASTM A 1011, Grade 50.
- Sign attachment bolts, washers, nuts, and spacers shall conform with ASTM A307 or A 36.
- Install 4 lb/ft Steel U-Channel Posts with approved breakaway splice in accordance with the manufacturer's detail shown on the APL.
- The contractor may install 3 lb/ft Steel U-Channel Posts with approved breakaway splice in accordance with the manufacturer's detail shown on the APL.
- Install all posts plumb.
- The contractor may set posts in preformed holes to the specified depth with suitable backfill tamped securely on all sides, or drive 3 lb/ft sign posts and any size base post in accordance with the manufacturer's detail shown on the APL.



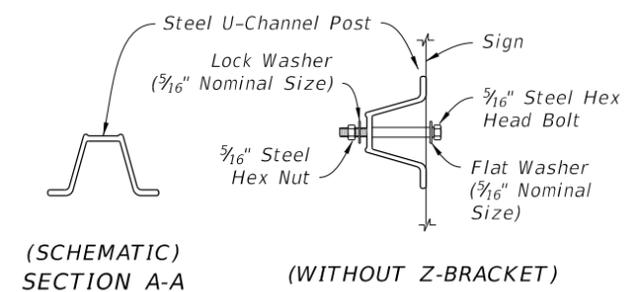
2 POST SIGN SUPPORT MOUNTING DETAILS
(SINGLE POST SIMILAR)



3 POST SIGN SUPPORT MOUNTING DETAILS



FOUNDATION DETAIL



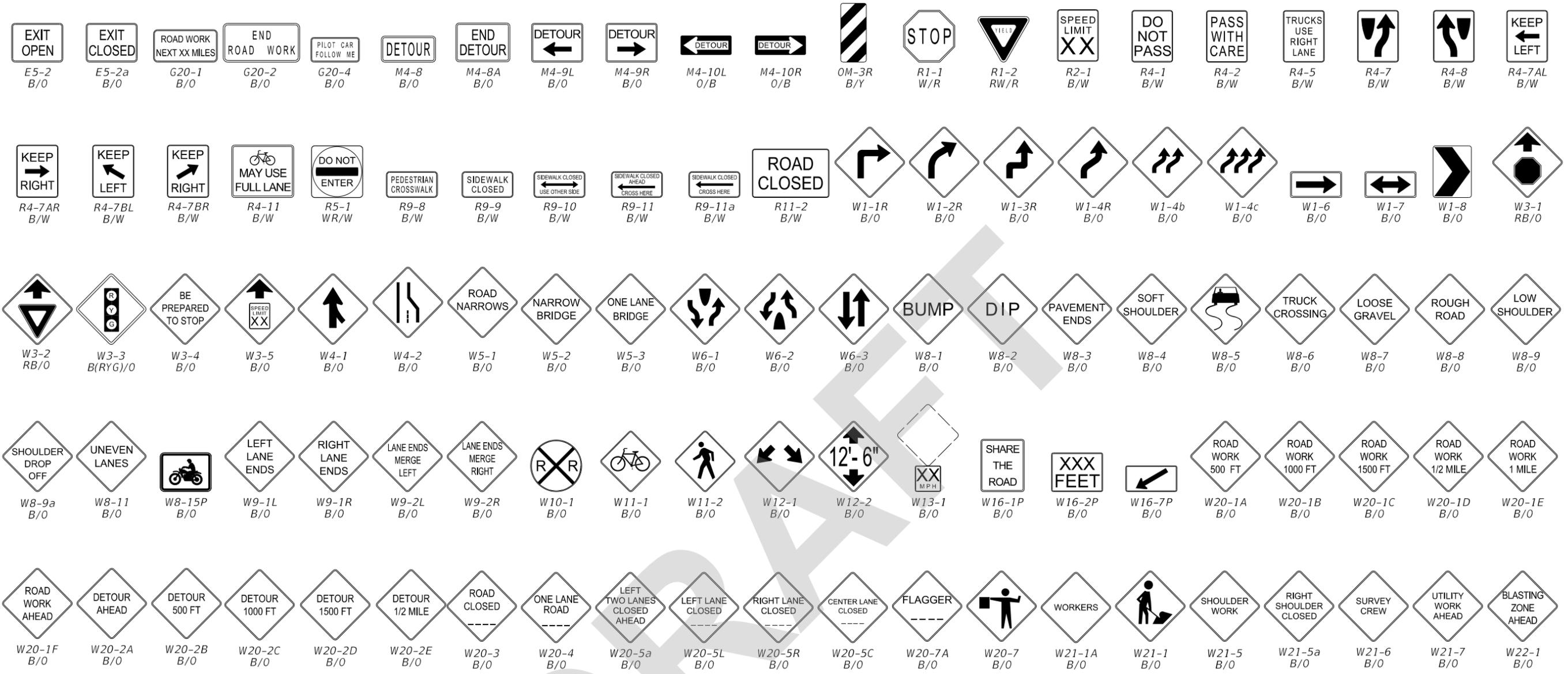
(SCHEMATIC) SECTION A-A (WITHOUT Z-BRACKET)

TABLE 7
POST AND FOUNDATION
TABLE FOR
WORK ZONE SIGNS

SIGN SHAPE	SIGN SIZE (Inches)	NUMBER OF STEEL U CHANNEL POSTS
Octagon	30x30	1
	36x36x36	1
Triangle	48x48x48	1
	60x60x60	2
	24x18	1
Rectangle (W x H)	24x30	1
	30x24	1
	36x18	1
	36x24	1
	48x18	1
	48x24	1
	36x48	2
	48x30	2
	48x36	2
	54x36	2
Square	48x60	3
	72x48	3
	30x30	1
Diamond	36x36	2
	48x48	2
Circle	36Ø	2

- Notes For Table:**
- Use 3 lb/ft posts for Clear Height up to 10' and 4 lb/ft posts for Clear Height up to 12'.
 - Minimum foundation depth is 4.0' for 3 lb/ft posts and 4.5' for 4 lb/ft posts.
 - For both 3 lb/ft and 4 lb/ft base or sign posts installed in rock, a minimum cumulative depth of 2' of rock layer is required.
 - The soil plate as shown on the APL vendor drawing is not required for base posts or sign posts installed in existing rock (as defined in Note 3), asphalt roadway, shoulder pavement or soil under sidewalk.
 - For diamond warning signs with supplement plaque (up to 5 ft² in area), use 4 lb/ft posts for up to 10 ft Clear Height (measure to the bottom of diamond warning sign).

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NOTES:

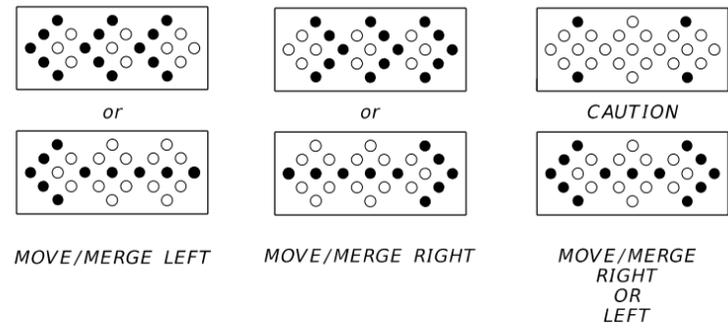
1. The size of diamond shaped Temporary Traffic Control (TTC) warning signs shall be a minimum of 48" X 48".
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- The sign codes shown on this sheet are for the purpose of identifying cell names found in the Traffic Control Cell Library (TCZ.Cel).
- The STANDARD HIGHWAY SIGNS MANUAL should be referenced for the official sign codes for use in the development of traffic control plans.
- See Index 700-102 for MOT sign details.

COLOR CODES:
 Legend and/or Symbol Background
 R-Red (Reflectorized)
 Y-Yellow (Reflectorized)
 G-Green (Reflectorized)
 O-Orange (Reflectorized)
 B-Black (Non-Reflectorized)
 W-White (Reflectorized)

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COMMONLY USED WARNING AND REGULATORY SIGNS IN WORK ZONES

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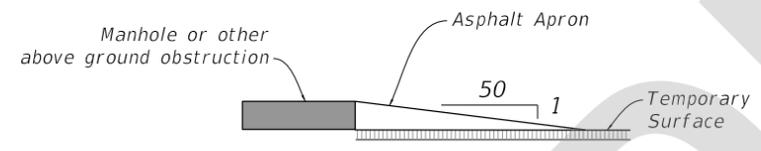


● Minimum Required Lamps
○ Additional Lamps Allowed

MODES

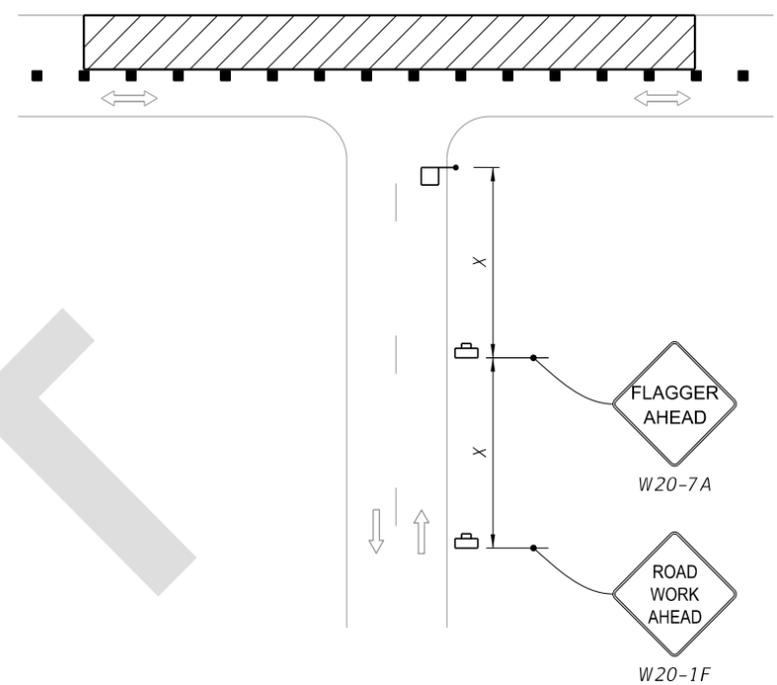
NOTES:
 An arrow board in the arrow or chevron mode shall be used only for stationary or moving lane closures on multilane roadways.
 For shoulder work, blocking the shoulder, for roadside work near the shoulder, or for temporarily closing one lane on a two-lane, two-way roadway, an arrow board shall be used only in the caution mode.
 A single arrow board shall not be used to merge traffic laterally more than one lane. When arrow boards are used to close multiple lanes, a single board shall be used at the merging taper for each closed lane.
 When Advance Warning Arrow Boards are used at night, the intensity of the flashers shall be reduced during darkness when lower intensities are desirable.

ADVANCE WARNING ARROW BOARDS



NOTES:
 Manholes extending 1" or more above the travel lane and crosswalks having an uneven surface greater than 1/4" shall have a temporary asphalt apron constructed as shown in the diagram below.
 All transverse joints that have a difference in elevation of 1" or more shall have a temporary asphalt apron constructed as shown in the diagram below.
 The apron is to be removed prior to constructing the next lift of asphalt. The cost of the temporary asphalt shall be included in the contract unit price for Maintenance of Traffic, LS.

MANHOLES/CROSSWALKS/JOINTS



NOTE:
 Optionally, use "Flagger Ahead" sign with text (W20-7A) instead of "Flagger Ahead" sign with symbol (W20-7).

SIDE ROAD INTERSECTING THE WORK ZONE

SIGNALS:
 Existing traffic signal operations that require modification in order to carry out work zone traffic control shall be included in the Plans and be approved by the District Traffic Operations Engineer.
 Refer to Specification 102-9 for additional information.

CHANNELIZING DEVICES:
 Channelizing devices for work zone traffic control shall be as prescribed in Part VI of the MUTCD, subject to supplemental revisions provided in the contract documents and the 102 Series of Indexes. Lighting Devices must not be used to supplement channelization.

CHANNELIZING DEVICE CONSISTENCY:
 Barricades, vertical panels, cones, tubular markers and drums shall not be intermixed within either the lateral transition or within the tangent alignment.

TRUCK/TRAILER-MOUNTED ATTENUATORS:
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LAST REVISION 11/01/21	REVISION	DESCRIPTION:		FY 2022-23 STANDARD PLANS	GENERAL INFORMATION FOR TRAFFIC CONTROL THROUGH WORK ZONES	INDEX 102-600	SHEET 7 of 11
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