

TYPICAL WORK ZONE COMPONENTS

Minimum advance warning sign spacing (in feet):

| SPEED (MPH) * | A | B | C |
|--------------------------|------|------|------|
| URBAN (40 MPH OR LOWER) | 100 | 100 | 100 |
| URBAN (45 MPH OR HIGHER) | 350 | 350 | 350 |
| RURAL (55 MPH OR LOWER) | 500 | 500 | 500 |
| RURAL (60 MPH OR HIGHER) | 750 | 750 | 750 |
| EXPRESSWAY/FREEWAY | 1000 | 1500 | 2640 |

Posted speed prior to work starting
The minimum spacing between signs shall be no less than 100', unless directed by the engineer.
The spacing between any signs may be increased beyond the minimum values in the table above as approved by the engineer in order to maximize visibility.

* When concrete barrier system is used, portable channelizing devices are not needed along the tangent barrier section.

Taper Formulas:

$L = WS^2$ for speeds of 45 MPH or more

$L = WS / 60$ for speeds of 40 MPH or less

Where: L = Minimum length of taper in feet
S = Numerical value of posted speed prior to work starting in MPH
W = Width in offset feet

Shifting taper = 1/2 L
Shoulder taper = 1/3 L
Channelizer placement:

- 1) Design Speed: Those items delegated to temporary traffic control should be designed and installed using the posted/legal speed of the roadway prior to work starting.
- 2) Minimum lane width: Lane widths shall be a minimum of 11' (measured between centerlines of pavement markings) or as shown on the plans, or as directed by the engineer. A lane width less than 11' may require restricted roadway width signing.
- 3) Consideration should be made to separate pedestrian and, if needed, bicycle movements from both work site activity and vehicular traffic. Unless a reasonable safe route that does not involve crossing the roadway can be provided, pedestrians should be appropriately directed with advance signing that encourages them to cross to the opposite side of the roadway. In urban and suburban areas with high vehicular traffic volumes, these signs should be placed at intersections (rather than midblock locations) so that pedestrians are not confronted with midblock work sites that will induce them to attempt skirting the work site or making a midblock crossing.
- 4) When existing pedestrian facilities are disrupted, closed, or relocated, the temporary facilities shall be detectable and include accessibility features consistent with the features present in the existing pedestrian facility.
- 5) When the driving surface open to traffic is milled, is a temporary surface made of loose material, or when directed by the engineer use the W8-15 (Grooved Pavement) or W8-7 (Loose Gravel) a "C" distance after the W20-1 (Road Work Ahead) on mainline approaches. Signs may be used with the W8-15p motorcycle plaque as directed by the engineer. Display signs in advance of the condition as long as the condition is present.
- 6) Alternative temporary rumble strip options may be available. Please contact the Temporary Traffic Control Unit for more information at 785-296-0355 or 785-296-1183.

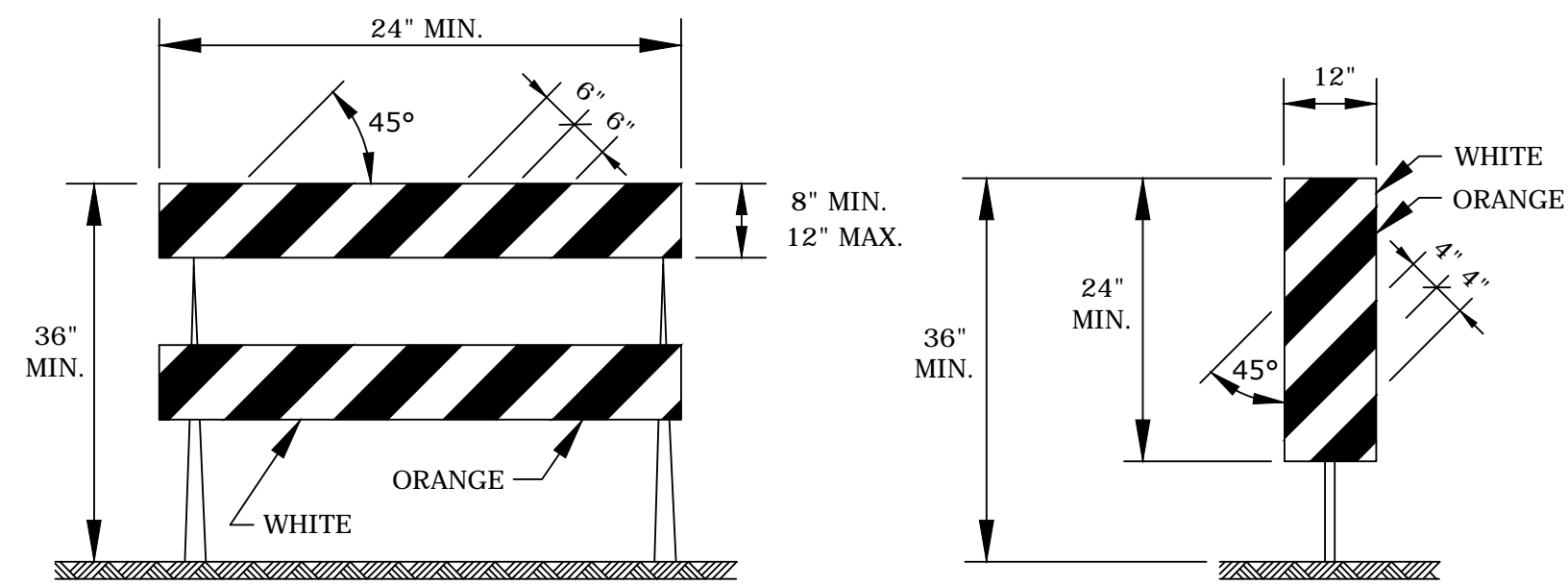
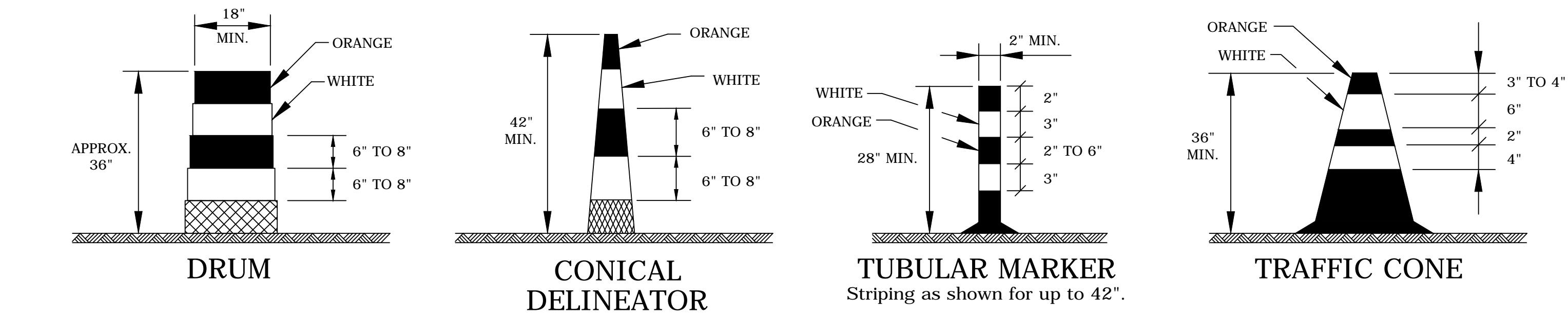
Buffer Space

| | 20 | 25 | 30 | 35 | 40 | 45 | 50 | 55 | 60 | 65 | 70 |
|--|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| | 115 | 155 | 200 | 250 | 305 | 360 | 425 | 495 | 570 | 645 | 730 |

Posted speed prior to work starting

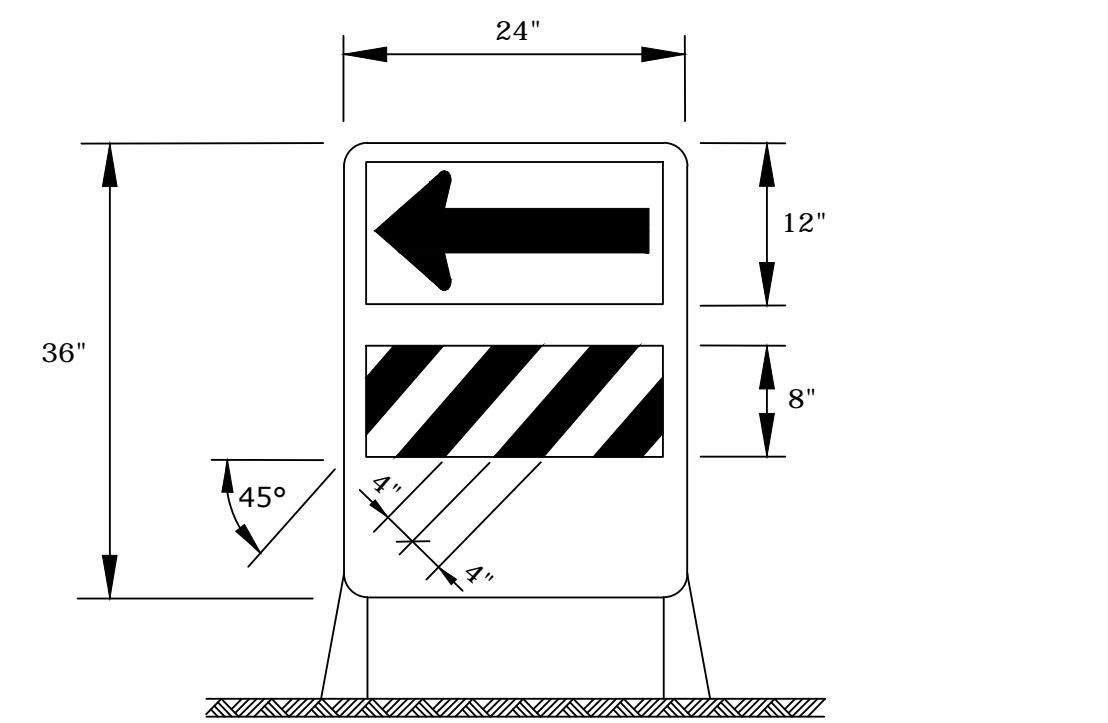
Neither work activity nor storage of equipment, vehicles, or material should occur in the buffer space. When a protection vehicle is placed in advance of the work space, only the space upstream of the vehicle constitutes the buffer space.

If temporary concrete safety barrier system is used to separate approaching traffic from the work space, the barrier system shall be considered part of the activity area. A full lane width should be available throughout the length of the buffer space. See typical work zone components above.



TYPE 2 BARRICADE
For rails less than 36" long, 4" wide stripes may be used. All stripes shall slope downward to the traffic side for channelization.

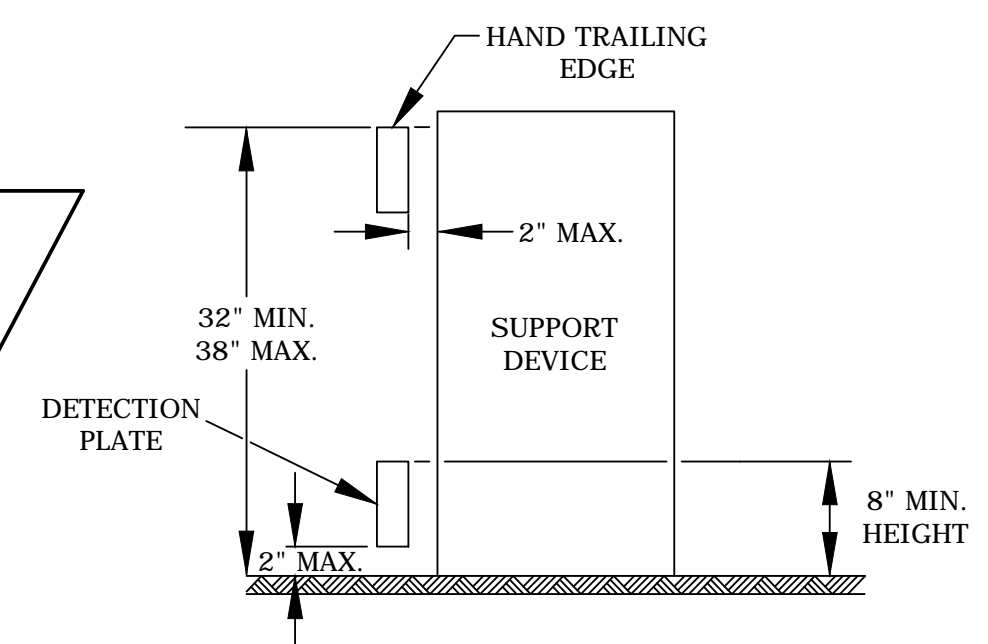
VERTICAL PANEL
The stripes shall slope downward to the traffic side for channelization.



DIRECTION INDICATOR BARRICADE
The stripes shall slope downward in the direction traffic is to pass. The direction indicator barricade shall be used in series to direct the motorist into the intended lane of travel.

| ITEM | LOCATION | LOCATION | | | | | | | | | |
|----------|-------------------------------|-------------|-------------------|----------|--------|-------|--------------|-------------------|-----------------|-------|--|
| | | Cross-overs | Shoofly Divisions | Tangents | Tapers | Ramps | Head to Head | Object Identifier | Lead-in Devices | Gores | |
| PORTABLE | Drums | Yes | Yes | Yes | Yes | Yes | (1) | Yes | Yes | Yes | |
| | Conical Delineators | Yes | Yes | Yes | Yes | Yes | (1) | Yes | Yes | Yes | |
| | Vertical Panels | (2) | (2) | (2) | (2) | (2) | (1,2) | YES | (2) | (2) | |
| | Direction Indicator Barricade | NO | NO | NO | Yes | NO | NO | NO | NO | NO | |
| | Type 2 Barricade | (2) | (2) | (2) | (2) | NO | NO | Yes | NO | NO | |
| FIXED | Traffic Cones | NO | NO | (4) | (4) | (4) | NO | (4) | (4) | (4) | |
| | Tubular Markers | (3) | (3) | (3) | NO | (3) | Yes | NO | Yes | Yes | |
| | Vertical Panels | (3) | (3) | (3) | (3) | (3) | (3) | Yes | (2,3) | (2) | |

- 1) Not allowed on centerline delineation along freeways or expressways.
- 2) The stripes shall slope downward to the traffic side for channelization.
- 3) May be used upon the approval of the engineer.
- 4) Daytime operations only.



PEDESTRIAN CHANNELIZER

1. Support device shall not project beyond the detection plate into the pathway.
2. Hand trailing edges and detection plates are optional for continuous walls.
3. Interconnect pedestrian channelizers to prevent displacement and to provide continuous guidance through or around work.
4. Alternate pathways shall be firm, stable, and slip resistant.
5. Treat height differentials > 1/2" in the surfaces of alternate paths with a firm, stable, and slip resistant temporary ramp having a slope of 12:1 or flatter and having a width equal to the alternate path.
6. Use alternating orange/white on interconnected devices.

PROJ. NO. F16D0205
DESIGNER KDB DRAWN BY NMP
CFN 0205DET
SHEET 35 OF 36
REV 0

DATE 6-7-17
REV 0

DESCRIPTION DSN DWN CHK

06-07-17
16978
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CENTRAL AND NIMS SIGNALIZATION
PROJECT NUMBER 472-85280
WICHITA, KANSAS

TRAFFIC CONTROL DETAILS