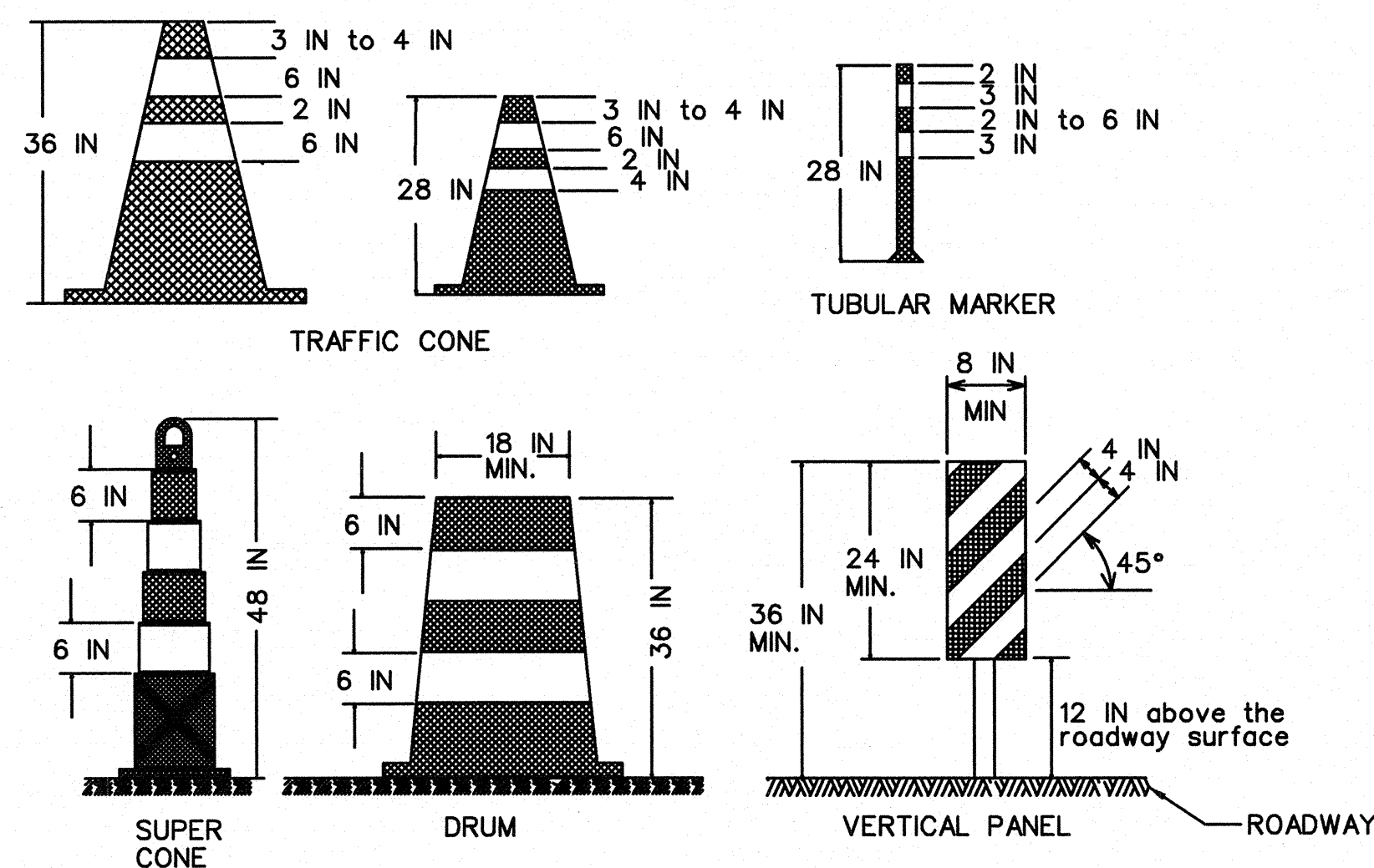


CHANNELIZING DEVICES

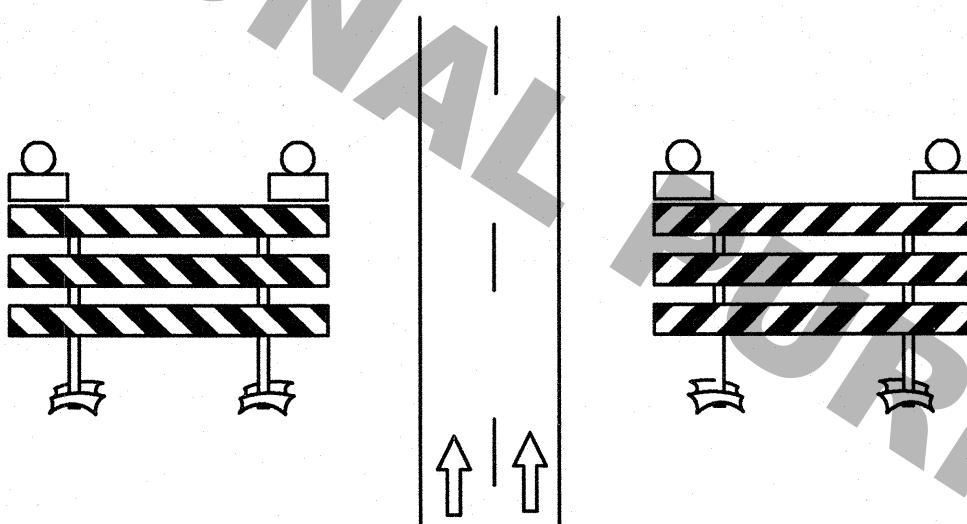
- The following devices may be used as channelizing devices: Tubular Markers, Vertical Panels, Cones, Drums, and Super Cones.
- 28 inch traffic cones are not allowed on:
 - Interstates
 - Highways with speeds greater than 40 mph.
- During nighttime operations 28 inch and 36 inch cones are not allowed.
- Retroreflective material pattern used on super cones shall match that used on drums.
- Tangent Areas:**
 - Standard Spacing:** See Standard Device Spacing and Buffer Space table.
 - Daylight Operations:** Drums and super cones are spaced at standard spacing. All other devices are at 1/2 standard spacing.
 - Nighttime Operations:** Drums and supercones at standard spacing are the only devices allowed.
- Taper Areas:**
 - Standard Spacing:** See Standard Device Spacing and Buffer Space table.
 - Daylight Operations:** Drums are spaced at standard spacing. All other devices are 1/2 standard spacing.
 - Nighttime Operations:** Drums (at standard spacing) are the only devices allowed.
- Type C steady burn lights shall be used on all channelizing devices in the taper as well as the first two devices in the tangent at night, (see the QPL).
- Typical channelizing device lateral placement (do not include when it is used as a divider for opposing directions of traffic) shall be 2 feet off the lane line in the closed lane or shoulder.
- Devices may be adjusted laterally to accommodate ongoing work in the immediate vicinity but must be returned to the closed lane after the work activity has moved.
- Channelizing devices on the lane line shall be of the same type.
- Channelizing devices in each taper shall be of the same type.



ALL TTC STANDARDS SHOW MINIMUM CONSTRUCTION SIGNING.
ALL SITUATIONS SHALL BE REVIEWED AND/OR DESIGNED BY THE ENGINEER.
CONTRACTORS ARE RESPONSIBLE FOR COMPLYING WITH ALL TTC STANDARDS.

TYPE III BARRICADES

- Only Type III barricades shall be used.
- All barricades shall use Type 3 High Intensity Sheeting on both sides of the barricade.
- All barricades shall be a minimum of 8 feet in length and must meet NCHRP Report 350 or MASH requirements.
- When used for overnight closures, two Type B High Intensity lights shall supplement all barricades that are placed in a closed lane or that extend across a highway. Two Type A Low Intensity lights may be used in urban areas if approved by the Engineer (see QPL).
- When signs and lights are to be mounted to a barricade, they must meet NCHRP Report 350 or MASH requirements.
- A truck with a TMA may be substituted for a barricade when workers are present.
- Barricades shall be placed:
 - at the beginning of a closed lane or shoulder and at 1,000 foot intervals where no active work is ongoing and the lane must remain closed. A minimum of 2 barricades shall be placed if the lane or shoulder closure is less than 2,000 feet. (One barricade shall be placed at the beginning of the lane closure after the buffer space and one shall be placed in the middle of the lane closure.)
 - before each or group of unfilled holes or holes filled with temporary material.
 - before uncured concrete.
 - in the closed lane on each side of every intersection and crossover. (Do not block sight distance.)
 - in front of piles of material (dirt, aggregate, broken concrete), culverts, and equipment which is near the work zone.



TTC for DROP-OFFS

NON-INTERSTATE

Average Drop-off	> 45 MPH	≤ 45 MPH
≤ 3 IN	Low Shoulder Sign (Optional)	Low Shoulder Sign (Optional)
> 3 IN	Shoulder Drop Off Sign & Edge Lines or Shoulder Drop Off Sign & Channelizing Device	Shoulder Drop Off Sign
> 6 IN	No Shoulder Sign, Edge Lines & Vertical Panel	No Shoulder Sign & Channelizing Device
> 10 IN	Concrete Barrier & Edge Lines	No Shoulder Sign & Vertical Panel

INTERSTATE

Average Drop-off	Requirement
≤ 2 IN	Low Shoulder Sign (Optional)
> 2 IN	Shoulder Drop Off Sign & Edge Lines or Shoulder Drop Off Sign & Channelizing Device
> 6 IN	Shoulder Drop Off Sign, Concrete Barrier & Edge Lines

- If a portable concrete barrier will be required then the deflection shall be considered in the design.
- For Interstate ramps, refer to non-Interstate drop offs.

STANDARD DEVICE SPACING AND BUFFER SPACE

SPEED LIMIT (prior to construction) MPH	MERGING TAPER LENGTH (L) Lane Width (FT)				STANDARD DEVICE SPACING IN FEET		BUFFER SPACE FT
	9	10	11	12	Along Taper	Along Tangent	
25	94	105	115	125	20	40	155
30	135	150	165	180	40	80	200
35	184	205	225	245	40	80	250
40	240	267	294	320	40	80	305
45	405	450	495	540	40	80	360
50	450	500	550	600	40	80	425
55	495	550	605	660	40	80	495
60	540	600	660	720	40	80	570
65	585	650	715	780	40	80	645
70	630	700	770	840	40	80	730

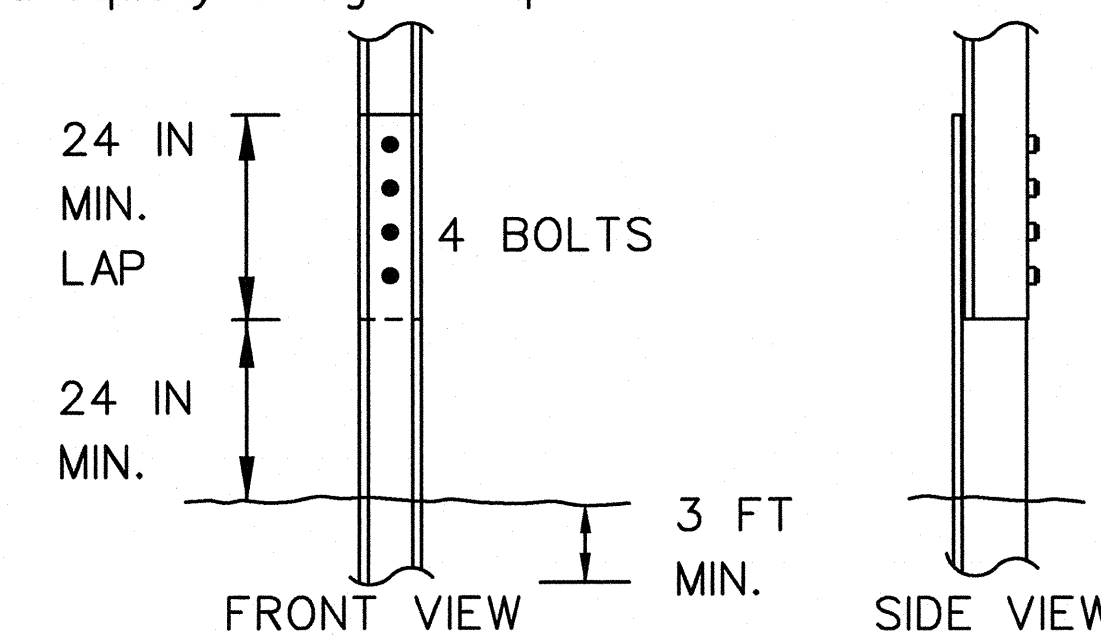
SPEED LIMIT (prior to construction) MPH	SHIFTING TAPER LENGTH (1/2)(L) Lane Width (FT)				STANDARD DEVICE SPACING IN FEET		BUFFER SPACE FT
	9	10	11	12	Along Taper	Along Tangent	
25	47	53	58	63	20	40	155
30	68	75	83	90	40	80	200
35	92	103	113	123	40	80	250
40	120	134	147	160	40	80	305
45	203	225	248	270	40	80	360
50	225	250	275	300	40	80	425
55	248	275	303	330	40	80	495
60	270	300	330	360	40	80	570
65	293	325	358	390	40	80	645
70	315	350	385	420	40	80	730

SPEED LIMIT (prior to construction) MPH	SHOULDER TAPER LENGTH (1/3)(L) Lane Width (FT)				STANDARD DEVICE SPACING IN FEET		BUFFER SPACE FT
	9	10	11	12	Along Taper	Along Tangent	
25	32	35	39	42	20	40	155
30	45	50	55	60	40	80	200
35	62	69	75	82	40	80	250
40	80	89	98	107	40	80	305
45	135	150	165	180	40	80	360
50	150	167	184	200	40	80	425
55	165	184	202	220	40	80	495
60	180	200	220	240	40	80	570
65	195	217	239	260	40	80	645
70	210	234	257	280	40	80	730

- All termination and flagger tapers are 100 feet per lane. (MIN. 6 channelizing devices per lane equally spaced 20 feet apart.)
- See TTC Standards for flagger taper.
- See MUTCD for taper formulas.

ALLOWABLE LAP SPLICE FOR U-CHANNEL POST

- U-Channel posts may be spliced where long lengths are required. The upper section shall overlap the lower section by at least 24 inches. The bottom edge of the upper section of the splice shall be a minimum of 24 inches above the ground. The spliced sections shall be secured with at least four 5/16 inch diameter hex bolts spaced equally along the splice.



SHEET NUMBER: []

DESIGNED BY: J. COLVIN
CHECKED BY: P. ALLAIN

PARISH: []
FEDERAL PROJECT: []
STATE PROJECT: []

DATE: 02/13/2013

REVISION DESCRIPTION: []
BY: []
DATE: 3/11/13

APPROVED BY: []
DATE: []
SHEET: []

TRAFFIC ENGINEERING

TTC-00 (C)