

GENERAL NOTES

- Additional details may be provided in the plans concerning sign size, type of channelizing devices, sequence of work details, and required measures needed to control traffic during changes in the sequence of work.
- All traffic control devices shall conform with the Texas "Manual on Uniform Traffic Control Devices for Streets and Highways" (TMUTCD), and shall be maintained as directed by the Engineer. Additional guidelines for traffic control devices may be found in the TMUTCD.
- All distance and spacing shown on the TCP Standards are approximate.
- All traffic control devices used during nighttime shall be reflectorized, illuminated from within or externally illuminated.
- Additional information for fabrication, erection and usage of the following traffic control devices is found in the (TMUTCD) and Barricade and Construction (BC) Standards:

BARRICADES	BC(2) and BC(3)
CONES	BC(6)
BARRIER DELINEATION	WZ(8D)
DRUMS	BC(5)
PAVEMENT MARKINGS	BC(5), BC(7) and BC(8)
SIGNS	WZ(STPM) or TCP(7-1) if applicable BC(1), BC(2), BC(3), BC(4), BC(9), BC(9A), BC(9B) and BC(9C)
- Work area operations are defined as follows:
 Long-term stationary - Work that occupies a location more than 3 days.
 Intermediate-term stationary - Work that occupies a location overnight to 3 days.
 Short-term stationary - Daytime work that occupies a location from 1 to 12 hours.
 Short Duration - Work that occupies a location up to 1 hour.
 Mobile - Work that moves intermittently or continuously.

SIGNS

- Selection of sign size should be based on Table 1.
- Flashing warning lights, channelizing devices and/or flags may be required to call attention to the advance warning signs.
- The words UTILITY, SIGNAL, BRIDGE, LIGHTING, SIGN, STREET or RAMP may be substituted for ROAD in all signs where applicable.
- Advisory speed plaques, if used in conjunction with warning signs, speeds shall be determined in the field by the Engineer.
- Regulatory signs shall be mounted at 7 foot minimum mounting height.
- Warning signs may be mounted on the approved types of supports at the minimum mounting heights as stated on BC(4).

CHANNELIZING DEVICES

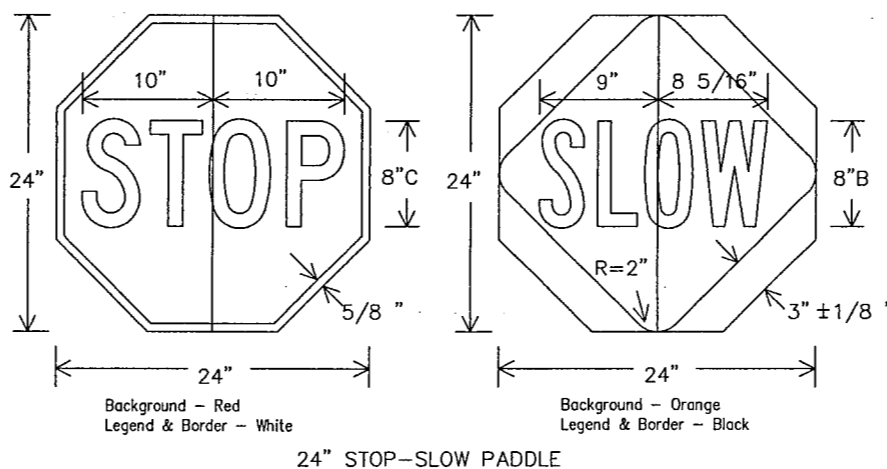
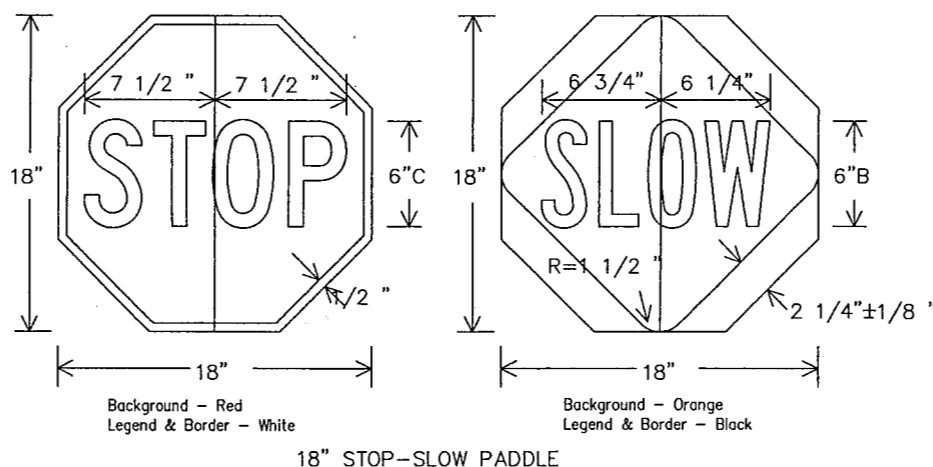
- The maximum spacing between channelizing devices in a taper should be approximately equal in feet to the speed limit (S).
- For intermediate term situations, when it is not feasible to remove and restore pavement markings, the channelization must be made dominant by using a very close spacing. This is especially important in locations of conflicting information, such as where traffic is directed over a double yellow centerline. In such locations a maximum channelizing device spacing of 10 feet is recommended. The 10 foot channelizing device spacing recommendation is intended for the area of conflicting information and not the entire work zone.
- Channelizing device spacing should be reduced when placed on curves, hills or next to potential hazards. At least three channelizing devices should be in view at all times.
- MERGING taper (lane closure with merging traffic) $=L$
 SHIFTING taper (traffic diverted to adjacent lane) $=1/2 L$
 SHOULDER taper (shoulder closed to traffic) $=1/3 L$
- DOWNSTREAM taper usage is optional. When used it should be 100 foot minimum length per lane. Devices should be spaced at approximately 20 foot intervals.
- ONE LANE, TWO-WAY taper is intended for a portion of the road controlled by STOP, YIELD traffic signals or flagger and used alternately by traffic in each direction. It should be 50-100 foot length with devices spaced at approximately 20 foot intervals.
- Arrow panels used on two-way, two-lane roadways should flash in the four corner CAUTION display.

WORKER SAFETY

- Workers exposed to traffic should wear orange safety vests.
- Work vehicles within 30 feet of the traveled way should have strobe lights or rotating beacons in use.
- When work vehicles are used to shadow the work area, the vehicle should be parked 30 feet or more from the work area, transmission in gear (or set in PARK), emergency brake set on, and front wheels turned away from work area. Shadow vehicles shall be equipped with truck mounted attenuators.
- Inactive work vehicles, including workers' private vehicles, should be parked away from the work area and as close to the right-of-way line as possible.

FLAGGER CONTROL

- Flagger shall wear orange safety vests. Flaggers should wear safety hats to provide a professional image to the motorist and to protect the head from flying objects.
- STOP/SLOW paddles shall be used as the primary method to control traffic by flaggers. The STOP/SLOW paddle minimum size is 18" x 18". Paddles may be attached to a 60 inch staff for easier handling. The larger size (24" x 24") should be attached to a 60 inch staff.
- The 24" paddle should be used when the posted speed is 45 MPH or greater.
- Flags are only used to control traffic for emergency situations and the STOP/SLOW paddles are not available. Flags shall be 24" square and securely fastened to a staff approximately 3 feet long.
- Flaggers may carry hand held air horns to alert workers of an emergency condition.
- For one lane two-way traffic control, one or more flaggers should be used where traffic density, road conditions or motorists' sight distance justify their use. If flaggers are used, the taper should be reduced to 50-100 feet. When flaggers are used to control traffic, the FLAGGER symbol sign (FCW20-7a) shall be used. When flaggers are used, the BE PREPARED TO STOP sign (CW20-7b) should be used. Proper spacing between signs should be maintained.
- When flaggers are used to draw attention to traffic control devices, the FLAGGER symbol sign should be used. Proper spacing should be maintained.
- When more than one flagger is used, a chief flagger should be assigned the responsibility of making decisions concerning traffic control.
- The contractor has the option to use a flashing Stop/Slow Paddle conforming to Departmental Materials Specification D-9-8620.



Only pre-qualified products shall be used. A list of compliant products and their sources may be obtained by writing or faxing:

Standards Engineer
 Traffic Operations Division - TE
 Texas Department of Transportation
 125 East 11th Street
 Austin, Texas 78701-2483
 Phone (512) 416-3335
 Fax (512) 416-3161
 E-mail TRF-STANDARD@mailgw.dot.state.tx.us

Table 1
TYPICAL CONSTRUCTION WARNING SIGN SIZE AND SPACING 1,5,6

Roadway Classification	Posted Speed	Sign Spacing "X"	Long-term Stationary Or Intermediate-term Stationary Approach Warning Signs CW20 Series And CW22-1 Sign		Short-term Stationary Or Short Duration Approach Warning Signs CW21 Series		Other Warning Signs
			Standard Inches	Minimum Inches ⁴	Standard Inches ⁷	Minimum Inches ⁴	
Conven.	30	120	48X48	36X36 ↓ Use Standard Size	30X30 or 36x36 ↓ 48x48	24X24 or 30x30 ↓ Use Standard Size	30X30 or 36x36 ↓ 48x48
	35	160					
	40	240					
	45	320					
	50	400					
	55	500 ²					
	60	600 ²					
65	700 ²						
70	800 ²						
Exp or Frwy	*	*			**	**	**

* For typical sign spacings on expressways and freeways, see TMUTCD typical application diagrams or TCP Standard Sheets.
 ▲ Minimum distance from work area to 1st Advance Warning sign and/or distance between each additional sign.
 ** Smaller sign sizes may be used where sign designs have not been included in the "Standard Highway Sign Design for Texas" manual.

General Notes:

- Special or larger size signs may be used as may be necessary.
- Distance between signs should be increased as required to have 1500' advance warning.
- Distance between signs should be increased as required to have 1/2 mile or more advance warning.
- For use only on secondary roads or city streets where speeds are low.
- Only diamond shaped warning sign sizes are indicated.
- See sign size listing in TMUTCD, Appendix A for complete list of all available sign design sizes.
- Where two sizes are listed, see sign size listing in TMUTCD, Appendix A for proper size.

DISCLAIMER
 The use of this standard is governed by the "Texas Engineering Practice Act". No warranty of any kind is made by TxDOT for any purpose whatsoever. TxDOT assumes no responsibility for the conversion of this standard to other formats or for incorrect results or damages resulting from its use.

DN:	15
CK:	14
DW:	13
CK:	12

DATE:	11/15/16
ACC:	14
FILE:	13

STANDARD PLANS
 TEXAS DEPARTMENT OF TRANSPORTATION
Traffic Operations Division

TRAFFIC CONTROL PLAN

TCP NOTES-98

REVISED	STATE	FEDERAL	DATE	BY	NO.
8-95	DALLAS	6	CM 97 (449)		79
1-97					
4-98					