Qualified Flagger Reference Guide

Public Works Institute
EXTENSION AND EXTENDED CAMPUS

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INTRODUCTION

A flagger has one of the most important jobs on a work crew. Not only are they responsible for their own safety, their actions directly affect the safety of the work crew and the traveling public. This publication is intended to increase the safety of flaggers by providing information to help them understand the minimum legal requirements for flagging traffic on a public roadway in Texas.

TxDOT REQUIREMENTS

The following requirements can be found in TxDOT's Standard Specifications for Construction and Maintenance of Highways, Streets, and Bridges manual. (Adopted Sept. 01, 2024)

Item 7: Legal Relations and Responsibilities, Section 2.6.2 Flaggers:

- Designate a flagger instructor who will serve as a flagging supervisor **And** is responsible for training and assuring that all flaggers are qualified to perform flagging duties
- Provide a list of flaggers certified to perform flagging duties
- Provide flaggers as directed
- Flaggers must be courteous and able to effectively communicate with the public
- When directing traffic, flaggers must
  - dress appropriately
  - wear high-visibility safety apparel
  - use flags, signs, stop-slow paddles
  - follow flagging procedures in the **TMUTCD**
- Comply with the requirements of Section 7.2.6.5., "Training."

LEGAL AUTHORITY

"The TMUTCD shall be recognized as the Texas standard for all traffic control devices installed on any street, highway, bikeway, or private road open to public travel."

The TMUTCD is published and maintained by the Texas Department of Transportation and available on TxDOT's web site at: www.txdot.gov

DEFINITIONS OF HEADINGS IN TMUTCD

Standard: required, mandatory, or specifically prohibitive - the verb "shall" is typically used

Guidance: recommended, but not mandatory - the verb "should" is typically used

Option: a permissive condition, carries no requirement or recommendation - the verb "may" is typically used

Support: informational, does not convey any degree of mandate, recommendation, authorization, prohibition, or enforceable condition

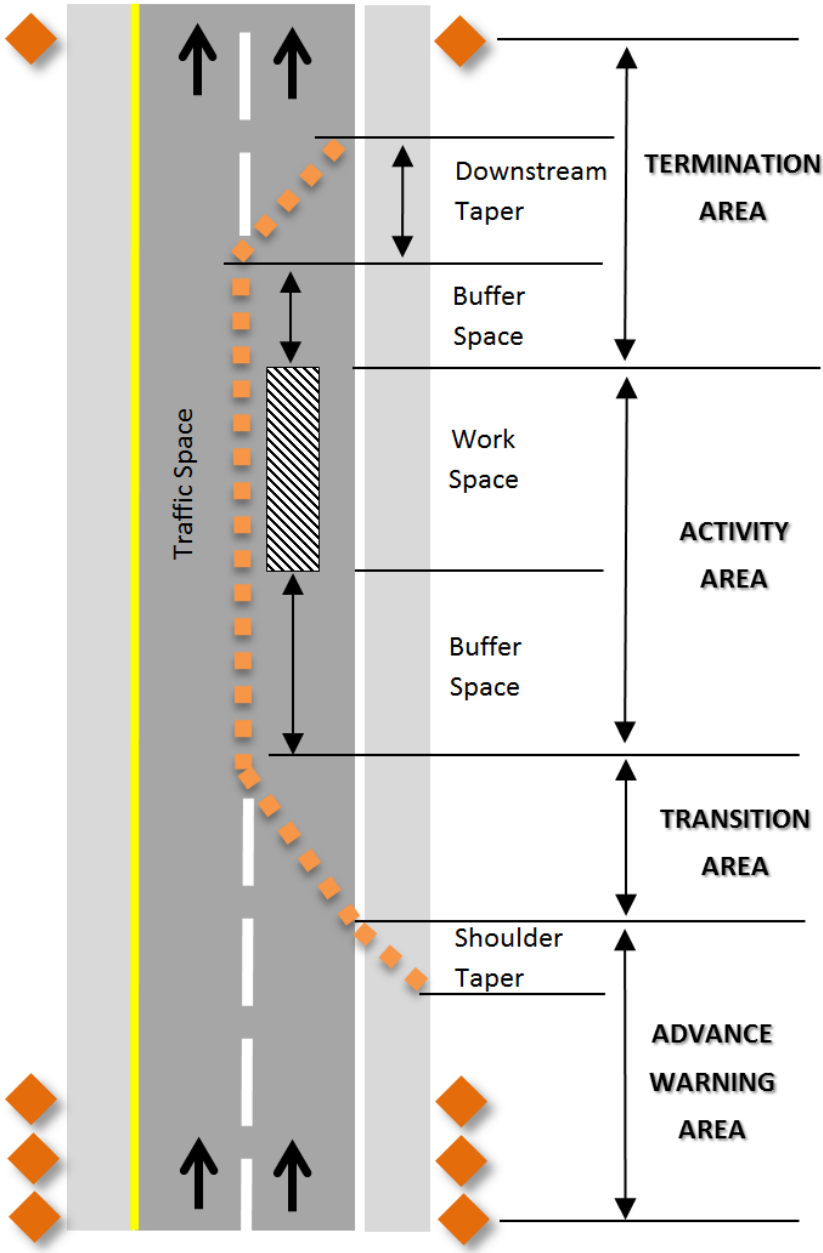
TEMPORARY TRAFFIC CONTROL

- shall be an essential part of work
- provides continuity of movement
- provides reasonably safe and effective movement through TTC zones
- reasonably protects road users, workers, responders, and equipment

Principles:

- Inhibit movement as little as practical
- Guide motorist in a clear and positive manner
- Place all signs before opening temporary route
- Remove all devices as soon as possible
- Cover or remove devices that are no longer appropriate

COMPONENT OF A TEMPORARY TRAFFIC CONTROL ZONE



TAPERS

Table 6B-3: Taper Length Criteria

Type of Taper	Taper Length
Merging Taper	at least L
Shifting Taper	at least 0.5 L (½ L)
Shoulder Taper	at least 0.33 L (⅓ L)
One-Lane, Two Way Traffic Taper	50 ft. minimum, 100 ft. maximum
Downstream Taper	100 ft. TxDOT Standards require at least 100 ft. per lane for downstream tapers. Consult applicable standard.

Table 6B-4A: Merging Taper Length and Spacing of Channelizing Devices

	Minimum Desirable Taper Lengths			Suggested Maximum Spacing of Devices	
Speed	10′ Offset	11′ Offset	12′ Offset	Taper	Tangent
30	150′	165′	180′	30′	60′
35	205′	225′	245′	35′	70′
40	265′	295′	320′	40′	80′
45	450′	495′	540′	45′	90′
50	500′	550′	600′	50′	100′
55	550′	605′	660′	55′	110′
60	600′	660′	720′	60′	120′
65	650′	715′	780′	65′	130′
70	700′	770′	840′	70′	140′
75	750′	825′	900′	75′	150′
80	800′	880′	960′	80′	160′

Table 6B-1A. (TX) Suggested Advance Warning Sign Spacing

Road Classification	Posted Speed (MPH)	Sign Spacing "X" (Feet)
Conventional Highway	25	100
	30	120
	35	160
	40	240
	45	320
	50	400
	55*	500
	60*	600
	65*	700
	70*	800
	75*	900
	80*	1000
	85*	1100
Expressway or Freeway	All Speeds	See Typical Applications (Chapter 6P) **

*Distance between signs should be increased to have 1500 feet advance warning (See Section 6B.04.07).

**Distance between signs should be increased to have 1/2 mile or more advance warning (See Section 6B.04.04).

Table 6B-2A. (TX) Longitudinal Buffer Space

Speed* (mph)	Length (Feet)
20	40
25	60
30	90
35	120
40	155
45	195
50	240
55	295
60	350
65	410
70	475
75	540
80	615
85	695

* Posted speed based upon "A Policy on Geometric Design of Highways and Streets," 2018 Edition, AASHTO braking distance portion of stopping sight distance for wet and level pavements. This AASHTO document also recommends adjustments for the effect of grade on stopping and variation for trucks.

ONE-LANE, TWO-WAY TRAFFIC CONTROL

SELF-REGULATING: if work space is on a low-volume road, is short, and users from both directions can see approaching traffic *through and beyond the worksite*

FLAGGER:

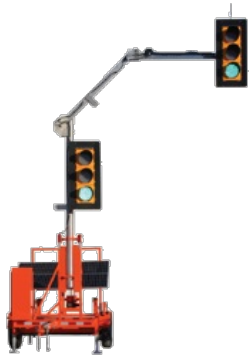
- one flagger at each end
- one should be the coordinator
- must be able to communicate with each other
- *single flagger may be used when work zone is short enough to see from one end to the other*
  - should be stationed on the shoulder opposite the work space

PILOT CAR:

- should have name of contractor prominently displayed
- PILOT CAR FOLLOW ME sign shall be on rear of vehicle
- flaggers are still required

TEMPORARY TRAFFIC CONTROL SIGNALS:

- most often used on long-term stationary projects
- reference TA-12 and TCP (2-8b)



FLAGGER QUALIFICATIONS

Flaggers should be able to satisfactorily demonstrate the following abilities:

A. Receive and communicate specific instructions clearly, firmly, and courteously
B. Move and maneuver quickly
C. Control signaling devices
D. Understand and apply safe traffic control practices, sometimes in stressful or emergency situations
E. Recognize dangerous traffic situations and warn workers in sufficient time to avoid injury

Tips to help you communicate effectively:

- Keep conversations brief and official
- Be courteous: please, thank you, sir, ma'am
- Use proper hand signals
- Make eye contact
- NEVER argue with a motorist

PERSONAL PROTECTIVE EQUIPMENT

- High-Visibility Safety Apparel
  - Daytime: Class 2 mandatory
  - Nighttime: Class 3 recommended
- Hard Hat
- Safety Footwear
- Eye Protection
- Hand Protection

Class 2

Class 3

HAND SIGNALING DEVICES

STOP/SLOW PADDLE (preferred)

- Octagonal
- 18” x 18” with 6” letters (< 45 mph)
- 24” x 24” with 8” letters (≥ 45 mph)
- Retroreflectorized when used at night
- 6 ft. staff (TxDOT requirement)
- Lights may be incorporated

FLAG (limited to emergency situations)

- Red or fluorescent orange-red
- 24” x 24” minimum
- 36 inch staff
- Retroreflectorized when used at night
- Free edge should be weighted

FLASHLIGHT

When flagging in an emergency situation at night in a non-illuminated flagger station, a flagger may use a flashlight with a red glow cone to supplement the STOP/SLOW paddle or flag.

AUTOMATED FLAGGER ASSISTANCE DEVICES

- Enable flagger(s) to be out of the lane of traffic
- Remotely operated by single or separate flaggers trained on AFAD operation
- Reference Figure 6L-1, 6L-2, TCP 1-6a, TCP 1-6b

RUMBLE STRIPS

To be used on one-lane, two way flagging operations.

Figure 6L-1. Example of the Use of a STOP/SLOW Automated Flagger Assistance Device (AFAD)

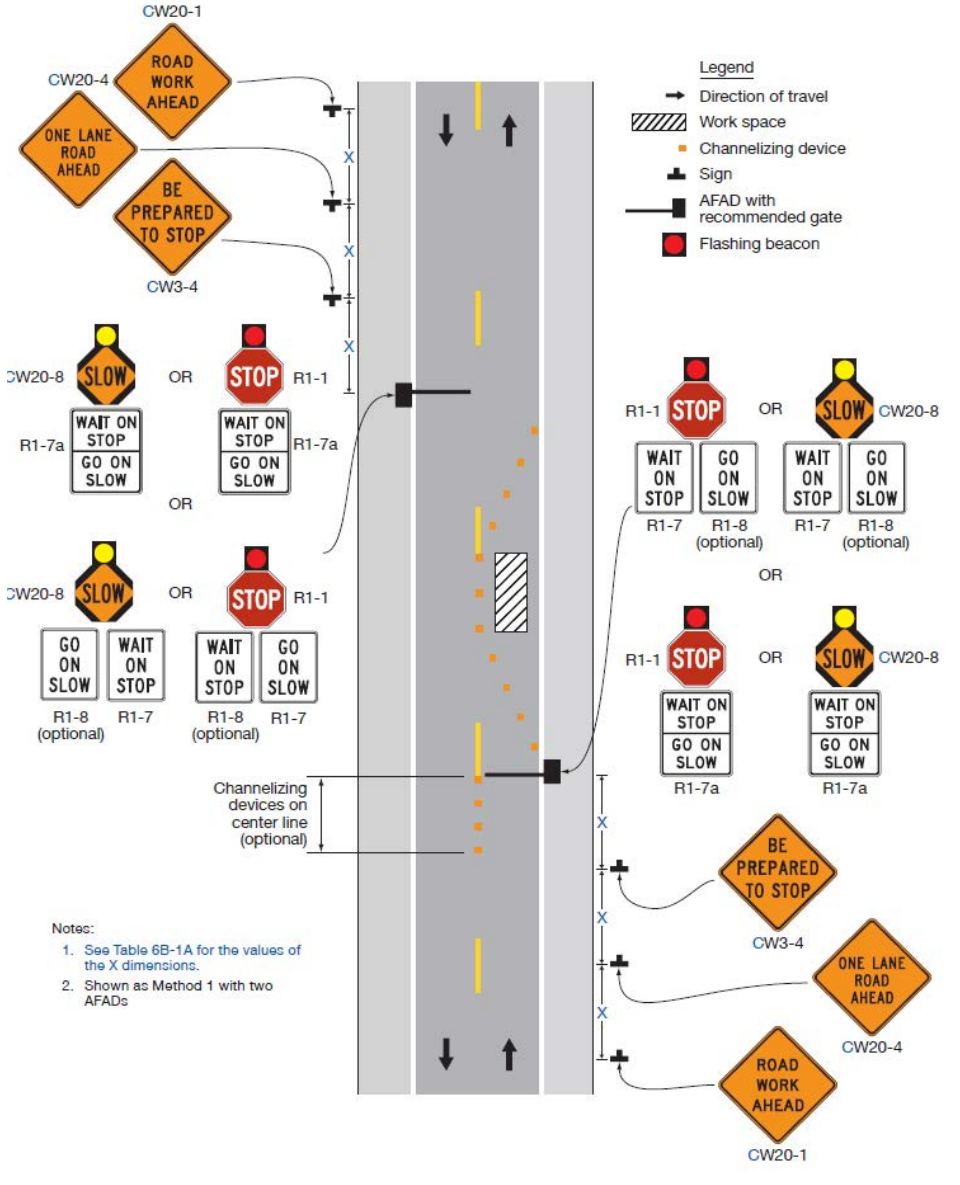
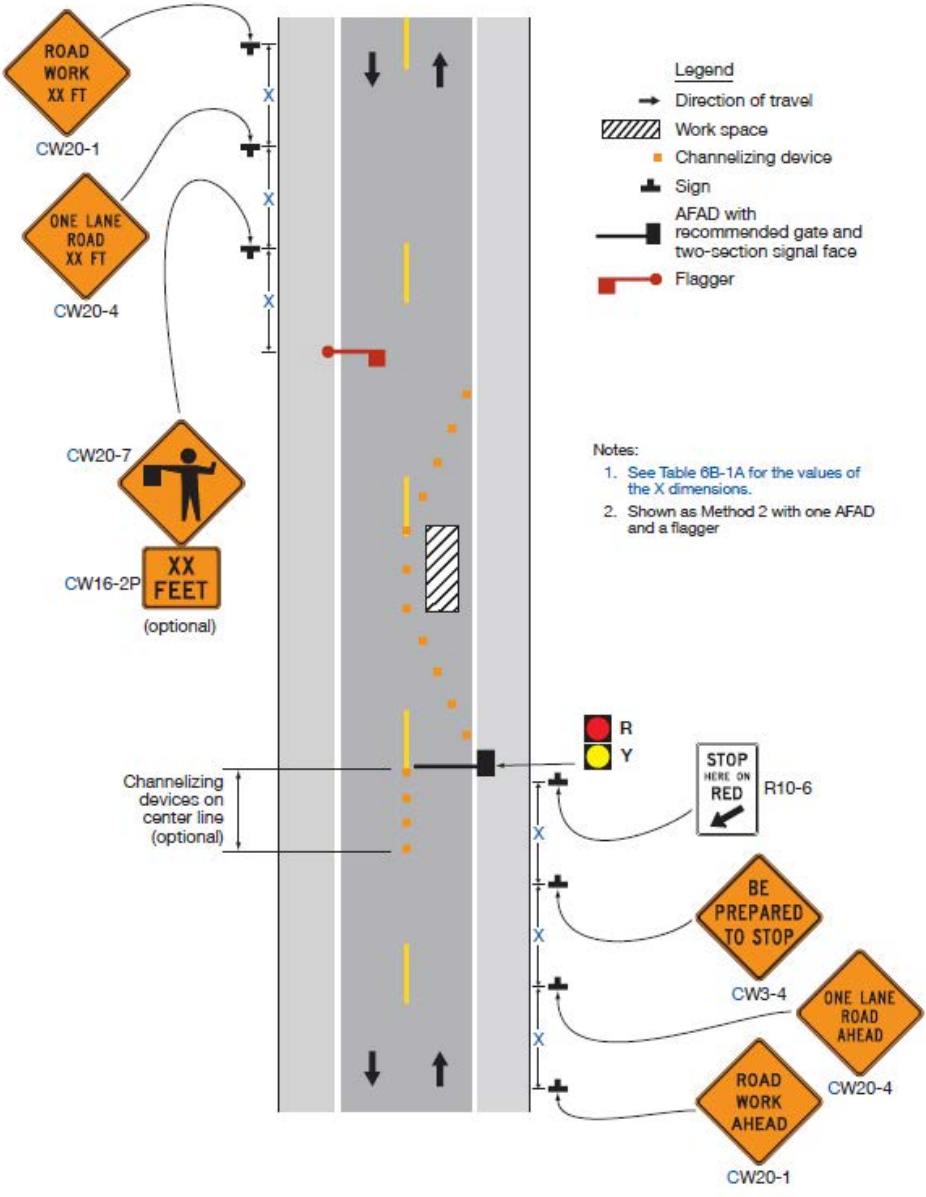


Figure 6L-2. Example of the Use of a Red/Yellow Lens Automated Flagger Assistance Device (AFAD)



FLAGGER PROCEDURES

The use of hand movements alone without a paddle, flag, or AFAD shall be prohibited except for law enforcement personnel or emergency responders at incident scenes.

Flaggers should stand

- ✓ on the shoulder
- ✓ where they are clearly visible
- ✓ sufficiently in advance of the workers to warn them
- ✓ alone
- ✓ away from vehicles and/or equipment
- ✓ where they can escape

Paddle

STOP: To stop road users, the flagger shall face road users and aim the STOP paddle face toward road users in a stationary position with the arm extended horizontally away from the body. The free arm shall be held with the palm of the hand above shoulder level toward approaching traffic.

PROCEED: To direct stopped road users to proceed, the flagger shall face road users with the SLOW paddle aimed toward road users in a stationary position with the arm extended horizontally away from the body. The flagger shall motion with the free hand for road users to proceed.

ALERT or SLOW: To alert or slow traffic, the flagger shall face road users with the SLOW paddle face aimed toward road users in a stationary position with the arm extended horizontally away from the body.

Flag

STOP: To stop road users, the flagger shall face road users and extend the flag staff horizontally across the road users' lane in a stationary position so that the full area of the flag is visibly hanging below the staff. The free arm shall be held with the palm of the hand above the shoulder level toward approaching traffic.

PROCEED: To direct stopped road users to proceed, the flagger shall face road users with the flag and arm lowered from the view of the road users, and shall motion with the free hand for road users to proceed. **Flags shall not be used to signal road users to proceed.**

ALERT or SLOW: To alert or slow traffic, the flagger shall face road users and slowly wave the flag in a sweeping motion of the extended arm from shoulder level to straight down without raising the arm above a horizontal position. The flagger shall keep the free hand down.

Flashlight *(Flashlight in the left hand, Paddle or Flag in the right hand)*

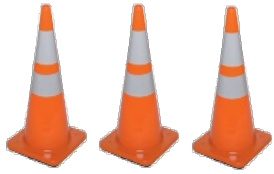
STOP: To inform road users to stop, the flagger shall hold the flashlight with the left arm extended and pointed down toward the ground, and then shall slowly wave the flashlight in front of the body in a slow arc from left to right such that the arc reaches no farther than 45 degrees from vertical.

PROCEED: To inform road users to proceed, the flagger shall point the flashlight at the vehicle's bumper, slowly aim the flashlight toward the open lane, then hold the flashlight in that position. The flagger shall not wave the flashlight.

ALERT or SLOW: To alert or slow traffic, the flagger shall point the flashlight toward oncoming traffic and quickly wave the flashlight in a figure eight motion.

FLAGGER STATIONS

- Shall be located such that approaching road users will have sufficient distance to stop at an intended stopping point.
- Should be located such that an errant vehicle has additional space to stop without entering the work space.
- Shall be preceded by an advance warning sign.
- Shall be illuminated at night.



TxDOT recommends flaggers stand behind 3 cones for increased visibility

The flagger should identify an escape route that can be used to avoid being struck by an errant vehicle. The distances shown in Table 6D-1 which provides information regarding the stopping sight distance as a function of speed, may be used for the location of a flagger station.

Speed (mph)	Distance (feet)
20	115
25	155
30	200
35	250
40	305
45	360
50	425
55	495
60	570
65	645
70	730
75	820
80	910

TYPICAL APPLICATIONS

In general, the procedures illustrated represent minimum solutions for the situations depicted.

Except for the notes, the information presented in the typical applications can generally be regarded as *Guidance*.

WARNING SIGN - SPACING

Table 6B-1A Suggested Advance Warning Sign Spacing

Road Classification	Posted Speed (mph)	Sign Spacing "X" (feet)
Conventional Highway	25	100
	30	120
	35	160
	40	240
	45	320
	50	400
	55*	500
	60*	600
	65*	700
	70*	800
	75*	900
	80*	1000
Expressway or Freeway	All Speeds	See Typical Applications **

*Distance between signs should be increased to have 1500 feet advance warning.

**Distance between signs should be increased to have ½ a mile or more advance warning.

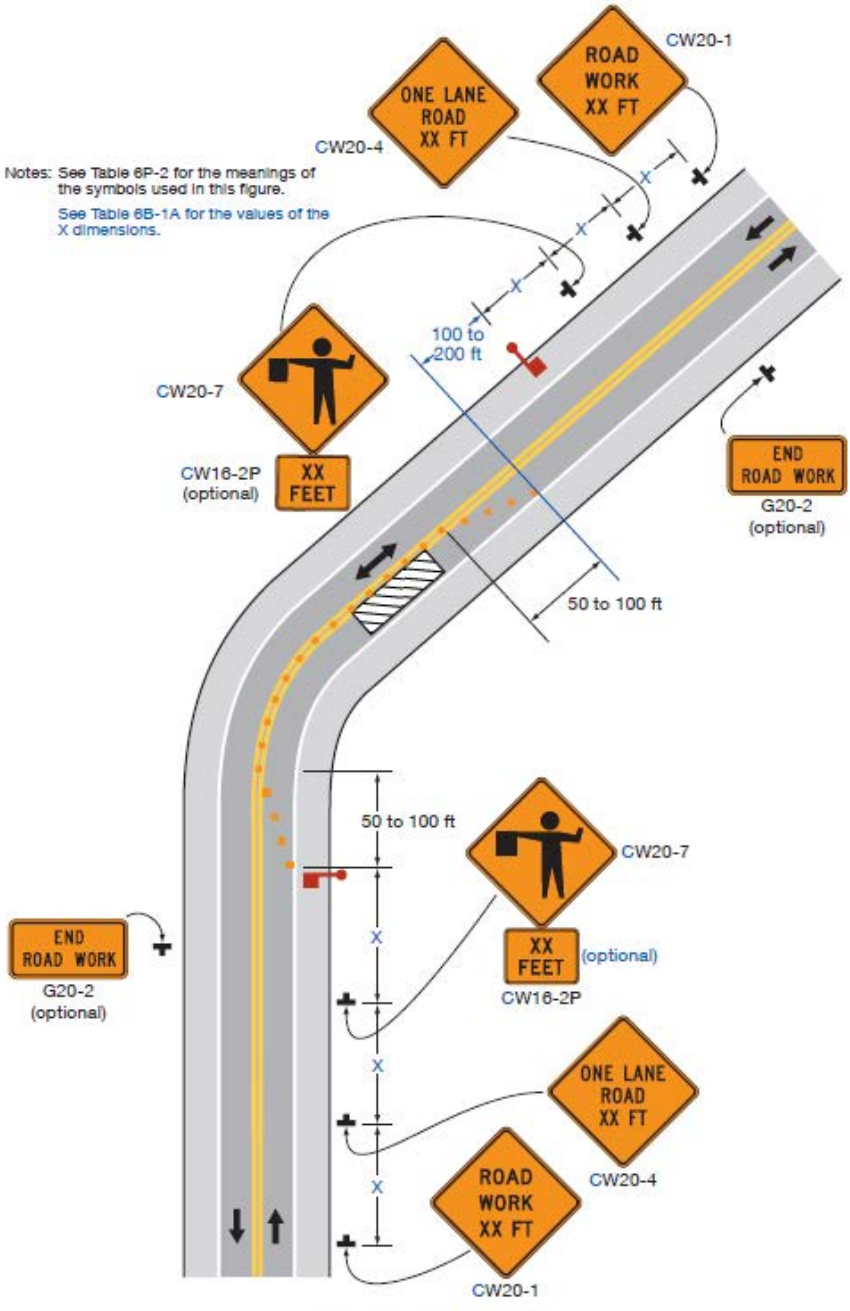
Signs shall be in place before flagging operations begin.

If flagging operations are not occurring, the FLAGGER sign shall be removed or covered.

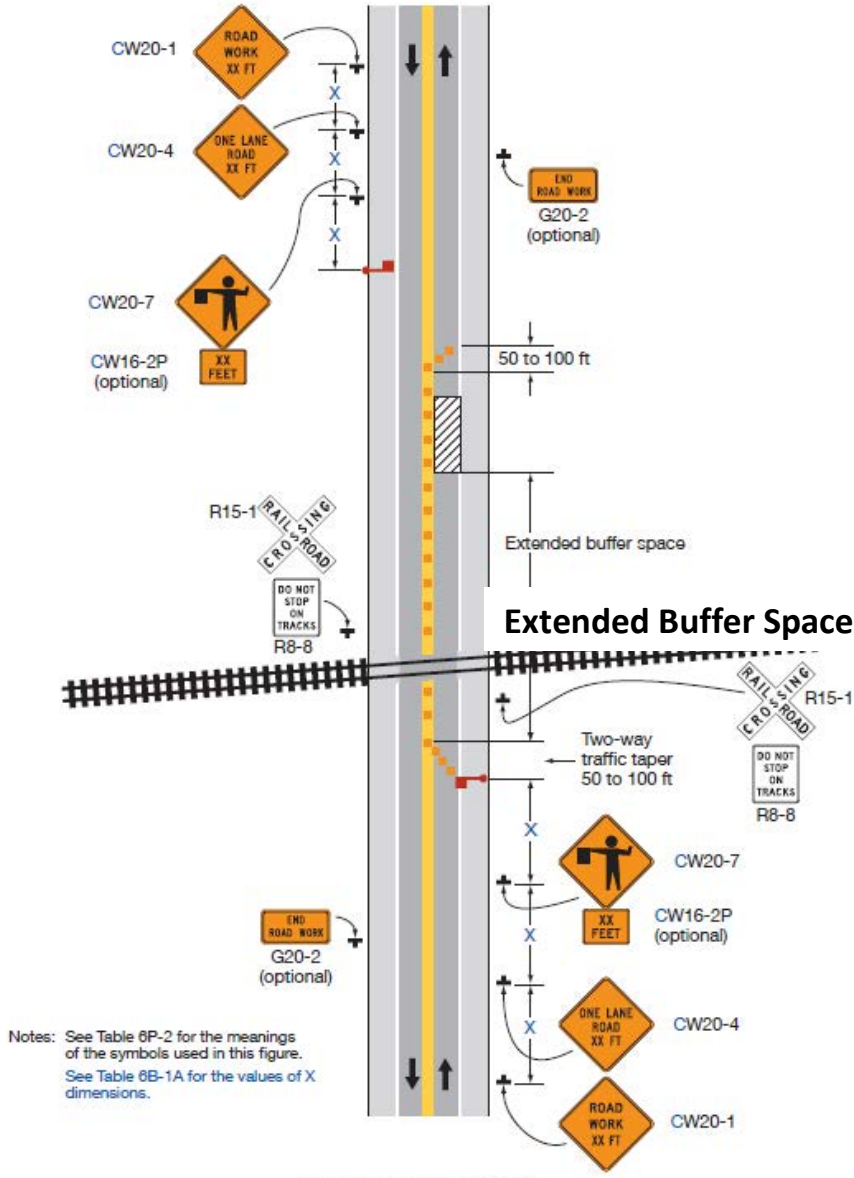
TCPs

TCPs are TxDOT guidance on a flagger setup.

TA-10 Lane Closure on a two-Lane Road Using Flaggers

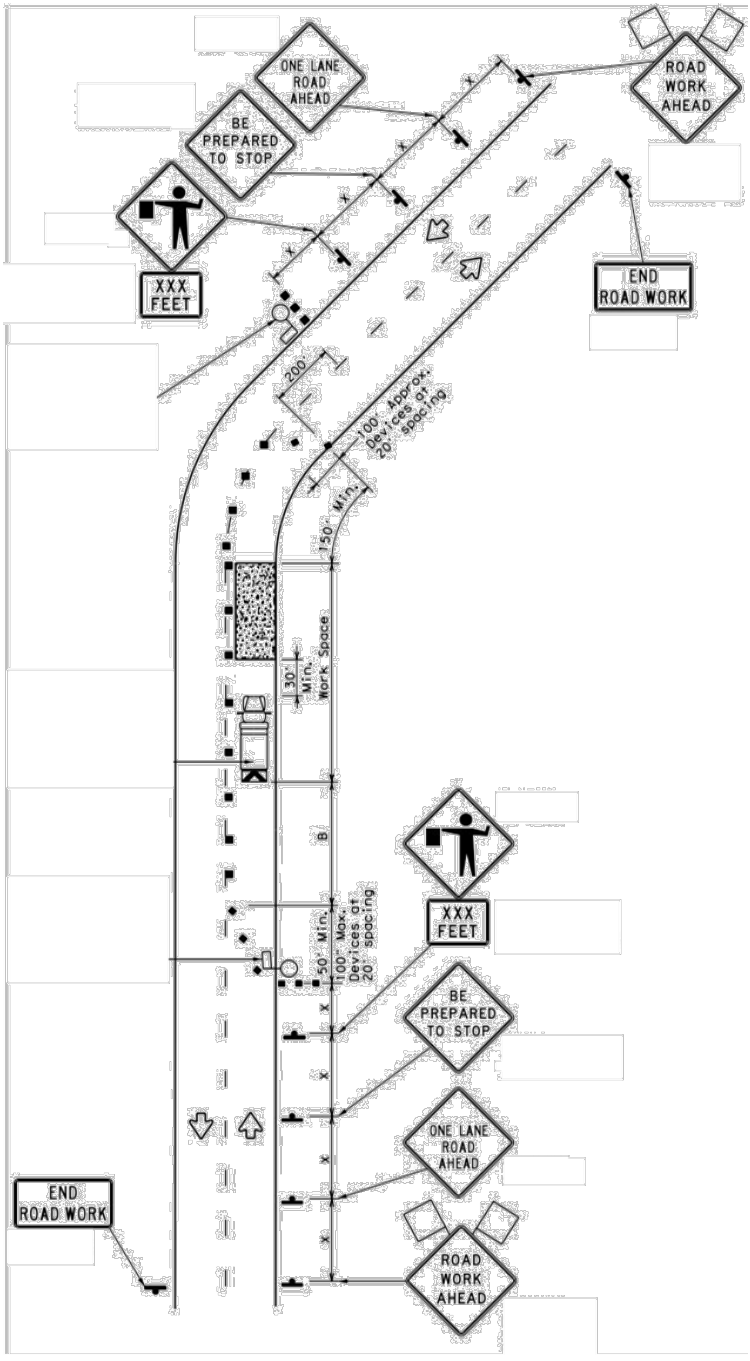


Typical Application 10

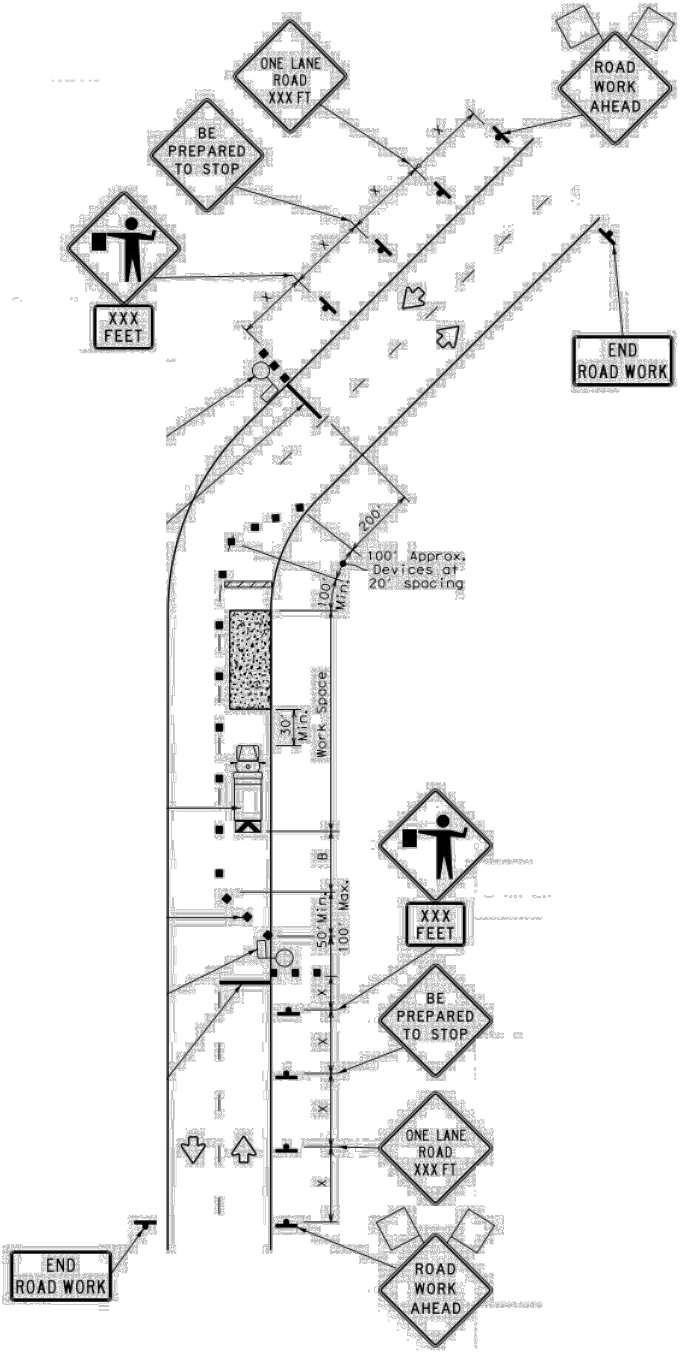


Typical Application 46

TCP(1-2One Lane Two-Way Control with Flaggers



TCP (2-2b) One Lane Two-Way Control with Flaggers



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