COLORADO
Department of Transportation

Flagger Training Manual

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COLORADO
Department of Transportation

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Traffic Safety & You

Road construction and maintenance projects are performed each day across the State of Colorado. As a flagger, you will play a vital role in helping to protect the traveling public and your coworkers from the dangers and hazards that are present in highway and road construction projects. The flaggers' role is crucial as they are usually the first point of contact between the traveling public and the work zone.

This manual has been developed by the Colorado Department of Transportation (CDOT) to help you learn about the roles and responsibilities of a flagger. It provides a description of your job, how you will perform job duties, what to wear, and how you will fit into the overall temporary traffic control system. In addition, you will read about the different traffic control devices which you need to be familiar with to perform your job. Thus, it is very important that you read this material carefully so that you will have a good background to begin your important work as a flagger.

Section A: Introduction & Background

This handbook is based on the flagger control standards and guidelines found in the

2023 Edition of the Manual on Uniform Traffic Control Devices (MUTCD)

and supersedes previous iterations.

Flagging is defined as the necessary act of directing traffic through an active work zone when an unknown condition is presented to both vehicle and pedestrian traffic. Per the Manual on Uniform Traffic Control Devices (MUTCD), a Flagger is a person who actively controls the flow of vehicular traffic into and/or through a temporary traffic control zone (aka TTC zone, work zone, construction zone) using hand-signaling devices or an Automated Flagger Assistance Device (AFAD). Flaggers are the first line of defense against dangerous situations involving live traffic and are viewed as the lifeline of the active work zone. The most common situation where flagging is appropriate is the one-lane operation of a two-lane road during construction. This allows for the movement of construction vehicles in and out of the active work zone, the flow of two directions of traffic through one lane of a roadway, and necessary detours. By Colorado State Law, flagging operations shall not override regulatory signing or traffic signals and is not permitted on interstates unless a variance is approved through CDOT.

Flagging procedures and authorizations at, or near, railroads can vary. When warning devices are present and become active (i.e. drop gates and signals), flaggers must stop traffic in both directions and can only resume flagging operations when the railroad warning devices are off.

The following are the additional rules for CDOT certified flaggers when flagging near railroad crossings.

<u>Regional Transportation District (RTD) Light Rail and Heavy Rail Crossings</u>
CDOT certified flaggers can only flag vehicle traffic in the RTD rail right-of-way once they have received the RTD on track safety training. CDOT certified flaggers cannot flag trains, as only trained RTD employees are authorized to do so.

<u>BNSF Rail Crossings</u>
CDOT certified flaggers can flag vehicle traffic up to within 25 feet of the railroad tracks. Flaggers cannot queue traffic onto railroad tracks. Traffic Control Plans (TCP), or their equivalent, that modify traffic flow near the tracks must be sent to BNSF for review. TCPs cannot cause traffic to go contraflow (i.e. in the opposite direction to normal flow) on the railroad signal devices, and TCPs cannot run traffic in the wrong directions near the railroad crossings without prior approval from BNSF.

Roles & Responsibilities

Flaggers are an important part of keeping construction crews and the traveling public safe during operations that change the normal flow of traffic. Most road construction and maintenance jobs are performed while traffic is allowed to pass through the active work zone. Thus, heavy equipment, road obstacles, unfinished or rough pavement, and other hazards may present real dangers to the traveling public passing through the active work zone. It is the responsibility of a flagger to help guide the traveling public through an active work zone as efficiently and safely as possible, so as to keep both the traveling public and construction crews safe.

Each flagging job can have different lines of management and positions depending on the type of work (e.g, utility, road construction, maintenance, etc.) and governing entity (e.g., CDOT, city, county, private roadway). Because of this, different construction jobs contain different rules and regulations. The following list describes common job site positions and their responsibilities:

- **Flagger:** The flagger is responsible for stopping traffic, releasing traffic, and slowing traffic in active work zones which require unexpected stop or slow conditions. Traffic may include vehicles, bicycles, scooters, wheelchairs, pedestrians, skateboards, etc. Flaggers usually report to a TCS.

- **Traffic Control Supervisor:** The TCS is responsible not only for flaggers' safety, but for the overall safety of the job site crew and traveling public in all matters regarding traffic control.

- **Contractor:** The contractor is the company hired for the construction or maintenance job. On smaller jobs, a representative of the contractor (usually a foreman) may be the TCS and the flaggers direct supervisor. On larger jobs, a sub-contractor who specializes in traffic control will provide a TCS.

- **Project Manager:** The project manager is a representative of the construction job owner and is responsible for coordination and direct communication with the contractor. The owner is also referred to as the "entity." Entities include: CDOT (state government), Local Entities (city and county governments), Public Utilities, and Private Stakeholders (housing developments, local businesses, etc.).

- **CDOT Resident and Project Engineer:** In addition to the contractor's crew, there will be two members from CDOT who are assigned to the construction project. These two people are the Project Engineer and the Resident Engineer. The project engineer is responsible for making sure engineering specifications are met including state specifications and safety.

  The resident or project engineer will visit the project often and serve as the overall coordinator. They will handle any problems which may arise at the work site or with the construction company. Although flaggers technically work for the contractor, project and resident engineers may also evaluate flagging performance and may dismiss flaggers if they are not flagging safely and properly.

Flaggers must be able to communicate clearly, and therefore must be able to speak and understand conversational English, be aware of and avoid potential hazards, and understand how to guide traffic properly. Flaggers are also responsible for:

- Protecting themselves and their coworkers from the traveling public and construction vehicles.
- Protecting the traveling public.
- Providing good traffic control by guiding traffic safely and efficiently.

Qualifications for Flaggers

All Flaggers in Colorado must meet the qualifications and requirements as defined in the Colorado Revised Statutes (C.R.S.) and the MUTCD.

Per C.R.S. 43-5-308, all Flaggers must be at least 18 years of age and must be certified through a CDOT approved Flagger Training Entity. Flagger certification training and testing is provided by CDOT approved Flagger Training Entities and CDOT approved flagger instructors. Most of the training entities are local government agencies and private companies who employ Flaggers. There are also private companies and national safety institutions/associations that provide training and testing, but do not employ Flaggers.

Per the MUTCD Section 6D.01 Qualifications for Flaggers
"Because flaggers are responsible for public safety and make the greatest number of contacts with the public of all highway workers, they should be trained in proper traffic control practices and public contact techniques. Flaggers should be able to satisfactorily demonstrate the following abilities:

A. *Ability to receive and communicate specific instructions clearly, firmly, and courteously;*
B. *Ability to move and maneuver quickly in order to avoid danger from errant vehicles;*
C. *Ability to control signaling devices (such as paddles and flags) in order to provide clear and positive guidance to drivers approaching a TTC zone in frequently changing situations;*
D. *Ability to understand and apply safe traffic control practices, sometimes in stressful or emergency situations; and*
E. *Ability to recognize dangerous traffic situations and warn workers in sufficient time to avoid injury."*

All individuals wanting to become a flagger must attend a CDOT approved flagger training course, pass a demonstration exam, and pass a written exam. To remain eligible to flag, flaggers must repeat this process to renew their certification every two (2) years.

Students who pass the exams will be issued a flagger certification card that will be valid for two (2) years. The CDOT flagger certification card is valid throughout the State of Colorado. Flaggers must have their flagger certification card and government issued identification on their person at all times while flagging. Certification cards are the sole property of CDOT, and blank cards are not to be duplicated or used as a template, as this is grounds for revocation. All certification cards issued to Flaggers are valid until the noted expiration date on the card—even if the Flagger is no longer working with or for the issuing Entity. The card is transferable between Entities and must be recognized as valid. Certifications can be revoked by CDOT if a flagger is not performing the job safely and properly.

Additional information, such as reference material, a list of CDOT approved Flagger Training Entities, and relevant regulations, can be found on CDOT's Flagger Program website at: www.codot.gov/safety/traffic-safety/standard-and-specifications/work-zone-safety/flagger-program.

Training Course

The flagger training course will teach students where Flaggers fit into a work zone, work zone safety, flagger duties, what to wear, how to flag, flagger equipment/tools, how and when to use them, as well as traffic control devices and usage, etc. The flagger training course will be approximately four (4) hours in length and must be taught by a CDOT approved flagger instructor. Most flagger training courses are in-person, but CDOT does approve online flagger training for Entities that have gone through the review and approval process. Student participation is highly encouraged to ensure retention of the course material.

At the end of each section in this manual, review exercises are provided in preparation for the certification exams. At the end of the course students will be given a practical demonstration exam as well as a written proficiency exam. The exams will measure the student's course knowledge, including flagging skills, responsibilities, and duties. An exam score of 80% or higher is required to become a certified flagger, and 90% or higher is required for Flagger Instructors. The written exam is open book and open notes, but the demonstration exam is not. Once the demonstration and written exams are passed and the flagger has received their flagger certification card they can begin flagging. It is highly recommended that the flagger receive on-the-job training from an experienced flagger.

Flagger students who do not pass the written exam on their first attempt are allowed one (1) additional attempt the same day, or within seven (7) business days of the flagger class. If students fail the second exam, they must retake the flagger class and an alternate written exam. Flagger Instructor candidates are only allowed one attempt at the Flagger written exam. All students are allowed one attempt at the demonstration exam.

Temporary Traffic Control

The primary function of temporary traffic control (TTC) is to ensure safe and effective movement through the work zone.

Information regarding temporary traffic control plans (TTCP) can be found in Section 6B.01 of the MUTCD.

Traffic Control Devices

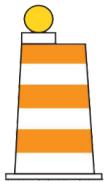
Traffic Control Devices (TCDs) guide and regulate traffic movement, control vehicle speeds, warn of potentially hazardous conditions, and provide important information to the traveling public about detours and traffic delays. TCDs include signs, pavement markings, cones, drums, barricades, etc. Flaggers are not directly responsible for the majority of these devices, but it is important that they have an understanding of what these devices are and why they exist on the job site.

Signs, cones, drums, vertical panels, and barricades are all utilized to help delineate both vehicular and pedestrian traffic from the active work zone. Many of these devices will be utilized on flagging job sites. They all have similar, yet different, functions. More information can be found by reviewing the MUTCD and CDOT's Safety Standards S-630-01 and S-630-02 found at: https://www.codot.gov/safety/traffic-safety/design. Please keep in mind that local agencies may have more stringent requirements.

Channelizing Devices

Cones are commonly used to both delineate and channelize traffic. For delineation, cones are set up on the edge of the closed lane or shoulder. For channelization, cones are used to merge traffic from two lanes to one. Cones are light and they may be blown or knocked over by either wind or passing traffic. However, flaggers must never leave their flagging station to fix them. Instead, the flagger will contact the TCS or a crew member to inform them of the issue.

Cone size requirements differ depending on the speed of the roadway and day or night operations. The cone sizes can also be determined by who has jurisdiction over the roadway, i.e. a city, county, or the State. Cones used for night time work must be retroreflectorized or internally illuminated. Standard cones sizes are 18 inch, 28 inch, and 36 inch. See the MUTCD for detailed information.



Drums, also called barrels, are larger and heavier than cones and are typically used for more long-term [duration] construction projects. They are used similarly to cones, to either delineate or channelize traffic passing through the active work zone. Drums are required to have retroreflective stripes.

Vertical Panels are commonly used delineation and channeling devices. They shall have alternating diagonal orange and white retroreflective stripes at a downward angle indicating the open lane.

Tubular Markers are also commonly used delineation and channelizing devices. The tubular marker sizes can also be determined by who has jurisdiction over the roadway, i.e. a city, county, or the State. Devices used for night time work must be retroreflectorized or internally illuminated. Standard tubular marker sizes are 18 inches for day and low-speed roadway (≤ 40 mph) and 28 inches for night and/or freeway high-speed roadway (≥ 45 mph). See the MUTCD for detailed information.

Barricades are used to close access to both vehicular and pedestrian traffic to the active work zone. There are three main types (Type I, Type II, and Type III) and can be easily identified by the number of retroreflectorized rails on the barrier. The number of rails corresponds directly to the type number. Barricades are marked with orange and white retroreflective stripes that slope downward to indicate the open lane. More information can be found by reviewing the MUTCD. Also reference CDOT's Safety Standard S-630-02.

Signs

Signs are designed to regulate, warn, and guide vehicular and pedestrian traffic on roadways. This section will give a brief overview of the types of signs and their intended purposes.

Regulatory signs typically contain a white background with black lettering, but can also contain red and black backgrounds with various letter coloring and are typically rectangular shaped. Regulatory signs impose enforceable legal obligations and/or restrictions on all traffic. In the construction environment, common regulatory signs include: speed limit, prohibited movements, lane usage, and STOP signs. Everyone should be familiar with the regulatory signs as they are enforceable by law.

Warning signs contain a yellow background with black lettering and are typically diamond shaped. Their purpose is to warn the traveling public of obstructions and changing conditions. Warning signs are generally (but not always) diamond shaped and carry a black legend and border on a yellow background.

Guide signs typically contain a green background with white lettering, but can also contain blue and brown backgrounds and are typically rectangular shaped. These signs provide guidance information to the traveling public.

In a construction environment, guide signs will contain an orange background with black lettering and common signs include: DETOUR, PILOT CAR, and exit signage.

Temporary Traffic Control Zone Warning Signs (aka work zone signs, construction signs) contain an orange background with black lettering. Their purpose is to warn the traveling public of obstructions and changing conditions due to construction, maintenance, utility, or incident management operations on a street, highway, or site roadway open to public travel. Common signs include: lane reduction, FLAGGER AHEAD, SLOW, and ROAD WORK AHEAD signage. More information regarding signs can be found in the Manual of Uniform Traffic Control Devices (MUTCD), Part 2.

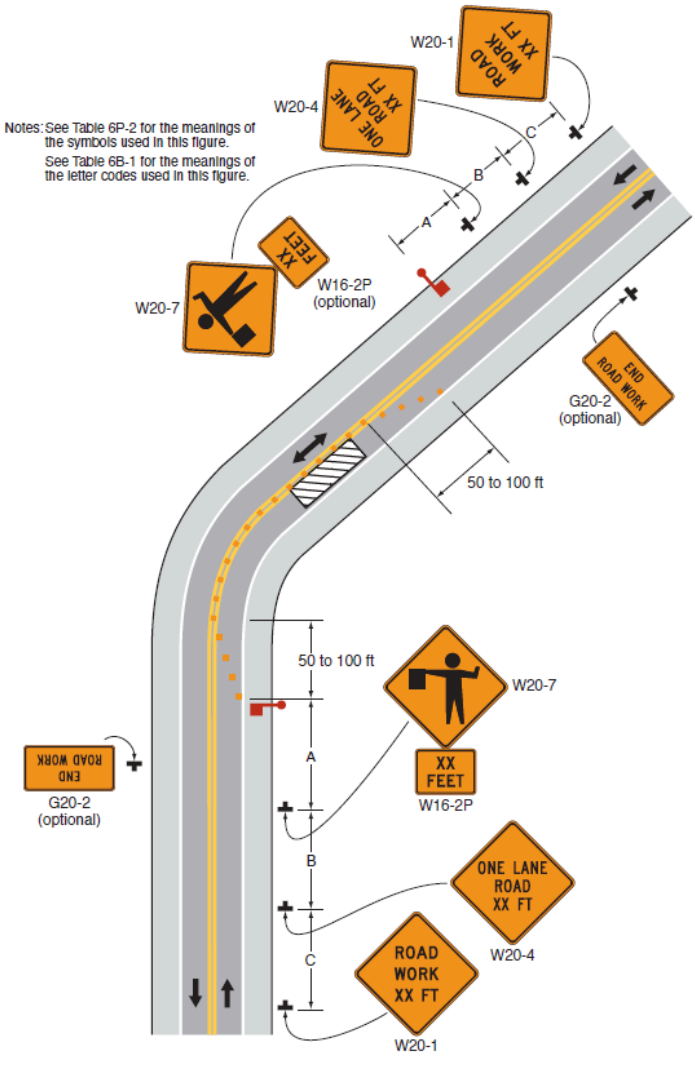
TCDs are not directly the responsibility of a flagger but are the responsibility of the TCS. Flaggers shall not leave their flagging station without authorization unless they are in immediate danger. Therefore, if a device is out of place, removed, or knocked down, flaggers must not leave their station to fix the devices, but instead shall contact the TCS to reset the devices. When flaggers are not flagging, they can assist a TCS in the installation and removal of TCDs.

Advance Warning Area

The advance warning area is the section of highway where road users are informed about the upcoming work zone or incident area. It may vary from a single sign or high-intensity rotating, flashing, oscillating or strobe lights on a vehicle to a series of signs in advance of the TTC zone activity area (**Source: MUTCD Figure 6P-10)*.

The MUTCD provides recommended sign spacing (see Table 6B-1). This spacing may vary by state. The MUTCD dictates which advance warning signs are typically used in conjunction with flagging operations. For one-lane, two-way operations, ROAD WORK AHEAD, ONE LANE ROAD AHEAD and symbolic FLAGGER AHEAD are typically used. Some states require the BE PREPARED TO STOP sign as well. These signs are diamond-shaped, with black letters on an orange background.

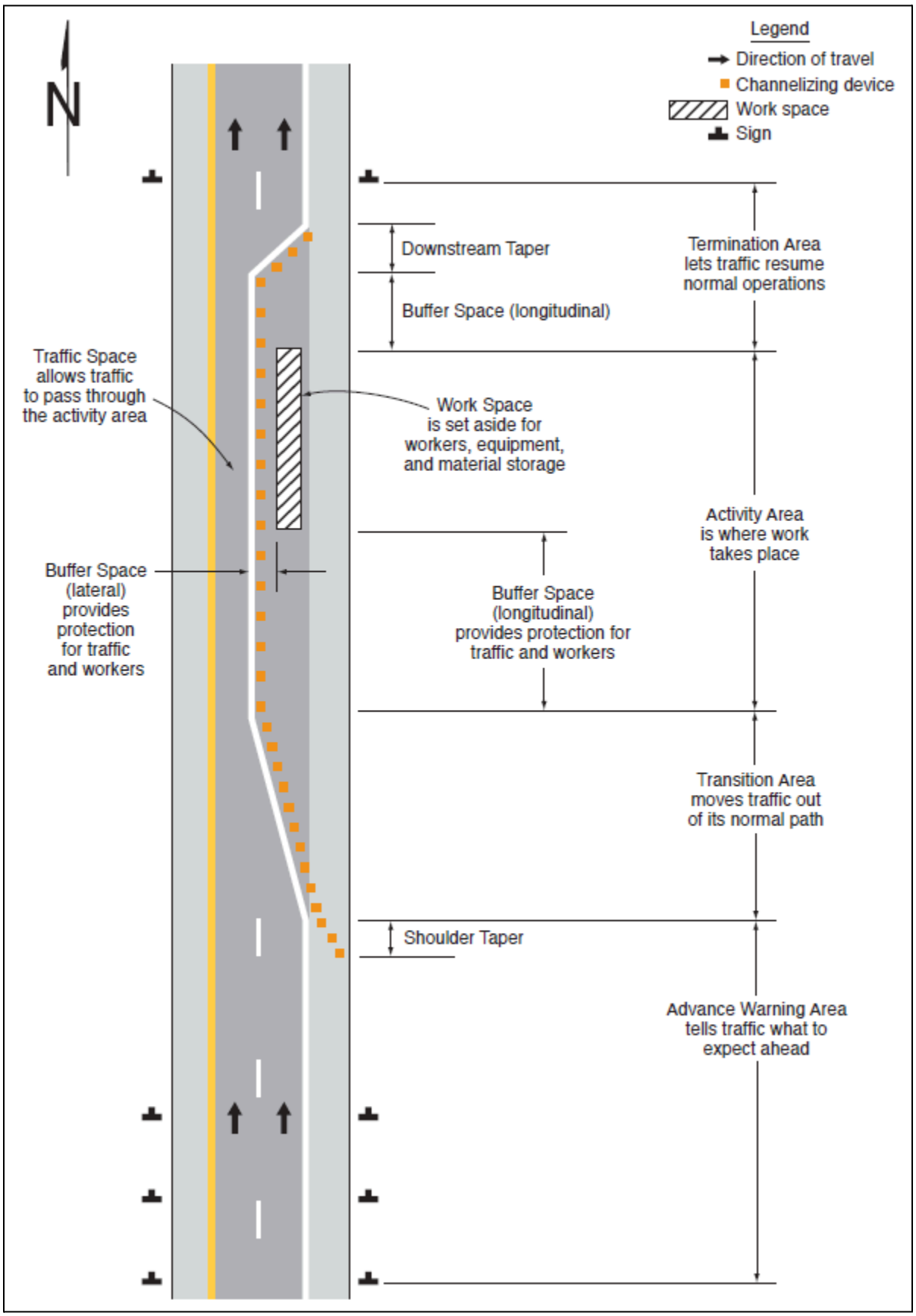
Signs are typically mounted on approved portable sign supports but may be post-mounted depending on the duration of the operation. If mounted on portable sign supports, signs are required to be at least one foot off the elevation of the pavement. The minimum size usually depends on the speed of traffic. **36 x 36 inches is standard on low/moderate-speed roadways (≤ 40 mph). 48 x 48-inch signs are best suited for high-speed roadways (≥ 45 mph).** The MUTCD provides sign recommendations (Tables 6H-1 and 6I-1); however, check the local standards and guidelines to determine appropriate sizing



Typical Application 10

Component Parts of a Temporary Traffic Control Zone

Figure 6B-1 from the MUTCD depicts the four areas of a Temporary Traffic Control Zone.



Exercise A

Please record your answers on a separate sheet of paper. Your instructor will discuss the correct answers when you are finished.

1) Flaggers are responsible for which of the following items of a construction site?
   a) The safety of their coworkers
   b) The safety of the traveling public
   c) Good traffic control
   d) Their own safety
   e) All of the above

2) What is not a traffic control device?
   a) radios
   b) drums
   c) flagger paddles
   d) signs
   e) cones

3) You are at your flagger station and see that an advanced warning sign has blown over. What do you do?
   a) Leave your flagger station to fix it. You'll be right back.
   b) Stay at your flagger station and notify your TCS of the situation.
   c) Pretend nothing happened, as advance warning signs are not important.

4) True or False? Flaggers must be able to maneuver quickly to avoid danger.

5) How long is your flagger certification good for in Colorado?

   a) 1 year
   b) 2 years
   c) 3 years

Section B: Tools of the Trade

Stop/Slow Paddles

The STOP/SLOW paddle is the most important device that flaggers will use because it provides road users positive guidance. The STOP sign and the SLOW sign are mounted back-to-back and are typically connected to a non-metal long rigid staff or can be mounted on a short hand-held staff. The STOP side of the sign has a red background and white letters, the SLOW side of the sign has an orange background with black letters and a black border. If the STOP/SLOW paddle is used at night, it shall be retroreflectorized. The STOP/SLOW paddle may be modified to improve visibility by incorporating either white or red flashing lights on the STOP face, and either white or yellow flashing lights on the SLOW face. The flashing lights shall be arranged in accordance with the most current version of the MUTCD.

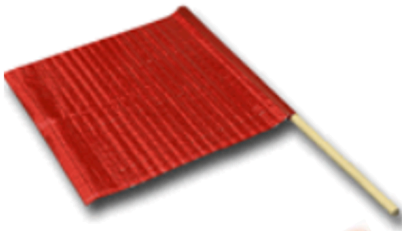
MUTCD requirements for the paddle are as follows:

- The minimum size of the STOP/SLOW paddle shall be 18-inches in width.
- STOP and SLOW text shall be capital letters and a minimum of 6-inches in height.
- STOP (R1-1) face shall have white letters and border on a red background.
- SLOW (W20-8) face shall have black letters and border on an orange background.
- Per the MUTCD, "*the optimum method of displaying a STOP or SLOW message is to place the STOP/SLOW paddle on a rigid staff that is tall enough that when the end of the staff is resting on the ground, the message is high enough to be seen by approaching or stopped traffic.*" Staff height is usually between 6 and 7 feet.
- STOP/SLOW paddle shall be retroreflectorized when used at night.
- If available, the STOP/SLOW paddle can be used in emergency situations.

Stop/Stop and Slow/ Slow Paddles

There may be some instances where a STOP/STOP or a SLOW/SLOW paddle conveys the needed message to drivers coming from both directions. These paddles are allowed if they are the same size and dimension of the STOP/SLOW paddles. Confirm with your TCS and the traffic control plans to be sure these paddles are the appropriate TCD for the application.

Flags



While flags are permitted, the preferred hand-operated TCD is the STOP/SLOW paddle. Therefore, flag use should be limited to emergency situations (e.g., for a crash, fallen tree, water main break) or used when flagging during high wind conditions, as the STOP/SLOW paddle is hard to control in the wind. Flags shall be a minimum of 24 x 24 inches in size, made of red or fluorescent orange/red material securely fastened to a staff approximately 3 feet in length. The free edge should be weighted to ensure that the flag will hang vertically, even in heavy winds. When used at night, flags shall be retroreflectorized red.

Lighted Wands or Flashlights

Flagging stations shall be illuminated at night, except for emergency situations per MUTCD section 6D.06.05. Flaggers may be given a flashlight with a lighted cone on the end or a lighted wand. The lighted cone of the flashlight should be red and a minimum of six (6) inches in length. Lighted wands are generally 21 to 30 inches long. These devices are used so the flagging operation is more visible and therefore effective. Both of these devices will be referred to as lighted wands or wands in this manual, because when a red cone is added to the flashlight it becomes a lighted wand (aka wand).

Radios, Air Horns, and Whistles

Two-way radios may improve communication. They are typically utilized when flaggers are not in visual contact with one another, but may be provided for overall communication purposes. Radios may not be appropriate for communications if explosives are going to be used in the area. Radios are simple to use; hold the button completely to speak, and release the button completely to listen. Radio communication should be limited to traffic information only. When using radios, ensure necessary contacts are on the same frequency. Ensure the radio is on and the volume is set properly for the conditions. Before speaking, hold down the talk button for a couple of seconds then begin speaking. When finished speaking, release the talk button, and wait for a response.

Air horns and whistles can be used for alerting the construction crew of an emergency, such as an errant vehicle driving into the work area.

Automated Flagger Assistance Devices (AFADs)

Automated Flagger Assistance Devices (AFADs) are remotely operated traffic control devices which act in sync with the duties of a flagger. They are highly visible and provide information to a driver to warn and give direction about the active work zone. While AFADs may consolidate flagging duties, they are not a replacement for qualified flaggers.

AFADs are used to increase worker safety by allowing flaggers to remotely operate a flagging device to effectively control traffic from a safe location, away from live traffic.

AFADs are operated by certified flaggers with specialized training. AFADs enable the flagger(s) to be positioned out of the lane of traffic and are used to guide drivers through Temporary Traffic Control (TTC) zones. These devices are designed to be remotely operated either by a single flagger at one end of the TTC zone or a central location, or by separate flaggers near each device's location. AFAD training will be provided on-site based on the device utilized for the construction zone.

There are two types of AFADs:

1. An AFAD that uses a remotely controlled STOP/SLOW sign on either a trailer or a movable cart system to alternately control right-of-way.
2. An AFAD that uses remotely controlled red and yellow lights and a gate arm to alternately control right-of-way.

Work zones can also use one of two different methods to regulate traffic using AFADs, depending on the following circumstances:

1. Method 1 consists of an AFAD at each end of the Temporary Traffic Control (TTC) zone.
2. Method 2 consists of an AFAD at one end of the TTC zone and a flagger at the opposite end. A Flagger may simultaneously operate two AFADs only if the Flagger has an unobstructed view of both the AFADs and the approaching traffic in both directions. AFADs shall only be operated by Flaggers who have received training and shall not leave the AFAD unattended at any time while in use.

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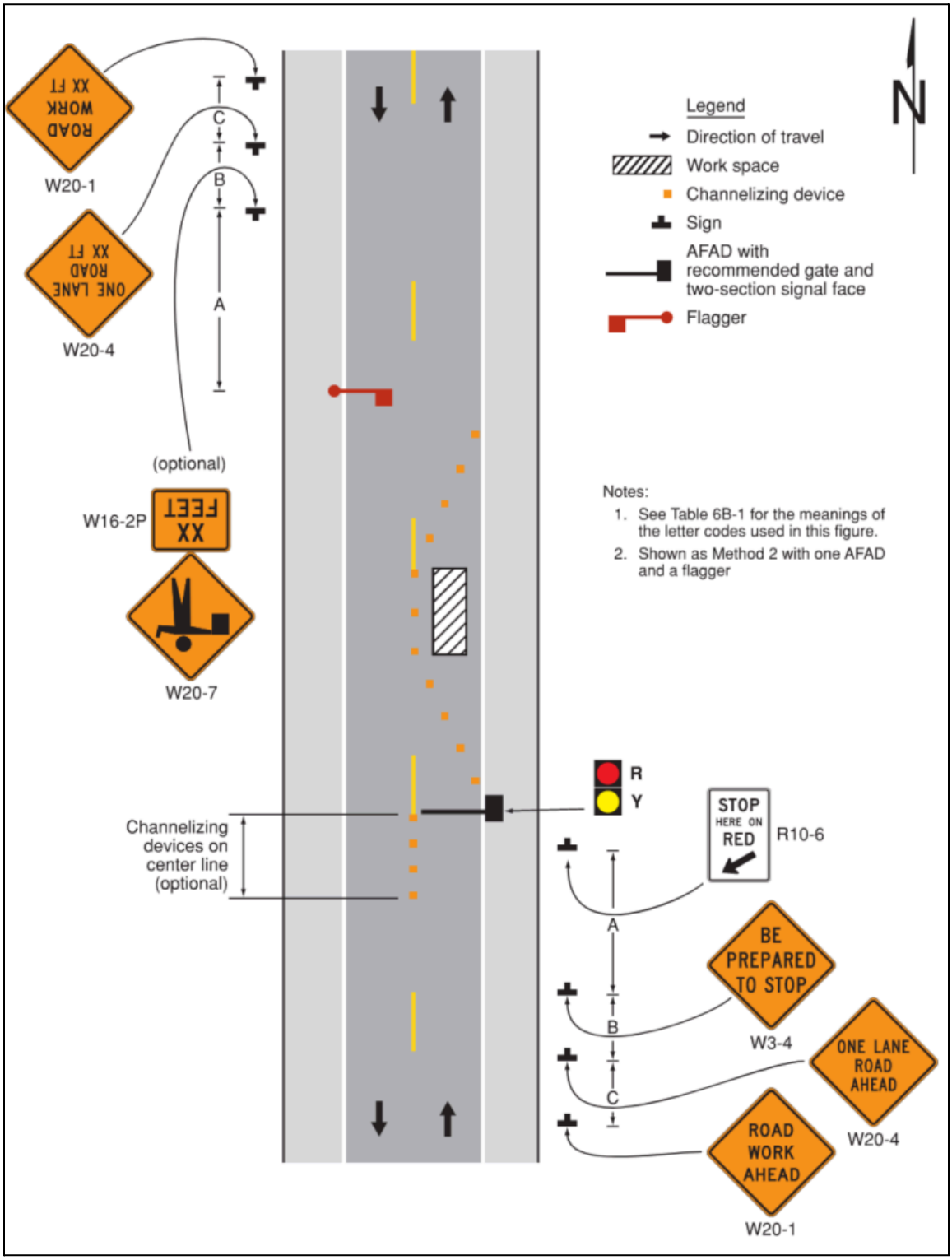
Components of an AFAD traffic control zone

Figure 6L-2 shows an example of a Red/Yellow light set up in Method 2, with one flagger and an AFAD controlling traffic.



Exercise B

Please record your answers on a separate sheet of paper. Your instructor will discuss the correct answers when you are finished.

1) The “STOP” side of the flagger paddle is always:

a) Red with white letters
b) Orange with black letters
c) Yellow with black letters

2) True or False? Flaggers may use the “STOP/SLOW” paddle at night if it is retroreflectorized.

3) What does AFAD stand for?

a) American Federation for Automatic Device
b) Automated Flagger Assistance Device
c) American Flagger Automatic Device
d) Automated Flagger Access Device

Section C: Dressing for the Job

Flaggers must be visible both day and night. Because of this, standardized safety apparel and headwear is required. The standardized safety apparel helps both workers and the traveling public identify flaggers, which will reduce chances of being accidentally struck by a vehicle or construction equipment. Wearing proper clothing will also protect flaggers from the elements while on duty. A flagger's safety apparel must be kept clean and in good condition to maximize visibility and safety. The standardized safety apparel is commonly referred to as personal protective equipment or PPE.

High-Visibility Safety Apparel (HVSA)

Per the MUTCD, flaggers must wear safety apparel meeting the latest requirements of the International Safety Equipment Association (ISEA) and the American National Standards Institute (ANSI). HVSA is required for daytime and nighttime flagging activities with the retroreflective material visible at a minimum distance of 1,000 feet according to CDOT Standard Specifications.

Flaggers not under CDOT jurisdiction (aka not employed by CDOT or not working on a CDOT roadway or CDOT right-of-way) are required to wear Class 2/3, Type R, ANSI 107 approved apparel, depending on the time of day or design speed of the roadway. Daytime operations require Class 2, Type R apparel and nighttime operations require Class 3, Type R apparel with leggings or Class 2, Type R with supplemental Class E leggings. The ANSI/ISEA tag(s) must not be removed from the vests for audit purposes Flaggers under the employment of CDOT and non-CDOT employees working on CDOT jobs are required to wear Class 3, Type R apparel at all times on the roadway with supplemental Class E leggings at night. Additionally, ANSI Class 3 apparel is required for design speeds in excess of 50 miles per hour, whereas Class 2 apparel is utilized for speeds between 25 miles per hour to 50 miles per hour.

These requirements may also apply to Flaggers working on local agency (i.e. cities and counties) and other projects. Flaggers must check with their TCS or foreman to see what safety apparel is required for the job for which they are flagging.

Workers should ensure their safety apparel is in good condition, is clean, retroreflectivity is functioning as intended, and is the appropriate type for the conditions. Vests and jackets must be fastened properly in the front so the worker is properly visible, as leaving it open does not make the flagger properly visible and can be hazardous around equipment and TTC items.

Fluorescent orange-red (FOR) or fluorescent yellow-green (FYG) hi-visibility hard hats may be required depending on the job hazards and/or State or local agency requirements. If used, hard hats must comply with the *ANSI/ISEA Z-89.1 Industrial Head Protection* standard and the *ANSI/ISEA 107* standard regarding their color and retroreflective materials. Hard hats are required for all CDOT projects/jobs, but may be optional for other work. Please confirm requirements with the TCS. If a hard hat is not required, consider using one or another hi-visibility hat to be more visible. Per ANSI/ISEA 107, headwear (aka hard hats, helmets) requires 10 square inches (10 in^2) of retroreflective material.

The following picture depicts the Type R, Class 2 and 3 apparel options. CDOT only allows FOR, FYG, or a combination of the two as defined in ANSI/ISEA 107-2020. Fluorescent red is not permitted in Colorado.

Type R, Class 2 Options

Type R, Class 3 Options

Source: ANSI/ISEA 107-2020

Other Items Flaggers May Need

There are other types of clothing, PPE, and additional devices flaggers may want to have on their person when on the construction site. Construction is loud, dirty, and at times, unpredictable.

- **Clothing for all weather conditions:** Colorado weather is unpredictable, and construction occurs year round. Wearing heavier or layered clothing during cold weather and sun protective clothing during hot, sunny weather will keep flaggers safe and comfortable. Cooling and warming gear can also be a good idea in extreme weather conditions.
- **Long sleeve shirt:** Regardless of weather, wearing long sleeves protects against dust, oil, tar, sun, and other materials present in work zones.
- **Pants:** Wearing full-length pants will protect from hazards similarly to a long sleeve shirt.
- **Gloves:** Not only will gloves keep hands warm while flagging in cold conditions, but they will also protect hands while working in construction zones, especially because flaggers could be using flagging tools for several hours at a time. Retroreflective gloves can increase visibility of the Flagger. The retroreflective material shall be either orange, yellow, white, silver, yellow-green or a fluorescent version of these colors and shall be visible at a minimum distance of 1,000 feet.
- **Dust mask:** Work zones, particularly on roadways, create dust that could inhibit breathing. Wearing a dust mask will alleviate this.
- **Sunscreen:** Flaggers can be outdoors for several hours at a time. Regularly applying sunscreen throughout their shifts will protect their skin from damage by extended sun exposure.
- **Safety glasses:** The dust created by work zones could irritate eyes, particularly those who wear contacts. Using prescription glasses instead will alleviate this irritation. See the ANSI standard Z87.1 and OSHA requirements for safety glasses.
- **Durable work boots/Hard-toed boots:** Always wear durable shoes or work boots. Depending on the type of work, road surfaces can be dangerous, and tennis shoes do not provide adequate protection. Heavy soled, reinforced shoes will protect feet and improve stability on uneven surfaces. Appropriate sturdy footwear is required by CDOT for CDOT and consultant personnel, and shall comply with the latest appropriate national consensus standards per the CDOT Standard Specifications for Road and Bridge Construction. Consider wearing hard-toed shoes or boots even if they are only recommended.
- **Water and Food:** Always have water and food to avoid dehydration.
- **Medications:** Remember to bring any medications such as an epi pen, inhaler, or other medications needed.
- **Insect Repellant:** To protect against the annoyance or dangers of insects, be sure to spray with repellant during field hours. Be sure to re-apply after sweating.

Exercise C

Please record your answers on a separate sheet of paper. Your instructor will discuss the correct answers when you are finished.

1) Per ANSI/ISEA Standard 107 and Colorado standards, which two colors of hi-visibility safety apparel are allowed for flaggers?

a) Fluorescent red and fluorescent yellow
b) Fluorescent yellow-green and fluorescent orange-red
c) Fluorescent pink and fluorescent orange
d) There are no color requirements

2) Which item are flaggers required to wear on the job?

a) A red bandana
b) STOP/SLOW gloves
c) A dust mask
d) An approved hi-vis safety vest

3) True or False? One of the reasons flaggers must wear certain items of clothing is so that they are visible to both the drivers and the work crew.

Section D: Flagger Job Duties

All construction jobs and work zones will not be the same. Flaggers are responsible for their own safety, the traveling public's safety, and the work crews safety by providing good traffic control. Other responsibilities of a flagger are:

- Staying vigilant at all times.
- Communicating with coworkers immediately when issues arise.
- Keeping a valid flagger certification card on their person while flagging.
- Assist Traffic Control Supervisors (TCS) when setting up temporary traffic control per the Traffic Control Plan (TCP). The Flagger cannot perform any other TCS duties and cannot assist without a TCS present.

Base Job Duties

Below are important aspects that will help flaggers perform their job efficiently:

- **Understanding of standard traffic laws and regulations:** Flaggers are responsible for visually instructing the traveling public when unexpected stops may be required. Per CRS 43-5-308, drivers are required to comply with a flag person's instructions. Only trained people may provide temporary traffic control or direction. The required training includes the CDOT Flagger Training and Certification course or an alternative flagger training and certification program approved by CDOT, such as ATSSA or NSC. Training should also include on the job training with an experienced flagger. Additional training is also needed if an AFAD is used.

  Flaggers are not authorized to flag at/or within signalized intersections, and at/or within intersections controlled by stop signs or yield signs. Only Law Enforcement officers are qualified and authorized to direct traffic and override signals (see: CRS 42-4-603 Obedience to Official Traffic Control Devices). Law enforcement officers are the only ones who can legally assign (or override) right of way through an intersection when the assignment is different from the current traffic control (i.e. stop sign or traffic signal). Flaggers can assist law enforcement officers at such intersections by queueing traffic before the intersection. Law enforcement officer(s) will direct flaggers when to stop and release traffic for the officer to direct traffic through the intersection.

  Flaggers can flag at intersections as long as the regulatory devices, i.e. traffic signals, stop signs, and/or yield signs, are covered. Flagging at such intersections will require numerous flaggers and proper communication skills and devices.
- **Flagger Procedures, Techniques, and Equipment:** In order to flag properly, safely, and effectively, comprehension of flagging procedures, techniques, equipment, manuals, and communication is important for the safety of coworkers, the traveling public, and flaggers.
- **Proper work attire:** As discussed previously in Section C, adhering to uniform safety standards and preparing for harsh weather, will ensure flaggers are visible, safe, and comfortable.
- **General understanding of the construction project details:** Flaggers frequently interact with the traveling public and they need to be able to answer their questions. Some important details to know regarding the project may include type of work, closure times, estimated delay time, available detours, nearest emergency services, etc.
- **Good communication skills:** Whether flaggers are communicating with the TCS, worksite crewmembers, or the public, they need to be open, honest, and professional. Good communication with the public can improve flagger credibility, and therefore have a positive impact on the public's opinion of flaggers.
- **Awareness of surroundings:** Adverse weather and traffic conditions can make a flagger's job more difficult. It will take drivers longer to stop or slow down on wet and icy pavement, and a driver’s sight distance will be affected by low light conditions such as heavy fog or rain. Additionally, flaggers should always be alert in case of distracted drivers as they pose a threat to flaggers and their coworkers. Inattention will leave flaggers, coworkers, and the public vulnerable to dangerous situations.

  There may be instances where the Flaggers may have to think and react quickly to dangerous situations. An example of a dangerous situation might be an active landslide which leaves debris in the roadway. In this example, the Flagger would need to notify the supervisor and coordinate the other Flagger(s) to stop traffic until the route is safe and cleared or an alternate route is

established. In this type of situation it might be necessary for the flagger to leave their place to remove themselves from harm's way, however, please note that flaggers should not leave their flagging station otherwise. Emergencies can be different in different areas, so Flaggers should discuss these potentially dangerous situations with their TCS prior to assuming their flagging position. This will help flaggers and the traveling public if an emergency occurs.

Flaggers should also have a plan for errant vehicles that enter the work zone, and how they would notify fellow crew members. Usually this is done with an air horn or whistle to be heard over the construction noise, but it may also be necessary to notify the TCS using a two-way radio or cell phone if no radios are provided. Other flaggers should also be notified so they can take evasive actions if necessary.

It's important to remember that although this manual provides general information on flagger job duties, every project will be different. Learning the details about each individual project will not only make flagging easier, but also safer.

Interacting on the Job

Flaggers serve as the construction project's most noticeable representative to the traveling public. As this representative, the Flagger needs to be able to answer questions politely and to the best of their knowledge. The traveling public may become frustrated when asked to stop or slow down, and it is imperative that the Flagger remain calm. When interacting with the public, a Flagger should never lean on or touch anyone's personal vehicle due to liability issues. Additionally, being in such close proximity to a vehicle can put the Flagger in danger if the driver decides to disobey the Flagger's instructions. Frustrated drivers can become dangerous, and if the situation escalates, the Flagger should note the description of the vehicle as well as the driver so that they can assist law enforcement if necessary. If there are any issues, the Flagger should remove themselves from harm's way and contact their supervisor immediately.

While Flaggers may not be able to prevent unexpected events, they are able to control how they react. Flaggers should remain in contact with their TCS to provide them with as much information as possible so that they can help alleviate potentially dangerous situations.

When two or more flaggers are working together, they should always be able to see each other or use two-way radios for proper communication. In such cases, one flagger is always in charge and the other flagger(s) must coordinate their activities accordingly.

Flaggers should know and be able to answer the following questions road users may have:

- What is the construction project?
- Is there a detour route? Flaggers should be able to give directions to motorists who may be unfamiliar with the area.
- How long is the delay?
- Can I get into my driveway?
- Can I get into that business?
- Is this road going to be closed all day?
- Can I turn left or right or take a U-turn?
- Is this a long-term project? Or, when is this project going to be finished?

Emergency Vehicles

Emergency vehicles actively responding to emergencies have the highest priority; however, flaggers are responsible for making sure the travel lanes are clear before allowing them to proceed. The TCS is responsible for the project's Method of Handling Traffic (MHT), which typically describes procedures for emergency vehicles' right of way. However, it will still be the flagger's responsibility to react appropriately should they encounter emergency vehicles while flagging. Different road closure types call for different methods of handling emergency vehicles and every construction project will contain different variables. Below are some tips to follow, but always make sure to discuss the following procedures with the TCS prior to flagging:

- When an emergency vehicle running code needs access to or through a flagger controlled roadway, the flagger will communicate with the TCS, other flagger/s, and the rest of the construction crew (if possible) to coordinate for their safe passage.

- The flagger with the emergency vehicle on their end will STOP the traffic on their side when it is safe to do so. The flagger will then communicate with the other flagger/s to STOP their traffic as well. This will provide a clear path for the emergency vehicle/s.
- The flagger will need to be in communication with the TCS to ensure that no construction equipment or personnel enter the clear path.
- Depending on the situation (i.e. hazard in the travel lane, injured worker, crash in the active work zone) the flagger may need to communicate with the emergency vehicle verbally.
- Once it is clear, the emergency vehicle/s can be released to continue to or through the work zone.
- Once the emergency vehicle/s or emergency situation has been resolved, flaggers will need to coordinate with each other and the TCS to reinitiate the flagger controls.
- Depending on the active work zone configuration, a detour may be a better alternative.
- Depending on the active work zone configuration, the emergency vehicle may be required to stop for a longer period of time (i.e. an active blasting zone, debris in roadway, etc.).

On larger or more complicated construction projects, a line of communication may be set up between the TCS and the emergency services. In these situations, the flagger's role would remain the same, but the flagger will need forewarning of an approaching emergency vehicle.

Flagging Station

One of the most important things flaggers must know before flagging on an active construction project is where the flagging station will be. The location of the flagging station will be addressed in the temporary traffic control plan (TTCP) (aka TCP and MHT). Certain factors such as road conditions, traffic speed, curves, hills, size of the roadway, etc. will determine the proper location for a flagging station.

The location of a flagging station is important for these reasons:

- The flagger must be positioned so that they are clearly visible to oncoming traffic. This will help flaggers control and direct traffic, as well as ensure flaggers safety on the job.
- Flaggers must be stationed far enough ahead of the work site so that cars and even heavily loaded trucks can slow down enough to stop.
- Flaggers must be close enough to the construction itself to protect their fellow workers.

Since a flagger’s position in an active work zone involves being near traffic, it is essential that the Flagger is aware of their surroundings at all times. Flaggers must never turn their back on live traffic. If a Flagger turns their back they may be putting their own life and their coworkers’ lives at risk.

Upon arrival at the flagger station, the flagger must make sure they have an appropriate escape route. In preparing an escape route, obstacles that might hinder escape need to be identified. These obstacles might be bridges or structures, guardrails or barricades, difficult terrain or water, and even canyon walls or drop offs. If an appropriate escape route cannot be established, Flaggers should contact their TCS for assistance in relocating the flagger station. By planning ahead and monitoring surroundings, Flaggers can protect themselves, coworkers, and the public from dangers such as erratic, careless, and distracted drivers.

Advanced warning signs must always precede flaggers so motorists are aware of the Flaggers presence. If these signs are missing or knocked down, the TCS must be informed immediately, as this creates an unsafe condition and is against regulations. Flaggers cannot leave the flagging station to fix issues with TTC devices.

Flaggers cannot leave their station (or AFAD assigned post), unless they are relieved by a certified Flagger, are dismissed by their supervisor when a Flagger is no longer required, or to immediately get out of harm's way. Flaggers that need to be relieved must contact their supervisor as soon as possible or have pre-planned breaks. Flaggers must not leave their post until their appropriate replacement is in place.

Flaggers need to be aware that other factors can reduce their visibility to traffic. Some of these factors are:

- Inclement weather conditions such as rain, fog, snow, hail, etc.
- Darkness or sunlight in drivers’ eyes
- Color contrasts, e.g. the STOP/SLOW paddle, orange work zone signage, drums, and cones may blend in with an orange-red vest

Items prohibited at Flagger Stations include but are not limited to:

- Music player of any kind, including earbuds and headphones per CRS 43-5-308(2)(d)
- Chairs or stools
- Alcoholic beverages, recreational drugs, or anything that can impair judgment or reaction time
- Books, magazines, or any other reading materials per CRS 43-5-308(2)(d)

Where to Stand

To be effective, flaggers must stand where they can be seen by the traveling public. Flaggers need to remember to separate themselves from their coworkers so that they are easily recognized by motorists. Flaggers should not stand in the shade, behind a rock, just over a crest of a hill, just around or in a curve, near construction materials and equipment, or next to a vehicle, and must never turn their back to live traffic. CDOT recommends all vehicles be parked at least 200 feet away from a flagger station. If any of these obstructions exist, please contact the TCS to discuss a possible solution. If flaggers feel that they are not visible to traffic, or that they may be too close to the work area, they must speak to their supervisor as soon as possible, as their life may depend on it.

One aspect of a flagging station location is ensuring that the traffic has enough room to stop. The following Speed and Stopping Distances chart provides generally acceptable stopping distances for passenger vehicles based upon speed. In addition, when trying to figure out how long it will take a truck to stop, one must always assume that trucks are fully loaded. A heavily loaded truck will require a longer distance and more time to stop, especially if the truck is traveling down a hill or in wet conditions. Other factors that affect stopping distances can be traffic volume, traffic speed, weight of vehicle, tire condition, type of road, road and weather conditions, visibility, and grade of road (uphill vs downhill). All of these factors should be accounted for in the traffic control plan (TCP). The flagger should speak to their TCS if they have any concerns regarding these issues as they relate to the flagging station location.

SPEED (MPH)	SPEED (FPS)	Stopping Sight Distance (FT)	SPEED AND STOPPING DISTANCES
20	29	115	
25	37	155	
30	44	200	
35	51	250	
40	59	305	
45	66	360	
50	73	425	
55	81	495	
60	88	570	
65	95	645	
70	103	730	
75	110	820	

Typically flaggers stand on the shoulder that is next to the lane of traffic they will be guiding. If a traffic lane has been closed, the flagger may stand in the closed lane. Flaggers must not stand in any lane with live traffic. Lastly, flaggers should not stand so far off the shoulder that they cannot be seen by the oncoming traffic.

Flagger Tips

- Review safety procedures with the team or hold a pre-job safety meeting.
- Establish a way to communicate with the team prior to moving to the flagger station in the event of an emergency or technology failure.
- Consciously prepare an escape route in advance.
- Flaggers must never turn their back to live traffic and should keep their head on a swivel at all times.
- Never mingle with the work crew while flagging. Flaggers need to be separate and identifiable to motorists.
- Flaggers must not sit, recline, or squat as they need to be seen and to be able to respond quickly to an emergency.
- Flaggers must not leave their flagging station unless they are in harm's way, have been relieved by a certified flagger, or have been notified by the TCS that a flagger is no longer required.
- Do not come to work under the influence of drugs, alcohol, medications, or anything that can impair your reaction time and ability to think clearly.
- Cell phones should only be used in case of emergency.
- Ensure traffic proceeds safely and smoothly through the work zone.
- Flaggers must always be aware of their surroundings - SITUATIONAL AWARENESS!
- **ALWAYS BE ALERT!**
- **Pole dancing and paddle spinning is NOT allowed!**

Flaggers may be removed from job sites due to inadequate or improper flagging techniques, not having their flagger certification card on their person while flagging, or if there are drug and alcohol concerns.

Exercise D

Please record your answers on a separate sheet of paper. Your instructor will discuss the correct answers when you are finished.

1) Flaggers should always stand:
   a) On the curve in the road
   b) Just over the crest of a hill
   c) Where they can be seen

2) Which of the following should flaggers not do when flagging:
   a) Indulge in idle conversation with their coworkers
   b) Stand with a group of people
   c) Recline or sit on the ground to flag
   d) Turn their back to traffic
   e) All of the above

3) True or False? Flaggers can sit or recline when no vehicles are present.

4) True or False? If a flagger needs to take a break it's okay to leave their flagging station if there are no cars coming.

Section E: How to Flag

Flagging with a Paddle

Flaggers should face oncoming traffic and hold the STOP/SLOW paddle straight up. The flagger must not wave the STOP/SLOW paddle to prevent driver confusion. Flaggers are also not allowed to place their paddle in a traffic cone or stand, prop it up, or lean it up against anything when flagging.

The three basic flagging functions per the MUTCD Section 6D.05.03 are stopping, releasing, and slowing/alerting traffic, and the procedures are as follows:

Stopping Traffic with a Paddle

- 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.
- Attempt to catch the first driver's eye. The flagger will maintain their position, and maintain eye contact until the driver comes to a complete stop
- After the first vehicle has stopped, the flagger can move to a position near the center of the roadway or next to the traveled lane, where they are visible to other stopping vehicles. The flagger needs to be visible, so other drivers do not try to pass the first stopped vehicle.
- The flagger must not cross into the open traveled lane since vehicles will be coming from the other direction. For safety reasons, the flagger should not stand directly in front of any stopped vehicles but should stand next to the driver's side front quarter panel of the first stopped vehicle.

Releasing Traffic with a Paddle

- The flagger will coordinate with the other flagger(s) before releasing traffic.
- When it is safe to let traffic proceed, the flagger will move back to the shoulder or closed lane and stand directly facing the traffic flow. The flagger must not stand in front of any vehicles.
- To direct stopped road users to proceed, 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.
- The flagger shall motion with the free hand for road users to proceed, slowly sweeping their arm across their body.

Slowing Traffic with a Paddle

- 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
- Make eye contact with each driver
- To further alert or slow traffic, the flagger holding the SLOW paddle face toward road users may motion up and down with the free hand, palm down.

Single Flagger Method for a Short One-Lane, Two-Way TTC Zone

Per the MUTCD Section 6E.02.02, *when a one-lane, two-way TTC zone is short enough to allow a flagger to see from one end of the zone to the other, traffic may be controlled by either a single flagger or by a flagger at each end of the section.*

When a single flagger is used, the flagger should be stationed on the shoulder opposite the construction or work space, or in a position where good visibility and traffic control can be maintained at all times. When good visibility cannot be maintained by one flagger station, traffic should be controlled by a flagger at each end of the section.

Pilot Car Operations

Work is sometimes performed over a long section of roadway. When the flagger at the opposite end is not visible to the other flagger, a pilot car may be used to escort vehicles through the work area. Flaggers will stop vehicles in the approved manner as they approach and detain them until the pilot car arrives from the opposite direction.

After stopping the first vehicle, the flagger will move to a position near the centerline of the roadway so as to be easily seen by approaching subsequent drivers. Prevent vehicles from pulling out of line and trying to pass other waiting vehicles, as this would seriously congest the traffic holding area and endanger or impede opposing traffic.

After the pilot car arrives and has pulled into position at the head of the stopped traffic line, the flagger will then step back onto the shoulder and, with the SLOW sign extended, motion the pilot car driver and others to proceed. The pilot car will lead the group of vehicles to the other end of the work zone.

If using the hand-off flag method (or alternate hand-off item method), the flagger will stop the last vehicle in the line and hand the driver a flag (or other item) that they will give to the flagger at the other end of the work zone. Instruct the driver of the last vehicle to not pass other vehicles in the work area. The opposite flagger, upon receipt of the flag, then knows it is safe to allow traffic to move in the other direction. Hold all traffic until the flag is returned or the “all clear” signal is given.

Nighttime Flagging with a Paddle

Nighttime is also referred to as “hours of darkness” and is defined as 1⁄2 hour before sunset to 1⁄2 hour after sunrise. Nighttime flagging adds an additional level of danger for flaggers. In addition to a flagger's tools and devices (i.e. vest, hard hats, paddle, etc.) needing to be retroreflectorized, the flagging station must also be lighted during nighttime flagging operations. The only exception to this is in emergency situations. Before flagging at night, the flagger must check to make sure all of their equipment and required clothing is either retroreflectorized or has retroreflective tape on it. If a flagger has any concerns, they must notify their TCS immediately. Nighttime flagging stations are lit using light plants (shown in picture on right, source Wikipedia). Flashlights with red cones or lighted wands can be used. See the Lighted Wands or Flashlights in Section B of this manual for more information.

Stopping Traffic at Night with Paddle

Follow the same procedure for Stopping Traffic with a Paddle. If flaggers are using a red lighted wand at night, the flagger will hold the wand horizontally and stationary with your arm extended.

Releasing Traffic at Night with Paddle

Follow the same procedure for Releasing Traffic with a Paddle. If a flagger is using a red lighted wand, point the wand at the vehicle’s bumper, then slowly aim the wand toward the open lane, then hold the wand in that position. Repeat the motion as necessary when new vehicles arrive. The Flagger must not swing, or wave, the wand over their head.

Slowing Traffic at Night with Paddle

Follow the same procedure for Slowing Traffic with a Paddle. If a flagger is using a lighted wand, point the wand toward oncoming traffic and quickly wave the wand in a figure eight motion (shown in picture on right), making sure that the arm does not swing above the shoulder.

Use of Flags

Flag use should be limited to emergency situations, or used as an alternative to the STOP/SLOW paddle when flagging during high wind conditions, as the paddle may be hard to control. Flags used at night must be retroreflectorized red. Flaggers must always speak to the TCS prior to using alternative tools and alternative methods.

When using flags, follow the basic flagging procedures for where to stand, coordination and communications, etc. which can be found in the Stopping Traffic with a Paddle, Releasing Traffic with a Paddle, and Slowing Traffic with a Paddle sections.

Flagging with a Flag

Per the MUTCD Section 6D.03, the methods below shall be used when using a flag in an emergency situation or when using a paddle is not practical due to high winds.

Per the MUTCD Section 6D.04, *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 flag.*

When a flashlight is used for flagging in an emergency situation at night in a non-illuminated flagger station, the flagger shall hold the flashlight in the left hand, shall hold the flag in the right hand as shown in the pictures below, and shall use the flashlight in the manners as described below to control approaching road users:

***Stopping** - 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 the full area of the flag is visibly hanging below the staff. The free arm shall be held with the palm of the hand facing traffic and above shoulder level.*

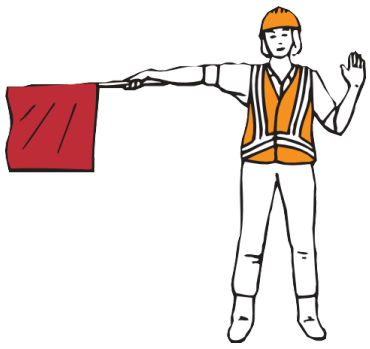
> ***Stopping At Night When Using a Flashlight*** - To inform road users to stop, the flagger shall hold the flashlight horizontally and stationary with the left arm extended.

***Releasing** - 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.*

> ***Releasing At Night When Using a Flashlight** - 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.*

Slowing - To alert or slow traffic, the flagger shall face road users and slowly raise and lower the flag, from shoulder level to straight down*. Do not raise the arm above horizontal position. The flagger shall keep the free hand down.*

> ***Slowing At Night When Using a Flashlight** - To alert or slow traffic, the flagger shall point the flashlight toward oncoming traffic and wave the flashlight in a figure eight motion.*



STOP TRAFFIC WITH FLAG

RELEASE TRAFFIC WITH FLAG

SLOW TRAFFIC WITH FLAG

Exercise E

Please record your answer on a separate sheet of paper. Your instructor will discuss the correct answers when you are finished.

1) True or False? When flaggers are stopping or slowing traffic, they should always attempt to catch the driver's eye.

2) Which flagger is stopping traffic?

a)

b)

c)

3) What hand motion do you use to slow/alert traffic?:

a) Hold your free arm out, palm facing traffic
b) Aggressively wave your hand above your head to get the drivers attention
c) Slowly motion up and down with your free arm, palm down
d) Do nothing, there is no motion for slowing traffic

4) When releasing traffic with a flag, where should the flag be?

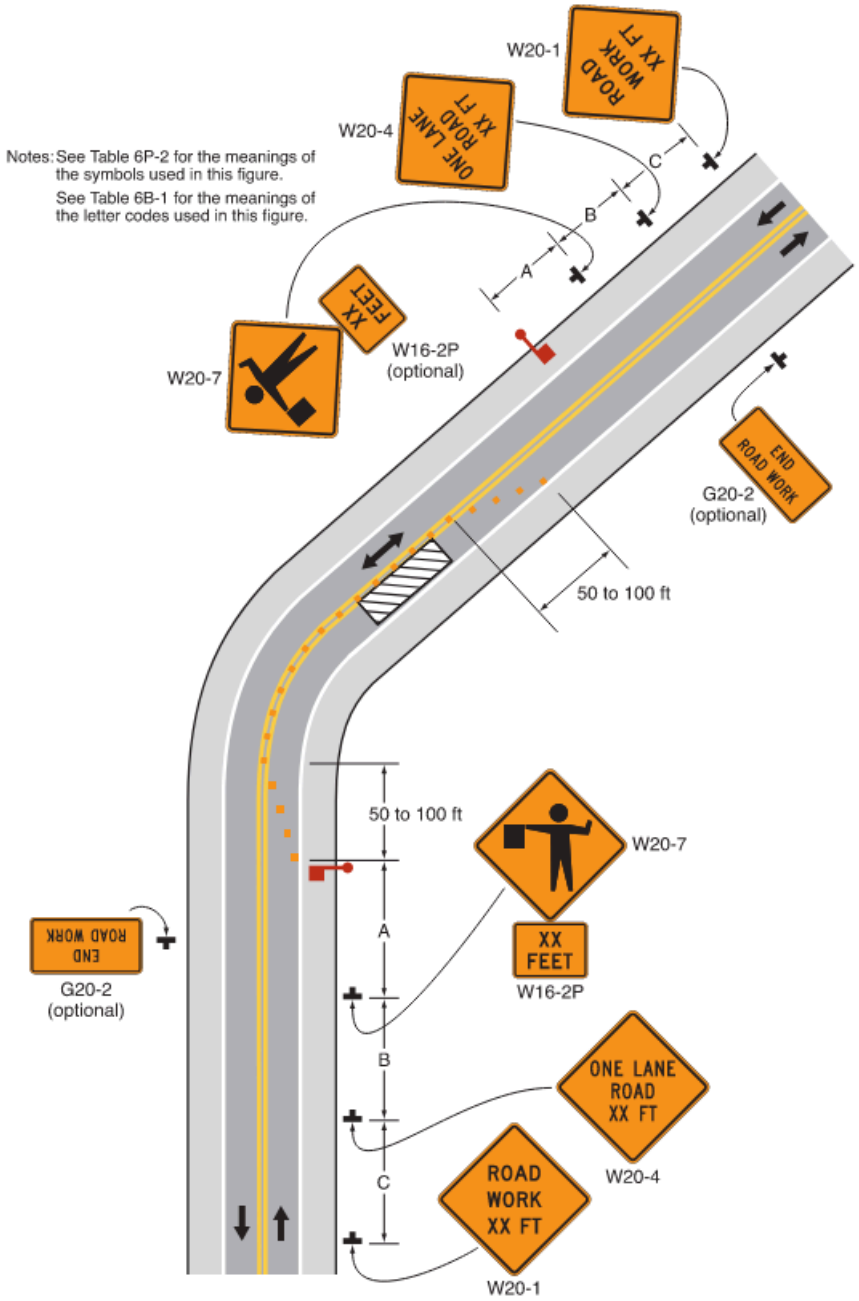
a) Hidden behind your leg
b) Above your head
c) Set it on the ground next to you
d) Flags are not allowed to be used

Section F: Typical Work Zone Flagging Diagrams

The excerpts and figures in this section are taken directly from the 2023 MUTCD. These are the typical applications for TTC zones when Flaggers are used. Not every condition is addressed, and these applications and illustrations represent minimum solutions for the conditions shown. Flaggers are not responsible for the TTC devices, but they should be familiar with the different types and set-ups, and should verify with their supervisor that the correct TTC has been set-up before they start Flagging. See MUTCD Table 6P-1 for a listing of TTC typical applications that are organized according to duration, location, type of work, and highway type.

Lane Closure on a Two-Lane Road Using Flaggers

Figure 6P-10. Lane Closure on a Two-Lane Road Using Flaggers (TA-10)



Typical Application 10

Options for MUTCD Figure 6P-10:

1. For low-volume situations with short work zones on straight roadways where the flagger is visible to road users approaching from both directions, a single flagger, positioned to be visible to road users approaching from both directions, may be used (see Chapter 6D).
2. The ROAD WORK AHEAD and the END ROAD WORK signs may be omitted for short-duration operations.
3. Flashing warning lights and/or flags may be used to call attention to the advance warning signs. A BE PREPARED TO STOP sign may be added to the sign series.

Guidance for Figure 6H-10:

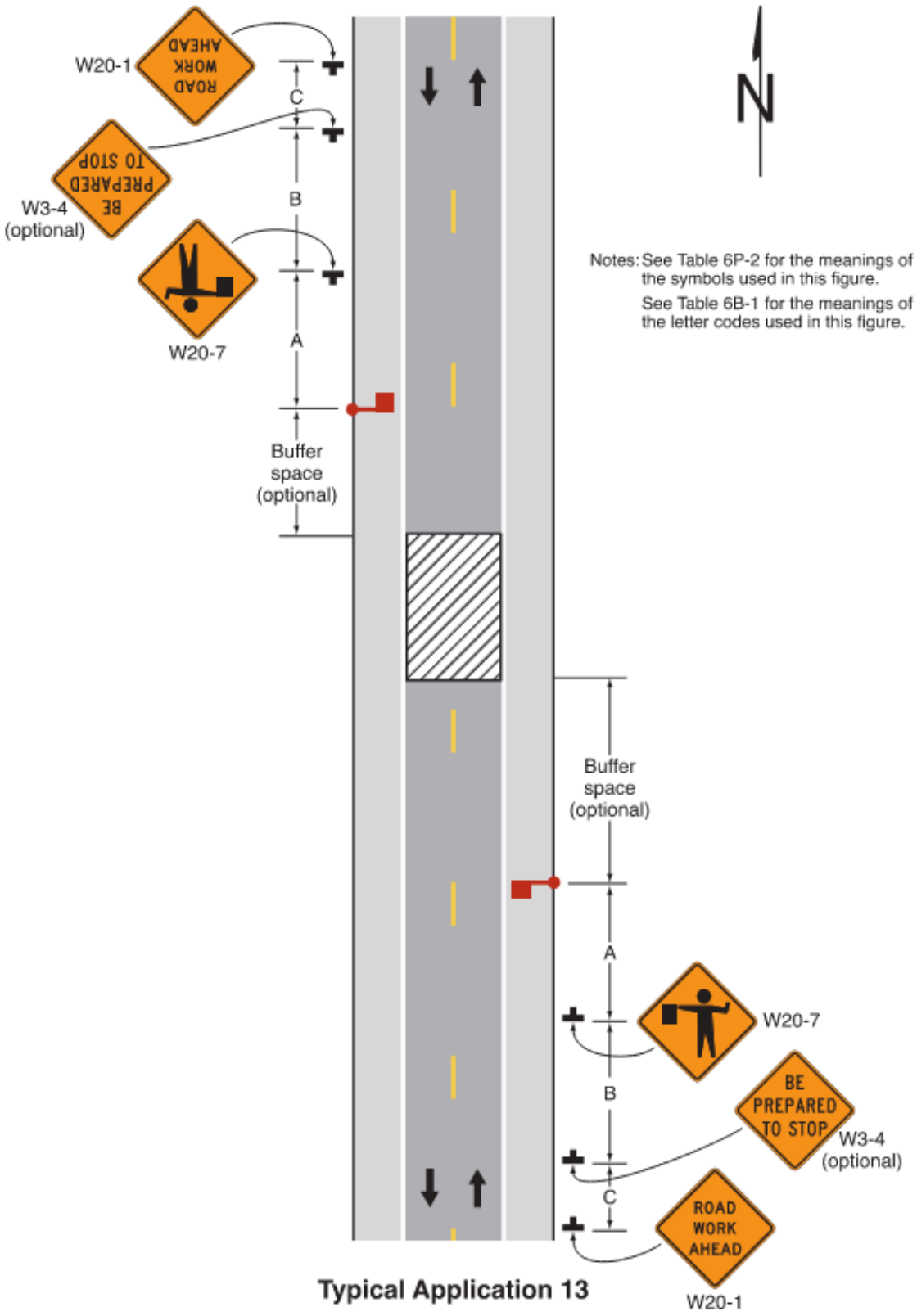
4. *The buffer space should be extended so that the two-way traffic taper is placed before a horizontal (or crest vertical) curve to provide adequate sight distance for the flagger and a queue of stopped vehicles.*

Standard:

5. At Night, flagger station shall be illuminated, except in emergencies

Temporary Road Closure

Figure 6P-13. Temporary Road Closure (TA-13)



Typical Application 13

Support for MUTCD Figure 6P-13:

1. Conditions represented are a planned closure not exceeding 20 minutes during the daytime.

Standard:

2. **A flagger or uniformed law enforcement officer shall be used for this application. The flagger, if used for this application, shall follow the procedures provided in MUTCD Sections 6D.05 and 6D.06.**

Guidance:

3. *The uniformed law enforcement officer, if used for this application, should follow the procedures provided in MUTCD Sections 6D.05 and 6D.06*

Option for Figure 6P-13:

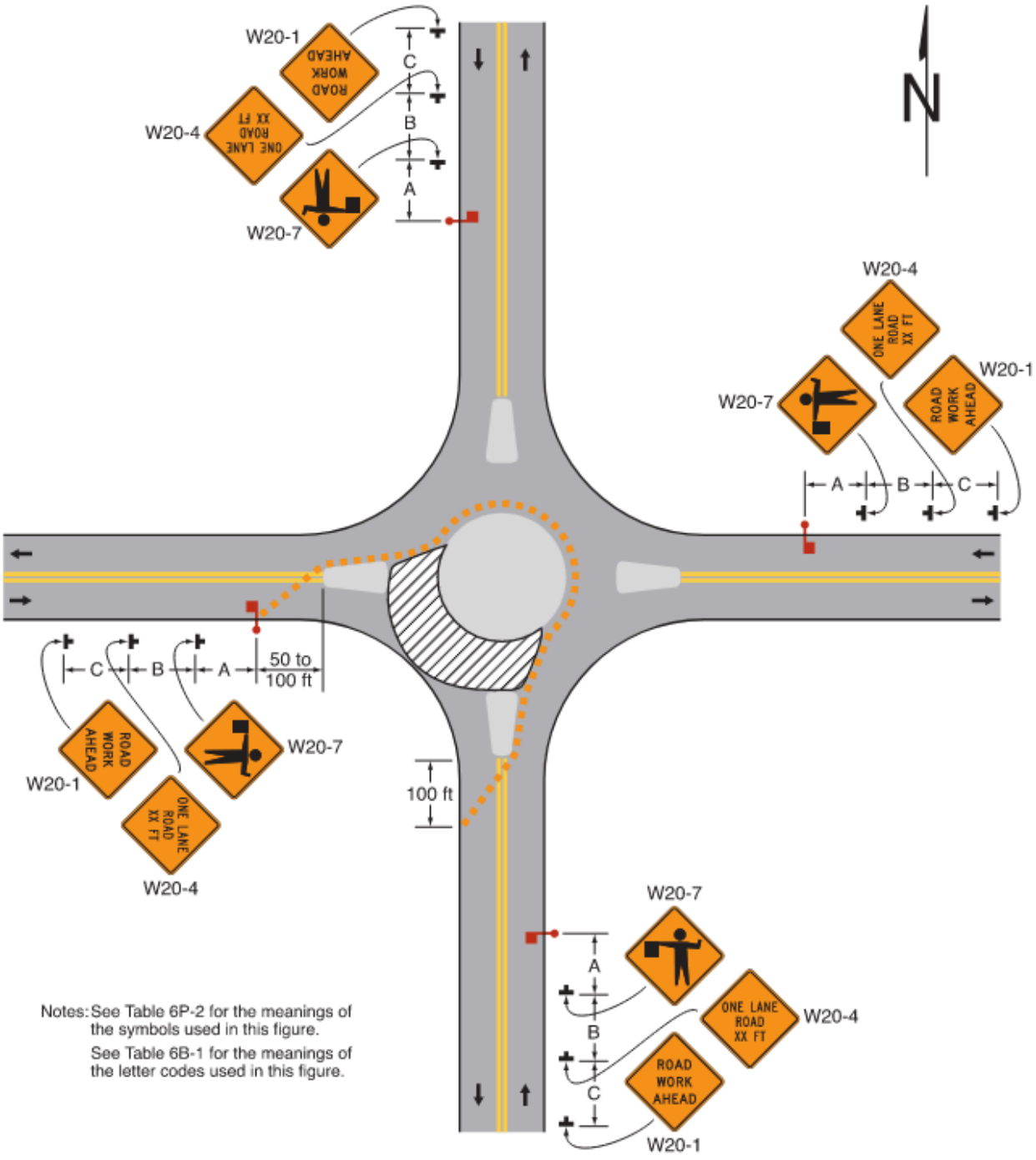
4. A BE PREPARED TO STOP sign may be added to the sign series.

Guidance for MUTCD Figure 6P-13:

5. *When used, the BE PREPARED TO STOP sign should be located before the Flagger symbol sign.*

Short Term Closure in a Circular Intersection

Figure 6P-52. Short-Term or Short-Duration Work in a Circular Intersection (TA-52)

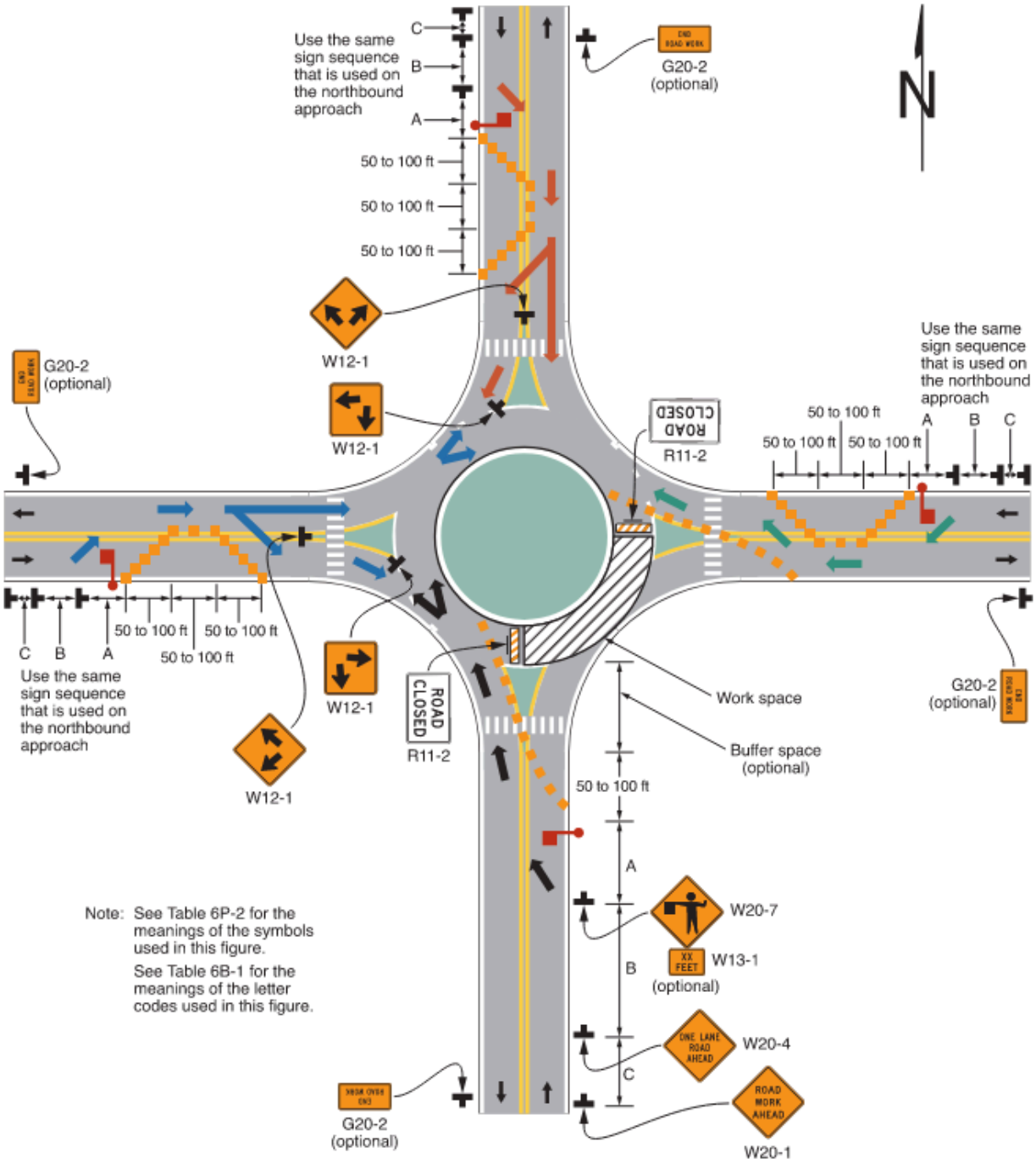


Notes: See Table 6P-2 for the meanings of the symbols used in this figure.
See Table 6B-1 for the meanings of the letter codes used in this figure.

Typical Application 52

Long Term Closure in a Circular Intersection

Figure 6P-53. Flagging Operation on a Single-Lane Circular Intersection (TA-53)



Typical Application 53

Section G: Resources

Links to the information below is located on the CDOT Flagger Program website:

https://www.codot.gov/safety/traffic-safety/operations/flagger-program/main

Know Your Rights

You may also ask today's flagger instructor to provide additional information on any of the following topics:

- **Americans with Disabilities Act:** This law protects you from discrimination on the basis of disability not just in the workplace, but in all other facets of public life. Visit www.ADA.gov for more information.
- **Federal Labor Acts:** These contain information about your rights as an employee, including rights regarding payroll, training, and wage decisions. Visit https://www.dol.gov/agencies/whd/flsa for more information.
- **Required Work Site Posters:** Law requires any job you work on, to put up posters for employees with information regarding specific employee rights. These include information about safety standards, unions, pay, and medical leave.
- **OSHA Traffic Safety & Flagger Signaling:** OSHA provides safety information for all employees, including information about your safety on the job and how to properly flag under federal regulations. Visit www.OSHA.gov for more information.
- **OSHA Multilingual Training Requirements:** This document explains federal requirements for employers to provide training in languages their employees can understand.

Rules and Regulations

While not all construction jobs are required to adhere to CDOT's rules and regulations, CDOT maintains standards and specifications that go beyond the MUTCD requirements. You may ask your flagger instructor for additional information.

- **Manual on Uniform Traffic Control Devices (MUTCD):** Chapter 6 of this document provides information about all aspects of Temporary Traffic Control (TTC). Section 6E provides all necessary standards for flagging, including diagrams for the use of AFADs and flagger signals.
- **Colorado Revised Statutes:** Section 43-5-308 defines the State of Colorado's requirements for flaggers.
- **Code of Colorado Regulations:** Section 3.4.2.10 of this document states the specific requirements for flagger certification.
- **CDOT Standard Specifications for Road and Bridge Construction:** Section 630 provides standards for traffic control in work zones, including planning, materials, and methods. Section 630.14 provides specific information about CDOT's flagging requirements.
- **CDOT Construction Manual:** Section 630.2.6 Flagger Certification.
- **ANSI/ISEA RetroReflective Apparel Standards:** This standard provides the standard requirements for all necessary retroreflectorized apparel.

Conclusion

At the end of this course, you should have a full understanding of the roles and responsibilities of a flagger in the State of Colorado. While the state, cities, and counties may have slightly differing methods in handling traffic, the overall process of how to guide traffic and inform the public remains universal. Your role will remain vital for years to come in terms of protecting the traveling public while also assisting your coworker's safety from common highway and road dangers and hazards in the construction work zone. If you wish to expand upon your knowledge, experience, and responsibilities, reach out to your company, TCS, or supervisor. There are plenty of opportunities in the field of construction and you have a career path at your disposal if you so desire.

Good Luck, and stay safe!

Appendix A - Acronyms and Abbreviations

AASHTO	American Association of State Highway and Trans[portation Officials
AFAD	Automated Flagger Assistance Device
ANSI	American National Standards Institute
ATSSA	American Traffic Safety Services Association
BNSF	Burlington Northern Santa Fe
CDOT	Colorado Department of Transportation
CFR	Code of Federal Regulations
CRS, C.R.S.	Colorado Revised Statute
FHWA	Federal Highway Administration
HVSA	High-Visibility Apparel (work zone apparel)
I&R	Installation and Removal
ISEA	International Safety Equipment Association
MHT	Method of Handling Traffic
MUTCD	Manual on Uniform Traffic Control Devices
NSC	National Security Council
OSHA	The Occupational Safety and Health Administration
PROWAG	Public Right of Way Accessibility Guidelines
PPE	Personal Protective Equipment (vests, hard hats, boots, gloves, etc.)
PCMS	Portable Change Message Sign
TCD	Traffic Control Device
TCP, TTCP	Traffic Control Plan, Temporary Traffic Control Plan
TCS	Traffic Control Supervisor
TCT	Traffic Control Technician
TMA	Truck-Mounted Attenuator
TTC	Temporary Traffic Control
TTCZ	Temporary Traffic Control Zone
UPRR	Union Pacific Railroad
UTC	Uniform Traffic Control (law enforcement officers)
WZ	Work Zone
WZTC	Work Zone Traffic Control

Appendix B - Exercise Answers

Exercise A Answers

1) E
2) A
3) B
4) True
5) B

Exercise B Answers

1) A
2) True
3) B

Exercise C Answers

1) B
2) D
3) True

Exercise D Answers

1) C
2) E
3) False
4) False

Exercise E Answers

1) True
2) A
3) C
4) A

END
ROAD WORK