FLAGGING TRAFFIC CONTROL



AGC OF WYOMING, INC.

Wyoming Flagger Training Program

this program has been prepared by

AGC of Wyoming, Inc.

with the cooperation and approval of the

Wyoming Department of Transportation

June, 2021

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Introduction

This is a self training course for flaggers. As such, it must serve the needs of flaggers with varying backgrounds and levels of experience. You may be a first time flagger, and many of the guidelines and principles may be new to you. This course will be very beneficial to you as it covers the general principles and guidelines that are important for a flagger to know.

We want you to know the proper way to flag in Wyoming. This develops a consistency in flagging that trains the motorist. If all flaggers use the same procedures for similar situations, then the motorist will have a better understanding of what you want them to do.

You may be a flagger with many years experience, and this will simply be a refresher course. As such, the flagger training course will be a reminder to think about the situations that you will encounter as a flagger.

This course does not cover every situation, but using the general principles and guidelines that are put forth here, flaggers should be able to handle most situations that might arise on the job site. When something does come up that is unfamiliar, don't be afraid to ask for advice and help.

As a flagger on a construction job in Wyoming, you have an important job that carries heavy responsibility. You are responsible for the safety of the motorist, your fellow workers, and yourself. Let me say that again. You are responsible for the safety of the motorist, your fellow worker, and yourself.

The minimum age to flag on a Wyoming construction project is 18, but some contractors may have an age criteria which requires flaggers to be older than 18.

By their very nature, construction work zones are confusing to motorists at best, and at worst, they are dangerous. Flaggers doing their job in an efficient manner can reduce both the confusion and the danger to the motorist. In doing this, there will be fewer

accidents in work zones and a reduction in the number of motorists and workers who are injured or killed in our construction zones.

Flagging is an important job, and we want you to take the responsibility seriously.

After reviewing this course, you will be required to take a test to ensure that you understand the proper way to flag. A passing grade on the test is required. After you pass the test, you will be issued a flagger certification card which you must have on your person while you flag. It is strongly recommended you carry this manual with you for reference while you are flagging.



Your certification card is valid for three calendar years from the date of issuance. It expires

December 31st of the third year. It is good for all Wyoming projects you work on during the year as long as you work for the same contractor. If you go to work for another employer, you must be recertified.

Flagger Attributes

Good flaggers possess:

- Intelligence and common sense.
 - Be able to handle unusual situations.
 Not every situation will be covered, but the basic principles will still apply.
- Patience.
 - There may be times with very little traffic and it could be tempting to read, use your phone, or listen to music with headphones.
 - Headphones/earbuds/airp ods are not allowed. Flaggers need to be alert at all times as situations change and to listen for approaching traffic.
 - Times may be stressful, but you need to remain calm and alert.
 - Motorists may be upset, belligerent, or impatient and vent to you.
- Ability to handle emergency situations.
- Attentiveness.
 - This work is dangerous. Fellow workers, the traveling public, and your own safety are at risk when you are not alert and ready.
- Be in good physical condition.
 - Possess the strength required to adequately handle the paddle and flag, especially in Wyoming winds.
 - Have good vision and hearing.
 - Have the ability to stand for long periods, sometimes 12 hours, and in various weather conditions

• Possess good communication skills

- Ability to communicate information regarding conditions and time delay to the motorist in a clear manner.
 - Note, the predominant language in Wyoming is English, and it is expected for the flagger to communicate in this language.
- Use paddle and hand signals learned in this course to communicate.
- Ability to use a radio for communication, if used on a job site.



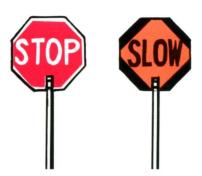
- No headphones to be worn or loud music playing while working.

Flagger Equipment

Flagging equipment is meant to communicate with the motorist and/or other workers, and is for your safety by making you more visible to the motorist. National guidelines recommend the primary motorist communication device be a STOP/SLOW paddle, which in Wyoming is required.

Paddle:

- Octagonal in shape.
- Minimum of 18 inches in size.
- STOP side should have:
 - Red background.
 - Six (6) inch white lettering,
 - White border.
- SI OW side should have:
 - Orange background,
 - Six (6) inch black lettering,
 - Black border.



• Flag

- Can be used to help draw attention and must be:
 - Orange or fluorescent orange,
 - Square in shape,
 - 18x18 inches,
 - Solid material.
 - Mesh is not allowed.
- Flags are **not** to be used to control or direct traffic.
 - **NOTE** In an emergency, the flag may be used to control traffic.
- For use during daylight hours. If flagging at night, substitute the flag for a flashlight with a six (6) inch red cone or lighted wand.



• Personal Protective Equipment

- For your own protection, you must wear a strong yellow green vest and hard hat.
 - Vest and hard hat should meet ANSI 107 Class 2 for daytime work and Class 3 for nighttime work.
- Vest must be reflective.
- If a hard hat is not available in the correct color, a cover may be used over it.
- Most traffic control devices are orange and white, and the strong yellow green shows contrast from that.
- The vest and hard hat will help make you more visible to the motorist.



Eventually, flagging equipment and PPE will become older and need to be replaced. For examples on when replacement should be considered, see Figures 1 and 2.

FIGURE 1





Acceptable: Faces of signs will be fully legible, with few abrasions and little loss of lettering. Surface is free of residue, foreign substances, and has no drill holes. No scratches that are visible. Handle is rigid and in good condition.





Marginal: Surface has many abrasions over the sign face, but it does not affect the legibility of the message. Surface is free of residue. Fading of color is apparent, but background color and retroreflectivity are still discernible.





<u>Unacceptable</u>: Either surface of the sign is peeling, severely scratched, faded, and may/may not have foreign substance on it (concrete, mud, tack, etc.). Some letters are missing greater than 50% of material, message is not legible, no longer retroreflective, and handle is missing or paddle is mounted to something else

FIGURE 2





<u>Acceptable</u>: New high-visibility, with vivid color contrast and retroreflectivity. Used but like new condition will still have high color contrast and retroreflectivity, but will not be dirty or faded.





<u>Marginal</u>: Retroreflectivity is still in good condition; however, the vest is slightly soiled and has slight fading.





<u>Unacceptable</u>: Low to no retroreflectivity, poor color contrast, substantially soiled and faded material. Reduced visibility and should no longer be used.

^{**}Photos for reference only. Vests used must be strong yellow/green in color.

Additional considerations:

- Wear proper shoes, you will be on your feet for long periods of time.
- Have clothing for three (3) seasons:
 - Wyoming weather changes quickly and you need to be prepared. Consider having rain gear and cold weather gear (i.e. gloves and ski mask).
- Appearance should be neat and official.
- Have sunscreen and bug spray.
- Pack plenty of drinking water.
- Pack snacks.

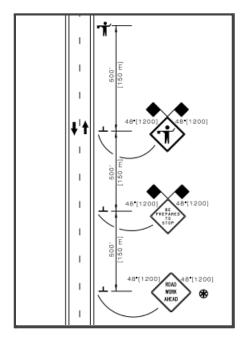


Additional Traffic Control Devices

A flagger should never occupy a flagger station on <u>any</u> roadway without some type of advance warning for the motorist. Generally, this communication is done through the use of signs placed on the roadway in advance of the flagger station. The number of signs can vary depending on the construction operations; however, a minimum of three (3) should be used (see Figure 3):

- ROAD WORK AHEAD
- BE PREPARED TO STOP
 - ** Sign to be equipped with flags.
- FLAGGER Sign
 - ** Sign to be equipped with flags.

FIGURE 3
Typical Flagger Station Signing



The distance between the flagger and flagger sign may vary based on the traffic volume and speed. Consider the following:

- Distances are different for each road type.
 - See Table 1 for distances.
- Do <u>not</u> position yourself too far from the FLAGGER sign.
 - No more than half a mile.
 - Motorists may think the sign was placed in error if too far from Flagger.
- In an emergency, signs may not be available and you will need to control traffic without them.
 - Use flashing beacons on construction equipment or flashers on a vehicle to help warn motorists.

TABLE 1
Distance Between Signs

Road Type	Distance Between Signs*
Urban (low speed) - 40 mph or less	200 feet
Urban (high speed) - 45 mph and above	500 feet
Rural - greater than or equal to 50mph	500 feet
Interstate	750 feet

^{*} Sign spacing may be slightly adjusted to meet field conditions.

Flagger Station

- Choose a location that provides high visibility of the flagger, consider the following:
 - o Don't place it on the far side of a hill.
 - o Curves can restrict sight distance.
 - Consider vegetation along the roadside.
 - How much sight distance is needed?
 - Based on speeds.
 - See Table 2.
 - Try to be as near the work operations as safely possible.
 - Shorter the work zone controlled by a flagger, the less delay to motorists.
 - o Consider your background.
 - If done safely and to improve visibility, consider flagging in a visible location.
 - Don't stand in shadows/dark areas.
 - Always have an escape route.
- Stay at your station until properly relieved.
 - Supervisor will set procedures for relieving flaggers as needed.



TABLE 2
Stopping Sight Distance

Speed Limit (mph)	Stopping Sight 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

^{*} Source: AASHTO Green Book, 2018)

^{**}Note** These distances were calculated under the assumption that the roadway is level and under normal circumstances. Distance will either increase or decrease depending on if stop is occurring uphill or downhill, respectively.

Flagging Procedures

Stopping Traffic

- Normally, start by standing on the shoulder of oncoming traffic lane.
- STOP paddle should be in upright position, an arms length away from your body closest to the road.
- Do <u>NOT</u> wave paddle, keep stationary.
 - You may wave the flag <u>over the paddle</u>
 - Do NOT use flag as pointer or wand.
- Try to make eye contact with the approaching driver.
- After the vehicle is stopped, stay in front of the vehicle but be sure to stay visible to traffic.
 - This may place you near the centerline of the road. Do not step into path of traffic coming from opposite direction.
 - You may give the first driver a brief explanation and expected delay.
 - Be professional yet firm, and do not lean on the vehicle or engage in idle chatter.
- Hold this position and continue to stop vehicles until it is time to release traffic.
 - You may want the first vehicle to stop closer to the edgeline of the road to help increase your visibility if on a curve.



- If watching both directions and the operations behind you, consider standing perpendicular to the road.
 - For traffic only approaching from one direction and you don't have to see the operations behind, then stand facing traffic.

- Occasionally, a motorist may refuse to obey STOP paddle and try "sneaking" through the work zone. If this occurs:
 - Inform the driver they are breaking the law.
 - Take down the license plate and report to Highway Patrol, and inform your supervisor.
 - Do <u>NOT</u> argue with or stand in front of the motorist.

Releasing Traffic

- To release traffic, return to the shoulder of the road, and turn the SLOW side of the paddle towards the stopped vehicles.
- Slowly use your hand to motion drivers to proceed in the intended direction.
 - Do <u>NOT</u> use flag for directions. It is intended only to draw attention.
 - If needed, hold the flag in the same hand holding the STOP/SLOW paddle.
 - Continue using the same hand motion for the remaining vehicles.

Additional Flaggers

- If the approach sight distance is limited due to curves or hills, additional flaggers may be required.
 - The first flagger in contact with traffic will slow the traffic while the second flagger down stream stops the traffic.
- A single flagger can control a line of traffic up to 1500ft long.
 - If the traffic queue backs up farther than this, an additional flagger, aka a "roving flagger", would control traffic rather than warn/slow traffic.
 - Cars stopped at the end of the line control approaching traffic rather than a flagger.

- The additional flagger should continuously move to the end of the line of stopped traffic.
 - Generally, at the rear of the last car in line on the shoulder of the road.



Slowing Traffic

- For the safety of workers, at times motorists will need to proceed through the work zone at a reduced speed.
 - Do not use the BE PREPARED TO STOP sign in this situation.
 - Use a ROAD WORK AHEAD and FLAGGER sign.
 - Stand at the side of the road displaying SLOW to the oncoming traffic.
 - You can wave the flag over the SLOW paddle to draw attention.



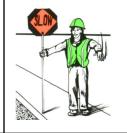
Hand Signals

You may see many methods of communication between the flagger and motorist; however, there is only one approved way of using hand signals.

To stop traffic, your free arm should be raised with your palm out towards oncoming traffic. This is the universal hand signal to stop, and reinforces the message on your STOP paddle



To slow traffic using hand signals, the flagger should face traffic with the SLOW paddle and slowly motion with your palm downward in an up and down motion.



Moving traffic from their normal path, use procedure to slow traffic, then point to the proper lane with your free hand.
Continue pointing to the proper path while waving your hand back and forth.



*Good hand signals use slow concise movements; rapid movements confuse the motorist

Communication with Flagger

You must know when it is safe to release your line of traffic. Following a few methods that can be used.

- Simplest way, in short work zones, is through visual communication.
 - The flaggers take turns releasing traffic.
 - May want to use a special signal, coordinated between flaggers and not confusing to the drivers, like tipping your hat, seen below.



- Baton/flag passing between flaggers.
 - Generally used in long work zones when flaggers cannot see each other.
 - A baton/flag is given to the last car in the line and you ask them to hand it off to the flagger at the other end of the work zone.
 - This indicates to the other flagger that no more traffic is coming through.
 - Drawback if the baton/flag is lost/taken, then hold all traffic until the right-of-way is firmly established.
- Two-way radio communication.
 - Best form of communication.
 - Quickly know when traffic is released, the last vehicle in line, and if someone sneaks through.
 - Be sure the radio is powerful enough for the entire length of the work zone.
 - Keep batteries charged to last all day.

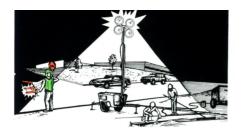
In all of the above methods of communicating, control of the motorist is lost when you release your line of traffic. While you may give special instructions to the first car, such as stay to the right, watch for equipment in the opposite lane, etc., you lose control when you release the cars. This can be overcome when a pilot car is used to lead traffic through the work zone.

- Equipped with a PILOT CAR FOLLOW ME sign and rotating beacon.
 - First vehicle in line, as it begins to lead traffic, you will move to the side of the road and display SLOW while motioning the cars to follow the pilot car with your hand.
 - Pilot car will pull over at the other end of the work zone and allow traffic to pass.
 - Flagger will use hand signals to show the proper path.
 - After traffic has passed the pilot car will turn around and bring a line of traffic back to you.

Nighttime Flagging

Occasionally, you may need to control traffic after dark. The principles of flagging remain the same but there are several items that change and are *critical* to ensure safety.

- Flagger station must be illuminated by overhead lights.
 - Make sure lights are not set up to shine in your eyes or towards oncoming traffic.



- Additionally, the paddle and vest must be retroreflective.
 - You will be more visible to the 0 motorist.
 - ANSI 107 Class 3 for flagging. You can check your equipment by shining a flashlight at it. If it shines the material is reflective.







- Instead of using a flag at night, you must use a flashlight with a red wand attached to the end.
 - The flashlight wand draws attention 0 to your position.

Urban Flagging

You may encounter situations in urban areas that are difficult to control with the methods previously discussed, especially at intersections, for example.

- Creates communication issues when two or more flaggers are controlling different legs of traffic
 - Instead of using the STOP/SLOW 0 paddle, it would be better to use hand signals.
 - Use flag as a supplement to draw attention to flaggers in this situation.

Bike Riders and Pedestrians

On most jobs, the primary person you have to control is the motorist; however, you will see other modes of transportation. Bicycle riders and pedestrians, perhaps even roller skaters, will come to your flagger station. You need to consider how to allow them to proceed through the work area under your control. Sometimes they may cause problems, like with their speeds or lack of mobility on dirt surfaces, which may limit their ability to travel safely through the work zone. If you have questions on how to handle them, discuss it with your supervisor.

Emergency Vehicles

All vehicles, including emergency vehicles such as ambulances, law enforcement vehicles, or fire trucks, are required to stop for flaggers. However, their need for a speedy response to an emergency may override the flaggers' need to control them. They must stop and the flagger should be able to give them information about the road situation ahead. If the emergency vehicle driver decides to proceed, the driver should be given the information needed to travel through the work zone in as safe a manner as possible. The decision on whether to stop or proceed is the responsibility of the driver of the emergency vehicle. The flagger's job is to give the driver as accurate information as possible about the situations that will be encountered.

Motorcycles

If a motorcycle is stopped at your flagger station, be sure to warn them about the work zone conditions they may encounter. Depending on the situation, they may want to consider rerouting.

Summary

Flagger Station

- The flagger's position shall always be preceded by the standard advance flagger sign.
 - Refer to page 11, Figure 3.
- Remember spacing of signs depends on road type.
 - Refer to page 12, Table 1.
- The sign shall be promptly removed, covered, or removed from the roadway whenever the flagger is not at the flagger station.
 - The sign must be equipped with two, square 18" x 18" orange flags.
- To perform their duties efficiently, flaggers should:
 - Be clearly visible to approaching traffic at all times.
 - Visibility should not be impaired by curves, hills, parked or stopped vehicles or equipment.
 - Never stand in a lane used by moving traffic.
 - Never stand among workers and equipment.
 - Not be distracted by workers or equipment and fail to observe the approaching traffic.
 - As a general rule, never stand closer than 500 feet to the worksite on a high speed roadway or 100 feet on an urban low speed roadway.
 - Never park their vehicle on the roadway or shoulder and sit in or lean against it.
 - Never leave their station until properly relieved.

Flagging Procedures

- Flaggers should be alert at all times and face approaching traffic.
 - They should not watch the work operations anymore than is necessary.
- Flagger should stand in a conspicuous position on the edge of the roadway facing approaching traffic while waiting for traffic.
- To stop traffic, the flagger should face approaching traffic and hold the paddle in a stationary position with the STOP facing traffic.
 - After stopping the first vehicle, move in front of the vehicle near the centerline to be visible to approaching motorists.
 - If a flag is used for attention, it should be in the free hand and waved above the paddle. The flag should never block the paddle.
- To release traffic, the flagger should return to the shoulder of the road and turn the SLOW face of the paddle toward traffic and motion traffic ahead with the free hand.
 - The flag is never used to motion traffic to proceed.
- To slow traffic without stopping, the flagger should face approaching traffic holding the paddle with the SLOW face towards traffic.
 - For added emphasis, the flagger may slowly raise and lower the free hand with the palm down.
- Use additional flaggers if the stopped traffic line is long to help alert and stop approaching traffic.