

**Revision of Section 630
Construction Zone Traffic Control**

Notice

The Standard Special Provision (SSP) on the following page revises or modifies CDOT's Standard Specifications for Road and Bridge Construction. The Construction Engineering Services Branch has reviewed, approved, and issued it. Use as written without change. Do not use modified versions of it on CDOT construction projects. Do not use the following special provision on CDOT projects in a manner other than specified in the instructions without approval by CDOT's Standards and Specifications Unit. The instructions for use appear below.

Other agencies using the Standard Specifications for Road and Bridge Construction to administer construction projects may use this special provision appropriately and at their own risk.

Instructions for use on CDOT construction projects:

Use the following standard special provision on all projects.

Revision of Section 630 Construction Zone Traffic Control

Section 630 of the Standard Specifications is deleted for this project and replaced with the following:

Description

630.01 This work consists of all components of Temporary Traffic Control (TTC) through planned or unplanned TTC zones as required by the Manual on Uniform Traffic Control Devices for Streets and Highways (MUTCD) and the respective Colorado State Supplement to the MUTCD, according to the Contract.

(a) Definitions:

- (1) CDOT Approved Products List (APL). A list of traffic control devices tested and approved for use on Colorado highways.
- (2) Crashworthy. The hardware or work zone device described meets the crash test and evaluation criteria according to the AASHTO Manual for Assessing Safety Hardware (MASH).
 - a. Devices manufactured on or before December 31, 2019, and successfully tested to NCHRP 350 or the 2009 edition of MASH, may continue to be used throughout their normal service lives.
 - b. Low-mass, single-piece traffic cones, tubular markers, single-piece drums, and delineators (known as Category 1 devices under NCHRP 350) may be manufacturer-certified as MASH-compliant, if there are no attachments to the device. If there are attachments, crash testing and evaluation to the MASH criteria is required.
- (3) Hazards. A hazard includes, but is not limited to: workers, equipment, pavement edge drop-offs, lane closures, temporary guardrail, and other objects, both on the roadway and the adjacent roadside, that may affect the traveling public.
- (4) Method of Handling Traffic (MHT). A detailed diagram showing the locations of all traffic control devices, detailing the methods of handling all forms of traffic through the TTC zone.
- (5) Retroreflective Sheeting. A retroreflective material preassembled as a thin film ready for use on traffic control devices. Sheeting types shall be defined according to ASTM D4956.
- (6) Serviceable. A condition in which a traffic control device is visible (day and night) and operates as intended, beyond which it requires replacement due to damage or wear. Whether a device is serviceable will depend on the type of device under consideration. In general, if the device is capable of being serviced with minimal effort or replacement parts are available so that it continues to be visible and operate as intended, and the device is otherwise substantially intact, then it can be considered to be in "serviceable" condition. If the device is damaged or not operational beyond reasonable repair, then it is no longer serviceable.

- (7) Significant Project (Work Zone). Projects will be assumed to be significant, unless otherwise defined in the Contract. Non-significant projects will be designated in the contract documents.
- (8) Transportation Management Plan (TMP). Contract documents that contain strategies to manage work zone impacts throughout the project's life cycle. The components of a TMP are dependent on project characteristics, specifically if a project is defined as a significant project (work zone). The TMP shall include the following:
- a. Traffic Control Plan (TCP). Contract documents that describe the requirements to maintain traffic during each construction phase of the project. The TCP includes all traffic-control-related specifications, plans, and methods of handling traffic (MHTs) for the duration of the project.
 - b. Transportation Operations Plan (TO). Contract documents that contain strategies to sustain the operation and management of the transportation system. The components of a TO are dependent on project characteristics and shall identify transportation operations and safety strategies to comply with the CDOT Region Lane Closure Strategy. A copy of the Region Lane Closure Strategy can be requested from the Region Traffic Resident Engineer.
 - c. Public Information (PI). Contract documents outlining communication strategies to inform affected road users, the public, area residences and businesses, and appropriate public entities about the project.
- (9) Work Activities. All construction and maintenance activities where workers are present in the clear zone, or there are hazards in the travel way, shoulders, or within clear zones.

Materials

630.02 General. All traffic control devices shall be furnished with all components required for proper installation and be maintained in serviceable condition. Traffic control devices deemed no longer serviceable by the Project Engineer shall be removed and replaced from the project site at the Contractor's expense.

Work zone devices or hardware shall be crashworthy and selected from the APL. To use traffic control devices not listed on the APL, Contractors shall obtain approval from the Project Engineer before installation (see current CDOT Field Materials Manual).

Portable traffic control devices shall be appropriately weighted with rubber bases or sandbags to prevent overturning.

630.03 Signs and Barricades. Construction traffic control sign and barricade materials shall conform to the applicable portions of Section 614. Temporary sign panels may be fabricated from plywood, aluminum, steel, or other suitable materials provided they are stable, durable, and meet the requirements of Section 614.

Temporary sign support assembly shall be timber, perforated square metal tubing inserted into a larger base post or slip base, or perforated metal U-channel with a slip base.

If U-Channel posts with a slip base are selected, they shall be used only in multi-post applications, as shown on Standard Plan S-630-4.

Retroreflective sign sheeting shall conform to the requirements of Subsection 713.04 and meet or exceed the specified sheeting type for a particular application in Table 630-1.

**Table 630-1
Retroreflective Sheeting Types**

Sheeting	Type IV	Type VI (Roll-up sign material)	Type Fluorescent Orange *
Application	Work Zone	Work Zone	Work Zone
All Orange Construction Signs			X
Orange Construction Signs that are used only during daytime hours for short term or mobile operations		X ►	X
Barricades (Temporary)	X		X
Vertical Panels	X		X
Flaggers Stop/Slow Paddle	X		X
Drums and Tubular Markers #	X		X
Non-orange Fixed Support signs with prefix "W"	X		
Special Warning Signs			X
STOP sign (R1-1) YIELD sign (R1-2) WRONG WAY sign (R5-1a) DO NOT ENTER sign (R5-1) EXIT sign (E5-1a)	X		
DETOUR sign (M4-9) or (M4-10)			X
All other fixed support signs ◀	X		X
All other signs used only during working hours	X		X
All other signs that are used only during daytime hours for short term or mobile operations	X	X ▲	X

Table 630-1 Notes:

* Fluorescent retroreflective sheeting shall be selected from the APL.

Drum and Tubular Marker sheeting shall be reboundable, specified for work zone applications, and shall conform to Section 713.

◀ Fixed support signs are defined as all signs that must remain in use outside of working hours. They shall be mounted per Standard Plan S-630-4 and Subsection 630.09.

► Roll-up sheeting material only.

▲ White sheeting material only.

The Contractor shall furnish the sign panel legends according to the "Standard Highway Signs" publication from FHWA and the CDOT Sign Design Manual. Sign panel legends for special signs shall be furnished according to the detailed sign layouts in the plans.

Variable Message Signs (Portable) shall conform to the requirements of MUTCD Chapter 6 and Project Special Provision, Revision of Section 630, Portable Message Sign Panel.

630.04 Arrow Boards. Arrow boards shall be provided as required by project conditions and shall meet the following requirements:

**Table 630-2
Requirements for Arrow Boards**

Type	Minimum Size	Minimum Number of Panel Lamps	Minimum Legibility Distance
A	24"x48"	12	1/2 mile
B	30"x60"	13	3/4 mile
C	48"x96"	15	1 mile

The arrow board face shall be rectangular in shape, solid construction, with a non-reflective black panel. The arrow boards shall be mounted on a vehicle, trailer, or other suitable support. Vehicle-mounted arrow boards shall be provided with remote controls.

Arrow boards shall have the capability of the following mode selection: left arrow or chevron, right arrow or chevron, left and right arrow, and caution. The caution mode consists of four or more lamps, arranged in a pattern that will not indicate direction.

Arrow boards shall be supplied with an automatic signal dimmer to maintain legibility under varying light conditions. The automatic signal dimmer shall be capable of 50 percent dimming of the rated lamp voltage and have a manual override for brightness control.

630.05 Temporary Traffic Signals. Temporary traffic signals must meet the physical display and operational requirements of conventional traffic signals. A minimum of two signal faces shall be provided for each approach, and each signal face shall consist of three 12-inch sections. At railroad grade crossing locations, one signal face with three 8-inch sections shall be visible from each rail approach. The traffic signal controllers shall conform to the requirements of Subsection 614.08(b). The Contractor shall ensure the controller is capable of two or more phases of operation with all-red timing intervals, as specified on the plans or directed by the Project Engineer. The temporary traffic signal units shall be mounted on portable trailers, licensed for normal highway travel and capable of traveling at speeds up to 65 miles per hour. The portable units shall include stabilizing jacks and be stable in winds of 100 miles per hour. The Traffic Signal (Temporary) shall be furnished with portable traffic signals controlled by a single traffic controller, with the remote signal hard-wired to the controller, unless an alternative configuration is approved by the Project Engineer. The system must be capable of multiple timing plans, manual operation, vehicle detection, and include a paging or cell phone system capable of verifying and resetting the system operation.

The temporary traffic signal shall be powered by a direct power source such as a local power line, generator, or solar power.

- When utilizing a local power line, the signals shall have a fail-switch that connects to a generator-powered system operation with a backup battery that provides a minimum of five days of continuous operation.

- The Contractor may elect to utilize a generator-powered system as the primary power source, in which case the backup battery shall provide a minimum of ten days of continuous operation.
- When solar power is used, the backup battery shall provide a minimum of ten days of continuous operation.

The generator fuel level and backup battery life shall be checked daily.

If Temporary Span Wire Signals are utilized, the Contractor shall provide the schematics for all electrical wiring, including connectors and switch controls necessary to allow all temporary traffic signal functions required by the specification. For each system, the Contractor shall maintain one operating and parts manual, wiring diagrams, and a troubleshooting guide. Lenses and reflectors for the signal shall be of a type as described in "Equipment and Materials Standards of the Institute of Transportation Engineers". The cantilevered signal faces shall be 12 inches in diameter and include louvered backing plates. Backplates shall be furnished with a 2-inch yellow reflective border along each of the horizontal and vertical components of each backplate. The 2-inch yellow reflective border shall be installed by the manufacturer. Each unit shall have a locking device to ensure the cantilevered signal faces remain in position.

The portable traffic signal system shall be capable of maintaining all required operations and be visible to road users under Colorado mountain-winter weather conditions. The portable temporary traffic signal shall be capable of operating for extended periods of time in severe weather conditions, including temperatures ranging from -40 to 120 degrees Fahrenheit. The portable traffic signal system shall include an adequate supply of spare parts and a source for replacement components such that the system is in operation continuously.

The Contractor shall obtain approval from the Project Engineer before using temporary traffic signal equipment on the project. The Contractor shall submit the proposed temporary traffic signal trade name, size, and equipment model numbers to the Project Engineer for approval 10 working days before procurement. The Project Engineer will provide the Contractor with one of the following responses within 5 days after receipt of the submittal:

- Approved, no exceptions taken.
- Approved as Noted; or
- Revise and resubmit within 5 days.

630.06 Temporary Channelizing Devices.

(a) Traffic Cones. Traffic cones shall not be left in place and unattended, outside of working hours. The minimum cone height shall be 28 inches. However, when they are used on freeways, at nighttime, or when specified in the Contract, the minimum height shall be 36 inches.

When traffic cones are used at night, they shall have retroreflective sheeting. The retroreflective sheeting shall meet or exceed Type IV and be selected from the APL. Cones shall be furnished with a white band at least 6 inches wide, placed no more than 3 to 4 inches from the top, an additional white band, 4 inches wide, placed a minimum of 2 inches below the 6-inch band.

- (b) **Surface-Mounted Tubular Marker.** Surface-mounted tubular markers shall be predominantly orange, forty-eight inches plus or minus 1/2 inch in height, and 2 to 3 1/2 inches in width for the side facing traffic. The shape of the device is immaterial if it can accommodate the striping pattern and will function as described below. The retroreflective sheeting used shall meet 713.10(b) and be selected from the APL.

Forty-eight-inch tubular markers shall have four 4-inch to 6-inch alternating fluorescent orange and white retroreflective stripes, with the top stripe being fluorescent orange.

The retroreflective sheeting quantity and color are dependent on height and the location of the delineator. Refer to S-612-1 and the latest edition of the MUTCD, Section 6K.04. These devices shall be manufactured of flexible high-impact resistant material, physically attached to the pavement, and capable of returning to a vertical position after impact by a vehicle.

- (c) **Stackable Tubular Marker.** Stackable tubular markers shall conform to MUTCD requirements. The retroreflective sheeting used shall meet 713.10(b) and be selected from the Department's APL. The stackable tubular markers shall have the following properties:

**Table 630-3
Requirements for Stackable Tubular Markers**

Property	Specification
Tubular Section	Low density polyethylene
Color	Orange Tubular Marker with Black Base
Height (min.)	42 inches
Ballast Type*	Rectangular, Octagonal or Square
Ballast Weight*	15 - 40 lb.

Table 630-3 Notes:

* The ballast type and weight shall be suitable for the site conditions to keep the device in place and upright or as directed by the Project Engineer.

- (d) **Stackable Vertical Panels.** Stackable vertical panels shall conform to MUTCD requirements. The retroreflective sheeting used shall be Type IV and be selected from the APL. The stackable vertical panels shall have the following properties:

**Table 630-4
Requirements for Stackable Vertical Panels**

Property	Specification
Panel Material	Low density polyethylene
Color	Orange and white stripes with orange or white frame and black ballast
Vertical Panel Height	24, 36, 42-inch
Ballast Type*	Rectangular or Square
Ballast Weight*	9 - 30 lb.

Table 630-4 Notes:

* The ballast type and weight shall be suitable for the site conditions to keep the device in place and upright or as directed by the Project Engineer.

- (e) Drums. The minimum drum dimensions shall be 36 inches in height and at least 18 inches in width, regardless of orientation. Drums shall have four, 4-inch to 6-inch alternating horizontal fluorescent orange and white retroreflective stripes, with the top stripe being fluorescent orange. Non-reflective spacings between stripes shall not exceed 3 inches wide. The retroreflective sheeting shall meet 713.10(b) and be selected from the APL. Drums shall be in new or like new condition to maintain high visibility in the work zone.

Ballasts shall be secured to the bottom of the drum and the ground. The ballast shall be suitable for the site conditions to keep the device in place and upright or as directed by the Project Engineer. Drums shall not be weighed with sandbags or any material that would make them hazardous to road users or workers when struck.

- (f) Temporary Portable Rumble Strips. Temporary portable rumble strips shall be made of thermoset cast urethane and shall operate in temperatures ranging from 0 to 180 degrees Fahrenheit. The Contractor shall submit documentation from the manufacturer showing that the product meets all American Traffic Safety Services Association (ATSSA) and FHWA criteria for temporary portable rumble strips. The rumble strip shall be capable of being installed without adhesives or bolts and shall have a minimum weight of 105 pounds. The face of the rumble strip shall be a non-slip textured surface.

630.07 Temporary Barriers. Temporary Barriers shall be crashworthy and be installed according to M-606-14. Temporary barriers shall be furnished with retroreflective devices according to Standard Plans S-612-1 and M-606-14. Retroreflective materials shall meet quality requirements according to Subsection 713.10. All barrier types shall be designed to accommodate appropriate end treatments, transitions, and delineation devices.

Damaged barriers shall not be installed. Barriers damaged after installation shall be removed and replaced. Minor damage that does not affect performance or design intent shall only be repaired when permitted by the manufacturer.

- (a) **Concrete Barriers.** Temporary concrete barriers shall conform to precast Type 7 Concrete Barrier as detailed in Standard Plan M-606-14. Barriers shall be installed with a minimum distance of 4 feet from the barrier centerline to any obstruction or drop-off, and at least 2 feet from the edge of the traveled lane. When the distance from the barrier centerline to an obstruction or drop-off is less than 4 feet, install stabilization pins on each barrier unit adjacent to the obstruction and extending 10 feet beyond both sides, in accordance with Standard Plan M-606-14 . If field conditions prevent full pinning compliance, the contractor shall document the specific locations and reasons for non-compliance and submit them to the Project Engineer for approval.
- (b) **Non-Concrete Barriers.** Temporary non-concrete and steel barriers shall be selected from the APL. Temporary steel barriers shall be galvanized. All barrier types shall be designed to allow for proper drainage runoff. Barriers shall be installed and maintained according to the manufacturer's recommendations and include all necessary components for installation. The Contractor shall provide product specific documentation pertaining to installation, maintenance, repair, removal, and inspection to the Project Engineer before use on the project.

630.08 Temporary Flashing Beacons. The Flashing Beacon (Portable) shall include all work and material necessary to complete the item. The beacon head, lens, signal lamp, flasher, electrical boxes and fittings shall conform to permanent flashing beacon requirements per Subsection 614.06. The flashing beacon may be hard-wired or solar powered. The post and mounting method shall conform to Subsection 630.03 and S-630-3.

Construction Requirements

630.09 General. Permanently mounted construction traffic signs shall be covered when not required. When work is suspended, or the project is in free time, and there is no condition requiring traffic control devices or construction traffic signs, all construction traffic signs shall be covered or turned away from traffic. If this condition exists for more than 30 days, all construction traffic signs shall be removed.

Portable construction traffic signs shall be removed and stored when not in use. When storing portable signs or their supports within the project, they shall be beyond the clear zone and shall not be visible to traffic. The minimum clear zone distance shall be 18 feet, measured from the edge of the traveled way, unless otherwise noted in the plans. Signs shall not be stored on the paved surface. All storage areas shall be included in the access management plan and approved at the Pre-construction Conference.

The Contractor shall install temporary sign coverings per Subsection 630.12.

Signs in place for more than 3 days shall be mounted on timber, perforated square metal tubing inserted into a larger base post or slip base, perforated metal U-channel with a slip base, or as detailed in S-614-1 and S-630-4.

Perforated square metal tubing or U-channel shall be installed for temporary sign supports according to the manufacturer's recommendations and as shown on the plans.

The Contractor shall be responsible for all maintenance of construction signs and posts. If any sign or post is damaged during construction, the Contractor shall be responsible for maintaining or replacing the sign and posts, at no additional cost to the Project.

The construction traffic signs for “Reduced Speed Limit” signs and “Double Fines” signs shall be placed, or unmasked, no sooner than four hours before the start of work activities. The time when the double fine signing is to be placed or unmasked, and the location of the reduced speed limit signs and double fine signs shall be as shown on the plans or as directed by the Project Engineer. Double fine signing shall be removed or masked as soon as work activities are completed.

The retroreflective sheeting of all signs and other traffic control devices shall be cleaned as frequently as necessary to preserve their legibility and retroreflectivity. All devices shall be cleaned a minimum of once every two weeks or as required by the Project Engineer.

The Contractor shall be responsible for temporary traffic signal set-up and configuration. If Temporary Span Wire Signals are utilized, the Contractor shall submit documentation showing pre-qualification of being a CDOT Traffic Signal Contractor or IMSA Level II Certified prior to the start of work. Before installation, the Traffic Signal (Temporary) shall be in satisfactory operating condition, which shall be demonstrated before installation. The Contractor shall demonstrate to the Project Engineer satisfactory operating condition before closing the road to one lane of traffic. The Contractor shall maintain and replace the Traffic Signal (Temporary) if the unit fails to operate satisfactorily, as determined by the Project Engineer, and shall be retested until a satisfactory operating Traffic Signal (Temporary) is obtained and installed.

Temporary traffic signals shall remain in place or remain available until all work is completed at each location requiring one-lane operation. If units are taken out of service at any location, they shall be replaced with appropriate alternate control as long as deemed necessary by the Project Engineer.

Surface-mounted traffic control devices shall be attached to the pavement per the manufacturer's recommendations. Anchoring methods or devices that penetrate the surface of the permanent pavement will not be permitted. Upon removal of the device, the Contractor shall clean, patch, or both, the pavement, as approved by the Project Engineer.

The flashing beacon shall be installed according to Subsection 614.09. For solar-powered flashing beacons, batteries may be placed in a lockable container attached to a supplemental pole supporting the solar panels installed outside the clear zone, or behind guardrail. If it is not possible to place this assembly outside the clear zone or behind guardrail, the batteries shall be placed in a lockable pull box and buried at the base of the pole. Other installations shall be as approved by the Project Engineer.

The Contractor shall ensure the proper operation of the flashing beacon throughout the duration of the project. If the beacon fails to operate properly, it shall be repaired or replaced at the Contractor's expense. The Contractor may propose an alternate flashing beacon method by submitting a revised MHT per Subsection 630.10, for written approval by the Project Engineer. All additional traffic control devices required during the time that the beacon is being repaired or the MHT is being prepared and reviewed shall be at the Contractor's expense.

630.10 Transportation Management Plan. The Contractor shall prepare a Transportation Management Plan (TMP) identifying strategies to manage work zone impacts for each phase of the Project. The Contractor shall comply with all components of the TMP. Significant projects shall include three components in the TMP: the Traffic Control Plan (TCP), Transportation Operations (TO), and Public Information (PI). Non-significant projects shall include the TCP in the TMP at minimum and any other components as specified in the Contract.

The Project will be deemed significant unless otherwise specified in the Contract.

The proposed TMP shall be approved in writing by the Project Engineer before the Contractor begins the corresponding phase of construction. The initial TMP shall be submitted at the Pre-construction Conference. The Contractor's superintendent shall implement the TMP.

(a) Traffic Control Plan. The Contractor shall control traffic according to the Traffic Control Plan (TCP). To implement the TCP, for each phase of construction, the Contractor shall develop and submit the following to the Pre-construction Conference:

- The initial Methods of Handling Traffic (MHTs).
- A list of traffic control devices with crashworthy certifications.
- An access management plan.
- A plan for emergency vehicle access.
- A plan for maintaining and controlling pedestrian, bicycle, and other non-vehicular traffic.
- Field measurement verifications.

The Contractor shall ensure the TCP does not conflict with adjacent work zone traffic control. If at any time the Contractor desires to change the MHT, it shall be deemed a different phase requiring a new MHT. Any major revisions to the TCP as determined by the Project Engineer must be authorized in writing before implementation.

Each proposed MHT shall be signed by the Prime Contractor, the Traffic Control Supervisor, and the Project Engineer, a minimum of 24 working hours before the corresponding phase of construction will be allowed to begin.

The proposed MHTs shall include the following:

- A detailed diagram of the locations of all traffic control devices and the method of handling traffic through the temporary traffic control zone. The detailed diagram shall be titled with the reference number, location, the type of work performed, and the time of day the work is scheduled (For example, MHT # I-25 NB Right Lane Closure Nighttime Only). Lane closures shall be kept to a minimum in both length and duration and cause a minimum of interference for the traveling public, consistent with the work being performed.
- A tabulation of all traffic control devices used in each phase of construction, including, but not limited to, construction signs, vertical panels, vertical panels with lights, barricades, cones, drums, channelizing devices, concrete barrier (temporary), arrow boards, and temporary traffic signals. Traffic control devices may be used for more than one phase of construction, requiring all in-place devices to be tabulated. Refer to Subsection 630.17 for the method of measurement of traffic control devices.
- The Contractor shall list the supporting references used for each MHT to comply with the latest edition of the MUTCD, CDOT Standard Specifications for Road and Bridge Construction, CDOT Miscellaneous Standards, CDOT Safety Standards, Project Plans, and the Special Provisions.
- When required by the Contract, the Contractor's Method of Handling Traffic (MHT) shall include details of a mobile pavement-marking zone. The mobile pavement-marking zone shall include, at a minimum, the following:
 - a. The Application group, containing at least one cone installation truck and the pavement marking application truck.
 - b. The Pick-up group, containing at least one truck for advance warning and one truck for cone pickup.
 - c. The Signing group, containing one or more trucks installing signs. At a minimum, the following signs shall be used:

Table 630-5
Minimum Sign Requirements
for Mobile Pavement-Marking Zone

HIGHWAY/PAINTING/NEXT MILES* (W21-20a)	60 inches by 36 inches
HIGHWAY/PAINTING/AHEAD* (W21-20)	48-inch Diamond
NO/PASSING/THRU/PAINTING/ZONE (Truck Mounted on an Advance Warning Vehicle)	48 inches by 60 inches
SPEED/LIMIT(Optional) (R2-1)	48 inches by 60 inches

*Truck-mounted message boards may be used in lieu of temporary signs.

- d. The Application Group and Pick-up group shall each be equipped with a truck-mounted Advance Warning Flashing or Sequencing Arrow Panel (C Type). Pick-up group shall be equipped with a truck-mounted impact attenuator. The impact attenuator shall be located on the rearmost vehicle of the group. A separate vehicle for this attenuator may be used. Each truck-mounted impact attenuator shall be crashworthy.
- e. In the Pick-up group, the cone setting truck and the cone pickup truck shall not be the same vehicle.
- f. The Signing group shall place HIGHWAY/PAINTING/AHEAD signs on intersecting crossroads and interchange entrance ramps as the pavement marking operation approaches. If required, for spot locations, this group shall also provide flagging.
- g. All groups shall maintain radio communications to ensure appropriate advance warning and buffer distances are maintained for traffic.
- h. All groups shall clear the roadway every 15 minutes or as deemed necessary by the Project Engineer to allow traffic queues to pass.
- i. Traffic cone spacing shall be determined as required by Standard Plan S-630-1 based on current speed limits, unless otherwise noted in the plans. Cone spacing shall not exceed 120 feet. Cones shall be placed for a distance of no greater than 2 miles on the roadway centerline. The distance and spacing may be adjusted, depending on traffic conditions and terrain, as determined by the Project Engineer.

The TCP shall include the following:

- The Contractor shall prepare an access management plan for all properties requiring access during construction. This plan shall also indicate the areas where equipment will be stored, vehicles parked, and construction signs and materials stored, if within the project limits. The Contractor shall ingress and egress the project at existing access points, including median crossings, shown on the plans, unless otherwise approved.
- The Contractor shall prepare a plan for emergency vehicle access and emergency pull-off areas. The Contractor shall follow incident management procedures as required by Subsection 630.10.
- The Contractor shall prepare a vulnerable road-user plan to manage pedestrian, bicycle, and other non-motorized traffic throughout the project limits. This plan shall ensure that all alternate routes provide continuous accessibility and detectability equivalent to the facilities they replace.

- The Contractor shall conduct field measurements to verify that all vertical structure clearances within the proposed MHT area meet or exceed Table 630-6 standards. Any non-compliant locations must be documented in the MHT along with an appropriate signing plan. However, if an existing clearance is already below Table 630-6 standards, a signing plan is required only if the clearance will be further reduced. All measurements, location details, and signing plans must be submitted in the MHT to the Project Engineer for written approval at least 5 days prior to implementation.

**Table 630-6
Vertical Clearances to Structures**

Between	Highway Underpasses	Railway Underpasses	Overhead Wires
Local Rural Roads	14 Feet	23 Feet#	◀
Local Urban Streets	14 Feet	23 Feet#	◀
Urban and Rural Collectors	14 Feet	23 Feet#	◀
Freeways	16 Feet*	23 Feet#	◀
Rural Arterial	16 Feet*	23 Feet#	◀
Urban Arterial	16 Feet*	23 Feet#	◀

Table 630-6 Notes:

*Vertical clearance to sign trusses and pedestrian overpasses shall be 17 feet.

Measured from top of rail to bottom of highway structure. All railway clearances are subject to the individual railroad's approval.

◀ Communication and power lines of:

0 to 750 volts 18 Feet

750 to 22,000 volts 20 Feet

22,000 to 50,000 volts 22 Feet

For voltages over 50,000 volts, increase clearance 1/2 inch for each 1000 volts over 50,000.

- The Contractor shall perform field measurements to verify that all areas within the proposed MHT maintain a minimum combined driving lane and shoulder width of 17 feet. Any location where this width cannot be maintained must be documented in the MHT along with an appropriate signing plan. However, if an existing width is already under 17 feet, a signing plan is required only if the MHT reduces that width further. All measurements, locations, and signing plans must be submitted within the MHT to the Project Engineer for written approval at least 5 days prior to implementation.
- (b) Transportation Operations Plan. The Contractor shall provide weekly written verification that the Transportation Operations Plan (TO) requirements are enforced throughout the work. The TO component shall comply with the CDOT Region's Lane Closure Strategy and Operations Evaluation work zone recommendations. Any variance to the Region's Lane Closure Strategy Policy shall be approved by the Region Traffic Engineer. The TO shall provide the following:

- (1) Procedures to respond to traffic incidents that may occur in the work zone and restore normal project operations.
 - (2) Details of the process to review incidents for the purpose of modifying the TCP to reduce the frequency and severity of such incidents.
 - (3) Coordination with adjacent projects and maintenance activities. Other procedures the Contractor deems necessary to maintain traffic operations.
 - (4) A post-closure evaluation report shall be completed by the Contractor and submitted at the end of phase or project acceptance. The report shall include cause and impact of delays, actions taken to mitigate incidents, why expected delays were exceeded, and how the situation can be avoided in the future.
- (c) Public Information. Public information (PI) requirements will be specified in a Project Special Provision titled Revision of Section 626 - Public Information Services. Public information services shall be provided for significant work zone projects. This includes expected work zone impacts, changing conditions, and the schedule of the project.

630.11 Traffic Control Management. The Contractor shall designate an individual, other than the superintendent, to be the Traffic Control Supervisor (TCS). The TCS shall be certified by a CDOT authorized entity as a worksite traffic supervisor and have a current flagger certification. The primary TCS may appoint a qualified representative to serve as the TCS in their place, as approved by the Project Engineer. The qualified representative shall be certified as a TCS and shall assume all duties and responsibilities of the TCS whenever the primary TCS is unavailable.

A copy of the Traffic Control Supervisor's certifications shall be provided to the Project Engineer at the Pre-construction Conference and shall always be available on the worksite.

The contractor's superintendent, and all others serving in a similar supervisory capacity, shall have completed an approved traffic control supervisor training as offered by the authorized entities. The certifications of completion or certifications of achievement for all appropriate staff shall be submitted to the Project Engineer at the Pre-construction Conference.

The TCS or qualified representative shall be responsible for traffic control management (TCM) on a 24-hour-per-day basis. The TCS shall be on the work site at all times during active working hours. The TCS shall be on call at all times. Upon request of the Project Engineer, the TCS may be required to be on the project site at times other than normal working hours. During non-working periods, the TCS shall respond to the job site within 45 minutes of notification. The Contractor shall maintain 24-hour telephone numbers at which a TCS can be contacted.

When traffic control devices remain on the roadway, the TCS shall perform Traffic Control Inspections (TCI) as follows:

- Non-Working Hours: At least one inspection per week, consisting of a night-time inspection during day work operations or a daytime inspection during night work operations.

- Non-Working Days: At least one inspection on every 24-hour calendar day that work is not being performed.

TCIs shall be performed at least 10 hours apart, unless otherwise approved by the Project Engineer. Additional inspections shall be performed as directed by the Project Engineer. The TCIs shall be authorized by the Project Engineer at the Pre-construction Conference or rescheduled, as necessary. The Project Engineer may initiate a safety stand-down for failure to complete any traffic control inspections.

Traffic Control Management (TCM) and Traffic Control Inspections (TCI) will be measured as specified in Subsection 630.17, unless otherwise specified in the plans.

The Traffic Control Supervisor's duties shall include:

- (1) Preparing, revising, and implementing each Method of Handling Traffic (MHT) according to Subsection 630.10.
- (2) Directly supervising project flaggers.
- (3) Managing work zones at the direction of the prime contractor for all traffic control operations, including those of subcontractors and suppliers that require traffic control operations.
- (4) Working with the prime contractor to ensure proper notification of traffic control activities with appropriate police, fire, and emergency responder agencies.
- (5) Notifying the Project Engineer of holiday periods and adverse weather conditions.
- (6) Immediately notifying the Project Engineer of any crash or incident within the project limits during active work zone activities.
- (7) Maintaining a daily traffic control diary. The TCS shall furnish an electronic copy of the daily traffic control diary to the Project Engineer by the end of the following workday. The daily traffic control diary shall include the following information:
 - a. Payment type as described in Subsection 630.18 for Traffic Control Management (TCM) or Traffic Control Inspection (TCI).
 - b. The calendar date that the work shift ends.
 - c. Active TCM working hours (example, 8pm-4am) or the time of traffic control inspection.
 - d. Traffic control supervisor's name and signature.
 - e. A description of all traffic control operations currently in place (lane closures, shoulder closures, pilot car operations, detours, etc.). The description shall include the current in place MHT number(s), its location, setup time, takedown time, and any corrective action taken.

- f. Provide a list of all flaggers and uniformed law enforcement officers used, including the full names, start time and stop times, locations, and total hours worked by flaggers and uniformed law enforcement.
 - g. Documentation of any crash or incident within the work zone impact area and any corrective action taken.
- (8) Inspect all traffic control devices daily, whether in use, masked, or turned away from traffic.
- (9) Ensuring that traffic control devices are functioning as required.
- (10) Overseeing all requirements covered by the contract that contribute to the convenience, safety, and orderly movement of traffic. Have an up-to-date copy of the MUTCD, in-use fully signed copies of MHTs, and applicable standards and specifications available at all times on the project.
- (11) Attending the weekly safety, scheduling, and project meetings. If an additional TCS is required to perform TCM during these meetings, the cost of the additional TCS will be incidental to the work.
- (12) Provide coordination between adjacent work zone operations to ensure the correct use of traffic control devices.
- (13) The TCS shall not act as a flagger except in an emergency or in relief for no more than 15 minutes per hour for scheduled flagger breaks. Each designated TCS shall have a TCS Trainee assigned to them to assist in their duties at all times as a TCS/TCS trainee pair. The TCS trainee shall have a current flagger certification from an authorized entity. The TCS trainee shall not be allowed to give breaks to other flaggers, unless approved by the Project Engineer. The TCS Trainee shall not act as a flagger except in an emergency or in relief for short periods of no more than 15 minutes per hour for scheduled flagger breaks and not concurrently if the TCS is giving a break.

The duties of the TCS Trainee assisting a TCS shall be limited to:

- Assisting in TCS duties 1,3, 4, 6,7, 8, 9, and 10 above.
- Assisting in revising and implementing each required MHT, per the traffic control plan.
- Performing as a spotter for the TCS.

The TCS Trainee shall not perform any other TCS duties and cannot assist without a TCS present.

630.12 Temporary Sign Coverings. Any sign or sign legend that conflicts with the construction signing or the Traffic Control Plan shall be completely covered by the Contractor so that none of the covered sign or legend is visible to traffic.

If the whole sign is to be covered, it shall be covered with a nontransparent material that covers the entire face of the sign.

If a partial legend is to be covered, it shall be with a material furnished with reflective sheeting conforming to Section 713 and shall be the same color as the masked panel.

All covering materials shall be plywood, hard-board, sheet metal, aluminum, corrugated polypropylene or rigid plastic, and shall be durable enough to resist deterioration due to weathering and atmospheric conditions for the duration of the project. Examples are aluminum at least 0.040 inch thick, corrugated polypropylene board, and plywood at least 3/8 inch thick. Adhesives, glues, tapes, or mechanical fasteners that damage the face of the panel to be masked shall not be used.

630.13 Flagging and Pilot Car Operation. Flagging and pilot car operation shall be performed as described in the latest edition of the MUTCD as adopted by CDOT.

All traffic control personnel shall wear appropriate Personal Protective Equipment (PPE), including safety apparel and hardhats meeting the requirements of the latest version of the International Safety Equipment Association (ISEA) "American National Standard for High-Visibility Safety Apparel and Headwear". Safety apparel shall be labeled as meeting the standard performance for Class 2 or Class 3 risk exposure. The apparel and hardhat background material color shall be either fluorescent orange-red or fluorescent yellow-green as defined in the standard. 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.

Flaggers shall not override controlled intersections such as signalized intersections and stop/yield-controlled intersections as per CRS 42-4-603. Flagging operations shall cease 100 feet before and after a signalized intersection. At the direction of Uniformed Law Enforcement, Flaggers may assist the operation of a controlled intersection.

Flaggers may flag at intersections if all associated traffic control devices, such as traffic signals, stop signs, and yield signs, are covered and no longer visible. Flagging at such intersections shall require numerous flaggers, proper communication skills, and necessary devices to ensure all forms of traffic are impeded to the minimum extent feasible.

Nighttime flagging stations shall be illuminated with flood lights unless otherwise approved and shall not be paid for separately.

(a) The Contractor shall provide all flagging throughout the project necessary to assure proper safety to traffic. All flagging personnel shall have completed CDOT's minimum training requirements as per the CDOT Flagger Program for flaggers before starting work on the project. Reimbursement for flagging shall be limited to the following areas:

- (1) The entire construction area under contract and for a distance of 500 feet outside the project limits or approach to the project; except if the project consists of two or more sections, the limits will apply to each section individually.

- (2) Those areas beyond the above-described limits where the Project Engineer determines the use of flaggers are necessary to provide adequate warning for traffic and the protection of the work zone.
 - (3) A detour provided on the plans or approved by the Project Engineer for by-passing all or any portion of the construction, regardless of if the detour termini are within the project limits.
- (b) The cost of all flagging for haul routes from the Contractor's materials sources to the limits of the project shall be at the Contractor's expense.
- (c) The authorized duties of flaggers consist of directing the traveling public and the construction traffic that affects the traveling public within the project limits.

When Automated Flagger Assistance Devices (AFAD) are used, one of two methods are approved. Method 1 consists of an AFAD at each end of the Temporary Traffic Control (TTC) zone, and 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. Flaggers shall not leave the AFAD unattended at any time while in use. AFADs shall only be operated by certified Flaggers who have received training as described in Subsection 630.13(a).

630.14 Emergency Pull-Off Area (Temporary). The specific locations where emergency pull-off areas will be allowed shall be clearly detailed in the traffic control plans (TCP). The emergency pull-off areas shall be spaced one-half to one mile apart, unless otherwise shown on the TCP.

If the Project Engineer determines that law enforcement is required, the pull off area shall be extended as shown on the plans.

Temporary pavement material for the pull-off area shall be a minimum of 3 inches thick unless otherwise shown on the plans and may be either Portland Cement Concrete Pavement (PCCP) or hot mix asphalt (HMA). If the materials used require that the Contractor provide thickness greater than the minimum to serve the life of the pull-off area, these shall be provided at no additional cost to the project.

Upon completion of the project, the Contractor shall remove the pull-off area and return the shoulder, signing, and earthwork to its original condition, unless otherwise shown on the plans. Materials removed and not designated in the Contract to be salvaged or incorporated into the work shall become the property of the Contractor.

All damaged portions of the shoulder, earthwork, landscaping, signing, culverts, and end sections shall be repaired or replaced at the Contractor's expense.

630.15 Temporary Portable Rumble Strip. Temporary portable rumble strips shall be placed in locations shown on the traffic control plans and shall be removed at the end of each workday, or as approved by the Project Engineer.

Before placement of the rumble strip, the roadway shall be cleaned to be free of dust, sand, and other materials that may cause slippage. The minimum roadway temperature at the time of installation shall be per the manufacturer's recommendations.

If the strip slides, it shall be thoroughly cleaned on both sides and reset onto a clean roadway surface.

A minimum of two temporary portable rumble strips shall be arranged in an array, as shown on the plans. An additional temporary portable rumble strip may be added, as approved by the Project Engineer.

Damaged or missing rumble strips shall be replaced at the Contractor's expense.

Temporary portable rumble strips shall be used only on roadways with posted speed limits of 75 miles per hour or less.

630.16 Rolling Roadblock.

(a) Rolling Roadblock Plan. When a rolling roadblock is used, the Contractor's Traffic Control Plan (TCP) shall include a roadblock operation plan (Pacing Plan). The Pacing Plan shall outline the Contractor's expected equipment and personnel, law enforcement personnel, an outline of the operation, and include a contingency plan should any of the Contractor's critical equipment break down. The Pacing Plan shall also include:

- (1) The specific days of the week and daily time frames during which Rolling Roadblock activities will be performed.
- (2) The specific activities and precise locations for each phase of the Rolling Roadblock.

Additionally, any prerequisite work activities that must be completed prior to the start of the scheduled Rolling Roadblock operations shall be clearly detailed in the Pacing Plan.

Rolling Roadblock operations shall not take place during holidays or special events, as described in the Traffic Control Plan, General, or as directed by the Project Engineer.

A minimum of two weeks before start of rolling roadblock operations, the Contractor shall provide the date and times that rolling roadblock operations are to begin with the Project Engineer, the CDOT Region Traffic Engineer, the CDOT Public Information Office, and the Colorado State Patrol. Portable Variable Message Signs (VMS) shall be in place and displaying the messages shown on the plans, one week before work begins.

(b) Design Considerations. Contractor design of the Rolling Roadblock shall evaluate the actual distance required for the rolling roadblock operation, based on site-specific features, such as:

- (1) Roadway geometrics.
- (2) Pacing speeds.
- (3) Regulatory speeds.

(4) Interchange spacing.

(5) Work duration.

(6) Availability of law enforcement officers

(7) Traffic volumes.

(8) Maximum queue length.

On-ramps and entrances between the beginning point of the pacing area and the work area shall be blocked using flaggers and traffic control devices until the pilot vehicle has passed.

Two-way radios shall be used to provide constant communication to pilot vehicles, contractor's workers, flaggers stationed at on-ramps, and the Project Engineer.

The starting point of a rolling roadblock operation shall consider the following factors: the speed of the pacing vehicles, the location of entrance ramps, and horizontal and vertical alignment of the facility.

The minimum speed allowed for a rolling roadblock operation shall be 10 mph.

- (c) Rolling Roadblock Operation. Before the start of the rolling roadblock, the Contractor shall move all equipment not required for this operation to a safe distance away from the pertinent section of roadway as per S-630-1.

The TCS shall be present throughout the rolling roadblock operation. Two-way radios shall be provided for constant communication between the Project Engineer, the TCS, and Uniformed Law Enforcement.

Method of Measurement

630.17 Quantities to be measured for construction traffic control devices shall be the maximum number of concurrent units in use during the project's duration, as required by the initially approved MHT and any subsequent approved MHT drawings. Quantities will not be measured cumulatively across different phases or setups. If a subsequent MHT increases the maximum number of any device, only the incremental quantity exceeding the previous project maximum will be measured for payment. The sizes and descriptions are listed below:

Table 630-7
Sizing for Construction Traffic Signs

Panel Size A	Up to 9 Square Feet including Type 1 and Type 2 Barricades
Panel Size B	Over 9 to 16 Square Feet
Panel Size C	Over 16 Square Feet
Special	As shown on the plans

Construction traffic signs will be measured by the specific panel size and legend. Traffic signs with identical panel sizes with different sign legends will be measured as a separate device.

Traffic channelizing devices consisting of vertical panels, traffic cones, or drums will be measured by the unit per the approved MHT.

Barrier (Temporary) will be measured by the linear foot.

Barricades will be measured by the number used. Barricade warning lights shall be furnished as a part of this item when required by the Traffic Control Plan (TCP) and shall not be paid for separately but shall be included in this pay item.

Advance Warning Flashing or Sequencing Arrow Boards will be measured by the unit, according to size.

Temporary Portable Rumble Strips will be measured by the actual number of strips that are used on the project.

The Flashing Beacon (Portable) will be measured as a unit complete-in-place. The solar power system for Flashing Beacon (Portable), poles, and lockable container will not be measured and paid for separately but shall be included in this pay item.

Traffic Signals (Temporary) will be measured by the number of signal units required for a complete system configuration per signal location. This system configuration includes all labor, materials, and equipment needed to furnish, install, maintain, and remove the signals, including stop bars and "Traffic Signal Malfunction" signs. This configuration also includes resetting the signals as needed for all project phases and traffic control changes.

Traffic Control Management will be measured by the number of authorized 24-hour day(s) of active TCM performed by the TCS/TCS Trainee pair. Payment will be made for one day of Traffic Control Management regardless of the number of TCSs required to adequately control the work and shall include a daily TCS diary. An authorized 24-hour day of TCM is each calendar day of traffic control performed during active working hours per an approved MHT. This includes activities such as flagging operations, pilot car operations, and setting up or removal of construction zones, shoulder closures, lane closures or detours.

Traffic Control Inspection will be measured by the number of authorized 24-hour day(s) of traffic control inspection (TCI) performed by the TCS/TCS Trainee pair. An authorized 24-hour day of TCI is each calendar day that traffic control devices, as shown in the MHT, are in use, masked, or turned away from traffic on the project, and the only traffic control activity is the inspection of traffic control devices. Maintenance and inspection of traffic control devices that are left in place during non-working hours, including configurations such as lane closures, temporary channelization or detours, are included in the work for an authorized 24-hour day of TCI.

Cleaning and maintaining of traffic control devices are not considered traffic control activities subsidiary to the TCM, TCI, or flagging pay items. Cleaning and maintaining devices are included in the Basis of Payment section.

Work on a night shift that begins before midnight and ends after midnight will be measured by the calendar day that the shift ends.

The quantity to be measured for flagging will be the total number of actual flagging hours that are used as authorized per an approved MHT. Payment will not be made for time spent by flaggers to set up and take down construction traffic control devices. Payment will not be made for additional flaggers necessary to cover flagger break times and shall be included in the cost of the work.

The quantity to be measured for pilot car operation will be the total number of hours that the pilot car operation is used as authorized. Hours of flagging and hours of pilot car operation in excess of those authorized shall be at the Contractor's expense.

Emergency Pull-Off Area (Temporary) will be measured by the actual number of pull-off areas that are constructed, maintained, and removed.

When the Contract provides payment for Mobile Pavement Marking Zone on a lump sum basis, it will not be measured but will be paid for as a single lump sum upon satisfactory completion of the work associated with this item.

When the Contract provides payment for Mobile Pavement Marking Zone by the day, it will be measured as the actual number of days that Mobile Pavement Marking Zone is utilized in the project.

AFADs will be measured per device. While an AFAD is in operation, the operating flagger shall not perform other flagging duties except as outlined in Method 2 as defined in Subsection 630.13 and MUTCD Chapter 6. The operator flagger for the AFAD is not paid for separately but included in the cost of the work.

Rolling Roadblock Operation will be measured as the actual number of hours that this operation is used. If measured by the day, Rolling Roadblock Operation will be measured as the actual number of days, or part of that operation used.

Basis of Payment

630.18 Payment for the individual traffic control devices necessary to complete the work shall be full compensation for furnishing, erecting, cleaning, maintaining, resetting, repairing, replacing, moving, removing, and disposing of the construction traffic control devices. All construction traffic control devices that are not permanently incorporated into the project will remain the property of the Contractor.

Construction traffic control devices, as determined by the project Traffic Control Plan (TCP), will be paid for as follows: 50 percent of the accepted amount upon first utilization, an additional 40 percent of the accepted amount when 75 percent of the original contract amount has been earned, and the final 10 percent when the project has been completed per Subsection 105.21, exclusive of any maintenance periods. The percent of original contract amount earned will be determined by comparing the amount earned for bid items, other than traffic control devices and mobilization, with the original contract amount minus the amounts bid for traffic control devices and mobilization.

The accepted quantities will be paid for at the contract unit price for each of the pay items listed below that appear in the bid schedule.

Payment will be made under:

Pay Item	Pay Unit
Construction Traffic Sign (Panel Size____)	Each
Construction Traffic Sign (Special)	Square Foot
Vertical Panel	Each
Vertical Panel (With Light) (Flashing)	Each
Vertical Panel (With Light) (Steady Burn)	Each
Advance Warning Flashing or Sequencing	
Arrow Panel (_Type)	Each
Drum Channelizing Device	Each
Traffic Cone	Each
Tubular Marker	Each
Surface-Mounted Tubular Marker	Each
Barrier (Temporary)	Linear Foot
Delineator (Type_) (Temporary)	Each
Barricade (Type_) (Temporary)	Each
Traffic Control Management	Day
Traffic Control Inspection	Day
Flagging	Hour
Pilot Car Operation	Hour
Flashing Beacon (Portable)	Each
Traffic Signal (Temporary)	Lump Sum, LS, Day
Mobile Pavement Marking Zone	Lump Sum
Emergency Pull Off Area (Temporary)	Each
Mobile Pavement Marking Zone	Day
Stackable Vertical Panel	Each
Stackable Tubular Marker	Each
Temporary Portable Rumble Strips	Each
Automated Flagging Assistance Device	Each
Automated Flagging Assistance Device	Day
Rolling Roadblock	Day
Rolling Roadblock	Hour

Construction Traffic Sign (Special) is a project specific sign indicated on the Schedule of Construction Traffic Control Devices.

Payment will be made for either Traffic Control Management or Traffic Control Inspection for each calendar day as defined in Subsection 630.17. Payment will not be made for both pay items for the same calendar day.

When Traffic Control Management and Traffic Control Inspection are not pay items, Traffic Control Management and Traffic Control Inspection will not be paid for separately but shall be included in the work.

Flagger hand devices will not be measured and paid for separately but shall be included in the work.

Cost of electrical power, including batteries, for all temporary lighting or warning devices shown on the TCP will not be paid for separately but will be considered subsidiary to the item.

Temporary sign coverings, including the covering materials and fastening devices, will not be measured and paid for separately but shall be included in the work.

The Contractor may provide larger construction traffic signs than those shown on the plans, if approved; however, payment will be made for the panel size designated.

If the Contractor fails to complete construction within the approved contract time, or works during any defined free time period, payment will not be made for the use of Section 630 pay items for the period of time after expiration of the approved contract time. These items shall be provided at the Contractor's expense.

Cleaning and patching of the roadway after removal of Surface-Mounted Tubular Markers will not be paid for separately but shall be included in the work.

Placement, unmasking, removal and masking of reduced speed limit signs and double fines signs will not be measured and paid for separately but shall be included in the work.

Preparation and implementation of the Traffic Management Plan will not be measured and paid for separately, but shall be included in the work, except for public information services that will be measured and paid for per Project Special Provision titled Revision of Section 626 Public Information Services.

Traffic Control Management, vehicles, traffic control devices, and all other work, materials and equipment necessary for the mobile pavement marking zone will not be measured and paid for separately but shall be included in the work.

Flagging required for the mobile pavement marking zone will be measured and paid for separately.

Payment for Emergency Pull-off Area (Temporary) will be full compensation for all work, materials, and equipment necessary to construct, maintain and remove the emergency pull-off area including: HMA or PCCP required for constructing the temporary pull-off area; temporary concrete barriers, impact attenuators and other traffic control devices; construction signing; and maintaining the temporary pavement.

Payment for Temporary Portable Rumble Strips will be full compensation for all work and material required to complete the item including:

- (1) Cleaning the roadway surface.
- (2) Installing the rumble strip.
- (3) Maintaining the strip through the duration of each day's use (including cleaning and resetting of the strip if it slides).
- (4) Removal at the end of each workday.
- (5) Final removal.

Signing required for the rumble strip will be measured and paid for under the construction signing items.

Construction signing will be measured and paid for under the appropriate construction signing items.

Portable Variable Message Signs (VMS) will be measured and paid for per the project special provision, Revision of Section 630: Portable Message Sign Panel.

Uniformed Law Enforcement (ULE) officers and their vehicles will be paid per project special provision, Revision of Section 630: Uniformed Law Enforcement Coordination (Colorado State Patrol).

Uniformed Law Enforcement contracted by the Contractor will be paid per project special provision, Revision of Section 630: Uniformed Law Enforcement Coordination (General).

TCS/TCS Trainee pair will be included in the work for a TCM or TCI day.

Flaggers will be paid for under Pay Item 630, Flagging.

Two-way radios will not be measured and paid for separately but shall be included in the work.