

DIVISION 600

TRAFFIC CONTROL

SECTION 601

WORK ZONE TRAFFIC CONTROL

601.01 Description. The Contractor, Subcontractor, or anyone working within the highway right of way shall provide a Traffic Control Plan for the maintenance and control of traffic during work within the highway right of way. The Traffic Control Plan shall set forth procedures and guidelines for providing for the safe passage of traffic through and around the project area with a minimum of inconvenience. The Traffic Control Plan shall conform to the requirements of these standard specifications, the plans, the *Standard Drawings For Road Construction*, the special provisions, all supplemental specifications, the manufacturer's requirements and specifications, the *South Carolina Manual on Uniform Traffic Control Devices for Streets and Highways*, hereinafter referred to as *SCMUTCD*, and the Engineer.

The current *SCMUTCD*, in effect at the time of the contract award, shall provide the minimum requirements for installation, operation, and maintenance of all traffic control devices.

These sections shall specify fabrication, provision, installation, maintenance, performance, relocation, and removal requirements of all traffic control devices, methods, and procedures as required by the plans, the *Standard Drawings For Road Construction*, the special provisions, all supplemental specifications, the manufacturer's requirements and specifications, the *SCMUTCD*, and the Engineer.

Traffic control shall include provision, installation, mainte-

nance, repair, replacement, relocation, and removal of all traffic control devices used for regulating, warning, or directing traffic. All items shall remain the property of the Contractor unless otherwise specified in these standard specifications, the plans, or the special provisions.

601.02 General. These standard specifications set forth specific procedures and requirements and do not relieve the Contractor of any responsibilities incurred by the plans, the *Standard Drawings For Road Construction*, the special provisions, the supplemental specifications, the manufacturer's specifications, the *SCMUTCD*, and the Engineer.

The Contractor shall acquire approval for all revisions, through modifications of the plans, the plans, quantities, and the special provisions, to the project staging as presented in the Traffic Control Plan. Final approval of such revisions will be pending upon review by the Engineer.

When these standard specifications, the plans, or the special provisions do not cover a specific traffic control condition, the Contractor and the Engineer shall agree to a plan of traffic control before beginning the work causing the condition.

The Department reserves the right to restrict construction operations when the continuance of the work would seriously hinder normal traffic flow during holidays, extended holiday periods, weekends, special events or any time traffic is unusually heavy. The Department's right to restrict construction operations shall include lane closures, road closures, or any operation determined necessary by the Engineer. Also, do not close lanes or streets with high volume commuter traffic in cities and urban areas during peak traffic periods unless otherwise specified.

The Department prohibits most lane closures during holidays, holiday weekends, or special events. A holiday occurring on a weekday may require an extension of the holiday restrictions due to the proximity of the weekend as determined

by the Engineer. The Department defines most holiday weekends as from 12:00 Noon of the Friday before the weekend or of the day before the holiday until 6:00 AM of the Monday after the weekend or the day after the holiday. Thanksgiving Holidays are defined as from 12:00 noon of the Wednesday before Thanksgiving Day until 6:00 AM of the Monday after Thanksgiving Day. Christmas holidays are defined as from 12:00 Noon of December 23rd through 6:00 AM of December 27th. The Engineer may extend Christmas holiday restrictions due to the proximity of the weekend. Easter holidays are defined as from 12:00 Noon of the Thursday before Easter until 6:00 AM of the Tuesday after Easter. Special events are events generating excessive traffic as determined by the Department.

The Contractor shall observe all time restrictions regarding lane closures or road closures and the Engineer may extend these time restrictions as traffic conditions warrant. The Department reserves the right to suspend a lane closure or road closure if the Engineer determines the resulting traffic backups to be excessive. Observe and maintain all job specific time restrictions as specified by the plans, the special provisions, and the Engineer. Install and remove lane closures, including all relative traffic control devices and signs, within all time restrictions. Coordinate all work activities requiring lane closures and road closures in accordance with all restrictions.

The Department defines the conditions of day and night in accordance with the level of natural light provided by the sun as measured by a light meter. The terms "Daytime," "Hours of Daylight," or any similar term shall refer to a level of illumination greater than or equal to 54 Lx or 5 fc. The terms "Nighttime," "Hours of Darkness," or any similar term shall refer to a level of illumination less than 54 Lx or 5 fc.

In all areas where work is being performed during the hours of darkness, the Contractor shall furnish, place, and maintain lighting facilities capable of providing light of sufficient intensity to facilitate good workmanship and proper inspection at all times. The lighting shall be arranged so as not to produce

glare or diminish the motorist's visibility.

The Contractor may illuminate the work area by any combination of portable lights, standard electric lights, existing street lights, etc., that will provide the necessary illumination as follows:

Area Of Illumination	Work Activity	Minimum Illumination Level Lx (fc)
General	Cleaning, Sweeping, Tacking, Painting, etc.	54 (5)
Tasks Around Equipment (50 foot Ahead/Behind)	Milling, Paving, Rolling, Etc.	108 (10)

The Contractor shall provide advance warning arrow panels during the closure of a travel lane of a multilane roadway. The taper section of a lane closure shall require no less than two arrow panels. If the plans do not provide locations for the arrow panels during a lane closure, place one arrow panel at the beginning of the taper and the another arrow panel at the end of the taper. These locations are for normal conditions.

These locations may require adjustments due to horizontal and vertical alignments, various sight distance restrictions, or due to some other type of physical obstruction.

Install changeable message signs as specified hereto when required in lane closure set-ups. Install and use these signs within all lane closure set-ups as directed by the *Standard Drawings For Road Construction*. When lane closures are not present for any time to exceed 24 hours, remove the changeable message signs from the roadway. Place the sign in a predetermined area on the project site, as approved by the Engineer, where the sign is not visible to passing motorists. The

preprogrammed messages shall be in accordance with the *Standard Drawings For Road Construction* when used as part of the traffic control set-up for lane closures. The messages displayed on these signs shall be pertinent to the requirements of the traffic control situation and the traffic conditions at all times. At no time will the messages displayed on these signs duplicate the legends on the permanent construction signs.

The Department prohibits drop-offs greater than 2 inches next to traffic. However, the Department will permit a drop-off more than 2 inches if the Contractor is actively working in the immediate vicinity of the drop-off. The Contractor shall eliminate these drop-offs at the end of each day's work and at the completion of the construction activities. During the rough grading operations, the Contractor shall provide for the safe movement of traffic by excavating the earth next to the travel lane open to traffic to a 6:1 slope until the fine grading begins. During the fine grading operations, the Contractor shall provide for the safe movement of traffic by placing a material approved by the Engineer next to the travel lane open to traffic at a 6:1 slope. The Contractor shall prepare the 6:1 slope at the end of each workday as necessary. The Engineer will determine which excavations are susceptible to encroachment by errant vehicles and in need of protective cover. The Contractor shall cover these excavations (i.e., catch basins) located next to a travel way with metal plates capable of sustaining vehicular traffic as directed by the Engineer. Supplement these excavations with two or more 4 Foot Type II barricades until completed. Disregard the requirement for metal plates if guardrail or temporary concrete barrier protects the excavation.

The Department prohibits drop-offs greater than 2 inches between adjacent travel lanes open to traffic during paving operations. Also, the Department prohibits drop-offs greater than 1 inches between adjacent travel lanes open to traffic during milling operations. The Department shall restrict acceptable drop-offs on multi-lane facilities to no more than one drop-off between adjacent travel lanes carrying traffic in the same direction. Observe all restrictions regarding grade elevation differ-

ences and lane closures by maintaining an approved construction schedule. The Contractor shall have the Engineer's approval of the schedule for all milling, paving, or any similar operations before beginning the work.

Properly delineate all travel lanes through construction zones to provide motorists with a clear and positive travel path. Reflectorize all traffic control devices in place on a project site during the hours of darkness. Supplement lane closures and the designated traffic control devices in and adjacent to the roadway with amber warning lights as directed by the plans, the *Standard Drawings For Road Construction*, the special provisions, and the *SCMUTCD*. Reflectorize cones may be used at night as directed by the *SCMUTCD*, however, plastic drums shall be the preferred traffic control device for use at night.

Whenever two-lane two-way traffic is separated by relocation of one direction of the traffic, install portable plastic drums within the vacated travel lane immediately upon the traffic relocation. At no time is it permissible to allow multiple lanes of uni-directional traffic onto adjacent travel lanes separated by yellow centerline pavement markings. Install these portable plastic drums in the same manner as a lane closure as directed by the *Standard Drawings For Road Construction* and the Engineer.

The Contractor shall provide individuals properly trained in traffic control practices. These individuals shall provide quality assurance of the installation and maintenance of the traffic control. The Contractor shall have a person in charge of the traffic control on the job site at all times when construction activities are in progress. Also, a person shall be available 24 hours a day in case of an emergency or failure of traffic control devices.

When working within the rights-of-way of access controlled roadways such as interstate highways, the Contractor's vehicles shall change direction of travel at interchanges only. The

Department prohibits these vehicles from crossing the entire roadway from right side to the median or vice versa. When the Contractor's vehicles enter the roadway from a closed lane or the median area, a flagger shall control the Contractor's vehicles. The flagger will not stop traffic, cause traffic to change lanes, or affect traffic in any manner. The Contractor's vehicles shall not disrupt the normal flow of traffic or enter the travel lanes of the roadway until a sufficient gap is present.

601.03 Contractor's Responsibility. The Contractor is responsible for maintaining the Traffic Control Plan as required by these standard specifications, the plans, the special provisions, all supplemental specifications, the *SCMUTCD*, and the Engineer. The Contractor shall observe all requirements of the Traffic Control Plan. Also, the Contractor is responsible for ensuring all Subcontractors working on the project site observe all requirements of the Traffic Control Plan. Before beginning any work, the Contractor shall submit his plan for constructing the project and maintaining traffic to the Engineer.

The Contractor shall schedule and arrange all work, equipment and materials to ensure the least inconvenience and the utmost in safety to the traveling public and to the Contractor's and the Department's forces. In observance of all safety regulations set forth by these standard specifications, each Contractor, Subcontractor, sub-Subcontractor, or anyone working on contiguous and overlapping projects shall coordinate work activities as determined by the Department.

The Contractor shall designate a responsible member of the Contractor's organization with sufficient qualifications whose duty shall be to administer the Traffic Control Plan as specified by these standard specifications, the plans, the *Standard Drawings For Road Construction*, the special provisions, all supplemental specifications, the *SCMUTCD*, and the Engineer. This person shall be responsible for assuring that precautions are taken for the protection of the public and all the workers. The Contractor shall advise the Engineer of the designated person's name, telephone numbers, company title, and office loca-

tion.

The Traffic Control Plan may require installation and maintenance of detour signs outside the immediate project limits. In such cases, the Contractor is responsible for installing and maintaining these detour signs as required by the plans, the special provisions, and the Engineer.

The Contractor shall conduct frequent inspections of the project to determine the adequacy, effectiveness, and maintenance requirements of the Traffic Control Plan. Due to conditions uncharacteristic to a roadway without construction, prudent revisions may be necessary to provide for the protection of the traveling public and the safety of all personnel employed on the project site. The Contractor shall be responsible for maintenance of the traffic from the time the Contractor installs the permanent or temporary construction signs until the Department accepts the project.

The Contractor is responsible for the installation, maintenance, and performance of all traffic control devices. Install, maintain, and ensure the performance of these traffic control devices as required by these standard specifications, the plans, the special provisions, all supplemental specifications, and the manufacturer's specifications.

The Contractor shall conduct frequent inspections of the project to determine the adequacy, effectiveness, and maintenance requirements of the traffic control devices. Repair or remove damaged traffic control devices from the job site. Immediately replace those traffic control devices removed from the job for repairs or due to failure with duplicate devices in the proper operational condition. Maintain the required level of reflectivity and color by keeping all signs, barricades, drums, and cones clean.

On roadways open to public travel, the Contractor's trucks and all other construction related vehicles will travel in the d-

rection of normal roadway traffic. However, when these vehicles are operating within a closed travel lane, they may travel in either direction as necessary. The Department PROHIBITS the Contractor or any Subcontractor from storing material and equipment within 30 feet of a travel lane unless there is guardrail or temporary concrete barrier to protect the area. Also, the Department PROHIBITS the employees of the Contractor or a Subcontractor from parking personal vehicles within 30 feet of a travel lane unless there is guardrail or temporary concrete barrier to protect the area. The Contractor shall remove portable sign supports and all other traffic control devices from within 30 feet of a travel lane when not in use. Also, all portable sign supports shall lie flat with the legs in the retracted position when not in use.

When working adjacent to or over travel lanes, the Contractor shall ensure that dust, debris, tools, or equipment from the operation do not endanger motorists. When working over traffic, the Contractor shall provide suitable safety platforms to catch falling materials or objects. The Contractor shall arrange these safety platforms so as not to encroach on the vertical clearance necessary in the area as determined by the Department.

601.04 Responsible Person. The Engineer is the representative of the Department. The Engineer is responsible for assuring effective administration of the requirements of the Traffic Control Plan as specified by these standard specifications, the plans, the *Standard Drawings For Road Construction*, the special provisions, all supplemental specifications, and the *SCMUTCD* to the best of his/her ability. The is responsible for providing notice to the Contractor, the Subcontractor, the sub-Subcontractor, including utility companies and government entities, or any individual working within the highway rights-of-way for failing to comply with the requirements of the Traffic Control Plan and these standard specifications.

The Engineer is responsible for requesting the assistance of the Highway Patrol or local law enforcement when necessary.

601.05 Method of Measurement. Measurement of payment for Traffic Control shall include all traffic control items necessary for construction. The bid item, Traffic Control, shall include all traffic control items except where the contract includes other bid items for specific traffic control items. The Department will make payment for Traffic Control as specified by the following schedule:

Percent Contract Complete	Percent Traffic Control To Be Paid For
1 - 5	20
6 - 15	40
16 - 29	60
30 - 49	70
50 - 69	80
70 - 89	90
90 - 100	100

The Department will follow the above schedule as long as the adequacy of the traffic control measures are satisfactory to within the guidelines set forth by these standard specifications, the plans, the *Standard Drawings For Road Construction*, the special provisions, all supplemental specifications, and the *SCMUTCD* as determined by the Engineer. The Engineer may assess appropriate reductions in monthly payments when the Contractor does not use or maintain traffic control devices as specified by these standard specifications contained herein.

The Engineer will notify the Contractor in the event the Engineer finds that traffic control is not being provided as outlined. When the Contractor fails to provide the appropriate traffic control, the Engineer will immediately suspend all work activities until the Contractor corrects such conditions. During such suspension, the charging of work time shall continue. The Engineer shall have the authority to withhold partial payment for any work on the contract if the traffic control is not being provided as required.

When a contract requires payment for Traffic Control on more than one project, the Department will consider each project separately.

The price and payment for Traffic Control shall be full compensation for fabricating, providing, preparing, installing, removing or relocating, maintaining, and repairing or replacing all traffic control items as necessary to complete the work. The price and payment for traffic control shall include furnishing all materials, labor, hardware, equipment, tools, incidentals, and miscellaneous items necessary to complete the work.

Payment for Traffic Control shall exclude payment for permanent construction signs, temporary concrete barrier, portable terminal impact attenuators, changeable message signs, pavement markings, temporary pavement markers, or any item specified by a contract unit price bid in the plans, the special provisions, and the contract.

Consider payment for traffic control needed during application of temporary or permanent pavement markings incidental to the item and include payment for this traffic control in the bid item for Traffic Control.

601.06 Basis of Payment. The Department will pay for Traffic Control on a percentage completed basis as specified in Subsection **601.03**. The price and payment for this work shall be full compensation for furnishing the necessary traffic control.

Payment for this item includes all direct and indirect costs and expenses required to complete the work.

Payment will be made under:

Item No.	Pay Item	Pay Unit
1071000	Traffic Control	Lump Sum