

S-1 **(2563) TEMPORARY TRAFFIC MANAGEMENT**

S-1.1 **DESCRIPTION**

Furnish, install, maintain, and remove all traffic control devices required to provide safe movement of traffic and pedestrians through the Project at all times from commencement of the Work until Project Acceptance. Maintain roads and pedestrian facilities undergoing improvements in a condition that accommodates public traffic. Do not close roads or pedestrian facilities, except as authorized. The Engineer may modify the requirements for traffic control as deemed necessary.

The Contractor is not responsible for snow removal from roads or pedestrian facilities open to public traffic. Do not suspend operations for the winter until meeting the requirements of 1803.4, "Temporary Suspensions". During authorized winter suspension, the Department will maintain traffic control devices. If traffic control devices are damaged or destroyed, the Department will pay the contractor the value of the device as determined by the Engineer.

All temporary traffic management must conform to and be installed in accordance with:

- the "Minnesota Manual on Uniform Traffic Control Devices" (MN MUTCD);
- the "Minnesota Temporary Traffic Control Field Manual" (Field Manual);
- the "Speed Limits in Work Zones Guidelines";
- the "Minnesota Flagging Handbook";
- the "MnDOT Standard Signs and Markings Manual";
- the Plan;
- all applicable standard specifications and special provisions.

Manuals listed above may be found at: <http://www.dot.state.mn.us/trafficeng/publ/index.html>

S-1.2 **MATERIALS**

A **Temporary Signs and Devices**

Reflectorize all signs, paddles, and other traffic control devices including those used for daytime operations. Fabricate temporary rigid signs and devices with retroreflective sheeting material of the appropriate color listed on the Approved/Qualified Products List (APL/QPL) for either "Sheeting for Rigid Temporary Work Zone Signs, Delineators, and Markers (Type IX and XI)" or "Sheeting for Rigid Permanent Signs, Delineators, and Markers (Type IX and XI)". The sheeting materials APL/QPL is located at the following link: <http://www.dot.state.mn.us/products/signing/sheeting.html>.

Inplace signs that still apply during temporary operations need no change in sign sheeting.

B **Vehicle Conspicuity Tape**

The Approved Products List for "Conspicuity Vehicle Sheeting (Type VII)" is found at: <http://www.dot.state.mn.us/products/signing/sheeting.html>

C **Truck/Trailer Mounted Attenuators**

The Approved Products List for "Mobile Crash Attenuators" is found at: <http://www.dot.state.mn.us/products/temporarytrafficcontrol/mobilecrashattenuators.html>

D **Drum Sheeting**

On Projects requiring drums per MnDOT Standard Plate No. 8000J (Channelizers – Type B), provide all drums with six inch fluorescent orange and white sheeting material with no gap between sheeting layers.

E **Crashworthy Signs, Traffic Control Devices, and Ballast**

Signs and traffic control devices must be crashworthy and meet the crash testing requirements of the AASHTO Manual for Assessing Safety Hardware 2016 (MASH-16). The Department may require a letter of compliance stating that all signs and traffic control devices comply with MASH-16 requirements. The Letter of

Compliance must include drawings of the different signs and devices along with a copy of the FHWA issued Letter of Eligibility or MnDOT MASH Crashworthy Evaluation.

See MnDOT Technical Memorandum No. 19-03-T-01 for information and timelines on the allowable use of crashworthy devices tested under NCHRP-350. <https://techmemos.dot.state.mn.us/techmemo.aspx>

The approved ballast system for signs and devices mounted on temporary portable supports is sandbags, unless it is designed, crash tested, and approved for the specific device. Add a deicer during freezing conditions to prevent the sand from freezing. Place sandbags at the base of the sign or traffic control device. Do not use any ballast that causes a sign or traffic control device to become hazardous to motorists or workers.

S-1.3 CONSTRUCTION REQUIREMENTS

A Traffic Control Plan, Maintenance, and Inspection

A.1 Submit a proposed traffic control plan to the Engineer for acceptance if traffic control is not present in the Plan, or if the Contractor modifies the traffic control plan. Submit the proposed traffic control plan at least seven days before implementation. If Field Manual layouts are used, specify layout number(s) but do not submit the layouts from the Field Manual. Do not implement the proposed traffic control modification until accepted by the Engineer.

A.2 Immediately repair or replace all traffic control devices that become damaged, moved or destroyed, and all ballasts that are damaged, destroyed, or otherwise fail to stabilize the device.

A.3 Meet the traffic control device quality standards as required in the Field Manual. Immediately replace unacceptable traffic control devices. Signs that are dirty and result in a noticeable loss of reflectivity at night are considered unacceptable and must be cleaned or replaced. Respond promptly to any call from the Engineer concerning the notification of unacceptable traffic control devices.

A.4 Provide the names, addresses, and phone numbers of at least three individuals responsible for placing and maintaining traffic control devices to the Engineer at the Pre-construction Conference. These individuals will be "on call" 24 hours per day, seven days per week during the times any temporary traffic control devices are in place.

A.5 Inspect all traffic control devices on a daily basis, including one nighttime inspection per week. Verify that the devices are placed in accordance with the Traffic Control Plan, these Special Provisions, and the MN MUTCD. Immediately correct discrepancies between the actual placement and the required placement. Respond immediately to any call from the Engineer concerning any request for improving or correcting traffic control devices.

A.6 Make a daily log of required inspections. This log must indicate the date and time any changes in the stages, phases, or portions go into effect. The log must identify the location and verify that the devices are placed as directed or corrected in accordance with the Plan. The person making the inspection must sign the log and include the date and time of the entry. Provide copies of the inspection logs on a weekly basis and at the request of the Engineer.

B Traffic Control Signs and Devices

B.1 Roll-up signs are not allowed unless authorized by the Engineer.

C Traffic Safety

C.1 **Do not suspend material, equipment, tools or personnel over lanes or pedestrian facilities open to traffic.**

C.3 Protect traffic and pedestrians from excavations, drop-offs, falling objects, splatter or other potential construction hazards.

C.4 Do not store materials or equipment in the work zone clear zone unless approved by the Engineer. If materials or equipment must be stored within the work zone clear zone, protect with temporary barrier. If the Engineer agrees that temporary barrier is not practical, delineate with Type B channelizers.

C.5 Do not park vehicles or construction equipment in the clear zone or any location that obstructs traffic control devices. Workers are not allowed to park their private vehicles within the Project limits unless approved by the Engineer.

C.6 Do not load or unload material or equipment on the shoulders of any roadway without a full shoulder closure using signs and channelizing devices shown on Layout 8 in the Field Manual.

D High Visibility Apparel

During night work or low light conditions, all workers must wear high visibility Class E long pants and retro-reflective headgear in addition to the ANSI Class 2 or 3 vest, shirt, or jacket.

All high visibility apparel must be worn in the manner for which it was designed. All apparel worn on the torso must be closed in the front to provide 360 degree visibility. A worker's high-visibility apparel must be removed from service and replaced if it becomes faded, worn, torn, dirty, or defaced, reducing the conspicuity of the apparel.

E Night Work

Night work is not permitted on this project without prior approval of the Engineer.

F Vehicle Warning Light Specification

All vehicles and equipment operating in the trunk highway right of way, must have operable warning lights that are amber in color and meet the appropriate SAE specification. The SAE specification requirements are as follows:

- Optical Warning Devices for Authorized Emergency, Maintenance, and Service Vehicles- SAE Specification J845.
- Directional Flashing Optical Warning Devices for Authorized Emergency, Maintenance, and Service Vehicles - SAE Specification J595.

Details on SAE Specification can be found at: <http://www.dot.state.mn.us/const/wzs/lighting.html>

G Lane Closure Requirements

G.1 Temporary lane closures or other traffic restrictions by the Contractor, during work hours and consistent with the time restrictions, will be permitted only during those hours and at those locations approved by the Engineer. Request temporary lane closures at least two business days prior to the closure.

Contact the Regional Transportation Management Center (RTMC) at 651-234-7093 at the time when a freeway lane or ramp closure begins and again at the time when the freeway lane or ramp closure ends and at the beginning and end times of full freeway roadway closures.

G.2 The Engineer may lengthen, shorten, or otherwise modify the following periods of restrictions as warranted by actual traffic conditions.

Choose the appropriate G.2.1

G.2.1 Temporary lane restrictions will only be allowed as described in (1) and (2) below. If (1) and (2) conflict, the more restrictive condition will apply.

- (1) Work that will restrict or interfere with traffic will not be permitted between the hours of 6 A.M. and 9 A.M. and between the hours of 3 P.M. and 6 P.M.
- (2) Temporary lane closures will be permitted in accordance with the hours and number of lanes allowed as indicated in the Metro Lane Closure Manual, <http://www.dot.state.mn.us/metro/trafficeng/laneclosure/index.html>. Lane closures that cross segments as defined in the Manual shall follow the more restrictive limits.

G.3 Work that will restrict or interfere with traffic shall not be performed between 12:00 noon on the day preceding and 9:00 A.M. on the day following any consecutive combination of a Saturday, Sunday and legal holiday.

G.5 Place traffic control devices in any temporary lane closure that is adjacent to traffic and extends beyond 1000 feet as shown on Layout 61 of the Field Manual. When the lane closure is in place three days or longer, use only Type III barricades.

G.6 Use Drum Channelizers in all lane closure tapers and in any shifts in traffic alignment.

G.7 No center lane closures will be permitted.

G.8 Maintain a minimum of two miles between temporary lane closures.

G.9 Temporary lane closures will not be permitted during inclement weather, nor any other time when, in the opinion of the Engineer, the lane closure will be a greater than normal hazard to traffic.

G.10 When working on the shoulder or median, provide traffic control according to Layout 8 (Work on Shoulder) of the Field Manual.

H Truck/Trailer Mounted Attenuators (TMAs) For Mobile/Short Duration Operations

Truck/Trailer Mounted Attenuators (TMA) must be used on all shadow and protection vehicles operating totally or partially in a traffic lane if any temporary traffic control zone is defined as “Mobile/Short Duration” by the Field Manual. All references to “should” in the Field Manual in regards to TMA use for Mobile/Short Duration layouts are hereby changed to “shall”. This requirement applies to all operations utilizing Field Manual layouts 9, 10, 12, 13, 36, 41, 49, 50, 51, 54, 55, 63, 76, 77, 78, and 79. Providing TMAs for “Mobile/Short Duration” work zones is incidental.

I Flagging Operations

I.1 Flaggers must attend a training session taught by a MnDOT-Qualified Flagger Trainer. The trainer must have completed a “MnDOT Flagger Train the Trainer Session” within the last five years and be on file as a qualified Trainer with MnDOT. Provide the Flagger Trainer’s name and qualification number at the pre-construction meeting. Provide all flaggers with the MnDOT Flagging Handbook. Flaggers must be in possession of the handbook while flagging on the Project. Furnish the signed “Checklist for Flagger Training” or “Flagger Qualification Card” to the Engineer any time a new flagger reports to work on the Project. The “Checklist for Flagger Training” and other forms and information is found at: <http://www.dot.state.mn.us/const/wzs/flagger.html>

I.2 All signs associated with the flagging operation must be removed or covered when flagging operations are not present.

I.3 Coordinate the flagging operations in a manner that causes minimum delay to the traveling public. The maximum delay time is **5 minutes**. If the operation exceeds the maximum delay time, the operation must be discontinued until a new traffic control plan is developed which meets the maximum delay requirement.

FLAGGING ON TRUNK HIGHWAYS AND RAMPS WILL NOT BE ALLOWED

I.5 Furnish Flaggers in sufficient quantity to control each approach to the work area including intersecting crossroads that are open to traffic.
OR

K Signal Systems

K.1 Do not interfere with the operation of any traffic signal system, except as required by the Contract. Notify the Engineer at least 24 hours prior to beginning any work that will interfere with any traffic signal system or its detection system.

K.3 Provide off-duty police officers to direct and control traffic during such times as the existing or temporary signal system at each location is out of operation. Off-duty police officers must be furnished in such numbers as deemed necessary by the Engineer to direct traffic. See Section **S-2563** (POLICE OFFICER) of these Special Provisions for specific requirements, measurement, and payment information.

Use only the paragraphs in L that apply to the Project

L Maintenance and Staging of Traffic Control

L.1 Maintain the existing traffic movements at all intersections

L.2 Pedestrian traffic must be maintained and guided through the Project at all times.

L.4 Maintain a minimum lane width of **11** feet on all roadways. Traffic must not be allowed or forced onto the shoulders without prior approval of the Engineer.

L.6 Access to and from the project site is subject to approval by the Engineer.

L.7 Keep the Right-of-Way fence closed during non-working hours.

S-1.4 METHOD OF MEASUREMENT

All Traffic Control work associated with this contract will be incidental

S-2 (2563) POLICE OFFICER

S-2.1 DESCRIPTION

Provide off-duty Police Officer(s) in order to maintain public safety. "Police Officer" means every officer authorized to direct or regulate traffic, issue citations, and make arrests for violations of traffic laws.

S-2.2 MATERIALS

The Police Officer(s) must be properly uniformed including a reflectorized high-visibility safety vest and fully equipped including police car.

S-2.3 **CONSTRUCTION REQUIREMENTS**

Provide off-duty Police Officer(s) in such numbers and for such times as deemed necessary by the Engineer.

S-3 **(2563) TRUCK/TRAILER MOUNTED IMPACT ATTENUATOR (TMA)**

S-3.1 **DESCRIPTION**

Provide a Truck/Trailer Mounted Impact Attenuator for all lane or shoulder closures on high-speed roadways.

S-3.2 **MATERIALS**

Approved Truck/Trailer Mounted Impact Attenuators can be found at:
<http://www.dot.state.mn.us/products/temporarytrafficcontrol/mobilecrashattenuators.html>. TMAs used on high-speed roads must be Test Level 3 or higher.

S-3.3 **CONSTRUCTION REQUIREMENTS**

All lane and/or shoulder closures on high-speed roadways will require a vehicle equipped with a truck/trailer mounted attenuator to be placed in the closed lane/shoulder next to traffic prior to the active work site. The lane/shoulder closures must meet the requirements described in the appropriate Field Manual layout.