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DIVISION S

S-1 CONTACT INFORMATION

Use on all jobs.
SP2005-3

Questions regarding this Project, including any questions prior to bidding, shall be directed to _____. ***(District needs to supply Resident Engineer's name and phone number)***

S-2 (1404) MAINTENANCE OF TRAFFIC AND (2563) TRAFFIC CONTROL

The following write-up was created by the Traffic Control Specification Review Committee. Whomever in the District is putting together the time and traffic for the job, needs to go through the following write-up and pick and choose which portions are needed on the job.
THE SPECIAL PROVISIONS UNIT CAN NOT DO THIS FOR YOU.
REVISED 3/28/12
SP2005-13

All traffic control devices shall conform and be installed in accordance to the "Minnesota Manual on Uniform Traffic Control Devices" (MN MUTCD) and Part 6, "Field Manual for Temporary Traffic Control Zone Layouts", the "Guide to Establishing Speed Limits in Highway Work Zones", the Minnesota Flagging Handbook, the provisions of Mn/DOT 1404 and 1710, the Minnesota Standard Signs Manual, the Traffic Engineering Manual, the Traffic Control Layouts/Typical Traffic Control Layouts in the Plans, and these Special Provisions.

The Contractor shall furnish, install, maintain, and remove all traffic control devices required to provide safe movement of vehicular traffic through the Project during the life of the Contract from the start of Contract operations to the final completion thereof. The Engineer will have the right to modify the requirements for traffic control as deemed necessary due to existing field conditions. The highways shall be kept open to traffic at all times, except as modified below.

Traffic control devices include, but are not limited to, barricades, warning signs, trailers, flashers, cones, and drums, as required and sufficient barricade weights to maintain barricade stability.

Do not use paragraph for STATE FUNDED Jobs!
The Contractor is advised of the changes to the Prevailing Wage Coverage as noted in the Notice to Bidders – Traffic Control Prevailing Wage Coverage contained in the front of this Proposal.

S-2.1 TRAFFIC CONTROL

(A) The Contractor shall be responsible for the immediate repair or replacement of all traffic control devices that become damaged, moved or destroyed, of all lights that cease to function properly, and of all barricade weights that are damaged, destroyed, or otherwise fail to stabilize the barricades. The Contractor shall further provide sufficient surveillance of all traffic control devices at least once every 24 hours.

Choose one of the following:

The Contractor shall furnish the Engineer names, addresses and phone numbers of at least two (2) local persons responsible for all traffic control devices.

OR

The Contractor shall furnish names, addresses, and phone numbers of at least three (3) individuals responsible for the placement and maintenance of traffic control devices. These individuals shall be "on call" 24

hours per day, seven days per week during the times any traffic control devices, furnished and installed by the Contractor, are in place. The required information shall be submitted to the Engineer at the Pre-construction Conference.

(B) If traffic control layouts are not present in the Plan, or the Contractor modifies the layout or sequence from the Plan, the Contractor shall submit the proposed traffic control layout to the Engineer, for approval, at least fourteen (14) days prior to the start of construction. At least 24 hours prior to placement, all traffic control devices shall be available on the Project for inspection by the Engineer. The Contractor shall modify his/her proposed traffic control layout and/or devices as deemed necessary by the Engineer.

(C) The Contractor shall notify the Engineer in writing at least 72 hours prior to the start of any construction operation that will necessitate lane closure or internal traffic control signing.

(D) The Contractor shall inspect, on a daily basis, all traffic control devices, which the Contractor has furnished and installed, and verify that the devices are placed in accordance with **the Traffic Control Layouts,** these Special Provisions, and/or the MN MUTCD. Any discrepancy between the placement and the required placement shall be immediately corrected.

The Contractor shall be required to respond immediately to any call from the Engineer or his designated representative concerning any request for improving or correcting traffic control devices. **If the Contractor is negligent in correcting the deficiency within one hour of notification the Contractor shall be subject to an hourly charge assessed at a rate of $250.00 per hour for each hour or any portion thereof with which the Engineer determines that the Contractor has not complied.**

(E) The person performing the inspection in paragraph (D) above, shall be required to make a daily log. This log shall also include the date and time any changes in the stages, phases, or portions thereof go into effect. The log shall identify the location and verify that the devices are placed as directed or corrected in accordance with the Plan. All entries in the log shall include the date and time of the entry and be signed by the person making the inspection. The Engineer reserves the right to request copies of the logs as he deems necessary.

The Contractor shall be required to provide copies of the inspection logs, within the time frame agreed upon, when requested by the Engineer. **If the Contractor is negligent in providing the inspection logs within the time frame agreed upon, the Contractor shall be subject to an hourly charge assessed at a rate of $500.00 per hour for each hour or any portion thereof with which the Engineer determines that the Contractor has not complied.**

(F) The third sentence of paragraph 2 in Mn/DOT 1404.7 (Winter Suspension) is hereby revised as follows:

> "In the event that any Contractor-owned traffic control devices are damaged or destroyed making them ineffective for their intended use, the Contractor will receive payment in the amount of the value of the traffic control device as determined by the Engineer."

(G) If, at any time, the Contractor fails to, in a timely manner, properly furnish, install, maintain or remove any of the required traffic control devices, the Department reserves the right to properly correct the deficiency. **Each time the Department takes such corrective action, the costs thereof, including mobilization, plus $5,000 will be deducted from monies due or coming due the Contractor.**

(H) Measurement and Payment:

Choose one of the following:

All traffic control required under this Contract shall be performed as incidental work for which no direct payment will be made.

OR

No measurement will be made of the various Items that constitute Traffic Control but all such work will be construed to be included in the single Lump Sum payment under Item 2563.601 (Traffic Control).

OR

Traffic control will be measured and paid for as follows:

No measurement will be made of the various items that constitute Traffic Control, but all such work shall be construed to be included in the lump sum payment under Item 2563.601 (Traffic Control). The lump sum payment shall be compensation in full for all costs of furnishing, installing, maintaining and removing the individual traffic control **devices except for items as listed in the Traffic Control Plan.**

OR

Traffic Control will be measured and paid for as follows:

Payment for furnishing, installing, maintaining, relocating and subsequently removing traffic control devices as required will be made as a lump sum under Item 2563.601 (Traffic Control) and according to the following schedule:

(1) When 5 percent of the Contract amount is earned, 50 percent of the amount bid for traffic control will be paid.
(2) When 10 percent, or more, of the Contract amount is earned, an additional 25 percent of the amount bid for traffic control will be paid.
(3) When 50 percent, or more, of the Contract amount is earned, an additional 20 percent of the amount bid for traffic control will be paid.
(4) The remaining 5 percent bid for traffic control will be paid when all work has been completed and accepted.
(5) In all items above, the original Contract amount shall be the total value of all Contract Items including the traffic control item, but the percentage earned in each case shall be exclusive of the traffic control item.

OR

Traffic Control will be measured and paid for as follows:

Lump Sum Traffic Control under Item(s) 2563.601 (Traffic Control).

The lump sum payment(s) shall be compensation in full for all costs of furnishing, installing, maintaining, relocating, and removing the individual traffic control devices as shown on the Traffic Control Layouts in the Plans and/or as specified in these Special Provisions. The lump sum shall also include any extra signing needed to facilitate traffic switches or for transitioning traffic from one stage to another.

If the Contractor requests changes in traffic control as shown on the Traffic Control Layout(s), and these changes are implemented, there will be no increase or decrease in the lump sum payment(s) for the stage(s) of traffic control.

Partial payments for lump sum Item 2563.601 (Traffic Control) will be made as follows:

(1) When all traffic control devices for an individual stage, as shown on the Traffic Control Layouts, have been installed, 75% of the Contract Unit Price for that stage will be paid.

(2) When all work in an individual stage and all traffic control devices for that stage are removed, the remaining 25% of the Contract Unit Price for that stage will be paid.

S-2.2 VEHICLE WARNING LIGHT SPECIFICATION

All Contractors', subcontractors' and suppliers' mobile equipment, operating within the limits of the Project with potential exposure to passing traffic, shall be equipped with operable warning lights which meet the appropriate requirements of the SAE specifications. This would include closed roads that are open to local traffic only. This also includes any vehicle which enters the traveled roadway at any time. The SAE specification requirements are as follows:

360 Degree Rotating Lights - SAE Specification J845

Flashing Lights - SAE Specification J595

Flashing Strobe Lights - SAE Specification J1318

Lights shall be mounted so that at least one light is visible at all times when at eye level from a 18 m [**60 foot**] radius about the equipment. In order to meet the 360 degree at 18 m [60 foot] radius requirements supplemental lighting may be used in addition to the lights on the Approved Products List. All supplemental lights must be SAE Class 1 certified. This specification is to be used for both day and night time operations. All costs incurred to provide warning lights shall be at no cost to the Department. These warning lights shall also be operating and visible when a vehicle decelerates to enter a construction work zone and again when a vehicle leaves the work zone and enters the traveled traffic lane.

Contractor shall equip their vehicles with lights that are on the Approved Products List which can be found at: http://www.dot.state.mn.us/products/workzone/vehiclelights.html .

S-2.3 FLAGGER TRAINING

Any person acting as a flagger on this Project shall have attended a training session taught by a Contractor's qualified trainer. The Contractor's qualified trainer shall have completed a "Mn/DOT Flagger Train the Trainer Session" in the five years previous to the start date of this Contract and shall be on file as a qualified flagger trainer with the Department. The Flagger Trainer's name and Qualification Number shall be furnished by the Contractor at the pre-construction meeting. The Contractor shall provide all flaggers with the Mn/DOT Flagger Handbook and shall observe the rules and regulations contained therein. This handbook shall be in the possession of all flaggers while flagging on the Project. The Contractor shall obtain handbooks from the Department. Flaggers shall not be assigned other duties while working as authorized flaggers. The "Checklist for Flagger training" form shall be furnished to the Engineer any time a new flagger reports to work on the Project. The "Checklist for Flagger Training" form can be found at: http://www.dot.state.mn.us/const/wzs/flagger.html.

The Engineer will have the right to waive the above requirements.

S-2.4 TEMPORARY LANE CLOSURE REQUIREMENTS:

(A) Unless otherwise approved by the Engineer, any temporary lane closure that is adjacent to traffic, and is extending to or beyond 300 m [**1000 feet**] shall have a minimum of one Type III barricade, or 3 drums, placed in the closed lane for every 300 m [**1000 feet**] of extension. Any lane closure that is adjacent to traffic and inplace 3 days or more, shall use the Type III barricade only.

(B) All temporary lane closures shall have Type B Channelizers (drums, Type I or Type II barricades, vertical panel or Direction Indicator Barricades) in the lane closure taper and also in any shifts in traffic alignment.

(C) Short Term Duration 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.

Use only the paragraphs that apply to this Project!

(D) Temporary lane closures or other restrictions by the Contractor, during work hours and consistent with the time restrictions, will be permitted during those hours and at those locations approved by the Engineer. Requests for temporary lane closures shall be made at least 24 hours prior to such closures. When a temporary lane closure is used by the Contractor, the closure shall be incidental work and no direct compensation will be made therefore.

(E) Temporary lane restrictions will not be permitted between the hours of _____ A.M. and _____ A.M. and between the hours of _____ P.M. and _____ P.M. **Work which 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**. The Engineer will have the right to lengthen, shorten, or otherwise modify the foregoing periods of restrictions as actual traffic conditions may warrant. **If the Contractor is negligent in adhering to the established time schedules, he shall be subject to an hourly charge assessed at a rate of $500.00 per hour for each hour or any portion thereof with which the Engineer determines that the Contractor has not complied.**

OR

The Contractor shall maintain traffic as follows at the locations and times listed below:

THERE SHALL BE NO INTERFERENCE WITH TRAFFIC AT THE FOLLOWING LOCATIONS AND TIMES (24 HOUR CLOCK):						
T.H. (direction)	Location	Sun.	Mon.	T, W, Th	Fri.	Sat.

The Engineer will have the right to lengthen, shorten, or otherwise modify the foregoing periods of restrictions as actual traffic conditions may warrant. **If the Contractor is negligent in adhering to the established time schedules, he shall be subject to an hourly charge assessed at a rate of $500.00 per hour for each hour or any portion thereof with which the Engineer determines that the Contractor has not complied.**

OR

insert TMC Chart here

The Engineer will have the right to lengthen, shorten, or otherwise modify the foregoing periods of restrictions as actual traffic conditions may warrant. **If the Contractor is negligent in adhering to the established time schedules, he shall be subject to an hourly charge assessed at a rate of $500.00 per hour for each hour or any portion thereof with which the Engineer determines that the Contractor has not complied.**

Optional: Use this paragraph when there will be work performed in areas that have minimal shoulder or median widths and high speeds and volumes.

When working on the shoulder or median the Contractor shall only perform this work using a lane closure on mainline and adhering to the above lane closure restrictions.

OR

When working on the shoulder or median the Contractor shall install the traffic control according to Layout 2 (Work on Shoulder) of the field manual. Notes 1 and 2 are deleted on Layout 2.

(F) Temporary lane restrictions and/or closures for removing and/or erecting overhead structures will only be permitted between the hours of _____ A.M. and _____ A.M. as approved by the Engineer. If the Contractor requests to close the road and the Engineer approves that it is necessary to temporarily detour traffic in order to remove or set the structures, the Contractor shall furnish the detour as directed by the Engineer. The temporary detour shall be incidental work for which no direct compensation will be made. **If the Contractor is negligent in adhering to the established time schedules, he shall be subject to an hourly charge assessed at a rate of $500.00 per hour for each hour or any portion thereof with which the Engineer determines that the Contractor has not complied.**

The Contractor may stop all traffic on any road open to traffic to erect or remove overhead structures for periods of time not to exceed fifteen minutes only from 1:30 A.M. to 5:00 A.M. The Contractor shall allow sufficient clearance time between stopped periods so as to cause as little delay to traffic as possible. **If the Contractor is negligent in adhering to the established time schedules, he shall be subject to an hourly charge assessed at a rate of $500.00 per hour for each hour or any portion thereof with which the Engineer determines that the Contractor has not complied.**

(G) No center lane closures will be permitted. Only double lane closures as shown in the Field Manual of the MN MUTCD will be allowed at the times as directed by the Engineer. This may require night lane closures if traffic volumes warrant.

Need to choose whether flashing arrow panel is incidental to traffic control or will be paid for under Additional traffic control devices.

(H) The Contractor shall provide one vehicle or trailer mounted flashing arrow panel for each lane of each work area where traffic is restricted. The arrow panel shall meet the requirements of the MN MUTCD, and be on the qualified products list for flashing arrow panels found at: http://www.dot.state.mn.us/products/workzone/electronic.html, and shall be equipped with a light that is visible to personnel in the work area to indicate that the unit is in operation. The flashing arrow panel shall be incidental to Traffic Control.

OR

(H) The Contractor shall provide one vehicle or trailer mounted flashing arrow panel for each lane of each work area where traffic is restricted. The arrow panel shall meet the requirements of the MN MUTCD, and be on the qualified products list for flashing arrow panels found at: http://www.dot.state.mn.us/products/workzone/electronic.html, and shall be equipped with a light that is visible to personnel in the work area to indicate that the unit is in operation. Payment for flashing arrow panel will be made by the unit day as provided elsewhere in these Special Provisions.

If the flashing arrow panel is incidental delete the last sentence of the following paragraph.

It is imperative that the Contractor continually operate each Flashing Arrow Panel at maximum legibility. Many factors, such as mechanical problems, insufficient charging, incorrect intensity settings, or other factors can degrade performance. If at any time the Contractor fails to operate the Flashing Arrow Panel at maximum legibility, as determined by the Engineer, no payment will be made for each day that the Flashing Arrow Panel is deemed inadequate.

Except as approved by the Engineer, the Flashing Arrow Panel shall be stored off the shoulder when not in use. In the event the Engineer allows the arrow panel to remain on the shoulder, the arrow panel shall be delineated according to Layout 4 (Partial Shoulder Closure) in the field manual, as determined by the Engineer.

(I) The Contractor shall furnish flag persons as required to adequately control traffic. Flag persons shall conform to the requirements set forth in the MN MUTCD. Payment for flag persons will be made by the unit hour for each flag person as provided elsewhere in these Special Provisions.

OR

(I) The Contractor shall furnish flag persons as required to adequately control traffic. Flag persons shall conform to the requirements set forth in the MN MUTCD. All costs incurred to provide such flag persons shall be incidental to the lump sum traffic control.

OR

(I) The Contractor shall furnish flag persons as required to adequately control traffic. Flag persons shall conform to the requirements set forth in the MN MUTCD. Measurement and payment will be made as provided in Section S-2563 (FLAG PERSON) of these Special Provisions.

(J) The Contractor shall provide two-way radios for flag persons.

Except as otherwise authorized by the Engineer, the maximum length of the flagging operation shall be no more than 1.6 km [**1 mile]**.

The Contractor shall coordinate the flagging operations in a manner which causes as little delay to the traveling public as possible, and at no time shall the delay exceed _____ minutes. In the event that the Contractor is unable to meet the maximum delay requirements, operations shall shut down until such time a new traffic control plan is developed which does meet the maximum delay requirement.

If hauling operations create hazards for the traveling public, the Contractor will be required to provide additional flaggers, as directed by the Engineer. All costs incurred to provide the additional flaggers shall be incidental to the lump sum traffic control.

Use (K) only if it applies to the Project!

(K) The Contractor shall furnish at least one pilot car and driver for leading traffic through the work zone. Pilot Car operations shall be in accordance with the following:

1. Drivers shall be limited to 12 hour maximum shifts.
2. Vehicles shall:
   - (a) Be capable of being turned around quickly in a small area.
   - (b) Equipped with lights that meet the requirements of Section S-1404.2 (VEHICLE WARNING LIGHT SPECIFICATION) of this Special Provision.
   - (c) Have a standard sign G20-4, "PILOT CAR, FOLLOW ME", mounted on the rear of the vehicle.
3. Flagpersons shall:
   - (a) have portable radio communication with the pilot car.
   - (b) not have vehicles parked at the flagging station.
4. The Contractor shall:
   - (a) take necessary precautions to prevent any traffic that enters the highway between flagpersons from going in the opposite direction as the pilot car caravan.
   - (b) In no case allow or force traffic onto the shoulders as a result of their operations without prior approval of the Engineer.
5. The Contractors equipment shall follow in line and use the roadway in a manner similar to all other through traffic during the time of lane, speed, and pilot car restrictions.

(L) The Contractor shall furnish off-duty police officers in uniform with cars and a reflectorized high-visibility safety vest to direct traffic if deemed necessary and so ordered by the Engineer. "Police Officer" means every officer authorized to direct or regulate traffic or to make arrests for violations of traffic rules. Payment for police officers will be made by the unit hour as provided elsewhere in these Special Provisions.

OR

(L) The Contractor shall furnish off-duty police officers in uniform with cars and a reflectorized high-visibility safety vest to direct traffic if deemed necessary and so ordered by the Engineer. "Police Officer" means every officer authorized to direct or regulate traffic or to make arrests for violations of traffic rules. No direct payment for police officers will be made, this work shall be incidental to the lump sum traffic control.

Use (M) when portable changeable message sign is required

(M) A Portable Changeable Message sign will be provided in advance of each temporary lane closure to communicate real time information.

(PCMS) Type C Trailer Mounted Message Signs will be permitted and shall be on the qualified products list for portable changeable message signs as found at: http://www.dot.state.mn.us/products/workzone/electronic.html. It is imperative that the Contractor continually operate each PCMS at maximum legibility. Many factors, such as mechanical problems, insufficient charging, incorrect intensity settings, or other factors can degrade performance. If at any time the Contractor fails to operate a Portable Changeable Message Sign at maximum legibility, as determined by the Engineer, no payment will be made for each day that the Message Sign is deemed inadequate.

Except as approved by the Engineer, the message sign shall be stored off the shoulder when not in use. In the event the Engineer allows the message board to remain on the shoulder the message sign shall be delineated according to Layout 4 (Partial Shoulder Closure) in the field manual, as determined by the Engineer.

Payment for Portable Changeable Message Signs furnished and installed, as directed by the Engineer, will be made by the Unit Day as specified in Section S-2563 (PORTABLE CHANGEABLE MESSAGE SIGN) of these Special Provisions.

OR

All costs incurred to provide Portable Changeable Message Signs shall be incidental to the lump sum traffic control.

S-2.5 GENERAL REQUIREMENTS:

(A) All portable sign assemblies shall be perpendicular to the ground. No traffic control device (signs, channelizing devices, arrowboards, etc.) shall be weighted so they become hazardous to motorists and workers. The approved ballast system for devices mounted on temporary portable supports is sandbags, unless it is designed, crash tested, and approved for the specific device. During freezing conditions, the sand for bags shall be mixed with a de-icer to prevent the sand from freezing. The sandbags shall be placed and maintained at the base of the traffic control device to the satisfaction of the Engineer.

When signs will remain in the same location for more than 30 consecutive days the signs shall be post mounted. This would not include portable signs which are set up and taken down at the beginning and end of each work shift. The signs must be post mounted according to the Typical Temporary Sign Framing and Installation Detail Sheet found in the Plan or in these Special Provisions.

(B) When signs are installed, they shall be mounted on posts driven into the ground at the proper height and lateral offset as detailed in the MN MUTCD. **When signs are removed, the sign posts and stub posts shall also be removed from the Right of Way within two (2) weeks or the Contractor shall be subject to a**

daily charge assessed at a rate of $100.00 per day for each day or portion thereof with which the Engineer determines that the Contractor has not complied.

(C) The Contractor shall be required to cover or remove all traffic control devices which may be inconsistent with traffic patterns during all traffic switches. See Maintenance and Staging of Traffic Control.

(D) Open excavation adjacent to the existing pavement will not be permitted on opposite sides of the roadway at the same time.

(E) The Contractor shall provide protective devices necessary to protect traffic from excavations, drop-offs, falling objects, splatter or other hazards that may exist during construction. Equipment will not be allowed to suspend over traffic. This work shall be an incidental cost to the Contractor.

(F) The Contractor will not be permitted to park vehicles or construction equipment so as to obstruct any traffic control device. The parking of workers' private vehicles will not be allowed within the Project limits unless so approved by the Engineer.

Optional: Use this paragraph when you do not want the Contractor unloading or loading equipment without a full shoulder closure.

Note 1 of Layout 2 of the field manual is hereby deleted. The Contractor will not be allowed to load or unload material or equipment on the shoulders of the roadway without a full shoulder closure using appropriate signs, barricades and channelizing devices as directed by the Engineer.

(G) The Contractor will not be allowed to store materials or equipment within 10 m [**30 feet**] of through traffic unless approved by the Engineer. If materials or equipment must be stored within 10 m [**30 feet**] of through traffic, the Contractor shall provide Type B channelizers, barricades or barriers, placed near the object to warn and protect traffic.

(H) All workers within the road Right-of-Way who are exposed to either traffic or to construction equipment shall wear reflectorized high-visibility safety apparel.

High-visibility safety apparel means personal protective safety clothing that is intended to provide conspicuity during both daytime and nighttime usage, and at a minimum meets performance Class 2 requirements of the ANSI/ISEA 107 – 2004 publication entitled “American National Standard for High-Visibility Safety Apparel and Headwear”.

Additional Requirements: ANSI/ISEA 107-2004 Class 3 Requirements (Class 2 Vest with Class E Long Pants)

- Flag Persons – In addition to an ANSI Class 2 hat, vest, shirt, or jacket, flaggers shall wear high visibility Class E long pants.
- Nighttime and Low Light Conditions – All workers working at night or in low light conditions shall wear high visibility Class E long pants in addition to an ANSI Class 2 vest, shirt, or jacket.

All high visibility apparel must be worn in the manner for which it is intended to be worn. All apparel worn on the torso must be closed in the front to provide contiguous 360 degree visibility. If a workers high-visibility apparel becomes faded, worn, torn, dirty, or defaced, reducing the conspicuity of the apparel, the apparel shall be removed from service and replaced with new apparel.

The Contractor will be subject to a non-compliant charge for failure to adhere to the clothing requirements as listed above. Non-compliance charges, for each incident, will **assessed at a rate of $500.00 per incident** that the Engineer determines that the Contractor has not complied.

Fill in the blanks in the following paragraph

(I) At the beginning of the Project, the Contractor shall store at least _____ extra Type III barricades and _____ extra retroreflective drums, at a convenient location within the Project limits, to be used at the discretion of the Engineer. No direct compensation will be made to the Contractor for furnishing and erecting these traffic control devices.

If additional devices, beyond the quantity specified above, are ordered by the Engineer the Contractor will be compensated according to Section S-1404.9 (ADDITIONAL TRAFFIC CONTROL DEVICES) of this Special Provision.

(J) When work will be performed between the official hours of sunset and sunrise, all appropriate practices for night work will apply.

The Contractor shall provide sufficient numbers of light plants to adequately illuminate the work area as determined by the Engineer. All costs incurred to provide such light plants shall be incidental to the lump sum traffic control.

All Contractor's personnel, except operators who will remain in their vehicles at all times, shall wear reflectively striped (approximately 10 m [**33 feet**] of striping), highly visible, short sleeved one or two piece coveralls (color and striping pattern to be determined by the District Traffic Engineer), at all times while working on the Project. These coveralls shall be considered an incidental expense for which no direct compensation will be made. Any Contractor's employee found on the Project not wearing the prescribed reflective coveralls will be immediately ordered off the Project by the Engineer.

The Contractor shall provide a sufficient amount of 50 mm [**2 inch**] wide highly reflective vehicle marking tape to be applied to Contractor vehicles and equipment, as directed by the Engineer, and as provided by the manufacturer's instructions. This tape shall be considered an incidental expense for which no direct compensation will be made and shall be on the qualified products list for conspicuity vehicle sign sheeting as found at: http://www.dot.state.mn.us/trafficeng/qpl/Signing.pdf. Vehicle examples to be marked with tape are Contractor rollers, paver, millers and other equipment normally found in the lane closure.

Use (K) only if it applies to the Project!

(K) All in place signs and delineators mounted on less than three posts (not including back bracing) and which interfere with the Contractor's normal operation, shall be relocated outside of the work area by the Contractor at the direction of the Engineer. Any signs that are removed and may be reused are to be stored in such a manner as to protect the sign from scratching, fading, or other harmful affects until said signs are reinstalled or delivered to Mn/DOT. All signs mounted on three or more posts requiring relocation will be relocated by State forces. The Contractor shall notify the Engineer ***xxx*** Working Days prior to the required relocation work. Signs mounted on three or more posts that must be removed but not relocated shall be removed by the Contractor. Upon completion of work at each sign location, or at the direction of the Engineer, the signs shall be replaced as near to their original locations as possible or to a location designated by the Engineer. Signs and structures damaged by the Contractor shall be replaced by him at his own expense. Regulatory signs, not otherwise covered by this Contract, may only be removed or replaced or relocated by Mn/DOT personnel.

Use (L) when there is a pay item for work zone speed limit

(L) A "Work Zone Speed Limit" will be required on this Project at all times that lane closures are in use and workers are present, as directed by the Engineer. Work zone speed limits shall be provided in accordance with the "Guide to Establishing Speed Limits in Highway Work Zones". This publication may be obtained from the Office of Traffic, Safety and Operations or the District Traffic Engineer. Payment for work zone speed limits will be made by the Unit Day as provided in Section S-2563 (WORK ZONE SPEED LIMIT) of these Special Provisions.

(M) The Contractor shall provide a Traffic Control Supervisor. Payment and measurement will be made as provided in Section S-2563 (TRAFFIC CONTROL SUPERVISOR) of these Special Provisions.

Use (N) when there is a pay item for portable traffic signal -- CO Traffic should be contacted

(N) The Contractor shall provide two portable signals to control traffic and all necessary advance signing as directed by the Engineer. Each traffic signal will be manually controlled by a signal operator. This operator will be located in a lighted area adjacent to the signal and will be dressed as a flag person so emergency flagging duties may be followed. The operator will stand off the shoulder of the highway. The signal trailer should have a flag person paddle so flag person can control traffic as a backup to the signal.

As part of this Project requirement, advance warning signs, two portable changeable message signs and a pilot car with driver. Pilot Car operations shall be in accordance with these Special Provisions and the MN MUTCD and Layout 16 of the Field Manual. Payment for the portable traffic signals will be made by the Unit Day as specified elsewhere in these Special Provisions.

Use (O) when there is a pay item for Highway Advisory Radio System.
TO THE DESIGNER: [FCC approval must be obtained. Contact Andy Terry (651-296-7402) of the Office of Communications, a minimum of six weeks before usage. He will require locations of each system and broadcast frequencies.]

(O) The Contractor shall provide Highway Advisory Radio systems as directed by the Engineer. Measurement will be made by day of service (Unit Day) as specified elsewhere in these Special Provisions.

Reference shown below in (P) shall always be to NCHRP 350.

(P) **Truck Mounted Attenuators (TMA'S)**

If the Contractor establishes a mobile lane closure on a high speed roadway, any vehicle operating totally or partially in a traffic lane shall be equipped with a truck mounted attenuator that meets the requirements of NCHRP 350. The mobile lane closure shall meet the requirements described in the appropriate Field Manual layout.

OR

If the Contractor establishes a lane closure on a high-speed roadway, a vehicle equipped with a truck mounted attenuator that meets the requirements of NCHRP 350 shall be placed in the closed lane next to traffic prior to the active work site, as directed by the Engineer. The lane closure shall meet the requirements described in the appropriate Field Manual layout.

(Q) All temporary rigid signs shall be fabricated with an approved retroreflective sheeting material of the appropriate color, and be listed on the Qualified Product Listing (QPL) for either “Sheeting for Rigid Signs” or “High Performance Sheeting for Rigid Signs”. Signs remaining inplace that still apply during temporary operations need no change in sign sheeting.

To visually identify approved retroreflective sign sheeting on temporary rigid signs in the field signs shall have an easily identifiable marking on the face. This marking verifies that the sign sheeting is Approved for Rigid Sign Use as found on the QPL. Although still required to meet sheeting standards, temporary rigid signs 4 sq. feet and under in size and all barricades and route markers will be exempt from this marking. The appropriate marking shall be used for each type of the approved sheeting types. Refer to the instructions for the marking of temporary signs which may be found on the APL or directly at the following link:
http://www.dot.state.mn.us/products/signing/common/typelabel.pdf

The retroreflective sheeting types and qualified products used for temporary signs and barricades can be found at: http://www.dot.state.mn.us/products/signing/sheeting.html.

Districts should use the following to designate which operations, if any, will be allowed to utilize the Type A channelizers instead of barrels.

(R) On _____ operations, weighted channelizers (Type A) may be used in place of drums (Type B) for delineation in non-transition areas and also to delineate the edge of a pavement drop-off of 100 mm (**4 inches**) or less. Except as authorized by the Engineer, these devices will only be allowed during daytime operations and cannot be used in unattended work zones.

On _____ operations, 900 mm (**36 inch**) tubular markers (Type A) may be used in place of drums (Type B) for delineation in non transition areas or to delineate the edge of pavement drop-off of 100 mm (**4 inches**) or less. Except as authorized by the Engineer, these devices will only be allowed during daytime operations and cannot be used in unattended work zones.

(S) In temporary traffic control zones only, a 12” x 18” black on white “Keep Right” sign, may be used in lieu of the sizes stated in the Standard Signs Manual.

Use only the paragraphs in S-.6 that apply to the Project!
S-2.6 MILLING, SEALCOATING, AND PAVING OPERATIONS

Use the (A) paragraph that applies to the Project
(A) Milling and paving operations shall be completed over the full width of all traffic carrying lanes, including turn lanes, bypass, etc., under construction on each day's run.

OR

(A) The Contractor shall schedule milling and bituminous paving operations such that milled areas will be covered with a wear course within 24 hours of completion of the milling, except for delays caused by inclement weather.

OR

(A) Traffic will be allowed on the milled surface; however, the Contractor shall be responsible for furnishing and installing interim striping as directed by the Engineer. Payment for Interim striping will be made as provided elsewhere in these Special Provisions.

(B) When traffic is allowed to drive on the milled surface, the Contractor shall furnish and install "GROOVED PAVEMENT" and "BUMP" signs with "Advisory Speed" plates at locations determined by the Engineer. Payment for these signs shall be included in the lump sum payment for traffic control.

(C) Any drop-off where traffic will cross from or to the in place surface, or from or to the milled surface, shall be tapered and/or chamfered so as to provide for the safe passage of traffic.

(D) The Contractor shall schedule construction operations so as to minimize traffic exposure to uneven lanes, milled edges, and edge drop-offs. Only after every attempt has been made to avoid these conditions and one or more of them are deemed necessary, the Contractor shall provide and maintain the appropriate traffic control in accordance with the "DROP OFF GUIDELINES" in the Field Manual.

(E) The Contractor shall not mill any notches for surfacing tapers until immediately prior to paving, except that with the Engineer's permission, the Contractor may mill the notches and install and maintain temporary bituminous tapers to provide for the safe passage of traffic until the surfacing taper is installed.

If the Project location has Aggregate shoulders, use the following
(F) The Contractor is directed to Section S-2232 (MILL PAVEMENT SURFACE) of these Special Provisions for additional requirements to maintain shoulders.

Use the (G) paragraph that applies to the Project

(G) The Contractor shall maintain traffic with a minimum of delay during milling and paving operations at intersections controlled by signals or by all-way stop signs. The Contractor shall provide off-duty police officers, at no expense to the Department, to direct and control traffic around and through milling and paving operations at those intersections. "Police officer" means every officer authorized to direct or regulate traffic or to make arrests for violations of traffic rules.

OR

(G) The Contractor shall maintain traffic with a minimum of delay during milling and paving operations at intersections controlled by signals or by all-way stop signs. The Contractor shall provide off-duty police officers to direct and control traffic around and through milling and paving operations at those intersections. "Police officer" means every officer authorized to direct or regulate traffic or to make arrests for violations of traffic rules. Payment for police officers will be made by the unit hour as provided elsewhere in these Special Provisions.

(H) The Contractor may close intersecting streets to traffic, other than at intersections controlled by signals or "All Way Stop" signs during milling and paving operations in the intersection, but only if there are adequate alternate routes for the intersecting street traffic. The Contractor shall not close adjacent intersecting streets to traffic concurrently. The Contractor shall notify the local road authorities of its schedule to close intersecting streets 48 hours in advance of the closure.

Use (I) on seal coating projects

(I) When traffic is allowed to drive on the sealed surface, the Contractor shall furnish and install "LOOSE GRAVEL" and "FRESH OIL" signs with "Advisory Speed" plates at locations determined by the Engineer. Payment for these signs shall be included in the lump sum payment for traffic control.

Use only the paragraphs in S-.7 that apply to the Project!

S-2.7 MAINTENANCE AND STAGING OF TRAFFIC CONTROL

(A) The Contractor shall maintain, at all times, the existing traffic movements at the following intersections: _____; _____; and _____.

(B) Pedestrian traffic shall be maintained and guided through the Project at all times.

(C) The Contractor may ban parking within the construction limits _____. All necessary signing is the responsibility of the Contractor and shall be installed, as directed by the Engineer, 24 hours prior to the parking ban. The Contractor shall remove that signing as soon as the work, or that part of the work, in the area has been completed.

(D) Except as otherwise authorized by the Engineer, the Contractor shall maintain a minimum of two km [**1.25 mile**] between temporary lane closures.

(E) The Contractor shall keep the Right-of-Way fence closed up, except during work hours, by means of the in place fence, newly constructed fence, temporary fence (at the Contractor's expense), or a combination thereof.

(F) All signs installed on roads open to traffic that are not consistent with traffic operations shall be covered as directed by the Engineer. The cover should be a plate of solid material covering the entire legend or all of that part of the legend that is inappropriate. This cover shall be bolted to the sign and shall use a minimum of 3 mm [**1/8 inch**] plastic washers between the sign face and the cover. See Figures 8.2A, 8.2B and 8.3C of the Traffic Engineering Manual for details.

(G) No access to or from any public road will be permitted for the Contractor's equipment, material deliveries, the hauling of excavated materials of any kind, or employees' private vehicles, except at in place public road intersections, or at locations and in such manner as approved by the Engineer.

(H) As each road is completed, the Contractor shall install the final signing and pavement markings required to safely open that road to traffic. This work shall be completed on or before the date of opening as approved by the Engineer. Overhead signs may be temporarily ground mounted at the Contractor's expense.

(I) The Contractor shall at all times maintain a lane width of not less than ____ meters [____ **feet**] in each direction.

(J) The Contractor shall notify the city of _____, phone number _____ at least 24 hours prior to posting any parking ban within the city.

(K) and (L) apply <u>ONLY</u> if there is not a tab in the Plan - fill in the # of signs

(K) The Contractor shall provide _____ G20-1 "ROAD WORK NEXT ____ MILES" signs and ____ G20-2A "END ROAD WORK" signs to be placed, as directed by the Engineer, on the day that he begins operations on the road. These signs will be placed at the end(s) of the Project. Payment for these signs shall be included in the lump sum payment for traffic control.

(L) The Contractor shall furnish, install, and maintain ____ "ROAD WORK AHEAD" and ____ "END ROAD WORK" signs in advance of and beyond each end of the construction limits as directed by the Engineer. The Contractor shall also furnish, install, and maintain ____ "ROAD WORK AHEAD" signs in advance of the construction limits on all intersecting roads and streets as directed by the Engineer. The signs shall conform to the standards shown in the MN MUTCD. No direct compensation will be made to the Contractor for furnishing and erecting these signs. The signs shall remain the property of the Contractor.

(M) Street identification signage shall be maintained at all times. Where the only existing signs are small city or county signs located at the intersection, street names and address numbers shall be maintained by temporary installations as required by the Engineer. This is necessary to maintain the 911 emergency system.

(N) The Contractor shall be required to supply manpower to assist Mn/DOT personnel in pavement marking related projects such as, but not inclusive to, collecting data from in place lane lines and marking final pavement marking alignments. This shall also include any lane closures or traffic control necessary to complete these projects safely. Payment for said pavement marking related projects shall be incidental to the pavement marking items for which no direct compensation will be made.

S-.8 should only be used when signals and lighting systems may be impacted by the Project

S-2.8 <u>SIGNAL AND LIGHTING SYSTEMS</u>

The Contractor shall not interfere with the operation of any traffic signal system, except as required by the Contract. The Contractor shall notify the Engineer at least 24 hours prior to beginning any work that will interfere with any traffic signal system or its detectors.

Use only the paragraphs that apply to this Project!

The in place signal system(s) shall remain in operation until the new signal system(s) become operational.

choose paragraph 1 or 2

1 The Contractor shall furnish off-duty police officers with cars for directing and controlling traffic during such times as the existing or temporary signal system at each location is out of operation. "Police officer" means every officer authorized to direct or regulate traffic or to make arrests for violations of traffic rules. Off-duty police officers shall be furnished in such numbers as deemed necessary by the Engineer to direct traffic. Payment for police officers will be made by the unit hour as provided elsewhere in these Special Provisions.

2 The Contractor shall furnish off-duty police officers with cars for directing and controlling traffic during such times as the existing or temporary signal system at each location is out of operation. "Police officer" means every officer authorized to direct or regulate traffic or to make arrests for violations of traffic rules. Off-duty

police officers shall be furnished in such numbers as deemed necessary by the Engineer to direct traffic. Payment for police officers will be considered incidental to the lump sum traffic control.

During the period when the existing signal system is de-energized and the new signal system is energized, the Contractor shall furnish, erect, and maintain "Stop Ahead" signs and "Stop" signs. The quantity and size of the temporary signs as well as their placement in the field shall be as directed by the Engineer. The Contractor shall furnish and install materials to keep these signs upright and stationary. The signs shall remain the property of the Contractor.

The Contractor shall maintain street lighting by means of the in place lights, the newly constructed lights, or a combination thereof, except as otherwise authorized in writing by the Engineer.

Use S-.9 for all Projects with Traffic Control as a bid item. The items shown below are in addition to what is covered by the traffic control pay item. Therefore nothing needs to be deleted fromS-.9. (For example, if flaggers are incidental to the traffic control pay item they should still be left in S-.9. The flaggers listed in S-.9 are in addition to the flaggers covered by the traffic control pay item.)

S-2.9 ADDITIONAL TRAFFIC CONTROL DEVICES

In addition to the traffic control devices shown on the Traffic Control Layouts, and/or Field Manual, the Engineer may require more traffic control as traffic conditions may warrant. These items are not intended for temporary lane closures.

NOTE: These provisions will apply ONLY when the Plan contains Item(s) for 2563.601 (Traffic Control) and/or if "Traffic Control Layouts" are included in the Plan or attached to this Proposal.

(A) General Requirements:

The Contractor shall furnish the additional traffic control devices as ordered by the Engineer.

The devices shall be installed and maintained in a functional and/or legible condition, at all times, to the satisfaction of the Engineer.

(B) Measurement:

Flashers, barricades, reflectorized drums, portable changeable message signs, 1220 x 1220 mm [**48 x 48 inch**] signs, and flashing arrow boards will be measured by the number of individual units of each type multiplied by the number of Calendar Days each unit is in service.

Standard signs of each type, other than 1220 x 1220 mm [**48 x 48 inch**] signs will be measured by the face area of signs furnished multiplied by the number of Calendar Days each square meter [**square foot**] of sign is in service.

Special construction signs will be measured by the face area thereof furnished and installed as specified.

Flag Persons and Police Officers will be measured by the length of time each is in service on the job. Police Officers shall be equipped with a car at all times on the job and the car shall be incidental in the payment for the Police Officer.

(C) Payment:

Payment for additional traffic control devices of each type, at the appropriate pre-determined Unit Day price set forth below, shall be compensation in full for all costs of furnishing, installing, maintaining, and subsequently removing and disposing of the device.

Payment for standard signs of each type, other than 1220 x 1220 mm [**48 x 48 inch**] signs, will be made at the appropriate pre-determined Square Meter/Day [**Square Foot/Day**] price which shall be payment in full for all costs of furnishing, installing, maintaining and subsequently removing and disposing of the signs.

The pre-determined Square Meter [**Square Foot**] price for "Construction Signs - Special" shall be payment in full to furnish, install, maintain and remove such signs. All materials required to furnish and install these signs will remain the property of the Contractor.

Payment for Flag Persons and Police Officers will be by the Unit Hour for each hour or portion thereof that each is in service on the Project.

Payment for all additional traffic control devices, as ordered by the Engineer, will be made in accordance with the following schedule:

ADDITIONAL TRAFFIC CONTROL DEVICES

Item No.	Item	Unit	Predetermined Price
2563.610	Flag Person	Hour	*
2563.610	Police Officer	Hour	**
2563.613	Type I Barricade w/Steady Burn Light	Unit Day	$1.05
2563.613	Type III Barricade	Unit Day	2.75
2563.613	Direction Indicator Barricade	Unit Day	1.25
2563.613	Reflectorized Plastic Safety Drum	Unit Day	0.85
2563.613	Reflectorized Plastic Safety Drum w/Down Arrow	Unit Day	0.95
2563.613	Weighted Traffic Channelizer	Unit Day	0.40
2563.613	Flasher Type A (Low Intensity)	Unit Day	0.50
2563.613	Flasher Type B (High Intensity)	Unit Day	1.75
2563.613	Flasher Type C (Steady Burn)	Unit Day	0.90
2563.613	1220 x 1220 mm [**48 x 48 inch**] Standard Sign	Unit Day	1.75
2563.613	1220 x 1220 mm [**48 x 48 inch**] Standard Sign w/Support	Unit Day	2.20
2563.613***	Portable Changeable Message Sign	Unit Day	225.00
2563.613****	Flashing Arrow Board (one shift)	Unit Day	33.00
2563.613****	Flashing Arrow Board (24 hour day)	Unit Day	45.00
2563.617*****	Standard Signs	m^2/Day	1.08
2563.617*****	Standard Signs	**SQ.FT./Day**	**0.10**
2563.617*****	Standard Signs w/support	m^2/Day	1.72
2563.617*****	Standard Signs w/support	**SQ.FT./Day**	**0.16**
2563.604	Construction Signs - Special	m^2	270.00
2563.618	Construction Signs - Special	**SQ.FT.**	**25.00**

* Shall be paid at the Contract Flagger Classification Total Rate, which is the Basic Rate plus the Fringe Rate.

** Shall be paid at the invoice price plus 10%

*** (PCMS) Type C Trailer Mounted Message Signs will be permitted. It is imperative that the Contractor continually operate each PCMS at maximum legibility. Many factors, such as mechanical problems, insufficient charging, incorrect intensity settings, or other factors can degrade performance. If at any time the Contractor fails to operate a Portable Changeable Message Sign at maximum legibility, as determined by the Engineer, no payment will be made for each day that the Message Sign is deemed inadequate.

**** It is imperative that the Contractor continually operate each Flashing Arrow Board at maximum legibility. Many factors, such as mechanical problems, insufficient charging, incorrect intensity settings, or other factors can degrade performance. If at any time the Contractor fails to operate

the Flashing Arrow Board at maximum legibility, as determined by the Engineer, no payment will be made for each day that the Flashing Arrow Board is deemed inadequate.

***** Other than 1220 X 1220 mm [**48 X 48 inch**] Signs, with or without support.

NOTE: These predetermined unit prices apply only if not listed as separate bid items.

Barricades, drums and signs by the Unit Day shall be paid for up to 90 days per device. After 90 days, payment per Unit Day will continue at a reduced price of 40% of the Unit price.

Office of Traffic, Safety and Operations will submit this write up. Let Mike Wolf know when you need this.

S-2.10 PORTABLE SIGNAL SYSTEM

Use S-.10 when there is a bid item as follows

S-2.11 PORTABLE HIGHWAY ADVISORY RADIO SYSTEM

The Contractor shall furnish, install and operate Portable Highway Advisory Radio systems (HARS) for use during the tenure of this Project. Measurement will be made by the number of portable transmitters furnished and installed per day of operations (Unit Day) as specified. Unit Days will be measured to the nearest one-fourth day.

Payment for portable transmitters furnished and installed, as provided by this specification, and as directed by the Engineer, will be made under Item 2563.613 (Portable Highway Advisory Radio Systems) at the Contract bid price per Unit Day, which shall be compensation in full for all costs as enumerated herein. The portable systems shall remain the property of the Contractor.

The Contractor shall furnish, install, and operate portable highway advisory radio system equipment generally conforming to the following specification.

The intent of this portion of the specification is to provide portable highway advisory radio systems for use during the tenure of this Project. The portable systems shall include but not be limited to, transmitter, digital recorder, cellular phone, and batteries. The portable HAR system shall be fully wired and assembled upon delivery.

The portable HARS shall meet all FCC Rules and Regulations part 90.242. All wiring shall comply with the National Electrical Code (NEC). The portable HARS will operate under Mn/DOT's FCC License at 1610 KHz or 530 KHz.

Delivery: The HARS, manuals and other HARS equipment shall be delivered to:

Guy Chambers (651) 779-5137
Mn/DOT Electronic Communications
3485 Hadley Avenue North
Oakdale, MN 55128

Lynn Ness (763) 797-3057
Mn/DOT Electronic Communications
2055 N. Lilac Drive
Golden Valley, MN 55422

Acceptance: The acceptance of the HARS system shall consist of two phases. The first phase shall include inspections of all equipment including technical manuals and operating instruction upon receipt to determine compliance with Contract specifications, Mn/DOT's operating license.

The second phase of the acceptance shall consist of testing the equipment for proper operation.

EQUIPMENT TO BE PROVIDED:

Transmitter: An AM transmitter operating at 1610 or 530 KHz shall be provided. The transmitter shall meet the following specifications:

- Power continuously adjustable 0-10 watts
- Frequency 1610 or 530 KHz
- Frequency Stability +/-.002% 0-35 degrees C.
- Carrier shift 2% maximum
- Harmonic attenuation 45 dB or greater
- Noise - 60 dB below 100% modulation
- Audio distortion less than 2% at 99% modulation
- Power and VSWR meter shall be provided

Digital Recorder: A digital recorder shall be provided and include the following:

- 4.5 minutes of recording time
- up to 12 different messages
- Remote record capability over cellular phone
- Automatic messages changing by time of day clock
- Allow new message recording without interrupting current broadcast message
- Provide microphone for on-site recording of messages

Cellular Phone: A cellular telephone interface shall be provided. The cellular receiver shall be preprogrammed to system parameters and phone number before delivery. Special security access codes shall be required before allowing access to system and making any changes.

Enclosures: All equipment shall be mounted in weather proof, damage resistant enclosures meeting NEMA 4 standard. The enclosure shall be lockable to prevent tampering.

Power: Generator shall be provided. The system shall also be capable of operating from 120 volt 60 Hz AC commercial power when available.

Battery Backup: Battery backup shall be provided. In the event of loss of line power or loss of generator power, the system shall continue to operate from battery power with no degradation to system performance. The batteries shall be capable of operating the system for up to 48 hours. Battery charging circuitry shall be provided to charge batteries when commercial power is present or from the generator when operating.

Manuals: Instruction manuals shall be provided. These manuals shall contain setup instructions, operation instructions, schematics and maintenance instructions for the complete system.

Operation of HARS will be as provided by the following and as directed by the Engineer:

(1) After operational shop testing, the Contractor shall set up the system at locations as determined by the Engineer, until an optimum location for the transmitter is found.

(2) After the optimum transmitter location is determined, Mn/DOT Electronic Communication personnel will test for field strength before the transmitter is put into operation.

(3) After any corrective maintenance or transmitter shut down, the system will not be placed back in operation until approved by Mn/DOT Electronic Communication personnel.

(4) All operational costs of the HARS, including cellular phone charges shall be the responsibility of the Contractor.

(5) Transmitters will be located as listed.

(6) Mn/DOT personnel will develop and record the stored messages to be transmitted by the HARS.

Construction operations requiring lane closures will not be permitted until the Portable Highway Advisory Radio system (HARS) has been delivered, tested, and is operational. If the HARS system goes off the air for any reason, construction operations will cease as directed by the Engineer.

S-3 (1710) TRAFFIC CONTROL DEVICES

Use on all jobs.
REVISED 4/27/11
SP2005-34

All traffic control devices and methods shall conform to the Minnesota Manual on Uniform Traffic Control Devices (MN MUTCD), Minnesota Standard Signs Manual, the Traffic Engineering Manual, and the following:

In accordance with the MN MUTCD all sign supports shall be crashworthy. Signs installed on barricades, barricade sign combinations, and all other portable supports shall be crashworthy. This includes all new and used Category I and Category II devices.

The Contractor shall provide the Project Engineer a Letter of Compliance stating that all of the Contractors Category I and II Devices are NCHRP 350 approved as of July 1, 2006. The Letter of Compliance must also include approved drawings of the different signs and devices and shall be provided to the Project Engineer at the Pre-construction meeting.

S-4 (1806) DETERMINATION AND EXTENSION OF CONTRACT TIME

Use on all jobs.
NOTE: All Special Provisions relating to Contract Time should either be in 1806 or 1807 – NOT 1803 -1404 or any other spec.
REVISED 12/11/09
SP2005-44

The Contract Time will be determined in accordance with the provisions of Mn/DOT l806 and the following:

S-4.1 Construction operations shall be started on _____ or within eight (8) Calendar Days after the date of Notice of Contract Approval, whichever is later. Construction operations shall not commence prior to Contract Approval.

S-4.2 All work required under this Contract, except maintenance work and Final Clean Up shall be completed within _____ Working Days.

OR

S-4.3 All work required under this Contract, except maintenance work and Final Clean Up shall be completed on or before _____.

Use the following for Intermediates
S-4.4 In addition to the requirements indicated above all work required to _____ shall be completed within _____ (working days, calendar days or completion date).

Do not use if DIST. has section like this in their (1404).

S-4.5 No work which will restrict or interfere with traffic shall 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 without written permission from the Engineer.

(A) If the Contractor chooses not to work at all on the day preceding the holiday period, no working day charges will be assessed.

(B) If the Contractor chooses to work prior to 12:00 noon on the day preceding the holiday period or if the Contractor obtains written permission to work after 12:00 noon on the day preceding the holiday period, working day charges will be assessed only for the actual hours worked.

Use the following on all multi year projects whether they are completion day contracts or working day contracts (per Contract Admin).
S-4.6 The provisions of Mn/DOT 1806.1C(3) are modified to the extent that the term "(C) during the inclusive period from November 15 to April 15"; is deleted. A similar phrase set forth in the second paragraph of Mn/DOT 1807.2 is also deleted.

Use the following when needed on the project. Use only on working day contracts.
S-4.7 The provisions of Mn/DOT 1806.1C(3) (b) are modified to the extent that the term "(b) On Saturdays, Sundays, and legal holidays" is changed to read "(b) On Sundays and legal holidays". Working Day charges will be assessed six (6) days per week, Monday through Saturday.

Use the following when needed on the project. Use only on working day contracts.
S-4.8 The provisions of Mn/DOT 1806.1C(1), Working Day Charges, are modified to the extent that eight (8) hours are changed to read ten (10) hours. Working day charges will be based on a ten (10) hour working day.

Use the following when needed on the project. Use only on completion day contracts. Revise accordingly.
S-4.9 The Contractor is advised that the Contract Time (Completion Date) is based on an anticipated six (6) day work week, Monday through Saturday.

Do not use S-.10 for DIST. 1 jobs
S-4.10 When, in the opinion of the Engineer, work on the Project cannot be performed due to failure of material delivery beyond the control of the Contractor, the Engineer will agree to a Suspension of Work in conformance with Mn/DOT 1803.4 and/or will cease the charging of working days, whichever the Engineer deems applicable.

A Resumption of Work Order will be issued by the Engineer after the Contractor has received delivery of the required material, and/or the Engineer will resume the charging of working days.

Always use S-.11 when using SP2005-112 (HIGH PERFORMANCE CONC. PAV'T – DOWEL BAR).
S-4.11 Mn/DOT 1806.1B is hereby modified to the extent that no extension of time will be granted for any delays experienced by the Contractor in furnishing and installing Stainless Steel Type Dowels for this Project.

S-5 (1807) FAILURE TO COMPLETE THE WORK ON TIME

The District needs to choose the appropriate paragraphs which apply to their project. Use on all jobs.
REVISED 9/15/11
SP2005-45

The provisions of Mn/DOT 1807 are supplemented as follows:

Use S-.1 for contract as a whole with additional monetary damages.
S-5.1 In addition to the charges shown in the Schedule of Liquidated Damages, the Department will assess a monetary deduction in an amount equal to ____ per Calendar Day for failure to complete all the work, with

the exception of maintenance and Final Cleanup, under the Contract in the time specified therefore, until that work is, in all things, completed to the satisfaction of the Engineer.

UseS-.2 for intermediate dates.
S-5.2 The Department will assess the Contractor a monetary deduction in an amount equal to ____ for each Calendar Day that any of the work specified in Section S-____ (DETERMINATION AND EXTENSION OF CONTRACT TIME) of these Special Provisions remains incomplete after the expiration of the working period provided therefore.

Use S-.3 to reduce damages for final cleanup
S-5.3 The Department may reduce the daily liquidated damages to_____ when the only remaining items are maintenance or Final Cleanup.

Choose the applicable rows in the table shown below and modify (if needed).
S-5.4 For informational purposes only, bidders are advised that in addition to the requirements of Mn/DOT 1807, other Sections of these Special Provisions, as shown below, contain requirements for assessment of monetary deductions to this Contract:

1404	MAINTENANCE OF TRAFFIC AND (2563) TRAFFIC CONTROL
1507	UTILITY PROPERTY AND SERVICE
1506	SUPERVISION BY CONTRACTOR
1706	EMPLOYEE HEALTH AND WELFARE
1803	PROSECUTION OF WORK
2331	FULL DEPTH RECLAMATION (FDR)
2331	BITUMINOUS PAVEMENT CRACK TREATMENT CLEAN AND SEAL
2356	BITUMINOUS SEAL COAT
2356	SEAL COAT – MICRO-SURFACING
2533	PORTABLE PRECAST CONCRETE BARRIER DESIGN 8337
2563	TEMPORARY PEDESTRIAN ACCESS CONTROL
2563	TRAFFIC CONTROL SUPERVISOR
2573	CULVERT END PROTECTION
2580	INTERIM PAVEMENT MARKING

S-5.5 The liquidated damages set forth in Mn/DOT 1807 and any monetary deductions as set forth above may apply equally, separately, and may be assessed concurrently.

S-6 (2563) TRAFFIC CONTROL SUPERVISOR

The designer needs to modify Sections S-.2(3) & S-.3 as to when the Traffic Control Supervisor will be required. WHENEVER YOU USE THIS WRITEUP, YOU HAVE TO HAVE THE PAY ITEM FOR THIS ON THE PLAN. IT CAN NOT BE INCIDENTAL TO TRAFFIC CONTROL.
REVISED 4/27/11
SP2005-233

The Contractor shall provide a Traffic Control Supervisor for each day lane closures are used on the Project, in accordance with Contract provisions and as directed by the Engineer.

S-6.1 The Traffic Control Supervisor shall be certified as a worksite supervisor by Mn/DOT. A copy of the traffic control supervisor's certification shall be provided to the Engineer at the Project pre-construction conference.

Mn/DOT certification as a Traffic Control Supervisor can be obtained by attending a 3 day Mn/DOT Traffic Control Supervisor Course within the last 5 years. Additional information on Mn/DOT's certification can be obtained by contacting Leigh Kriewall at 651/ 366-4217 or website: www.dot.state.mn.us/const/wzs/training.

The National ATSSA Traffic Control Supervisor Certification will not be accepted as part of the Mn/DOT certification after January 26, 2011.

(A) The Contractor shall, at the pre-construction conference, designate a Traffic Control Supervisor who shall be responsible for and perform the traffic control management. The Traffic Control Supervisor shall be either an employee of the Contractor other than the superintendent, or an employee of a firm which has a subcontract for overall traffic control management for the Project. The Traffic Control Supervisor shall be responsible for the management of the traffic control operations of the Project, including those of the Contractor, subcontractors and suppliers. The primary responsibility of the Traffic Control Supervisor shall be the Traffic Control Management of this Project.

(B) The Traffic Control Supervisor shall have the authority needed to effectively require modifications and maintenance of traffic controls. This includes having the authority necessary to obtain and use all labor, equipment, and materials needed to provide and maintain traffic control in routine and in emergency situations.

(C) The Traffic Control Supervisor shall have an up-to-date copy of the Part VI of the MN MUTCD (Minnesota Manual on Uniform Traffic Control Devices), including the "Field Manual for Temporary Traffic Control Zone Layouts," and "A Guide to Establishing Speed Limits in Highway Work Zones".

S-6.2 Traffic control management by the Traffic Control Supervisor includes, but is not limited to:

Choose applicable items which apply to the Project ONLY

(1) Ensuring that traffic control devices are functioning as required. This includes the repair or replacement of all signs, barricades, and other traffic devices that become damaged, moved, or destroyed, or lights that cease to function properly, and barricade weights that are damaged or otherwise fail to stabilize barricades.

(2) Providing sufficient surveillance of signs, barricades, and other traffic control devices. This includes inspecting traffic control devices on every calendar day that traffic control devices are in use (by the Traffic Control Supervisor or his approved representative). Routine surveillance reports shall be submitted to the Project Engineer weekly.

(3) The Traffic Control Supervisor will be on the Project full time every working day, "on call" at all times, and available within 45 minutes of notification, at other than normal working hours. The Contractor shall give to the Engineer, the names, addresses and phone numbers of at least three individuals (one of which is the Traffic Control Supervisor) responsible to provide and ensure immediate attention to the traffic control management. ***{the designer needs to modify this section as to when the Traffic Control Supervisor will be required}***

(4) Preparing, revising, and submitting the traffic control plan as required.

(5) Directing supervision of Project flag persons.

(6) Coordinating all traffic control operations, including those of subcontractors and suppliers.

(7) Coordinating Project activities with appropriate police and fire control agencies.

(8) Maintaining a Project traffic control diary which shall become a part of the department's Project records.

(9) Overseeing all requirements covered by the Plans and specifications which contribute to the convenience, safety and orderly movement of traffic.

(10) Establishing contact with local and state law enforcement agencies affected by construction before work begins. Establish communications so that any accidents will be reviewed daily by the Traffic Control Supervisor to determine if changes in traffic control is necessary. These accidents will also be reported daily to the Engineer. A written weekly and final report will be required. The report shall include, but not be limited to: type of accident, time, weather, and possible cause if known.

(11) Providing sufficient surveillance of all Portable Changeable Message (PCM) signs to ensure the following:

(a) correct and current information is always provided.
(b) proper placement of PCM signs.
(c) PCM signs are turned off when messages are no longer necessary.

(12) Ensuring that work zone speed limits are properly installed. As part of this responsibility, the Traffic Control Supervisor shall complete the "Work Zone Speed Limit Application" form daily when these speed limits are in use. These forms shall be turned in to the Engineer each week.

(13) Maintaining constant communications with Project personnel, law enforcement agencies, and the Traffic Management Center. As part of this requirement, the Traffic Control Supervisor will be required to have a cellular phone.

or for non-Metro

(13) Maintaining constant communications with Project personnel and law enforcement agencies. As part of this requirement, the Traffic Control Supervisor will be required to have a cellular phone.

S-6.3 Traffic control management shall be provided by the Contractor ***{the designer needs to modify this section as to when the Traffic Control Supervisor will be required}***. **For any period of time the Traffic Control Supervisor is not available to provide traffic control management the Contractor will be subject to an hourly charge assessed at a rate of $250.00 per hour for each hour or any portion thereof which the Engineer determines that the Contractor has not complied.**

WHENEVER YOU USE THIS WRITEUP, YOU HAVE TO HAVE THE PAY ITEM FOR THIS ON THE PLAN. IT CAN NOT BE INCIDENTAL TO TRAFFIC CONTROL.

S-6.4 Measurement for Traffic Control Supervisor will be made by the per day of service (Unit Day) as specified. Payment for Traffic Control Supervisor provided as directed by the Engineer, and per these Special Provisions, will be made under Item 2563.613 (Traffic Control Supervisor) at the Contract bid price per Unit Day, which shall be compensation for all costs incidental thereto.

OR

WHENEVER YOU USE THIS WRITEUP, YOU HAVE TO HAVE THE PAY ITEM FOR THIS ON THE PLAN. IT CAN NOT BE INCIDENTAL TO TRAFFIC CONTROL.

No measurement will be made of the various duties of the Traffic Control Supervisor, but all such work shall be construed to be included in the lump sum payment under Item 2563.601 (Traffic Control Supervisor). The lump sum payment shall be compensation for all costs incidental thereto.