

TH 23
SP 0901-67
TRANSPORTATION MANAGEMENT
PLAN

Minnesota Department of Transportation

District One Duluth Traffic Office

1123 Mesaba Avenue

Duluth, MN 55811

218 725 2700

SP 0901-67 TH 23 Bridge Replacement over the BNSF Railroad- Project Overview

This project replaces Bridge # 09015 on TH 23 south of Duluth a new improved alignment. The total length of the project is 3100 feet to tie into the existing alignment. Due to poor soils the project requires a surcharge for 90 days on the new alignment, making the project duration two years. Construction will begin June of 2015 with Stage 1 placing the required surcharge. Stage 2 begins 90 days after the surcharge has been placed; removing the surcharge and begin constructing the bridge.

Work Zone Safety and Mobility features of this project are as follows:

1. Traffic will be carried on the existing alignment/ bridge during stage 1 and most of stage 2 until the new bridge is complete and the new alignment grading is in place.
2. The surcharge in stage 1 requires fill up to the P.I. of the existing alignment. Portable precast concrete barrier with end attenuators will separate traffic from the surcharge fill.
3. The new bridge will be at a higher elevation than the existing bridge to allow for increased clearance for the railroad. This will require a new profile for the roadway which in turn will require fills at both of the locations where the alignments converge. It is anticipated a combination of precast portable concrete barrier and flagging operation will be required to carry traffic during this project timeframe. Special Provision 1803 limits the time traffic can be on a gravel surface to 14 calendar days with penalties
4. The traffic plan has plan sheets for “typical one lane bypass” and “temporary alignment shifts”. Special Provision 1404 and the Traffic control notes and guidelines plan sheet discuss the requirements of modifying these typicals or proposing an alternative traffic control plan for approval.



**BASIC TRANSPORTATION MANAGEMENT PLAN
WORK ZONE IMPACT AND STRATEGY CONSIDERATIONS WORKSHEET**

Prepared By: David Mavec Date: 9/30/2104

Project Information:

SP: 0901-67	TH: 23	Let Date: 11/21/14	Project Length: 3100 FT
Project Description (work type, area type, anticipated duration): Bridge Replacement 2015, 2016 Construction Seasons			

Work Zone Design, Safety and Impact Considerations:

Traffic Volume: 1650 Current ADT	Yes	No
1. Seasonal and temporal variations in demand (hourly, daily or weekly):	<input type="checkbox"/>	<input checked="" type="checkbox"/>
2. Special events:	<input type="checkbox"/>	<input checked="" type="checkbox"/>
3. Type of Travel		
a. Commuter:	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b. Tourist:	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c. Freight:	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d. Transit:	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e. Pedestrian:	<input type="checkbox"/>	<input checked="" type="checkbox"/>
4. Impacts on parallel corridors, alternate routes, transportation Network or other modes of transportation:	<input type="checkbox"/>	<input checked="" type="checkbox"/>
5. Impacts to/from other work zones:	<input type="checkbox"/>	<input checked="" type="checkbox"/>
6. Impacts on nearby transportation infrastructure		
a. Key intersections/interchanges:	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b. Railroad crossings: Construct Bridge over RR tracks (BNSF)	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c. Public transit junctions:	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d. Other:	<input type="checkbox"/>	<input checked="" type="checkbox"/>
7. Impacts on other infrastructure		
a. Evacuation Routes:	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b. Parks/Recreation Areas:	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c. Fire Stations:	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d. Police Stations:	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e. Hospitals:	<input type="checkbox"/>	<input checked="" type="checkbox"/>
f. Other:	<input type="checkbox"/>	<input checked="" type="checkbox"/>
8. Impacts on pedestrian facilities:	<input type="checkbox"/>	<input checked="" type="checkbox"/>
9. Impacts on private and public property access:	<input type="checkbox"/>	<input type="checkbox"/>
10. Cross-sectional issues (lane width, shoulder availability and width, number of lanes): Surcharge on existing roadway	<input checked="" type="checkbox"/>	<input type="checkbox"/>
11. Longitudinal issues (taper widths, taper lengths, stopping sight distance):	<input type="checkbox"/>	<input checked="" type="checkbox"/>
12. Horizontal and vertical sight distance issues:	<input type="checkbox"/>	<input type="checkbox"/>
13. Work area separation and delineation: Portable concrete barrier for surcharge	<input checked="" type="checkbox"/>	<input type="checkbox"/>
14. Work site access issues:	<input type="checkbox"/>	<input checked="" type="checkbox"/>
15. Visibility issues (night work, weather):	<input type="checkbox"/>	<input checked="" type="checkbox"/>
16. Speed issues:	<input type="checkbox"/>	<input checked="" type="checkbox"/>
17. Traffic incident management issues:	<input type="checkbox"/>	<input checked="" type="checkbox"/>
18. Other work zone considerations: Staged Construction two year project	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Work Zone Management Strategy Considerations:

Temporary Traffic Control (TTC)		
Control Strategies	TTC Devices	Project Coordination, Contracting, and Innovative Construction Strategies
<input checked="" type="checkbox"/> IA1. Construction	<input checked="" type="checkbox"/> IB1. Temporary signs	

<p>phasing/staging</p> <input type="checkbox"/> IA2. Full roadway closures	<input checked="" type="checkbox"/> Warning <input type="checkbox"/> Regulatory <input type="checkbox"/> Guide/ information	<input type="checkbox"/> IC1. Project coordination <input type="checkbox"/> Coordination with other projects <input type="checkbox"/> Utilities coordination <input type="checkbox"/> Right-of-way coordination <input type="checkbox"/> Coordination with other transportation infrastructure
<input type="checkbox"/> IA3. Lane shifts or closures <input type="checkbox"/> Reduced lane widths to maintain number of lanes (constriction) <input checked="" type="checkbox"/> Lane closures to provide worker safety <input type="checkbox"/> Reduced shoulder width to maintain number of lanes <input type="checkbox"/> Shoulder closures to provide worker safety <input checked="" type="checkbox"/> Lane shift to shoulder/median to maintain number of lanes	<input type="checkbox"/> IB2. Changeable message signs (CMS) <input type="checkbox"/> IB3. Arrow panels <input checked="" type="checkbox"/> IB4. Channelizing devices <input checked="" type="checkbox"/> IB5. Temporary pavement markings <input checked="" type="checkbox"/> IB6. Flaggers and uniformed traffic control officers <input type="checkbox"/> IB7. Temporary traffic signals <input type="checkbox"/> IB8. Lighting devices <input type="checkbox"/> Other	<input type="checkbox"/> IC2. Contracting strategies <input type="checkbox"/> Design-build <input type="checkbox"/> A+B bidding <input type="checkbox"/> Incentive/disincentive clauses <input type="checkbox"/> Lane rental <input type="checkbox"/> Other
<input type="checkbox"/> IA4. One-lane, two-way operation <input type="checkbox"/> IA5. Two-way traffic on one side of divided facility (crossover) <input type="checkbox"/> IA6. Reversible lanes <input type="checkbox"/> IA7. Ramp closures/relocation <input type="checkbox"/> IA8. Freeway-to-freeway interchange closures <input type="checkbox"/> IA9. Night work <input type="checkbox"/> IA10. Weekend work <input type="checkbox"/> IA11. Work hour restrictions for peak travel <input type="checkbox"/> IA12. Pedestrian/bicycle access improvements <input type="checkbox"/> IA13. Business access improvements <input type="checkbox"/> IA14. Off-site detours/use of alternate routes <input type="checkbox"/> Other		<input type="checkbox"/> IC3. Innovative construction techniques (precast members, rapid cure materials) <input type="checkbox"/> Other

Discussion of Temporary Traffic Control Strategies: Staged Construction, two year project: surcharge in 2015. Begin bridge construction fall of 2015. Complete bridge and approaches 2016. Maintain two way traffic on west lane/shoulder.

Public Information (PI)	
<p><u>Public Awareness Strategies</u></p> <input type="checkbox"/> IIA1. Brochures and mailers <input type="checkbox"/> IIA2. Press releases/media alerts <input type="checkbox"/> IIA3. Paid advertisements <input type="checkbox"/> IIA4. Public information center <input type="checkbox"/> IIA5. Telephone hotline <input type="checkbox"/> IIA6. Planned lane closure web site <input checked="" type="checkbox"/> IIA7. Project web site <input checked="" type="checkbox"/> IIA8. Public meetings/hearings	<p><u>Motorist Information Strategies</u></p> <input type="checkbox"/> IIB1. Traffic radio <input type="checkbox"/> IIB2. Changeable message signs (CMS) <input type="checkbox"/> IIB3. Temporary motorist information signs <input type="checkbox"/> IIB4. Dynamic speed message sign <input type="checkbox"/> IIB5. Highway advisory radio (HAR) <input type="checkbox"/> IIB6. Extinguishable signs <input type="checkbox"/> IIB7. Highway information network (web-based) <input type="checkbox"/> IIB8. 511 traveler information systems (wireless, handhelds)

<input type="checkbox"/> IIA9. Community task forces <input type="checkbox"/> IIA10. Coordination with media/schools/businesses/ emergency services <input type="checkbox"/> IIA11. Work zone education and safety campaigns <input type="checkbox"/> IIA12. Work zone safety highway signs <input type="checkbox"/> IIA13. Rideshare promotions <input type="checkbox"/> IIA14. Visual information (videos, slides, presentations) for meetings and web <input type="checkbox"/> Other	<input type="checkbox"/> IIB9. Freight travel information <input type="checkbox"/> IIB10. Transportation management center (TMC) <input type="checkbox"/> Other
<u>Discussion of Public Information Strategies:</u> Public meeting held March 18, 2014. Project is listed on the MnDOT website	

Transportation Operations			
<u>Demand Management Strategies</u> <input type="checkbox"/> IIIA1. Transit service improvements <input type="checkbox"/> IIIA2. Transit incentives <input type="checkbox"/> IIIA3. Shuttle services <input type="checkbox"/> IIIA4. Ridesharing/carpooling incentives <input type="checkbox"/> IIIA5. Park-and-ride promotion <input type="checkbox"/> IIIA6. High-occupancy vehicle (HOV) lanes <input type="checkbox"/> IIIA7. Toll/congestion pricing <input type="checkbox"/> IIIA8. Ramp metering <input type="checkbox"/> IIIA9. Parking supply management <input type="checkbox"/> IIIA10. Variable work hours <input type="checkbox"/> IIIA11. Telecommuting <input type="checkbox"/> Other	<u>Corridor Network Management Strategies</u> <input type="checkbox"/> IIIB1. Signal timing/coordination improvements <input type="checkbox"/> IIIB2. Temporary traffic signals <input type="checkbox"/> IIIB3. Street/intersection improvements <input type="checkbox"/> IIIB4. Bus turnouts <input type="checkbox"/> IIIB5. Turn restrictions <input type="checkbox"/> IIIB6. Parking restrictions <input type="checkbox"/> IIIB7. Truck/heavy vehicle restrictions <input type="checkbox"/> IIIB8. Separate truck lanes <input type="checkbox"/> IIIB9. Reversible lanes <input type="checkbox"/> IIIB10. Dynamic lane closure system <input type="checkbox"/> IIIB11. Ramp metering <input type="checkbox"/> IIIB12. Temporary suspension of ramp metering <input type="checkbox"/> IIIB13. Ramp closures <input type="checkbox"/> IIIB14. Railroad crossings controls <input type="checkbox"/> IIIB15. Coordination with adjacent construction site(s) <input type="checkbox"/> Other	<u>Work Zone Safety Management Strategies</u> <input type="checkbox"/> IIIC1. Speed limit reduction/variable speed limits <input type="checkbox"/> IIIC2. Temporary traffic signals <input checked="" type="checkbox"/> IIIC3. Temporary traffic barrier <input type="checkbox"/> IIIC4. Movable traffic barrier systems <input type="checkbox"/> IIIC5. Crash-cushions <input type="checkbox"/> IIIC6. Temporary rumble strips <input type="checkbox"/> IIIC7. Intrusion alarms <input type="checkbox"/> IIIC8. Warning lights <input type="checkbox"/> IIIC9. Automated Flagger Assistance Devices (AFADs) <input type="checkbox"/> IIIC10. Project task force/ committee <input checked="" type="checkbox"/> IIIC11. Construction safety supervisors/inspectors <input type="checkbox"/> IIIC12. Road safety audits <input type="checkbox"/> IIIC13. TMP monitor/inspection team <input type="checkbox"/> IIIC14. Team meetings <input type="checkbox"/> IIIC15. Project on-site safety training <input type="checkbox"/> IIIC16. Safety awards/ incentives <input checked="" type="checkbox"/> IIIC17. Windshield surveys	<u>Traffic/Incident Management and Enforcement Strategies</u> <input type="checkbox"/> IIID1. ITS for traffic monitoring/management <input type="checkbox"/> IIID2. Transportation mgmt center (TMC) <input type="checkbox"/> IIID3. Surveillance [Closed-Circuit Television (CCTV), loop detectors, lasers, probe vehicles] <input type="checkbox"/> IIID4. Helicopter for aerial surveillance <input type="checkbox"/> IIID5. Traffic screens <input type="checkbox"/> IIID6. Call boxes <input type="checkbox"/> IIID7. Mile-post markers <input type="checkbox"/> IIID8. Tow/freeway service patrol <input type="checkbox"/> IIID9. Total station units <input type="checkbox"/> IIID10. Photogrammetry <input type="checkbox"/> IIID11. Coordination with media <input type="checkbox"/> IIID12. Local detour routes <input type="checkbox"/> IIID13. Contract support for incident mgmt <input type="checkbox"/> IIID14. Incident/emergency management coordinator <input type="checkbox"/> IIID15. Incident/emergency response plan <input type="checkbox"/> IIID16. Dedicated (paid) police

		<input type="checkbox"/> Other	enforcement <input type="checkbox"/> IID17. Cooperative police enforcement <input type="checkbox"/> IID18. Automated enforcement <input type="checkbox"/> IID19. Increased penalties for work zone violations <input type="checkbox"/> Other
<p><u>Discussion of Traffic Operations Strategies:</u> Maintain two way traffic at all times except when connecting at the project ends. Use flaggers during the connection work. Discussions on how long traffic would be on a gravel surface.</p>			

Attachments:

- Traffic Control Plan
- Special Provisions

Modifications to the TMP:

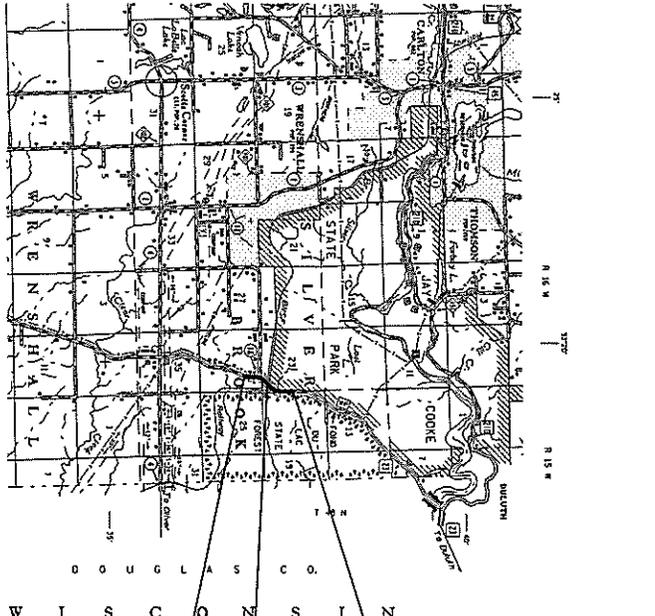
MINNESOTA DEPARTMENT OF TRANSPORTATION

CONSTRUCTION PLAN FOR GRADING, BITUMINOUS SURFACING, BRIDGE #09015

LOCATED ON I.H. 23 FROM 17.0 MILES NE OF S. CARLTON COUNTY LINE TO 17.6 MILES NE OF S. CARLTON COUNTY LINE

STATE PROJ. NO. 0901-67
 GROSS LENGTH 3099.57 FEET 0.567 MILES
 BRIDGE LENGTH 186.35 FEET 0.037 MILES
 EXCEPTIONS LENGTH FEET 0.587 MILES
 NET LENGTH 3099.57 FEET 0.587 MILES
 REF. POINT 332+00.119 TO REF. POINT 332+00.706

PROJECT LENGTH BASED ON I.H. 23 CONSTRUCTION ALIGNMENT.



T.H. 23 CONSTRUCTION STA. 2069+93.22
 T.H. 23 R.P. 332+00.706
 END SP 0901-67

BRIDGE #09015

BEGIN SP 0901-67
 T.H. 23 CONSTRUCTION STA. 2038+93.65
 T.H. 23 R.P. 332+00.119

PLAN

PROFILE

INDEX MAP

SCALES

PLAN 1" = 30'

PROFILE 1" = 10'

INDEX MAP 1" = 100'

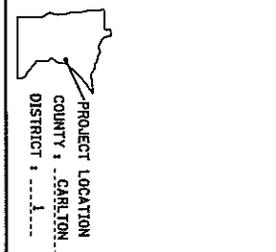
DATE	PLANNING	DESIGN	CONSTRUCTION

DESIGN ESALS

ADT (Current Year) 2015 = 1550
 ADT (Future Year) 2035 = 235
 0 (bi-directional dir.)
 T (heavy commercial)

DESIGN DESIGNATION

Design Speed = 55 MPH
 Based on Stopping Sight Distance
 Height of eye = 3.5', Height of object = 2.0'
 X Design speed not achieved at
 STA. TO STA. MPH
 TO STA. MPH



FOR PLANS AND UTILITIES SYMBOLS SEE TECHNICAL MANUAL

STATE PROJ. NO. 0901-67

CHARGE IDENTIFIER

STATE PROJ. NO. 0901-67 (TH 23 = 185) SHEET NO. 1 OF 108 SHEETS

RECOMMENDED FOR APPROVAL	DISTRICT TRANSPORTATION ENGINEER
RECOMMENDED FOR APPROVAL	DISTRICT MATERIALS ENGINEER
RECOMMENDED FOR APPROVAL	DISTRICT WATER RESOURCES/SPECIALISTS ENGINEER
RECOMMENDED FOR APPROVAL	DISTRICT TRAFFIC ENGINEER
RECOMMENDED FOR APPROVAL	STATE REGISTRATION ENGINEER
OTHER OR LAMB UNIFORM APPROVAL	DIRECTIONAL LAMB UNIFORM
APPROVED	STATE DESIGN ENGINEER

DATE: _____ SIGNATURE: _____

DESIGN SOUND: R. COSTLEY, L. MARSH, E.A. STUBBS, & GREG SWAN

DATE: _____ SIGNATURE: _____

DESIGN SOUND: _____

DATE: _____ SIGNATURE: _____

DESIGN SOUND: _____

FED. PROJ. NO. STPM. 0915 (076)

GOVERNING SPECIFICATIONS

THE 2014 EDITION OF THE MINNESOTA DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR CONSTRUCTION AND THE 2014 EDITION OF THE MATERIAL LAB SPECIFIC TEST SPECIFICATIONS FOR CONSTRUCTION SHALL GOVERN.

INDEX

- THIS PLAN CONTAINS 163 SHEETS
- TITLE SHEET
 - ESTIMATED QUANTITIES
 - EARTHWORK SUMMARY, SPECIAL DITCH GRADES, ENTRANCES
 - SOILS & CONSTRUCTION NOTES, STANDARD PLATES
 - CONSTRUCTION CHARTS
 - UTILITY TABULATION
 - TYPICAL SECTIONS
 - CONSTRUCTION DETAILS
 - STANDARD PLANS
 - AREAS OF ENVIRONMENTAL SENSITIVITY
 - ALIGNMENT TABULATIONS
 - ALIGN, REMOVALS, TOPOG, UTILITIES, RW
 - PLANNED CONSTRUCTION - STAGE I
 - PLANNED CONSTRUCTION - STAGE II & TRAFFIC BARRIER
 - DRAINAGE, EROSION CONTROL, TUBE ESTABLISHMENT
 - PROFILES - STAGE I
 - PROFILES - STAGE II
 - SUPERELEVATION
 - SWPP
 - TRAFFIC CONTROL
 - SIGNING & PAVEMENT MARKINGS
 - CROSS SECTIONS - STAGE I
 - CROSS SECTIONS - STAGE II

NOTES & GUIDELINES

GENERAL INFORMATION

1. THE CONTRACTOR SHALL FURNISH, INSTALL AND MAINTAIN THE DEVICES IN THIS TRAFFIC CONTROL PLAN UNLESS OTHERWISE NOTED. IN PLACE SIGNING MUST ALSO BE MAINTAINED ON TEMPORARILY RELOCATED FOR CONSTRUCTION ACTIVITIES.
2. FIELD CONDITIONS MAY REQUIRE MODIFICATIONS OF THIS LAYOUT AS DEEMED NECESSARY BY THE ENGINEER.
3. ALL DISTANCES ARE APPROXIMATE. PLANS ARE NOT DRAWN TO SCALE.
4. THE CONTRACTOR IS RESPONSIBLE FOR PROTECTING ANY WORK AREAS NEAR TRAFFIC IN ACCORDANCE WITH THE MNDOT.
5. SIGN INSTALLATIONS SHALL NOT OBSTRUCT EXISTING SIGNS.
6. THE ITEM "TRAFFIC CONTROL" COVERS ALL DEVICES SHOWN ON THE PLAN SHEETS AND OTHER SETUPS REQUIRED BY THE CONTRACTOR'S OPERATIONS.

SIGNING

1. ALL TRAFFIC CONTROL DEVICES, INCLUDING OVERHEAD SIGNS ON ROADS OPEN TO TRAFFIC THAT ARE NOT CONSISTENT WITH TRAFFIC OPERATION SHALL BE COVERED, REMOVED OR REVISED AS DIRECTED BY THE ENGINEER.
2. WHEN SIGNS ARE INSTALLED, THEY SHALL BE MOUNTED ON POSTS DRIVEN INTO THE GROUND AT THE PROPER HEIGHT AND LATERAL OFFSET HAS DETAILED IN THE ATTACHED TRAFFIC CONTROL SIGN FRAMEWORK AND INSTALLATION DETAILS. IF THIS IS NOT POSSIBLE, THEY SHALL BE MOUNTED ON ORNAMENTAL SIGN POSTS AS APPROVED BY THE ENGINEER. WHEN THE SIGNS ARE REMOVED, THE SIGN POSTS SHALL ALSO BE REMOVED WITHIN 2 WEEKS (5-18-187).
3. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY EXTRA SIGNING NEEDED TO FACILITATE TRAFFIC SWITCHES OR FOR TRANSITIONING TRAFFIC FROM ONE STAGE TO ANOTHER.
4. ALL ORANGE WARNING AND ORANGE GUIDE SIGNS SHALL BE FABRICATED WITH SIGN SHEETING MATERIAL AS LISTED ON THE MNDOT APPROVED PRODUCT LIST FOR "SHEETING FOR RIGID TEMPORARY WORK ZONE SIGNS". BARRICADES SHALL BE FABRICATED WITH SIGN SHEETING MATERIAL AS LISTED ON THE MNDOT APPROVED PRODUCT LIST FOR BARRICADE SHEETING. NOTE THAT ASTM TYPE VII SHEETING IS NOT ALLOWED ON BARRICADES AFTER JANUARY 1, 2010.
5. LONGITUDINAL DROPPERS SHALL BE SIGNED AS SHOWN IN THE "TEMPORARY TRAFFIC CONTROL ZONE LAYOUTS" FIELD MANUAL UNLESS OTHERWISE SPECIFIED IN THESE PLANS.
6. THE CONTRACTOR SHALL COORDINATE THE INSTALLATION OF THE FINAL SIGNS TO ASSURE THAT THE FINAL SIGNS ARE INSTALLED AS NEEDED, OR PROVIDE TEMPORARY SIGNING AT THEIR EXPENSE UNTIL THE FINAL SIGNING IS INSTALLED.

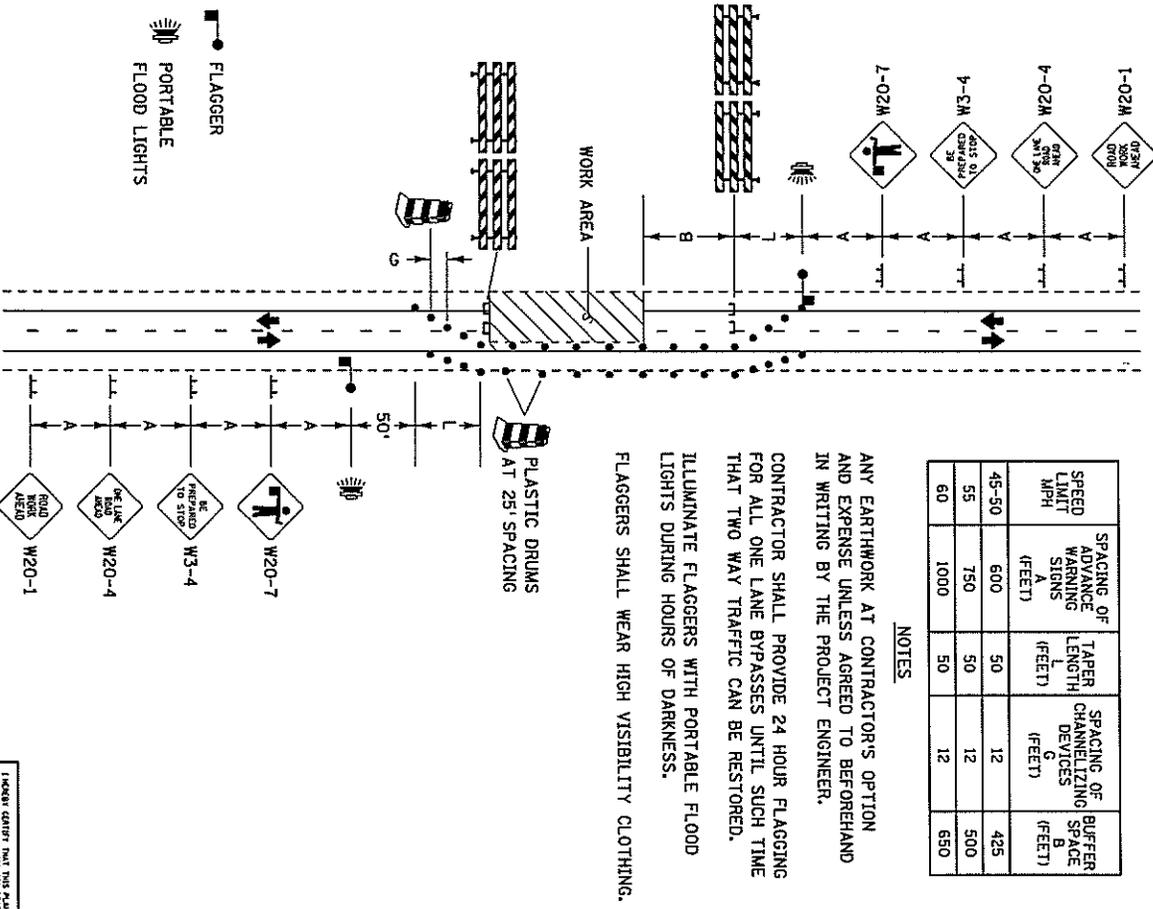
PAVEMENT MARKING

1. OBLITERATE ANY CONFLICTING PAVEMENT MARKINGS AS DIRECTED BY THE ENGINEER.
2. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE LOCATION AND INSTALLATION OF TEMPORARY AND FINAL STRIPPING. MNDOT TRAFFIC PERSONNEL WILL ASSIST IN THE SPOTTING OF TRANSITION AREAS, GORES AND TAPERS.

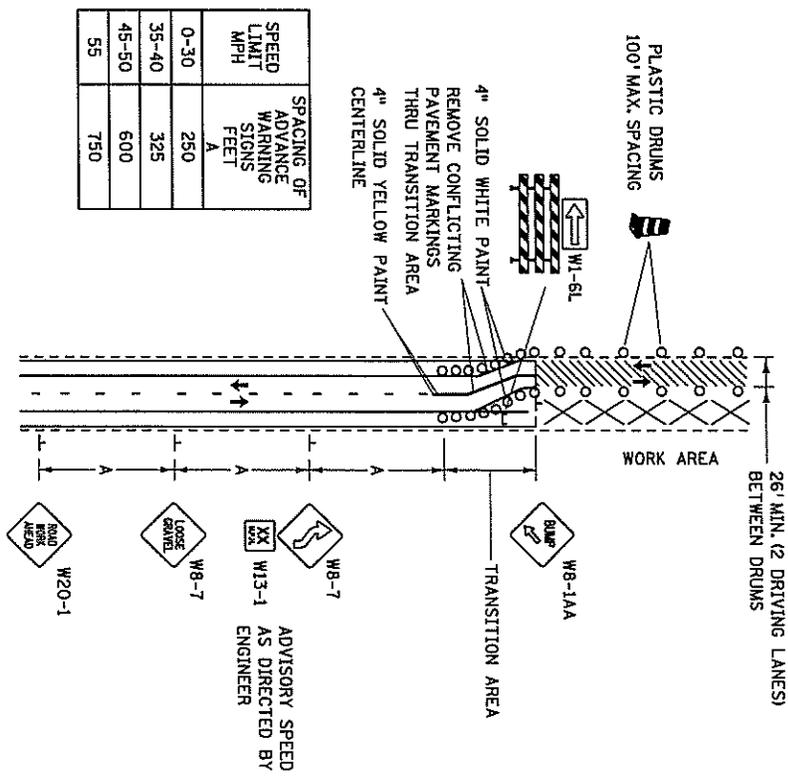
BARRIER & DELINEATION

1. TOP MOUNTED BARRIER DELINEATORS WILL HAVE A MINIMUM OF 24 SQ. IN. OF REFLECTIVE SURFACE AREA AND BE PLACED AT 30' SPACES ON TOP OF THE BARRIER WHEN THE BARRIER IS WITHIN 10' OF TRAFFIC UNLESS OTHERWISE NOTED OR AS DIRECTED BY THE ENGINEER. IF THE TRAFFIC ENGINEER REQUIRES SIDE MOUNTED BARRIER DELINEATORS, THEY WILL HAVE A MINIMUM OF 12 SQ. IN. OF REFLECTIVE SURFACE AREA AND BE PLACED AT 30' SPACES. IF A SMALLER APPROVED BARRIER DELINEATOR IS USED IT SHALL BE AT ONE HALF THE SPACING AND ONE HALF THE BID PRICE.

TYPICAL ONE LANE BYPASS

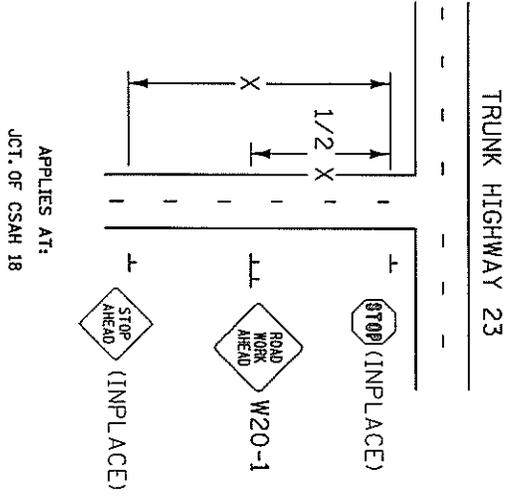


TEMPORARY ALIGNMENT SHIFT
 (GRAVEL SURFACE APPLICATION)

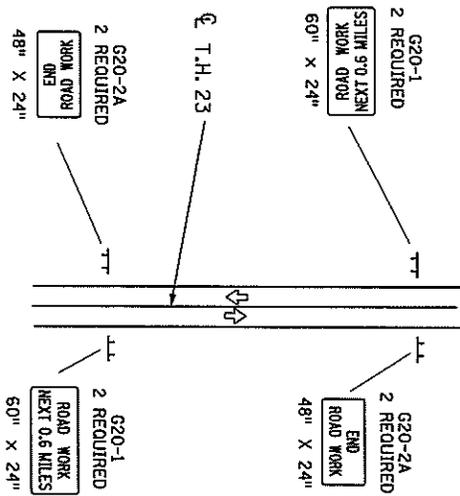


TRAFFIC CONTROL - TYPICAL

CROSS ROADS SIGNING



TERMINI SIGNING
 2 LANE DIVIDED



I HEREBY CERTIFY THAT THIS PLAN SHEET WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A QUALY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MICHIGAN.
 DATE: 02-OCT-2014 11:46 AM 25405 DWIGHT
 DWIGHT S. KELLY

TRAFFIC CONTROL - TYPICAL
 STATE PROJ. NO. 0901-67 (TH 23) SHEET NO. 89 OF 108 SHEETS

S-9

(1404) MAINTENANCE OF TRAFFIC AND (2563) TRAFFIC CONTROL

REVISED 03/19/14 ◀DO NOT REMOVE THIS. IT NEEDS TO STAY IN FOR THE CONTRACTORS.

SP2014-17

All traffic control devices shall conform and be installed in accordance to:

- the "Minnesota Manual on Uniform Traffic Control Devices" (MN MUTCD);
- Part 6, "Field Manual for Temporary Traffic Control Zone Layouts" (Field Manual);
- the "Guide to Establishing Speed Limits in Highway Work Zones";
- the Minnesota Flagging Handbook;
- the Minnesota Standard Signs Manual;
- the Traffic Engineering Manual;

And the provisions of MnDOT 1404 and 1710, the Plan, 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 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.

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-9.1 TRAFFIC CONTROL

(A) If traffic control layouts are not present in the Plan, or if 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 seven (7) days prior to the start of construction. The Contractor does not need to submit layouts that can be found in the Field Manual. All other layouts that are not found in the plan shall be submitted. 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.

(B) 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.

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.

(C) 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.

The Contractor is required to meet the traffic control device quality standards as determined in the Field Manual. The Contractor shall immediately replace traffic control devices that are deemed unacceptable. Signs that are dirty and result in a noticeable loss of reflectivity at night are also considered unacceptable and shall be cleaned or replaced. The Contractor shall be required to respond immediately to any call from the Engineer or his designated representative concerning the notification of unacceptable traffic control devices. **If the Contractor is negligent in correcting the deficiency within one day of notification the Contractor shall be subject to a daily charge assessed at a rate of \$500 for each day or any portion thereof with which the Engineer determines that the Contractor has not complied.**

(D) The person performing the inspection in paragraph (C) 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 inspection logs, as he deems necessary.

The Contractor shall provide copies of the inspection logs on a weekly basis on a day of the week determined by the Engineer. Additionally the Engineer may request copies of the logs at any time he deems necessary. **If the Contractor is negligent in providing the inspection logs on the predetermined weekly date or at the Engineer's request, 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 third sentence of paragraph 2 in MnDOT 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."

(F) 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 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.**

S-9.2 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) 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 Temporary Work Zone Signs, Delineators, and Markers (Type IX and XI)” or “Sheeting for Rigid Permanent Signs, Delineators, and Markers (Type IX and XI)”. Signs remaining in place that still apply during temporary operations need no change in sign sheeting.

Signs shall have an easily identifiable marking on the face to make the identification of approved retroreflective sign sheeting on temporary rigid signs in the field easier. This marking verifies that the sign sheeting has been approved for Rigid Sign. 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 that are on the APL or directly at the following link: <http://www.dot.state.mn.us/products/signing/pdf/typelabel.pdf>

The retroreflective sheeting types and qualified products used for temporary signs and barricades are shown at <http://www.dot.state.mn.us/products/signing/sheeting.html>.

(D) At the beginning of the Project, the Contractor shall store at least 6 extra Type III barricades and 20 extra retroreflective drums, at a convenient location within the Project limits, to be used at the discretion of the Engineer. Furnishing and erecting these traffic control devices shall be incidental.

If additional devices, beyond the quantity specified above, are ordered by the Engineer the Contractor will be compensated according to Section **S-1404.10** (ADDITIONAL TRAFFIC CONTROL DEVICES) of this Special Provision.

(G) In Place Signing – SIGNS DURING CONSTRUCTION

The in place signs will be removed and/or salvaged and new signs and/or salvaged signs will be installed as part of this contract. This work is paid for separately **except for fire number signs as noted below**. The Contractor is required to maintain the in place regulatory, warning, and guide signs until the new signing is installed at the completion of the project.

All in place signs and delineators that interfere with the Contractor's normal operation shall be relocated outside of the work area or removed by the Contractor at the direction of the Engineer. If approved by the Engineer the Contractor may provide temporary construction signing in lieu of relocating the in place signing.

The Contractor is required to maintain all in place fire numbers located at properties within the project. The signs and posts shall be relocated as necessary to insure visibility. Upon completion of the project the fire numbers shall be reinstalled at a new location as directed by the Engineer.

All costs incurred to relocate, salvage, and reinstall in place signing until the new signs are installed shall be incidental work and no direct compensation will be made therefore. No direct compensation will be made for the salvaging, relocating, and reinstalling of the fire numbers.

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

(H) **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. This work shall be incidental.** The Contractor will not be allowed to suspend material, equipment, tools and personnel over traffic unless a lane closure is established below. All costs associated with the lane closure will be considered incidental.

(I) The Contractor will not be permitted to park vehicles or construction equipment in a location that obstructs any traffic control device. The parking of workers' private vehicles will not be allowed within the Project limits unless so approved by the Engineer.

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.

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

(K) **High Visibility Apparel**

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 meets the minimum 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 was designed. All apparel worn on the torso must be closed in the front to provide contiguous 360 degree visibility. If a worker's 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.

(L) **Night Work**

When work will be performed between the official hours of sunset and sunrise, all appropriate practices for night work will apply. **Any night work must be approved by the Project Engineer.**

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

All Contractor's personnel, except operators who will remain in their vehicles at all times, shall wear reflectively striped (approximately 33 feet [10 m] 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. 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 2 inch [50 mm] 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 incidental and shall be on the Approved Products List

for "Conspicuity Vehicle Sheeting (Type VII)" as found at:
<http://www.dot.state.mn.us/products/signing/sheeting.html>. Vehicle examples to be marked with tape are Contractor rollers, paver, millers and other equipment normally found in the lane closure.

The State will assess monetary deductions in the amount of \$1000.00 for each Calendar Day or portion thereof, that the Contractor fails to provide sufficient numbers of light plants as described in this Section S-___. As light plants may be dedicated or otherwise made available to the Project, this assessment will be chargeable even if reasons beyond the control of the Contractor such as breakdowns, late delivery of materials, weather delays, or other unanticipated problems cause the work to be accomplished in non-daylight hours.

(Q) 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.

S-9.3 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 that 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 that 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 from a height of 3.5 feet and from a 100 foot radius about the equipment. In order to meet the 360 degree at 60 foot [18 m] 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.

Any warning lights shall be on the Approved Products List for Vehicle Lighting which is found at the following weblink: <http://www.dot.state.mn.us/products/vehiclelighting/vehiclesafetylights.html>. The list may also be obtained by contacting:

Vehicle Warning Lights
Office of Construction MS650
Transportation Bldg. OR by calling: (651)366-4216
395 John Ireland Blvd.
St. Paul, MN 55155

This list is updated periodically. Warning light suppliers and manufacturers may contact the above for information on adding new products to the list.

A \$100 penalty (per incident) will be assessed against the Contractor each time failure to comply with the above requirements is observed on the Project site.

S-9.4 LANE CLOSURE REQUIREMENTS

(B) 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. 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.

(D) 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.

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

(F) 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 in any shifts in traffic alignment.

(G) 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.

(K) The Contractor shall maintain a minimum of 1.25 miles [two km] between temporary lane closures, except if allowed by the Engineer.

(N) **Truck Mounted Attenuators (TMAs)**

If the Contractor establishes any temporary traffic control zone defined as "Moving" and/or "Mobile" by the Field Manual; Truck Mounted Attenuators (TMA) **SHALL** be used on all work vehicles or equipment operating totally or partially in the traffic lane. All references to "should" in the Field Manual in regards TMA use for Moving and/or Mobile layouts are hereby changed to "shall". The truck mounted attenuator shall meet the requirements of NCHRP 350 or AASHTO's Manual for Assessing Safety Hardware (MASH).

If any work vehicle, equipment or manual work zone is not equipped with a TMA, a shadow vehicle equipped with a TMA shall be utilized in lieu thereof. The TMA mounted shadow vehicle shall maintain a minimum distance of 200 and maximum distance of 300 feet from any operation that is otherwise unprotected by a TMA.

This requirement shall apply to all operations utilizing a Mobile and/or Moving work zone; including, but not limited to interim and permanent traffic striping and marking, stripe removal, rumble strip grinding, bituminous core cutting, running of the profilograph, and any other operations meeting the criteria for Mobile and for Moving operations, as shown in the Field Manual.

S-9.5 **FLAGGER TRAINING AND REQUIREMENTS**

(A) 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 "MnDOT Flagger Train the Trainer Session" in the five years before 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 MnDOT 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 is found at: <http://www.dot.state.mn.us/const/wzs/documents/flaggertrainingchecklist.pdf>.

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

(B) 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.

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

Flag persons shall wear high visibility retroreflective safety vests, pants and hats at all times while actively flagging on the Project. High visibility apparel shall also comply with current Minnesota OSHA Rules 5207.0100 and 5207.1000. The flag persons clothing shall be considered incidental.

The Contractor shall keep the separation distance between the last sign in the “flagger ahead” signing sequence and the actual flagger to the amount shown in the Field Manual, whenever it is practical. The maximum separation distance allowed from the signs to the flagger shall be ½ mile [0.8 km]. The Contractor shall use multiple flagger signing set-ups or continuously move the signing for moving flagging operations to keep within the distance limit. The “flagger ahead” signing sequence shall not be in place when flagging operations are not in effect.

The maximum distance between flaggers shall be ½ mile [0.8 km] unless otherwise authorized by the Engineer. In the event a distance longer than one mile is authorized, the Engineer may order the Contractor to provide two pilot cars at no additional cost to MnDOT.

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

The Contractor will be subject to a non-compliant charge for failure to adhere to the requirements listed in this Section S- . These requirements include: providing two-way radios for flaggers, properly attired flaggers, flagging operation length requirements, and distance limit between the flagger and the last sign in the flagger sequence, and removing or covering flagger signs when flagging operations are not present. **Non-compliance charges, for each incident will be assessed at a rate of \$500 per incident that the Engineer determines that the Contractor has not complied.** The charges may be assessed equally, separately, and may be assessed concurrently.

The Contractor shall coordinate the flagging operations in a manner that causes as little delay to the traveling public as possible, and at no time shall the delay exceed 15 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.

(D) **Pilot cars are not required for this project. If the contractor chooses to use a pilot car the following requirements apply.**

1. Pilot cars shall be utilized on all two lane roadways.
2. Drivers shall be limited to 12 hour maximum shifts.
3. 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-1404.3 (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.
4. Flagpersons shall:
 - (a) have portable radio communication with the pilot car.
 - (b) not park vehicles at the flagging station.
5. 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 because of their operations without prior approval of the Engineer.
- 6. 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.

(E) 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.

S-9.6 PAVING OPERATIONS

(A) 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.

(B) When traffic is allowed to drive on a gravel surface prior to paving, the Contractor shall furnish and install "LOOSE GRAVEL" 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 shall be tapered and/or chamfered so as to provide for the safe passage of traffic.

(D) The Contractor shall schedule construction operations 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.

(F) Constructing and milling tapers and/or chamfers shall be incidental.

S-9.7 MAINTENANCE AND STAGING OF TRAFFIC CONTROL

(A) Traffic control typical layouts are shown in the Plan. Other traffic control layouts may be necessary to complete the construction shown in the Plan. If the traffic control layouts cannot be found in the Plan or the Field Manual, the Contractor shall provide layouts for approval at least 7 days prior to construction as required in S_1(A). All traffic control shall comply with the current version of the Minnesota Manual on Uniform Traffic Control Devices.

(D) When traffic is permitted to drive on a gravel surface the Contractor shall provide drums at 100 foot spacing on each side of the road. The Contractor shall maintain a minimum of 26' (2 driving lanes) between the drums. Payment for the drums shall be included in the lump sum payment for traffic control.

(E) The Contractor shall cover all signs that are not consistent with traffic operations. The cover should be a plate of solid material covering the entire legend or all of that part of the legend that is inappropriate. The cover shall be bolted to the sign and shall have a minimum of 1/8 inch [3 mm] 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. This work will be done as required by the Engineer.

(F) 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.

(H) 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 in the area has been completed.

(J) 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.

(L) The Contractor shall be required to supply manpower to assist MnDOT 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.

S-9.8 MEASUREMENT AND PAYMENT

Traffic Control will be measured and paid for as follows:

Payment for all traffic control required to complete the Project as shown in the Plans and specified in these Special Provisions shall be made as a lump sum payment under Item 2563.601 (Traffic Control). Payment includes all costs associated with furnishing, installing, maintaining, relocating and subsequently removing traffic control devices (including flagpersons) as required. No additional measurement for payment will be made for individual activities and devices that constitute Traffic Control, except for other traffic control Bid Items specifically provided in the Contract.

Traffic Control layouts or devices not shown in the plan or stated in these Special Provisions that are a necessary part of the Contractor's operations to complete the project as shown in the plan are included in the lump sum traffic control item. There will be no increase or decrease in the lump sum payment or additional payment for other traffic control Contract Items, except as provided in the following paragraph.

If the Engineer orders a change in traffic control because of a Plan error, omission, changed condition or change of project scope, payment for such changes will be made as Extra Work.

The Traffic Control Payment Schedule will be as follows:

- (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.

S-9.9 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, 48 x 48 inch [1220 x 1220 mm] 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 48 x 48 inch [1220 x 1220 mm] signs will be measured by the face area of signs furnished multiplied by the number of Calendar Days each square foot [square meter] 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.

(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 48 x 48 inch [1220 x 1220 mm] signs, will be made at the appropriate pre-determined Square Foot/Day [Square Meter/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 Foot [Square Meter] 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	48 x 48 inch [1220 x 1220 mm] Standard Sign	Unit Day	1.75
2563.613	48 x 48 inch [1220 x 1220 mm] 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 48 X 48 inch [1220 X 1220 mm] 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.

S-31 (1803) LIMITATION OF OPERATIONS

The provisions of MnDOT Specification 1803.5 Limitation of Operations are modified to include the following:

S-31.1 The project requires placement of a surcharge prior to constructing the bridge substructures. The surcharge must be in place a minimum 90 days before it can be removed and work on the bridge can commence.

S-31.2 TRAFFIC REQUIREMENTS FOR GRADING AND AGGREGATE SURFACE ACTIVITIES

During Stage 2 roadway grading work, traffic can be placed on the finished aggregate base surface at any specific location within the Project for a maximum of 14 calendar days.

The Contractor shall monitor and repair aggregate base surfaces on which traffic is placed and make routine passes with grading equipment to provide a smooth surface. In the event rain makes the surface rough and bumpy, the Contractor shall restore the surface smoothness as soon as possible. Weekend maintenance of the aggregate base surface may be needed. Payment for any maintenance work including dust control is considered incidental.

A Monetary Deduction of \$500 per hour to a maximum of \$3,000 per day will be assessed for conditions that do not comply with this requirement.

S-31.3 This project will require the transplanting of protected plant species before the surcharge can be placed. It is anticipated that the removal of the plants from the work site will occur prior to the project start date.

S-31.4 Night work will not be allowed on the project. Work can only be performed between the hours of 6:00 am to 8:00 pm.

S-32 (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 10/29/13 ◀DO NOT REMOVE THIS. IT NEEDS TO STAY IN FOR THE CONTRACTORS.
SP2014-48

The Contract Time will be determined in accordance with the provisions of MnDOT 1806 and the following:

S-32.1 Construction operations shall be started on **June 1, 2015** 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-32.2 All work required under this Contract, except maintenance work and Final Clean Up shall be completed within _____ Working Days.~~

OR

S-32.3 All work required under this Contract, except maintenance work and Final Clean Up shall be completed on or before **November 11, 2016**.

Use the following for Intermediates

S-32.4 In addition to the requirements indicated above all work associated with placement of the surcharge shall be completed by **October 2, 2015**.

S-32.5 All work necessary for placement of traffic on the new highway alignment and bridge shall be completed on or before **October 14, 2016**.

S-32.6 Bridge #09015 will be constructed during the 2016 construction season unless otherwise approved by the Engineer.

Use S-.5 on all jobs.

S-32.7 Construction operations involving construction field work or work that impacts, restricts, or interferes with traffic as determined by the Engineer shall not commence prior to NTP2 without written permission from the Engineer.

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

S-32.8 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 multiyear projects whether they are completion day contracts or working day contracts (per Contract Admin) or late in year.

S-32.9 The provisions of MnDOT 1806.3(1)(3) are modified to the extent that "(3) During the inclusive period from November 15 through April 15, except as specified in 1806.1, "Determination and Extension of Contract Time, General.""; is deleted.

~~Use the following when needed on the project. Use only on working day contracts.~~

~~S-32.10 The provisions of MnDOT 1806.3 (1) (2) are modified to the extent that the term "(2) On Saturdays, Sundays, and legal holidays" is changed to read "(2) 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-32.11 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-32.12 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-.11 for DIST. 1 jobs

~~S-32.13 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 MnDOT 1803.6 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-.12 when using SP2014-107 (HIGH PERFORMANCE DOWEL BAR—38 mm (1.5 inch)) or when using SP2014-108 (HIGH PERFORMANCE DOWEL BAR—32 mm (1.25 inch)).

S-32.14 MnDOT 1806.2.C 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-33 (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 03/05/14 ◀DO NOT REMOVE THIS. IT NEEDS TO STAY IN FOR THE CONTRACTORS.

SP2014-49

The provisions of MnDOT 1807 are supplemented as follows:

Use S-.1 for intermediate dates.

S-33.1 The Department will assess the Contractor a monetary deduction in an amount equal to \$500 for each Calendar Day that any of the work specified in Section S-32.4 of (1806) DETERMINATION AND EXTENSION OF CONTRACT TIME of these Special Provisions remains incomplete after the expiration of the working period provided therefore.

S-33.2 The Department will assess the Contractor a monetary deduction in an amount equal to \$2,500 for each Calendar Day that any of the work specified in Section S-32.5 of (1806) DETERMINATION AND EXTENSION OF CONTRACT TIME of these Special Provisions remains incomplete after the expiration of the working period provided therefore.

Use S-.2 to reduce damages for final cleanup

S-33.3 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-33.4 For informational purposes only, bidders are advised that in addition to the requirements of MnDOT 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
1706	EMPLOYEE HEALTH AND WELFARE
2533	PORTABLE PRECAST CONCRETE BARRIER DESIGN 8337
2533	PORTABLE PRECAST CONCRETE BARRIER DESIGN 8337 - ANCHORED
2563	PORTABLE CHANGEABLE MESSAGE SIGN
2580	INTERIM PAVEMENT MARKING

S-33.5 The liquidated damages set forth in MnDOT 1807 and any monetary deductions as set forth above may apply equally, separately, and may be assessed concurrently.