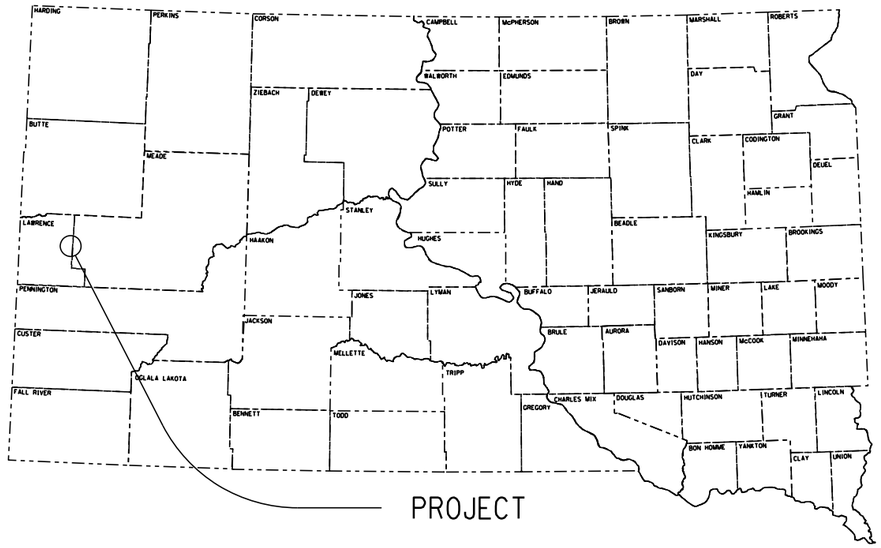
STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	090E-451 & 090W-451	1	7

Plotting Date: 03/18/2022



(1) I-90E, MRM 22.98 to MRM 30 + 0.24, PCN i6n4
I-90W, MRM 22.98 to MRM 30 + 0.25, PCN i6n5

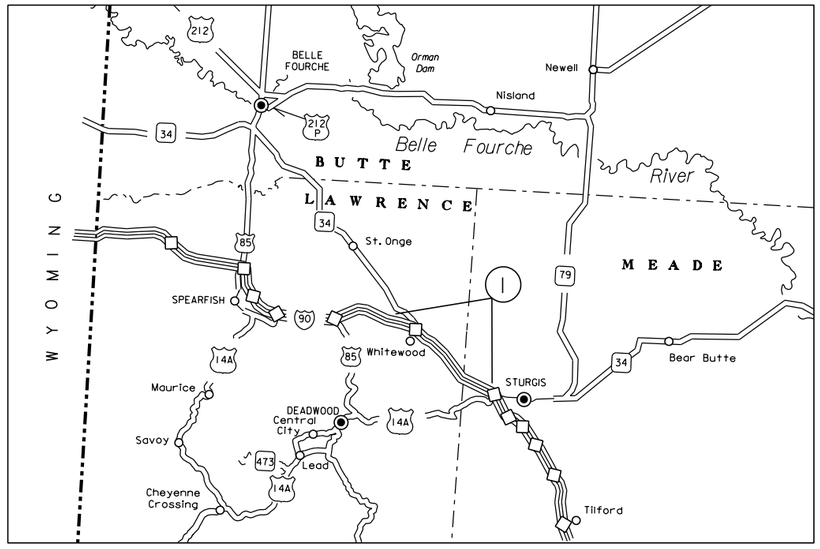
STATE OF SOUTH DAKOTA
DEPARTMENT OF TRANSPORTATION
PLANS FOR PROPOSED

PROJECTS 090E–451 & 090W–451
INTERSTATE 90 E&W
MEADE AND LAWRENCE COUNTIES

ASPHALT SHOULDER JOINT REPAIR
PCNS i6n4 and i6n5

INDEX OF SHEETS

Sheets 1: Title Sheet
Sheet 2-3: Estimate of Quantities & Plan Notes
Sheet 4: Crack Leveling Detail
Sheets 5-6: Ramp Traffic Control
Sheet 7: Standard Plates



I-90 E

Gross Length	6.807 MILES
Length of Exceptions	0.000 MILES
Net Length	6.807 MILES

I-90 W

Gross Length	6.826 MILES
Length of Exceptions	0.000 MILES
Net Length	6.826 MILES

Storm Water Permit
No Permit Required

Plot Scale - 1:200
Plotted From - TRRC11951
File - ...\i6n4_Title.dgn

ESTIMATE OF QUANTITIES (090E-451, PCN i6n4)

BID ITEM NUMBER	ITEM	QUANTITY	UNIT
009E0010	Mobilization	Lump Sum	LS
320E0402	Asphalt Repair Mastic Type 2	157,924	Lb
634E0110	Traffic Control Signs	203.9	SqFt
634E0120	Traffic Control, Miscellaneous	Lump Sum	LS
634E0420	Type C Advance Warning Arrow Board	1	Each

ESTIMATE OF QUANTITIES (090W-451, PCN i6n5)

BID ITEM NUMBER	ITEM	QUANTITY	UNIT
009E0010	Mobilization	Lump Sum	LS
320E0402	Asphalt Repair Mastic Type 2	156,893	Lb
634E0110	Traffic Control Signs	203.9	SqFt
634E0120	Traffic Control, Miscellaneous	Lump Sum	LS
634E0420	Type C Advance Warning Arrow Board	1	Each

SPECIFICATIONS

Standard Specifications for Roads and Bridges, 2015 Edition and Required Provisions, Supplemental Specifications, and Special Provisions as included in the Proposal.

ENVIRONMENTAL COMMITMENTS

The SDDOT is committed to protecting the environment and uses Environmental Commitments as a communication tool for the Engineer and Contractor to ensure that attention is given to avoid, minimize, and/or mitigate an environmental impact. Environmental commitments to various agencies and the public have been made to secure approval of this project. An agency with permitting authority can delay a project if identified environmental impacts have not been adequately addressed. Unless otherwise designated, the Contractor's primary contact regarding matters associated with these commitments will be the Project Engineer. During construction, the Project Engineer will verify that the Contractor has met Environmental Commitment requirements. These environmental commitments are not subject to change without prior written approval from the SDDOT Environmental Office.

Additional guidance on SDDOT's Environmental Commitments can be accessed through the Environmental Procedures Manual found at: <https://dot.sd.gov/media/documents/EnvironmentalProceduresManual.pdf >

For questions regarding change orders in the field that may have an effect on an Environmental Commitment, the Project Engineer will contact the Environmental Engineer at 605-773-3180 or 605-773-4336 to determine whether an environmental analysis and/or resource agency coordination is necessary.

Once construction is complete, the Project Engineer will review all environmental commitments for the project and document their completion.

COMMITMENT H: WASTE DISPOSAL SITE

Construction and/or demolition debris may not be disposed of within the Public ROW.

The waste disposal site(s) will be managed and reclaimed in accordance with the following from the General Permit for Construction/Demolition Debris Disposal Under the South Dakota Waste Management Program issued by the Department of Environment and Natural Resources.

The waste disposal site(s) will not be located in a wetland, within 200 feet of surface water, or in an area that adversely affects wildlife, recreation, aesthetic value of an area, or any threatened or endangered species, as approved by the Environmental Office and the Project Engineer.

If the waste disposal site(s) is located such that it is within view of any ROW, the following additional requirements will apply:

1. Construction and/or demolition debris consisting of concrete, asphalt concrete, or other similar materials will be buried in a trench completely separate from wood debris. The final cover over the construction and/or demolition debris will consist of a minimum of 1 foot of soil capable of supporting vegetation. Waste disposal sites provided outside of the Public ROW will be seeded in accordance with Natural Resources Conservation Service recommendations. The seeding recommendations may be obtained through the appropriate County NRCS Office. The Contractor will control the access to waste disposal sites not within the Public ROW with fences, gates, and placement of a sign or signs at the entrance to the site stating "No Dumping Allowed".

2. Concrete and asphalt concrete debris may be stockpiled within view of the ROW for a period of time not to exceed the duration of the project. Prior to project completion, the waste shall be removed from view of the ROW or buried and the waste disposal site reclaimed as noted above.

The above requirements will not apply to waste disposal sites that are covered by an individual solid waste permit as specified in SDCL 34A-6-58, SDCL 34A-6-1.13, and ARSD 74:27:10:06.

Failure to comply with the requirements stated above may result in civil penalties in accordance with South Dakota Solid Waste Law, SDCL 34A-6-1.31.

All costs associated with furnishing waste disposal site(s), disposing of waste, maintaining control of access (fence, gates, and signs), and reclamation of the waste disposal site(s) will be incidental to the various contract items.

COMMITMENT I: HISTORICAL PRESERVATION OFFICE CLEARANCES

The SDDOT has obtained concurrence with the State Historical Preservation Office (SHPO or THPO) for all work included within the project limits and all department designated sources and designated option material sources, stockpile sites, storage areas, and waste sites provided within the plans.

Action Taken/Required:

All earth disturbing activities not designated within the plans require a cultural resource review prior to scheduling the pre-construction meeting. This work includes, but is not limited to: Contractor furnished material sources, material processing sites, stockpile sites, storage areas, plant sites, and waste areas.

The Contractor will arrange and pay for a record search and when necessary, a cultural resource survey. The Contractor has the option to contact the state Archaeological Research Center (ARC) at 605-394-1936 or another qualified archaeologist, to obtain either a records search or a cultural resources survey. A record search might be sufficient for review if the site was previously surveyed; however, a cultural resources survey may need to be conducted by a qualified archaeologist.

The Contractor will provide ARC with the following: a topographical map or aerial view of which the site is clearly outlined, site dimensions, project number, and PCN. If applicable, provide evidence that the site has been previously disturbed by farming, mining, or construction activities with a landowner statement that artifacts have not been found on the site.

The Contractor will submit the cultural resources survey report to SDDOT Environmental Office, 700 East Broadway Avenue, Pierre, SD 57501-2586. SDDOT will submit the information to the appropriate SHPO/THPO. Allow **30 Days** from the date this information is submitted to the Environmental Engineer for SHPO/THPO review.

In the event of an inadvertent discovery of human remains, funerary objects, or if evidence of cultural resources is identified during project construction activities, then such activities will immediately cease and the Project Engineer will be immediately notified. The Project Engineer will contact the SDDOT Environmental Office to determine an appropriate course of action.

The Contractor is responsible for obtaining any additional permits and clearances for Contractor furnished material sources, material processing sites, stockpile sites, storage areas, plant sites, and waste areas that affect wetlands, threatened and endangered species, or waterways. The Contractor will not utilize a site known or suspected of having contaminated soil or water. The Contractor will provide the required permits and clearances to the Project Engineer at the preconstruction meeting.

ESTIMATED QUANTITIES FOR ASPHALT CONCRETE CRACK LEVELING (ALONG PCCP EDGE)

The estimated quantities of mastic for crack leveling along the PCCP edge are based on a triangular section that is 1” deep x 6” wide. The width and depth will vary along the project.

A unit weight of 110 lbs./cuft was used for estimating purposes.

Do not fill the rumblestrips on the passing lane shoulder. Keep the amount of mastic material to a minimum that might flow into the rumblestrip.

TABLE OF ASPHALT CONCRETE CRACK LEVELING QUANTITIES (PCN i6n4)

Highway		MRM to	MRM	Length (feet)	Asphalt Repair Mastic Type 2 (Lb)
I90E	Driving Lane Shoulder	22.98	29+0.82	33,000	75,595
I90E	Passing Lane Shoulder	22.98	30+0.24	35,940	82,330
				Total	**157,924**

TABLE OF ASPHALT CONCRETE CRACK LEVELING QUANTITIES (PCN i6n5)

Highway		MRM to	MRM	Length (feet)	Asphalt Repair Mastic Type 2 (Lb)
I90W	Driving Lane Shoulder	22.98	29+0.82	32,450	74,335
I90W	Passing Lane Shoulder	22.98	30+0.25	36,040	82,559
				Total	**156,893**

GENERAL TRAFFIC CONTROL

Existing guide, route, informational logo, regulatory, and warning signs will be temporarily reset and maintained during construction. Removing, relocating, covering, salvaging, and resetting of existing traffic control devices, including delineation, will be the responsibility of the Contractor. Cost for this work will be incidental to the contract unit prices for the various items unless otherwise specified in the plans. Any delineators and signs damaged or lost will be replaced by the Contractor at no cost to the State.

All temporary traffic control sign locations will be set in the field by the Contractor and verified by the Engineer prior to installation.

All construction operations will be conducted in the general direction of traffic movement.

If there is a discrepancy between the traffic control plans, standard plates, and the MUTCD, whichever is more stringent will be used, as determined by the Engineer.

Unless otherwise stated in these plans, work will not be allowed during hours of darkness.

All temporary speed limit signs will have a minimum mounting height of 5 feet in rural locations, even when mounted on portable supports.

Lane closures will be limited to 5 miles in length. The distance between the closest points of any two-lane closures will be at least 3 miles, excluding tapers.

Traffic will be maintained on the driving lanes. Use of the shoulder as a driving lane will not be permitted. Any damage to the shoulder due to rerouted traffic or Contractor’s equipment will be repaired at no expense to the Department.

Construction vehicles will exit or enter the construction work zone at locations identified by the Engineer.

A mobile work operation will be allowed provided the crack leveling can be completed satisfactorily by a continuously moving work operation. A mobile work operation will require approval by the Engineer.

Lane closures will be removed prior to nightfall.

TRAFFIC CONTROL SIGNS

A quantity of traffic control signs are provided for each route. Payment will only be for those signs used on each route. There are 2 routes on the project I-90E and I-90W.

INVENTORY OF TRAFFIC CONTROL DEVICES I90 E, MRM 22.98 to 30+ 0.24 (PCN i6n4)

SIGN CODE	SIGN DESCRIPTION	NUMBER	SIGN SIZE	SQFT PER SIGN	SQFT
R1-2	YIELD	1	36"	3.9	3.9
W3-2	YIELD AHEAD (symbol)	1	48" x 48"	16.0	16.0
W4-1	MERGE (symbol)	2	48" x 48"	16.0	32.0
W4-2	LEFT or RIGHT LANE ENDS (symbol)	2	48" x 48"	16.0	32.0
W20-1	ROAD WORK AHEAD	4	48" x 48"	16.0	64.0
W20-5	LEFT or RIGHT LANE CLOSED AHEAD	2	48" x 48"	16.0	32.0
G20-2	END ROAD WORK	2	48" x 24"	8.0	16.0
SPECIAL	Exit with ARROW	1	32" x 36"	8.0	8.0
		EXPRESSWAY / INTERSTATE TRAFFIC CONTROL SIGNS SQFT			**203.9**

INVENTORY OF TRAFFIC CONTROL DEVICES I90 W, MRM 22.98 to 30+ 0.25 (PCN i6n5)

SIGN CODE	SIGN DESCRIPTION	NUMBER	SIGN SIZE	SQFT PER SIGN	SQFT
R1-2	YIELD	1	36"	3.9	3.9
W3-2	YIELD AHEAD (symbol)	1	48" x 48"	16.0	16.0
W4-1	MERGE (symbol)	2	48" x 48"	16.0	32.0
W4-2	LEFT or RIGHT LANE ENDS (symbol)	2	48" x 48"	16.0	32.0
W20-1	ROAD WORK AHEAD	4	48" x 48"	16.0	64.0
W20-5	LEFT or RIGHT LANE CLOSED AHEAD	2	48" x 48"	16.0	32.0
G20-2	END ROAD WORK	2	48" x 24"	8.0	16.0
SPECIAL	Exit with ARROW	1	32" x 36"	8.0	8.0
		EXPRESSWAY / INTERSTATE TRAFFIC CONTROL SIGNS SQFT			**203.9**

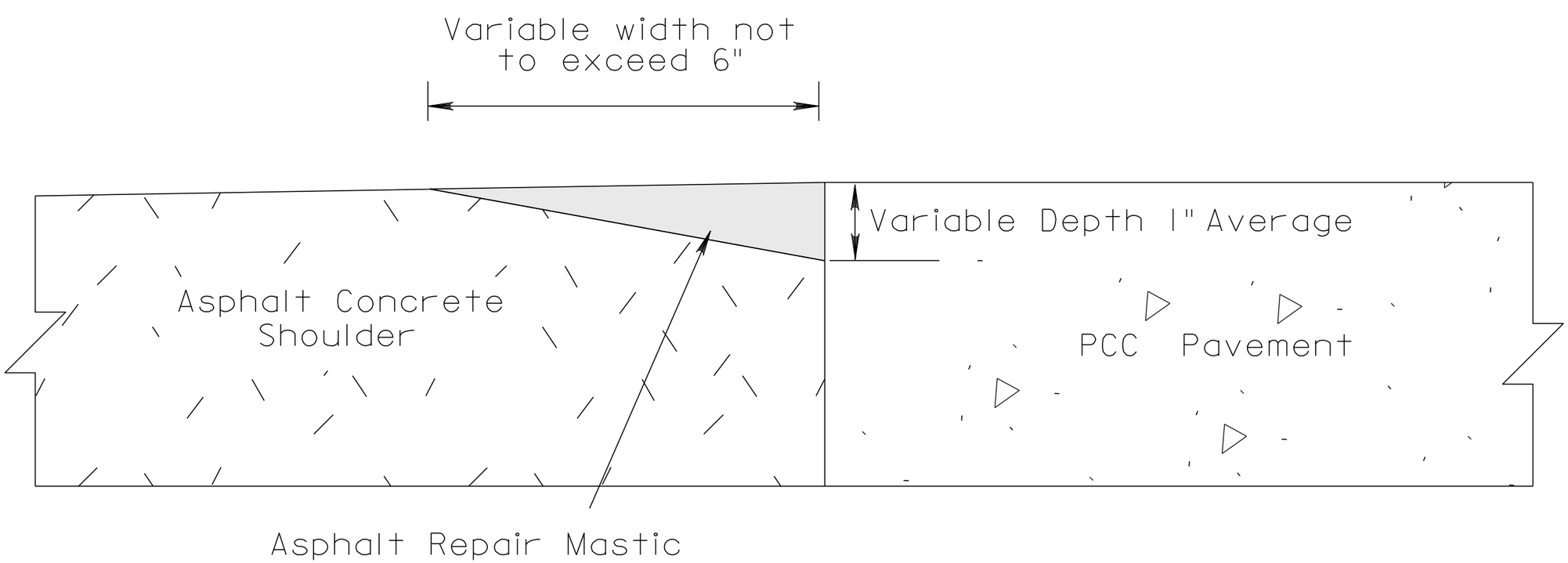
COORDINATION WITH OTHER PROJECTS

Grading and guardrail elimination project PH 0040(321), PCN 06AH is scheduled for the construction season of 2022. The location of this project is I-90 eastbound MRM 23 to 23.5 and I-90 westbound MRM 26.7 to 27.3. The Contractor on this project will coordinate with the Contractor on the grading and guardrail elimination project. All costs associated with this coordination will be incidental to the various bid items on the project.

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	090E-451 & 090W-451	4	7

Plotting Date: 03/18/2022

TYPICAL SECTION FOR CRACK LEVELING ALONG PCC PAVEMENT



Plot Scale - 1:200

- Plotted From - TRRC11951

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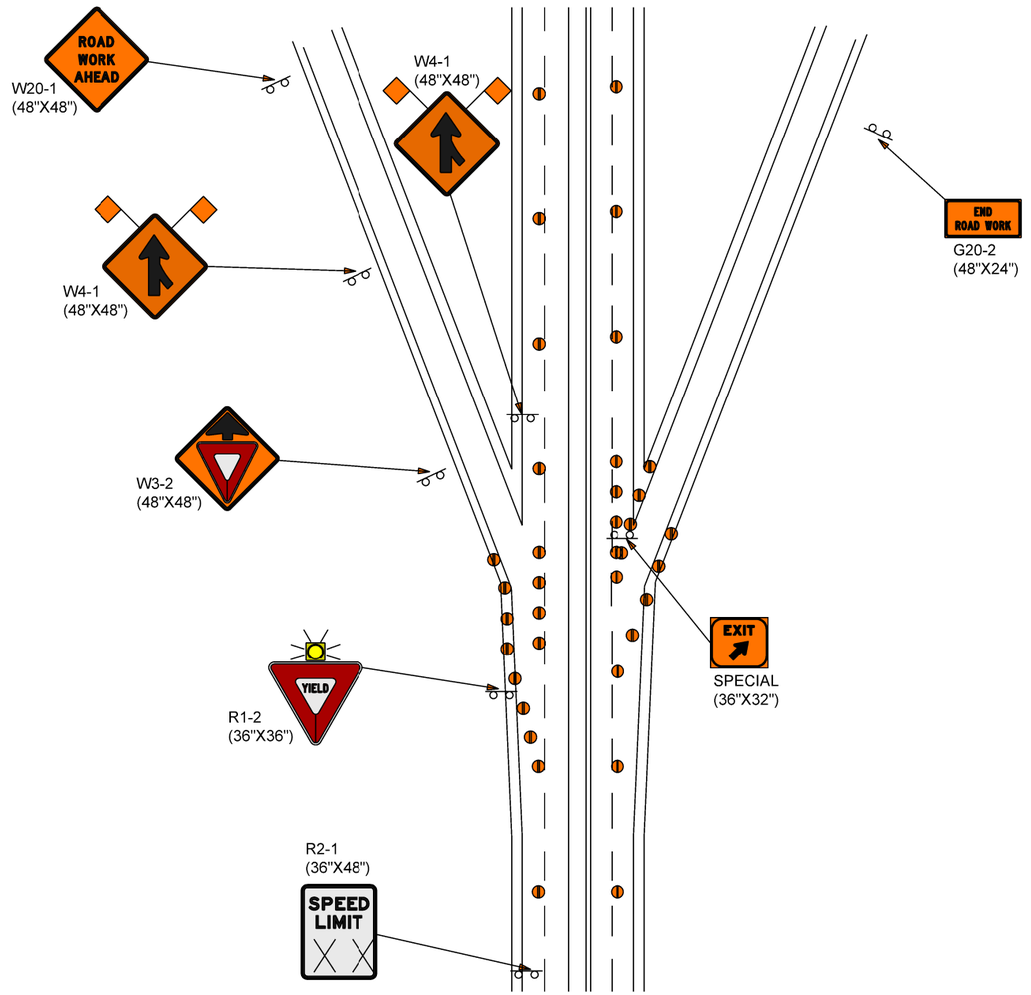
STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	090E-451 & 090W-451	5	7

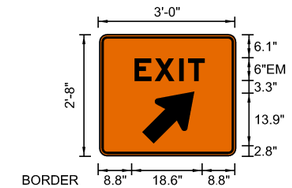
Plotting Date: 09/18/2018

TRAFFIC CONTROL

RAMP ENTRANCE AND EXIT SIGNING DETAILS #1



USE APPROPRIATE SPEED LIMIT



BORDER
R=1.5"
TH=0.63"
IN=0.47"

Panel Style: construction_guide.ssi
M.U.T.C.D.: 2009 Edition

-- THE WARNING LIGHT SHALL BE A SHIELDED TYPE B, IN ACCORDANCE WITH THE MUTCD

Plot Scale - 1:40

Plotted From - TRRC16968

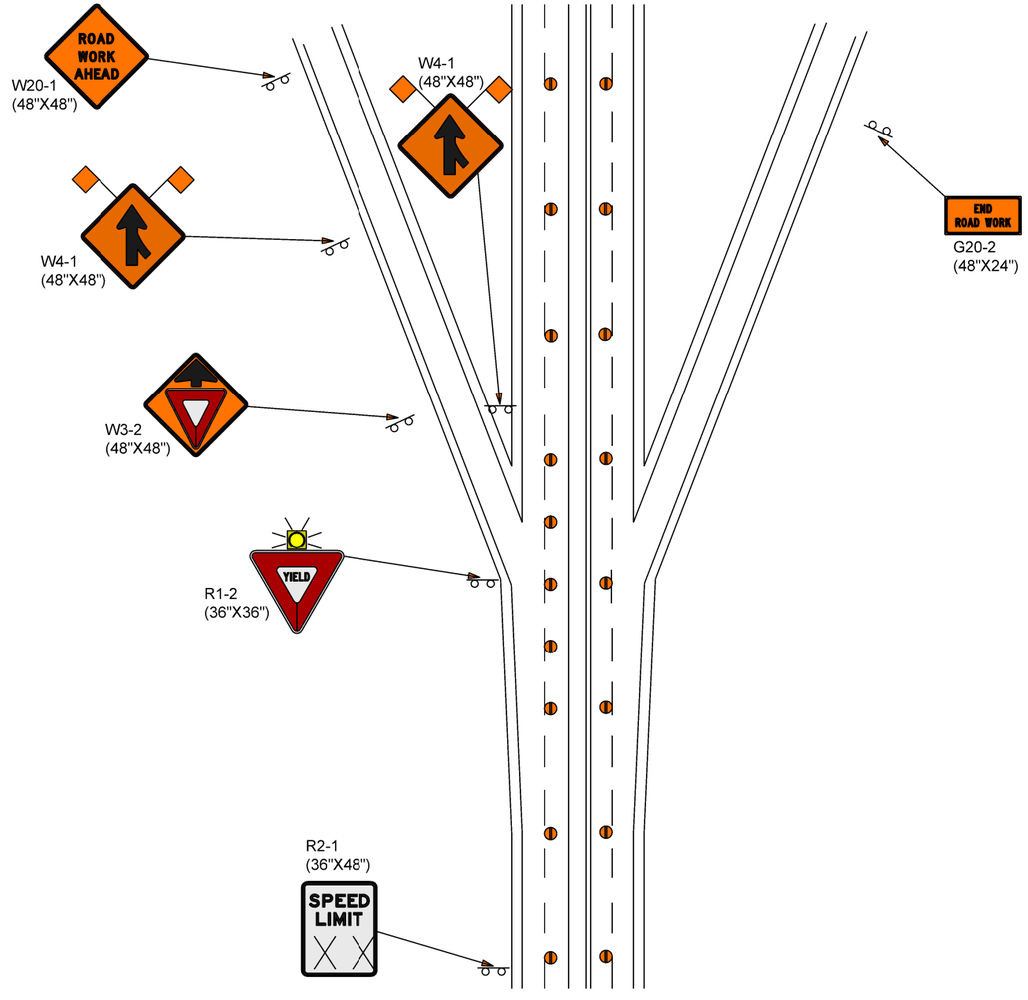
File - ...\Typical ramp signing details.dgn

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	090E-451 & 090W-451	6	7

Plotting Date: 09/18/2018

TRAFFIC CONTROL

RAMP ENTRANCE AND EXIT SIGNING DETAILS #2



USE APPROPRIATE SPEED LIMIT

-- THE WARNING LIGHT SHALL BE A SHIELDED TYPE B, IN ACCORDANCE WITH THE MUTCD

Plot Scale - 1:40

Plotted From - TRRC16968

File - ...\Typical ramp signing details.dgn

* Messages on signs will vary depending on the operation being conducted.

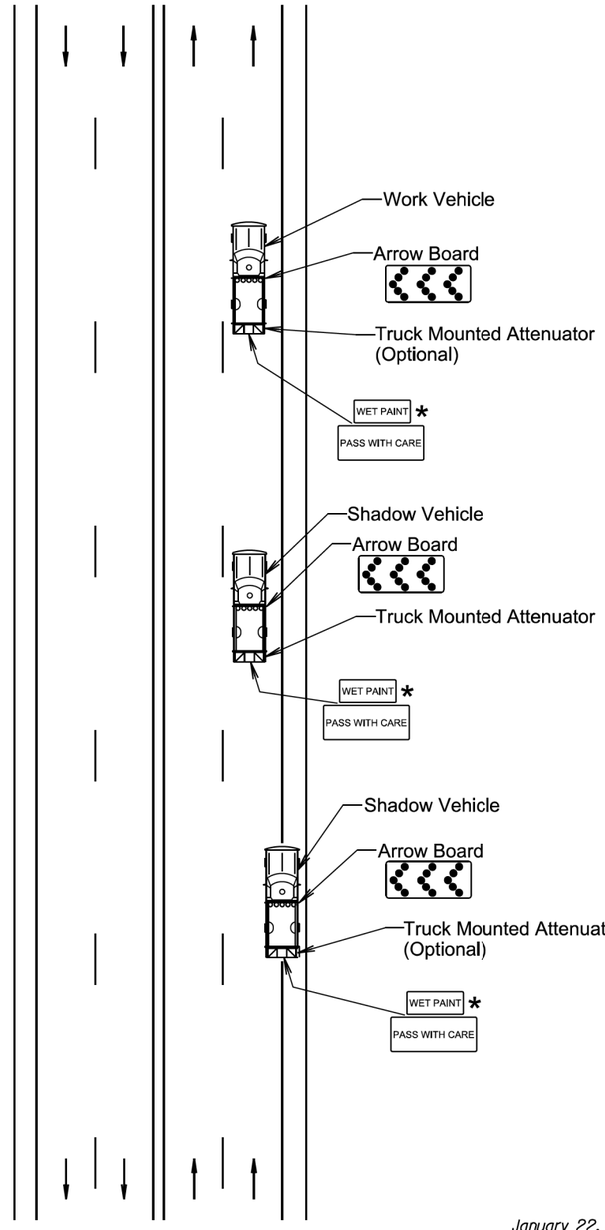
Vehicle-mounted signs will be mounted in a manner such that they are not obscured by equipment or supplies. Sign legends on vehicle-mounted signs will be covered or turned from view when work is not in progress.

Shadow and Work vehicles will display high-intensity rotating, flashing, oscillating, or strobe lights, flags, signs, or arrow boards.

Vehicle hazard warning signals will not be used instead of the vehicle's high-intensity rotating, flashing, oscillating, or strobe lights.

Arrow boards will, as a minimum, be Type B, with a size of 60" x 30".

All costs associated with the traffic control for mobile operation including signs, arrow boards and equipment will be incidental to the contract lump sum price for "Traffic Control, Miscellaneous".



January 22, 2021

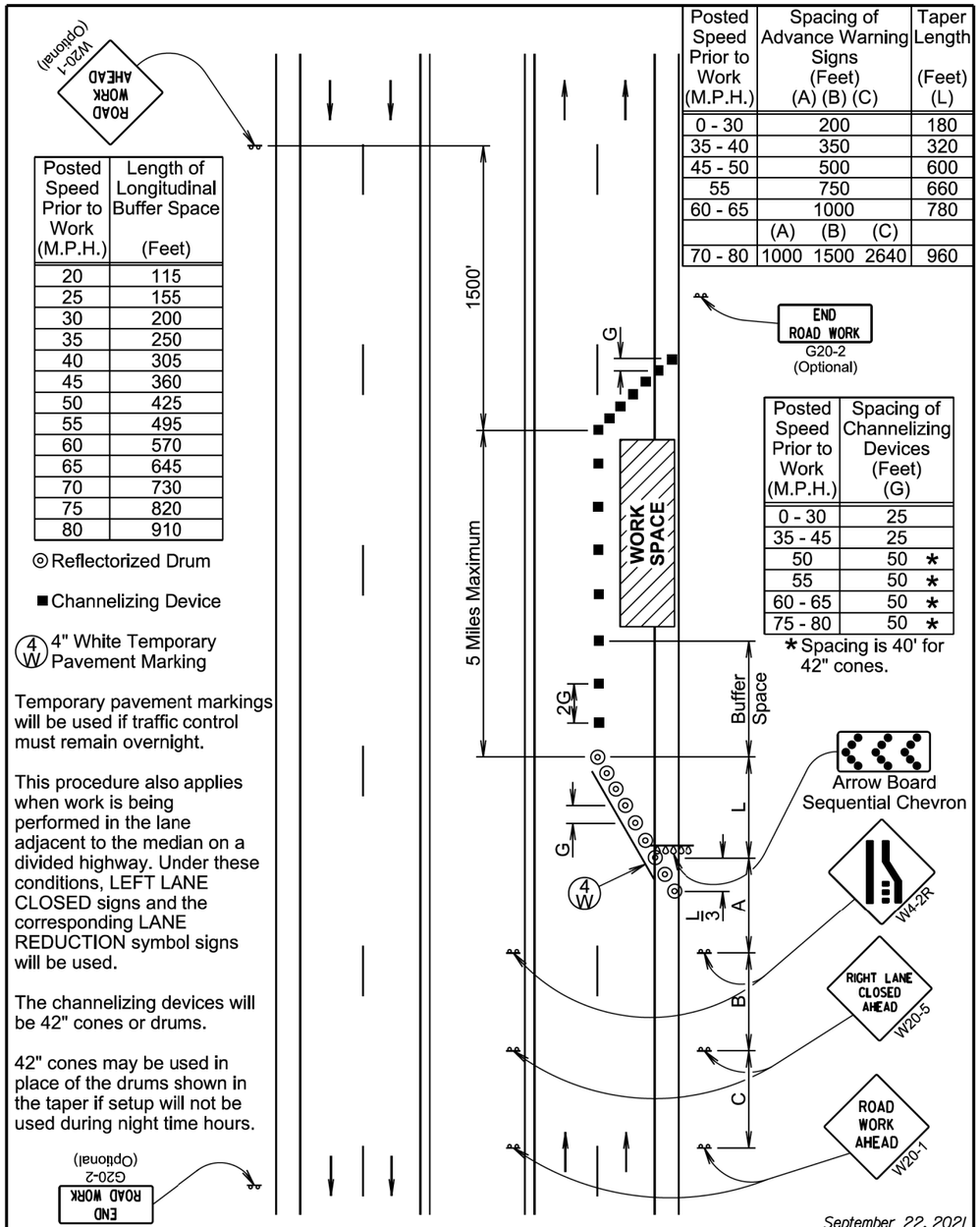
Published Date: 1st Qtr. 2022

SDDOT

MOBILE OPERATIONS ON MULTI-LANE HIGHWAYS

PLATE NUMBER 634.08

Sheet 1 of 1



Posted Speed Prior to Work (M.P.H.)	Length of Longitudinal Buffer Space (Feet)
20	115
25	155
30	200
35	250
40	305
45	360
50	425
55	495
60	570
65	645
70	730
75	820
80	910

◎ Reflectorized Drum

■ Channelizing Device

4 W 4" White Temporary Pavement Marking

Temporary pavement markings will be used if traffic control must remain overnight.

This procedure also applies when work is being performed in the lane adjacent to the median on a divided highway. Under these conditions, LEFT LANE CLOSED signs and the corresponding LANE REDUCTION symbol signs will be used.

The channelizing devices will be 42" cones or drums.

42" cones may be used in place of the drums shown in the taper if setup will not be used during night time hours.

Posted Speed Prior to Work (M.P.H.)	Spacing of Advance Warning Signs (Feet) (A) (B) (C)	Taper Length (Feet) (L)
0 - 30	200	180
35 - 40	350	320
45 - 50	500	600
55	750	660
60 - 65	1000	780
	(A) (B) (C)	
70 - 80	1000 1500 2640	960

Posted Speed Prior to Work (M.P.H.)	Spacing of Channelizing Devices (Feet) (G)
0 - 30	25
35 - 45	25
50	50 *
55	50 *
60 - 65	50 *
75 - 80	50 *

* Spacing is 40' for 42" cones.

September 22, 2021

Published Date: 1st Qtr. 2022

SDDOT

LANE CLOSURE WITHOUT BARRIER

PLATE NUMBER 634.64

Sheet 1 of 1

Plot Scale - 1:200

Plotted From - TRRC11951

File - ...\standard plates_l6n4.dgn