SD DOT	PROJECT	SECTION	SHEET
	090 E-452 & 090 W-452	Non	1/14

Plotting Date: 6/10/2025

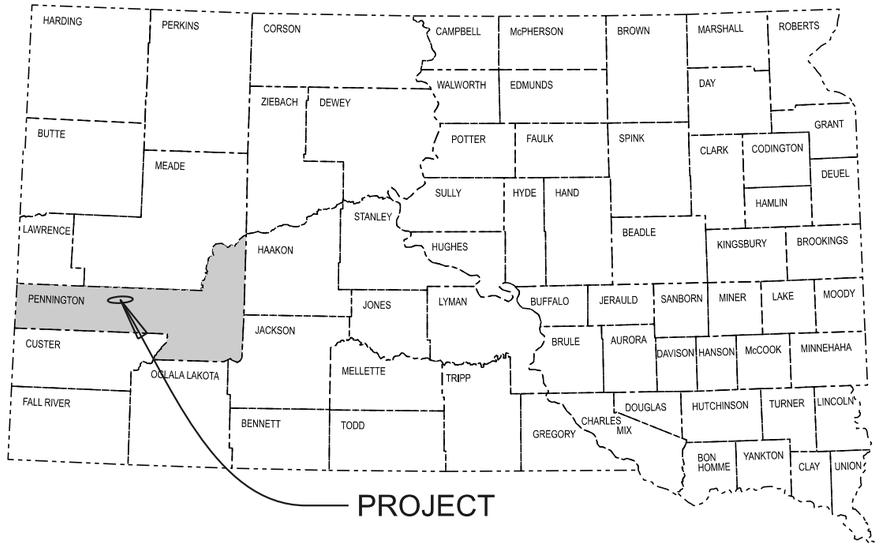
STATE OF SOUTH DAKOTA
DEPARTMENT OF TRANSPORTATION
PLANS FOR PROPOSED

090 E-452 & 090 W-452
INTERSTATE 90
PENNINGTON COUNTY

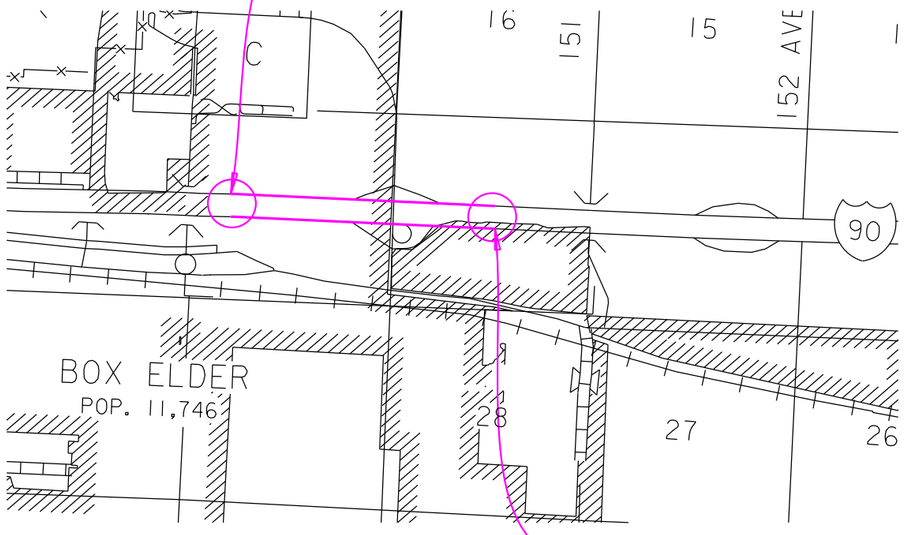
Microsurfacing

PCN i7XC & i7XD

INDEX OF SHEETS



BEGIN PROJECT
BEGIN MICROSURFACING
MRM 66.17+0.379 EB (Mileage 66.546)
MRM 66.17+0.379 WB (Mileage 66.575)



DESIGN DESIGNATION

ADT (2024)	9031
ADT (2044)	13087
DHV	1681
D	50.0%
T DHV	6.5%
T ADT	14.4%
V	65 MPH

END MICROSURFACING
MRM 67.55+0.316 EB (Mileage 67.891)
MRM 67.50+0.357 WB (Mileage 67.916)

BEGIN MICROSURFACING
MRM 80.00+0.500 EB (Mileage 80.616)
MRM 80.00+0.500 WB (Mileage 80.628)

DESIGN DESIGNATION

ADT (2024)	5508
ADT (2044)	7728
DHV	1428
D	51.0%
T DHV	9.4%
T ADT	20.7%
V	80 MPH

END PROJECT
END MICROSURFACING
MRM 83+0.000 EB (Mileage 83.144)
MRM 83+0.000 WB (Mileage 83.155)

STORM WATER PERMIT

No Permit Required

	I90 EASTBOUND	
Net Length	20449.4 Feet	3.873 Miles
	I90 WESTBOUND	
Net Length	20423.0 Feet	3.868 Miles

ESTIMATE OF QUANTITIES

Interstate 90 Eastbound, PCN i7XC

BID ITEM NUMBER	ITEM	QUANTITY	UNIT
009E0010	Mobilization	Lump Sum	LS
320E0310	CQS-1HP Asphalt Emulsion for Microsurfacing	27,522	Gal
320E4510	Mineral Aggregate for Microsurfacing	902.4	Ton
332E4000	Micro-Milling Asphalt Concrete	54,532	SqYd
633E0010	Cold Applied Plastic Pavement Marking, 4"	5,569	Ft
633E0025	Cold Applied Plastic Pavement Marking, 12"	1,295	Ft
633E1201	High Build Waterborne Pavement Marking Paint with Reflective Elements, White	108	Gal
633E1206	High Build Waterborne Pavement Marking Paint with Reflective Elements, Yellow	108	Gal
633E5000	Grooving for Cold Applied Plastic Pavement Marking, 4"	5,569	Ft
633E5010	Grooving for Cold Applied Plastic Pavement Marking, 12"	1,295	Ft
633E5100	Grooving for Durable Pavement Marking, 4"	40,899	Ft
634E0110	Traffic Control Signs	593.9	SqFt
634E0120	Traffic Control, Miscellaneous	Lump Sum	LS
634E0275	Type 3 Barricade	2	Each
634E0420	Type C Advance Warning Arrow Board	2	Each
634E0560	Remove Pavement Marking, 4" or Equivalent	4,341	Ft
634E0630	Temporary Pavement Marking	11.6	Mile
634E1255	Contractor Furnished Speed Monitoring Radar Trailer	2	Each

Interstate 90 Westbound, PCN i7XD

BID ITEM NUMBER	ITEM	QUANTITY	UNIT
009E0010	Mobilization	Lump Sum	LS
320E0310	CQS-1HP Asphalt Emulsion for Microsurfacing	27,486	Gal
320E4510	Mineral Aggregate for Microsurfacing	901.2	Ton
332E4000	Micro-Milling Asphalt Concrete	54,461	SqYd
633E0010	Cold Applied Plastic Pavement Marking, 4"	5,411	Ft
633E0025	Cold Applied Plastic Pavement Marking, 12"	965	Ft
633E1201	High Build Waterborne Pavement Marking Paint with Reflective Elements, White	108	Gal
633E1206	High Build Waterborne Pavement Marking Paint with Reflective Elements, Yellow	108	Gal
633E5000	Grooving for Cold Applied Plastic Pavement Marking, 4"	5,411	Ft
633E5010	Grooving for Cold Applied Plastic Pavement Marking, 12"	956	Ft
633E5100	Grooving for Durable Pavement Marking, 4"	40,846	Ft
634E0110	Traffic Control Signs	569.9	SqFt
634E0120	Traffic Control, Miscellaneous	Lump Sum	LS
634E0275	Type 3 Barricade	2	Each
634E0420	Type C Advance Warning Arrow Board	2	Each
634E0560	Remove Pavement Marking, 4" or Equivalent	3,200	Ft
634E0630	Temporary Pavement Marking	11.7	Mile
634E1255	Contractor Furnished Speed Monitoring Radar Trailer	2	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 B: FEDERALLY THREATENED, ENDANGERED, AND PROTECTED SPECIES

COMMITMENT B2: WHOOPING CRANE

The Whooping Crane is a spring and fall migratory bird in South Dakota that is about 5 feet tall and typically stops on wetlands, rivers, and agricultural lands along their migration route. An adult Whooping Crane is white with a red crown and a long, dark, pointed bill. Immature Whooping Cranes are cinnamon brown. While in flight, their long necks are kept straight and their long dark legs trail behind. Adult Whooping Cranes' black wing tips are visible during flight.

Action Taken/Required:

Harassment or other measures to cause the Whooping Crane to leave the site is a violation of the Endangered Species Act. If a Whooping Crane is sighted roosting in the vicinity of the project, borrow pits, or staging areas associated with the project, cease construction activities in the affected area until the Whooping Crane departs and immediately contact the Project Engineer. The Project Engineer will contact the Environmental Office so that the sighting can be reported to USFWS.

COMMITMENT E: STORM WATER

Construction activities constitute less than 1 acre of disturbance.

Action Taken/Required:

At a minimum and regardless of project size, appropriate erosion and sediment control measures must be installed to control the discharge of pollutants from the construction site.

COMMITMENT H: WASTE DISPOSAL SITE

The Contractor will furnish a site(s) for the disposal of construction and/or demolition debris generated by this project.

Action Taken/Required:

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 Agriculture 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 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 not to exceed the duration of the project. Prior to project completion, the waste will 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: HISTORIC PRESERVATION OFFICE CLEARANCES

The SDDOT has obtained concurrence with the State Historic 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 in 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 within 100 feet of the inadvertent discovery will immediately cease and the Project Engineer will be immediately notified. The Project Engineer will contact the SDDOT Environmental Office, who will contact the appropriate SHPO/THPO within 48 hours of the discovery to determine an appropriate course of action.

SHPO/THPO review does not relieve the Contractor of the responsibility 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.

MICRO-MILLING ASPHALT CONCRETE

Micro-milling asphalt concrete will be used to lower the high spots adjacent to the wheel ruts. The depth will be ½" max.. The depth may need to be increased some along the edge line to ensure the cross slope of the lane drains towards the shoulders.

Micro-milled material will become the property of the Contractor. Stockpiling, processing or crushing will not be required.

RATES OF MATERIALS FOR MICROSURFACING

The Estimate of Quantities is based on the following rates of material per mile. This is an estimate and will be adjusted as needed to eliminate wheel rutting on the project.

Scratch Course

Type: Microsurfacing – SDDOT Type II or III
Applied 22' wide in 2 – 11' wide passes

Aggregate For Microsurfacing - 106 Ton/mile

Asphalt For Microsurfacing - 3230 Gal/mile

Surface Course

Type: Microsurfacing – SDDOT Type II
Applied in 24 feet wide in 2 – 12' wide passes

Aggregate For Microsurfacing - 127 Ton/mile

Asphalt For Microsurfacing - 3876 Gal/mile

MICROSURFACING

The polymer modified emulsion used in the mixture shall be CQS-1hp.

The rates of materials are an estimate and will be adjusted as needed to level the wheel rutting on the project. The Engineer will check the lane with a straightedge to ensure rutting has been eliminated.

Microsurfacing will not be placed on any bridge and/or bridge approach slabs.

The Scratch Course will be used to fill ruts less than ½", surface depressions and surface irregularities to repair the surface prior to the Surface Course. The surface will be checked with a 10' straightedge. Surface variation will not exceed ¼". The steel plate will be set to drag off material from high spots to fill low spots.

Scratch Course Typical Section:

RUT LESS THAN ½"

MAY BE FILLED WITH SCRATCH COURSE.

THE SCRATCH COAT IS GENERALLY
6" LESS THAN THE WIDTH OF THE LANE

a) Scratch Coat Principle

TABLE OF MATERIAL QUANTITIES, PCN i7XC

Highway	MRM	to	MRM	Mileage	to	Mileage	Total Length	Micro-Milling Asphalt Concrete	CQS-1HP Asphalt Emulsion for Microsurfacing	Mineral Aggregate for Microsurfacing
							(miles)	(SqYd)	(Gal)	(ton)
I90 E	66.17+0.379		67.55+0.316	66.546		67.891	1.345	18938	9558	313.4
	80.00+0.500		83+0.000	80.616		83.144	2.528	35594	17964	589.0
						Totals	**3.873**	**54532**	**27522**	**902.4**

TABLE OF MATERIAL QUANTITIES, PCN i7XD

Highway	MRM	to	MRM	Mileage	to	Mileage	Total Length	Micro-Milling Asphalt Concrete	CQS-1HP Asphalt Emulsion for Microsurfacing	Mineral Aggregate for Microsurfacing
							(miles)	(SqYd)	(Gal)	(ton)
I90 W	66.17+0.379		67.55+0.357	66.575		67.916	1.341	18881	9529	312.5
	80.00+0.500		83+0.000	80.628		83.155	2.527	35580	17957	588.8
						Totals	**3.868**	**54461**	**27486**	**901.2**

COLD APPLIED PLASTIC PAVEMENT MARKING

All materials will be applied as per the manufacturer's recommendations.

Cold Applied Plastic Pavement Markings will be 3M Series 380 IES or an approved equal.

HIGH BUILD WATERBORNE PAVEMENT MARKING PAINT

All materials will be applied as per manufacturer's recommendations. High build waterborne pavement marking paint will conform to the supplemental specifications for Section 980.1 B.

Reflective media consisting of glass beads as well as wet-reflective optics will be adhered to the paint.

The wet-reflective optics will contain either clear, white, amber, or yellow tinted beads composed of glass or a composite consisting of a core made from ceramic or glass with an outer layer of microcrystalline ceramic or glass beads. The wet-reflective optics will provide a 50/50 blend of dry to wet ratio of optics. All beads bonded to wet-reflective optics will have a minimum index of refraction of 1.8 for dry retroreflectivity and 2.4 for wet retroreflectivity when tested using the liquid oil immersion method.

Reflective media will require a Certificate of Compliance for Certification for each type, source, and lot. Acceptance sampling will not be required.

The Department will take retroreflectivity readings on the pavement marking lines no sooner than 3 days and no later than 30 days after the completion of all line applications required for an individual highway route using a portable retroreflectometer conforming to 30-meter geometry. Retroreflectivity readings will be taken on a test location with cleaning being limited to light hand brooming.

Pavement markings not conforming to the retroreflectivity requirements will be removed and replaced. If replacement of markings cannot be applied within the same year, the Contractor will schedule subject work to be completed no later than June 15th in the following year. Upon replacement, the retroreflectivity testing process will be done again requiring new readings.

The Department will randomly select one test location per mile of each edge line including ramps and one test location per mile of centerline (solid and/or skip line will be considered as one centerline). Three retroreflectivity readings will be taken at each test location. The three readings will be averaged and become the reading for that test location.

Initial readings:

Pavement Marking Color	Minimum Value
White	350 mc/m^2/lux
Yellow	275 mc/m^2/lux

All pavement markings not conforming to the requirements provided in these plans will be considered deficient and will be removed and replaced. Additional retroreflectivity readings will be taken by the Department to determine the limits of removal. The removal will be accomplished using suitable sand blasting or grinding equipment unless the Engineer authorizes other means. The removal process will remove at least 90% of the deficient line, with no excessive scarring of the existing pavement. The removal width will be one inch wider all around the nominal width of the pavement marking to be removed. Removal and replacement of the pavement markings will be at the Contractor's expense, with no cost incurred by the State.

RATES OF MATERIALS FOR HIGH BUILD WATERBORNE PAVEMENT MARKING PAINT

Solid 4" line = 27.8 Gals/Mile
Dashed 4" line = 7.6 Gal/Mile
Glass Beads = 5.3 Lbs/Gal.
Wet-Reflective Optics = 2.1 Lbs/Gal.

All cost for materials, labor, and equipment necessary to furnish and install the pavement markings will be incidental to the contract unit price for the respective High Build Waterborne Pavement Marking Paint items.

GROOVING FOR COLD APPLIED PLASTIC PAVEMENT MARKING

The Contractor will establish a positive means for the removal of the grinding and/or grooving residue. Residue from dry grooving will be vacuumed. Solid residue will be removed from the pavement surfaces before being blown by traffic action or wind. The Contractor will conduct this work to control and minimize airborne dust and similar debris that may become a hazard to motor vehicle operation or nuisance to property owners. Residue from wet grooving will not be permitted to flow across lanes being used by public traffic or into gutter or drainage facilities. Residue, whether in solid or slurry form, will be disposed of in a manner that will prevent it from reaching any waterway in a concentrated state. The cleaning of the residue for grooving will be to the satisfaction of the Engineer and may require more than one pass to adequately remove material. All costs for removal of grinding and/or grooving residue will be included in the contract unit price per foot for "Grooving for Cold Applied Plastic Pavement Marking" contract items.

GROOVING FOR HIGH BUILD WATERBORNE PAVEMENT MARKING PAINT

The Contractor will establish a positive means for the removal of the grinding and/or grooving residue. Residue from dry grooving will be vacuumed. Solid residue will be removed from the pavement surfaces before being blown by traffic action or wind. The Contractor will conduct this work to control and minimize airborne dust and similar debris that may become a hazard to motor vehicle operation or nuisance to property owners. Residue from wet grooving will not be permitted to flow across lanes being used by public traffic or into gutter or drainage facilities. Residue, whether in solid or slurry form, will be disposed of in a manner that will prevent it from reaching any waterway in a concentrated state. All costs for removal of grinding and/or grooving residue will be included in the contract unit price per foot for "Grooving for Durable Pavement Marking" contract items.

Unless otherwise specified in the plans, the Contractor will groove the surface for High Build Waterborne Pavement Marking Paint as specified in these plans and as per the manufacturer's instructions.

The grooving will be completed within the following tolerances:

Description	Specification	Tolerance
Depth of Groove	Marking Thickness[1] + 15 mils	+ 5 mils
Width of Groove	5 to 6 inches	
Length of Skip Lines[2]	10 foot 6 inches	± 3 inch
Tapers at ends of lines	6 to 9 inches	
Between Double Lines	4 inches	± 1/2 inch

[1] Marking thickness will include the thickness of marking material and reflective media.
[2] Additional length may be required as specified in the plans.

The equipment will be capable of the following:

- Grooving the total width of the groove in one pass or uniform depths with multiple passes.
- Grooving without causing damage to the pavement joints or joint sealant material.
- Provide uniform alignment and depth.
- Moving continuously to permit a mobile traffic work operation.

If damage occurs, including, but not limited to, joints, joint sealant material, and backer rod, the grooving operation will be stopped and modifications will be made to the grooving operation to prevent further damage. The Contractor will be required to use specially prepared circular diamond blade cutting heads to prevent damage at the joints. Damage caused will be repaired or replaced by the Contractor, as directed by the Engineer. No additional payment will be made for the repair work or any reapplication of the pavement marking in the area of the repair.

TABLE OF PAVEMENT MARKING, PCN i7XC

Description	Ramp Type	MRM	to	MRM	Mileage	to	Mileage	Total Route Length	Total Route Length	Ramp Pavement Marking Length	Remove Pavement Marking, 4" or Equivalent	Grooving for Durable Pavement Marking, 4"	Grooving for Cold Applied Plastic Pavement Marking, 4"	Grooving for Cold Applied Plastic Pavement Marking, 12"	Cold Applied Plastic Pavement Marking, 4"	Cold Applied Plastic Pavement Marking, 12"	High Build Waterborne Pavement Marking Paint with Reflective Elements, Yellow	High Build Waterborne Pavement Marking Paint with Reflective Elements, White	Temporary Pavement Marking
								(miles)	(Ft)	(Ft)	(Ft)	(Ft)	(Ft)	(Ft)	(Ft)	(Ft)	(Gal)	(Gal)	(Mile)
I90 E		66.17+0.379		67.55+0.316	66.546		67.891	1.345	7102			14203	1775		1775		37	37	4.0
		80.00+0.500		83+0.000	80.616		83.144	2.528	13348			26696	3337		3337		70	70	7.6
I90 E, Exit 67A Off Ramp Skips	Tapered									340	85		85		85				
I90 E, Exit 67A Off Ramp Gore										445	1335			445		445			
I90 E, Exit 67B Off Ramp Skips	Tapered									685	171		171		171				
I90 E, Exit 67B Off Ramp Gore										190	570			190		190			
I90 E, Exit 67 On Ramp Gore	Tapered									660	1980			660		660			
I90 E, Exit 67 On Ramp Skips										800	200		200		200				
							Totals:	3.873	20449	3120	4341	40899	5569	1295	5569	1295	108	108	11.6

TABLE OF PAVEMENT MARKING, PCN i7XD

Description		MRM	to	MRM	Mileage	to	Mileage	Total Route Length	Total Route Length	Ramp Pavement Marking Length	Remove Pavement Marking, 4" or Equivalent	Grooving for Durable Pavement Marking, 4"	Grooving for Cold Applied Plastic Pavement Marking, 4"	Grooving for Cold Applied Plastic Pavement Marking, 12"	Cold Applied Plastic Pavement Marking, 4"	Cold Applied Plastic Pavement Marking, 12"	High Build Waterborne Pavement Marking Paint with Reflective Elements, Yellow	High Build Waterborne Pavement Marking Paint with Reflective Elements, White	Temporary Pavement Marking
								(miles)	(Ft)	(Ft)	(Ft)	(Ft)	(Ft)	(Ft)	(Ft)	(Ft)	(Gal)	(Gal)	(Mile)
I90 W		66.17+0.379		67.55+0.357	66.575		67.916	1.341	7080			14161	1770		1770		37	37	4.0
		80.00+0.500		83+0.000	80.628		83.155	2.527	13343			26685	3336		3336		70	70	7.6
I90 W, Exit 67 On Ramp Skips	Tapered									880	220		220		220				
I90 W, Exit 67 On Ramp Gore										630	1890			630		630			
I90 W, Exit 67 Off Ramp Gore	Tapered									335	1005			335		335			
I90 W, Exit 67 Off Ramp Skips										340	85		85		85				
Totals								3.868	20423	2185	3200	40846	5411	965	5411	965	108	108	11.7

The ramp pavement marking that exists along the right side of the driving lane will be disturbed during microsurfacing operations. Quantities to replace this pavement marking are provided in the table above.

SEQUENCE OF OPERATIONS

The Contractor will submit a sequence of operations for approval two weeks prior to the preconstruction meeting. If changes to the sequence of operations are proposed during the project, these must be submitted for review a minimum of one week prior to potential implementation. Approval for changes to the sequence of operations will only be allowed when the proposed changes meet with the Department's intent for traffic control and sequencing of the work.

The following requirements/restrictions will apply:

- All lane closures will be removed from the roadway prior to nightfall.

- All temporary pavement markings will be in place prior to the removal of the lane closures.

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.

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.

Fixed location signing placed more than 4 calendar days prior to the start of construction will be covered or laid down until the time of construction. The covers must be approved by the Engineer prior to installation. The cost of materials, labor, and equipment necessary to complete this work will be incidental to other contract items. No separate payment will be made.

All fixed location signs, sign posts, and breakaway bases will be removed within 7 calendar days following pavement marking.

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.

A Type 3 Barricade will be installed at the end of a lane closure taper as detailed in these plans.

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

LANE CLOSURES

Interstate lane closures shorter than 5 miles will be used if 5 miles is greater than the length of work that can be accomplished in one day's production. More than one lane closure may be permitted; however, there will be a minimum of a three-mile section between lane closures, excluding the tapers.

WORK ZONE SPEED REDUCTION

The Department is required to obtain a speed reduction resolution prior to the installation of any SPEED LIMIT (R2-1) signs shown on standard plate 634.63. To provide adequate time for the resolution to be enacted, the Contractor will inform the Engineer a minimum of 3 weeks prior to the scheduled installation of any work zone speed reduction signs on the project. The information provided by the Contractor will include the anticipated date of sign installation, the newly reduced speed limit, the location of the work zone, and the anticipated completion date of work requiring the speed reduction.

CONTRACTOR FURNISHED SPEED MONITORING RADAR TRAILER

The Contractor will provide 4 radar speed feedback trailers to monitor traffic speeds on designated routes at locations specified in the field by the Engineer.

The radar speed feedback sign assembly will include a speed limit sign mounted in conjunction with the radar speed feedback display. The speed display will not flash vehicle speeds exceeding the speed limit or any other messages.

All costs associated with furnishing, maintaining, transporting, relocating if necessary, and removing the radar speed feedback trailers from locations specified by the Engineer will be incidental to the contract unit price per each for "Contractor Furnished Speed Monitoring Radar Trailer".

TEMPORARY PAVEMENT MARKING

Temporary Pavement Marking Paint will be used for centerlines, lane lines, skips, and as directed by the Engineer. The Temporary Pavement Marking Paint will be placed at the location of the existing pavement markings. It will be the Contractor's responsibility to determine which direction to offset so that the markings do not get covered up when the first half of the roadway is paved. Any markings that get covered by the paving operation will be reestablished as directed by the Engineer at the Contractor's expense. The Contractor will be responsible for marking out those exact locations.

Quantities of Temporary Pavement Markings consist of:

One pass on top of the milled surface
One pass on top of the scratch course
One pass on top of the surface course

PRESS RELEASE ANNOUNCEMENTS

The SDDOT will prepare a press release to be released 5 days prior to any phase change or any other major change that affects traffic flow. The SDDOT will be responsible to keep law enforcement, emergency services, and the traveling public notified of changes in project access. The Contractor will provide the Engineer with pertinent information 7 days prior to any phase change or any other major change that affects traffic flow.

ITEMIZED LIST FOR TRAFFIC CONTROL SIGNS

Interstate 90 Eastbound, PCN i7XC

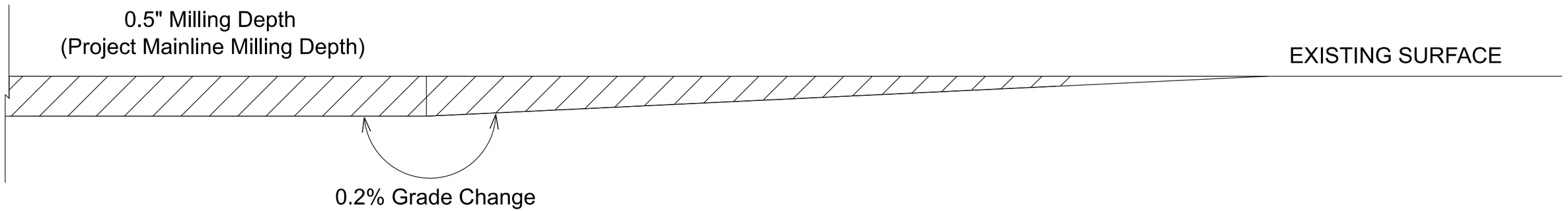
		EXPRESSWAY / INTERSTATE			
SIGN CODE	SIGN DESCRIPTION	NUMBER	SIGN SIZE	SQFT PER SIGN	SQFT
R1-2	YIELD	1	36"	3.9	3.9
R2-1	SPEED LIMIT 80	2	36" x 48"	12.0	24.0
R2-1	SPEED LIMIT 65	6	36" x 48"	12.0	72.0
R2-1	SPEED LIMIT 45	5	36" x 48"	12.0	60.0
R2-6aP	FINES DOUBLE (plaque)	3	36" x 24"	6.0	18.0
W3-2	YIELD AHEAD (symbol)	1	48" x 48"	16.0	16.0
W3-5	SPEED REDUCTION AHEAD (60 MPH)	4	48" x 48"	16.0	64.0
W3-5	SPEED REDUCTION AHEAD (45 MPH)	2	48" x 48"	16.0	32.0
W4-1	MERGE (symbol)	2	48" x 48"	16.0	32.0
W4-2	LEFT or RIGHT LANE ENDS (symbol)	4	48" x 48"	16.0	64.0
W20-1	ROAD WORK AHEAD	5	48" x 48"	16.0	80.0
W20-5	LEFT or RIGHT LANE CLOSED AHEAD	4	48" x 48"	16.0	64.0
SPECIAL	EXIT __ (1 or 2 digits) (45º ARROW)	2	48" x 48"	16.0	32.0
G20-2	END ROAD WORK	4	48" x 24"	8.0	32.0
		EXPRESSWAY / INTERSTATE TRAFFIC CONTROL SIGNS SQFT			593.9

Interstate 90 Westbound, PCN i7XD

		EXPRESSWAY / INTERSTATE			
SIGN CODE	SIGN DESCRIPTION	NUMBER	SIGN SIZE	SQFT PER SIGN	SQFT
R1-2	YIELD	1	36"	3.9	3.9
R2-1	SPEED LIMIT 80	2	36" x 48"	12.0	24.0
R2-1	SPEED LIMIT 65	6	36" x 48"	12.0	72.0
R2-1	SPEED LIMIT 45	5	36" x 48"	12.0	60.0
R2-6aP	FINES DOUBLE (plaque)	3	36" x 24"	6.0	18.0
W3-2	YIELD AHEAD (symbol)	1	48" x 48"	16.0	16.0
W3-5	SPEED REDUCTION AHEAD (60 MPH)	4	48" x 48"	16.0	64.0
W3-5	SPEED REDUCTION AHEAD (45 MPH)	2	48" x 48"	16.0	32.0
W4-1	MERGE (symbol)	2	48" x 48"	16.0	32.0
W4-2	LEFT or RIGHT LANE ENDS (symbol)	4	48" x 48"	16.0	64.0
W20-1	ROAD WORK AHEAD	5	48" x 48"	16.0	80.0
W20-5	LEFT or RIGHT LANE CLOSED AHEAD	4	48" x 48"	16.0	64.0
SPECIAL	EXIT __ (1 or 2 digits) (45º ARROW)	1	48" x 48"	16.0	16.0
G20-2	END ROAD WORK	3	48" x 24"	8.0	24.0
		EXPRESSWAY / INTERSTATE TRAFFIC CONTROL SIGNS SQFT			569.9

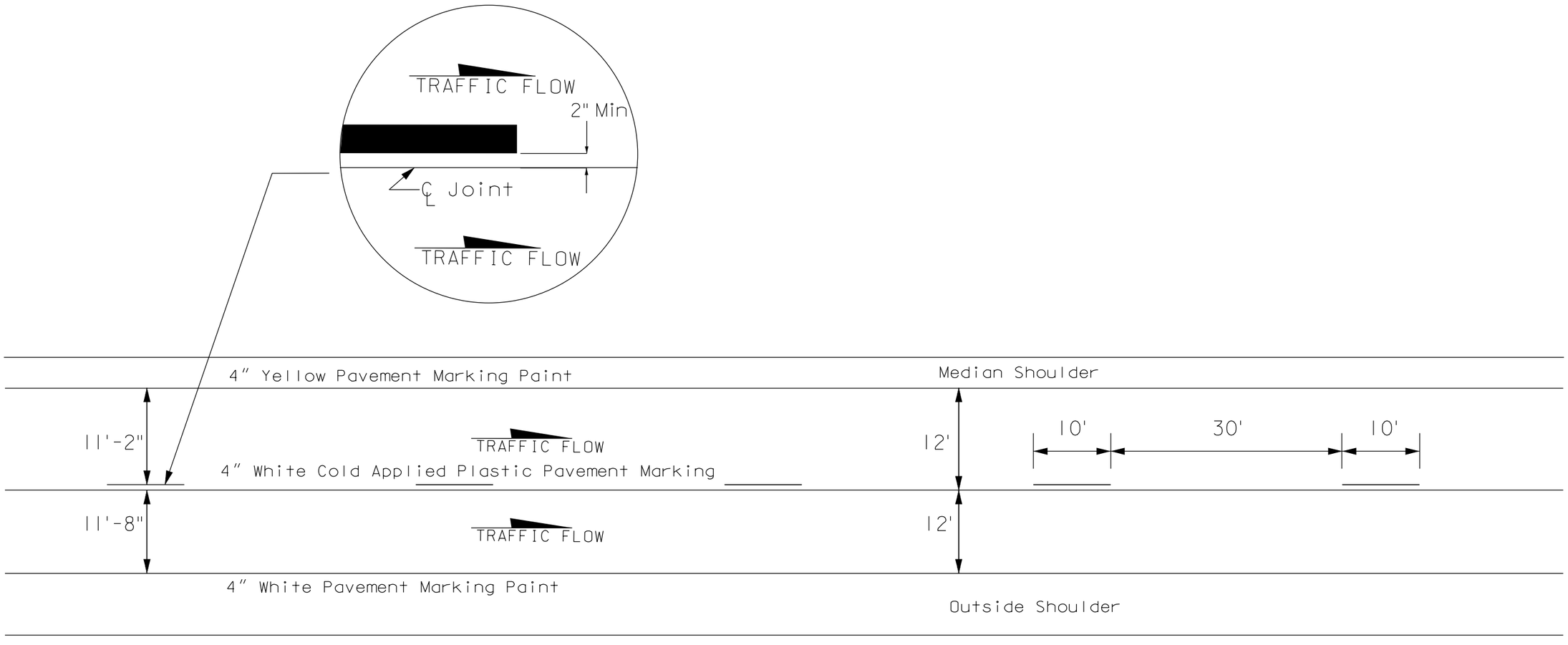
MICRO MILLING ASPHALT CONCRETE PROFILE TO MATCH EXISTING SURFACES AT BEGINNING AND END OF PROJECT.

MICRO MILLING DEPTH TRANSITION LENGTH
(40' per 1" milling depth change)



Micro Milling

I-90 PAVEMENT MARKING LAYOUT
(4 LANE DIVIDED)

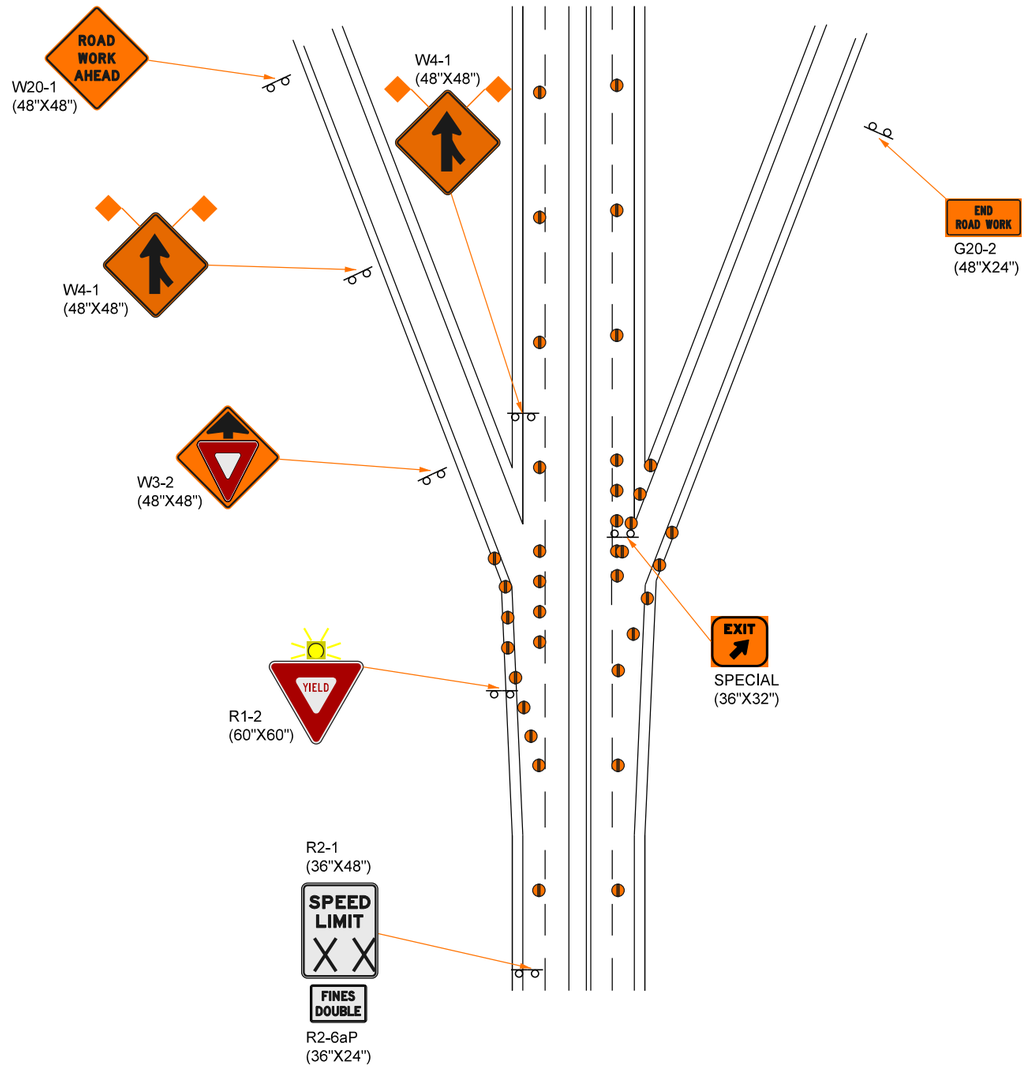


SD DOT	PROJECT	SECTION	SHEET
	090 E-452 & 090 W-452	Non	10/14

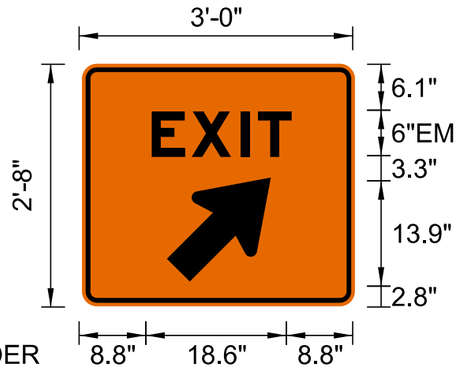
Plotting Date: 5/16/2025

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

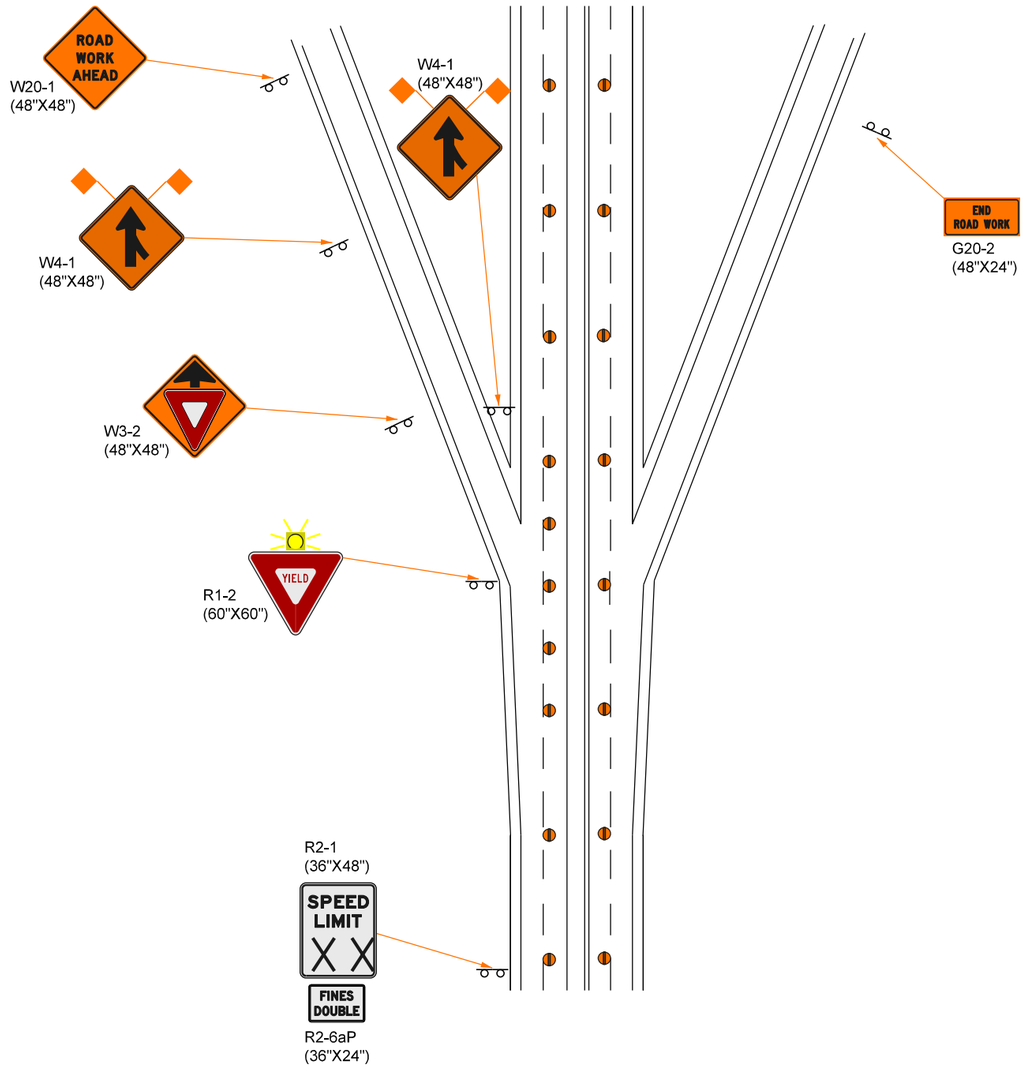
THE WARNING LIGHT WILL BE A SHIELDED TYPE B, IN ACCORDANCE WITH THE MUTCD

SD DOT	PROJECT	SECTION	SHEET
	090 E-452 & 090 W-452	Non	11/14

Plotting Date: 5/16/2025

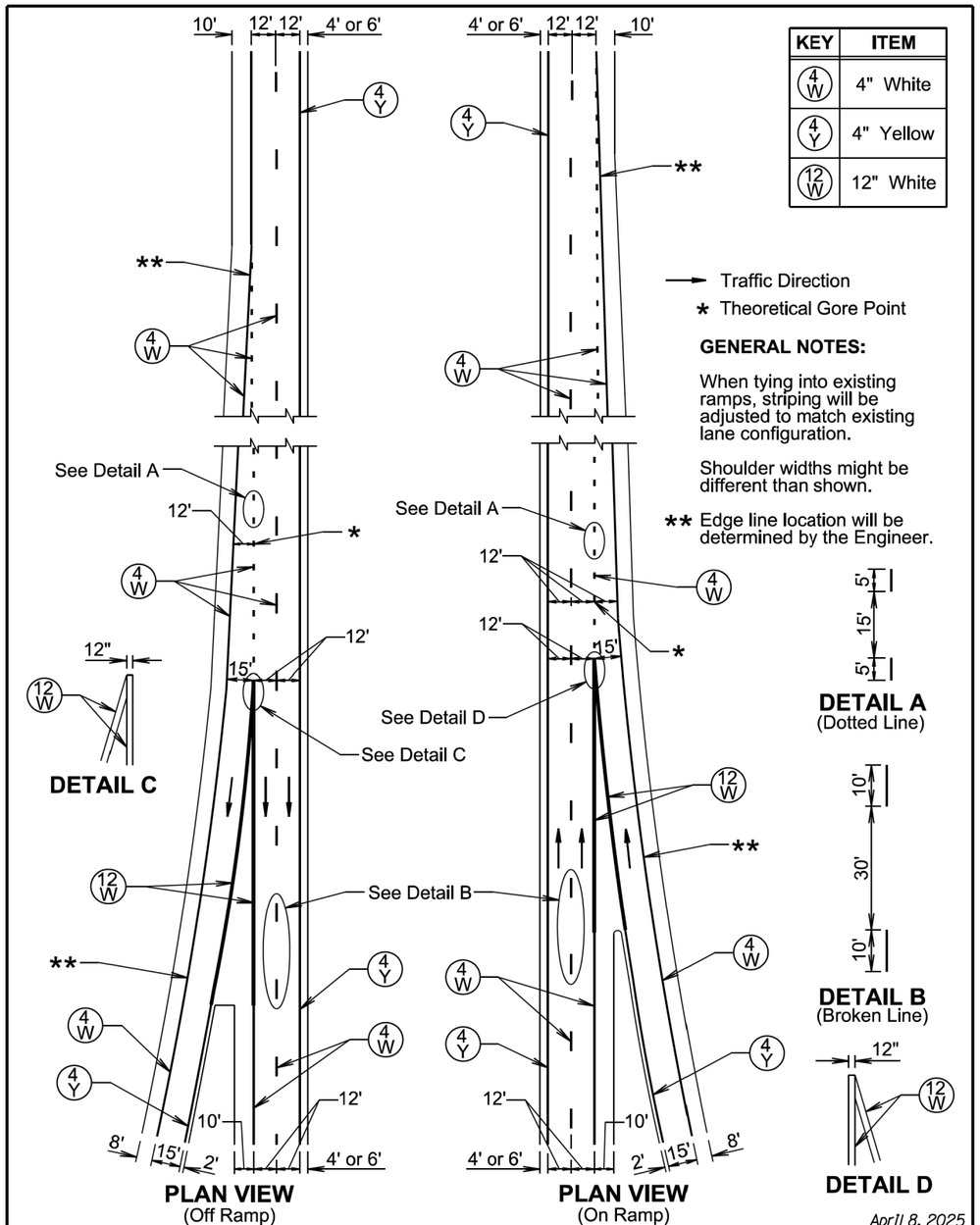
TRAFFIC CONTROL

RAMP ENTRANCE AND EXIT SIGNING DETAILS #2



USE APPROPRIATE SPEED LIMIT

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



KEY	ITEM
4 W	4" White
4 Y	4" Yellow
12 W	12" White

Traffic Direction

* Theoretical Gore Point

GENERAL NOTES:

When tying into existing ramps, striping will be adjusted to match existing lane configuration.

Shoulder widths might be different than shown.

** Edge line location will be determined by the Engineer.

April 8, 2025

Published Date: 2026	SDDOT	PAVEMENT MARKING LAYOUT FOR TAPERED INTERSTATE RAMPS	PLATE NUMBER 633.05
			Sheet 1 of 1

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

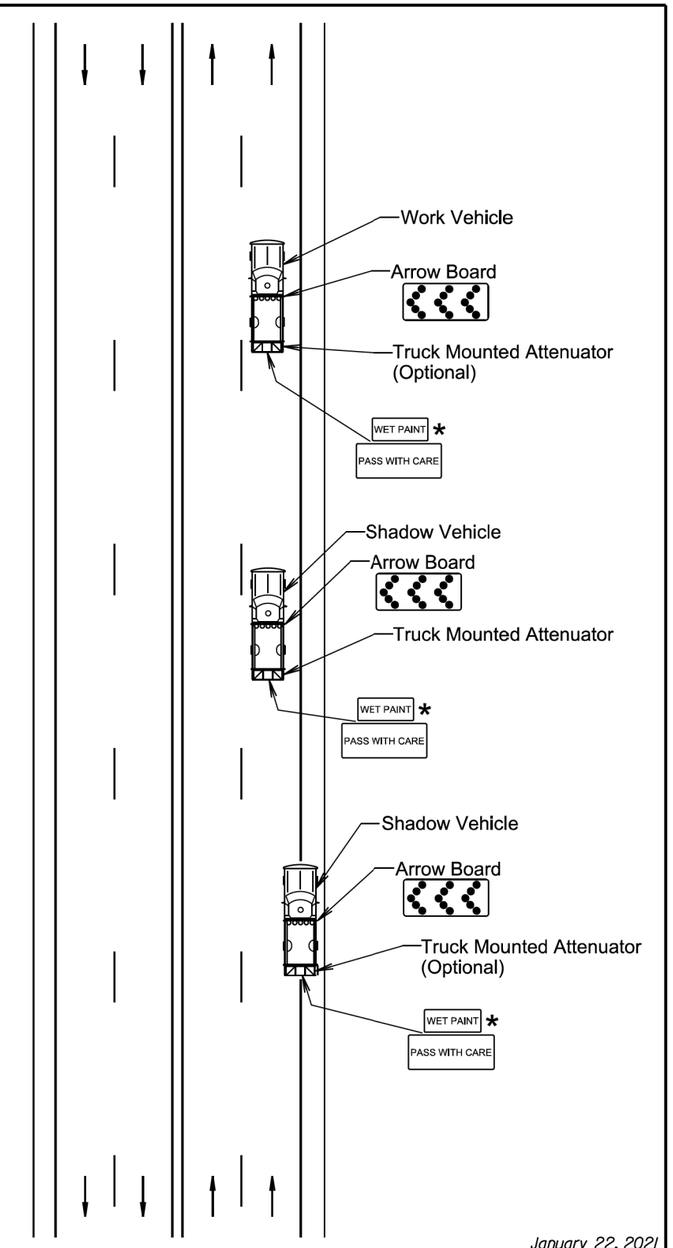
Vehicle-mounted signs will be mounted in a manner such that they are not obscured by equipment or supplies. Sign legends on vehicle-mounted signs will be covered or turned from view when work is not in progress.

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: 2026	SDDOT	MOBILE OPERATIONS ON MULTI-LANE HIGHWAYS	PLATE NUMBER 634.08
			Sheet 1 of 1

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

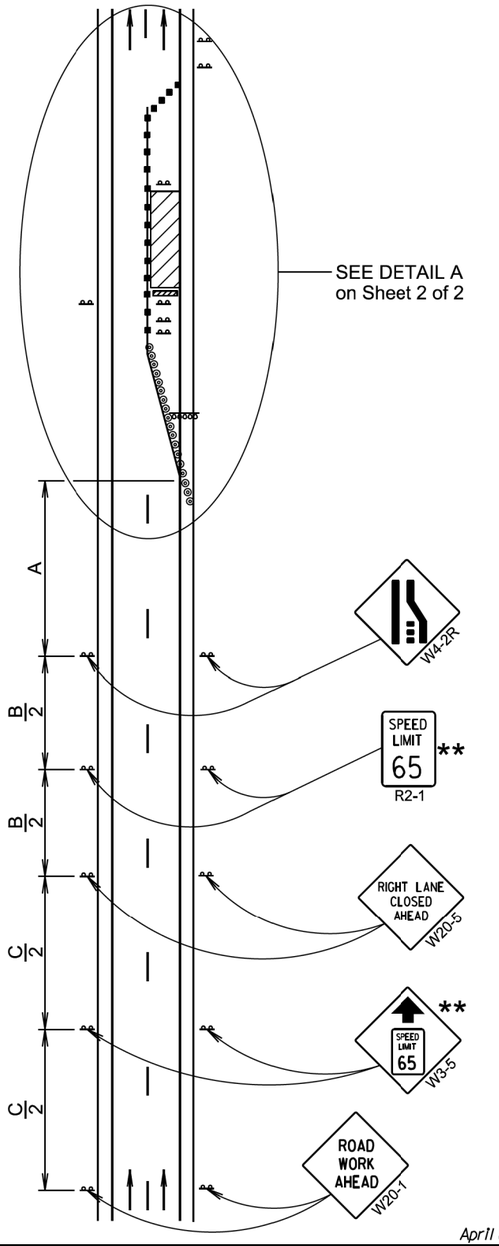
** Speed appropriate for location.

◎ Reflectorized Drum

▪ Channelizing Device

ROAD WORK AHEAD sign is only required in advance of the first lane closure.

High speed is defined as having a posted speed limit greater than 45 mph.



April 8, 2025

Published Date: 2026	SDDOT	WORK ZONE SPEED REDUCTION FOR INTERSTATE AND HIGH SPEED MULTI-LANE HIGHWAYS	PLATE NUMBER 634.63
			Sheet 1 of 2

Posted Speed Prior to Work (M.P.H.)	Spacing of Channelizing Devices (Feet) (G)	Taper Length (Feet) (L)
0 -30	25	180
35 - 40	25	320
45	25	600
50	50 *	600
55	50 *	660
60 - 65	50 *	780
70 - 80	50 *	960

* Spacing is 40' for 42" cones.

** Speed appropriate for location.

*** Use speed limit designated for the condition when workers are present in the work space. Signs will be covered or removed when workers are not present.

◎ Reflectorized Drum

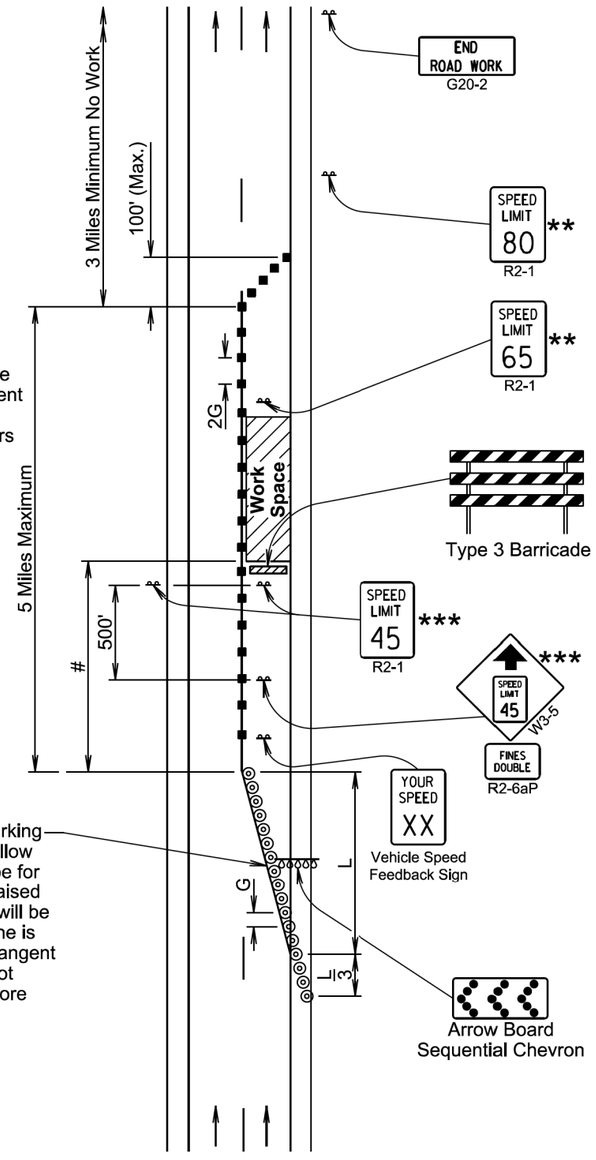
■ Channelizing Device

The Work Space will be a minimum of 500' from the end of the taper.

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.

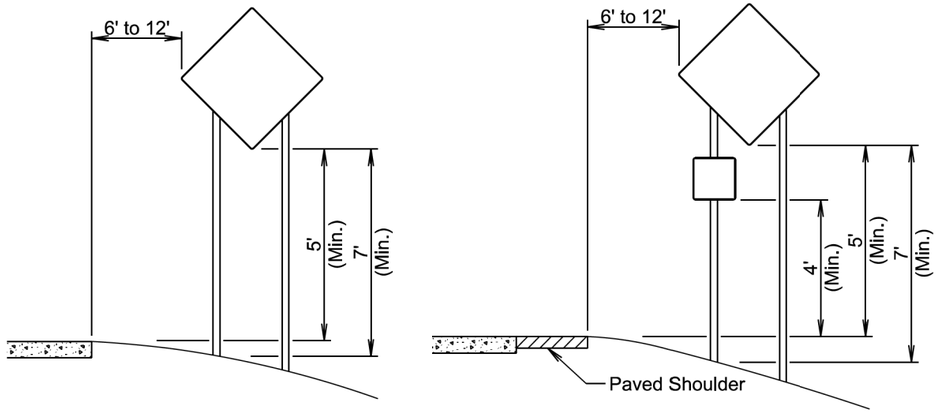
4" white temporary pavement marking tape for right lane closures, 4" yellow temporary pavement marking tape for left lane closures, or temporary raised pavement markers at 5' spacing will be installed in the taper when the lane is closed overnight, and along the tangent section where the skip lines do not exist and the lane is closed for more than 3 days.



DETAIL A

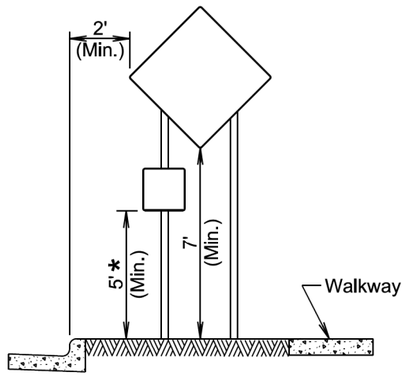
April 8, 2025

Published Date: 2026	SDDOT	WORK ZONE SPEED REDUCTION FOR INTERSTATE AND HIGH SPEED MULTI-LANE HIGHWAYS	PLATE NUMBER 634.63
			Sheet 2 of 2

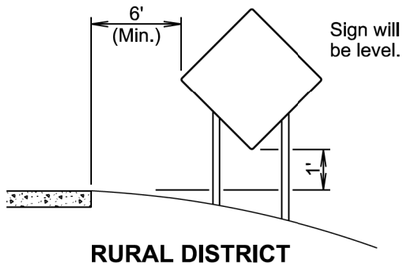


RURAL DISTRICT

RURAL DISTRICT WITH SUPPLEMENTAL PLATE



URBAN DISTRICT

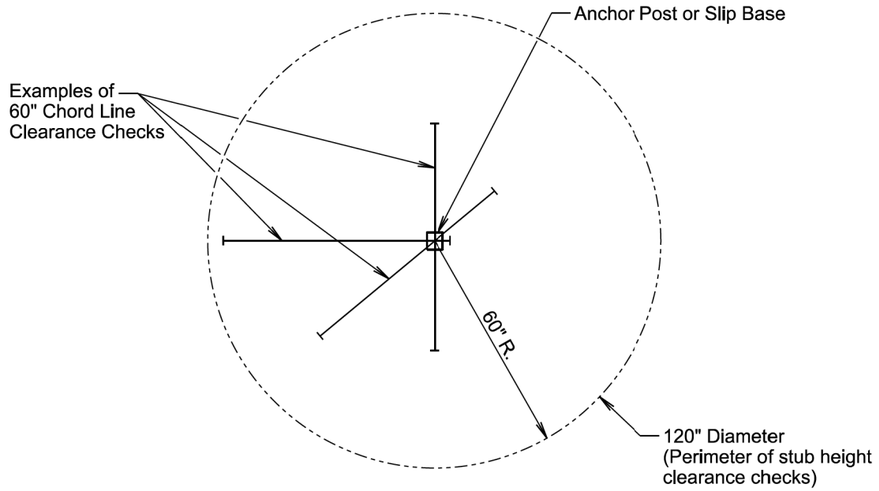


RURAL DISTRICT
3 DAY MAXIMUM
(Not applicable to regulatory signs)

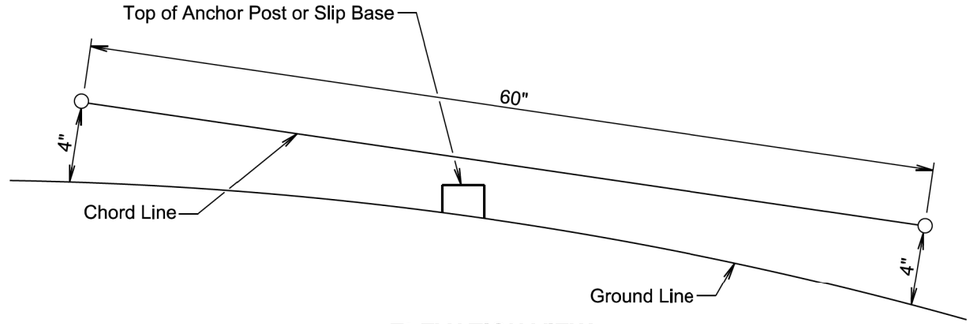
* If the bottom of supplemental plate is mounted lower than 7 feet above a pedestrian walkway, the supplemental plate should not project more than 4" into the pedestrian facility.

January 22, 2021

Published Date: 2026	SDDOT	CRASHWORTHY SIGN SUPPORTS (Typical Construction Signing)	PLATE NUMBER 634.85
			Sheet 1 of 1



PLAN VIEW
(Examples of stub height clearance checks)



ELEVATION VIEW

GENERAL NOTES:

The top of anchor posts and slip bases WILL NOT extend above a 60" chord line within a 120" diameter circle around the post with ends 4" above the ground.

At locations where there is curb and gutter adjacent to the breakaway sign support, the stub height will be a maximum of 4" above the ground line at the localized area adjacent to the breakaway support stub.

The 4" stub height clearance is not necessary for U-channel lap splices where the support is designed to yield (bend) at the base.

January 22, 2021

Published Date: 2026	SDDOT	BREAKAWAY SUPPORT STUB CLEARANCE	PLATE NUMBER 634.99
			Sheet 1 of 1