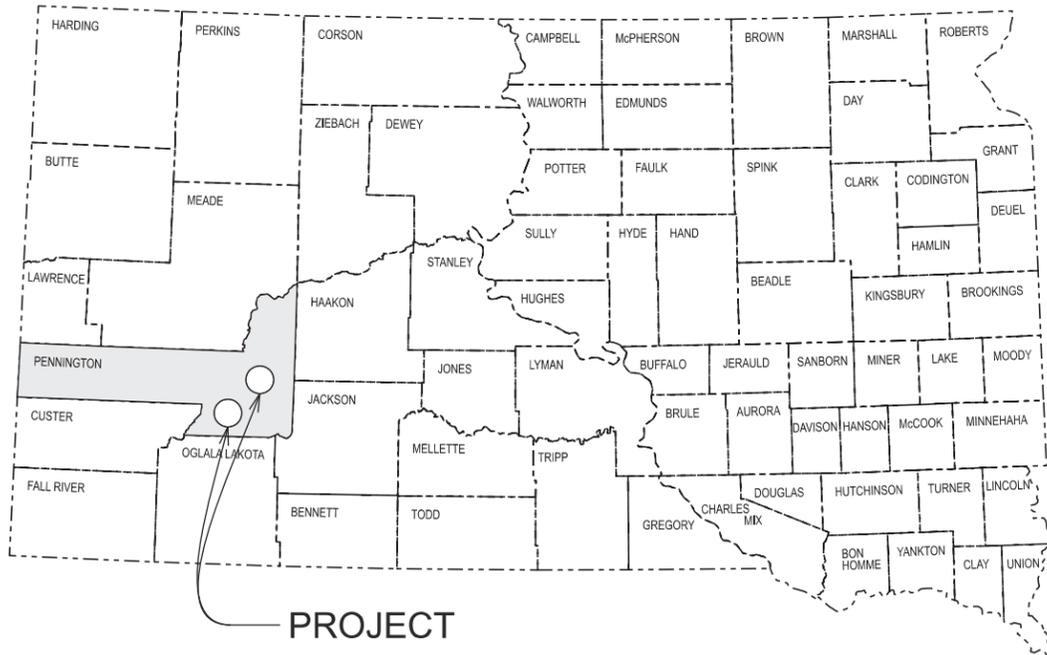


STATE OF SOUTH DAKOTA  
DEPARTMENT OF TRANSPORTATION  
PLANS FOR PROPOSED  
**PROJECT P 0041(187)**  
**SD HIGHWAYS 44 and 240**  
**PENNINGTON COUNTY**  
ASPHALT SURFACE TREATMENT  
PCN 09WT



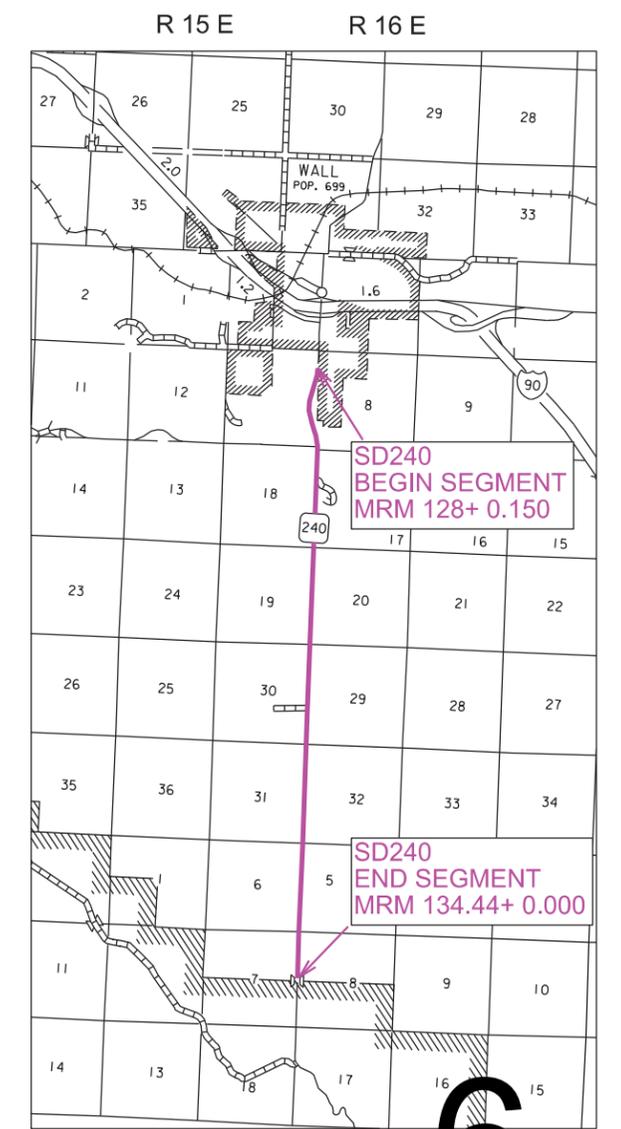
**INDEX OF SHEETS**

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9	Pavement Marking Details
10	Fixed Location Signs
11 - 13	Standard Plates



**PENNINGTON COUNTY**

**PENNINGTON COUNTY**



**STORM WATER PERMIT**  
No Permit Required

**DESIGN DESIGNATION (SD44)**

ADT (2024)	503
ADT (2044)	793
DHV	93
D	50%
T DHV	4.0%
T ADT	8.7%
V	65 MPH

Gross Length	19.441 Miles
Length of Exceptions	0.018 Miles
Net Length	19.423 Miles

**DESIGN DESIGNATION (SD240)**

ADT (2024)	1367
ADT (2044)	2155
DHV	254
D	50%
T DHV	1.4%
T ADT	3.1%
V	65 MPH

Gross Length	6.306 Miles
Length of Exceptions	0.000 Miles
Net Length	6.306 Miles

**6**

April 1, 2026

**ESTIMATE OF QUANTITIES**

STATE OF SOUTH DAKOTA	PROJECT	SECTION	SHEET
	NH 0041(187)	non	2/13

BID ITEM NUMBER	ITEM	QUANTITY	UNIT
009E0010	Mobilization	Lump Sum	LS
009E4100	Construction Schedule, Category I	Lump Sum	LS
330E0300	SS-1h or CSS-1h Asphalt for Fog Seal	115.0	Ton
330E3000	Sand for Fog Seal	20.0	Ton
360E0044	HFMS-2 Asphalt for Surface Treatment	690.1	Ton
360E1030	Type 2A Cover Aggregate	1,701.8	Ton
360E1030	Type 2A Cover Aggregate	4,522.4	Ton
633E1200	High Build Waterborne Pavement Marking Paint, White	1,432	Gal
633E1205	High Build Waterborne Pavement Marking Paint, Yellow	353	Gal
634E0010	Flagging	600.0	Hour
634E0020	Pilot Car	150.0	Hour
634E0110	Traffic Control Signs	889.2	SqFt
634E0120	Traffic Control, Miscellaneous	Lump Sum	LS
634E0630	Temporary Pavement Marking	77.2	Mile

**TABLE OF QUANTITIES BY HIGHWAY SEGMENT**

	SD44	SD240		
MRM to	88.04+ 0.038	128+ 0.150		
MRM	107.53	134.44	Total	
Item			Quantity	Unit
SS-1h or CSS-1h Asphalt for Fog Seal	83.6	31.4	115.0	Ton
Sand for Fog Seal	10.0	10.0	20.0	Ton
HFMS-2 Asphalt for Surface Treatment	501.4	188.7	690.1	Ton
Type 2A Cover Aggregate	4,522.4	1,701.8	6,224.2	Ton
High Build Waterborne Pavement Marking Paint, White	1,081	351	1,432	Gal
High Build Waterborne Pavement Marking Paint, Yellow	185	168	353	Gal
Flagging	400.0	200.0	600.0	Hour
Pilot Car	100.0	50.0	150.0	Hour
Traffic Control Signs	533.8	355.4	889.2	SQFT
Traffic Control, Miscellaneous	Lump Sum	Lump Sum	Lump Sum	LS
Temporary Pavement Marking	58.3	18.9	77.2	Mile

## **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:**

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 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: 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 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.

**ASPHALT SURFACE TREATMENT RATES OF MATERIALS**

HFMS-2 Asphalt for Surface Treatment applied 0.30 gallons per square yard.

Type 2A Cover Aggregate applied 23 pounds per square yard.

SS-1h or CSS-1h Emulsified Asphalt for Fog Seal applied 0.05 gallons per square yard.

**FOG SEAL APPLICATION**

The Fog Seal will be applied within 1 to 4 days following the placement of the cover aggregate.

**FOG SEAL**

The fog seal will be placed following the completion of the asphalt surface treatment. Prior to the application of the fog seal, the Contractor will be required to broom the asphalt surface treatment. A CSS-1h or SS-1h emulsion will be used for the fog seal application. A water-to-emulsion rate of 1:1 should be used for the Fog Seal application.

The Contractor will fog seal the entire asphalt surface treatment surface.

The Contractor will plan the fog seal operation to allow adequate cure time for the fog seal and to minimize/eliminate the need to apply Sand for Fog Seal.

If adequate cure time for the Fog Seal is not available, to facilitate traffic, the Contractor will be allowed to place a minimum sufficient amount of blotting sand on the fog seal to allow traffic to cross the uncured portion of the fog seal, as permitted by the Engineer.

Sand for Fog Seal is only intended to be placed for accesses to businesses, intersection crossings, and as determined by the Engineer to facilitate traffic movements. Sand for Fog Seal will not be placed to accelerate the Contractor's schedule.

Sand that is applied will be broomed off the surface of the roadway once the fog seal has sufficiently cured as determined by the Engineer.

Sand for Fog Seal will conform to Section 879.1.B.

Prior to hauling, Sand for Fog Seal will be screened to minimize segregation, eliminate oversize, and effectively breakup or discard material bonded into chunks. All costs for supplying, hauling, placing, and brooming the blotting sand will be incidental to the contract unit price per ton for Sand for Fog Seal.

**BROOMING**

Upon completion of brooming operations a windrow of cover aggregate will not exist along the edge of the roadway. This material will be leveled to match the existing inslopes. Any remaining windrows of cover aggregate will be removed by the Contractor at the Contractor's expense.

**TRANSVERSE RUMBLE STRIPS**

If transverse rumble strips are located on a segment they will not be disturbed. The Contractor will only apply a fog seal to these rumble strips.

**BRIDGES AND APPROACH SLABS**

Asphalt surface treatment will not be placed on any bridges or approach slabs along the project. Bridge joints will be covered with an approved masking material to prevent the asphalt surface treatment from coming in contact with the bridge and/or bridge joint. All loose aggregate will be cleaned from the bridge and around the guardrail posts. All costs associated with this work will be incidental to the asphalt surface treatment bid items.

**TABLE OF MATERIAL QUANTITIES**

Highway	MRM to		MRM		Mileage to	Mileage	Total Length	Total Length	Length Exceptions	Net Length	Width	Type 2A Cover Aggregate		HFMS-2 Asphalt for Surface Treatment		SS-1h or CSS-1h Asphalt for Fog Seal			
							(miles)	(ft)	(ft)	(ft)		(ft)	(ton)	(tons/mile)	(ton)	(tons/mile)	(ton)	(tons/mile)	
SD44	88.04+	0.038	90+	0.138	54.950	56.879	1.929	10185	94	10091	40	515.8	270	57.2	29.9	9.5	5.0		
SD44	90+	0.138	92+	0.373	56.879	59.117	2.238	11817		11817	32	483.2	216	53.6	23.9	8.9	4.0		
SD44	92+	0.373	94+	0.817	59.117	61.554	2.437	12867		12867	40	657.7	270	72.9	29.9	12.2	5.0		
SD44	94+	0.817	101+	0.015	61.554	67.889	6.335	33449		33449	32	1367.7	216	151.6	23.9	25.3	4.0		
SD44	101+	0.015	101+	0.219	67.889	68.093	0.204	1077		1077	40	55.1	270	6.1	29.9	1.0	4.9		
SD44	101+	0.219	101+	0.515	68.093	68.389	0.296	1563		1563	32	63.9	216	7.1	24.0	1.2	4.1		
SD44	101+	0.515	101+	0.815	68.389	68.689	0.300	1584		1584	40	81.0	270	9.0	30.0	1.5	5.0		
SD44	101+	0.815	102+	0.415	68.689	69.295	0.606	3200		3200	32	130.8	216	14.5	23.9	2.4	4.0		
SD44	102+	0.415	102+	0.915	69.295	69.795	0.500	2640		2640	40	134.9	270	15.0	30.0	2.5	5.0		
SD44	102+	0.915	103+	0.274	69.795	70.147	0.352	1859		1859	32	76.0	216	8.4	23.9	1.4	4.0		
SD44	103+	0.274	104+	0.016	70.147	70.889	0.742	3918		3918	40	200.2	270	22.2	29.9	3.7	5.0		
SD44	104+	0.016	107.53+	0.000	70.889	74.391	3.502	18491		18491	32	756.1	216	83.8	23.9	14.0	4.0		
							<b>Segment Total</b>	<b>19.441</b>		<b>102648</b>				<b>4522.4</b>		<b>501.4</b>		<b>83.6</b>	
SD240	128+	0.150	134.44+	0.000	1.541	7.847	6.306	33296		33296	40	1701.8	270	188.7	29.9	31.4	5.0		
							<b>Segment Total</b>	<b>6.306</b>		<b>33296</b>				<b>Segment Total</b>	<b>1701.8</b>		<b>188.7</b>		<b>31.4</b>

**TABLE OF EXCEPTIONS**

Highway	MRM	Structure Number or Other	Length (ft)
SD44	89.53	52767517	94
		<b>Total</b>	<b>94</b>

**PERMANENT PAVEMENT MARKING – GENERAL NOTES**

The Contractor will survey and mark the location of no passing zones prior to covering pavement marking.

The Contractor will repaint all the existing pavement marking paint including centerline, edge line, lane lines, arrows, gore areas, etc. The Contractor will be required to inventory and mark, with appropriately colored tabs, the extent and location of the existing word messages, turn arrows, stop bars, railroad crossings, pedestrian crossings, gore areas, etc. before the markings are obliterated. Locations of pavement marking tape will be masked. The Contractor will provide a copy of the pavement marking inventory to the Engineer. All costs associated with this work will be incidental to the various pavement marking bid items.

Application of permanent pavement marking may begin no sooner than 7 calendar days following completion of the fog seal and will be completed within 14 calendar days following completion of the fog seal.

**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 = 8 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.

**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 Section 980.1 B.

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

**TABLE OF PAVEMENT MARKING QUANTITIES**

Highway	MRM to		MRM		Total Length (miles)	High Build Waterborne Pavement Marking Paint, Yellow (Gal)	High Build Waterborne Pavement Marking Paint, White (Gal)	Temporary Pavement Marking Mile
SD44	88.04+	0.038	107.53+	0.000	19.441	185	1081	58.3
SD240	61.68+	0.000	73+	0.795	6.306	168	351	18.9
			<b>Totals</b>		<b>25.747</b>	<b>353</b>	<b>1432</b>	<b>77.2</b>

**DATA LOGGING SYSTEM**

The Contractor will provide striper computerized data logging system files as described below. The pavement marking device will have an onboard monitoring system for the purpose of managing the amount of pavement marking materials being applied to the pavement surface.

The following will be included in the documentation from the data logging system:

- State project number and PCN
- Highway number
- Beginning and end MRMs of the section marked rounded to the nearest hundredth of a mile, including direction of travel
- Beginning and ending coordinates determined by a Global Positioning System receiver with 3-meter accuracy, including direction of travel
- Date and beginning and ending time of application
- Product applied
- Lot number(s) of product (binder and reflective material) applied
- Striping Contractor (striper code)
- Designation of the marking being applied (LEL – Left Edgeline, REL – Right Edgeline, CL – Centerline, LL – Lane Line Broken or Dotted, 1LL – leftmost LL in multilane, 2LL – second to leftmost LL in multilane, etc.)
- Width of marking being applied
- Presence of recess or rumble strip
- Presence of contrast
- Average material application rate and film thickness calculated for the section striped

The following data will be included in the documentation from the data logging system reported as an average for each drive mile (or other segment approved by the Engineer) installed:

- Application vehicle speed rounded to the nearest tenth of a mile per hour
- Weight (Lbs) and/or volume (Gal) as measured through a positive displacement pump (mechanism or flow meter) of liquid material used by color
- Weight (Lbs) of reflective material used
- Ratio of reflective material used (weight) per liquid material used (volume) reported as Lbs/Gal
- Ambient air temperature (in degrees Fahrenheit)
- Road surface temperature (in degrees Fahrenheit)
- Humidity (percent)
- Dew point (in degrees Fahrenheit)

Provide the measurement report in the form of an electronic database file, or delimited text file, containing raw data collected. Provide the Engineer with a printed summary and submit the electronic data to the Region Traffic Engineer at the e-mail below and copy the Engineer.

[jesse.nelson@state.sd.us](mailto:jesse.nelson@state.sd.us)

**TEMPORARY PAVEMENT MARKING**

Temporary Flexible Vertical Markers (Tabs) will be required on the project. The manufacturers installation procedures for the tabs to be used will be provided at the preconstruction meeting. The manufacturer's installation procedure will be followed.

The total length of no passing zones are estimated at  
 4.2 miles on SD44 (MRM 88.04+0.038 to MRM 107.53)  
 5.6 miles on SD240 (MRM 128+0.150 to MRM 134.44)

It is estimated that 10 DO NOT PASS (R4-1) and 10 PASS WITH CARE (R4-2) signs will be required on SD44 (MRM 88.04+0.038 to MRM 107.53) to mark the no passing zones.

It is estimated that 15 DO NOT PASS (R4-1) and 15 PASS WITH CARE (R4-2) signs will be required on SD240 (MRM 128+0.150 to MRM 134.44) to mark the no passing zones.

Temporary flexible vertical markers (tabs) will be installed on one side of the centerline rumble for the temporary pavement marking. No passing zones will be marked in accordance with Specifications. DO NOT PASS (R4-1) and PASS WITH CARE (R4-2) signs will also be used in addition to the temporary flexible vertical markers (tabs) placed per Specifications to mark no passing zones.

Covers on the tabs will be sufficiently secured to prevent traffic from dislodging the cover and when removed, the covers will be properly disposed of. The Contractor will remove and properly dispose of the tabs after permanent pavement marking is applied. Method of removal will be nondestructive to the road surface and will be accomplished within one week of completion of the permanent pavement marking.

Full reflectivity of all temporary flexible vertical markers (tabs) is required at all times. The Contractor will be required to replace any missing or non-reflective tabs after each installation as detailed below at no additional cost to the State.

Quantities of Temporary Pavement Markings consist of:

- One pass prior to the chip seal
- One pass after the chip seal
- One pass after the fog seal

In the absence of a signed lane closure or pilot car operation, FLAGGER (W20-7) symbol signs and flaggers, or a shadow vehicle with rotating yellow lights or strobe lights will be positioned on the shoulder in advance of workers for both directions of traffic during the installation and removal of the temporary flexible vertical markers (tabs). The traffic control device used will be moved intermittently to provide proper warning of the work operation. A ROAD WORK AHEAD (W20-1) sign, a WORKER (W21-1) symbol sign or a BE PREPARED TO STOP (W3-4) sign will be mounted on the rear of the shadow vehicle. The method of traffic control used by the Contractor for this work must be approved by the Engineer.

Prior to nightfall, tabs will be required to mark centerline on segments of roadway where existing centerline markings have been removed and new markings have not been installed.

The Contractor will mark a 500' segment of highway with T-Tab Temporary Overlay Markers, manufactured by Shur-Tite at a location approved by the Engineer. The performance of these temporary markers will be evaluated. Contact Steve Palmer, (1-605-394-1636) Rapid City Area Engineering Supervisor for information related to this evaluation.

**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.

**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.

Portable sign supports will not be located on sidewalks, bicycle facilities, or other areas designated for pedestrian or bicycle traffic.

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.

All haul trucks will be equipped with an additional flashing amber light that is visible from the backside of the haul truck. The costs for the flashing amber lights will be incidental to the various related contract items.

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.

The Contractor will furnish, install, maintain, and remove TRUCK CROSSING (W8-6) signs daily. The TRUCK CROSSING signs will be displayed always when haul vehicles are hauling material. When hauling conditions no longer exist, the signs will be covered or removed from view. The exact number and location will be determined during construction. Payment for additional signs will be based on the contract unit price per square foot for "Traffic Control Signs".

**TRAFFIC CONTROL FOR ASPHALT SURFACE TREATMENT**

The Contractor will furnish, install, and maintain LOOSE GRAVEL (W8-7) signs with 40 MPH (W13-1P) advisory speed plaques upon start of surface treatment operations at each end of the segment and on either side of intersecting asphalt roads and major intersections as determined by the Engineer. In addition, LOOSE GRAVEL signs with 40 MPH advisory speed plaques will be installed at no more than 4 mile intervals throughout each segment. The 40 MPH advisory speed plaque should not be installed with LOOSE GRAVEL signs in areas where the posted speed limit is less than 40 MPH. LOOSE GRAVEL signs and 40 MPH advisory speed plaques will be covered or removed from view when they are not applicable.

ROAD WORK NEXT XX MILES (G20-1), LOOSE GRAVEL (W8-7) with 40 MPH (W13-1P) advisory speed plaques, and END ROAD WORK (G20-2) signs are the only signs that need to be mounted on fixed location breakaway sign supports, as shown on the plan layout.

Until the end of each day's chip seal operations, at the discretion of the Contractor, additional flaggers and FLAGGER (W20-7) symbol signs will be provided to alert the traveling public entering completed portions of the project to the potential of airborne chips.

The flaggers will provide each motorist with a printed notice on the Contractor's letterhead similar to the one shown below. Cost of the notice will be incidental to other contract items.

CONTRACTOR'S LETTERHEAD

THIS HIGHWAY IS BEING RESURFACED WITH A ROCK CHIP SEAL COAT.

THIS TYPE OF CONSTRUCTION HAS THE POTENTIAL OF CAUSING VEHICLE DAMAGE SUCH AS CHIPPED WINDSHIELDS AND BROKEN HEADLIGHTS DUE TO ROCKS BEING THROWN BY HIGH SPEED ONCOMING OR PASSING TRAFFIC.

YOU MAY WISH TO CONSIDER TAKING AN ALTERNATE ROUTE. IF YOU PROCEED, KEEP TO THE RIGHT AND DRIVE 40 MPH OR LESS. ANOTHER FLAGGER AND A PILOT CAR WILL BE ESCORTING YOU AROUND THE OIL SEAL COAT APPLICATION AREA.

THANK YOU.

A mobile work operation may be allowed provided the fog sealing, and pavement marking can be completed satisfactorily by a continuously moving work operation. A mobile work operation will require approval by the Engineer.

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

Lane closures will be removed prior to nightfall.

**FLAGGING**

Operations will be conducted so that the traveling public will not have to wait longer than 15 minutes on any section of road that is receiving an asphalt surface treatment.

Additional flagger warning signs and flagger hours have been included in the Estimate of Quantities for use on intersecting roads. These flaggers will be used as directed by the Engineer and will be used primarily during daytime hours. Also included in the Estimate of Quantities are WAIT FOLLOW PILOT CAR signs for use on low volume intersecting roads as determined by the Engineer. WAIT FOLLOW PILOT CAR signs will not block the view of the stop sign.



It is required that the flaggers and pilot car operators be able to communicate with one another. If an emergency vehicle needs to pass through the project, the Contractor will be required to expedite traffic movement. All costs associated with this will be incidental to the contract unit price per hour for "Flagging".

**TRAFFIC CONTROL SIGNS**

Traffic control signs have been included in a table for each route. Payment will only be for those signs used on each route.

**INVENTORY OF TRAFFIC CONTROL DEVICES (SD44, MRM 88.04+ 0.038 to MRM 107.53)**

SIGN CODE	SIGN DESCRIPTION	NUMBER	SIGN SIZE	SQFT PER SIGN	SQFT
W3-4	BE PREPARED TO STOP	2	48" x 48"	16.0	32.0
W8-6	TRUCK CROSSING	2	48" x 48"	16.0	32.0
W8-7	LOOSE GRAVEL	12	48" x 48"	16.0	192.0
W13-1P	ADVISORY SPEED (plaque)	12	30" x 30"	6.3	75.6
W20-1	ROAD WORK AHEAD	4	48" x 48"	16.0	64.0
W20-4	ONE LANE ROAD AHEAD	2	48" x 48"	16.0	32.0
W20-7	FLAGGER (symbol)	4	48" x 48"	16.0	64.0
G20-1	ROAD WORK NEXT 19 MILES	2	36" x 18"	4.5	9.0
G20-2	END ROAD WORK	4	36" x 18"	4.5	18.0
SPECIAL	WAIT FOLLOW PILOT CAR	4	30" x 18"	3.8	15.2
<b>CONVENTIONAL ROAD TRAFFIC CONTROL SIGNS SQFT</b>					<b>533.8</b>

**INVENTORY OF TRAFFIC CONTROL DEVICES (SD240, MRM 128+ 0.150 to MRM 134.44)**

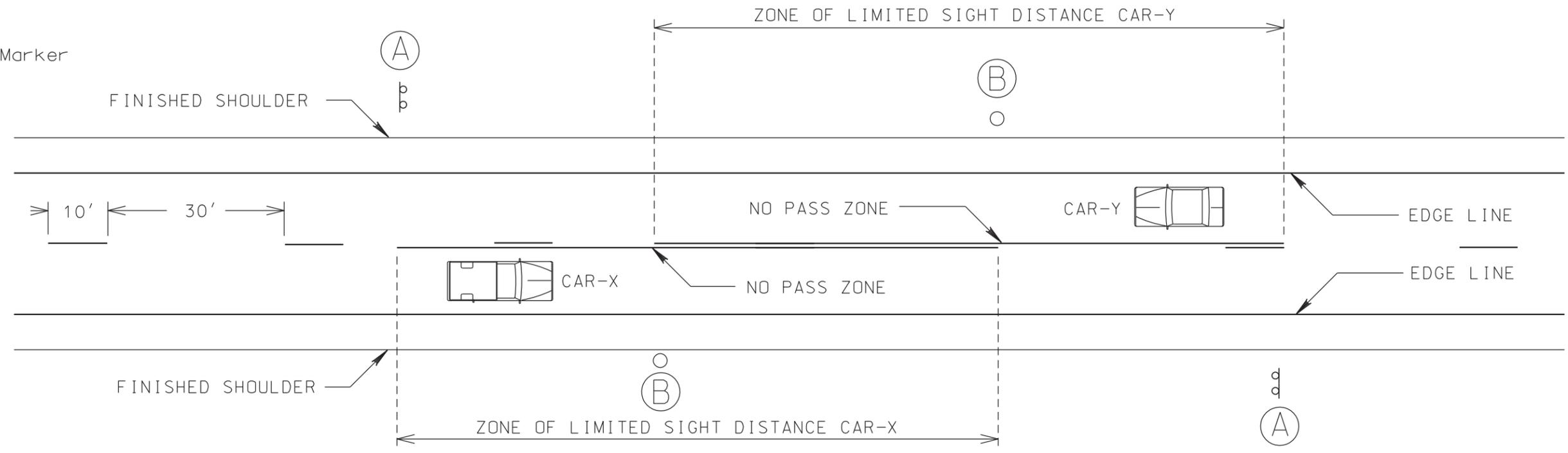
SIGN CODE	SIGN DESCRIPTION	NUMBER	SIGN SIZE	SQFT PER SIGN	SQFT
W3-4	BE PREPARED TO STOP	2	48" x 48"	16.0	32.0
W8-6	TRUCK CROSSING	2	48" x 48"	16.0	32.0
W8-7	LOOSE GRAVEL	4	48" x 48"	16.0	64.0
W13-1P	ADVISORY SPEED (plaque)	4	30" x 30"	6.3	25.2
W20-1	ROAD WORK AHEAD	4	48" x 48"	16.0	64.0
W20-4	ONE LANE ROAD AHEAD	2	48" x 48"	16.0	32.0
W20-7	FLAGGER (symbol)	4	48" x 48"	16.0	64.0
G20-1	ROAD WORK NEXT 6 MILES	2	36" x 18"	4.5	9.0
G20-2	END ROAD WORK	4	36" x 18"	4.5	18.0
SPECIAL	WAIT FOLLOW PILOT CAR	4	30" x 18"	3.8	15.2
<b>CONVENTIONAL ROAD TRAFFIC CONTROL SIGNS SQFT</b>					<b>355.4</b>

# TYPICAL PAVEMENT MARKING LAYOUT

SD DOT	PROJECT	SECTION	SHEET
	NH 0041(187)	non	9/13
Plotting Date: 10/27/2025			



(B) End of Zone Marker



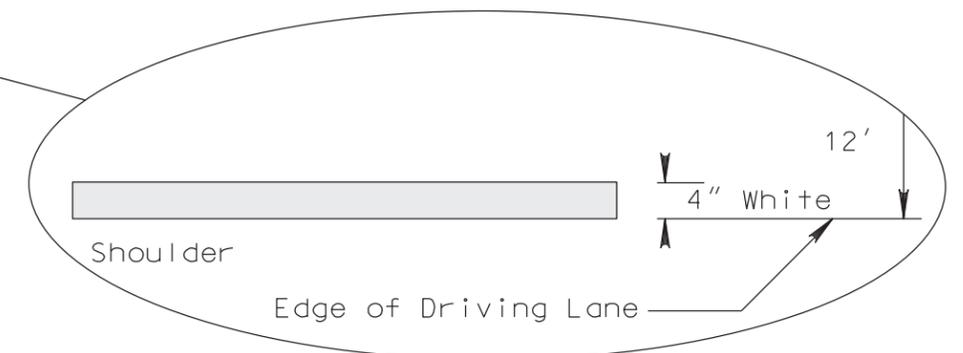
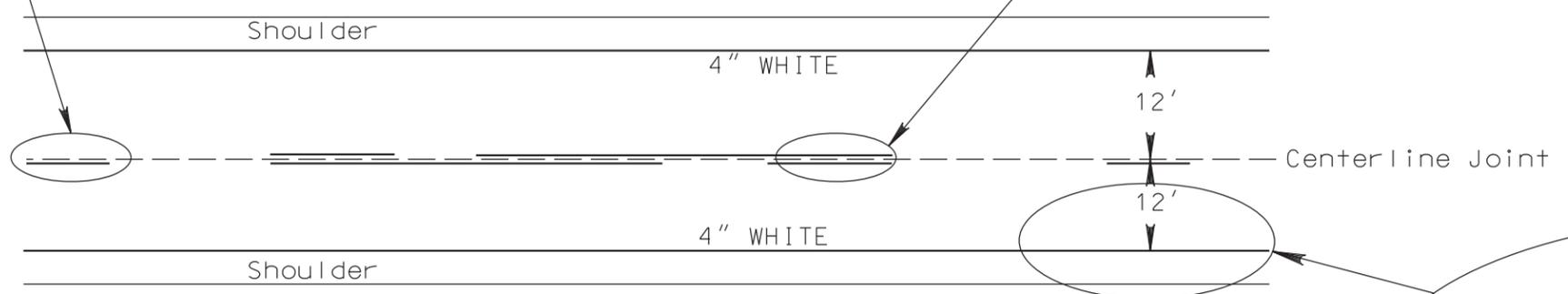
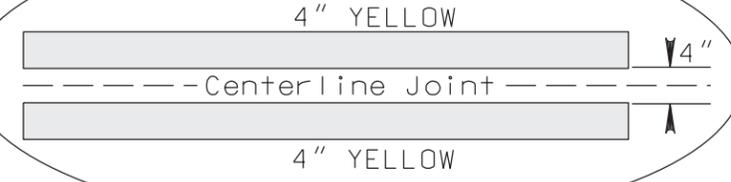
Centerline Detail



NOTE: A TWO "GUN" SYSTEM WILL BE USED TO OBTAIN THIS PATTERN.

WHEN A SINGLE SKIP LINE EXISTS, THE SKIP WILL BE PLACED TO THE SOUTH OR EAST OF THE CENTERLINE JOINT.

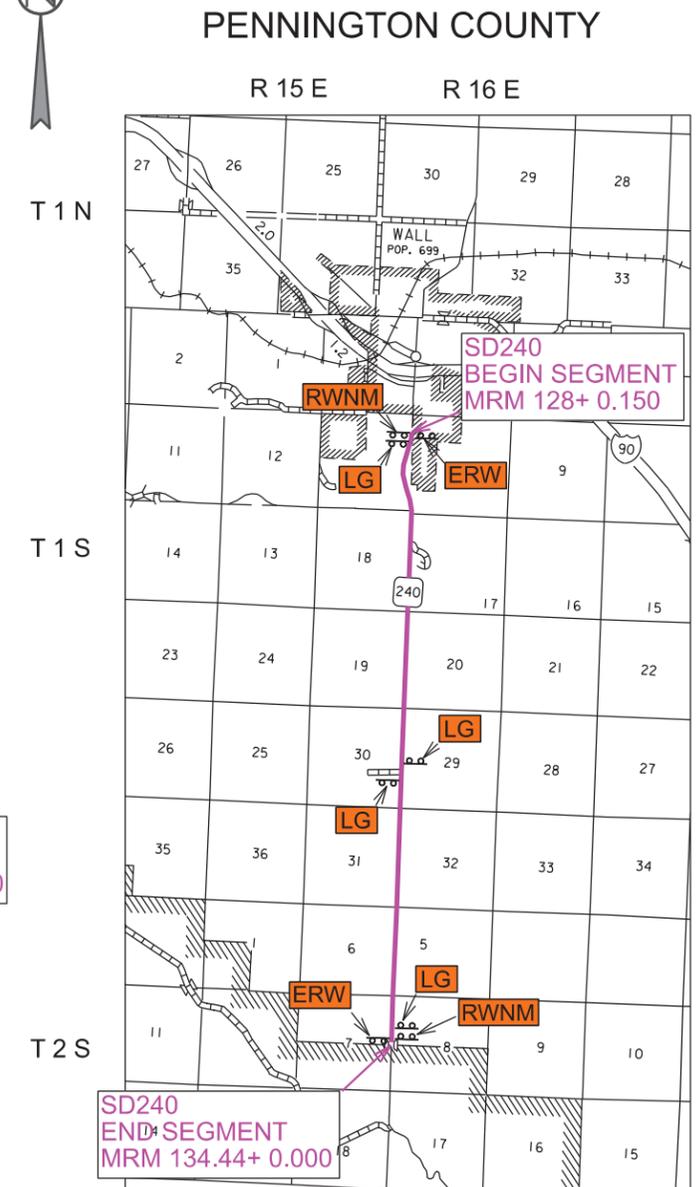
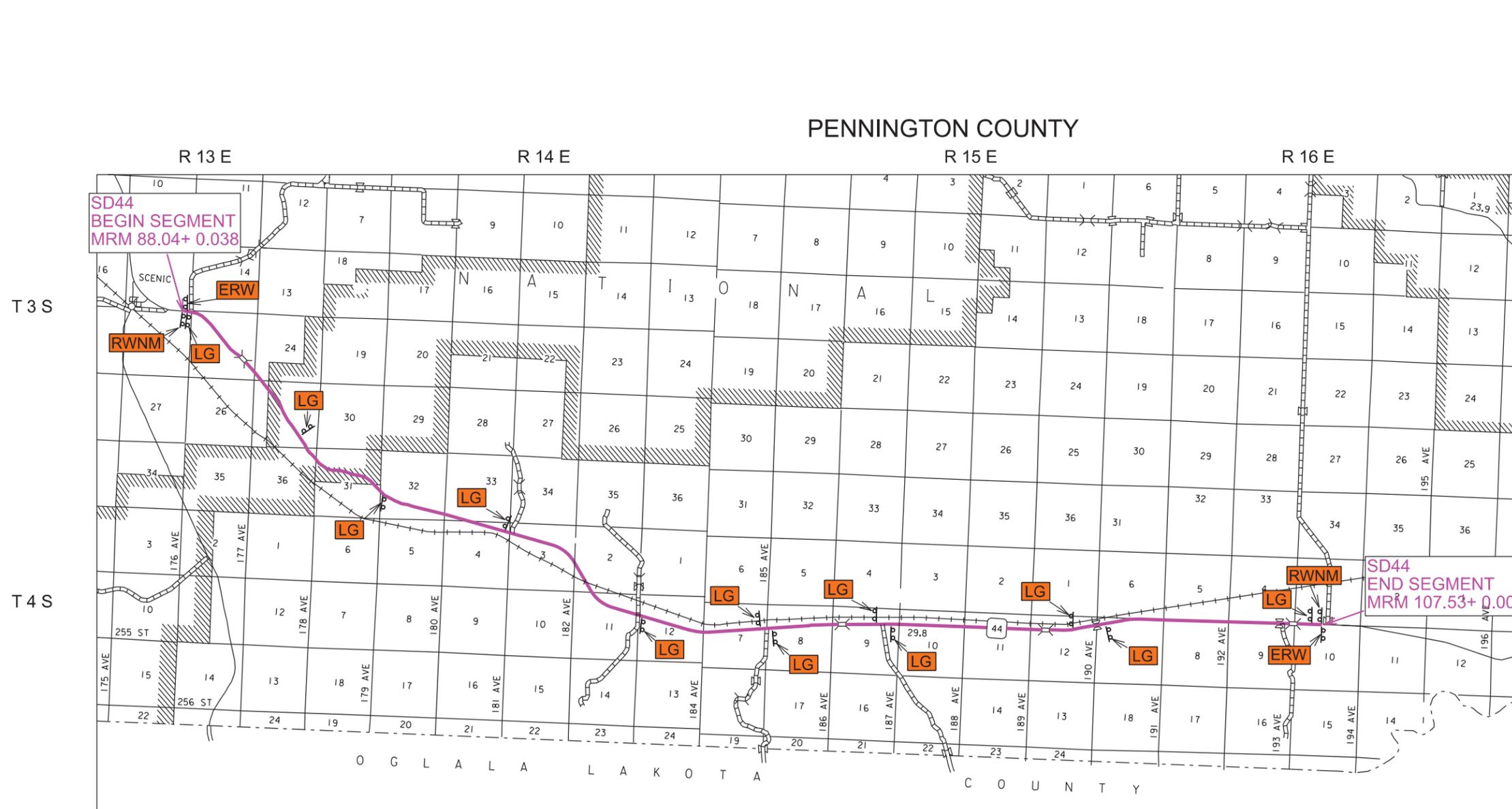
Centerline Detail



# FIXED LOCATION SIGNS

- RWNN** ROAD WORK NEXT XX MILES
- ERW** END ROAD WORK
- LG** LOOSE GRAVEL with advisory speed plaques

Notes: W20-1 signs are also to be used as per the applicable standard plate(s).



\* 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.

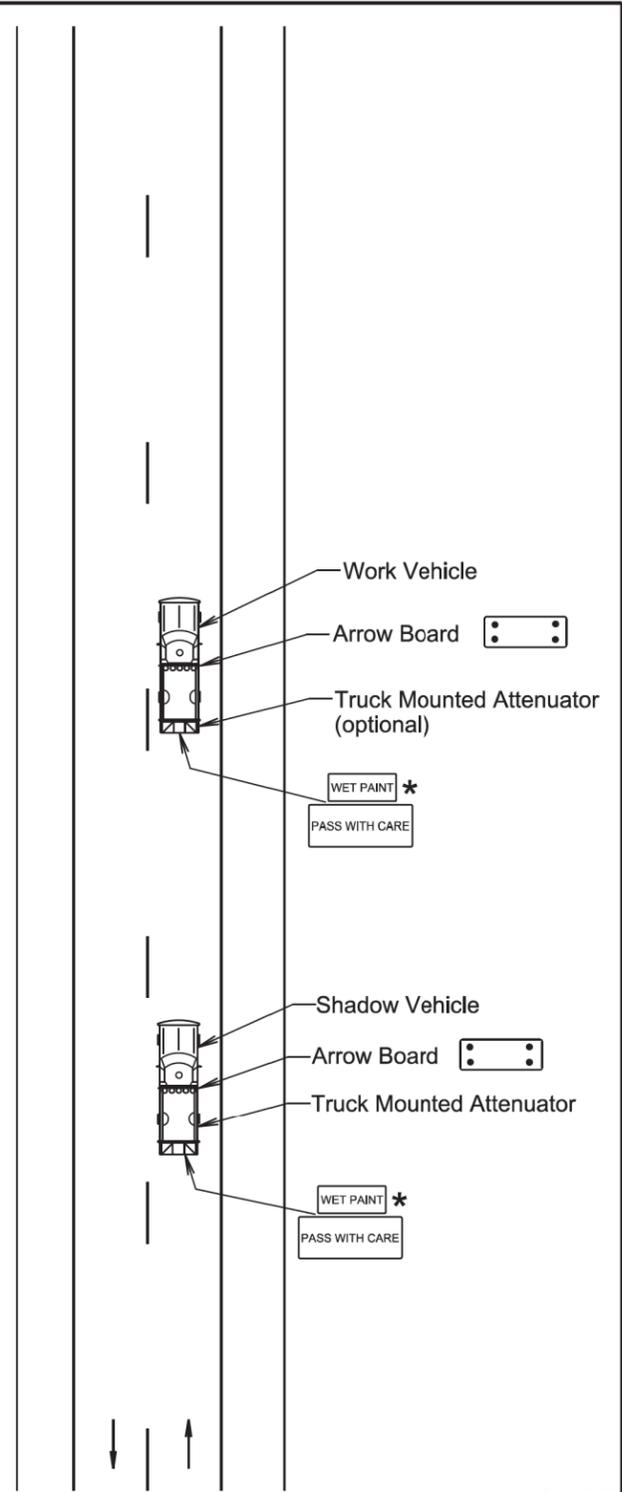
Shadow and Work vehicles will display high-intensity rotating, flashing, oscillating, or strobe lights, flags, signs, or arrow boards.

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

When an arrow board is used, it will be used in the caution mode. Marching Diamonds are acceptable.

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

SD  
DOT

MOBILE OPERATIONS ON 2-LANE ROAD

PLATE NUMBER  
634.06

Sheet 1 of 1

Posted Speed Prior to Work (M.P.H.)	Spacing of Advance Warning Signs (Feet) (A)	Spacing of Channelizing Devices (Feet) (G)
0 - 30	200	25
35 - 40	350	25
45	500	25
50	500	50
55	750	50
60 - 65	1000	50

- Flagger
- Channelizing Device

For low-volume traffic situations with short work zones on straight roadways where the flagger is visible to road users approaching from both directions, a single flagger may be used.

The ROAD WORK AHEAD and the END ROAD WORK signs may be omitted for short duration operations (1 hour or less).

For tack and/or flush seal operations, when flaggers are not being used, the FRESH OIL sign (W21-2) will be displayed in advance of the liquid asphalt areas.

Flashing warning lights and/or flags may be used to call attention to the advance warning signs.

The channelizing devices will be drums or 42" cones.

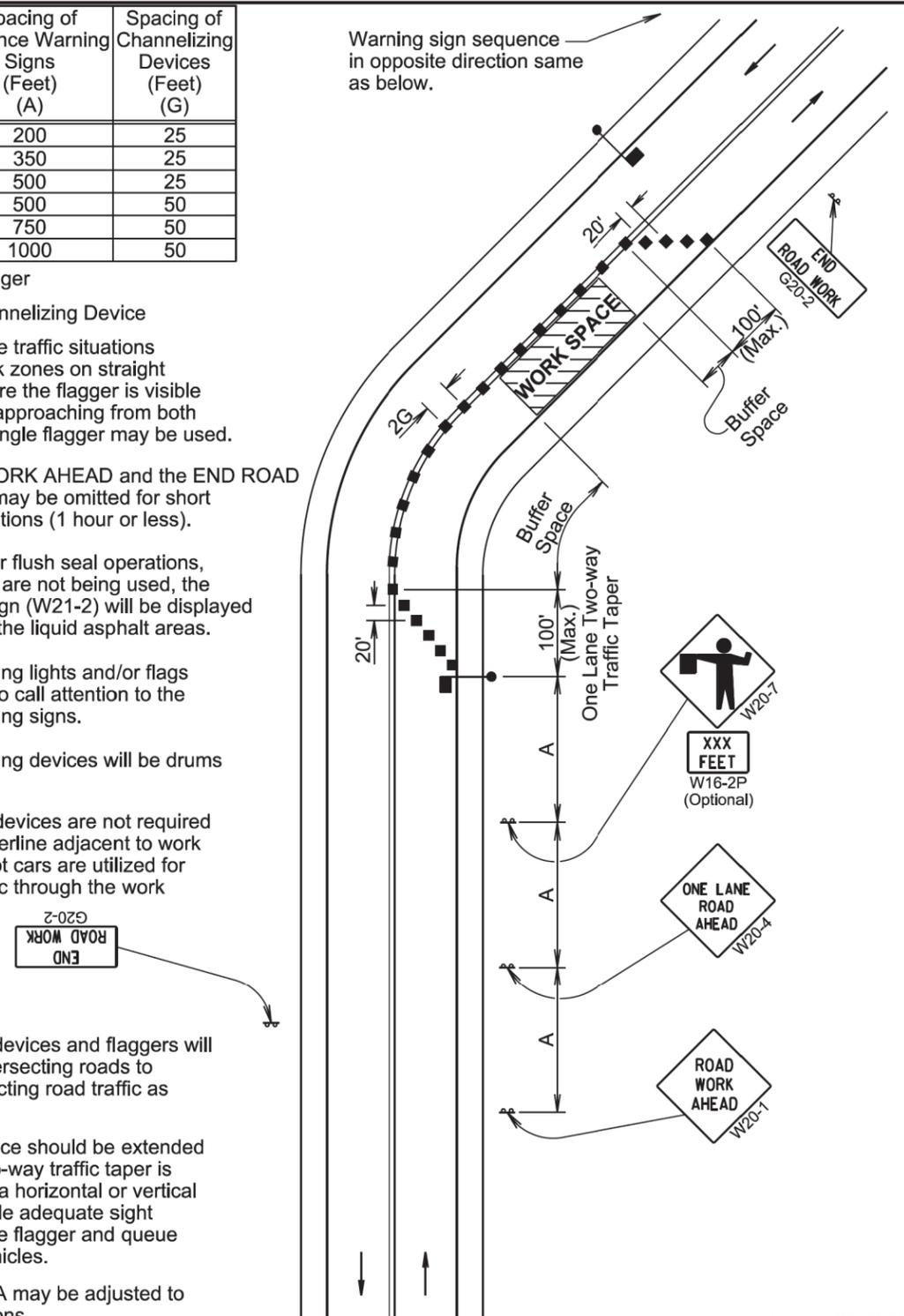
Channelizing devices are not required along the centerline adjacent to work area when pilot cars are utilized for escorting traffic through the work area.

Channelizing devices and flaggers will be used at intersecting roads to control intersecting road traffic as required.

The buffer space should be extended so that the two-way traffic taper is placed before a horizontal or vertical curve to provide adequate sight distance for the flagger and queue of stopped vehicles.

The length of A may be adjusted to fit field conditions.

Warning sign sequence in opposite direction same as below.



January 22, 2021

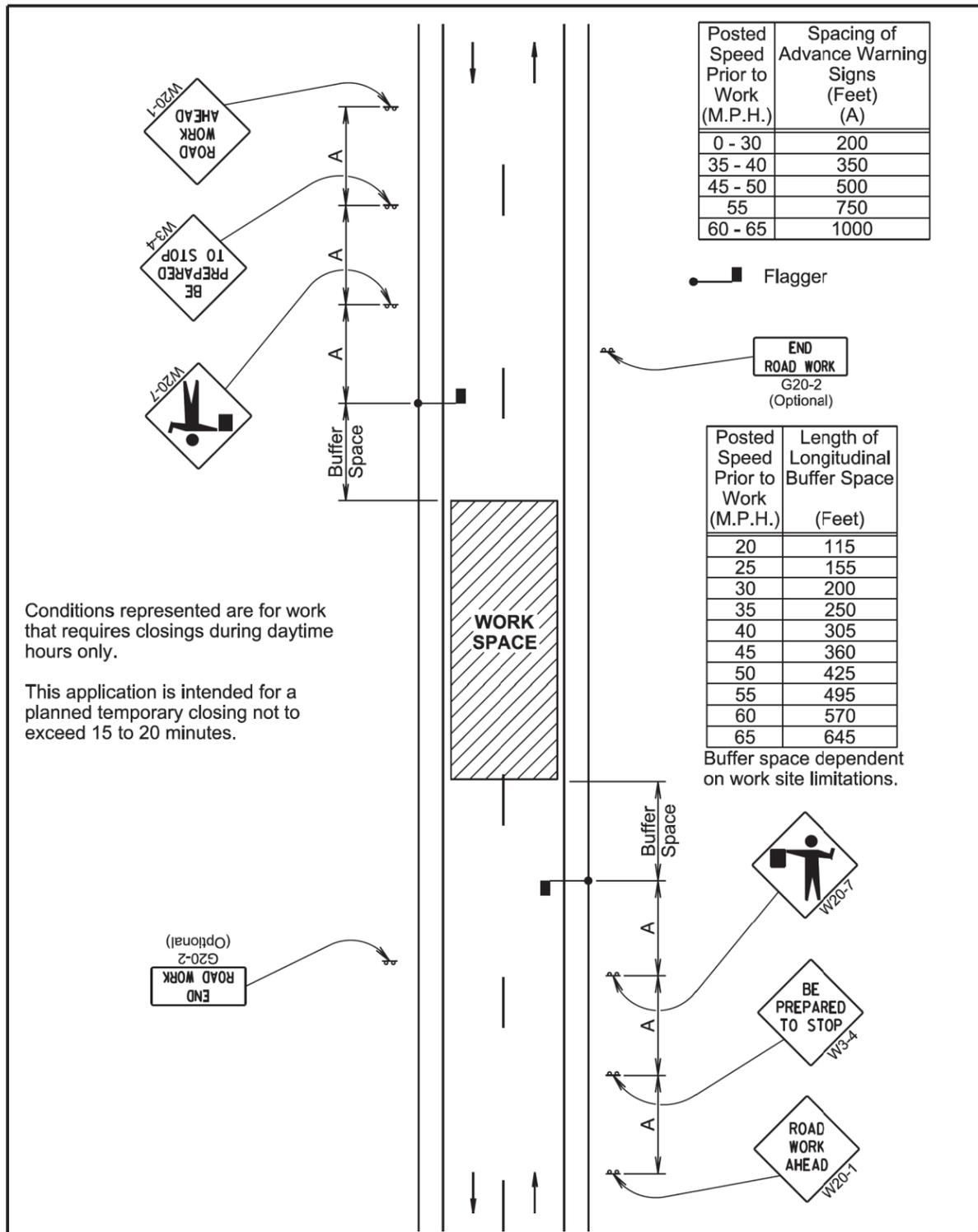
Published Date: 2026

SD  
DOT

LANE CLOSURE WITH FLAGGER PROVIDED

PLATE NUMBER  
634.23

Sheet 1 of 1

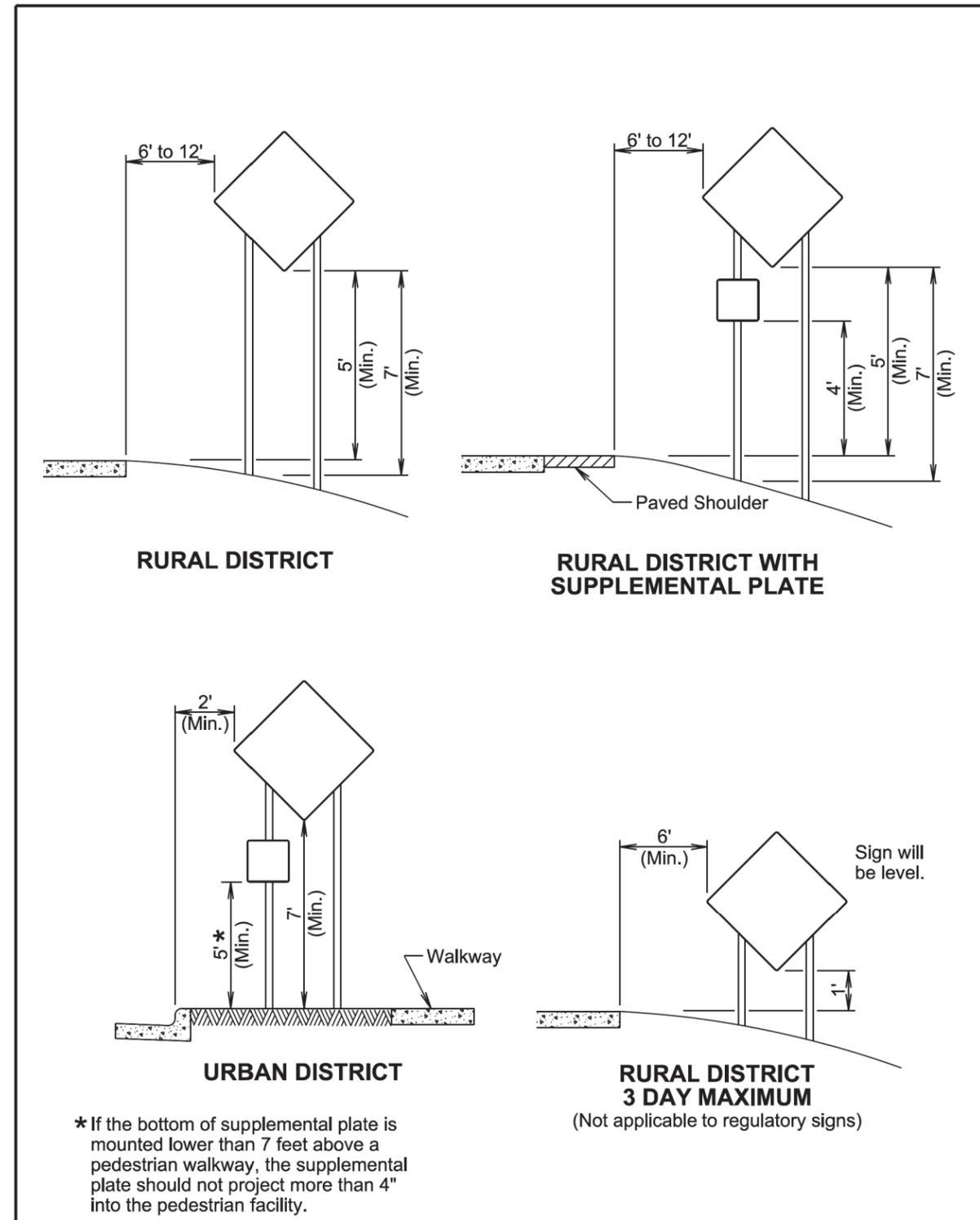


Conditions represented are for work that requires closings during daytime hours only.

This application is intended for a planned temporary closing not to exceed 15 to 20 minutes.

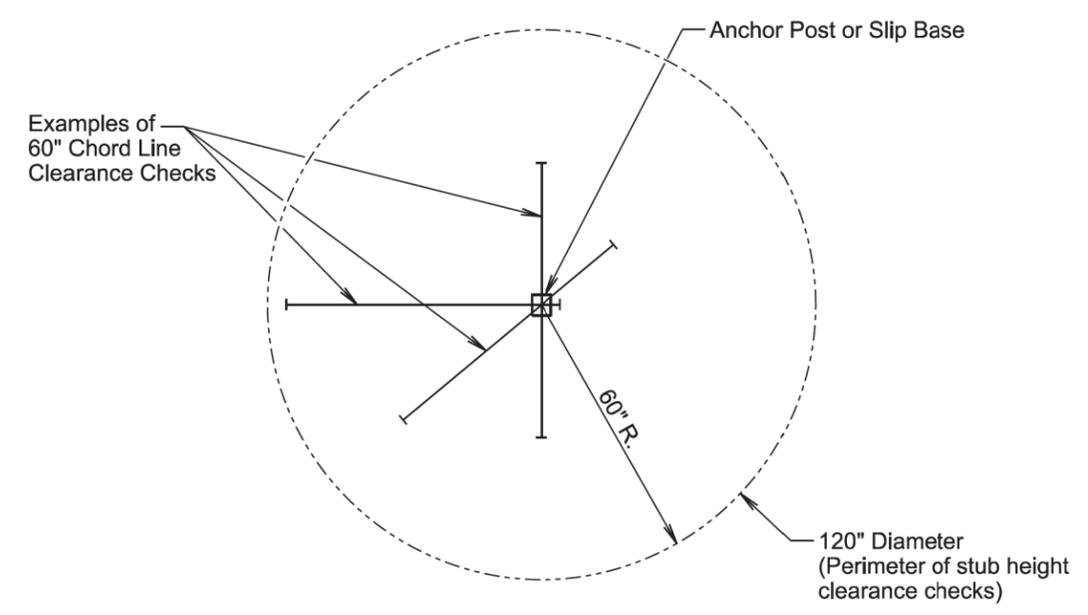
SD DOT	TEMPORARY ROAD WORK	PLATE NUMBER 634.30
		Sheet 1 of 1
Published Date: 2026		

January 22, 2021

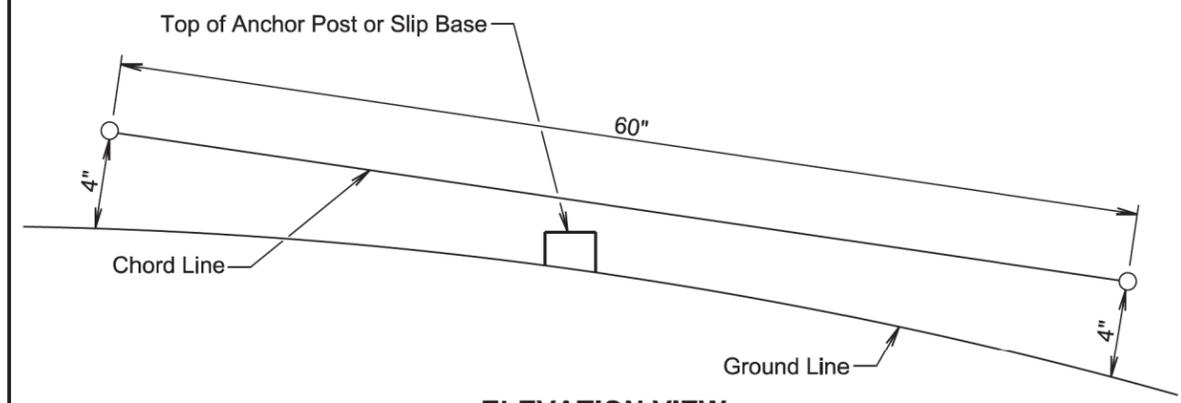


SD DOT	CRASHWORTHY SIGN SUPPORTS (Typical Construction Signing)	PLATE NUMBER 634.85
		Sheet 1 of 1
Published Date: 2026		

January 22, 2021



**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

<i>Published Date: 2026</i>	<b>S D D O T</b>	<b>BREAKAWAY SUPPORT STUB CLEARANCE</b>	PLATE NUMBER 634.99
			Sheet 1 of 1