SD DOT	PROJECT	SECTION	SHEET
	NH-P 0043(249)	non	1/27

Plotting Date: 1/27/2026

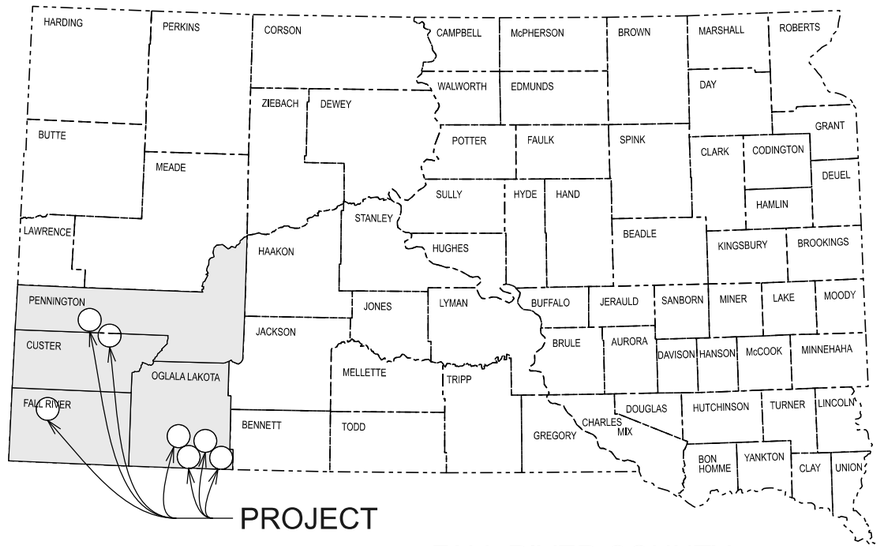
STATE OF SOUTH DAKOTA
DEPARTMENT OF TRANSPORTATION

PLANS FOR PROPOSED

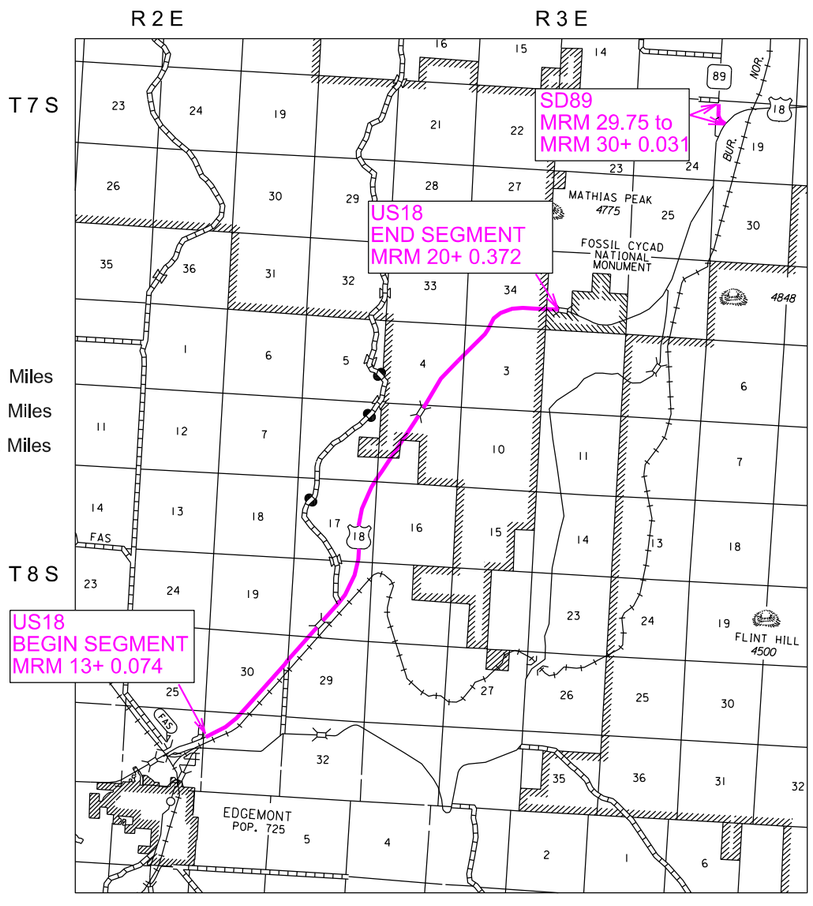
PROJECT NH-P 0043(249)
SD HIGHWAYS 89, 40, 407 and 391
US HIGHWAYS 18 and 16
FALL RIVER, PENNINGTON, CUSTER and OGLALA LAKOTA COUNTIES

ASPHALT SURFACE TREATMENT
PCN 09X9

INDEX OF SHEETS



FALL RIVER COUNTY



DESIGN DESIGNATION (US18)

ADT (2024)	2434
ADT (2044)	3617
DHV	691
D	51%
T DHV	4.0%
T ADT	20.5%
V	65 MPH

Gross Length	7.326	Miles
Length of Exceptions	0.126	Miles
Net Length	7.200	Miles

STORM WATER PERMIT
No Permit Required

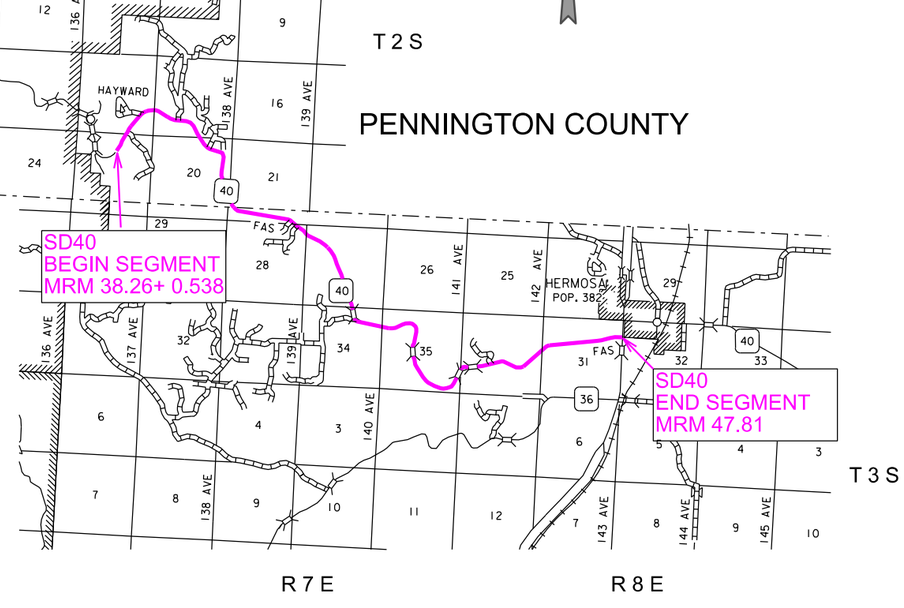
DESIGN DESIGNATION (SD89)

ADT (2024)	1193
ADT (2044)	1773
DHV	339
D	51%
T DHV	4.2%
T ADT	9.3%
V	65 MPH

Gross Length	0.207	Miles
Length of Exceptions	0.000	Miles
Net Length	0.207	Miles

PENNINGTON COUNTY

CUSTER COUNTY



DESIGN DESIGNATION (SD40)

ADT (2024)	997
ADT (2044)	1609
DHV	264
D	51%
T DHV	1.4%
T ADT	3.1%
V	65 MPH

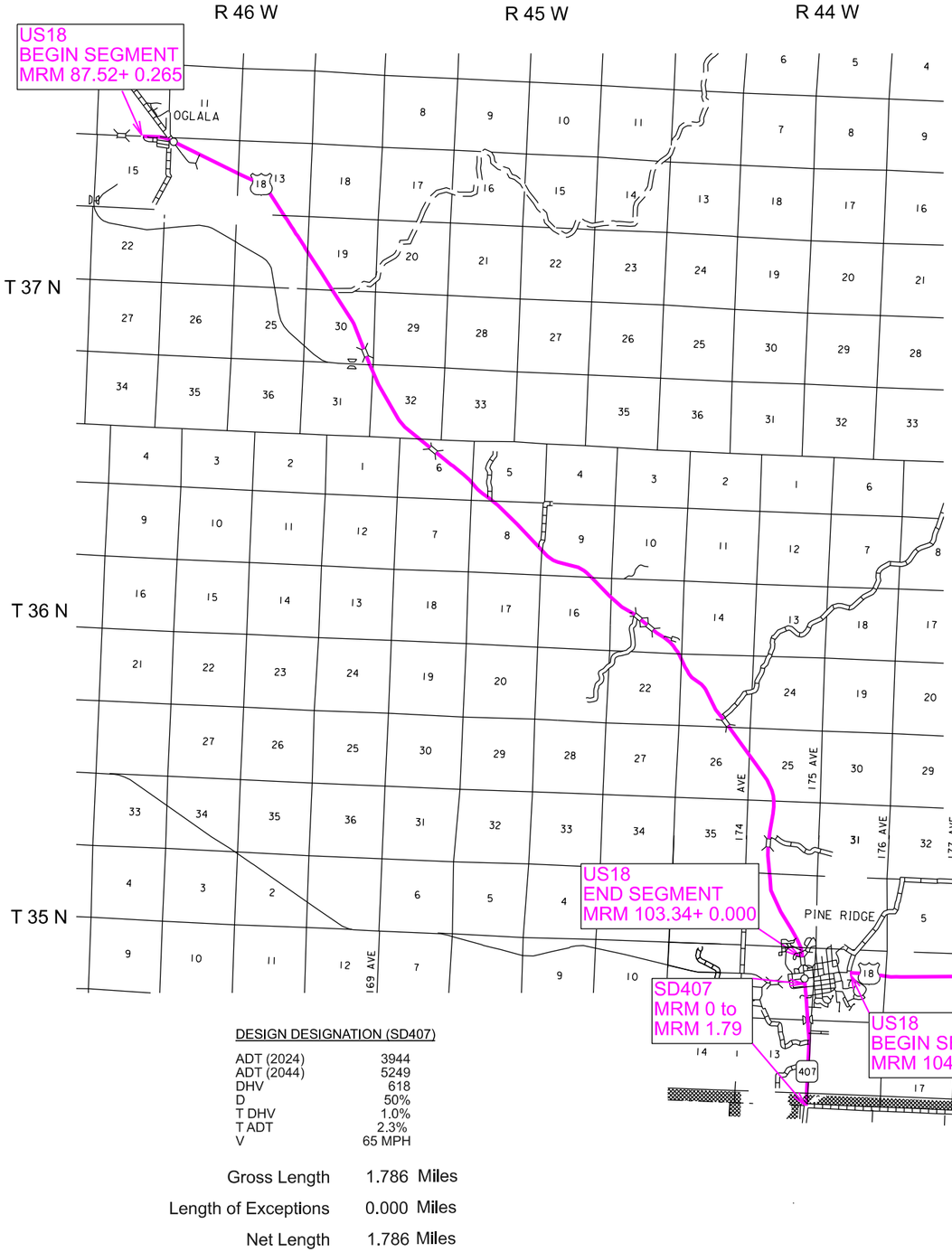
Gross Length	8.819	Miles
Length of Exceptions	0.139	Miles
Net Length	8.680	Miles

March 18, 2026

SD DOT	PROJECT	SECTION	SHEET
	NH-P 0043(249)	non	2/27

Plotting Date: 1/27/2026

PENNINGTON COUNTY

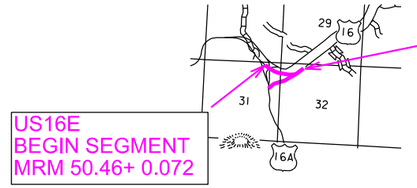


OGLALA LAKOTA COUNTY

DESIGN DESIGNATION (US18, MRM 87.52 to MRM 103.34)

ADT (2024)	2405
ADT (2044)	3201
DHV	377
D	50%
T DHV	2.3%
T ADT	5.1%
V	65 MPH

Gross Length	15.512	Miles
Length of Exceptions	0.032	Miles
Net Length	15.480	Miles



DESIGN DESIGNATION (US16E)

ADT (2024)	4786
ADT (2044)	7548
DHV	1236
D	51%
T DHV	2.2%
T ADT	4.9%
V	65 MPH

Gross Length	0.434	Miles
Length of Exceptions	0.000	Miles
Net Length	0.434	Miles

DESIGN DESIGNATION (US18, MRM 104.21 to MRM 121)

ADT (2024)	2438
ADT (2044)	3245
DHV	382
D	50%
T DHV	2.4%
T ADT	5.2%
V	65 MPH

Gross Length	16.979	Miles
Length of Exceptions	0.000	Miles
Net Length	16.979	Miles

DESIGN DESIGNATION (SD391)

ADT (2024)	794
ADT (2044)	1057
DHV	124
D	50%
T DHV	5.0%
T ADT	11.0%
V	65 MPH

Gross Length	3.362	Miles
Length of Exceptions	0.000	Miles
Net Length	3.362	Miles

DESIGN DESIGNATION (SD407)

ADT (2024)	3944
ADT (2044)	5249
DHV	618
D	50%
T DHV	1.0%
T ADT	2.3%
V	65 MPH

Gross Length	1.786	Miles
Length of Exceptions	0.000	Miles
Net Length	1.786	Miles

ESTIMATE OF QUANTITIES

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	273.7	Ton
330E3000	Sand for Fog Seal	80.0	Ton
360E0044	HFMS-2 Asphalt for Surface Treatment	977.2	Ton
360E1030	Type 2A Cover Aggregate	1,254.0	Ton
360E1030	Type 2A Cover Aggregate	32.1	Ton
360E1030	Type 2A Cover Aggregate	1,346.9	Ton
360E1030	Type 2A Cover Aggregate	2,470.3	Ton
360E1030	Type 2A Cover Aggregate	277.1	Ton
360E1030	Type 2A Cover Aggregate	521.7	Ton
360E1030	Type 2A Cover Aggregate	2,731.1	Ton
360E1030	Type 2A Cover Aggregate	180.9	Ton
633E1200	High Build Waterborne Pavement Marking Paint, White	3,020	Gal
633E1205	High Build Waterborne Pavement Marking Paint, Yellow	1,193	Gal
633E6005	Pavement Marking Masking, 5"	4,598	Ft
633E6010	Pavement Marking Masking, 9"	973	Ft
633E6020	Pavement Marking Masking, 25"	1,412	Ft
633E6030	Pavement Marking Masking, Arrow	111	Each
633E6040	Pavement Marking Masking, Message	4	Word
634E0010	Flagging	2,840.0	Hour
634E0020	Pilot Car	710.0	Hour
634E0110	Traffic Control Signs	3,739.1	SqFt
634E0120	Traffic Control, Miscellaneous	Lump Sum	LS
634E0275	Type 3 Barricade	4	Each
634E0420	Type C Advance Warning Arrow Board	1	Each
634E0575	Remove Pavement Marking, Area	80.0	SqFt
634E0630	Temporary Pavement Marking	164.1	Mile

TABLE OF QUANTITIES BY HIGHWAY SEGMENT

	US18	SD89	SD40	US18	US18	SD407	SD391	US16E		
MRM to	**13+ 0.074**	**29.75**	**38.26+ 0.538**	**87.52+ 0.265**	**104.21+ 0.070**	**0.00**	**0.00**	**50.46+ 0.072**		
MRM	**20+ 0.372**	**30+ 0.031**	**47.81**	**103.34**	**121+ 0.230**	**1.79**	**3.37**	**50.84+ 0.111**	**Total**	
Item									**Quantity**	**Unit**
SS-1h or CSS-1h Asphalt for Fog Seal	37.5	1.0	36.8	78.4	94.3	9.8	12.6	3.3	**273.7**	**Ton**
Sand for Fog Seal	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	**80.0**	**Ton**
HFMS-2 Asphalt for Surface Treatment	139.0	3.6	149.3	273.9	302.8	30.7	57.8	20.1	**977.2**	**Ton**
Type 2A Cover Aggregate	1,254.0	32.1	1,346.9	2,470.3	2,731.1	277.1	521.7	180.9	**8,814.1**	**Ton**
High Build Waterborne Pavement Marking Paint, White	407	12	490	862	944	99	187	19	**3,020.0**	**Gal**
High Build Waterborne Pavement Marking Paint, Yellow	60	59	333	274	428	14	21	4	**1,193.0**	**Gal**
Flagging	400.0	20.0	400.0	800.0	1,000.0	100.0	100.0	20.0	**2,840.0**	**Hour**
Pilot Car	100.0	5.0	100.0	200.0	250.0	25.0	25.0	5.0	**710.0**	**Hour**
Traffic Control Signs	432.0	342.8	521.2	610.4	655.0	342.8	342.8	492.1	**3,739.1**	**SQFT**
Traffic Control, Miscellaneous	Lump Sum	Lump Sum	Lump Sum	Lump Sum	Lump Sum	Lump Sum	Lump Sum	Lump Sum	**Lump Sum**	**LS**
Temporary Pavement Marking	22.0	0.6	26.5	46.5	50.9	5.4	10.1	2.1	**164.1**	**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.

COORDINATION BETWEEN CONTRACTORS

Centerline Rumble Stripes on project PH 0030(48), PCN 09UU is scheduled for the construction season of 2026. The location of this project is SD391, MRM 0 to MRM 3.37. The Contractor on this project will coordinate with the Contractor on the Centerline Rumble Stripe project. All costs associated with this coordination will be incidental to the various bid items on the project.

Bridge Repair project P 0016(110)59, PCN 0A46 is scheduled for the construction season of 2026. The location of this project is US16, MRM 50.46 to MRM 50.84. The Contractor on this project will coordinate with the Contractor on the Bridge Repair project. All costs associated with this coordination will be incidental to the various bid items on the project.

The Contractor will schedule work so as not to interfere with or hinder the progress of the work performed by the other Contractors. Conflicting traffic control devices may need to be temporarily adjusted or removed as directed by the Engineer and at no additional cost to the contract.

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.

CENTERLINE RUMBLE STRIPES

If centerline rumble stripes exist along the route they will be covered with the asphalt surface treatment to seal the centerline joint and minimize the depth of water ponding on centerline.

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							Total Length	Total Length	Length Exceptions	Net Length	Mainline Width	Type 2A Cover Aggregate		HFMS-2 Asphalt for Surface Treatment		Fog Seal Width	SS-1h or CSS-1h Asphalt for Fog Seal	
	MRM to		MRM		Mileage to	Mileage	(miles)	(ft)	(ft)	(ft)	(ft)	(ton)	(tons/mile)	(ton)	(tons/mile)	(ft)	(ton)	(tons/mile)
US18 *	13+	0.074	18.12+	0.195	12.991	18.239	5.248	27709	667	27042	23	794.7	155	88.1	17.2	40	25.5	5.0
	18.12+	0.195	19+	0.985	18.239	19.929	1.690	8923		8923	35	399.1	236	44.2	26.2	48	10.1	6.0
	19+	0.985	20+	0.372	19.929	20.317	0.388	2049		2049	23	60.2	155	6.7	17.3	40	1.9	4.9
					Segment Total		**7.326**	**38681**		**38014**		**1254.0**		**139.0**			**37.5**	
SD89 *	29.75+	0.000	30+	0.031	0.000	0.207	0.207	1093		1093	23	32.1	155	3.6	17.4	40	1.0	4.8
					Segment Total		**0.207**	**1093**		**Segment Total**		**32.1**		**3.6**			**1.0**	
SD40 *	38.26+	0.538	47.81+	0.000	6.781	15.600	8.819	46564	735	45829	23	1346.9	155	149.3	17.2	34	36.8	4.2
					Segment Total		**8.819**	**46564**		**Segment Total**		**1346.9**		**149.3**			**36.8**	
US18 *	87.52+	0.265	87.86+	0.101	67.246	67.418	0.172	908		908	35	40.6	236	4.5	26.2	52	1.1	6.4
	87.86+	0.101	88.67+	0.017	67.418	68.139	0.721	3807		3807	23	111.9	155	12.4	17.2	40	3.6	5.0
	88.67+	0.017	88.67+	0.148	68.139	68.270	0.131	692		692	35	30.9	236	3.4	26.0	52	0.8	6.1
	88.67+	0.148	99+	0.004	68.270	78.478	10.208	53898	167	53731	23	1579.1	155	175.1	17.2	40	50.7	5.0
	99+	0.004	99+	0.543	78.478	79.017	0.539	2846		2846	35	127.3	236	14.1	26.2	52	3.5	6.5
	99+	0.543	103.34+	0.000	79.017	82.758	3.741	19752		19752	23	580.5	155	64.4	17.2	40	18.7	5.0
					Segment Total		**15.512**	**81903**		**Segment Total**		**2470.3**		**273.9**			**78.4**	
US18 *	104.21+	0.070	105+	0.480	83.654	84.845	1.191	6288		6288	35	281.2	236	31.2	26.2	52	7.7	6.5
	105+	0.480	121+	0.230	84.845	100.633	15.788	83361		83361	23	2449.9	155	271.6	17.2	44	86.6	5.5
					Segment Total		**16.979**	**89649**		**Segment Total**		**2731.1**		**302.8**			**94.3**	
SD407 *	0+	0.000	1.79+	0.000	0.000	1.786	1.786	9430		9430	23	277.1	155	30.7	17.2	44	9.8	5.5
					Segment Total		**1.786**	**9430**		**Segment Total**		**277.1**		**30.7**			**9.8**	
SD391 *	0+	0.000	3.37+	0.000	0.000	3.362	3.362	17751		17751	23	521.7	155	57.8	17.2	30	12.6	3.7
					Segment Total		**3.362**	**17751**		**Segment Total**		**521.7**		**57.8**			**12.6**	
US16E (97242 sqft)	50.46+	0.720	50.84+	0.720			0.487	2570		2570	26 to 40	124.3	255	13.8	28.4	26 to 40	2.3	4.7
US16E On-Ramp (44300 sqft)							0.212	1121		1320	40	56.6	226	6.3	25.2	40	1.0	4.0
					Segment Total		**0.699**	**3691**		**Segment Total**		**180.9**		**20.1**			**3.3**	

* Asphalt Surface Treatment applied to mainline only. 6” less along edge lines to recess the pavement marking. Fog Seal applied full width of pavement.

TABLE OF EXCEPTIONS

Highway	MRM	Structure Number or Other	Length (ft)
US18	15.07	24134099	260
US18	18.12	24145072	407
SD40	43.56	17396022	205
SD40	44.48	17404025	101
SD40	45.61	17408029	173
SD40	45.68	17411027	256
US18	92.35	57169389	87
US18	97.96	57206426	80
		Total	**1569**

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.

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

PAVEMENT MARKING MASKING

Just prior to beginning the asphalt surface treatment, all pavement marking tape will be covered with an approved pavement marking masking material. The masking will protect the pavement marking tape from oil and aggregates. Tabs will be placed on each masking line to provide a guide for locating the masking material after the surface treatment has been applied. Masking application ahead of the surface treatment will not exceed the amount estimated for the current day’s operation. Upon completion of the fog seal, all masking material will be removed and disposed of by the Contractor.

Typical masking products may require multiple layers installed prior to the asphalt surface treatment. The estimated quantity for payment is for one installation even though multiple layers of masking material was installed. Separate measurement and payment for each layer of masking material installed and removed will not be made.

The Contractor will remove and dispose of the masking material after completion of the work.

All costs associated with this work will be incidental to the various contract items for Pavement Marking Masking.

BULLNOSE MARKING, US18, MRM 112+ 0.9

The bullnose cold applied plastic pavement marking located on US18, MRM 112+ 0.9 will be removed and replaced with 2 – 4” yellow lines that match the arc of the bullnose. A quantity of 38’ of 5” pavement marking masking will be installed prior to the asphalt surface treatment. The masking will be removed and 2 – 4” yellow lines will be painted to create the arc.

TABLE OF PAVEMENT MARKING MASKING

Hwy.	Begin MRM	End MRM	Description	Pavement Marking Masking, Arrow	Pavement Marking Masking, Message	Pavement Marking Masking, 5"	Remove Pavement Marking, Area	Pavement Marking Masking, 25"	Pavement Marking Masking, 9"
				(Each)	(Word)	(Ft)	SqFt	(Ft)	(Ft)
SD89	29.75	30+0.03	Intersection with US18		2			14	93
SD40	41+ 0.71	41+ 0.72	Intersection with SD79		2				
US18	87+ 0.83	88+ 0.84	Turn Lane Oglala	24				126	
US18	88+ 0.07		Crosswalk					72	
US18	88+ 0.20		Crosswalk					72	
US18	88+ 0.43		Crosswalk					72	
US18	88+ 0.69		Crosswalk					72	
US18	98+ 0.16		Crosswalk (Calico Dr.)					48	
US18	99+ 0.22		Turn Lane Red Cloud School	9				225	
US18	102+ 0.68	103+ 0.29	Turn Lane Pine Ridge	22				84	
US18	104.21	105+ 0.68	Turn Lane Pine Ridge	42				214	
US18	108+ 0.83	109+ 0.07	Turn Lane Lakota Tech	6				125	
US18	112+ 0.79	113+ 0.05	Turn Lane Big Foot Trail	3		38	80	138	
US18	120+ 0.91	121+ 0.25	Intersection with SD391	5				78	
US16E	50.46	50.84	Keystone Wye Interchange			4560		72	880
			Segment Total	**111**	**4**	**4598**	**80**	**1412**	**973**

TABLE OF PAVEMENT MARKING QUANTITIES

Highway					Total Length	High Build Waterborne Pavement Marking Paint, Yellow	High Build Waterborne Pavement Marking Paint, White	Temporary Pavement Marking
	MRM to		MRM		(miles)	(Gal)	(Gal)	Mile
US18	13+	0.074	20+	0.372	7.326	60	407	22.0
SD89	29.75+	0.000	30+	0.031	0.207	59	12	0.6
SD40	38.26+	0.538	47.81+	0.000	8.819	333	490	26.5
US18	87.52+	0.265	103.34+	0.000	15.512	274	862	46.5
US18	104.21+	0.070	121+	0.230	16.979	428	944	50.9
SD407	0+	0.000	1.79+	0.000	1.786	14	99	5.4
SD391	0+	0.000	3.37+	0.000	3.362	21	187	10.1
*US16E	50.46+		50.84+		0.684	4	19	2.1
				Totals	**54.675**	**1193**	**3020**	**164.0**

* US16E – US16E is cold applied plastic pavement marking. US16E on-ramp is paint.

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
1.3 miles on US18 (MRM 13+0.074 to MRM 20+ 0.372)
0.2 miles on SD89 (MRM 29.75 to MRM 30+ 0.031)
7.5 miles on SD40 (MRM 38.26+ 0.538 to MRM 47.81)
6.4 miles on US18 (MRM 87.52+ 0.265 to MRM 103.34)
11.9 miles on US18 (MRM 104.21+ 0.070 to MRM 121+ 0.230)
0.4 miles on SD407 (MRM 0 to MRM 1.79)
0.5 miles on SD391 (MRM 0 to MRM 3.37)

It is estimated that 6 DO NOT PASS (R4-1) and 6 PASS WITH CARE (R4-2) signs will be required on US18 (MRM 13+0.074 to MRM 20+ 0.372) to mark the no passing zones.

It is estimated that 2 DO NOT PASS (R4-1) and 2 PASS WITH CARE (R4-2) signs will be required on SD89 (MRM 29.75 to MRM 30+ 0.031) to mark the no passing zones.

It is estimated that 24 DO NOT PASS (R4-1) and 24 PASS WITH CARE (R4-2) signs will be required on SD40 (MRM 38.26+ 0.538 to MRM 47.81) to mark the no passing zones.

It is estimated that 24 DO NOT PASS (R4-1) and 24 PASS WITH CARE (R4-2) signs will be required on US18 (MRM 87.52+ 0.265 to MRM 103.34) to mark the no passing zones.

It is estimated that 16 DO NOT PASS (R4-1) and 16 PASS WITH CARE (R4-2) signs will be required on US18 (MRM 104.21+ 0.070 to MRM 121+ 0.230) to mark the no passing zones.

ADT greater than 2500 on SD407 (MRM 0 to MRM 1.79). No passing zones marked as per standard specifications.

It is estimated that 6 DO NOT PASS (R4-1) and 6 PASS WITH CARE (R4-2) signs will be required on SD391 (MRM 0 to MRM 3.37) 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.

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. An exception to this is US16E.

Traffic on US16E will be guided onto the shoulders to install the asphalt surface treatment half width at a time. A Type 3 Barricade will be installed at the end of the taper to shift traffic to one side. Use standard plate 634.46 as a guide for shifting traffic. W20-5 and W4-2 signs will not be needed.

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".

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.

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.

STATE OF SOUTH DAKOTA	PROJECT	SECTION	SHEET
	NH-P 0043(249)	non	11/27

INVENTORY OF TRAFFIC CONTROL DEVICES (US18, MRM 13+ 0.074 to MRM 20+ 0.372)

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	6	48" x 48"	16.0	96.0
W13-1P	ADVISORY SPEED (plaque)	6	30" x 30"	6.3	37.8
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 7 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
		CONVENTIONAL ROAD TRAFFIC CONTROL SIGNS SQFT			400.0

INVENTORY OF TRAFFIC CONTROL DEVICES (SD89, MRM 29.75 to MRM 30+ 0.031)

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	2	48" x 48"	16.0	32.0
W13-1P	ADVISORY SPEED (plaque)	2	30" x 30"	6.3	12.6
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 1 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
		CONVENTIONAL ROAD TRAFFIC CONTROL SIGNS SQFT			310.8

INVENTORY OF TRAFFIC CONTROL DEVICES (SD40, MRM 38.26+ 0.538 to MRM 47.81)

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	10	48" x 48"	16.0	160.0
W13-1P	ADVISORY SPEED (plaque)	10	30" x 30"	6.3	63.0
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 9 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
		CONVENTIONAL ROAD TRAFFIC CONTROL SIGNS SQFT			489.2

INVENTORY OF TRAFFIC CONTROL DEVICES (US18, MRM 87.52+ 0.265 to MRM 103.34)

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	14	48" x 48"	16.0	224.0
W13-1P	ADVISORY SPEED (plaque)	14	30" x 30"	6.3	88.2
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 16 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
		CONVENTIONAL ROAD TRAFFIC CONTROL SIGNS SQFT			578.4

INVENTORY OF TRAFFIC CONTROL DEVICES (US18, MRM 104.21+ 0.070 to MRM 121+ 0.230)

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	16	48" x 48"	16.0	256.0
W13-1P	ADVISORY SPEED (plaque)	16	30" x 30"	6.3	100.8
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 17 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
		CONVENTIONAL ROAD TRAFFIC CONTROL SIGNS SQFT			623.0

INVENTORY OF TRAFFIC CONTROL DEVICES (SD407, MRM 0 to MRM 1.79)

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	2	48" x 48"	16.0	32.0
W13-1P	ADVISORY SPEED (plaque)	2	30" x 30"	6.3	12.6
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 2 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
		CONVENTIONAL ROAD TRAFFIC CONTROL SIGNS SQFT			310.8

INVENTORY OF TRAFFIC CONTROL DEVICES (SD391, MRM 0 to MRM 3.37)

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	2	48" x 48"	16.0	32.0
W13-1P	ADVISORY SPEED (plaque)	2	30" x 30"	6.3	12.6
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 3 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
		CONVENTIONAL ROAD TRAFFIC CONTROL SIGNS SQFT			310.8

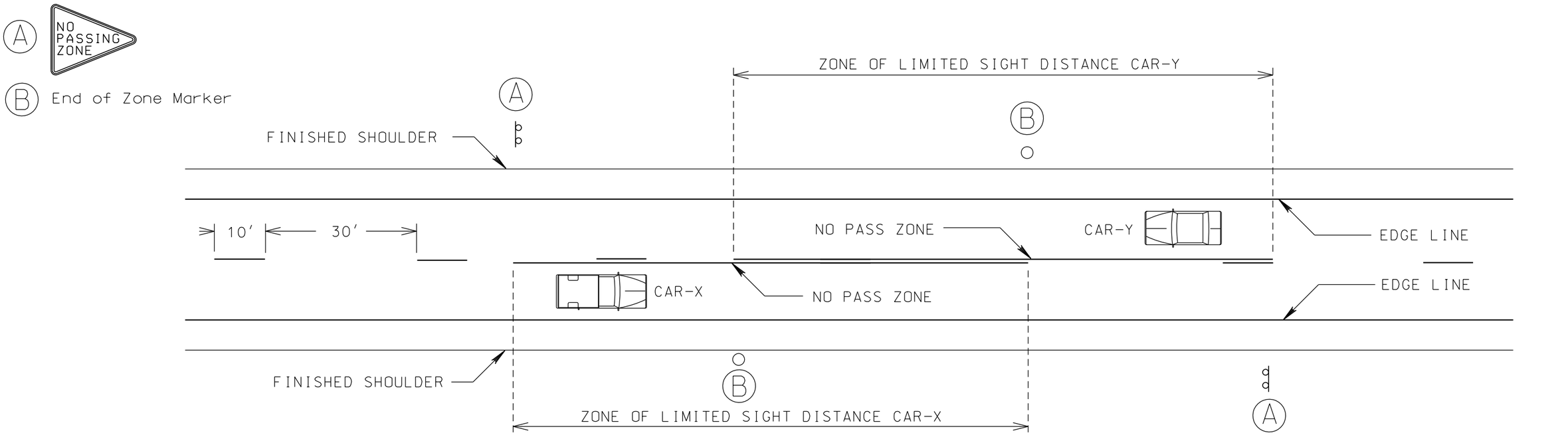
INVENTORY OF TRAFFIC CONTROL DEVICES (US16E, MRM 50.46+ 0.072 to MRM 50.84+ 0.111)

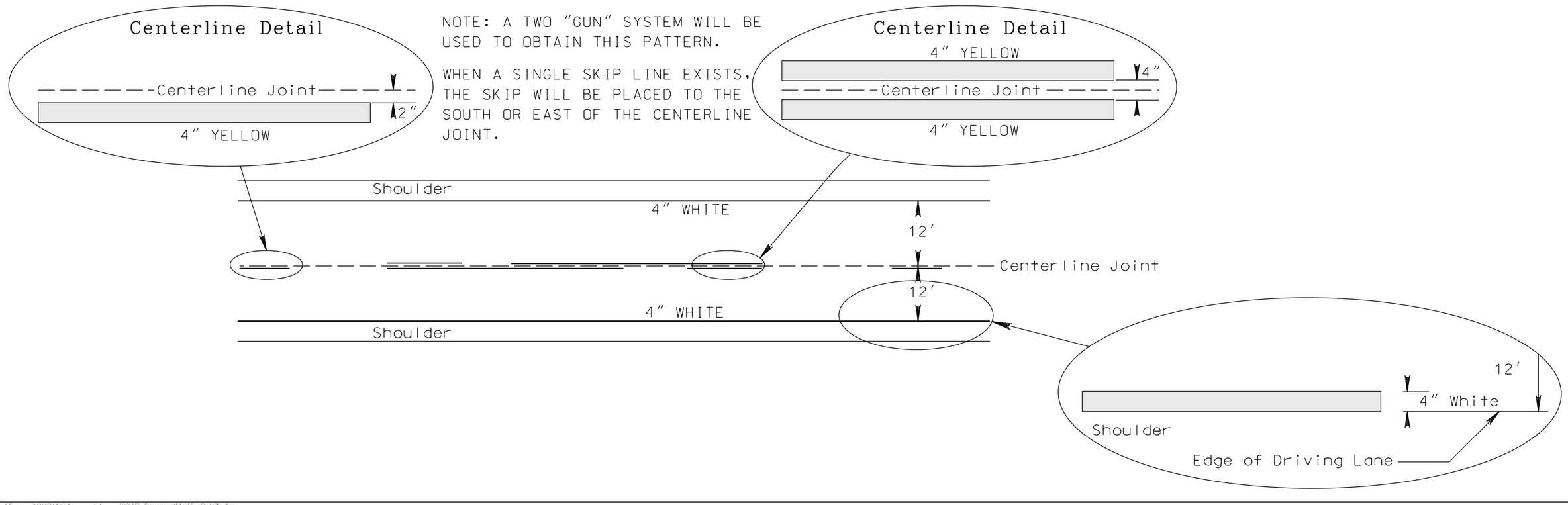
SIGN CODE	SIGN DESCRIPTION	NUMBER	SIGN SIZE	SQFT PER SIGN	SQFT
R1-2	YIELD	1	36"	3.9	3.9
R2-1	SPEED LIMIT 35	3	36" x 48"	12.0	36.0
R2-1	SPEED LIMIT 55	1	36" x 48"	12.0	12.0
R2-6aP	FINES DOUBLE (plaque)	1	36" x 24"	6.0	6.0
W1-4	REVERSE CURVE (L or R)	4	48" x 48"	16.0	64.0
W3-2	YIELD AHEAD (symbol)	1	48" x 48"	16.0	16.0
W3-4	BE PREPARED TO STOP	2	48" x 48"	16.0	32.0
W3-5	SPEED REDUCTION AHEAD (35 MPH)	3	48" x 48"	16.0	48.0
W4-1	MERGE (symbol)	1	48" x 48"	16.0	16.0
W5-4	RAMP NARROWS	1	48" x 48"	16.0	16.0
W8-6	TRUCK CROSSING	2	48" x 48"	16.0	32.0
W8-7	LOOSE GRAVEL	2	48" x 48"	16.0	32.0
W13-1P	ADVISORY SPEED (plaque)	4	30" x 30"	6.3	25.2
W13-4P	ON RAMP (plaque)	1	36" x 36"	9.0	9.0
W20-1	ROAD WORK AHEAD	6	48" x 48"	16.0	96.0
W20-7	FLAGGER (symbol)	2	48" x 48"	16.0	32.0
G20-2	END ROAD WORK	2	48" x 24"	8.0	16.0
		EXPRESSWAY / INTERSTATE TRAFFIC CONTROL SIGNS SQFT			492.1

TYPICAL PAVEMENT MARKING LAYOUT

SD DOT	PROJECT	SECTION	SHEET
	NH-P 0043(249)	non	12/27

Plotting Date: 10/27/2025





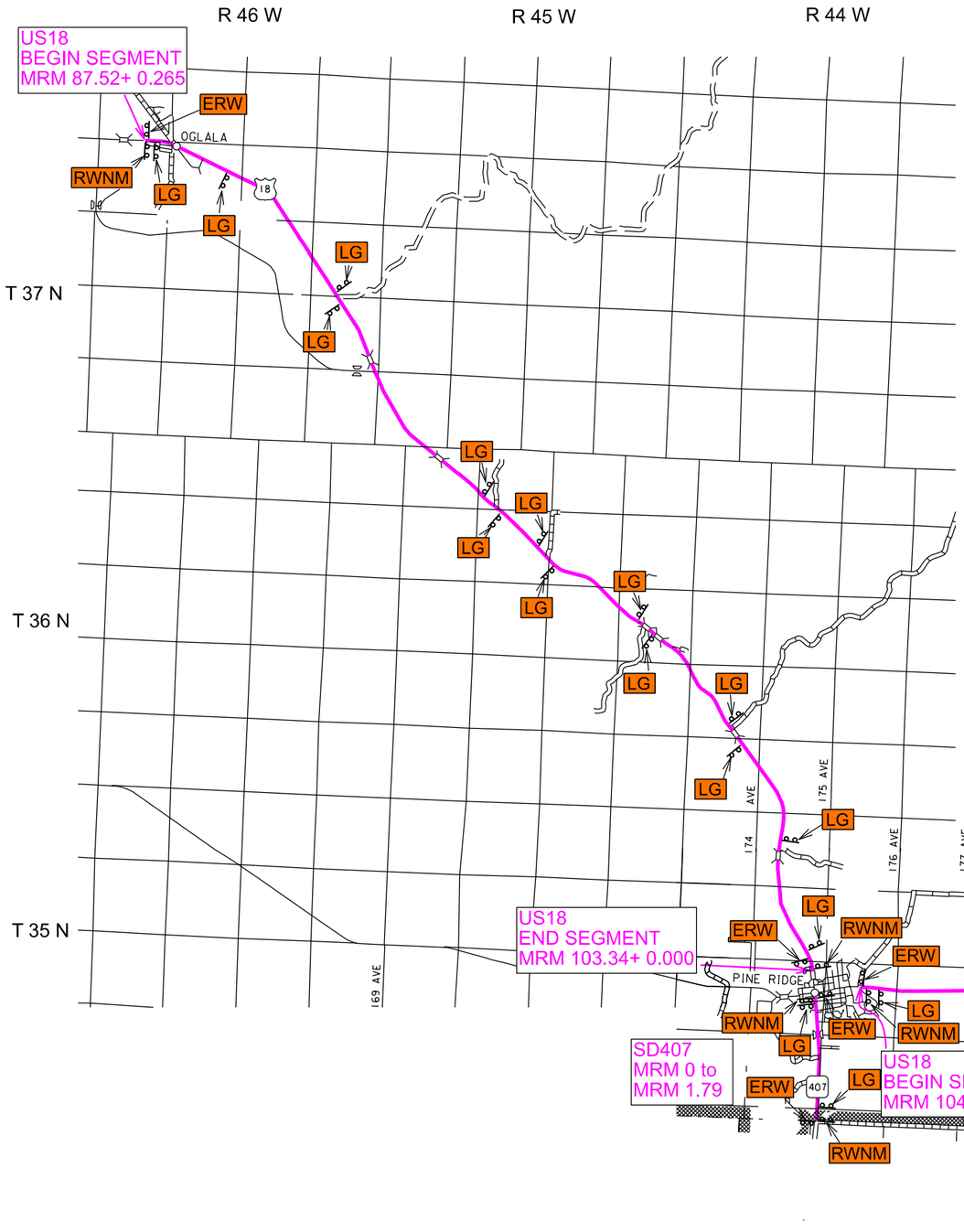
SD DOT	PROJECT	SECTION	SHEET
	NH-P 0043(249)	non	13/27

Plotting Date: 1/20/2026

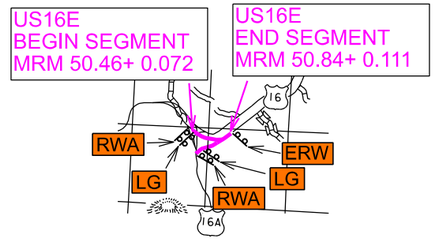
FIXED LOCATION SIGNS

RWA ROAD WORK AHEAD
RWNM 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).



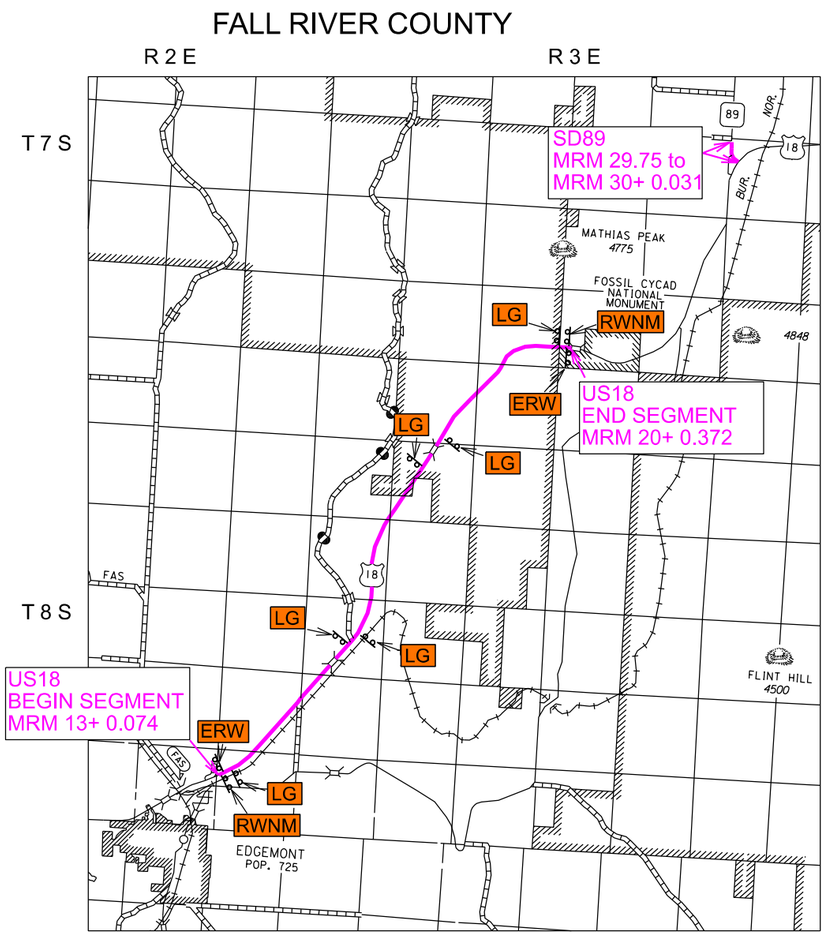
PENNINGTON COUNTY

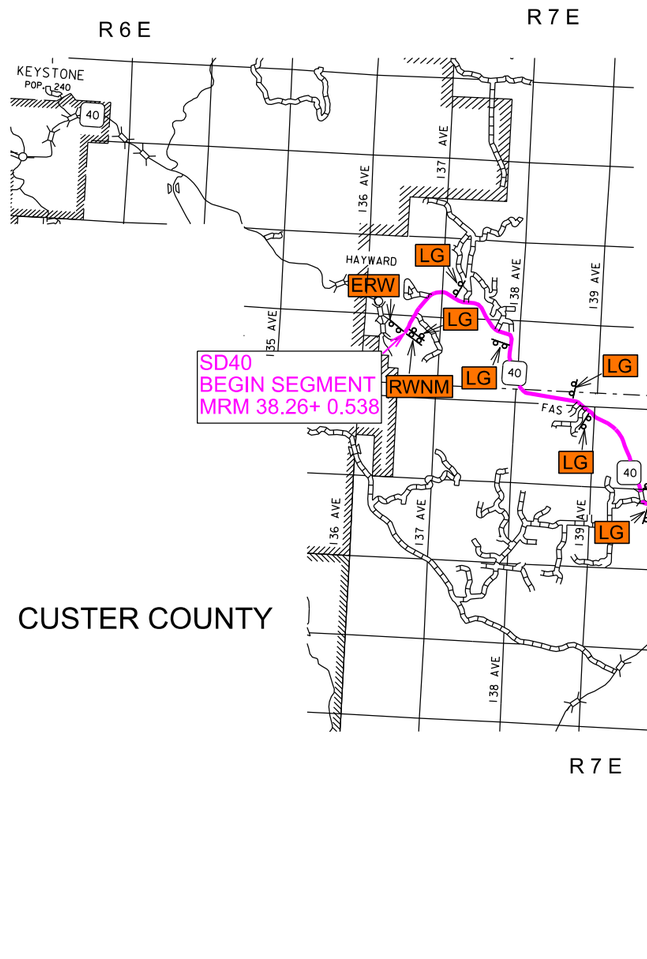


FIXED LOCATION SIGNS

RWNM 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).





TRAFFIC CONTROL

SD DOT	PROJECT	SECTION	SHEET
	NH-P 0043(249)	non	15/27

Plotting Date: 1/26/2026

US-16E Special Signing Detail #1

*All Spacing of Advanced Warning Signs On This Sheet is 350'

W20-1
ROAD WORK AHEAD

W3-5
SPEED LIMIT 35

R2-1
SPEED LIMIT 35

W1-4L OR W1-4R

TRAFFIC CONTROL

SD DOT	PROJECT	SECTION	SHEET
	NH-P 0043(249)	non	16/27

Plotting Date: 1/26/2026

US-16E Special Signing Detail #2

Channelizing Device
Reflectorized Drum

TRAFFIC CONTROL

SD DOT	PROJECT	SECTION	SHEET
	NH-P 0043(249)	non	17/27

Plotting Date: 1/26/2026

US-16E Special Signing Detail #3

Channelizing Device
Reflectorized Drum

TRAFFIC CONTROL

SD DOT	PROJECT	SECTION	SHEET
	NH-P 0043(249)	non	18/27

Plotting Date: 1/26/2026

US-16E Special Signing Detail #4

*Offset Channelizing Device 14' From Edge of Pavement

Channelizing Device

TRAFFIC CONTROL

SD DOT	PROJECT	SECTION	SHEET
	NH-P 0043(249)	non	19/27

Plotting Date: 1/26/2026

US-16E Special Signing Detail #5

*Offset Channelizing Device 14' From Edge of Pavement

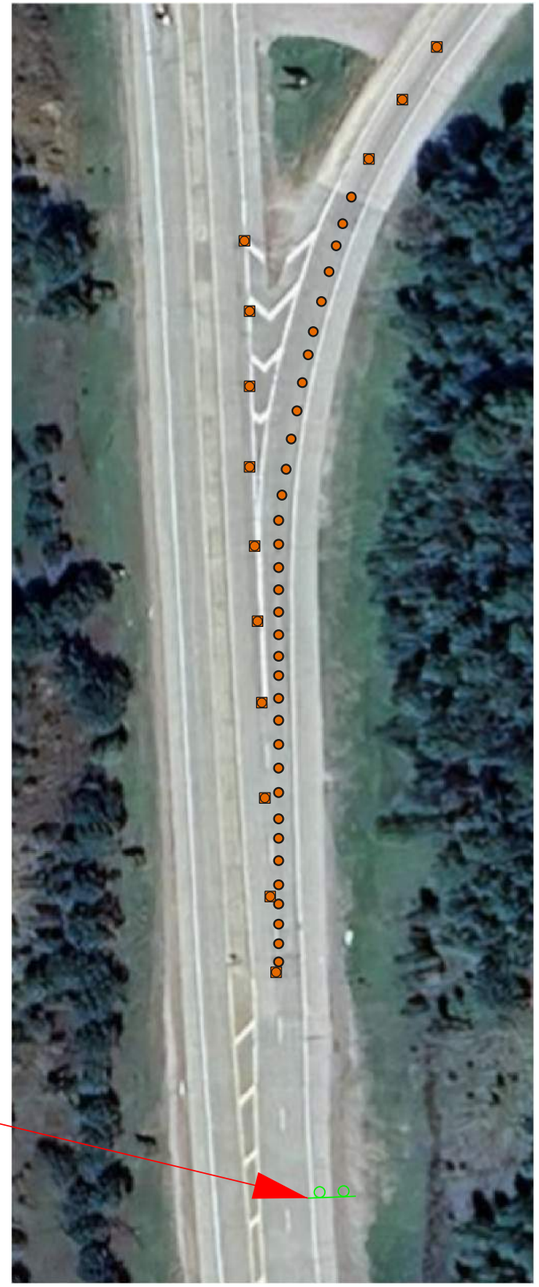
Channelizing Device

TRAFFIC CONTROL

US-16A Special Signing Detail #1

W1-4L OR W1-4R

W20-1 ROAD WORK AHEAD



W8-7 LOOSE GRAVEL 35 MPH

W13-1P

Channelizing Device
Reflectorized Drum

TRAFFIC CONTROL

US-16A Special Signing Detail #2

*Offset Channelizing Device 14' From Edge of Pavement

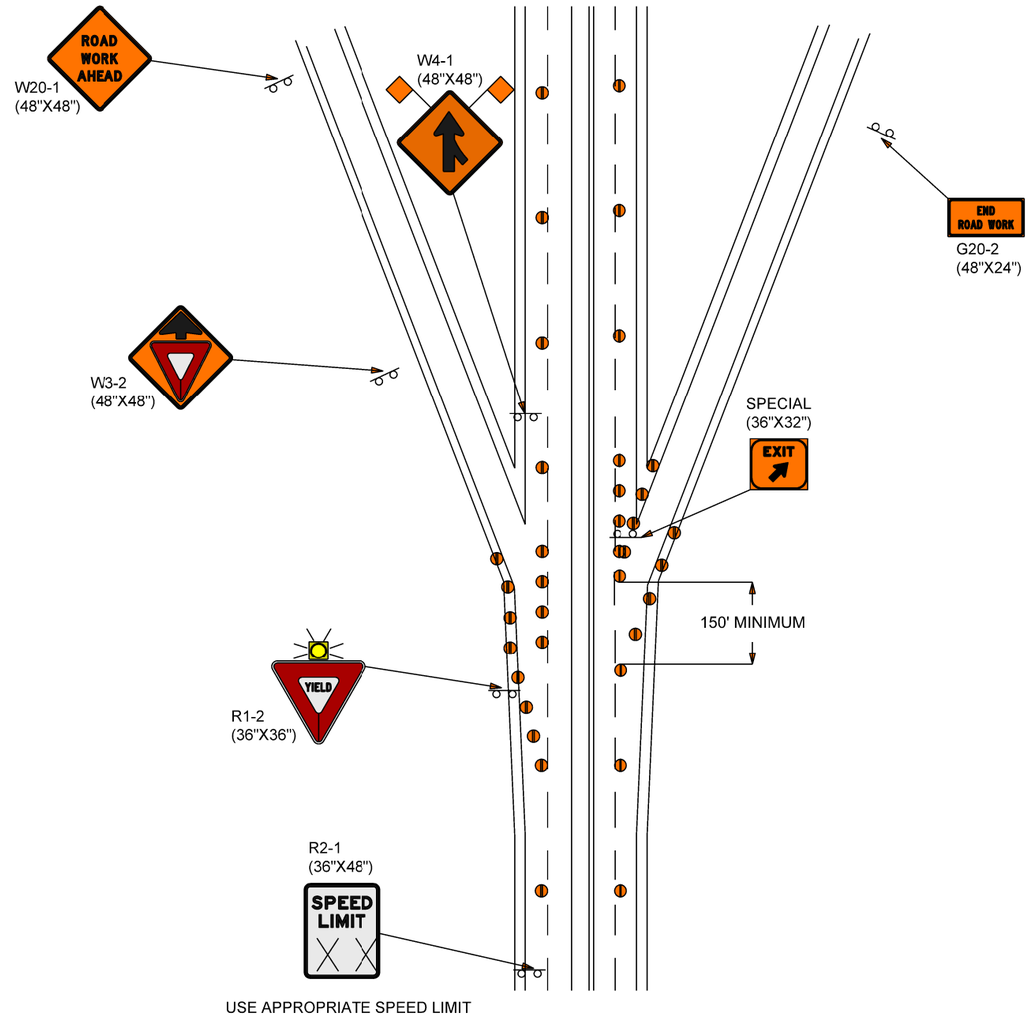
Channelizing Device

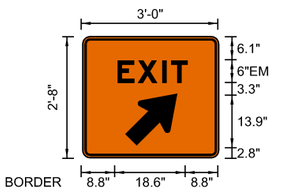
STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	NH-P 0043(249)	non	22/27

Plotting Date: 03/13/2025

TRAFFIC CONTROL

RAMP ENTRANCE AND EXIT SIGNING DETAILS #1





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

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

-- TYPE B SHIELDED WARNING LIGHT

Plot Scale - 1:40

Plotted From - TRRC11640

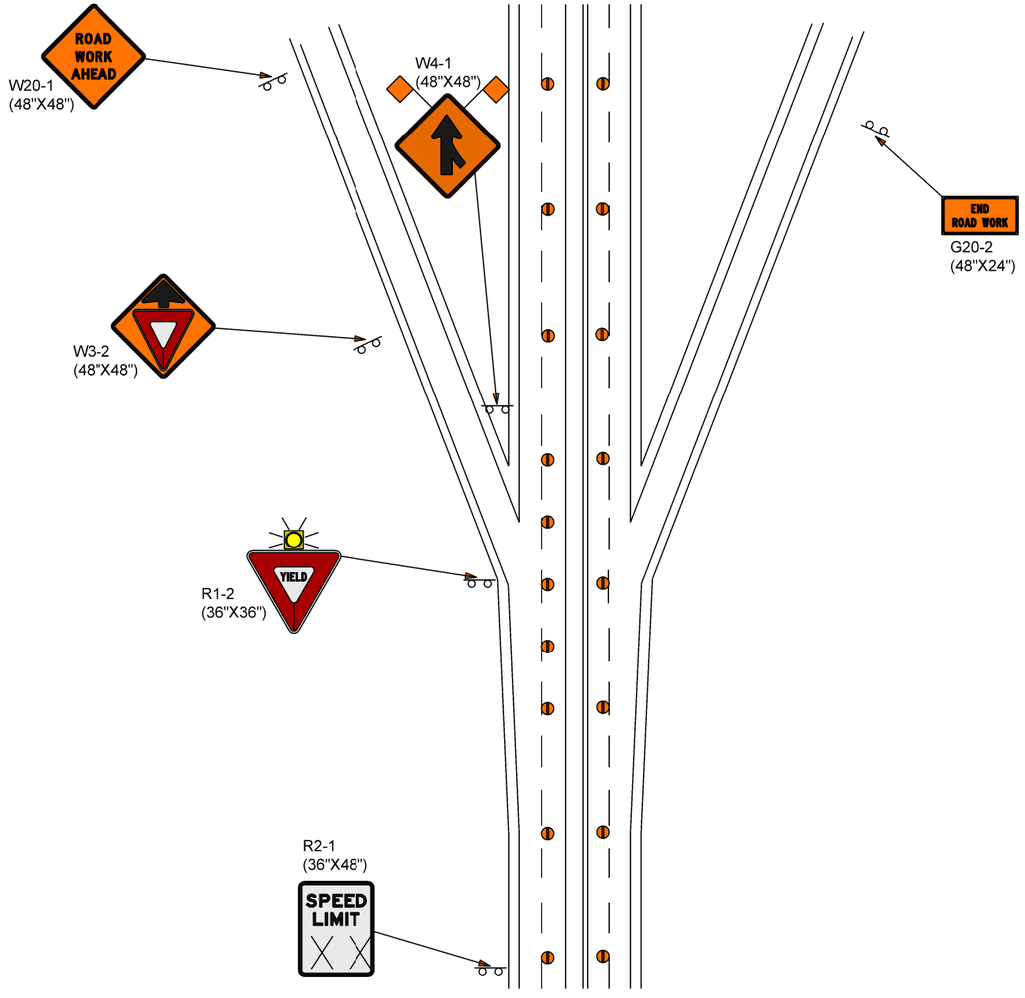
File - ...\Typical ramp signing details.dgn

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	NH-P 0043(249)	non	23/27

Plotting Date: 03/13/2025

TRAFFIC CONTROL

RAMP ENTRANCE AND EXIT SIGNING DETAILS #2



USE APPROPRIATE SPEED LIMIT

-- TYPE B SHIELDED WARNING LIGHT

Plot Scale - 1:40

Plotted From - TRRC11640

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.

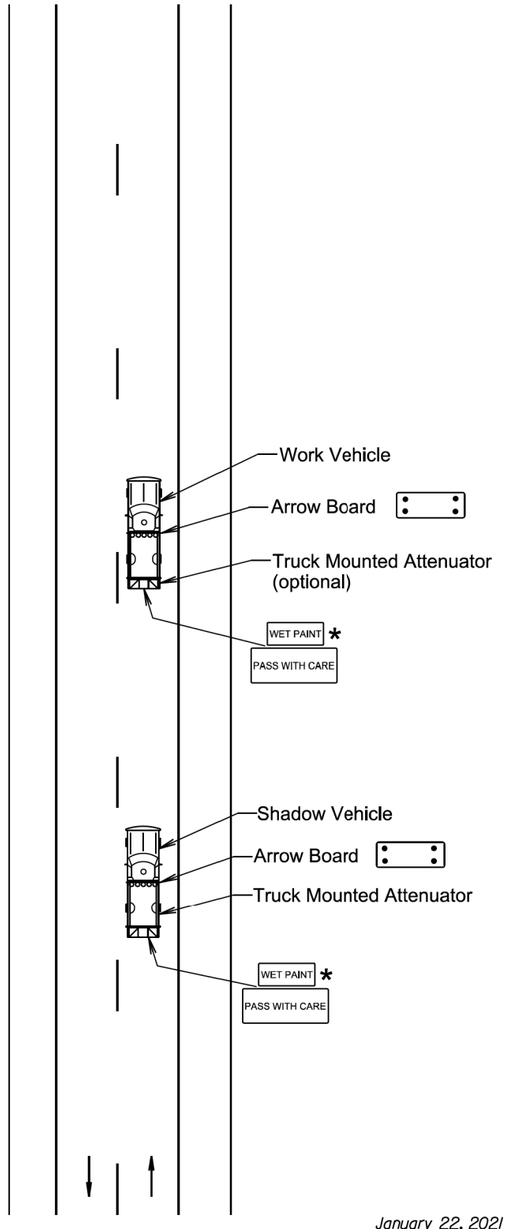
Shadow and Work vehicles will display high-intensity rotating, flashing, oscillating, or strobe lights, flags, signs, or arrow boards.

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

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	SDDOT	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.

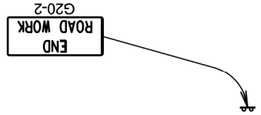
The ROAD WORK AHEAD and the END ROAD WORK signs may be omitted for short duration operations (1 hour or less).

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.

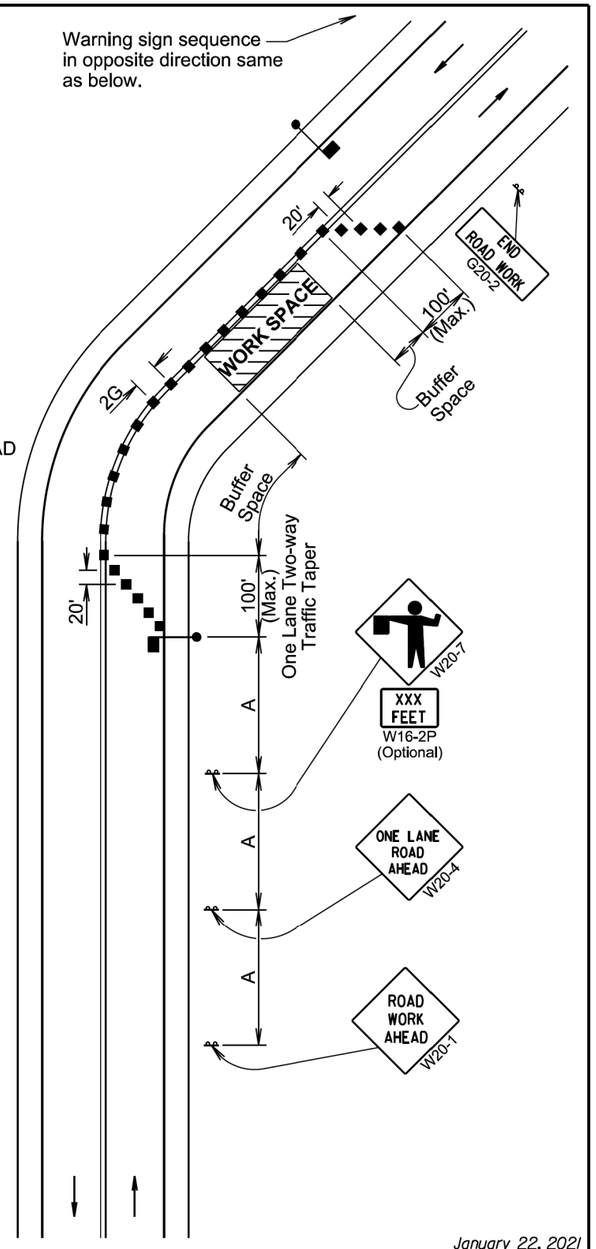
Channelizing devices are not required along the centerline adjacent to work area when pilot cars are utilized for escorting traffic through the work area.



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

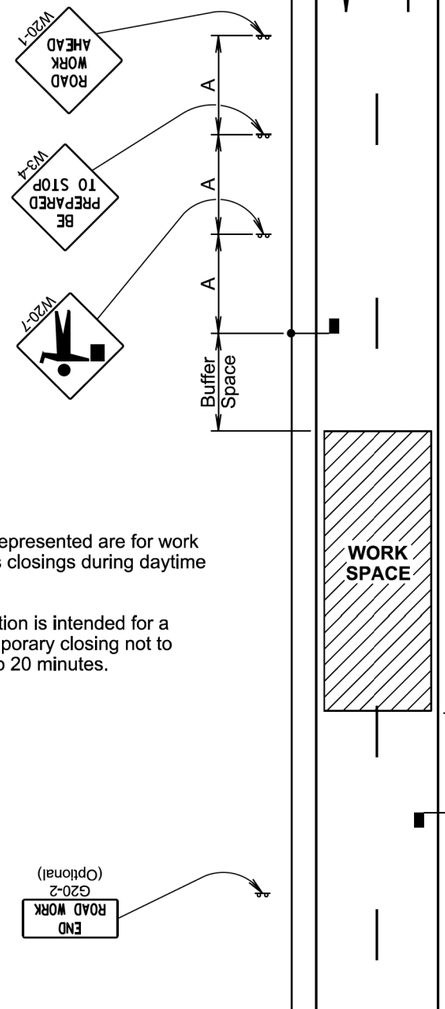
The buffer space should be extended so that the two-way traffic taper is placed before a horizontal or vertical curve to provide adequate sight distance for the flagger and queue of stopped vehicles.

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



January 22, 2021

Published Date: 2026	SDDOT	LANE CLOSURE WITH FLAGGER PROVIDED	PLATE NUMBER 634.23
			Sheet 1 of 1



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

Flagger

END ROAD WORK
G20-2
(Optional)

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

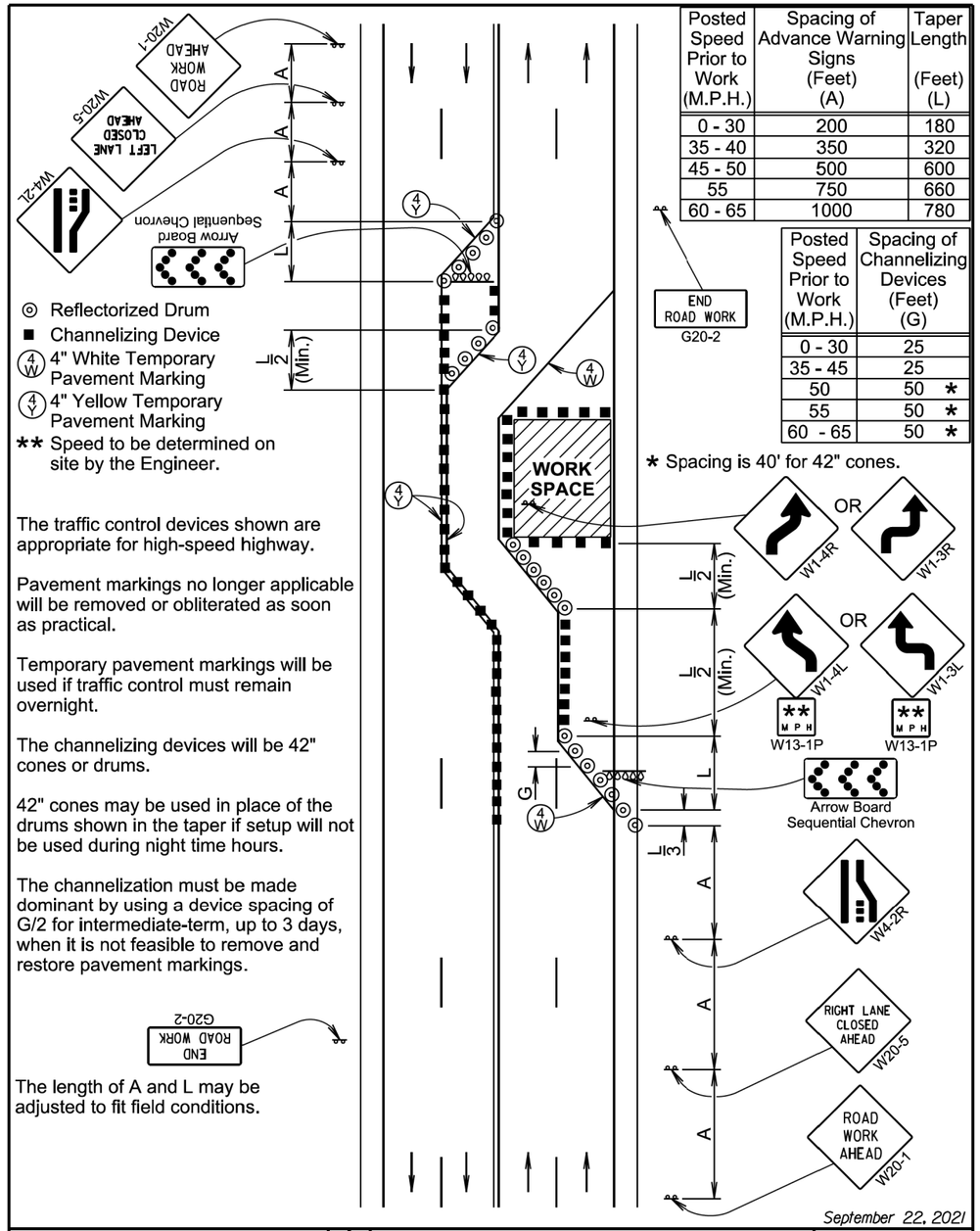
Buffer space dependent on work site limitations.

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.

January 22, 2021

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



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

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 *

* Spacing is 40' for 42" cones.

The traffic control devices shown are appropriate for high-speed highway.

Pavement markings no longer applicable will be removed or obliterated as soon as practical.

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

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.

The channelization must be made dominant by using a device spacing of G/2 for intermediate-term, up to 3 days, when it is not feasible to remove and restore pavement markings.

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

September 22, 2021

Published Date: 2026	SDDOT	HALF ROAD CLOSURE ON MULTILANE HIGHWAY	PLATE NUMBER 634.46 Sheet 1 of 1

Posted Speed Prior to Work (M.P.H.)	Spacing of Advance Warning Signs (Feet) (A) (B)	Taper Length (Feet) (L)
45 - 50	500	600
55	750	660
60 - 65	1000	780
	(A) (B)	
70 - 80	1000 1500	1125

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 - 80	50 *

* Spacing is 40' for 42" cones.

■ Channelizing Device

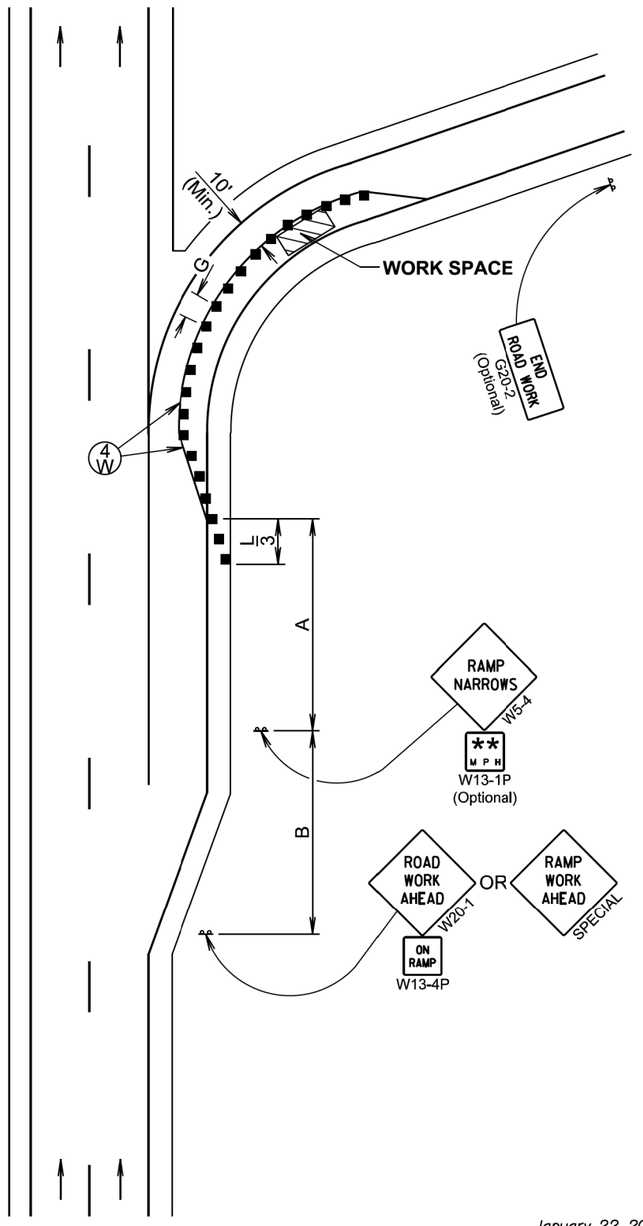
(4W) 4" White Temporary Pavement Marking

** Need and safe speed to be determined by the Engineer.

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

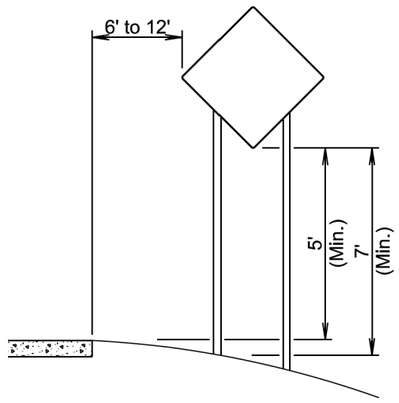
The channelizing devices will be drums or 42" cones if traffic control must remain overnight.

Truck off-tracking should be considered when determining whether the 10-foot minimum lane width is adequate.

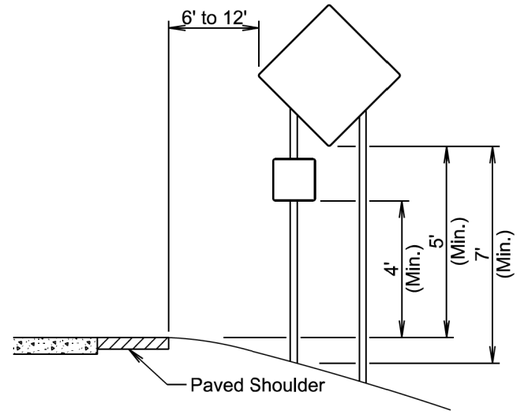


January 22, 2021

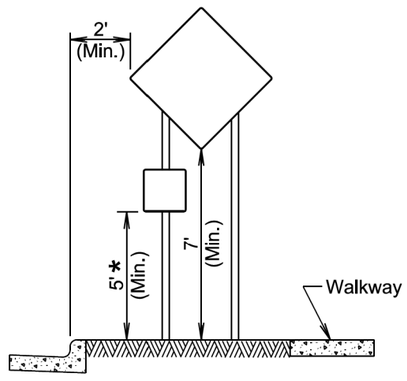
Published Date: 2026	SDDOT	PARTIAL EXIT RAMP CLOSURE	PLATE NUMBER 634.69 Sheet 1 of 1



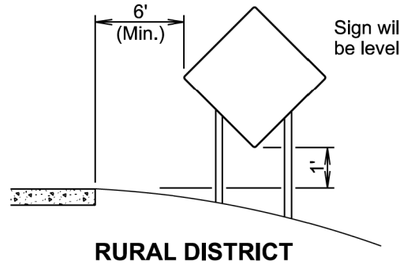
RURAL DISTRICT



RURAL DISTRICT WITH SUPPLEMENTAL PLATE



URBAN DISTRICT

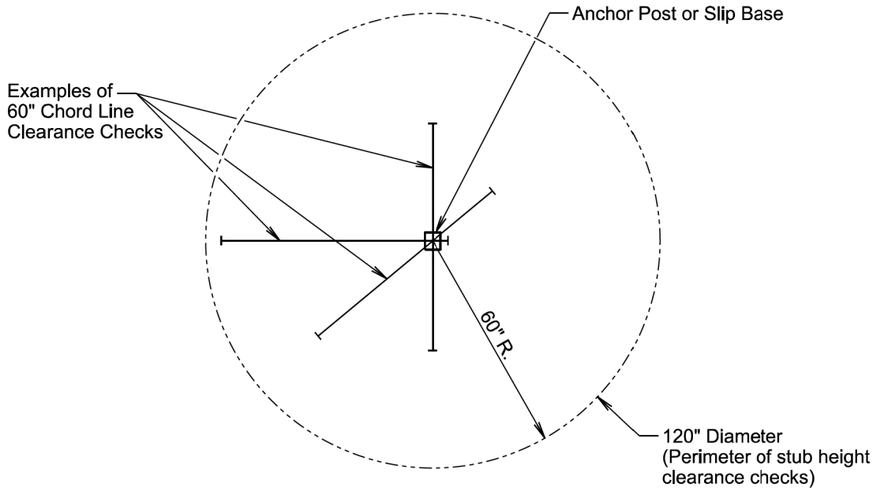


RURAL DISTRICT
3 DAY MAXIMUM
(Not applicable to regulatory signs)

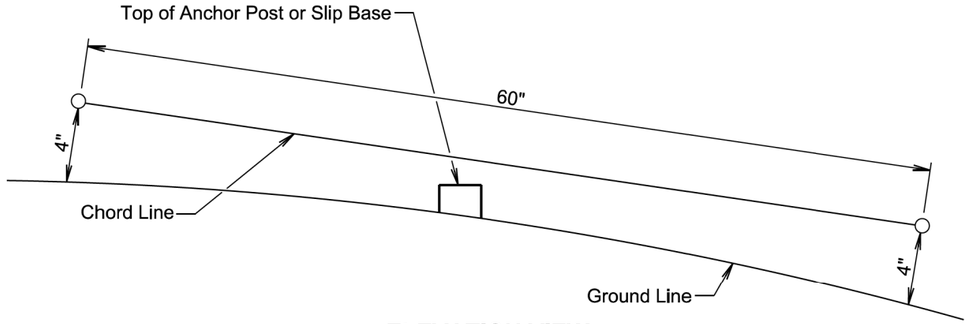
* If the bottom of supplemental plate is mounted lower than 7 feet above a pedestrian walkway, the supplemental plate should not project more than 4" into the pedestrian facility.

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