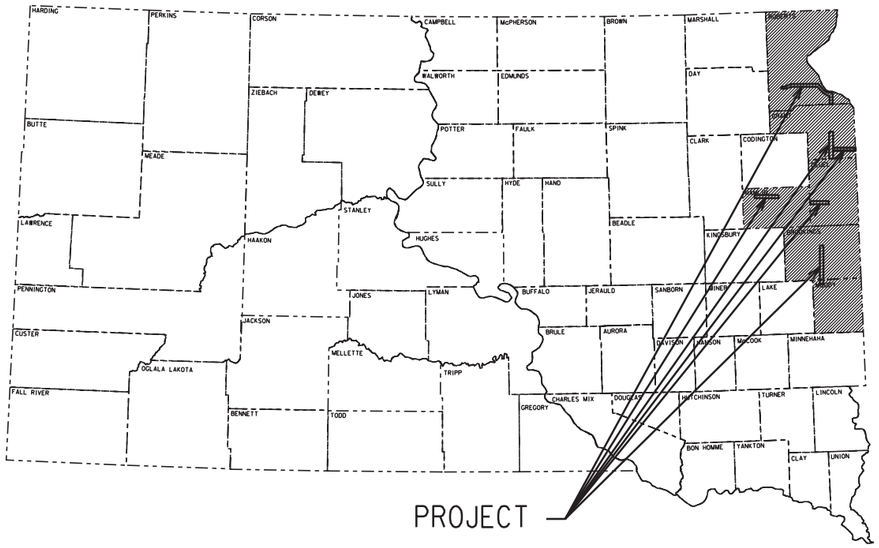
STATE OF SOUTH DAKOTA	PROJECT	SHEET NO.	TOTAL SHEETS
	IM-P 0012(319)	1	29

STATE OF SOUTH DAKOTA
DEPARTMENT OF TRANSPORTATION
PLANS FOR PROPOSED

PROJECT IM-P 0012(319)
INTERSTATE HIGHWAY 29, SOUTH DAKOTA HWY 15, 20, & 22
MOODY, BROOKINGS, HAMLIN, DEUEL, GRANT, ROBERTS COUNTIES

ASPHALT SURFACE TREATMENT
PCN 09L6

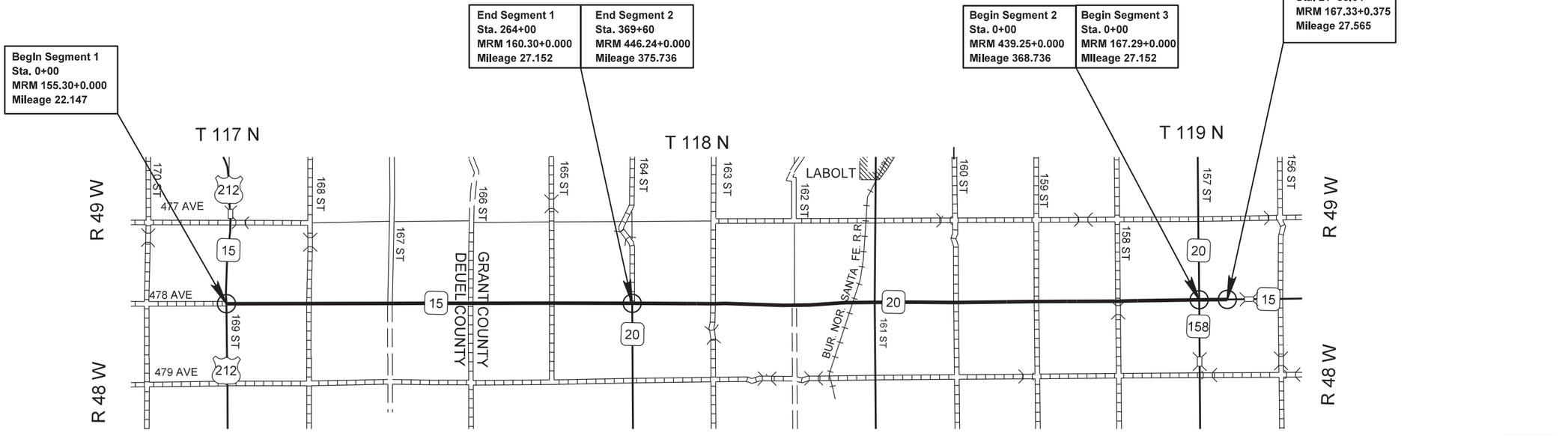


Segment 1
SD 15 - MRM 155.30+0.000 to MRM 160.30+0.000
Grant County
Length 5.005 miles

Segment 2
SD 20 - MRM 439.25+0.000 to MRM 446.24+0.000
Grant County
Length 7.000 miles

Segment 3
SD 15 - MRM 167.29+0.000 to MRM 167.33+0.375
Grant County
Length 0.413 miles

INDEX OF SHEETS



Design Designation Segment 1	
ADT (2023)	1219
ADT (2043)	1655
DHV	186
D	50%
T DHV	10.4%
T ADT	22.9%
V	65 m.p.h.

Design Designation Segment 2	
ADT (2023)	1374
ADT (2043)	1877
DHV	211
D	50%
T DHV	10.1%
T ADT	22.2%
V	65 m.p.h.

Design Designation Segment 3	
ADT (2023)	1643
ADT (2043)	2244
DHV	249
D	50%
T DHV	9.1%
T ADT	20.1%
V	65 m.p.h.

STORM WATER PERMIT
NONE REQUIRED

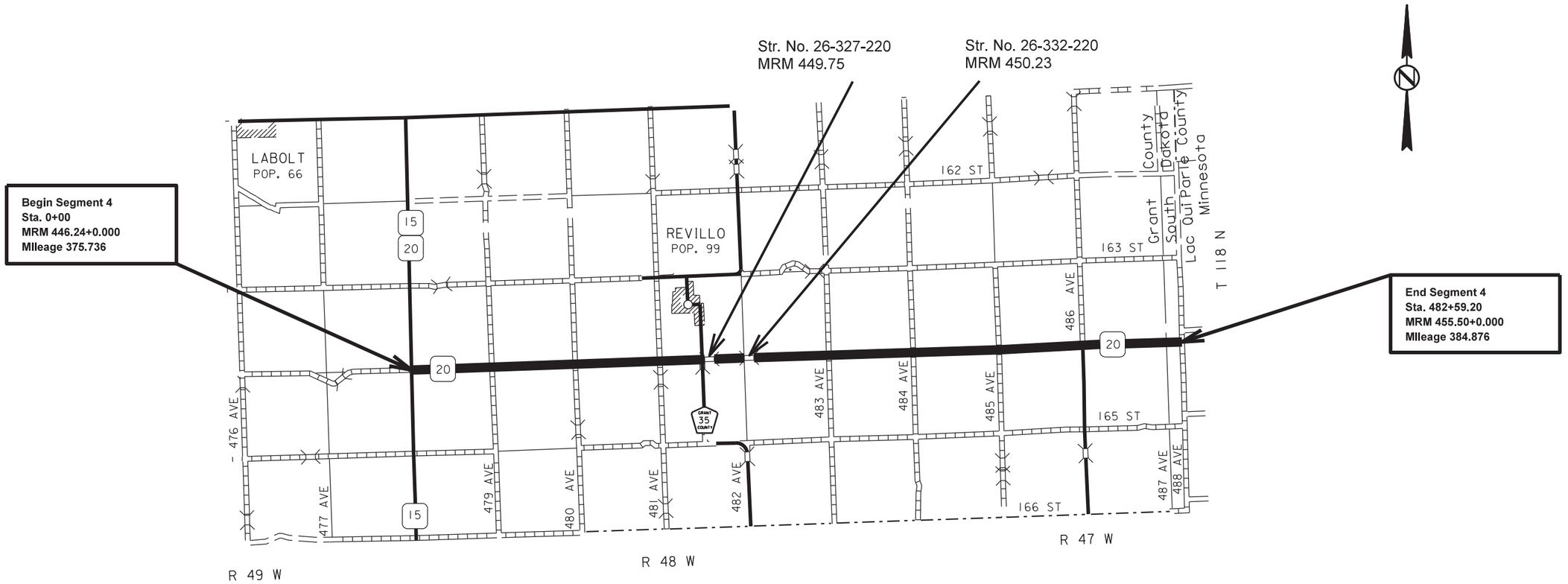
PLOTTED FROM - TRWAINT14

7

April 2, 2025

STATE OF SOUTH DAKOTA	PROJECT	SHEET NO.	TOTAL SHEETS
	IM-P 0012(319)	2	29

Segment 4
SD 20 - MRM 446.24+0.000 to MRM 455.50+0.000
Grant County
Length 9.140 miles

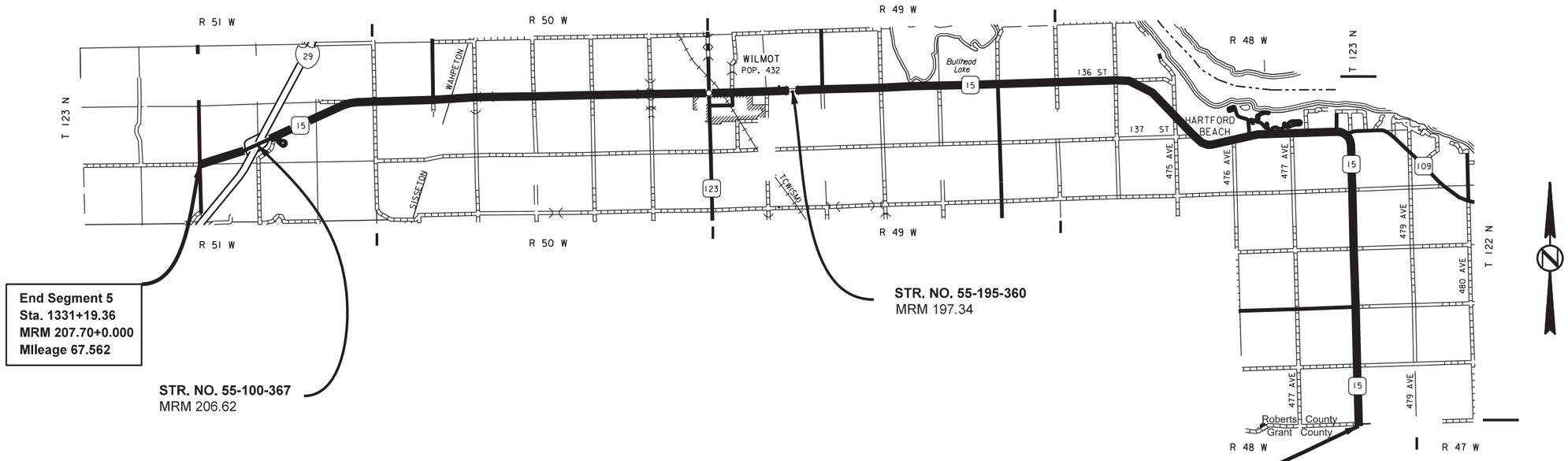


Design Designation Segment 4	
ADT (2023)	249
ADT (2043)	340
DHV	38
D	50%
T DHV	6.8%
T ADT	15.0%
V	55 m.p.h.

PLOTTED FROM - TRWAINT14

STATE OF SOUTH DAKOTA	PROJECT	SHEET NO.	TOTAL SHEETS
	IM-P 0012(319)	3	29

Segment 5
SD 15 - MRM 182.46+0.000 to MRM 207.70+0.000
Roberts County
Length 25.212 miles

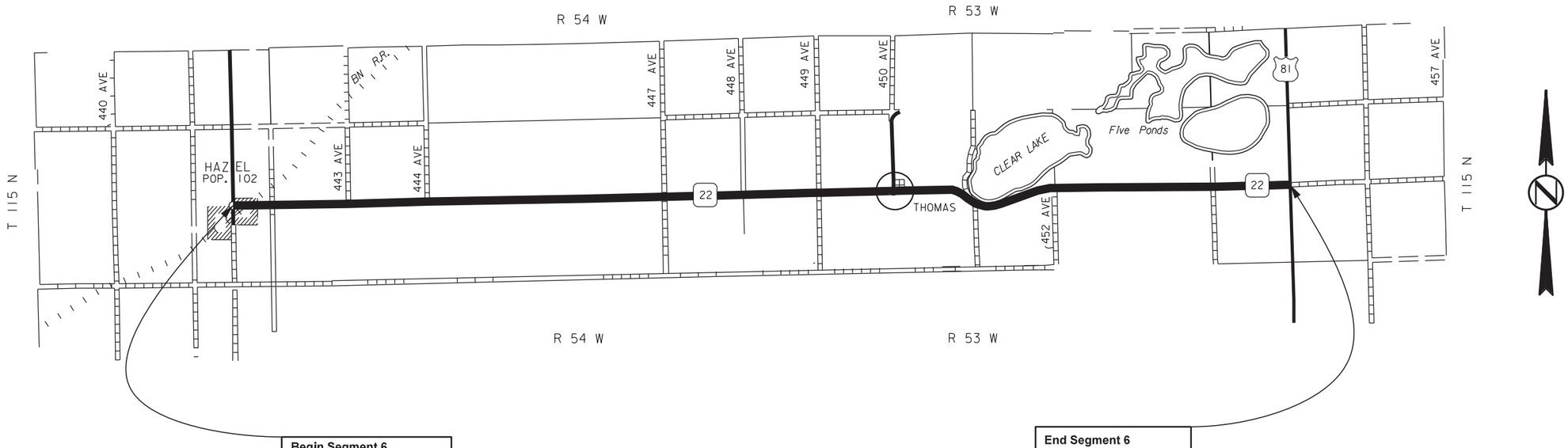


Design Designation Segment 5
ADT (2023) 663
ADT (2043) 1295
DHV 144
D 50%
T DHV 7.7%
T ADT 16.9%
V 65 m.p.h. (rural)
45 m.p.h. (urban)

PLOTTED FROM - TRWAINT14

STATE OF SOUTH DAKOTA	PROJECT	SHEET NO.	TOTAL SHEETS
	IM-P 0012(319)	4	29

Segment 6
US 22 - MRM 333.38+0.000 to MRM 346.85+0.000
Hamlin County
Length 13.487 miles

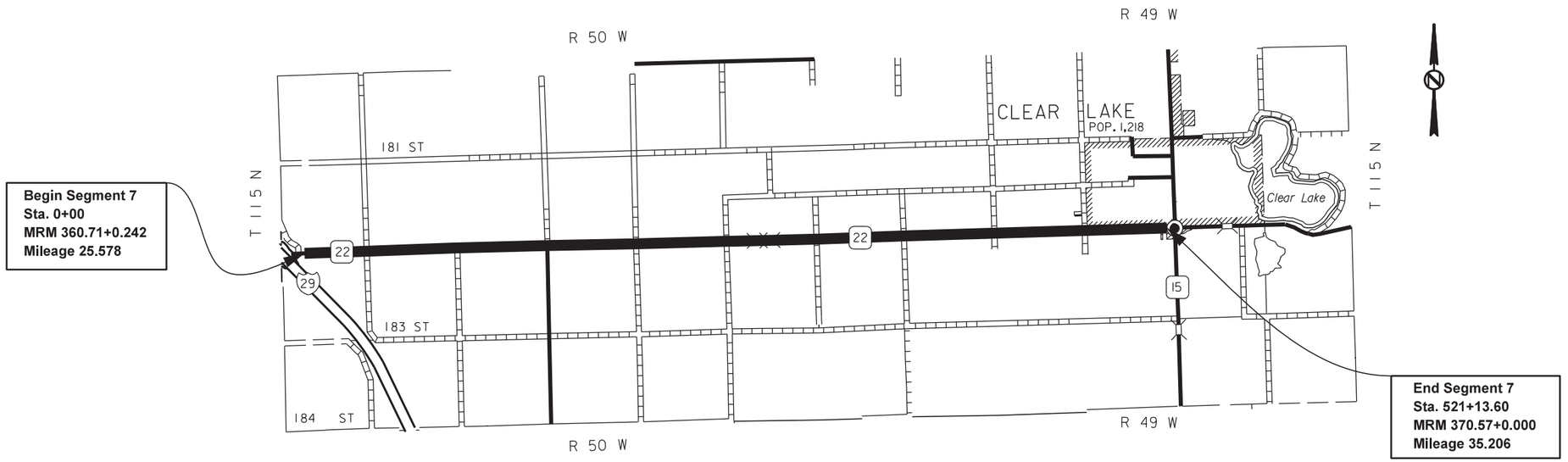


Design Designation Segment 6
ADT (2023) 620
ADT (2043) 933
DHV 105
D 50%
T DHV 6.7%
T ADT 14.8%
V 65 m.p.h. (rural)
25 m.p.h. (urban)

PLOTTED FROM - TRWAINT14

STATE OF SOUTH DAKOTA	PROJECT	SHEET NO.	TOTAL SHEETS
	IM-P 0012(319)	5	29

Segment 7
SD 22 - MRM 360.71+0.242 to MRM 370.57+0.000
Deuel County
Length 9.628 miles



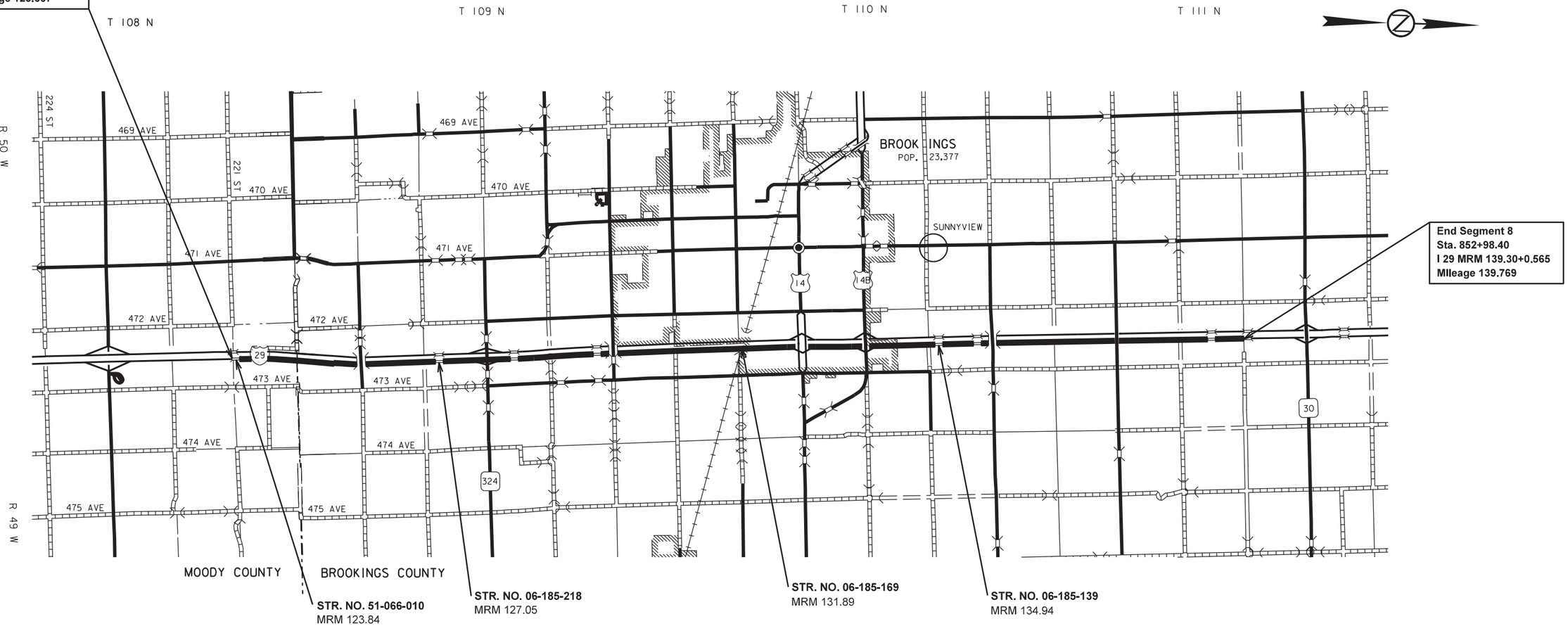
Design Designation Segment 7
ADT (2023) 1723
ADT (2043) 2593
DHV 291
D 50%
T DHV 6.4%
T ADT 14.0%
V 65 m.p.h. (rural)
50 m.p.h. (urban)

PLOTTED FROM - TRWAINT14

STATE OF SOUTH DAKOTA	PROJECT	SHEET NO.	TOTAL SHEETS
	IM-P 0012(319)	6	29

Segment 8
I 29 - MRM 123.00+0.796 to MRM 139.30+0.565
Moody / Brookings County
Length 16.155 miles

Begin Segment 8
Sta. 0+00
I 29 MRM 123.00+0.796
Mileage 123.667



End Segment 8
Sta. 852+98.40
I 29 MRM 139.30+0.565
Mileage 139.769

STR. NO. 51-066-010
MRM 123.84

STR. NO. 06-185-218
MRM 127.05

STR. NO. 06-185-169
MRM 131.89

STR. NO. 06-185-139
MRM 134.94

Design Designation Segment 8
ADT (2023) 6675
ADT (2043) 10557
DHV 1252
D 50%
T DHV 9.6%
T ADT 21.1%
V 80 m.p.h.

PLOTTED FROM - TRWAINT14

STATE OF SOUTH DAKOTA	PROJECT	SHEET NO.	TOTAL SHEETS
	IM-P 0012(319)	7	29

Revised 1-31-25
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Estimate of Quantities

BID ITEM NUMBER	ITEM	QUANTITY	UNIT
009E0010	Mobilization	Lump Sum	LS
330E0300	SS-1h or CSS-1h Asphalt for Fog Seal	345.4	Ton
330E2000	Sand for Flush Seal	454.9	Ton
330E3000	Sand for Fog Seal	70.0	Ton
360E0042	CRS-2P Asphalt for Surface Treatment	1,973.1	Ton
360E1010	Type 1A Cover Aggregate	2,088.9	Ton
360E1010	Type 1A Cover Aggregate	1,361.7	Ton
360E1010	Type 1A Cover Aggregate	3,905.0	Ton
360E1010	Type 1A Cover Aggregate	153.1	Ton
360E1010	Type 1A Cover Aggregate	1,899.9	Ton
360E1010	Type 1A Cover Aggregate	1,415.6	Ton
360E1010	Type 1A Cover Aggregate	2,131.1	Ton
633E0030	Cold Applied Plastic Pavement Marking, 24"	228	Ft
633E0040	Cold Applied Plastic Pavement Marking, Arrow	6	Each
633E0055	Cold Applied Plastic Pavement Marking, Railroad Crossing	6	Each
633E1200	High Build Waterborne Pavement Marking Paint, White	3,892	Gal
633E1205	High Build Waterborne Pavement Marking Paint, Yellow	1,099	Gal
633E6020	Pavement Marking Masking, 25"	936	Ft
633E6030	Pavement Marking Masking, Arrow	40	Each
633E6045	Pavement Marking Masking, Railroad Crossing	12	Each
634E0010	Flagging	720.0	Hour
634E0020	Pilot Car	150.0	Hour
634E0110	Traffic Control Signs	3,086.8	SqFt
634E0120	Traffic Control, Miscellaneous	Lump Sum	LS
634E0630	Temporary Pavement Marking	210.6	Mile
634E1215	Contractor Furnished Portable Changeable Message Sign	1	Each
998E0100	Railroad Protective Insurance	Lump Sum	LS

SPECIFICATIONS

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

ENVIRONMENTAL COMMITMENTS

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

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

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

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

COMMITMENT B: FEDERALLY THREATENED, ENDANGERED, AND PROTECTED SPECIES

COMMITMENT B2: WHOOPING CRANE

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

Action Taken/Required:

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

COMMITMENT B4: BALD EAGLE

Bald eagles are known to occur in this area.

Action Taken/Required:

If a nest is observed within one mile of the project site, notify the Project Engineer immediately so that he/she can consult with the Environmental Office for an appropriate course of action.

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 Historic Preservation Office (SHPO or THPO) for all work included within the project limits and all department designated sources and designated option material sources, stockpile sites, storage areas, and waste sites provided within the plans.

Action Taken/Required:

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

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

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

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

In the event of an inadvertent discovery of human remains, funerary objects, or if evidence of cultural resources is identified during project construction activities, then such activities within 100 feet of the inadvertent discovery will immediately cease and the Project Engineer will be immediately notified. The Project Engineer will contact the SDDOT Environmental Office, who will contact the appropriate SHPO/THPO within 48 hours of the discovery to determine an appropriate course of action.

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

TABLE OF QUANTITIES - PROJECT IM-P 0012(319) PCN 09L6

STATE OF SOUTH DAKOTA	PROJECT	SHEET NO.	TOTAL SHEETS
	IM-P 0012(319)	9	29

(For Information Only)

Revised 1-31-25
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BID ITEM	DESCRIPTION	SEGMENT 1 SD 15 MRM 155.3 to 160.3	SEGMENT 2 SD 20 MRM 439.25 to 446.24	SEGMENT 3 SD 15 MRM 167.29 to 167.33+0.375	SEGMENT 4 SD 20 MRM 446.24 to 455.50	SEGMENT 5 SD 15 MRM 182.46 to 207.70	SEGMENT 6 SD 22 MRM 333.38 to 346.85	SEGMENT 7 SD 22 MRM 360.71+0.242 to 370.57	SEGMENT 8 I 29 N MRM 123.00+0.796 to 139.30+0.565	TOTAL QUANTITY	UNITS
009E0010	MOBILIZATION	LUMP SUM	LUMP SUM	LUMP SUM	LUMP SUM	LUMP SUM	LUMP SUM	LUMP SUM	LUMP SUM	LUMP SUM	LS
330E0300	SS-1H OR CSS-1H ASPHALT FOR FOG SEAL	36.2	50.7	3.8	38.3	103.0	56.5	56.9	-	345.4	TON
330E2000	SAND FOR FLUSH SEAL	-	-	-	-	-	-	-	454.9	454.9	TON
330E3000	SAND FOR FOG SEAL	10.0	10.0	10.0	10.0	10.0	10.0	10.0	-	70.0	TON
360E0042	CRS-2P ASPHALT FOR SURFACE TREATMENT	199.9	278.9	22.5	207.8	572.0	306.7	312.8	72.5	1973.1	TON
360E1010	TYPE 1A COVER AGGREGATE	1361.7	-	-	-	-	-	-	-	1361.7	TON
360E1010	TYPE 1A COVER AGGREGATE	-	1899.9	-	-	-	-	-	-	1899.9	TON
360E1010	TYPE 1A COVER AGGREGATE	-	-	153.1	-	-	-	-	-	153.1	TON
360E1010	TYPE 1A COVER AGGREGATE	-	-	-	1415.6	-	-	-	-	1415.6	TON
360E1010	TYPE 1A COVER AGGREGATE	-	-	-	-	3905.0	-	-	-	3905.0	TON
360E1010	TYPE 1A COVER AGGREGATE	-	-	-	-	-	2088.9	-	-	2088.9	TON
360E1010	TYPE 1A COVER AGGREGATE	-	-	-	-	-	-	2131.1	-	2131.1	TON
633E0030	COLD APPLIED PLASTIC PAVEMENT MARKING, 24"	-	-	-	12	12	-	204	-	228	FT
633E0040	COLD APPLIED PLASTIC PAVEMENT MARKING, ARROW	-	-	-	-	-	-	6	-	6	EACH
633E0055	COLD APPLIED PLASTIC PAVEMENT MARKING, RAILROAD CROSSING	-	2	-	-	2	2	-	-	6	EACH
633E1200	HIGH BUILD WATERBORNE PAVEMENT PAINT, WHITE	278	389	23	515	1403	749	535	-	3892	GAL
633E1205	HIGH BUILD WATERBORNE PAVEMENT PAINT, YELLOW	96	145	14	189	366	160	129	-	1099	GAL
633E6020	PAVEMENT MARKING MASKING, 25"	96	192	192	24	24	-	408	-	936	FT
633E6030	PAVEMENT MARKING MASKING, ARROW	10	12	6	-	-	-	12	-	40	EACH
633E6045	PAVEMENT MARKING MASKING, RAILROAD CROSSING	-	4	-	-	4	4	-	-	12	EACH
634E0010	FLAGGING	100.0	100.0	20.0	100.0	160.0	120.0	120.0	-	720.0	HOUR
634E0020	PILOT CAR	20.0	20.0	5.0	20.0	35.0	25.0	25.0	-	150.0	HOUR
634E0110	TRAFFIC CONTROL SIGNS	309.9	327.7	132.5	391.0	631.3	487.8	398.6	408.0	3086.8	SQFT
634E0120	TRAFFIC CONTROL, MISCELLANEOUS	LUMP SUM	LUMP SUM	LUMP SUM	LUMP SUM	LUMP SUM	LUMP SUM	LUMP SUM	LUMP SUM	LUMP SUM	LS
634E0630	TEMPORARY PAVEMENT MARKING	15.0	21.0	1.2	28.0	76.0	40.4	29.0	-	210.6	MILE
998E0100	RAILROAD PROTECTIVE INSURANCE	-	LUMP SUM	-	-	LUMP SUM	-	-	LUMP SUM	LUMP SUM	LS

PLOTTED FROM - TRWAINT14

STATE OF SOUTH DAKOTA	PROJECT	SHEET NO.	TOTAL SHEETS
	IM-P 0012(319)	10	29

TABLE OF ADDITIONAL QUANTITIES

Segments	Highway	White Paint (Gal)	Yellow Paint (Gal)	Aggregate (Tons)	CRS-2P (Tons)	Fog Seal (Tons)	Location	County
1	15	2.0	3.0	23.2	3.4	0.4	Junction US 212 Right Turn Lane	Deuel
1	15	2.0	3.0	46.5	6.8	0.9	Junction SD 20 (Revillo) Turn Lane	Grant
2	20	2.0	3.0	46.5	6.8	0.9	Junction SD 20 (Revillo) Turn Lane	Grant
2	20	2.0	3.0	46.5	6.8	0.9	Junction SD 20 (South Shore) Turn Lane	Grant
3	15	2.0	3.0	46.5	6.8	0.9	Junction SD 20 (South Shore) Turn Lane	Grant
7	22	4.0	6.0	92.9	13.6	1.8	Junction Goodwin Road Left Turn Lane	Hamlin
TOTALS		**14.0**	**21.0**	**302.1**	**44.2**	**5.8**		

Pavement Marking Table

Segment	Highway	Temp Pavement Marking	High Build Waterborne Pavement Marking Paint, White	High Build Waterborne Pavement Marking Paint, Yellow	Pavement Marking Masking, Arrow	Cold Applied Plastic Pavement Marking, Arrow	Cold Applied Plastic Pavement Marking, Railroad Crossing	Pavement Marking Masking, Railroad Crossing	Cold Applied Plastic Pavement Marking, 24"	Cold Plastic Pavement Marking Masking, 25"	Location
		Miles	**Gal**	**Gal**	**Each**	**Each**	**Each**	**Each**	**Ft**	**Ft**	
1	15	15.0	278	96	10.00	-	-	-	-	96.00	Jct US 212 Right Turn Lane & Jct SD 20 (Revillo) Left Turn Lane
2	20	21.0	389	145	12.00	-	2.00	4.00	-	192.00	Jct SD 20 (Revillo) Left Turn Lane & Jct SD 20 (South Shore) Left Turn Lane
3	15	1.2	23	14	6.00	-	-	-	-	192.00	Junction SD 20 (South Shore) Left Turn Lane
4	20	28.0	515	189	-	-	-	-	12.00	24.00	Stop Bar (West End)
5	15	76.0	1403	366	-	-	2.00	4.00	12.00	24.00	RR Crossing at Wilmot & Stop Bar (West End)
6	22	40.4	749	160	-	-	2.00	4.00	-	-	RR Crossing at Hazel
7	22	29.0	535	129	12.00	6.00	-	-	204.00	408.00	Junction Goodwin Road Left Turn Lane & Stop Bar (East End)
8	I29 N	-	-	-	-	-	-	-	-	-	
		210.6	**3892**	**1099**	**40.00**	**6.00**	**6.00**	**12.00**	**228.00**	**936.00**	

RATE OF MATERIALS

The Estimate of Quantities is based on the following quantities of materials per mile.

FLUSH SEAL:

SEGMENT	ROUTE	STATION	to	STATION
8	I 29 N	0+00		852+98.40

Median Shoulders

CRS-2P Asphalt for Surface Treatment at the rate of 1.5 tons applied 4 feet wide.
(Rate = 0.15 Gal./S.Y.)

Sand for Flush Seal at the rate of 9.4 tons applied 4 feet wide.
(Rate = 8 Lbs./S.Y.)

Outside Shoulders

CRS-2P Asphalt for Surface Treatment at the rate of 3.0 tons applied 8 feet wide.
(Rate = 0.15 Gal./S.Y.)

Sand for Flush Seal at the rate of 18.7 tons applied 8 feet wide.
(Rate = 8 Lbs./S.Y.)

ASPHALT SURFACE TREATMENT:

SEGMENT	ROUTE	STATION	to	STATION
1	SD 15	0+00		264+00
2	SD 20	0+00		369+60
3	SD 15	0+00		21+80.64

CRS-2P Asphalt for Surface Treatment at the rate of 37.8 tons applied 40 feet wide.
(Rate = 0.38 Gal./S.Y.)

Type 1A Cover Aggregate at the rate of 258.2 tons applied 40 feet wide.
(Rate = 22 Lbs./S.Y.)

CSS-1H or SS-1H for Fog Seal at the rate of 6.9 tons applied 40 feet wide.
(Rate = 0.07 Gal./S.Y.)

SEGMENT	ROUTE	STATION	to	STATION
4	SD 20	0+00		482+59.20
5	SD 15	0+00		1331+19.36
6	SD 22	0+00		712+11.36

CRS-2P Asphalt for Surface Treatment at the rate of 22.7 tons applied 24 feet wide.
(Rate = 0.38 Gal./S.Y.)

Type 1A Cover Aggregate at the rate of 154.9 tons applied 24 feet wide.
(Rate = 22 Lbs./S.Y.)

CSS-1H or SS-1H for Fog Seal at the rate of 4.1 tons applied 24 feet wide.
(Rate = 0.07 Gal./S.Y.)

SEGMENT	ROUTE	STATION	to	STATION
7	SD 22	0+00		521+13.60

CRS-2P Asphalt for Surface Treatment at the rate of 30.3 tons applied 32 feet wide.
(Rate = 0.38 Gal./S.Y.)

Type 1A Cover Aggregate at the rate of 206.5 tons applied 32 feet wide.
(Rate = 22 Lbs./S.Y.)

CSS-1H or SS-1H for Fog Seal at the rate of 5.5 tons applied 32 feet wide.
(Rate = 0.07 Gal./S.Y.)

Revised 1-31-25
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STATE OF SOUTH DAKOTA	PROJECT	SHEET NO.	TOTAL SHEETS
	IM-P 0012(319)	12	29

COORDINATION OF WORK

A separate contract for Project NH 0081(120)145 PCN 07YW Codington County will be awarded to another Contractor for Cold Milling & Resurfacing Asphalt Pavement on U.S. Highway 81 adjacent to this contract.

The Contractor will schedule work so as not to interfere with or hinder the progress of the work performed by other contractors on the above project.

SEQUENCE OF OPERATIONS

The below sequence is for **Segments 1 thru 7 (Asphalt Surface Treatment):**

1. Install fixed location ground mounted traffic control devices.
2. Install and remove temporary traffic control devices as needed for each type of work.
3. Install cold applied plastic pavement marking.
4. Place temporary pavement marking and pavement marking masking not more than 24 hours prior to chip seal.
5. Apply chip seal.

   The brooming operation will be immediately in front of the asphalt distributor.

   The Contractor will begin sealing operations at the farthest point from the stockpile site and work towards the stockpile site to eliminate unnecessary driving and turning on the fresh seal.

   The application of the asphalt and aggregate will cease at least one hour prior to sunset each day.

   Remove cover from tabs and remove masking.
6. Broom chip sealed areas each morning following chip seal application.
7. Pick up cover aggregate in curb & gutter areas and on portions of Segments 5 (Wilmot), 6 (Hazel), and 7 (Clear Lake) within City Limits and as directed by the Engineer.
8. Install Masking.
9. Apply fog seal.
   Remove cover from tabs and remove masking.
10. Complete the pavement marking. Immediately prior to application of the permanent pavement marking, the areas to be painted will be broomed or blown off with high pressure compressed air. (If a high pressure air device is used to clean the pavement surface, it will be capable of sustaining continuous high pressure for the duration of the pavement marking process.)
11. Remove temporary pavement marking within the seven day time period specified elsewhere in the plans.
12. Remove traffic control devices.

The below sequence is for **Segment 8 (Shoulder Flush Seal):**

1. Install fixed location ground mounted traffic control devices.
2. Install and remove temporary traffic control devices as needed for each type of work.
3. Apply flush seal.

   The brooming operation will be immediately in front of the asphalt distributor.

   The application of the asphalt will cease at least one hour prior to sunset each day.
4. Remove traffic control devices.

The method of flush seal placement for Segment 8 will be discussed and approved at the preconstruction meeting by the Area Engineer.

Contractor requests to deviate from the sequence of operations will be submitted in writing to the Engineer for review. Approval of an alternate 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. An alternate sequence will be submitted for review a minimum of one week prior to potential implementation.

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.

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.

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

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

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

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".

On Segments 1 thru 7 (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.

On Segment 8 (Flush Seal), the Contractor will furnish, install and maintain FRESH OIL signs with ON SHOULDER signs upon start of flush seal operations at each end of the project. In addition, FRESH OIL signs with ON SHOULDER signs will be installed at 3 mile intervals throughout each project and at other location(s) determined in the field by the Engineer. Also, the Contractor will furnish, install, and maintain LOOSE GRAVEL (W8-7) signs at 4 mile intervals along the median side of I-29. The aforementioned signs will be removed 3 days following application of flush seal.

Traffic Control for Segment 8 will conform to Standard Plate 634.08. Segments 1 thru 7 will conform to Standard Plate 634.23.

GENERAL TRAFFIC CONTROL, CONTINUED

ROAD WORK NEXT XX MILES (G20-1), LOOSE GRAVEL (W8-7), 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. ROAD WORK AHEAD (W20-1), FLAGGER (W20-7), ONE LANE ROAD AHEAD (W20-4), and TRUCK CROSSING (W8-6) signs may be mounted on portable supports. Signs mounted on portable supports will be moved as necessary to keep current with the work activities.

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.

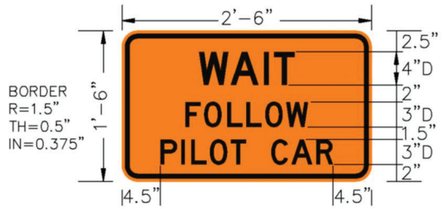
YOU MAY WISH TO CONSIDER TAKING AN ALTERNATE ROUTE. IF YOU PROCEED, KEEP TO THE RIGHT AND DRIVE 40 MPH OR LESS. ANOTHER FLAGGER AND A PILOT CAR WILL BE ESCORTING YOU AROUND THE OIL SEAL COAT APPLICATION AREA.

THANK YOU.

FLAGGING

Operations will be conducted so that the traveling public will not have to wait longer than 15 minutes at the flagger station.

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".

HAUL ROAD

The Contractor will be responsible for any haul roads used to transport material to the project site. The State will not participate in the cost of restoration of any haul roads used by the Contractor.

SHOULDER WORK

Prior to construction, Department of Transportation Maintenance Forces will spray the shoulders to kill existing vegetation. It will be the Contractor's responsibility to notify the State a minimum of thirty days prior to starting work on the shoulders of the highway. The State assumes no responsibility for the effectiveness of the herbicide applied. Contact: Watertown Area Engineer, Matt Brey 605-882-5166.

Vegetation and accumulated material on or adjacent to the existing roadway will be removed by the Contractor to the satisfaction of the Engineer prior to asphalt flush seal.

Shoulder work will be incidental to other contract items. Separate measurement and payment will not be made.

BRIDGES, APPROACH SLABS, SLEEPER SLABS, STRIP SEALS, MANHOLES, WATER VALVES AND CONCRETE

Asphalt Surface Treatment will not be placed on any of the bridges, approach slabs, sleeper slabs, strip seals, manholes, water valves or any type of concrete on these projects.

Loose aggregate will not be swept onto bridge decks or into drop inlets. Aggregate will be removed from neoprene joints located on approach slabs or bridge decks.

ESTIMATED QUANTITIES

The quantities of asphalt for surface treatment and cover aggregate are based off the rates shown in the Rates of Materials. This is only an estimate. The actual application rates of materials will be determined in the field during construction based upon the surface condition, aggregate type, aggregate gradation and flakiness index.

FLUSH SEAL

The Contractor will maintain traffic control on the flush sealing area until flush seal is cured enough to prevent pickup on vehicles. Sand application following application of the CRS-2p for shoulder flush seal on I-29 (or segment 8) will be as per Section 330.3 F.

The Contractor will take care not to get asphalt on the existing pavement marking. The distributors used during the flush seal will be equipped with guards to prevent the emulsified asphalt from coming in contact with the existing pavement marking. The existing pavement marking on the concrete is approximately two inches from the asphalt shoulder on the median side of the I-29 Segment 8.

The Contractor will use guides (wheels, cameras, etc.) installed on the distributors to follow the alignment of the concrete during sealing operations. The tracking of asphalt materials onto existing markings will not be acceptable.

Any damage to the existing pavement marking on the shoulders will be replaced with waterborne paint at the Contractor's expense with no additional costs to the State.

TYPE 1A COVER AGGREGATE

Failure on the #200 sieve will shut down operations until the Engineer determines if changes or corrections are required.

ASPHALT FOR SURFACE TREATMENT

The asphalt for surface treatment that is delivered for use on this contract will be used in the order it is received. Storage of asphalt for surface treatment will only be allowed at the end of the work day. The material that is placed in storage will be the first material used the following day.

FOG SEAL

The fog seal will begin within 7 calendar days following the completion of the chip seal on each segment. Prior to the application of the fog seal the Contractor will be required to broom the chip seal. A CSS-1h or SS-1h emulsion will be used for the fog seal application. A water-to-emulsion ratio of 1:1 will be used for the fog application.

The Contractor will avoid placing the Fog Seal over any newly placed Cold Applied Permanent Pavement Markings. The Contractor will be responsible for removing any CSS-1h or SS-1h that is on the markings. All costs associated with cleaning the pavement markings will be incidental to the contract unit price per ton for CSS-1h or SS-1h Asphalt for Fog Seal.

Blotting Sand for Fog Seal will conform to the Specifications Section 879.1 B.

Prior to hauling, Blotting Sand will be screened to minimize segregation, eliminate oversize and effectively breakup or discard material bonded into chunks.

FOG SEAL (Continued)

The Contractor will maintain traffic control on the fog sealing area until the fog seal is cured enough to prevent pickup on vehicles. Sand will be applied at intersections or other locations as directed by the Engineer.

TEMPORARY PAVEMENT MARKING

Temporary flexible vertical markers (tabs) with covers will be used to mark centerline. Paint will not be allowed for Temporary Pavement Marking.

The temporary flexible vertical markers (tabs) will have secure double covers. The Contractor will be required to remove the covers manually after completion of the sand seal and again after completion of the fog seal. Any markers that are non-reflective will be cleaned. Cleaning of temporary flexible vertical markers (tabs) will be incidental to the contract unit price per mile for Temporary Pavement Marking. Petroleum products will not be used to clean markers. The tab covers are considered construction debris and will be disposed of properly by the Contractor.

Any temporary flexible vertical markers (tabs) with covers removed before the fog seal will be replaced prior to application of the fog seal. 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 at no additional cost to the State.

The Contractor will remove and dispose of the temporary flexible vertical markers (tabs) after Permanent Pavement Marking is applied. Method of removal will be nondestructive to the road surface and will result in the marker being separated from the adhesive (the adhesive will remain on the road surface and the marker is discarded) or the marker will be cut in such a manner that no more than ¼" of the vertical portion of the marker remains on the road surface. Removal will be accomplished within 7 days of completion of the permanent pavement marking.

Cost for furnishing, applying, uncovering, cleaning, removing and disposing of the temporary flexible vertical markers (tabs) will be included in the contract unit price per mile for Temporary Pavement Marking.

The total length of no passing zone on this project is estimated to be as follows:

Segment 1 (SD 15): 2.1 miles
Segment 2 (SD 20): 3.3 miles
Segment 3 (SD 15): 0.413 miles
Segment 4 (SD 20): 4.3 miles
Segment 5 (SD 15): 6.3 miles
Segment 6 (SD 22): 7.5 miles
Segment 7 (SD 22): 7.1 miles

The Contractor is allowed to use DO NOT PASS and PASS WITH CARE signs for a period of 2 weeks to mark no passing zones on roads with an average daily traffic of 2500 vehicles or less, should the Contractor elect to use these signs. It is estimated that the following signs will be required to mark the no passing zones:

Location	DO NOT PASS	PASS WITH CARE
Segment 1 (SD 15)	8	8
Segment 2 (SD 20)	10	10
Segment 3 (SD 15)	1	1
Segment 4 (SD 20)	15	15
Segment 5 (SD 15)	28	28
Segment 6 (SD 22)	26	26
Segment 7 (SD 22)	33	33

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

Cost for traffic control to install and remove the temporary flexible vertical markers (tabs) will be incidental to the contract unit price per mile for Temporary Pavement Marking.

Quantities of Temporary Pavement Markings consist of:
One pass prior to the Seal Coat.
One pass after the Seal Coat.
One pass after the Fog Seal.

PERMANENT PAVEMENT MARKING

The Contractor will be required to repaint both centerline and edgelines with High Build Waterborne Pavement Marking Paint.

The application of Permanent Pavement Marking Paint will begin no sooner than 7 calendar days following completion of Flush Sealing or Fog Sealing and will be completed within 14 calendar days following completion of Flush Sealing or Fog Sealing.

HIGH BUILD WATERBORNE PAVEMENT MARKING PAINT

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

Reflective media will consist of glass beads.

RATES OF MATERIALS FOR HIGH BUILD WATERBORNE PAVEMENT MARKING PAINT

Solid 4" line = 27.8 Gals/Mile
Dashed 4" line = 7.6 Gals/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.

REMOVE EXISTING PAVEMENT MARKING

The existing pavement markings consist of cold applied plastic pavement marking and paint.

Existing cold applied plastic pavement marking being replaced will be removed in their entirety. It will be the Contractor's responsibility to visit the project site to determine what type of material(s) are present and the extent of the work required to remove the existing pavement markings.

Removal of the existing markings will be accomplished without causing damage to the pavement, pavement joints, or joint sealant. The Contractor will repair any damage to the pavement, pavement joints, or joint sealant for no additional payment and at no cost to the State.

Payment for removal of the existing lines and other miscellaneous payment markings as necessary will be incidental to the contract unit price for the various contract items.

COLD APPLIED PLASTIC PAVEMENT MARKING

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

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

Cold Applied Plastic Pavement Marking will be placed prior to asphalt surface treatment as noted in the plans and as directed by the Engineer.

Cold Applied Plastic Pavement Marking will be placed in the same location as existing markings, unless otherwise directed by the Engineer.

PAVEMENT MARKING MASKING

Immediately prior to placement of asphalt surface treatment, and prior to the fog seal, durable markings will be covered with an approved pavement marking masking. All cost for furnishing, installing, removing, and disposing of masking will be incidental to the various contract unit prices for Pavement Marking Masking.

If new markings are damaged due to masking failure they will be replaced at the Contractor's expense.

STATE OF SOUTH DAKOTA	PROJECT	SHEET NO.	TOTAL SHEETS
	IM-P 0012(319)	15	29

CONTACTOR FURNISHED PORTABLE CHANGEABLE MESSAGE SIGN

During any work on Segment 8 (I-29 Shoulder Flush), a portable changeable message sign (PCMS) will be installed 1 mile in advance of the project along the Driving Lane Shoulder to notify drivers of the upcoming construction. The Contractor will program the portable changeable message signs with the following message:

SHOULDER
WORK
AHEAD

LANE
CLOSED
AHEAD

The Engineer will coordinate with the Contractor for any changes to the messages displayed on the sign.

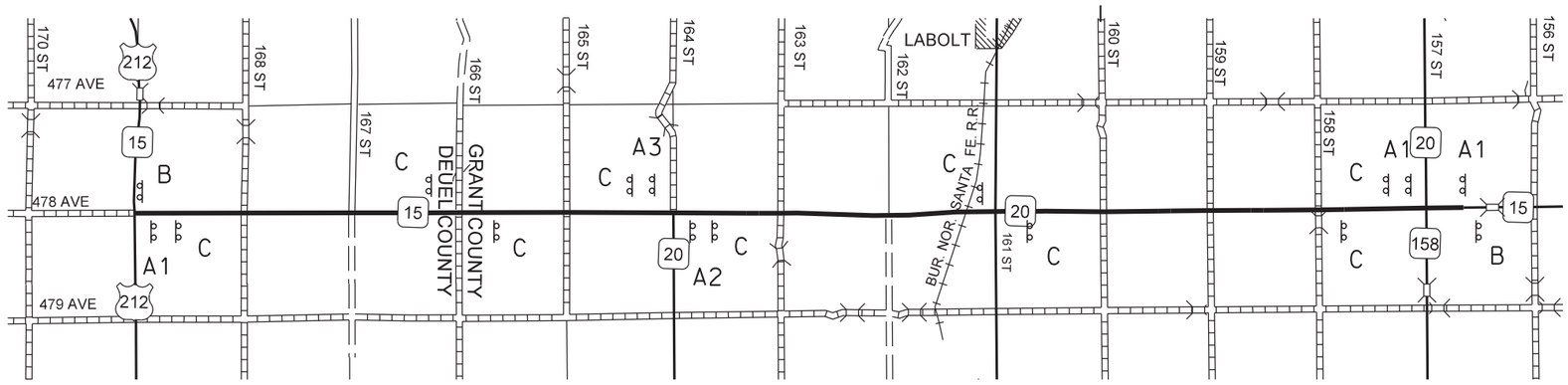
STATE OF SOUTH DAKOTA	PROJECT	SHEET NO.	TOTAL SHEETS
	IM-P 0012(319)	16	29

FIXED LOCATION GROUND MOUNTED BREAKAWAY SUPPORT SIGNS

Segment 1
SD 15 - MRM 155.30+0.000 to MRM 160.30+0.000
Grant County
Length 5.005 miles

Segment 2
SD 20 - MRM 439.25+0.000 to MRM 446.24+0.000
Grant County
Length 7.000 miles

Segment 3
SD 15 - MRM 167.29+0.000 to MRM 167.33+0.375
Grant County
Length 0.413 miles



A1

ROAD WORK
NEXT 12 MILES

A2

ROAD WORK
NEXT 7 MILES

B

END
ROAD WORK

A3

ROAD WORK
NEXT 5 MILES

C

LOOSE
GRAVEL

40
M.P.H.

ROAD
WORK
AHEAD

W20-1 ROAD WORK AHEAD signs shall be mounted on portable supports, and shall be placed on intersecting roadways as directed by the Engineer. ROAD WORK AHEAD signs shall be moved as necessary to keep current with the work activities.

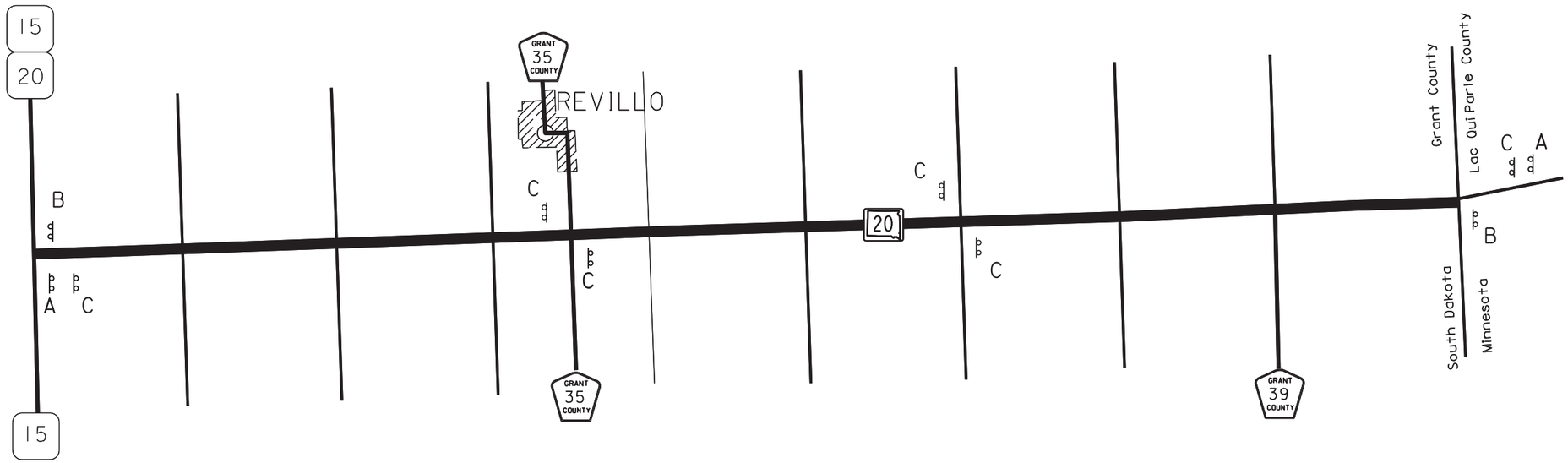
EXACT LOCATION OF SIGNS TO BE DETERMINED IN THE FIELD BY THE ENGINEER.

PLOTTED FROM - TRWAINT14

STATE OF SOUTH DAKOTA	PROJECT	SHEET NO.	TOTAL SHEETS
	IM-P 0012(319)	17	29

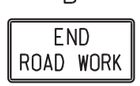
FIXED LOCATION GROUND MOUNTED BREAKAWAY SUPPORT SIGNS

Segment 4
SD 20 - MRM 446.24+0.000 to MRM 455.50+0.000
Grant County
Length 9.140 miles



A

B



C

EXACT LOCATION OF SIGNS TO BE DETERMINED IN THE FIELD BY THE ENGINEER.

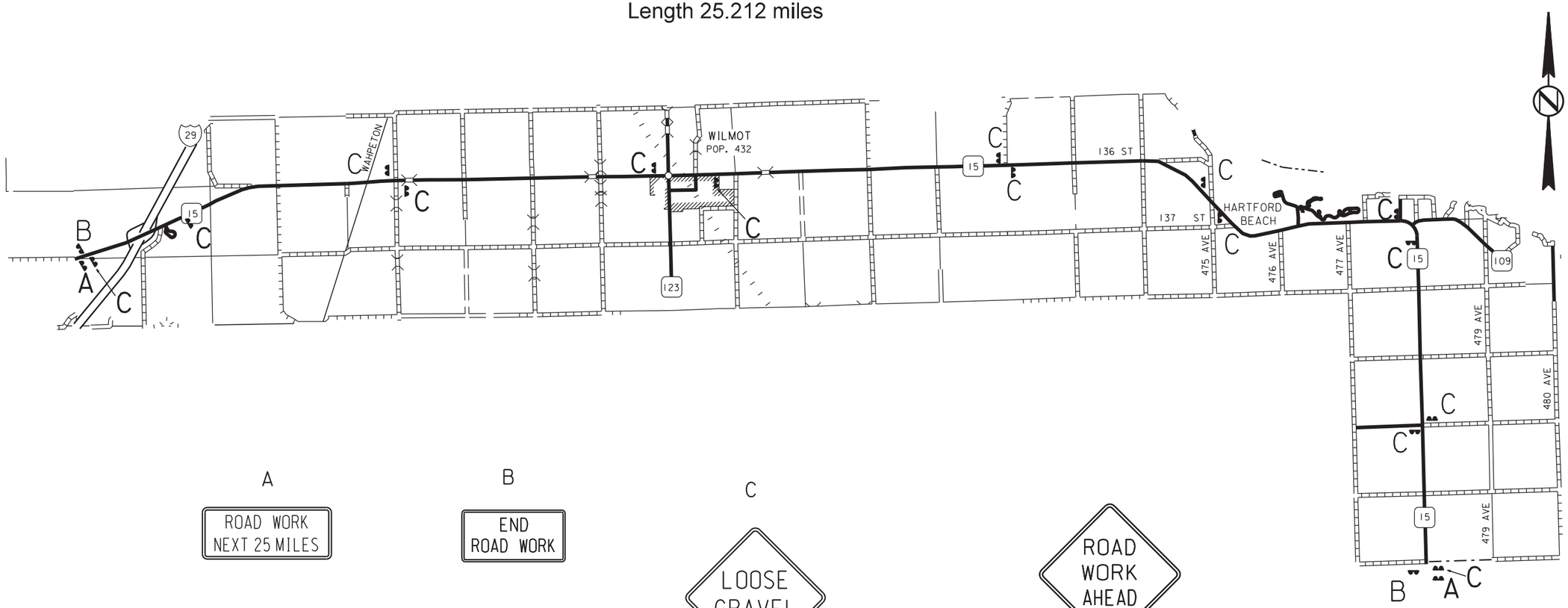
W20-1 ROAD WORK AHEAD signs shall be mounted on portable supports, and shall be placed on intersecting roadways as directed by the Engineer. ROAD WORK AHEAD signs shall be moved as necessary to keep current with the work activities.

PLOTTED FROM - TRWA1NT14

STATE OF SOUTH DAKOTA	PROJECT	SHEET NO.	TOTAL SHEETS
	IM-P 0012(319)	18	29

FIXED LOCATION GROUND MOUNTED BREAKAWAY SUPPORT SIGNS

Segment 5
SD 15 - MRM 182.46+0.000 to MRM 207.70+0.000
Roberts County
Length 25.212 miles



A

B

C

W20-1 ROAD WORK AHEAD signs shall be mounted on portable supports, and shall be placed on intersecting roadways as directed by the Engineer. ROAD WORK AHEAD signs shall be moved as necessary to keep current with the work activities.

EXACT LOCATION OF SIGNS TO BE DETERMINED IN THE FIELD BY THE ENGINEER.

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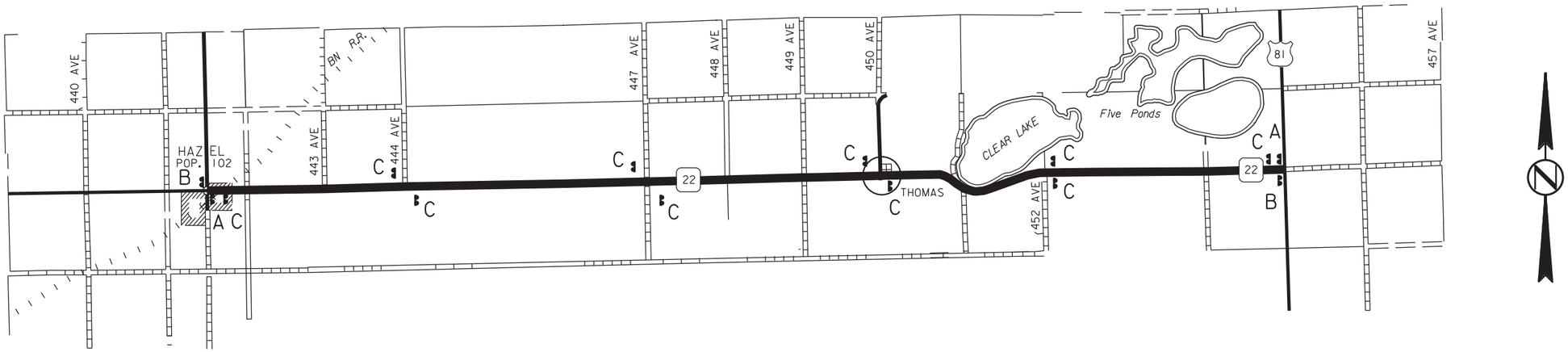
STATE OF SOUTH DAKOTA	PROJECT	SHEET NO.	TOTAL SHEETS
	IM-P 0012(319)	19	29

FIXED LOCATION GROUND MOUNTED BREAKAWAY SUPPORT SIGNS

Segment 6
US 22 - MRM 333.38+0.000 to MRM 346.85+0.000
Hamlin County
Length 13.487 miles



A

B

C

W20-1 ROAD WORK AHEAD signs shall be mounted on portable supports, and shall be placed on intersecting roadways as directed by the Engineer. ROAD WORK AHEAD signs shall be moved as necessary to keep current with the work activities.

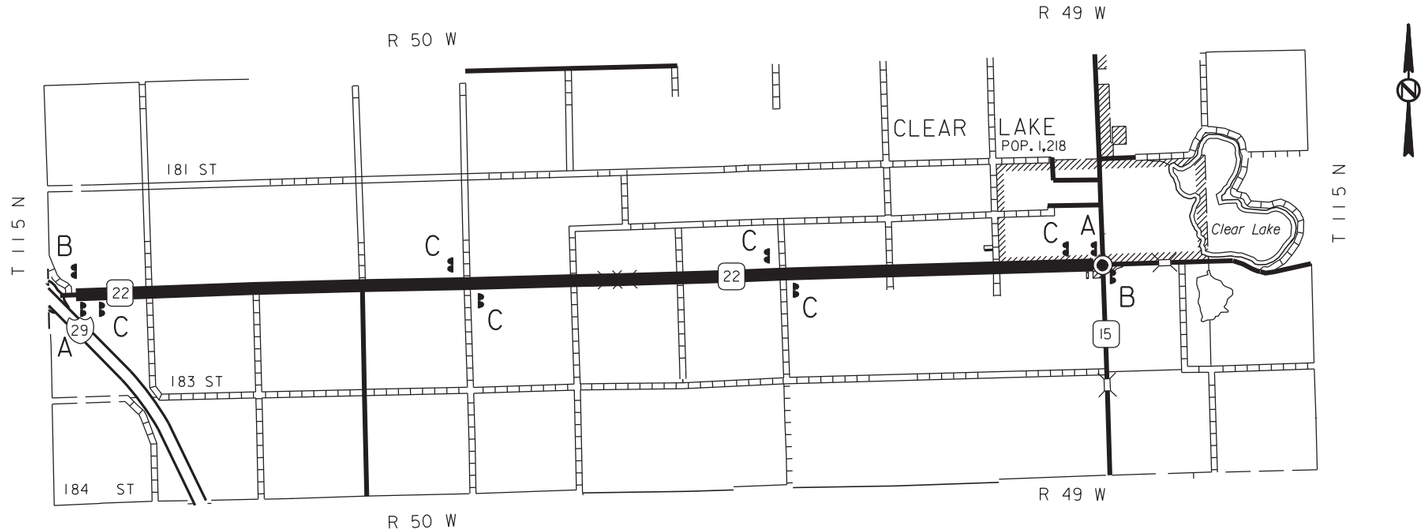
EXACT LOCATION OF SIGNS TO BE DETERMINED IN THE FIELD BY THE ENGINEER.

PLOTTED FROM - TRWAINT14

STATE OF SOUTH DAKOTA	PROJECT	SHEET NO.	TOTAL SHEETS
	IM-P 0012(319)	20	29

FIXED LOCATION GROUND MOUNTED BREAKAWAY SUPPORT SIGNS

Segment 7
SD 22 - MRM 360.71+0.242 to MRM 370.57+0.000
Deuel County
Length 9.870 miles



A

ROAD WORK
NEXT 10 MILES

B

END
ROAD WORK

C

LOOSE
GRAVEL

40
M.P.H.

ROAD
WORK
AHEAD

W20-1 ROAD WORK AHEAD signs shall be mounted on portable supports, and shall be placed on intersecting roadways as directed by the Engineer. ROAD WORK AHEAD signs shall be moved as necessary to keep current with the work activities.

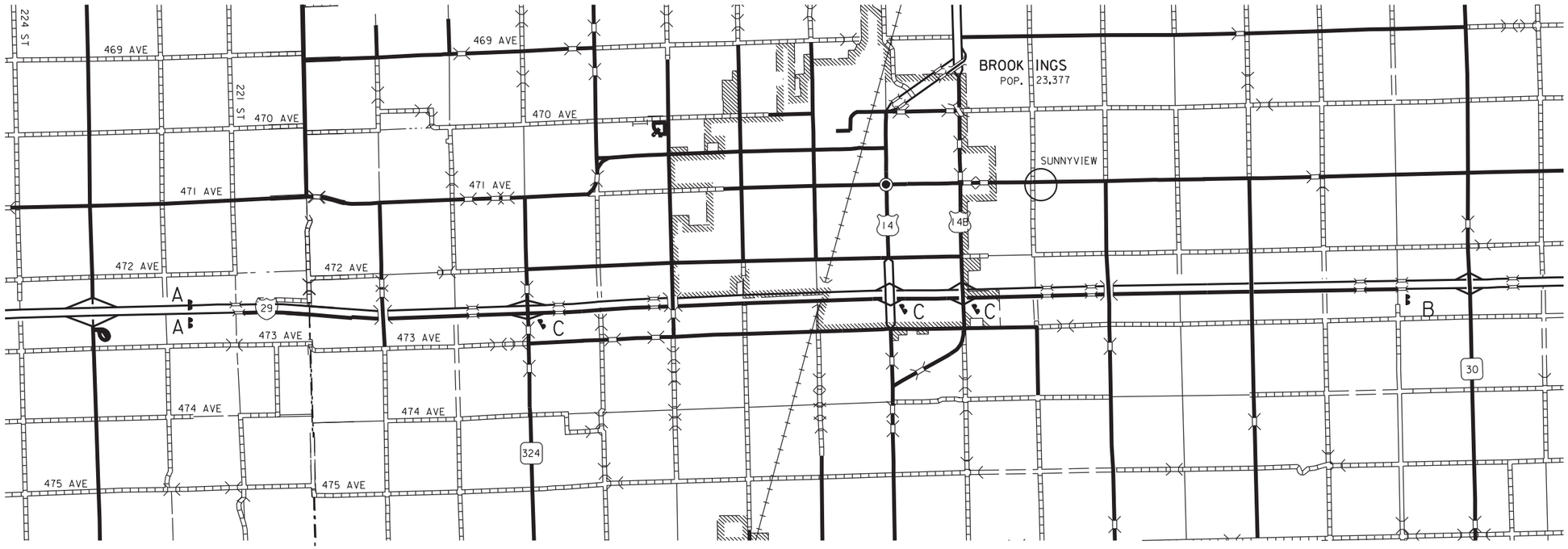
EXACT LOCATION OF SIGNS TO BE DETERMINED IN THE FIELD BY THE ENGINEER.

PLOTTED FROM - TRWAINT14

STATE OF SOUTH DAKOTA	PROJECT	SHEET NO.	TOTAL SHEETS
	IM-P 0012(319)	21	29

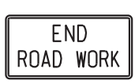
FIXED LOCATION GROUND MOUNTED BREAKAWAY SUPPORT SIGNS

Segment 8
I 29 - MRM 123.00+0.796 to MRM 139.30+0.565
Moody / Brookings County
Length 16.155 miles



A

B



C

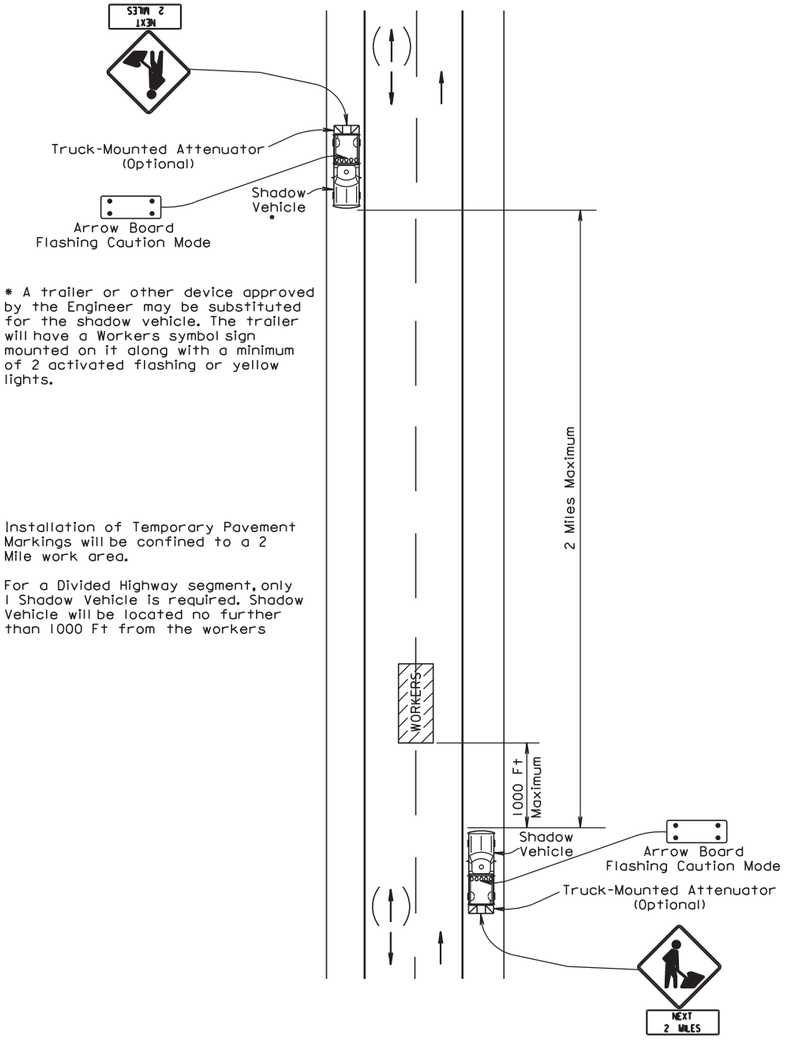
EXACT LOCATION OF SIGNS TO BE DETERMINED IN THE FIELD BY THE ENGINEER.

W20-1 ROAD WORK AHEAD signs shall be mounted on portable supports, and shall be placed on intersecting ramps as directed by the Engineer. ROAD WORK AHEAD signs shall be moved as necessary to keep current with the work activities.

PLOTTED FROM - TRWAINT14

STATE OF SOUTH DAKOTA	PROJECT	SHEET NO.	TOTAL SHEETS
	IM-P 0012(319)	22	29

GUIDES FOR TRAFFIC CONTROL DEVICES
APPLICATION OF TEMPORARY FLEXIBLE VERTICAL MARKERS

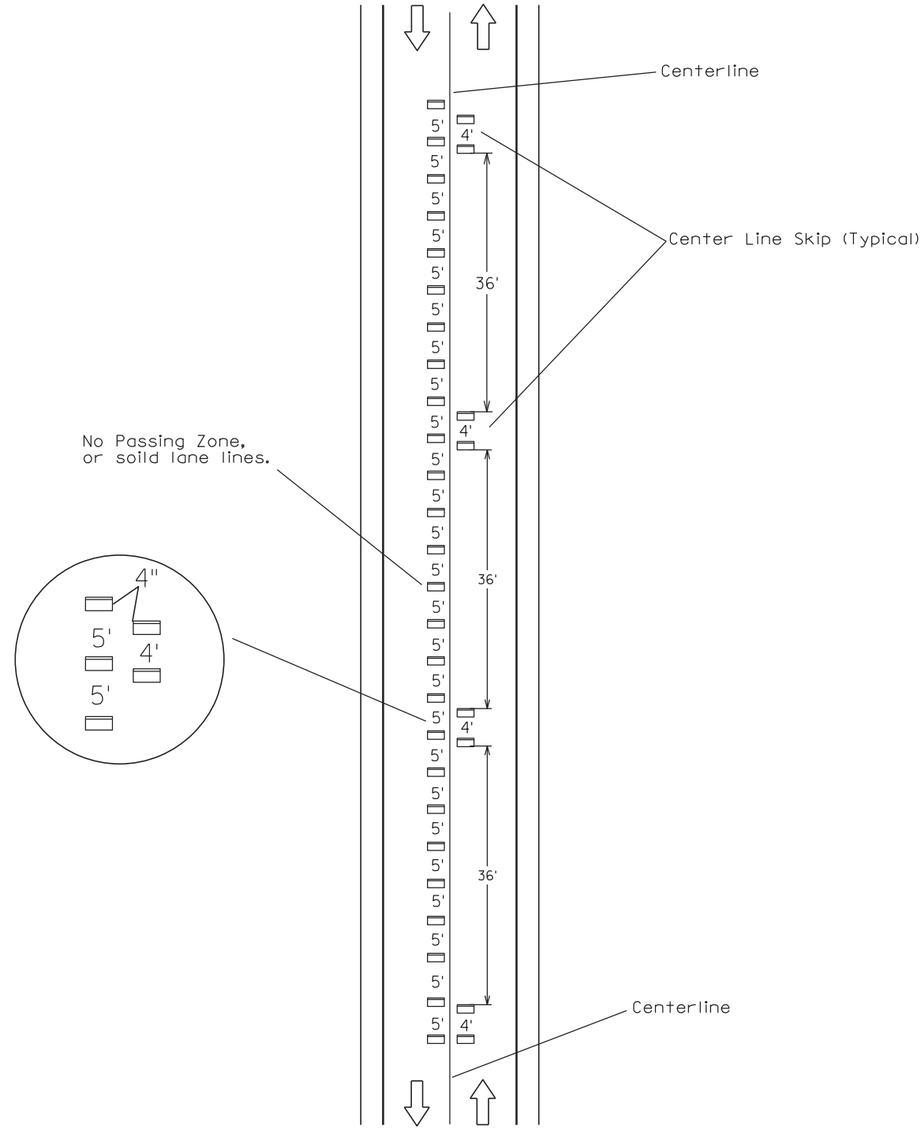


* A trailer or other device approved by the Engineer may be substituted for the shadow vehicle. The trailer will have a Workers symbol sign mounted on it along with a minimum of 2 activated flashing or yellow lights.

Installation of Temporary Pavement Markings will be confined to a 2 Mile work area.

For a Divided Highway segment, only 1 Shadow Vehicle is required. Shadow Vehicle will be located no further than 1000 Ft from the workers

DETAILS FOR TRAFFIC CONTROL DEVICES
TEMPORARY ROAD MARKER INSTALLATION



PLOTTED FROM - TRWAINT14

STATE OF SOUTH DAKOTA	PROJECT	SHEET NO.	TOTAL SHEETS
	IM-P 0012(319)	23	29

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

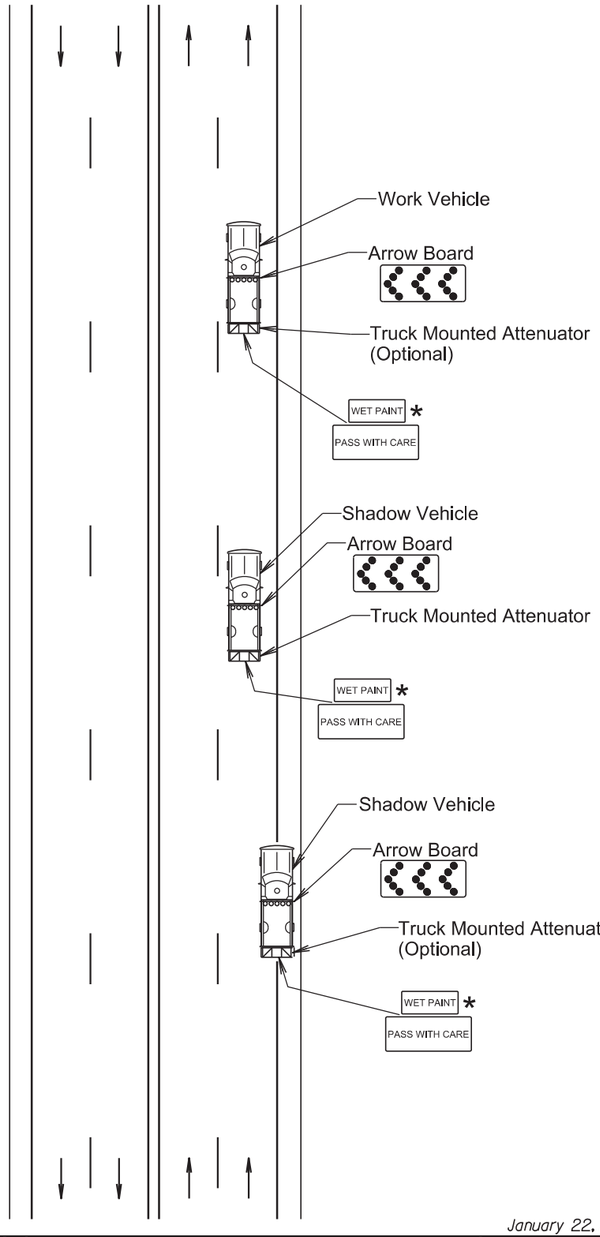
Vehicle-mounted signs will be mounted in a manner such that they are not obscured by equipment or supplies. Sign legends on vehicle-mounted signs will be covered or turned from view when work is not in progress.

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

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

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

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



January 22, 2021

Published Date: 2025

SDDOT

MOBILE OPERATIONS ON MULTI-LANE HIGHWAYS

PLATE NUMBER 634.08

Sheet 1 of 1

Posted Speed Prior to Work (M.P.H.)	Spacing of Advance Warning Signs (Feet) (A)	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.

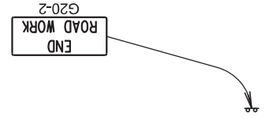
The ROAD WORK AHEAD and the END ROAD WORK signs may be omitted for short duration operations (1 hour or less).

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.

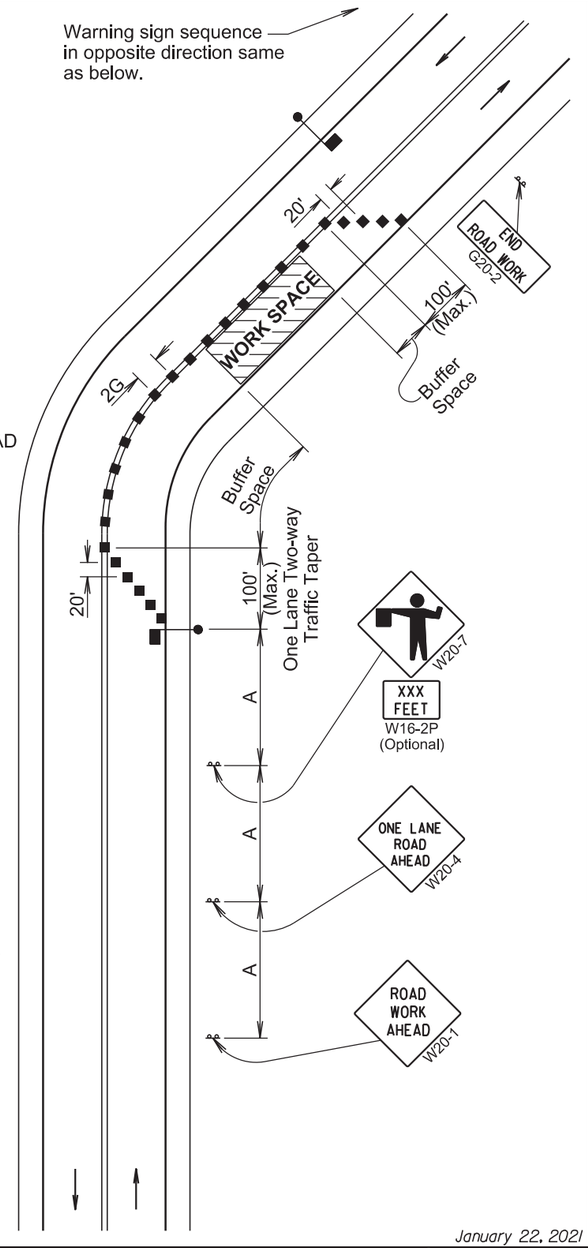
Channelizing devices are not required along the centerline adjacent to work area when pilot cars are utilized for escorting traffic through the work area.



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: 2025

SDDOT

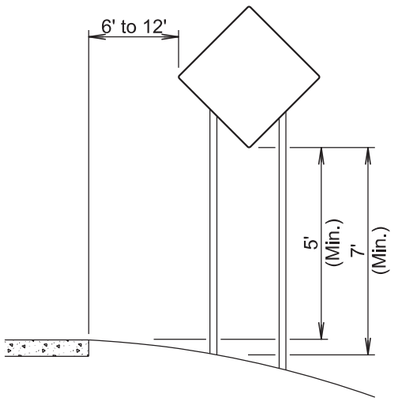
LANE CLOSURE WITH FLAGGER PROVIDED

PLATE NUMBER 634.23

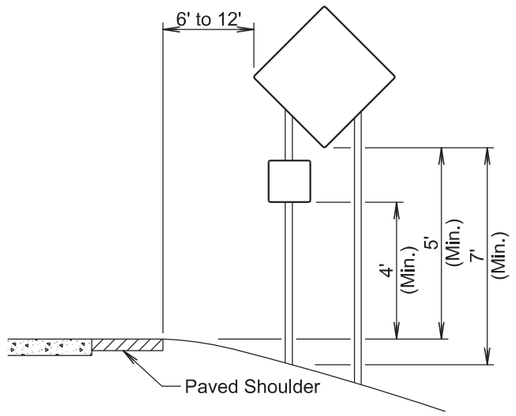
Sheet 1 of 1

PLOTTED FROM - TRWAINT14

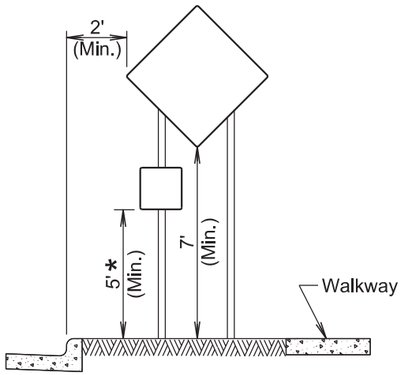
STATE OF SOUTH DAKOTA	PROJECT	SHEET NO.	TOTAL SHEETS
	IM-P 0012(319)	24	29



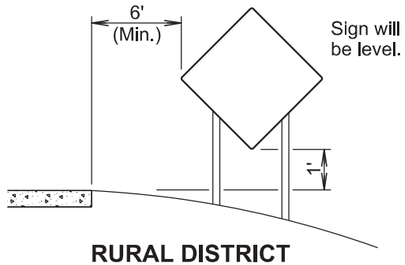
RURAL DISTRICT



RURAL DISTRICT WITH SUPPLEMENTAL PLATE



URBAN DISTRICT

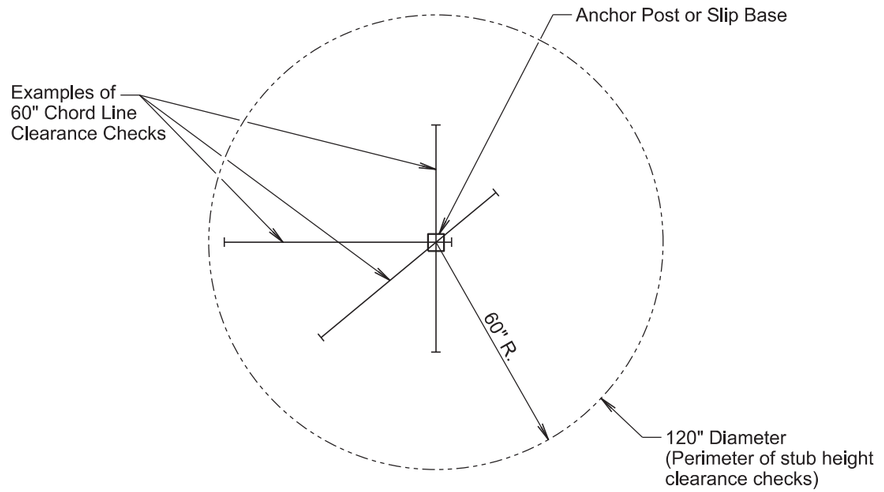


RURAL DISTRICT
3 DAY MAXIMUM
(Not applicable to regulatory signs)

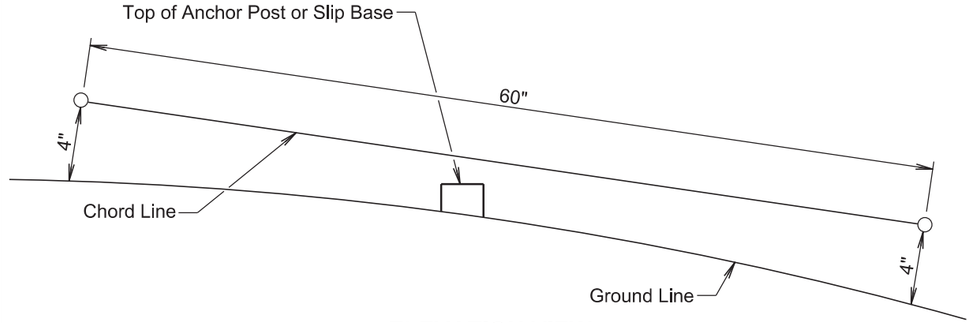
*If the bottom of supplemental plate is mounted lower than 7 feet above a pedestrian walkway, the supplemental plate should not project more than 4" into the pedestrian facility.

January 22, 2021

Published Date: 2025	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: 2025	SDDOT	BREAKAWAY SUPPORT STUB CLEARANCE	PLATE NUMBER 634.99
			Sheet 1 of 1

PLOTTED FROM - TRWAINT14

STATE OF SOUTH DAKOTA	PROJECT	SHEET NO.	TOTAL SHEETS
	IM-P 0012(319)	25	29

ITEMIZED LIST FOR TRAFFIC CONTROL SIGNS — Segment 1 SD 15

SIGN CODE	SIGN DESCRIPTION	CONVENTIONAL ROAD NUMBER	SIGN SIZE	SQFT PER SIGN	SQFT
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
W21-2	FRESH OIL	2	48" x 48"	16.0	32.0
G20-1	ROAD WORK NEXT _12_ MILES	1	36" x 18"	4.5	4.5
G20-1	ROAD WORK NEXT _5_ MILES	1	36" x 18"	4.5	4.5
G20-2	END ROAD WORK	1	36" x 18"	4.5	4.5
SPECIAL	WAIT FOLLOW PILOT CAR	4	30" x 18"	3.8	15.2
		CONVENTIONAL ROAD TRAFFIC CONTROL SIGNS SQFT			309.9

ITEMIZED LIST FOR TRAFFIC CONTROL SIGNS — Segment 2 SD 20

SIGN CODE	SIGN DESCRIPTION	CONVENTIONAL ROAD NUMBER	SIGN SIZE	SQFT PER SIGN	SQFT
W8-7	LOOSE GRAVEL	5	48" x 48"	16.0	80.0
W13-1P	ADVISORY SPEED (plaque)	5	30" x 30"	6.3	31.5
W20-1	ROAD WORK AHEAD	6	48" x 48"	16.0	96.0
W20-4	ONE LANE ROAD AHEAD	2	48" x 48"	16.0	32.0
W20-7	FLAGGER (symbol)	2	48" x 48"	16.0	32.0
W21-2	FRESH OIL	2	48" x 48"	16.0	32.0
G20-1	ROAD WORK NEXT _12_ MILES	1	36" x 18"	4.5	4.5
G20-1	ROAD WORK NEXT _7_ MILES	1	36" x 18"	4.5	4.5
SPECIAL	WAIT FOLLOW PILOT CAR	4	30" x 18"	3.8	15.2
		CONVENTIONAL ROAD TRAFFIC CONTROL SIGNS SQFT			327.7

ITEMIZED LIST FOR TRAFFIC CONTROL SIGNS — Segment 3 SD 15

SIGN CODE	SIGN DESCRIPTION	CONVENTIONAL ROAD NUMBER	SIGN SIZE	SQFT PER SIGN	SQFT
W20-1	ROAD WORK AHEAD	2	48" x 48"	16.0	32.0
W20-4	ONE LANE ROAD AHEAD	2	48" x 48"	16.0	32.0
W20-7	FLAGGER (symbol)	2	48" x 48"	16.0	32.0
W21-2	FRESH OIL	2	48" x 48"	16.0	32.0
G20-1	ROAD WORK NEXT _12_ MILES	1	36" x 18"	4.5	4.5
		CONVENTIONAL ROAD TRAFFIC CONTROL SIGNS SQFT			132.5

ITEMIZED LIST FOR TRAFFIC CONTROL SIGNS — Segment 4 SD 20

SIGN CODE	SIGN DESCRIPTION	CONVENTIONAL ROAD NUMBER	SIGN SIZE	SQFT PER SIGN	SQFT
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	6	48" x 48"	16.0	96.0
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
W21-2	FRESH OIL	2	48" x 48"	16.0	32.0
G20-1	ROAD WORK NEXT _9_ MILES	2	36" x 18"	4.5	9.0
G20-2	END ROAD WORK	2	36" x 18"	4.5	9.0
SPECIAL	WAIT FOLLOW PILOT CAR	4	30" x 18"	3.8	15.2
		CONVENTIONAL ROAD TRAFFIC CONTROL SIGNS SQFT			391.0

STATE OF SOUTH DAKOTA	PROJECT	SHEET NO.	TOTAL SHEETS
	IM-P 0012(319)	26	29

ITEMIZED LIST FOR TRAFFIC CONTROL SIGNS — Segment 5 SD 15

SIGN CODE	SIGN DESCRIPTION	CONVENTIONAL ROAD NUMBER	SIGN SIZE	SQFT PER SIGN	SQFT
W8-7	LOOSE GRAVEL	15	48" x 48"	16.0	240.0
W13-1P	ADVISORY SPEED (plaque)	15	30" x 30"	6.3	94.5
W20-1	ROAD WORK AHEAD	8	48" x 48"	16.0	128.0
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
W21-2	FRESH OIL	2	48" x 48"	16.0	32.0
G20-1	ROAD WORK NEXT _25_ MILES	2	36" x 18"	4.5	9.0
G20-2	END ROAD WORK	2	36" x 18"	4.5	9.0
SPECIAL	WAIT FOLLOW PILOT CAR	6	30" x 18"	3.8	22.8
		CONVENTIONAL ROAD TRAFFIC CONTROL SIGNS SQFT			631.3

ITEMIZED LIST FOR TRAFFIC CONTROL SIGNS — Segment 7 SD 22

SIGN CODE	SIGN DESCRIPTION	CONVENTIONAL ROAD NUMBER	SIGN SIZE	SQFT PER SIGN	SQFT
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	6	48" x 48"	16.0	96.0
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
W21-2	FRESH OIL	2	48" x 48"	16.0	32.0
G20-1	ROAD WORK NEXT _10_ MILES	2	36" x 18"	4.5	9.0
G20-2	END ROAD WORK	2	36" x 18"	4.5	9.0
SPECIAL	WAIT FOLLOW PILOT CAR	6	30" x 18"	3.8	22.8
		CONVENTIONAL ROAD TRAFFIC CONTROL SIGNS SQFT			398.6

ITEMIZED LIST FOR TRAFFIC CONTROL SIGNS — Segment 6 SD 22

SIGN CODE	SIGN DESCRIPTION	CONVENTIONAL ROAD NUMBER	SIGN SIZE	SQFT PER SIGN	SQFT
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	6	48" x 48"	16.0	96.0
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
W21-2	FRESH OIL	2	48" x 48"	16.0	32.0
G20-1	ROAD WORK NEXT _14_ MILES	2	36" x 18"	4.5	9.0
G20-2	END ROAD WORK	2	36" x 18"	4.5	9.0
SPECIAL	WAIT FOLLOW PILOT CAR	6	30" x 18"	3.8	22.8
		CONVENTIONAL ROAD TRAFFIC CONTROL SIGNS SQFT			487.8

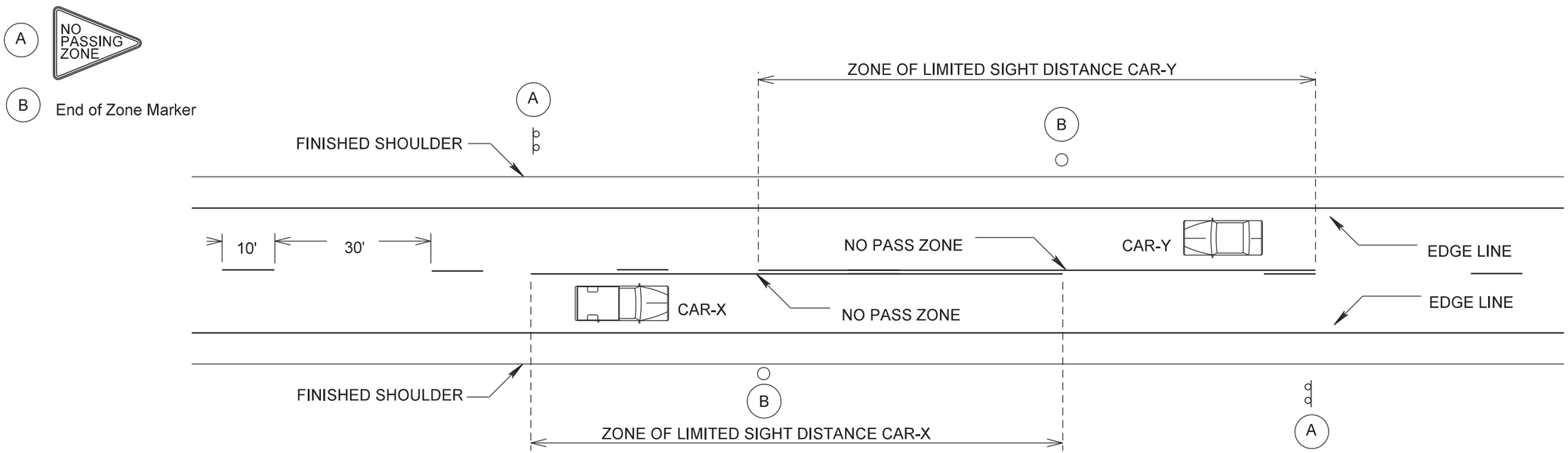
ITEMIZED LIST FOR TRAFFIC CONTROL SIGNS — Segment 8 I-29

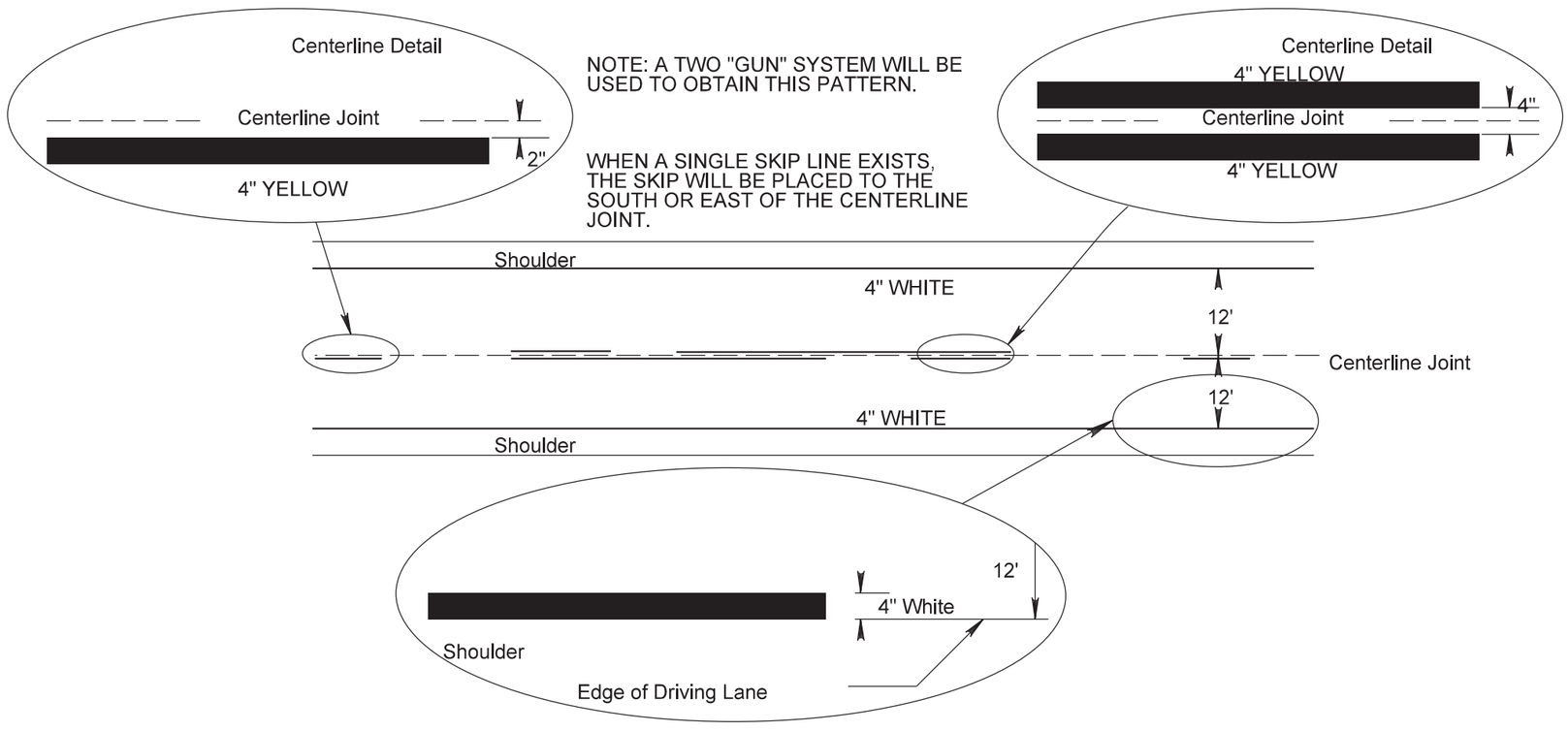
SIGN CODE	SIGN DESCRIPTION	EXPRESSWAY / INTERSTATE NUMBER	SIGN SIZE	SQFT PER SIGN	SQFT
W20-1	ROAD WORK AHEAD	4	48" x 48"	16.0	64.0
W21-2	FRESH OIL	10	48" x 48"	16.0	160.0
W21-5	SHOULDER WORK	10	48" x 48"	16.0	160.0
G20-1	ROAD WORK NEXT _17_ MILES	2	48" x 24"	8.0	16.0
G20-2	END ROAD WORK	1	48" x 24"	8.0	8.0
		EXPRESSWAY / INTERSTATE TRAFFIC CONTROL SIGNS SQFT			408.0

PLOTTED FROM - TRWAINT14

STATE OF SOUTH DAKOTA	PROJECT	SHEET NO.	TOTAL SHEETS
	IM-P 0012(319)	27	29

TYPICAL PAVEMENT MARKING LAYOUT



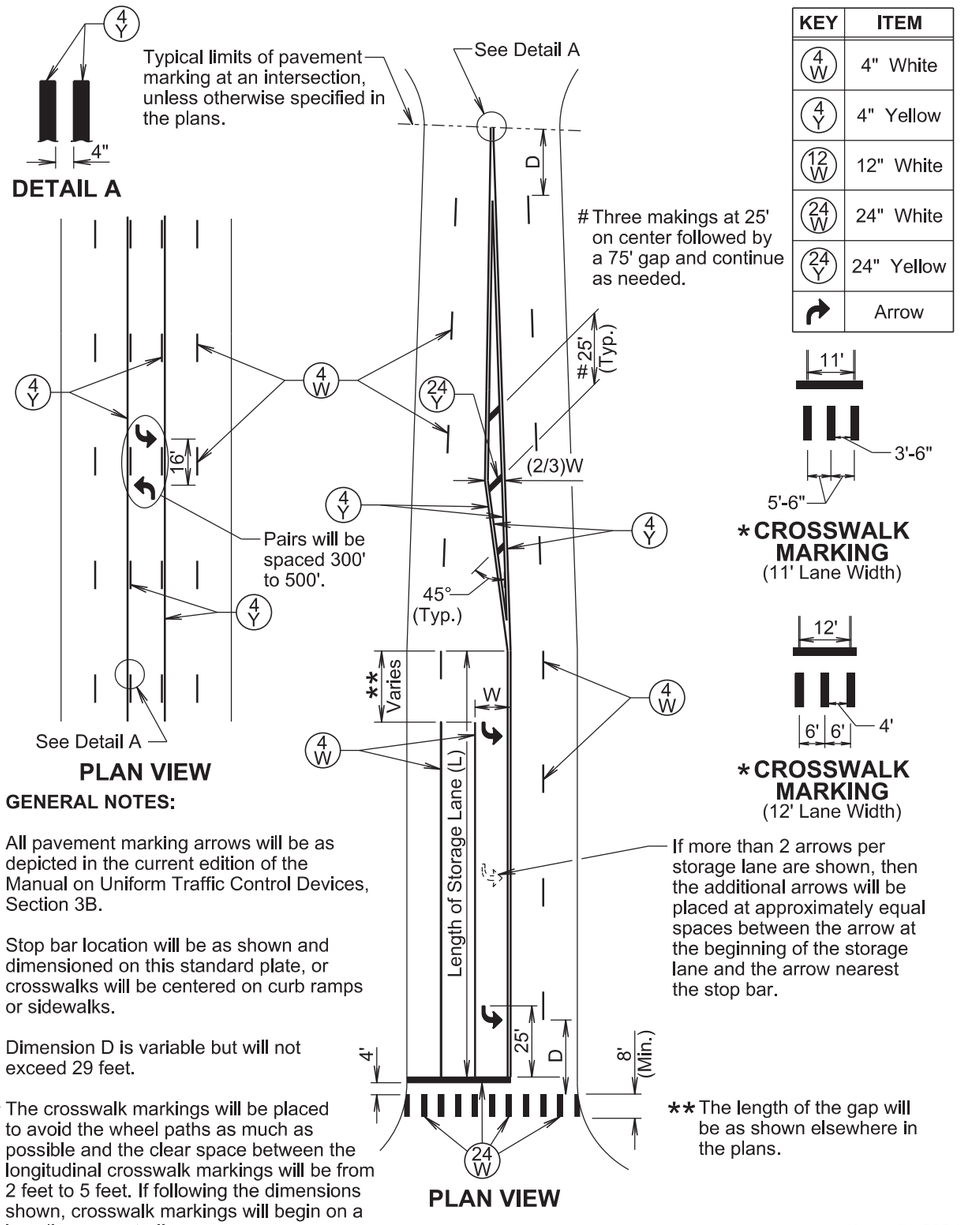


FURNISHING AND APPLYING DURABLE MARKINGS OR HIGH BUILD WATERBORNE PAVEMENT MARKING PAINT

1. The typical pavement markings as shown on this sheet will be applied throughout the entire length of the project.
2. Exact location of the NO PASSING ZONE lines will be determined in the field by the Engineer. A dash of white paint will mark the beginning and end of all no passing zones. NO PASSING ZONE signs and the ending post in fence lines, if present, will not be used as the beginning and ending NO PASSING ZONE lines.
3. Traffic Control will be incidental to the cost of application. The striper and advance or trailing warning vehicle will be equipped with flashing amber lights or advance warning arrow panel.

PLOTTED FROM - TRWAINT14

STATE OF SOUTH DAKOTA	PROJECT	SHEET NO.	TOTAL SHEETS
	IM-P 0012(319)	28	29



KEY	ITEM
4 W	4" White
4 Y	4" Yellow
12 W	12" White
24 W	24" White
24 Y	24" Yellow
	Arrow

***CROSSWALK MARKING**
(11' Lane Width)

***CROSSWALK MARKING**
(12' Lane Width)

GENERAL NOTES:

All pavement marking arrows will be as depicted in the current edition of the Manual on Uniform Traffic Control Devices, Section 3B.

Stop bar location will be as shown and dimensioned on this standard plate, or crosswalks will be centered on curb ramps or sidewalks.

Dimension D is variable but will not exceed 29 feet.

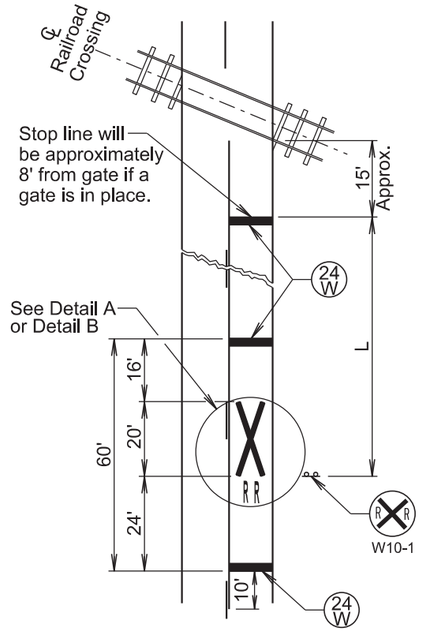
* The crosswalk markings will be placed to avoid the wheel paths as much as possible and the clear space between the longitudinal crosswalk markings will be from 2 feet to 5 feet. If following the dimensions shown, crosswalk markings will begin on a lane line or centerline.

If more than 2 arrows per storage lane are shown, then the additional arrows will be placed at approximately equal spaces between the arrow at the beginning of the storage lane and the arrow nearest the stop bar.

** The length of the gap will be as shown elsewhere in the plans.

March 31, 2024

Published Date: 2025	SDDOT	PAVEMENT MARKINGS FOR ADJACENT INTERSECTIONS AND CENTER TURN LANE	PLATE NUMBER 633.01
			Sheet 1 of 1



KEY	ITEM
24 W	24" White
	White

Posted Speed Limit (M.P.H.)	L (Ft.)
≤ 30	100
35	100
40	125
45	175
50	250
55	325
60	400
65	475
70	550

PLAN VIEW

GENERAL NOTES:

The railroad crossing pavement markings will be placed symmetrically about the centerline of the railroad crossing. DETAIL A should be used unless the railroad crossing pavement markings are installed in existing grooves that match DETAIL B.

When pavement markings are used, a portion of the RXR symbol will be placed directly opposite of the advance warning sign W10-1.

On multi-lane roads the transverse bands will extend across all approach lanes and individual RXR symbols will be placed in each approach lane.

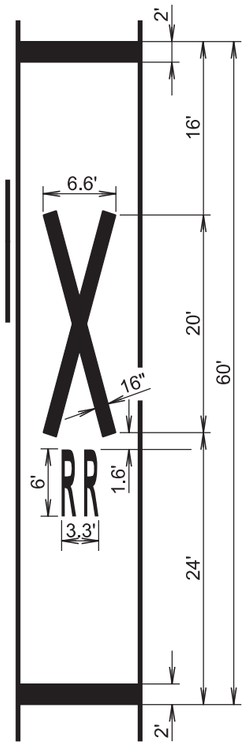
The railroad crossing pavement markings will consist of all the transverse bands, stop lines, and RXR symbols.

All costs for furnishing and installing the markings, materials, labor, and necessary equipment for the railroad crossing makings will be paid for at the contract unit price per gallon or per each for the type of marking material specified in the plans.

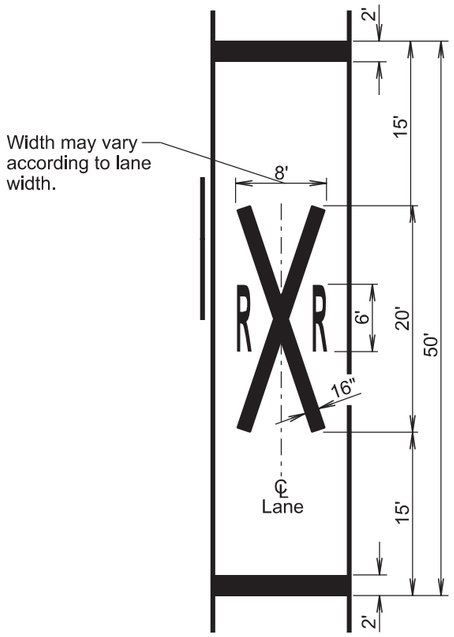
November 19, 2020

Published Date: 2025	SDDOT	PAVEMENT MARKINGS AT RAILROAD CROSSING	PLATE NUMBER 633.10
			Sheet 1 of 2

STATE OF SOUTH DAKOTA	PROJECT	SHEET NO.	TOTAL SHEETS
	IM-P 0012(319)	29	29



DETAIL A



DETAIL B

November 19, 2020

Published Date: 2025	SDDOT	PAVEMENT MARKINGS AT RAILROAD CROSSING	PLATE NUMBER 633.10
			Sheet 2 of 2

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