

PLOT SCALE - 1:7078.44

PLOTTED FROM - TRM1INT15

STATE OF SOUTH DAKOTA
DEPARTMENT OF TRANSPORTATION
PLANS FOR PROPOSED

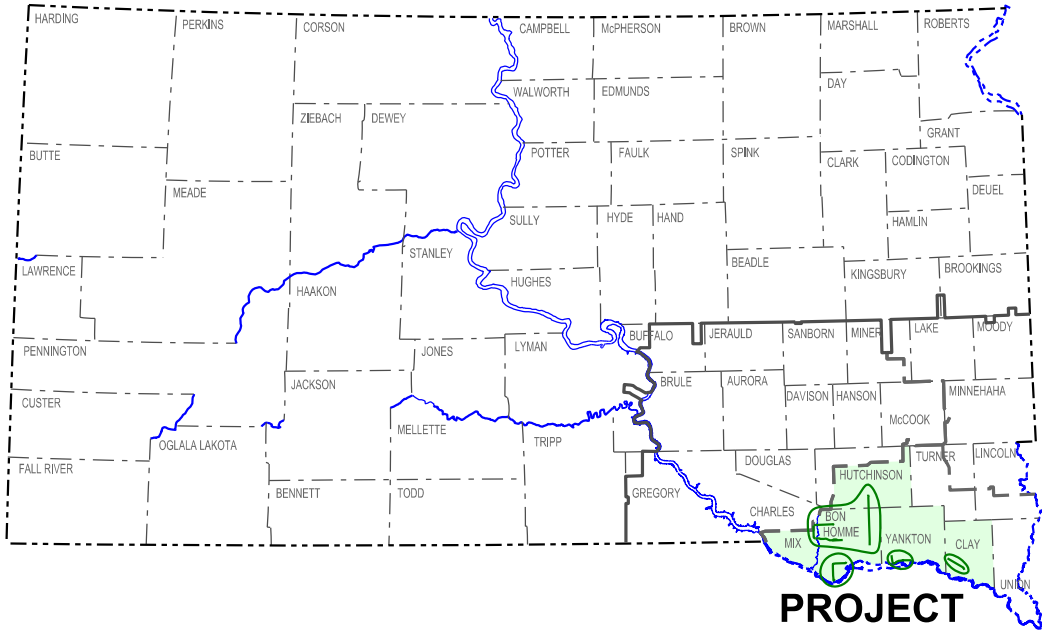
PROJECT NH-P 0023(68)
SD HIGHWAYS 25, 37, 37P, 46, 50, 50W, 50E & 52
BON HOMME, CHARLES MIX, CLAY,
HUTCHINSON & YANKTON COUNTIES
ASPHALT SURFACE TREATMENT &
ASPHALT SURFACE TREATMENT OF SHOULDERS
PCN 097C

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	NH-P 0023(68)	1	38

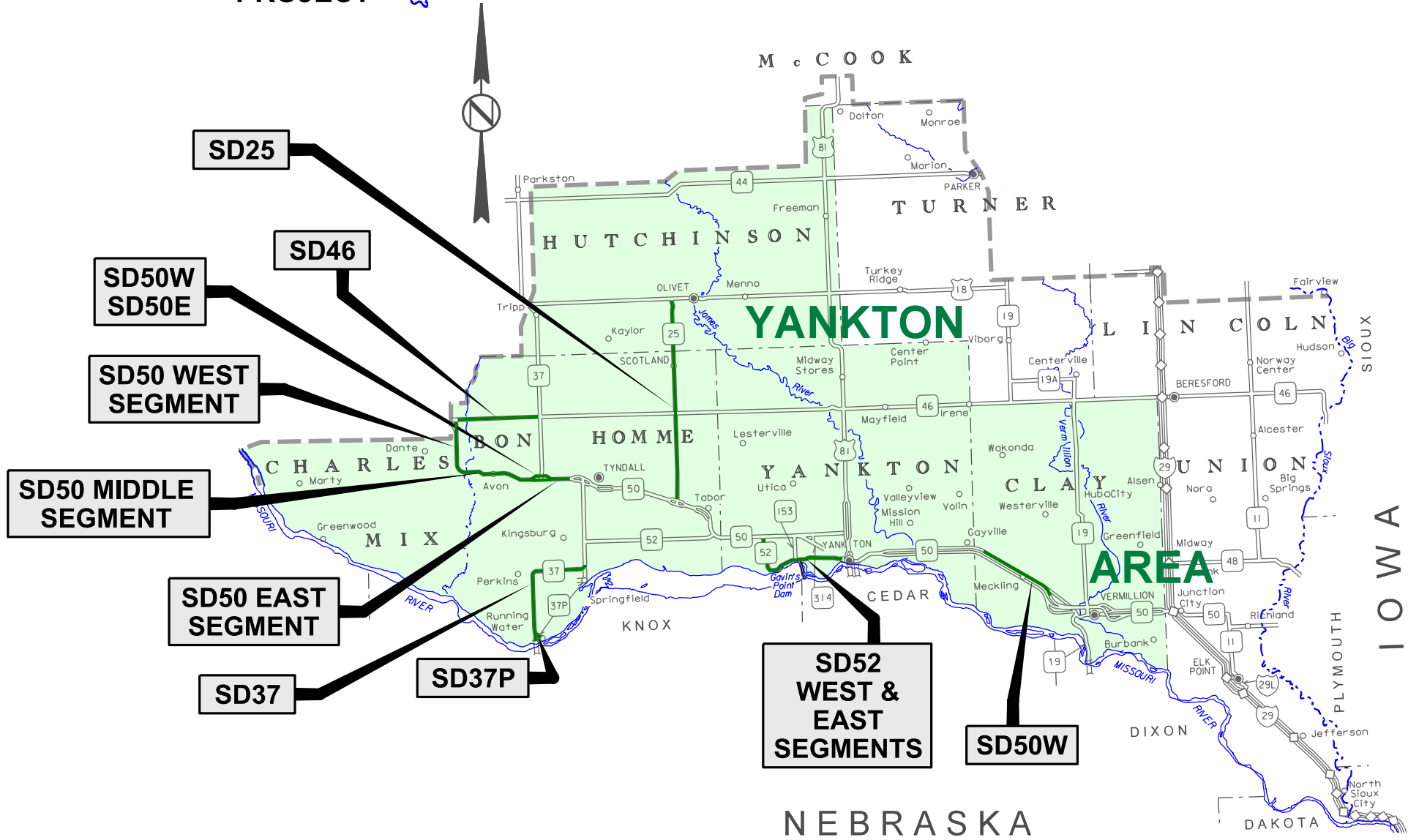
Plotting Date: 02/05/2024

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PROJECT



STORM WATER PERMIT
(None required)

8

April 17, 2024

FILE - ...\\2024 YAN AREA CHIP SEAL TITL097C.DGN

PLOT NAME - 1

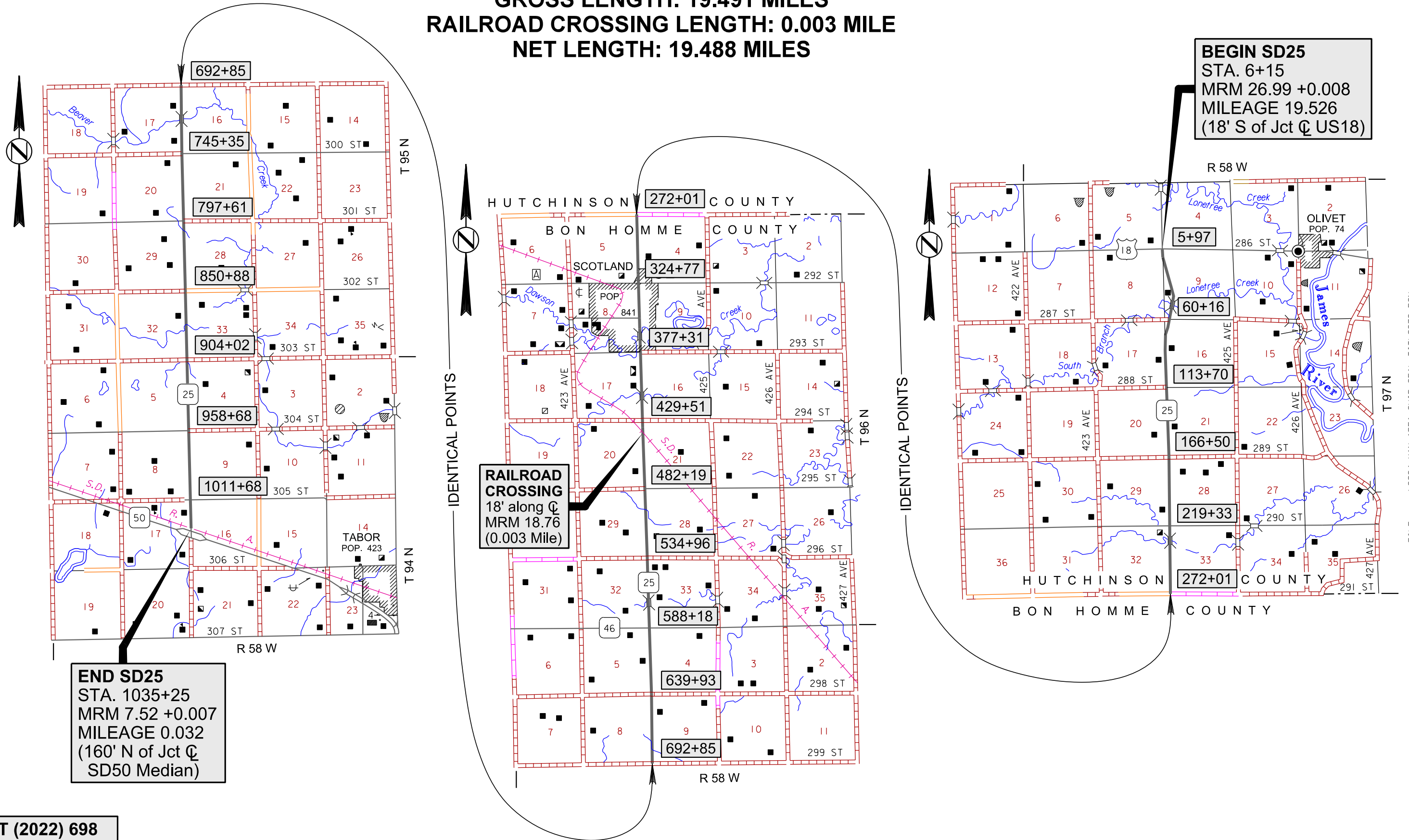
PLOT SCALE - 1:7078.44

PLOTTED FROM - TRMLINT15

SD HIGHWAY 25
BON HOMME & HUTCHINSON COUNTIES
ASPHALT SURFACE TREATMENT
GROSS LENGTH: 19.491 MILES
RAILROAD CROSSING LENGTH: 0.003 MILE
NET LENGTH: 19.488 MILES

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	NH-P 0023(68)	2	38

Plotting Date: 02/05/2024



ADT (2022) 698

PLOT NAME - 2

FILE - ...\\2024 YAN AREA CHIP SEAL TITL097C.DGN
FILE - ...\\2024 YAN AREA CHIP SEAL TITL097C.DGN

PLOT SCALE - 1+7078.44

PLOTTED FROM - TRM1INT15

SD HIGHWAY 37
BON HOMME COUNTY
ASPHALT SURFACE TREATMENT
GROSS LENGTH: 11.820 MILES
BRIDGE LENGTH: 0.029 MILE
NET LENGTH: 11.791 MILES

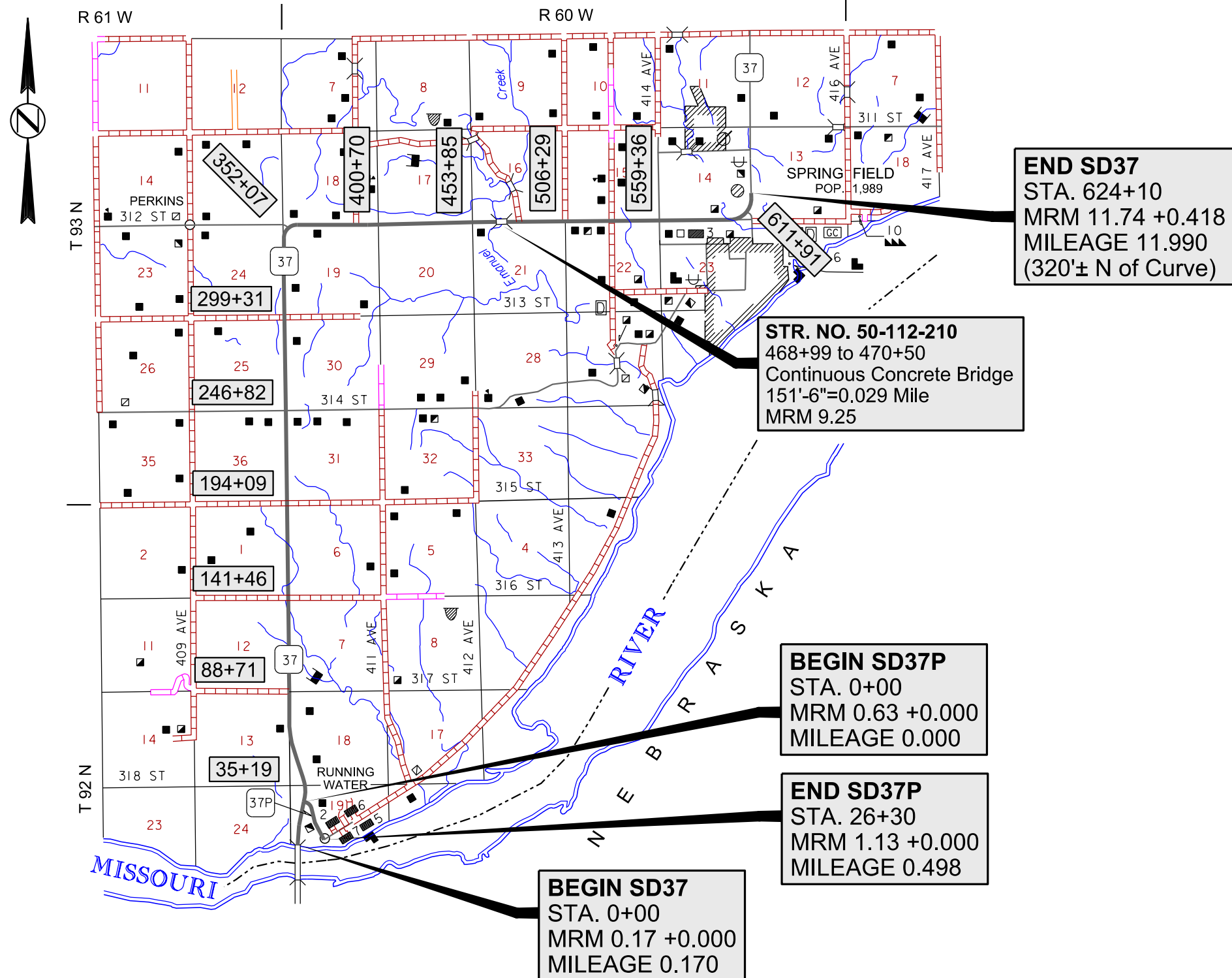
SD HIGHWAY 37P
BON HOMME COUNTY
ASPHALT SURFACE TREATMENT
LENGTH: 0.498 MILE

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	NH-P 0023(68)	3	38

Plotting Date: 02/05/2024

PLOT NAME - 3

FILE - ...\\2024 YAN AREA CHIP SEAL TITL097C.DGN



SD37 ADT (2022) 698
SD37P ADT (2022) 82

PLOT SCALE - 1"=7078.44'

PLOTTED FROM - TRMLINT15

**SD HIGHWAY 50 RAMP
CHARLES MIX COUNTY
ASPHALT SURFACE TREATMENT
LENGTH: 0.379 MILE**

TERO
0.379 mile on SD50 Ramp Yankton Sioux

**SD HIGHWAY 46
CHARLES MIX &
BON HOMME COUNTIES
ASPHALT SURFACE TREATMENT
GROSS LENGTH: 8.006 MILES
BRIDGE LENGTH: 0.019 MILE
NET LENGTH: 7.987 MILES**

TERO
0.998 mile on SD46 Yankton Sioux

**SD HIGHWAY 50 WEST SEGMENT
CHARLES MIX COUNTY
ASPHALT SURFACE TREATMENT
LENGTH: 5.196 MILES**

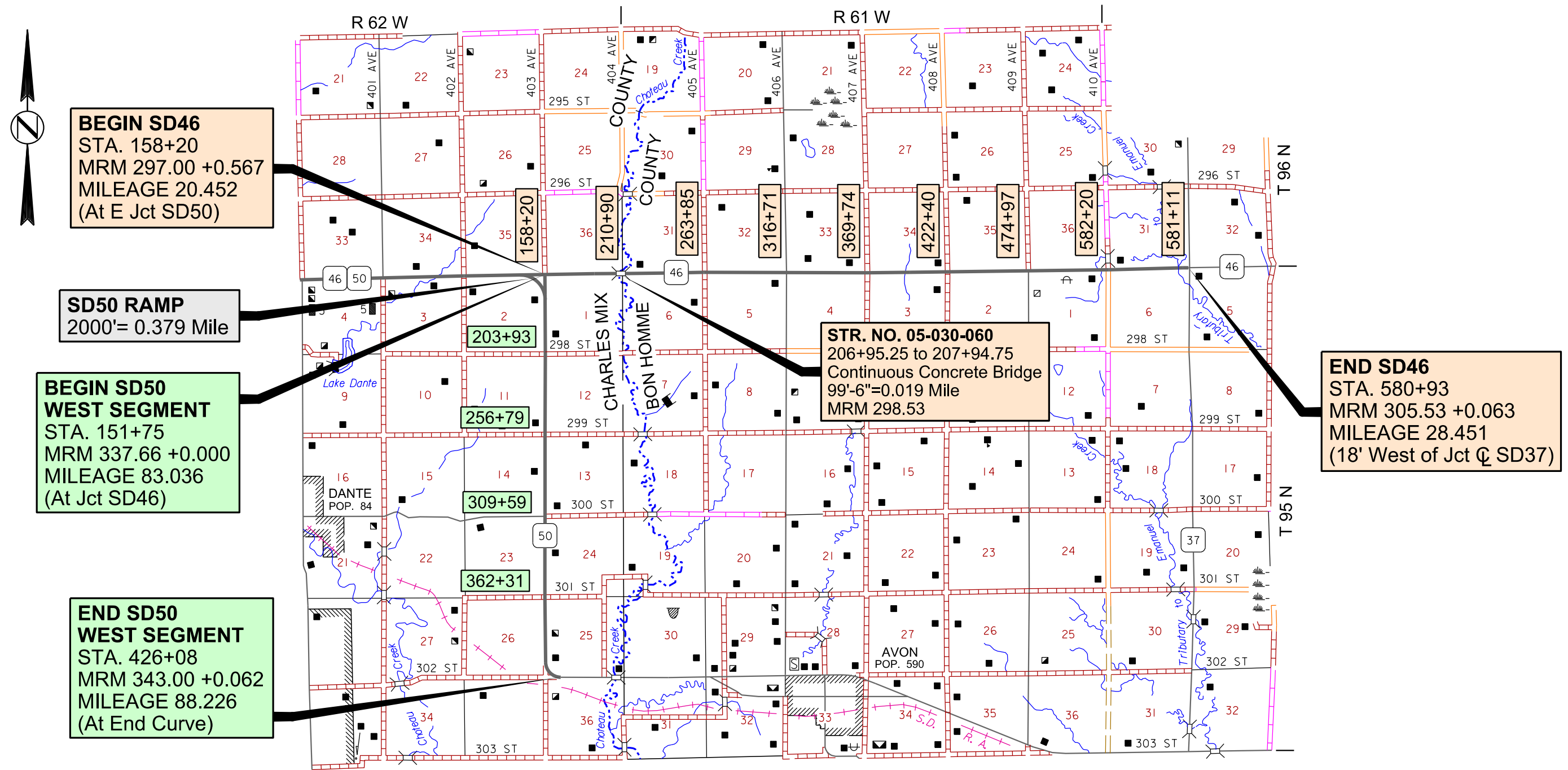
TERO
5.396 miles on SD50 Yankton Sioux

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	NH-P 0023(68)	4	38

Plotting Date: 02/05/2024

PLOT NAME - 4

FILE - ... \2024 YAN AREA CHIP SEAL TITL097C.DGN



PLOT SCALE - 1"=7078.44'

PLOTTED FROM - TRMLINT15

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	NH-P 0023(68)	5	38

Plotting Date: 02/05/2024

**SD HIGHWAY 50 MIDDLE SEGMENT
CHARLES MIX & BON HOMME COUNTIES
ASPHALT SURFACE TREATMENT
GROSS LENGTH: 7.372 MILES
BRIDGE LENGTH: 0.018 MILE
NET LENGTH: 7.354 MILES**

**SD HIGHWAY 50W
BON HOMME COUNTY
ASPHALT SURFACE TREATMENT
LENGTH: 0.765 MILE**
**SD HIGHWAY 50E
BON HOMME COUNTY
ASPHALT SURFACE TREATMENT
LENGTH: 0.765 MILE**

**SD HIGHWAY 50 EAST SEGMENT
BON HOMME COUNTY
ASPHALT SURFACE TREATMENT
GROSS LENGTH: 3.094 MILES
BRIDGES LENGTH: 0.043 MILE
NET LENGTH: 3.051 MILES**

TERO
0.666 mile on SD50 Yankton Sioux

**END SD50
MIDDLE SEGMENT**
STA. 1117+77
MRM 350.42 +0.000
MILEAGE 95.598
(At Begin Divided)

**BEGIN SD50W
BEGIN SD50E**
STA. 1117+77
MRM 350.42 +0.000
MILEAGE 0.000
(At Begin Divided)

**END SD50W
END SD50E**
STA. 1158+17
MRM 351.20 +0.000
MILEAGE 0.765
(At End Divided)

**BEGIN SD50
EAST SEGMENT**
STA. 1158+17
MRM 351.20 +0.000
MILEAGE 95.598
(At End Divided)

**BEGIN SD50
MIDDLE SEGMENT**
STA. 728+52
MRM 343.00 +0.062
MILEAGE 88.226
(At End SD50 Curve)

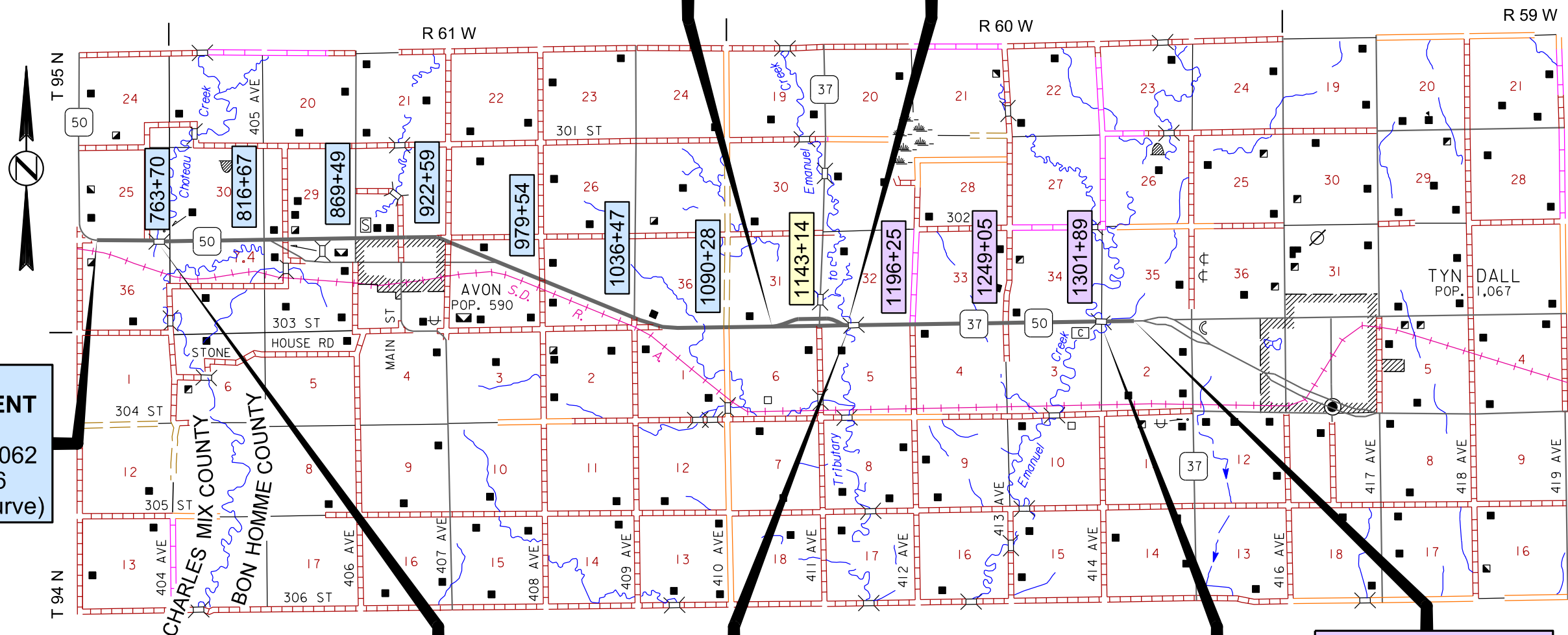
STR. NO. 05-029-110
756+33 to 757+27
Continuous Concrete Bridge
94' = 0.018 Mile
MRM 343.64

STR. NO. 05-103-120
1160+35.25 to 1161+34.75
Continuous Concrete Bridge
99'-6" = 0.019 Mile
MRM 351.24

STR. NO. 05-130-120
1302+46 to 1303+74.5
Continuous Concrete Bridge
128'-6" = 0.024 Mile
MRM 353.94

**END SD50
EAST SEGMENT**
STA. 1321+55
MRM 353.94 +0.337
MILEAGE 98.687
(1780' E of Structure
50-130-120)

**SD50 ADT (2022) 1,119
SD50W ADT (2022) 1,056
SD50E ADT (2022) 1,056**



FILE - ...\\2024 YAN AREA CHIP SEAL TITL097C.DGN PLOT NAME - 5

PLOT SCALE - 1:7078.44

PLOTTED FROM - TRML1N15

SD HIGHWAY 50W
CLAY COUNTY
ASPHALT SURFACE TREATMENT OF SHOULDERS
LENGTH: 9.908 MILES

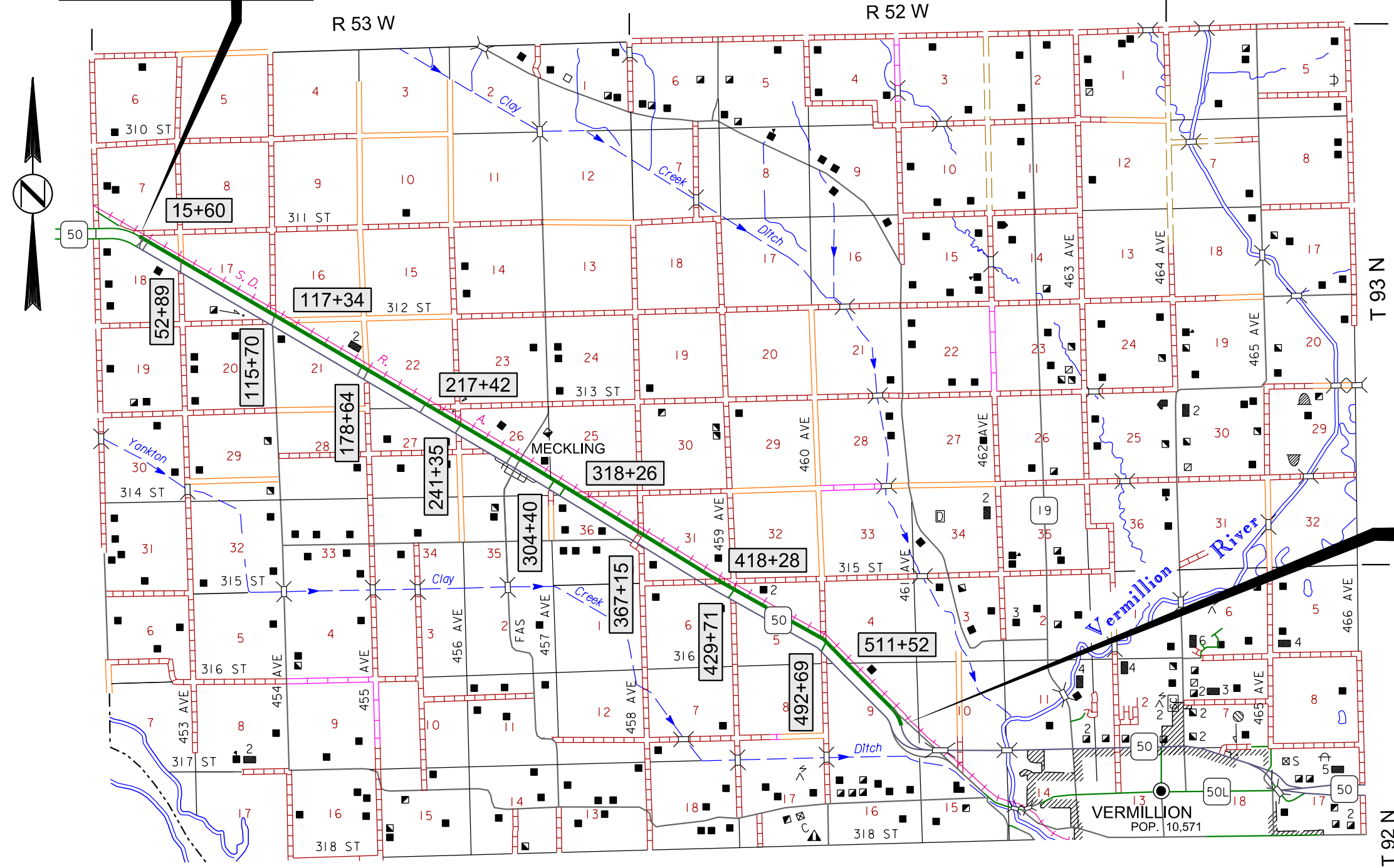
STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	NH-P 0023(68)	6	38

Plotting Date: 02/05/2024

PLOT NAME - 6

FILE - ... \2024 YAN AREA CHIP SEAL TITL097C.DGN

BEGIN SD50W
STA. 24+06
MRM 396.00 +0.590
MILEAGE 12.644
(262' NW of Crossover)



END SD50W
STA. 547+20
MRM 406.17 +0.248
MILEAGE 22.552
(At End Concrete)

ADT (2022) 2,678

**SD HIGHWAY 52 WEST SEGMENT
YANKTON COUNTY
ASPHALT SURFACE TREATMENT
GROSS LENGTH: 4.617 MILES
BRIDGES LENGTH: 0.063 MILE
NET LENGTH: 4.554 MILES**

**SD HIGHWAY 52 EAST SEGMENT
YANKTON COUNTY
ASPHALT SURFACE TREATMENT
LENGTH: 5.917 MILES**

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	NH-P 0023(68)	7	38

Plotting Date: 02/05/2024

**BEGIN SD52
WEST SEGMENT**
STA. 0+20
33' N of MRM 332.25
MILEAGE 12.279
(30' S of Jct Q SD50)

**END SD52
WEST SEGMENT**
STA. 243+96
MRM 336.80 +0.081
MILEAGE 16.896
(At Begin Underlying
Concrete, 430' ENE of
Str. No. 68-057-208)

**BEGIN SD52
EAST SEGMENT**
STA. 0+00
MRM 336.80 +0.081
MILEAGE 16.896
(At Begin Underlying
Concrete, 430' ENE of
Str. No. 68-057-208)

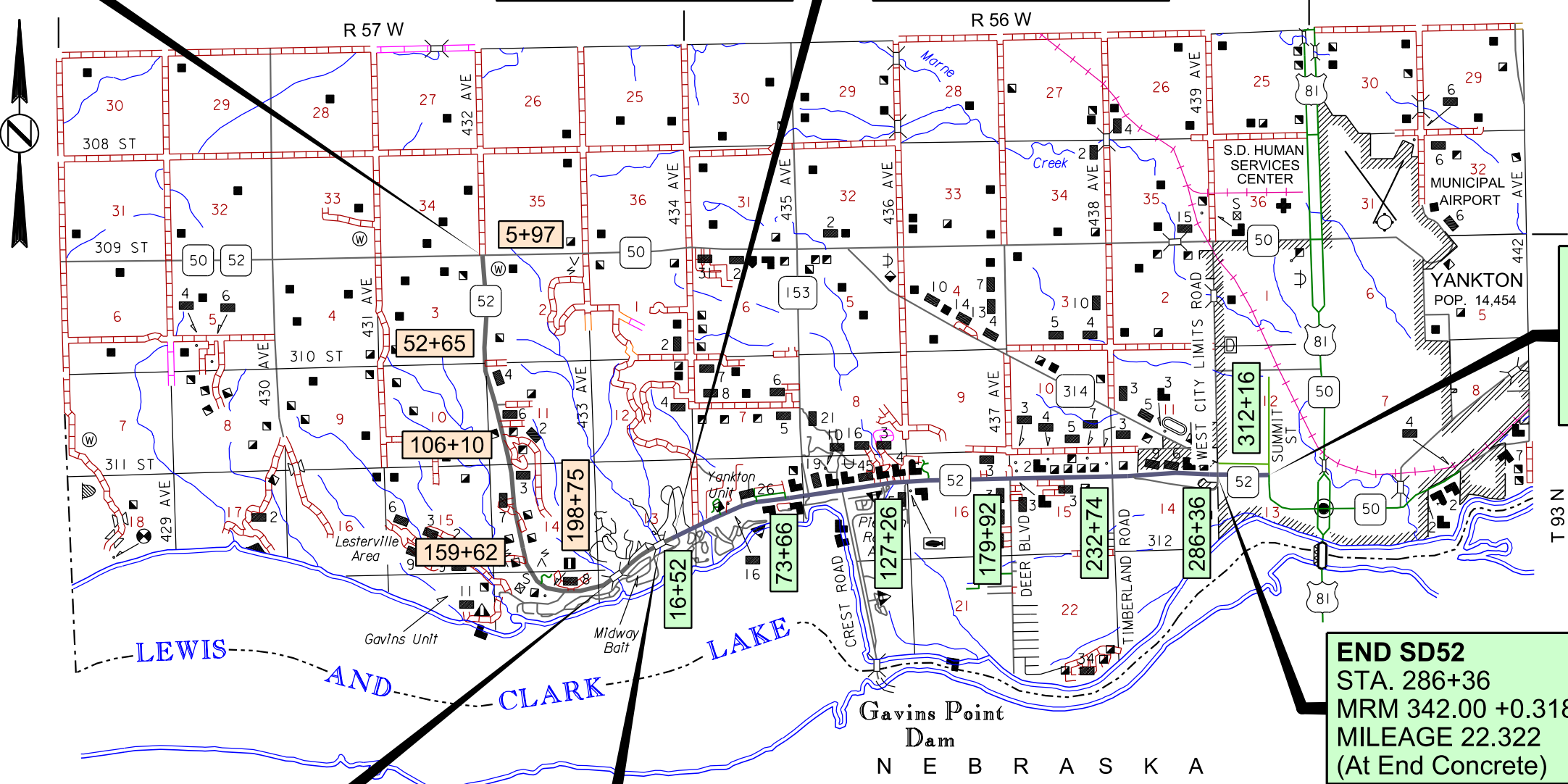
**END SD52
EAST SEGMENT**
STA. 312+44
MRM 342.00 +0.816
MILEAGE 22.820
(28'± E of Q Summit St)

END SD52
STA. 286+36
MRM 342.00 +0.318
MILEAGE 22.322
(At End Concrete)

STR. NO. 68-052-212
211+63 to 213+30
I Beam Bridge
167'-0" = 0.0315 Mile
MRM 336.30

STR. NO. 68-057-208
237+99 to 239+66
I Beam Bridge
167'-0" = 0.0315 Mile
MRM 336.80

ADT (2022) 3,689



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PLOT NAME - 7

FILE - ... \2024 YAN AREA CHIP SEAL TITL097C.DGN

ESTIMATE OF QUANTITIES

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	NH-P 0023(68)	8	38

Rev. 2-21-24 MR

BID ITEM NUMBER	ITEM	QUANTITY	UNIT
009E0010	Mobilization	Lump Sum	LS
330E0300	SS-1h or CSS-1h Asphalt for Fog Seal	479.5	Ton
330E3000	Sand for Fog Seal	216.6	Ton
360E0042	CRS-2P Asphalt for Surface Treatment	2,036.5	Ton
360E1040	Type 2B Cover Aggregate	3,302.7	Ton
360E1040	Type 2B Cover Aggregate	2,213.8	Ton
360E1040	Type 2B Cover Aggregate	76.6	Ton
360E1040	Type 2B Cover Aggregate	59.4	Ton
360E1040	Type 2B Cover Aggregate	1,301.3	Ton
360E1040	Type 2B Cover Aggregate	838.2	Ton
360E1040	Type 2B Cover Aggregate	1,740.9	Ton
360E1040	Type 2B Cover Aggregate	194.3	Ton
360E1040	Type 2B Cover Aggregate	192.3	Ton
360E1040	Type 2B Cover Aggregate	708.8	Ton
360E1040	Type 2B Cover Aggregate	644.3	Ton
360E1040	Type 2B Cover Aggregate	734.6	Ton
360E1040	Type 2B Cover Aggregate	2,102.9	Ton
633E1200	High Build Waterborne Pavement Marking Paint, White	4,168	Gal
633E1205	High Build Waterborne Pavement Marking Paint, Yellow	2,002	Gal
633E6020	Pavement Marking Masking, 25"	1,588	Ft
633E6030	Pavement Marking Masking, Arrow	8	Each
633E6045	Pavement Marking Masking, Railroad Crossing	6	Each
634E0010	Flagging	963.0	Hour
634E0020	Pilot Car	202.0	Hour
634E0110	Traffic Control Signs	3,978.7	SqFt
634E0120	Traffic Control, Miscellaneous	Lump Sum	LS
634E0420	Type C Advance Warning Arrow Board	4	Each
634E0630	Temporary Pavement Marking	227.5	Mile
998E0100	Railroad Protective Insurance	Lump Sum	LS

SPECIFICATIONS

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

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	NH-P 0023(68)	9	38

BID ITEM NUMBER	SD	SD	SD	SD	SD	SD	SD	SD	SD	SD	SD	SD	SD	TOTAL QUANTITY
	HWY 25	HWY 37	HWY 37P	HWY 50 RAMP	HWY 46	HWY 50 WEST SEG CHAS MIX	HWY 50 MID SEG BON HOMME	HWY 50W BON HOMME	HWY 50E BON HOMME	HWY 50 EAST SEG BON HOMME	HWY 50W CLAY	HWY 52 WEST SEGMENT	HWY 52 EAST SEGMENT	
009E0010 Mobilization	<-----Lump Sum----->													Lump Sum
330E0300 SS-1h or CSS-1h Asphalt for Fog Seal	110.9	64.5	2.3	3.0	47.2	34.6	55.5	6.2	6.1	22.7	24.1	33.9	68.5	479.5 Ton
330E3000 Sand for Fog Seal	39.0	26.2	10.0	16.0	15.4	9.9	20.6	15.0	15.0	8.4	7.6	8.7	24.8	216.6 Ton
360E0042 CRS-2P Asphalt for Surface Treatment	487.0	326.4	11.3	8.3	181.8	117.1	256.7	28.6	28.3	104.5	90.1	102.6	293.8	2036.5 Ton
360E1040 Type 2B Cover Aggregate	3302.7													3302.7 Ton
360E1040 Type 2B Cover Aggregate		2213.8												2213.8 Ton
360E1040 Type 2B Cover Aggregate			76.6											76.6 Ton
360E1040 Type 2B Cover Aggregate				59.4										59.4 Ton
360E1040 Type 2B Cover Aggregate					1301.3									1301.3 Ton
360E1040 Type 2B Cover Aggregate						838.2								838.2 Ton
360E1040 Type 2B Cover Aggregate							1740.9							1740.9 Ton
360E1040 Type 2B Cover Aggregate								194.3						194.3 Ton
360E1040 Type 2B Cover Aggregate									192.3					192.3 Ton
360E1040 Type 2B Cover Aggregate										708.8				708.8 Ton
360E1040 Type 2B Cover Aggregate											644.3			644.3 Ton
360E1040 Type 2B Cover Aggregate												734.6		734.6 Ton
360E1040 Type 2B Cover Aggregate													2102.9	2102.9 Ton
633E1200 High Build Pavement Marking Paint, White	1033	644	28	15	447	280	396	23	23	173	349	257	500	4168 Gal
633E1205 High Build Pavement Marking Paint, Yellow	380	190	27	8	185	101	199	20	20	78	265	133	396	2002 Gal
633E6020 Pavement Marking Masking, 25"	1136	-	-	-	-	-	-	-	-	-	-	-	452	1588 Ft
633E6030 Pavement Marking Masking, Arrow	8	-	-	-	-	-								8 Each
633E6045 Pavement Marking Masking, Railroad Crossing	6	-	-	-	-	-								6 Each
634E0010 Flagging	226	151	5	4	89	57	119	13	13	48	44	50	144	963 Hour
634E0020 Pilot Car	47	32	1	1	19	12	25	3	3	10	9	10	30	202 Hour
634E0110 Traffic Control Signs	561.1	383.2	111.3	106.8	403.1	350.9	361.6	112.0	112.0	260.8	321.5	325.1	569.3	3978.7 SqFt
634E0120 Traffic Control, Miscellaneous	<-----Lump Sum----->													Lump Sum
634E0420 Type C Advance Warning Arrow Board	-	-	-	-	-	-	-	-	-	-	2	-	2	4 Each
634E0630 Temporary Pavement Marking	58.5	35.4	1.5	1.4	24.0	15.6	22.1	2.3	2.3	9.2	-	13.7	41.5	227.5 Mile
998E0100 Railroad Protective Insurance	<-----Lump Sum----->													Lump Sum

ENVIRONMENTAL COMMITMENTS

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	NH-P 0023(68)	10	38

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.

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

COMMITMENT I: HISTORIC PRESERVATION OFFICE CLEARANCES

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

Action Taken/Required:

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

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

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

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

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

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

RATES OF MATERIALS AND TABLE OF ADDITIONAL QUANTITIES

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	NH-P 0023(68)	11	38

SD25 RATES OF MATERIALS		
Mainline	6+15 to 317+91 371+06 to 904+02	5.905 miles <u>10.091 miles</u> 15.996 miles
CRS-2P Asphalt for Surface Treatment at the rate of 22.84 tons/mile applied 24 feet wide (Rate = 0.38 gallon per square yard).		
Type 2B Cover Aggregate at the rate of 154.88 tons/mile applied 24 feet wide (Rate = 22 pounds per square yard).		
SS-1h or CSS-1h Asphalt for Fog Seal at the rate of 5.21 tons/mile applied 28 feet wide (Rate = 0.075 gallons per square yard).		
Mainline	317+91 to 367+25	<u>0.935 miles</u> 0.935 miles
CRS-2P Asphalt for Surface Treatment at the rate of 32.35 tons/mile applied 40 feet wide (Rate = 0.38 gallon per square yard).		
Type 2B Cover Aggregate at the rate of 219.41 tons/mile applied 40 feet wide (Rate = 22 pounds per square yard).		
SS-1h or CSS-1h Asphalt for Fog Seal at the rate of 6.70 tons/mile applied 40 feet wide (Rate = 0.075 gallons per square yard).		
Mainline	367+25 to 371+06	<u>0.072 miles</u> 0.072 miles
CRS-2P Asphalt for Surface Treatment at the rate of 32.35 tons/mile applied 34 feet wide (Rate = 0.38 gallon per square yard).		
Type 2B Cover Aggregate at the rate of 219.41 tons/mile applied 34 feet wide (Rate = 22 pounds per square yard).		
SS-1h or CSS-1h Asphalt for Fog Seal at the rate of 6.32 tons/mile applied 34 feet wide (Rate = 0.075 gallons per square yard).		
Mainline	904+02 to 1035+25	<u>2.485 miles</u> 2.485 miles
CRS-2P Asphalt for Surface Treatment at the rate of 32.35 tons/mile applied 34 feet wide (Rate = 0.38 gallon per square yard).		
Type 2B Cover Aggregate at the rate of 219.41 tons/mile applied 34 feet wide (Rate = 22 pounds per square yard).		
SS-1h or CSS-1h Asphalt for Fog Seal at the rate of 6.70 tons/mile applied 36 feet wide (Rate = 0.075 gallons per square yard).		

SD25 TABLE OF ADDITIONAL QUANTITIES				
LOCATION		CRS-2P ASPHALT SURFACE TREATMENT TON	TYPE 2B COVER AGGREGATE TON	CSS-1h ASPH. FOR FOG SEAL TON
SD25				
Sta. 6+15	205 SqYd	0.33	2.23	0.06
Radii at US18 Intersection Rates = 0.38 gal, 22 lb & 0.075 gal/SqYd				
Sta. 588+18	1055 SqYd	1.71	11.61	0.33
Turn Lane at SD46 Intersection Rates = 0.38 gal, 22 lb & 0.075 gal/SqYd				
Sta. 588+18	831 SqYd	1.35	9.14	0.26
Radii at SD46 Intersection Rates = 0.38 gal, 22 lb & 0.075 gal/SqYd				
Entrances & Mailbox Turnouts	9246 SqYd	-	-	2.93
Rate = 0.075 gal/SqYd				
SD52 Total Additional Quantities		3.39	22.98	3.58

SD25 SUMMARY OF MATERIALS QUANTITIES				
	Miles	CRS-2P	Type 2B	CSS-1h
Mainline	15.996	365.30	2477.38	83.29
Mainline	0.935	35.57	241.22	6.95
Mainline	0.072	2.33	15.83	0.46
Mainline	2.485	80.41	545.33	16.64
Additional Quantities		3.39	22.98	3.58
SD25 Total Tons		487.00	3302.74	110.92

SD37 RATES OF MATERIALS		
Mainline	0+00 to 336+35 361+64 to 453+17 462+31 to 482+50 503+42 to 596+04	6.370 miles 1.734 miles 0.353 miles <u>1.754 miles</u> 10.211 miles
CRS-2P Asphalt for Surface Treatment at the rate of 26.64 tons/mile applied 28 feet wide (Rate = 0.38 gallon per square yard).		
Type 2B Cover Aggregate at the rate of 180.69 tons/mile applied 28 feet wide (Rate = 22 pounds per square yard).		
SS-1h or CSS-1h Asphalt for Fog Seal at the rate of 5.21 tons/mile applied 28 feet wide (Rate = 0.075 gallons per square yard).		
Mainline	336+35 to 361+64 453+17 to 462+31 482+50 to 503+42 596+04 to 624+10	0.479 miles 0.173 miles 0.396 miles <u>0.532 miles</u> 1.580 miles
CRS-2P Asphalt for Surface Treatment at the rate of 32.35 tons/mile applied 34 feet wide (Rate = 0.38 gallon per square yard).		
Type 2B Cover Aggregate at the rate of 219.41 tons/mile applied 34 feet wide (Rate = 22 pounds per square yard).		
SS-1h or CSS-1h Asphalt for Fog Seal at the rate of 6.70 tons/mile applied 36 feet wide (Rate = 0.075 gallons per square yard).		

SD37 TABLE OF ADDITIONAL QUANTITIES				
LOCATION		CRS-2P ASPHALT SURFACE TREATMENT TON	TYPE 2B COVER AGGREGATE TON	CSS-1h ASPH. FOR FOG SEAL TON
SD37				
Sta. 0+00 – 2+66 Extra Width	230 SqYd	-	-	0.07
Rates = 0.38 gal, 22 lb & 0.075 gal/SqYd				
Radii at Jct SD37P	310 SqYd	0.50	3.41	0.09
Rates = 0.38 gal, 22 lb & 0.075 gal/SqYd				
Sta. 611+91	1700 SqYd	2.76	18.7	0.54
Turn Lane at SD37P near Springfield Rates = 0.38 gal, 22 lb & 0.075 gal/SqYd				
SD37 Total Additional Quantities		3.26	22.11	0.70

SD37 SUMMARY OF MATERIALS QUANTITIES				
	Miles	CRS-2P	Type 2B	CSS-1h
Mainline	10.211	272.06	1845.06	53.17
Mainline	1.580	51.12	346.67	10.58
Additional Quantities		3.26	22.11	0.70
SD37 Total Tons		326.44	2213.84	64.45

RATES OF MATERIALS AND TABLE OF ADDITIONAL QUANTITIES

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	NH-P 0023(68)	12	38

SD37P RATES OF MATERIALS		
Mainline	0+00 to 7+98.6	<u>0.151 miles</u> 0.151 miles
CRS-2P Asphalt for Surface Treatment at the rate of 26.64 tons/mile applied 28 feet wide (Rate = 0.38 gallon per square yard).		
Type 2B Cover Aggregate at the rate of 180.69 tons/mile applied 28 feet wide (Rate = 22 pounds per square yard).		
SS-1h or CSS-1h Asphalt for Fog Seal at the rate of 5.58 tons/mile applied 30 feet wide (Rate = 0.075 gallons per square yard).		
Mainline	7+98.6 to 26+30	<u>0.347 miles</u> 0.347 miles
CRS-2P Asphalt for Surface Treatment at the rate of 20.93 tons/mile applied 22 feet wide (Rate = 0.38 gallon per square yard).		
Type 2B Cover Aggregate at the rate of 141.97 tons/mile applied 22 feet wide (Rate = 22 pounds per square yard).		
SS-1h or CSS-1h Asphalt for Fog Seal at the rate of 4.28 tons/mile applied 23 feet wide (Rate = 0.075 gallons per square yard).		

SD37P SUMMARY OF MATERIALS QUANTITIES

	Miles	CRS-2P	Type 2B	CSS-1h
Mainline	0.151	4.03	27.33	0.84
Mainline	0.347	7.26	49.24	1.48
SD37P Total Tons		11.29	76.57	2.32

SD50 RAMP CHARLES MIX COUNTY RATES OF MATERIALS		
Mainline	141+19 to 165+50	<u>0.460 miles</u> 0.460 miles
CRS-2P Asphalt for Surface Treatment at the rate of 18.03 tons/mile applied 20 feet wide (Rate = 0.36 gallon per square yard).		
Type 2B Cover Aggregate at the rate of 129.07 tons/mile applied 20 feet wide (Rate = 22 pounds per square yard).		
SS-1h or CSS-1h Asphalt for Fog Seal at the rate of 6.51 tons/mile applied 35 feet wide (Rate = 0.075 gallons per square yard).		

SD50 RAMP CHARLES MIX COUNTY
SUMMARY OF MATERIALS QUANTITIES

	Miles	CRS-2P	Type 2B	CSS-1h
Mainline	0.460	8.30	59.42	3.00
SD50 Ramp Chas Mix County Total Tons		8.30	59.42	3.00

SD46 RATES OF MATERIALS		
Mainline	158+20 to 172+95	<u>0.279 miles</u> 0.279 miles
CRS-2P Asphalt for Surface Treatment at the rate of 22.54 tons/mile applied 25 feet wide (Rate = 0.36 gallon per square yard).		
Type 2B Cover Aggregate at the rate of 161.33 tons/mile applied 25 feet wide (Rate = 22 pounds per square yard).		
SS-1h or CSS-1h Asphalt for Fog Seal at the rate of 7.62 tons/mile applied 41 feet wide (Rate = 0.075 gallons per square yard).		
Mainline	172+95 to 580+93	<u>7.727 miles</u> 7.727 miles
CRS-2P Asphalt for Surface Treatment at the rate of 22.54 tons/mile applied 25 feet wide (Rate = 0.36 gallon per square yard).		
Type 2B Cover Aggregate at the rate of 161.33 tons/mile applied 25 feet wide (Rate = 22 pounds per square yard).		
SS-1h or CSS-1h Asphalt for Fog Seal at the rate of 5.77 tons/mile applied 31 feet wide (Rate = 0.075 gallons per square yard).		

SD46 TABLE OF ADDITIONAL QUANTITIES				
LOCATION		CRS-2P ASPHALT SURFACE TREATMENT TON	TYPE 2B COVER AGGREGATE TON	CSS-1h ASPH. FOR FOG SEAL TON
SD46				
Sta. 158+20	1150 SqYd	1.77	12.65	0.36
Left Turn Lane at SD50 Rates = 0.36 gal, 22 lb & 0.075 gal/SqYd				
Sta.158+20	340 SqYd	-	-	0.11
Radii at SD50 Rates = 0.36 gal, 22 lb & 0.075 gal/SqYd				
Sta. 580+93	460 SqYd	-	-	0.15
Radii at SD37 Rates = 0.36 gal, 22 lb & 0.075 gal/SqYd				
SD46 Total Additional Quantities		1.77	12.65	0.62

SD46 SUMMARY OF MATERIALS QUANTITIES

	Miles	CRS-2P	Type 2B	CSS-1h
Mainline	0.279	6.30	45.07	2.13
Mainline	7.708	173.71	1243.56	44.55
Additional Quantities		1.77	12.65	0.62
SD46 Total Tons		181.78	1301.28	47.19

RATES OF MATERIALS AND TABLE OF ADDITIONAL QUANTITIES

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	NH-P 0023(68)	13	38

SD50 WEST SEGMENT CHARLES MIX COUNTY RATES OF MATERIALS				
Mainline	151+75 to 165+05	0.252 miles	0.252 miles	
CRS-2P Asphalt for Surface Treatment at the rate of 22.54 tons/mile applied 25 feet wide (Rate = 0.36 gallon per square yard).				
Type 2B Cover Aggregate at the rate of 161.33 tons/mile applied 25 feet wide (Rate = 22 pounds per square yard).				
SS-1h or CSS-1h Asphalt for Fog Seal at the rate of 5.95 tons/mile applied 32 feet wide (Rate = 0.075 gallons per square yard).				
Mainline	165+05 to 426+08	4.944 miles	4.944 miles	
CRS-2P Asphalt for Surface Treatment at the rate of 22.54 tons/mile applied 25 feet wide (Rate = 0.36 gallon per square yard).				
Type 2B Cover Aggregate at the rate of 161.33 tons/mile applied 25 feet wide (Rate = 22 pounds per square yard).				
SS-1h or CSS-1h Asphalt for Fog Seal at the rate of 6.69 tons/mile applied 36 feet wide (Rate = 0.075 gallons per square yard).				

SD50 WEST SEGMENT CHARLES MIX COUNTY SUMMARY OF MATERIALS QUANTITIES				
	Miles	CRS-2P	Type 2B	CSS-1h
Mainline	0.252	5.68	40.64	1.50
Mainline	4.944	111.43	797.58	33.07
SD50 West Segment Total Tons		117.11	838.22	34.57

SD50 MIDDLE SEGMENT CHARLES MIX & BON HOMME COUNTIES RATES OF MATERIALS				
Mainline	728+52 to 873+67 921+59 to 1117+77	2.731 miles	3.716 miles	6.447 miles
CRS-2P Asphalt for Surface Treatment at the rate of 34.26 tons/mile applied 36 feet wide (Rate = 0.38 gallon per square yard).				
Type 2B Cover Aggregate at the rate of 232.32 tons/mile applied 36 feet wide (Rate = 22 pounds per square yard).				
SS-1h or CSS-1h Asphalt for Fog Seal at the rate of 7.44 tons/mile applied 40 feet wide (Rate = 0.075 gallons per square yard).				
Mainline	873+67 to 921+59	0.907 miles	0.907 miles	
CRS-2P Asphalt for Surface Treatment at the rate of 37.11 tons/mile applied 39 feet wide (Rate = 0.38 gallon per square yard).				
Type 2B Cover Aggregate at the rate of 251.68 tons/mile applied 39 feet wide (Rate = 22 pounds per square yard).				
SS-1h or CSS-1h Asphalt for Fog Seal at the rate of 7.81 tons/mile applied 42 feet wide (Rate = 0.075 gallons per square yard).				

SD50 MIDDLE SEGMENT CHARLES MIX & BON HOMME COUNTIES TABLE OF ADDITIONAL QUANTITIES				
LOCATION		CRS-2P ASPHALT SURFACE TREATMENT TON	TYPE 2B COVER AGGREGATE TON	CSS-1h ASPH. FOR FOG SEAL TON
SD50 Middle Segment				
Sta. 952+54	1336 SqYd	2.17	14.70	0.42
Passing Lane				
Rates = 0.38 gal, 22 lb & 0.075 gal/SqYd				
SD50 Middle Segment		2.17	14.70	0.42
Total Additional Quantities				

SD50 MIDDLE SEGMENT CHARLES MIX & BON HOMME COUNTIES SUMMARY OF MATERIALS QUANTITIES				
	Miles	CRS-2P	Type 2B	CSS-1h
Mainline	6.447	220.85	1497.77	47.96
Mainline	0.907	33.68	228.42	7.09
Additional Quantities		2.17	14.70	0.42
SD50 Middle Segment Total Tons		256.70	1740.89	55.47

SD50W BON HOMME COUNTY RATES OF MATERIALS				
Mainline	1117+77 to 1158+17	0.765 miles	0.765 miles	
CRS-2P Asphalt for Surface Treatment at the rate of 34.26 tons/mile applied 36 feet wide (Rate = 0.38 gallon per square yard).				
Type 2B Cover Aggregate at the rate of 232.32 tons/mile applied 36 feet wide (Rate = 22 pounds per square yard).				
SS-1h or CSS-1h Asphalt for Fog Seal at the rate of 7.44 tons/mile applied 40 feet wide (Rate = 0.075 gallons per square yard).				

SD50W BON HOMME COUNTY TABLE OF ADDITIONAL QUANTITIES				
LOCATION		CRS-2P ASPHALT SURFACE TREATMENT TON	TYPE 2B COVER AGGREGATE TON	CSS-1h ASPH. FOR FOG SEAL TON
SD50W				
Sta. 1150+82	1500 SqYd	2.43	16.5	0.48
Gore Area				
Rates = 0.38 gal, 22 lb & 0.075 gal/SqYd				
SD50W Bon Homme County		2.43	16.5	0.48
Total Additional Quantities				

SD50W BON HOMME COUNTY SUMMARY OF MATERIALS QUANTITIES				
	Miles	CRS-2P	Type 2B	CSS-1h
Mainline	0.765	26.21	177.76	5.69
Additional Quantities		2.43	16.50	0.48
SD50W Bon Homme County		28.64	194.26	6.17
Total Tons				

SD50E BON HOMME COUNTY RATES OF MATERIALS		
Mainline	1117+77 to 1158+17	<u>0.765 miles</u> 0.765 miles
CRS-2P Asphalt for Surface Treatment at the rate of 34.26 tons/mile applied 36 feet wide (Rate = 0.38 gallon per square yard).		
Type 2B Cover Aggregate at the rate of 232.32 tons/mile applied 36 feet wide (Rate = 22 pounds per square yard).		
SS-1h or CSS-1h Asphalt for Fog Seal at the rate of 7.44 tons/mile applied 40 feet wide (Rate = 0.075 gallons per square yard).		

SD50 EAST SEGMENT BON HOMME COUNTY RATES OF MATERIALS		
Mainline	1158+17 to 1321+55	<u>3.051 miles</u> 3.051 miles
CRS-2P Asphalt for Surface Treatment at the rate of 34.26 tons/mile applied 36 feet wide (Rate = 0.38 gallon per square yard).		
Type 2B Cover Aggregate at the rate of 232.32 tons/mile applied 36 feet wide (Rate = 22 pounds per square yard).		
SS-1h or CSS-1h Asphalt for Fog Seal at the rate of 7.44 tons/mile applied 40 feet wide (Rate = 0.075 gallons per square yard).		

SD50W CLAY COUNTY RATES OF MATERIALS		
Inside Shoulders	24+06 to 547+20	<u>9.908 miles</u> 9.908 miles
CRS-2P Asphalt for Surface Treatment at the rate of 3.61 tons/mile applied 4 feet wide (Rate = 0.36 gallon per square yard).		
Type 2B Cover Aggregate at the rate of 25.81 tons/mile applied 4 feet wide (Rate = 22 pounds per square yard).		
SS-1h or CSS-1h Asphalt for Fog Seal at the rate of 1.12 tons/mile applied 6 feet wide (Rate = 0.075 gallons per square yard).		
Outside Shoulders	24+06 to 521+66	<u>9.424 miles</u> 9.424 miles
CRS-2P Asphalt for Surface Treatment at the rate of 5.41 tons/mile applied 6 feet wide (Rate = 0.36 gallon per square yard).		
Type 2B Cover Aggregate at the rate of 38.72 tons/mile applied 6 feet wide (Rate = 22 pounds per square yard).		
SS-1h or CSS-1h Asphalt for Fog Seal at the rate of 1.30 tons/mile applied 7 feet wide (Rate = 0.075 gallons per square yard).		
Outside Shoulders	521+66 to 536+06	<u>0.273 miles</u> 0.273 miles
CRS-2P Asphalt for Surface Treatment at the rate of 4.96 tons/mile applied 5.5 feet wide (Rate = 0.36 gallon per square yard).		
Type 2B Cover Aggregate at the rate of 35.49 tons/mile applied 5.5 feet wide (Rate = 22 pounds per square yard).		
SS-1h or CSS-1h Asphalt for Fog Seal at the rate of 1.21 tons/mile applied 6.5 feet wide (Rate = 0.075 gallons per square yard).		
Outside Shoulders	536+06 to 547+20	<u>0.211 miles</u> 0.211 miles
CRS-2P Asphalt for Surface Treatment at the rate of 5.41 tons/mile applied 6 feet wide (Rate = 0.36 gallon per square yard).		
Type 2B Cover Aggregate at the rate of 38.72 tons/mile applied 6 feet wide (Rate = 22 pounds per square yard).		
SS-1h or CSS-1h Asphalt for Fog Seal at the rate of 1.12 tons/mile applied 6 feet wide (Rate = 0.075 gallons per square yard).		

SD50E BON HOMME COUNTY TABLE OF ADDITIONAL QUANTITIES				
LOCATION		CRS-2P ASPHALT SURFACE TREATMENT TON	TYPE 2B COVER AGGREGATE TON	CSS-1h ASPH. FOR FOG SEAL TON
SD50E				
Sta. 1126+97 Gore Area Rates = 0.38 gal, 22 lb & 0.075	792 SqYd	1.28	8.71	0.25
Sta. 1143+14 Median Crossover Rates = 0.38 gal, 22 lb & 0.075 gal/SqYd	525 SqYd	0.85	5.78	0.16
SD50E Bon Homme County Total Additional Quantities		2.13	14.49	0.41

SD50 EAST SEGMENT BON HOMME COUNTY SUMMARY OF MATERIALS QUANTITIES				
	Miles	CRS-2P	Type 2B	CSS-1h
Mainline	3.051	104.52	708.81	22.70
SD50 East Segment Bon Homme County Total Tons		104.52	708.81	22.70

SD50E BON HOMME COUNTY SUMMARY OF MATERIALS QUANTITIES				
	Miles	CRS-2P	Type 2B	CSS-1h
Mainline	0.765	26.21	177.76	5.69
Additional Quantities		2.13	14.49	0.41
SD50E Bon Homme County Total Tons		28.34	192.25	6.10

SD50W CLAY COUNTY TABLE OF ADDITIONAL QUANTITIES				
LOCATION		CRS-2P ASPHALT SURFACE TREATMENT TON	TYPE 2B COVER AGGREGATE TON	CSS-1h ASPH. FOR FOG SEAL TON
SD50W				
Sta. 536+30	58 SqYd	0.09	0.64	0.02
Gore Area				
Rates = 0.36 gal, 22 lb & 0.075				
Sta. 544+57	470 SqYd	0.72	5.17	0.15
Median Crossover				
Rates = 0.36 gal, 22 lb & 0.075 gal/SqYd				
SD50W Clay County Total Additional Quantities		0.81	5.81	0.17

SD50W CLAY COUNTY SUMMARY OF MATERIALS QUANTITIES				
	Miles	CRS-2P	Type 2B	CSS-1h
Inside Shoulders	9.908	35.77	255.72	11.10
Outside Shoulders	0.924	50.99	364.91	12.25
Outside Shoulders	0.273	1.35	9.68	0.33
Outside Shoulder	0.211	1.14	8.17	0.24
Additional Quantities		0.81	5.81	0.17
SD50W Clay County Total Tons		90.06	644.29	24.09

SD52 WEST SEGMENT RATES OF MATERIALS		
Mainline	0+20 to 243+96	<u>4.553 miles</u> 4.553 miles
CRS-2P Asphalt for Surface Treatment at the rate of 22.54 tons/mile applied 25 feet wide (Rate = 0.36 gallon per square yard).		
Type 2B Cover Aggregate at the rate of 161.33 tons/mile applied 25 feet wide (Rate = 22 pounds per square yard).		
SS-1h or CSS-1h Asphalt for Fog Seal at the rate of 7.44 tons/mile applied 40 feet wide (Rate = 0.075 gallons per square yard).		

SD52 WEST SEGMENT TABLE OF ADDITIONAL QUANTITIES				
LOCATION		CRS-2P ASPHALT SURFACE TREATMENT TON	TYPE 2B COVER AGGREGATE TON	CSS-1h ASPH. FOR FOG SEAL TON
SD52 West Segment				
Radii at Jct SD50	176 SqYd	-	-	0.06
Rates = 0.36 gal, 22 lb & 0.075 gal/SqYd				
SD52 West Segment Total Additional Quantities		-	-	0.06

SD52 WEST SEGMENT SUMMARY OF MATERIALS QUANTITIES				
	Miles	CRS-2P	Type 2B	CSS-1h
Mainline	4.553	102.63	734.60	33.88
Additional Quantities		0.00	0.00	0.06
SD52 West Segment Total Tons		102.63	734.60	33.94

SD52 EAST SEGMENT RATES OF MATERIALS		
Mainline	0+00 to 73+20	<u>1.386 miles</u> 1.386 miles
CRS-2P Asphalt for Surface Treatment at the rate of 36.06 tons/mile applied 40 feet wide (Rate = 0.36 gallon per square yard).		
Type 2B Cover Aggregate at the rate of 258.13 tons/mile applied 40 feet wide (Rate = 22 pounds per square yard).		
SS-1h or CSS-1h Asphalt for Fog Seal at the rate of 9.11 tons/mile applied 49 feet wide (Rate = 0.075 gallons per square yard).		
Mainline	73+20 to 282+56	<u>3.965 miles</u> 3.965 miles
CRS-2P Asphalt for Surface Treatment at the rate of 54.99 tons/mile applied 61 feet wide (Rate = 0.36 gallon per square yard).		
Type 2B Cover Aggregate at the rate of 393.65 tons/mile applied 61 feet wide (Rate = 22 pounds per square yard).		
SS-1h or CSS-1h Asphalt for Fog Seal at the rate of 12.65 tons/mile applied 68 feet wide (Rate = 0.075 gallons per square yard).		
Mainline	282+56 to 286+24.5	<u>0.070 miles</u> 0.070 miles
CRS-2P Asphalt for Surface Treatment at the rate of 36.06 tons/mile applied 40 feet wide (Rate = 0.36 gallon per square yard).		
Type 2B Cover Aggregate at the rate of 258.13 tons/mile applied 40 feet wide (Rate = 22 pounds per square yard).		
SS-1h or CSS-1h Asphalt for Fog Seal at the rate of 7.81 tons/mile applied 42 feet wide (Rate = 0.075 gallons per square yard).		
Mainline	286+24.5 to 312+44	<u>0.496 miles</u> 0.496 miles
CRS-2P Asphalt for Surface Treatment at the rate of 39.66 tons/mile applied 44 feet wide (Rate = 0.36 gallon per square yard).		
Type 2B Cover Aggregate at the rate of 283.95 tons/mile applied 44 feet wide (Rate = 22 pounds per square yard).		
SS-1h or CSS-1h Asphalt for Fog Seal at the rate of 8.18 tons/mile applied 44 feet wide (Rate = 0.075 gallons per square yard).		

SD52 EAST SEGMENT
TABLE OF ADDITIONAL QUANTITIES

LOCATION		CRS-2P ASPHALT SURFACE TREATMENT TON	TYPE 2B COVER AGGREGATE TON	CSS-1h ASPH. FOR FOG SEAL TON
<u>SD52 East Segment</u>				
Sta. 6+30	603 SqYd	0.93	6.63	0.19
Right turn lane at Park Entrance Rates = 0.36 gal, 22 lb & 0.075 gal/SqYd				
Sta. 6+30	175 SqYd	0.27	1.93	0.06
Gore at Park Entrance Rates = 0.36 gal, 22 lb & 0.075 gal/SqYd				
Sta. 286+20	190 SqYd	0.29	2.09	0.06
West City Limits Accelerating Lane Rates = 0.36 gal, 22 lb & 0.075 gal/SqYd				
Sta. 286+36	1333 SqYd	2.05	14.66	0.42
West City Limits Road Intersection Rates = 0.38 gal, 22 lb & 0.075				
Entrances & Mailbox Turnouts	1265 SqYd	-	-	0.40
Rates = 0.075 gal/SqYd				
SD50 East Segment		3.54	25.31	1.13
Total Additional Quantities				

SD52 EAST SEGMENT
SUMMARY OF MATERIALS QUANTITIES

	Miles	CRS-2P	Type 2B	CSS-1h
Mainline	1.386	49.99	357.86	12.63
Mainline	3.965	218.04	1560.88	50.16
Mainline	0.070	2.52	18.02	0.55
Mainline	0.496	19.68	140.87	4.06
Additional Quantities		3.54	25.31	1.13
SD52 East Segment Total Tons		293.77	2102.94	68.53

RIDE ACROSS SOUTH DAKOTA BIKE TOUR

The Ride Across South Dakota bike tour may be on routes that are in this contract to have an asphalt surface treatment applied to them. The routes of the tour can be found at www.RASDAK.com. The Contractor will schedule work to complete the affected routes after the bike tour is completed.

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.

Vegetation and accumulated material on or adjacent to the existing roadway edge will be removed to the satisfaction of the Engineer prior to asphalt surface treatment.

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

BRIDGES, APPROACH SLABS, SLEEPER SLABS, STRIP SEALS, RAILROAD CROSSINGS, MANHOLES, WATER VALVES, MAINLINE RUMBLE STRIPS AND CONCRETE

Asphalt Surface Treatment will not be placed on any of the bridges, approach slabs, sleeper slabs, strip seals, railroad crossings, manholes, water valves or any type of concrete. It also will not be placed on the rumble strips in the mainline driving lane prior to a Stop sign.

Material used to cover and protect these areas will be removed and disposed of properly after the application of the asphalt surface treatment. When the material is removed, the asphalt surface treatment that does not stay adhered to the material will be removed from the road surface.

ESTIMATED QUANTITIES FOR ASPHALT SURFACE TREATMENT

The quantities of asphalt for surface treatment and cover aggregate are based on the rates shown in the Rates of Materials. This is only an estimate. The actual application rates of materials will be determined by mix design as stated in the Special Provision for Asphalt Surface Treatment Design. The mix design rates may vary from the estimated rates stated in the Rates of Materials depending on the aggregate source and the variation in gradation and flakiness index. The application rates may also be adjusted in the field due to results of gradation, flakiness index, sweep tests and differing surface conditions as encountered. Pay quantities will be based on the actual target rates the inspectors use even though they may vary significantly from plans estimates.

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.

COVER AGGREGATE

At least 50% of the aggregate will be stockpiled at each stockpile site, adjacent to or near the routes on this contract, at least one week prior to work beginning on the project. This is to allow the Area Office time to run tests on the material and enter the results into the mix design spreadsheets.

BROOMING

Material will be broomed off bridges and curb & gutter areas adjacent to the bridges. No material will be broomed under the guardrail, including the 3 cable guardrail or into the drop inlets. Material from the curb & gutter areas of the bridges, from guardrail areas of the bridges, and from drop inlets will be disposed of in a manner satisfactory to the Engineer.

No material will be broomed into the ditches or on the boulevards in residential and commercial areas where the adjacent landowner conducts the mowing of the right-of-way. This material will be disposed of in a manner satisfactory to the Engineer.

Material that is broomed onto the roadway inslopes will not be left in piles or windrows. The material will be evenly distributed at a height that will not hinder mowing operations or cause dispersion of the material into the traveled roadway when passed over with a mower.

Anticipated areas, other than the bridge areas stated above, that will require either removal of the chips with a pickup sweeper or additional dispersal of the chips with the rotary powered broom are:

ROUTE	LOCATION
SD25	Curb & gutter and residential areas in the City of Scotland
SD50 Middle Segment	Curb & gutter and residential areas in the City of Avon
SD52	Curb & gutter and residential areas on the whole project route

This list may not be complete. Additional areas may need attention as directed by the Engineer.

FOG SEAL

Fog Seal will be placed on all the routes.

The fog seal will be placed following the completion of the asphalt surface treatment and prior to the placement of the permanent pavement marking.

Application of the fog seal will begin no earlier than the morning following application of the chip seal but no later than four days after the application of each day’s chip seal.

Immediately prior to the applications of the fog seal the Contractor will be required to broom the entire width of the chip seal. An SS-1h or CSS-1h emulsion will be used for the fog seal application. An emulsion-to-water ratio of 3:1 should be used for the binder application.

Sand for Fog Seal will conform to Section 879.1 B of the specifications except for the following requirements:

The shale content or other particles of low specific gravity (less than 1.95) passing the No. 4 sieve will not exceed 4.5%. Prior to hauling, sand will be screened to minimize segregation, eliminate oversize and effectively breakup or discard material bonded into chunks.

Sand for Fog Seal will be furnished by the Contractor. A rate of application for the sand will not be given. A small quantity of Sand for Fog Seal is set up for each respective route to be Fog Sealed, to be used as directed by the Engineer at locations of high traffic volumes, such as intersecting state or county highways, that traffic cannot be stopped from crossing. The Contractor will be required to keep traffic off other areas until the Fog Seal has cured sufficiently as to not stick to tires.

TRANSVERSE RUMBLE STRIPS

The Contractor will ensure transverse rumble strips are not damaged or otherwise modified to lose their functionality during the application of the surface treatment. The Contractor will only apply a fog seal to the rumble strips. The Contractor will repair any damage or loss of functionality of rumble strips to the satisfaction of the Engineer at no additional cost to the State.

PERMANENT VEHICLE CLASSIFICATION

The SDDOT Office of Inventory Management & Research has a permanent traffic counter installation located on SD 50 at MRM 405.00 +0.817 and SD52 at MRM 340.00 +0.659.

The Contractor will not damage the existing loops, pull boxes, conduit, or electronics cabinet. Any pull boxes, conduit, cabinet or loops damaged during the construction project will be replaced by the Contractor at the Contractor's expense. The loops are visible on the roadway. If necessary, SDDOT Office of Inventory Management & Research will aide in locating loops. Contact 605-773-6644, or 605-773-3278 to notify office of request to locate ATR.

TEMPORARY PAVEMENT MARKING

Paint will not be allowed for Temporary Pavement Marking.

The total length of no passing zones on this contract is estimated to be 35.7 miles.

For locations where the annual average daily traffic (ADT) is 2500 or less, it is estimated that 138 DO NOT PASS and 131 PASS WITH CARE signs will be required to mark the no passing zones, should the Contractor elect to use these signs.

For routes with centerline rumble strips, 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.

**TABLE OF DO NOT PASS AND PASS WITH CARE SIGNS
(ADT LESS THAN OR EQUAL TO 2500)**

ROUTE	DO NOT PASS	PASS WITH CARE
SD25	45	44
SD37	15	14
SD37P	2	0
SD50 Ramp	1	0
SD46	17	16
SD50 West Seg Charles Mix	8	8
SD50 Middle Seg Bon Homme	28	27
SD50W Bon Homme	0	0
SD50E Bon Homme	0	0
SD50 East Seg Bon Homme	8	8
SD50W Clay	0	0
SD52 West Segment	14	14
SD52 East Segment	0	0
TOTAL	138	131

Prior to asphalt surface treatment the Contractor will mark, with appropriately colored temporary flexible vertical markers (tabs), the location of existing pavement marking, except edgelines. However, the Contractor will place temporary flexible vertical markers (tabs) on the edgeline of transition areas such as turn lanes and climbing lanes and on dashed edgelines. Prior to installation of the permanent pavement marking, the Engineer is to be notified. The Contractor will give the Engineer ample notification to verify and check the placement of the temporary flexible vertical markers (tabs) that are to be used for placement of the permanent pavement marking.

If the Contractor uses the DO NOT PASS and PASS WITH CARE signs, the beginning and ending of no passing zones will be marked with temporary flexible vertical markers (tabs).

The Contractor will remove and dispose of temporary flexible vertical markers (tabs) after Permanent Pavement Marking is applied. Removal will be accomplished within one week of completion of the Permanent Pavement Marking.

TEMPORARY PAVEMENT MARKING (CONTINUED)

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 symbol signs (W20-7) 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 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), 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.

PAVEMENT MARKING MASKING

Any existing pavement marking that is to be salvaged on this contract will be covered with an approved pavement marking masking immediately prior to sealing to preserve the various marking. The masking material will be sturdy enough to eliminate being punctured by the cover aggregate when traffic drives over it.

Pavement marking to be masked will be cleaned with a high pressure air blast device immediately prior to the application of the Pavement Marking Masking. The width of this masking will be one inch wider than the existing marking. The various items for Pavement Marking Masking will include material, labor and equipment to satisfactorily install the masking prior to sealing and remove and dispose of the masking after the completion of the work and will be incidental to the contract unit price for Pavement Marking Masking.

If the pavement marking is damaged due to improper masking, it will be replaced or repaired at the Contractor's expense.

PAVEMENT MARKING MASKING (CONTINUED)

When the masking is removed, the asphalt surface treatment that does not stay adhered to the masking will be removed from the road surface.

TABLE OF PAVEMENT MARKING MASKING		
ROUTE	LOCATION	DESCRIPTION
*SD25	BNSF Crossing near SD50	R x R Crossing
*SD25	BNSF Crossing near SD50	24" Stop Bar x 20'
*SD25	BNSF Crossing near Scotland	R x R Crossing (2 Each)
*SD25	BNSF Crossing near Scotland	24" Stop Bar x 72'
*SD25	SD46 Intersection	24" Stop Bar x 32'
*SD25	City of Scotland	24" Stop Bar x 80'
*SD25	City of Scotland	Pedestrian Crossing
*SD25	SD46 Intersection	Arrow (4 Each – <i>Left</i>)
*SD25	US18 Intersection	24" Stop Bar x 41'
*SD52E	West City Limits Intersection	Pedestrian Crossing
*SD52E	West City Limits Intersection	North Stop Bar
*SD52E	West City Limits Intersection	24" White Gore Hatches

* Masking of the required areas on these routes may need to be done twice due to the required placement of the Fog Seal on these routes. Once prior to the placement of the chip seal and once prior to the fog seal application. Each masking application will be paid for separately. If the Contractor can achieve satisfactory results by leaving the masking in place for both the chip seal and the fog seal applications, this procedure will be allowed. In this case, the masking will be paid for once.

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 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.

PERMANENT PAVEMENT MARKING

The application of permanent pavement marking may not begin until 7 calendar days following completion of the fog seal and will be completed within 14 calendar days following completion of the fog seal.

Marking eight inch edgelines and gore areas will require the use of two spray nozzles to achieve the required width. Marking twelve inch gore lines will require the use of three spray nozzles to achieve the required width.

The Contractor will be required to repaint existing pavement marking including centerline, edgeline, dashed edgelines, dashed lane lines, lane lines, turn lanes, gore areas, etc.

Stop lines are to be located a minimum of 10' and a maximum of 30' back from the edge of the intersecting roadway. The stop line is to be located to provide the best sight distance for a stopped motorist to view intersecting traffic. The Project Engineer is to be notified prior to the installation of the stop lines to verify their location. Adjustments of the location of the existing stop lines, if needed, will be made prior to the placement of the new stop lines.

Flush sealing will not be allowed as an option for correction of pavement marking not within tolerance due to the occurrence of shadow through.

PERMANENT PAVEMENT MARKING (CONTINUED)

The following table contains locations of existing pavement marking to be painted by hand.

TABLE OF HAND WORK FOR PAVEMENT MARKING	
ROUTE	LOCATION
SD25	Stop Bar at SD46
SD25	Stop Bar at SD50 R x R Crossing
SD25	24" Hashes in Turn Bays at SD46
SD37	Solid Area in Turn Bay at SD37P
SD37	Arrows in Turn Bay at SD37P (Left)
SD37	24" Hashes in Turn Bays at SD37
SD37P	Stop Bar in Running Water (26+30)
SD50 RAMP	24" White Hashes in Gore at SD46/50RAMP
SD46	Arrows in Turn Bay at SD50 (Left)
SD46	24" Hashes in Turn Bays at SD50
SD46	Stop Bar at SD37
SD50	Stop Bar at SD46
SD52W	Stop Bar at SD50
SD52W	Word Messages at US50
SD52E	Left Arrows (150 Ea)
SD52E	Right Arrows (13 Ea)
SD52E	Combo Arrows (4 Ea)

PERMANENT PAVEMENT MARKING (CONTINUED)

TABLES OF PERMANENT PAVEMENT MARKING

SD25	White	Yellow
Yellow Centerline Dashes = 18.102 miles @ 7.6 Gal/Mile		137.6
Solid Yellow Centerline = 8.128 miles @ 27.8 Gal/Mile		226.0
24" Yellow Hatches for Turn Bays= 0.014 miles @ 166.8 Gal/Mile		2.4
Double Yellow for Turn Bays = 2 (4" line) x 0.252 miles @ 27.8 Gal/Mile		14.0
4" Solid White Edgeline = 36.984 miles @ 27.8 Gal/Mile	1028.2	
Solid White Lane Lines = 0.039 miles @ 27.8 Gal/Mile	1.1	
24" White Stop Line = 0.022 miles @ 166.8 Gal/Mile	3.7	
TOTAL GALLONS	1033	380

SD37	White	Yellow
Yellow Centerline Dashes = 11.249 miles @ 7.6 Gal/Mile		85.5
Solid Yellow Centerline = 3.03 miles @ 27.8 Gal/Mile		84.2
Double Yellow for Turn Bays = 2 (4" line) x 0.273 miles @ 27.8 Gal/Mile		15.2
24" Yellow Hatches for Turn Bays= 0.031 miles @ 166.8 Gal/Mile		5.2
Solid Yellow Areas for Turn Bays = 54.0 SqFt = 0.004 miles @ 27.8 Gal/Mile		0.1
4" Solid White Edgeline = 23.10 miles @ 27.8 Gal/Mile	642.2	
Solid White Lane Lines = 0.017 miles @ 27.8 Gal/Mile	0.5	
Arrows = 2 each @ 0.8 Gal/Each	1.6	
TOTAL GALLONS	644	190

SD37P	White	Yellow
Solid Yellow Centerline = 0.969 miles @ 27.8 Gal/Mile		26.9
4" Solid White Edgeline = 0.982 miles @ 27.8 Gal/Mile	27.3	
24" White Stop Line = 0.004 miles @ 166.8 Gal/Mile	0.7	
TOTAL GALLONS	28	27

PERMANENT PAVEMENT MARKING (CONTINUED)

TABLES OF PERMANENT PAVEMENT MARKING

SD50 RAMP Charles Mix Co.	White	Yellow
4" Solid Yellow Edgeline = 0.296 miles @ 27.8 Gal/Mile		8.2
4" Solid White Edgeline = 0.462 miles @ 27.8 Gal/Mile	12.8	
24" White Hatches for Gore = 0.011 miles @ 166.8 Gal/Mile	1.8	
TOTAL GALLONS	15	8

SD46 Charles Mix & Bon Homme Co.	White	Yellow
Yellow Centerline Dashes = 5.99 miles @ 7.6 Gal/Mile		45.6
Solid Yellow Centerline = 4.627 miles @ 27.8 Gal/Mile		128.6
Double Yellow for Turn Bays = 2 (4" line) x 0.152 miles @ 27.8 Gal/Mile		8.5
24" Yellow Hatches for Turn Bays= 0.016 miles @ 166.8 Gal/Mile		2.7
4" Solid White Edgeline = 15.830 miles @ 27.8 Gal/Mile	440.1	
Solid White Lane Lines = 0.104 miles @ 27.8 Gal/Mile	2.9	
Arrows = 4 each @ 0.8 Gal/Each	3.2	
24" White Stop Line = 0.005 miles @ 166.8 Gal/Mile	0.9	
TOTAL GALLONS	447	185

SD50 West Segment Charles Mix Co.	White	Yellow
Yellow Centerline Dashes = 4.464 miles @ 7.6 Gal/Mile		33.9
Solid Yellow Centerline = 2.423 miles @ 27.8 Gal/Mile		67.4
4" Solid White Edgeline = 10.070 miles @ 27.8 Gal/Mile	280.0	
TOTAL GALLONS	280	101

SD50 Middle Segment Charles Mix & Bon Homme Co.	White	Yellow
Yellow Centerline Dashes = 6.557 miles @ 7.6 Gal/Mile		49.8
Solid Yellow Centerline = 5.376 miles @ 27.8 Gal/Mile		149.5
4" Solid White Edgeline = 14.180 miles @ 27.8 Gal/Mile	394.2	
White Centerline Dashes = 0.291 miles @ 7.6 Gal/Mile	2.2	
TOTAL GALLONS	396	199

SD50W Bon Homme Co.	White	Yellow
Solid Yellow Edgeline = 0.702 miles @ 27.8 Gal/Mile		19.5
Solid Yellow Areas for Turn Bays = 47.0 SqFt = 0.009 miles @ 27.8 Gal/Mile		0.2
4" Solid White Edgeline = 0.712 miles @ 27.8 Gal/Mile	19.8	
White Centerline Dashes = 0.366 miles @ 7.6 Gal/Mile	2.8	
TOTAL GALLONS	23	20

PERMANENT PAVEMENT MARKING (CONTINUED)

TABLES OF PERMANENT PAVEMENT MARKING

SD50W Bon Homme Co.	White	Yellow
Solid Yellow Edgeline = 0.702 miles @ 27.8 Gal/Mile		19.5
4" Solid White Edgeline = 0.712 miles @ 27.8 Gal/Mile	19.8	
White Centerline Dashes = 0.366 miles @ 7.6 Gal/Mile	2.8	
TOTAL GALLONS	23	20

SD50 East Segment Bon Homme Co.	White	Yellow
Yellow Centerline Dashes = 2.750 miles @ 7.6 Gal/Mile		20.9
Solid Yellow Centerline = 2.05 miles @ 27.8 Gal/Mile		57.0
4" Solid White Edgeline = 6.207 miles @ 27.8 Gal/Mile	172.5	
TOTAL GALLONS	173	78

SD50W Clay Co.	White	Yellow
4" Solid Yellow Edgeline = 9.532 miles @ 27.8 Gal/Mile		265.0
White Centerline Dashes 9.889 miles @ 7.6 Gal/Mile	75.2	
4" Solid White Edgeline = 9.846 miles @ 27.8 Gal/Mile	273.7	
TOTAL GALLONS	349	265

SD52W Yankton Co.	White	Yellow
Yellow Centerline Dashes = 3.794 miles @ 7.6 Gal/Mile		28.8
Solid Yellow Centerline = 3.751 miles @ 27.8 Gal/Mile		104.3
4" Solid White Edgeline = 9.073 miles @ 27.8 Gal/Mile	252.2	
24" White Stop Line = 0.0042 miles @ 166.8 Gal/Mile	0.7	
Word Messages = 3 @ 1.5 Gal/Word	4.5	
TOTAL GALLONS	257	133

SD52E Yankton Co.	White	Yellow
Yellow Centerline Dashes = 10.142 miles @ 7.6 Gal/Mile		77.1
Solid Yellow Centerline = 11.4 miles @ 27.8 Gal/Mile		316.9
24" Yellow Hatches for Turn Bays= 0.009 miles @ 166.8 Gal/Mile		1.5
8" Solid Yellow Edgeline = 0.015 miles @ 55.6 Gal/Mile		0.8
White Centerline Dashes = 7.960 miles @ 7.6 Gal/Mile	60.5	
4" Solid White Edgeline = 10.488 miles @ 27.8 Gal/Mile	291.6	
Solid White Lane Lines = 0.409 miles @ 27.8 Gal/Mile	11.4	
8" Solid White Edgeline = 0.057 miles @ 55.6 Gal/Mile	3.2	
Arrows = 167 each @ 0.8 Gal/Each	133.6	
TOTAL GALLONS	500	396

SEQUENCE OF OPERATIONS

The below sequence is per route:

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. Place temporary pavement marking not more than 24 hours prior to chip seal.
4. Place pavement marking masking immediately prior to chip seal. See Pavement Marking Masking note for alternate sequence.
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.

Only one distributor will be allowed to apply the chip seal oil at a time for each chip seal crew. If the Contractor wants to propose to use more than one distributor at a time, then their process will need to be approved by the Engineer in writing two weeks prior to the start of chip seal operations.

The application of the asphalt and aggregate will cease at least one hour prior to sunset each day.
6. Remove pavement marking masking immediately after chip seal.
7. Remove plastic covers from temporary flexible vertical markers (tabs) after application of the chip seal and prior to nightfall.
8. Broom chip sealed areas the next morning following the chip seal application.
9. Pick up cover aggregate in curb & gutter areas and other areas as stated in the plans and directed by the Engineer.
10. Place pavement marking masking immediately prior to fog seal. See Pavement Marking Masking note for alternate sequence.
11. Apply fog seal.

Only one distributor will be allowed to apply the fog seal oil at a time for each fog seal crew.
12. Remove pavement marking masking immediately after fog seal.
13. Remove plastic covers from temporary flexible vertical markers (tabs).
14. 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.
15. Complete the permanent pavement marking.
16. Complete required hand painted pavement marking areas within the 14 day time period specified elsewhere in the plans.
17. Remove temporary flexible vertical markers (tabs) within the seven day time period specified elsewhere in the plans.
18. Remove traffic control devices.

SEQUENCE OF OPERATIONS (CONTINUED)

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.

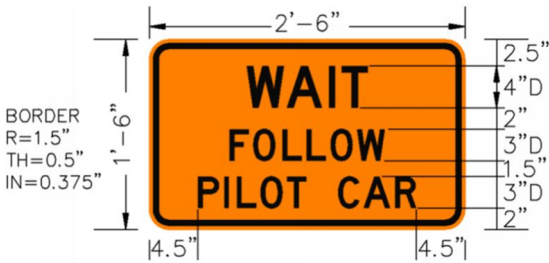
TRAFFIC CONTROL SIGNS

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

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".

STOCKPILE SITE RELEASES

Upon completion of the contract, the Contractor will supply the Engineer a copy of the stockpile site releases to place in the Department's file.

COORDINATION BETWEEN CONTRACTORS

A separate contract for Project IM-NH-P 0021(186) – PCN: 0971 will be awarded to another Contractor for asphalt surface treatment on SD46 (Charles Mix) adjacent to this project (PCN 097C). The asphalt surface treatment for PCN 0971 will begin at MRM 290.00 +0.197 and end at MRM297+00 +0.567 (Jct SD46/50).

The Contractor will schedule work so as not to interfere with or hinder the progress of the work performed by the other Contractor on PCN 0971. 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.

TRAFFIC CONTROL FOR ASPHALT SURFACE TREATMENT

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.

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), 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.

FURNISHING AND APPLYING PAVEMENT MARKING PAINT

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	NH-P 0023(68)	21	38

Paint application rates will be as follows:

Two Lane and Undivided Roadway	
(Rate for one line)	
Dashed Yellow / White Centerline	
Rate = 7.6 Gal/Pass-Mile	
Solid Yellow Centerline	
Rate = 27.8 Gal/Pass-Mile	
Solid Yellow Edgeline – 8"	Solid White / Yellow Edgeline – 4"
Rate = 55.6 Gal/Pass-Mile	Rate – 27.8 Gal/Pass-Mile
Solid White Edgeline – 12"	
Rate = 83.4 Gal/Pass-Mile	

Typical pavement marking as shown on these sheets will be applied throughout the entire length of applicable sections of roadway.

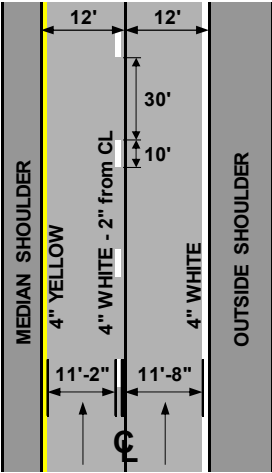
Traffic Control will be incidental to the cost of application. The striper and advance or trailing warning vehicle will be equipped with flashing amber lights and advance warning arrow board.

4" Yellow Skip Centerline (when not adjacent to a 4" Yellow No Passing Zone) will be placed consistently to the south or east of centerline.

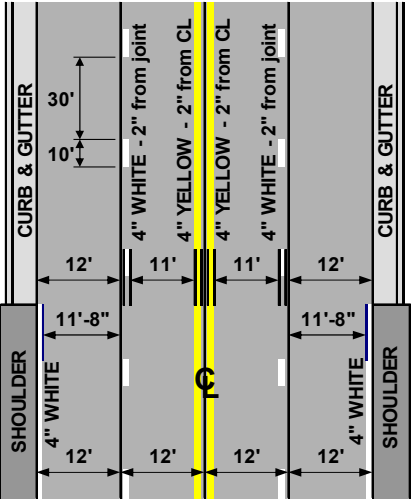
ESTIMATED QUANTITIES		
ROUTES		
	WHITE	YELLOW
SD HWY 25	1033	380
US HWY 37	644	190
SD HWY 37P	28	27
SD50 RAMP CM CO	15	8
SD46	447	185
SD50 West Seg CM CO	280	101
SD50 Middle Seg CM CO	396	199
SD50W BH CO	23	20
SD50E BH CO	23	20
SD50 East Seg BH CO	173	78
SD50W CLAY CO	349	265
SD52W	257	133
SD52E	500	396
TOTALS:	4168 GALLONS	2002 GALLONS

PAVEMENT MARKING

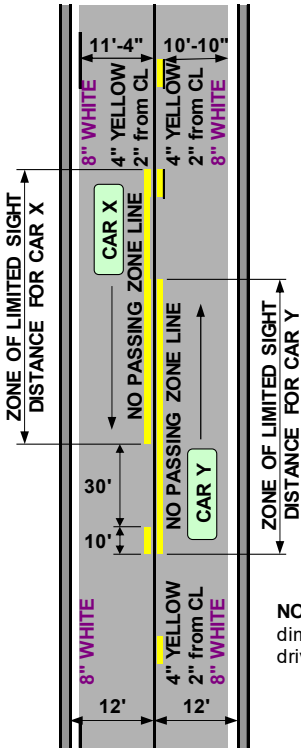
DIVIDED ROADWAY
(ONE DIRECTION SHOWN)



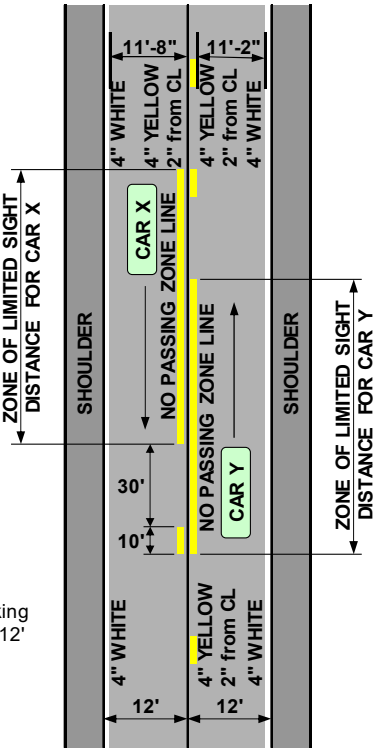
UNDIVIDED ROADWAY



UNDIVIDED ROADWAY

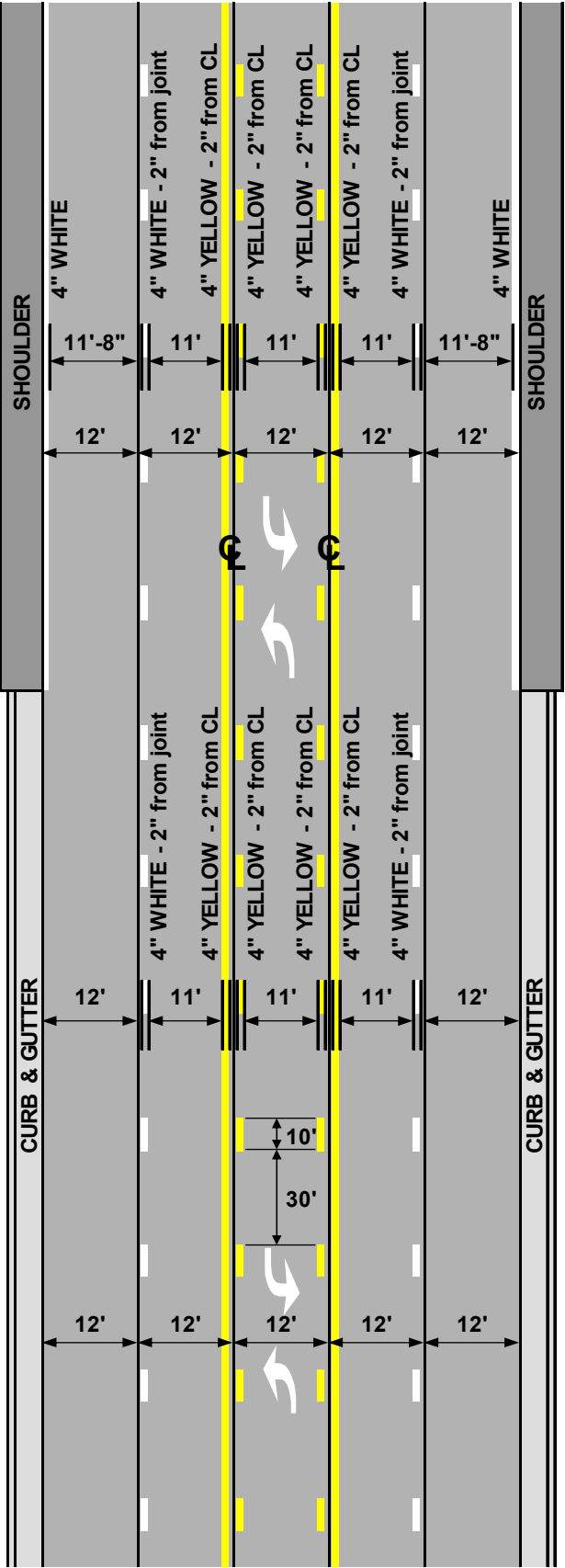


UNDIVIDED ROADWAY



NOTE: All pavement marking dimensions are based on 12' driving lanes.

FOUR LANE ROADWAY
WITH CENTER TURN LANE



ITEMIZED LIST FOR TRAFFIC CONTROL

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	NH-P 0023(68)	22	38

SD HIGHWAY 25

		CONVENTIONAL ROAD			
SIGN CODE	SIGN DESCRIPTION	NUMBER	SIGN SIZE	SQFT PER SIGN	SQFT
W8-6	TRUCK CROSSING	4	48" x 48"	16.0	64.0
W8-7	LOOSE GRAVEL	12	48" x 48"	16.0	192.0
W13-1P	ADVISORY SPEED (plaque)	12	30" x 30"	6.3	75.6
W20-1	ROAD WORK AHEAD	4	48" x 48"	16.0	64.0
W20-4	ONE LANE ROAD AHEAD	2	48" x 48"	16.0	32.0
W20-7	FLAGGER (symbol)	4	48" x 48"	16.0	64.0
SPECIAL	WAIT FOLLOW PILOT CAR	10	30" x 18"	3.8	38.0
G20-1	ROAD WORK NEXT 19 MILES	2	36" x 18"	4.5	9.0
G20-1	ROAD WORK NEXT 12 MILES	1	36" x 18"	4.5	4.5
G20-1	ROAD WORK NEXT 11 MILES	1	36" x 18"	4.5	4.5
G20-1	ROAD WORK NEXT 6 MILES	1	36" x 18"	4.5	4.5
G20-2	END ROAD WORK	2	36" x 18"	4.5	9.0
		CONVENTIONAL ROAD TRAFFIC CONTROL SIGNS SQFT			
		561.1			

SD HIGHWAY 37

		CONVENTIONAL ROAD			
SIGN CODE	SIGN DESCRIPTION	NUMBER	SIGN SIZE	SQFT PER SIGN	SQFT
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
SPECIAL	WAIT FOLLOW PILOT CAR	8	30" x 18"	3.8	30.4
G20-1	ROAD WORK NEXT 12 MILES	2	36" x 18"	4.5	9.0
G20-1	ROAD WORK NEXT 7 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	2	36" x 18"	4.5	9.0
		CONVENTIONAL ROAD TRAFFIC CONTROL SIGNS SQFT			
		383.2			

SD HIGHWAY 37P

		CONVENTIONAL ROAD			
SIGN CODE	SIGN DESCRIPTION	NUMBER	SIGN SIZE	SQFT PER SIGN	SQFT
W8-7	LOOSE GRAVEL	1	48" x 48"	16.0	16.0
W13-1P	ADVISORY SPEED (plaque)	1	30" x 30"	6.3	6.3
W20-1	ROAD WORK AHEAD	2	48" x 48"	16.0	32.0
W20-4	ONE LANE ROAD AHEAD	1	48" x 48"	16.0	16.0
W20-7	FLAGGER (symbol)	2	48" x 48"	16.0	32.0
G20-1	ROAD WORK NEXT 0.5 MILES	1	36" x 18"	4.5	4.5
G20-2	END ROAD WORK	1	36" x 18"	4.5	4.5
		CONVENTIONAL ROAD TRAFFIC CONTROL SIGNS SQFT			
		111.3			

SD HIGHWAY 50 RAMP CHARLES MIX COUNTY

		CONVENTIONAL ROAD			
SIGN CODE	SIGN DESCRIPTION	NUMBER	SIGN SIZE	SQFT PER SIGN	SQFT
W8-7	LOOSE GRAVEL	1	48" x 48"	16.0	16.0
W13-1P	ADVISORY SPEED (plaque)	1	30" x 30"	6.3	6.3
W20-1	ROAD WORK AHEAD	2	48" x 48"	16.0	32.0
W20-4	ONE LANE ROAD AHEAD	1	48" x 48"	16.0	16.0
W20-7	FLAGGER (symbol)	2	48" x 48"	16.0	32.0
G20-1	ROAD WORK NEXT 16 MILES	1	36" x 18"	4.5	4.5
		CONVENTIONAL ROAD TRAFFIC CONTROL SIGNS SQFT			
		106.8			

SD HIGHWAY 46

		CONVENTIONAL ROAD			
SIGN CODE	SIGN DESCRIPTION	NUMBER	SIGN SIZE	SQFT PER SIGN	SQFT
W8-6	TRUCK CROSSING	4	48" x 48"	16.0	64.0
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
SPECIAL	WAIT FOLLOW PILOT CAR	6	30" x 18"	3.8	22.8
G20-1	ROAD WORK NEXT 8 MILES	2	36" x 18"	4.5	9.0
G20-1	ROAD WORK NEXT 5 MILES	1	36" x 18"	4.5	4.5
G20-2	END ROAD WORK	2	36" x 18"	4.5	9.0
		CONVENTIONAL ROAD TRAFFIC CONTROL SIGNS SQFT			
		403.1			

SD HIGHWAY 50 WEST SEGMENT CHARLES MIX COUNTY

		CONVENTIONAL ROAD			
SIGN CODE	SIGN DESCRIPTION	NUMBER	SIGN SIZE	SQFT PER SIGN	SQFT
W8-6	TRUCK CROSSING	4	48" x 48"	16.0	64.0
W8-7	LOOSE GRAVEL	4	48" x 48"	16.0	64.0
W13-1P	ADVISORY SPEED (plaque)	4	30" x 30"	6.3	25.2
W20-1	ROAD WORK AHEAD	4	48" x 48"	16.0	64.0
W20-4	ONE LANE ROAD AHEAD	2	48" x 48"	16.0	32.0
W20-7	FLAGGER (symbol)	4	48" x 48"	16.0	64.0
SPECIAL	WAIT FOLLOW PILOT CAR	4	30" x 18"	3.8	15.2
G20-1	ROAD WORK NEXT 5 MILES	2	36" x 18"	4.5	9.0
G20-1	ROAD WORK NEXT 3 MILES	1	36" x 18"	4.5	4.5
G20-1	ROAD WORK NEXT 14 MILES	1	36" x 18"	4.5	4.5
G20-2	END ROAD WORK	1	36" x 18"	4.5	4.5
		CONVENTIONAL ROAD TRAFFIC CONTROL SIGNS SQFT			
		350.9			

ITEMIZED LIST FOR TRAFFIC CONTROL

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	NH-P 0023(68)	23	38

SD HIGHWAY 50 MIDDLE SEGMENT CHARLES MIX & BON HOMME COUNTIES

SIGN CODE	SIGN DESCRIPTION	CONVENTIONAL ROAD			
		NUMBER	SIGN SIZE	SQFT PER SIGN	SQFT
W8-6	TRUCK CROSSING	4	48" x 48"	16.0	64.0
W8-7	LOOSE GRAVEL	4	48" x 48"	16.0	64.0
W13-1P	ADVISORY SPEED (plaque)	4	30" x 30"	6.3	25.2
W20-1	ROAD WORK AHEAD	4	48" x 48"	16.0	64.0
W20-4	ONE LANE ROAD AHEAD	2	48" x 48"	16.0	32.0
W20-7	FLAGGER (symbol)	4	48" x 48"	16.0	64.0
SPECIAL	WAIT FOLLOW PILOT CAR	8	30" x 18"	3.8	30.4
G20-1	ROAD WORK NEXT 12 MILES	1	36" x 18"	4.5	4.5
G20-1	ROAD WORK NEXT 11 MILES	1	36" x 18"	4.5	4.5
G20-1	ROAD WORK NEXT 8 MILES	2	36" x 18"	4.5	9.0
		CONVENTIONAL ROAD TRAFFIC CONTROL SIGNS SQFT			
		260.8			

SD HIGHWAY 50W BON HOMME COUNTY

SIGN CODE	SIGN DESCRIPTION	CONVENTIONAL ROAD			
		NUMBER	SIGN SIZE	SQFT PER SIGN	SQFT
W8-6	TRUCK CROSSING	2	48" x 48"	16.0	32.0
W20-1	ROAD WORK AHEAD	2	48" x 48"	16.0	32.0
W20-4	ONE LANE ROAD AHEAD	1	48" x 48"	16.0	16.0
W20-7	FLAGGER (symbol)	2	48" x 48"	16.0	32.0
		CONVENTIONAL ROAD TRAFFIC CONTROL SIGNS SQFT			
		112.0			

SD HIGHWAY 50E BON HOMME COUNTY

SIGN CODE	SIGN DESCRIPTION	CONVENTIONAL ROAD			
		NUMBER	SIGN SIZE	SQFT PER SIGN	SQFT
W8-6	TRUCK CROSSING	2	48" x 48"	16.0	32.0
W20-1	ROAD WORK AHEAD	2	48" x 48"	16.0	32.0
W20-4	ONE LANE ROAD AHEAD	1	48" x 48"	16.0	16.0
W20-7	FLAGGER (symbol)	2	48" x 48"	16.0	32.0
		CONVENTIONAL ROAD TRAFFIC CONTROL SIGNS SQFT			
		112.0			

SD HIGHWAY 50 EAST SEGMENT BON HOMME COUNTY

SIGN CODE	SIGN DESCRIPTION	CONVENTIONAL ROAD			
		NUMBER	SIGN SIZE	SQFT PER SIGN	SQFT
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
SPECIAL	WAIT FOLLOW PILOT CAR	4	30" x 18"	3.8	15.2
G20-1	ROAD WORK NEXT 16 MILES	1	36" x 18"	4.5	4.5
G20-2	END ROAD WORK	1	36" x 18"	4.5	4.5
		CONVENTIONAL ROAD TRAFFIC CONTROL SIGNS SQFT			
		260.8			

SD HIGHWAY 50W CLAY COUNTY

SIGN CODE	SIGN DESCRIPTION	CONVENTIONAL ROAD			
		NUMBER	SIGN SIZE	SQFT PER SIGN	SQFT
W4-2	LEFT or RIGHT LANE ENDS (symbol)	2	48" x 48"	16.0	32.0
W8-7	LOOSE GRAVEL	4	48" x 48"	16.0	64.0
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
W20-5	LEFT or RIGHT LANE CLOSED 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 10 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	ON SHOULDER	4	30" x 24"	5.0	20.0
		CONVENTIONAL ROAD TRAFFIC CONTROL SIGNS SQFT			
		321.5			

ITEMIZED LIST FOR TRAFFIC CONTROL

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	NH-P 0023(68)	24	38

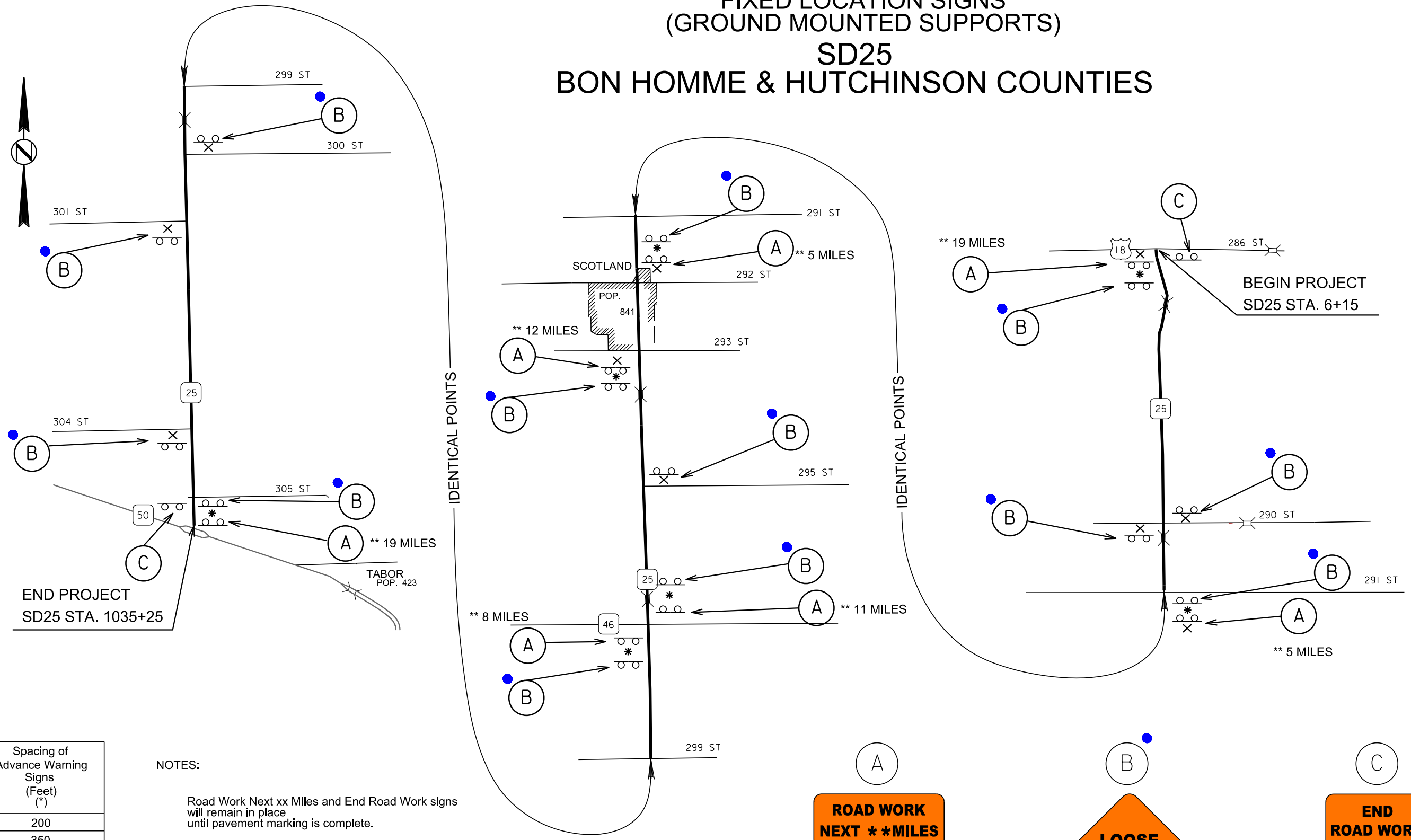
SD HIGHWAY 52 WEST SEGMENT

SIGN CODE	SIGN DESCRIPTION	CONVENTIONAL ROAD			
		NUMBER	SIGN SIZE	SQFT PER SIGN	SQFT
W8-6	TRUCK CROSSING	2	48" x 48"	16.0	32.0
W8-7	LOOSE GRAVEL	4	48" x 48"	16.0	64.0
W13-1P	ADVISORY SPEED (plaque)	4	30" x 30"	6.3	25.2
W20-1	ROAD WORK AHEAD	4	48" x 48"	16.0	64.0
W20-4	ONE LANE ROAD AHEAD	2	48" x 48"	16.0	32.0
W20-7	FLAGGER (symbol)	4	48" x 48"	16.0	64.0
SPECIAL	WAIT FOLLOW PILOT CAR	8	30" x 18"	3.8	30.4
G20-1	ROAD WORK NEXT 11 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
		CONVENTIONAL ROAD TRAFFIC CONTROL SIGNS SQFT			
		325.1			

SD HIGHWAY 52 EAST SEGMENT

SIGN CODE	SIGN DESCRIPTION	CONVENTIONAL ROAD			
		NUMBER	SIGN SIZE	SQFT PER SIGN	SQFT
R1-1	STOP	2	30"	5.2	10.4
W4-2	LEFT or RIGHT LANE ENDS (symbol)	2	48" x 48"	16.0	32.0
W8-6	TRUCK CROSSING	6	48" x 48"	16.0	96.0
W8-7	LOOSE GRAVEL	8	48" x 48"	16.0	128.0
W13-1P	ADVISORY SPEED (plaque)	8	30" x 30"	6.3	50.4
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
W20-5	LEFT or RIGHT LANE CLOSED AHEAD	2	48" x 48"	16.0	32.0
W20-7	FLAGGER (symbol)	4	48" x 48"	16.0	64.0
SPECIAL	WAIT FOLLOW PILOT CAR	10	30" x 18"	3.8	38.0
G20-1	ROAD WORK NEXT 11 MILES	1	36" x 18"	4.5	4.5
G20-1	ROAD WORK NEXT 8 MILES	1	36" x 18"	4.5	4.5
G20-1	ROAD WORK NEXT 6 MILES	1	36" x 18"	4.5	4.5
G20-1	ROAD WORK NEXT 3 MILES	1	36" x 18"	4.5	4.5
G20-2	END ROAD WORK	1	36" x 18"	4.5	4.5
		CONVENTIONAL ROAD TRAFFIC CONTROL SIGNS SQFT			
		569.3			

TRAFFIC CONTROL
FIXED LOCATION SIGNS
(GROUND MOUNTED SUPPORTS)
SD25
BON HOMME & HUTCHINSON COUNTIES



Posted Speed Prior to Work (M.P.H.)	Spacing of Advance Warning Signs (Feet) (*)
0 - 30	200
35 - 40	350
45 - 50	500
55	750
60 - 65	1000
75	2600

- NOTES:
- Road Work Next xx Miles and End Road Work signs will remain in place until pavement marking is complete.
 - X - Signs will be placed 150' to 200' from intersection. Exact location to be approved by the Engineer.
 - Construction signs will not obscure existing signs and must be installed a minimum of 100' from an existing sign.
 - Loose Gravel signs with advisory speed plaques will be removed from view the same day that the fog seal is applied in the area they represent.

A

ROAD WORK
NEXT * MILES
G20-1

B

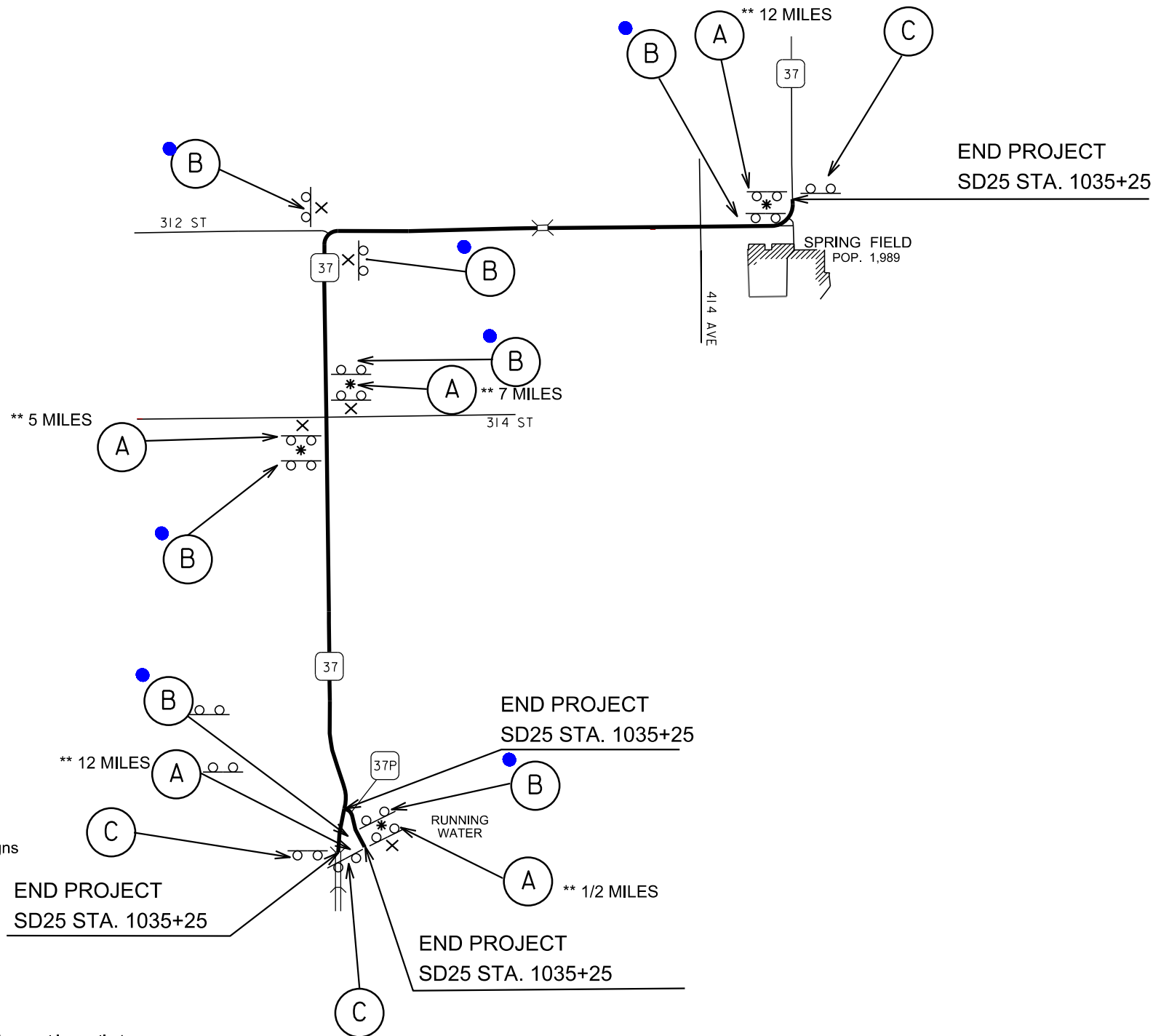
LOOSE GRAVEL
W8-7

40 MPH
W13-1P

C

END ROAD WORK
G20-2

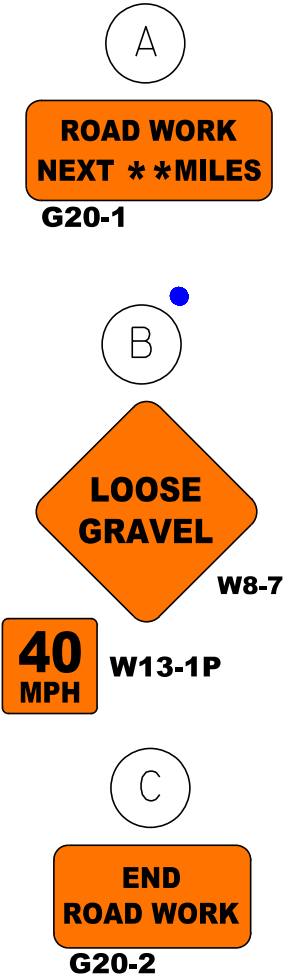
TRAFFIC CONTROL
FIXED LOCATION SIGNS
(GROUND MOUNTED SUPPORTS)
SD37, SD37P
BON HOMME COUNTY



Posted Speed Prior to Work (M.P.H.)	Spacing of Advance Warning Signs (Feet) (*)
0 - 30	200
35 - 40	350
45 - 50	500
55	750
60 - 65	1000
75	2600

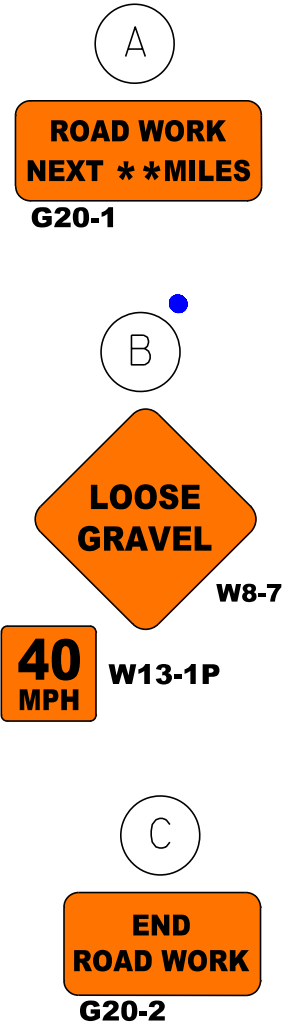
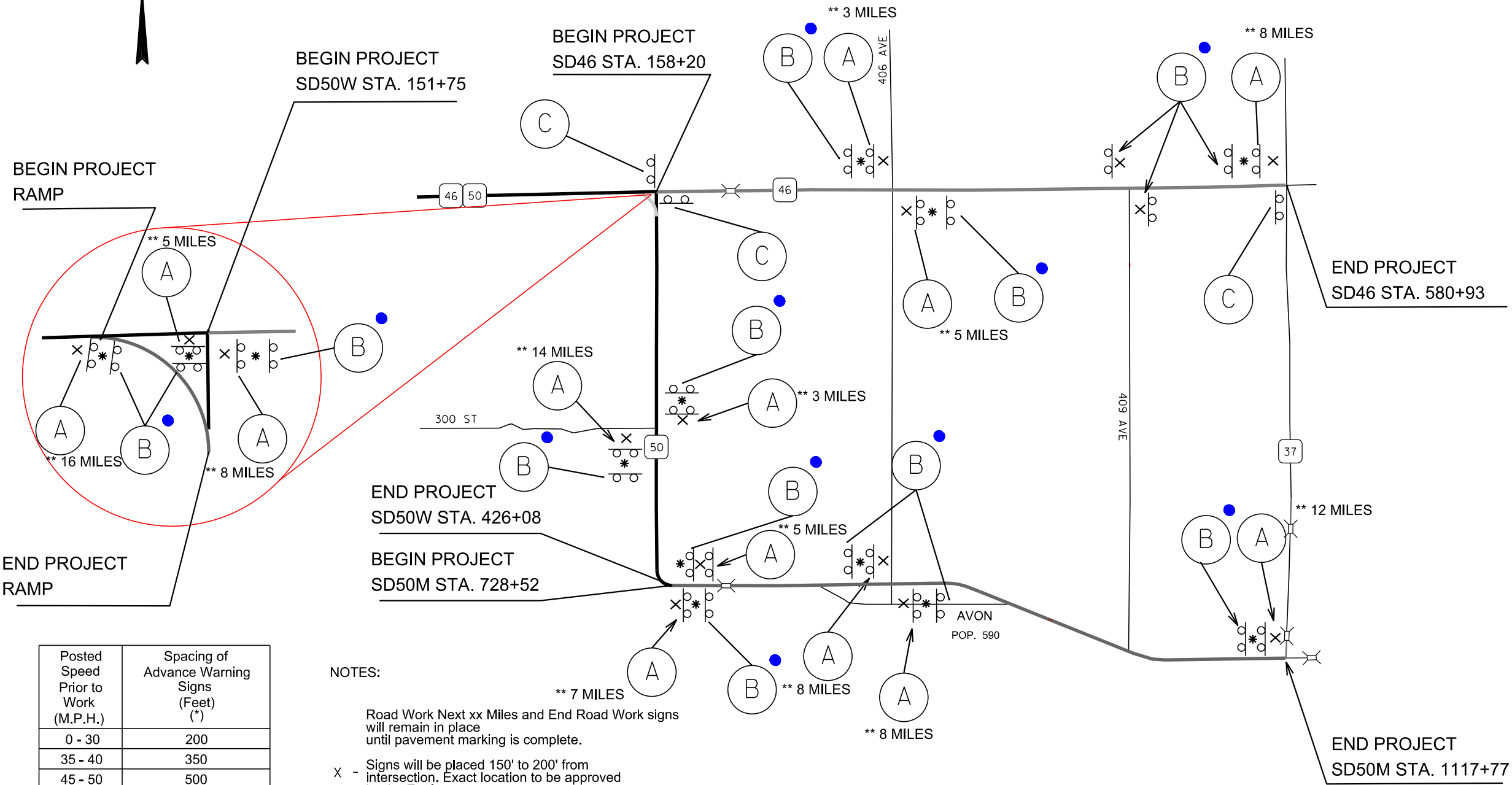
NOTES:

- Road Work Next xx Miles and End Road Work signs will remain in place until pavement marking is complete.
- X - Signs will be placed 150' to 200' from intersection. Exact location to be approved by the Engineer.
- Construction signs will not obscure existing signs and must be installed a minimum of 100' from an existing sign.
- Loose Gravel signs with advisory speed plaques will be removed from view the same day that the fog seal is applied in the area they represent.



TRAFFIC CONTROL
FIXED LOCATION SIGNS
(GROUND MOUNTED SUPPORTS)

SD46, SD50 RAMP, SD50 WEST, SD50 MIDDLE SEGMENT
BON HOMME COUNTY & CHARLES MIX

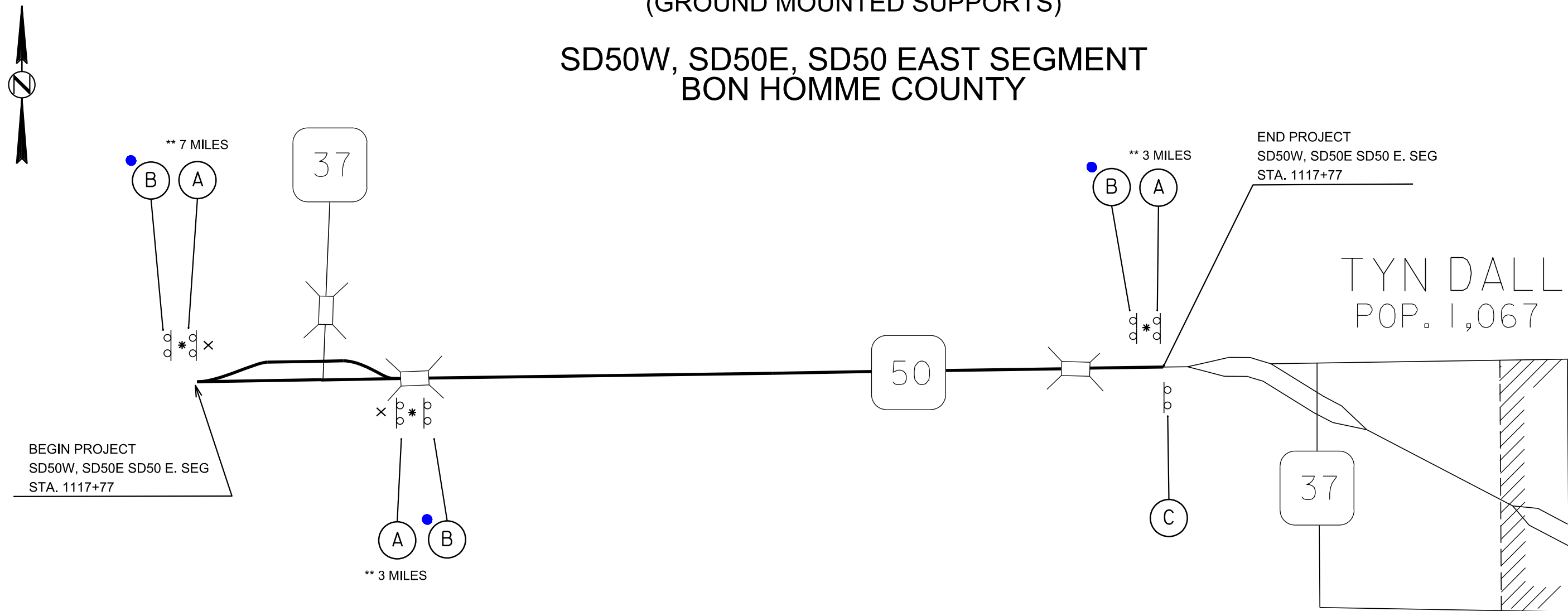


Posted Speed Prior to Work (M.P.H.)	Spacing of Advance Warning Signs (Feet) (*)
0 - 30	200
35 - 40	350
45 - 50	500
55	750
60 - 65	1000
75	2600

- NOTES:
- Road Work Next xx Miles and End Road Work signs will remain in place until pavement marking is complete.
 - X - Signs will be placed 150' to 200' from intersection. Exact location to be approved by the Engineer.
 - Construction signs will not obscure existing signs and must be installed a minimum of 100' from an existing sign.
 - Loose Gravel signs with advisory speed plaques will be removed from view the same day that the fog seal is applied in the area they represent.

TRAFFIC CONTROL FIXED LOCATION SIGNS (GROUND MOUNTED SUPPORTS)

SD50W, SD50E, SD50 EAST SEGMENT BON HOMME COUNTY



Posted Speed Prior to Work (M.P.H.)	Spacing of Advance Warning Signs (Feet) (*)
0 - 30	200
35 - 40	350
45 - 50	500
55	750
60 - 65	1000
75	2600

NOTES:

- Road Work Next xx Miles and End Road Work signs will remain in place until pavement marking is complete.
- X - Signs will be placed 150' to 200' from intersection. Exact location to be approved by the Engineer.
- Construction signs will not obscure existing signs and must be installed a minimum of 100' from an existing sign.
- Loose Gravel signs with advisory speed plaques will be removed from view the same day that the fog seal is applied in the area they represent.

A

ROAD WORK

NEXT **MILES

G20-1

B

LOOSE GRAVEL

W8-7

40 MPH

W13-1P

C

END ROAD WORK

G20-2

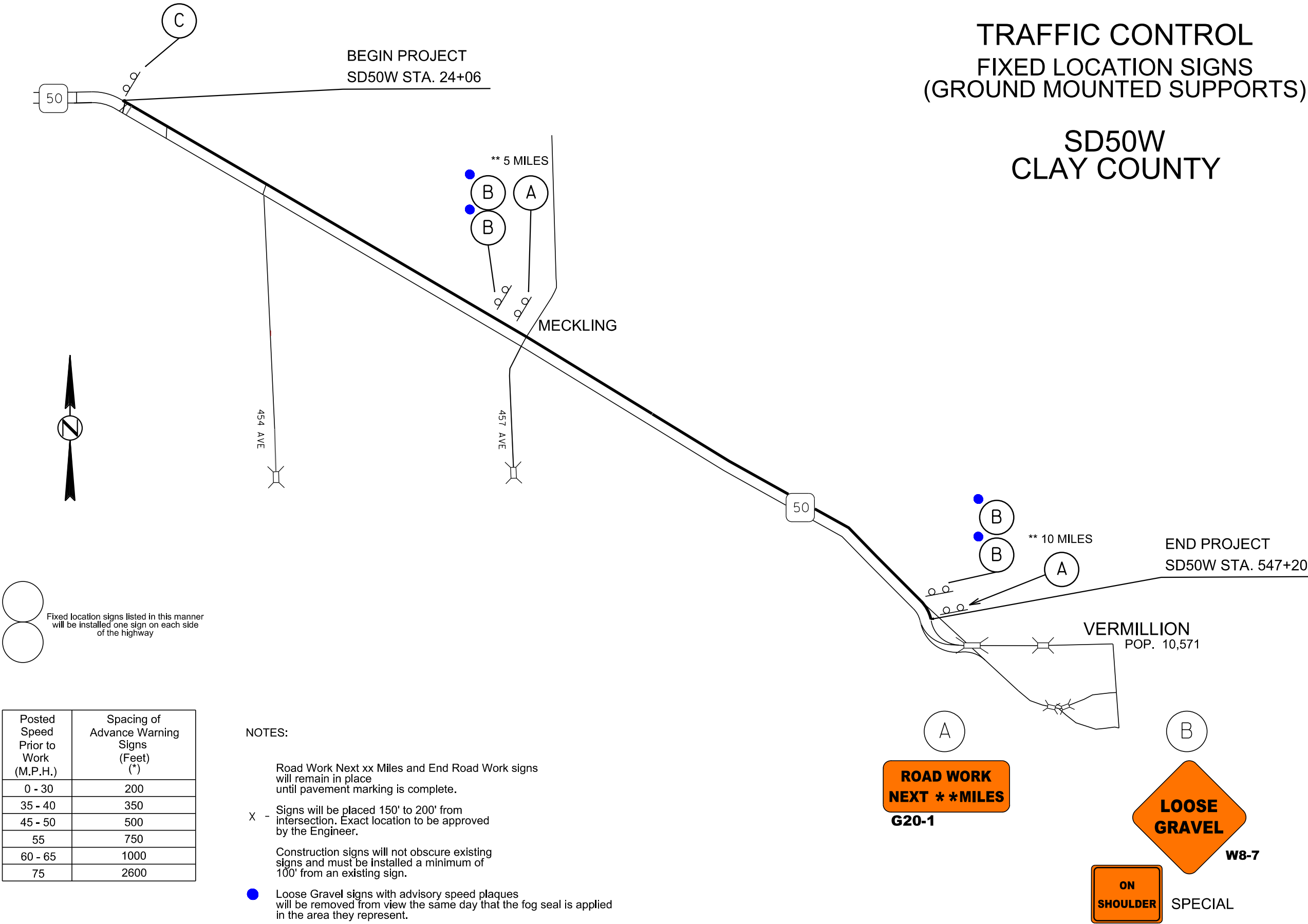
TRAFFIC CONTROL

FIXED LOCATION SIGNS

(GROUND MOUNTED SUPPORTS)

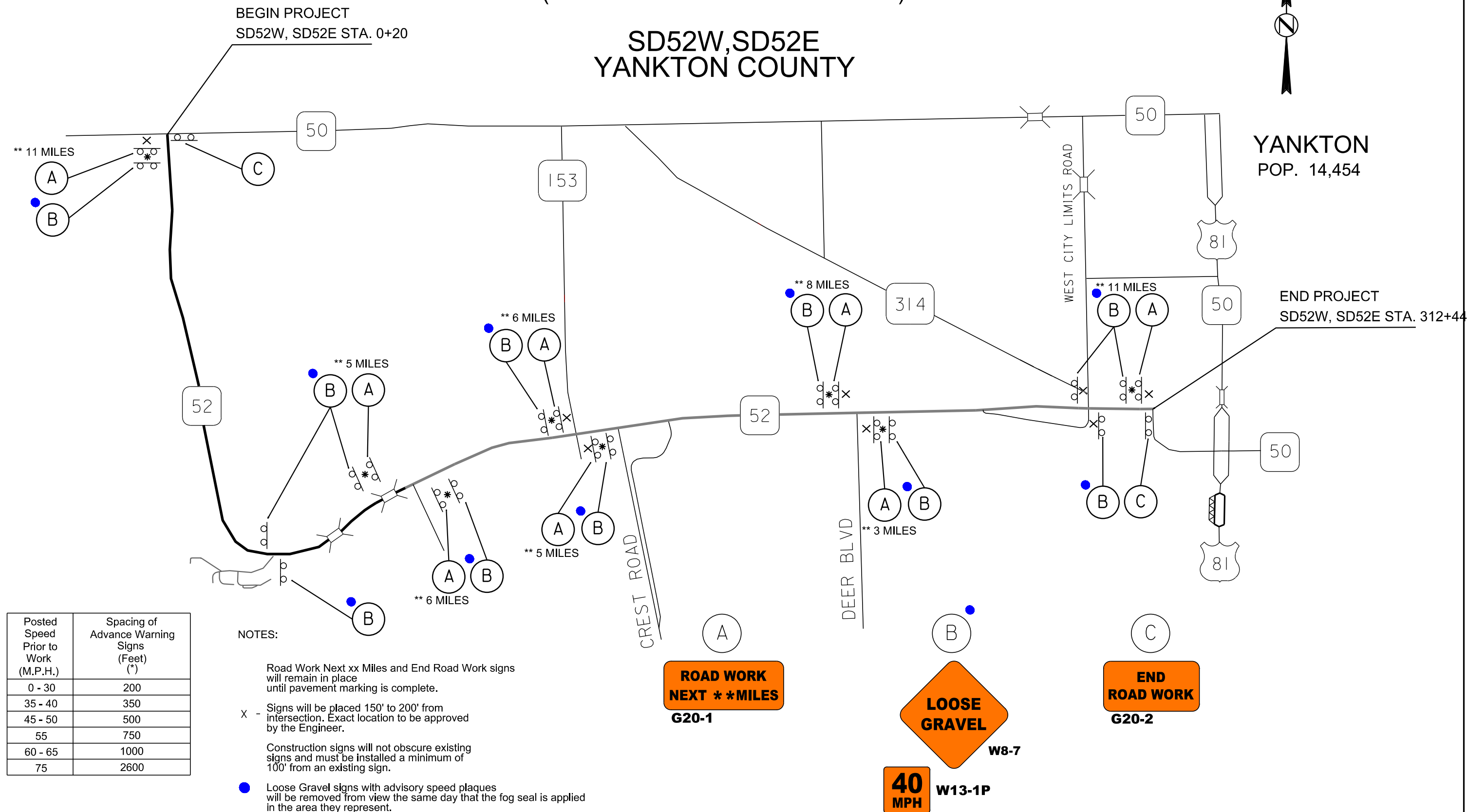
SD50W

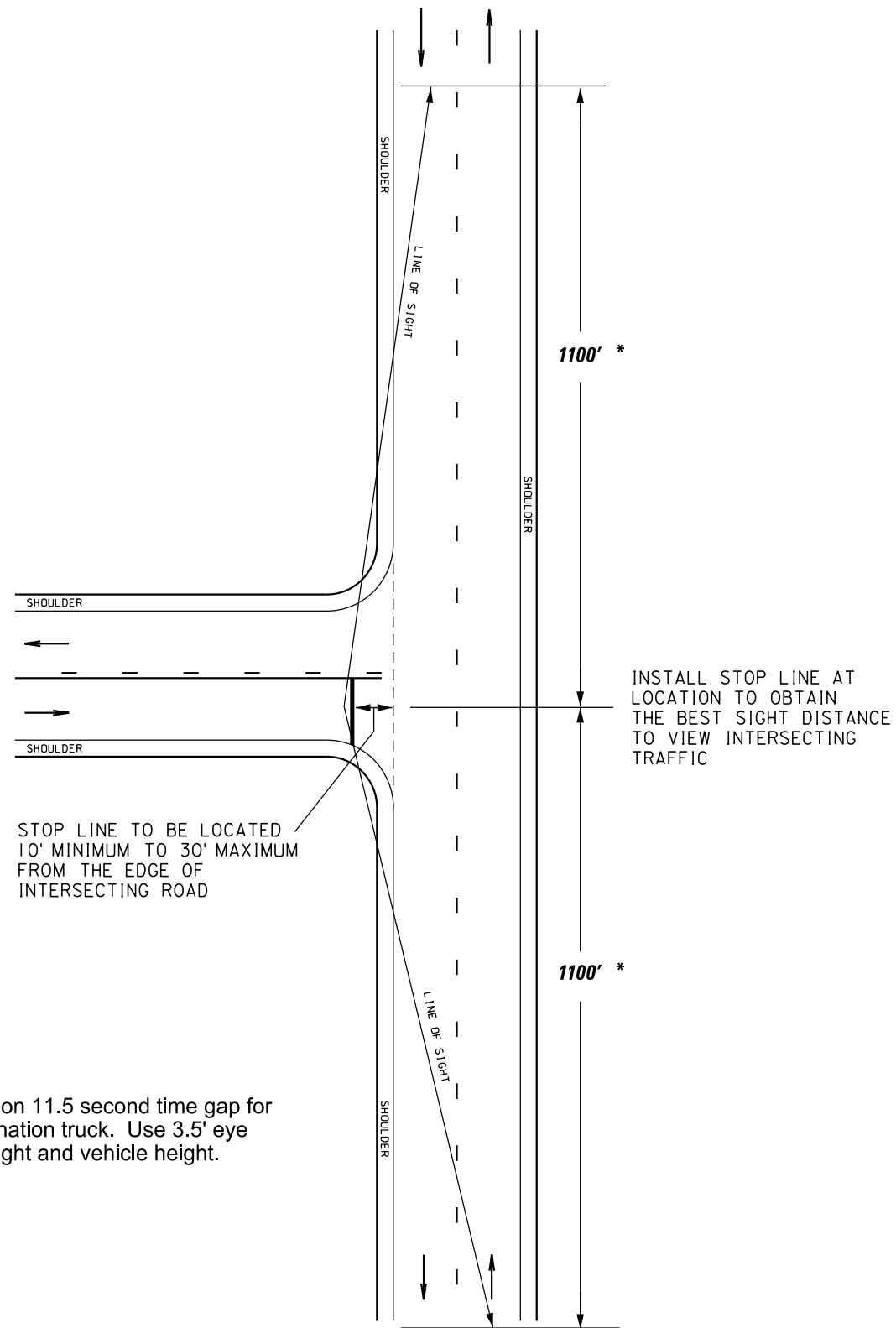
CLAY COUNTY



TRAFFIC CONTROL FIXED LOCATION SIGNS (GROUND MOUNTED SUPPORTS)

SD52W,SD52E
YANKTON COUNTY





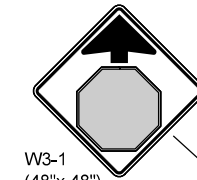
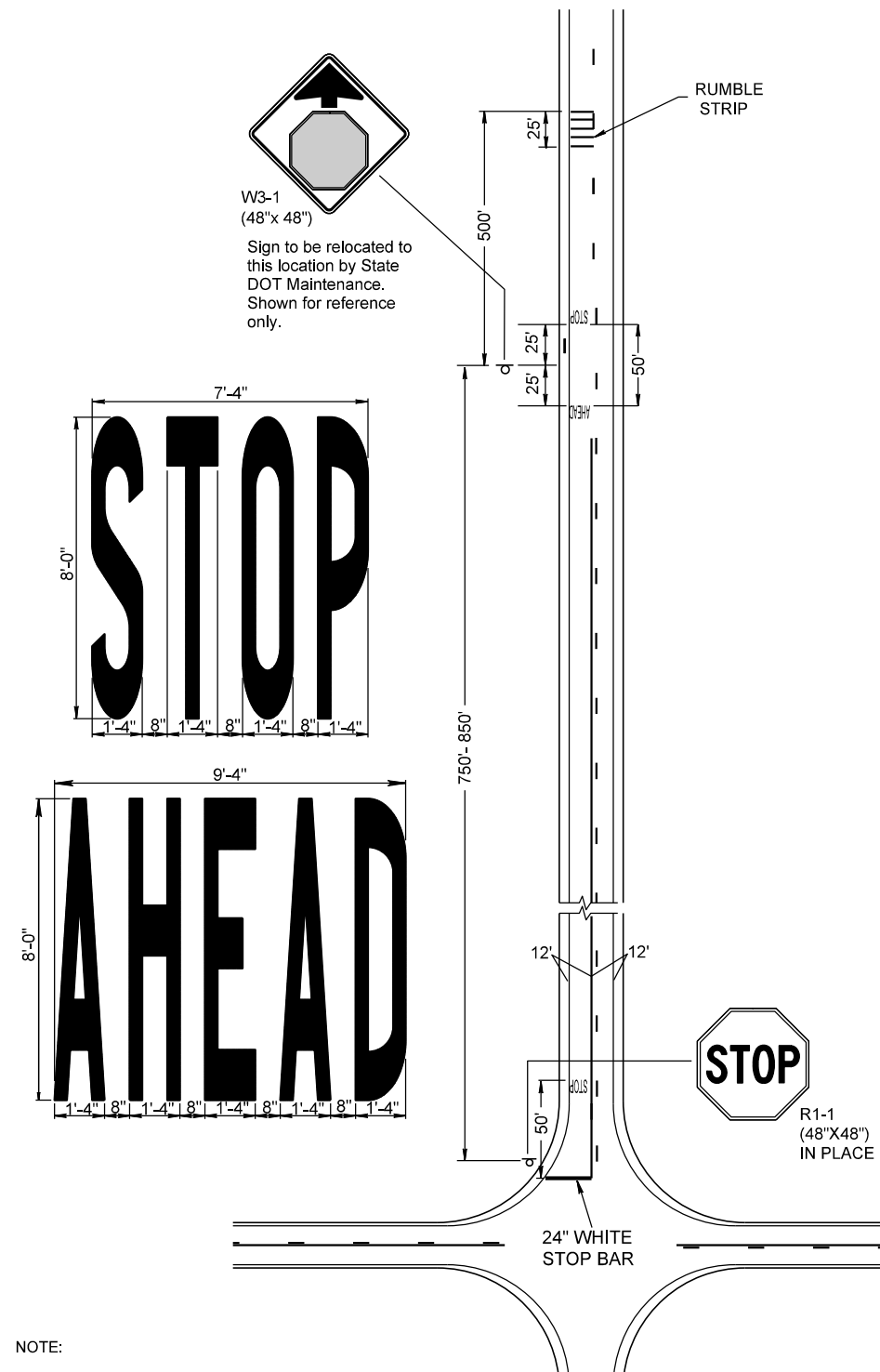
INSTALL STOP LINE AT
LOCATION TO OBTAIN
THE BEST SIGHT DISTANCE
TO VIEW INTERSECTING
TRAFFIC

STOP LINE TO BE LOCATED
10' MINIMUM TO 30' MAXIMUM
FROM THE EDGE OF
INTERSECTING ROAD

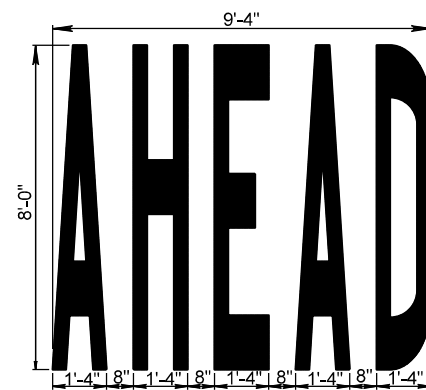
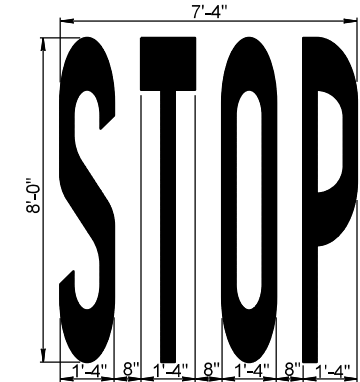
* - Based on 11.5 second time gap for
combination truck. Use 3.5' eye
height and vehicle height.

STOP LINE PAVEMENT MARKING INSTALLATION

INTERSECTION APPROACH PAVEMENT MARKING (Typical)



Sign to be relocated to
this location by State
DOT Maintenance.
Shown for reference
only.



R1-1
(48\"/>

24\"/>

NOTE:

THE HIGHWAY AUTHORITY WILL DETERMINE THE LOCATION
OF THE STOP LINE.

* 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.

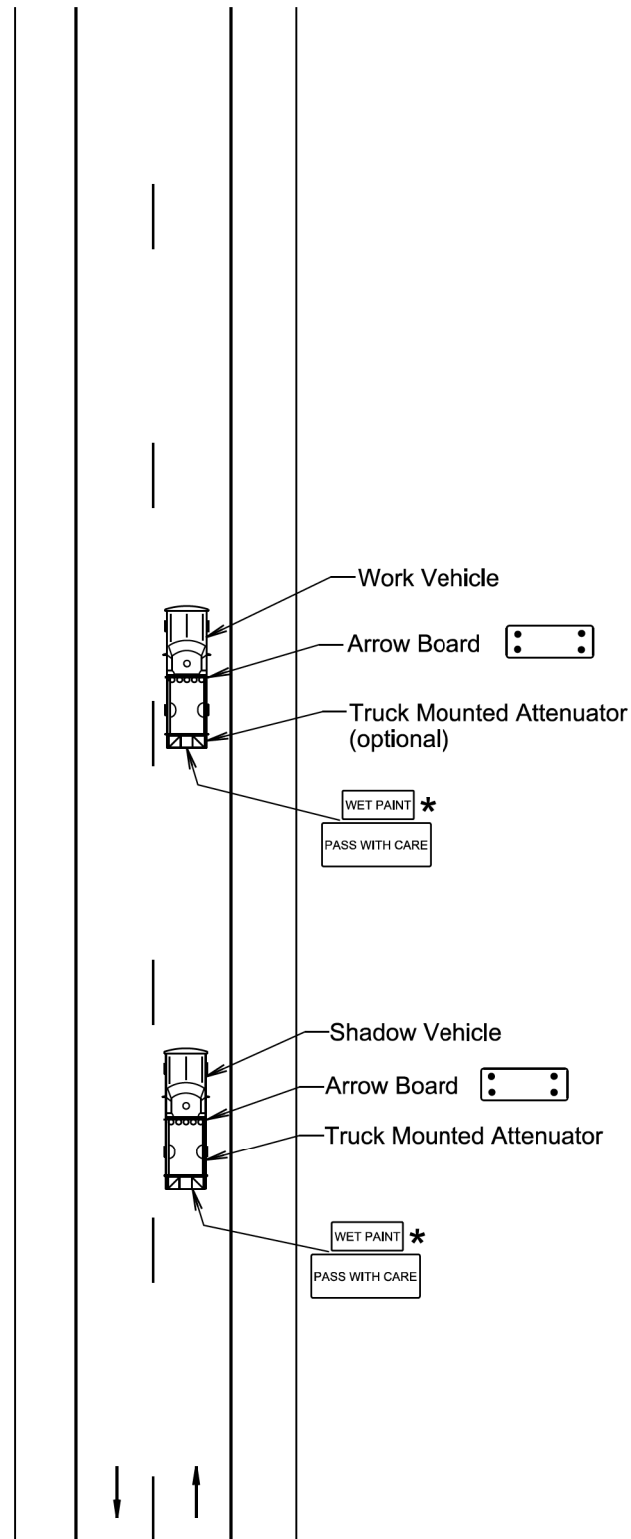
Shadow and Work vehicles will display high-intensity rotating, flashing, oscillating, or strobe lights, flags, signs, or arrow boards.

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: 2024

S
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MOBILE OPERATIONS ON 2-LANE ROAD

PLATE NUMBER
634.06

Sheet 1 of 1

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

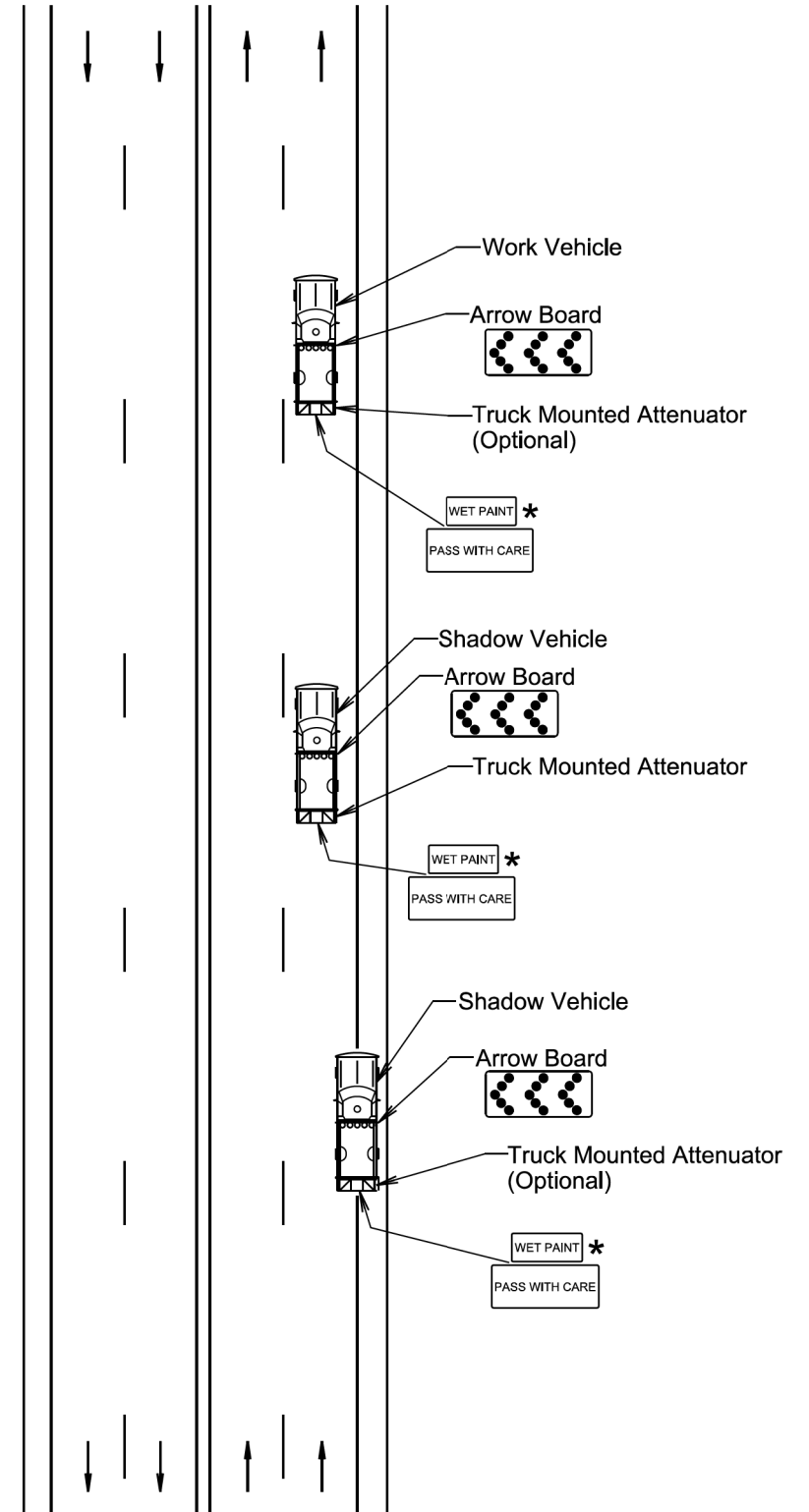
Vehicle-mounted signs will be mounted in a manner such that they are not obscured by equipment or supplies. Sign legends on vehicle-mounted signs will be covered or turned from view when work is not in progress.

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

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

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

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



January 22, 2021

Published Date: 2024

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T

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.

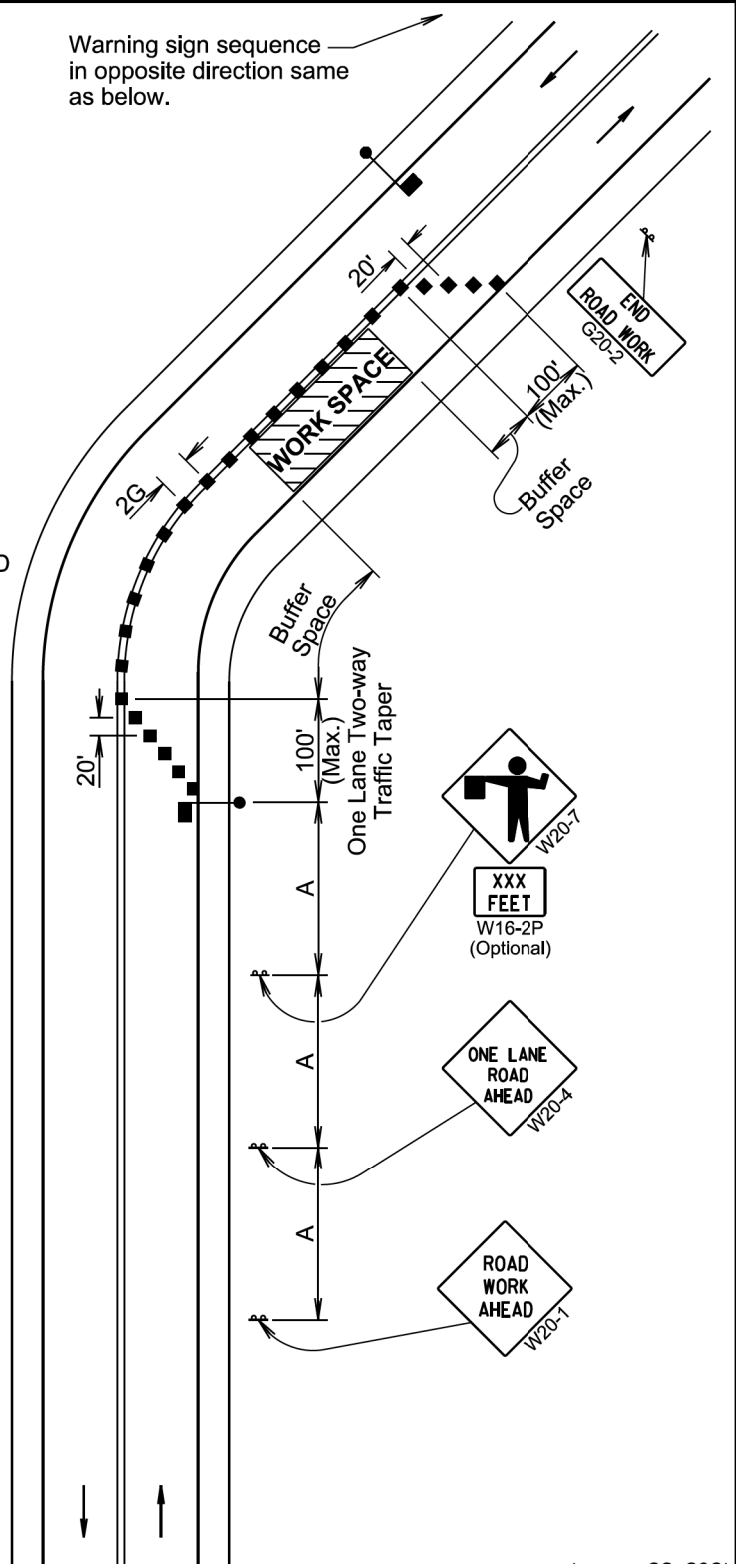
END ROAD WORK
G20-2

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

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

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

Warning sign sequence in opposite direction same as below.



January 22, 2021

Published Date: 2024	S D D O T	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)	Taper Length (Feet) (L)	Spacing of Channelizing Devices (Feet) (G)
0 - 30	200	180	25
35 - 40	350	320	25
45	500	600	25
50	500	600	50 *
55	750	660	50 *
60 - 65	1000	780	50 *

* Spacing is 40' for 42" cones.

- ReflectORIZED Drum

Channelizing Device

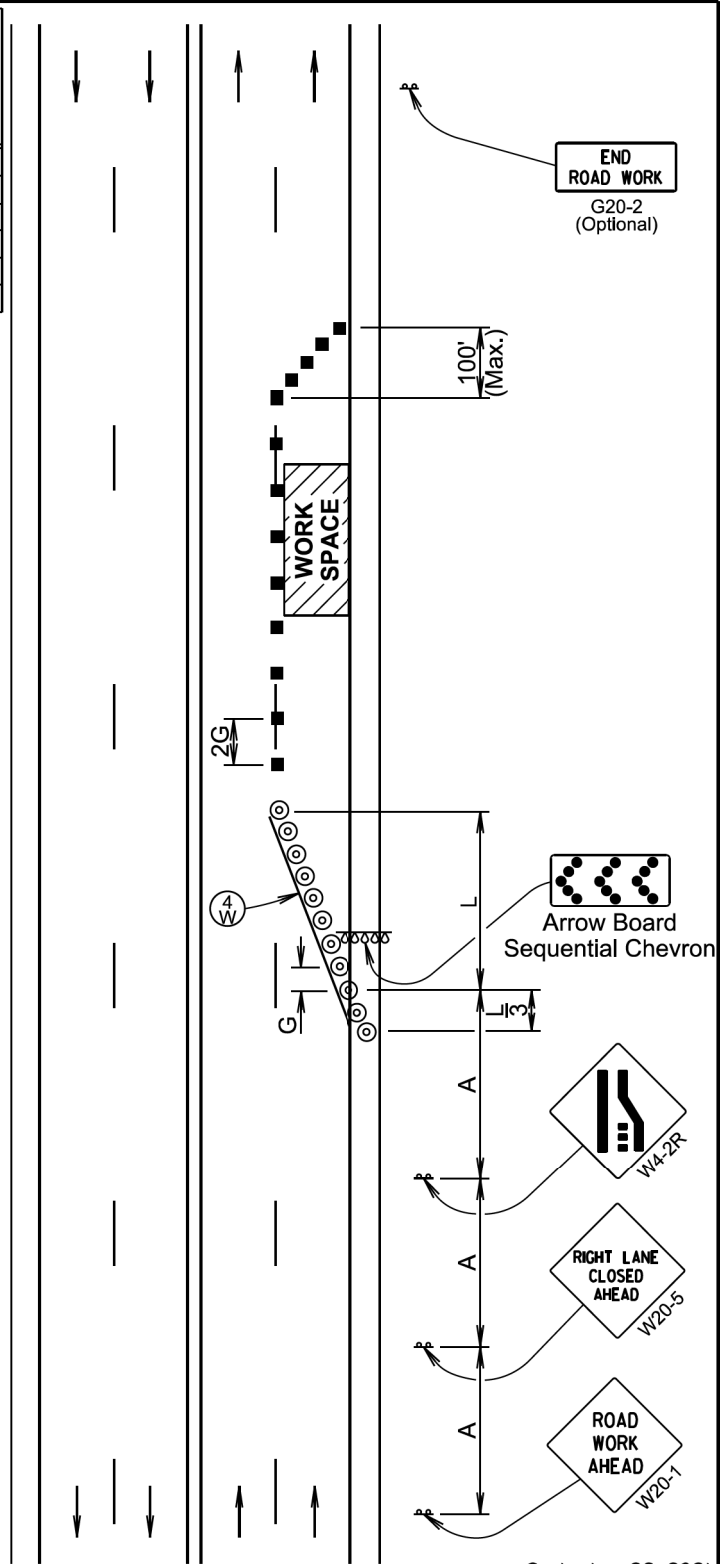
4" White Temporary Pavement Marking

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.

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

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



September 22, 2021

Published Date: 2024	S D D O T	4-LANE UNDIVIDED, RIGHT LANE CLOSED	PLATE NUMBER 634.47
			Sheet 1 of 1

