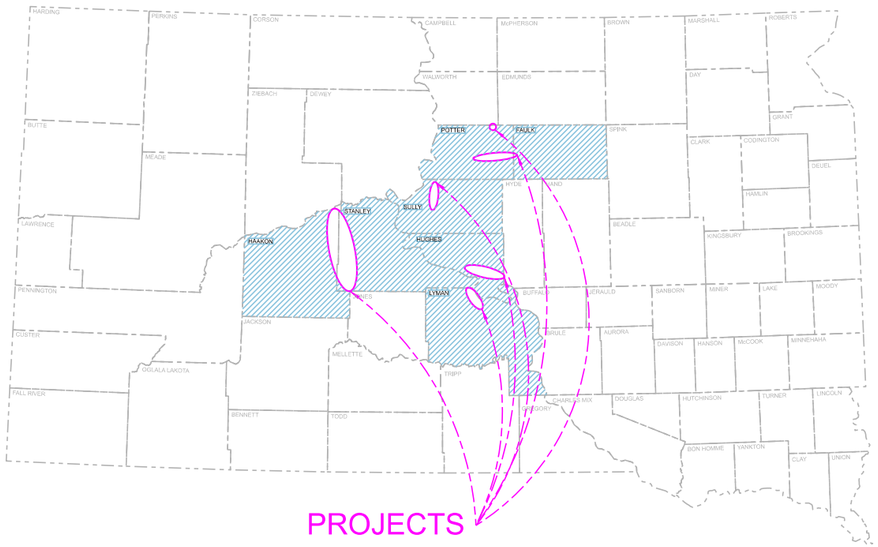


STATE OF SOUTH DAKOTA
DEPARTMENT OF TRANSPORTATION

PLANS FOR PROPOSED

PROJECT NH-P 0031(63)
US HIGHWAY 212
SD HIGHWAYS 20, 34, 63, 1804 &1806
HAAKON, STANLEY, LYMAN, SULLY, HUGHES, POTTER & FAULK COUNTIES

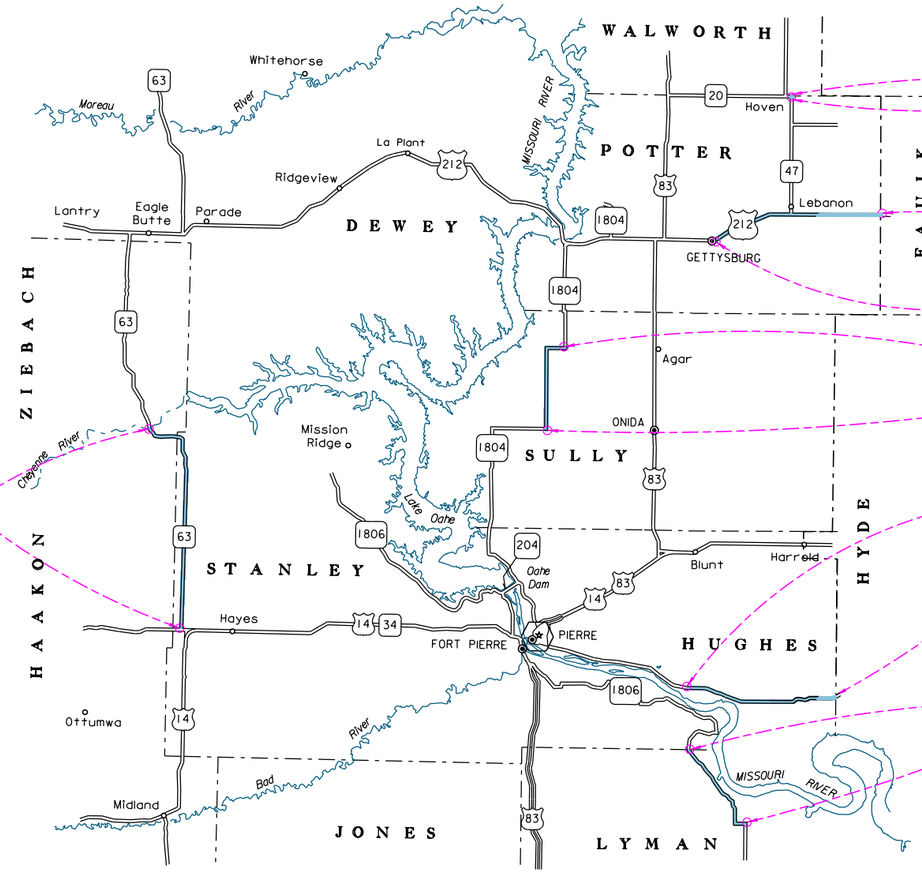
ASPHALT SURFACE TREATMENT

PCN 09WR

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	NH-P 0031(63)	1	24

Plotting Date: 12/02/2025 JML Revised Date: 1/27/2026

INDEX OF SHEETS



Segment 1:
SD HIGHWAY 20 -
MRM 254.54+0.000 TO MRM 255.17+0.038

Segment 2:
US HIGHWAY 212 -
MRM 226.33+0.065 TO MRM 245.00+0.034

Segment 3:
SD HIGHWAY 1804 -
MRM 281.37+0.000 TO MRM 292.34+0.000

Segment 4:
SD HIGHWAY 34 -
MRM 227.00+0.384 TO MRM 245.00+0.498

Segment 5:
SD HIGHWAY 1806 -
MRM 138.45+0.000 TO MRM 149.70+0.000

Segment 6:
SD HIGHWAY 63 -
MRM 119.12+0.025 TO MRM 144.38+0.051

STORM WATER PERMIT
None Required

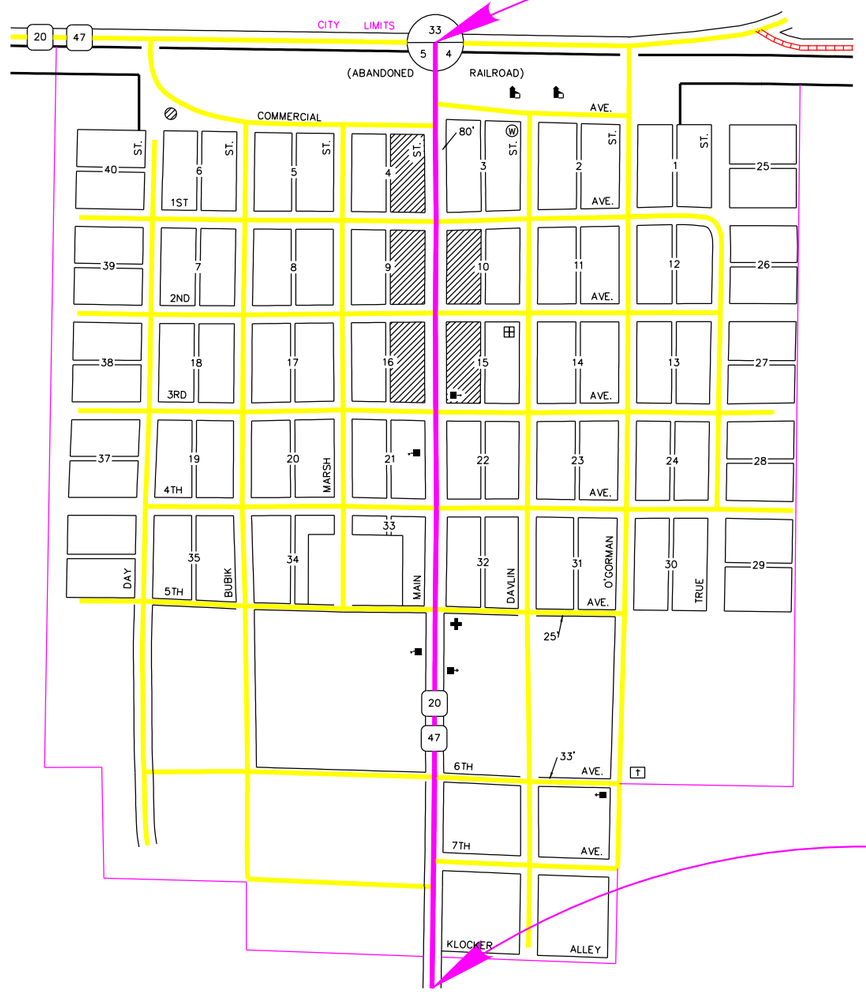
March 18, 2026

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	NH-P 0031(63)	2	24

Plotting Date: 12/02/2025 JML Revised Date: 1/27/2026

PROJECT LAYOUT
SD HIGHWAY 20
POTTER COUNTY

BEGIN SEGMENT 1
SD20
MRM 254.54+0.000
Sta 30+51.84



END SEGMENT 1
SD20
MRM 255.17+0.038
Sta 66+21.12

DESIGN DESIGNATION

AADT (2024)	937
AADT(2044)	1,238
DHV	165
D	51%
DHV T%	3.7%
AADT T%	8.2%
V	30 mph

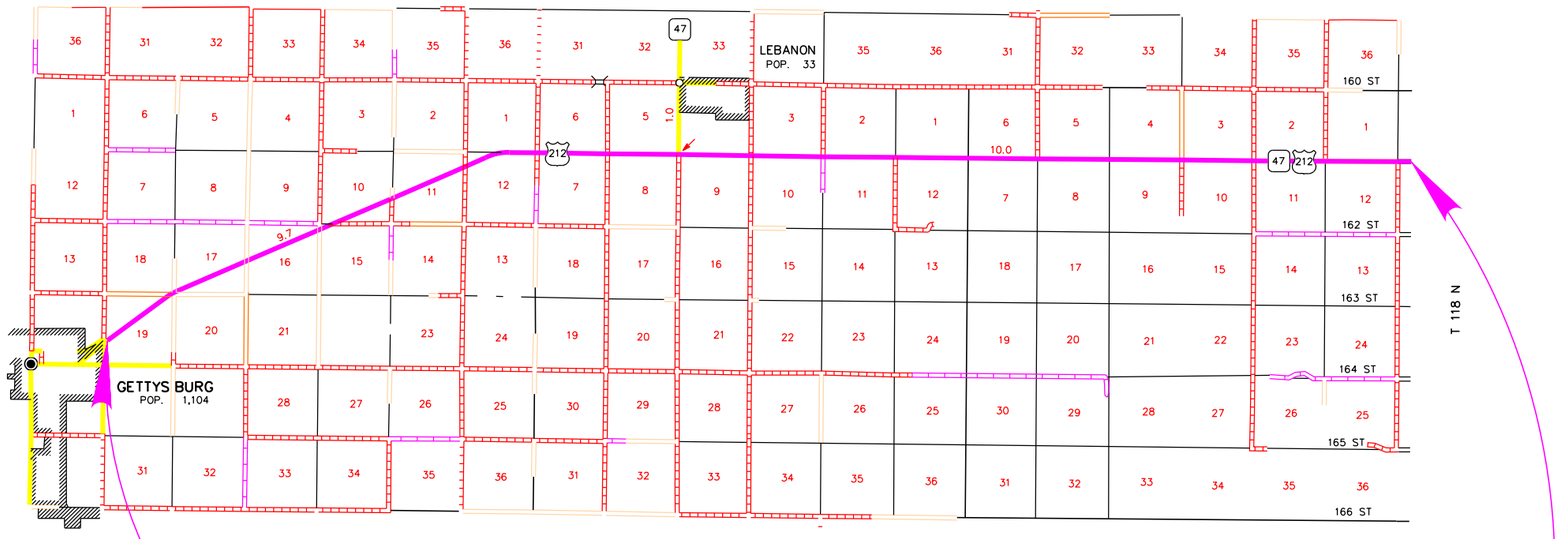
Gross Length	3,569.28 Feet	0.672 Miles
Length of Exceptions	0.00 Feet	0.000 Miles
Net Length	3,569.28 Feet	0.672 Miles

Plot Scale - 1:200
Plotted From - TRPR22412
File - ...\Project Locations 09WR..1.27.26.dgn

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	NH-P 0031(63)	3	24

Plotting Date: 12/02/2025 JML Revised Date: 1/27/2026

PROJECT LAYOUT
US HIGHWAY 212
POTTER & FAULK COUNTIES



BEGIN SEGMENT 2
US 212
MRM 226.33+0.065
Sta 0+00.00

END SEGMENT 2
US 212
MRM 245.00+0.034
Sta 933+08.32

DESIGN DESIGNATION

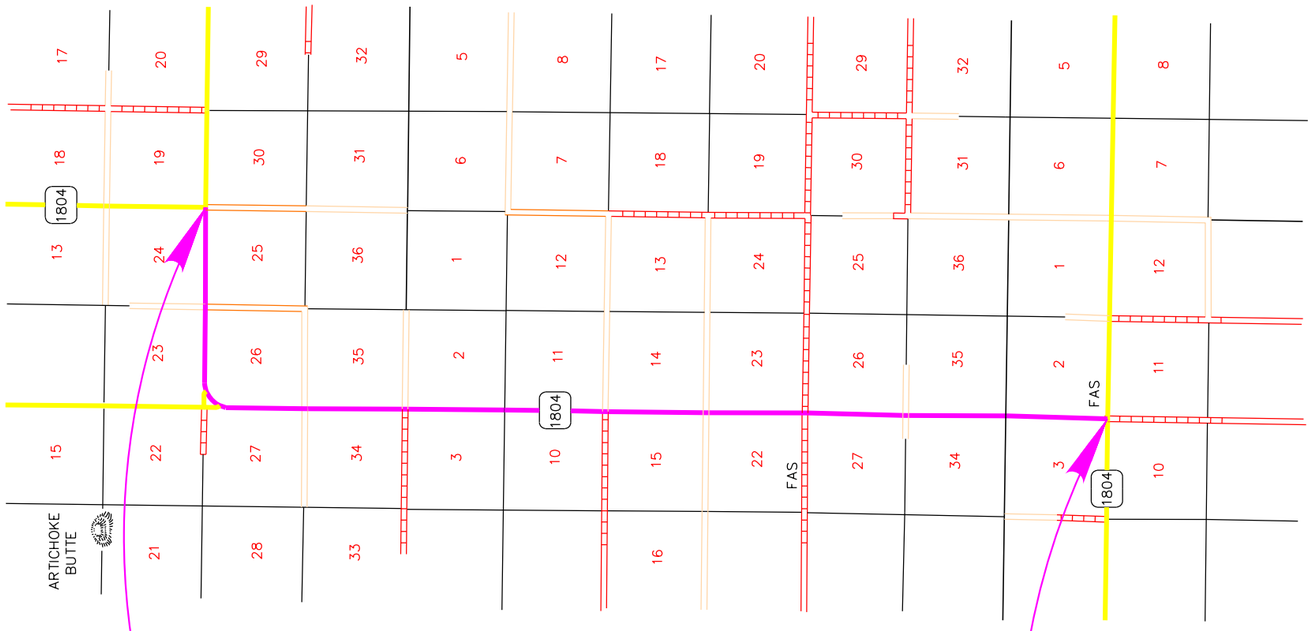
AADT (2024)	810
AADT (2044)	1070
DHV	138
D	50%
DHV T%	12%
AADT T%	26.4%
V	65 mph

Gross Length	98,308.32 Feet	18.619 Miles
Length of Exceptions	0 Feet	0 Miles
Net Length	98,308.32 Feet	18.619 Miles

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	NH-P 0031(63)	4	24

Plotting Date: 12/03/2025 JML Revised Date: 1/27/2026

PROJECT LAYOUT
SD HIGHWAY 1804
SULLY COUNTY



DESIGN DESIGNATION

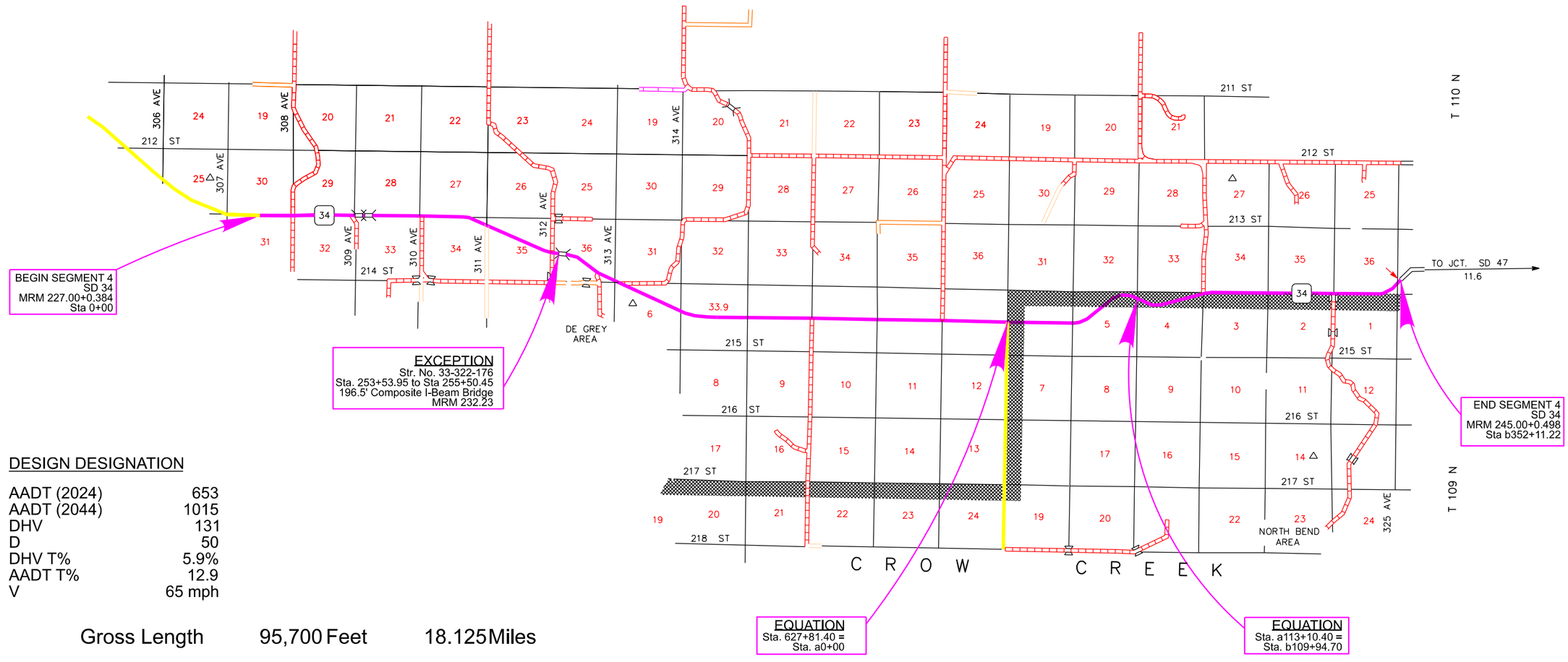
AADT (2024)	285
AADT (2044)	498
DHV	64
D	50%
DHV T%	6.9%
AADT T%	15.2%
V	65 mph

Gross Length	57,752.64 Feet	10.938 Miles
Length of Exceptions	0 Feet	0 Miles
Net Length	57,752.64 Feet	10.938 Miles

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	NH-P 0031(63)	5	24

Plotting Date: 12/03/2025 JML Revised Date: 1/27/2026

PROJECT LAYOUT
SD HIGHWAY 34
HUGHES COUNTY



DESIGN DESIGNATION

AADT (2024)	653
AADT (2044)	1015
DHV	131
D	50
DHV T%	5.9%
AADT T%	12.9
V	65 mph

Gross Length	95,700 Feet	18.125 Miles
Length of Exceptions	196.5 Feet	0.037 Miles
Net Length	95,503.5 Feet	18.088 Miles

Plot Scale - 1:200

Plotted From - TRPR22412

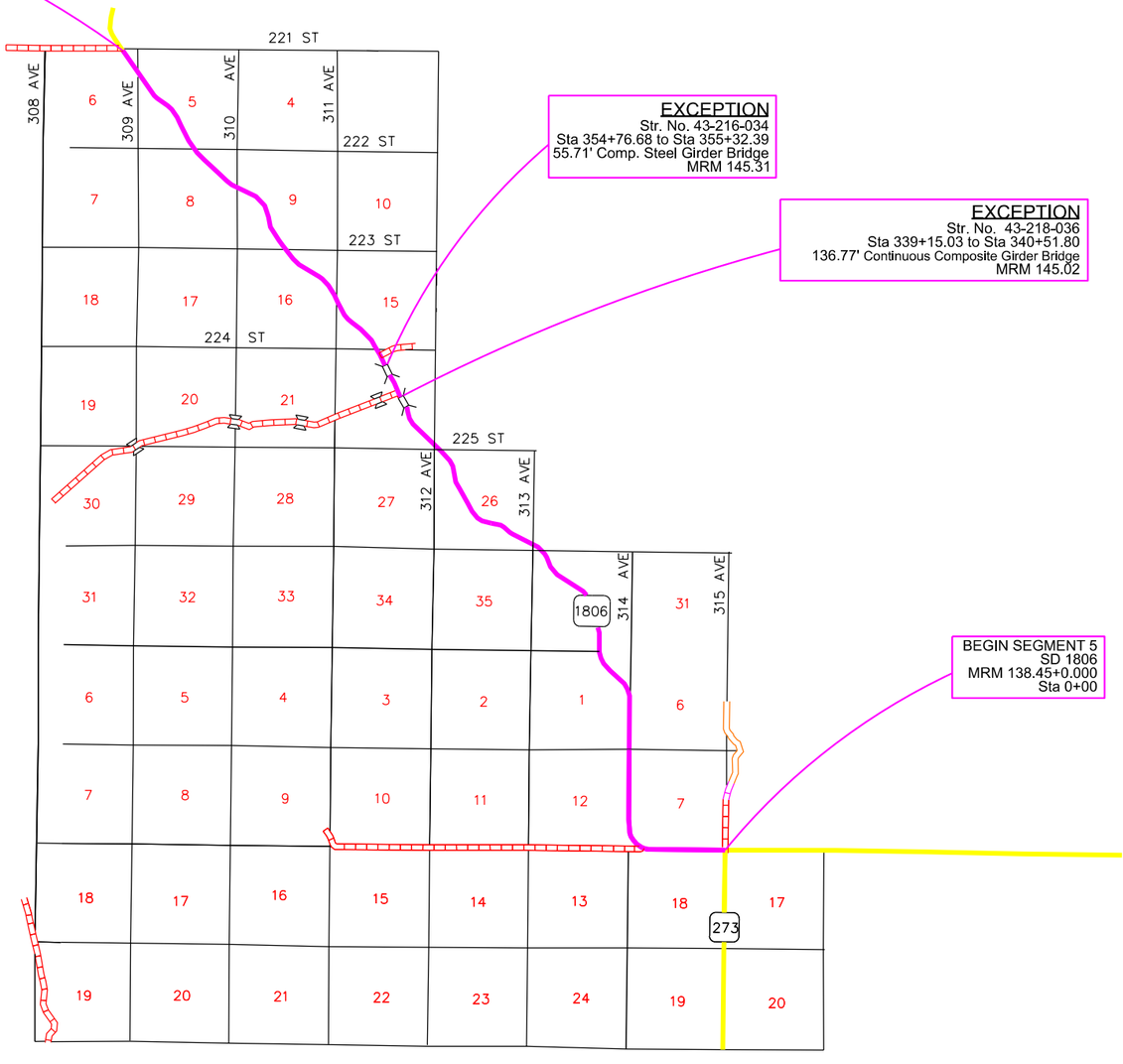
File - ...\Project Locations 09WR.1.27.26.dgn

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	NH-P 0031(63)	6	24

Plotting Date: 12/04/2025 JML Revised Date: 1/28/2026

PROJECT LAYOUT
SD HIGHWAY 1806
LYMAN COUNTY

END SEGMENT 5
SD 1806
MRM 149.70+0.000
Sta 581+48.64



EXCEPTION
Str. No. 43-216-034
Sta 354+76.68 to Sta 355+32.39
55.71' Comp. Steel Girder Bridge
MRM 145.31

EXCEPTION
Str. No. 43-218-036
Sta 339+15.03 to Sta 340+51.80
136.77' Continuous Composite Girder Bridge
MRM 145.02

BEGIN SEGMENT 5
SD 1806
MRM 138.45+0.000
Sta 0+00

DESIGN DESIGNATION

AADT (2024)	161
AADT (2044)	227
DHV	36
D	50
DHV T%	8.1
AADT T%	17.9
V	65 mph

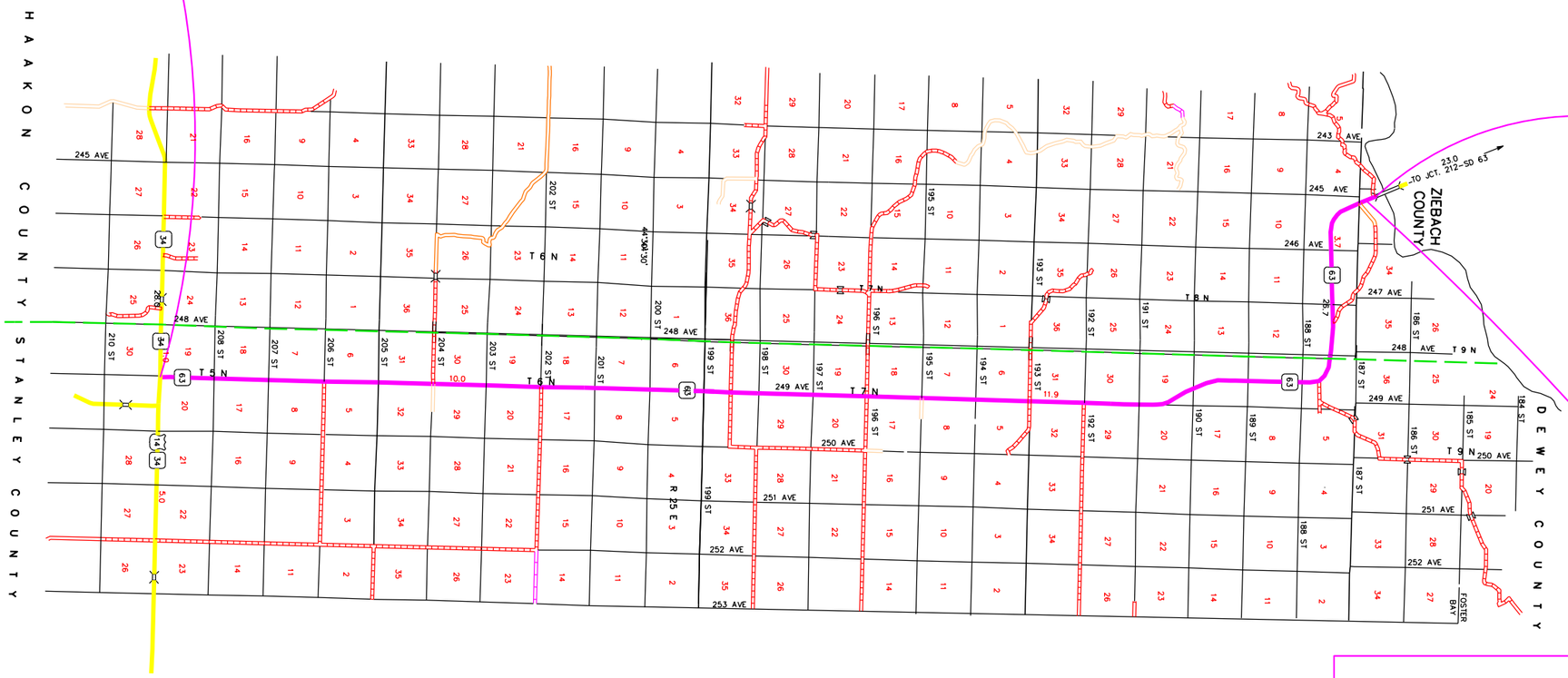
Gross Length	58,148.64 Feet	11.013 Miles
Length of Exceptions	192.48 Feet	0.036 Miles
Net Length	57,956.16 Feet	10.977 Miles

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	NH-P 0031(63)	7	24

Plotting Date: 12/04/2025 JML Revised Date: 1/28/2026

PROJECT LAYOUT
SD HIGHWAY 63
HAAKON & STANLEY COUNTIES

BEGIN SEGMENT 6
SD 63
MRM 119.12+0.025
Sta 1+30



END SEGMENT 6
SD 63
MRM 144.38+0.051
Sta 1341+22.56

DESIGN DESIGNATION

AADT (2024)	410
AADT (2044)	592
DHV	94
D	50
DHV T%	6.7%
AADT T%	14.8%
V	65 mph

EXCEPTION

Str. No. 28-392-038
Sta 1330+93.27 to Sta 1333+79.35
286.08' Continuous Composite Girder Bridge
MRM 144.32

Gross Length	133,992.56 Feet	25.377 Miles
Length of Exceptions	286.08 Feet	0.054 Miles
Net Length	133,706.48 Feet	25.323 Miles

ESTIMATE OF QUANTITIES

BID ITEM NUMBER	ITEM	QUANTITY	UNIT
009E0010	Mobilization	Lump Sum	LS
009E4100	Construction Schedule, Category I	Lump Sum	LS
330E0300	SS-1h or CSS-1h Asphalt for Fog Seal	544.5	Ton
330E3000	Sand for Fog Seal	70.0	Ton
360E0042	CRS-2P Asphalt for Surface Treatment	1,874.2	Ton
360E1200	Modified Cover Aggregate	216.2	Ton
360E1200	Modified Cover Aggregate	2,632.2	Ton
360E1200	Modified Cover Aggregate	1,623.5	Ton
360E1200	Modified Cover Aggregate	2,741.8	Ton
360E1200	Modified Cover Aggregate	1,629.2	Ton
360E1200	Modified Cover Aggregate	3,758.6	Ton
633E0010	Cold Applied Plastic Pavement Marking, 4"	440	Ft
633E0040	Cold Applied Plastic Pavement Marking, Arrow	1	Each
633E1200	High Build Waterborne Pavement Marking Paint, White	4,701	Gal
633E1205	High Build Waterborne Pavement Marking Paint, Yellow	1,291	Gal
633E6005	Pavement Marking Masking, 5"	6,352	Ft
633E6020	Pavement Marking Masking, 25"	215	Ft
633E6030	Pavement Marking Masking, Arrow	2	Each
634E0010	Flagging	1,744.0	Hour
634E0020	Pilot Car	431.0	Hour
634E0110	Traffic Control Signs	2,851.4	SqFt
634E0120	Traffic Control, Miscellaneous	Lump Sum	LS
634E0630	Temporary Pavement Marking	254.5	Mile

ENVIRONMENTAL COMMITMENTS

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

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

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

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

COMMITMENT B: FEDERALLY THREATENED, ENDANGERED, AND PROTECTED SPECIES

COMMITMENT B2: WHOOPING CRANE

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

Action Taken/Required:

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

COMMITMENT 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: 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.

COMMITMENT I: HISTORIC PRESERVATION OFFICE CLEARANCES (CONTINUED)

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.

ENGINEER NOTIFICATION

The Contractor will be required to notify the Pierre Area Engineer (Dean VanDeWiele, (605) 773-5586) at least 10 days prior to beginning asphalt surface treatment operations.

COORDINATION OF WORK

A maintenance project has been identified that will interfere with Segment 6 of the project. Contractor will coordinate work with Phillip's maintenance unit to ensure operations have been completed prior to chip seal.

SEQUENCE OF OPERATIONS

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.

The following sequence is provided, and intended as a guide only, to the Contractor to aid in planning their sequence of operations. It is not inclusive of all work activities.

1. Install fixed location ground-mounted traffic control devices.
2. Place temporary pavement marking no more than 24 hours prior to the asphalt surface treatment (chip seal).
3. Apply the chip seal. Application of the asphalt and aggregate will cease at least one hour prior to sunset each day. Once it has been verified that the appropriate cover on temporary flexible vertical markers (tabs) are in place where work will begin in a given lane each day, the Contractor will stay in that lane and will not be allowed to place asphalt surface treatment in the adjacent lane unless approved by the Engineer.
4. Remove top plastic covers from the tabs after application of the chip seal and prior to nightfall.
5. Broom chip-sealed areas each morning following chip seal application.
6. Apply the fog seal.
7. Remove plastic covers from tabs after application of the fog seal and prior to nightfall.
8. Immediately prior to application of permanent pavement markings, the areas scheduled for painting 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.
9. Complete permanent pavement marking.
10. Remove tabs within the seven-day time period specified in the Temporary Pavement Marking section of these plans.
11. Remove fixed location ground-mounted traffic control devices.

BROOMING

All material will be broomed off bridges and curb & gutter areas adjacent to the bridges. Care will be taken to ensure no material is broomed into the drop inlets. Materials from the curb & gutter 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 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 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
SD20	Residential and commercial areas in the City of Hoven.

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

BRIDGE ENDS AND APPROACH SLABS

Asphalt surface treatment will not be placed on any bridge, bridge approach slab, or bridge joint. Any emulsion or cover aggregate found to be on bridges or approach slabs after final brooming will be removed by the Contractor at no cost to the Department.

Material used to cover and protect bridges, approach slabs, and joints 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 cleaned off the road surface.

ASPHALT FOR SURFACE TREATMENT

CRS-2P Asphalt for Surface Treatment will be used on all Segments of this project.

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

Asphalt surface treatment will not be applied to transverse rumble strip areas prior to Stop Signs; however, these areas will still be fog sealed.

Application of the asphalt surface treatment will be applied to the widths specified in the plans. The Contractor will have to consider the width of overlap at centerline to obtain the total width specified. A gap at centerline between surface treatment passes will not be allowed.

On routes with an existing surface treatment, the Asphalt for Surface Treatment and Cover Aggregate will be applied only between the white edgelines of the roadway to allow the white edge to be slightly recessed. On first seal routes, the Asphalt for Surface Treatment and Cover Aggregate will be applied the full width of the road and shoulders.

MODIFIED COVER AGGREGATE

Modified Cover Aggregate and CRS-2P Asphalt for Surface Treatment will be used on all segments of this project. Modified Cover Aggregate will conform to the following gradation requirements:

% Passing 3/8" Sieve	100%
% Passing No. 4 Sieve	0 – 75%
% Passing No. 8 Sieve	0 – 30%
% Passing No. 40 Sieve	0 – 6%
% Passing No. 200 Sieve	0 – 1.5%

Should the material fail the No. 200 sieve requirements, the Contractor will shut down operations until the Engineer determines if changes or corrections are required. Application of the cover aggregate will be maintained within 500 feet or have a time limit of 1 minute between the application of the CRS-2P Asphalt for Surface Treatment and the application of the Modified Cover Aggregate, whichever amounts to a shorter time period.

The Contractor will continue chip spreader progress, forward, through the asphalt application at any end where work will be temporarily shut down for more than 5 minutes, to allow for satisfactory uniform rolling of the placed aggregate. The Contractor will not allow the chip spreader, trucks, rollers, or other equipment to lie dormant on the aggregate while transitioning between asphalt distributor loads and/or any other temporary shutdown of production before uniform rolling is completed. All passes of the rollers will be completed within 8 minutes of application of the CRS-2P Asphalt for Surface Treatment.

After an aggregate stockpile has been produced, the Contractor will submit an aggregate sample to the asphalt supplier a minimum of 14 days prior to starting the project to allow time to evaluate the compatibility and design of the surface treatment. A copy of the test results will be submitted to the

MODIFIED COVER AGGREGATE (CONTINUED)

Engineer and Bituminous Engineer for approval prior to starting the asphalt surface treatment work.

Quality testing on the Modified Cover Aggregate for abrasion and soundness conforming to Type 1B Cover Aggregate are required by specification. The Contractor will notify the Pierre Area Office prior to sampling and a representative from the Pierre Area Office will witness all sampling of aggregates to be submitted to the Central Testing Laboratory for quality assurance. Satisfactory test results for the Modified Cover Aggregate will be obtained prior to its use on the project.

FOG SEAL

The fog seal will be placed following the completion of the asphalt surface treatment. Prior to the application of the fog seal, the Contractor will be required to broom the asphalt surface treatment. CSS-1h or SS-1h will be used for the fog seal application. The Asphalt for Fog Seal used will be compatible with the aggregate used.

The Contractor will fog seal the entirety of the asphalt surface treatment surface, including the sluff.

SAND FOR FOG SEAL

The Contractor will plan the fog seal operation to allow adequate cure time for the fog seal and to minimize/eliminate the need to apply Sand for Fog Seal.
If adequate cure time for the fog seal is not available, to facilitate traffic, the Contractor will be allowed to place a minimum sufficient amount of blotting sand on the fog seal to allow traffic to cross the uncured portion of the fog seal, as permitted by the Engineer.

Sand for Fog Seal is only intended to be placed for accesses to businesses, intersection crossings, and as determined by the Engineer to facilitate traffic movements. Sand for Fog Seal will not be used to accelerate the Contractor's schedule. Sand that is applied will be broomed off the surface of the roadway once the fog seal has sufficiently cured as determined by the Engineer.

Sand for Fog Seal will conform to Section 879.1.B. Prior to hauling, Sand for Fog Seal will be screened to minimize segregation, eliminate oversize, and effectively breakup or discard material bonded into chunks. All costs for supplying, hauling, placing, and brooming the blotting sand will be incidental to the contract unit price per ton for "Sand for Fog Seal".

STOCKPILE SITE RELEASES

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

GENERAL TRAFFIC CONTROL

Existing guide, route, informational logo, regulatory, and warning signs will be temporarily reset and maintained during construction. Removing, relocating, covering, salvaging, and resetting of existing traffic control devices, including delineation, will be the responsibility of the Contractor. Cost for this work will be incidental to the contract unit prices for the various items unless otherwise specified in the plans. Any delineators and signs damaged or lost will be replaced by the Contractor at no cost to the State.

All temporary traffic control sign locations will be set in the field by the Contractor and verified by the Engineer prior to installation.

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

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

Fixed location signing placed more than 4 calendar days prior to the start of construction will be covered or laid down until the time of construction. The covers must be approved by the Engineer prior to installation. The cost of materials, labor, and equipment necessary to complete this work will be incidental to other contract items. No separate payment will be made. All fixed location signs, sign posts, and breakaway bases will be removed within 7 calendar days following pavement marking.

All haul trucks will be equipped with an additional flashing amber light that is visible from the backside of the haul truck. The costs for the flashing amber lights will be incidental to the various related contract items.
Traffic will be maintained on the driving lanes. Use of the shoulder as a driving lane will not be permitted. Any damage to the shoulder due to rerouted traffic or Contractor's equipment will be repaired at no expense to the Department.

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

TRAFFIC CONTROL SIGNS

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

Segment 1 (SD20):

ITEMIZED LIST FOR TRAFFIC CONTROL SIGNS

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	3	48" x 48"	16.0	48.0
W20-1	ROAD WORK AHEAD	3	48" x 48"	16.0	48.0
W20-4	ONE LANE ROAD AHEAD	4	48" x 48"	16.0	64.0
W20-7	FLAGGER (symbol)	4	48" x 48"	16.0	64.0
SPECIAL	WAIT FOLLOW PILOT CAR	16	30" x 18"	3.8	60.8
G20-1	ROAD WORK NEXT 1 MILE	2	36" x 18"	4.5	9.0
G20-2	END ROAD WORK	2	36" x 18"	4.5	9.0
		CONVENTIONAL ROAD TRAFFIC CONTROL SIGNS SQFT			334.8

Segment 2 (US212):

ITEMIZED LIST FOR TRAFFIC CONTROL SIGNS

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	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	5	48" x 48"	16.0	80.0
W20-4	ONE LANE ROAD AHEAD	4	48" x 48"	16.0	64.0
W20-7	FLAGGER (symbol)	4	48" x 48"	16.0	64.0
SPECIAL	WAIT FOLLOW PILOT CAR	9	30" x 18"	3.8	34.2
G20-1	ROAD WORK NEXT 18 MILES	2	36" x 18"	4.5	9.0
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
		CONVENTIONAL ROAD TRAFFIC CONTROL SIGNS SQFT			568.8

Segment 3 (SD1804):

ITEMIZED LIST FOR TRAFFIC CONTROL SIGNS

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	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	4	48" x 48"	16.0	64.0
W20-7	FLAGGER (symbol)	4	48" x 48"	16.0	64.0
SPECIAL	WAIT FOLLOW PILOT CAR	3	30" x 18"	3.8	11.4
G20-1	ROAD WORK NEXT 11 MILES	4	36" x 18"	4.5	18.0
G20-1	ROAD WORK NEXT 6 MILES	2	36" x 18"	4.5	9.0
G20-2	END ROAD WORK	2	36" x 18"	4.5	9.0
		CONVENTIONAL ROAD TRAFFIC CONTROL SIGNS SQFT			405.2

Segment 4 (SD34):

ITEMIZED LIST FOR TRAFFIC CONTROL SIGNS

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	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	2	48" x 48"	16.0	32.0
W20-4	ONE LANE ROAD AHEAD	4	48" x 48"	16.0	64.0
W20-7	FLAGGER (symbol)	4	48" x 48"	16.0	64.0
SPECIAL	WAIT FOLLOW PILOT CAR	5	30" x 18"	3.8	19.0
G20-1	ROAD WORK NEXT 18 MILES	2	36" x 18"	4.5	9.0
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
		CONVENTIONAL ROAD TRAFFIC CONTROL SIGNS SQFT			505.6

TRAFFIC CONTROL SIGNS (CONTINUED)

Segment 5 (SD1806):

ITEMIZED LIST FOR TRAFFIC CONTROL SIGNS

		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	7	48" x 48"	16.0	112.0
W13-1P	ADVISORY SPEED (plaque)	7	30" x 30"	6.3	44.1
W20-1	ROAD WORK AHEAD	3	48" x 48"	16.0	48.0
W20-4	ONE LANE ROAD AHEAD	4	48" x 48"	16.0	64.0
W20-7	FLAGGER (symbol)	4	48" x 48"	16.0	64.0
SPECIAL	WAIT FOLLOW PILOT CAR	2	30" x 18"	3.8	7.6
G20-1	ROAD WORK NEXT 11 MILES	3	36" x 18"	4.5	13.5
G20-1	ROAD WORK NEXT 6 MILES	2	36" x 18"	4.5	9.0
G20-2	END ROAD WORK	2	36" x 18"	4.5	9.0
		CONVENTIONAL ROAD TRAFFIC CONTROL SIGNS SQFT			403.2

Segment 6 (SD63):

ITEMIZED LIST FOR TRAFFIC CONTROL SIGNS

		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	17	48" x 48"	16.0	272.0
W13-1P	ADVISORY SPEED (plaque)	17	30" x 30"	6.3	107.1
W20-1	ROAD WORK AHEAD	3	48" x 48"	16.0	48.0
W20-4	ONE LANE ROAD AHEAD	4	48" x 48"	16.0	64.0
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 25 MILES	3	36" x 18"	4.5	13.5
G20-1	ROAD WORK NEXT 13 MILES	2	36" x 18"	4.5	9.0
G20-2	END ROAD WORK	2	36" x 18"	4.5	9.0
		CONVENTIONAL ROAD TRAFFIC CONTROL SIGNS SQFT			633.8

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".

TRAFFIC CONTROL FOR ASPHALT SURFACE TREATMENT

The Contractor will furnish, install, and maintain LOOSE GRAVEL (W8-7) signs with 40 MPH (W13-1P) advisory speed plaques upon start of surface treatment operations at each end of the segment and on either side of intersecting asphalt roads and major intersections as determined by the Engineer. In addition, LOOSE GRAVEL signs with 40 MPH advisory speed plaques will be installed at no more than 4-mile intervals throughout each segment. 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 will 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.

Once asphalt surface treatment (AST) placement operations begin in any lane each day, operations will continue in that same lane the entire day unless otherwise approved by the Engineer. Flaggers and work zone signing are approved to be moved as needed to shorten work zones and keep the pilot car cycle times in compliance with 15 minutes or less.

"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.

TEMPORARY PAVEMENT MARKING

The total length of no passing zone on this project is estimated to be **24.026** miles.

It is estimated that **108 DO NOT PASS (R4-1) and 107 PASS WITH CARE (R4-2)** signs will be required to mark the no passing zones, should the Contractor elect to use these signs.

Temporary Flexible Vertical Markers (tabs) will be used on the top lift of asphalt surfacing for centerline delineation, lane lines, skips, and as directed by the Engineer. Tabs will be offset 6-inches from the location shown for permanent pavement markings. Centerline will be double yellow lines with tabs spaced at 5' the entire project length.

Tabs will be used to mark dashed centerline, No Passing Zones, and applicable lane lines. Paint will not be allowed for temporary pavement marking.

Prior to asphalt surface treatment, the Contractor will mark the location of all existing pavement marking, excluding edgelines. The Contractor will only place tabs on the edgeline of transition areas such as turn lanes, climbing lanes, and dashed edgelines. Prior to installation of permanent pavement marking, the Engineer will be given ample notification so that placement of tabs can be checked.

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

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.

Quantities of Temporary Pavement Markings represent one application prior to the chip seal, one application following the chip seal, and one application following the fog seal as needed. No markings will be placed on Segments 2 and 3 (divided highway, flush seal of shoulders only).

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

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

TABLE OF DO NOT PASS/PASS WITH CARE SIGNS

ROUTE	DO NOT PASS	PASS WITH CARE	LENGTH OF NO PASSING ZONES (MI)
Seg 1 – SD20	2	0	0.676
Seg 2 – US212	5	6	0.627
Seg 3 – SD1804	2	2	0.286
Seg 4 – SD34	42	41	7.518
Seg 5 – SD1806	22	22	4.406
Seg 6 – SD63	38	37	7.754
TOTAL	**111**	**108**	**21.267**

PAVEMENT MARKING PAINT

The Contractor will advise the Engineer a minimum of 3 weeks prior to the application of the permanent pavement marking to allow the State to check and mark the location of no passing zones.

The application of permanent pavement marking will begin no sooner than 7 calendar days following completion of the fog seal. Application of permanent pavement marking will be completed within 14 calendar days following completion of the final surfacing.

Paint is to be placed beyond the 11'-6" asphalt surface treatment. Contractor will take measures to ensure the asphalt surface treatment does not extend into the white edge line. Any edgeline painting found on the asphalt surface treatment will require adjustment of the asphalt surface treatment and or re-painting at the Contractors expense.

HIGH BUILD WATERBORNE PAVEMENT MARKING PAINT

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

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

RETROREFLECTIVITY FOR PAVEMENT MARKING

The Department may take retroreflectivity readings on the pavement marking lines after 14 days and within 42 days of the line application using either a portable or mobile retroreflectometer that conforms to 30-meter geometry. If the Department chooses to take retroreflectivity readings, three retroreflectivity readings will be taken on each line at each test location. The three readings will be averaged and become the reading for that test location.

If the Department chooses to take retroreflectivity readings, three readings will be taken on the edge lines and lane lines in the direction of application. For combination solid yellow and skip yellow lines for turn lanes and for centerline markings on two-way roadways, three readings will be taken in one direction, the reflectometer will be turned 180 degrees and three more readings will be taken. The six readings for the centerline markings will be averaged and become the test reading for that test location.

If the Department chooses to take readings, the minimum retroreflectivity values will be 275 mc/m2/lux for white and 170 mc/m2/lux for yellow.

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 costs 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.

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 markings. The masking material will be sturdy enough to avoid being punctured by the cover aggregate when traffic drives over it.

All 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 needed 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 per foot or each 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.

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

Masking of the required areas on these routes may need to be completed twice due to the required placement of the Fog Seal on these routes. One application will be done prior to the placement of the chip seal, and the second will be done 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 fog seal applications, this procedure will be allowed, and masking will only be paid for once.

TABLE OF PAVEMENT MARKING MASKING

ROUTE	LOCATION	DESCRIPTION	QUANTITY
Seg 2 – US212	US 212/SD47	4" yellow solid/dashed median markings, gore markings, 4" white dashed lane markings, 4" white solid free right/turn lane markings, & Lt turn arrow	6352 ft 5" masking 215 ft 25" masking 2 arrow masking, each

EXISTING PAVEMENT CONDITIONS

ROUTE	MRM TO MRM	EXISTING PAVEMENT CONDITION
Segment 1 – SD 20	254.54 + 0.000 to 255.17 + 0.038	Slightly pocked, porous and oxidized
Segment 2 – US 212	226.33 + 0.065 to 245.00 + 0.034	Slightly porous
Segment 3 – SD 1804	281.37 + 0.000 to 292.34 + 0.000	Slightly pocked, porous and oxidized
Segment 4 – SD34	227.00 + 0.384 to 245.00 + 0.498	Slightly pocked, porous and oxidized
Segment 5 - SD 1806	138.45 + 0.000 to 149.70 + 0.000	Slightly porous
Segment 6 – SD 63	119.12 +0.025 to 144.38 + 0.051	Slightly pocked, porous and oxidized

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	NH-P 0031(63)	13	24

RATES OF MATERIALS

The Estimate of Quantities is based on the following quantities of materials per mile. Segment 1 is based on quantities of materials per station since it is less than one mile long.

SEGMENT 1 –
SD20 MRM 254.54+0.000 to 255.17+0.038, Sta 30+51.84 to 66+21.12

48 ft asphalt surface, w/ curb and gutter, stations:
30+51.84 to 43+67
51+32 to 57+07
NET LENGTH: 1,890.16 FT = 0.358 MI

- CRS-2P Asphalt for Surface Treatment applied at the rate of 0.38 gallons per square yard at 48.0 feet wide = 0.**86 TON/STA**
- Modified Cover Aggregate applied at the rate of 22 pounds per square yard at 48.0 feet wide = **5.87 TON/STA**
- SS-1h or CSS-1h Asphalt for Fog Seal applied at the rate of 0.075 gallons per square yard at 48.0 feet wide = **0.11 TON/STA**

44 ft asphalt surface, w/ curb and gutter, stations:
43+67 to 51+32
57+07 to 66+21.12
NET LENGTH: 1,679.12 FT = 0.318 MI

- CRS-2P Asphalt for Surface Treatment applied at the rate of 0.38 gallons per square yard at 44.0 feet wide = **0.79 TON/STA**
- Modified Cover Aggregate applied at the rate of 22 pounds per square yard at 44.0 feet wide = **5.38 TON/STA**
- SS-1h or CSS-1h Asphalt for Fog Seal applied at the rate of 0.075 gallons per square yard at 44.0 feet wide = **0.11 TON/STA**

SEGMENT 2 –
US212 MRM 226.33+0.065 to 245.00+0.034, Sta 0+00 to 933+08.32

37 ft asphalt surface, w/ 2.5 ft sluff:
0+00 to 520+00
NET LENGTH: 52,000 FT = 9.848 MI

- CRS-2P Asphalt for Surface Treatment applied at the rate of 0.38 gallons per square yard at 23.0 feet wide = **21.8 TON/MILE**
- Modified Cover Aggregate applied at the rate of 22 pounds per square yard at 23.0 feet wide = **148.4 TON/MILE**
- SS-1h or CSS-1h Asphalt for Fog Seal applied at the rate of 0.075 gallons per square yard at 42.0 feet wide = **7.9 TON/MILE**

31 ft asphalt surface, w/ 2.5 ft sluff, stations:
520+00 to 933+08.32
NET LENGTH: 41,308.32 FT = 7.824 MI

- CRS-2P Asphalt for Surface Treatment applied at the rate of 0.38 gallons per square yard at 23.0 feet wide = **21.8 TON/MILE**
- Modified Cover Aggregate applied at the rate of 22 pounds per square yard at 23.0 feet wide = **148.4 TON/MILE**
- SS-1h or CSS-1h Asphalt for Fog Seal applied at the rate of 0.075 gallons per square yard at 36.0 feet wide = **6.7 TON/MILE**

SEGMENT 3 –
SD1804 MRM 281.37+0.000 to 292.34+0.000, Sta 0+00 to 577+52.64

36 ft asphalt surface, w/ 1 ft sluff:
0+00 to 577+52.64
NET LENGTH: 57,752.64 FT = 10.938 MI

- CRS-2P Asphalt for Surface Treatment applied at the rate of 0.38 gallons per square yard at 23.0 feet wide = **21.8 TON/MILE**
- Modified Cover Aggregate applied at the rate of 22 pounds per square yard at 23.0 feet wide = **148.4 TON/MILE**
- SS-1h or CSS-1h Asphalt for Fog Seal applied at the rate of 0.075 gallons per square yard at 38.0 feet wide = **7.1 TON/MILE**

SEGMENT 4 –
SD34 MRM 227+0.384 to 245.00+0.498, Sta 0+00 to b352+11.22

28 ft asphalt surface, w/ 1 ft sluff:
0+00 to b352+11.22
NET LENGTH: 95,503.5 FT = 18.088 MI

- CRS-2P Asphalt for Surface Treatment applied at the rate of 0.38 gallons per square yard at 23.0 feet wide = **21.8 TON/MILE**
- Modified Cover Aggregate applied at the rate of 22 pounds per square yard at 23.0 feet wide = **148.4 TON/MILE**
- SS-1h or CSS-1h Asphalt for Fog Seal applied at the rate of 0.075 gallons per square yard at 30.0 feet wide = **5.6 TON/MILE**

SEGMENT 5 –
SD1806 MRM 138.45+0.000 to 149.70+0.000, Sta 0+00 to 581+48.64

30 ft asphalt surface, w/ 1 ft sluff:
0+00 to 581+48.64
NET LENGTH: 57,956.16 FT = 10.977 MI

- CRS-2P Asphalt for Surface Treatment applied at the rate of 0.38 gallons per square yard at 23.0 feet wide = **21.8 TON/MILE**
- Modified Cover Aggregate applied at the rate of 22 pounds per square yard at 23.0 feet wide = **148.4 TON/MILE**
- SS-1h or CSS-1h Asphalt for Fog Seal applied at the rate of 0.075 gallons per square yard at 32.0 feet wide = **6.0 TON/MILE**

SEGMENT 6 –
SD63 MRM 119.12+0.025 to 144.38+0.051, Sta 1+30 to 1341+22.56

34 ft asphalt surface, w/ 1 ft sluff:
1+30 to 686+85.52
NET LENGTH: 68,555.52 FT = 12.984 MI

- CRS-2P Asphalt for Surface Treatment applied at the rate of 0.38 gallons per square yard at 23.0 feet wide = **21.8 TON/MILE**
- Modified Cover Aggregate applied at the rate of 22 pounds per square yard at 23.0 feet wide = **148.4 TON/MILE**
- SS-1h or CSS-1h Asphalt for Fog Seal applied at the rate of 0.075 gallons per square yard at 36.0 feet wide = **6.7 TON/MILE**

29 ft asphalt surface, w/ 1 ft sluff:
686+85.52 to 1341+22.56
NET LENGTH: 65150.96 FT = 12.339 MI

- CRS-2P Asphalt for Surface Treatment applied at the rate of 0.38 gallons per square yard at 23.0 feet wide = **21.8 TON/MILE**
- Modified Cover Aggregate applied at the rate of 22 pounds per square yard at 23.0 feet wide = **148.4 TON/MILE**
- SS-1h or CSS-1h Asphalt for Fog Seal applied at the rate of 0.075 gallons per square yard at 32.0 feet wide = **6.0 TON/MILE**

TABLE OF ADDITIONAL QUANTITIES

TABLE OF ADDITIONAL QUANTITIES			
Location	ASPHALT SURFACE TREATMENT CRS-2P TON	MODIFIED COVER AGGREGATE TON	SS-1H OR CSS-1H ASPH. FOR FOG SEAL TON
Hoven Adj. Roads to ROW limits	2.2	15	0.4
US212 Turn Lane to SD47	1.3	9.2	0.3
SD34 Transition	8.4	57.1	1.9

SUMMARY OF PROJECT QUANTITIES

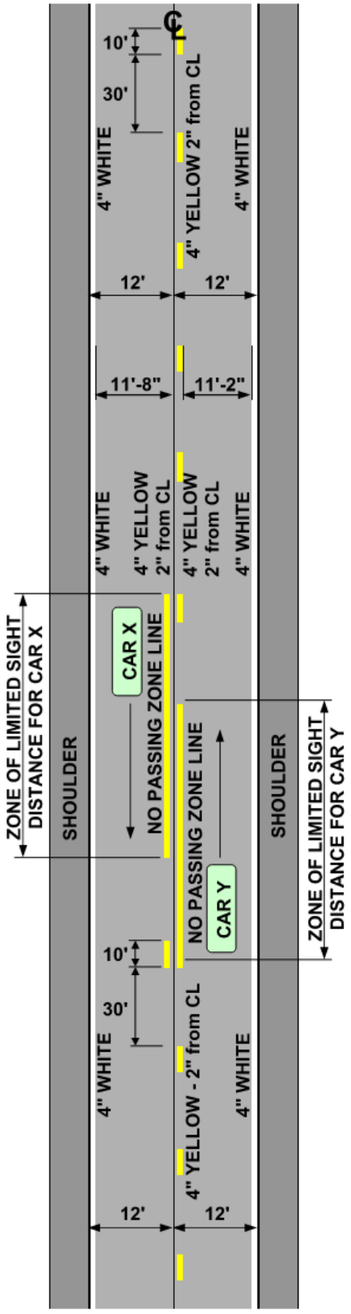
STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	NH-P 0031(63)	14	24

Revised 1/28/26 JML

BID ITEM NUMBER	ITEM	SEGMENT 1 - SD20	SEGMENT 2 - US212	SEGMENT 3 - SD1804	SEGMENT 4 - SD34	SEGMENT 5 - SD1806	SEGMENT 6 - SD63	QUANTITY	UNIT
009E0010	Mobilization	Lump Sum	Lump Sum	Lump Sum	Lump Sum	Lump Sum	Lump Sum	**Lump Sum**	LS
009E4100	Construction Schedule, Category I	Lump Sum	Lump Sum	Lump Sum	Lump Sum	Lump Sum	Lump Sum	**Lump Sum**	LS
330E0300	SS-1h/CSS-1h Asphalt for Fog Seal	6.2	130.3	77.7	103.4	65.7	161.2	**544.5**	Ton
330E3000	Sand for Fog Seal	20	10	10	10	10	10	**70**	Ton
360E0042	CRS-2P Asphalt for Surface Treatment	31.7	386.5	238.4	402.6	239.2	575.8	**1874.2**	Ton
360E1200	Modified Cover Aggregate	216.2	2632.2	1623.5	2741.8	1629.2	3758.6	**12601.5**	Ton
633E0010	Cold Applied Plastic Pavement Marking, 4"	-	440	-	-	-	-	**440**	Ft
633E0040	Cold Applied Plastic Pavement Marking, Arrow	-	1	-	-	-	-	**1**	Each
633E1200	High Build Waterborne Pavement Marking Paint, White	40.0	1021.0	608.0	1008.0	612.0	1412.0	**4701**	Gal
633E1205	High Build Waterborne Pavement Marking Paint, Yellow	33	157	91	360	221	429	**1291**	Gal
633E6005	Pavement Marking Masking, 5"	-	6352	-	-	-	-	**6352**	Ft
633E6020	Pavement Marking Masking, 25"	-	215	-	-	-	-	**215**	Ft
633E6030	Pavement Marking Masking, Arrow	-	2.0	-	-	-	-	**2**	Each
634E0010	Flagging	60	279	165	273	165	381	**1323**	Hour
634E0020	Pilot Car	10	93	55	91	55	127	**431**	Hour
634E0110	Traffic Control Signs	334.8	568.8	405.2	505.6	403.2	633.8	**2851.4**	SqFt
634E0120	Traffic Control, Miscellaneous	Lump Sum	Lump Sum	Lump Sum	Lump Sum	Lump Sum	Lump Sum	**Lump Sum**	LS
634E0630	Temporary Pavement Marking	2.1	55.9	32.8	54.4	33.1	76.2	**254.5**	Mile

APPLICATIONS OF PAVEMENT MARKING PAINT

TWO LANE ROADWAY



PAVEMENT MARKING

Typical pavement marking as shown on this sheet will be applied throughout the entire length of two lane 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.

Application rates will be as follows:

Two Lane Roadway (Rates for one line)
Dashed Yellow Centerline Rate = 7.6 Gals./Pass-Mile
Solid Yellow Centerline Rate = 27.8 Gals./Pass-Mile
Solid White Edgeline Rate = 27.8 Gals./Pass-Mile

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

ESTIMATE OF QUANTITIES

SEGMENT	HIGH GRADE POLYMER	
	WHITE (GALLONS)	YELLOW (GALLONS)
1	40	33
2	1021	157
3	608	91
4	1008	360
5	612	221
6	1412	429
TOTALS	4701	1291

Cold Applied Plastic Pavement Quantities

SEGMENT	4'		Arrow
	WHITE (Ft)	YELLOW (Ft)	Lt Turn (Each)
2	200	240	1

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	NH-P 0031(63)	16	24

Plotting Date: 12/05/2025 JML Revised Date: 1/28/2026

FIXED LOCATION SIGN LAYOUT
SD HIGHWAY 20

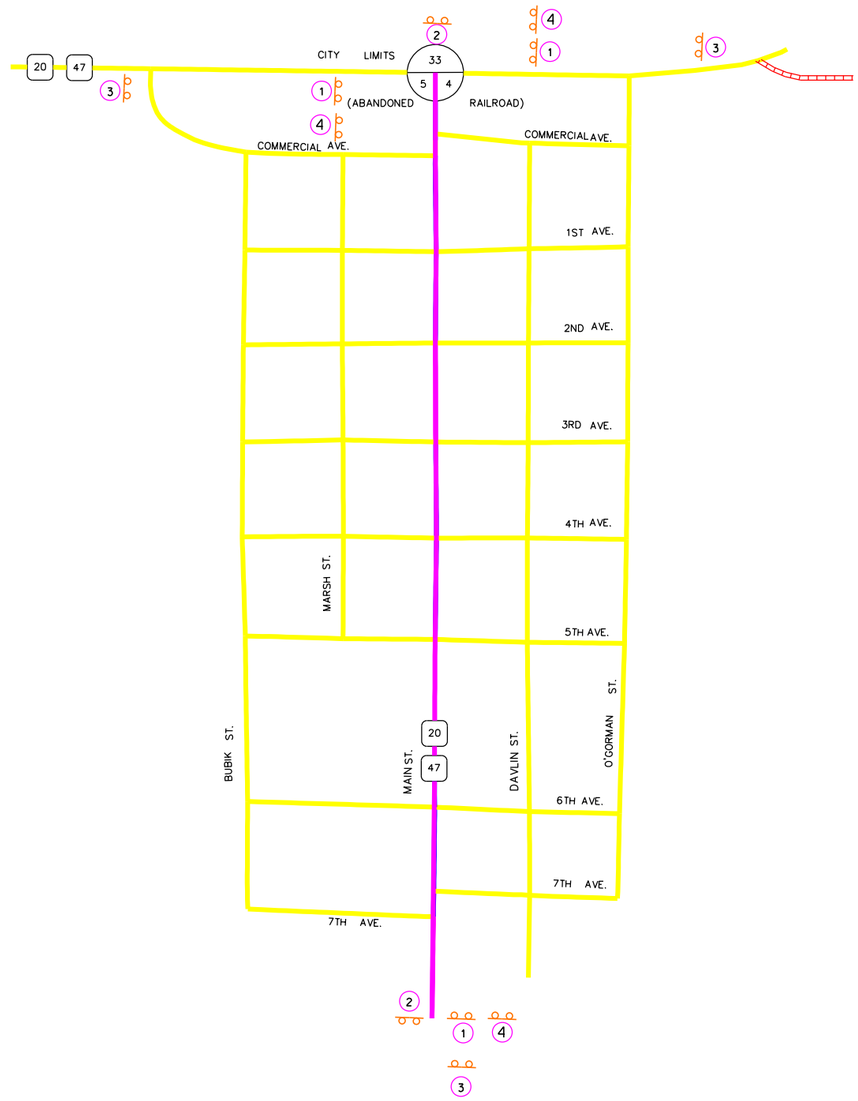
NOT TO SCALE

1 — ROAD WORK NEXT 1MILE — G20-1 (36" x 18")

2 — END ROAD WORK — G20-2 (36" x 18")

3 — ROAD WORK AHEAD — W20-1 (48" x 48")

4 — LOOSE GRAVEL — W8-7 (48" x 48")



NOTES:
All Fixed Location signs will remain in place until the permanent pavement marking is complete.

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

The exact location and spacing of the signs shown will be marked in the field by the Contractor and verified by the Engineer prior to installation.

Construction signs shall not obscure existing signs. Signs will be installed 200' to 300' from any intersections and 200' from any existing signs.

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	NH-P 0031(63)	17	24

Plotting Date: 12/08/2025 JML Revised Date: 1/28/2026

FIXED LOCATION SIGN LAYOUT
US HIGHWAY 212

NOT TO SCALE

1A — ROAD WORK NEXT 18 MILES — G20-1 (36" x 18")

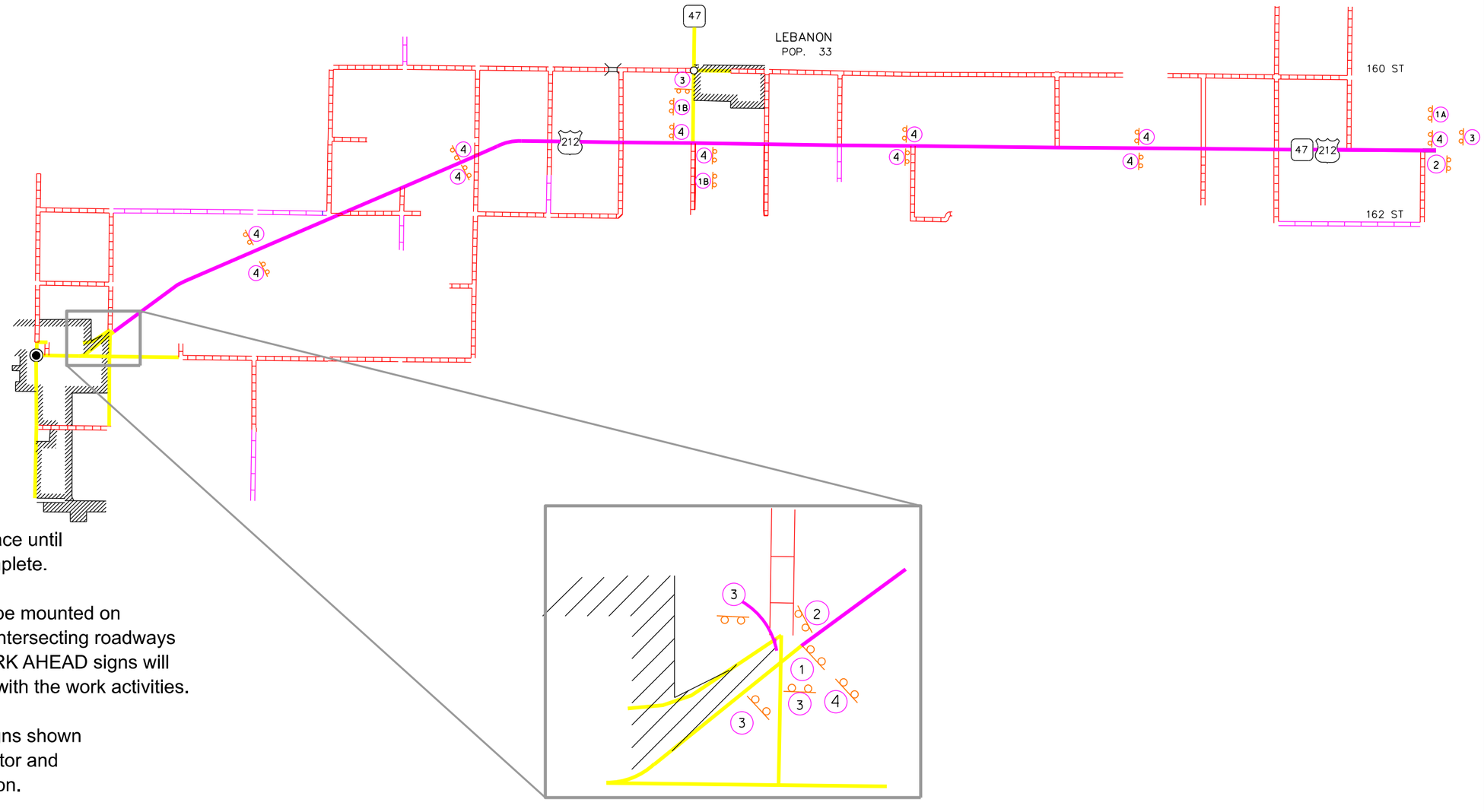
1B — ROAD WORK NEXT 9 MILES — G20-1 (36" x 18")

2 — END ROAD WORK — G20-2 (36" x 18")

3 — ROAD WORK AHEAD — W20-1 (48" x 48")

4 — LOOSE GRAVEL — W8-7 (48" x 48")

40 M.P.H. — W13-1P (30" x 30")



NOTES:

All Fixed Location signs will remain in place until the permanent pavement marking is complete.

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

The exact location and spacing of the signs shown will be marked in the field by the Contractor and verified by the Engineer prior to installation.

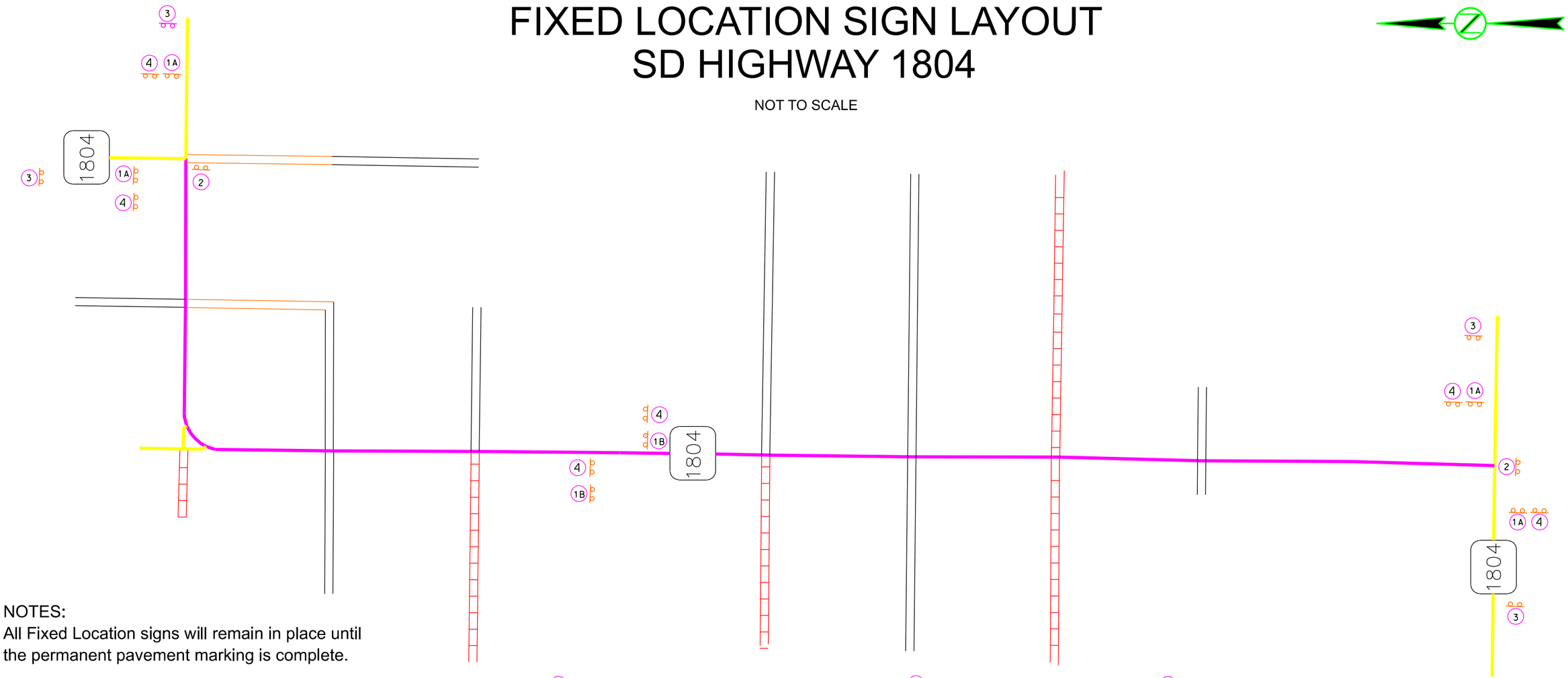
Construction signs shall not obscure existing signs. Signs will be installed 200' to 300' from any intersections and 200' from any existing signs.

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	NH-P 0031(63)	18	24

Plotting Date: 12/09/2025 JML Revised Date: 1/28/2026

FIXED LOCATION SIGN LAYOUT
SD HIGHWAY 1804

NOT TO SCALE



NOTES:
All Fixed Location signs will remain in place until the permanent pavement marking is complete.

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

The exact location and spacing of the signs shown will be marked in the field by the Contractor and verified by the Engineer prior to installation.

Construction signs shall not obscure existing signs. Signs will be installed 200' to 300' from any intersections and 200' from any existing signs.

1A — ROAD WORK NEXT II MILES — G20-1 (36" x 18")

1B — ROAD WORK NEXT 6 MILES — G20-1 (36" x 18")

2 — END ROAD WORK — G20-2 (36" x 18")

3 — ROAD WORK AHEAD — W20-1 (48" x 48")

4 — LOOSE GRAVEL — W8-7 (48" x 48")

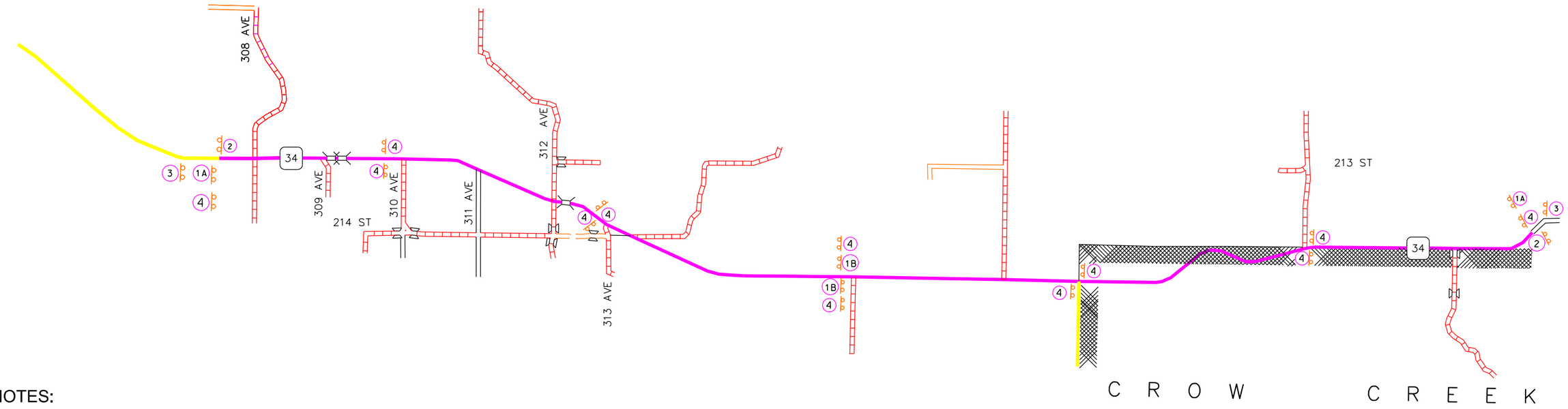
40 M.P.H. — W13-1P (30" x 30")

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	NH-P 0031(63)	19	24

Plotting Date: 12/09/2025 JML Revised Date: 1/28/2026

FIXED LOCATION SIGN LAYOUT
SD HIGHWAY 34

NOT TO SCALE



NOTES:
All Fixed Location signs will remain in place until the permanent pavement marking is complete.

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

The exact location and spacing of the signs shown will be marked in the field by the Contractor and verified by the Engineer prior to installation.

Construction signs shall not obscure existing signs. Signs will be installed 200' to 300' from any intersections and 200' from any existing signs.

1A — ROAD WORK NEXT 18 MILES — G20-1 (36" x 18")

1B — ROAD WORK NEXT 9 MILES — G20-1 (36" x 18")

2 — END ROAD WORK — G20-2 (36" x 18")

3 — ROAD WORK AHEAD — W20-1 (48" x 48")

4 — LOOSE GRAVEL — W8-7 (48" x 48")

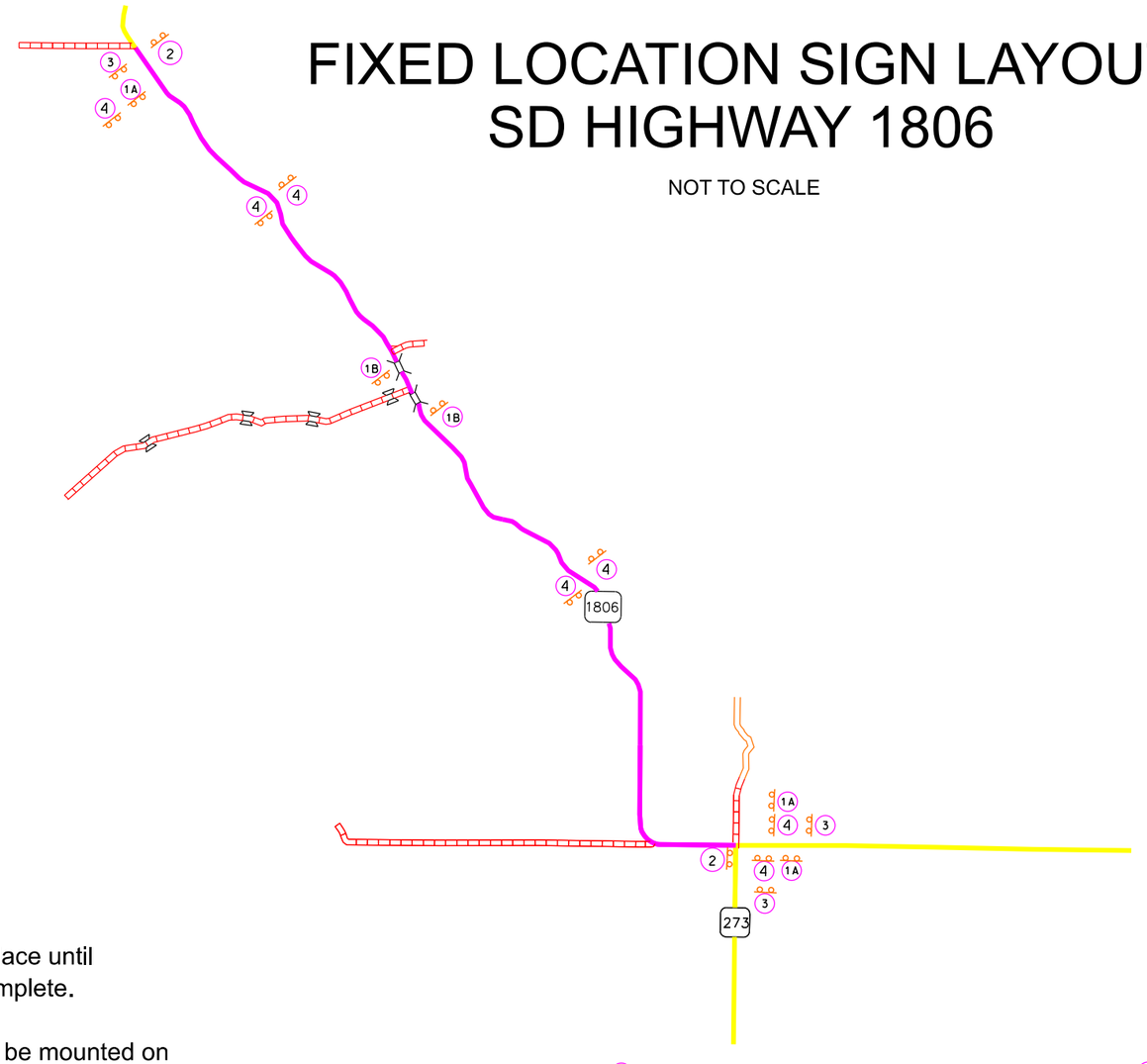
40 M.P.H. — W13-1P (30" x 30")

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	NH-P 0031(63)	20	24

Plotting Date: 12/09/2025 JML Revised Date: 1/28/2026

FIXED LOCATION SIGN LAYOUT
SD HIGHWAY 1806

NOT TO SCALE



NOTES:
All Fixed Location signs will remain in place until the permanent pavement marking is complete.

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

The exact location and spacing of the signs shown will be marked in the field by the Contractor and verified by the Engineer prior to installation.

Construction signs shall not obscure existing signs. Signs will be installed 200' to 300' from any intersections and 200' from any existing signs.

1A
ROAD WORK NEXT 11 MILES
G20-1 (36" x 18")

1B
ROAD WORK NEXT 6 MILES
G20-1 (36" x 18")

2
END ROAD WORK
G20-2 (36" x 18")

3
ROAD WORK AHEAD
W20-1 (48" x 48")

4
LOOSE GRAVEL
W8-7 (48" x 48")

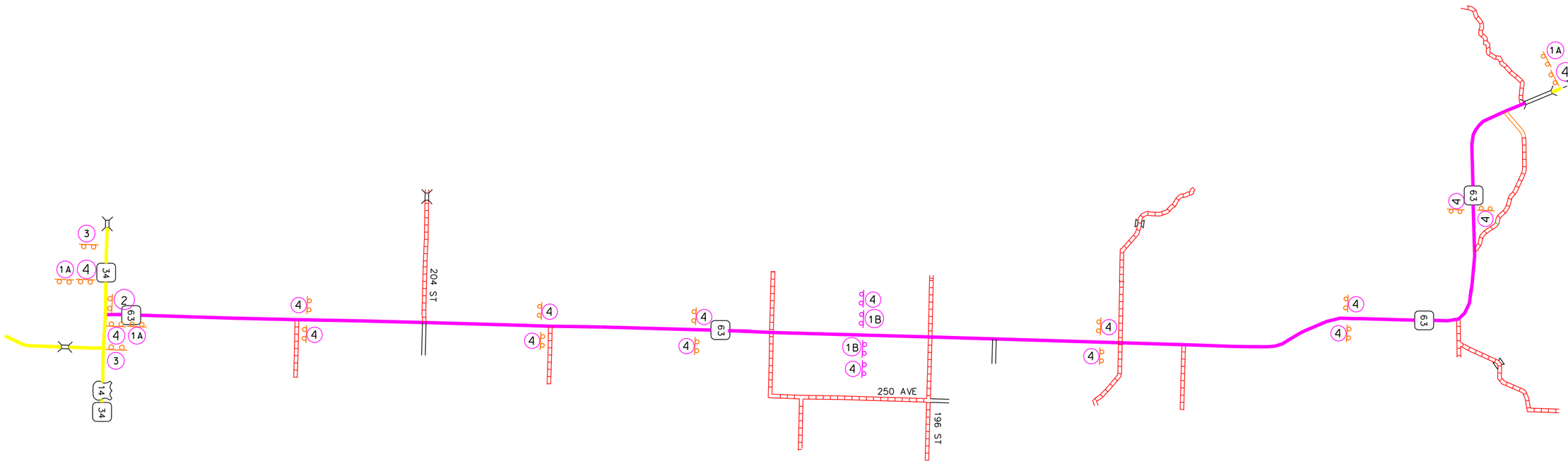
40 M.P.H.
W13-1P (30" x 30")

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	NH-P 0031(63)	21	24

Plotting Date: 12/09/2025 JML Revised Date: 1/28/2026

FIXED LOCATION SIGN LAYOUT
SD HIGHWAY 63

NOT TO SCALE



NOTES:
All Fixed Location signs will remain in place until the permanent pavement marking is complete.

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

The exact location and spacing of the signs shown will be marked in the field by the Contractor and verified by the Engineer prior to installation.

Construction signs shall not obscure existing signs. Signs will be installed 200' to 300' from any intersections and 200' from any existing signs.

1A — ROAD WORK NEXT 25 MILES — G20-1 (36" x 18")

1B — ROAD WORK NEXT 13 MILES — G20-1 (36" x 18")

2 — END ROAD WORK — G20-2 (36" x 18")

3 — ROAD WORK AHEAD — W20-1 (48" x 48")

4 — LOOSE GRAVEL — W8-7 (48" x 48")

40 M.P.H. — W13-1P (30" x 30")

*In situations where multiple work locations in a limited distance make it practical to place stationary signs, the distance between the advance warning sign and the work should not exceed 5 miles.

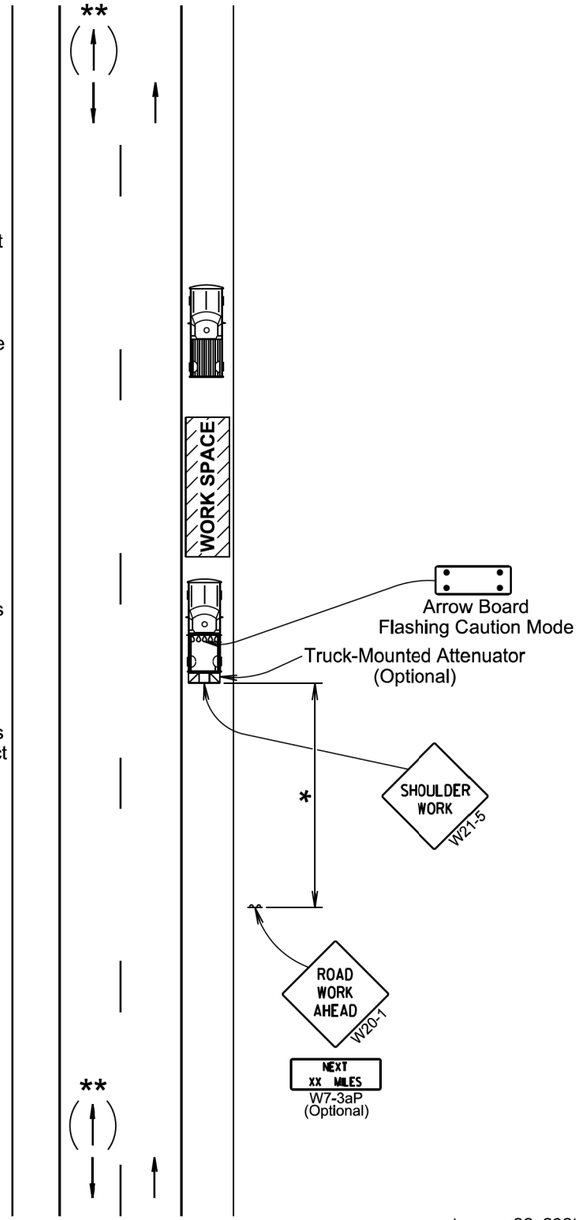
The ROAD WORK NEXT xx MILES sign may be used instead of the ROAD WORK AHEAD sign if the work locations occur over a distance of more than 2 miles.

Arrow board is required for intermittently and continuously moving mobile operations when work exceeds 1 hour.

**If the work space is on a divided highway, an advance warning sign should also be placed on the left side of the directional roadway.

In situations where the distance between the advance warning signs and the work is 2 miles to 5 miles, a Supplemental Distance plaque should be used with the ROAD WORK AHEAD sign.

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



January 22, 2021

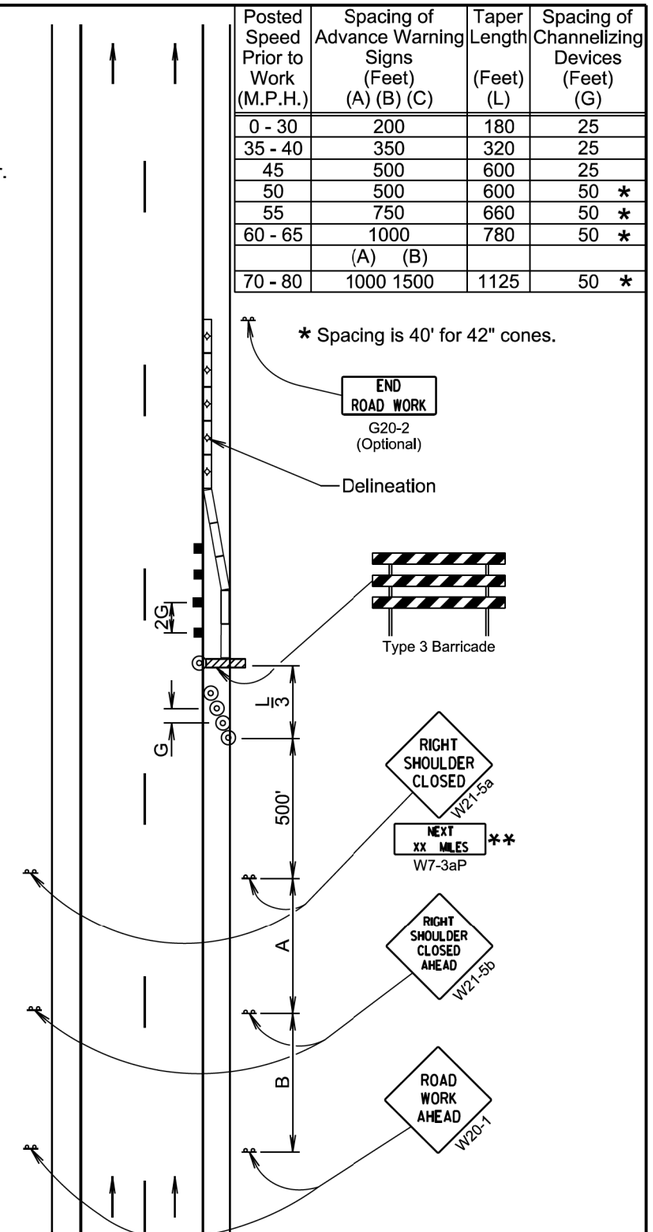
Published Date: 2026	SDDOT	MOBILE OPERATIONS ON SHOULDERS	PLATE NUMBER 634.04
			Sheet 1 of 1

◎ Reflectorized Drum
■ Channelizing Device
▭ Movable Concrete Barrier
** For distances ½ mile or greater.

42" cones may be used in place of the drums shown in the taper if setup will not be used during night time hours.

This standard plate shows one method which may be used to close a shoulder of a roadway for a long term project. The Engineer will determine if the use of barriers is required. If barriers are required, the layout details will be included elsewhere in the plans.

Posted Speed Prior to Work (M.P.H.)	Spacing of Advance Warning Signs (Feet) (A) (B) (C)	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 *
	(A) (B)		
70 - 80	1000 1500	1125	50 *



January 22, 2021

Published Date: 2026	SDDOT	SHOULDER CLOSED	PLATE NUMBER 634.61
			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.

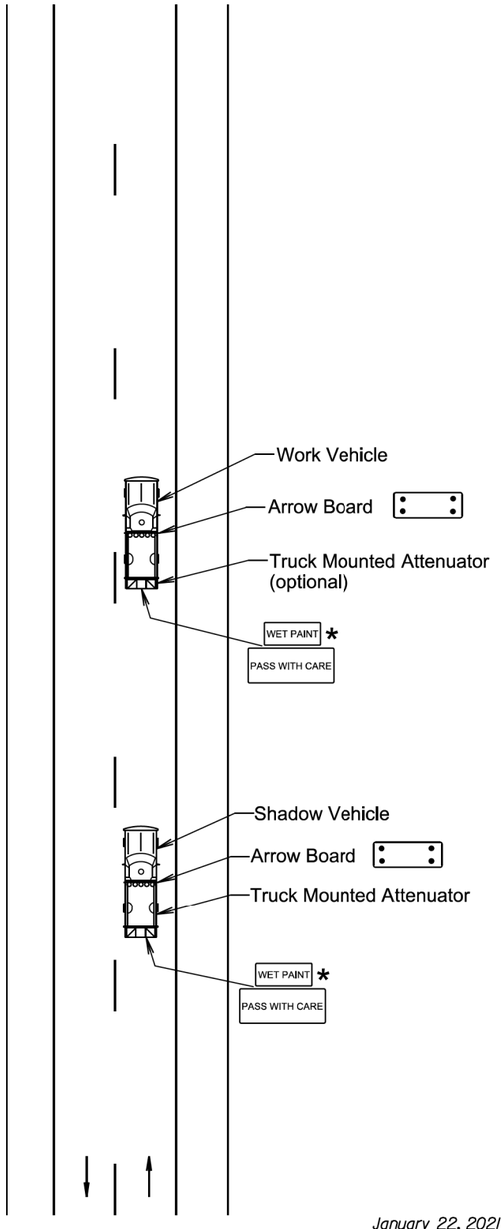
Shadow and Work vehicles will display high-intensity rotating, flashing, oscillating, or strobe lights, flags, signs, or arrow boards.

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

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

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

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



January 22, 2021

Published Date: 2026	SDDOT	MOBILE OPERATIONS ON 2-LANE ROAD	PLATE NUMBER 634.06
			Sheet 1 of 1

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

Flagger

Channelizing Device

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

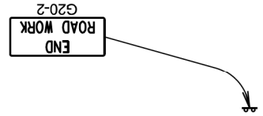
The ROAD WORK AHEAD and the END ROAD WORK signs may be omitted for short duration operations (1 hour or less).

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

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

The channelizing devices will be drums or 42" cones.

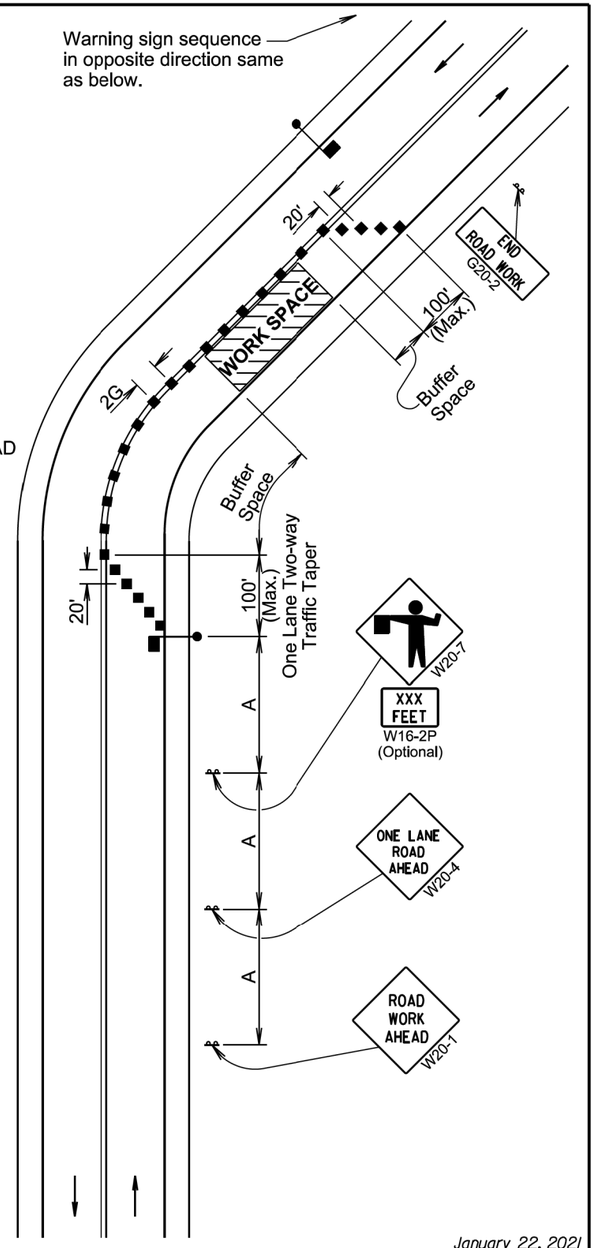
Channelizing devices are not required along the centerline adjacent to work area when pilot cars are utilized for escorting traffic through the work area.



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

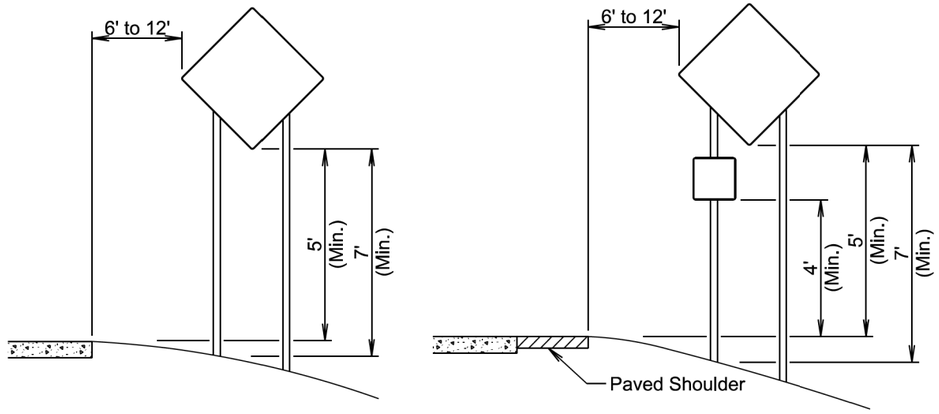
The buffer space should be extended so that the two-way traffic taper is placed before a horizontal or vertical curve to provide adequate sight distance for the flagger and queue of stopped vehicles.

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



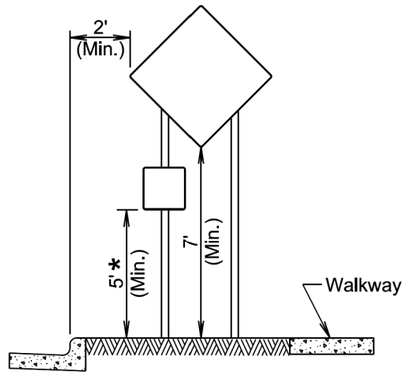
January 22, 2021

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

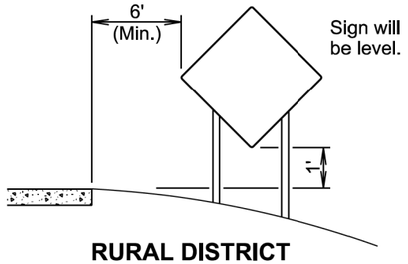


RURAL DISTRICT

RURAL DISTRICT WITH SUPPLEMENTAL PLATE



URBAN DISTRICT

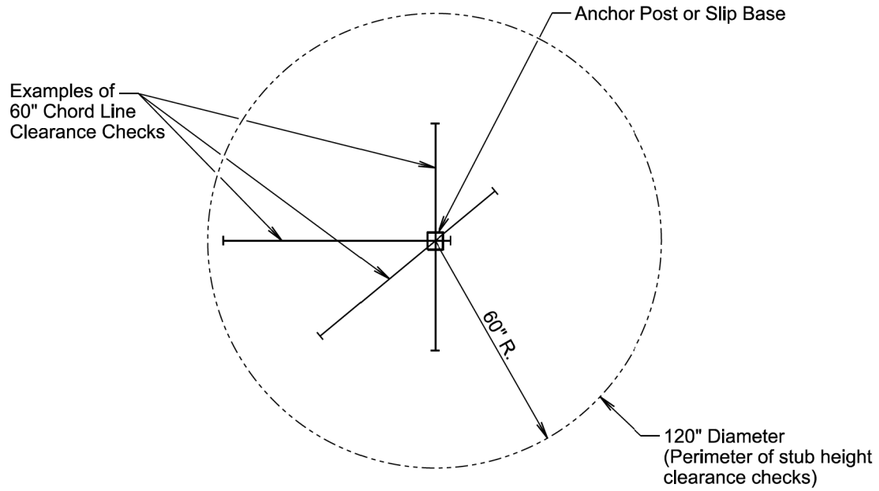


RURAL DISTRICT
3 DAY MAXIMUM
(Not applicable to regulatory signs)

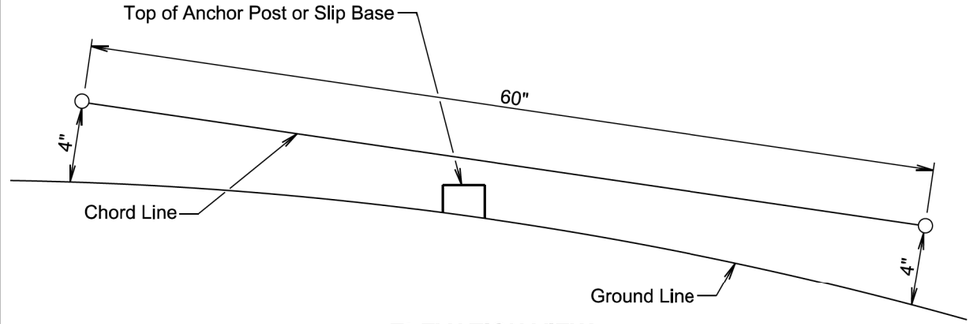
* If the bottom of supplemental plate is mounted lower than 7 feet above a pedestrian walkway, the supplemental plate should not project more than 4" into the pedestrian facility.

January 22, 2021

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



PLAN VIEW
(Examples of stub height clearance checks)



ELEVATION VIEW

GENERAL NOTES:

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

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

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

January 22, 2021

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