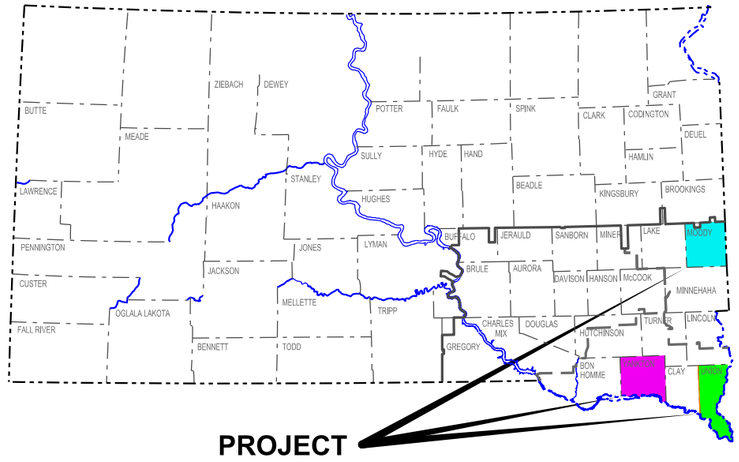


STATE OF SOUTH DAKOTA
DEPARTMENT OF TRANSPORTATION
PLANS FOR PROPOSED

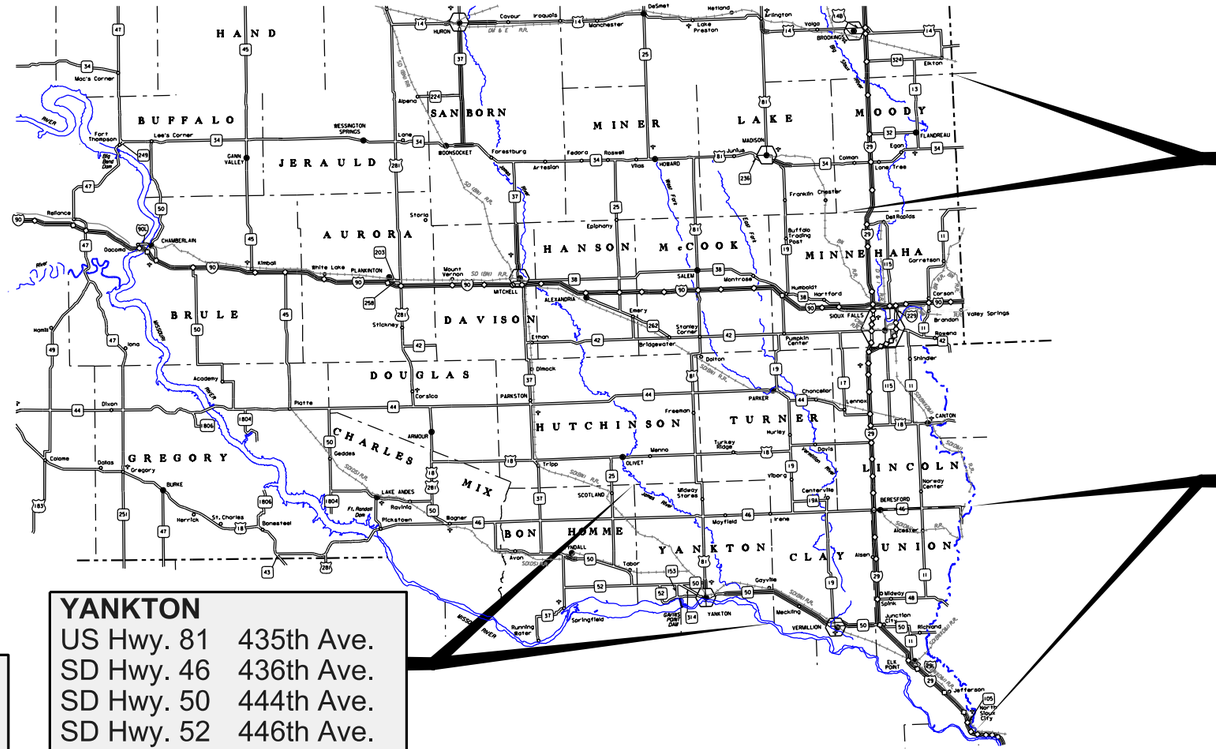
PROJECT PH 0020(211)
VARIOUS ROUTES
UNION, YANKTON
& MOODY COUNTIES

TRANSVERSE RUMBLE STRIPS
PCN 06UA

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	PH 0020(211)	1	27

Plotting Date: 12/19/2024

INDEX OF SHEETS



MOODY

SD Hwy. 13	240th St.
SD Hwy. 32	471th Ave.
SD Hwy. 34	474th Ave.
223rd St.	478th Ave.
227th St.	481st Ave.
228th St.	482nd Ave.
230th St.	

UNION

SD Hwy. 11	471st Ave.
SD Hwy. 46	472nd Ave.
SD Hwy. 48	473rd Ave.
SD Hwy. 50	475th Ave.
298th St.	477th Ave.
300th St.	480th Ave.
302nd St.	481st Ave.
307th St.	482nd Ave.
319th St.	483rd Ave.
325th St.	Burbank Rd.
330th St.	Co. Rd. 1B

YANKTON

US Hwy. 81	435th Ave.
SD Hwy. 46	436th Ave.
SD Hwy. 50	444th Ave.
SD Hwy. 52	446th Ave.
294th St.	448th Ave.
300th St.	451st Ave.
304th St.	
306th St.	
309th St.	
430th Ave.	
431st Ave.	

PROJECT LENGTH

Gross Length:	81,680'	15.471 Miles
Moody County Length:	17,000'	3.220 Miles
Union County Length:	36,680'	6.497 Miles
Yankton County Length:	27,000'	5.114 Miles
Net Length:	81,680'	15.471 Miles

STORM WATER PERMIT
(None required)

12

March 5, 2025

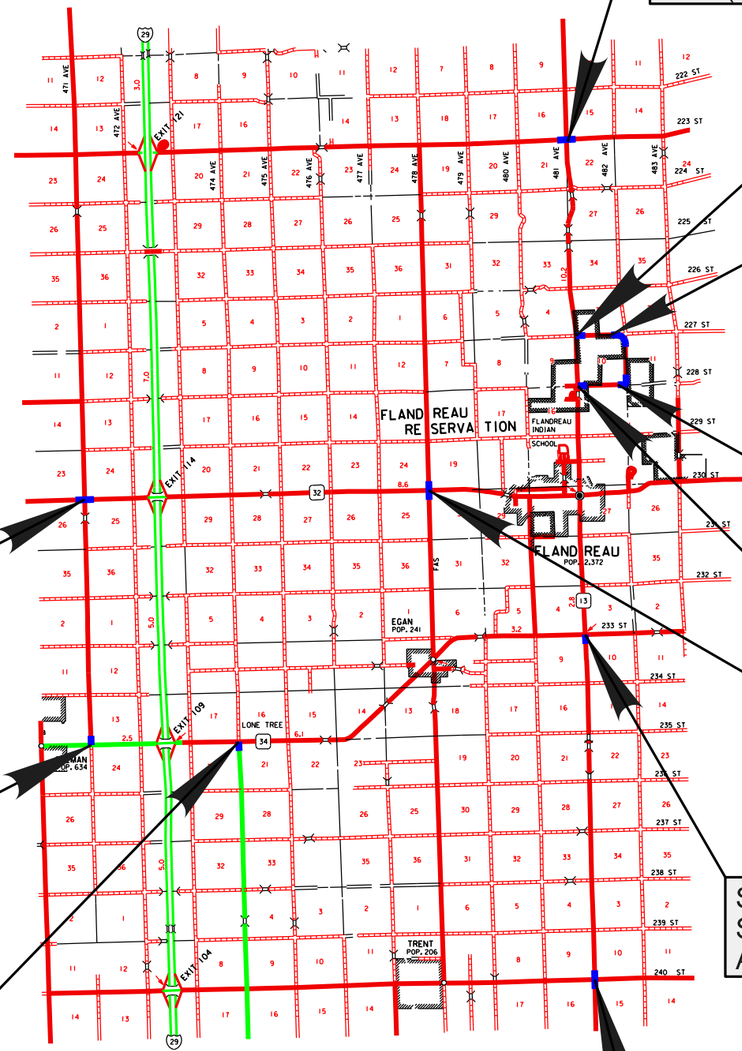
STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	PH 0020(211)	2	27

Plotting Date: 12/19/2024

LAYOUT MAP
MOODY COUNTY

Legend

▬ - Transverse Rumble Strips



SITE M1
SD HWY. 13 (481ST. AVE.) & 223RD AVE. (EB & WB)
ADT (EB, 2022): 350
ADT (WB, 2022): 420

SITE M8
SD HWY. 13 (481ST AVE.) & 227TH ST.(WB)
ADT (2022): 70

SITE M10
227TH ST. & 482ND AVE. CURVE (EB & NB)
ADT (2022): 70

SITE M11
228TH ST. & 482ND AVE. CURVE (EB & SB)
ADT (2022): 70

SITE M9
SD HWY. 13 (481ST. AVE.) & 228TH ST. (WB)
ADT (2022): 70

SITE M5
SD HWY 32 (230TH ST.) & 478TH AVE. (NB & SB)
ADT (SB, 2022): 230
ADT (NB, 2022): 330

SITE M7
230TH ST. & 471ST AVE. (EB & WB)
ADT (EB, 2022): 150
ADT (WB, 2022): 420

SITE M4
SD HWY 34 (233RD ST.) & 481ST AVE. (NB)
ADT (2022): 420

SITE M2
SD HWY. 34 (235TH ST.) & 471ST AVE. (SB)
ADT (2022): 470

SITE M3
SD HWY. 34 (235TH ST.) & 474TH ST. (NB)
ADT (2022): 660

SITE M6
240TH ST. & 481ST AVE. (NB & SB)
ADT (SB, 2022): 420
ADT (NB, 2022): 130

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	PH 0020(211)	3	27

Plotting Date: 12/19/2024

LAYOUT MAP
UNION COUNTY (NORTH)

Legend

▬ - Transverse Rumble Strips

SITE U2
475TH AVE. & 298TH ST. (EB)
ADT (2018): 230

SITE U1
SD HWY. 46 (297TH ST.) & 475TH AVE. (NB)
ADT (2018): 105

SITE U3
471ST ST & 300TH ST (EB)
ADT (2018): 80

SITE U5
302ND ST & 475TH AVE. (SB & NB)
ADT (SB, 2018): 105
ADT (NB, 2018): 75

SITE U4
471ST ST & 302ND ST (WB)
ADT (2018): 550

SITE U8
307TH ST CONNECTOR (EB) & 481ST AVE.
ADT (2018): 165

SITE U6
471ST ST & 307TH ST (WB)
ADT (2018): 95

SITE U7
SD HWY 11 (479TH AVE.) & 307TH ST. (EB & WB)
ADT (2018): 70

SITE U9
307TH ST & 475TH AVE (SB & NB)
ADT (NB, 2018): 75
ADT (SB, 2018): 140

SITE U10
307TH ST & 477TH AVE. (NB)
ADT (2018): 65

SITE U11
SD HWY. 48 (313TH ST.) & 471ST AVE (SB & NB)
ADT (SB, 2018): 230
ADT (NB, 2018): 195

SITE U15
SD HWY. 48 (313TH ST.) & 482ND AVE. (SB)
ADT (2018): 165

MATCH POINT

SITE U12
SD HWY. 48 (313TH ST.)
& 473RD AVE. (NB)
ADT (2018): 150

SITE U13
SD HWY. 48 (313TH ST.)
& 475TH AVE (SB & NB)
ADT (SB, 2018): 140
ADT (NB, 2018): 140

SITE U14
SD HWY. 48 (313TH ST.)
& 477TH AVE (SB & NB)
ADT (SB, 2018): 100
ADT (NB, 2018): 140

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	PH 0020(211)	4	27

Plotting Date: 12/19/2024

LAYOUT MAP
UNION COUNTY (SOUTH)

SITE U16
SD HWY. 50 (318TH ST.)
& 472ND AVE. (NB)
ADT (2018): 110

SITE U17
SD HWY. 50 (318TH ST.)
& 473RD AVE. (SB)
ADT (2018): 150

SITE U18
SD HWY. 50 (318TH)
& 475TH AVE (NB & SB)
ADT (SB, 2018): 140
ADT (NB, 2018): 100

MATCH POINT

SITE U21 & U22
319TH ST. & 475TH AVE. (SB & WB)
ADT (SB, 2018): 100
ADT (WB, 2018):100

SITE U19
SD HWY. 50 (476TH AVE.)
& 319TH ST. (EB)
ADT (2018): 100

SITE U20
SD HWY. 50 (319TH AVE)
& 477TH AVE (SB)
ADT (2018): 140

SITE U26
Co. Rd. 1B & 325TH ST (WB)
ADT (2018): 40

SITE U23
BURBAND RD. & 471ST AVE. (NB)
ADT (2018): 60

SITE U27
Co. Rd. 1B & 480TH AVE (NB)
ADT (2018): 70

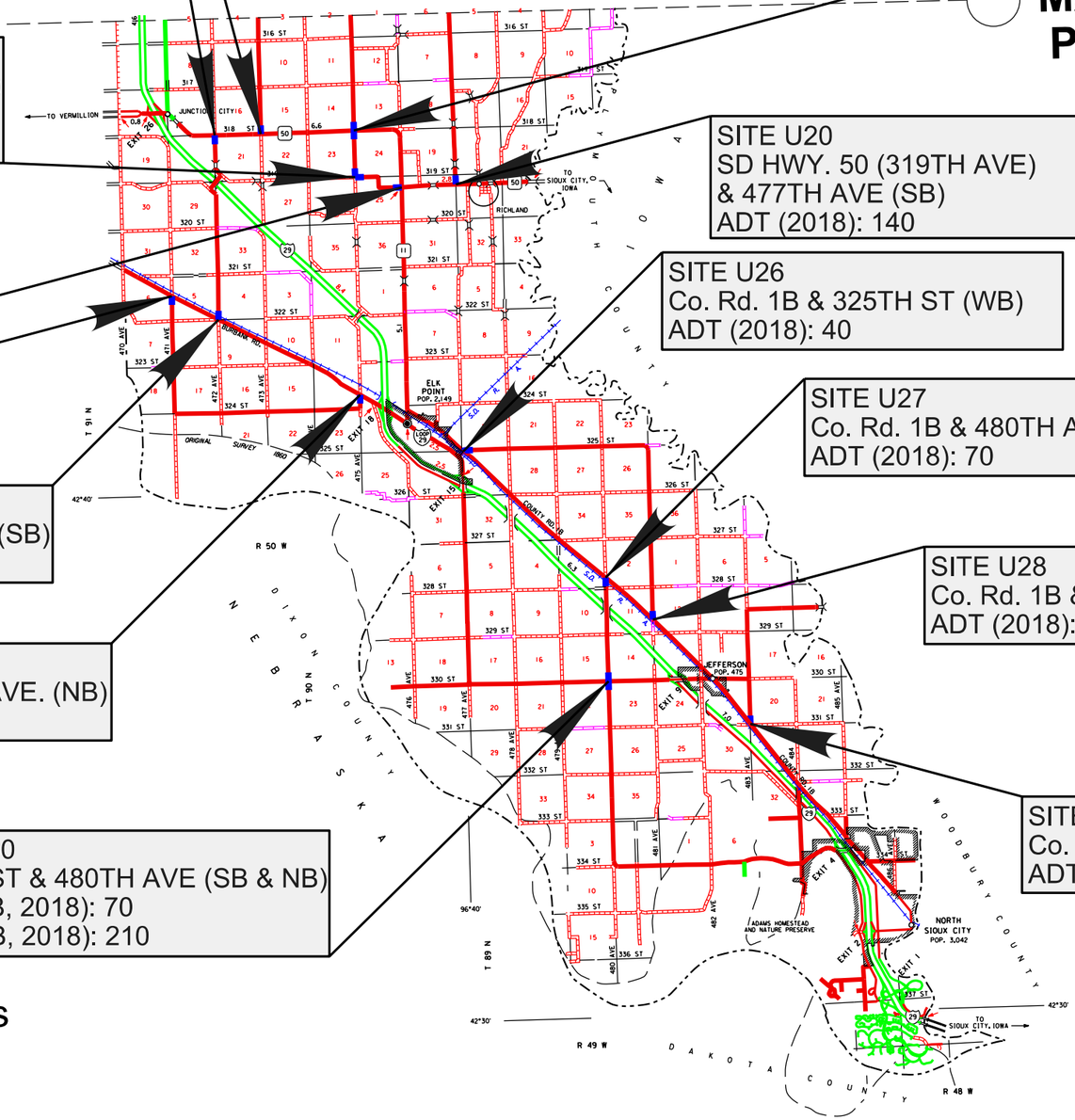
SITE U24
BURBAND RD. & 472ND AVE. (SB)
ADT (2018): 110

SITE U28
Co. Rd. 1B & 481ST AVE (SB)
ADT (2018): 40

SITE U25
BURBAND RD. & 475TH AVE. (NB)
ADT (2018): 50

SITE U29
Co. Rd. 1B & 483RD AVE (SB)
ADT (2018): 510

SITE U30
330TH ST & 480TH AVE (SB & NB)
ADT (SB, 2018): 70
ADT (NB, 2018): 210



Legend

▬ - Transverse Rumble Strips

PLOT SCALE - 1:200.042

PLOTTED FROM - TRM113314

PLOT NAME - 13

FILE - ...\REGØ6UA\Ø6UA CONTAINER.DGN

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	PH 0020(211)	5	27

Plotting Date: 12/19/2024

LAYOUT MAP
YANKTON COUNTY

Legend

— - Transverse Rumble Strips

SITE Y2
SD HWY. 46 (297TH ST.) & 435TH AVE. (NB)
ADT (2019): 200

SITE Y11
SD HWY. 46 (297TH ST.) & 431ST AVE. (SB)
ADT (2019): 335

SITE Y1
SD HWY. 46 (297TH ST.) & 430TH AVE. (NB)
ADT (2019): 275

SITE Y4
430TH AVE. & 3RD ST.
REVERSE TURN (SB)
ADT (2019): 275

SITE Y16 & Y17
306TH ST. & 430TH AVE.
(EB, WB, NB, & SB)
ADT (SB, 2019): 420
ADT (NB, 2019): 215
ADT (WB, 2019): 265
ADT (EB, 2019): 315

SITE Y21
SD HWY. 50 (309TH ST.)
& 430TH AVE. (NB & SB)
ADT (2019): 215

SITE Y18 & Y19
306TH ST. & 435TH AVE. (EB, WB, NB, & SB)
ADT (SB, 2019): 360
ADT (NB, 2019): 360
ADT (EB, 2019): 265
ADT (WB, 2019): 270

SITE Y10
US HWY. 81 (440TH AVE.)
& 294TH ST. (EB), ADT (2019): 75

SITE Y12
SD HWY. 46 (297TH ST.)
& 436TH AVE. (SB)
ADT (2019): 95

SITE Y13
SD HWY. 46 (297TH ST.)
& 444TH AVE. (NB & SB)
ADT (SB, 2019): 240
ADT (NB, 2019): 410

SITE Y3
SD HWY. 46 (297TH ST.)
& 448TH AVE. (NB & SB)
ADT (NB, 2019): 140
ADT (SB, 2019): 140

SITE Y14
SD HWY. 46 (297TH ST.)
& 446TH AVE. (NB)
ADT (2019): 170

SITE Y22
US HWY. 81 (440TH AVE)
& 300TH ST. (EB)
ADT (2019): 360

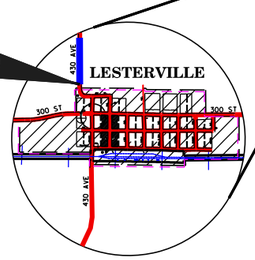
SITE Y8
451ST AVE. & 309TH ST. (EB)
ADT (2019): 530

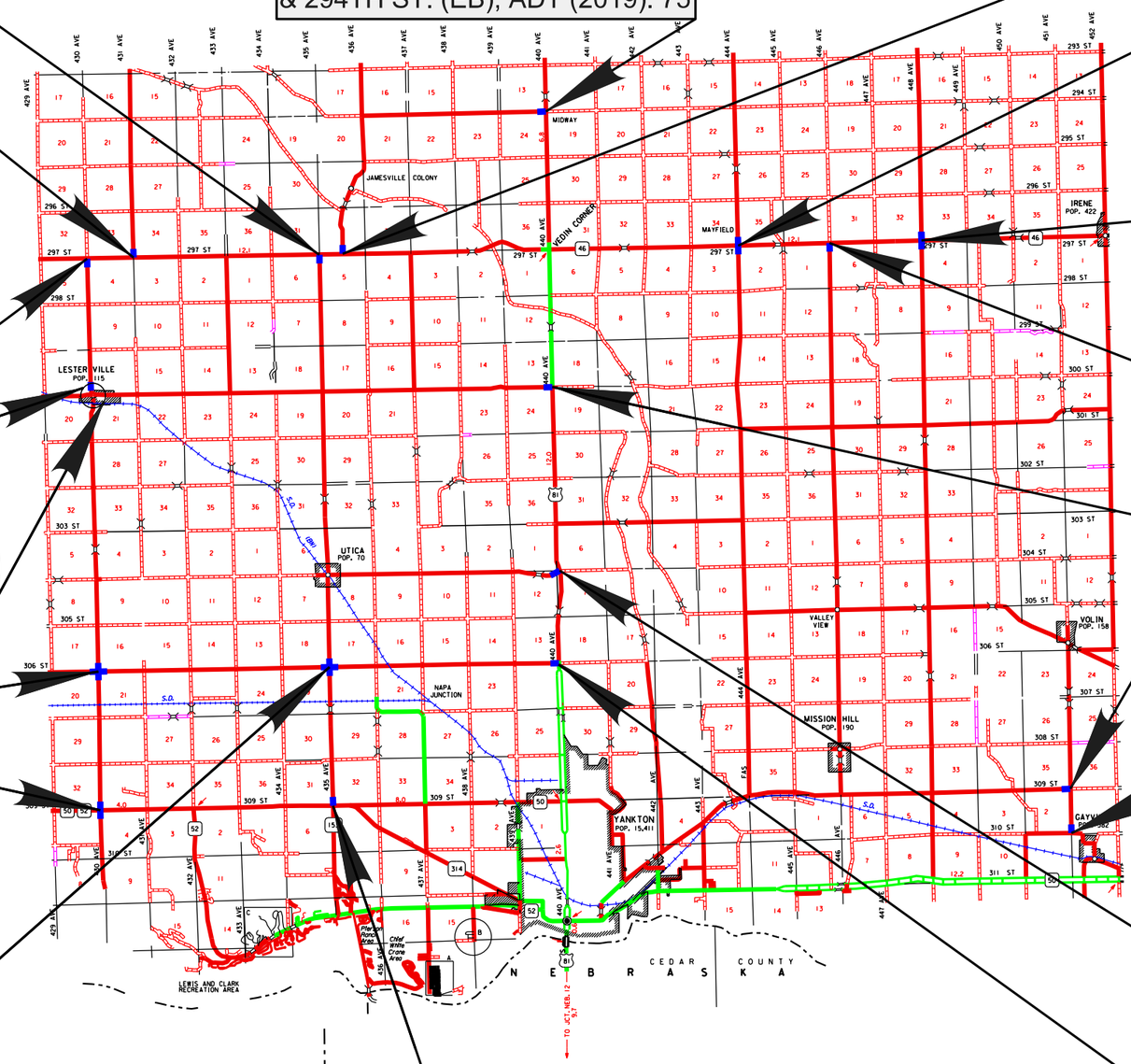
SITE Y7
451ST AVE. & 310TH ST.
CURVE (SB)
ADT (2019): 565

SITE Y15
US HWY. 81 (440TH AVE)
& 304TH ST. (EB)
ADT (2019): 350

SITE Y20
US HWY. 81 (440TH AVE.)
& 306TH ST. (EB)
ADT (2019): 270

SITE Y9
SD HWY. 50 (309TH ST.) & 435TH AVE. (SB)
ADT (2019): 360





ESTIMATE OF QUANTITIES

PH 0020(211) – PCN 06UA

BID ITEM NUMBER	ITEM	QUANTITY	UNIT
009E0010	Mobilization	Lump Sum	LS
110E0130	Remove Traffic Sign	6	Each
110E7150	Remove Sign for Reset	58	Each
320E7035	Grind Sinusoidal Transverse Rumble Strip in Asphalt Concrete	15,680.0	SqFt
320E7040	Grind 6" Transverse Rumble Strip in Asphalt Concrete	15,147.0	Ft
330E0210	SS-1h or CSS-1h Asphalt for Flush Seal	0.8	Ton
632E1320	2.0"x2.0" Perforated Tube Post	149.7	Ft
632E3205	Flat Aluminum Sign, Nonremovable Copy Super/Very High Intensity	90.3	SqFt
632E3500	Reset Sign	58	Each
634E0010	Flagging	400.0	Hour
634E0110	Traffic Control Signs	105.0	SqFt
634E0120	Traffic Control, Miscellaneous	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.

ENVIROMENTAL 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 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.

COMMITMENT B2: WHOOPING CRANE (CONTINUED)

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 C: WATER SOURCE

The Contractor will not withdraw water with equipment previously used outside the State of South Dakota or previously used in aquatic invasive species (AIS) positive waters within South Dakota without prior approval from the SDDOT Environmental Office. To prevent and control the introduction and spread of invasive species into the project vicinity, all equipment will be power washed with hot water (≥140 °F) and completely dried for a minimum of 7 days prior to subsequent use. South Dakota administrative rule 41:10:04:02 forbids the possession and transport of AIS; therefore, all attached dirt, mud, debris and vegetation must be removed and all compartments and tanks capable of holding standing water must be drained. This includes, but is not limited to, all equipment, pumps, lines, hoses and holding tanks.

Action Taken/Required

The Contractor will obtain the necessary permits from the regulatory agencies such as the South Dakota Department of Agriculture and Natural Resources (DANR) and the United States Army Corps of Engineers (USACE) prior to water extraction activities.

Additional information and mapping of water sources impacted by Aquatic Invasive Species in South Dakota can be accessed at:
< https://sdleastwanted.sd.gov/maps/default.aspx >

< South Dakota Administrative Rule 41:10:04 Aquatic Invasive Species: https://sdlegislature.gov/rules/DisplayRule.aspx?Rule=41:10:04 >

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.

The EPA 2017 Construction General Permit is required for this project. The SDDOT is the owner of this permit and will submit the NOI to EPA 15 days prior to project start in order to obtain coverage. Work can begin after authorization is received from the EPA. This permit provides coverage for construction and dewatering activities for this project.

COMMITMENT E: STORM WATER (CONTINUED)

The Contractor must adhere to the "Special Provision Regarding Storm Water Discharge to Waters of the United States within Indian Reservations".

The Contractor is advised that permit coverage may also be required for off-site activities, such as borrow and staging areas, which are the responsibility of the Contractor.

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 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.

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. The Contractor is responsible 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.

WORK DESCRIPTION

The project consists of installing transverse rumble strips.

GRIND SINUSOIDAL TRANSVERSE RUMBLE STRIP IN ASPHALT CONCRETE

Advance intersection and curve warning sinusoidal transverse rumble strips will be constructed on the mainline pavement, as detailed in the plan set. Sinusoidal transverse rumble strips will be paid for at the contract unit price square foot for Grind Sinusoidal Transverse Rumble Strip in Asphalt Concrete. It is estimated that 15,680.0 square feet of sinusoidal transverse rumble strips will be required.

Sinusoidal transverse rumble strip installation will be completed prior to application of the flush seal and permanent pavement markings. A flush seal will be applied to the newly installed 10.0’ sinusoidal transverse rumble strips at a width of 11’ and a rate of 0.10 Gal/SqYd. All costs associated with placing the flush seal will be incidental to the contract unit price per ton for “SS-1h or CSS-1h Asphalt for Flush Seal”.

GRIND 6” TRANSVERSE RUMBLE STRIP IN ASPHALT CONCRETE

Advance intersection warning transverse rumble strips will be constructed on the mainline pavement, as detailed in the plan set. Transverse rumble strips will be paid for at the contract unit price per foot for “Grind 6” Transverse Rumble Strip in Asphalt Concrete”. It is estimated that 15,147.0 feet of transverse rumble strips will be required.

Transverse rumble strip installation will be completed prior to application of the flush seal and permanent pavement markings. A flush seal will be applied to the newly installed transverse rumble strips at a width that extends 3” beyond the perimeter of the total area of the transverse rumble strips at a width of 11’ and at a rate of 0.10 Gal/SqYd. All costs associated with placing the flush seal will be incidental to the contract unit price per ton for “SS-1h or CSS-1h Asphalt for Flush Seal”.

ROADWAY CLEANING:

The Contractor will be required to remove loose material from the driving surface and/or asphalt shoulders of the roadway. Loose material may be broomed to the edge of shoulders. It will be the Contractor’s responsibility to ensure the loose material does not enter any vegetated areas or waterways.

Cost for this work will be incidental to the contract unit price per square foot for “Grind Sinusoidal Transverse Rumble Strip in Asphalt Concrete” or “Grind 6” Transverse Rumble Strip in Asphalt Concrete”.

FLUSH SEAL

Application of the flush seal will be completed within 14 working days following completion of the grinding rumble strips.

GENERAL PERMANENT SIGNING

New sign installations will be staked in the field by the Contractor and checked by the Engineer. The Contractor will give the Engineer a minimum of one week to check staked locations prior to signpost installation. Lateral offset of signs will be as shown in the plans or as directed by the Engineer.

The Contractor will be responsible for contacting South Dakota One Call to locate the utilities at the staked sign installation locations.

When signs are mounted in an assembly, they will be 1-2 inches apart vertically and horizontally.

The height of the post must not exceed the minimum height needed by more than 0.5 feet. Any portion that extends above the sign will be cut off. No separate payment will be made for cutting the post or for that length cut off.

GENERAL PERMANENT SIGNING (CONTINUED)

Aluminum U-Channel stiffeners will be used on all signs 36 inches or greater in width and will conform to ASTM B221 Alloy 6063-T6 or 6061-T6. The U-Channel will be 2 inches in width and free of holes. The U-Channel stiffeners will also be used to connect various signs together so that an entire sign assembly can be erected on a single installation. Stiffeners may be fastened to signs by use of 1/4-inch diameter drive rivets.

The Contractor will use 3/8-inch diameter rust proof machine sign bolts, flat metal washers, neoprene washers (against the sign sheeting), lock washers, and nuts to fasten the sign to the channel aluminum and posts. A minimum of two bolts will extend through each post.

Prior to ordering signs, the Contractor will verify dimensions, background, border, and legend of the signs.

Prior to use, the Contractor will provide documentation for the sign support devices showing they meet the applicable NCHRP 350 or MASH requirements.

REMOVE SIGN FOR RESET AND RESET SIGN

Signs that are scheduled for reset will be dismantled and reassembled to the extent needed by the Contractor to properly reset the sign. Signs will be handled with care so that the existing signs, posts, and bases are not damaged during the relocation process. The Contractor will replace and pay for any reset signs damaged in their care. The Contractor will remove and dispose of any existing posts for all reset signs that require use of new posts as shown in the Table of Permanent Signing.

All costs for removing, dismantling, and disposing of any existing posts will be incidental to the contract unit price per each for “Remove Sign for Reset”. All costs for resetting the existing signs will be incidental to the contract unit price per each for “Reset Sign”. All quantities for Remove Sign for Reset and Reset Sign will be per assembly at the contract unit price per each.

REMOVE TRAFFIC SIGN

Existing signs that are shown as being removed in the Permanent Signing Table will become the property of the Contractor. Existing signposts and bases will be removed in their entirety. All existing signs, posts, and/or hardware removed will not be reused. Holes remaining from the removal of wood posts will be backfilled and compacted with material placed in layers not to exceed 6 inches in depth.

All costs associated with the removal of existing signs, posts, hardware, and backfilled holes will be incidental to the contract unit price per each for “Remove Traffic Sign”. Quantities will be per assembly at the contract unit price per each.

NEW PERMANENT SIGNING

All signs will be manufactured in accordance with the sheeting manufacturer’s recommendations utilizing a matched component system, including inks, electronic cuttable films, and protective overlay films.

All Flat Aluminum Signs, Nonremovable Copy Super/Very High Intensity will have sheeting in conformance with the requirements of ASTM D4956 Type XI.

All costs associated with furnishing and installing the new permanent signs, and with furnishing and installing stiffeners and hardware will be incidental to the contract unit price per square foot for “Flat Aluminum Sign, Nonremovable Copy Super/Very High Intensity”.

DIGITALLY PRINTED SIGNS

Digitally printed signs will be allowed on this project. If the Contractor elects to provide digitally printed signs, such signs will adhere to the following specifications.

PROTECTIVE OVERLAY FILM

Permanent traffic signs printed with digital ink systems will be fabricated with a full sign protective overlay film designed to provide a smooth surface needed for retroreflectivity, and to protect the sign from fading and UV degradation. The overlaminate will comply with the retroreflective sheeting manufacturer's recommendations to ensure proper adhesion and transparency and will also meet the reflective film durability as identified in Table 1.

Table 1: Retroreflective Film Minimum Durability Requirements

ASTM D4956 Type	Full Sign Replacement Term (years)	Sheeting Replacement Term (years)
I	0	7
III	7	10
IV	7	10
VIII	7	10
IX	7	12
XI	7	12

FABRICATION

Retroreflective sheeting will be applied to a properly cleaned and prepared aluminum sign blank in accordance with the retroreflective sheeting manufacturer's recommendations. Sign legend will be applied using digital print technologies and systems in accordance with the retroreflective sheeting manufacturer's recommendations and the requirements of these plans.

Finished signs will be free of ragged edges and must be supplied clean and free of scratches, grease, oil, lubricants or other contaminants. Minor blemishes (dirt speck, dust, etc.) may settle on the fresh ink surface or become entrapped between the sheeting surface and transparent overlay film due to static charge within the sign shop environment. Any blemish must be minor and not interfere with the communication of the sign message to the motorist. The blemish must not be visible to the naked eye when viewed from 30 feet or greater.

After application of the retroreflective sheeting, sign blanks will be stacked and packaged face to face, back to back, and protected in accordance with the sheeting manufacturer's recommendations. Finished signs will be securely packaged to prevent damage during transit or storage according to the sheeting manufacturer's recommendations.

TRAFFIC SIGN PERFORMANCE WARRANTY PROVISIONS

Based on the ASTM Type of sheeting specified, traffic control signs will be warranted for the duration shown in Table 1. Full product terms and conditions are as established by each sheeting manufacturer and may contain certain limitations based on sheeting and ink colors, and geographic exposure of the sign. A copy of the warranty document with complete details of terms and conditions will be supplied if requested by the Engineer.

CERTIFIED DIGITAL SIGN FABRICATOR

Sign fabricators using digital imaging methods to produce regulated traffic signs must be certified by the reflective sheeting manufacturer whose materials are used to produce the delivered signs.

DIGITALLY PRINTED SIGNS (CONTINUED)

DATE TAGGING SIGNS WITH PERTINENT INFORMATION

All digitally printed signs are required to be date-tagged with the following 2 components:

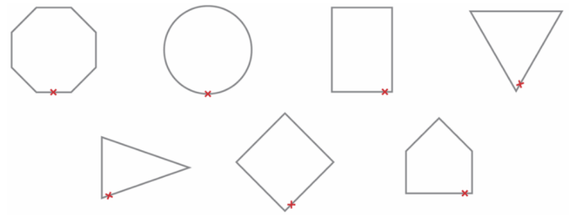
1. Date tags on the back of signs

Tags will have the following information and be fabricated with material and printing system that are as durable as the warranted sign.

- Name of Sign Fabricator
- Date the sign was fabricated (month and year)
- Process that was used for sign fabrication (digitally printed)
- Supplier of sheeting that was used for fabricating the sign.

2. Border date

The month and year (mm/yyyy) of sign fabrication will be printed in the border of the sign in 3/8" sans serif font. Border date will be printed with the same warranted printed system as the sign face. The date should be printed in the locations indicated below.



SQUARE TUBE ANCHOR SLEEVE

The Contractor will furnish and install new 2.5" x 2.5" x 18", 12 Gauge square tube anchor sleeve or equivalent components as approved by the Engineer for 2.0" x 2.0" perforated tube posts. A 2.25" x 2.25" x 4', 12 Gauge perforated tube post will be used as the anchor post for installation with the square tube anchor sleeve.

COORDINATION BETWEEN CONTRACTORS

A separate contract for Project P-PH 0046(61)366 – PCN 04JF has been awarded to another Foothills Contracting for Grading, Interim Surfacing, Replace/Repair Str RCBC on SD46 adjacent to this project (PCN 06UA for this set of plans). The Grading, Interim Surfacing, Replace/Repair Str RCBC for PCN 04JF will begin at MRM 366.56 and end at MRM 378.03.

A separate contract for Project IM-NH-P 0023(71) – PCN 09L8 will be awarded to another Contractor for Asphalt Surface Treatment on SD46 adjacent to this project (PCN 06UA for this set of plans). The Asphalt Surface Treatment for PCN 09L8 will begin at MRM 334.08+0.019 and end at MRM 347.60+0.023, and will begin at MRM 334.08+0.019 and end at MRM 347.60+0.023,

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 09L8 & 04JF. 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 SIGNS

ITEMIZED LIST FOR TRAFFIC CONTROL SIGNS

		CONVENTIONAL ROAD			
SIGN CODE	SIGN DESCRIPTION	NUMBER	SIGN SIZE	SQFT PER SIGN	SQFT
W20-1	ROAD WORK AHEAD	2	48" x 48"	16.0	32.0
W20-4	ONE LANE ROAD AHEAD	2	48" x 48"	16.0	32.0
W20-7	FLAGGER (symbol)	2	48" x 48"	16.0	32.0
G20-2	END ROAD WORK	2	36" x 18"	4.5	9.0
		CONVENTIONAL ROAD TRAFFIC CONTROL SIGNS SQFT			105.0

TABLE OF QUANTITIES
TRANSVERSE RUMBLE STRIPS

Site No.	Route	Cross Road	Direction of Traffic	County	Location Comments	Pavement Type	Sinusoidal Transverse Segment Length per Standard Plate 320.46	Grind 6" Transverse Rumble Strip in Asphalt Concrete (Ft.)	Grind Sinusoidal Transverse Rumble Strip in Asphalt Concrete (Sq.Ft.)	SS-1h or CSS-1h Asphalt for Flush Seal (lbs.)
Moody County							**Bid Item**	**320E7035**	**320E7040**	**320E0210**
M1	223rd St	SD Hwy 13 (MRM 115.09+0.05, 481st Ave.)	EB & WB	Moody	8.5 miles east of I-29 Exit 121	Asphalt	2,000 ft.	748		35.4
M2	471th St	SD Hwy 34 (MRM 405.00+020, 235th St.)	SB	Moody	1.5 miles east of I-29 Exit 109	Asphalt	1,000 ft.	374		17.7
M3	474th Ave	SD Hwy 34 (MRM 407.00+0.995, 235th St.)	NB	Moody	1.5 miles east of I-29 Exit 109	Asphalt	1,000 ft.		392	18.6
M4	481st Ave	SD Hwy 34 (MRM 415.89+0.003, 233rd St.)	NB	Moody	2.8 miles south of the center of Flandereau	Asphalt	1,000 ft.		392	18.6
M5	478th Ave	SD Hwy 32 (MRM 419.00+0.735, 230th St.)	NB & SB	Moody	3.1 miles west of the center of Flandereau	Asphalt	2,000 ft.	748		35.4
M6	240th St.	481st Ave.	NB & SB	Moody	3.0 miles east of center of Trent	Asphalt	2,000 ft.		784	37.1
M7	230th St.	471st Ave.	EB & WB	Moody	5.0 miles north and 1.0 mile east of the center of Colman	Asphalt	2,000 ft.	748		35.4
M8	227th St.	SD Hwy. 13 (MRM 111.19 , 481st Ave.)	WB	Moody (Flandereau Sioux Tribe)	3.2 miles north of the center of Flandereau	Asphalt	1,000 ft.		392	18.6
M9	228th St.	SD Hwy. 13 (MRM 110.19 , 481st Ave.)	WB	Moody (Flandereau Sioux Tribe)	2.2 miles north of the center of Flandereau	Asphalt	1,000 ft.	374		17.7
M10	227th St. & 482nd Ave. Curve	482nd Ave.	EB & NB	Moody (Flandereau Sioux Tribe)	3.2 miles north and 1.0 mile east of the center of Flandereau. Install per Curve Transverse Rumble Strip Typical.	Asphalt	2,000 ft.		784	37.1
M11	228th St. & 482nd Ave. Curve	228th St.	SB & EB	Moody (Flandereau Sioux Tribe)	2.2 miles north and 1.0 mile west of the center of Flandereau. Install per Curve Transverse Rumble Strip Typical.	Asphalt	2,000 ft.		784	37.1

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TABLE OF QUANTITIES
TRANSVERSE RUMBLE STRIPS

Site No.	Route	Cross Road	Direction of Traffic	County	Location Comments	Pavement Type	Sinusoidal Transverse Segment Length per Standard Plate 320.46	Grind 6" Transverse Rumble Strip in Asphalt Concrete (Ft.)	Grind Sinusoidal Transverse Rumble Strip in Asphalt Concrete (Sq.Ft.)	SS-1h or CSS-1h Asphalt for Flush Seal (lbs.)
Union County										
U1	475th Ave.	SD Hwy. 46 (MRM 368.00+0.221, 297th St.)	NB	Union	3.4 miles east of the center of Beresford	Asphalt	1,000 ft.	374		17.7
U2	298th St.	475th Ave.	EB	Union	3.4 miles east and 1.0 mile south of the center of Beresford	Asphalt	1,000 ft.		392	18.6
U3	300th St.	471st Ave.	EB	Union	0.6 miles west and 3.0 miles south of the center of Beresford	Asphalt	1,000 ft.		392	18.6
U4	302nd St.	471st Ave.	WB	Union	0.5 miles east of I-29 Exit 42	Asphalt	1,000 ft.		392	18.6
U5	475th Ave.	302nd St.	NB & SB	Union	4.5 miles east of I-29 Exit 42	Asphalt	2,000 ft.		784	37.1
U6	471st Ave.	307th St.	WB	Union	0.5 miles east and 1.0 mile south of I-29 Exit 38	Asphalt	1,000 ft.	374		17.7
U7	SD Hwy. 11	307th St.	EB & WB	Union	6.0 miles south of the center of Alcester	Asphalt	2,000 ft.	748		35.4
U8	481st Ave	307th St. Connector	EB	Union	6.0 miles south and 2.0 miles east of the center of Alcester. The rumble strip segment is on the eastbound connector road deviating from the curve.	Asphalt	680 ft.	187		8.9
U9	475th Ave.	307th St.	NB & SB	Union	4.5 miles east and 1.0 mile south of I-29 Exit 38	Asphalt	2,000 ft.	748		35.4
U10	477th Ave.	307th St.	NB	Union	6.5 miles east and 1.0 mile south of I-29 Exit 38	Asphalt	1,000 ft.	374		17.7
U11	471st Ave.	SD Hwy. 48 (MRM 372.00+0.388, 313th St.)	NB & SB	Union	0.5 miles east of I-29 Exit 31	Asphalt	2,000 ft.		784	37.1
U12	473rd Ave.	SD Hwy. 48 (MRM 374.00+0.477, 313th St.)	NB	Union	2.5 miles east of I-29 Exit 31	Asphalt	1,000 ft.		392	18.6
U13	475th Ave.	SD Hwy. 48 (MRM 376.00+0.185, 313th St.)	NB & SB	Union	4.5 miles east of I-29 Exit 31	Asphalt	2,000 ft.		784	37.1

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TABLE OF QUANTITIES
TRANSVERSE RUMBLE STRIPS

Site No.	Route	Cross Road	Direction of Traffic	County	Location Comments	Pavement Type	Sinusoidal Transverse Segment Length per Standard Plate 320.46	Grind 6" Transverse Rumble Strip in Asphalt Concrete (Ft.)	Grind Sinusoidal Transverse Rumble Strip in Asphalt Concrete (Sq.Ft.)	SS-1h or CSS-1h Asphalt for Flush Seal (lbs.)
U14	477th Ave.	SD Hwy. 48 (MRM 383.27+0.511, 313th St.)	NB & SB	Union	2.0 miles west of the junction of SD Hwy. 11 and SD Hwy. 48	Asphalt	2,000 ft.		784	37.1
U15	482nd Ave.	SD Hwy. 48 (MRM 418.00+0.421, 313th St.)	SB	Union	3.2 miles east of the junction of SD Hwy. 11 and SD Hwy. 48	Asphalt	1,000 ft.	374		17.7
U16	472nd Ave.	SD Hwy. 50 (MRM 419.00+0.399, 318th St.)	NB	Union	1.3 miles east of I-29 Exit 26	Asphalt	1,000 ft.	374		17.7
U17	473rd Ave.	SD Hwy. 50 (MRM 421.00+0.287, 318th St.)	SB	Union	2.3 miles east I-29 Exit 26	Asphalt	1,000 ft.		392	18.6
U18	475th Ave.	SD Hwy. 50 (MRM 423.62+0.00, 318th St.)	NB & SB	Union	4.3 miles east I-29 Exit 26	Asphalt	2,000 ft.		784	37.1
U19	319th St.	SD Hwy. 50 (MRM 423.62 +0.00, 476th Ave.)	EB	Union	6.6 miles east of I-29 Exit 26	Asphalt	1,000 ft.	374		17.7
U20	477th Ave.	SD Hwy. 50 (MRM 424.28+0.477, 319th St.)	SB	Union	7.8 miles east of I-29 Exit 26	Asphalt	1,000 ft.	374		17.7
U21	475th Ave.	319th St.	SB	Union	4.3 miles east I-29 Exit 26, then 1.0 mile south of SD Hwy. 50	Asphalt	1,000 ft.		392	18.6
U22	319th St.	475th Ave.	WB	Union	4.3 miles east I-29 Exit 26, then 1.0 mile south of SD Hwy. 50	Asphalt	1,000 ft.		392	18.6
U23	Burbank Rd.	471st Ave.	NB	Union	5.2 miles northwest-west of I-29 Exit 18	Asphalt	1,000 ft.	374		17.7
U24	Burbank Rd.	472nd Ave.	SB	Union	4.1 miles northwest-west of I-29 Exit 18	Asphalt	1,000 ft.		392	18.6
U25	Burbank Rd.	475th Ave.	NB	Union	0.6 miles northwest-west of I-29 Exit 18	Asphalt	1,000 ft.		392	18.6
U26	325th St.	Co. Rd. 1B	WB	Union	Near the east corner of Elk Point city limits	Asphalt	1,000 ft.		392	18.6
U27	480th Ave	Co. Rd. 1B	NB	Union	3.1 miles northwest of the center of Jefferson	Asphalt	1,000 ft.	374		17.7
U28	481st Ave	Co. Rd. 1B	SB	Union	1.8 miles northwest of the center of Jefferson	Asphalt	1,000 ft.		392	18.6

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TRANSVERSE RUMBLE STRIPS

Site No.	Route	Cross Road	Direction of Traffic	County	Location Comments	Pavement Type	Sinusoidal Transverse Segment Length per Standard Plate 320.46	Grind 6" Transverse Rumble Strip in Asphalt Concrete (Ft.)	Grind Sinusoidal Transverse Rumble Strip in Asphalt Concrete (Sq.Ft.)	SS-1h or CSS-1h Asphalt for Flush Seal (lbs.)
U29	483rd Ave	Co. Rd. 1B	SB	Union	1.3 miles southeast of the center of Jefferson	Asphalt	1,000 ft.		392	18.6
U30	480th Ave	330th St.	NB & SB	Union	1.5 miles west of I-29 Exit 9	Asphalt	2,000 ft.		784	37.1
Yankton County										
Y1	430th Ave	SD Hwy. 46 (MRM 323.00+0.440, 297th St.)	NB	Yankton	3.0 miles north of the center the center of Lesterville	Asphalt	1,000 ft.	374		17.7
Y2	435th Ave	SD Hwy. 46 (MRM 328.00+0.453, 297th St.)	NB	Yankton	5.0 miles east and 3.0 miles north ofthe center of Lesterville	Asphalt	1,000 ft.		392	18.6
Y3	448th Ave	SD Hwy. 46 (MRM 342.00+0.632, 297th St.)	NB & SB	Yankton	4.0 miles east of the intersection of SD Hwy. 46 and US Hwy. 81	Asphalt	2,000 ft.	748		35.4
Y4	430th Ave	3rd St. (Lesterville) Reverse Turn and 430th Ave.	SB	Yankton	645 ft. north and 245 ft. west of 300th St. (2nd St.). Install per Curve Transverse Rumble Strip Typical.	Asphalt	1,000 ft.		392	18.6
Y7	451st Ave Curve	310th St.	SB	Yankton	4.1 miles south of the center of Volin. Install per Curve Transverse Rumble Strip Typical.	Asphalt	1,000 ft.	374		17.7
Y8	451st Ave	309th St.	EB	Yankton	3.1 miles south of the center of Volin	Asphalt	1,000 ft.	374		17.7
Y9	435th Ave	SD Hwy 50 (MRM 337.00+0.015, 309th St.)	SB	Yankton	5.0 miles south of the center of Utica	Asphalt	1,000 ft.		392	18.6
Y10	294th Ave	US Hwy. 81 (MRM 18.00+0.303, 440th Ave.)	EB	Yankton	3.0 miles north of the corner of SD Hwy. 46 and US Hwy. 81	Asphalt	1,000 ft.		392	18.6
Y11	431st Ave	SD Hwy. 46 (MRM 324.00+0.444, 297th St.)	SB	Yankton	3.0 miles north and 1.0 mile north of the center of Lesterville	Asphalt	1,000 ft.	374		17.7
Y12	436th Ave	SD Hwy. 46 (MRM 329.49+0.444, 297th St.)	SB	Yankton	4.6 miles west of of the intersection of SD Hwy. 46 and US Hwy. 81	Asphalt	1,000 ft.	374		17.7
Y13	444th Ave	SD Hwy. 46 (MRM 338.00+0.646, 297th St.)	NB & SB	Yankton	4.0 miles east of of the intersection of SD Hwy. 46 and US Hwy. 81	Asphalt	2,000 ft.	748		35.4

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TABLE OF QUANTITIES
TRANSVERSE RUMBLE STRIPS

Site No.	Route	Cross Road	Direction of Traffic	County	Location Comments	Pavement Type	Sinusoidal Transverse Segment Length per Standard Plate 320.46	Grind 6" Transverse Rumble Strip in Asphalt Concrete (Ft.)	Grind Sinusoidal Transverse Rumble Strip in Asphalt Concrete (Sq.Ft.)	SS-1h or CSS-1h Asphalt for Flush Seal (lbs.)
Y14	446th Ave	SD Hwy. 46 (MRM 340.00+0.640, 297th St.)	NB	Yankton	6.0 miles east of of the intersection of SD Hwy. 46 and US Hwy. 81	Asphalt	1,000 ft.	374		17.7
Y15	304th St.	US Hwy. 81 (MRM 8.00+0.312, 440th Ave.)	EB	Yankton	5.0 miles east of the center of Utica	Asphalt	1,000 ft.		392	18.6
Y16	306th St.	430th Ave	NB & SB	Yankton	6.0 miles south of the center of Lesterville	Asphalt	2,000 ft.	748		35.4
Y17	430th Ave	306th St.	EB & WB	Yankton	6.0 miles south of the center of Lesterville	Asphalt	2,000 ft.	748		35.4
Y18	306th St	435th Ave	NB & SB	Yankton	2.0 miles south of the center of Utica	Asphalt	2,000 ft.	748		35.4
Y19	435th Ave	306th St.	EB & WB	Yankton	2.0 miles south of the center of Utica	Asphalt	2,000 ft.	748		35.4
Y20	306th St.	US Hwy. 81 (MRM 6.17+0.00, 440th Ave.)	EB	Yankton	5.0 miles east and 2.0 miles south of Utica	Asphalt	1,000 ft.		392	18.6
Y21	430th Ave	SD Hwy 50 (MRM 372.81, 309th St.)	NB & SB	Yankton	9.0 miles south of the center of Lesterville	Asphalt	2,000 ft.	374		17.7
Y22	300th St.	US Hwy. 81 (MRM 12.00+0.336, 440th Ave.)	EB	Yankton	3.0 miles south of of the intersection of SD Hwy. 46 and US Hwy. 81	Asphalt	1,000 ft.		392	18.6
						Total	**81,680 ft.**	**15,147.0 Ft.**	**15,680.0 Sq.Ft.**	**1,460.0 lbs.**
										0.8 Ton

PERMANENT SIGN TABLE

					632E3205	632E1320		110E0130	110E7150	632E3500				DOT USE	
Direction of traffic	Description	Sign Code	Width (Inches)	Height (Inches)	Flat Aluminum sign, Nonremovable Copy Super/Very High Intensity (SQFT)	2.0"x2.0" Perforated Tube Post 12 Ga. (Ft)	(N.A.B.I.) Square Tube Anchor Sleeve (Each)	Remove Traffic Sign (Each)	Remove Sign for Reset (Each)	Reset Sign (Each)	Direction Sign Faces	Current Type of Post	Remarks		
MOODY COUNTY															
Site M1 - 223rd St. and SD Hwy. 13 (MRM 115.09+0.05, 481st Ave.)															
EB	Stop Ahead								1	1	WEST	Perforated Tube Post	Remove existing sign at 1350 ft. east from Stop Sign. Reset existing sign per standard plate 320.46.		
WB	Stop Ahead								1	1	EAST	Perforated Tube Post	Remove existing sign at 1250 ft. west from Stop Sign. Reset existing sign per standard plate 320.46.		
Site M2 - 471st Ave. and SD Hwy. 34 (MRM 405.00+0.20, 235th St.)															
SB	Stop Ahead	W3-1	36	36	9.0	15.2	1	1			NORTH	Wood Post	Remove existing sign at 1270' south from Stop Sign. Install new sign per standard plate 320.46.		
Site M3 - 474th Ave. and SD Hwy. 34 (MRM 407.00+0.995, 235th St.)															
NB	Stop Ahead								1	1	SOUTH	Perforated Tube Post	Remove existing sign at 575 ft. north from Stop Sign. Reset existing sign per standard plate 320.46.		
Site M4 - 481st Ave. and SD Hwy. 34 (MRM 407.00+0.995, 233rd St.)															
NB	Stop Ahead								1	1	SOUTH	Wood Post	Remove existing sign at 665 ft. south from Stop Sign. Reset existing sign per standard plate 320.46.		
Site M5 - 478th Ave. and SD Hwy. 32 (MRM 415.89+0.003, 230th St.)															
NB	Stop Ahead								1	1	SOUTH	Perforated Tube Post	Remove existing sign at 900 ft. north from Stop Sign. Reset existing sign per standard plate 320.46.		
SB	Stop Ahead	W3-1	36	36	9.0	13.7					NORTH		Install new sign per standard plate 320.46.		
Site M6 - 240th St. and 481st Ave.															
NB	Stop Ahead										SOUTH	Wood Post	Do not disturb existing sign 750 ft. south from Stop Sign		
SB	Stop Ahead										NORTH	Wood Post	Do not disturb existing sign 750 ft. north from Stop Sign		
Site M7 - 230th St. and 471st Ave.															
EB	Stop Ahead								1	1	WEST	Perforated Tube Post	Remove existing sign at 1025 ft. from EB Stop Sign. Reset existing sign per standard plate 320.46.		
WB	Stop Ahead								1	1	EAST	Perforated Tube Post	Remove existing sign at 920 ft. from WB Stop Sign. Reset existing sign per standard plate 320.46.		
WB	STOP	R1-1	30	30	5.3	11.8		1			EAST	Wood Post	Remove existing & install new stop sign.		
Site M8 - 227th St. and SD Hwy. 13 (MRM 111.19, 481st Ave.)															
WB	Stop Ahead								1	1	EAST	Perforated Tube Post	Remove existing sign at 175 ft. from WB Stop sign. Reset existing sign per standard plate 320.46.		
Site M9 - 228th St. and SD Hwy. 13 (MRM 110.19, 481st Ave.)															
WB	Stop Ahead								1	1	EAST	Perforated Tube Post	Remove existing sign at 210 ft. from WB Stop sign. Reset existing sign per standard plate 320.46.		
Site M10 - 227th St. Curve and 482nd Ave.															
EB	Curve Warning											Perforated Tube Post	Do not disturb existing sign 100 ft. from beginning of curve.		
NB	Curve Warning											Perforated Tube Post	Do not disturb existing sign 100 ft. from beginning of curve.		
Site M11 - 228th St. Curve and 482nd Ave.															
EB	Turn Warning										WEST	Perforated Tube Post	Do not disturb existing sign 100 ft. from beginning of curve.		
SB	Turn Warning										NORTH	Perforated Tube Post	Do not disturb existing sign 100 ft. from beginning of curve.		
SB	Turn Warning AHEAD								1	1	NORTH	Perforated Tube Post	Remove existing sign assembly at 1500 ft. north of turn warning sign (W1-1). Reset existing sign assembly at 250 ft. from turn warning sign (W1-1). Install existing sign per Sinusoidal Transverse Rumble Strip In Asphalt Highway Typical.		

PERMANENT SIGN TABLE

					632E3205	632E1320		110E0130	110E7150	632E3500				DOT USE	
Direction of traffic	Description	Sign Code	Width (Inches)	Height (Inches)	Flat Aluminum sign, Nonremovable Copy Super/Very High Intensity (SQFT)	2.0"x2.0" Perforated Tube Post 12 Ga. (Ft)	(N.A.B.I.) Square Tube Anchor Sleeve (Each)	Remove Traffic Sign (Each)	Remove Sign for Reset (Each)	Reset Sign (Each)	Direction Sign Faces	Current Type of Post	Remarks		
UNION COUNTY															
Site U1 - SD Hwy. 46 (MRM 368.00+0.021, 297th St.) & 475th Ave.															
NB	Stop Ahead								1	1	SOUTH	Perforated Tube Post	Remove existing sign at 310 ft. south from Stop Sign. Reset existing sign per standard plate 320.46.		
Site U2 - 298th St. & 475th Ave.															
EB	Stop Ahead	W3-1	36	36	9.0	13.7					WEST	None	Install new sign per standard plate 320.46.		
Site U3 - 300th St. & 471st Ave.															
EB	Stop Ahead								1	1	WEST	Perforated Tube Post	Remove existing sign at 485 ft. west from Stop Sign. Reset existing sign per standard plate 320.46.		
Site U4 - 302nd St. & 471st Ave.															
WB	Stop Ahead								1	1	EAST	Two Perforated Tube Posts	Remove existing sign at 670 ft. west from Stop Sign. Reset existing sign per standard plate 320.46.		
Site U5 - 302nd St. & 475th Ave.															
NB	Stop Ahead								1	1	SOUTH	Perforated Tube Post	Remove existing sign at 390 ft. south from Stop Sign. Reset existing sign per standard plate 320.46.		
SB	Stop Ahead								1	1	NORTH	Perforated Tube Post	Remove existing sign at 410 ft. north from Stop Sign. Reset existing sign per standard plate 320.46.		
Site U6 - 307th St. & 471st Ave.															
WB	Stop Ahead								1	1	EAST	Perforated Tube Post	Remove existing sign at 420 ft. west from Stop Sign. Reset existing sign per standard plate 320.46.		
Site U7 - 307th St. & SD HWY 11 (479th Ave.)															
WB	Stop Ahead								1	1	EAST	Perforated Tube Post	Remove existing sign at 315 ft. east from Stop Sign. Reset existing sign per standard plate 320.46.		
EB	Stop Ahead								1	1	WEST	Perforated Tube Post	Remove existing sign at 230 ft. west from Stop Sign. Reset existing sign per standard plate 320.46.		
Site U8 - 307th St. Connector & 481st Ave.															
EB	Stop Ahead								1	1	WEST	None	Remove existing sign at 230 ft. west from Stop Sign. Reset existing sign 680 ft. from Stop Sign.		
Site U9 - 475th St. & 307th St.															
NB	Stop Ahead										SOUTH	Perforated Tube Post	Do not disturb existing sign 855 ft. south from Stop Sign		
SB	Stop Ahead								1	1	NORTH	Perforated Tube Post	Remove existing sign at 610 ft. north from Stop Sign. Reset existing sign per standard plate 320.46.		
Site U10 - 477th Ave. & 307th St.															
NB	Combination Horizontal & Curve										SOUTH	None	Do not disturb existing (W10-1b) sign 410 ft. south from Stop Sign		
Site U11 - 471st Ave. & SD Hwy. 48 (MRM 372.00+0.388, 313th St.)															
SB	Stop Ahead								1	1	NORTH	Perforated Tube Post	Remove existing sign at 445 ft. north from Stop Sign. Reset existing sign per standard plate 320.46.		
NB	Stop Ahead								1	1	SOUTH	Perforated Tube Post	Remove existing sign at 465 ft. south from Stop Sign. Reset existing sign per standard plate 320.46.		
Site U12 - 473rd Ave. & SD Hwy. 48 (MRM 374.00+0.477, 313th St.)															
NB	Stop Ahead								1	1	SOUTH	Perforated Tube Post	Remove existing sign at 560 ft. south from Stop Sign. Reset existing sign per standard plate 320.46.		
Site U13 - 475th Ave. & SD Hwy. 48 (MRM 376.00+0.185, 313th St.)															
SB	Stop Ahead								1	1	NORTH	Perforated Tube Post	Remove existing sign at 730 ft. north from Stop Sign. Reset existing sign per standard plate 320.46.		
NB	Stop Ahead								1	1	SOUTH	Perforated Tube Post	Remove existing sign at 605 ft. south from Stop Sign. Reset existing sign per standard plate 320.46.		
Site U14 - 477th Ave. & SD Hwy. 48 (MRM 383.27+0.511, 313th St.)															
SB	Stop Ahead										NORTH	Perforated Tube Post	Do not disturb existing sign 750 ft. south from Stop Sign		
NB	Stop Ahead								1	1	SOUTH	Perforated Tube Post	Remove existing sign at 895 ft. south from Stop Sign. Reset existing sign per standard plate 320.46.		

PERMANENT SIGN TABLE

					632E3205	632E1320		110E0130	110E7150	632E3500				DOT USE	
Direction of traffic	Description	Sign Code	Width (Inches)	Height (Inches)	Flat Aluminum sign, Nonremovable Copy Super/Very High Intensity (SQFT)	2.0"x2.0" Perforated Tube Post 12 Ga. (Ft)	(N.A.B.I.) Square Tube Anchor Sleeve (Each)	Remove Traffic Sign (Each)	Remove Sign for Reset (Each)	Reset Sign (Each)	Direction Sign Faces	Current Type of Post	Remarks		
Site U15 - 482nd Ave. & SD Hwy. 48 (MRM 418.00+0.421, 313th St.)															
SB	Stop Ahead								1	1	NORTH	Perforated Tube Post	Remove existing sign at 325 ft. north from Stop Sign. Reset existing sign per standard plate 320.46.		
Site U16 - 472nd Ave. & SD Hwy. 50 (MRM 419.00+0.399, 318th St.)															
NB	Stop Ahead								1	1	SOUTH	Perforated Tube Post	Remove existing sign at 325 ft. south from Stop Sign. Reset existing sign per standard plate 320.46.		
Site U17 - 473rd Ave. & SD Hwy. 50 (MRM 421.00+0.287, 318th St.)															
SB	Stop Ahead								1	1	NORTH	Perforated Tube Post	Remove existing sign at 350 ft. north from Stop Sign. Reset existing sign per standard plate 320.46.		
Site U18 - 475th Ave. & SD Hwy. 50 (MRM 423.62+0.00, 318th St.)															
SB	Stop Ahead	W3-1	36	36	9.0	13.7		1			NORTH	Perforated Tube Post	Remove existing sign 350 ft. north from Stop Sign. Install new sign per standard plate 320.46.		
NB	Stop Ahead								1	1	SOUTH	Perforated Tube Post	Remove existing sign at 340 ft. south from Stop Sign. Reset existing sign per standard plate 320.46.		
Site U19 - 319th St. & SD Hwy. 50 (MRM 423.62+0.00, 476th Ave.)															
EB	Stop Ahead								1	1	WEST	Perforated Tube Post	Remove existing sign at 325 ft. west from Stop Sign. Reset existing sign per standard plate 320.46.		
Site U20 - 477th Ave. & SD Hwy. 50 (MRM 424.28+0.0.477, 319th St.)															
SB	Stop Ahead								1	1	NORTH	Perforated Tube Post	Remove existing sign at 325 ft. north from Stop Sign. Reset existing sign per standard plate 320.46.		
Site U21 - 475th Ave. & 319th St.															
SB	Stop Ahead	W3-1	36	36	9.0	13.7		1			NORTH	None	Install new sign per standard plate 320.46.		
Site U22 - 319th St. & 475th Ave.															
WB	Stop Ahead	W3-1	36	36	9.0	13.7		1			EAST	None	Install new sign per standard plate 320.46.		
Site U23 - Burbank Rd. & 471st Ave.															
NB	Stop Ahead								1	1	SOUTH	Perforated Tube Post	Remove existing sign at 405 ft. south from Stop Sign. Reset existing sign per standard plate 320.46.		
Site U24 - Burbank Rd. & 472nd Ave.															
SB	Stop Ahead								1	1	NORTH	Perforated Tube Post	Remove existing sign at 390 ft. north from Stop Sign. Reset existing sign per standard plate 320.46.		
Site U25 - Burbank Rd. & 475th Ave.															
NB	Stop Ahead								1	1	SOUTH	Perforated Tube Post	Remove existing sign at 390 ft. south from Stop Sign. Reset existing sign per standard plate 320.46.		
Site U26 - Co. Rd. 1B & 325th St.															
WB	Stop Ahead								1	1	EAST	Perforated Tube Post	Remove existing sign at 700 ft. east from Stop Sign. Reset existing sign per standard plate 320.46.		
Site U27 - Co. Rd. 1B & 480th Ave.															
NB	Stop Ahead								1	1	SOUTH	Perforated Tube Post	Remove existing sign at 325 ft. south from Stop Sign. Reset existing sign per standard plate 320.46.		
Site U28 - Co. Rd. 1B & 481st Ave.															
SB	Stop Ahead								1	1	NORTH	Perforated Tube Post	Remove existing sign at 405 ft. north from Stop Sign. Reset existing sign per standard plate 320.46.		
Site U29 - Co. Rd. 1B & 483rd Ave.															
SB	Stop Ahead								1	1	NORTH	Perforated Tube Post	Remove existing sign at 480 ft. north from Stop Sign. Reset existing sign per standard plate 320.46.		
Site U30 - 330th St. & 480th Ave.															
SB	Stop Ahead								1	1	NORTH	Perforated Tube Post	Remove existing sign at 340 ft. north from Stop Sign. Reset existing sign per standard plate 320.46.		
NB	Stop Ahead								1	1	SOUTH	Perforated Tube Post	Remove existing sign at 405 ft. south from Stop Sign. Reset existing sign per standard plate 320.46.		

PERMANENT SIGN TABLE

					632E3205	632E1320		110E0130	110E7150	632E3500				DOT USE	
Direction of traffic	Description	Sign Code	Width (Inches)	Height (Inches)	Flat Aluminum sign, Nonremovable Copy Super/Very High Intensity (SQFT)	2.0"x2.0" Perforated Tube Post 12 Ga. (Ft)	(N.A.B.I.) Square Tube Anchor Sleeve (Each)	Remove Traffic Sign (Each)	Remove Sign for Reset (Each)	Reset Sign (Each)	Direction Sign Faces	Current Type of Post	Remarks		
YANKTON COUNTY															
Site Y1 - 430th Ave. & SD Hwy. 46 (MRM 323.00+0.440, 297th St.)															
NB	Stop Ahead										SOUTH	Two Perforated Tube Posts	Do not disturb existing sign 750 ft. south from Stop Sign		
Site Y2 - 435th Ave. & SD Hwy. 46 (MRM 328.00+0.453, 297th St.)															
NB	Stop Ahead										SOUTH	Two Perforated Tube Posts	Do not disturb existing sign 750 ft. south from Stop Sign		
Site Y3 - 448th Ave. & SD Hwy. 46 (MRM 342.00+0.632, 297th St.)															
SB	Stop Ahead										NORTH	Perforated Tube Post	Do not disturb existing sign 750 ft. south from Stop Sign		
NB	Stop Ahead								1	1	SOUTH	Two Perforated Tube Posts	Remove existing sign at 465 ft. south from Stop Sign. Reset existing sign per standard plate 320.46.		
Site Y4 - 3rd St. (Lesterville) Reverse Turn and 430th Ave.															
SB	Reverse Turn Warning										NORTH	Perforated Tube Post	Do not disturb existing sign 100 ft. from beginning of reverse curve.		
	15 MPH														
SB	Reverse Turn Warning	W1-3 L	36	36	9.0	27.1					NORTH	None	Install new sign per Sinusoidal Transverse Rumble Strip In Asphalt Highway Typical.		
	AHEAD	W16-9P	24	12	2.0										
Site Y7 - 451st Curve and 310th St.															
SB	[Flashing Beacon]	None						1			NORTH	Perforated Tube Post	Do not disturb existing sign assembly at 100 ft. from beginning of curve. Remove and replace existing Curve Warning sign (W1-2 R).		
	Curve Warning	W1-2 R	36	36	9.0										
	25 MPH	W13-1aP													
SB	Curve Warning	W1-2 R	36	36	9.0	27.1		1			NORTH	None	Install new sign per Sinusoidal Transverse Rumble Strip In Asphalt Highway Typical.		
	AHEAD	W16-9P	24	12	2.0								Inside post is 13.3 ft. and outside post is 13.8 ft..		
Site Y8 - 451st Ave. and 309th St.															
EB	Stop Ahead								1	1	WEST	Perforated Tube Post	Remove existing sign at 340 ft. north from Stop Sign. Reset existing sign per standard plate 320.46.		
Site Y9 - 435th Ave. & SD Hwy. 50 (MRM 337.00+0.015, 309th St.)															
SB	Stop Ahead										NORTH	Perforated Tube Post	Do not disturb existing sign 750 ft. south from Stop Sign		
Site Y10 - 294th St. & US Hwy. 81 (MRM 18.00+0.303, 440th Ave.)															
EB	Stop Ahead										WEST	Two Perforated Tube Posts	Do not disturb existing sign 750 ft. south from Stop Sign		
Site Y11 - 431st Ave. & SD Hwy. 46 (MRM 324.00+0.444, 297th St.)															
SB	Stop Ahead										NORTH	Two Perforated Tube Posts	Do not disturb existing sign 750 ft. south from Stop Sign		
Site Y12 - 436th Ave. & SD Hwy. 46 (MRM 329.49+0.444, 297th St.)															
SB	Stop Ahead								1	1	NORTH	Perforated Tube Post	Remove existing sign at 380 ft. south from Stop Sign. Reset existing sign per standard plate 320.46.		
Site Y13 - 444th Ave. & SD Hwy. 46 (MRM 338.00+0.646, 297th St.)															
NB	Stop Ahead								1	1	SOUTH	Perforated Tube Post	Remove existing sign at 500 ft. south from Stop Sign. Reset existing sign per standard plate 320.46.		
SB	Stop Ahead								1	1	NORTH	Perforated Tube Post	Remove existing sign at 500 ft. north from Stop Sign. Reset existing sign per standard plate 320.46.		
Site Y14 - 446th Ave. & SD Hwy. 46 (MRM 340.00+0.640, 297th St.)															
NB	Stop Ahead								1	1	SOUTH	Perforated Tube Post	Remove existing sign at 395 ft. south from Stop Sign. Reset existing sign per standard plate 320.46.		

PERMANENT SIGN TABLE

					632E3205	632E1320		110E0130	110E7150	632E3500				DOT USE	
Direction of traffic	Description	Sign Code	Width (Inches)	Height (Inches)	Flat Aluminum sign, Nonremovable Copy Super/Very High Intensity (SQFT)	2.0"x2.0" Perforated Tube Post 12 Ga. (Ft)	(N.A.B.I.) Square Tube Anchor Sleeve (Each)	Remove Traffic Sign (Each)	Remove Sign for Reset (Each)	Reset Sign (Each)	Direction Sign Faces	Current Type of Post	Remarks		
Site Y15 - 304th Ave. & US Hwy. 81 (MRM 8.00+0.312, 440th St.)															
EB	Stop Ahead								1	1	WEST	Perforated Tube Post	Remove existing sign at 320 ft. west from Stop Sign. Reset existing sign per standard plate 320.46.		
Site Y16 - 306th St. and 430th Ave.															
NB	Stop Ahead								1	1	SOUTH	Perforated Tube Post	Remove existing sign at 415 ft. south from Stop Sign. Reset existing sign per standard plate 320.46.		
SB	Stop Ahead								1	1	NORTH	Perforated Tube Post	Remove existing sign at 405 ft. north from Stop Sign. Reset existing sign per standard plate 320.46.		
Site Y17 - 430th Ave. and 306th St.															
WB	Stop Ahead								1	1	EAST	Perforated Tube Post	Remove existing sign at 435 ft. north from Stop Sign. Reset existing sign per standard plate 320.46.		
EB	Stop Ahead								1	1	WEST	Perforated Tube Post	Remove existing sign at 410 ft. north from Stop Sign. Reset existing sign per standard plate 320.46.		
Site Y18 - 306th St. and 435th Ave.															
NB	Stop Ahead								1	1	SOUTH	Perforated Tube Post	Remove existing sign at 310 ft. north from Stop Sign. Reset existing sign per standard plate 320.46.		
SB	Stop Ahead								1	1	NORTH	Perforated Tube Post	Remove existing sign at 215 ft. north from Stop Sign. Reset existing sign per standard plate 320.46.		
Site Y19 - 435th Ave. and 306th St.															
WB	Stop Ahead								1	1	EAST	Perforated Tube Post	Remove existing sign at 435 ft. north from Stop Sign. Reset existing sign per standard plate 320.46.		
EB	Stop Ahead								1	1	WEST	Perforated Tube Post	Remove existing sign at 310 ft. north from Stop Sign. Reset existing sign per standard plate 320.46.		
Site Y20 - 306th St. & US Hwy. 81 (MRM 6.17+0.00, 440th St.)															
EB	Stop Ahead								1	1	WEST	Perforated Tube Post	Remove existing sign at 270 ft. north from Stop Sign. Reset existing sign per standard plate 320.46.		
Site Y21 - 430th Ave. & SD Hwy. 50 (MRM 372.81, 309th St.)															
SB	Stop Ahead										NORTH	Perforated Tube Post	Do not disturb existing sign 750 ft. north from Stop Sign		
NB	Stop Ahead										SOUTH	Perforated Tube Post	Do not disturb existing sign 770 ft. south from Stop Sign		
Site Y22 - 300th St. & US Hwy. 81 (MRM 12.00+0.336, 440th St.)															
EB	Stop Ahead								1	1	WEST	Perforated Tube Post	Remove existing sign at 360 ft. north from Stop Sign. Reset existing sign per standard plate 320.46.		
				TOTAL	90.3	149.7		6	58	58					

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	PH 0020(211)	19	27

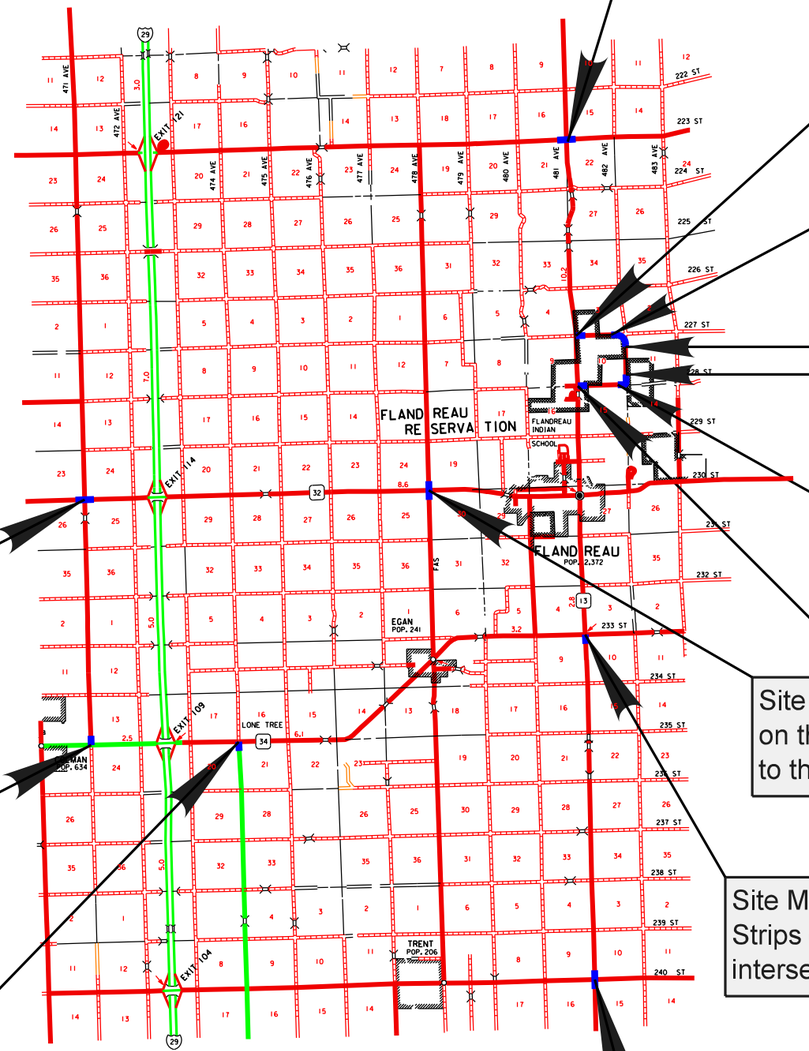
Plotting Date: 12/19/2024

TRANSVERSE RUMBLE STRIPS (SPECIAL DETAIL)

MOODY COUNTY

Legend

- Transverse Rumble Strips



Site M1 - Install Transverse Rumble Strips on eastbound and westbound lanes to the intersection of SD Hwy. 13 (481st Ave.) and 223rd St..

Site M8 - Install Transverse Rumble Strips on the westbound lane to the intersection of 481st Ave. and 227th St..

Site M10 - Install Transverse Rumble Strips in the eastbound and northbound lanes prior to the curve at 227th St. & 482nd Ave..See Typical.

Site M11 - Install Transverse Rumble Strips in the eastbound and southbound lanes prior to the curve at 228th St. & 482nd Ave..See Typical.

Site M7 - Install Transverse Rumble Strips on the eastbound and westbound lanes to the intersection of 471st Ave and 230th St..

Site M9 - Install Transverse Rumble Strips on the westbound lane to the intersection of 481st Ave. and 228th St..

Site M5 - Install Transverse Rumble Strips on the southbound and northbound lanes to the intersection of SD Hwy 32 & 478th Ave..

Site M2 - Install Transverse Rumble Strips on the southbound lane to the intersection of SD Hwy 34 & 471st Ave..

Site M4 - Install Transverse Rumble Strips on the northbound lane to the intersection of SD Hwy 34 (233rd St.) & 481st Ave..

Site M3 - Install Transverse Rumble Strips on the northbound lane to the intersection of SD Hwy 34 & 474th Ave..

Site M6 - Install Transverse Rumble Strips on the southbound and northbound lanes to the intersection of 240th St. & 481st Ave..

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	PH 0020(211)	20	27

Plotting Date: 12/19/2024

TRANSVERSE RUMBLE STRIPS (SPECIAL DETAIL)

UNION COUNTY (NORTH)

Legend

▬ - Transverse Rumble Strips

Site U2 - Install Transverse Rumble Strips on the eastbound lane to the intersection of 475th Ave. and 298th St..

Site U1 - Install Transverse Rumble Strips on the northbound lane to the intersection of SD Hwy. 46 (297th St.) and 475th Ave..

Site U3 - Install Transverse Rumble Strips on the eastbound lane to the intersection of 471st Ave. and 300th St..

Site U5 - Install Transverse Rumble Strips on the southbound and northbound lanes to the intersection of 302nd St. & 475th Ave..

Site U4 - Install Transverse Rumble Strips on the westbound lane to the intersection of 471st Ave. and 302nd St..

Site U8 - Install Transverse Rumble Strip on the eastbound connector to the intersection of 481st Ave. and 307th St..

Site U6 - Install Transverse Rumble Strips on the westbound lane to the intersection of 471st Ave. and 307th St..

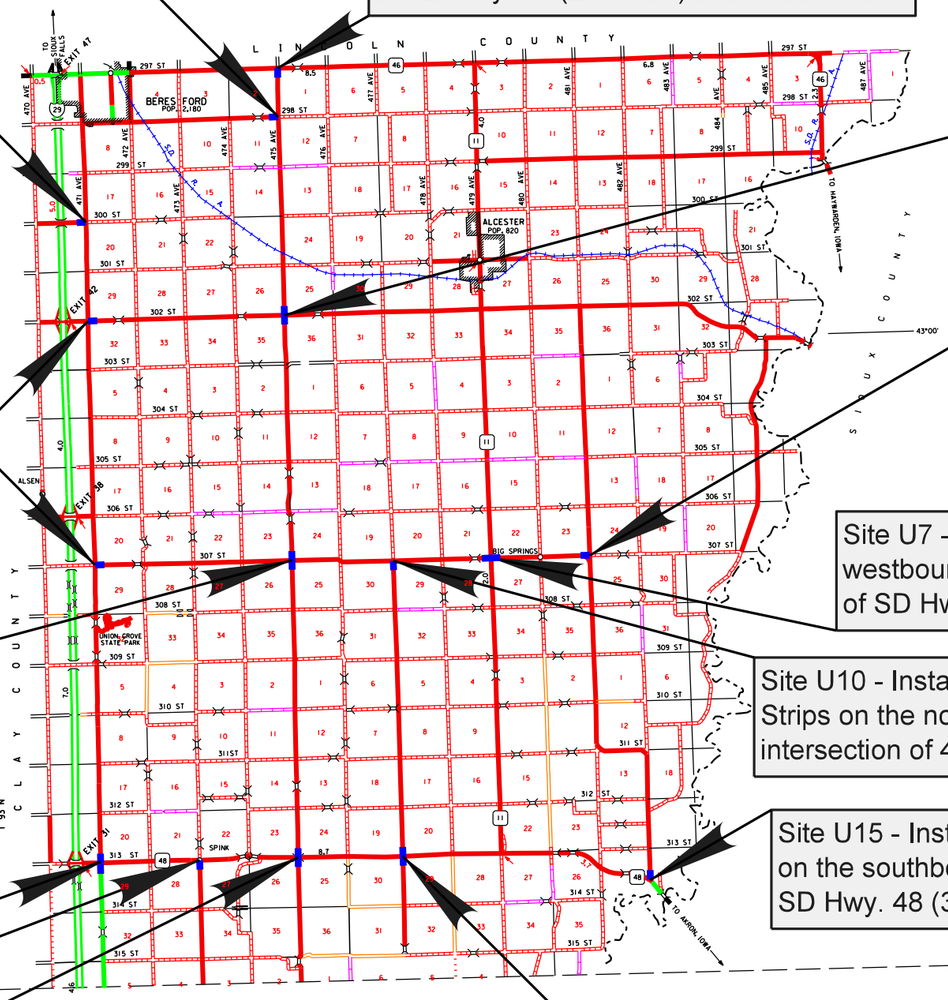
Site U7 - Install Transverse Rumble Strips on the westbound and eastbound lanes to the intersection of SD Hwy. 11 (479th Ave.) and 307th St..

Site U9 - Install Transverse Rumble Strips on the southbound and northbound lanes to the intersection of 307th St. & 475th Ave..

Site U10 - Install Transverse Rumble Strips on the northbound lane to the intersection of 477th Ave. and 307th St..

Site U11 - Install Transverse Rumble Strips on the northbound and southbound lanes to the intersection of SD Hwy. 48 (313th St.) and 471st Ave..

Site U15 - Install Transverse Rumble Strips on the southbound lane to the intersection of SD Hwy. 48 (313th St.) and 482nd Ave..



MATCH POINT

Site U12 - Install Transverse Rumble Strips on the northbound lane to the intersection of SD Hwy. 48 (313th St.) and 473rd Ave..

Site U13 - Install Transverse Rumble Strips on the northbound and southbound lanes to the intersection of SD Hwy. 48 (313th St.) and 475th Ave..

Site U14 - Install Transverse Rumble Strips on the northbound and southbound lanes to the intersection of SD Hwy. 48 (313th St.) and 477th Ave..

TRANSVERSE RUMBLE STRIPS (SPECIAL DETAIL)

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	PH 0020(211)	21	27

Plotting Date: 12/19/2024

UNION COUNTY (SOUTH)

Site U16 - Install Transverse Rumble Strips on the northbound lane to the intersection of SD Hwy. 50 (318th St.) and 472nd Ave..

Site U17 - Install Transverse Rumble Strips on the southbound lane to the intersection of SD Hwy. 50 (318th St.) and 473rd Ave..

Site U18 - Install Transverse Rumble Strips on the northbound and southbound lanes to the intersection of SD Hwy. 50 (318th St.) & 475th Ave..

MATCH POINT

Site U21 & U22 - Install Transverse Rumble Strips on the southbound and westbound lanes to the intersection of 319th St. & 475th Ave..

Site U20 - Install Transverse Rumble Strips on the southbound lane to the intersection of SD Hwy. 50 (319th St.) and 477th Ave..

Site U19 - Install Transverse Rumble Strips on the eastbound lane to the intersection of SD Hwy. 50 (476th Ave.) and 319th St..

Site U26 - Install Transverse Rumble Strips on the westbound lane to the intersection of Co. Rd. 1B and 325th St..

Site U23 - Install Transverse Rumble Strips on the northbound lane to the intersection of Burbank Rd. and 471st Ave.

Site U27 - Install Transverse Rumble Strips on the northbound lane to the intersection of Co. Rd. 1B and 480th Ave..

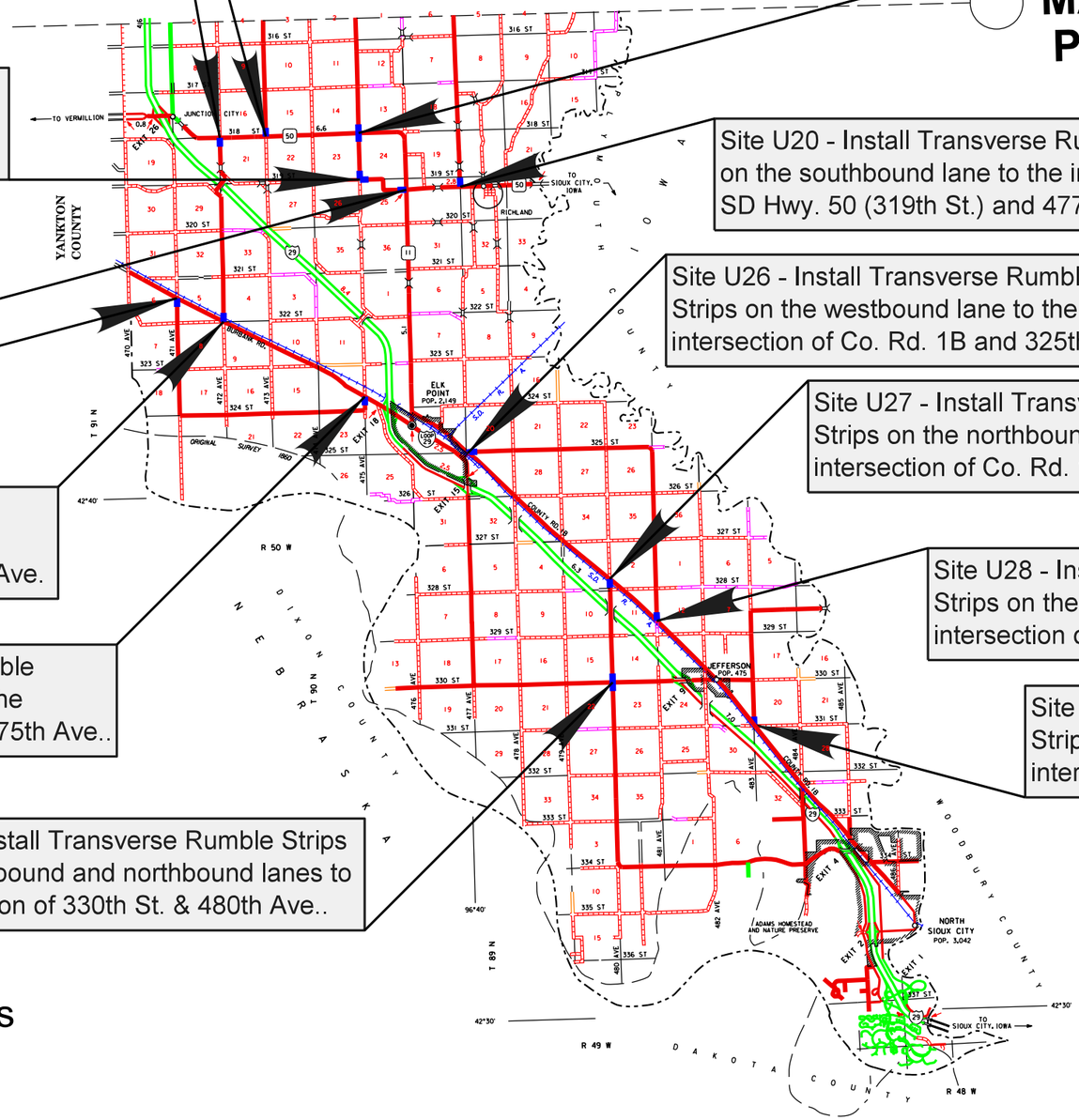
Site U24 - Install Transverse Rumble Strips on the southbound lane to the intersection of Burbank Rd. and 472nd Ave.

Site U28 - Install Transverse Rumble Strips on the southbound lane to the intersection of Co. Rd. 1B and 481st Ave..

Site U25 - Install Transverse Rumble Strips on the northbound lane to the intersection of Burbank Rd. and 475th Ave..

Site U29 - Install Transverse Rumble Strips on the southbound lane to the intersection of Co. Rd. 1B and 483rd Ave..

Site U30 - Install Transverse Rumble Strips on the southbound and northbound lanes to the intersection of 330th St. & 480th Ave..



Legend

— - Transverse Rumble Strips

TRANSVERSE RUMBLE STRIPS
(SPECIAL DETAIL)

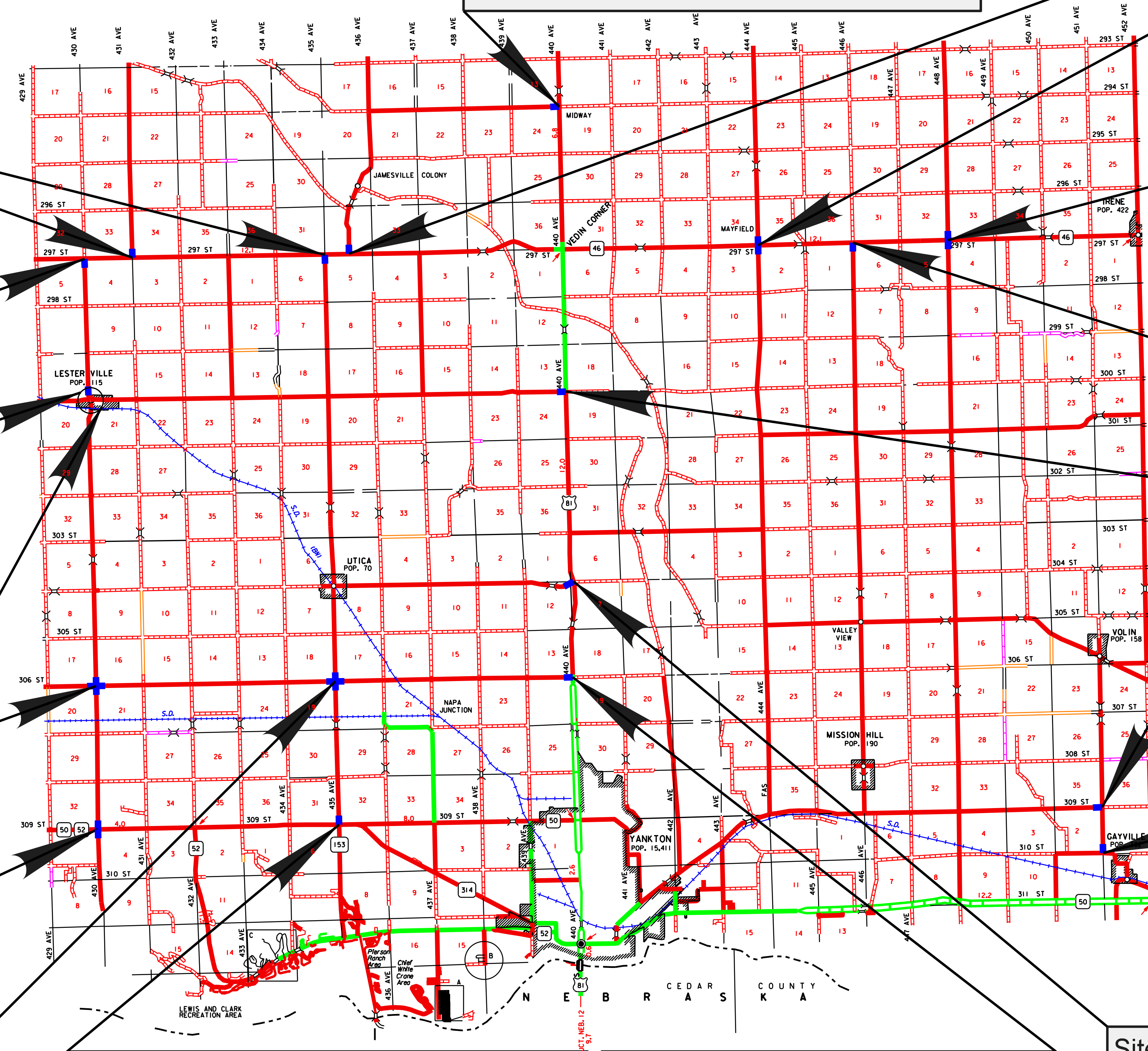
STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	PH 0020(211)	22	27

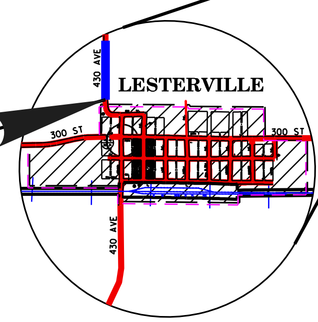
Plotting Date: 12/19/2024

YANKTON COUNTY

Legend

- Transverse Rumble Strips





Site Y10 - Install Transverse Rumble Strips on the eastbound lane to the intersection of US Hwy. 81 and 294th St..

Site Y12 - Install Transverse Rumble Strips on the southbound lane to the intersection of SD Hwy. 46 and 436th Ave..

Site Y2 - Install Transverse Rumble Strips on the northbound lane to the intersection of SD Hwy. 46 and 435th Ave..

Site Y13 - Install Transverse Rumble Strips on the southbound and northbound lanes to the intersection of SD Hwy. 46 & 444th Ave..

Site Y11 - Install Transverse Rumble Strips on the southbound lane to the intersection of SD Hwy. 46 and 431st Ave..

Site Y3 - Install Transverse Rumble Strips on the southbound and northbound lanes to the intersection of SD Hwy. 46 & 448th Ave..

Site Y1 - Install Transverse Rumble Strips on the northbound lane to the intersection of SD Hwy. 46 and 430th Ave..

Site Y14 - Install Transverse Rumble Strips on the northbound lane to the intersection of SD Hwy. 46 & 446th Ave..

Site Y22 - Install Transverse Rumble Strips on the eastbound lane to the intersection of US Hwy. 81 and 300th St..

Site Y4 - Install Transverse Rumble Strips in the southbound lane prior to reverse turn at 3rd St. and Jackson Ave. See Typical.

Site Y8 - Install Transverse Rumble Strips on the eastbound lane to the intersection of 451st and 309th St..

Site Y16 & Y17 - Install Transverse Rumble Strips on the all lanes approaching the intersection of 306th St. and 430th Ave..

Site Y7 - Install Transverse Rumble Strips in the southbound lane prior to the curve at 310th St. and 451st Ave. See Typical.

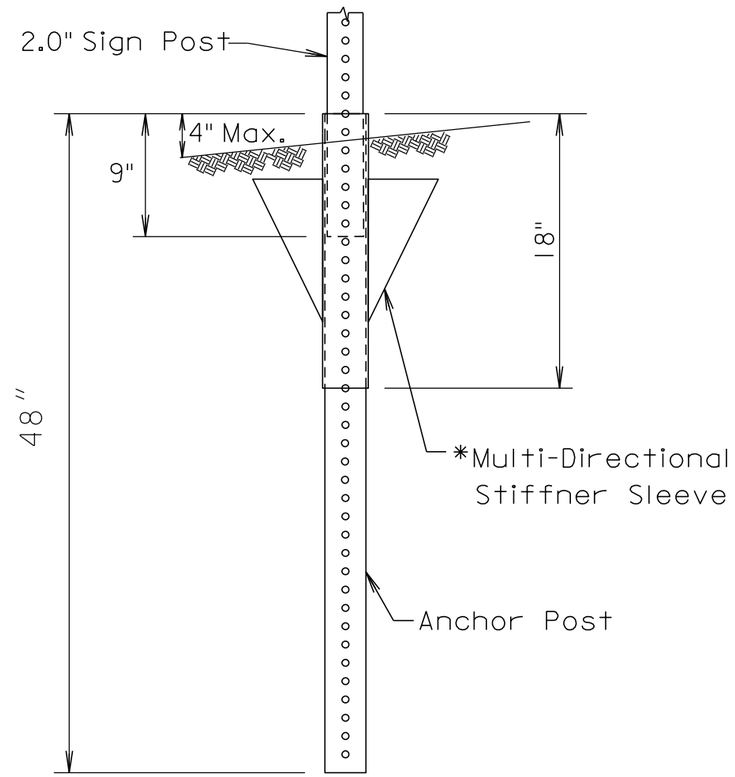
Site Y21 - Install Transverse Rumble Strips on the northbound and southbound lanes to the intersection of SD Hwy. 50 and 430th Ave..

Site Y18 & Y19 - Install Transverse Rumble Strips on the all lanes approaching the intersection of 306th St. and 435th Ave..

Site Y9 - Install Transverse Rumble Strips on the southbound lane to the intersection of SD Hwy. 50 and 435th Ave..

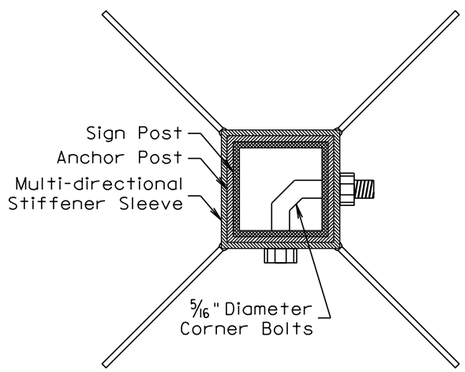
Site Y20 - Install Transverse Rumble Strips on the eastbound lane to the intersection of US Hwy. 81 and 306th St..

Site Y15 - Install Transverse Rumble Strips on the eastbound lane to the intersection of US Hwy. 81 and 304th St..

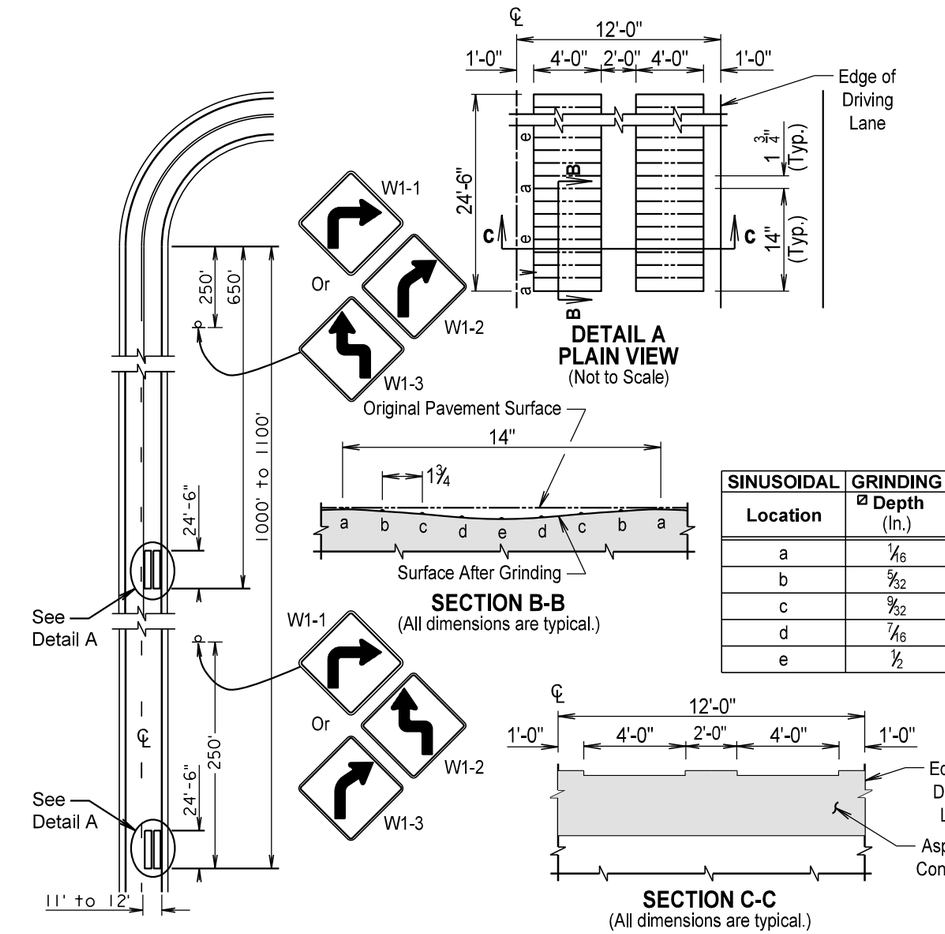


* 18" Multi-directional Sleeve w/4 Blades, or Equivalent.
Manufacturer Recommended Dimensions and Installation.

POST SIZE	
Sign Post	2"
Anchor Post	2¼"
Stiffener Sleeve	2½"



TOP VIEW



SINUSOIDAL GRINDING	
Location	⧄ Depth (In.)
a	1/16
b	5/32
c	9/32
d	7/16
e	½

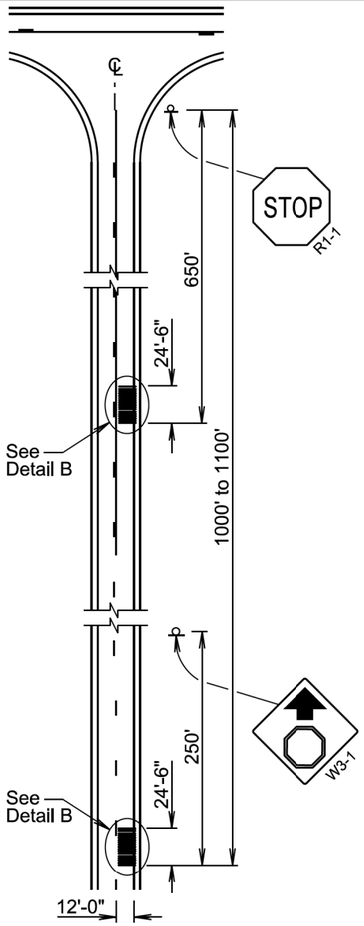
GENERAL NOTES:

Transverse rumble strips will be construction by grinding continuous sinusoidal indentations in the asphalt concrete pavement as approved by the Engineer. The transverse rumble strips will recieve a flush seal or fog seal as specified in the plans.

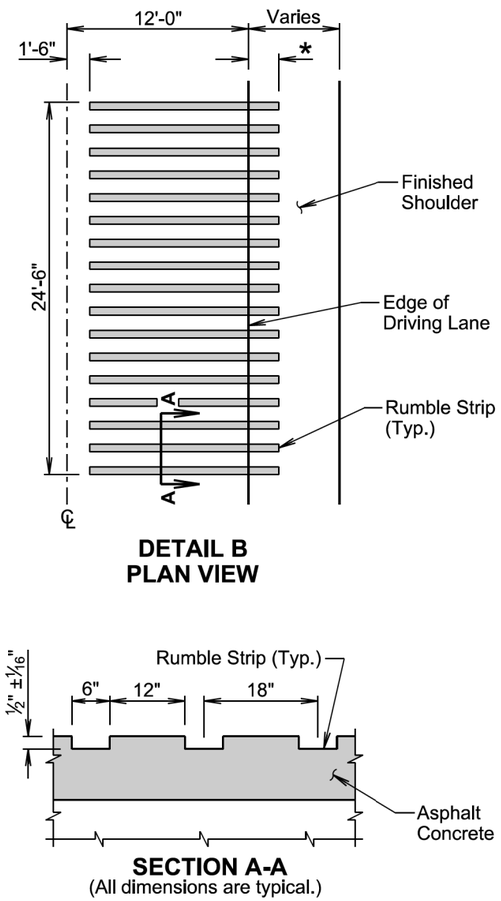
⧄ The sinusoidal transverse rumble strips construction grinding tolerance will be ±1/16 inch

Measurement of the sinusoidal transverse rumble strips will be to the nearest square foot. Payment for constructing the sinusoidal transverse rumble strips will be at the contract unit price per square foot for "Grind Sinusoidal Transverse Rumble Strip in Asphalt Concrete Pavement".

SINUSOIDAL TRANSVERSE RUMBLE STRIP IN ASPHALT CONCRETE HIGHWAY PRIOR TO A CURVE



PLAN VIEW



DETAIL B
PLAN VIEW

SECTION A-A
(All dimensions are typical.)

GENERAL NOTES:

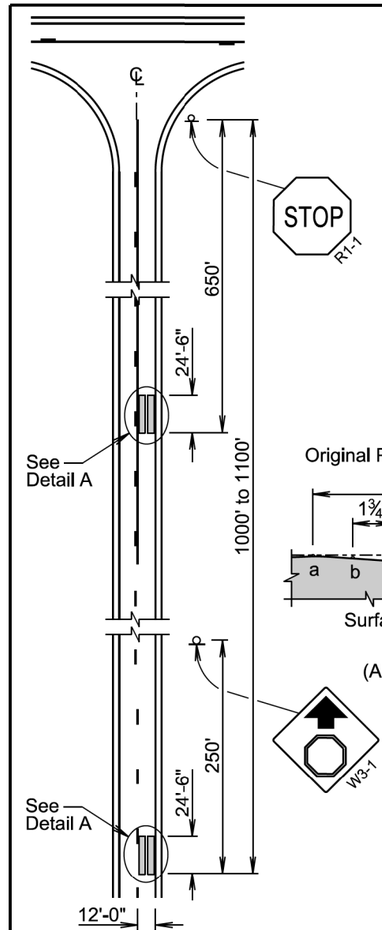
Transverse rumble strips will be constructed by grinding, routing, or cutting recessed indentations into the asphalt concrete as approved by the Engineer. The transverse rumble strips will receive a flush seal or fog seal as specified in the plans.

* The transverse rumble strips will extend into the finished shoulder as approved by the Engineer.

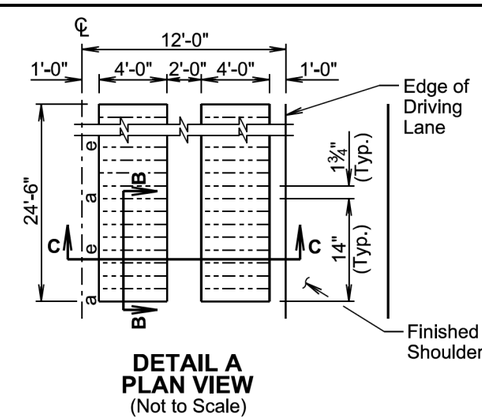
Measurement of the recessed transverse rumble strips will be to the nearest foot. Payment for constructing the recessed transverse rumble strips will be at the contract unit price per foot for "Grind 6" Transverse Rumble Strip in Asphalt Concrete".

January 22, 2021

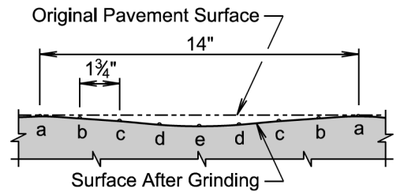
Published Date: 2025	SDDOT	TRANSVERSE RUMBLE STRIP IN ASPHALT CONCRETE HIGHWAY ADJACENT TO STOP CONTROLLED INTERSECTION	PLATE NUMBER 320.45 Sheet 1 of 1



PLAN VIEW

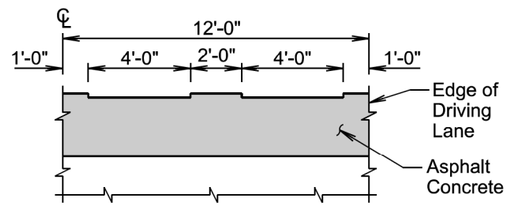


DETAIL A
PLAN VIEW
(Not to Scale)



SECTION B-B
(All dimensions are typical.)

SINUSOIDAL GRINDING	
Location	⧄ Depth (In.)
a	1/16
b	5/32
c	9/32
d	7/16
e	½



SECTION C-C
(All dimensions are typical.)

GENERAL NOTES:

Transverse rumble strips will be constructed by grinding continuous sinusoidal indentations in the asphalt concrete pavement as approved by the Engineer. The transverse rumble strips will receive a flush seal or fog seal as specified in the plans.

⧄ The sinusoidal transverse rumble strips construction grinding tolerance will be ± 1/16 inch.

Measurement of the sinusoidal transverse rumble strips will be to the nearest square foot. Payment for constructing the sinusoidal transverse rumble strips will be at the contract unit price per square foot for "Grind Sinusoidal Transverse Rumble Strip in Asphalt Concrete Pavement".

January 22, 2021

Published Date: 2025	SDDOT	SINUSOIDAL TRANSVERSE RUMBLE STRIP IN ASPHALT CONCRETE HIGHWAY ADJACENT TO STOP CONTROLLED INTERSECTION	PLATE NUMBER 320.46 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.

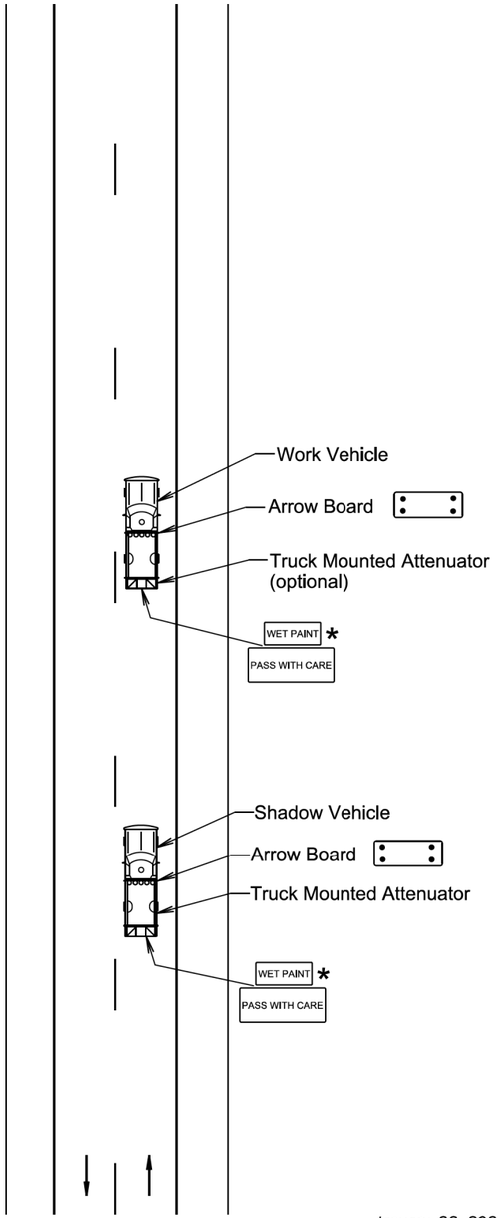
Shadow and Work vehicles will display high-intensity rotating, flashing, oscillating, or strobe lights, flags, signs, or arrow boards.

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: 2025	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.

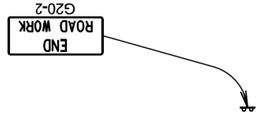
The ROAD WORK AHEAD and the END ROAD WORK signs may be omitted for short duration operations (1 hour or less).

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.

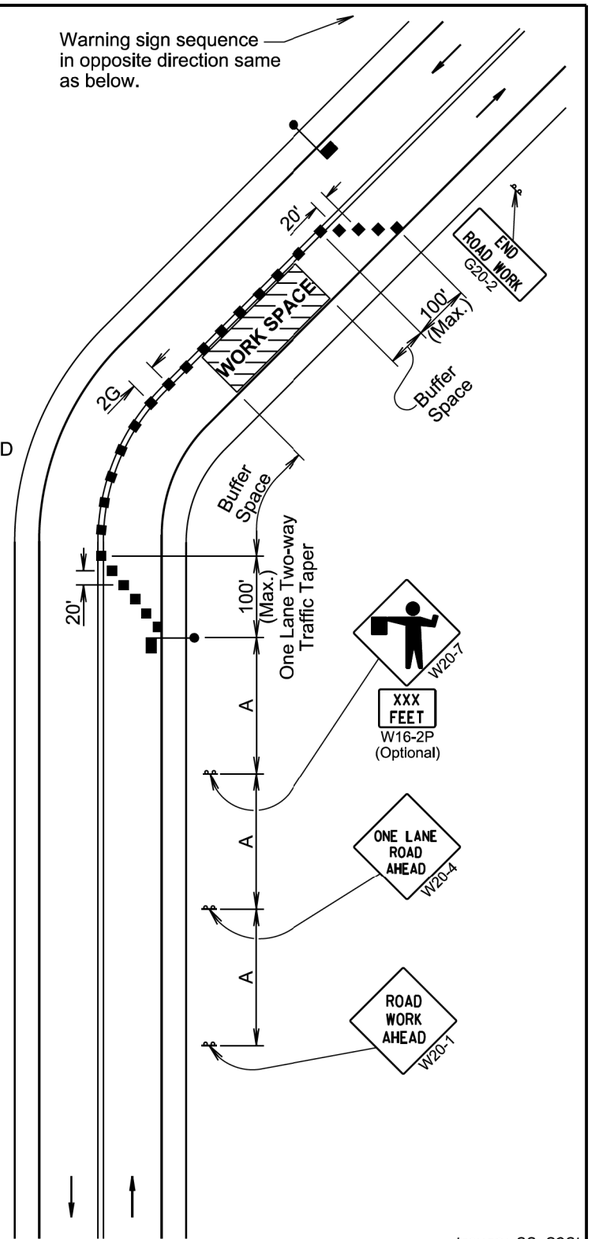
Channelizing devices are not required along the centerline adjacent to work area when pilot cars are utilized for escorting traffic through the work area.



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

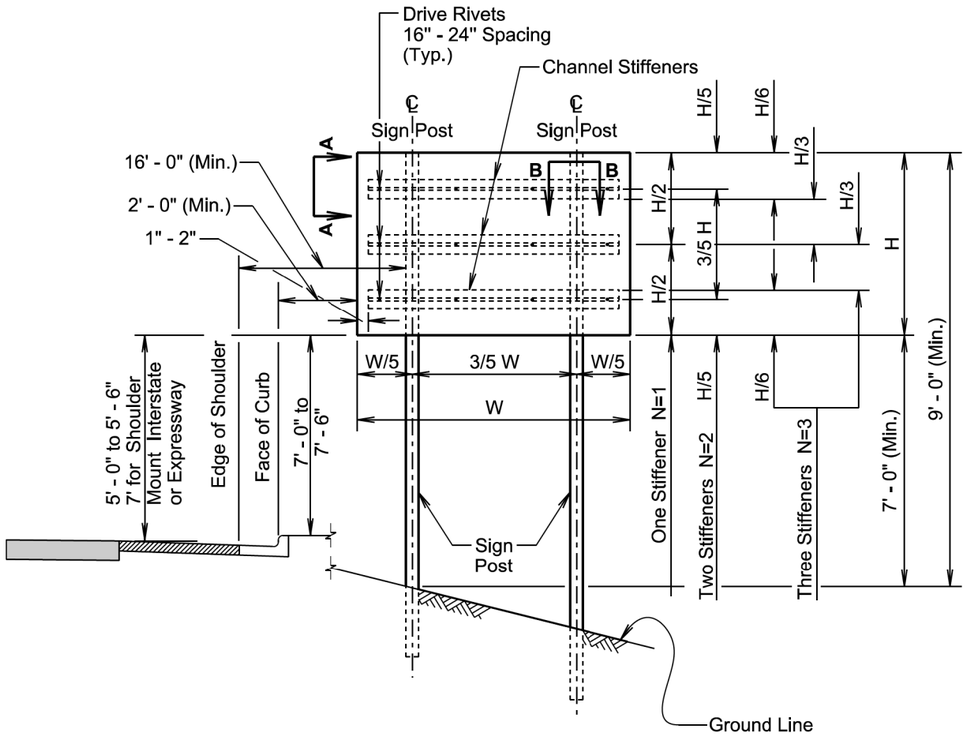
The buffer space should be extended so that the two-way traffic taper is placed before a horizontal or vertical curve to provide adequate sight distance for the flagger and queue of stopped vehicles.

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



January 22, 2021

Published Date: 2025	SDDOT	LANE CLOSURE WITH FLAGGER PROVIDED	PLATE NUMBER 634.23
			Sheet 1 of 1



TWO POST BREAKAWAY SIGN SUPPORTS

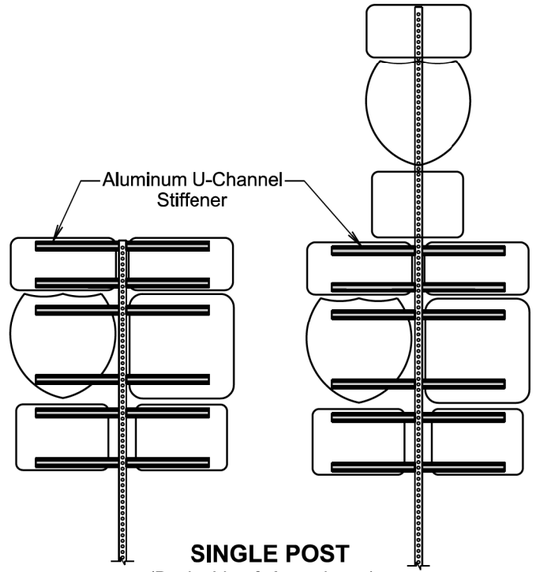
GENERAL NOTES:

The number of stiffeners used (N) will be as follows:
If H < = 2' - 0" then N = 1
if 2' - 0" < H < = 8' - 0" then N = 2
if 8' - 0" < H < = 15' - 0" then N = 3
where H is the vertical dimension of the sign.

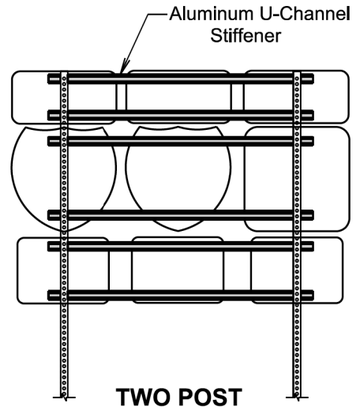
A minimum of two bolts will be required to fasten the sign to each post.

November 19, 2020

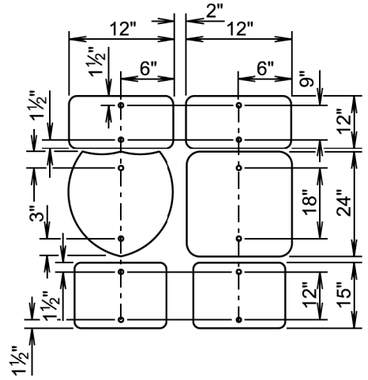
Published Date: 2025	SDDOT	SIGN STIFFENER DETAILS	PLATE NUMBER 632.60
			Sheet 2 of 2



SINGLE POST
(Back-side of signs shown)



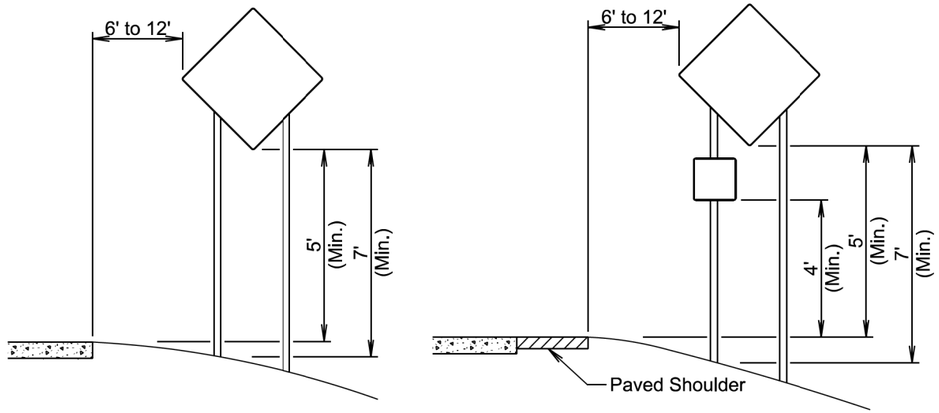
TWO POST
(Back-side of signs shown)



TYPICAL ROUTE MARKER BOLT HOLE LOCATIONS

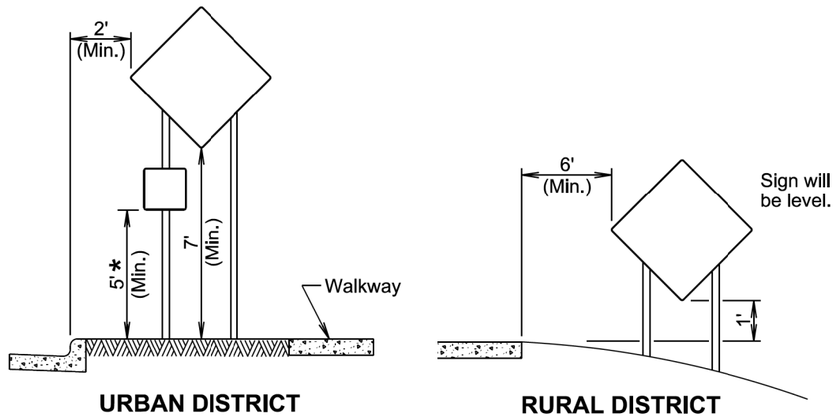
November 19, 2020

Published Date: 2025	SDDOT	MULTIPLE ROUTE MARKER SIGN STIFFENER INSTALLATION DETAILS	PLATE NUMBER 632.62
			Sheet 1 of 1



RURAL DISTRICT

RURAL DISTRICT WITH SUPPLEMENTAL PLATE



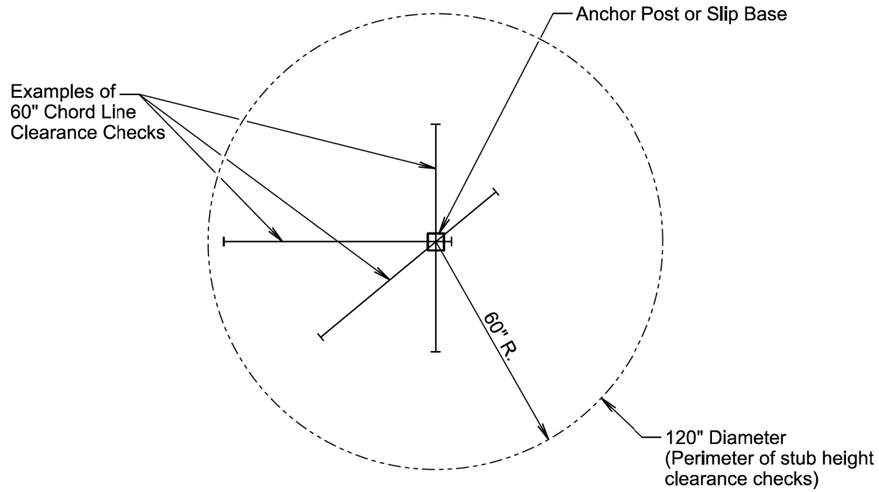
URBAN DISTRICT

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

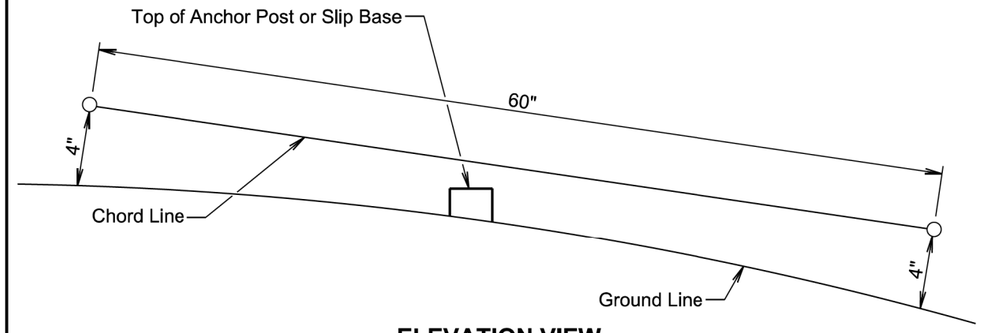
* If the bottom of supplemental plate is mounted lower than 7 feet above a pedestrian walkway, the supplemental plate should not project more than 4" into the pedestrian facility.

January 22, 2021

Published Date: 2025	SDDOT	CRASHWORTHY SIGN SUPPORTS (Typical Construction Signing)	PLATE NUMBER 634.85
			Sheet 1 of 1



PLAN VIEW
(Examples of stub height clearance checks)



ELEVATION VIEW

GENERAL NOTES:

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

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

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

January 22, 2021

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