

STATE OF SOUTH DAKOTA DEPARTMENT OF TRANSPORTATION PLANS FOR PROPOSED

PROJECT 085 N-471 US HIGHWAY 212 BUTTE COUNTY

EROSION REPAIR

PCN i6h5



DESIGN DESIGNATION 3938 4434 584 50% 3.5% 7.8% 65 mph AADT (2020) AADT (2040) DHV D DHV T% AADT T%

STATE OF	PROJECT	SHEET	TOTAL
SOUTH DAKOTA	085 N-471	1	17
Plotting Date:	06/28/2021		

Plotting Date:

INDEX OF SHEETS

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Project 085 N-471

MRM 52+0.277



ESTIMATE OF QUANTITIES

BID ITEM NUMBER	ITEM	QUANTITY	UNIT
009E0010	Mobilization	Lump Sum	LS
100E0100	Clearing	Lump Sum	LS
110E0600	Remove Fence	143	Ft
110E1700	Remove Silt Fence	25	Ft
120E0600	Contractor Furnished Borrow Excavation	104	CuYd
230E0020	Contractor Furnished Topsoil	40	CuYd
230E0100	Remove and Replace Topsoil	Lump Sum	LS
620E0030	Type 3 Right-of-Way Fence	143	Ft
620E0515	Type 1A Temporary Fence	236	Ft
620E1020	2 Post Panel	2	Each
634E0110	Traffic Control Signs	68.5	SqFt
634E0120	Traffic Control, Miscellaneous	Lump Sum	LS
634E0420	Type C Advance Warning Arrow Board	1	Each
734E0010	Erosion Control	Lump Sum	LS
734E0131	Type 1 Turf Reinforcement Mat	166.0	SqYd
734E0602	Low Flow Silt Fence	100	Ft
734E0610	Mucking Silt Fence	7	CuYd
734E0620	Repair Silt Fence	25	Ft
900E5147	Articulated Concrete Mattress	166.0	SqYd

SPECIFICATIONS

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

ENVIRONMENTAL COMMITMENTS

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

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

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

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

COMMITMENT 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 shall 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 Environment and Natural Resources (DENR) 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: http://sdleastwanted.com/maps/default.aspx

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

COMMITMENT E: STORM WATER

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 Environment 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 shall be removed from view of the ROW or buried, and the waste disposal site reclaimed as noted above.

6-1.13, and ARSD 74:27:10:06. 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.

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Construction activities constitute less than 1 acre of disturbance.

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-

Failure to comply with the requirements stated above may result in civil penalties in accordance with South Dakota Solid Waste Law, SDCL 34A-6-

COMMITMENT I: HISTORIC PRESERVATION OFFICE CLEARANCES

State Historic Preservation Office (SHPO or THPO) concurrence has not been obtained for this project.

Action Taken/Required:

All earth disturbing activities 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 gualified 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.

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.

UTILITIES

The Contractor will contact the involved utility companies through South Dakota One Call (1-800-781-7474) prior to starting work. It will be the responsibility of the Contractor to coordinate work with the utility owners to avoid damage to existing facilities.

If utilities are identified near the improvement area through the SD One Call Process as required by South Dakota Codified Law 49-7A and Administrative Rule Article 20:25, the Contractor will contact the Project Engineer to determine modifications that will be necessary to avoid utility impacts.

TEMPORARY EASEMENT MAINTENANCE AGREEMENT

The Project Engineer will ensure the Temporary Easement for permission to enter private property is obtained prior to any work outside the highway right of way. The Contractor will give the Project Engineer two weeks notice prior to beginning work to ensure permission is granted by the private property representative.

CONTRACTOR FURNISHED BORROW EXCAVATION

The Contractor will provide a suitable site for Contractor furnished borrow excavation material. The Contractor is responsible for obtaining all required permits and clearances for the borrow site. The borrow material will be approved by the Engineer. The plans quantity for "Contractor Furnished Borrow Excavation" as shown in the Estimate of Quantities will be the basis of payment for this item. Borrow material will be used to fill the eroded channel prior to placement of permanent erosion control.

Restoration of the Contractor furnished borrow excavation site will be the responsibility of the Contractor.

REMOVE AND REPLACE TOPSOIL

Prior to beginning grading operations, a 4" depth of topsoil will be salvaged within the work limits where available. The Contractor will minimize the damage to existing vegetation. Following completion of grading operations, topsoil will be replaced over all disturbed areas. The exact limit will be determined by the Engineer during construction.

All costs associated with removing and replacing the topsoil on the project will be incidental to the lump sum price for "Remove and Replace Topsoil".

CONTRACTOR FURNISHED TOPSOIL

The Contractor will be required to furnish and place 40 CuYd of topsoil in the reshaped channel prior to installation of the Articulated Concrete Mattress or as determined by the Engineer during construction.

Contractor furnished topsoil will be free from stones, coarse gravel, or similar objects larger than 3/4 inch in diameter. Brush, stumps, roots, wood, objectionable weeds, litter, or any other material which may be harmful to plant growth will not be allowed. Organic material will be decomposed.

All costs to furnish and place the Contractor furnished topsoil will be incidental to the contract unit price per cubic yard for "Contractor Furnished Topsoil".

CLEAR AND GRUB TREES

Trees and vegetation located within the easement area should be removed only where needed to complete the proposed project work and remaining trees should be retained where possible. The removal of trees will be paid for on a lump sum basis for "Clearing".

EROSION CONTROL

The estimated area requiring erosion control is 3,000 square feet. All costs for the erosion control work for furnishing, placing, and maintaining erosion control including equipment, labor, seeding, and fertilizing will be incidental to the contract lump sum price for "Erosion Control".

The disturbed areas will be seeding and fertilized prior to installation of the articulated concrete mattress and turf reinforcement mat.

construction.

Mycorrhizal Inoculum

Mycorrhizal inoculum will consist of mycorrhizal fungi spores and mycorrhizal fungi-infected root fragments in a solid carrier. The carrier may include organic materials, calcinated clay, or other materials consistent with application and good plant growth. The supplier will provide certification of the fungal species claimed and the live propagule count. The inoculum will include the following fungal species:

25% Glomus intraradices 25% Glomus aggregatum or deserticola 25% Glomus mosseae 25% Glomus etunicatum

All seed will be inoculated by the seed supplier with a minimum of 100,000 live propagules of mycorrhizal fungi per acre. All costs of inoculating the seed will be incidental to the contract unit price per pound for the corresponding permanent seed mixture.

The mycorrhizal inoculum will be as shown below or an approved equal:

Produ

MycoA

AM 120 Multi Sp

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The limits of erosion control work will be determined by the Engineer during

<u>ict</u>	<u>Manufacturer</u>
oply	Mycorrhizal Applications, Inc. Grants Pass, OR Phone: 1-866-476-7800 <u>www.mycorrhizae.com</u>
becies Blend	Reforestation Technologies Int. Gilroy, CA Phone: 1-800-784-4769 <u>www.reforest.com</u>

Fertilizing

The Contractor will apply an all-natural slow release fertilizer prior to seeding or placing sod. The all-natural fertilizer will have a minimum guaranteed analysis of 4-4-4 and be USDA Certified BioBased. It should provide a minimum of 4% (N) nitrogen with a minimum water insoluble nitrogen (WIN) fraction of 2.07%, a minimum of 4% (P2O5) available phosphate, a minimum of 4% (K2O) soluble potash, and a maximum carbon to nitrogen ratio (C:N ratio) of 5:1. The all-natural fertilizer will be free of weed-seed and pathogens accomplished through thermophilic composting, and not mechanical or chemical sterilization, to assure presence of beneficial soil microbiology. The fertilizer will have a near neutral pH, a low salt index, a low biological oxygen demand, contain organic humic and fulvic acids, and have high aerobic organism counts. The fertilizer will also be stable, free of bad odors, and be unattractive as a food source for animals. It should also be in a granular form that is easily spread.

The fertilizer will be applied at a rate of 1,500 pounds per acre in accordance with the manufacturer's recommended method of application.

The all-natural slow release fertilizer will be as shown below or an approved equal:

> Manufacturer Product Sustane Sustane Corporate Headquarters Cannon Falls. Minnesota Phone: 1-800-352-9245 www.sustane.com Perfect Blend Perfect Blend, LLC

Bellevue, WA Phone: 1-866-456-8890 www.perfect-blend.com

Permanent Seeding

The areas to be seeded consist of below the articulated concrete mattress and newly disturbed areas within the project limits.

Type F Permanent Seed Mixture will consist of the following:

Grass Species	Variety	Pure Live Seed (PLS) (Pounds/Acre)
Western Wheatgrass	Arriba, Flintlock, Rodan, Rosana, Walsh	7
Green Needlegrass	Lodorm, AC Mallard Ecovar	4
Sideoats Grama	Butte, Pierre	3
Blue Grama	Bad River	2
Oats or Spring Wheat: April through May;		10
Winter Wheat: August through November		
	Total:	26

TURF REINFORCEMENT MAT

Turf Reinforcement Mat will be installed at locations shown in the table at the widths specified, and at locations determined by the Engineer during construction. The Contractor will use a turf reinforcement mat from the approved products list. The approved product list for turf reinforcement mat may be viewed at the following internet site:

http://apps.sd.gov/HC60ApprovedProducts/main.aspx

Turf Reinforcement Mat will be installed in accordance with the manufacturer's installation instructions.

TABLE OF TURF REINFORCEMENT MAT

				Width		Quantity	The articula
Station to	Station	Location	L/R	(Ft)	Туре	(SqYd)	
1+07	2+00	Channel Bank	L	8	1	83	
1+07	2+00	Channel Bank	R	8	1	83	Sta

Total Type 1 Turf Reinforcement Mat:

166

ARTICULATED CONCRETE MATTRESS

during construction.

Installation of the articulated concrete mattress will be in accordance with the manufacturer's installation instructions.

All costs for furnishing and installing the articulated concrete mattress including hauling, materials, equipment, labor, and incidentals necessary will be paid for at the contract unit price per square yard for "Articulated Concrete Mattress".

ated concrete mattress will be as shown below or an approved equal:

Manufacturer Product andard Flexamat Flexamat Permanent Site Solutions Cincinnati, Ohio Phone: (513) 772-6690 www.flexamat.com

Product

ShoreFlex

TABLE OF ARTICULATED CONCRETE MATTRESS

Station 1+07 to 2+00

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Articulated concrete mattress will be installed along the channel and at the inlet of the pipe as noted in the plans and at locations determined by the Engineer

Manufacturer

ShoreFlex Denham Springs, Louisiana Phone: (800) 575-7293 www.shoreflex.com

Width		Quantity
(Ft)	Location	(SqYd)
16	Channel	166
	Tota	al: 166

TABLE OF FENCE QUANTITIES

Station to	Station	L/R	Right-of- Way Fence Type 3 (Ft)	Temporary Fence Type 1A (Ft)	Post Panels 2 Post Panels (Each)	Remove Fence (Ft)
c339+12	c340+55	R	143	236	2	143

TEMPORARY FENCE

The Contractor will verify the location of the temporary fence with the landowner prior to installation of the fence.

BRACE PANELS FOR ROW FENCE

The E-Z Brace or an approved equal may be utilized as an alternate horizontal brace in the brace panels if approved by the Engineer. The E-Z Brace will be attached to each wood post utilizing two 5/16" x 3" lag screws. Holes of appropriate diameter, based on wood post condition, will be drilled before placement of lag screws. The following are contacts regarding the E-Z Brace:

> Roger Papka E-Z Brace 1160 Karen St. Watertown, SD 57201 605-881-6142

Dennis Mack E-Z Brace 108 18th St. NE Watertown, SD 57201 605-881-4990

LOW FLOW SILT FENCE

The low flow silt fence fabric provided will be from the approved product list. The approved product list for low flow silt fence may be viewed at the following internet site:

http://apps.sd.gov/HC60ApprovedProducts/main.aspx

Low flow silt fence will be placed at the locations noted in the table and at locations that will minimize siltation of adjacent streams, lakes, dams, or drainage areas as determined by the Engineer during construction. Refer to Standard Plate 734.04 for details.

TABLE OF LOW FLOW SILT FENCE

Station	Location		Quantity (Ft)
c340+22	Inlet Protection at 36" RCP		100
		Total:	100

REPAIR SILT FENCE

Silt fence shall be repaired if needed in accordance with Standard Plate 734.04 at the locations listed in the Table of Low Flow Silt Fence.

MUCKING SILT FENCE

Mucking silt fence shall consist of removing muck trapped by the silt fence and spreading the material evenly over the adjacent area to conform to the existing grade.

REMOVE SILT FENCE

Silt fence shall be removed when vegetation is established. Some or all of the silt fence may be left on the project until vegetation is established.

COORDINATION WITH OTHER PROJECT

PCC pavement repair on project NH 0042(85), PCN 07KY is scheduled for the construction season of 2021. The location of this project is along US85 N from MRM 44.69 to MRM 54.24. The Contractor on this project will coordinate with the Contractor on the PCC pavement repair project. The Contractor for the PCC pavement repair project is Interstate Improvement, 507-333-2677. All costs associated with this coordination will be incidental to the various bid items on the project.

TRAFFIC CONTROL – GENERAL NOTES

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.

Traffic Control Signs, as shown in the Estimate of Quantities, are estimates. Contractor's operation may require adjustments in guantities, either more or less. Payment will be for those signs used on the project, in accordance with the Specifications.

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 materials and equipment will be stored a minimum distance of 30' from the traveled way during nonworking hours.

All haul trucks will be equipped with a second 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 bid items.

INVENTORY OF TRAFFIC CONTROL DEVICES

		CONVENTIONAL ROAD			
SIGN CODE	SIGN DESCRIPTION	NUMBER	SIGN SIZE	SQFT PER SIGN	SQFT
W4-2	LEFT or RIGHT LANE ENDS (symbol)	1	48" x 48"	16.0	16.0
W20-1	ROAD WORK AHEAD	1	48" x 48"	16.0	16.0
W20-5	LEFT or RIGHT LANE CLOSED AHEAD	1	48" x 48"	16.0	16.0
W21-5	SHOULDER WORK	1	48" x 48"	16.0	16.0
G20-2	END ROAD WORK	1	36" x 18"	4.5	4.5
CONVENTIONAL ROAD TRAFFIC CONTROL SIGNS SQF		ROAD IGNS SQFT	68.5		

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ITEMIZED LIST FOR TRAFFIC CONTROL SIGNS

HORIZONTAL ALIGNMENT DATA

			US85		
Туре	Station			Northing	Easting
PT	c 339+04.84			310733.400	964317.372
		TL= 2150.43	N 10°59'57" W		
PC	c 360+55.28			312844.330	963907.076
PI	c 364+79.06	R = 3178.04	Delta = 15°11'27" R	313260.324	963826.220
EQNBK	c 367+78.34			313563.629	963850.701
EQNAHD	d 367+64.95			313563.629	963850.701
PT	d 368+84.47			313682.970	963857.194
		TL= 2385.36	N 4°11'29" E		

POINT	DESCRIPTION	NORTHING	EASTING	ELEVATION
Belle Shop	REFMRK	321296.97	962612.34	3117.715
85 52.30	REFMRK	310814.33	964332.04	3277.479

			Channel		
Туре	Station			Northing	Easting
POB	0+00.00			310670.910	964372.899
		TL= 111.98	N 3°20'38" E		
PI	1+11.98			310782.702	964379.431
		TL= 88.27	N 7°16'07" E		
POE	2+00.25			310870.261	964390.599

The coordinates shown on this sheet are based on the South Dakota State Plane Coordinate System. North Zone (NAD 83/2011); epoch 2010.00; Geoid 12A. The elevations shown are based on NAVD 96.

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CONTROL DATA

US85

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Anchor Antenna Approach Assumed Corner Azimuth Marker **BBQ Grill/ Fireplace** Bearing Tree Bench Mark Box Culvert Bridge Brush/Hedge Buildings Bulk Tank Cattle Guard Cemetery Centerline Cistern Clothes Line Concrete Symbol Control Point Creek Edge Curb/Gutter Curb Dam Grade/Dike/Levee Deck Edge Ditch Block Doorway Threshold Drainage Profile Drop Inlet Edge Of Asphalt Edge Of Concrete Edge Of Gravel Edge Of Other Edge Of Shoulder Electric Transformer/Power Junction Box Fence Barbwire Fence Chainlink Fence Electric Fence Miscellaneous Fence Rock Fence Snow Fence Wood Fence Woven Fire Hydrant Flag Pole Flower Bed Gas Valve Or Meter Gas Pump Island Grain Bin Guardrail Gutter Guy Pole Haystack Highway ROW Marker Interstate Close Gate Iron Pin Irrigation Ditch Lake Edge Lawn Sprinkler

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Mailbox Manhole Electric Manhole Gas Manhole Miscellaneous Manhole Sanitary Sewer Manhole Storm Sewer Manhole Telephone Manhole Water Merry-Go-Round Microwave Radio Tower Miscellaneous Line Miscellaneous Property Corner Miscellaneous Post Overhang Or Encroachment Overhead Utility Line Parking Meter Pedestrian Push Button Pole Pipe With End Section Pipe With Headwall Pipe Without End Section Playground Slide Playground Swing Power And Light Pole Power And Telephone Pole Power Meter Power Pole Power Pole And Transformer Power Tower Structure Propane Tank Property Pipe Property Pipe With Cap Property Stone Public Telephone Railroad Crossing Signal Railroad Milepost Marker Railroad Profile Railroad ROW Marker Railroad Signs Railroad Switch Railroad Track Railroad Trestle Rebar Rebar With Cap Reference Mark Retaining Wall Riprap River Edge Rock And Wire Baskets Rockpiles Satellite Dish Septic Tank Shrub Tree Sidewalk Sign Face Sign Post Slough Or Marsh Spring Stream Gauge Street Marker

Subsurface Utility Exploration Test Hole	•
Telephone Fiber Oplics	— 1/F —
Telephone Pole	a a a a a a a a a a a a a a a a a a a
Telephone Fole	Ø
	*
Television Tower Test Wolls/Boro Holes	수 (주
Traffic Sign Double Face	H
Traffic Sign One Post	R b
Traffic Sign Two Post	þ
Traffic Signal	۹ ۲۲
Trash Barrel	አ መ
Tree Belt	~~~~
Tree Coniferous	*
Tree Deciduous	0
Tree Stumps	٨
Triangulation Station	♪
Underground Electric Line	— P —
Underground Gas Line	— G —
Underground High Pressure Gas Line	— HG —
Underground Sanitary Sewer	— s —
Underground Storm Sewer	= s =
Underground Tank	
Underground Telephone Line	— T —
Underground Television Cable	— TV —
Underground Water Line	— W —
Water Fountain	l
Water Hydrant	0
Water Meter	•
Water Tower	
Water Valve	0
Water Well	\odot
Weir Rock	~
Windmill	٢
Wingwall	
Witness Corner	(10)

	STATE OF	PROJEC	т	SHEET	TOTAL SHEETS
	SOUTH DAKOTA	085 N-4	471	7	17
	Plotting Date:	06/28/2021			
State and Natio County Line Section Line Quarter Line Sixteenth Line Property Line Construction L ROW Line New ROW Lin Cut and Fill Lin Control of Acce New Control of Proposed ROV (After Property	onal Line ine nits ess Access V Disposal)	•			
Drainage Arrov	v				
Remove Conci	rete Paven	nent			
Remove Aspha	alt Concret	e Pavement			
Remove Conci	rete Sidew	alk	· <u>````````````````````````````````````</u>		
Remove Conci	rete Media	n Pavement			
Remove Conc	rete Curb a	and/or Gutter			
Detectable Wa Pedestrian Pu and 30" x 48" with 1.5% slop	arning sh Button Clear Spac e	Pole ce			











Plotted From - TRRC11626

	1				TOTAL
	STATE OF SOUTH		085 N-471	SHEET	SHEETS
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				Ъ	
GENERAL N Tie bolts Grade 36 heavy he Washers	shall cor or ASTM x confor shall con	nform to A36.Nu ming to form to	o ASTM F1554 ts shall be ASTM A563. ASTM F436.		
Pipe Slee	ve shall (rade B.	conform	to ASTM A500		
Galvanize assembly	adjustib in accor	le eye t dance w	oolt tie ith ASTM AI53.		
ASTM FI5 ASTM A36 with 2 He Nuts and	54 Grade 5 Tie Bolt eavy Hex 1 2 Washe	36 or rs			
GENEF Angle Bolts Nuts to As confi	RAL NOTES es shall co shall be shall be STM A563. orm to A	: onform t heavy h Washer STM F43	to ASTM A36. o ASTM A307. lex conforming rs shall 6.		
Galva wash A153.	nize ang ers in ac	les, bolt: cordanc	s,nuts,and e with ASTM		
e					
AL NOTES:				1	
u of the tie of tie bolt proved by th	bolts de connectio e Office	tailed at ons may of Brid	oove other be installed ge Design.		
e sections of ed with tie bo en drop inlet e sections of drop inlets, mo be tied with	f R.C.P. ar olts exce s, manhol f pipes t anhole, ar tie bolts.	nd R.C.P. pt for es, and hat only nd juncti	Arch shall pipe located junction boxes, enter or ion boxes		
will be no se nt for the t shing and inst idental to th for the corr C.P. Arch.	eparate n ie bolts. talling th e contro esponding	neasuren The cos e tie bo ict unit g bid ite	nent or st for bits shall price per em for R.C.P.		
			February 28, 2013	3	
FOR R.C.P. AND	R.C.P. AR	CH	PLATE NUMBER 450.18		
			Sheet I of I		



Published Date: 2nd Qtr. 2021

STAPLE II

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	STATE OF		PROJECT	SHEET	TOTAL SHEETS	
	DAKOTA		085 N-471	12	17	
	Plotting Date:	06/28	8/2021			
\bigcirc	\frown					
		Correct, lo	oose in staple			
Wrong		Wrong, w	ood crushed			
Correct		Wrong, s	nug to post			
ples will not	Wire will	be				
driven parallel	loose in s	staple				
NSTALLATION						
e or a combination of w	voven wire	and barbe	ed wire.			Ē
ed to all wood posts or	fastened to	o alternati	ng wood			tes.dg
eer. Fence will be cons	structed co	nforming t	to the			rdPlat
less otherwise directed	d by the En	gineer.				andai
constructed one foot w	ithin the Int	erstate Ri	ght-of-Way			h5_St
d as otherwise directed	d by the En	gineer.	0 ,			191
cts will be constructed	within one	foot of the	e Right-of-Way			
gs, cattle passes, and a	as otherwis	e directed	by the			File
vire. Two point barbs w	ill be wrapp	bed twice	around one			
int barbs will be interio	cked and w	rapped ar	round both			
as are the minimum as	aantahla w	alaaa atha	mulaa			
sts will be as stated in	AASHTO N	/1281. Wo	ven wire will			
16 and barbed wire wi	II conform t	o ASTM A	121.			
			June 26, 2019			
			PLATE NUMBER			
PLE INSTALLATION A	NU GENER	AL	620.02			
KIGHI-UF-WAY FENC	E NUIES		Sheet of			
			· ·	I		

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS	
	085 N-471	14	17	
	Plotting Date:	06/28/2021		

Posted	Spacing of	Taper	Spacing of
Speed	Advance Warning	Length	Channelizing
Prior to	Signs	Ū	Devices
Work	(Feet)	(Feet)	(Feet)
(M.P.H.)	(A)	(L)	(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

Plot Scale -

tted From - TRRC11626

	STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
		085 N-471	17	17
	Plotting Date:	06/28/2021		