

	STATE OF SOUTH	PR	OJECT	SHEET	TOTAL SHEETS
	DAKOTA	00	0N-451	1	12
	Plotting Date:	03/06/2023	3		1
		INDEX OI	SHEETS		
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		2-5	General Layo Plan Notes & Standard Pla	Table	S
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ESTIMATE OF QUANTITIES

BID ITEM	ІТЕМ	QUANTITY	UNIT
009E0010	Mobilization	Lump Sum	LS
100E0020	Clear and Grub Tree	85	Each
634E0010	Flagging	200.0	Hour
634E0110	Traffic Control Signs	137.0	SqFt
634E0120	Traffic Control, Miscellaneous	Lump Sum	LS
734E0010	Erosion Control	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.

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

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

COMMITMENT B: FEDERALLY THREATENED, ENDANGERED, AND **PROTECTED SPECIES**

COMMIMENT B2: WHOOPING CRANE

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

Action Taken/Required:

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

COMMITMENT B4: BALD EAGLE

Bald eagles are known to occur in this area.

Action Taken/Required:

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

COMMITMENT B5: NORTHERN LONG-EARED BAT

This project is within the range of suitable habitat for the Northern Long-Eared Bat (NLEB) and project work will avoid conflicts with NLEB roosting habitat.

Action Taken/Required:

Project activities that include tree removal, structure work, and/or work within one-quarter mile of a known hibernacula or 150 feet of a known maternity roost tree, or suitable habitat should not occur within the location(s) listed below during the NLEB seasonal work restriction timeframe without approval from the SDDOT Environmental Office.

Station	NLEB Seasonal Work Restriction
Project Wide	April 1 to October 31

Tree removal will occur between November 1st and March 31st.

COMMITMENT E: STORM WATER

Action Taken/Required:

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Construction activities constitute less than 1 acre of disturbance.

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:

Unless noted in these plans, construction and/or demolition debris may not be disposed of within the Public ROW.

The waste disposal site(s) will be managed and reclaimed in accordance with the following from the General Permit for Construction/Demolition Debris Disposal Under the South Dakota Waste Management Program issued by the Department of Agriculture and Natural Resources.

The waste disposal site(s) will not be located in a wetland, within 200 feet of surface water, or in an area that adversely affects wildlife, recreation, aesthetic value of an area, or any threatened or endangered species, as approved by the Environmental Office and the Project Engineer.

If the waste disposal site(s) is located such that it is within view of any ROW, the following additional requirements will apply:

Construction and/or demolition debris consisting of concrete, asphalt 1. 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 **Davs** from the date this information is submitted to the Environmental Engineer for SHPO/THPO review.

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

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

SDDOT ROW CORNERS

The SDDOT right-of-way is marked with a rebar with aluminum cap and a brown Carsonite post at key points. Contractor will take care to not disturb these right-of-way points during the project. Any corners and/or Carsonite disturbed by the contractor will be replaced.

BLACK HILLS NATIONAL FOREST CONTACT INFORMATION

Steve Kozel **District Ranger**

Forest Service

Black Hills National Forest, Northern Hills Ranger District p: 605-642-4622 x 3050 steve.kozel@usda.fed.gov 2014 North Main Street

Spearfish, SD 57783

CLEAR AND GRUB TREE

The hazard trees to clear on this project are described as dead or dying that are immediate hazards to the highway. These hazard trees will be removed from the project limits and properly disposed of by the Contractor.

removed trees.

Limbs removed from trees may remain within the highway right of way. These limbs will be placed outside the clear-zone. The clear-zone width is 10' measured from the travel lane for posted speeds 40 mph or less highways. The clear-zone width is 30' measured from the travel lane for posted speeds greater than 40 mph highways.

Limbs will be bucked and slashed to a height of less than 18" if left onsite.

Before clearing activities begin, the Contractor will contact the Project Engineer to identify what trees are to be cleared on the project.

The Contractor will avoid rutting and excessive soil disturbance during operations. If excessive rutting or soil disturbance occurs, the Contractor will stop operations and wait until the soil achieves enough strength to support equipment or change operation and retrieve trees with some other less soil disturbing method.

process.

operations.

The Contractor is responsible for keeping the roadway clear of debris. No separate payment will be made for this work.

work.

All work descried in this section will be incidental to the contract unit price bid per each for Clear and Grub Tree.

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If the Contractor plans to convert the removed trees to a saleable product, then the Contractor will notify the Forest Service to obtain the necessary permits. The Contractor will coordinate with the Black Hills National Forest. Northern Hills Ranger District for permitting and ensuring proper disposal of

Extra care will be taken not to damage other nearby trees during the clearing

The Contractor will avoid wetlands, streams, and riparian areas during

The Contractor will grade and level the soil to the original condition if disturbed by clearing activities. No separate payment will be made for this

TABLE OF CLEAR AND GRUB TREE

						Clear and Grub Tree
Highway	MRM	Disp	Side		Additional Comments	(Each)
014A	11	+ 0.229	L	Tree Removal	Non Spruce or pine (Hardwood)	1
014A	12	+ 0.045	<u>L</u>	Tree Removal		1
014A	12	+ 0.360	R	Tree Removal	Multiple trees in group	5
014A	12	+ 0.400	R	Tree Removal	L	1
014A	13	+ 0.240	R	Tree Removal		1
014A	13	+ 0.260	R	Tree Removal		1
014A	13	+ 0.420	R	Tree Removal	[1
014A	13	+ 0.790	R	Tree Removal		1
014A	13	+ 0.840	R	Tree Removal	2 trees in one area	2
014A	13	+ 0.890	L	Tree Removal		1
014A	13	+ 0.910	R	Tree Removal	2 trees in one area	2
014A	13	+ 0.950	R	Tree Removal		1
014A	14	+ 0.450	L	Tree Removal		1
014A	14	+ 0.530	R	Tree Removal	Multiple trees in one area	3
014A	14	+ 0.853	R		Tree still alive but base is starting to rot	1
014A	15	+ 0.750	R	Tree Removal		1
014A	16	+ 0.930	R	Tree Removal		1
014A	17	+ 0.000	R	Tree Removal	Group of 4 dead trees	4
014A	17	+ 0.240	L	Tree Removal		1
014A	17	+ 0.340	R	Tree Removal		1
014A	17	+ 0.360	R	Tree Removal		1
014A	17	+ 0.510	R	Tree Removal		1
014A	17.74	+ 0.020	R	Tree Removal		1
014A	18	+ 0.500	R	Tree Removal		1
014A	19	+ 0.016	R	Tree Removal		1
014A	19	+ 0.360	R	Tree Removal		1
014A	19	+ 0.530	L	Tree Removal		1
014A	19	+ 0.860	 R	Tree Removal	<u> </u>	1
014A	19	+ 0.910	L	Tree Removal		1
014A	20	+ 0.410	 R	Tree Removal	<u> </u>	1
014A	20	+ 0.410	<u>i</u>	Tree Removal		1
0177	20	. 0.410		ee Kemoval	Subtotal	

						Clear and Grub
						Tree
Highway	MRM	Disp	Side		Additional Comments	(Each)
014A	20	+ 0.487	L	Tree Removal		1
014A	20	+ 0.730	R	Tree Removal		1
014A	20	+ 0.908	R	Tree Removal	[1
014A	21	+ 0.033	L	Tree Removal		1
014A	21	+ 0.950	R	Tree Removal	[1
014A	24	+ 0.028	L	Tree Removal		1
014A	24	+ 0.156	L	Tree Removal	[1
014A	24	+ 0.260	R	Tree Removal		1
014A	24.45	+ 0.096	L	Tree Removal		1
014A	24.45	+ 0.166	L	Tree Removal		1
014A	25	+ 0.197	R	Tree Removal		1
014A	25	+ 0.262	L	Tree Removal		1
014A	25	+ 0.319	R	Tree Removal	Cluster of dead trees	5
014A	25	+ 0.335	L	Tree Removal	Cluster of dead trees	5
014A	25	+ 0.414	L	Tree Removal		1
014A	25	+ 0.457	R	Tree Removal		1
014A	25	+ 0.798	L	Tree Removal		1
014A	25	+ 0.799	R	Tree Removal		1
014A	26	+ 0.048	L	Tree Removal		1
014A	26	+ 0.208	L	Tree Removal		1
014A	26	+ 0.242	L	Tree Removal		1
014A	26	+ 0.282	L	Tree Removal		1
014A	26	+ 0.358	L	Tree Removal	Cluster of dead trees	5
014A	26	+ 0.702	L	Tree Removal		1
014A	26	+ 0.709	R	Tree Removal		1
014A	26	+ 0.815	R	Tree Removal	[1
014A	27	+ 0.245	R	Tree Removal		1
014A	27	+ 0.252	R	Tree Removal	[1
014A	27	+ 0.281	R	Tree Removal		1
014A	32	+ 0.546		Tree Removal	[1
014A	36	+ 0.122	R	Tree Removal		1
					Subtotal	43
					Total	85

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EROSION CONTROL

All costs for the erosion control work for furnishing, placing, and maintaining erosion control including equipment, labor, installing and removing wattles, permanent seeding, fertilizing, and fiber mulching will be incidental to the contract lump sum price for Erosion Control.

The limits of erosion control work will be for all locations disturbed during construction. These limits will be determined by the Engineer during construction.

Erosion control wattles for restraining the flow of runoff and sediment will be installed at locations to protect water resources as directed by the Project Engineer. Refer to Standard Plate 734.06 for details.

The Contractor will provide certification that the erosion control wattles do not contain noxious weed seeds.

The erosion control wattle provided will be from the following approved product list: http://apps.sd.gov/HC60ApprovedProducts/main.aspx

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

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 lump sum price for Erosion Control.

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

Product	Manufacturer		
MycoApply	Mycorrhizal Applications, Inc. Grants Pass, OR Phone: 1-866-476-7800 <u>www.mycorrhizae.com</u>		
AM 120 Multi Species Blend	Reforestation Technologies Int. Gilroy, CA Phone: 1-800-784-4769 www.reforest.com		

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:

Product

Sustane

Perfect Blend

<u>Manufacturer</u>
Sustane Corporate Headquarters Cannon Falls, Minnesota Phone: 1-800-352-9245 <u>www.sustane.com</u>
Perfect Blend, LLC Bellevue, WA Phone: 1-866-456-8890

www.perfect-blend.com

Fiber mulch will be applied in a separate operation following permanent seeding.

An additional 2% by weight of tackifier will be added to the fiber mulch product selected from the approved product list. If the product selected has auar aum tackifier included, then the additional 2% of tackifier will be auar gum. If the product selected has synthetic tackifier included, then the additional 2% of tackifier will be synthetic.

The Contractor will allow the fiber mulch to cure a minimum of 18 hours prior to watering or any storm event to ensure proper cohesion between the soil and fiber particles.

All costs for the additional tackifier added to the fiber mulch including labor, equipment, and materials will be incidental to the contract lump sum price for Erosion Control.

site:

http://sddot.com/business/certification/products/Default.aspx

TRAFFIC CONTROL – GENERAL NOTES

of darkness.

movement.

INVENTORY OF TRAFFIC CONTROL DEVICES

SIGN CODE	SIGN DES
W3-4	BE PREPA
W20-1	ROAD WC
W20-7	FLAGGER
W21-5	SHOULDE
G20-2	END ROAI
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The fiber mulch provided will be from the approved product list. The approved product list for fiber mulch may be viewed at the following internet

Unless otherwise stated in these plans, no work will be allowed during hours

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.

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

CONVENTIONAL ROAD SQFT NUMBER SIGN SIZE SCRIPTION SQFT PER SIGN RED TO STOP 48" x 48" 16.0 32.0 2 ORK AHEAD 48" x 48" 16.0 32.0 2 48" x 48" R(symbol) 2 16.0 32.0 ER WORK 48" x 48" 2 16.0 32.0 36" x 18" D WORK 2 4.5 9.0 CONVENTIONAL ROAD 137.0 TRAFFIC CONTROL SIGNS SQFT





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	SOUTH DAKOTA		000N-451	6	12
	Plotting Date:	03/06/	2023	-	
				-	
Posted	Spacing of	Taper	Spacing of		
Speed	Advance Warnin	ng Length	Channelizing		
Prior to	Signs		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		
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used.					
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	igns (W21-1 or V f SHOULDER W				
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A SHOUL	DER WORK sig	n should l	be placed on the		
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January 22, 2021

WORK ON SHOULDERS

ROAD WORK AHEAD







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GENERAL NOTES: At cut or fill slope installations, wattles will be installed alor

At ditch installations, point A must be higher than point B around the ends.

The Contractor will dig a 3" to 5" trench, install the wattle ti under the wattle, and then compact the soil excavated from See Detail B.

The stakes will be 1"x2" or 2"x2" wood stakes, however, of only if approved by the Engineer. The stakes will be placed of the stakes along the wattles will be 3' to 4'.

Where installing running lengths of wattles, the Contractor and will not overlap the ends. See Detail C.

The Contractor and Engineer will inspect the erosion contr permit. The Contractor will remove, dispose, or reshape th determined by the Engineer.

Sediment removal, disposal, or necessary shaping will be removing accumulated sediment, disposal of sediment, an contract unit price per cubic yard for "Remove Sediment".

All costs for furnishing and installing the erosion control was be incidental to the contract unit price per foot for the corre

All costs for removing the erosion control wattle from the p be incidental to the contract unit price per foot for "Remove

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Published Date: 1st Qtr. 2023	0	
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	STATE OF SOUTH	PROJECT	SHEET	TOTAL SHEETS
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ong the contour a	nd perpendic	cular to the water flow.		
to ensure that wa	ater flows ove	er the wattle and not		
tion the state of the state of	ah as that da			
		ylight can not be seen le on the uphill side.		
other types of sta ed 6" from the en	ikes such as ds of the wat	rebar may be used tles and the spacing		
or will butt the sec	cond wattle tig	ghtly against the first		
trol wattles in acc	cordance with	the storm water		
the accumulated	sediment whe	en necessary as		
e as directed by t	he Engineer.	All costs for		
and necessary sh	aping will be	incidental to the		
vattles including I	abor, equipm	ent, and materials will		
		ttle contract item.		
project including ve Erosion Contro	labor, equipr	nent, and materials will		
	or rratile .			
		February 14, 202		
	AATTIE	PLATE NUMBER 734.06		
SION CONTROL	WATTLE	Sheet 2 of 2	-	



Maintenance Repair Location Application (MARLA)



SD 🗾		PROJECT	SECTION	SHEET
DOT		000N-451	10	12
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South Dakota Game Fish and Parks, Esri, HERE, Garmin, SafeGraph, GeoTechnologies, Inc, METI/NASA, USGS, EPA, NPS, US Census Bureau, USDA, South Dakota Department of Transportation



Maintenance Repair Location A



Tree Removal

Points

			SECTION	SHEET
	Plotting Date: 03/01/20	000N-451	11	12
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0	0.35 0.7	1.4 km		
South Dakota Gam	e Fish and Parks, Esri,	HERE, Garmin, SafeGraph,		
Geo rechnologies, In USDA, South Dakota	ic, METI/NASA, USGS, EF a Department of Transporta	PA, NPS, US Census Bureau, tion		
	South Dakata	Department of Transportation		
	South Dakota	SDDOT-TIM		



Maintenance Repair Location A



South Dakota Department of Transportation SDDOT-TIM

DOT	PROJECT	SECTION SHEE
Plotting Date: 03/01/20;	000N-451	12 12
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