

STATE OF	PROJECT	SHEET	TOTAL SHEETS
SOUTH DAKOTA	000N-491	1	14
Plotting Date:	03/02/2023		

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## ESTIMATE OF QUANTITIES

BID ITEM	ITEM	QUANTITY	UNIT
009E0010	Mobilization	Lump Sum	LS
110E0300	Remove Concrete Curb and/or Gutter	17	Ft
110E1140	Remove Concrete Sidewalk	93.5	SqYd
470E0020	Pipe Handrail	17.0	Ft
632E1320	2.0"x2.0" Perforated Tube Post	10.0	Ft
632E3205	Flat Aluminum Sign, Nonremovable Copy Super/Very High Intensity	2.5	SqFt
633E1220	High Build Waterborne Pavement Marking Paint, 4" White	216	Ft
633E1288	High Build Waterborne Pavement Marking Paint, Symbol	0	Each
634E0010	Flagging	20.0	Hour
634E0110	Traffic Control Signs	109.5	SqFt
634E0120	Traffic Control, Miscellaneous	Lump Sum	LS
634E0275	Type 3 Barricade	1	Each
634E0420	Type C Advance Warning Arrow Board	1	Each
634E0560	Remove Pavement Marking, 4" or Equivalent	50	Ft
650E0060	Type B66 Concrete Curb and Gutter	17	Ft
651E0040	4" Concrete Sidewalk	85	SqFt
651E7000	Type 1 Detectable Warnings	10	SqFt

## **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 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 Aguatic 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/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.

## COMMITMENT H: WASTE DISPOSAL SITE

The Contractor will furnish a site(s) for the disposal of construction and/or demolition debris generated by this project.

## Action Taken/Required:

Construction and/or demolition debris may not be disposed of within the Public ROW.

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

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

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

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.

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

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

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

## **Action Taken/Required:**

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

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

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

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

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

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

## COMMITMENT S: FIRE PREVENTION IN THE BLACK HILLS AREA

This project is located within the Black Hills Forest Fire Protection Boundary.

#### **Action Taken/Required:**

The Contractor will adhere to the "Special Provision for Fire Plan".

## 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.

## **TYPE 1 DETECTABLE WARNINGS**

Detectable warnings will be in compliance with the Americans with Disabilities Act regulations.

The detectable warnings will be installed according to the manufacturer's installation instructions.

A concrete thickness equal to the adjacent concrete sidewalk thickness and 2 inches of granular cushion material will be placed below the Type 1 Detectable Warnings. When concrete is placed below the detectable warnings then the concrete thickness will be transitioned at the rate of 1" per foot to match the adjacent concrete sidewalk thickness.

The detectable warnings will be a brick red color for application in concrete curb ramps. Cast iron plates may be a natural patina (weathered steel).

Type 1 Detectable Warning Panels will be one of the following products:

#### Type 1 Detectable Warnings

# Product Detectable Warning Plate Cast Iron Plate

Detectable Warning Plate

Cast Iron Plate

Detectable Warning Plate

Cast Iron Plate(No

Coating)

Advantage Tactile

**Detectable Warning** 

Cast Iron Plate

Neenah Foundry Company Neenah, WI 800-558-5075 http://www.neenahfoundry.com/

Manufacturer

Deeter Foundry Lincoln, NE 800-234-7466 http://www.deeter.com/

East Jordan Iron Works, Inc. 301 Spring Street East Jordan, MI 49727 800-626-4653 http://www.ejiw.com

Advantage Tactile Systems, Inc. 241 Main Street, Suite 100 Buffalo, NY 14203 800-679-4022 https://advantagetactile.com/

## SEQUENCE OF OPERATIONS

The Contractor will submit a sequence of operations for approval two weeks prior to the preconstruction meeting. If changes to the sequence of operations are proposed during the project, these must be submitted for review a minimum of one week prior to potential implementation. Approval for changes to the sequence of operations will only be allowed when the proposed changes meet with the Department's intent for traffic control and sequencing of the work.

## **GENERAL TRAFFIC CONTROL**

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

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

movement.

Engineer.

of darkness.

Fixed location signing placed more than 4 calendar days prior to the start of construction will be covered or laid down until the time of construction. The covers must be approved by the Engineer prior to installation. The cost of materials, labor, and equipment necessary to complete this work will be incidental to other contract items. No separate payment will be made.

All fixed location signs, sign posts, and breakaway bases will be removed within 7 calendar days following pavement marking.

All haul trucks will be equipped with an additional flashing amber light that is visible from the backside of the haul truck. The costs for the flashing amber lights will be incidental to the various related contract items.

arrangements.

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

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

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

The Contractor will notify businesses/homeowners a minimum of two weeks prior to construction to inform them of upcoming construction and again a minimum of 48 hours prior to any blocked access to make appropriate

## INVENTORY OF TRAFFIC CONTROL DEVICES

SIGN CODE	SIGN DESCRIPTION	NUM BER	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	3	48" x 48"	16.0	48.0
W20-5	LEFT or RIGHT LANE CLOSED AHEAD	1	48" x 48"	16.0	16.0
W20-7	FLAGGER (symbol)	1	48" x 48"	16.0	16.0
G20-2	END ROAD WORK	3	36" x 18"	4.5	13.5
		CON TRAFFIC	VENTIONAL CONTROL S	ROAD IGNS SQFT	109.5

## HIGH BUILD WATERBORNE PAVEMENT MARKING PAINT

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

Reflective media will consist of glass beads.

High Build Waterborne Pavement Marking Paint applied after October 15 must be formulated as cold-weather waterborne paint. Cold weather waterborne paint will meet the requirements of Section 980.1 C.

## RATES OF MATERIALS FOR HIGH BUILD WATERBORNE PAVEMENT MARKING PAINT

Solid 4" line = 22.5 Gals/Mile Glass Beads = 8 Lbs/Gal.

All cost for materials, labor and equipment necessary to furnish and install the pavement markings will be incidental to the contract unit price for the respective High Build Waterborne Pavement Marking Paint items.

## **REMOVE PAVEMENT MARKING, 4" OR EQUIVALENT**

Markings that fall outside of the new groove will be obliterated using additional methods approved by the Engineer. Removal of the existing markings will be accomplished without causing damage to the pavement, pavement joints, or joint sealant. The Contractor will repair any damage to the pavement, pavement joints, or joint sealant for no additional payment and at no cost to the State. All costs for materials, labor, and equipment necessary to remove the existing markings will be incidental to the contract unit price per foot for Remove Pavement Marking, 4" or Equivalent.

### **PAVEMENT MARKING SYMBOL FOR ACCESSIBLE PARKING SPACES**

The International Symbol of Accessibility Parking Space Marking with blue background and white border, meeting the minimum dimensions shown in Part 3 of the MUTCD will be placed in accessible parking spaces having the required regulatory signing. The blue background and white border symbol will be required for all accessible parking spaces for persons with disabilities.

Traffic paint will be furnished in white and blue. The blue paint will meet the color specification limits and luminance factors listed in the table below for Daytime Color Specification Limits and Luminance Factors for Pavement Marking Material with CIE 20 Standard Observer and 45/0 (0/45) Geometry and CIE Standard Illuminant D65 when tested in accordance with ASTM E1347 or ASTM E1349.

Color	Ch	Luminance Factor							
	Х	Y	X	Y	X	Y	X	Y	(Y%)
Blue	0.105	0.1	0.22	0.18	0.2	0.26	0.06	0.22	5

All costs for furnishing and installing the International Symbol of Accessibility Parking Space Marking will be incidental to the contract unit price per each for High Build Pavement Marking Paint, Symbol.

## **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 High Intensity will have sheeting in conformance with the requirements of ASTM D4956 Type IV. 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 High Intensity.

## 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.

## SIGNPOST INSTALLATION IN CONCRETE

On concrete surfaces, a core will be drilled out for sign installation. The core diameter will be sized accordingly depending on post size. Concrete surrounding the core must not be cracked or damaged.

All costs associated with installation in concrete will be incidental to the sign installation.

Min



## **R7-8a VAN ACCESSIBLE SIGN DESIGN**

background

BORDER

R=1.5"



A	В	C	D	E	F	G	H	J	K	L
12	6	.375	.438	1.5	1.5D	.5	1 D	1.871	3.859	1.5

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## **R7-8 RESERVED PARKING – HANDICAP WITH LAW SIGN DESIGN**

This sign will be green (retroreflective) legend on a white (retroreflective) background or blue (retroreflective) on a white (retroreflective) background. 1'-0"

This sign will be green (retroreflective) legend on a white (retroreflective)

		PERMANENT SIGNING - Mt Rushmore Rd															
						SIGN							POST				
	EXISTING M RM (Approx.)	NEW MRM (Approx.)	Number	Width (in)	Height (in)	Facing Traffic	New Sign	Remove Existing	Square Footage	Sheeting Type	New Post	Length (ft)	Size (in)	# of Posts	Shear Slip Base	SIGN DESCRIPTION	
ſ	22.51	SAME	R7-8	12	24	WESTBOUND	YES	NO	2.0	IV	YES	10	2.0	1	-	RESERVED PARKING - HANDICAP WITH LAW	INSTAL
ſ	22.51	SAME	R7-8P	12	6	WESTBOUND	YES	NO	0.5	N	YES	-	-	-	-	VANACCESSIBLE	INSTAL

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WORK TO BE DONE

L NEW SIGN ON NEW POST L NEW SIGN UNDER RESERVED PARKING SIGN



## HANDRAIL DETAIL ALONG PARALLEL CURB RAMP



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ted From - TRRC12608



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- Plotted From - TRRC12608





Notted From - TRRC12608

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#### **GENERAL NOTES:**

For illustrative purpose only, type 1 detectable warnings are shown in the drawings.

For illustrative purpose only, a PCC fillet section is shown in one of the drawings. The curb ramp depicted on this standard plate may be used with a PCC fillet section or with curb and gutter.

The curb ramp will be placed at the location stated in the plans.

Sidewalk adjacent to the curb ramp will be as shown in the plans.

Care will be taken to ensure a uniform grade on the curb ramp, free of sags and short grade changes.

Surface texture of the curb ramp will be obtained by coarse brooming transverse to the slope of the curb ramp.

The normal gutter line profile will be maintained through the area of the ramp opening.

Joints will be sawed or tooled into the concrete adjacent to the detectable warnings to alleviate possible corner cracking (see plan view for joint location).

Care will be taken to ensure that the surface of the detectable warnings are clean and maintains a uniform color.

The detectable warnings will be cut as necessary to fit the plan specified limits of the detectable warnings. Cost for cutting the detectable warnings will be incidental to the corresponding detectable warning contract item.

When curb height is greater than 6" and less than 12", reinforcing steel is required in accordance with the detail on sheet 2 of 3. The reinforcing steel will conform to ASTM A615, Grade 60. Cost for furnishing and installing the reinforcing steel will be incidental to the contract unit price per square foot for the corresponding concrete sidewalk contract item.

There will be no separate payment for curb ramps. The curb ramp will be measured and paid for at the contract unit price per square foot for the corresponding concrete sidewalk contract item. The square foot area of the detectable warnings and the curb along the short radius will be included in the measured and paid for quantity of sidewalk.

The curb transitions and ramp opening will be measured and paid for at the contract unit price per foot for the corresponding curb and gutter contract item when curb and gutter is used. The curb transitions and ramp opening will be measured and paid for at the contract unit price per square yard for the corresponding PCC fillet section contract item when a PCC fillet section is used.

The type 1 detectable warnings will be measured to the nearest square foot. All costs for furnishing and installing the type 1 detectable warnings including labor, equipment, materials, and incidentals will be paid for at the contract unit price per square foot for "Type 1 Detectable Warnings".

The type 2 detectable warnings will be measured to the nearest square foot. All costs for furnishing and installing the type 2 detectable warnings including labor, equipment, and materials, including adhesive, necessary sealant or grout, and necessary grinding will be paid for at the contract unit price per square foot for "Type 2 Detectable Warnings".

April 18, 2021

	S D D O T	TYPE 3 CURB RAMP (PARALLEL CURB RAMP)	plate number 651.03
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