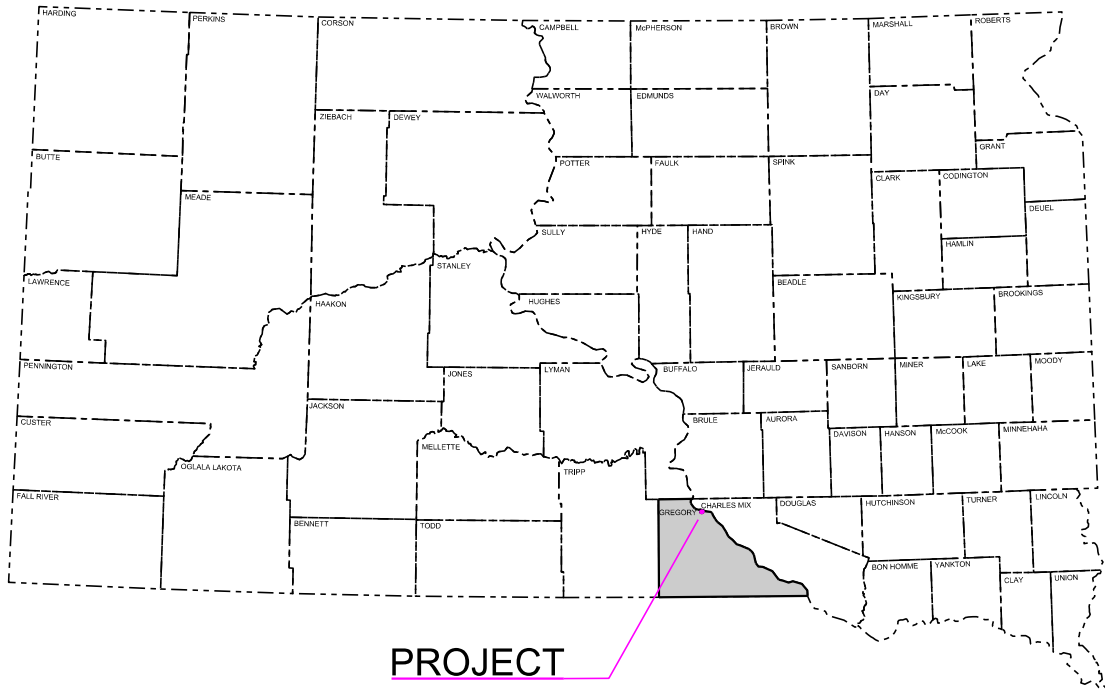


Plot Scale - 1:200

TRPR07192

Plotted From -



STATE OF SOUTH DAKOTA  
DEPARTMENT OF TRANSPORTATION  
PLANS FOR PROPOSED

PROJECT P0044(225)290  
S.D. HIGHWAY 44  
GREGORY COUNTY

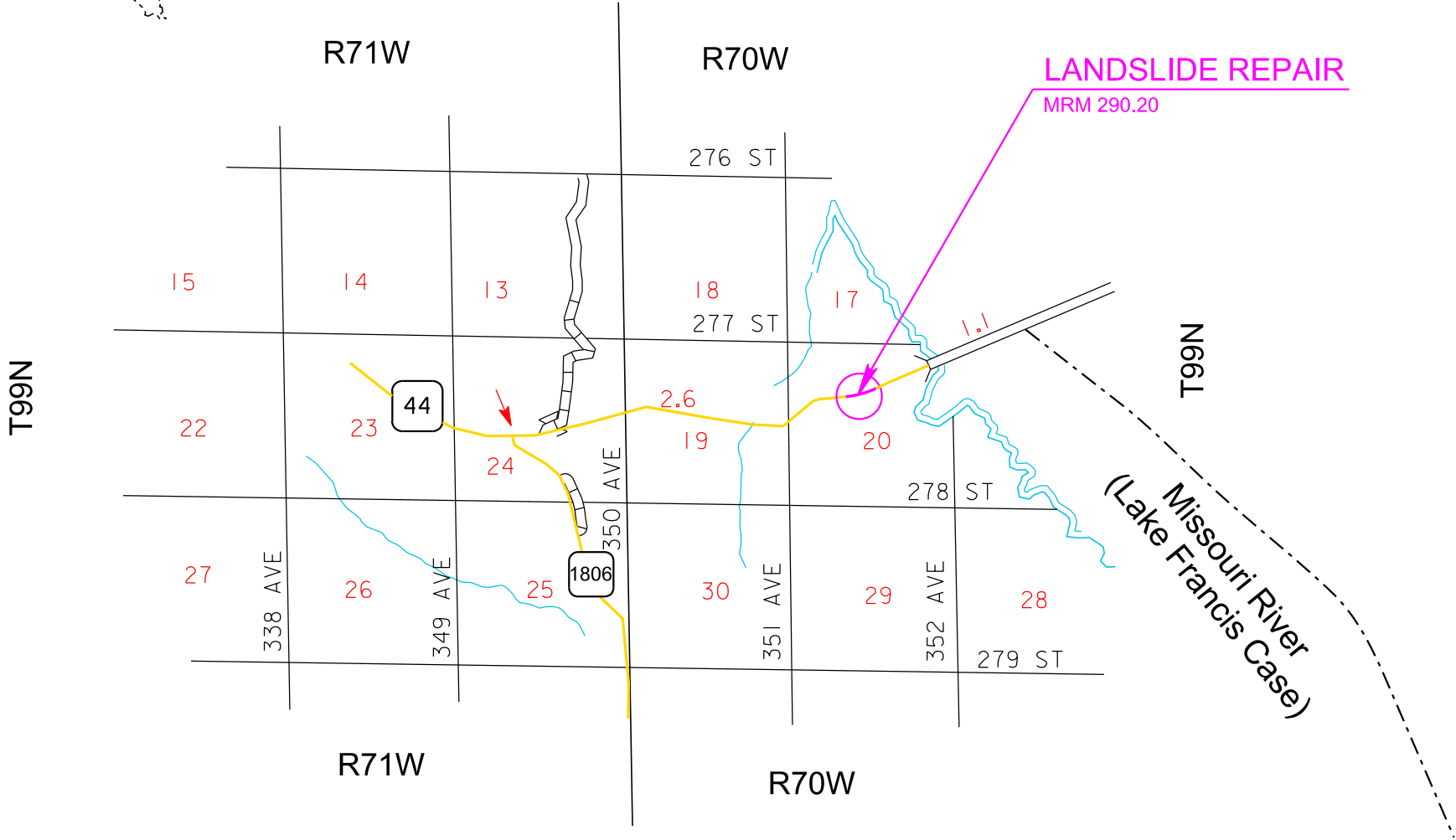
LAND SLIDE REPAIR  
PCN 087V

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	P 0044(225)290	1	98

Plotting Date: 03/23/2021

INDEX OF SECTIONS

- Section A: Estimate of Quantities and Environmental Commitments  
Section B: Grading Plans  
Section C: Traffic Control Plans  
Section D: Erosion and Sediment Control Plans  
Section F: Surfacing Plans  
Section X: Cross Sections  
Section Z: Pipe Sections



DESIGN DESIGNATION

AADT (2019)	900
AADT (2044)	1058
DHV	125
D	50%
DHV T%	10.7
AADT T%	23.5%
V	70mph

STORM WATER PERMIT

Major Receiving  
Body of Water: Missouri River  
Area Disturbed: 7.3 ac  
Total Project Area: 8.37 ac  
Approx. Begin Lat N43°22'17.36423", Long: W99°09'32.01210"



ESTIMATE OF QUANTITIES AND ENVIRONMENTAL COMMITMENTS

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	P 0044(225)290	A1	A4

Plotting Date: 03/30/2021 Rev 03/30/2021(BT)

Section B - Grading

BID ITEM NUMBER	ITEM	QUANTITY	UNIT
009E0010	Mobilization	Lump Sum	LS
009E3220	Reestablish Right-of-Way and Property Corner	20	Each
009E3225	Reestablish Public Land Survey System Corner	1	Each
009E3230	Grade Staking	0.052	Mile
009E3245	Final Cross Section Survey	0.289	Mile
009E3250	Miscellaneous Staking	0.289	Mile
009E3280	Slope Staking	0.118	Mile
009E3301	Engineer Directed Surveying/Staking	20.0	Hour
100E0100	Clearing	Lump Sum	LS
110E0600	Remove Fence	1,682	Ft
110E1010	Remove Asphalt Concrete Pavement	821.0	SqYd
120E0010	Unclassified Excavation	118,853	CuYd
120E4100	Reprofiling Ditch	4.0	Sta
120E6100	Water for Embankment	1,782.8	MGal
250E0020	Incidental Work, Grading	Lump Sum	LS
450E0142	24" RCP Class 2, Furnish	128	Ft
450E0150	24" RCP, Install	128	Ft
450E2200	24" RCP Sloped End, Furnish	2	Each
450E2201	24" RCP Sloped End, Install	2	Each
450E4758	18" CMP 14 Gauge, Furnish	114	Ft
450E4760	18" CMP, Install	114	Ft
450E5010	18" CMP Elbow, Furnish	2	Each
450E5011	18" CMP Elbow, Install	2	Each
450E5211	18" CMP Flared End, Furnish	1	Each
450E5212	18" CMP Flared End, Install	1	Each
450E5314	30" CMP Sloped End, Furnish	2	Each
450E5315	30" CMP Sloped End, Install	2	Each
450E5406	18" CMP Safety End, Furnish	1	Each
450E5407	18" CMP Safety End, Install	1	Each
450E7630	30" Steel Pipe, Furnish	184	Ft
450E7631	30" Steel Pipe, Install	14	Ft
451E5130	Bore and Jack 30" Pipe	170	Ft
462E0250	Cellular Grout	96.3	CuYd
600E0200	Type II Field Laboratory	1	Each
620E0020	Type 2 Right-of-Way Fence	925	Ft
620E0030	Type 3 Right-of-Way Fence	1,140	Ft
620E0520	Type 2 Temporary Fence	1,440	Ft
620E1020	2 Post Panel	23	Each
620E1030	3 Post Panel	1	Each
680E0040	4" Underdrain Pipe	60	Ft
680E0440	4" Slotted Corrugated Polyethylene Drainage Tubing	712	Ft

BID ITEM NUMBER	ITEM	QUANTITY	UNIT
680E2000	Concrete Headwall for Underdrain	2	Each
680E2500	Porous Backfill	299.0	Ton
720E1010	PVC Coated Bank and Channel Protection Gabion	15.0	CuYd
831E0110	Type B Drainage Fabric	49	SqYd

Section C - Traffic Control

BID ITEM NUMBER	ITEM	QUANTITY	UNIT
633E1220	High Build Waterborne Pavement Marking Paint, 4" White	600	Ft
633E1222	High Build Waterborne Pavement Marking Paint, 4" Yellow	300	Ft
634E0010	Flagging	1,000.0	Hour
634E0020	Pilot Car	500.0	Hour
634E0110	Traffic Control Signs	201.0	SqFt
634E0120	Traffic Control, Miscellaneous	Lump Sum	LS

Section D - Erosion and Sediment Control

BID ITEM NUMBER	ITEM	QUANTITY	UNIT
110E1690	Remove Sediment	1.0	CuYd
110E1693	Remove Erosion Control Wattle	63	Ft
110E1700	Remove Silt Fence	915	Ft
230E0010	Placing Topsoil	5,485	CuYd
730E0100	Cover Crop Seeding	2.0	Bu
730E0210	Type F Permanent Seed Mixture	216	Lb
731E0200	Fertilizing	6.23	Ton
732E0100	Mulching	18.6	Ton
732E0300	Bonded Fiber Matrix	17.0	Ton
734E0103	Type 3 Erosion Control Blanket	3,240	SqYd
734E0104	Type 4 Erosion Control Blanket	390	SqYd
734E0154	12" Diameter Erosion Control Wattle	250	Ft
734E0165	Remove and Reset Erosion Control Wattle	63	Ft
734E0325	Surface Roughening	8.3	Acre
734E0510	Shaping for Erosion Control Blanket	620	Ft
734E0602	Low Flow Silt Fence	3,500	Ft
734E0604	High Flow Silt Fence	154	Ft
734E0610	Mucking Silt Fence	253	CuYd
734E0620	Repair Silt Fence	915	Ft
900E1320	Construction Entrance	1	Each

INDEX OF SHEETS

A1 Estimate of Quantities for Sections B, C, D, and F  
A2 to A4 Environmental Commitments

Section F - Surfacing

BID ITEM NUMBER	ITEM	QUANTITY	UNIT
260E1010	Base Course	690.4	Ton
320E1200	Asphalt Concrete Composite	246.8	Ton

SPECIFICATIONS

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

# ESTIMATE OF QUANTITIES AND ENVIRONMENTAL COMMITMENTS

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Plotting Date: 03/19/2021

## ENVIRONMENTAL COMMITMENTS

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

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

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

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

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

### COMMITMENT B2: WHOOPING CRANE

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

#### Action Taken/Required:

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

## COMMITMENT B3: AMERICAN BURYING BEETLE

This project is in an area that contains habitat associated with the American Burying Beetle. All work included within the project limits, SDDOT designated sources and sites, and designated option sources and sites provided in the plans have been coordinated with the USFWS.

#### Action Taken/Required:

Earth disturbing activities will not occur outside the designated work limits shown in the plans unless specifically stated. The Contractor is responsible for obtaining USFWS review for any borrow sites, staging areas, waste sites, additional easements, and other ground disturbing activities outside the project work limits shown in the plans. At the pre-construction meeting the Contractor will provide the Project Engineer a copy of the USFWS review for any work outside the designated work limits shown in the plans to ensure all permit conditions and plans are clearly understood.

## 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 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/DisplayRule.aspx?Rule=41:10:04](https://sdlegislature.gov/rules/DisplayRule.aspx?Rule=41:10:04)>

## COMMITMENT D: WATER QUALITY STANDARDS

### COMMITMENT D1: SURFACE WATER QUALITY

The Blue Blanket Creek is classified as a cold water permanent fishery with a total suspended solids standard of less than 30 mg/L 30-day average, less than 53 mg/L daily maximum.

This project may be in the vicinity of multiple streams and wetlands. These waters are considered waters of the state and are protected under Administrative Rules of South Dakota (ARSD) Chapter 74:51. Special construction measures may have to be taken to ensure that this water body is not impacted.

#### Action Taken/Required:

The Contractor is advised that the South Dakota Surface Water Quality Standards, administered by the South Dakota Department of Environment and Natural Resources (DENR), apply to this project. Special construction measures will be taken to ensure the above standard(s) of the surface waters are maintained and protected.

## COMMITMENT D2: SURFACE WATER DISCHARGE

The DENR General Permit for Temporary Discharge is required for temporary dewatering and discharges to waters of the state. The effluent limit for total suspended solids will be 90 mg/L 30-day average. The effluent limit applies to discharges to all waters of the state except discharges to waters classified as cold water permanent fish life propagation waters according to the ARSD 74:51:01:45. For discharges to waters of the state classified as cold water permanent fish life propagation waters, the effluent limit for total suspended solids will be 53 mg/L daily maximum.

The permittee has the option of completing effluent testing or implementing a pollution prevention plan for compliance with this permit. If the permittee develops a pollution prevention plan instead of total suspended solids sampling, the plan must be developed and implemented prior to discontinuing total suspended solids sampling. Refer to Section 4.0 of the permit. If any pollutants are suspected of being discharged, a sample must be taken for those parameters listed in Section 3.4 of the permit.

Refer to Commitment D1: Surface Water Quality for stream classification.

#### Action Taken/Required:

If construction dewatering is required and this project is currently covered under a General Permit for Stormwater Discharges Associated with Construction Activities, the contractor will need to submit the dewatering information to the SDDENR using the following form:

< <http://denr.sd.gov/des/sw/eforms/AddTempInfoFillable.pdf>>

The Contractor will provide a copy of the approved permit or the submitted dewatering information to the Project Engineer prior to proceeding with any dewatering activities. The approved permit or submitted dewatering information must be kept on-site and as part of the project records.

Effluent monitoring, as a result of dewatering activities, will be summarized for each month and recorded on a separate Discharge Monitoring Report (DMR) and submitted to DENR monthly. Additional information can be found at: < <http://denr.sd.gov/des/sw/WhatisaDMR.aspx>>



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Plotting Date: 03/19/2021

## COMMITMENT E: STORM WATER

Construction activities constitute 1 acre or more of earth disturbance and/or work in a waterway.

### Action Taken/Required:

The DENR General Permit for Stormwater Discharges Associated with Construction Activities is required for construction activity disturbing one or more acres of earth and work in a waterway. The SDDOT is the owner of this permit and will submit the NOI to DENR 15 days prior to project start in order to obtain coverage under the General Permit. Work can begin once the DENR letter of approval is received.

The Contractor must adhere to the “Special Provision Regarding Storm Water Discharges to Waters of the State.”

The Contractor will complete the DENR Contractor Certification Form prior to the pre-construction meeting. The form certifies under penalty of law that the Contractor understands and will comply with the terms and conditions of the permit for this project. Work may not begin on this project until this form is signed and submitted to DENR.

The form can be found at:  
< <https://denr.sd.gov/des/sw/eforms/CGPAppendixCCA2018Fillable.pdf> >

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.

### Storm Water Pollution Prevention Plan

The Storm Water Pollution Prevention Plan (SWPPP) will be developed prior to the submittal of the NOI and will be implemented for all construction activities for compliance with the permit. The SWPPP must be kept on-site and updated as site conditions change. Erosion control measures and best management practices will be implemented in accordance with the SWPPP.

The DOT 298 Form will be used for site inspections and to document changes to the SWPPP. A copy of the completed inspection form will be filed with the SWPPP documents and retained for a minimum of three years.

The inspection will include disturbed areas of the construction site that have not been finally stabilized, areas used for storage materials, structural control measures, and locations where vehicles enter or exit the site. These areas will be inspected for evidence of, or the potential for, pollutants entering the drainage system. Erosion and sediment control measures identified in the SWPPP will be observed to ensure that they are operating correctly, and sediment is not tracked off the site.

Information on storm water permits and SWPPPs are available on the following websites:

SDDOT: < <https://dot.sd.gov/doing-business/environmental/stormwater> >

DENR: < <http://denr.sd.gov/des/sw/stormwater.aspx> >

EPA: < <https://www.epa.gov/npdes> >

## 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 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 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.

# ESTIMATE OF QUANTITIES AND ENVIRONMENTAL COMMITMENTS

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**COMMITMENT M: SECTION 4(f)/6(f) RESOURCES**

**COMMITMENT M1: SECTION 4(f) PROPERTY**

A Section 4(f) Evaluation concluded there are no feasible and prudent alternatives to avoiding Section 4(f) property located within the project.

Station	Section 4(f) Property
845+00-870+00	Buryanek Game Production Area

**Action Taken/Required:**

The following measures are required to minimize harm to the above Section 4(f) property:

- Access to Buryanek Game Production Area will always be maintained during construction activities via flagging operations and/or an approved detour.
- Temporary construction fencing will be installed along proposed construction limits prior to the start of construction activities to protect the existing 4(f) property and the public.
- Appropriate signage will be installed to alert users of Buryanek Game Production Area of construction activities, access restrictions or closures, and to direct users to secondary access points.
- The staging and/or storage of construction equipment or materials will not take place outside proposed construction limits that are within the defined boundaries of the 4(f) property.
- The Contractor will be required to closely coordinate the construction schedule with SDDOT and SDGFP prior to the start of construction activities.

The Contractor is not permitted to stage equipment or materials within the Buryanek Game Production Area. The Contractor will notify the Project Engineer if additional easement is needed to complete the work adjacent to any Section 4(f) property. The Project Engineer will obtain an appropriate course of action from the Environmental Office before proceeding with construction activities that affect any Section 4(f) property.