

STATE OF SOUTH DAKOTA
DEPARTMENT OF TRANSPORTATION
PLANS FOR PROPOSED

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	NH 0018(172)230	1	89

Plotting Date: 07/23/2014

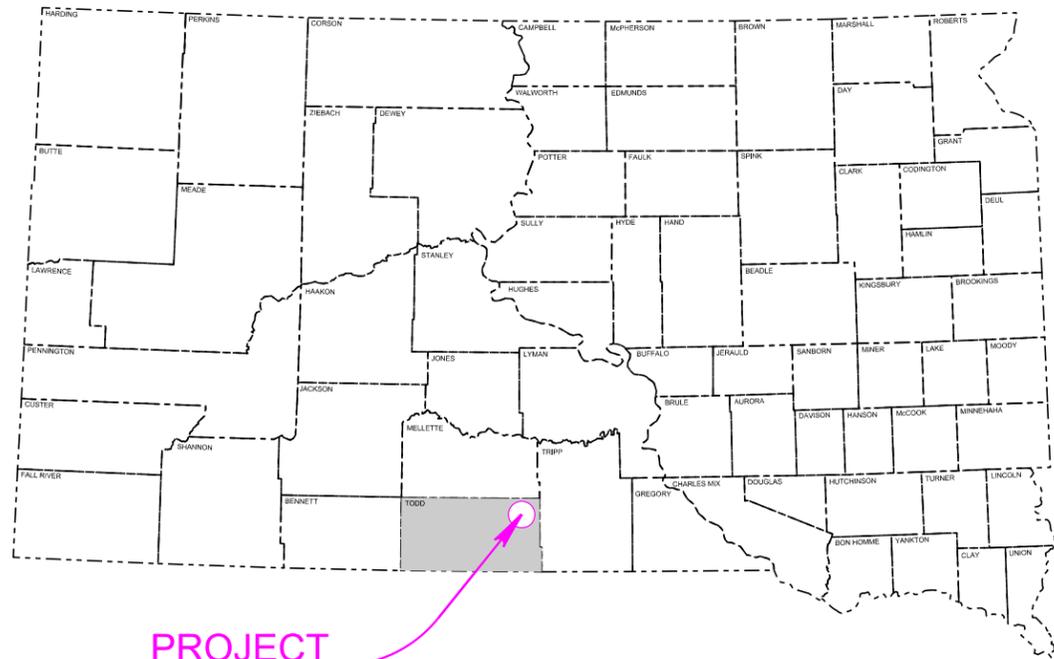
PROJECT NH 0018(172)230
U.S. HIGHWAY 18
TODD COUNTY

GRADING, STRUCTURE, PCC SURFACING

PCN 02RV

INDEX OF SECTIONS

- Section A: Estimate of Quantities
- Section B: Grading Plans
- Section C: Traffic Control Plans
- Section D: Erosion And Sediment Control Plans
- Section E: Structure Plans
- Section F: Surfacing Plans
- Section X: Cross Sections
- Section Z: Pipe Sections



Plot Scale - 1:200

PROJECT

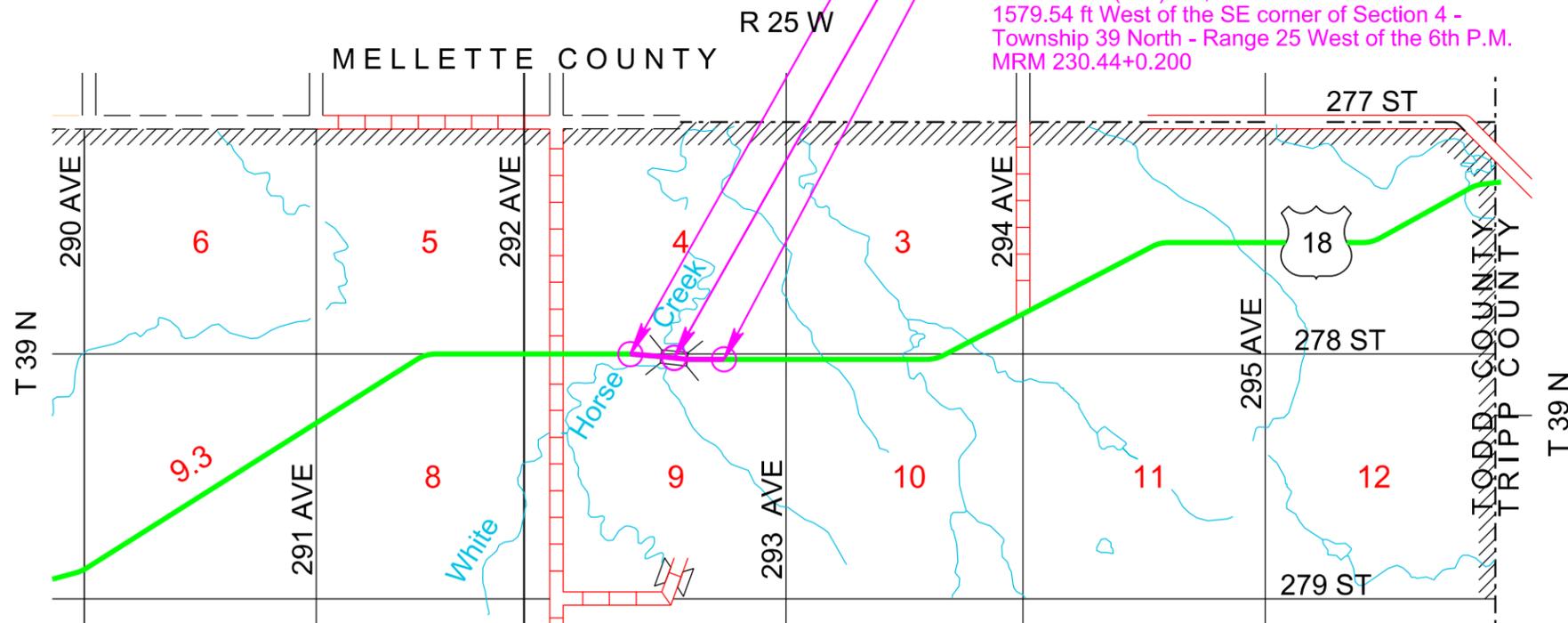
BEGIN NH 0018(172)230

Station 3+00.00 = Station 374+92.00
on NH 0018(104)223; 137.17 ft North and
1038.16 ft East of the SW corner of Section 4 -
Township 39 North - Range 25 West of the 6th P.M.
MRM 230.00+0.139

STRUCTURE 61-485-010

END NH 0018(172)230

Station 29+50.00 = Station 401+30.00
on NH 0018(104)223; 1.16 ft South and
1579.54 ft West of the SE corner of Section 4 -
Township 39 North - Range 25 West of the 6th P.M.
MRM 230.44+0.200



DESIGN DESIGNATION

ADT (2013)	1250
ADT (2033)	1937
DHV	234.4
D	51%
T DHV	8.1%
T ADT	17.7%
V	65 MPH

STORM WATER PERMIT

Major Receiving
Body of Water: White Horse Creek
Area Disturbed: 7 Acres
Total Project Area: 8.5 Acres
Approx. Begin Lat/Long 43.37571-100.2896

GROSS LENGTH	2,650.00 FEET	0.502 MILES
LENGTH OF EXCEPTIONS	0 FEET	0 MILES
NET LENGTH	2,650.00 FEET	0.502 MILES



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ESTIMATE OF QUANTITIES AND ENVIRONMENTAL COMMITMENTS

STATE OF SOUTH DAKOTA	PROJECT NH 0018(172)230	SHEET A1	TOTAL SHEETS A3
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Plotting Date: 08/18/2014 Revised: 8/18/2014 NS

Grading – Section B

Bid Item Number	Item	Quantity	Unit
009E0010	Mobilization	Lump Sum	LS
009E3230	Grade Staking	1.004	Mile
009E3250	Miscellaneous Staking	0.502	Mile
009E3280	Slope Staking	0.502	Mile
009E3290	Structure Staking	1	Each
009E3300	Three Man Survey Crew	40.0	Hour
100E0100	Clearing	Lump Sum	LS
110E0600	Remove Fence	5,252	Ft
110E0730	Remove Beam Guardrail	421.0	Ft
110E1100	Remove Concrete Pavement	1,642.7	SqYd
120E0010	Unclassified Excavation	25,511	CuYd
120E0600	Contractor Furnished Borrow	16,983	CuYd
120E2000	Undercutting	10,498	CuYd
120E6100	Water for Embankment	438.7	MGal
250E0020	Incidental Work, Grading	Lump Sum	LS
* 270E0040	Salvage and Stockpile Asphalt Mix and Granular Base Material	4,147.3	Ton
270E0040	Salvage and Stockpile Asphalt Mix and Granular Base Material	3,715.3	Ton
450E0142	24" RCP Class 2, Furnish	6	Ft
450E0150	24" RCP, Install	6	Ft
450E2200	24" RCP Sloped End, Furnish	1	Each
450E2201	24" RCP Sloped End, Install	1	Each
450E4789	36" CMP 16 Gauge, Furnish	44	Ft
450E4790	36" CMP, Install	44	Ft
450E5025	36" CMP Elbow, Furnish	2	Each
450E5026	36" CMP Elbow, Install	2	Each
450E5223	36" CMP Flared End, Furnish	2	Each
450E5224	36" CMP Flared End, Install	2	Each
450E5420	36" CMP Safety End, Furnish	1	Each
450E5423	36" CMP Safety End, Install	1	Each
600E0200	Type II Field Laboratory	1	Each
620E0030	Type 3 Right-of-Way Fence	5,132	Ft
620E0515	Type 1A Temporary Fence	650	Ft
620E1020	2 Post Panel	26	Each
620E1030	3 Post Panel	1	Each
720E1015	Bank and Channel Protection Gabion	6.0	CuYd
734E0900	Temporary Diversion Channel and/or Pipe	1	Each
900E0010	Refurbish Single Mailbox	1	Each

* - Denotes Non-Participating

Traffic Control – Section C

Bid Item Number	Item	Quantity	Unit
004E0030	Maintenance of Traffic Diversion(s)	Lump Sum	LS
633E1300	Pavement Marking Paint, White	24.0	Gal
633E1305	Pavement Marking Paint, Yellow	9.0	Gal
634E0010	Flagging	600	Hour
634E0020	Pilot Car	200	Hour
634E0100	Traffic Control	2,442	Unit
634E0120	Traffic Control, Miscellaneous	Lump Sum	LS
634E0610	4" Temporary Pavement Marking Tape Type 2	2,544	Ft
634E0896	Portable Temporary Traffic Signal System	1	Each

Erosion and Sediment Control – Section D

Bid Item Number	Item	Quantity	Unit
110E1690	Remove Sediment	3.0	CuYd
110E1700	Remove Silt Fence	210	Ft
230E0010	Placing Topsoil	2,775	CuYd
730E0251	Special Permanent Seed Mixture 1	196	Lb
731E0200	Fertilizing	5.30	Ton
732E0100	Mulching	14.0	Ton
734E0102	Type 2 Erosion Control Blanket	433	SqYd
734E0154	12" Diameter Erosion Control Wattle	1,410	Ft
734E0165	Remove and Reset Erosion Control Wattle	350	Ft
734E0325	Surface Roughening	1.0	Acre
734E0510	Shaping for Erosion Control Blanket	195	Ft
734E0602	Low Flow Silt Fence	700	Ft
734E0604	High Flow Silt Fence	138	Ft
734E0610	Mucking Silt Fence	58	CuYd
734E0620	Repair Silt Fence	210	Ft
734E5005	Dewatering	Lump Sum	LS
900E1320	Construction Entrance	2	Each

Structure – Section E

Bid Item Number	Item	Quantity	Unit
250E0030	Incidental Work, Structure	Lump Sum	LS

Alternate A

Bid Item Number	Item	Quantity	Unit
420E0200	Structure Excavation, Box Culvert	265	CuYd
421E0200	Box Culvert Undercut	1,050	CuYd
460E0120	Class A45 Concrete, Box Culvert	663.4	CuYd
480E0100	Reinforcing Steel	100,195	Lb
700E0210	Class B Riprap	541.6	Ton
831E0110	Type B Drainage Fabric	607	SqYd

INDEX OF SHEETS

A1 Estimate of Quantities for Sections B,C,D,E and F
A2 to A3 Environmental Commitments

Structure – Section E (Continued) Alternate B

Bid Item Number	Item	Quantity	Unit
420E0200	Structure Excavation, Box Culvert	299	CuYd
421E0200	Box Culvert Undercut	1,177	CuYd
462E0200	Controlled Density Fill	103.2	CuYd
560E0196	12'x12' Precast Concrete Box Culvert, Furnish	84.0	Ft
560E0197	12'x12' Precast Concrete Box Culvert, Install	84.0	Ft
560E1196	12'x12' Precast Concrete Box Culvert End Section, Furnish	2	Each
560E1197	12'x12' Precast Concrete Box Culvert End Section, Install	2	Each
560E2178	2-12'x12' Precast Concrete Box Culvert, Furnish	84.0	Ft
560E2179	2-12'x12' Precast Concrete Box Culvert, Install	84.0	Ft
560E2236	2-14'x12' Precast Concrete Box Culvert, Furnish	84.0	Ft
560E2237	2-14'x12' Precast Concrete Box Culvert, Install	84.0	Ft
560E3178	2-12'x12' Precast Concrete Box Culvert End Section, Furnish	2	Each
560E3179	2-12'x12' Precast Concrete Box Culvert End Section, Install	2	Each
560E3236	2-14'x12' Precast Concrete Box Culvert End Section, Furnish	2	Each
560E3237	2-14'x12' Precast Concrete Box Culvert End Section, Install	2	Each
700E0210	Class B Riprap	130.0	Ton
831E0110	Type B Drainage Fabric	155	SqYd

Surfacing – Section F

Bid Item Number	Item	Quantity	Unit
009E3320	Checker	Lump Sum	LS
120E6200	Water for Granular Material	38.7	MGal
260E2030	Gravel Cushion, Salvaged	3,407.9	Ton
320E1200	Asphalt Concrete Composite	235.9	Ton
320E5010	Saw and Seal Shoulder Joint	5,300	Ft
380E0050	8" Nonreinforced PCC Pavement	8,057.7	SqYd
380E5010	Fast Track Concrete	186.7	SqYd
380E6000	Dowel Bar	4,224	Each
380E6110	Insert Steel Bar in PCC Pavement	56	Each

Standard Specifications for Roads and Bridges, 2004 Edition and Required Provisions, Supplemental Specifications, and Special Provisions as included in the Proposal.

ESTIMATE OF QUANTITIES AND ENVIRONMENTAL COMMITMENTS

ENVIRONMENTAL COMMITMENTS

STATE OF SOUTH DAKOTA	PROJECT NH 0018(172)230	SHEET A2	TOTAL SHEETS A3
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Plotting Date: 07/28/2014

An Environmental Commitment is a measure that SDDOT commits to implement in order to avoid, minimize, and/or mitigate a real or potential environmental impact. Environmental commitments to various agencies and the public have been made to secure approval of this project. An agency mentioned below with permitting authority can influence a project if perceived 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. These environmental commitments are not subject to change without prior written approval from the SDDOT Environmental Office. The environmental commitments associated with this project are as follows:

COMMITMENT A: WETLANDS

Approximately 0.02 acres of wetlands will be temporarily impacted by the project. Refer to Section B – Grading Plans for location and boundaries of the impacted wetlands.

Table of Impacted Wetlands

Wetland No.	Type	Station	Impact Left (Acres)	Impact Right (Acres)	Temporary Impact (Acres)	Total Impact (Acres)
1	NI	17+00	0.02	0.0	0.02	0.0

Action Taken/Required:

The project design has been accommodated to facilitate the 0.02 acres of wetland impacts self-mitigating within the new ditch section.

Contractor will allow wetland conditions to be re-established at Wetland No. 1 designated in the above table through blockage of overland flows continuing down the ditch section.

The Contractor shall notify the Project Engineer if additional easement is needed to complete work adjacent to Wetland No. 1 listed in the table. The Project Engineer shall obtain an appropriate course of action from the Environmental Office before proceeding with construction activities that affect additional wetlands.

The contact person is the Environmental Project Scientist of the SDDOT Environmental Office at 605-773-3268.

Wetland Topsoil

Wetland topsoil shall be stripped from all wetland areas which will be impacted by the project. The wetland topsoil shall be stripped to a depth that sufficiently allows 6 inches of the wetland topsoil to be re-utilized as the upper stratum in the re-establishment of Wetland No. 1.

The wetland topsoil shall be stockpiled separately from other topsoil in a location approved by the Project Engineer. Locate wetland stockpile a minimum of 50 feet away from concentrated flows of storm water, drainage courses, and inlets. All wetland topsoil that is stripped shall be spread in the re-establishment site so that it is evenly distributed to a minimum depth of 6 inches. Surplus wetland topsoil shall be used to flatten embankment slopes or placed in other locations as approved by the Project Engineer.

Refer to Section D – Erosion and Sediment Control Plans for Placing Topsoil quantities. All costs to remove, stockpile, and place the wetland topsoil shall be incidental to the contract unit price per cubic yard for "Placing Topsoil".

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 pit, or staging site associated with the project, cease construction activities in the affected area until the Whooping Crane departs and contact the Project Engineer. The Project Engineer will contact the Environmental Office so that the sighting can be reported to USFWS.

COMMITMENT C: WATER SOURCE

The Contractor shall not withdraw water with equipment previously used outside the State of South Dakota without prior approval from the SDDOT Environmental Office. Thoroughly wash all construction equipment before entering South Dakota to reduce the risk of invasive species introduction into the project vicinity.

Action Taken/Required:

The Contractor shall obtain the necessary permits from the regulatory agencies such as the Department of Environment and Natural Resources (DENR) and the United States Army Corps of Engineers (COE) prior to executing water extraction activities.

COMMITMENT D: WATER QUALITY STANDARDS

COMMITMENT D1: SURFACE WATER QUALITY

The White Horse Creek is classified as fish and wildlife propagation, recreation, irrigation, and stock watering waters. Because of these beneficial uses, special construction measures may have to be taken to ensure that this water body is not impacted.

Action Taken/Required:

The Contractor is advised the South Dakota Surface Water Quality Standards, administered by the Department of Environment and Natural Resources (DENR), apply to this project. Special construction measures

shall be taken to ensure the above standard(s) of the surface waters are maintained and protected.

COMMITMENT D2: SURFACE WATER DISCHARGE

White Horse Creek is classified as fish and wildlife propagation, recreation, irrigation and stock watering waters. Because of these beneficial uses, special construction measures may have to be taken to ensure that this water body is not impacted.

Action Taken/Required:

If construction dewatering is required, the Contractor shall obtain a Temporary Discharge Permit from the DENR and provide a copy to the Project Engineer. Contact the DENR Surface Water Program at 605-773-3351 to apply for a permit.

COMMITMENT E: STORM WATER

Construction activities constitute 1 acre or more of earth disturbance.

Action Taken/Required:

The DENR and the US Environmental Protection Agency (EPA) have issued separate general permits for the discharge of storm water runoff. The DENR permit applies to discharges on state land and the EPA permit applies to discharges on federal or reservation land. The Contractor is advised this project is regulated under the Phase II Storm Water Regulations and must receive coverage under the General Permit for Construction Activities. A Notice of Intent (NOI) will be submitted to DENR a minimum of 15 days prior to project start by the DOT Environmental Office. A letter must be received from DENR that acknowledges project coverage under this general permit before project start. The Contractor is advised that permit coverage may also be required by off-site activities, such as borrow and staging areas, which are the responsibility of the Contractor.

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

A major component of the storm water construction permits is development and implementation of a Storm Water Pollution Prevention Plan (SWPPP), which is a joint effort and responsibility of the SDDOT and the Contractor. Erosion control measures and best management practices will be implemented in accordance with the SWPPP. The SWPPP is a dynamic document and is to be available on-site at all times.

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

SDDOT:
<http://sddot.com/transportation/highways/environmental/stormwater/Default.aspx>

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

EPA: http://cfpub.epa.gov/npdes/home.cfm?program_id=6

ESTIMATE OF QUANTITIES AND ENVIRONMENTAL COMMITMENTS

STATE OF SOUTH DAKOTA	PROJECT NH 0018(172)230	SHEET A3	TOTAL SHEETS A3
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Plotting Date: 07/28/2014

COMMITMENT H: WASTE DISPOSAL SITE

The Contractor shall 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 State ROW.

The waste disposal site(s) shall be managed and reclaimed in accordance with the following from the General Permit for Highway, Road, and Railway 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) shall 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 Project Engineer.

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

1. Construction and/or demolition debris consisting of concrete, asphalt concrete, or other similar materials shall be buried in a trench completely separate from wood debris. The final cover over the construction and/or demolition debris shall consist of a minimum of 1 foot of soil capable of supporting vegetation. Waste disposal sites provided outside of the State ROW shall be seeded in accordance with Natural Resources Conservation Service recommendations. The seeding recommendations may be obtained through the appropriate County NRCS Office. The Contractor shall control the access to waste disposal sites not within the State ROW through the use of 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 of time 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.

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) shall be incidental to the various contract items.

COMMITMENT I: HISTORICAL PRESERVATION OFFICE CLEARANCES

The SDDOT has obtained concurrence with the State Historical Preservation Office (SHPO or THPO) for all work included within the project limits and all designated option borrow sites provided within the plans.

Action Taken/Required:

All earth disturbing activities not designated within the plans require review of cultural resources impacts. This work includes, but is not limited to: staging areas, borrow sites, waste disposal sites, and all material processing sites.

The Contractor shall arrange and pay for a cultural resource survey and/or records search. 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; however, a cultural resources survey may need to be conducted by a qualified archaeologist.

The Contractor shall provide ARC with the following: a topographical map or aerial view on 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 shall submit the records search or cultural resources survey report and if the location of the site is within the current geographical or historic boundaries of any South Dakota reservation to SDDOT Environmental Engineer, 700 East Broadway Avenue, Pierre, SD 57501-2586 (605-773-3180). 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.

If evidence for cultural resources is uncovered during project construction activities, then such activities shall cease and the Project Engineer shall be immediately notified. The Project Engineer will contact the SDDOT Environmental Engineer in order 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 staging areas, borrow sites, waste disposal sites, or material processing sites that affect wetlands, threatened and endangered species, or waterways. The Contractor shall provide the required permits and clearances to the Project Engineer at the preconstruction meeting.

COMMITMENT J: CONSTRUCTION PRACTICES FOR TEMPORARY WORKS IN WATERWAYS OF THE U.S.

The Contractor is advised that special construction measures have to be taken to ensure that the waterways of the U.S. are not impacted.

Action Taken/Required:

No excavation shall be made below the ordinary high water elevation in waterways outside of caissons, cribs, cofferdams, steel piling, or sheeting; and the natural streambed shall not be disturbed unless specified by the plans and under the observation of the Project Engineer. Refer to the Table of U.S. Waterways to Protect for ordinary high water elevations.

All dredged or excavated materials shall be placed at a site above the ordinary high water elevation in a confined area (not classified as a wetland) that is a minimum of 50 feet away from concentrated flows of storm water,

drainage courses, and inlets to prevent return of such material to the waterway.

The construction of temporary work platforms, crossings, or berms below the ordinary high water elevation will be allowed provided that all material placed below the ordinary high water elevation consists of Class B or larger riprap.

All temporary caissons, cribs, cofferdams, steel piling, sheeting, work platforms, crossings, and berms shall be removed with minimal disturbance to the streambed. Proper construction practices shall be used to minimize increases in suspended solids and turbidity in the waterway.

Bridge berms, wing dams, traffic diversions, channel reconstruction, grading, etc. shall be constructed in close conformity with the plans to ensure that the hydraulic capacity of the waterway is not changed.

Temporary waterway crossings required for the Contractors construction operations shall be constructed with an adequate drainage structure size and minimum fill height to reduce the potential for upstream flooding. The Contractor will be responsible for sizing the temporary drainage structure for these crossings.

If an on-site traffic diversion or construction crossing is used at Sta. 18+50, the temporary crossing will need to be designed so it will not increase the Q_{100} water surface elevation. The Contractor shall submit the proposed temporary crossing geometric layout and structure size at Sta. 18+50 to the Project Engineer during the project preconstruction meeting. This information shall be forwarded to the SDDOT Hydraulics Office for review. Construction of the temporary crossing is not allowed until approval of the proposal is obtained from the Hydraulics Office.

Table of U.S. Waterways to Protect

Station	Waterway	Ordinary High Water Elevation
18+50	White Horse Creek	2135.4

COMMITMENT N: SECTION 404 PERMIT

The SDDOT has obtained a Section 404 Permit from the US Army Corps of Engineers for the permanent actions associated with this project.

Action Taken/Required:

The Contractor shall comply with all requirements contained in the Section 404 permit.

The Contractor shall also be responsible for obtaining a Section 404 permit for any dredge, excavation, or fill activities associated with staging areas, borrow sites, waste disposal sites, or material processing sites that affect wetlands or waters of the United States.