

STATE OF	PROJECT	SHEET	TOTAL
SOUTH DAKOTA	271-371	1	43

Plotting Date:

01/27/2016



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Site 1
PCN i3X4
Station 313+29
MRM 167.00 + 0.570

Site 3 PCN i3X4 Station 307+30 to Station 309+30 MRM 167.00 + 0.684 to MRM 167.00 + 0.722

Site 2 PCN i3X3 Station 45+34 MRM 165.00 + 0.100

## PCN i3X3

ESTIMATE OF QUANTILES
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## <u>PCN i3X4</u>

BID ITEM NUMBER	ITEM	QUANTITY	UNIT
009E0010	Mobilization	Lump Sum	LS
110E0500	Remove Pipe Culvert	144	Ft
110E1690	Remove Sediment	0.4	CuYd
110E1700	Remove Silt Fence	83	Ft
120E0010	Unclassified Excavation	303	CuYd
120E0600	Contractor Furnished Borrow Excavation	71	CuYd
230E0100	Remove and Replace Topsoil	Lump Sum	LS
260E1010	Base Course	92.3	Ton
320E1200	Asphalt Concrete Composite	88.5	Ton
332E0010	Cold Milling Asphalt Concrete	570	SqYd
421E0100	Pipe Culvert Undercut	44	CuYd
450E0182	36" RCP Class 2, Furnish	126	Ft
450E0190	36" RCP, Install	126	Ft
450E2028	36" RCP Flared End, Furnish	6	Each
450E2029	36" RCP Flared End, Install	6	Each
464E0100	Controlled Density Fill	22.0	CuYd
634E0010	Flagging	30.0	Hour
634E0110	Traffic Control Signs	485	SqFt
634E0120	Traffic Control, Miscellaneous	Lump Sum	LS
634E0285	Type 3 Barricade, 8' Double Sided	15	Each
634E1002	Detour Signing	144.0	SqFt
650E6280	8" Concrete Valley Gutter	151.8	SqYd
734E0010	Erosion Control	Lump Sum	LS
734E0154	12" Diameter Erosion Control Wattle	175	Ft
734E0165	Remove and Reset Erosion Control Wattle	44	Ft
734E0602	Low Flow Silt Fence	330	Ft
734E0610	Mucking Silt Fence	23	CuYd
734E0620	Repair Silt Fence	83	Ft
998E0100	Railroad Protective Insurance	Lump Sum	LS

009E0010MobilizationLump SumLS110E0500Remove Pipe Culvert36Ft110E0510Remove Pipe End Section2Each110E1690Remove Sediment0.4CuYA110E1700Remove Silt Fence58Ft120E0010Unclassified Excavation141CuYA120E0600Contractor Furnished Borrow Excavation539CuYA230E0100Remove and Replace TopsoilLump SumLS260E1010Base Course445.6Ton320E1200Asphalt Concrete Composite21.3Ton421E0100Pipe Culvert Undercut31CuYA450E018236" RCP Class 2, Furnish88Ft450E019036" RCP, Install88Ft450E202836" RCP Flared End, Furnish44Each462E0100Class M6 Concrete1.3CuYA464E0100Controlled Density Fill16.0CuYA634E0120Traffic Control Signs485SqF634E0120Traffic Control MiscellaneousLump SumLS634E0120Detour Signing108.0SqF734E0131Type 1 Turf Reinforcement Mat1,433.3SqYA734E0450Temporary Water Barrier88Ft734E0450Temporary Water Barrier88Ft734E0450Temporary Water Barrier236Ft734E0450Repair Silt Fence230Ft734E0450Repair Silt Fence230Ft734E0450<	BID ITEM NUMBER	ITEM	QUANTITY	UNIT
110E0500         Remove Pipe Culvert         36         Ft           110E0510         Remove Pipe End Section         2         Eacl           110E1690         Remove Sediment         0.4         CuYA           110E1700         Remove Silt Fence         58         Ft           120E0010         Unclassified Excavation         141         CuYA           120E0600         Contractor Furnished Borrow Excavation         539         CuYA           230E0100         Remove and Replace Topsoil         Lump Sum         LS           260E1010         Base Course         45.6         Ton           320E1200         Asphalt Concrete Composite         21.3         Ton           421E0100         Pipe Culvert Undercut         331         CuYA           450E0182         36" RCP Class 2, Furnish         88         Ft           450E0203         36" RCP Flared End, Furnish         4         Eacl           450E0100         Class M6 Concrete         1.3         CuYA           634E0010         Controlled Density Fill         16.0         CuYA           634E0101         Traffic Control, Miscellaneous         Lump Sum         LS           634E0102         Detour Signing         108.0         SqF	009E0010	Mobilization	Lump Sum	LS
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110E1690         Remove Sediment         0.4         CuY4           110E1700         Remove Silt Fence         58         Ft           120E0010         Unclassified Excavation         141         CuY4           120E0600         Contractor Furnished Borrow Excavation         539         CuY4           230E0100         Remove and Replace Topsoil         Lump Sum         LS           260E1010         Base Course         45.6         Ton           320E1200         Asphalt Concrete Composite         21.3         Ton           421E0100         Pipe Culvert Undercut         31         CuY4           450E0182         36" RCP Class 2, Furnish         88         Ft           450E2023         36" RCP Flared End, Furnish         4         Eact           450E2020         36" RCP Flared End, Install         4         Eact           450E2020         36" RCP Flared End, Install         4         Eact           450E20100         Class M6 Concrete         1.3         CuY4           464E0100         Controlled Density Fill         16.0         CuY4           634E0101         Fragging         20.0         Hou           634E0120         Traffic Control, Miscellaneous         Lump Sum         LS	110E0510	Remove Pipe End Section	2	Each
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734E0450Temporary Water Barrier88Ft734E0602Low Flow Silt Fence230Ft734E0610Mucking Silt Fence16CuYo734E0620Repair Silt Fence58Ft	734E0165	Remove and Reset Erosion Control Wattle	44	Ft
734E0602Low Flow Silt Fence230Ft734E0610Mucking Silt Fence16CuYu734E0620Repair Silt Fence58Ft	734E0450	Temporary Water Barrier	88	Ft
734E0610Mucking Silt Fence16CuYe734E0620Repair Silt Fence58Ft	734E0602	Low Flow Silt Fence	230	Ft
734E0620Repair Silt Fence58Ft	734E0610	Mucking Silt Fence	16	CuYo
	734E0620	Repair Silt Fence	58	Ft

## **SPECIFICATIONS**

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

STATE OF	PROJECT	SHEET NO.	TOTAL SHEETS
S.D.	271-371	2	43

#### **ENVIRONMENTAL COMMITMENTS**

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 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 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 Discharges to Waters of the State".

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 onsite at all times.

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

#### SDDOT:

http://www.sddot.com/business/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

#### **Contractor Certification Form:**

The "Department of Environmental and Natural Resources – Contractor Certification Form" (SD EForm – 2110LDV1-ContractorCertification.pdf) shall be completed by the Contractor or their certified Erosion Control Supervisor after the award of the contract. Work may not begin on the project until this form is signed.

The form certifies under penalty of law that the Contractor understands and will comply with the terms and conditions of the Surface Water Discharge General Permit for Storm Water Discharges Associated with Construction Activities for the Project.

The online form can be found at:

http://denr.sd.gov/des/sw/eforms/E2110LDV1-ContractorCertification.pdf

#### 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 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.

STATE	PROJECT	SHEET	TOTAL
OF		NO.	SHEETS
S.D.	271-371	3	43

#### COMMITMENT I: HISTORICAL PRESERVATION OFFICE CLEARANCES

This SDDOT project is 100% state funded and occurs fully within the previously cleared boundaries of the State Rights-of-Way.

#### 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: Contractor furnished material sources, material processing sites, stockpile sites, storage areas, plant sites, and waste areas.

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 proposed 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 historic or 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 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 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.

#### Table of U.S. Waterways to Protect

Station	Waterway	Ordinary High Water Elevation
319+39	Hiddenwood Creek	2049.90

#### 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.

STATE	PROJECT	SHEET	TOTAL
OF		NO.	SHEETS
S.D.	271-371	4	43

#### SCOPE OF WORK

The work required within this project includes, but is not limited to, the following items, not listed in order of execution.

- 1. Install Traffic Control Devices for Closed Road
- 2. Complete Cold Milling Operations at Railroad Bridge
- 3. Remove & Replace Topsoil
- 4. Remove Existing Culverts
- 5. Replace Culverts
- 6. Place Controlled Density Fill & Class M6 Concrete
- 7. Install Concrete Valley Gutter at Railroad Bridge
- 8. Construct Embankment
- 9. Place Base Course
- 10. Place Asphalt Concrete Surfacing
- 11. Remove Traffic Control Devices for Closed Road
- 12. Seed Disturbed Areas

The Contractor is encouraged to inspect the project site prior to bidding to evaluate the extent of work that will be required for construction.

#### **SEQUENCE OF OPERATIONS**

The Contractor shall submit a proposed sequence of operations for the Engineer's review and approval at least two weeks prior to the preconstruction meeting.

If the Contractor elects to open the road before the final surfacing is in-place, the Contractor shall place Base Course flush with existing asphalt. If the Contractor elects to place Base Course flush with the existing asphalt the Base Course shall be removed prior to final paving. All work for placing and removing Base Course shall be incidental to various bid items.

Once the road has been closed, the Contractor shall be allowed to work on the culvert full width of the roadway. Once the road is closed, the Contractor shall work continuously until the road is re-opened.

#### Site 1:

- 1. Remove Existing Culvert
- 2. Undercut and Place New Culverts as Detailed
- 4. Place Control Density Fill

#### Site 2:

- 1. Remove Existing Culvert
- 2. Undercut and Place New Culverts as Detailed
- 3. Construct Headwalls
- 4. Place Control Density Fill & Class M6 Concrete
- 5. Construct Embankment

#### Site 3:

- 1.Mill Existing Surface
- 2. Place Concrete Valley Gutter
- 3. Place Asphalt Concrete Composite per Typical Sections

#### **GENERAL MAINTENANCE OF TRAFFIC**

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

Channelizing devices in a series shall be of the same type. Channelizing drums shall be of a two part construction with breakaway bases. The cost of additional channeling devices shall be incidental to the contract lump sum price for "Traffic Control, Miscellaneous".

Type 3 Barricade, 8' Double Sided shall mark both ends of the construction work zone.

Certified flaggers properly attired and preceded by FLAGGER symbol signs, will be required where work activity and/or equipment present a hazard to the workers, a hazard to through traffic, or encroaches into a driving lane. Additional Flagger hours shall be paid for at the contract unit price per hour for "Flagging".

Removing, relocating, covering, salvaging and resetting of existing traffic control devices, including delineation, shall be the responsibility of the Contractor. Cost for this work shall be incidental to the contract lump sum price for "Traffic Control, Miscellaneous". Any delineators and signs damaged or lost shall be replaced by the Contractor at no cost to the State.

Indiscriminate driving and parking of vehicles within the right-of-way will not be permitted. Any damage to the vegetation, surfacing, embankment, delineators and existing signs resulting from such indiscriminate use shall be repaired and/or restored by the Contractor, at no expense to the State, and to the satisfaction of the Engineer.

All non-fixed location signs may be mounted on portable supports. The portable supports shall be constructed to yield upon impact to minimize hazards to motorists, and shall be of proper height. The bottom of signs on portable or temporary supports shall not be less than seven feet above the pavement in urban areas and one foot above the pavement in rural areas. Portable sign supports may be used as long as the duration is less than 3 days. If the duration is more than 3 days the signs shall meet the minimum mounting heights of 5 foot for rural areas and 7 foot for urban areas.

A shadow vehicle, with a ROAD MACHINERY AHEAD sign prominently displayed, shall be used in advance of landscaping, clean up, and other mobile work activities.

The Contractor shall maintain the driving surface on the project to eliminate hazards to the traveling public. The driving surface is defined as both Driving Lanes along with both outside shoulders on the project.

Traffic Control Signs, as shown in the Estimate of Quantities, are estimates. Contractor's operation may require adjustments in quantities, either more or less. Payment will be for those signs actually ordered by the Engineer and used. The cost for additional signs shall be paid for at the contract unit price per square foot for "Traffic Control Signs".

### PERMANENT PAVEMENT MARKING

project is complete.

### **COORDINATION BETWEEN CONTRACTORS**

A separate contract for Project NH-P 0032(125) - PCN 053G is being let at the same time as this project. The Contractor shall Contact the Mobridge Area prior to beginning work to coordinate with the other Contractor.

The Contractor shall schedule the work so as not to interfere with or hinder the progress of the work performed by other Contractors on the other projects. Conflicting traffic control devices may need to be temporarily adjusted or removed as directed by the Engineer at no additional cost to the contract.

### UTILITIES

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

Utilities are not planned to be affected on this project. If utilities are identified near the improvement area through the SD Once Call Process as required by South Dakota Codified Law 49 7A and Administrative Rule Article 20:25, the Contractor shall contact the Engineer to determine modifications that will be necessary to avoid utility impacts.

#### UNCLASSIFED EXCAVATION

Unclassified Excavation will occur at each project site as detailed in the plans. The Contractor shall incorporate the Asphalt Concrete and Base Course into the Unclassified Excavation removal limits.

Existing soil shall be utilized as backfill material around the culvert.

material at Site 1.

Contractor for their disposal.

#### TABLE OF UNCLASSIFIED EXCAVATION QUANTITIES

Location	Excavation (CuYd)	*Asphalt & Base Course Removal (CuYd)	Total Unclassified Excavation (CuYd)
Site 1	210	31	241
Site 2	106	35	141
Site 3	62	0	62
Total:	378	66	444

\* The quantities for these items are for information only

STATE	PROJECT	SHEET	TOTAL
OF		NO.	SHEETS
S.D.	271-371	5	43

Permanent Pavement Markings shall be applied by SDDOT personnel once the

Material from Site 3 shall be determined by the Engineer if it can be used as fill

Asphalt Concrete and Base Course material shall become the property of the

#### TABLE OF BORROW UNCLASSIFIED EXCAVATION

Item:	Site 1	Site 2
Excavated Material Used as Fill	162	82
Contractor Furnished Borrow Excavation	71	539
Total (CuYd)	233	621

**SHRINKAGE FACTOR:** Embankment +30%

#### CONTRACTOR FURNISHED BORROW EXCAVATION

The Contractor shall provide a suitable site for Contractor Furnished Borrow Excavation material. The Contractor is responsible for obtaining all required permits and clearances for the borrow site. Borrow material shall be utilized as backfill material and to construct the new inslope embankment at both sites. The plans quantity for "Contractor Furnished Borrow Excavation" as shown in the Estimate of Quantities will be the basis of payment for this item.

Restoration of the Contractor furnished borrow site shall be the responsibility of the Contractor.

#### SAWING OF EXISTING ASPHALT CONCRETE

Where new asphalt concrete is placed adjacent to existing asphalt concrete, the existing asphalt shall be sawed full depth to a true line with a vertical face. There will not be a separate payment made for sawing. All costs associated with sawing existing asphalt concrete shall be incidental to the various contract items.

#### COLD MILLING ASPHALT CONCRETE

Cold milling asphalt concrete shall be done according to the typical sections. The depth of cold milling may vary from that shown on the plans in areas where the existing surface is distorted and/or in areas where maintenance patches have raised and/or widened the road. Additional asphalt concrete shall be milled in these areas to provide a uniform typical section from centerline to the edge of the finished shoulder. Any additional costs associated with this additional cold milling to have the surface conform to the typical section shall be incidental to the contract unit price per square yard for "Cold Milling Asphalt Concrete".

The Contractor shall utilize some of the generated cold milled material to construct a 20:1 temporary on/off transition. This material shall be removed once paving commences. The material shall become the property of the Contractor once it is determined by the Engineer that it is no longer needed on the project. All costs associated constructing and removing the transitions shall be incidental to the contract unit price per square yard for "Cold Milling Asphalt Concrete".

All cold milled material generated within this Contract, except for the material utilized for constructing the aforementioned transitions, shall become the property of the Contractor.

All vertical cuts from cold milling operations left and right of centerline shall be daylighted to the outside edge of the road as directed by the Engineer to allow surface water to be drained off the roadway.

After completion of the milling operation, the Contractor shall clean up and dispose of any remaining debris to the satisfaction of the Engineer.

All costs associated with cold milling asphalt concrete shall be incidental to the contract unit price per square yard for "Cold Milling Asphalt Concrete".

Cold Milling is estimated to produce 58.1 tons of salvaged asphalt concrete material at Site 3.

#### **8" CONCRETE VALLEY GUTTER**

The Valley Gutter shall be constructed using M6 Concrete. The valley gutter's unit price shall include concrete, excavation, all steel as shown on the standard plate, joint sawing, hot pour, labor, equipment, and any other items needed to construct the valley gutter. The valley gutter shall be paid for at the contract unit price per square yard for "8" Concrete Valley Gutter".

#### **INSLOPE TRANSITIONS**

Inslope transitions will be required at Site 2. Refer to Standard Plate 120.05 for details.

#### TABLE OF INSLOPE TRANSITIONS AT PIPE

#### **REMOVE CULVERT PIPE AND PIPE END SECTIONS**

The Contractor shall remove all culvert pipe and end sections. The culvert pipe and end sections shall become property of the Contractor for disposal.

#### TABLE OF REMOVE CULVERT PIPE AND PIPE END SECTIONS

Item:	Site 1	Site 2
Remove Pipe Culvert (Ft)	144	36
Remove Pipe End Section (Each)	0	2
Total (CuYd)	233	621

#### TABLE OF PIPE CULVERT UNDERCUT

The Table of Pipe Culvert Undercut is intended to be used to establish an estimated quantity of Pipe Culvert Undercut for bidding purposes only. The depth of undercut is an estimate and the actual depth necessary shall be determined during construction. Pipes shown may or may not require undercutting and pipes not shown may require undercutting. The Engineer will determine which pipe shall be undercut in accordance with Section 421 of the Specifications.

Location	Undercut Depth (Ft)	Quantity (CuYd)
Site 1	1	44
Site 2	1	31
	Total:	75

The table contains the rate of pipe culvert undercut per foot of pipe length and should be used as an aid in determining the actual amount of undercut to be performed during construction. The table is derived from the drawing below and conforms to the Specifications. When calculating pipe culvert undercut, the length of pipe ends should be included in the overall pipe length.

Storm sewer and approach pipes do not require undercutting unless specified otherwise in these plans.

Pipe Diameter	Round Pipe Undercut Rate	Arch Pipe Undercut Rate	
(In)	for 1' Depth (CuYd/Ft)	for 1' Depth (CuYd/Ft)	
24	0.2407	0.2577	-
30	0.2623	0.2847	
36	0.2840	0.3110	
42	0.3056	0.3337	
48	0.3272	0.3596	
54	0.3488	0.3827	
60	0.3704	0.4105	
66	0.3920		
72	0.4136	0.4630	
78	0.4352		
84	0.4568	0.5123	
90	0.4784		
<u> −</u> 2′	Pip	e eter	2' >



Pipe Culvert Undercut

#### **CONCRETE PIPE CONNECTIONS**

When it is not possible to use a normal pipe joint (male-female ends), connections to existing pipe shall be made by placing a 2' wide by 6" thick M6 concrete collar around the outside of the connection. The concrete collar shall be reinforced with 6x6 W2.9 x W2.9 wire mesh.

item.

### **TIE BOLTS FOR RCP**

All RCP that is being placed shall be tied together.

Cost for drilling tie bolt holes and furnishing and installing tie bolts shall be incidental to the contract unit prices for installing RCP Culverts and End Sections.

STATE	PROJECT	SHEET	TOTAL
OF		NO.	SHEETS
S.D.	271-371	6	43

All costs for constructing the concrete collars including materials and labor shall be incidental to the contract unit price per foot for the corresponding pipe bid

#### **CONTROLLED DENSITY FILL FOR PIPE**

Controlled density fill shall be in conformance with Section 464 of the Specifications.

The controlled density fill shall be placed between the pipes from the base of pipe elevation to the haunch of the pipes.

#### TABLE OF CONTROLLED DENSITY FILL FOR PIPE

		Quantity
Location		(CuYd)
Site 1		22.0
Site 2		16.0
	Total:	38.0

#### **REMOVING, STOCKPILING, AND REPLACING TOPSOIL**

The Contractor will be required to remove and salvage 4 inches of the existing topsoil down a portion of the inslope throughout the entire length of the pipe installation areas and at areas where the Engineer determines to be necessary based on the amount of disturbance to the existing topsoil due to the Contractor's operation.

The Contractor shall stockpile the material at a site approved by the Engineer, and/or windrow the material near the disturbed areas to control potential sediment runoff as determined by the Engineer.

The replacement of topsoil shall be spread evenly throughout all disturbed areas upon completion of the work. Any clumps larger than 3 inches shall be broken up prior to seeding the areas.

All topsoil removal, stockpiling, salvaging, windrowing, and replacement shall be done as according to the plans and/or as directed by the Engineer.

All cost associated with removing, salvaging, stockpiling, windrowing, and replacing topsoil shall be incidental to the contract lump sum price for "Remove and Replace Topsoil".

Measurement of topsoil quantities will not be made; however for informational purposes only, the table below shows the estimated topsoil removal and replacement throughout the projects.

#### TABLE OF ESTIMATED TOPSOIL REMOVAL AND REPLACEMENT

		Quantity	
Location		(CuYd)	
Site 1		18	
Site 2		119	
Site 3	_	44	
	Total:	181	

#### **EROSION CONTROL**

The areas disturbed as a result of work on this project shall be restored and/or reshaped to the satisfaction of the Engineer. All disturbed areas shall be seeded and mulched. Disturbed areas anticipated on the project include embankment build-up areas throughout the pipe replacement areas and all other areas disturbed as a result of the Contractor's operations.

Type G Permanent Seed Mixture shall consist of the following:

Grass Species	Variety	Pure Live Seed (PLS) (Pounds/Acre)
Western Wheatgrass	Arriba, Flintlock, Rodan, Rosana	7
Switchgrass	Dacotah, Forestburg, Nebraska 28, Pathfinder, Summer, Sunburst, Trailblazer	3
Indiangrass	Holt, Tomahawk	3
Big Bluestem	Bison, Bonilla, Champ, Pawnee, Sunnyview	3
Oats or Spring Wheat: April through May;		10
Winter Wheat: August through November		
	Total:	26

It is estimated that 0.065 acres shall be disturbed throughout the aforementioned areas.

Mulch shall be applied at a rate of 2 ton/acre.

Application of fertilizer will not be required on this project.

All costs associated with furnishing/placing the seed, mulch, and inoculum, along with all labor, equipment and incidental to the contract lump sum price for "Erosion Control".

#### **MYCORRHIZAL INOCULUM**

Mycorrhizal inoculum shall 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 shall provide certification of the fungal species claimed and the live propagule count. The inoculum shall include the following fungal species:

Glomus intraradices	25%
Glomus aggregatu	25%
Glomus mosseae	25%
Glomus etunicatum	25%

All seed shall 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 shall be incidental to the contract lump sum price for "Erosion Control".

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

#### Product

**MycoApply** 

#### Manufacturer

Mycorrhizal Applications, Inc. Grants Pass. OR Phone: 1-866-476-7800 http://www.mycorrhizae.com/

#### TURF REINFORCEMENT MAT

#### TABLE OF TURF REINFORCEMENT MAT

Station to	Station	Location	L/R	Width (Ft)	Туре	Quantity (SqYd)
43+60	46+60	Site 2	L	21.0	1	700.0
43+60	46+60	Site 2	R	22.0	1	733.3
					-	

#### LOW FLOW SILT FENCE

internet site:

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

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

#### TABLE OF LOW FLOW SILT FENCE

Location

Site 1 Site 2 Site 3

Additional Quantit

Total:

STATE	PROJECT	SHEET	TOTAL
OF		NO.	SHEETS
S.D.	271-371	7	43

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

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

1433.3 Total Type 1 Turf Reinforcement Mat:

The low flow silt fence fabric provided shall be from the approved product list. The approved product list for low flow silt fence may be viewed at the following

	Quantity (Ft)
	200
	200
	100
y:	60
	560

#### **EROSION CONTROL WATTLE**

Erosion control wattles for restraining the flow of runoff and sediment shall be installed at locations noted in the table and at locations determined by the Engineer during construction. Refer to Standard Plate 734.06 for details.

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

Erosion control wattles shall remain on the project to decompose.

An additional quantity of 12" Diameter Erosion Control Wattles has been added to the Estimate of Quantities for temporary erosion and sediment control in highway ditch channels and as an alternative to low flow or high flow silt fence at wetland areas adjacent to the highway.

The erosion control wattle provided shall be from the approved product list. The approved product list for erosion control wattle may be viewed at the following internet site:

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

#### TABLE OF EROSION CONTROL WATTLE

Location	Diameter (Inch)	Quantity (Ft)
Site 1	12	150
Site 2	12	150
	Additional Quantity:	50
	Total:	350

#### **TEMPORARY WATER BARRIER**

Temporary water barriers shall be placed in a manner that creates the least amount of disturbance. Temporary water barriers are placed to keep the work area dry and separate from the water body. Contaminated water within the work area collected by the water barriers shall be removed and treated in conformance with the Dewatering and Sediment Collecting notes in the plans.

All costs for furnishing, installing, maintaining, and removal of the temporary water barrier including hauling, materials, equipment, labor, and incidentals necessary shall be paid for at the contract unit price per foot for "Temporary Water Barrier".

The temporary water barrier shall be from the list below or an approved equal:

Product	<u>Manufacturer</u>
Environmental Barricades	Environmental Barricades Inc. Eagle Creek, OR Phone: 1-800-656-1296
Portadam	Portadam, Inc. Williamstown, NJ Phone: 1-800-346-4793 www.portadam.com
Aquadam	Water Structures Unlimited Carlotta, CA Phone: 1-800-682-9283 www.aquadam.com

#### WATER FOR GRANULAR MATERIAL

The moisture content for compaction of the Base Course shall be approximately optimum moisture for the material or as directed by the Engineer. The quantity for Water for Granular Material is based on 4% of the quantity of the aforementioned material. All costs for furnishing and placing the water shall be incidental to the contract unit price per ton for "Base Course".

#### BASE COURSE

Base Course shall be furnished by the Contractor.

Areas of excess moisture shall be dried, loose material shall be removed, and disturbed areas shall be leveled and compacted to the satisfaction of the Engineer prior to placing Base Course.

Compaction shall be according to Section 260.3.D of the Standard Specifications for constructing the aforementioned areas.

All costs associated with the aforementioned work shall be incidental to the contract unit price per ton for "Base Course".

#### TABLE OF BASE COURSE

		Quantity
Location		Tons
Site 1		58.4
Site 2		45.6
Site 3	_	53.7
	Total:	157.7

#### **CLASS M6 CONCRETE**

All class M6 concrete shall use Lodge rock for the coarse aggregate and the mix shall contain either 20% Class F Modified fly ash or a lithium admixture if approved by the concrete engineer.

paving direction.

apply.

STATE	PROJECT	SHEET	TOTAL
OF		NO.	SHEETS
S.D.	271-371	8	43

All concrete surfaces shall receive a broomed finish that is transverse to the

All of the other requirements set forth in Section 462 for Class M6 Concrete shall

#### STORM WATER POLLUTION PREVENTION PLAN CHECKLIST

(The numbers right of the title headings are reference numbers to the GENERAL PERMIT FOR STORM WATER DISCHARGES ASSOCIATED WITH CONSTRUCTION ACTIVITIES

- ♦ SITE DESCRIPTION (4.2 1)
- Project Limits: See Title Sheet (4.2 1.b)
- > Project Description: See Title Sheet (4.2 1.a.)
- Site Map(s): See Title Sheet and Plans (4.2 1.f. (1)-(6))  $\geq$
- Major Soil Disturbing Activities (check all that apply)  $\geq$ 
  - Clearing and grubbing
  - Excavation/borrow
  - Grading and shaping
  - Filling
  - Cutting and filling
  - Other (describe):

#### Site 1:

- > Total Project Area 0.042 (4.2 1.b.)
- Total Area To Be Disturbed 0.023 (4.2 1.b.)  $\geq$
- Existing Vegetative Cover (%) 70  $\geq$
- Soil Properties: USDA-NRCS Soil Series  $\geq$
- Classification: Bowdle-Wabek loams, 2-6 percent slopes (4.2 1. d.)
- Name of Receiving Water Body/Bodies: Hiddenwood Creek (4.2 1.e.)  $\triangleright$

#### Site 2:

- Total Project Area 0.323 (4.2 1.b.)  $\geq$
- Total Area To Be Disturbed 0.323 (4.2 1.b.)  $\geq$
- Existing Vegetative Cover (%) 70
- Soil Properties: USDA-NRCS Soil Series
- Classification: Tonka Silt Loam, undrained, 0 to 1 percent slopes (4.2  $\geq$ 1. d.)
- > Name of Receiving Water Body/Bodies: Unnamed Lake (4.2 1.e.)

#### ♦ ORDER OF CONSTRUCTION ACTIVITIES (4.2 1.c.)

(Stabilization measures shall be initiated as soon as possible, but in no case later than 14 days after the construction activity in that portion of the site has temporarily or permanently ceased. Initiation of final or temporary stabilization may exceed the 14-day limit if earth disturbing activities will be resumed within 21 days.)

- > Install Temporary Water Barrier.
- Remove and store topsoil.  $\geq$
- Stabilize disturbed areas.  $\geq$
- Install Culvert Pipes.  $\geq$
- Complete final grading.  $\geq$
- Complete final paving.  $\geq$
- Add protective measures and reseed areas disturbed.

#### EROSION AND SEDIMENT CONTROLS (4.2 2.a.(1)(a)-(f))

(Check all that apply)

- Stabilization Practices (See Detail Plan Sheets)
- Temporary Seeding (Cover Crop Seeding)
- Permanent Seeding
- Sodding
- Planting (Woody Vegetation for Soil Stabilization)
- Mulching (Grass Hay or Straw)
- Hydraulic Mulch (Wood Fiber Mulch)
- Soil Stabilizer •
- Bonded Fiber Matrix
- Erosion Control Blankets or Mats
- Vegetation Buffer Strips
- Roughened Surface (e.g. tracking)
- Dust Control

• Other:

#### > Structural Temporary Erosion and Sediment Controls

- Silt Fence
- Floating Silt Curtain
- Straw Bale Check
- Temporary Berm
- Temporary Slope Drain
- Straw Wattles or Rolls  $\square$
- Turf Reinforcement Mat
- Rip Rap
- Gabions
- Rock Check Dams
- Sediment Traps/Basins
- Inlet Protection
- Outlet Protection
- Surface Inlet Protection (Area Drain)
- Curb Inlet Protection
- Stabilized Construction Entrances
- Entrance/Exit Equipment Tire Wash
- Interceptor Ditch
- Concrete Washout Area
- Temporary Diversion Channel
- Work Platform
- Temporary Water Barrier
- Temporary Water Crossing
- Other:

#### $\triangleright$ Wetland Avoidance

Will construction and/or erosion and sediment controls impinge on regulated wetlands? Yes  $\boxtimes$  No  $\square$  If ves, the structural and erosion and sediment controls have been included in the total project wetland impacts and have been included in the 404 permit process with the USACE.

Storm Water Management (4.2 2.b., (1) and (2)) Storm water management will be handled by temporary controls

outlined in "EROSION AND SEDIMENT CONTROLS" above, and any permanent controls needed to meet permanent storm water management needs in the post construction period. Permanent controls will be shown on the plans and noted as permanent.

Other Storm Water Controls (4.2 2.c., (1) and (2))  $\geq$ 

#### Waste Disposal

All liquid waste materials will be collected and stored in sealed metal containers approved by the project engineer. All trash and construction debris from the site will be deposited in the approved containers. Containers will be serviced as necessary, and the trash will be hauled to an approved disposal site or licensed landfill. All onsite personnel will be instructed in the proper procedures for waste disposal, and notices stating proper practices will be posted in the field office. The general contractor's representative responsible for the conduct of work on the site will be responsible for seeing waste disposal procedures are followed.

Hazardous Waste

All hazardous waste materials will be disposed of in a manner specified by local or state regulations or by the manufacturer. Site personnel will be instructed in these practices, and the individual designated as the contractor's on-site representative will be responsible for seeing that these practices are followed.

#### Sanitary Waste

Portable sanitary facilities will be provided on all construction sites. Sanitary waste will be collected from the portable units in a timely

#### ♦ Maintenance and Inspection (4.2 3. and 4.2 4.) > Maintenance and Inspection Practices

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Paints

Metals

Wood

Texture

Cure

Other:

STATE	PROJECT	SHEET	TOTAL
OF		NO.	SHEETS
S.D.	271-371	9	43

manner by a licensed waste management contractor or as required by any local regulations.

Inspections will be conducted at least one time per week and after a

storm event of 0.50 inches or greater.

All controls will be maintained in good working order. Necessary repairs will be initiated within 24 hours of the site inspection report.

Silt fence will be inspected for depth of sediment and for tears in order to ensure the fabric is securely attached to the posts and that the posts are well anchored. Sediment buildup will be removed from the silt fence when it reaches  $\frac{1}{3}$  of the height of the silt fence.

Sediment basins and traps will be checked. Sediment will be removed when depth reaches approximately 50 percent of the structure's capacity, and at the conclusion of the construction.

Check dams will be inspected for stability. Sediment will be removed when depth reaches  $\frac{1}{2}$  the height of the dam.

All seeded areas will be checked for bare spots, washouts, and vigorous growth free of significant weed infestations.

Inspection and maintenance reports will be prepared on form DOT 298 for each site inspection, this form will also be used to document changes to the SWPPP. A copy of the completed inspection form will be filed with the SWPPP documents.

• The SDDOT Project Engineer and contractor's site superintendent are responsible for inspections. Maintenance, repair activities are the responsibility of the contractor. The SDDOT Project Engineer will complete the inspection and maintenance reports and distribute copies per the distribution instructions on DOT 298.

### Non-Storm Water Discharges (3.0)

The following non-storm water discharges are anticipated during the course of this project (check all that apply).

Discharges from water line flushing.

Pavement wash-water, where no spills or leaks of toxic or hazardous materials have occurred.

Incontaminated ground water associated with dewatering activities.

### Materials Inventory (4.2. 2.c.(2))

The following materials or substances are expected to be present on the site during the construction period. These materials will be handled as noted under the headings "EROSION AND SEDIMENT CONTROLS" and "SPILL PREVENTION" (check all that apply).

Concrete and Portland Cement Detergents

Bituminous Materials Petroleum Based Products Cleaning Solvents

Chemical Fertilizers

#### Spill Prevention (4.2 2.c.(2))

### > Material Management

- Housekeeping
  - Only needed products will be stored on-site by the contractor.
  - Except for bulk materials the contractor will store all materials under cover and in appropriate containers.
  - Products must be stored in original containers and labeled. ٠
  - Material mixing will be conducted in accordance with the manufacturer's recommendations.
  - When possible, all products will be completely used before properly disposing of the container off site.
  - The manufacturer's directions for disposal of materials and containers will be followed.
  - The contractor's site superintendent will inspect materials storage areas regularly to ensure proper use and disposal.
  - Dust generated will be controlled in an environmentally safe manner.
  - Vegetation areas not essential to the construction project will be preserved and maintained as noted on the plans.

#### Hazardous Materials

- Products will be kept in original containers unless the container • is not resealable.
- Original labels and material safety data sheets will be retained in a safe place to relay important product information.
- If surplus product must be disposed of, manufacturer's label directions for disposal will be followed.
- Maintenance and repair of all equipment and vehicles involving oil changes, hydraulic system drain down, de-greasing operations, fuel tank drain down and removal, and other activities which may result in the accidental release of contaminants will be conducted on an impervious surface and under cover during wet weather to prevent the release of contaminants onto the ground.
- Wheel wash water will be collected and allowed to settle out suspended solids prior to discharge. Wheel wash water will not be discharged directly into any storm water system or storm water treatment system.
- Potential pH-modifying materials such as: bulk cement, cement kiln dust, fly ash, new concrete washings, concrete pumping, residuals from concrete saw cutting (either wet or dry), and mixer washout waters will be collected on site and managed to prevent contamination of storm water runoff.

#### Product Specific Practices (6.8)

Petroleum Products

All on-site vehicles will be monitored for leaks and receive regular preventive maintenance to reduce the chance of leakage. Petroleum products will be stored in tightly sealed containers which are clearly labeled.

Fertilizers

Fertilizers will be applied only in the amounts specified by the SDDOT. Once applied, fertilizers will be worked into the soil to limit the exposure to storm water. Fertilizers will be stored in an enclosed area. The contents of partially used fertilizer bags will be transferred to sealable containers to avoid spills.

Paints

All containers will be tightly sealed and stored when not required for use. The excess will be disposed of according to the manufacturer's instructions and any applicable state and local regulations.

### Concrete Trucks

Contractors will provide designated truck washout areas on the site. These areas must be self-contained and not connected to any storm water outlet of the site. Upon completion of construction washout areas will be properly stabilized.

#### Spill Control Practices (4.2 2 c.(2))

In addition to the previous housekeeping and management practices, the following practices will be followed for spill prevention and cleanup if needed.

- For all hazardous materials stored on site, the manufacturer's recommended methods for spill clean-up will be clearly posted. Site personnel will be made aware of the procedures and the locations of the information and cleanup supplies.
- Appropriate cleanup materials and equipment will be maintained by the contractor in the materials storage area on-site. As appropriate, equipment and materials may include items such as brooms, dust pans, mops, rags, gloves, goggles, kitty litter, sand, sawdust, and plastic and metal trash containers specifically for clean-up purposes.
- All spills will be cleaned immediately after discovery and the materials disposed of properly.
- The spill area will be kept well ventilated and personnel will wear appropriate protective clothing to prevent injury from contact with a hazardous substance.
- After a spill a report will be prepared describing the spill, what caused it, and the cleanup measures taken. The spill prevention plan will be adjusted to include measures to prevent this type of spill from reoccurring, as well as clean up instructions in the event of reoccurrences.
- The contractor's site superintendent, responsible for day-to-day operations, will be the spill prevention and cleanup coordinator. The contractor is responsible for ensuring that the site superintendent has had appropriate training for hazardous materials handling, spill management, and cleanup.

#### > Spill Response (4.2 2 c.(2))

The primary objective in responding to a spill is to quickly contain the material(s) and prevent or minimize migration into storm water runoff and conveyance systems. If the release has impacted on-site storm water, it is critical to contain the released materials on-site and prevent their release into receiving waters. If a spill of pollutants threatens storm water or surface water at the site, the spill response procedures outlined below must be implemented in a timely manner to prevent the release of pollutants.

- The contractor's site superintendent will be notified immediately when a spill or the threat of a spill is observed. The superintendent will assess the situation and determine the appropriate response.
- If spills represent an imminent threat of escaping erosion and sediment controls and entering receiving waters, personnel will be directed to respond immediately to contain the release and notify the superintendent after the situation has been stabilized.
- Spill kits containing appropriate materials and equipment for spill response and cleanup will be maintained by the contractor at the site.
- If oil sheen is observed on surface water (e.g. settling ponds, detention ponds, swales), action will be taken immediately to remove the material causing the sheen. The contractor will use appropriate materials to contain and absorb the spill. The source of the oil sheen will also be identified and removed or repaired as necessary to prevent further releases.

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#### Spill Notification

In the event of a spill, the contractor's site superintendent will make the appropriate notification(s), consistent with the following procedures:

- safetv.

- gallons).

To report a release or spill, call DENR at 605-773-3296 during regular office hours (8 a.m. to 5 p.m. Central time). To report the release after hours, on weekends or holidays, call State Radio Communications at 605-773-3231. Reporting the release to DENR does not meet any obligation for reporting to other state, local, or federal agencies. Therefore, the responsible person must also contact local authorities to determine the local reporting requirements for releases. DENR recommends that spills also be reported to the National Response Center at (800) 424-8802.

## Construction Changes (4.4)

When changes are made to the construction project that will require alterations in the temporary erosion controls of the site, the Storm Water Pollution Prevention Plan (SWPPP) will be amended to provide appropriate protection to disturbed areas, all storm water structures, and adjacent waters. The SDDOT Project Engineer will modify the SWPPP plan (DOT 298) and drawings to reflect the needed changes. Copies of changes will be routed per DOT 298. Copies of forms and the SWPPP will be retained in a designated place for review over the course of the project.

STATE	PROJECT	SHEET	TOTAL
OF		NO.	SHEETS
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If a spill occurs the superintendent or the superintendent's designee will be responsible for completing the spill reporting form and for reporting the spill to SD DENR.

Personnel with primary responsibility for spill response and clean up will receive training by the contractor's site superintendent or designee. The training must include identifying the location of the spill kits and other spill response equipment and the use of spill response materials.

Spill response equipment will be inspected and maintained as necessary to replace any materials used in spill response activities.

> A release or spill of a regulated substance (includes petroleum and petroleum products) must be reported to DENR immediately if any one of the following conditions exists:

The discharge threatens or is in a position to threaten the waters of the state (surface water or ground water).

• The discharge causes an immediate danger to human health or

The discharge exceeds 25 gallons.

The discharge causes a sheen on surface water.

• The discharge of any substance that exceeds the ground water quality standards of ARSD (Administrative Rules of South Dakota) chapter 74:51:01.

The discharge of any substance that exceeds the surface water quality standards of ARSD chapter 74:51:01.

The discharge of any substance that harms or threatens to harm wildlife or aquatic life.

• The discharge of crude oil in field activities under SDCL (South Dakota Codified Laws) chapter 45-9 is greater than 1 barrel (42

#### **CERTIFICATIONS**

Certification of Compliance with Federal, State, and Local Regulations

The Storm Water Pollution Prevention Plan (SWPPP) for this project reflects the requirements of all local municipal jurisdictions for storm water management and sediment and erosion control as established by ordinance, as well as other state and federal requirements for sediment and erosion control plans, permits, notices or documentation as appropriate.

#### > South Dakota Department of Transportation

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Ton hall

Authorized Signature (See the General Permit, Section 6.7.1.C.)

#### Prime Contractor

This section is to be executed by the General Contractor after the award of the contract. This section may be executed any time there is a change in the Prime Contractor of the project.

I certify under penalty of law that this document and all attachments will be revised or maintained under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Authorized Signature

#### ✤ CONTACT INFORMATION

- > Contractor Information:
  - Prime Contractor Name: \_\_\_\_\_\_
  - Contractor Contact Name: \_\_\_\_\_\_
  - Address:
  - .
  - City: \_\_\_\_\_State: \_\_\_\_Zip: \_\_\_\_\_
  - Office Phone: \_\_\_\_\_\_Field: \_\_\_\_\_\_
- Erosion Control Supervisor
  - Name: \_\_\_\_\_\_
- Address: \_\_\_\_\_\_
- •
- City: \_\_\_\_\_State: \_\_\_\_Zip: \_\_\_\_\_
- Office Phone: \_\_\_\_\_\_Field: \_\_\_\_\_\_
- Cell Phone: \_\_\_\_\_Fax: \_\_\_\_\_
- SDDOT Project Engineer

  - Business Address: \_\_\_\_\_\_
  - Job Office Location:
  - City: \_\_\_\_\_State: \_\_\_\_Zip: \_\_\_\_\_
  - Office Phone: \_\_\_\_\_\_Field: \_\_\_\_\_\_
- > SD DENR Contact Spill Reporting
  - Business Hours Monday-Friday (605) 773-3296
    Nights and Weekends (605) 773-3231
- Nights and Weekends (605) 773-3231
   SD DENR Contact for Hazardous Materials.
  - (605) 773-3153
  - (605) 773-3153
- > National Response Center Hotline
  - (800) 424-8802.

STATE	PROJECT	SHEET	TOTAL
OF		NO.	SHEETS
S.D.	271-371	11	43

# **PROJECT SIGN TABULATION**

#### SIGN TABULATION PCN i3X3 (Site 2)

# ITEMIZED LIST FOR TRAFFIC CONTROL SIGNS

			CONVENTIO	NAL ROAD	
SIGN CODE	SIGN DESCRIPTION	NUMBER	SIGN SIZE	SQFT PER SIGN	SQFT
R11-2	ROAD CLOSED	3	48" x 30"	10	30
R11-3a	ROAD CLOSED MILES AHEAD LOCAL TRAFFIC ONLY	3	60" x 30"	13	39
W16-2P	FEET (supplemental distance plaque)	2	30" x 24"	5	10
W20-1	ROAD WORK AHEAD	2	48" x 48"	16	32
W20-2	DETOUR AHEAD	3	48" x 48"	16	48
W20-3	ROAD CLOSED AHEAD	6	48" x 48"	16	96
W20-4	ONE LANE ROAD AHEAD	2	48" x 48"	16	32
W20-7	FLAGGER (symbol)	2	48" x 48"	16	32
W21-5	SHOULDER WORK	4	48" x 48"	16	64
G20-2	END ROAD WORK	2	36" x 18"	5	10
M1-5	SD ROUTE MARKER (3 digits)	10	30" x 24"	5	50
M3-2	DIRECTION MARKER - EAST	2	24" x 12"	2	4
M3-4	DIRECTION MARKER - WEST	1	24" x 12"	2	2
M4-8	DETOUR	9	24" x 12"	2	18
M4-10	DETOUR ARROW (L or R)	3	48" x 18"	6	18
		CON TRAFFIC	VENTIONAL I CONTROL SI	ROAD GNS SQFT	485

**TYPE 3 BARRICADES** 

ITEM DESCRIPTION	QUANTITY
Type 3 Barricade, 8' Double Sided	15 Each

## SIGN TABULATION PCN i3X4 (Site 1 & Site 3)

## ITEMIZED LIST FOR TRAFFIC CONTROL SIGNS

			CONVENTIO	NAL ROAD	
SIGN CODE	SIGN DESCRIPTION	NUMBER	SIGN SIZE	SQFT PER SIGN	SQFT
R11-2	ROAD CLOSED	3	48" x 30"	10	30
R11-3a	ROAD CLOSED MILES AHEAD LOCAL TRAFFIC ONLY	3	60" x 30"	13	39
W16-2P	FEET (supplemental distance plaque)	2	30" x 24"	5	10
W20-1	ROAD WORK AHEAD	2	48" x 48"	16	32
W20-2	DETOUR AHEAD	3	48" x 48"	16	48
W20-3	ROAD CLOSED AHEAD	6	48" x 48"	16	96
W20-4	ONE LANE ROAD AHEAD	2	48" x 48"	16	32
W20-7	FLAGGER (symbol)	2	48" x 48"	16	32
W21-5	SHOULDER WORK	4	48" x 48"	16	64
G20-2	END ROAD WORK	2	36" x 18"	5	10
M1-5	SD ROUTE MARKER (3 digits)	10	30" x 24"	5	50
M3-2	DIRECTION MARKER - EAST	1	24" x 12"	2	2
M3-4	DIRECTION MARKER - WEST	2	24" x 12"	2	4
M4-8	DETOUR	9	24" x 12"	2	18
M4-10	DETOUR ARROW (L or R)	3	48" x 18"	6	18
		CON TRAFFIC	VENTIONAL I CONTROL SI	ROAD GNS SQFT	485

### TYPE 3 BARRICADES

ITEM DESCRIPTION	QUANTITY
Type 3 Barricade, 8' Double Sided	15 Each

STATE OF	PROJECT	SHEET NO.	TOTAL SHEETS
S.D.	271-371	12	43

# **CONTROL DATA**

			HORIZONTAL AND VERTICAL CONTR	KOL POINTS		
POINT	STATION	OFFSET	DESCRIPTION	NORTHING	EASTING	ELEVATION
12-230-02			HARN point 3 miles west of Bowdle	589159.450	2043440.630	1965.280
12-220-93			BM - Junction US 12 and SD 271	589355.984	1995599.235	2075.273
Cp4x			Control point #4	610401.424	2000910.880	2053.962
12-214.05			BM - 4 miles south of Selby on US 12	589899.11	1959528.44	1939.16

The coordinates shown on this sheet are based on the South Dakota State Plane Coordinate System. North Zone (NAD 83/11); epoch 2010.00 Geoid 12; SF = 0.9998769107 The elevations shown on this sheet are based on NAVD 88.

	STATE OF	PROJECT	SHEET	TOTAL SHEETS
SOL	SOUTH DAKOTA	271-371	13	43



# HORIZONTAL ALIGNMENT DATA

# Site 1 – Centerline Alignment

# Site 3 – Centerline Alignment

Туре	Station	Tangent	Bearing	Northing	Easting
POB	312+59.33			611331.750	2000919.485
		TL= 62.18	S 0°00'50" E		
PI	313+21.51			611269.571	2000919.500
		TL= 8.72	S 2°56'42" E		
PI	313+30.23			611260.863	2000919.948
		TL= 1.68	S 1°42'32" E		
PI	313+31.90			611259.187	2000919.998
		TL= 10.51	S 1°09'20" W		
POE	313+42.42			611248.676	2000919.786
POB	313+42.42			611248.676	2000919.786
		TL= 59.39	S 0°06'05" E		
POE	314+01.39			611189.291	2000919.891

Туре	Station	Tangent	Bearing	Northing	Easting
POB	306+45.78			611945.290	2000917.793
		TL= 104.75	S 0°05'07" W		
PI	307+50.53			611840.538	2000917.637
		TL= 44.44	S 0°08'35" W		
PI	307+94.97			611796.101	2000917.526
		TL= 52.55	S 0°34'44" E		
PI	308+47.52			611743.549	2000918.057
		TL= 14.01	S 0°00'44" W		
PI	308+61.53			611729.543	2000918.054
		TL= 25.91	S 0°35'02" E		
PI	308+87.43			611703.639	2000918.318
		TL= 66.58	S 0°38'25" E		
PI	309+54.02			611637.059	2000919.062
		TL= 109.07	S 0°19'38" E		
POE	310+63.09			611527.987	2000919.685

# Site 2 – Centerline Alignment

Туре	Station	Tangent	Bearing	Northing	Easting
POB	39+28.03			603830.983	1995668.067
		TL= 3366.65	S 0°10'50" E		
POE	72+94.68			600464.354	1995678.679

The coordinates shown on this sheet are based on the South Dakota State Plane Coordinate System. North Zone (NAD 83/11); epoch 2010.00 Geoid 12; SF = 0.9998769107 The elevations shown on this sheet are based on NAVD 88.

STATE OF	PROJECT	SHEET	TOTAL
SOUTH DAKOTA	271-371	14	43





DRAWING NOT TO SCALE





STATE	OF PROJECT	SHEET	TOTAL
SOU DAK (	TA 271-371	17	43



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g Date: 12/22/2015	STATE OF	PROJECT	SHEET	TOTAL SHEETS	•
	SOUTH DAKOTA	271-371	19	43	•



	STATE OF	PROJECT	SHEET NO+	TOTAL SHEETS
	DAKOTA	271-371	20	43
		W	S	-E
Variable 12.5 '	<b>&gt;</b>	*		
11.0 ′	<b>→</b>			
03 ft/ft				
		Variable		
omposite				
Pipe ———				
ection				

# SITE 2 Station 45+34 MRM 165.00 +0.100





# LEGEND

Class M6 Concrete

Controlled Density Fill

# Notes

- 2" of clear cover shall be maintained on all reinforcement.

- A2 reinforcement bars shall be placed 1 foot center to center.

- All bolts and reinforcement shall be incidental to the contract unit price per cubic yard for Class M6 Concrete.

- All work associated with drilling, inserting, tying, and forming shall be incidental to the contract unit price per cubic yard for Class M6 Concrete.

REINFORCING SCHEDULE				
Mk.	No.	Size	Length	Туре
A/	4	4	2' - 0''	Bar
A2	4	4	3' - 10''	Bar
A3	2	4	13' - 0''	Bar
A4	8	/"	0' - 9''	Bolt

△Reinforcing steel shall conform to ASTM-A615, Grade 60.

See Standard Plate " Joints in Concrete Curb and Gutter" for concrete and joint details. Reinforcing schedule shows the total amount of bars needed for the project.

ESTIMATED QUA		
ITEM	UNI T	QUANTITY
Epoxy Coated Reinforcing Steel	Lb.	33







ng Date: 12/22/2015	STATE OF PROJECT		SHEET	TOTAL
	SOUTH DAKOTA	271-371	22	43





ng Date: 12/22/2015	STATE OF	PROJECT	SHEET NO.	TOTAL SHEETS
	DAKOTA	271-371	23	43

# LEGEND



80

**Base Course** 



Borrow Unclassified Excavation









-80















Date: 12/22/2015	STATE OF	PROJECT	SHEET	TOTAL	
	SOUTH DAKOTA	271-371	ND. 32	43	

# LEGEND

**Base Course** 



Borrow Unclassified Excavation



Note: Drawing is not to scale

	STATE OF SOUTH	PROJECT	SHEET NO.	TOTAL SHEETS
	DAKOTA	211-511	33	43
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-				
I		310+00		
Litter Contro	ol Sign			
		Legend		
		Asphalt Concrete	Comp	osite
		Concrete Valley G	utter	



# **TYPICAL SECTION**

SITE 3 SECTION 2

Sta. 307+30 to Sta. 307+82 RT Sta. 308+67 to Sta. 309+30 RT Sta. 307+30 to Sta. 307+93 LT Sta. 308+78 to Sta. 309+30 LT

#### IN PLACE & COLD MILLING ASPHALT CONCRETE SECTION



**RESURFACING SECTION** 



ST	ATE OF	PROJECT	SHEET	TOTAL
s D	OUTH AKOTA	271-371	35	43

## Legend

- Cold Mill Asphalt Concrete
- Asphalt Concrete Composite



![](_page_35_Figure_1.jpeg)

Plot Scale

Plotted From - trpr2

STATE OF	PROJECT	SHEET	TOTAL SHEETS
Plotting Date: 01/2	271-371 26/2016	36	43
Exercision of the location of the location where soil intercepts the location where soil intercepts the pipe adjacent to the opening of the pipe end	sition from Inslope at drainage structure to a 6 :1 inslope and 3:1 inslope. sition from typical inslope to the inslopes adjacent to the drainage structure. Within the clear (area from edge of subgrade shoulder to line B-B) use 100 length for each 1:1 slope change. ble: transition from a 4:1 to a 6:1 would require a 200 length transition. The typical inslope outside he clear zone shall be transitioned to a 3:1 inslope within the transition length necessary for the sition within the clear zone.		

![](_page_36_Figure_0.jpeg)

				1	DDO IECT	,	TOTAL
			STATE OF SOUTH		PRUJECI	SHEET	SHEETS
			DAKOTA		271-371	37	43
		·	Plotting Date	01/2	6/2016		
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![](_page_38_Figure_3.jpeg)

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#### GENERAL NOTES:

At cut or fill slope installations, wattles shall b perpendicular to the water flow.

At ditch installations, point A must be higher the flows over the wattle and not around the end.

The Contractor shall dig a 3" to 5" trench, instal that daylight can not be seen under the wattl from the trench against the wattle on the up

The stakes shall be 1"x2" or 2"x2" wood stakes, he rebar may be used only if approved by the Eng 6" from the ends of the wattles and the space shall be 3' to 4'.

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	STATE OF		PROJECT	SHEET	TOTAL SHEETS	
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