FOR BIDDING PURPOSES ONLY





BRO-B 8010(30)

SHEE NO. TOTAL SHEETS 27 1

REVISED 05/01/2025

PROJECT

INDEX OF SHEETS

S.D.

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END PROJECT BRO-B 8010(30) At Sta. 11+50.00 Ĭ 2024.7' South and 1561.9' West Ě of the NE Corner of Sec. 12 - T10N - R09E 111111 7 \square - Str. No. 10-537-255, 6 / N C T10N ы Δ ~ ω X T09N July 16, 2025

ESTIMATE OF QUANTITIES AND ENVIRONMENTAL COMMITMENTS OSES ONLY SAUTH

Grading

BID ITEM NUMBER	ITEM	QUANTITY	UNIT
009E0010	Mobilization	Lump Sum	LS
110E0130	Remove Traffic Sign	2	Each
110E0135	Remove Delineator	16	Each
110E1690	Remove Sediment	1.1	CuYd
110E5020	Salvage Traffic Sign	2	Each
110E7150	Remove Sign for Reset	3	Each
120E0010	Unclassified Excavation	1,844	CuYd
120E0600	Contractor Furnished Borrow Excavation	838	CuYd
230E0010	Placing Topsoil	236	CuYd
600E0100	Type I Field Laboratory	1	Each
632E2510	Type 2 Object Marker Back to Back	4	Each
632E3500	Reset Sign	3	Each
634E0110	Traffic Control Signs	109.0	SqFt
634E0120	Traffic Control, Miscellaneous	Lump Sum	LS
634E0275	Type 3 Barricade	8	Each
730E0210	Type F Permanent Seed Mixture	15	Lb
732E0100	Mulching	4.0	Ton
734E0154	12" Diameter Erosion Control Wattle	670	Ft
734E0602	Low Flow Silt Fence	280	Ft
734E0610	Mucking Silt Fence	3	CuYd
734E0620	Repair Silt Fence	50	Ft

Structure

Structure No. 10-537-255

ITEM

Incidental Work, Structure

421E0200 Box Culvert Undercut

464E0100 Controlled Density Fill

Structure Excavation, Box Culvert

ENVIRONMENTAL COMMITMENTS

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

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

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

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

COMMITMENT A: AQUATIC RESOURCES

COMMITMENT A2: STREAMS

All efforts to avoid and minimize stream impacts from the project have resulted in approximately 0.02 acre(s) of stream (includes temporary and permanent) becoming impacted.

Table of Impacted Streams

Stream Name	Station	Perm. Impact (Acres)	Temp. Impact (Acres)	Total Impact (Acres)
Unnamed Tributary	10+00	0.011	0.013	0.02

Action Taken/Required:

It has been determined that project impacts do not require mitigation. Temporary impacts identified in the Table of Impacted Streams will not be mitigated as the finished ground under the bridge will be shaped to match the upstream channel and flood plain and the existing low water channel will be maintained as near as practical to the existing location as designated in the Grading Plans.

The Contractor will notify the Project Engineer if additional easement is needed to complete work adjacent to any stream. The Project Engineer will obtain an appropriate course of action from the Environmental Office before proceeding with construction activities that affect any streams beyond the work limits and easements shown in the plans.

COMMITMENT C: WATER SOURCE

The Contractor will not withdraw water with equipment previously used outside the State of South Dakota or previously used in aquatic invasive species (AIS) positive waters within South Dakota without prior approval from the SDDOT Environmental Office. To prevent and control the introduction and spread of invasive species into the project vicinity, all equipment will be power washed with hot water (≥140 °F) and completely dried for a minimum of 7 days prior to subsequent use. South Dakota administrative rule 41:10:04:02 forbids the possession and transport of AIS; therefore, all attached dirt, mud, debris and vegetation must be removed and all compartments and tanks capable of holding standing water must be drained. This includes, but is not limited to, all equipment, pumps, lines, hoses and holding tanks.

Action Taken/Required:

The Contractor will obtain the necessary permits from the regulatory agencies such as the South Dakota Department of Agriculture and Natural Resources (DANR) and the United States Army Corps of Engineers (USACE) prior to water extraction activities.

Additional information and mapping of water sources impacted by Aquatic Invasive Species in South Dakota can be accessed at: < https://sdleastwanted.sd.gov/maps/default.aspx>

< South Dakota Administrative Rule 41:10:04 Aquatic Invasive Species: https://sdlegislature.gov/rules/DisplayRule.aspx?Rule=41:10:04 >

COMMITMENT D: WATER QUALITY STANDARDS

COMMITMENT D1: SURFACE WATER QUALITY

The Unnamed Tributary 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.

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

Action Taken/Required:

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

560E2178	2-12'x12' Precast Concrete Box Culvert, Furnish	46.0	Ft
560E2179	2-12'x12' Precast Concrete Box Culvert, Install	46.0	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
700E0210	Class B Riprap	68.0	Ton
831E0110	Type B Drainage Fabric	85	SqYd

SPECIFICATIONS

BID ITEM

NUMBER

250E0030

420E0200

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



QUANTITY

Lump Sum

192

227

17.1

UNIT

LS

CuYd

CuYd

CuYd



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COMMITMENT D2: SURFACE WATER DISCHARGE

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

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

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

Action Taken/Required:

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

<https://danr.sd.gov/OfficeOfWater/SurfaceWaterQuality/docs/DANR AddTe mpInfoFillable.pdf >

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

Effluent monitoring, as a result of dewatering activities, will be summarized for each month and recorded on a separate Discharge Monitoring Report (DMR) and submitted to DANR monthly. Additional information can be found at:

https://danr.sd.gov/OfficeOfWater/SurfaceWaterQuality/swdpermitting/Ereport ing.aspx >

COMMITMENT E: STORM WATER

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

Action Taken/Required:

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

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

The Contractor will complete the DANR Contractor Certification Form prior to the pre-construction meeting. The form certifies under penalty of law that the

Contractor understands and will comply with the terms and conditions prote BIDDING PURPO permit for this project. Work may not begin on this project until this form is signed and submitted to DANR.

The form can be found at:

<https://danr.sd.gov/OfficeOfWater/SurfaceWaterQuality/docs/DANR CGPAp pendixCCA2018Fillable.pdf >

The Contractor is advised that permit coverage may also be required for offsite activities, such as borrow and staging areas, which are the responsibility of the Contractor.

Storm Water Pollution Prevention Plan

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

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

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

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

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

DANR:<https://danr.sd.gov/OfficeOfWater/SurfaceWaterQuality/stormwater/d efault.aspx>

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

COMMITMENT H: WASTE DISPOSAL SITE

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

Action Taken/Required:

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

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

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

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

1. Construction and/or demolition debris consisting of concrete, asphalt concrete, or other similar materials will be buried in a trench separate from wood debris. The final cover over the construction and/or demolition debris will consist of a minimum of 1 foot of soil capable of supporting vegetation. Waste disposal sites provided outside of the Public ROW will be seeded in accordance with Natural Resources Conservation Service recommendations. The seeding recommendations may be obtained through the appropriate County NRCS Office. The Contractor will control the access to waste disposal sites not within the Public ROW with fences, gates, and placement of a sign or signs at the entrance to the site stating, "No Dumping Allowed".

2. Concrete and asphalt concrete debris may be stockpiled within view of the ROW for a period not to exceed the duration of the project. Prior to project completion, the waste will be removed from view of the ROW or buried, and the waste disposal site reclaimed as noted above.

6-1.13. and ARSD 74:27:10:06. 1.31.

All costs associated with furnishing waste disposal site(s), disposing of waste, maintaining control of access (fence, gates, and signs), and reclamation of the waste disposal site(s) will be incidental to the various contract items.

COMMITMENT I: HISTORIC PRESERVATION OFFICE CLEARANCES

The SDDOT has obtained concurrence with the State Historic Preservation Office (SHPO or THPO) for all work included within the project limits and all department designated sources and designated option material sources. stockpile sites, storage areas, and waste sites provided within the plans.

Action Taken/Required:

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

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

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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-

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

COMMITMENT I: HISTORIC PRESERVATION OFFICE CLEARANCES (Continued)

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

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

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

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

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

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

Action Taken/Required:

Excavation will not occur below the ordinary high-water elevation in waterways outside of caissons, cribs, cofferdams, steel piling, or sheeting. The natural streambed will 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. Any structure work over or within the waterway will be constructed according to Section 7.21 C of the Specifications.

All dredged or excavated materials will 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 if 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 will be removed with minimal disturbance to the streambed. Proper construction practices will be used to minimize increases in suspended solids and turbidity in the waterway.

Bridge berms, wing dams, traffic diversions, channel reconstruction, strong BIDDING PEVISIPO diversions, grading, etc. will 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 Contractor's construction operations will 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.

All temporary works in waterways of the US are required to be covered in the Corp of Engineers 404 Permit. At the time of the preconstruction meeting, the Contractor will submit documentation for all temporary works for the purpose of complying with the 404 Permit requirements in accordance with Section 423.3 A of the Specifications.

If an on-site construction crossing is used at Sta. 9+95, the temporary crossing will need to be designed so it will not increase the Q_{100} water surface elevation. The Contractor will submit the proposed temporary crossing geometric layout and structure size at Sta. 9+95 to the Project Engineer during the preconstruction meeting. This information will be forwarded to the SDDOT Hydraulics Office and Environmental Office for review. Construction of the temporary crossing is not allowed until approval of the proposal is obtained from the SDDOT Hydraulics Office and Environmental Office.

Table of U.S. Waterways to Protect

Station	Waterway	Ordinary High-Water Elevation
10+00	Unnamed Tributary	2703.1

Stream channel excavation within "Waters of the US" is subject to USACE regulatory jurisdiction. Stream channel excavation cannot exceed the permitted quantities and/or surface area. The 404 Permit is included in the Special Provisions.

The Contractor will take all precautions necessary to prevent any incidental discharges associated with the excavation and hauling of material from the stream channel. This pertains to any excavation operations such as, foundation, pier, or abutment excavation, channel cleanout, excavation for riprap protection, and removal of any temporary fill associated with construction activities.

COMMITMENT N: SECTION 404 PERMIT

The SDDOT has obtained a Section 404 Permit from the USACE for the permanent actions associated with this project.

Action Taken/Required:

The Contractor will comply with all requirements contained in the Section 404 Permit.

The Contractor will also be responsible for obtaining a Section 404 Permit for any dredge, excavation, or fill activities associated with material sources, storage areas, waste sites, and Contractor work sites outside the plan work limits that affect wetlands, floodplains, or waters of the United States.

participation:

- 1) Right of way and temporary and permanent easements
- 2) Coordination of any utility adjustments
- 3) Furnish and install final surfacing
- 4)
- 5) Furnish and install new permanent signing

GRADING OPERATIONS

Water for Embankment is estimated at the rate of 10 gallons of water per cubic vard of Embankment minus Waste. The estimated quantity of Water for Embankment is 24 MGal. No separate payment will be made for the Water for Embankment and all costs associated will be incidental to the contract unit price per cubic yard of "Unclassified Excavation".

The estimated cubic yards of excavation and/or embankment required to construct outlet ditches, ditch blocks, and approaches are included in the earthwork balance notes on the profile sheets.

Special ditch grades and other sections of the roadway different than the typical section will be constructed to the limits shown on the cross sections. If significant changes to the cross sections are necessary during construction. the Engineer will contact the Designer for the proposed change.

Generally, all shallow inlet and outlet ditches as noted on the plan sheets will be cut with a 10-foot wide bottom with 5:1 backslopes. However, the Engineer may direct the Contractor to adjust the ditch width for proper alignment with the drainage structure.

Temporary fence and/or permanent fence will be placed ahead of the grading operation unless otherwise directed by the Engineer.

UTILITIES

The Contractor will be aware that the existing utilities shown in the plans were surveyed prior to the design of this project and might have been relocated or replaced by a new utility facility prior to construction of this project, might be relocated or replaced by a new utility facility during the construction of this project, or might not require adjustment and may remain in its current location. The Contractor will contact each utility owner and confirm the status of all existing and new utility facilities. The utility contact information is provided elsewhere in the plans or bidding documents.

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BUTTE COUNTY REQUIREMENTS

- The County will be responsible for the following items without federal
 - Furnish and install temporary and/or permanent fencing
 - 6) Remove silt fence in permanently seeded areas



UNCLASSIFIED EXCAVATION

All excavation that must be performed to construct the new grade in conformance with the cross sections and plan details will be included in the contract unit price per cubic yards for "Unclassified Excavation." The plans quantity for "Unclassified Excavation" as shown in the Estimate of Quantities shall be the basis of payment for this item without further field measurement. If changes are necessary on construction, the altered quantities will be measured for payment.

TABLE OF UNCLASSIFIED EXCAVATION

		(CuYd)
Excavation		104
Topsoil		236
Exc. for RCBC Installation	_	1504
	Total	1844

CONTRACTOR FURNISHED BORROW EXCAVATION

The Contractor will 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. The borrow material will be approved by the Engineer. 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 excavation site will be the responsibility of the Contractor.

EXCAVATION FOR REINFORCED CONCRETE BOX CULVERT

Included in the quantity of "Unclassified Excavation" are 1504 cubic yards of excavation for installation of reinforced concrete box culverts.

All work necessary to excavate a trench for installation of reinforced concrete box culverts including labor, equipment, and incidentals will be incidental to the contract unit price per cubic yard for "Unclassified Excavation". Payment for excavation of reinforced concrete box culverts will be based only on plans quantity and measurement of these excavation quantities during construction will not be performed.

The excavation quantities for installation of reinforced concrete box culverts are not included with the earthwork balance quantities on the plans profile sheets. The quantities computed for excavation of the reinforced concrete box culverts are based on the limits shown in the drawing below.



SHRINKAGE FACTOR: Embankment +35%.

REVISED 05/07/28 MYCHOREHUZAD

PLACING TOPSOIL

The thickness will be approximately 4 inches within the right-of-way and 6 inches on temporary easements.

The plans quantity for Placing Topsoil as shown in the Estimate of Quantities will be the basis of payment for this item.

The estimated amount of topsoil to be placed is as follows:

			i opsoli
Station	to	Station	(CuYd)
8+50		11+50	236
		Total:	236

REMOVE TRAFFIC SIGNS

All existing delineators, object markers, directional chevron signs, curve signs and posts within the project limits will be removed and salvaged in their entirety and stockpiled on-site. Care will be taken when removing signs, delineators, and posts so that minimal damage is done to them. Salvaged materials will become property of the Butte County Highway Department and will be stockpiled as directed by the County. It is the Contractor's responsibility to contact and to coordinate their work schedule with Butte County Highway Department.

All costs associated with the removal of the existing delineators, object markers, posts, and hardware, will be paid for as "Remove Delineator".

REMOVE SIGN FOR RESET AND RESET SIGN

Signs that are scheduled for reset will be dismantled and reassembled to the extent needed by the Contractor to properly reset the sign. Signs will be handled with care so that the existing signs, posts, and bases are not damaged during the relocation process. The Contractor will replace and pay for any reset signs damaged in their care. The Contractor will remove and dispose of any existing posts for all reset signs that require use of new posts as shown in the Table of Permanent Signing.

All costs for removing, dismantling, and disposing of any existing posts will be incidental to the contract unit price per each for "Remove Sign for Reset". All costs for resetting the existing signs will be incidental to the contract unit price per each for "Reset Sign". All quantities for Remove Sign for Reset and Reset Sign will be per assembly at the contract unit price per each.

SALVAGE SIGNS

Existing load posting signs associated with the existing structure to be salvaged will be found outside the plan shown work limits at +/- 500' north and south of the structure. All costs associated with removal and salvage of the weight limit signs, posts, and hardware will be paid for at the contract bid unit price for "Salvage Traffic Sign".

Mycorrhizal inoculum fungi-infected root fra organic materials, cal application and good fungal species claime include a minimum 25 remaining 75% may in

All seed will be inocul live propagules of my will be incidental to th permanent seed mixtu

The mycorrhizal inocu

Produc

MycoAp

AM 120 Multi Speci

PERMANENT SEED

The areas to be seeded consist of all newly graded areas within the project limits except for the top of roadways, temporary easements under cultivation, and areas designated to be sod.

Type F Permanent Seed Mixture will consist of the following:

Grass Species	Variety	Pure Live Seed (PLS) (Pounds/Acre)
Western Wheatgrass	Arriba, Flintlock, Rodan, Rosana, Walsh	7
Green Needlegrass	Lodorm, AC Mallard Ecovar	4
Sideoats Grama	Butte, Pierre	3
Blue Grama	Bad River	2
Oats or Spring Wheat: April through May; Winter Wheat: August through November	ED PROA	10
in the color	8026 DONALDI HAMMOND SOLUTION VGINEE	26

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will consist of mycorrhizal fungi spores and mycorrhizal igments in a solid carrier. The carrier may include lcinated clay, or other materials consistent with plant growth. The supplier will provide certification of the ed and the live propagule count. The inoculum will 5% the fungal species <i>Rhizophagus intraradices</i> . The nclude other endomycorrhizal fungal species.						
lated by the se vcorrhizal fungi ne contract unit ture. ulum will be as	lated by the seed supplier with a minimum of 100,000 corrhizal fungi per acre. All costs of inoculating the seed the contract unit price per pound for the corresponding ure.					
ct		Manufacturer				
 ply		Mycorrhizal Applications Grants Pass, OR Phone: 1-866-476-7800 <u>www.mycorrhizae.com</u>	s, Inc.			
es Blend		Reforestation Technolog Gilroy, CA Phone: 1-800-784-4769 <u>www.reforest.com</u>	gies Int.			
ING						

MULCHING (GRASS HAY OR STRAW)

An additional 2 tons of Grass Hay or Straw Mulch has been added to the Estimate of Quantities for temporary erosion control on areas determined by the Engineer during construction.

If the Contractor uses a no-till drill, mulch may be applied prior to seeding and the mulch can then be punched into the soil by the no-till drill. If the Contractor uses this process, the no-till drill seeding will be completed immediately following the mulch application and the mulch will be punched into the soil at a 3-inch depth.

TABLE OF MULCHING (GRASS HAY OR STRAW)

		Quantity
Station	Location	(Ton)
8+50 to 9+75 L & R	Inslope/Backslope/Ditch	1.0
10+10 to 11+50 L & R	Inslope/Backslope/Ditch	1.0
	Additional Quantity:	2.0

Total Quantity for Permanent Stabilization: 4.0

EROSION CONTROL WATTLE

Erosion control wattles for restraining the flow of runoff and sediment will 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 will provide certification that the erosion control wattles do not contain noxious weed seeds.

Erosion control wattles will 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 will be from the approved product list. The approved product list for erosion control wattle may be viewed at the following internet site:

http://apps.sd.gov/HC60ApprovedProducts/main.aspx

TABLE OF EROSION CONTROL WATTLE

Station	Location	Diameter (Inch)	Quantity (Ft)
7+75 to 9+75 L	Toe of Fill Slope	12	110
7+75 to 9+85 R	Toe of Fill Slope	12	150
10+05 to 11+25 L	Toe of Fill Slope	12	170
10+20 to 11+25	Toe of Fill Slope	12	130
	Additional Quantity:	12	110
		Total:	670

LOW FLOW SILT FENCE

FOR BIDDING PEURPOSES CONI

The low flow silt fence fabric provided will be from the approved product list. The approved product list for low flow silt fence may be viewed at the following internet site:

http://apps.sd.gov/HC60ApprovedProducts/main.aspx

Low flow silt fence will 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

Station	Location	Quantity (Ft)
8+35 to 9+35 R	Perimeter of Storage	180
Engineer's Discretion	Additional Quantity:	100
	Total:	280





CONTROL POINTS					
ATION	OFFSET	NORTHING	EASTING	ELEVATION	DESC.
57.53	42.11' Lt.	382247.500	1199554.650	2713.42	REBAR
76.30	49.57' Rt.	384185.850	1201366.310	2753.00	REBAR



EASEMENT DETAILS

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	STATE	PRC	JECT	SHEET TOTAL
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		Z		
			Scale: 1"=/	50'
∕— Existing Fe	ence			
4	- Existing F	R.O.W.		
k	/			
	Existing Shoul	der Edge of Gravel		
¥				
Old US Highway 212				
Ń	- Existing	Edge of Gravel		
\sim	Existing Shoul	der		
<u>т ×</u>	- Evictina	ROW		
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Existing L	Jnderground l	Jtility		
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	Dormo			*****
	Tempo	orary Easement	<u> </u>	~~~~~~~
		•	<u>~~~~~~~~~~</u>	
	NOTE: Coordinat	es shown on this sł	neet are based on the	
NT	South Dal	kota Plane Coordina	ate System, North Zo	ne (NAD83)
asting (x)	PFR		FASEM	FNT
99585.44	Sta.	Offset	Northina (v)	Easting (x)
99640.50 A	9+55.00	65.00' Lt.	382422.19	1199632.04
99717.24 B 99565.21 C	9+55.00 9+65.00	33.00' Lt. 33.00' Rt	382407.55 382386.25	1199660.50 1199723.76
99787.64 D	9+65.00	80.00' Rt.	382364.75	1199765.56
99690.76 E 99772.57 F	10+25.00	65.00' Lt. 33.00' Lt	382484.43 382469.80	1199664.06 1199692.52
99831.26 G	10+35.00	33.00' Rt	382448.50	1199755.78
99913.07 H	10+35.00	80.00' Rt.	382427.00	1199797.58



STORMWATER POLLUTION PREVENTION PLAN CHECKLIST

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

5.3 (2): STAFF TRAINING/SWPPP IMPLEMENTATION

To promote stormwater management awareness specific for this project, the Contractor's Erosion Control Supervisor should provide correspondence of how the SWPPP will be implemented. The Contractor's Erosion Control Supervisor is responsible for providing this information at the preconstruction meeting, and subsequently completing an attendance log, which should identify site-specific implementation of the SWPPP and the names of the personnel who attended the preconstruction meeting. Documentation of the preconstruction meeting will be filed with the SWPPP documents.

5.3 (3): DESCRIPTION OF CONSTRUCTION ACTIVITIES

- > 5.3 (3a): Project Limits (See Title Sheet)
- \triangleright 5.3 (3a): Project Description (See Title Sheet)
- 5.3 (4): Site Map(s) (See Title Sheet and Plans) \triangleright
- Major Soil Disturbing Activities (check all that apply)
 - Clearing and grubbing
 - Excavation/borrow
 - Grading and shaping .
 - Filling .
- Other (describe):
- 5.3 (3b): Total Project Area 2.30 Acres \geq
- 5.3 (3b): Total Area to be Disturbed 0.54 Acres
- 5.3 (3c): Maximum Area Disturbed at One Time 0.54 Acres \geq
- 5.3 (3d): Existing Vegetative Cover (%) 100 Percent \geq
- 5.3 (3d): Description of Vegetative CoverPrarie Grasses
- > 5.3 (3e): Soil Properties: AASHTO Soil Classification Aravada-Slickspots complex, 0 to 3 percent slopes, Pierre clay, 6 to 12 percent slopes
- 5.3 (3f): Name of Receiving Water Body/Bodies Unnamed Trib. to \geq Sulphur Creek
- 5.3 (3g): Location of Construction Support Activity Areas NE, \geq NW, SE, or SW Within Temporary Easements

5.3 (3h): ORDER OF CONSTRUCTION ACTIVITIES

The Contractor will enter the Estimated Start Date.

Description	Estimated Start Date
Install perimeter protection where runoff may exit site.	
Install perimeter protection around stockpiles.	
Remove and stockpile topsoil.	
Stabilize disturbed areas.	
Final grading.	
Removal of protection devices.	
Reseed areas disturbed by removal activities.	

5.3 (5): DESCRIPTION AND MAINTENANCE OF CONTROL MEASURES

All controls will be maintained in good working order. Necessary repairs will be initiated within 24 hours of the site inspection report. Include the technical reasoning for selecting each control. (check all that apply)

Perimeter Controls (See Detail Plan Sheets)

Description	Estimated Start Date
□ Natural Buffers (within 50 ft of Waters of State)	
Silt Fence	
Erosion Control Wattles	
Temporary Berm / Windrow	
Floating Silt Curtain	
Stabilized Construction Entrances	
Entrance/Exit Equipment Tire Wash	
Other:	

Other:

Structural Erosion and Sediment Contro	ls
Description	Estimated Start Date
Silt Fence	
Temporary Berm/Windrow	
Erosion Control Wattles	
Temporary Sediment Barriers	
Erosion Bales	
Temporary Slope Drain	
Turf Reinforcement Mat	
🛛 Riprap	
Gabions	
Rock Check Dams	
Sediment Traps/Basins	
Culvert Inlet Protection	
Transition Mats	
Median/Area Drain Inlet Protection	
Curb Inlet Protection	
Interceptor Ditch	
Concrete Washout Facility	
Work Platform	
Temporary Water Barrier	
Temporary Water Crossing	
Permanent Stormwater Ponds	
Permanent Open Vegetated Swales	
Natural Depressions to allow for Infiltration	
Sequential Systems that combine several practices	

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Tarps & Wind
U Watering
Stockpile loca
Dust Control
Other

Sediment Ba
Dewatering b
U Weir tanks
Temporary D
Other:

Vegetation Bu
Temporary S
Permanent S
Sodding
Planting (Wo
Mulching (Gra
🗌 Fiber Mulchin
Soil Stabilizer
Bonded Fiber
Fiber Reinfor
Erosion Cont
Surface Roug
Other:

Wetland Avoidance

Will construction and/or erosion and sediment controls impinge on regulated wetlands? Yes No I If yes, 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.

STATE OF	PROJECT	SHEET	TOTAL SHEETS	
SES ONL		BRO-B 8010(30)	11	27
Dus	t Contro	ls		

Description	Estimated Start Date
impervious fabrics	
ation/orientation	
Chlorides	

Dewatering BMPs

Description	Estimated Start Date
sins	
ags	
version Channel	

Stabilization Practices (See Detail Plan Sheets)

(Stabilization measures will begin the following work day whenever earth disturbing activity on any portion of the site has temporarily or permanently ceased. Temporary stabilization will be completed as soon as practicable but no later than 14 days after initiating soil stabilization activities (3.18))

Description	Estimated Start Date
ffer Strips	
eeding (Cover Crop Seeding)	
eeding	
ody Vegetation for Soil Stabilization)	
ass Hay or Straw)	
g (Wood Fiber Mulch)	
Matrix	
ced Matrix	
ol Blankets	
hening (e.g. tracking)	

5.3 (6): PROCEDURES FOR INSPECTIONS

- Inspections will be conducted at least once every 7 days.
- 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 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 Erosion Control Supervisor are responsible for inspections. Maintenance and 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.

5.3 (7): POST CONSTRUCTION STORMWATER MANAGEMENT

Stormwater management will be handled by temporary controls outlined in "DESCRIPTION AND MAINTENANCE OF CONTROL MEASURES" above, and any permanent controls needed to meet permanent stormwater management needs in the post construction period will be shown in the plans and noted as permanent.

5.3 (8): POLLUTION PREVENTION PROCEDURES

5.3 (8a): Spill Prevention and Response Procedures

- > 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/or in appropriate containers.
 - Products must be stored in original containers and labeled.
 - 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.
 - Hazardous Materials
 - Products will be kept in original containers unless the container • is not resealable and provide secondary containment as applicable.
 - 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 R BIDDING PURPO 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 stormwater system or stormwater 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 stormwater runoff.

Spill Control Practices

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 cleanup 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 cleanup 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.

Spill Response

The primary objective in responding to a spill is to quickly contain the material(s) and prevent or minimize migration into stormwater runoff and conveyance systems. If the release has impacted on-site stormwater, it is critical to contain the released materials on-site and prevent their release into receiving waters. If a spill of pollutants threatens stormwater 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.

- site.

- response materials.

5.3 (8b): WASTE MANAGEMENT PROCEDURES Waste Disposal

Hazardous Waste

Sanitary Waste

regulations.

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 Spill kits containing appropriate materials and equipment for spill response and cleanup will be maintained by the Contractor at the

 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.

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 SDDANR.

Personnel with primary responsibility for spill response and cleanup 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

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

• All liquid waste materials will be collected and stored in approved sealed containers. 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. The Contractor is responsible for ensuring waste disposal procedures are followed.

• 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 Contractor will be responsible for seeing that these practices are followed.

 Portable sanitary facilities will be provided on all construction sites. Sanitary waste will be collected from the portable units which must be secured to prevent tipping and serviced in a timely manner by a licensed waste management Contractor or as required by any local

5.3 (9): CONSTRUCTION SITE POLLUTANTS

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 heading "POLLUTION PREVENTION PROCEDURES" (check all that apply).

- Concrete and Portland Cement
- > Detergents
- ➤ ☐ Paints
- ➤ ☐ Metals
- Bituminous Materials
- Petroleum Based Products
- Diesel Exhaust Fluid
- Cleaning Solvents
- ➤ □ Wood
- ➤ ☐ Cure
- ➢ ☐ Texture
- Chemical Fertilizers
- \succ Other:

Product Specific Practices

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 stormwater. 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.

<u>Concrete Trucks</u>

Contractors will provide designated truck washout facilities on the site. These areas must be self-contained and not connected to any stormwater outlet of the site. Upon completion of construction, the area at the washout facility will be properly stabilized.

5.3 (10): NON-STORMWATER DISCHARGES

The following non-stormwater 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.
- > Uncontaminated ground water associated with dewatering activities.

5.3 (11): INFEASIBILITY DOCUMENTATION

If it is determined to be infeasible to comply with any of the requirements of the Stormwater Permit, the infeasibility determination must be thoroughly documented in the SWPPP.

7.0: SPILL NOTIFICATION

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

- A release or spill of a regulated substance (includes petroleum and petroleum products) must be reported to SDDANR immediately if any one of the following conditions exists:
 - The release or spill threatens or is able to threaten waters of the state (surface water or ground water)
 - The release or spill causes an immediate danger to human health or safety
 - The release or spill exceeds 25 gallons
 - The release or spill causes a sheen on surface water
 - The release or spill of any substance that exceeds the ground water quality standards of ARSD Chapter 74:54:01
 - The release or spill of any substance that exceeds the surface water quality standards of ARSD Chapter 74:51:01
 - The release or spill of any substance that harms or threatens to harm wildlife or aquatic life
 - The release or spill is required to be reported according to Superfund Amendments and Reauthorization Act (SARA) Title III List of Lists, Consolidated List of Chemicals Subject to Reporting Under the Emergency Planning and Community Right to Know Act, US Environmental Protection Agency.
- To report a release or spill, call SDDANR at 605-773-3296 during regular office hours (8 a.m. to 5 p.m. Central Standard Time). To report the release after hours, on weekends or holidays, call South Dakota Emergency Management at 605-773-3231. Reporting the release to SDDANR does not meet any obligation for reporting to other state, local, or federal agencies. Therefore, you must also contact local authorities to determine the local reporting requirements for releases. A written report of the unauthorized release of any regulated substance, including quantity discharged, and the location of the discharge will be sent to SDDANR within 14 days of the discharge.

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		STATE OF	PROJECT	SHEET	TOTAL
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5.4: SWPPP 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 gualified 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 (See the General Permit, Section 7.4 (1))

> 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

The following personnel are duly authorized representatives and have signatory authority for modifications made to the SWPPP:

- > Contractor Information:
 - Prime Contractor Name:
 - Contractor Contact Name:
 - Address: _____
 - _____
 - City: _____State: ____Zip: _____
 - Office Phone: Field:
 - Cell Phone: ______Fax: _____Fax: ______Fax: _____Fax: ____Fax: ____Fax: _____Fax: ____Fax: _____Fax:
- 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:
 - Cell Phone: Fax:

SDDANR Contact Spill Reporting

- Business Hours Monday-Friday (605) 773-3296
- Nights and Weekends (605) 773-3231

> SDDANR Contact for Hazardous Materials.

- (605) 773-3153
- > National Response Center Hotline
 - (800) 424-8802.
- > SDDANR Stormwater Contact Information
 - SDDANR Stormwater (800) 737-8676
 - Surface Water Quality Program (605) 773-3351

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5.5: REQUIRED SWPPP MODIFICATIONS

- - When changes to the construction plans, sediment and erosion control measures, or any best management practices on site that are no longer accurately reflected in the SWPPP. This includes changes made in response to corrective actions triggered by inspections.
 - To reflect areas on the site map where operational control has been transferred (including the date of the transfer) or has been covered under a new permit since initiating coverage under this general permit.
 - If inspections by site staff, local officials, SDDANR, or U.S. EPA determine that SWPPP modifications are necessary for compliance with the Stormwater Permit.
 - site.

When modifications as described above occur, the SWPPP will be modified to provide appropriate protection to disturbed areas, all storm water structures, and adjacent waters. The SDDOT Project Engineer will modify the SWPPP using the DOT 298 form and drawings on the plan will be modified to reflect the needed changes. Copies of the DOT 298 forms and the SWPPP will be retained on site in a designated place for review throughout the course of the project. A copy of the DOT 298 form will be given to the Contractor Erosion Control Supervisor and a copy will be emailed to the SDDOT Environmental Section in accordance with the DOT 298 Form.



> 5.5 (1): Conditions Requiring SWPPP Modification

The SWPPP must be modified, including the site map(s), in response to any of the following conditions:

 When a new operator responsible for implementation of any part the SWPPP begins work on the site.

To reflect any revisions to applicable federal, state, or local requirements that affect the control measures implemented at the

If approved by the Secretary, to reflect any changes in chemical water treatment systems or controls, including the use of a different water treatment chemical, age rates, different areas, or methods of application.

> 5.5 (2): Deadlines for SWPPP Modification

Any required revisions to the SWPPP must be completed within 7 calendar days following any of the items listed above.

> 5.5 (3): Documentation of Modifications to the Plan

All SWPPP modification records are required to be maintained showing the dates of when the modification occurred. The records must include the name of the person authorizing each change and a brief summary of all changes.

> 5.5 (4): Certification Requirements

All modifications made to the SWPPP must be signed and certified as required in Section 7.4.

> 5.5 (5): Required Notice to Other Operators

If there are multiple operators at the site, the Contractor's Erosion Control Supervisor must notify each operator that may be impacted by the change to the SWPPP within 24 hours.



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			min		
		FLOW	FLEVATION	1	
	Q = 1110	rLOW	2707 20	1	
	$Q_{d} = 43$	30 cfs	2713.08	-	
	$Q_{0-} = 300$	0 cfs	2711.90	1	
	Note: Hy	draulic data only valio	l if overtopping sect	i ion	
	is maintai	ned.			

The elevations shown in these plans are based on the National Geodetic Survey (NGS) North American Vertical Datum of 1988 (NAVD88).

Dimension may vary with fabricator and/or installation. See Shop Plans for actual installation length.
Minimum distance to satisfy fill slope.

△ Based on dimensions shown

Ø Based on 8" Walls.

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∲94'-0" \$ 47'-0" ♦ 24'-0" \$46'-0" \$ 24'-0" 16'-0' (Outlet) (Inlet) ★ 25'-0" ★ 25'-0" Q Subarade Subgrade 10'-0" 10'-0" Shoulder Civt Rdwy Shoulder 7.1:1 7.3:1 12 FLOW > F.L. Elev. 2696.83 △F.L. Elev. 2697.17 10° RHF ╪╤╪╯╾゠╾゠╞╌╣╾╬╔╪┇╴╕╘╶╡┎╴╕╘┾╅╤╱┊╼╞╴╼╶╘╞╝╕╴╸╕╡╸╴╴╴╞╪ ^m Sta. 9+95.00 F.L. Elev. 2697.0 2'-0 > \mathbb{I}_{∞} Class B Riprap 2:1 10'-0" 10'-0" 2:1 12'-0" 12'-0 Top Limit of Type B Drainage Fabric **LEGEND** 0.04 ft. / ft. 0.04 ft. / ft. 33.33:1 33.33:1 Undercut (See Typical W = Width of Opening Section on Notes and H = Height of Opening Undercut Details Sheet) Tt = Thickness of Top Slab NOED PROVI Tb = Thickness of Bottom Slab PLAN Ts = Thickness of Side Wall Tm = Thickness of Middle Wall PROF RED P. C. Sta. 10+15 ncide Elev. = 2711.98 (Finished) P. T. Sta. 8+85 Struct + + + + + + . Box dulvert *Elev.* = 2712.58 (*Finished*) Вох С OFG. NO 6" Surfacing Contr (Furnished and PT P.C. 26 Installed by County) ?-12'x 40 2-12'x 2-12'x ?-12'x g=-0.464% Class Type I 24'-47/16" Sta. 8+85.00 ⊂_Sta. 10+15.00 41111 NGINEE WGINE W 12'-21/4" 12'-21/4" 5 Sta. 9+95.00 H.W. Elev. 2713.08 (100 Year) -VERTICAL CURVE DATA $\overline{\mathfrak{L}}$ Subgrade Subgrade Shoulder Subgrade Shoulder Elev. 2711.57 Elev. 2711.27 Elev. 2711.25 Ĕ _ _ _ _ - - - -_ _ _ - - - -D.H.W. Elev. 2707.20 (10 Year) ō 2 II I FLOW △F.L. Elev. 2697.17 -△*F.L. Elev.* 2696.83 -0.0036 FT./FT. - - - -Class B Riprap F.L. Elev. 2697.00 -Bottom Limits of Undercut Type B Drainage Fabric (See Typical Section on Notes and Undercut Details Sheet.) **ELEVATION** NOTE. Box culvert flow line has been depressed 1' - 0" below channel flow line to accomodate aquatic organisms. The 1' - 0" depression will be allowed to Plans By Brosz Engi fill in naturally over time. Consulting



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NO.	SHEETS
16	27

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-X028-INDEX OF CULVERT SHEETS Sheet No. 1 - General Drawing and Quantities

Sheet No. 2 - Notes and Undercut Details Sheet No. 3 - Standard Plate No's. 460.02 & 560.01 Sheet No. 4 - Standard Plate No's. 560.21 & 620.16

HYDRAULIC DATA

 $\mathbf{Q}_{\rm d}$ = Design discharge for the proposed culvert based on 10 year frequency. El. 2707.20

 $Q_{\rm oT}$ = Overtopping discharge and frequency 49.0 year recurrence interval. El. 2711.90 at Station 10+35

 $Q_{\rm F}$ = Designated peak discharge for the basin approaching proposed project based on 10 year frequency.

 Q_{100} = Computed discharge for the basin approaching proposed project based on 100 year frequency. El. 2713.08

V_{max} = Maximum computed outlet velocity for the proposed culvert based on 100 year frequency.

Note: Hydraulic data only valid if overtopping section is maintained. Alteration of the overflow section will require re-analysis of the hydraulics at this site to determine its effect on public safety.

ESTIMATED QUANTITIES						
ITEM	UNIT	QUANTITY				
ntal Work, Structure	L.S.	L.S.				
ure Excavation, Box Culvert	Cu. Yd.	192				
Culvert Undercut	Cu. Yd.	227				
olled Density Fill	Cu. Yd.	17.1				
12' Precast Concrete Box Culvert, Furnish	Ft.	46.0				
12' Precast Concrete Box Culvert, Install	Ft.	46.0				
12' Precast Concrete Box Culvert End Section, Furnish	Each	2				
12' Precast Concrete Box Culvert End Section, Install	Each	2				
B Riprap	Ton	68.0				
B Drainage Fabric	Sq. Yd.	85				

≠ For estimating purposes only, a factor of 1.4 tons/cu. yd. was used to convert Cu. Yd. to Tons

GENERAL DRAWING AND QUANTITIES

FOR

2 - 12' X 12' BOX CULVERT (PRECAST)

OVER UNNAMED CREEK STA. 9+95.00 STR. NO. 10-537-255 PCN 09A4 10° RHF SKEW SEC. 12-T10N-R09E BRO 8010(30) HL-93

(1) OF (4

BUTTE COUNTY

S. D. DEPT. OF TRANSPORTATION

- X028 -

APRIL 2025

neering, Inc.	DESIGNED BY	CK. DES. BY	DRAFTED BY	
Engineers	SDD	DJH	ZBW	
				BRIDGE ENGINEER

SPECIFICATIONS

Use South Dakota Standard Specifications for Roads and Bridges, 2015 Edition and required Provisions, Supplemental Specifications, and/or Special Provisions as included in the Proposal.

INCIDENTAL WORK, STRUCTURE

- The in-place structure is a 62'-0" Two Span Timber Beam Bridge with Timber Deck and Timber Substructure. The Contractor will remove and dispose of the 1 in-place structure. As directed by the Engineer the Contractor will salvage girders and beams for the County. The bent and abutments will be removed 1' below the bottom of the undercut. The Contractor will dispose of all items not salvageable.
- The foregoing is a general description of the in-place structure and should not 2. be considered complete in all details. Before preparing a bid, it is the Contractor's responsibility to make a visual inspection of the structure to verify the extent of work and materials involved.
- All costs associated with the aforementioned work shall be incidental to the З. contract lump sum price for "Incidental work, Structure".

GENERAL NOTES

Design shall be in accordance with Section 560 of the Specifications, with the following criteria.

- Box culvert and box culvert end section design will conform to the AASHTO LRFD Bridge Design Specifications, 9th Edition.
- 2. Design Live Load: HL-93. No construction loading in excess of legal load is anticipated. If construction loading in excess of legal load is anticipated by the Contractor, the Contractor will submit a proposal including a design analysis for the anticipated construction loading, through the proper channels, to the Office of Bridge Design for approval. Upon approval, the construction load shall not be applied until the depth of fill over the box culvert as required by analysis has been placed. At a minimum, 4 feet of fill will be placed over the box culvert prior to applying the construction load. All costs associated with accommodating any construction loads will be borne by the Contractor.
- The box culvert will be load rated in accordance with the AASHTO Manual for 3 Bridge Evaluation, 2018 Edition with latest Interim Revisions using the LRFR method. The rating will include evaluation of the Design HL-93 truck at both Inventory and Operating levels and a Legal Load rating for the three SD legal trucks (Type 3, 3S2, and 3-2) as well as the notional rating load and four specialized hauling vehicles. The structure will also be evaluated for the emergency vehicles, EV2 and EV3, at the legal load rating level. All sections of the box culvert will rate at HL-93 or better (Inventory Level). The three SD Legal Loads, the notional rating load, and the four specialized hauling vehicles will rate greater than 1.0 at legal load rating level. The emergency vehicles, EV2 and EV3, will rate 0.8 or greater at the legal load rating level. AASHTOWare Bridge Rating (BrR) is required to be used to rate the box culvert. Include the BrR rating model and a load rating summary sheet with load rating calculations. Submit load rating calculations with the design and independent check design calculations or shop plans, as appropriate.
- The design of the barrel sections will be based on a minimum fill height of 0 4 feet and include all subsequent fill heights up to and including the maximum fill height of 5 feet over the box culvert.
- 5. Minimum inside corner fillet will be 6-inch.
- Minimum precast barrel section length will be 6-foot sections; however, no 6. more than two 4-foot sections are allowed in any one length of precast barrel.
- Lift holes will be plugged with an approved non-shrinkable grout. 7.
- The fabricator will imprint on the structure the date of construction as specified 8. and detailed on Standard Plate 460.02.
- Alternate end section details will be allowed, subject to the approval of the Bridge Construction Engineer. No additional payment will be made for any 9 change in the barrel/end section configuration.
- 10. Installation of the precast sections will be in accordance with the final approved shop plans.
- Care will be taken when placing sections. Sections will be only moved using 11. the lifting holes by approved equipment.
- 12. Compaction of earth embankment and box culvert backfill material will be governed by the Ordinary Compaction method.
- 13. Soils below the bottom of the proposed RCBC consist of brown clay.
- 14. Groundwater was not encountered in the borings during the subsurface investigation conducted in October of 2021.

DESIGN MIX OF CONCRETE

1. Mix will be as per fabricator's design; however, a minimum compressive strength shall not be less than 4.500 psi at 28 days.

High sulfate levels are likely to be encountered on this project. All concrete will be Class A45 Concrete conforming to Section 460 of the Construction Specifications, with the following modifications: the type of cement will be either a Type V or Type II with 20 to 25% Class F Modified Fly Ash substituted for cement in accordance with Section 605 of the Construction Specifications.

SHOP PLANS

2.

The fabricator will submit shop plans in accordance with the Construction Specifications to Brosz Engineering, Inc., 2309 W. 50 street, Sioux Falls, SD 57105 (<u>donh@broszengineering.com</u>). After review and corrections (if necessary), Brosz Engineering will review the submittals, authorize fabrication, arrange for fabrication inspection, and distribute the shop drawings.





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Box Culvert Undercut Cu. Yd. 227				APRIL 2025		(2)	OF(4)
D For payment, quantity is based on plan shown undercut dimensions and will not be measured unless the Engineer orders a change.	DESIGNED BY	СК. [DES. BY	DRAFTED BY			
	SDD		DJH	ZBW	B	RIDGE	ENGINEER





(3) OF (4)





GENERAL NOTES:

- 1. The fence and post details shown are for illustrative purpose only. The fence shall be as specified elsewhere in the plans.
- 2. Eyebolts shall be placed on all of the box culvert wing walls.
- 3. Eyebolts shall be $\frac{5}{8}$ inch diameter and shall conform to ASTM A307.
- resistant material need not be galvanized.
- length and shall be embedded such that the eye of the bolt is flush with the concrete surface. (See Eyebolt Details) As an alternate, cast-inplace concrete inserts, capable of developing the full strength of the ${\rm \$}_{\rm 8}$ inch diameter threaded eyebolt, may be used and shall be set in the concrete in accordance with the manufacturer's recommendations. The evebolt shall be of sufficient length to develop its full strength. The eye of the eyebolt shall be flush with the concrete surface.
- 6. The cost for furnishing and installing eyebolts and/or concrete inserts shall be incidental to various contract items.

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