STATE OF SOUTH DAKOTA
DEPARTMENT OF TRANSPORTATION
PLANS FOR PROPOSED
PROJECT BRF 6410(00)
BUTTE COUNTY
STRUCTURES AND APPROACH GRADING
STR. 10-473-320
STR. 10-538-320
PCN 02F5

BEGIN PROJECT STR NO. 10-473-320
At Sta, 7+00 = A Point Approx. 80' South and 220' East of the SW Corner of Section 12, T9N, R8E.

END PROJECT STR NO. 10-473-320
At Sta, 15+00 = A Point Approx. 108' South and 300' East of the SW Corner of Section 12, T9N, R8E.

DESIGN DESIGNATION
ADT (2019) 138
ADT (2039) 148
DHW 22%
D 23%
T+HW 3.5%
V 7.6%
T-A DT 56 mph

STORM WATER PERMIT DATA
Major Receiving Body of Water: Tributaries of Elm Creek
Area Disturbed: 3.2 Acres
Total Project Area: 8.5 Acres
Str. # 10-473-320
Latitude: 44° - 44' - 54.43" N
Longitude: 103° - 09' - 24.01" W
Str. # 10-538-320
Latitude: 44° - 44' - 54.61" N
Longitude: 103° - 58' - 37.77" W

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FOR BIDDING PURPOSES ONLY

ESTIMATE OF QUANTITIES

GRADING QUANTITIES:

<table>
<thead>
<tr>
<th>BID ITEM NUMBER</th>
<th>ITEM Description</th>
<th>Quantity</th>
<th>Unit</th>
</tr>
</thead>
<tbody>
<tr>
<td>004E0030</td>
<td>Maintenance of Traffic Diversion(s)</td>
<td>Lump Sum</td>
<td>LS</td>
</tr>
<tr>
<td>004E0050</td>
<td>Remove Traffic Diversion(s)</td>
<td>Lump Sum</td>
<td>LS</td>
</tr>
<tr>
<td>009E0010</td>
<td>Mobilization</td>
<td>Lump Sum</td>
<td>LS</td>
</tr>
<tr>
<td>009E3200</td>
<td>Construction Staking</td>
<td>Lump Sum</td>
<td>LS</td>
</tr>
<tr>
<td>009E3300</td>
<td>Three Man Survey Crew</td>
<td>40</td>
<td>Hour</td>
</tr>
<tr>
<td>110E1690</td>
<td>Remove Sediment</td>
<td>2</td>
<td>CuYd</td>
</tr>
<tr>
<td>120E0010</td>
<td>Unclassified Excavation</td>
<td>3,653</td>
<td>CuYd</td>
</tr>
<tr>
<td>120E0060</td>
<td>Contractor Furnished Sorrow Excavation</td>
<td>5,365</td>
<td>CuYd</td>
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<tr>
<td>230E0010</td>
<td>Placing Topsoil</td>
<td>1,884</td>
<td>CuYd</td>
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<tr>
<td>250E0020</td>
<td>Incidental Work Grading</td>
<td>Lump Sum</td>
<td>LS</td>
</tr>
<tr>
<td>260E0300</td>
<td>Gravel Surfacing, Salvaged</td>
<td>469.0</td>
<td>Ton</td>
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<tr>
<td>270E0111</td>
<td>Salvage and Stockpile Granular Material</td>
<td>469.0</td>
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<tr>
<td>600E0100</td>
<td>Type I Field Laboratory</td>
<td>1</td>
<td>Each</td>
</tr>
<tr>
<td>634E0110</td>
<td>Traffic Control Signs</td>
<td>307.0</td>
<td>SqFt</td>
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<tr>
<td>634E0120</td>
<td>Traffic Control Miscellaneous</td>
<td>Lump Sum</td>
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</tr>
<tr>
<td>634E0285</td>
<td>Type 3 Barricade, 8' Double Sided</td>
<td>12</td>
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<tr>
<td>730E0210</td>
<td>Type F Permanent Seed Mixture</td>
<td>84</td>
<td>Lb</td>
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<tr>
<td>732E0100</td>
<td>Mulching</td>
<td>9</td>
<td>Ton</td>
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<tr>
<td>734E0154</td>
<td>12&quot; Diameter Erosion Control Wattle</td>
<td>550</td>
<td>Ft</td>
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<tr>
<td>734E0602</td>
<td>Low Flow Silt Fence</td>
<td>500</td>
<td>Ft</td>
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<tr>
<td>734E0610</td>
<td>Mucking Silt Fence</td>
<td>35</td>
<td>CuYd</td>
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<tr>
<td>734E0620</td>
<td>Repair Silt Fence</td>
<td>125</td>
<td>Ft</td>
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TYPICAL SECTION
NOT TO SCALE
32' Subgrade

28' Finished roadway

4" Topsoil

6" Gravel Surfacing (Furnished & Installed by Contractor)

4" Topsoil

6" Gravel Surfacing (Furnished & Installed by County)

Basis of Estimate
WATER
10 Gal/CuYd for Excavation & Borrow
30 Gal/CuYd for Salvage Gravel

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STRUCTURE 10-473-320 QUANTITIES:

<table>
<thead>
<tr>
<th>BID ITEM NUMBER</th>
<th>ITEM Description</th>
<th>Quantity</th>
<th>Unit</th>
</tr>
</thead>
<tbody>
<tr>
<td>250E0030</td>
<td>Incidental Work Structure</td>
<td>Lump Sum</td>
<td>LS</td>
</tr>
<tr>
<td>420E0000</td>
<td>Structure Excavation, Box Culvert</td>
<td>36</td>
<td>CuYd</td>
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<tr>
<td>250E0030</td>
<td>Box Culvert Underscut</td>
<td>124</td>
<td>CuYd</td>
</tr>
<tr>
<td>560E0776</td>
<td>2-6x7 Precast Concrete Box Culvert, Furnish</td>
<td>42</td>
<td>Ft</td>
</tr>
<tr>
<td>560E0777</td>
<td>2-6x7 Precast Concrete Box Culvert, Install</td>
<td>42</td>
<td>Ft</td>
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<tr>
<td>560E0776</td>
<td>2-6x7 Precast Concrete Box Culvert End Section, Furnish</td>
<td>2</td>
<td>Each</td>
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<tr>
<td>560E0777</td>
<td>2-6x7 Precast Concrete Box Culvert End Section, Install</td>
<td>2</td>
<td>Each</td>
</tr>
<tr>
<td>700E0210</td>
<td>Class B Riprap</td>
<td>127.0</td>
<td>Ton</td>
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<tr>
<td>831E0110</td>
<td>Type B Drainage Fabric</td>
<td>203</td>
<td>SqYd</td>
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STRUCTURE 10-528-320 QUANTITIES:

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<th>Quantity</th>
<th>Unit</th>
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<td>250E0030</td>
<td>Incidental Work Structure</td>
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<td>LS</td>
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<tr>
<td>420E0200</td>
<td>Structure Excavation, Box Culvert</td>
<td>102</td>
<td>CuYd</td>
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<td>421E0200</td>
<td>Box Culvert Underscut</td>
<td>297</td>
<td>CuYd</td>
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<td>464E0100</td>
<td>Controlled Density Fill</td>
<td>33.2</td>
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<td>560E0192</td>
<td>12x10' Precast Concrete Box Culvert, Furnish</td>
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<td>12x10' Precast Concrete Box Culvert, Install</td>
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<tr>
<td>560E1192</td>
<td>12x10' Precast Concrete Box Culvert End Section, Furnish</td>
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</tr>
<tr>
<td>560E1193</td>
<td>12x10' Precast Concrete Box Culvert End Section, Install</td>
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<td>Each</td>
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<tr>
<td>560E2174</td>
<td>2-12x10' Precast Concrete Box Culvert, Furnish</td>
<td>42</td>
<td>Ft</td>
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<tr>
<td>560E2175</td>
<td>2-12x10' Precast Concrete Box Culvert, Install</td>
<td>42</td>
<td>Ft</td>
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<tr>
<td>560E3174</td>
<td>2-12x10' Precast Concrete Box Culvert End Section, Furnish</td>
<td>2</td>
<td>Each</td>
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<tr>
<td>560E3175</td>
<td>2-12x10' Precast Concrete Box Culvert End Section, Install</td>
<td>2</td>
<td>Each</td>
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<tr>
<td>700E0210</td>
<td>Class B Riprap</td>
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<td>Ton</td>
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<tr>
<td>831E0110</td>
<td>Type B Drainage Fabric</td>
<td>308</td>
<td>SqYd</td>
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FOR BIDDING PURPOSES ONLY
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 legs trail behind. Adult Whooping Cranes’ black wing tips are about 5 feet tall and typically stop 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 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 Local Government Assistance 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 Local Government Assistance Office. Thoroughly wash all construction equipment before entering South Dakota to reduce the risk of invasive species introduction into the project vicinity.

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

COMMITMENT D: WATER QUALITY STANDARDS

COMMITMENT D1: SURFACE WATER QUALITY

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

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

COMMITMENT D2: SURFACE WATER DISCHARGE

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

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

COMMITMENT E: STORM WATER

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

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 by the following regulation 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 on-site at all times.

Information on storm water permits and SWPPPs are available on the following websites:
- EPA: http://cfpub.epa.gov/nepdas/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/dep/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 Public ROW.

The waste disposal site(s) shall be managed and reclaimed in accordance with the Denali Road General Permit for Construction/Demolition Debris Disposal Under the South Dakota Waste Management Program issued by the Department of Environment and Natural Resources.
For Bidding Purposes Only

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 Public 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 Public 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, SDCL 34A-6-58.

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

Commitment I: Historical Preservation Office Clearances

As part of the 404 Permit, the COE has obtained concurrence with the State Historical 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 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 permits from 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 or aerial view on which the site is clearly outlined, site dimensions, project number, and PCN. If applicable, provide evidence that the site has been previously disturbed by farming, mining, or construction activities with a landowner statement that artifacts have not been found on the site.

The Contractor shall submit the records search or cultural resources survey report and if the location of the site is within the current geographical or historic boundaries of any South Dakota reservation to the office of Local Government Assistance (LGA), 700 East Broadway Avenue, Pierre, SD 57501-5586 (605-773-8148). SDDOT will submit the information to the appropriate SHPO/THPO. Allow 30 Days from the date this information is submitted to the LGA for SHPO/THPO review.

If evidence for cultural resources is uncovered during project construction activities, then such activities shall cease and the Project Engineer shall be immediately notified. The Project Engineer will contact the LGA Office 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, crib, 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, crib, 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, regrading, etc. shall be constructed in close conformity with the plans to ensure that the hydraulic capacity of the waterway is not changed.

Preliminary temporary crossings required for the Contractor’s 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.

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.

Grading Operations

Compaction of earth embankment and box culvert backfill material shall be governed by the ordinary compaction method.

Water for Embankment is estimated at the rate of 10 gallons of water per cubic yard of Embankment minus Waste. The payment for water required for Embankment shall be incidental to the contract unit price per cubic yard for “Unclassified Excavation” and “Contractor Furnished Borrow 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 shall be constructed to the limits shown on the cross sections. If significant changes to the cross sections are necessary during construction, the Engineer shall contact the Designer for the proposed change.

Generally, all shallow inlet and outlet ditches as noted on the plan sheets shall 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.

Inslope transitions will be required at the structure. Refer to Standard Plate 120.05 for details.
GRADING OPERATIONS CONTINUED

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

Both structures may be worked on simultaneously.

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 yard 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.

SHRINKAGE

A shrinkage factor for embankment of plus 35% was used.

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.

Restoration of the Contractor Furnished Borrow Excavation Site shall be the responsibility of the Contractor.

The plans quantity for “Contractor Furnished Borrow 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.

TRAFFIC DIVERSION (DETOUR)

The traffic diversion shown in the plans shall be constructed according to the geometric layout shown in the plans, and the temporary drainage structure(s) provided in the following table. The temporary structure sizes are designed to pass the design flood frequency flows without overtopping the traffic diversion grade, to minimize potential upstream flooding. The structure(s) shall be placed at the flowline elevation and location as stated in the “Table of Temporary Drainage Structures in Traffic Diversions”. If the Contractor proposes to use a different size drainage structure and/or a different geometric layout for the temporary diversion, the proposal must be submitted to the Engineer during the project preconstruction meeting. This information shall be forwarded to the Office of Brosz Engineering, Inc. for review. Construction of the traffic diversion(s) will not be allowed until approval of the proposal is obtained from Brosz Engineering, Inc.

Table of Temporary Drainage Structures in Traffic Diversions

<table>
<thead>
<tr>
<th>Traffic Diversion</th>
<th>Design</th>
<th>Temporary Elevation</th>
<th>Temporary Flowline Structure</th>
<th>Structure</th>
<th>Fabrication</th>
<th>Location</th>
<th>Flowline Elevated Floodplain Area</th>
<th>Contractor Furnished Borrow Excavation</th>
<th>Permanent fence</th>
<th>Salvage and Stockpile Granular Material</th>
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<tr>
<td>104+42</td>
<td>G2</td>
<td>2846.1</td>
<td>4-42' CMP</td>
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<td>203+88</td>
<td>G2</td>
<td>2777.0</td>
<td>3-42' CMP</td>
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</tr>
</tbody>
</table>

* The flowline elevation is at the inlet end of the temporary drainage structure in the traffic diversion.

Costs to provide temporary drainage structures shall be incidental to the contract lump sum price for “Maintenance of Traffic Diversion(s)”.

Traffic diversions in waterways shall be constructed such that any material placed below the ordinary high water elevation, Q2, (estimated as elevation 2850.6 at St. 104+42 and 2777.4 at St. 203+88 in the 404 application) shall be stabilized with mulch, wattles, silt fence or any other BMP at the discretion of the Engineer. The quantity of embankment protection used in the traffic diversion is included in the quantity for “Class B Riprap” and “Type B Drainage Fabric” as shown in the estimate of quantities. The quantity of riprap used for the traffic diversions shall be re-used as slope protection on the structures. All costs incurred to place and remove the riprap and fabric at the traffic diversion and subsequently place the riprap at the structure shall be incidental to the contract unit price per cubic yard for “Class B Riprap” and the contract unit price per square yard for “Type B Drainage Fabric”.

The traffic diversions shall be built in close conformity to the plan grade line.

The quantity of Contractor Furnished Borrow Excavation and Unclassified Drainage Excavation needed to construct the traffic diversion is shown in the table on the Temporary Bypass Plan and Profile sheets. The quantities for both items of earthwork are included for the respective bid items in the Estimate of Quantities.

The topsoil shall be removed from the limits of the traffic diversion prior to construction and replaced upon removal of the traffic diversion.

Maintenance of Traffic Diversion(s) shall consist of furnishing and installing the temporary drainage structure, maintaining the driving surface for the traveling public, and maintaining the insulation against possible erosion to protect the integrity of the diversion, as directed by the Engineer.

Once the structure is reopened to traffic, the traffic diversion shall be removed. Embankment material resulting from the removal of the traffic diversion that cannot be reused shall be wasted in accordance with the Waste Disposal Site note.

The traffic diversions shall be removed such that the original ground surface is restored and the hydraulic capacity of the waterway is maintained. The remaining embankment shall be placed in such a manner that there is minimal impact to the riverbed. All costs associated with removal of the embankment material and temporary drainage structure shall be incidental to the contract lump sum price for Remove Traffic Diversion.

SAVAGE AND STOCKPIL GRANULAR MATERIAL

The Contractor shall salvage and stockpile the existing gravel surfacing. The existing surfacing consists of approximately 3 inches of gravel surfacing. Scrapers may be used for removal of the existing surfacing, however Scrapers shall not be driven over top of the existing structure. The Contractor shall place gravel surfacing on the traffic diversion. Contamination of the gravel shall be kept to a minimum, to the satisfaction of the Engineer. Sieve analysis requirements shall be waived.

The cost for all labor, materials, and equipment needed to remove, haul and place the salvaged surfacing on the traffic diversion shall be included in the contract unit price for “Salvage and Stockpile Granular Material.” Plan’s quantity will be used for this contract item without further field measurement.

The cost for all labor, materials, and equipment needed to remove, haul and place the salvaged surfacing on the traffic diversion shall be included in the contract unit price for “Salvage and Stockpile Granular Material” as shown in the Estimate of Quantities. The material produced on this project and may be used without further testing.

Water for Gravel Surfacing, Salvaged is estimated at the rate of 30 gallons of water per cubic yard of Gravel Surfacing, Salvaged. The payment for water required for Gravel Surfacing, Salvaged shall be incidental to the contract unit price per ton for “Gravel Surfacing, Salvaged.”

The County will be responsible for the proper and timely placement of gravel surfacing on the completed placed salvage gravel. Subgrade damage caused by either improper or delayed gravel surfacing placement by the County will be the responsibility of the County.

TOPSOIL

The plans quantity for “Placing Topsoil” 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.

BUTTE COUNTY REQUIREMENTS

The City will be responsible for the following items without federal participation.

1. Right of way and temporary and permanent easements.
2. Coordination of any utility adjustments.
3. Construct and install final surfacing.
4. Furnish and install temporary and/or permanent fencing.
5. Furnish and install any permanent signing.
6. Remove silt fence, and wattles in permanently seeded areas, after the vegetation is established.

UTILITIES

At the time the survey was completed there were no utilities located. It shall be the contractor’s responsibility to contact and to coordinate their work schedule with the utility companies. There may be some utilities added since the time the survey was completed. The contractor shall be responsible for all damages to utilities in the limits of the proposed construction at no cost to the owners. Adequate time shall be provided for the utilities to be relocated and adjusted, prior to work that may disrupt the utilities as per section 5.6 of the Specifications.

SD 1 Call: 1-800-781-7474
For Bidding Purposes Only

For Bidding Purposes Only

Permanent Seeding

The inculum shall include the following fungal species:

- *Glomus intraradices* 25%
- *Glomus aggregatum* 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 unit price per pound for the corresponding permanent seed mixture.

PermanenteSeeding

Type F Permanent Seed Mixture shall consist of the following:

<table>
<thead>
<tr>
<th>Grass Species</th>
<th>Variety</th>
<th>Pure Live Seed (PLS) (Pounds/Acre)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Western Wheatgrass</td>
<td>Flintlock, Rodan, Rosana</td>
<td>7</td>
</tr>
<tr>
<td>Green Needlegrass</td>
<td>Lodorn</td>
<td>4</td>
</tr>
<tr>
<td>Sideoats Grama</td>
<td>Butte, Killdeer, Pierre, Trailway</td>
<td>3</td>
</tr>
<tr>
<td>Blue Grama</td>
<td>Bad River, Willis</td>
<td>2</td>
</tr>
<tr>
<td>Oats or Spring Wheat</td>
<td>April through July; Winter Wheat; August through November</td>
<td>10</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Total: 26</td>
</tr>
</tbody>
</table>

Fertilizing

Application of fertilizer will not be required on this project.

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 for temporary stabilization.

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 until vegetation has been established and then they shall be removed in accordance with the Engineer, by the County.

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 aggregatum* 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 unit price per pound for the corresponding permanent seed mixture.

Incidental Work Grading

This work shall consist of removing sediment collected by the temporary erosion and sediment control devices after a rainfall event. Any sediment collected on the upstream side of the sediment control device that would render the sediment control device ineffective shall be removed by the Contractor and blended back into the cut or fill of the graded area.

All costs for removing and disposing of sediment collected by the sediment control device shall be incidental to the contract unit price per cubic yard for “Remove Sediment”.

In the event of a rainfall event greater than 1/2", all costs involved in utility locations shall be incidental to the contract lump sum price for “Incidental Work, Grading.”

All signs not indicated for reset shall be removed and stockpiled. All delineators in advance of the structure are to be removed, and salvaged. Care shall be taken when removing signs, delineators, and posts so that minimal damage is done to them. Salvage materials shall become the property of the Butte County Highway Department and stockpiled as directed by the County. The Contractor shall dispose of unsalvageable materials. It shall be the Contractor’s responsibility to contact and to coordinate their work schedule with the Butte County Highway Department. Cost for this work shall be incidental to the contract lump price for “Incidental Work, Grading.”

Type I Field Laboratory

Phone and internet services will not be required for this Type I Field Lab.
CONSTRUCTION STAKING

The control points are shown on the plan and profile sheet. Grade staking, miscellaneous staking, slope staking and structure staking will not be measured for payment, but are incidental to the contract lump sum price for “Construction Staking”.

HORIZONTAL ALIGNMENT

<table>
<thead>
<tr>
<th>Str. No. 10-473-320 Mainline</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Element</strong></td>
</tr>
<tr>
<td>POB</td>
</tr>
<tr>
<td>PI</td>
</tr>
<tr>
<td>PI</td>
</tr>
<tr>
<td>PI</td>
</tr>
<tr>
<td>PI</td>
</tr>
<tr>
<td>POE</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Str. No. 10-538-320 Mainline</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Element</strong></td>
</tr>
<tr>
<td>POB</td>
</tr>
<tr>
<td>PI</td>
</tr>
<tr>
<td>PI</td>
</tr>
<tr>
<td>POE</td>
</tr>
</tbody>
</table>

TABLE OF CONSTRUCTION STAKING
(See Special Provision for Contractor Staking)

<table>
<thead>
<tr>
<th>Roadway and Description</th>
<th>Begin</th>
<th>End</th>
<th>Number of Lanes</th>
<th>Length (Ft)</th>
<th>Length (Mile)</th>
<th>Lane Factor</th>
<th><strong>Sets of Stakes</strong></th>
<th><strong>Grade Staking Quantity (Mile)</strong></th>
<th>Miscellaneous Staking Quantity (Mile)</th>
<th>Slope Staking Quantity (Mile)</th>
<th>Final Cross Section Survey Quantity (Mile)</th>
<th>Structure Staking Quantity (Each)</th>
</tr>
</thead>
<tbody>
<tr>
<td>County Road (2 Lanes Gravel Surface)</td>
<td>8+00</td>
<td>14+00</td>
<td>2</td>
<td>600</td>
<td>0.114</td>
<td>1</td>
<td>2</td>
<td>0.114</td>
<td>0.114</td>
<td>0.114</td>
<td>0.114</td>
<td></td>
</tr>
<tr>
<td>County Road (2 Lanes Gravel Surface)</td>
<td>8+00</td>
<td>13+00</td>
<td>2</td>
<td>500</td>
<td>0.095</td>
<td>1</td>
<td>2</td>
<td>0.095</td>
<td>0.095</td>
<td>0.095</td>
<td>0.095</td>
<td></td>
</tr>
<tr>
<td>County Road (2-8’x7’ Precast Concrete Box Culvert)</td>
<td>10+00</td>
<td>Center line</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>County Road (3-12’x10’ Precast Concrete Box Culvert)</td>
<td>10+00</td>
<td>Center line</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>1</td>
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</tbody>
</table>

Totals: 0.208 0.208 0.208 0.208 2
ITEMIZED LIST FOR TRAFFIC CONTROL SIGNS

<table>
<thead>
<tr>
<th>SIGN CODE</th>
<th>SIGN DESCRIPTION</th>
<th>NUMBER</th>
<th>SIGN SIZE</th>
<th>SOFT</th>
<th>SOFT</th>
<th>CONVENTIONAL ROAD</th>
</tr>
</thead>
<tbody>
<tr>
<td>W1-4</td>
<td>REVERSE CURVE (L or R)</td>
<td>8</td>
<td>48&quot; x 48&quot;</td>
<td>16.0</td>
<td>128.0</td>
<td></td>
</tr>
<tr>
<td>W1-6</td>
<td>LARGE ARROW (one direction)</td>
<td>12</td>
<td>48&quot; x 48&quot;</td>
<td>8.0</td>
<td>64.0</td>
<td></td>
</tr>
<tr>
<td>W13-1F</td>
<td>ADVISORY SPEED (mph)</td>
<td>8</td>
<td>30&quot; x 30&quot;</td>
<td>6.3</td>
<td>50.4</td>
<td></td>
</tr>
<tr>
<td>W20-1</td>
<td>ROAD WORK AHEAD</td>
<td>4</td>
<td>48&quot; x 48&quot;</td>
<td>16.0</td>
<td>64.0</td>
<td></td>
</tr>
<tr>
<td>G20-1</td>
<td>ROAD WORK NEXT 1 MILES</td>
<td>1</td>
<td>36&quot; x 18&quot;</td>
<td>4.5</td>
<td>4.5</td>
<td></td>
</tr>
<tr>
<td>G20-2</td>
<td>END ROAD WORK</td>
<td>4</td>
<td>36&quot; x 18&quot;</td>
<td>4.5</td>
<td>18.0</td>
<td></td>
</tr>
<tr>
<td>7</td>
<td>TYPE 3 OBJECT MARKER</td>
<td>8</td>
<td>9&quot; x 12&quot;</td>
<td>0.5</td>
<td>4.0</td>
<td></td>
</tr>
</tbody>
</table>

TOTAL CONVENTIONAL ROAD TRAFFIC CONTROL SIGNS: 364.9 SOFT

TYPE 3 BARRICADES

<table>
<thead>
<tr>
<th>ITEM DESCRIPTION</th>
<th>QUANTITY</th>
</tr>
</thead>
<tbody>
<tr>
<td>Type 3 Barricade, if Double Sided</td>
<td>Ø Each</td>
</tr>
</tbody>
</table>

NOTE:
See Standard Plate 634.28 for placement of all signs, barricades and drums on each of the traffic diversions.

16 Vertical Panels are recommended to be placed on each of the traffic diversions, for a total of 32.
34 Drums are recommended to be placed on each of the traffic diversions, for a total of 28.
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 (4.2.1.1. (1)-(6))
- Major Soil Disturbing Activities (check all that apply)
  - Clearing and grubbing
  - Excavation/borrow
  - Grading and shaping
  - Filling
  - Cutting and filling
  - Other (describe):
- Total Project Area 8.61 Acres (4.2.1.b)
- Total Area To Be Disturbed 3.21 Acres (4.2.1.b)
- Existing Vegetative Cover (%)
- Soil Properties: USDA-NRCS Soil Series Clay (4.2.1. d)
- Name of Receiving Water Body/Bodies: Tributaries of Elm Creek (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 sediment control protection adjacent to waterway.
- Clearing and grubbing.
- Remove and stock pile topsoil and gravel surfacing.
- Install Box Culvert and rough grade roadway.
- Install riprap.
- Complete final grading.
- Replace topsoil and salvage gravel.
- Reseed and mulch disturbed area.
- Install ditch bottom protection devices.

EROSION AND SEDIMENT CONTROLS (4.2.2.a.(1)-(4))
- 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 Loose Rock Riprap

- Structural Temporary Erosion and Sediment Controls
  - Silt Fence
  - Floating Silt Curtain
  - Straw Bale Check
  - Temporary Berm
  - Temporary Slope Drain
  - Straw Wattles or Rolls
  - Turf Reinforcement Mat
  - Rip Rap
  - Gabions
  - Rock Check Dams
  - Sediment Traps/Basins
  - Inlet Protection
  - Outlet Protection
  - Surface Inlet Protection (Area Drain)
  - Gurb 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

Wetland Avoidance
- Will construction and/or erosion and sediment controls impinge on regulated wetlands? Yes No
- 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.

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

FOR BIDDING PURPOSES ONLY

Maintenance and Inspection (4.2.3. and 4.2.4.)
- Maintenance and Inspection Practices
  - 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 1/2 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 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 or 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.
  - Uncontaminated 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
  - Paints
  - Metals
  - Bituminous Materials
  - Petroleum Based Products
  - Cleaning Solvents
  - Wood
  - Cure
  - Texture
  - Chemical Fertilizers
  - Other
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.
  - 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 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, 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 site vehicles will be monitored for leaks and receive regular preventative 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 directions 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 material 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 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 occurring, 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.
- 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.

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 (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 a sheen on surface water.
  - The discharge causes a sheen or oil on surface water.
  - The discharge of any substance that exceeds the ground water quality standards of ARSD (Administrative Rules of South Dakota) chapter 74:54:01.
  - The discharge of any substance that exceeds the surface water quality standards of ARSD chapter 74:54:01.
  - 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 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 Storm Water 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.
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.

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
  - Name: ______________________________
  - Address: _____________________________
  - City: ____________________ State: _________ Zip: _________
  - Office Phone: _________________ Field: __________________
  - Cell Phone: ___________________ Fax: ___________________

- Erosion Control Supervisor
  - Name: ______________________________
  - Address: _____________________________
  - City: ____________________ State: _________ Zip: _________
  - Office Phone: _________________ Field: __________________
  - Cell Phone: ___________________ Fax: ___________________

- SDDOT Project Engineer
  - Name: ______________________________
  - Business Address:  _____________________________
  - Job Office Location: _____________________________
  - City: ____________________ State: _________ Zip: _________
  - Office Phone: _________________ Field: __________________
  - Cell Phone: ___________________ Fax: ___________________

- SD DENR Contact Spill Reporting
  - Business Hours Monday-Friday (605) 773-3296
  - Nights and Weekends (605) 773-3313

- SD DENR Contact for Hazardous Materials (605) 773-3153

- National Response Center Hotline (800) 424-8802.
FOR BIDDING PURPOSES ONLY

SPECIFICATIONS


DESIGN MIX OF CONCRETE:

1. The design minimum 28 day compressive strength of concrete shall be as per fabrication design, however shall not be less than 4,000 psi.

2. The type of cement shall be either Type V or Type II Cement with 20% to 25% Class F Modified Fly Ash substituted for cement in accordance with 605. The water/cementitious material ratio shall not exceed 0.45 as per section 403.0 C.

GENERAL NOTES:

Design shall be in accordance with Section 580 of the Specifications, with the following criteria:

1. Box culvert and box culvert and section design shall conform to the AASHTO LRFD Bridge Design Specifications, 2014 Edition with 2016 Interim.

2. Design Live Load: HL-85. 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 shall provide a comment providing the basis for the construction loading through the proper channels, to the Office of Bridge Design and Consultant 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 ft. of fill shall be placed over the box culvert prior to applying the construction load. All costs associated with accommodating any construction loads shall be borne by the Contractor.

3. The box culvert shall be load rated in accordance with the AASHTO Manual for Bridge Engineering, 2010 Edition with latest interim revisions using the LRFD method. The rating shall include evaluation at the Design Load Rating for the HL-85 truck at both inventory and Operating levels and at the Legal Load rating for the three SD legal trucks (Type 3, 355 and 3-2) as well as the national rating load and four specialized loading vehicles noted in the AASHTO Manual for Bridge Engineering. All sections of the box culvert shall rate at HL-85 or better (Inventory Level). The three SD Legal Loads, the national rating load and the four specialized loading vehicles shall rate greater than 1.0 at legal load rating level.

4. Submit Load Rating calculations with the Design and Check Design calculations or shop plans, as appropriate.

5. The design of the barrel sections shall be based on a minimum fill height of 1 foot and include all subsequent fill heights up to and including the minimum fill height of 5 feet over the box culvert.

6. Minimum inside corner fill shall be 6 inches.

7. Maximum peak barrel section length shall be 4 feet.

8. Lift holes shall be plugged with an approved nonshrink grout, or approved cover.

9. The Fabricator shall imprint on the structure the date of construction as specified and detailed on Standard Plate No. 460.00.

10. Alternate and section details will be allowed, subject to the approval of the Bridge Construction Engineer. No additional payment will be made for any change in the barreled section configuration.

11. The final approved shop drawings shall be in accordance with the final approved shop drawings.

12. A minimum of two bolts per joint per side shall be used a fasten each precut section together. All costs associated with furnishing and installing the 4 bolts shall be incidental to the contract unit price listed for "2-8x7 Precast Concrete Box Culvert, Furnished".

13. Horizontal and Vertical alignment of all box culvert sills to approximately 8 feet below the existing river level consist of the following:

<table>
<thead>
<tr>
<th>Station</th>
<th>Offset</th>
<th>Elevation</th>
<th>Material Description</th>
<th>Groundwater (FL)</th>
</tr>
</thead>
<tbody>
<tr>
<td>19+95</td>
<td>30.8 ft</td>
<td>12.0 ft</td>
<td>Gray-Slate (Prime Mix)</td>
<td>2.0</td>
</tr>
<tr>
<td>20+12</td>
<td>30.8 ft</td>
<td>12.0 ft</td>
<td>Gray-Slate (Prime Mix)</td>
<td>0.7</td>
</tr>
</tbody>
</table>

**Estimated Quantities**

<table>
<thead>
<tr>
<th>Box Culvert Underside</th>
<th>Cu. Yd.</th>
</tr>
</thead>
<tbody>
<tr>
<td>100</td>
<td>127</td>
</tr>
</tbody>
</table>

NOTES & UNDERCUTTING DETAILS

DOUBLE 8X7 BOX CULVERT (PRECAST)

TRIBUTARY TO ELIM CREEK

SCEW 0' STA: 19+00.00 SEC: 10-16-13, T48N, R66E STR. NO. 10-473-320 PCN 02784 SUTHERLAND COUNTY, SD DATE: JULY, 2016

PREPARED BY: BRUS ENGINEERING INC.
3651 WHITEWOOD RD STURGIS, SOUTH DAKOTA

DESIGNED BY: A.W. DRAWN BY: D.C. CHECKED BY: A.W. APPROVED: 05/24/2017

INCREASE IN WOOD STRUCTURE:

1. The In place structure is a 22' single span structure with timber stringers and a timber deck.

2. The Contractor shall remove and dispose of the inplace structure. The stumps and rootballs shall be removed to 2 feet below the bottom of the undercar.

3. The specification is to be reviewed for the extent of the work and materials involved.

4. All costs associated with the foregoing work shall be included in the contract lump sum price for "Inplace Wood Structure."

SHOP PLANS:

The fabricator shall submit shop plans in accordance with the specifications to Bronz Engineering Inc., 3651 Whitewood Rd Suite A or PO Box 683 Sturgis, SD 57788 (daniel@bronzengineering.com) for review. Include design, check design and load ratings with initial submittal. After review, corrections (if necessary), and approval by Bronz Engineering Inc., the Office of Bridge Design will review the submitted, authorize fabrication, arrange for fabrication inspection, and distribute the shop drawings.

FOR BIDDING PURPOSES ONLY

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RURAL DISTRICT

URBAN DISTRICT

- If the bottom of supplemental plate is mounted lower than 1 foot above a pedestrian walkway, the supplemental plate should not project more than 4" into the pedestrian facility.

RURAL DISTRICT WITH SUPPLEMENTAL PLATE

PLATE NUMBER

SDDOT

CRASHWORTHY SIGN SUPPORTS

634.85

(Typical Construction Signing)

Published Date: 2nd Qtr. 2016

Sheet 1 of 1

FOR BIDDING PURPOSES ONLY

ELEVATION VIEW

GENERAL NOTES:
The top of anchor posts and slip bases SHALL NOT extend above a 60° chord line within a 120° diameter circle around the post with ends 4" above the ground.

At locations where there is curb and gutter adjacent to the breakaway sign support, the stub height shall be a maximum of 4" above the ground line at the localized area adjacent to the breakaway support stub.

The 4" stub height clearance is not necessary for U-channel top splices where the support is designed to yield bend at the base.
MANUAL LOW FLOW SILT FENCE INSTALLATION

1. **EXCAVATE TRENCH**
2. **DRIVE STEEL T FENCE POSTS**
3. **ATTACH 20" WOVEN WIRE FENCE TO POSTS**

Fabric for silt fence shall be 2-3 minimum width.
Fabric that overlaps the top of fence shall be placed on top of fence and with plastic or wire ties at 12" max. vertical spacing on the posts.

**Silt Trap**

The silt trap length and width may be adjusted due to a longer pipe, multipipe, or other circumstances during construction as determined by the Engineer.

General Notes:

A silt trap shall be provided when specified by the plan note. All costs for constructing the silt trap shall be incidental to the contract unit price per cubic yard for "Silt Trap". If a trench can not be dug or the silt fence fabric can not be silted in due to the type of soil, material such as rocks, then a row of 30 to 40 pound sandbags shall be provided on top of the extra length of silt fence fabric to prevent erosion under flow.

FOR BIDDING PURPOSES ONLY
GENERAL NOTES:

At cut or fill slope installations, wattles shall be installed along the contour and perpendicular to the water flow.

At ditch installations, point A must be higher than point B to ensure that water flows over the wattle and not around the ends.

The Contractor shall dig a 3" to 6" trench, install the wattle tightly in the trench so that daylight cannot be seen under the wattle, and then compact the soil excavated from the trench against the wattle on the uphill side. See Detail B.

The wattles shall be 1"x2" or 2"x2" wood stakes, however, other types of wattles such as rebar may be used only if approved by the Engineer. The wattles shall be placed 6" from the edge of the wattle and the spacing of the wattles along the wattle shall be 1.5 to 4.

Where installing running lengths of wattles, the Contractor shall butt the second wattle tightly against the first and shall not overlap the edges. See Detail C.

The Contractor and Engineer shall inspect the erosion control wattles once every week and within 24 hours after every rainfall event greater than 0.5". The Contractor shall remove, dispose, or reshape the accumulated sediment when necessary as determined by the Engineer.

Sediment removal, disposed, or necessary shaping shall be as directed by the Engineer. All costs for removing accumulated sediment, disposal of sediment, and necessary shaping shall beincident to the contract unit price per cubic yard for Remove Sediment.

All costs for furnishing and installing the erosion control wattles including labor, equipment, and materials shall be incidental to the contract unit price per foot for the corresponding erosion control wattle bid item.

All costs for removing the erosion control wattle from the project including labor, equipment, and materials shall be incidental to the contract unit price per foot for Remove Erosion Control Wattle.