

STATE OF	PROJECT	SHEET	TOTAL
SOUTH DAKOTA	073-472	1	21
Plotting Date:	05/11/2017		

INDEX OF SHEETS

- General Layout with Index Estimate With General Notes & Tables 1
- 2**-**5
- 6 Typical Grading Sections
- Horizontal Alignment Data 7
- Legend 8
- Plan and Profile Sheets Standard Plates 9-10
- 11-18
- 19-21 Cross Sections

BID ITEM NUMBER	ITEM	QUANTITY	UNIT
009E0010	Mobilization	Lump Sum	LS
120E0600	Contractor Furnished Borrow Excavation	138	CuYd
230E0020	Contractor Furnished Topsoil	240	CuYd
450E4757	18" CMP 12 Gauge, Furnish	10	Ft
450E4760	18" CMP, Install	10	Ft
450E5211	18" CMP Flared End, Furnish	1	Each
450E5212	18" CMP Flared End, Install	1	Each
462E0100	Class M6 Concrete	0.6	CuYd
480E0100	Reinforcing Steel	141	Lb
634E0110	Traffic Control Signs	16.0	SqFt
634E0120	Traffic Control, Miscellaneous	Lump Sum	LS
650E0060	Type B66 Concrete Curb and Gutter	969	Ft
650E4660	Type P6 Concrete Gutter	27	Ft
670E1200	Type B Frame and Grate Assembly	1	Each
720E1015	Bank and Channel Protection Gabion	10.5	CuYd
734E0010	Erosion Control	Lump Sum	LS
734E0102	Type 2 Erosion Control Blanket	2,156	SqYd
734E0170	Temporary Sediment Barrier	202	Ft
734E0510	Shaping for Erosion Control Blanket	1,334	Ft
831E0110	Type B Drainage Fabric	41	SqYd

SPECIFICATIONS

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

ENVIRONMENTAL COMMITMENTS

An Environmental Commitment is a measure that SDDOT commits to implement in order to avoid, minimize, and/or mitigate a real or potential environmental impact. Environmental commitments to various agencies and the public have been made to secure approval of this project. An agency mentioned below with permitting authority can influence a project if perceived environmental impacts have not been adequately addressed. Unless otherwise designated, the Contractor's primary contact regarding matters associated with these commitments will be the Project Engineer. These environmental commitments are not subject to change without prior written approval from the SDDOT Environmental Office. The environmental commitments associated with this project are as follows:

COMMITMENT B: FEDERALLY THREATENED, ENDANGERED, AND PROTECTED SPECIES

COMMITMENT B2: WHOOPING CRANE

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

Action Taken/Required:

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

COMMITMENT E: STORM WATER

Construction activities constitute less than 1 acre of disturbance.

Action Taken/Required:

At a minimum and regardless of project size, appropriate erosion and sediment control measures must be installed to control the discharge of pollutants from the construction site.

COMMITMENT H: WASTE DISPOSAL SITE

Action Taken/Required:

Public ROW.

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

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

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

Construction and/or demolition debris consisting of concrete, asphalt 1. 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 Law, SDCL 34A-6-1.31.

contract items.

	STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL
		073-472	2	21

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

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

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

COMMITMENT I: HISTORICAL PRESERVATION OFFICE CLEARANCES

The SDDOT has obtained concurrence with the State Historical Preservation Office (SHPO or THPO) for all work included within the project limits and all 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 Contractor has the option to contact the state Archaeological Research Center (ARC) at 605-394-1936 or another qualified archaeologist, to obtain either a records search or a cultural resources survey. A record search might be sufficient for review; however, a cultural resources survey may need to be conducted by a qualified archaeologist.

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

The Contractor shall submit the records search or cultural resources survey report and if the location of the site is within the current geographical or historic boundaries of any South Dakota reservation to SDDOT Environmental Engineer, 700 East Broadway Avenue, Pierre, SD 57501-2586 (605-773-3180). SDDOT will submit the information to the appropriate SHPO/THPO. Allow **30 Days** from the date this information is submitted to the Environmental Engineer for SHPO/THPO review.

If evidence for cultural resources is uncovered during project construction activities, then such activities shall cease and the Project Engineer shall be immediately notified. The Project Engineer will contact the SDDOT Environmental Engineer in order to determine an appropriate course of action.

SHPO/THPO review does not relieve the Contractor of the responsibility for obtaining any additional permits and clearances for 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.

UTILITIES

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

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

SHRINKAGE FACTOR: Embankment +20%

TABLE OF EXCAVATION QUANTITIES

		Contractor Furnished Borrow Exc.	Contractor Furnished Topsoil	Comment
Station to	Station	(CuYd)	(CuYd)	
0+00	7+92	138	78	
0+00	3+64	0	144	SD Hwy 73 backslope
8+19	9+97	0	18	
	Totals:	138	240	

UNCLASSIFIED EXCAVATION

Plans quantity for Unclassified Excavation shall be used for final payment.

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. The borrow material shall 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 shall be the responsibility of the Contractor.

CORRUGATED METAL PIPE

Corrugated metal pipes shall have 2 $\frac{2}{3}$ -inch x $\frac{1}{2}$ -inch corrugations for 42inch and smaller round pipe and 48-inch and smaller arch pipe unless otherwise stated in the plans. Corrugated metal pipes shall have 3-inch x 1inch or 5-inch x 1-inch corrugations for 48-inch and larger round pipe and 54inch and larger arch pipe unless otherwise stated in the plans.

The gauge of the corrugated metal ends shall match the thickest gauge of corrugated metal pipe it is connected to.

DROP INLETS

The plan shown quantities of the drop inlet components such as Class M6 Concrete, Reinforcing Steel, and Type B Frame and Grate Assembly will be the basis of payment for these items.

TABLE OF DROP INLETS AND QUANTITIES

			Class		Frame
	Drop	Drop	M6	Reinf.	and
	Inlet	Inlet	Concrete	Steel	Grate/Lid
Station	Size	Туре	(CuYd)	(Lb)	Туре
3+56	2'x3'	В	0.65	141	В
		Totals:	0.65	141	

TABLE OF BANK AND CHANNEL PROTECTION GABIONS AND DRAINAGE FABRIC

Station	
3+56	
7+92 to 8+19	

TABLE OF TYPE B66 CONCRETE CURB AND GUTTER

				Quantity
Station	to	Station		(Ft)
0+00		7+92.37		792.37
8+19.3		9+96.56		176.26
			Total:	968.63

TABLE OF TYPE P6CONCRETE GUTTER

				Quantity
Station	to	Station		(Ft)
7+92.37		8+19.3		26.93
			Total:	26.93

STATE OF	PROJECT	SHEET	TOTAL
SOUTH DAKOTA	073-472	3	21

Total Type B Frame and Grate Assembly

	Bank and Channel Protection Gabion	Type B Drainage Fabric
L/R	(CuYd)	(SqYd)
L	4.5	15
L	6.0	26
Totals:	10.5	41

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TRAFFIC CONTROL – GENERAL NOTES

Unless otherwise stated in these plans, no work will be allowed during hours of darkness.

Existing guide, route, informational logo, regulatory, warning signs and delineation shall be temporarily reset and maintained during construction as directed by the Engineer. Removing, relocating, salvaging and resetting of the above items shall be the responsibility of the Contractor.

Non-applicable traffic control devices shall be completely covered or removed during periods of inactivity. Periods of inactivity shall be defined as no work taking place for a period of more than 2 calendar days.

All regulatory signs shall have a minimum mounting height of 5' in rural locations, even when mounted on portable supports.

The Contractor shall provide installation details at the preconstruction meeting for all breakaway sign support assemblies.

All haul trucks shall be equipped with a second flashing amber light that is visible from the backside of the haul truck. The costs for the flashing amber lights shall be incidental to the various related contract bid items.

All construction operations shall be conducted in the general direction of traffic movement.

If there is a discrepancy between the traffic control plans, standard plates, and the MUTCD - whichever is more stringent shall be used, as determined by the Engineer.

TABLE OF TRAFFIC CONTROL DEVICES

ITEMIZED LIST FOR TRAFFIC CONTROL SIGNS

			CONVENTIONAL ROAD)
	SIGN Code	SIGN DESCRIPTION	NUMBER	SIGN SIZE	SQFT PER SIGN	SQFT
	W20-1	ROAD WORK AHEAD	1	48" x 48"	16.0	16.0
CONVENTI TRAFFIC CO S		Ventional IC Contro Sqft	road L signs	16.0		

CONTRACTOR FURNISHED TOPSOIL

The Contractor will be required to furnish and place 4 inches of topsoil on roadway backslope and behind the curb & gutter as determined by the Engineer during construction.

Contractor furnished topsoil shall be free from clay lumps, stones, coarse gravel, or similar objects larger than 1/2 inch in diameter. Brush, stumps, roots, wood, objectionable weeds, litter, or any other material which may be harmful to plant growth will not be allowed. Organic material shall be decomposed.

All costs to furnish and place the Contractor furnished topsoil shall be incidental to the contract unit price per cubic vard for "Contractor Furnished Topsoil".

EROSION CONTROL

The estimated area requiring erosion control is 19,404 square feet. All costs for the erosion control work for furnishing, placing, and maintaining erosion control including equipment, labor, seeding, mycorrhizal inoculum, and fertilizing, shall be incidental to the contract lump sum price for "Erosion Control".

The limits of erosion control work will be determined by the Engineer during construction.

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% 25% Glomus aggregatu 25% Glomus mosseae 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.

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

Product

Manufacturer

www.mycorrhizae.com

MycoApply

Mycorrhizal Applications, Inc. Grants Pass, OR Phone: 1-866-476-7800

Fertilizing

The Contractor shall apply an all-natural slow release fertilizer prior to seeding or placing sod. The all-natural fertilizer shall have a minimum quaranteed analysis of 4-6-4 and be USDA Certified BioBased. It should provide a minimum of 4% (N) nitrogen with a minimum water insoluble nitrogen (WIN) fraction of 3.2%, a minimum of 6% (P2O5) available phosphate, a minimum of 4% (K2O) soluble potash, and a maximum carbon to nitrogen ratio (C:N ratio) of 5:1. The all-natural fertilizer shall be free of weed-seed and pathogens accomplished through thermophilic composting, and not mechanical or chemical sterilization, to assure presence of beneficial soil microbiology. The fertilizer shall have a near neutral pH, a low salt index. a low biological oxygen demand, contain organic humic and fulvic acids, and have high aerobic organism counts. The fertilizer shall also be stable, free of bad odors, and be unattractive as a food source for animals. It should also be in a granular form that is easily spread.

The fertilizer shall be applied at a rate of 1,500 pounds per acre in accordance with the manufacturer's recommended method of application.

approved equal:

Product

Permanent Seeding

The areas to be seeded consist of all newly graded areas behind the curb & gutter and the back slope along the chain link fence adjacent to SD Hwy 73.

Type F Permanent Seed Mixture shall consist of the following:

Grass Specie

Western Wheatgr

Green Needlegra Sideoats Grama Blue Grama Oats or Spring W

April through May Winter Wheat: Au through Novembe

STATE OF	PROJECT	SHEET	TOTAL
SOUTH DAKOTA	073-472	4	21

The all-natural slow release fertilizer shall be as shown below or an

Sustane

Manufacturer

Sustane Corporate Headquarters Cannon Falls, Minnesota Phone: 1-800-352-9245 www.sustane.com

es	Variety	Pure Live Seed (PLS) (Pounds/Acre)
rass	Arriba, Flintlock, Rodan, Rosana	7
ISS	Lodorm	4
	Butte, Killdeer, Pierre, Trailway	3
	Bad River, Willis	2
′heat: /; ugust er		10
	Total:	26

TEMPORARY SEDIMENT BARRIER

Temporary sediment barriers shall be installed at locations noted in the table and at locations determined by the Engineer during construction.

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

An additional quantity of Temporary Sediment Barrier has been added to the Estimate of Quantities for erosion and sediment control on areas that require an increased level of filtration and sediment control.

The temporary sediment barriers shall be as shown below or an approved equal:

Product	<u>Manufacturer</u>
Silt Sock	Aspen Ridge Lawn and Landscaping, LLC
8" and 12"	Rapid City, SD
	Phone: 1-605-415-0695
	www.siltsocksd.com

TABLE OF TEMPORARY SEDIMENT BARRIER

			Quantity
Station	L/R	Location	(Ft)
3+56	R	Pipe outlet	26
3+56	L	Inlet	20
7+92 to 8+19	R	Adjacent to P Gutter :	46
7+92 to 8+20	L	Adjacent to fence	60
		Additional Quantity:	50
		Total	202

EROSION CONTROL BLANKET

Erosion control blanket shall be installed 8 and 32 feet wide at the locations noted in the table and at locations determined by the Engineer during construction.

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

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

TABLE OF EROSION CONTROL BLANKET

					Quantity
Station to	Station	L/R	Location	Туре	(SqYd)
0+00	7+92	R	Back of Curb (8' wide)	3	704
0+00	3+64	R	SD Hwy 73 Backslope (32' wide	3	1294
8+19	9+97	R	Back of Curb (8' wide)	3	158
		-			

Total Type 2 Erosion Control Blanket: 2156

SHAPING FOR EROSION CONTROL BLANKET

The ditches shall be shaped for the erosion control blanket as specified on Standard Plate 734.01.

STATE OF	PROJECT	SHEET	TOTAL SHEETS
DAKOTA	073-472	5	21

TYPICAL GRADING SECTION



Sta 7+92.37 to Sta 8+19.3



STATE OF	PROJECT	SHEET	TOTAL
SOUTH DAKOTA	073-472	6	21
Plotting Date:	05/11/2017		

HORIZONTAL ALIGNMENT DATA

Curb & Gutter

Туре	Station			Northing	Easting
POB	0+00.00			526.219	988.047
		TL= 331.04	S 0°00'36" W		
PC	3+31.04			195.178	987.990
PI	3+71.13	R = 40.00	Delta = 90°07'48" R	155.087	987.983
PT	3+93.96			155.185	947.892
		TL= 398.41	N 89°51'36" W		
PI	7+92.37			156.158	549.484
		TL= 26.93	N 68°14'00" W		
PI	8+19.30			166.143	524.478
		TL= 177.27	N 0°02'06" W		
POE	9+96.56			343.409	524.370

	STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
		073-472	7	21

LEGEND

Anchor Antenna Approach Assumed Corner Azimuth Marker BBQ Grill/ Fireplace Bearing Tree Bench Mark Box Culvert Bridge Brush Buildings Bulk Tank Cattle Guard Cemetery Centerline Cistern Clothes Line Commercial Sign Double Face Commercial Sign One Post Commercial Sign Overhead Commercial Sign Two Post Concrete Symbol Creek Edge Curb/Gutter Curb Dam Grade/Dike/Levee Deck Edge Ditch Block Doorway Threshold Drainage Profile Drop Inlet Edge Of Asphalt Edge Of Concrete Edge Of Gravel Edge Of Other Edge Of Shoulder Elec. Trans./Power Jct. Box Environmental Sensitive Site Fence Barbwire Fence Chainlink Fence Electric Fence Misc. Fence Rock Fence Snow Fence Wood Fence Woven Fire Hydrant Flag Pole Flower Bed Gas Valve Or Meter Gas Pump Island Grain Bin Guardrail Guide Sign One Post Guide Sign Two Post Gutter Guy Pole Haystack

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Iron Pin	o
Irrigation Ditch	
Lake Edge	
Lown Sprinkler	
Lawit Sprinkler	*
Mailbox	Δ
Manhole Electric	0
Manholo Coo	
Manhole Misc	0
Manhole Sanitary Sewer	0
Manholo Storm Sowor	0
Manhole Lelephone	Ø
Manhole Water	0
Merry-Co-Round	XX
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Microwave Radio Tower	夲
Misc. Line	
Misc Property Corper	
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Misc. Post	0
Overhang Or Encroachment	
Overhead I Itility I ine	— ОН —
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Playground Swing	⊁ + - К
Power And Light Pole	<u> </u>
Power And Telephone Pole	ø
Power Meter	۷
Power Pole	R
Power Pole And Transformer	- -
Power Tower Structure	☆
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Property Pipe	\odot
Property Pipe With Cap	۲
Property Stone	PS
Dublic Telephone	
Public Telephone	
Railroad Crossing Signal	-🔶
Railroad Milepost Marker	
Pailroad Profile	
Railroad R.O.W. Marker	
Railroad Signs	þ
Railroad Switch	
Railroad Track	
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Retaining Wall	
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ROCK AND WIRE Baskets	
Rockpiles	<i>68</i> 30
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Shrub Tree	\$
Sidewalk	
Sign Face	
Sign Post	
Slough Or Marsh	
Spring	
Stream Gauge	Ø
Street Marker	6
Subsurface Utility Exploration Test Hole	•
Telephone Fiber Optics	— I/F —
Telephone Junction Box	Û
Telephone Pole	0
Television Cable JCL Box	(U) ~~
Television Tower	수 (주
Traffic Signal	<u>س</u>
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Trop Bolt	~~~~~
Tree Coniferous	*
Tree Deciduous	G
Tree Stumps	٨
Triangulation Station	۸
Underground Electric Line	— Р —
Underground Gas Line	— G —
Underground High Pressure Gas Line	— HG —
Underground Sanitary Sewer	— s —
Underground Storm Sewer	= s =
Underground Tank	
Underground Telephone Line	— T —
Underground Television Cable	— TV —
Underground Water Line	— W —
Warning Sign One Post	þ
Warning Sign Two Post	þ
Water Fountain	ſ
Water Hydrant	0
Water Meter	®
Water Lower	<u> </u>
vvaler valve	0
Walt Well	•
Windmill	×
Wingwall	
Witness Corner	

	STATE OF	PROJEC	т	SHEET	TOTAL SHEETS
	SOUTH DAKOTA	073-472		8	21
	Plotting Date:	05/11/2017			
State and Natio County Line Section Line Quarter Line Sixteenth Line Property Line Construction Li R. O. W. Line New R. O. W. Cut and Fill Lin Control of Acce New Control of Proposed ROV (After Property	ine Line hits ess Access V Disposal)	• • •	· · · · · · · ·		
Drainage Arrov	v				
Remove Concr	ete Paven	nent			
Remove Concr	ete Drivev	vay Pavement			
Remove Aspha	alt Concret	e Pavement			
Remove Concr	ete Sidew	alk			
Remove Concr	ete Appro	ach Pavement			
Remove Concr	ete Media	n Pavement			
Remove Concr Remove Concr Remove Concr	rete Curb rete Curb a rete Gutter	and Gutter			
Detectable Wa Pedestrian Pus and 30" x 48" (with 1.5% slope	rning sh Button F Clear Spac e	^D ole e			



Present SD Hwy 73

	STATE OF	PROJECT	SHEET	TOTAL
	SOUTH DAKOTA			SHEETS
	Plotting Date:	05/11/2017		
	1 0+ Be TC	00 gin Str C & G El 93.21 (Theor)		\bigtriangledown
	2 3+ En Be TC	31.04 d Str C & G gin 40' Rad C & G ☉El 87.50		
	3 3+ En Be TC	93.96 d 40' Rad C & G gin Str C & G El 88.02		
	4 7+ En Be TC	92.37 d Str C & G gin Str Type P Gutter El 75.87 (Theor)		
	5 8+ En Be TC	19.30 d Str Type P Gutter gin Str C & G El 75.84 (Theor)		
1	6 9+9 En TC	96.56 d Str C & G El 78.51 (Theor)		
3+50 nsta and Top Top Floo	6 - 1.67' all 2' X 3' Type B I Curb El Wall El 8 r El 84.4	L Type B Drop Inlet Frame & Grate 87.46 86.5 3		
3+56 nsta & 1 (betv	6 - 1.67' all 18" - 1 Flared E ween Dre	L to 14.71' L I0' CMP nd op Inlet & Outlet)		
8+56 nsta Prote 4.5	6 - 14.71 Il Bank a ection Ga CY)	'L and Channel abions		



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an activated flashing or rev light is used.	volving ye	e wiin
 * If the work space is on a highway, an advance warnin should also be placed on of the directional roadway For short term, short durat operations, all signs and char 	divided ng sign the left '. ion,or mo nnelizing	side obile
The ROAD WORK AHEAD sign ma with other appropriate signs the SHOULDER WORK sign. The sign may be used for work the shoulder.	ay be rep s, such as SHOULDER adjacent	laced WORK to
The signs illustrated shall be there are distracting situat vehicles parked on shoulder, accessing the work site via and equipment traveling on the roadway to perform wo	e used wh tions; such , vehicles the high or crossi rk opera	nere n as: way, ng tions.
The signs illustrated are no if the work space is behind more than 2 feet behind the feet or more from the edg roadway.	ot require a barrie e curb,or e of any	ed r, - 15

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R TRAFFIC CONTROL DEVICES BEYOND THE SHOULDER

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		STATE OF		PROJECT		SHEET	TOTAL SHEETS	
		DAKOTA	073-47	/2		12	21	
	L	Plotting Date:	05/11	/2017				
		-						
	The stand cr this lin the ba linear and pa	ated rac oss sect ne and it sis for foot mea yment.	dii on the tions ret t shall al horizont asuremer	e plans Fer to so be al nt				
	Туре	T _i (Inches)	T ₂ (Inches)	Cu.Yd. Per	Lin.Ft. Per			
		<u> </u>	- 7 /					
⊳' v	P6	6	6 <u>%</u>	0.047	21.2			
	P7	<u>(</u>	(3/8	0.055	18.1			
	P8	8	8%	0.064	15.1			
>	P8.5	5.5	878	0.068	14.8			
		9	9%	0.072	13.9			
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			10%	0.080	12.3			
		10.5	1078	0.088	11.3			
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DROP INLETS FOR 12" TO

SPECIFICATIONS

Design Specifications: AASHTO LRFD Bridge Design Specifications, 2012 Edit Construction Specifications: South Dakota Standard Specifications for Roads a Bridges, Current Edition and required Provisions, Supplemental Specifications, Special Provisions as included in the Proposal.

GENERAL NOTES:

Design Live Load: HL-93. No construction loading in excess of legal load was considered.

Reinforcing steel shall conform to ASTM A615 grade 60. The d bars shall be la, 12 inches with the b and c bars. Cut and bend reinforcing steel as required to p pipe(s) through the drop inlet wall.

Drop inlet may be precast. If precast drop inlet details differ from this standard plate, submit a checked design done by a SD registered P.E. and shop plans to the Office of Bridge Design for approval.

★ Reduce total quantities of concrete by the amount of concrete displaced by the pipe(s). The total quantity of concrete shall be computed to the nearest hundredth of a cubic yard. The total quantity of reinforcing steel shall be computed to the nearest pound.

Drop inlet shown may be modified by the addition or omission of connecting pipes as noted elsewhere in the plans. All pipes entering drop inlet must fit between the inside face of walls and shall not enter through the corners.

Maximum R.C.P. diameter shall not exceed 18 inches on the 2-foot wide side and shall not exceed 24 inches (24 inches for R.C. arch) on the 3-foot wide side of the drop inlet.

The dimension of H is in feet. Maximum H is 10 feet.

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	STATE OF SOUTH		PROJECT	SHEET	TOTAL SHEETS
	Plotting Date	073-47	/2017	14	21
	. Iotany Date.	03/11		_	
7" 4 Spaces @ 5 ½" 7" = 1'- 10" Drop Inlet		Drop Inlet 4' - 0" paces @ 6 1 2' - 8 ½" 			
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2'X 3'TYPE B ED CONCRETE I	DROP INLE	T	Sheet / of 2	ж 	







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	С	12'-0"	3'-C)"	3'-0"	4		4.0	_		
	D	6'-0"	3'-0)"	1'-6"	2		1.0	_		
	E	9'-0"	3'-0)"	1'-6"	3		1.5	_		
	F	12'-0"	3'-0)"	1'-6"	4		2.0	_		
	G	6'-0"	3'-0)"	1'-0"	2		0.7	_		
	Н	9'-0"	3'-C)"	I'-0"	3		1.0	_		
	I	12'-0"	3'-C)"	1'-0"	4		1.3			
GENERAL NOT Lacing and soft temper	ES: internal r measur	Above connecting red after go	Dimens wire sha alvanizir	ions su all be C ng and	bject to 0.0866 inch for PVC c	mill tolerances diameter stee oated gabions	el wire shall	ASTM A6 de 0.0866	41 Class 3 5 inch		
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Wire lacing construction be high ten galvanizing with ASTM A Interlocking stainless st fasteners d All fastener horizontal jo	or inter n of gat shall con 764, Clas fastena eel wire luring al s shall b pints.	locking type bion structu o inch diame form to AS s II, Type III ers for PVC conforming I phases of e placed wh	e faster res. Int ter gal IM A641 • coated to ASTN assembl ere the	ners sh terlock vanized -92 Clas gabion M A3l3, y and mesh	nall be use ing faster I steel wir ss 3 coath s shall be Type 302, constructi weaves ar	d for gabion d hers for galvai e measured af ng. Fasteners high tensile O Class I. The sp on shall not es ound the selv	issemb nized ter g shall o .120 ir bacing xceed age w	and f gabions a alvanizing also be ir nch diame of the 6 inches ire at th	inal shall g. The h accordance eter interlocking he vertical and		
Published Date	: 2nd Qtr	r. 2017	S D D 0 T	BANK	AND CHAN	NEL PROTECTIO	N GAL	BIONS	PLATE NUMBER 720.01 Sheet I of I		



of CMP and RCP shall be placed under the end section a distance a difference of the metal end section as approved by drainage fabric quantities on this standard plate are based on zes D, E, and F as depicted on Standard Plate 720.01. bric shall be placed under the gabions and around the exterior 'the gabions as approved by the Engineer. The type B drainage to type B drainage fabric shall be in conformance with Section 20.20. 2	Provide the section is standard plate are based on the section section section section set of the specifications, Measurement sections.	Poteg Date: 06/11/2017
Detail Pipe Diameter (Inches) Gabian (Cu. Yd.) Drainage Fabric (Sq. Yd.) 1 12, 18, and 24 4.5 15 2 30 and 36 6.0 19 3 42 10.0 29 4 48 and 54 12.0 34 5 60 15,5 43 6 66 17.0 47 7 72 21.5 57 8 78 26.0 68 9 84 27.0 70	ESTIMATED OUANTITIES * Detail Pipe Diameter (Inches) Type B (Cu. Yd.) I I2, 18, and 24 4.5 15 2 30 and 36 6.0 19 3 42 10.0 29 4 48 and 54 12.0 34 5 60 15.5 43 6 66 17.0 47 7 72 21.5 57 8 78 26.0 68 9 84 27.0 70	Plotting Date: 05/11/2017
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							Plotting Date:	05/11/2017			
Plotting Date: 05/11/2017	Plotting Date: 05/11/2017						SOUTH DAKOTA	073-472		17	2



STATE OF	PROJECT	SHEET	TOTAL SHEETS
STATE OF SOUTH DAKOTA	073-472	18	21
Plotting Date:	05/11/2017		

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