SECTION D: EROSION AND SEDIMENT CONTROL PLANS

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	P 0081(93)157	D1	D29

Plotting Date: 09/10/2015

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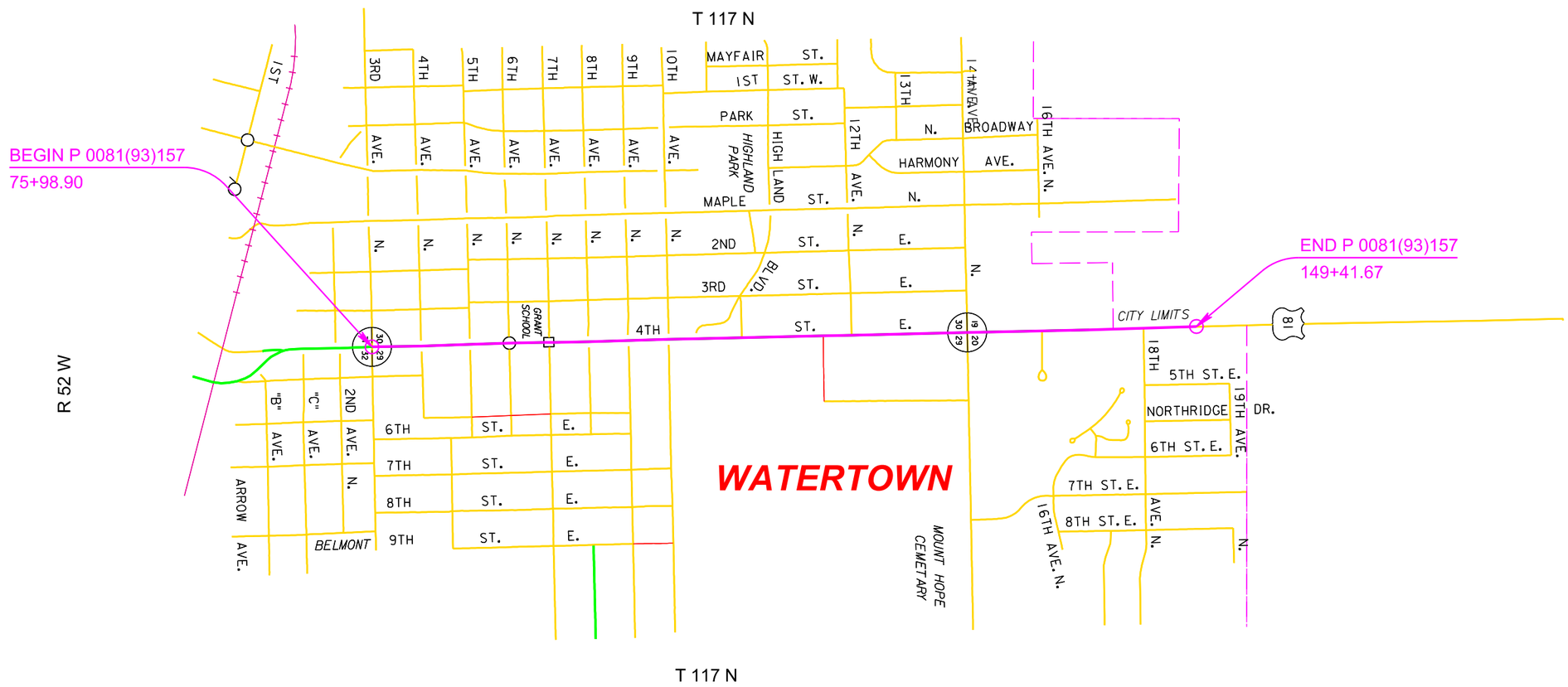

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SECTION D ESTIMATE OF QUANTITIES

BID ITEM NUMBER	ITEM	QUANTITY	UNIT
110E1690	Remove Sediment	25.0	CuYd
110E1693	Remove Erosion Control Wattle	300	Ft
110E1695	Remove Sediment Filter Bag	2,740	Ft
110E1700	Remove Silt Fence	2,166	Ft
230E0010	Placing Topsoil	2,412	CuYd
730E0206	Type D Permanent Seed Mixture	1,094	Lb
731E0200	Fertilizing	2.70	Ton
732E0200	Fiber Mulching	4.7	Ton
734E0154	12" Diameter Erosion Control Wattle	300	Ft
734E0165	Remove and Reset Erosion Control Wattle	300	Ft
734E0180	Sediment Filter Bag	2,740	Ft
734E0604	High Flow Silt Fence	2,166	Ft
734E0610	Mucking Silt Fence	9	CuYd
734E0620	Repair Silt Fence	30	Ft
734E0680	Flocculent Housing Unit	2	Each
734E0683	500K Gallon Treatment Flocculent Bag	2	Each
734E0845	Sediment Control at Inlet with Frame and Grate	89	Each
734E0847	Sediment Control at Type S Reinforced Concrete Drop Inlet	49	Ft
734E5000	Dewatering	10	Hour
734E5010	Sweeping	30	Hour
900E1320	Construction Entrance	2	Each

PLACING TOPSOIL

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

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

Station	to	Station	Topsoil (CuYd)
75+98.90	Begin	82+00	123
82+00		88+00	167
88+00		94+00	176
94+00		100+00	163
100+00		106+00	190
106+00		112+00	211
112+00		118+00	196
118+00		124+00	159
124+00		130+00	201
130+00		136+00	194
136+00		142+00	229
142+00		148+00	247
148+00		149+41.67 End	156
		Total:	2,412

MYCORRHIZAL INOCULUM

Mycorrhizal inoculum shall consist of mycorrhizal fungi spores and mycorrhizal fungi-infected root fragments in a solid carrier. The carrier may include organic materials, calcinated clay, or other materials consistent with application and good plant growth. The supplier shall provide certification of the fungal species claimed and the live propagule count. The inoculum shall include the following fungal species:

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

All seed shall be inoculated by the seed supplier with a minimum of 20,000 live propagules of mycorrhizal fungi per 1,000 square feet. All costs of inoculating the seed shall be incidental to the contract unit price per pound for the corresponding permanent seed mixture.

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

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

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 guaranteed 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 all-natural slow release fertilizer shall be applied according to the manufacturer's application recommendations.

The application rate is 34 pounds per 1,000 square feet.

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

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

PERMANENT SEEDING

The areas to be seeded consist of all newly graded areas within the project limits except for the top of roadways.

Type D Permanent Seed Mixture shall consist of the following:

Grass Species	Varieties	Pure Live Seed (PLS) (Pounds/1000 SqFt)
Kentucky Bluegrass	Avalanche, Appalachian, Wildhorse, Blue Bonnet	1.4
Perennial Ryegrass	Turf Type Varieties	1.4
Creeping Red Fescue	Epic, Boreal	1.4
Chewings Fescue	Ambrose, K2, Zodiac	1.4
Alkali Grass	Fults, Fults II, Quill, Salty	1.4
	Total:	7

EROSION CONTROL WATTLE

A quantity of 300 feet of erosion control wattles for restraining the flow of runoff and sediment shall be installed at locations determined by the Engineer during construction. Refer to Standard Plate 734.06 for details.

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

Erosion control wattles shall remain on the project to decompose.

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

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

HIGH FLOW SILT FENCE

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

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

High flow silt fence shall be placed at the locations noted in the table and at locations that will minimize siltation of adjacent streams, lakes, dams, or drainage areas as determined by the Engineer during construction. Refer to Standard Plate 734.05 for details.

An additional quantity of high flow silt fence has been added to the Estimate of Quantities for temporary sediment control.

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TABLE OF HIGH FLOW SILT FENCE

Station	Location	Quantity (Ft)
141+77.85-43.50' R	PERIMETER OF TYPE C DROP INLET	24
142+63.24 L	INLET END OF PIPE	18
142+63.24 R	INLET END OF PIPE	18
145+40 L	INLET END OF PIPE	18
145+40 R	INLET END OF PIPE	18
	Additional Quantity	30
	Total:	126

Note: This table does not include the quantity of High Flow Silt Fence that is to be used for Interim Sediment Control at Inlets, Manholes, and Junction Boxes After Surfacing Removal and Before Placement of Surfacing.

FIBER MULCHING

Fiber mulch shall be applied in a separate operation following permanent seeding.

An additional 2% by weight of tackifier shall be added to the fiber mulch product selected from the approved product list. If the product selected has guar gum tackifier included, then the additional 2% of tackifier shall be guar gum. If the product selected has synthetic tackifier included, then the additional 2% of tackifier shall be synthetic.

Fiber mulch shall be applied at the rate of 60 pounds per 1,000 SqFt according to the manufacturer's application instructions.

The Contractor shall allow the fiber mulch to cure a minimum of 18 hours prior to watering or any storm event to ensure proper cohesion between the soil and fiber particles.

All costs for the additional tackifier added to the fiber mulch including labor, equipment, and materials shall be incidental to the contract unit price per ton for "Fiber Mulching".

The fiber mulch provided shall be from the approved product list. The approved product list for fiber mulch may be viewed at the following internet site:

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

INTERIM SEDIMENT CONTROL AT INLETS, MANHOLES, AND JUNCTION BOXES AFTER SURFACING REMOVAL AND BEFORE PLACEMENT OF SURFACING

Refer to Standard Plate 734.05 for details of installation of high flow silt fence at drop inlets, manholes, and junction boxes.

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

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

In addition, the Contractor shall do the following for this installation:

- A space of at least 1' shall be provided between the silt fence installation and the inlet. This space shall be filled completely with a 2" depth of aggregate, 2" minus or smaller.
- The top elevation of the silt fence shall be such that a 12" horizontal flap of silt fence will remain at the bottom.
- The base of the silt fence shall conform to the natural ground profile but does not need to be trenched in at the bottom.
- The extra 12" of the silt fence material may be cut so that the material will lay flat upon the subgrade.
- Sediment filter bags shall be placed on the 12" flap around the perimeter of the silt fence installation. The sediment filter bags shall overlap 6" at the ends and be placed tightly together.
- The sediment filter bags shall be filled with clean aggregate 2" minus or smaller.

Sediment Filter Bag

Product	Manufacturer
Snake Bag	Sacramento Bag Manufacturing Co. Sacramento, CA Phone: 1-800-287-2247 www.sacbag.com

The sediment filter bag shall be the Snake Bag from Sacramento Bag Manufacturing Company or an approved equal.

All costs for furnishing and installing the sediment filter bags shall be incidental to the contract unit price per foot for "Sediment Filter Bag."

All costs for removing the sediment filter bags shall be incidental to the contract unit price per foot for "Remove Sediment Filter Bag".

Payment for high flow silt fence shall be as stated in Section 734.5 of the Specifications.

All costs for furnishing, installing, and removing the 2" depth of aggregate shall be incidental to other erosion and sediment control bid items.

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".

The removed sediment shall be placed at a location away from the drop inlet where the sediment will not be washed back into the drop inlet or other storm sewer system.

The Contractor and Engineer shall inspect and maintain the sediment control device once every week and within 24 hours after every rainfall event greater than 1/2".

TABLE OF INTERIM SEDIMENT CONTROL AT INLETS, MANHOLES, AND JUNCTION BOXES AFTER SURFACING REMOVAL AND BEFORE PLACEMENT OF SURFACING

Station	High Flow Silt Fence Quantity (Ft)	Sediment Filter Bag Quantity (Ft)
76+62.00-28.99' L	18	24
76+62.00-28.99' R	18	24
78+42.00-29.17' L	18	24
78+42.00-29.17' R	18	24
80+93.62-26.67' L	18	24
80+95.95-23.67' R	18	24
84+40.00-23.67' L	22	32
84+40.00-23.67' R	18	24
84+64.53-42.71' L	18	24
85+04.16-43.00' L	18	24
85+24.20-23.67' L	18	24
86+60.00-23.67' L	18	24
86+60.00-23.67' R	18	24
87+98.93-23.67' L	18	24
87+98.93-23.67' R	18	24
88+21.76-40.93' L	18	24
88+60.99-42.58' L	18	24
88+80.43-23.67' L	18	24
90+10.00-23.67' L	18	24
90+10.00-23.67' R	`18	24
91+50.00-23.67' L	22	32
91+50.00-23.67' R	18	24
91+75.35-48.29' L	18	24
92+14.83-42.80' L	18	24
92+34.21-23.67' L	22	32
93+45.00-23.67' L	22	32
93+45.00-23.67' R	18	24
95+02.00-23.67' L	22	32
95+02.00-23.67' R	18	24
95+33.29-42.87' L	18	24
95+68.92-42.99' L	18	24
95+92.13-23.67' L	24	32
97+00.00-29.17' L	22	32
97+00.00-29.17' R	18	24
98+58.00-29.17' L	22	32
98+58.00-29.17' R	18	24
98+84.16-48.28' L	18	24
99+24.54-48.59' L	18	24
99+47.85-29.17' L	24	32
100+80.00-29.17' L	22	32
100+80.00-29.17' R	18	24
102+11.37-29.17' R	24	32
102+11.93-29.17' L	24	32
102+37.32-56.07' L	22	32
102+75.21-54.68' L	18	24
103+00.54-29.17' L	18	24
104+51.50-29.17' L	18	24
104+75.00-29.17' R	22	32
105+25.21-31.63' R	32	40
105+50.10-29.17' L	18	24
105+75.00-29.17' R	22	32
107+00.00-29.17' L	18	24
107+00.00-29.17' R	22	32
109+47.43-29.17' L	18	24
109+47.43-29.17' R	22	32

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TABLE OF INTERIM SEDIMENT CONTROL AT INLETS, MANHOLES, AND JUNCTION BOXES AFTER SURFACING REMOVAL AND BEFORE PLACEMENT OF SURFACING (continued)

111+55.00-29.17' L	18	24
111+55.00-29.17' R	22	32
113+92.00-29.17' L	18	24
113+92.00-29.17' R	22	32
116+34.95-29.17' L	18	24
116+37.28-29.17' R	22	32
118+33.18-29.17' L	18	24
118+56.55-52.45'L	18	24
118+95.33-52.53' L	18	24
119+20.00-29.17' L	18	24
119+20.00-29.17' R	18	24
122+87.11-29.17' L	18	24
122+87.11-29.17' R	18	24
124+54.00-29.17' L	18	24
124+54.00-29.17' R	18	24
126+24.00-29.17' L	22	32
126+24.00-29.17' R	18	24
127+94.00-29.17' L	22	32
127+94.00-29.17' R	18	24
128+43.56-31.63' L	32	40
128+43.56-31.63' R	32	40
128+86.45-25.73' L	28	36
129+38.38-68.87' L	18	24
129+46.69-72.04' L	32	36
129+53.79-61.81' R	32	36
129+73.91-31.63' L	32	40
129+73.91-31.63' R	32	40
131+80.00-29.17' L	18	24
131+80.00-29.17' R	18	24
133+80.00-29.17' L	18	24
133+80.00-29.17' R	18	24
139+82.00-29.17' L	18	24
139+82.00-29.17' R	18	24
141+36.00-29.17' L	18	24
141+36.00-29.17' R	18	24
141+76.31-31.63' L	32	40
141+76.31-31.63' R	32	40
142+16.00-29.17' L	18	24
142+16.00-29.17' R	24	32
142+63.24-29.17' L	22	32
142+63.24-29.17' R	24	32
144+31.74-29.17' R	18	24
145+17.36-29.17' L	22	32
145+17.36-29.17' R	22	32
Totals:	2,040	2,740

SEDIMENT CONTROL AT INLETS WITH FRAMES AND GRATES

This type of sediment control device should be used where there is pavement in the vicinity of the drop inlets and storm water or sediment could possibly enter the frame and grate. Sediment Control at Inlets with Frame and Grates shall be installed prior to working in the vicinity of the drop inlets.

The Contractor shall be responsible for maintaining and repairing the sediment control devices for the duration of the project for which sediment control measures are required. Maintenance shall be scheduled to prevent storm water from backing up into the driving lane.

"Sediment Control at Inlets with Frames and Grates" will be paid for one time at each location, regardless of the number of times the sediment control devices are installed, inspected, cleaned, removed, repaired, or replaced. All costs associated with furnishing, installing, inspecting, maintaining, cleaning, sediment removal, and repairing Sediment Control at Inlets with Frames and Grates shall be incidental to the contract unit price per each for "Sediment Control at Inlet with Frame and Grate".

Sediment collection devices shall be:

A commercial made sediment collection device from the "Sediment Control at Inlet with Frame and Grate" list or an approved equal. The device shall be installed in reinforced concrete drop inlets according to the manufacturer's recommendations.

Sediment Control at Inlet with Frame and Grate Approved List:

Product	Manufacturer
InfraSafe Debris Collection Device with filter sock	Royal Environmental Systems, Inc. Stacy, MN Phone: 1-800-817-3240 www.royalenterprises.net
Dandy Curb Sack	Dandy Products Inc. Dublin, OH Phone: 1-800-591-2284 www.dandyproducts.com
Silt Trapper	Storm Water Solutions Lakeville, MN Phone: 1-952-461-4376 www.silttrapper.com
DIP Basket	Skyview Construction Co., LLC Waubay, SD Phone: 1-605-520-0555 www.skyviewconst.com
FLEXSTORM Inlet Filters	Inlet and Pipe Protection, Inc. Naperville, IL Phone: 1-866-287-8655 www.inletfilters.com
GR-8 Guard or Combo Guard	ERTEC Environmental Systems LLC Alameda, CA Phone: 1-866-521-0724 www.ertecsystems.com
Sediment Catchers	Shaun Jensen Brookings, SD Phone: 1-605-690-4950
Grate FX, Slammer, or VertPro	Enviroscape ECM, Ltd. Oakwood, OH Phone: 1-419-594-3210 www.strawblanket.com
BX Inlet Sediment Boxes	BX Civil and Construction Dell Rapids, SD Phone: 1-605-428-5483 bx-cc.com

TABLE OF SEDIMENT CONTROL AT INLETS WITH FRAMES AND GRATES

Station	Quantity (Each)
76+62.00-28.99' L	1
76+62.00-28.99' R	1
78+42.00-29.17' L	1
78+42.00-29.17' R	1
80+93.62-26.67' L	1
80+95.95-23.67' R	1
84+40.00-23.67' L	1
84+40.00-23.67' R	1
84+64.53-42.71' L	1
85+04.16-43.00' L	1
85+24.20-23.67' L	1
86+60.00-23.67' L	1
86+60.00-23.67' R	1
87+98.93-23.67' L	1
87+98.93-23.67' R	1
88+21.76-40.93' L	1
88+60.99-42.58' L	1
88+80.43-23.67' L	1
90+10.00-23.67' L	1
90+10.00-23.67' R	1
91+50.00-23.67' L	1
91+50.00-23.67' R	1
91+75.35-48.29' L	1
92+14.83-42.80' L	1
92+34.21-23.67' L	1
93+45.00-23.67' L	1
93+45.00-23.67' R	1
95+02.00-23.67' L	1
95+02.00-23.67' R	1
95+33.29-42.87' L	1
95+68.92-42.99' L	1
95+92.13-23.67' L	1

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TABLE OF SEDIMENT CONTROL AT INLETS WITH FRAMES AND GRATES (continued)

97+00.00-29.17' L	1
97+00.00-29.17' R	1
98+58.00-29.17' L	1
98+58.00-29.17' R	1
98+84.16-48.28' L	1
99+24.54-48.59' L	1
99+47.85-29.17' L	1
100+80.00-29.17' L	1
100+80.00-29.17' R	1
102+11.37-29.17" R	1
102+11.93-29.17" L	1
102+37.32-56.07' L	1
102+75.21-54.68' L	1
103+00.54-29.17' L	1
104+51.50-29.17' L	1
104+75.00-29.17' R	1
105+50.10-29.17' L	1
105+75.00-29.17' R	1
107+00.00-29.17' L	1
107+00.00-29.17' R	1
109+47.43-29.17' L	1
109+47.43-29.17' R	1
111+55.00-29.17' L	1
111+55.00-29.17' R	1
113+92.00-29.17' L	1
113+92.00-29.17' R	1
116+34.95-29.17' L	1
116+37.28-29.17' R	1
118+33.18-29.17' L	1
118+56.55-52.45'L	1
118+95.33-52.53' L	1
119+20.00-29.17' L	1
119+20.00-29.17' R	1
122+87.11-29.17' L	1
122+87.11-29.17' R	1
124+54.00-29.17' L	1
124+54.00-29.17' R	1
126+24.00-29.17' L	1
126+24.00-29.17' R	1
127+94.00-29.17' L	1
127+94.00-29.17' R	1
129+38.38-68.87' L	1
131+80.00-29.17' L	1
131+80.00-29.17' R	1
133+80.00-29.17' L	1
133+80.00-29.17' R	1
139+82.00-29.17' L	1
139+82.00-19.17' R	1
141+36.00-29.17' L	1
141+36.00-29.17' R	1
142+16.00-29.17' L	1
142+16.00-29.17' R	1
142+63.24-29.17' L	1
142+63.24-29.17' R	1
144+31.74-29.17' R	1
145+17.36-29.17' L	1
145+17.36-29.17' R	1
Totals:	89

SEDIMENT CONTROL AT TYPE S REINFORCED CONCRETE DROP INLETS

The sediment control device provided shall be from the list shown below. Refer to Standard Plate 734.11 for details.

Product	Manufacturer
Dandy Curb	Dandy Products Inc. Dublin, OH Phone: 1-800-591-2284 www.dandyproducts.com
Gutterbuddy	ACF Environmental Richmond, VA Phone: 1-800-448-3636 www.acfenvironmental.com
SS-300	Silt-Saver, Inc. Conyers, GA Phone: 1-888-382-7458 www.siltsaver.com
Curb Inlet Guard	ECTEC Environmental Systems LLC Alameda, CA Phone: 1-866-521-0724 www.ertecsystems.com

TABLE OF SEDIMENT CONTROL AT TYPE S REINFORCED CONCRETE DROP INLETS

Station	Clear Opening Width (Ft)	Quantity* (Ft)
105+25.21-31.63' R	5	7
128+43.56-31.63' L	5	7
128+43.56-31.63' R	5	7
129+73.91-31.63' L	5	7
129+73.91-31.63' R	5	7
141+76.31-31.63' L	5	7
141+76.31-31.63' R	5	7
	Total:	49

* Quantity shown is the minimum length required and shall be the basis of payment.

DEWATERING AND SEDIMENT COLLECTING

The Contactor has the option to treat sediment laden water trapped within the project limits using the method shown in the DEWATERING AND SEDIMENT COLLECTION SYSTEM detail, or the Contractor may elect to transport sediment laden water off the project.

If the Contractor elects to transport sediment laden water off the project, no additional payment for loading, transporting, and labor costs will be made. Water transported off the project limits shall not be disposed of in an area where it can enter a waterway. The disposal site must be approved by the Engineer.

STREET SWEEPING

Vehicle tracking of sediment from the construction site shall be minimized. Street sweeping shall be used if erosion and sediment control best management practices are not adequate to prevent sediment from being tracked onto the street.

The Contractor shall use a pickup broom having integral self-contained storage to clean the roadway. The pickup broom used shall be a minimum of 6 feet wide and have working gutter brooms.

At a minimum, sweeping will be required:

1. Prior to opening any segment or roadway to traffic.
2. Following pavement grooving operations and prior to the application of the pavement marking tape.
3. When sawing operations are underway in the inside driving lanes, the outside driving lanes and gutter may need to be swept to control dust.

All costs for cleaning the roadway with a pickup broom shall be incidental to the contract unit price per hour for "Sweeping".

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TABLE OF SEDIMENT CONTROL AT INLETS WITH FRAMES AND GRATES (continued)

97+00.00-29.17' L	1
97+00.00-29.17' R	1
98+58.00-29.17' L	1
98+58.00-29.17' R	1
98+84.16-48.28' L	1
99+24.54-48.59' L	1
99+47.85-29.17' L	1
100+80.00-29.17' L	1
100+80.00-29.17' R	1
102+11.37-29.17" R	1
102+11.93-29.17" L	1
102+37.32-56.07' L	1
102+75.21-54.68' L	1
103+00.54-29.17' L	1
104+51.50-29.17' L	1
104+75.00-29.17' R	1
105+50.10-29.17' L	1
105+75.00-29.17' R	1
107+00.00-29.17' L	1
107+00.00-29.17' R	1
109+47.43-29.17' L	1
109+47.43-29.17' R	1
111+55.00-29.17' L	1
111+55.00-29.17' R	1
113+92.00-29.17' L	1
113+92.00-29.17' R	1
116+34.95-29.17' L	1
116+37.28-29.17' R	1
118+33.18-29.17' L	1
118+56.55-52.45'L	1
118+95.33-52.53' L	1
119+20.00-29.17' L	1
119+20.00-29.17' R	1
122+87.11-29.17' L	1
122+87.11-29.17' R	1
124+54.00-29.17' L	1
124+54.00-29.17' R	1
126+24.00-29.17' L	1
126+24.00-29.17' R	1
127+94.00-29.17' L	1
127+94.00-29.17' R	1
129+38.38-68.87' L	1
131+80.00-29.17' L	1
131+80.00-29.17' R	1
133+80.00-29.17' L	1
133+80.00-29.17' R	1
139+82.00-29.17' L	1
139+82.00-19.17' R	1
141+36.00-29.17' L	1
141+36.00-29.17' R	1
142+16.00-29.17' L	1
142+16.00-29.17' R	1
142+63.24-29.17' L	1
142+63.24-29.17' R	1
144+31.74-29.17' R	1
145+17.36-29.17' L	1
145+17.36-29.17' R	1
Totals:	89

SEDIMENT CONTROL AT TYPE S REINFORCED CONCRETE DROP INLETS

The sediment control device provided shall be from the list shown below. Refer to Standard Plate 734.11 for details.

Product	Manufacturer
Dandy Curb	Dandy Products Inc. Dublin, OH Phone: 1-800-591-2284 www.dandyproducts.com
Gutterbuddy	ACF Environmental Richmond, VA Phone: 1-800-448-3636 www.acfenvironmental.com
SS-300	Silt-Saver, Inc. Conyers, GA Phone: 1-888-382-7458 www.siltsaver.com
Curb Inlet Guard	ECTEC Environmental Systems LLC Alameda, CA Phone: 1-866-521-0724 www.ertecsystems.com

TABLE OF SEDIMENT CONTROL AT TYPE S REINFORCED CONCRETE DROP INLETS

Station	Clear Opening Width (Ft)	Quantity* (Ft)
105+25.21-31.63' R	5	7
128+43.56-31.63' L	5	7
128+43.56-31.63' R	5	7
129+73.91-31.63' L	5	7
129+73.91-31.63' R	5	7
141+76.31-31.63' L	5	7
141+76.31-31.63' R	5	7
	Total:	49

* Quantity shown is the minimum length required and shall be the basis of payment.

DEWATERING AND SEDIMENT COLLECTING

The Contactor has the option to treat sediment laden water trapped within the project limits using the method shown in the DEWATERING AND SEDIMENT COLLECTION SYSTEM detail, or the Contractor may elect to transport sediment laden water off the project.

If the Contractor elects to transport sediment laden water off the project, no additional payment for loading, transporting, and labor costs will be made. Water transported off the project limits shall not be disposed of in an area where it can enter a waterway. The disposal site must be approved by the Engineer.

STREET SWEEPING

Vehicle tracking of sediment from the construction site shall be minimized. Street sweeping shall be used if erosion and sediment control best management practices are not adequate to prevent sediment from being tracked onto the street.

The Contractor shall use a pickup broom having integral self-contained storage to clean the roadway. The pickup broom used shall be a minimum of 6 feet wide and have working gutter brooms.

At a minimum, sweeping will be required:

1. Prior to opening any segment or roadway to traffic.
2. Following pavement grooving operations and prior to the application of the pavement marking tape.
3. When sawing operations are underway in the inside driving lanes, the outside driving lanes and gutter may need to be swept to control dust.

All costs for cleaning the roadway with a pickup broom shall be incidental to the contract unit price per hour for "Sweeping".

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CONSTRUCTION ENTRANCE

The Contractor shall install a Construction Entrance at locations where there is a potential for mud tracking and sediment flow from the construction site and work area onto a paved public roadway.

It is the Contractor's option to use the SDDOT Construction Entrance (See SDDOT Construction Entrance notes and details), a product from the list provided in these notes, or other products or processes as approved by the Engineer during construction.

If the Contractor elects to use one of the products listed in the table, then the Contractor shall install the construction entrance product in accordance with the manufacturer's installation instructions or as directed by the Engineer.

The Contractor shall maintain the construction entrance such that mud tracking and sediment flow will not enter the roadway or adjacent drainage areas. The construction entrance shall be routinely inspected and the Contractor shall repair or replace material as deemed necessary by the Engineer.

All costs for furnishing, installing, maintaining, and removal of the construction entrance including equipment, labor, materials, and incidentals shall be included in the contract unit price per each for "Construction Entrance".

The following table is a list of known construction entrance products available for use:

Product	Manufacturer
Grizzly Rumble Grate (10' width and 24' length required)	Trackout Control, LLC Tempe, AZ Phone: 1-800-761-0056 www.trackoutcontrol.com
Rumble Grid (12' width and 24' length including combination of grids and ramps required)	Pro-Tec Equipment, Inc. Charlotte, MI Phone: 1-800-292-1225 www.pro-tecequipment.com

SDDOT CONSTRUCTION ENTRANCE

If the SDDOT Construction Entrance is utilized, then the Contractor shall install the SDDOT Construction Entrance in accordance with these notes and the detail drawings.

Pit run material shall be obtained from a granular source and shall conform to the following gradation:

Sieve Size	Percent Passing
6"	100%
#4	0-60%
#200	0-20%

The pit run material shall be compacted to the satisfaction of the Engineer.

The aggregate for the granular material shall conform to the following gradation requirements:

Sieve Size	Percent Passing
3"	100%
2 ½"	90-100%
1 ½"	25-60%
¾"	0-10%
½"	0-5%

The granular material shall be placed in 6" maximum lifts.

It is anticipated that the granular material will need to be periodically removed and replaced as it becomes inundated with mud and sediment.

The MSE geotextile shall conform to Section 831 of the Specifications. The MSE geotextile shall be on the Approved Products List for this material or will be certified by the supplier to meet this specification prior to installation.

The MSE geotextile should be kept as taut as possible prior to placing.

Equipment shall not be allowed on the MSE geotextile until the first lift of granular material is in place.

All seams in the MSE geotextile shall be overlapped at least 2' and shingled.

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STORM WATER POLLUTION PREVENTION PLAN CHECKLIST

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

❖ **SITE DESCRIPTION (4.2 1)**

- **Project Limits: See Title Sheet (4.2 1.b)**
- **Project Description: See Title Sheet (4.2 1.a.)**
- **Site Map(s): See Title Sheet and Plans (4.2 1.f. (1)-(6))**
- **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** 14.7 Acres **(4.2 1.b.)**
- **Total Area To Be Disturbed** 6.3 Acres **(4.2 1.b.)**
- **Existing Vegetative Cover (%)** 65
- **Soil Properties:** AASHTO Soil Classification: A-6, A-7-6
- USDA Soil Texture: Silty Clay, Sandy Clay, Silty Sand **(4.2 1. d.)**
- **Name of Receiving Water Body/Bodies** Big Sioux River **(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.)

- **Special sequencing requirements (See Section C).**
- **Install stabilized construction entrances as needed.**
- **Install perimeter protection where runoff sheets from the site.**
- **Remove and store topsoil.**
- **Stabilize disturbed areas with silt fence, erosion control wattles, etc.**
- **Install Curb & Gutter, Storm Sewer, Lighting and Sidewalk.**
- **Complete final grading.**
- **Complete PCC Surfacing.**
- **Place topsoil, permanent seed and apply Fiber Mulch for final stabilization**

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

(Check all that apply)

- **Stabilization Practices (See Detail Plan Sheets)**
  - ☐ Temporary Seeding (Cover Crop Seeding)
  - ☒ Permanent Seeding
  - ☐ Sodding
  - ☐ Planting (Woody Vegetation for Soil Stabilization)
  - ☐ Mulching (Grass Hay or Straw)
  - ☒ Hydraulic Mulch (Wood Fiber Mulch)
  - ☐ Soil Stabilizer
  - ☐ Bonded Fiber Matrix
  - ☐ Erosion Control Blankets or Mats
  - ☐ Vegetation Buffer Strips
  - ☐ Roughened Surface (e.g. tracking)
  - ☐ Dust Control
  - ☐ Other:
- **Structural Temporary Erosion and Sediment Controls**
  - ☒ Silt Fence
  - ☐ Floating Silt Curtain
  - ☐ Straw Bale Check
  - ☐ Temporary Berm
  - ☐ Temporary Slope Drain
  - ☒ Straw Wattles or Rolls
  - ☐ Turf Reinforcement Mat
  - ☐ Rip Rap
  - ☐ Gabions
  - ☐ Rock Check Dams
  - ☐ Sediment Traps/Basins
  - ☒ Inlet Protection
  - ☐ Outlet Protection
  - ☐ Surface Inlet Protection (Area Drain)
  - ☒ Curb Inlet Protection
  - ☒ Stabilized Construction Entrances
  - ☐ Entrance/Exit Equipment Tire Wash
  - ☐ Interceptor Ditch
  - ☐ Concrete Washout Area
  - ☐ Temporary Diversion Channel
  - ☐ Work Platform
  - ☐ Temporary Water Barrier
  - ☐ Temporary Water Crossing
  - ☐ Other:
- **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 any local regulations.

❖ **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 $^1/_3$ of the height of the silt fence.
  - Sediment basins and traps will be checked. Sediment will be removed when depth reaches approximately 50 percent of the structure's capacity, and at the conclusion of the construction.
  - Check dams will be inspected for stability. Sediment will be removed when depth reaches ½ the height of the dam.
  - All seeded areas will be checked for bare spots, washouts, and vigorous growth free of significant weed infestations.
  - Inspection and maintenance reports will be prepared on form DOT 298 for each site inspection, this form will also be used to document changes to the SWPPP. A copy of the completed inspection form will be filed with the SWPPP documents.
  - The SDDOT Project Engineer and contractor's site superintendent are responsible for inspections. Maintenance, repair activities are the responsibility of the contractor. The SDDOT Project Engineer will complete the inspection and maintenance reports and distribute copies per the distribution instructions on DOT 298.

❖ **Non-Storm Water Discharges (3.0)**

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

- ☐ Discharges from water line flushing.
- ☒ Pavement wash-water, where no spills or leaks of toxic or hazardous materials have occurred.
- ☒ 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: Organic Fertilizer

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

➢ **Product Specific Practices (6.8)**

- Petroleum Products
  All on-site vehicles will be monitored for leaks and receive regular preventive maintenance to reduce the chance of leakage. Petroleum products will be stored in tightly sealed containers which are clearly labeled.
- Fertilizers
  Fertilizers will be applied only in the amounts specified by the SDDOT. Once applied, fertilizers will be worked into the soil to limit the exposure to storm water. Fertilizers will be stored in an enclosed area. The contents of partially used fertilizer bags will be transferred to sealable containers to avoid spills.
- Paints
  All containers will be tightly sealed and stored when not required for use. The excess will be disposed of according to the manufacturer's instructions and any applicable state and local regulations.
- Concrete Trucks
  Contractors will provide designated truck washout areas on the site. These areas must be self contained and not connected to any storm water outlet of the site. Upon completion of construction washout areas will be properly stabilized.

➢ **Spill Control Practices (4.2 2 c.(2))**

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

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

➢ **Spill Response (4.2 2 c.(2))**

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

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

- The discharge threatens or is in a position to threaten the waters of the state (surface water or ground water).
- The discharge causes an immediate danger to human health or safety.
- The discharge exceeds 25 gallons.
- The discharge causes a sheen on surface water.
- The discharge of any substance that exceeds the ground water quality standards of ARSD (Administrative Rules of South Dakota) chapter 74:51:01.
- The discharge of any substance that exceeds the surface water quality standards of ARSD chapter 74:51:01.
- The discharge of any substance that harms or threatens to harm wildlife or aquatic life.
- The discharge of crude oil in field activities under SDCL (South Dakota Codified Laws) chapter 45-9 is greater than 1 barrel (42 gallons).

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

❖ **Construction Changes (4.4)**

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

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❖ 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**:

- Prime Contractor Name: _____
- Contractor Contact 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) 773-3231

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

➢ **National Response Center Hotline**
- (800) 424-8802.

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EROSION AND SEDIMENT CONTROL LEGEND

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	P 0081(93)157	D11	D29

Plotting Date: 09/10/2015

- Stormwater Discharge Point
- Low Flow Silt Fence
- High Flow Silt Fence
- High Flow Silt Fence at Pipe
- Sediment Control at Inlet After Placement of Surfacing
- Sediment Control at Inlet Before Placement of Surfacing
- Temporary Sediment Barrier
- Temporary Water Barrier
- Floating Silt Curtain
- Sediment Filter Bags
- Triangular Silt Barriers
- Erosion Control Wattles on Slopes
- Erosion Control Wattles at Inlets
- Erosion Control Wattles in Ditches
- Erosion Bales
- Surfacing Roughening
- Temporary Grass Hay or Straw Mulch/ Soil Stabilizer
- Cut Interceptor Ditch
- Temporary Slope Drain
- Bonded Fiber Matrix/ Fiber Reinforced Matrix
- Rock Check Dam
- Type 1 Erosion Control Blanket
- Type 2 Erosion Control Blanket
- Type 3 Erosion Control Blanket
- Type 4 Erosion Control Blanket
- Type 1 Turf Reinforcement Mat
- Type 2 Turf Reinforcement Mat
- Type 3 Turf Reinforcement Mat
- Transition Mat
- Silt Trap
- Type 1 Sediment Trap
- Type 2 Sediment Trap
- Type 3 Sediment Trap

BEST MANAGEMENT PRACTICES

Best Management Practices (BMPs) are split into three categories and are to be used throughout construction.

INITIAL PHASE

BMPs from the Legend shown as Orange Symbols on the Erosion and Sediment Control Plan Sheets are to be installed in the Initial Phase prior to earth disturbing activities and remain in place for the Intermediate Phase for temporary stabilization and in the Final Phase to achieve final stabilization.

INTERMEDIATE PHASE

BMPs from the Legend shown as Blue Symbols on the Erosion and Sediment Control Plan Sheets are to be installed in the Intermediate Phase for temporary stabilization and remain in place in the Final Phase to achieve final stabilization.

FINAL PHASE

BMPs from the Legend shown as Green Symbols on the Erosion and Sediment Control Plan Sheets are to be installed in the Final Phase to achieve final stabilization.

If these items are applicable they are to be shown in the updated SWPPP using the Symbols given.

- TS — Topsoil Stockpile
- B — Borrow Area
- CE — Stabilized Construction Entrance
- VB — Vegetated Buffer Strip
- CW — Concrete Washout
- AP — Asphalt Plant Site
- CP — Concrete Plant Site
- V — Vehicle and Equipment Parking, Fueling, and Maintenance Areas
- D — Dumpster or other Trash and Debris Containers
- M — On-Site Construction Material Storage Area
- SK — Spill Kit
- WP — Work Platform

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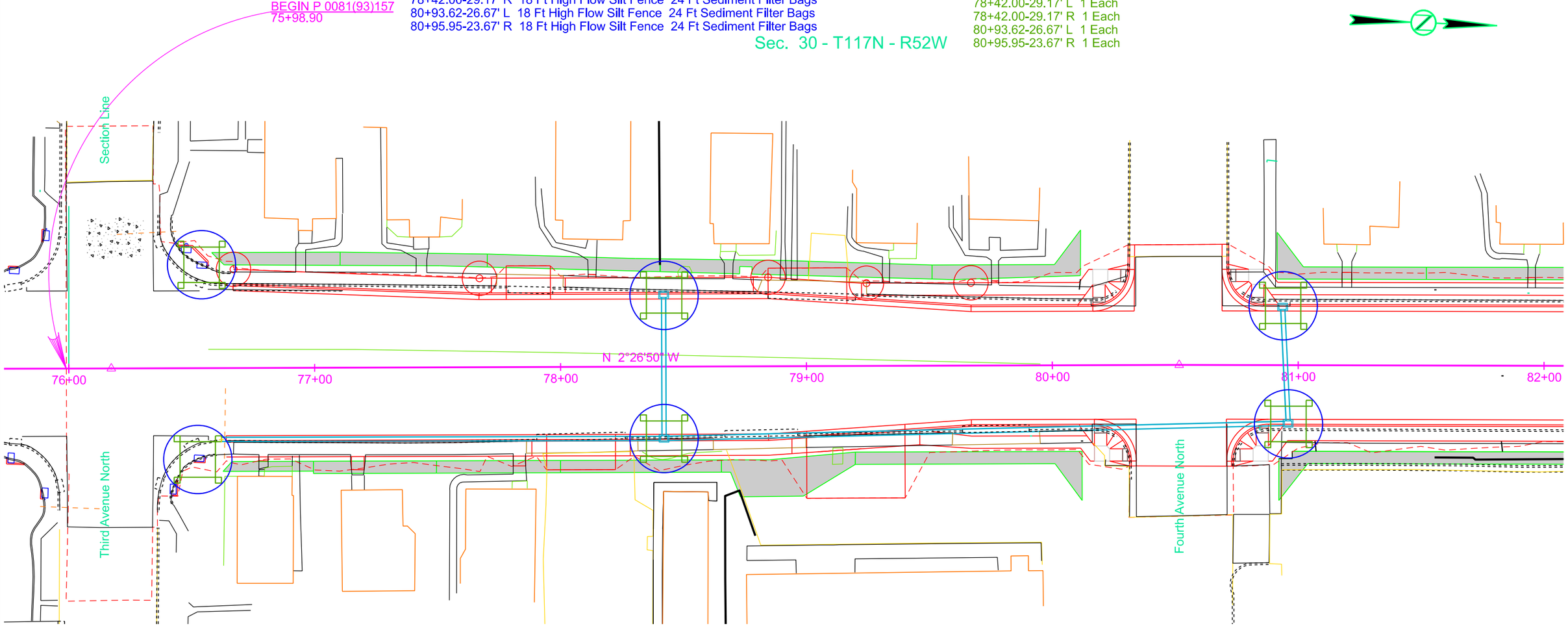
EROSION AND SEDIMENT CONTROL PLAN

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	P 0081(93)157	D12	D29

Plotting Date: 09/10/2015

INTERMEDIATE PHASE
Install Interim Sediment Control at Inlets, Manholes, and Junction Boxes before the placement of surfacing at the following locations:
76+62.00-28.99' L 18 Ft High Flow Silt Fence 24 Ft Sediment Filter Bags
76+62.00-28.99' R 18 Ft High Flow Silt Fence 24 Ft Sediment Filter Bags
78+42.00-29.17' L 18 Ft High Flow Silt Fence 24 Ft Sediment Filter Bags
78+42.00-29.17' R 18 Ft High Flow Silt Fence 24 Ft Sediment Filter Bags
80+93.62-26.67' L 18 Ft High Flow Silt Fence 24 Ft Sediment Filter Bags
80+95.95-23.67' R 18 Ft High Flow Silt Fence 24 Ft Sediment Filter Bags

FINAL PHASE
Install Sediment Control at Inlets with Frames and Grates after the placement of surfacing at the following locations:
76+62.00-28.99' L 1 Each
76+62.00-28.99' R 1 Each
78+42.00-29.17' L 1 Each
78+42.00-29.17' R 1 Each
80+93.62-26.67' L 1 Each
80+95.95-23.67' R 1 Each



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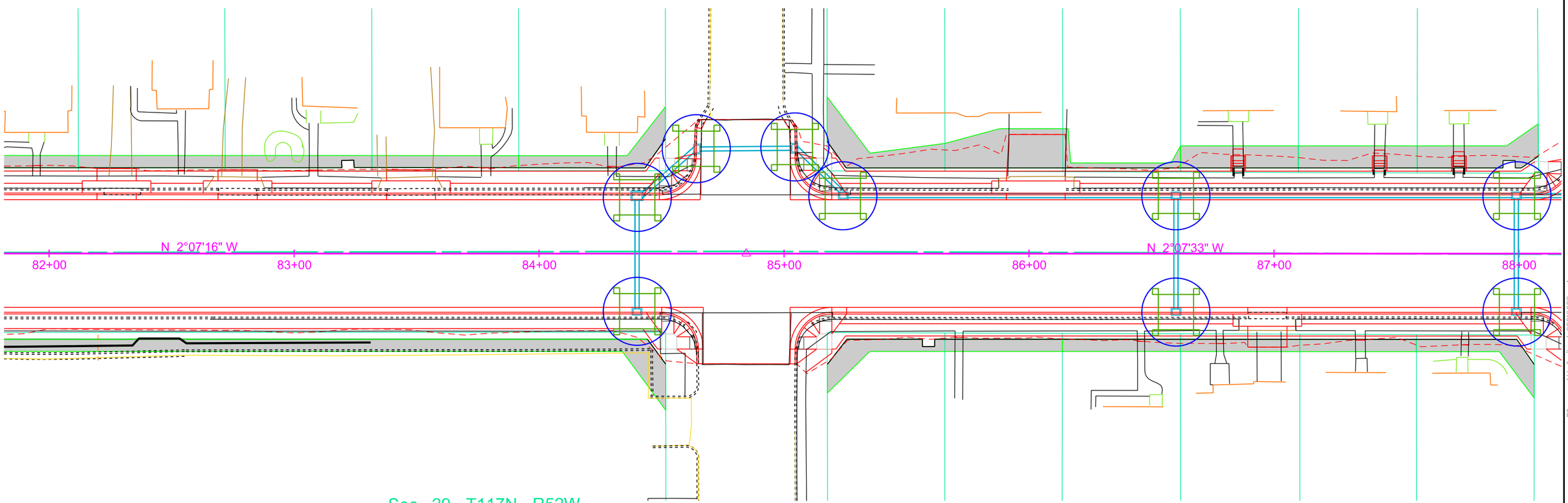
EROSION AND SEDIMENT CONTROL PLAN

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	P 0081(93)157	D13	D29

Plotting Date: 09/10/2015

INTERMEDIATE PHASE
Install Sediment Control at Inlets, Manholes, and Junction Boxes before the placement of surfacing at the following locations:
84+40.00-23.67' L 22 Ft High Flow Silt Fence 32 Ft Sediment Filter Bags
84+40.00-23.67' R 18 Ft High Flow Silt Fence 24 Ft Sediment Filter Bags
84+64.53-42.71' L 18 Ft High Flow Silt Fence 24 Ft Sediment Filter Bags
85+04.16-43.00' L 18 Ft High Flow Silt Fence 24 Ft Sediment Filter Bags
85+24.20-23.67' L 18 Ft High Flow Silt Fence 24 Ft Sediment Filter Bags
86+60.00-23.67' L 18 Ft High Flow Silt Fence 24 Ft Sediment Filter Bags
86+60.00-23.67' R 18 Ft High Flow Silt Fence 24 Ft Sediment Filter Bags
87+98.93-23.67' L 18 Ft High Flow Silt Fence 24 Ft Sediment Filter Bags
87+98.93-23.67' R 18 Ft High Flow Silt Fence 24 Ft Sediment Filter Bags

FINAL PHASE
Install Sediment Control at Inlets with Frames and Grates after the placement of surfacing at the following locations:
84+40.00-23.67' L 1 Each
84+40.00-23.67' R 1 Each
84+64.53-42.71' L 1 Each
85+04.16-43.00' L 1 Each
85+24.20-23.67' L 1 Each
86+60.00-23.67' L 1 Each
86+60.00-23.67' R 1 Each
87+98.93-23.67' L 1 Each
87+98.93-23.67' R 1 Each



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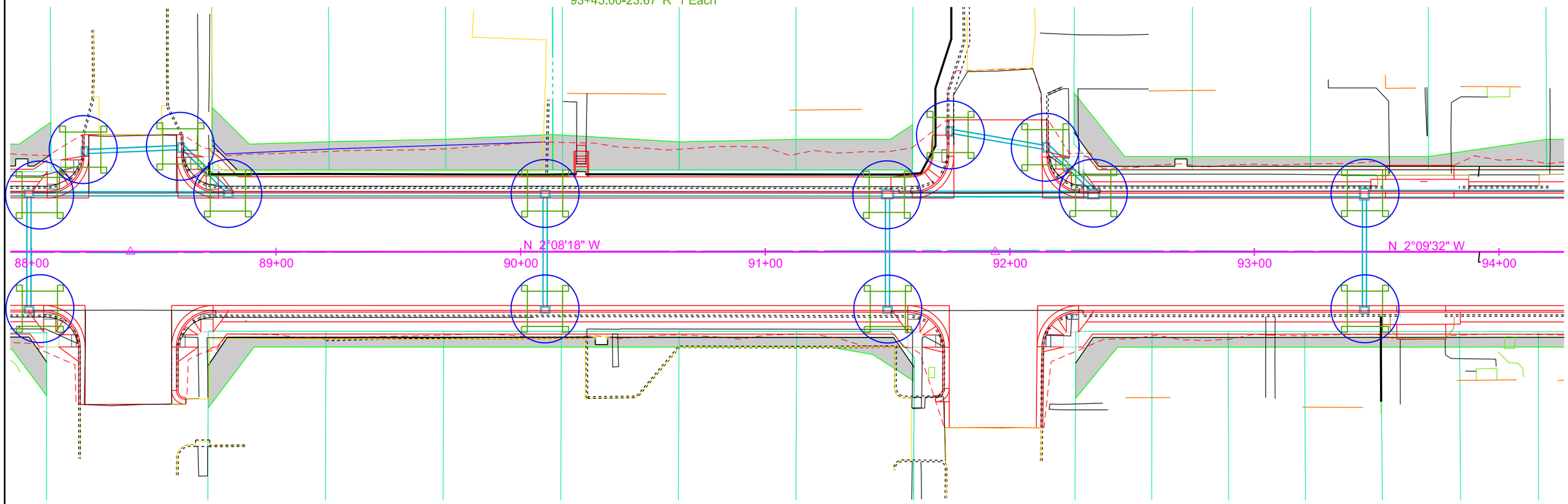
EROSION AND SEDIMENT CONTROL PLAN

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	P 0081(93)157	D14	D29

Plotting Date: 09/10/2015

INTERMEDIATE PHASE
Install Interim Sediment Control at Inlets, Manholes, and Junction Boxes before the placement of surfacing at the following locations:
88+21.76-40.93' L 18 Ft High Flow Silt Fence 24 Ft Sediment Filter Bags
88+60.99-42.58' L 18 Ft High Flow Silt Fence 24 Ft Sediment Filter Bags
88+80.43-23.67' L 18 Ft High Flow Silt Fence 24 Ft Sediment Filter Bags
90+10.00-23.67' L 18 Ft High Flow Silt Fence 24 Ft Sediment Filter Bags
90+10.00-23.67' R 18 Ft High Flow Silt Fence 24 Ft Sediment Filter Bags
91+50.00-23.67' L 22 Ft High Flow Silt Fence 32 Ft Sediment Filter Bags
91+50.00-23.67' R 18 Ft High Flow Silt Fence 24 Ft Sediment Filter Bags
91+75.35-48.29' L 18 Ft High Flow Silt Fence 24 Ft Sediment Filter Bags
92+14.83-42.80' L 18 Ft High Flow Silt Fence 24 Ft Sediment Filter Bags
92+34.21-23.67' L 22 Ft High Flow Silt Fence 32 Ft Sediment Filter Bags
93+45.00-23.67' L 22 Ft High Flow Silt Fence 32 Ft Sediment Filter Bags
93+45.00-23.67' R 18 Ft High Flow Silt Fence 24 Ft Sediment Filter Bags

FINAL PHASE
Install Sediment Control at Inlets with Frames and Grates after the placement of surfacing at the following locations:
88+21.76-40.93' L 1 Each
88+60.99-42.58' L 1 Each
88+80.43-23.67' L 1 Each
90+10.00-23.67' L 1 Each
90+10.00-23.67' R 1 Each
91+50.00-23.67' L 1 Each
91+50.00-23.67' R 1 Each
91+75.35-48.29' L 1 Each
92+14.83-42.80' L 1 Each
92+34.21-23.67' L 1 Each
93+45.00-23.67' L 1 Each
93+45.00-23.67' R 1 Each



Sec. 29 - T117N - R52W

Plot Scale - 1:40
Plotted From - TRPR17200
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EROSION AND SEDIMENT CONTROL PLAN

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	P 0081(93)157	D15	D29

Plotting Date: 09/10/2015

INTERMEDIATE PHASE

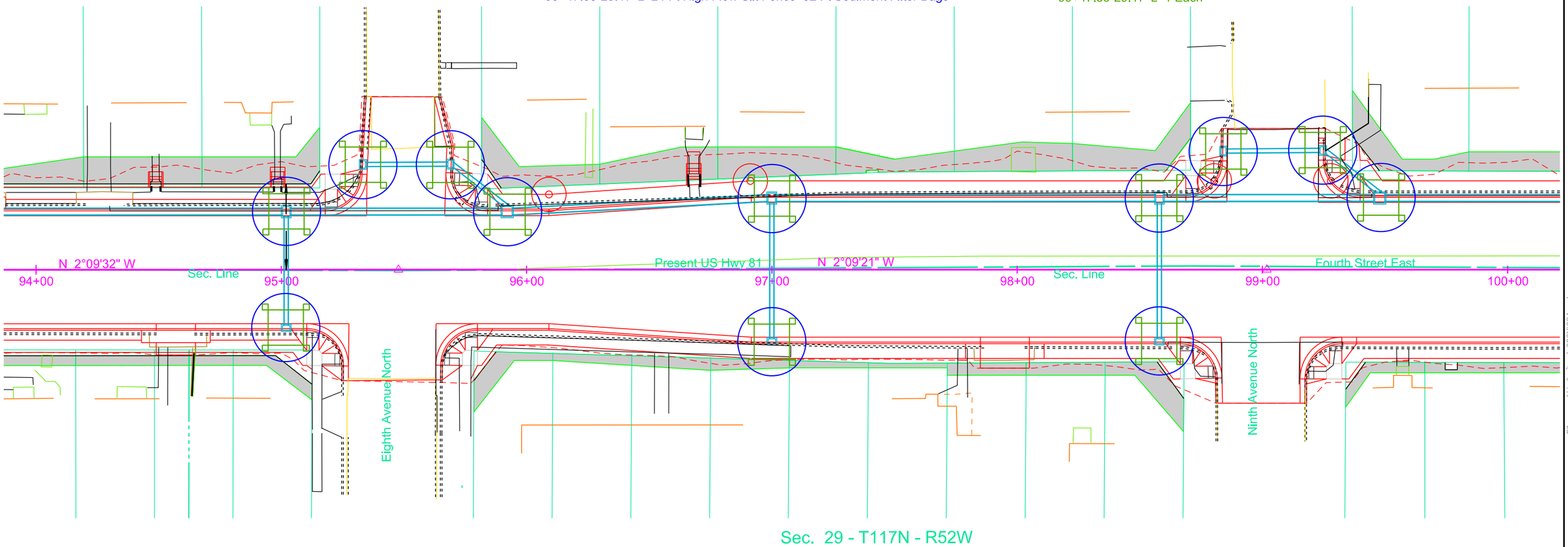
Install Interim Sediment Control at Inlets, Manholes, and Junction Boxes before the placement of surfacing at the following locations:

95+02.00-23.67' L 22 Ft High Flow Silt Fence 32 Ft Sediment Filter Bags
95+02.00-23.67' R 18 Ft High Flow Silt Fence 24 Ft Sediment Filter Bags
95+33.29-42.87' L 18 Ft High Flow Silt Fence 24 Ft Sediment Filter Bags
95+68.92-42.99' L 18 Ft High Flow Silt Fence 24 Ft Sediment Filter Bags
95+92.13-23.67' L 24 Ft High Flow Silt Fence 32 Ft Sediment Filter Bags
97+00.00-29.17' L 22 Ft High Flow Silt Fence 32 Ft Sediment Filter Bags
97+00.00-29.17' R 18 Ft High Flow Silt Fence 24 Ft Sediment Filter Bags
98+58.00-29.17' L 22 Ft High Flow Silt Fence 32 Ft Sediment Filter Bags
98+58.00-29.17' R 18 Ft High Flow Silt Fence 24 Ft Sediment Filter Bags
98+84.16-48.28' L 18 Ft High Flow Silt Fence 24 Ft Sediment Filter Bags
99+24.54-48.59' L 18 Ft High Flow Silt Fence 24 Ft Sediment Filter Bags
99+47.85-29.17' L 24 Ft High Flow Silt Fence 32 Ft Sediment Filter Bags

FINAL PHASE

Install Sediment Control at Inlets with Frames and Grates after the placement of surfacing at the following locations:

95+02.00-23.67' L 1 Each
95+02.00-23.67' R 1 Each
95+33.29-42.87' L 1 Each
95+68.92-42.99' L 1 Each
95+92.13-23.67' L 1 Each
97+00.00-29.17' L 1 Each
97+00.00-29.17' R 1 Each
98+58.00-29.17' L 1 Each
98+58.00-29.17' R 1 Each
98+84.16-48.28' L 1 Each
99+24.54-48.59' L 1 Each
99+47.85-29.17' L 1 Each



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EROSION AND SEDIMENT CONTROL PLAN

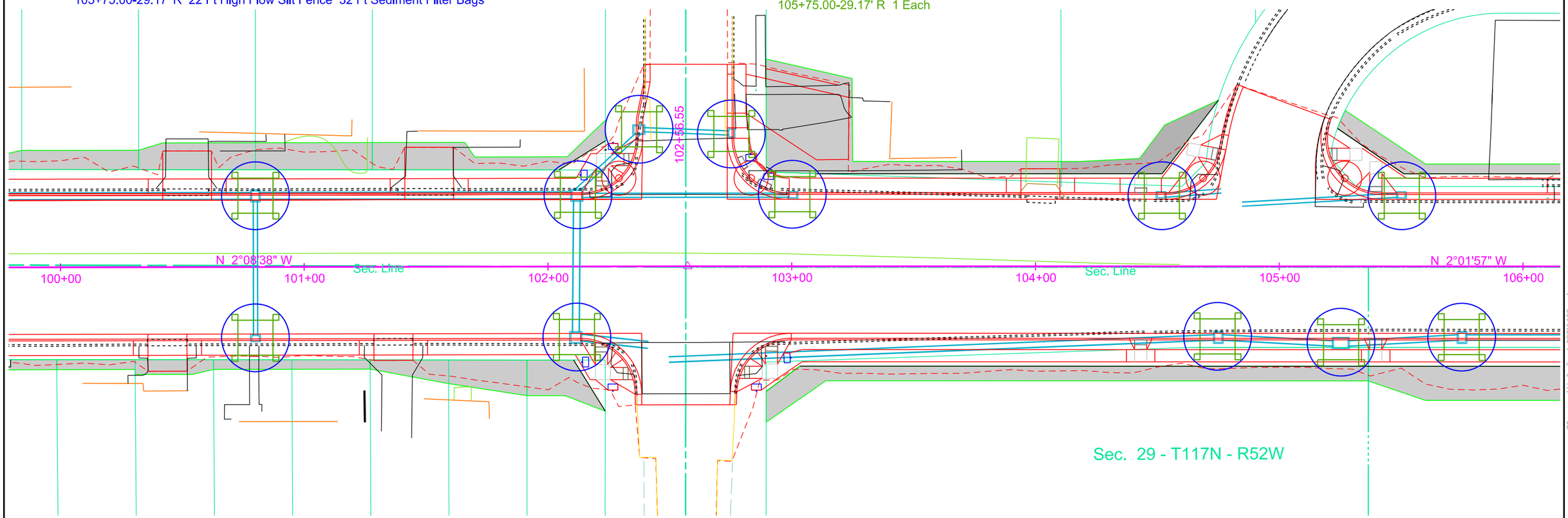
STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	P 0081(93)157	D16	D29

Plotting Date: 09/10/2015

INTERMEDIATE PHASE
Install Interim Sediment Control at Inlets, Manholes, and Junction Boxes before the placement of surfacing at the following locations:
100+80.00-29.17' L 22 Ft High Flow Silt Fence 32 Ft Sediment Filter Bags
100+80.00-29.17' R 18 Ft High Flow Silt Fence 24 Ft Sediment Filter Bags
102+11.37-29.17' R 24 Ft High Flow Silt Fence 32 Ft Sediment Filter Bags
102+11.93-29.17' L 24 Ft High Flow Silt Fence 32 Ft Sediment Filter Bags
102+37.32-56.07' L 22 Ft High Flow Silt Fence 32 Ft Sediment Filter Bags
102+75.21-54.68' L 18 Ft High Flow Silt Fence 24 Ft Sediment Filter Bags
103+00.54-29.17' L 18 Ft High Flow Silt fence 24 Ft Sediment Filter Bags
104+51.50-29.17' L 18 Ft High Flow Silt Fence 24 Ft Sediment Filter Bags
104+75.00-29.17' R 22 Ft High Flow Silt Fence 32 Ft Sediment Filter Bags
105+25.21-31.63' R 32 Ft High Flow Silt Fence 40 Ft Sediment Filter Bags
105+50.10-29.17' L 18 Ft High Flow Silt Fence 24 Ft Sediment Filter Bags
105+75.00-29.17' R 22 Ft High Flow Silt Fence 32 Ft Sediment Filter Bags

FINAL PHASE
Install Sediment Control at Inlets with Frames and Grates after the placement of surfacing at the following locations:
100+80.00-29.17' L 1 Each
100+80.00-29.17' R 1 Each
102+11.37-29.17' R 1 Each
102+11.93-29.17' L 1 Each
102+37.32-56.07' L 1 Each
102+75.21-54.68' L 1 Each
103+00.54-29.17' L 1 Each
104+51.50-29.17' L 1 Each
104+75.00-29.17' R 1 Each
105+50.10-29.17' L 1 Each
105+75.00-29.17' R 1 Each

FINAL PHASE
Install Sediment Control at Type S Drop Inlets after the placement of surfacing at the following locations:
105+25.21-31.63' R 7 Ft



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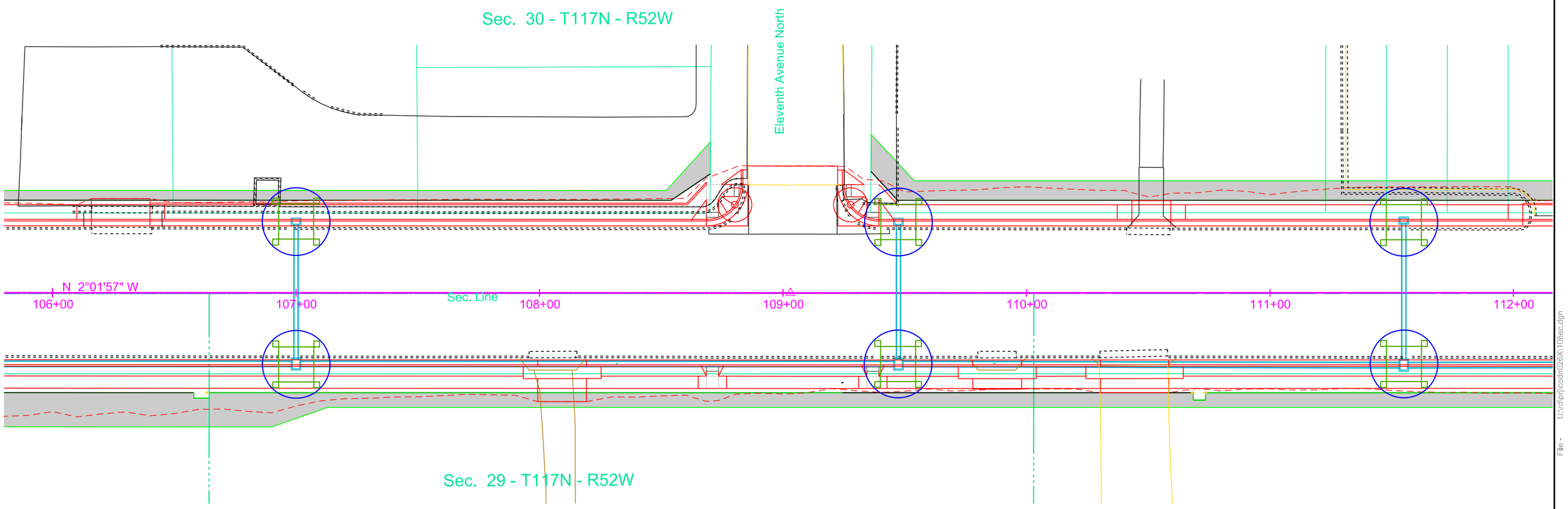
EROSION AND SEDIMENT CONTROL PLAN

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	P 0081(93)157	D17	D29

Plotting Date: 09/10/2015

INTERMEDIATE PHASE
Install Interim Sediment Control at Inlets, Manholes, and Junction Boxes before the placement of surfacing at the following locations:
107+00.0-29.17' L 18 Ft High Flow Silt Fence 24 Ft Sediment Filter Bags
107+00.00-29.17' R 22 Ft High Flow Silt Fence 32 Ft Sediment Filter Bags
109+47.43-29.17' L 18 Ft High Flow Silt Fence 24 Ft Sediment Filter Bags
109+47.43-29.17' R 22 Ft High Flow Silt Fence 32 Ft Sediment Filter Bags
111+55.00-29.17' L 18 Ft High Flow Silt Fence 24 Ft Sediment Filter Bags
111+55.00-29.17' R 22 Ft High Flow Silt fence 32 Ft Sediment Filter Bags

FINAL PHASE
Install Sediment Control at Inlets with Frames and Grates after the placement of surfacing at the following locations:
107+00.00-29.17' L 1 Each
107+00.00-29.17' R 1 Each
109+47.43-29.17' L 1 Each
109+47.43-29.17' R 1 Each
111+55.00-29.17' L 1 Each
111+55.00-29.17' R 1 Each



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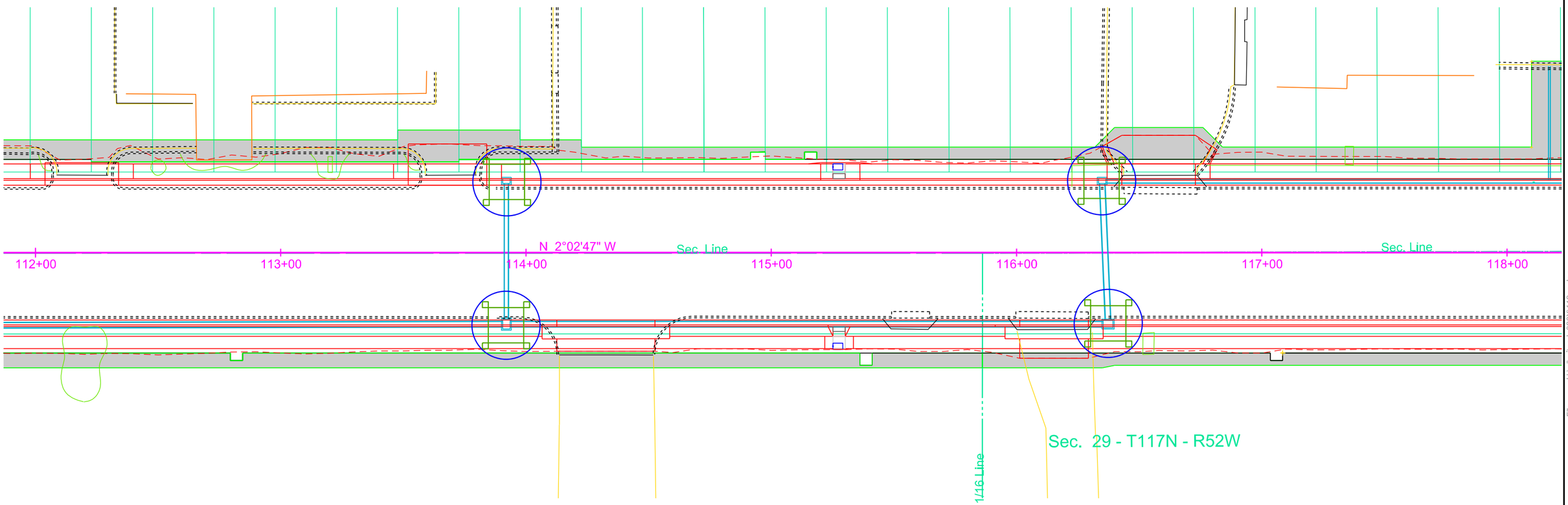
EROSION AND SEDIMENT CONTROL PLAN

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	P 0081(93)157	D18	D29

Plotting Date: 09/10/2015

INTERMEDIATE PHASE
Install Sediment Control at Inlets, Manholes, and Junction Boxes before the placement of surfacing at the following locations:
113+92.00-29.17' L 18 Ft High Flow Silt Fence 24 Ft Sediment Filter Bags
113+92.00-29.17' R 22 Ft High Flow Silt Fence 32 Ft Sediment Filter Bags
116+34.95-29.17' L 18 Ft High Flow Silt Fence 24 Ft Sediment Filter Bags
116+37.28-29.17' R 22 Ft High Flow Silt Fence 32 Ft Sediment Filter Bags

FINAL PHASE
Install Sediment Control at Inlets with Frames and Grates after the placement of surfacing at the following locations:
113+92.00-29.17' L 1 Each
113+92.00-29.17' R 1 Each
116+34.95-29.17' L 1 Each
116+37.28-29.17' R 1 Each



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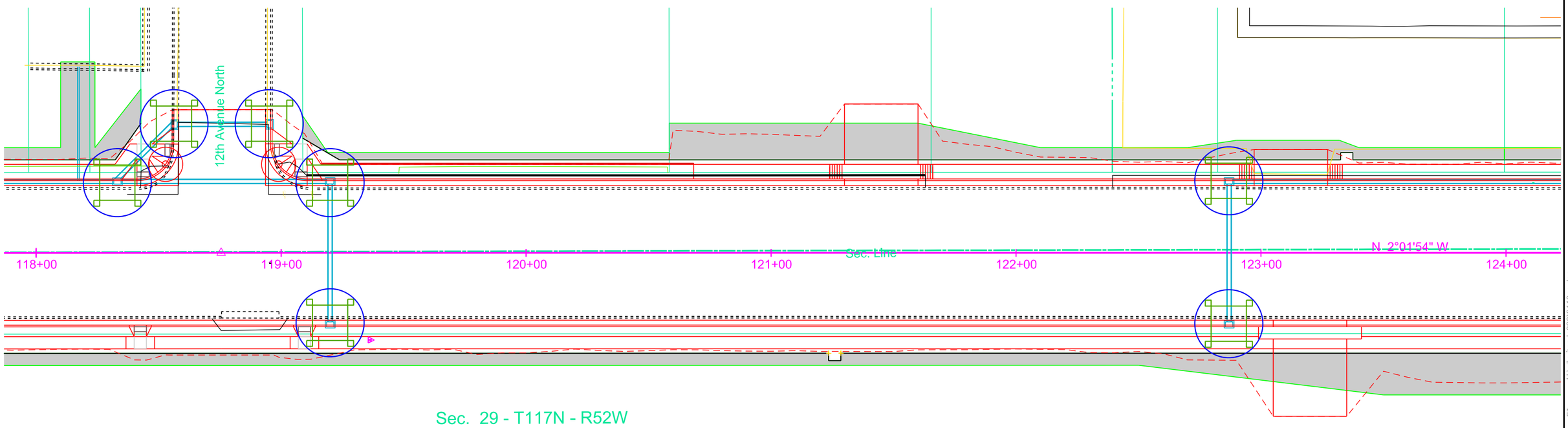
EROSION AND SEDIMENT CONTROL PLAN

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	P 0081(93)157	D19	D29

Plotting Date: 09/10/2015

INTERMEDIATE PHASE
Install Interim Sediment Control at Inlets, Manholes, and Junction Boxes before the placement of surfacing at the following locations:
118+33.18-29.17' L 18 Ft High Flow Silt Fence 24 Ft Sediment Filter Bags
118+56.55-52.45' L 18 Ft High Flow Silt Fence 24 Ft Sediment Filter Bags
118+95.33-52.53' L 18 Ft High Flow Silt Fence 24 Ft Sediment Filter Bags
119+20.00-29.17' L 18 Ft High Flow Silt Fence 24 Ft Sediment Filter Bags
119+20.00-29.17' R 18 Ft High Flow Silt Fence 24 Ft Sediment Filter Bags
122+87.11-29.17' L 18 Ft High Flow Silt Fence 24 Ft Sediment Filter Bags
122+87.11-29.17' R 18 Ft High Flow Silt Fence 24 Ft Sediment Filter Bags

FINAL PHASE
Install Sediment Control at Inlets with Frames and Grates after the placement of surfacing at the following locations:
118+33.18-29.17' L 1 Each
118+56.55-52.45' L 1 Each
118+95.33-52.53' L 1 Each
119+20.00-29.17' L 1 Each
119+20.00-29.17' R 1 Each
122+87.11-29.17' L 1 Each
122+87.11-29.17' R 1 Each



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EROSION AND SEDIMENT CONTROL PLAN

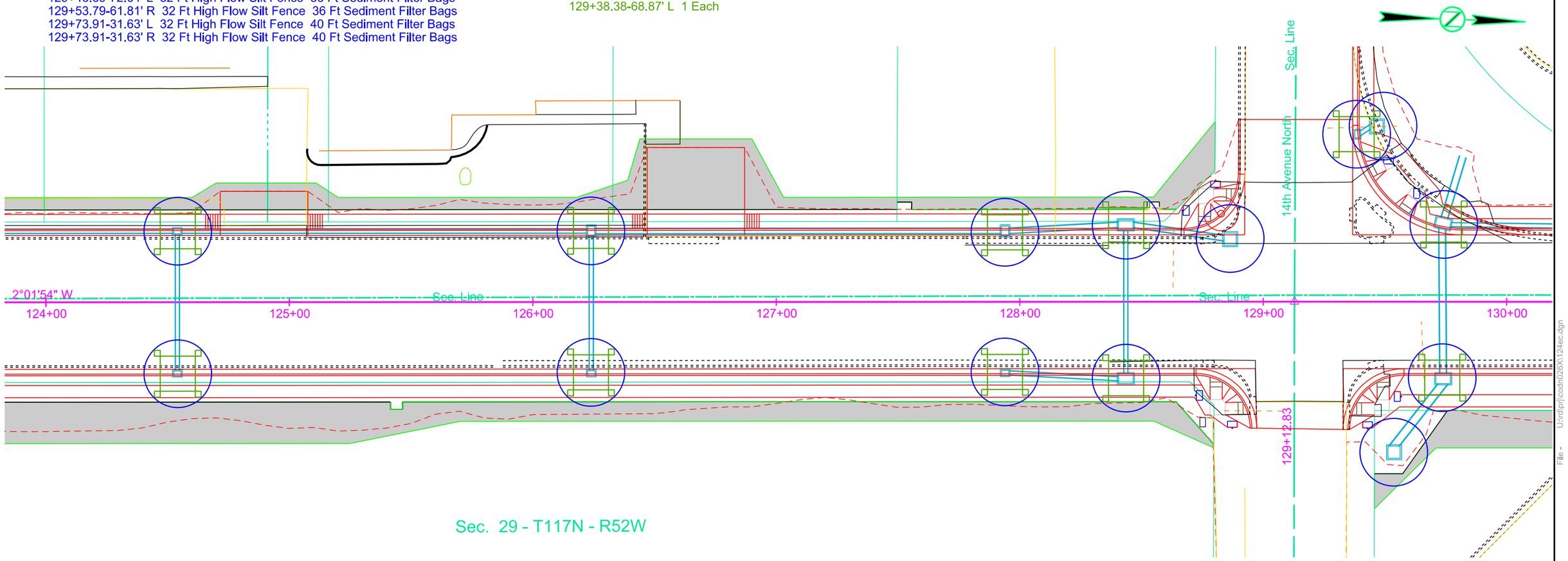
STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	P 0081(93)157	D20	D29

Plotting Date: 09/10/2015

INTERMEDIATE PHASE
Install Interim Sediment Control at Inlets, Manholes, and Junction Boxes before the placement of surfacing at the following locations:
124+54.00-29.17' L 18 Ft High Flow Silt Fence 24 Ft Sediment Filter Bags
124+54.00-29.17' R 18 Ft High Flow Silt Fence 24 Ft Sediment Filter Bags
126+24.00-29.17' L 22 Ft High Flow Silt Fence 32 Ft Sediment Filter Bags
126+24.00-29.17' R 18 Ft High Flow Silt Fence 24 Ft Sediment Filter Bags
127+94.00-29.17' L 22 Ft High Flow Silt Fence 32 Ft Sediment Filter Bags
127+94.00-29.17' R 18 Ft High Flow Silt Fence 24 Ft Sediment Filter Bags
128+43.56-31.63' L 32 Ft High Flow Silt Fence 40 Ft Sediment Filter Bags
128+43.56-31.63' R 32 Ft High Flow Silt Fence 40 Ft Sediment Filter Bags
128+86.45-25.73' L 28 Ft High Flow Silt Fence 36 Ft Sediment Filter Bags
129+38.38-68.87' L 18 Ft High Flow Silt Fence 24 Ft Sediment Filter Bags
129+46.69-72.04' L 32 Ft High Flow Silt Fence 36 Ft Sediment Filter Bags
129+53.79-61.81' R 32 Ft High Flow Silt Fence 36 Ft Sediment Filter Bags
129+73.91-31.63' L 32 Ft High Flow Silt Fence 40 Ft Sediment Filter Bags
129+73.91-31.63' R 32 Ft High Flow Silt Fence 40 Ft Sediment Filter Bags

FINAL PHASE
Install Sediment Control at Inlets with Frames and Grates after the placement of surfacing at the following locations:
124+54.00-29.17' L 1 Each
124+54.00-29.17' R 1 Each
126+24.00-29.17' L 1 Each
126+24.00-29.17' R 1 Each
127+94.00-29.17' L 1 Each
127+94.00-29.17' R 1 Each
129+38.38-68.87' L 1 Each

FINAL PHASE
Install Sediment Control at Type S Drop Inlets after the placement of surfacing at the following locations:
128+43.56-31.63' L 7 Ft
128+43.56-31.63' R 7 Ft
129+73.91-31.63' L 7 Ft
129+73.91-31.63' R 7 Ft



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EROSION AND SEDIMENT CONTROL PLAN

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	P 0081(93)157	D21	D29

Plotting Date: 09/10/2015

INTERMEDIATE PHASE
Install Interim Sediment Control at Inlets, Manholes, and Junction Boxes before the placement of surfacing at the following locations:
131+80.00-29.17' L 18 Ft High Flow Silt Fence 24 Ft Sediment Filter Bags
131+80.00-29.17' R 18 Ft High Flow Silt Fence 24 Ft Sediment Filter Bags
133+80.00-29.17' L 18 Ft High Flow Silt Fence 24 Ft Sediment Filter Bags
133+80.00-29.17' R 18 Ft High Flow Silt Fence 24 Ft Sediment Filter Bags

FINAL PHASE
Install Sediment Control at Inlets with Frames and Grates after the placement of surfacing at the following locations:
131+80.00-29.17' L 1 Each
131+80.00-29.17' R 1 Each
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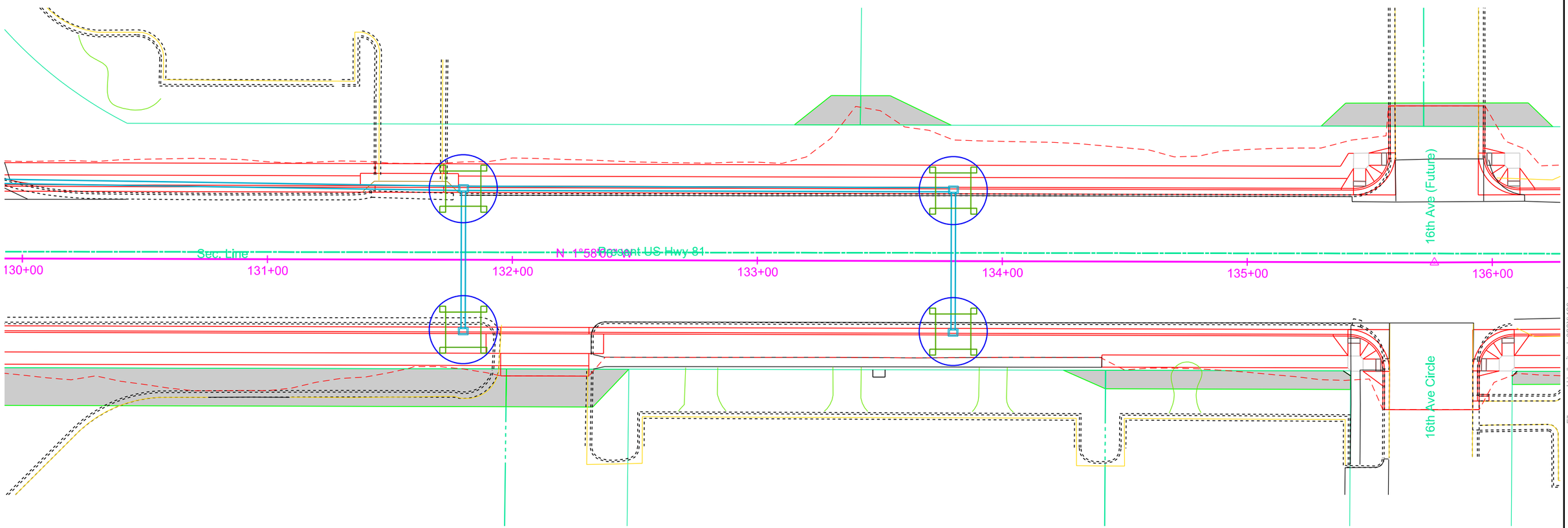

Sec. 20 - T117N - R52W

Plot Scale - 1:40
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EROSION AND SEDIMENT CONTROL PLAN

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	P 0081(93)157	D22	D29

Plotting Date: 09/10/2015

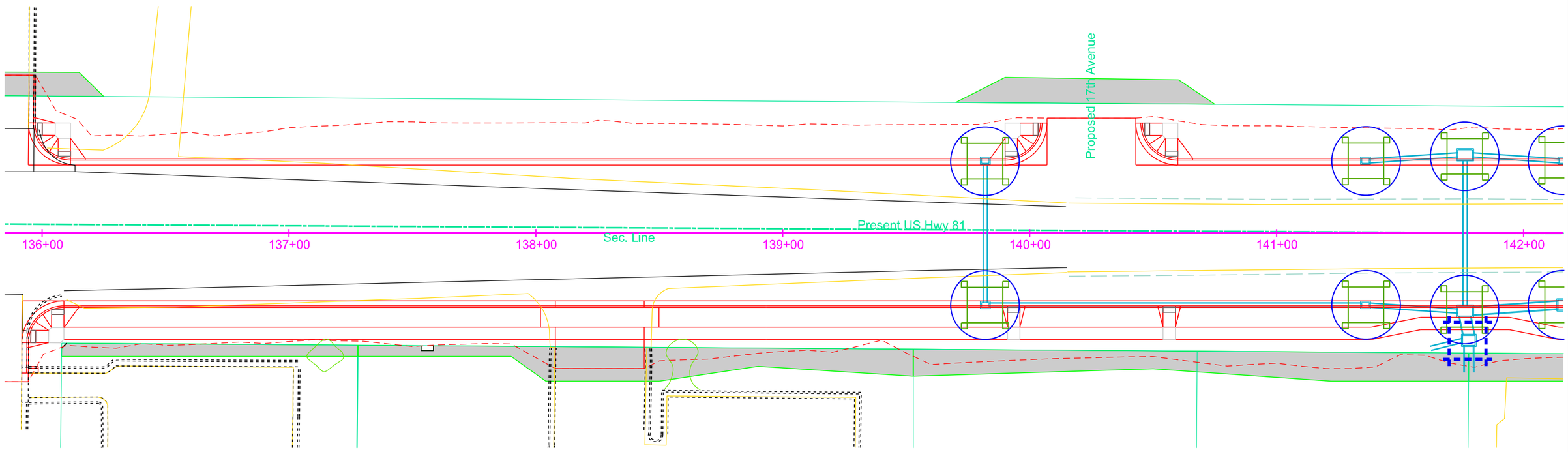
INTERMEDIATE PHASE
Install High Flow Silt Fence
at the following locations
141+77.85-43.50' R Perimeter of Type C Drop Inlet 24 Ft

INTERMEDIATE PHASE
Install Interim Sediment Control at Inlets, Manholes, and
Junction Boxes before the placement of surfacing
at the following locations:
139+82.00-29.17' L 18 Ft High Flow Silt Fence 24 Ft Sediment Filter Bags
139+82.00-29.17' R 18 Ft High Flow Silt Fence 24 Ft Sediment Filter Bags
141+36.00-29.17' L 18 Ft High Flow Silt Fence 24 Ft Sediment Filter Bags
141+36.00-29.17' R 18 Ft High Flow Silt Fence 24 Ft Sediment Filter Bags
141+76.31-31.63' L 32 Ft High Flow Silt Fence 40 Ft Sediment Filter Bags
141+76.31-31.63' R 32 Ft High Flow Silt Fence 40 Ft Sediment Filter Bags

FINAL PHASE
Install Sediment Control at
Inlets with Frames and Grates
after the placement of surfacing
at the following locations:
139+82.00-29.17' L 1 Each
139+82.00-29.17' R 1 Each
141+36.00-29.17' L 1 Each
141+36.00-29.17' R 1 Each

FINAL PHASE
Install Sediment Control at
Type S Drop Inlets
after the placement of surfacing
at the following locations:
141+76.31-31.63' L 7 Ft
141+76.31-31.63' R 7 Ft

Sec. 19 - T117N - R52W



Sec. 20 - T117N - R52W

Plot Scale - 1:40
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EROSION AND SEDIMENT CONTROL PLAN

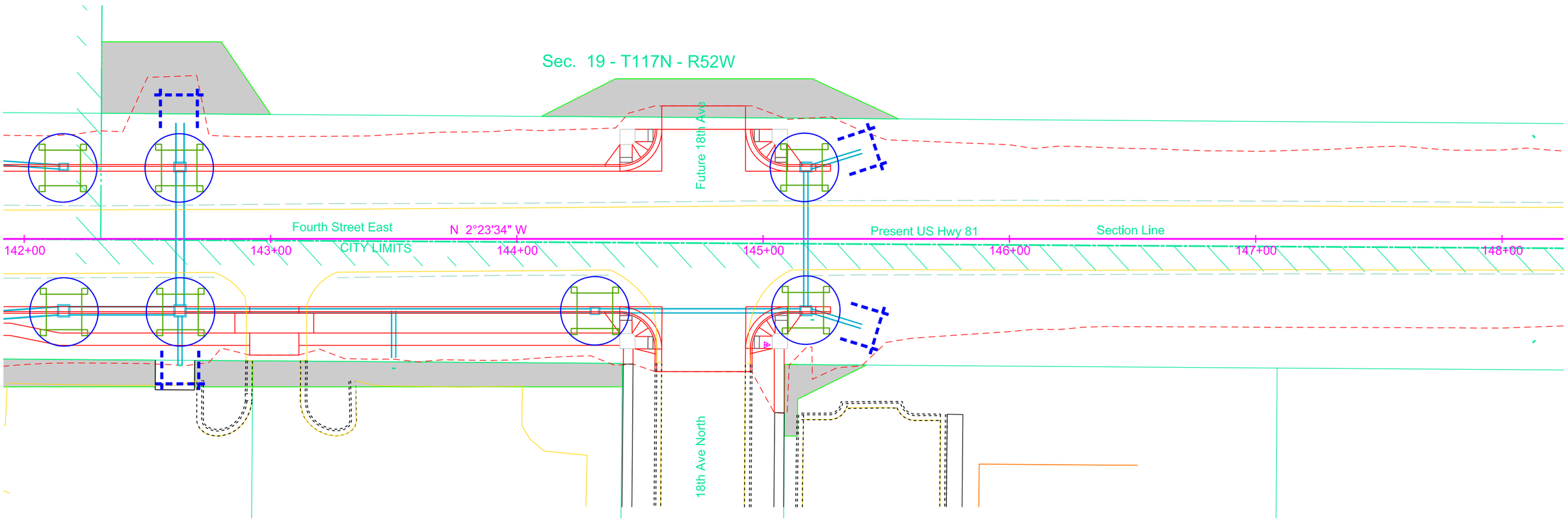
STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	P 0081(93)157	D23	D29

Plotting Date: 09/10/2015

INTERMEDIATE PHASE
Install High Flow Silt Fence
at the following locations:
142+63.24 L Inlet end of pipe 18 Ft
142+63.24 R Inlet end of pipe 18 Ft
145+40 L Inlet end of pipe 18 Ft
145+40 R Inlet end of pipe 18 Ft

INTERMEDIATE PHASE
Install Interim Sediment Control at Inlets, Manholes, and
Junction Boxes before the placement of surfacing
at the following locations:
142+16.00.29.17' L 18 Ft High Flow Silt Fence 24 Ft Sediment Filter Bags
142+16.00-29.17' R 24 Ft High Flow Silt Fence 32 Ft Sediment Filter Bags
142+63.24-29.17' L 22 Ft High Flow Silt Fence 32 Ft Sediment Filter Bags
142+63.24-29.17' R 24 Ft High Flow Silt Fence 32 Ft Sediment Filter Bags
144+31.74-29.17' R 18 Ft High Flow Silt Fence 24 Ft Sediment Filter Bags
145+17.36-29.17' L 22 Ft High Flow Silt Fence 32 Ft Sediment Filter Bags
145+17.36-29.17' R 22 Ft High Flow Silt Fence 32 Ft Sediment Filter Bags

FINAL PHASE
Install Sediment Control at
Inlets with Frames and Grates
after the placement of surfacing
at the following locations:
142+16.00-29.17' L 1 Each
142+16.00-29.17' R 1 Each
142+63.24-29.17' L 1 Each
142+63.24-29.17' R 1 Each
144+31.74-29.17' R 1 Each
145+17.36-29.17' L 1 Each
145+17.36-29.17' R 1 Each



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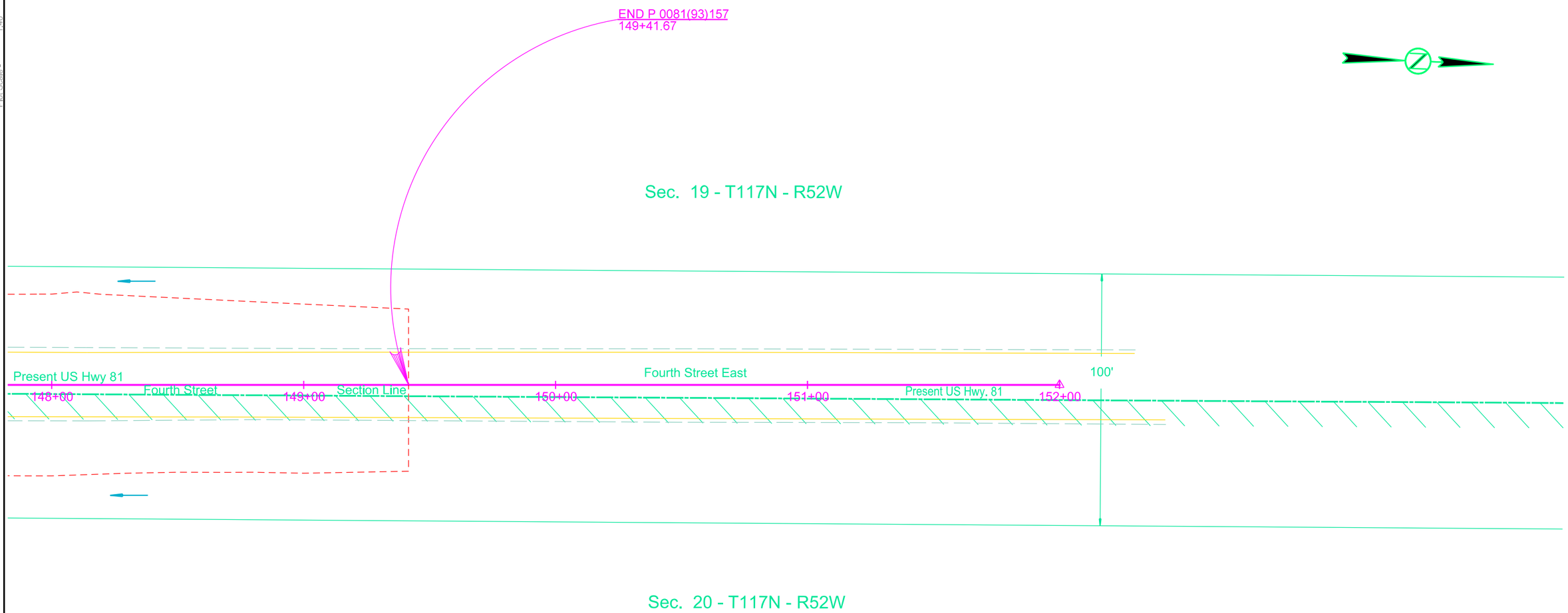
EROSION AND SEDIMENT CONTROL PLAN

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	P 0081(93)157	D24	D29

Plotting Date: 09/10/2015

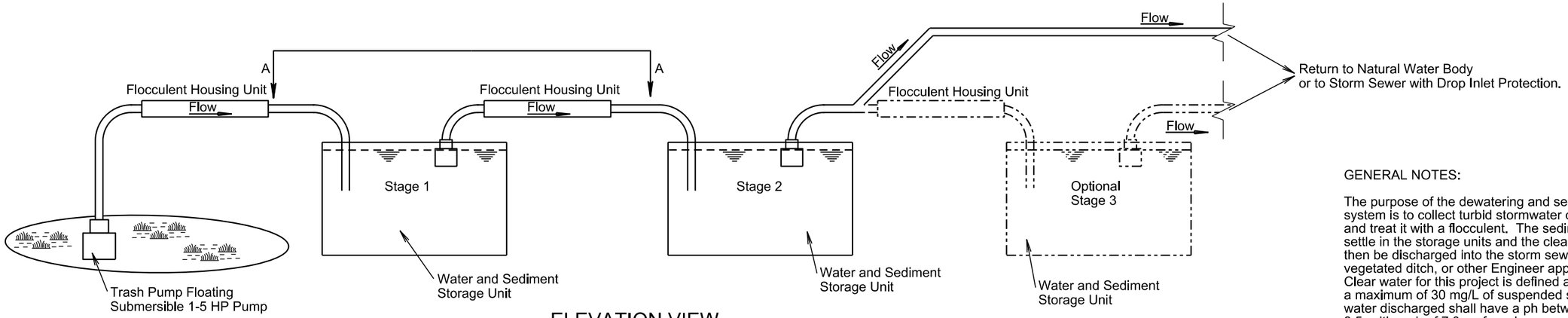


Plot Scale - 1:40
Plotted From - TRPR17200
File - U:\rd\prj\codh\026X\148ec.dgn

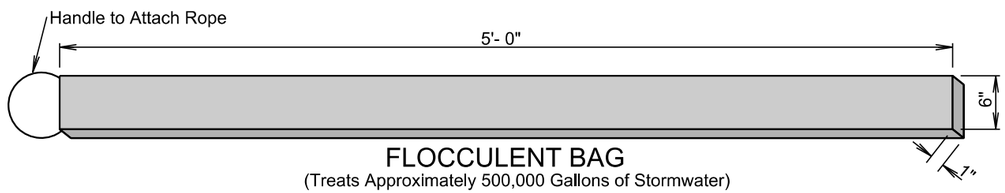
DEWATERING AND SEDIMENT COLLECTION SYSTEM

STATE OF SOUTH DAKOTA	PROJECT	SHEET NO.	TOTAL SHEETS
	P 0081(93)157	D25	D29

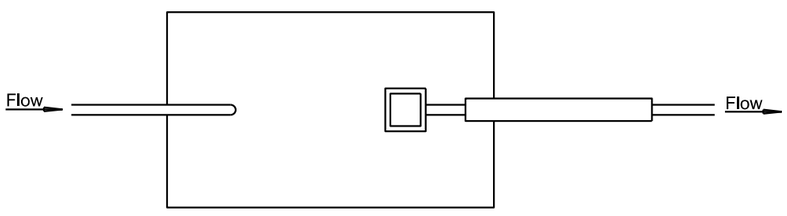
Plotting Date: 09/10/2015



ELEVATION VIEW
CASCADE SYSTEM



FLOCCULENT BAG
(Treats Approximately 500,000 Gallons of Stormwater)



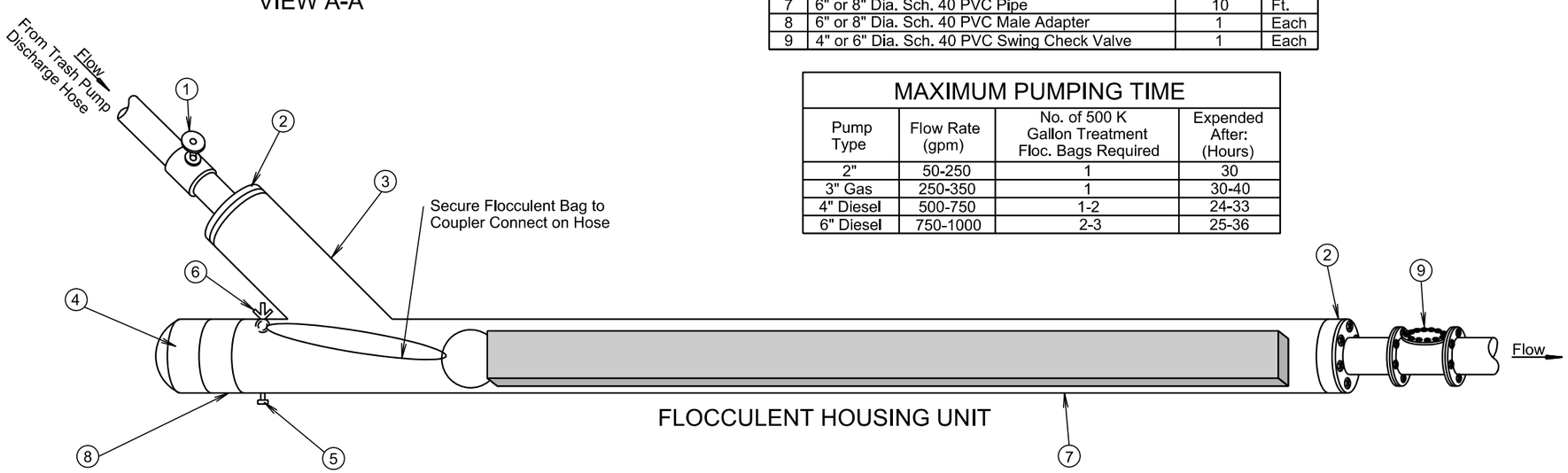
VIEW A-A

FLOCCULENT HOUSING UNIT
(Estimated Quantities)
(For Information Only)

NO.	DESCRIPTION	QUANTITY	UNIT
1	4" or 6" Dia. Sch. 40 Gate Valve	1	Each
2	4" X 6" or 6" X 8" Sch. 40 PVC Bushing	2	Each
3	6" or 8" Dia. Sch. 40 PVC "Y"	1	Each
4	6" or 8" Dia. Sch. 40 PVC Female Threaded Cap	1	Each
5	1" Dia. Sch. 80 PVC Drain Valve	1	Each
6	1/2" Eye Bolt with Wing Nut and Rubber Gromets	1	Each
7	6" or 8" Dia. Sch. 40 PVC Pipe	10	Ft.
8	6" or 8" Dia. Sch. 40 PVC Male Adapter	1	Each
9	4" or 6" Dia. Sch. 40 PVC Swing Check Valve	1	Each

MAXIMUM PUMPING TIME

Pump Type	Flow Rate (gpm)	No. of 500 K Gallon Treatment Floc. Bags Required	Expended After: (Hours)
2"	50-250	1	30
3" Gas	250-350	1	30-40
4" Diesel	500-750	1-2	24-33
6" Diesel	750-1000	2-3	25-36



FLOCCULENT HOUSING UNIT

GENERAL NOTES:

The purpose of the dewatering and sediment collection system is to collect turbid stormwater on the project and treat it with a flocculent. The sediment would then settle in the storage units and the clear water would then be discharged into the storm sewer, lake, stream, vegetated ditch, or other Engineer approved site. Clear water for this project is defined as having a maximum of 30 mg/L of suspended solids. The clear water discharged shall have a ph between 6.1 and 8.5, with a ph of 7.0 preferred.

The drawing of the cascade system is for conceptual purposes only; however, the cascade system shall at a minimum incorporate the use of 2 flocculent housing units and 2 water and sediment storage units.

Design and construction of the water and sediment storage units are project site specific and shall be the Contractor's responsibility. A water and sediment storage unit may consist of a storage bin lined with plastic, the bed of a dump trunk lined with plastic, a sediment basin, or other Engineer approved unit.

The 500,000 gallon treatment flocculent bag shall be a BIOSTAR™ CH product or approved equal. Information concerning the product may be found on the Internet at the following location: http: //www.biostar-ch.com.

All costs for the dewatering and sediment collection system including disposing of sediment collected in the water and sediment storage units, pumping, furnishing and using the water and sediment collection units, labor, materials, and incidentals necessary for the dewatering and sediment collection system shall be incidental to the contract unit price per hour for "Dewatering". Measurement shall be based on the number of hours pumping occurs for the dewatering and sediment collection system.

All costs for using the 500,000 gallon treatment flocculent bag shall be incidental to the contract unit price per each for "500 K Gallon Treatment Flocculent Bag".

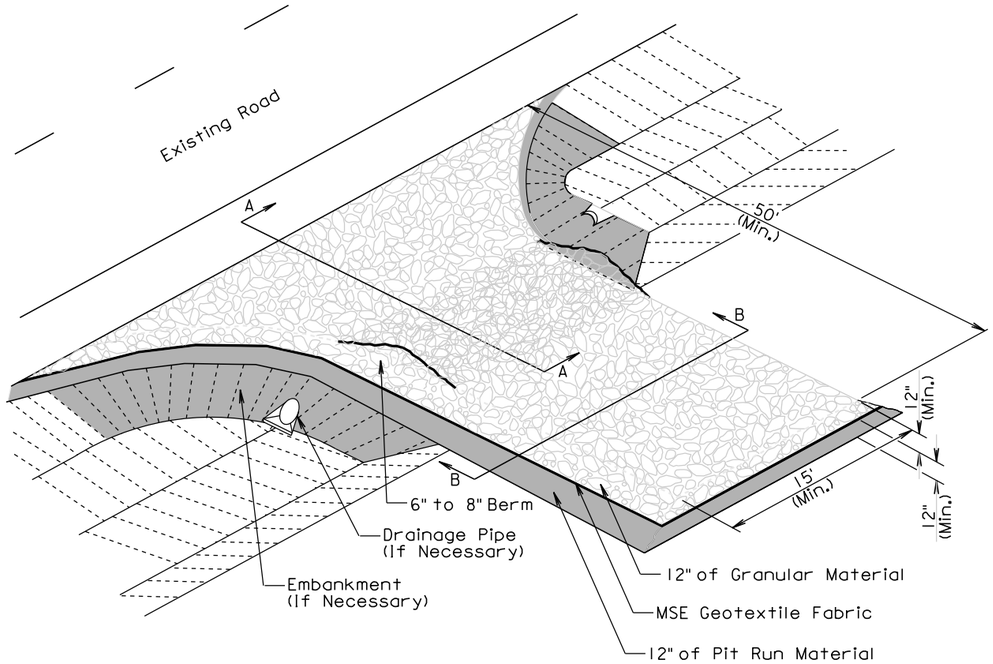
All costs for using the flocculent housing units including all labor, materials, and incidentals shall be incidental to the contract unit price per each for "Flocculent Housing Unit".

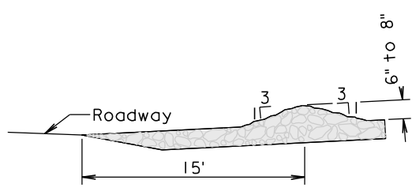
Plot Scale - 1:300
Plotted From - TRPR17200
File - ...\rd\prj\codn026X\Dewatering.dgn

SDDOT CONSTRUCTION ENTRANCE

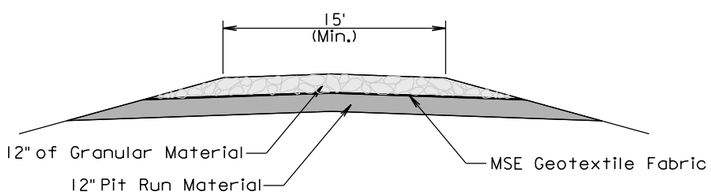
STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	P 0081(93)157	D26	D29

Plotting Date: 09/10/2015

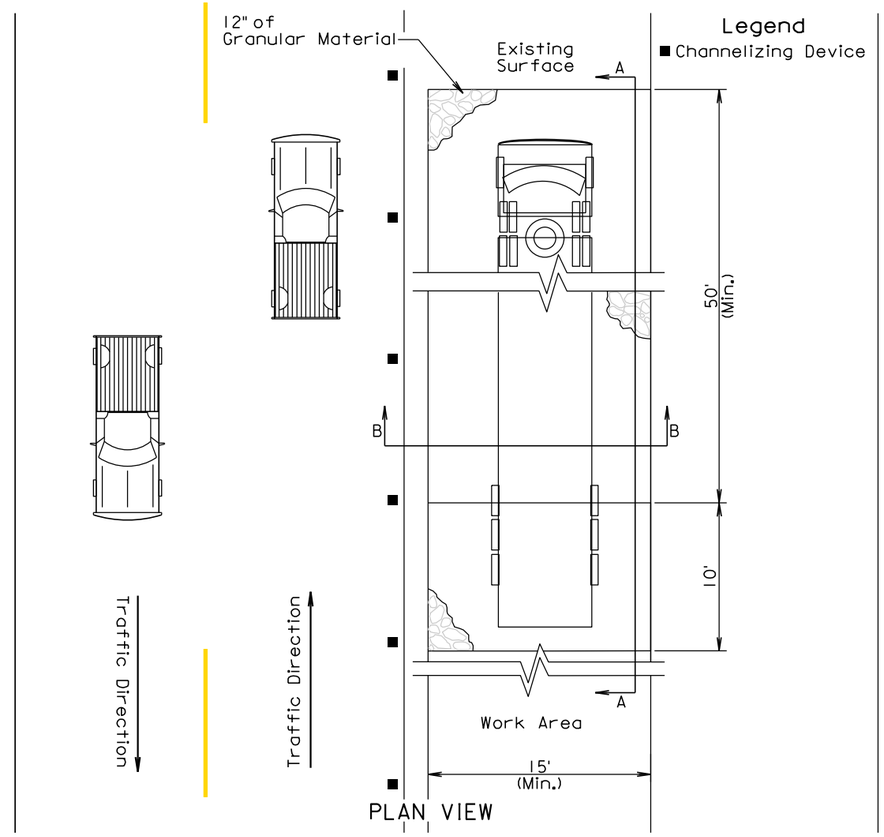




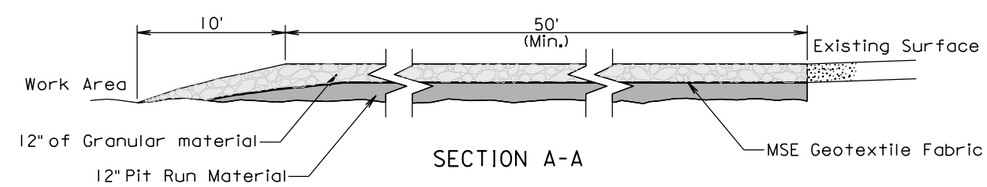
SECTION A-A



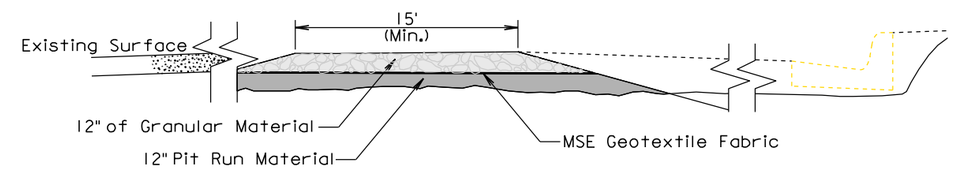
SECTION B-B



PLAN VIEW



SECTION A-A



SECTION B-B

GENERAL NOTES:

If the grade of the entrance slopes down to the roadway, a berm of extra rock shall be used to prevent sediment or mud from being deposited on the roadway. See SECTION A-A.

If a drainage pipe is necessary the size and type shall be determined by the Contractor to meet field conditions. All cost shall be incidental to the various bid items.

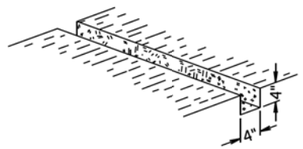
If embankment is necessary it shall be pit run material.

TRANSVERSE TO ROADWAY

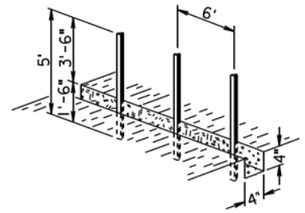
PARALLEL TO ROADWAY

Plot Scale - 1:200
Plotted From - TRPR17200
File - ...\codn026X\Stabilizedconent.dgn

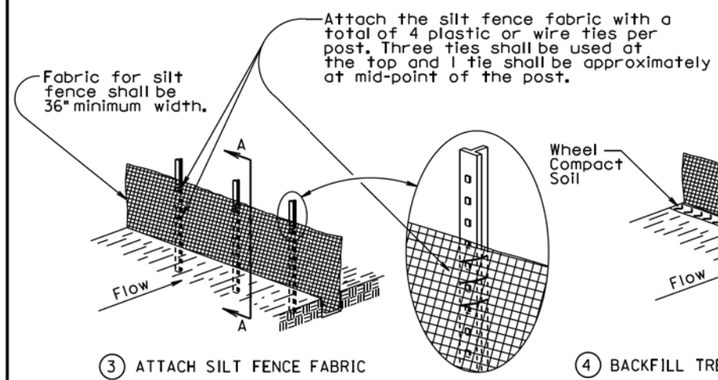
MANUAL HIGH FLOW SILT FENCE INSTALLATION



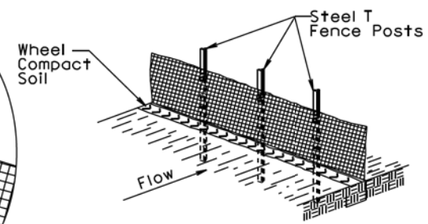
① EXCAVATE TRENCH



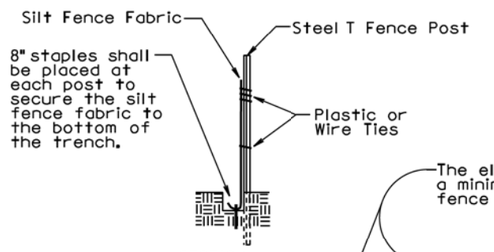
② DRIVE STEEL T FENCE POSTS



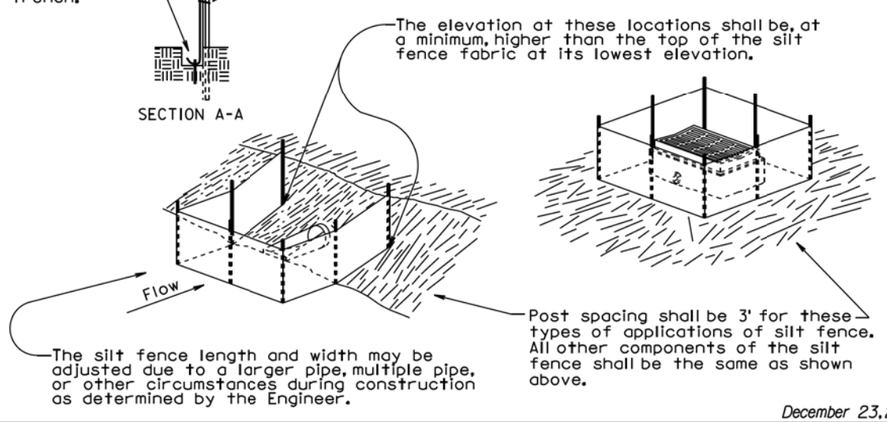
③ ATTACH SILT FENCE FABRIC



④ BACKFILL TRENCH AND WHEEL COMPACT SOIL



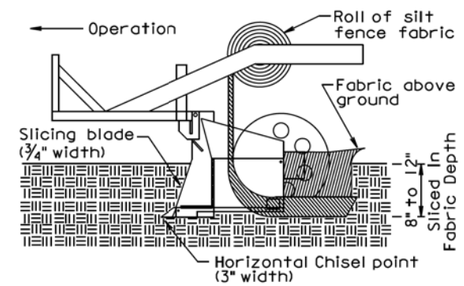
SECTION A-A



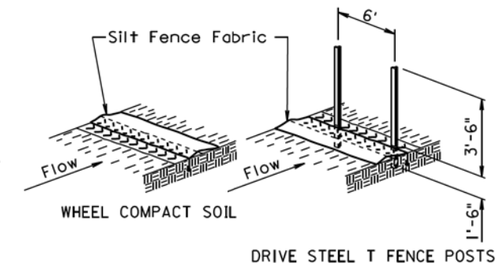
December 23, 2003

Published Date: 3rd Qtr. 2015	SDDOT	HIGH FLOW SILT FENCE	PLATE NUMBER 734.05
			Sheet 1 of 2

MACHINE SLICED HIGH FLOW SILT FENCE INSTALLATION

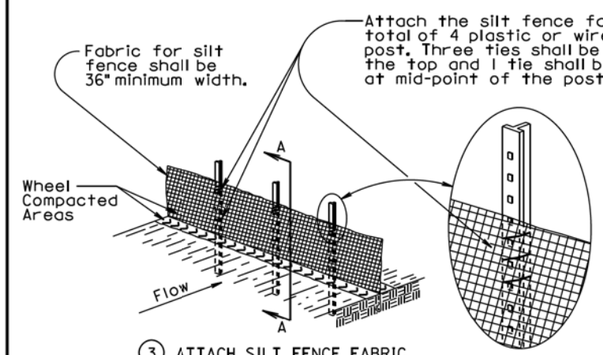


① INSTALL SILT FENCE FABRIC BY MACHINE SLICING METHOD.

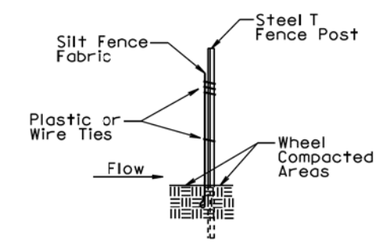


DRIVE STEEL T FENCE POSTS

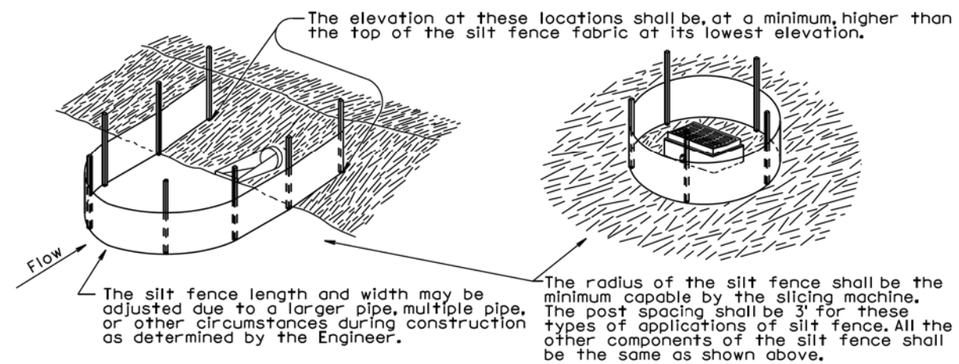
② WHEEL COMPACT SOIL ABOVE SLICED IN PORTION OF FABRIC AND THEN DRIVE STEEL T FENCE POSTS.



③ ATTACH SILT FENCE FABRIC



SECTION A-A



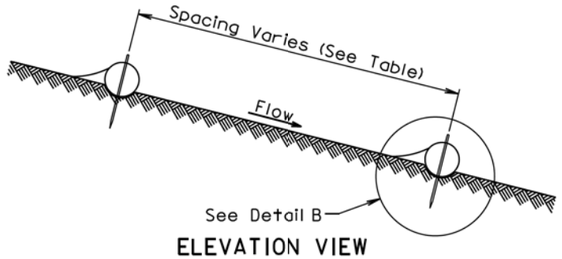
GENERAL NOTE:

If a trench can not be dug or the silt fence fabric can not be sliced in due to the type of earthen material (such as rock), then a row of 30 to 40 pound sandbags butted end to end shall be provided on top of the extra length of silt fence fabric to prevent underflow.

December 23, 2003

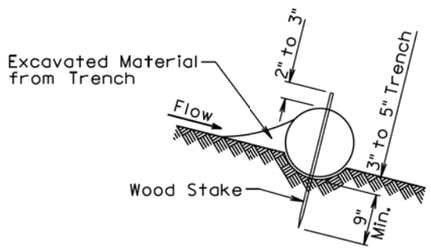
Published Date: 3rd Qtr. 2015	SDDOT	HIGH FLOW SILT FENCE	PLATE NUMBER 734.05
			Sheet 2 of 2

Plot Scale - 1:200
Plotted From - TRPR17200
File - ...\coadn026\Xts73405_1\s73405_2.dgn

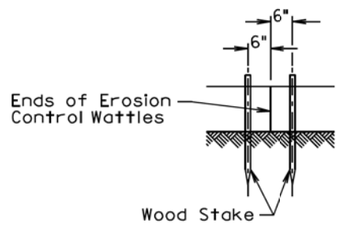


ELEVATION VIEW
CUT OR FILL SLOPE INSTALLATION

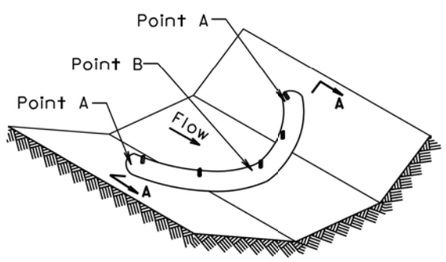
CUT OR FILL SLOPE INSTALLATION	
Slope	Spacing (Ft)
1:1	10
2:1	20
3:1	30
4:1	40



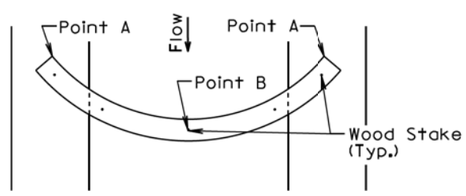
DETAIL B
(TYPICAL OF ALL INSTALLATIONS)



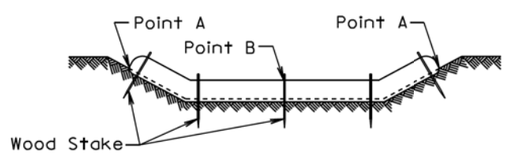
DETAIL C



ISOMETRIC VIEW
DITCH INSTALLATION



PLAN VIEW
DITCH INSTALLATION



SECTION A-A

DITCH INSTALLATION	
Grade	Spacing (Ft)
2%	150
3%	100
4%	75
5%	50

December 23, 2004

Published Date: 3rd Qtr. 2015 | SDDOT | EROSION CONTROL WATTLE | PLATE NUMBER 734.06 | Sheet 1 of 2

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 5" trench, install the wattle tightly in the trench so that daylight can not 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 stakes shall be 1"x2" or 2"x2" wood stakes, however, other types of stakes such as rebar may be used only if approved by the Engineer. The stakes shall be placed 6" from the ends of the wattles and the spacing of the stakes along the wattles shall be 3' to 4'.

Where installing running lengths of wattles, the Contractor shall butt the second wattle tightly against the first and shall not overlap the ends. 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 1/2". The Contractor shall remove, dispose, or reshape the accumulated sediment when necessary as determined by the Engineer.

Sediment removal, disposal, or necessary shaping shall be as directed by the Engineer. All costs for removing accumulated sediment, disposal of sediment, and necessary shaping shall be incidental 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".

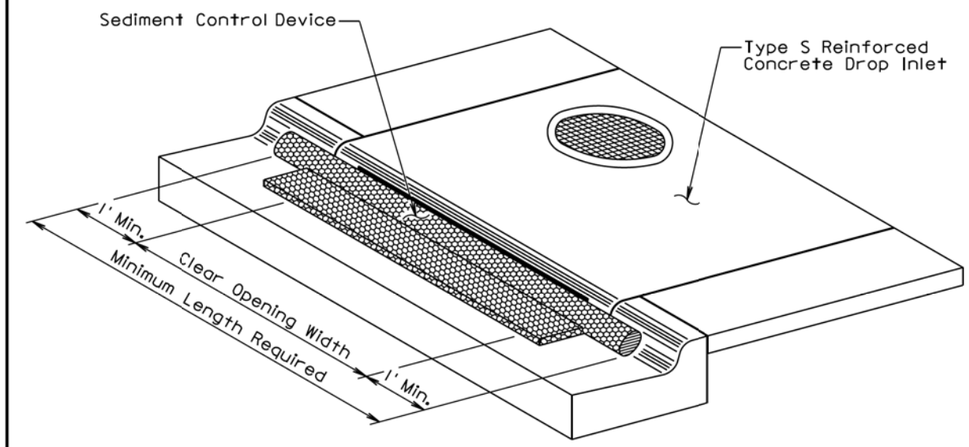
December 23, 2004

Published Date: 3rd Qtr. 2015 | SDDOT | EROSION CONTROL WATTLE | PLATE NUMBER 734.06 | Sheet 2 of 2

Plot Scale - 1:200
- Plotted From - TRPR17200
File - ...\codn026X\s73406_1s73406_2.dgn

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	P 0081(93)157	D29	D29

Plotting Date: 09/10/2015



ISOMETRIC VIEW

GENERAL NOTES:

The type of sediment control device shown is for illustrative purposes only.

The type of sediment control device used shall be one of the types as specified in the plans.

The sediment control device shall be placed at the drop inlets according to the manufacturers' installation instructions.

The sediment control at inlet for type S reinforced concrete drop inlet shall be placed at locations stated in the plans or at locations determined by the Engineer.

The Contractor shall inspect and maintain the sediment control device once every week and within 24 hours after every rainfall event. The Contractor shall maintain the sediment control device by removing the device, removing accumulated sediment, and resetting the device.

The removed sediment shall be placed at a location away from the drop inlet where the sediment will not be washed back into the drop inlet or other storm sewer system.

Payment for the "Sediment Control at Type S Drop Inlet" shall be based on the minimum length required at the drop inlets. Some of the sediment control devices specified in the plans will have to be longer due to available length.

All costs for furnishing, installing, inspecting, maintaining, removing, and resetting the sediment control device at the drop inlet including labor, equipment, and materials shall be incidental to the contract unit price per foot for "Sediment Control at Type S Reinforced Concrete Drop Inlet".

September 14, 2005

Published Date: 3rd Qtr. 2015	SDDOT	SEDIMENT CONTROL AT INLETS FOR TYPE S REINFORCED CONCRETE DROP INLETS	PLATE NUMBER 734.11
			Sheet 1 of 1

Plot Scale - 1:200
Plotted From - TRPR17200
File - U:\rd\prj\codn026X\s73411_1.dgn