STATE OF SOUTH DAKOTA	PROJECT	SHEET NO.	TOTAL SHEETS
	P 3804(16)256	1	264

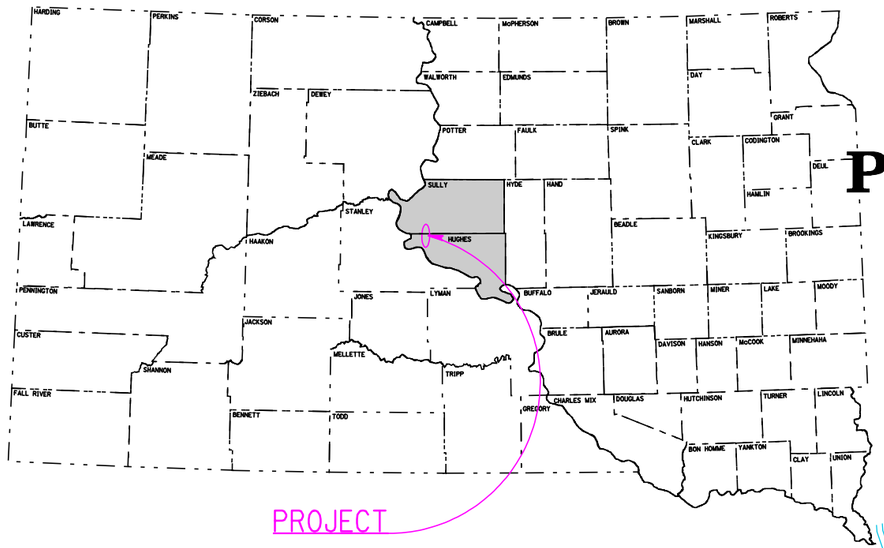
Plotting Date: 14-DEC-2006 Revised 12-14-06 MLW

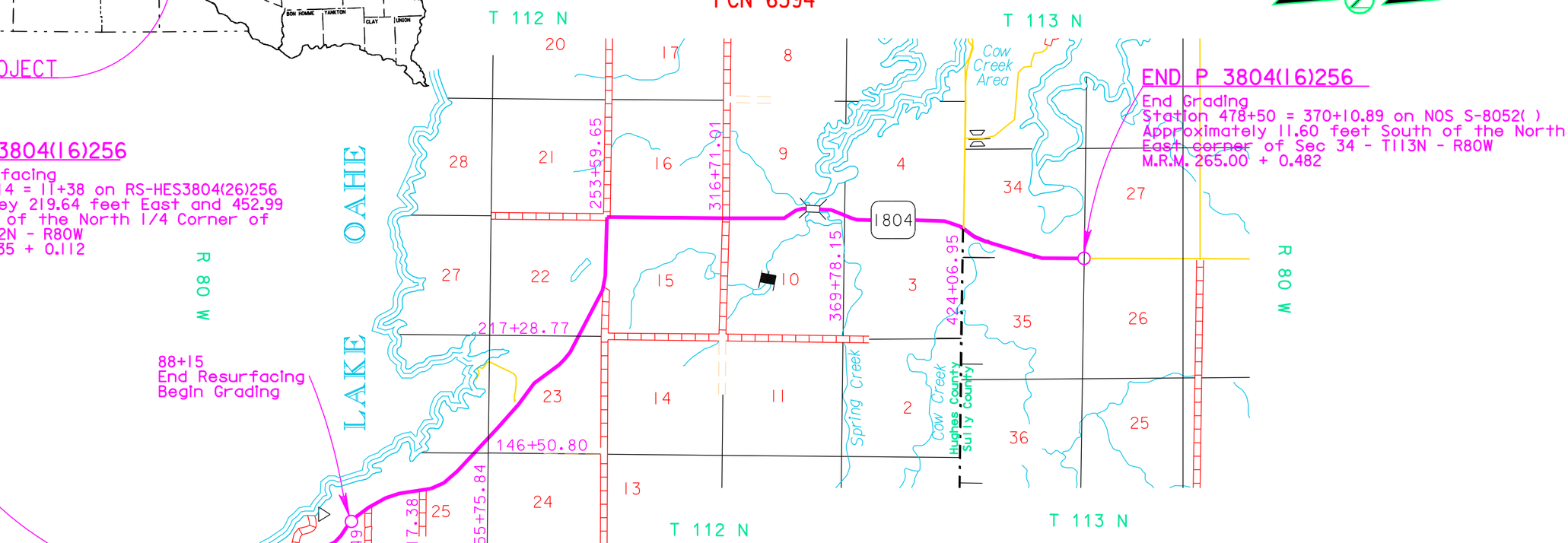
STATE OF SOUTH DAKOTA
DEPARTMENT OF TRANSPORTATION
PLANS FOR PROPOSED

PROJECT NO. P 3804(16)256
S.D. HIGHWAY No. 1804
HUGHES /SULLY COUNTY

Grading, Shoulder Widening,
A/C Surfacing, AC Overlay & Structures
PCN 6394

INDEX OF SECTIONS





BEGIN P 3804(16)256

Begin Resurfacing
Station 11+14 = 11+38 on RS-HES3804(26)256
Approximatley 219.64 feet East and 452.99 feet South of the North 1/4 Corner of Sec 6 - T112N - R80W
M.R.M. = 256.35 + 0.112

88+15
End Resurfacing
Begin Grading

END P 3804(16)256

End Grading
Station 478+50 = 370+10.89 on NOS S-8052( )
Approximately 11.60 feet South of the North East ~~corner~~ of Sec 34 - T113N - R80W
M.R.M. 265.00 + 0.482

DESIGN DESIGNATION

ADT (2005)	1150
ADT (2025)	1462
DHV	255
D	50%
T DHV	4.4%
T ADT	9.6%
V	70mph

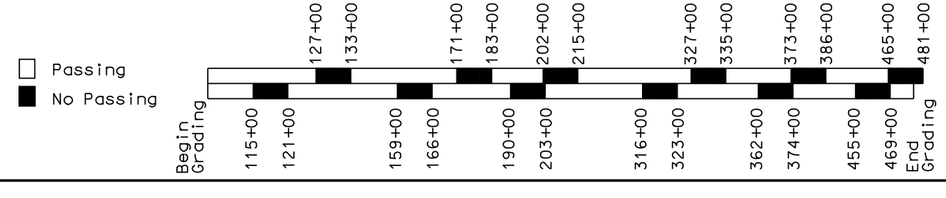
STORM WATER PERMIT

SCALES

	RURAL	SUBURBAN	URBAN
PLAN	1"=200'	1"=100'	1"=40'
PROFILE, HORIZONTAL:	1"=200'	1"=100'	1"=40'
PROFILE, VERTICAL:	1"=20'	1"=20'	1"=10'
CROSS SECTIONS, HORIZONTAL:	1"=40'	1"=20'	1"=20'
CROSS SECTIONS, VERTICAL:	1"=20'	1"=10'	1"=10'

GROSS LENGTH	46775.00 FEET	8.859 MILES
LENGTH OF EXCEPTIONS	0.00 FEET	0.000 MILES
NET LENGTH	46775.00 FEET	8.859 MILES
LENGTH OF RESURFACING	7740.00 FEET	1.466 MILES
LENGTH OF GRADING	39035.00 FEET	7.393 MILES

Striping Diagram



This striping diagram is for informational purposes only. Actual striping for passing/no passing zones should be determined by field verified procedures.

1

PLOT SCALE - 200.000000:1.000000

PLOTTED FROM - TRPR17198

PLOT NAME - 1

FILE - U:\RD\PRJ\HUGH6394\TITLE.DGN

PIPE FOR APPROACHES, INTERSECTING ROADS, AND DOWNSPOUTS

Class II reinforced concrete pipe and high density polyethylene pipe may be substituted for corrugated metal pipe at approaches and intersecting roads (County and Township roads only) at no additional cost to the State. The Contractor shall get written approval through the County or Township prior to placement of high density polyethylene pipe at the intersecting roads.

High density polyethylene pipe may be substituted for corrugated metal pipe downspouts at no additional cost to the State. All necessary connections and transitions shall be approved by the Engineer.

Acceptance of high density polyethylene pipe will be by certification.

The end sections for the high density polyethylene pipe shall be metal, conform to the type of end section as shown in the plans, and be compatible with the high density polyethylene pipe.

WASTE DISPOSAL SITE

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

Construction/demolition debris may not be disposed of within the State ROW.

The waste disposal site(s) shall be managed and reclaimed in accordance with the following from the General Permit for Highway, Road, and Railway 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 Engineer.

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

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

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

The above requirements will not apply to waste disposal sites that are covered by an individual solid waste permit as specified in SDCL 34A-6-58, SDCL 34A-6-1.13, and ARSD 74:27:10:06.

Failure to comply with the requirements stated above may result in civil penalties in accordance with South Dakota Solid Waste Law, SDCL 34A-6-1.31.

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

WATERWAY PROTECTION FOR TEMPORARY WORKS

Below the ordinary high water elevation within the waterway; no excavation shall be made outside of caissons, cribs, cofferdams, steel piling, or sheeting; and the natural streambed shall not be disturbed without permission from the Engineer. The ordinary high water elevation for the project is 1618.3 at Sta. 355+65 and 1631.1 at Sta. 454+12.

All dredged or excavated materials shall be placed at a site above the ordinary high water elevation in a confined area (not classified as a wetland) to prevent return of such material to the waterway.

The construction of temporary work platforms or berms below the ordinary high water elevation will be allowed provided that all material placed below the ordinary high water elevation consists of Class B or larger riprap. All fill material shall be free of toxic pollutants in toxic amounts.

All temporary caissons, cribs, cofferdams, steel piling, sheeting, work platforms, and berms shall be removed with minimal disturbance to the streambed. Proper construction practices shall be used to minimize increases in suspended solids and turbidity in the waterway.

Bridge berms, wing dams, traffic diversions, channel reconstruction, grading, etc. shall be constructed in close conformity with the plans to ensure that the hydraulic capacity of the waterway is not changed.

Costs for installation and removal of all temporary works shall be incidental to related contract items and no separate payment will be made.

TRAFFIC DIVERSIONS

The traffic diversion is located at Sta. 453+15-R. The traffic diversions shall be constructed according to Section 4.4.A. of the Standard Specifications. Installation and removal of the traffic diversions shall meet all requirements as set forth in the South Dakota Surface Water Quality Standards.

The traffic diversion shall be constructed according to the geometric layouts shown in the plans with the temporary drainage structure provided in the following table. The temporary structure size is designed to pass the design flood frequency flows without overtopping the traffic diversion grade, and to minimize potential upstream flooding. It is also sized to meet FEMA requirements where applicable. The structure shall be placed with the flowline elevation at the low channel bed elevation. If the Contractor proposes to use a different size drainage structure and/or a different geometric layout for the temporary diversion, the proposal must be submitted to the Engineer during the project preconstruction meeting. This information shall be forwarded to the SDDOT Hydraulics Office for review. No construction of the traffic diversion is allowed until approval of the proposal is obtained from the Hydraulics Office.

Table of Temporary Drainage Structures in Traffic Diversions:

Traffic Diversion Location	Design Flood Frequency	Temporary Structure Option 1	Temporary Structure Option 2	Temporary Structure Option 3
453+15-R	2-yr	1-54” CMP	2-36” CMP	3-36” CMP

Traffic diversions in waterways shall be constructed such that any material placed below the ordinary high water elevation (estimated as elevation 1631.1 at Sta. 453+15 in the 404 application) shall conform to the requirements of Class B or C riprap. The quantity of riprap used in the traffic diversion is included in the quantity for “Class B Riprap” or “Class C Riprap” as shown in the Section E-Structures estimate of quantities. The quantity of riprap used for the traffic diversion shall be reused as riprap for the structures and all costs incurred to place and remove the riprap at the traffic diversion and subsequently place the riprap at the structures shall be incidental to the contract unit price per ton for “Class B Riprap” or “Class C Riprap”. The traffic diversion shall be built in close conformity to the plan gradeline. Unless otherwise shown in the plans, the traffic diversion shall be removed such that the original ground surface is restored and the hydraulic capacity of the waterway is maintained. The removal shall be done in such a manner that there is minimal disturbance to the riverbed.

The removed traffic diversion embankment shall be used in the mainline embankment unless otherwise approved by the Engineer.

Added Traffic Diversion Excavation as shown on the plans profile sheets is the excavation required to construct the traffic diversion portion that is located outside the mainline cross section work limits. The Added Traffic Diversion Excavation quantity is added to the unclassified excavation quantity in the Table of Excavation Quantities by Balances.

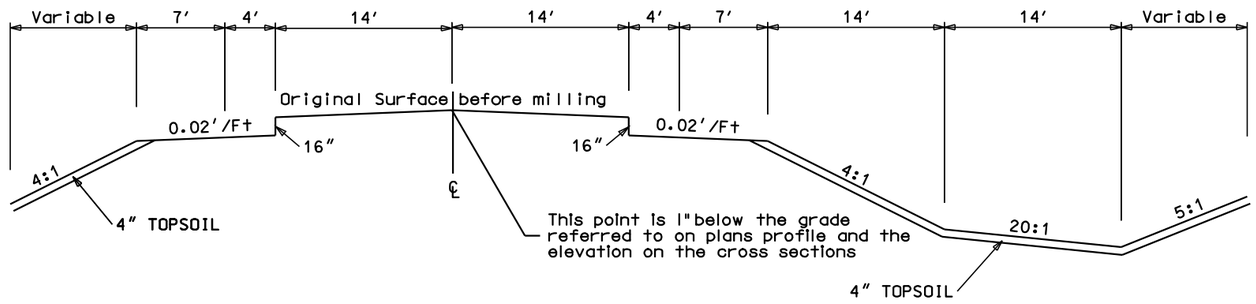
TYPICAL GRADING SECTIONS

STATE OF SOUTH DAKOTA	PROJECT	SHEET NO.	TOTAL SHEETS
	P 3804(16)256	B12	B63

Plotting Date: 13-SEP-2006

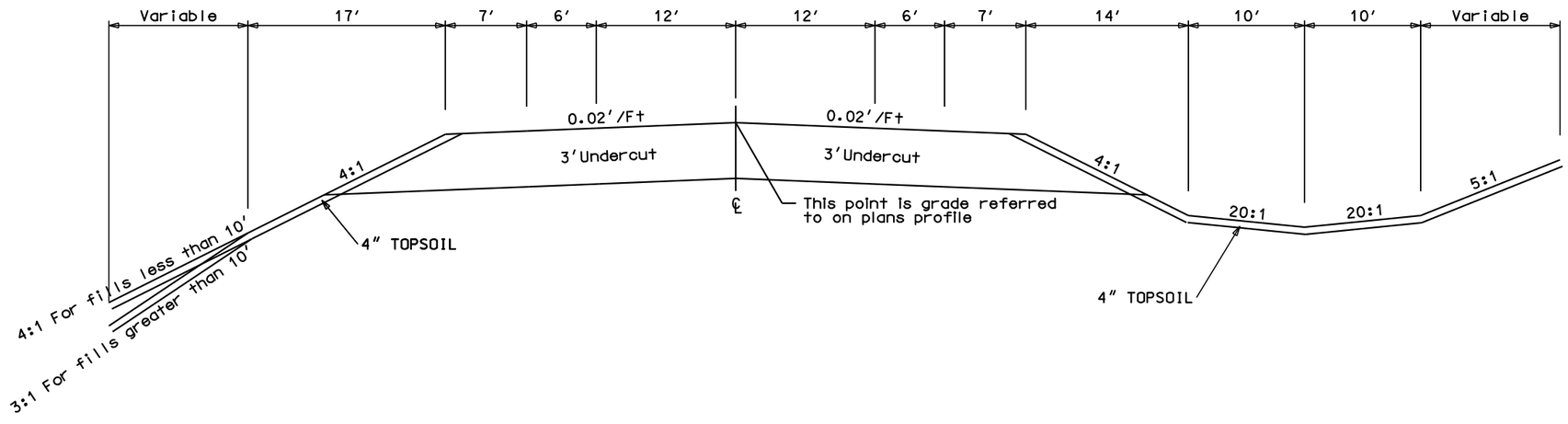
Shoulder Widening

88+15 to 249+00



Grading

249+00 to 255+00
266+90 to 288+50
327+50 to 381+00
408+50 to 415+60
440+00 to 478+50



Transition:
255+00 to 260+20
261+70 to 266+90
415+60 to 420+80
434+75 to 440+00

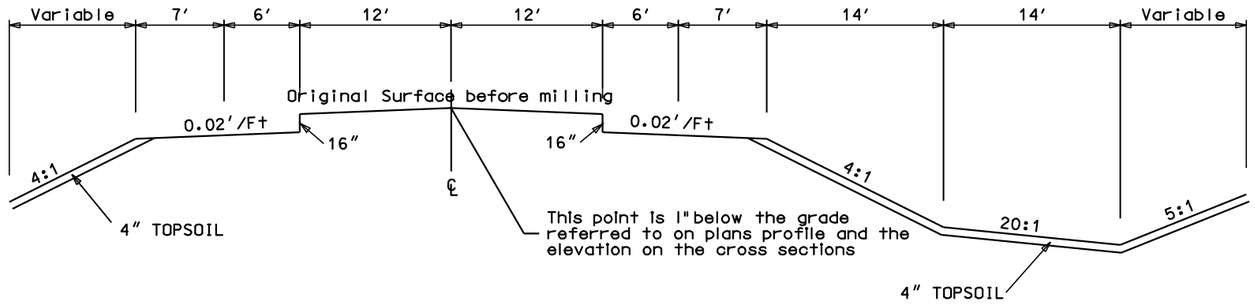
TYPICAL GRADING SECTIONS

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	P 3804(16)256	B13	B63

Plotting Date: 13-SEP-2006

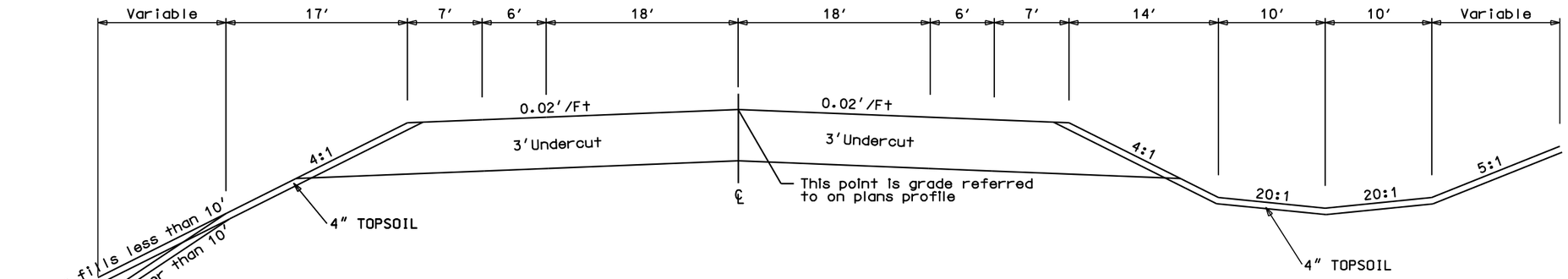
Shoulder Widening

288+50 to 327+50
381+00 to 408+50



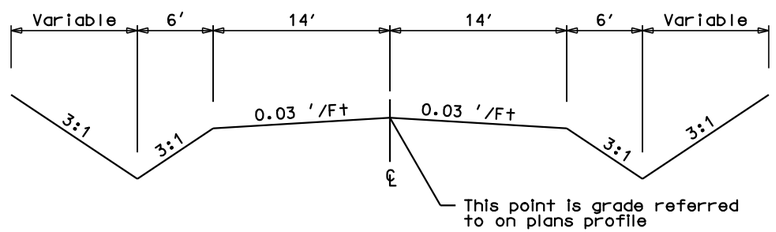
Grading

260+20 to 261+70
420+80 to 434+75



Traffic Diversion

449+22.22 to 456+97.54
(0+00 to 8+60.66 Diversion)



SECTION D: EROSION AND SEDIMENT CONTROL PLANS

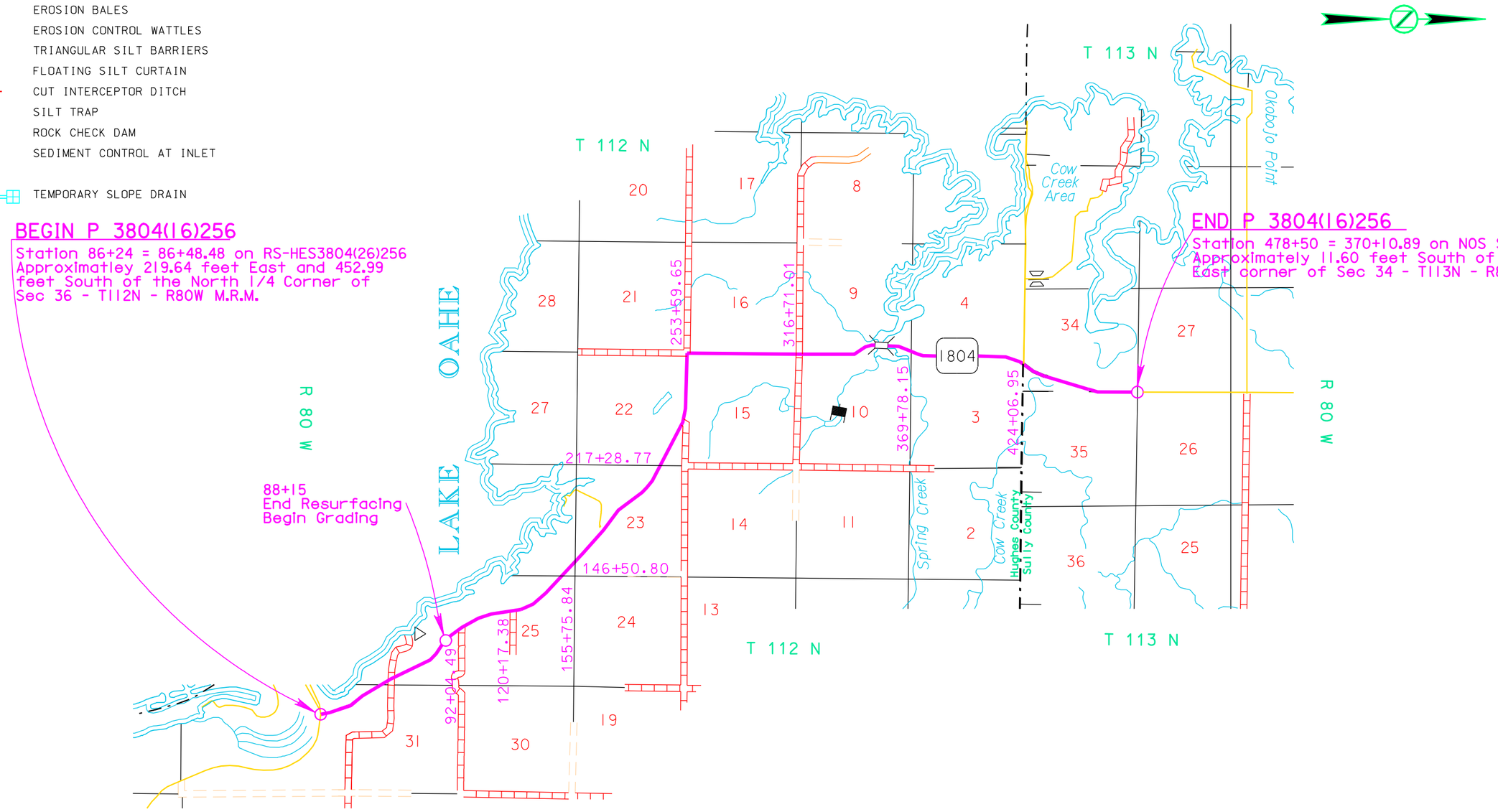
STATE OF SOUTH DAKOTA	PROJECT	SHEET NO.	TOTAL SHEETS
	P 3804(16)256	D1	D25

Plotting Date: 29-NOV-2006

LEGEND

- TYPE 1 EROSION CONTROL BLANKET
- TYPE 2 EROSION CONTROL BLANKET
- TYPE 3 EROSION CONTROL BLANKET
- TYPE 4 EROSION CONTROL BLANKET
- LOW FLOW SILT FENCE
- HIGH FLOW SILT FENCE
- TYPE 1 TURF REINFORCEMENT MAT
- TYPE 2 TURF REINFORCEMENT MAT
- TYPE 3 TURF REINFORCEMENT MAT
- EROSION BALES
- EROSION CONTROL WATTLES
- TRIANGULAR SILT BARRIERS
- FLOATING SILT CURTAIN
- CUT INTERCEPTOR DITCH
- SILT TRAP
- ROCK CHECK DAM
- SEDIMENT CONTROL AT INLET
- TEMPORARY SLOPE DRAIN

INDEX OF SHEETS



SECTION D ESTIMATE OF QUANTITIES

Bid Item Number	Item	Quantity	Unit
110E1700	Remove Silt Fence	638	Ft
230E0010	Placing Topsoil	49,676	CuYd
730E0100	Cover Crop Seeding	28.0	Bu
730E0200	Type A Permanent Seed Mixture	1,998	Lb
732E0100	Mulching	278.0	Ton
734E0102	Type 2 Erosion Control Blanket	2,378	SqYd
734E0103	Type 3 Erosion Control Blanket	9,694	SqYd
734E0154	12" Diameter Erosion Control Wattle	2,530	Ft
734E0510	Shaping for Erosion Control Blanket	6,790	Ft
734E0602	Low Flow Silt Fence	1,350	Ft
734E0604	High Flow Silt Fence	1,200	Ft
734E0610	Mucking Silt Fence	708	CuYd
734E0620	Repair Silt Fence	638	Ft

CONTOUR LINES

The contour lines as shown in the erosion and sediment control plan details depict the original ground contours.

CRITICAL AREAS

The locations labeled in the Erosion and Sediment Control plan sheets are environmentally sensitive areas. Extra measures should be taken to ensure water quality standards. Additional quantities of Erosion Control Wattles, Low Flow Silt Fence, High Flow Silt Fence, Hay or Straw Mulch, and Type 2 Erosion Control Blanket have been added for temporary erosion control measures. No additional payment will be made for Critical Areas.

RAPID STABILIZATION

These areas are environmentally sensitive and are denoted in the plans to make all aware of sensitive areas during construction. Areas of Rapid Stabilization shall be installed within 48 hours of completion of temporary or final stabilization. All other areas not denoted shall be stabilized within the time frame stated in the SWPPP. No additional payment will be made for items requiring Rapid Stabilization.

PLACING TOPSOIL

The thickness will be approximately 4 inches within the right-of-way and 6 inches on temporary easements. The topsoil thickness for the option borrow pits shall be as stated on the option borrow pit sheets.

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

Station	to	Station	Topsoil (CuYd)
88+15	Begin	100+00	826
100+00		130+00	6,533
130+00		160+00	2,356
160+00		190+00	1,846
190+00		220+00	2,075
220+00		250+00	3,773
250+00		280+00	5,223
280+00		310+00	1,520

PLACING TOPSOIL (CONTINUED)

310+00	340+00	1,368
340+00	370+00	8,442
370+00	400+00	2,684
400+00	430+00	3,869
430+00	460+00	4,583
460+00	478+50 End	2,180
	Subtotal:	47,278
	Option Borrow Pit No. 1	2,398
	Subtotal:	2,398
	Total:	49,676

DRILLS

In addition to the drills specified in Section 730 of the Standard Specifications, other types of drills including no-till drills will be allowed as long as the seed is planted at a depth of ¼" to ½" .

FERTILIZING

Application of fertilizer is not required on this project because the SDDOT is using native grasses in the seed mixtures.

PERMANENT SEEDING

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

All permanent seed shall be planted in the topsoil at a depth of ¼" to ½".

All seed broadcast must be raked or dragged in (incorporated) within the top ¼" to ½" of topsoil when possible. This requirement may be waived by the Engineer during construction when raking or dragging is deemed not feasible by conventional methods.

South Dakota native grown seed is an acceptable alternative to any of the seed varieties listed below. South Dakota native grown seeds used as an alternative shall conform to the same specification and requirements for that individual seed type.

Type A Permanent Seed Mixture shall consist of the following:

Grass Species	Variety	Pure Live Seed (PLS) (Pounds/Acre)
Western Wheatgrass	Flintlock, Rodan, Rosana	7
Green Needlegrass	Lodorm	4
Sideoats Grama	Butte, Killdeer, Pierre, Trailway	3
Blue Grama	Bad River, Willis	2
Canada Wildrye	Mandan	2
	Total:	18

COVER CROP SEEDING

Cover crop seeding may be used on this project as a temporary erosion control measure. The quantity of cover crop seeding was estimated at 25% of the disturbed earthen areas. The actual limits and use of cover crop seeding shall be determined by the Engineer during construction.

MULCHING (GRASS HAY OR STRAW)

Bales with noxious weed contamination will be rejected and the Contractor will be required to remove the contaminated bales from the project.

An additional 44 tons of Grass Hay or Straw Mulch has been added to the Estimate of Quantities for temporary erosion control on areas determined by the Engineer during construction for temporary stabilization.

EROSION CONTROL WATTLE

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

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

An additional quantity of 300 feet of 12" Diameter Erosion Control Wattles has been added to the Estimate of Quantities for temporary erosion and sediment control.

The erosion control wattle provided shall be from the list shown below:

Product	Manufacturer
Curlex Sediment Log AEC Premier Straw Wattles	American Excelsior Company Arlington, TX Phone: 1-800-777-7645 www.amerexcel.com
Aspen Fiber Logs and Straw Logs	Western Excelsior Corporation Mancos, CO Phone: 1-800-833-8573 www.westernexcelsior.com
Earth Saver Rice Straw Wattles	R.H. Dyck Inc. Winters, CA Phone: 1-530-795-4751 www.earth-savers.com
Bio Logs	Flaxtech, LLC Rock Lake, ND Phone: 1-866-444-3529 www.flaxtech.com
Stenlog	ECB Bioproducts St. Andrews, MB Phone: 1-866-317-3346 www.erosioncontrolblanket.com

STATE OF SOUTH DAKOTA	PROJECT	SHEET NO.	TOTAL SHEETS
	P 3804(16)256	D3	D25

TABLE OF EROSION CONTROL WATTLE

Station	L/R	Diameter (Inch)	Quantity (Ft)	Remarks
90+00 ACROSS DITCH	L	12	30	
92+00 ACROSS DITCH	L	12	30	
116+00 ACROSS DITCH	R	12	30	
118+00 ACROSS DITCH	R	12	30	
148+00 ACROSS DITCH	L	12	30	
150+00 ACROSS DITCH	R	12	30	
160+00 ACROSS DITCH	L	12	30	
162+00 ACROSS DITCH	L	12	30	
164+00 ACROSS DITCH	L	12	30	
207+50 ACROSS DITCH	R	12	30	
209+00 ACROSS DITCH	R	12	30	
209+50 ACROSS DITCH	L	12	30	
214+00 ACROSS DITCH	L	12	30	
215+00 ACROSS DITCH	L	12	30	
216+00 ACROSS DITCH	L	12	30	
224+00 ACROSS DITCH	L	12	30	
224+00 ACROSS DITCH	R	12	30	
226+00 ACROSS DITCH	L	12	30	
228+00 ACROSS DITCH	L	12	30	
247+50 ACROSS DITCH	L	12	30	
248+50 ACROSS DITCH	L	12	30	
249+50 ACROSS DITCH	L	12	30	
250+50 ACROSS DITCH	L	12	30	
260+00 ACROSS DITCH	L	12	30	
263+00 ACROSS DITCH	R	12	30	
264+00 ACROSS DITCH	R	12	30	
267+00 ACROSS DITCH	R	12	30	
270+00 ACROSS DITCH	R	12	30	
272+00 ACROSS DITCH	R	12	30	
274+00 ACROSS DITCH	L	12	30	
274+00 ACROSS DITCH	R	12	30	
276+00 ACROSS DITCH	L	12	30	
276+00 ACROSS DITCH	R	12	30	
280+00 ACROSS DITCH	R	12	30	
337+50 ACROSS DITCH	L	12	30	
337+50 ACROSS DITCH	R	12	30	
338+25 ACROSS DITCH	L	12	30	
339+50 ACROSS DITCH	R	12	30	
340+00 ACROSS DITCH	R	12	30	
340+50 ACROSS DITCH	L	12	30	
341+00 ACROSS DITCH	R	12	30	
341+50 ACROSS DITCH	L	12	30	
365+00 ACROSS DITCH	L	12	30	
344+00 ACROSS DITCH	L	12	30	
345+50 ACROSS DITCH	L	12	30	
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350+00 ACROSS DITCH	L	12	30	
350+00 ACROSS DITCH	R	12	30	
351+50 ACROSS DITCH	L	12	30	
351+50 ACROSS DITCH	R	12	30	
353+00 ACROSS DITCH	L	12	30	
353+00 ACROSS DITCH	R	12	30	
355+65 BOX CULVERT		12	200	*

TABLE OF EROSION CONTROL WATTLE (CONTINUED)

366+50 ACROSS DITCH	L	12	30	
368+00 ACROSS DITCH	L	12	30	
448+00 ACROSS DITCH	L	12	30	
449+00 ACROSS DITCH	L	12	30	
450+00 ACROSS DITCH	L	12	30	
453+15 BOX CULVERT		12	200	*
ADDITIONAL QUANTITY		12	300	
		Total:	2,180	

* RAPID STABILIZATION

LOW FLOW SILT FENCE

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

http://www.state.sd.us/Applications/HC54ApprovedProducts/main.asp

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

An additional 300 feet of Low Flow Silt Fence has been added to the Estimate of Quantities for temporary sediment control.

TABLE OF LOW FLOW SILT FENCE

Station	Location	Quantity (Ft)	Remarks
355+65	INLET AND OUTLET ENDS OF BOX CULVERT (150 FT EACH END)	300	*
453+15	INLET AND OUTLET ENDS OF BOX CULVERT (150 FT EACH END)	300	*
431+50 R TO 434+00 R	PROTECT CREEK	250	
441+50 R TO 443+50 R	PROTECT CREEK	200	
	ADDITIONAL QUANTITY	300	
		1,350	

* RAPID STABILIZATION

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://www.state.sd.us/Applications/HC54ApprovedProducts/main.asp

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 240 feet of High Flow Silt Fence has been added to the Estimate of Quantities for temporary sediment control.

TABLE OF HIGH FLOW SILT FENCE

Station	Location	Quantity (Ft)
88+20 L	INLET END OF PIPE	18
102+31 R	INLET END OF PIPE	18
106+37 L	INLET END OF PIPE	18
111+19 R	ACROSS DITCH AT INLET END OF PIPE (30 FT EACH SIDE)	60
120+29 R	INLET END OF PIPE	18
135+97 R	INLET END OF PIPE	18
151+18 L	INLET END OF PIPE	18
155+18 R	INLET END OF PIPE	18
160+95 R	INLET END OF PIPE	18
175+06 R	INLET END OF PIPE	18
187+18 L	INLET END OF PIPE	18
210+17 L	INLET END OF PIPE	18
217+44 R	INLET END OF PIPE	18
217+74 R	INLET END OF PIPE	18
219+18 L	INLET END OF CATTLE PASS (30 FT EACH SIDE)	60
234+18 L	INLET END OF PIPE	18
241+78 L	INLET END OF PIPE	18
253+35 L	INLET END OF PIPE	18
261+50 L	ACROSS DITCH AT INLET END OF PIPE	30
13+37 (Redden Drive)	INLET END OF PIPE (30 FT EACH SIDE)	60
290+55 R	INLET END OF PIPE	18
294+89 R	INLET END OF PIPE (30 FT EACH SIDE)	60
316+70-42' R	INLET END OF PIPE	18
316+70-125' R & Ahead	INLET END OF PIPE	18
338+56 R	ACROSS DITCH AT INLET END OF PIPE	30
344+06 R	INLET END OF PIPE	18
353+94 L	ACROSS DITCH AT INLET END OF PIPE	30

TABLE OF HIGH FLOW SILT FENCE (CONTINUED)

354+69 R	ACROSS DITCH AT INLET END OF PIPE	30
364+00 L	INLET END OF PIPE	18
371+92 L	INLET END OF PIPE	18
373+30 R	INLET END OF PIPE	18
395+33 R	INLET END OF PIPE	18
409+28 L	INLET END OF PIPE	18
422+14 L	INLET END OF PIPE	18
424+80 R	INLET END OF PIPE	18
431+07 R	INLET END OF PIPE	18
434+62 L	INLET END OF PIPE	18
446+98 R	INLET END OF PIPE	18
454+12 L	ACROSS DITCH AT INLET END OF PIPE	30
454+12 R	ACROSS DITCH AT INLET END OF PIPE	30
	ADDITIONAL QUANTITY	240
	Total:	1,200

REMOVE SILT FENCE

Silt fence shall be removed when vegetation is established. Some or all of the silt fence may be left on the project until vegetation is established. Quantities for all silt fence left in place will be deducted from the quantity for the bid item "Remove Silt Fence".

EROSION CONTROL BLANKET

Erosion control blanket shall be installed 16 feet wide in ditch channels at the locations noted in the table and at locations determined by the Engineer during construction.

Refer to Standard Plate 734.01 for general guidelines for installation of erosion control blanket in ditch channels.

The Contractor shall install erosion control blanket according to the manufacturer's installation instructions.

An additional quantity of 600 SqYd of Type 2 Erosion Control Blanket and an additional quantity of 1,500 SqYd of Type 3 Erosion Control Blanket have been added to the Estimate of Quantities for temporary erosion control.

TABLE OF EROSION CONTROL BLANKET

Station	to	Station	L/R	Type	Location	Quantity (SqYd)
263+00		273+00	L	2	Ditch Channel	1,778
342+00		353+90	R	3	Ditch Channel	2,116
342+00		343+75	R	3	Ditch Channel	1,173
344+40		353+50	R	3	Ditch Channel	910
357+00		363+60	L	3	Ditch Channel	173
455+00		468+00	L	3	Ditch Channel	2,311
456+50		465+00	R	3	Ditch Channel	1,511
ADDITIONAL QUANTITY				2		600
ADDITIONAL QUANTITY				3		1,500

Total Type 2 Erosion Control Blanket:	2,378
Total Type 3 Erosion Control Blanket:	9,694

SHAPING FOR EROSION CONTROL BLANKET

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

All costs for shaping the ditches for erosion control blanket including labor and equipment shall be incidental to the contract unit price per foot for "Shaping for Erosion Control Blanket".

STATE OF SOUTH DAKOTA	PROJECT	SHEET NO.	TOTAL SHEETS
	P 3804(16)256	D5	D25

STORM WATER POLLUTION PREVENTION PLAN

*(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** 160 **(4.2 1.b.)**
- **Total Area To Be Disturbed** 111 Acres **(4.2 1.b.)**
- **Existing Vegetative Cover (%)** 60
- **Soil Properties:** AASHTO Soil Classification A6 **(4.2 1. d.)**
- **Name of Receiving Water Body/Bodies** Spring Creek, Cow Creek, Missouri 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 sheet).
- **Install stabilized construction entrance(s).**
- **Install perimeter protection where runoff sheets from the site.**
- **Install channel and ditch bottom protection.**
- **Clearing and grubbing.**
- **Remove and store topsoil.**
- **Stabilize disturbed areas.**
- **Install utilities, storm sewers, curb and gutter.**
- **Install inlet and culvert protection after completing storm drainage and other utility installations.**
- **Complete final grading.**
- **Complete final paving and sealing of concrete.**
- **Complete traffic control installation and protection devices.**
- **Reseed areas disturbed by removal activities**.

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

(Check all that apply)

- **Stabilization Practices (See Detail Plan Sheets)**
  - ☒ Temporary or Permanent Seeding
  - ☐ Sodding
  - ☐ Planting
  - ☒ Mulching (Straw or Cellulose Fiber)
  - ☒ Erosion Control Blankets or Mats
  - ☐ Vegetation Buffer Strips
  - ☐ Roughened Surface (e.g. tracking)
  - ☒ Gabions-Gabion Mattress
  - ☐ Other
- **Structural Temporary Erosion and Sediment Controls**
  - ☒ Silt Fence
  - ☐ Straw Bale Check
  - ☐ Temporary Berm
  - ☐ Temporary Slope Drain
  - ☒ Straw Wattles or Rolls
  - ☐ Diversion Channels/Swales
  - ☐ Channel Liners (TRM)
  - ☐ Stone Rip Rap Sheet
  - ☐ Rock Check Dams
  - ☐ Sediment Traps/Basins
  - ☐ Inlet Protection
  - ☐ Outlet Protection
  - ☐ Surface Inlet Protection
  - ☐ Curb Inlet Protection
  - ☐ Stabilized Construction Entrances
  - ☐ 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 Section 3 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.
- **Maintenance and Inspection Practices(Continued)**
  - 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

❖ 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, 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.

➢ Product Specific Practices (6.8) (Continued)

- 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 Response (4.2 2 c.(2)) (Continued)

- 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 reportable spill is a quantity of 25 gallons or more or any spill of oil which: 1) violates water quality standards, 2) produces a "sheen" on a surface water, or 3) causes a sludge or emulsion must be reported immediately to the National Response Center .
- Any spill of oil or hazardous substance to waters of the state must be reported immediately by telephone to the SD DENR.

❖ 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.

❖ 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.

Dave Graves

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:
- Address:
- City: State: Zip:
- Office Phone: Field: Cell: Fax:

➢ SDDOT Project Engineer

- Name: Jim Hyde
- Business Address: 104 S Garfield Bldg A
- Job Office Location Pierre Area Office
- City: Pierre State: SD Zip: 57501
- Office Phone: (605)773-5294 Field: Cell: 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.

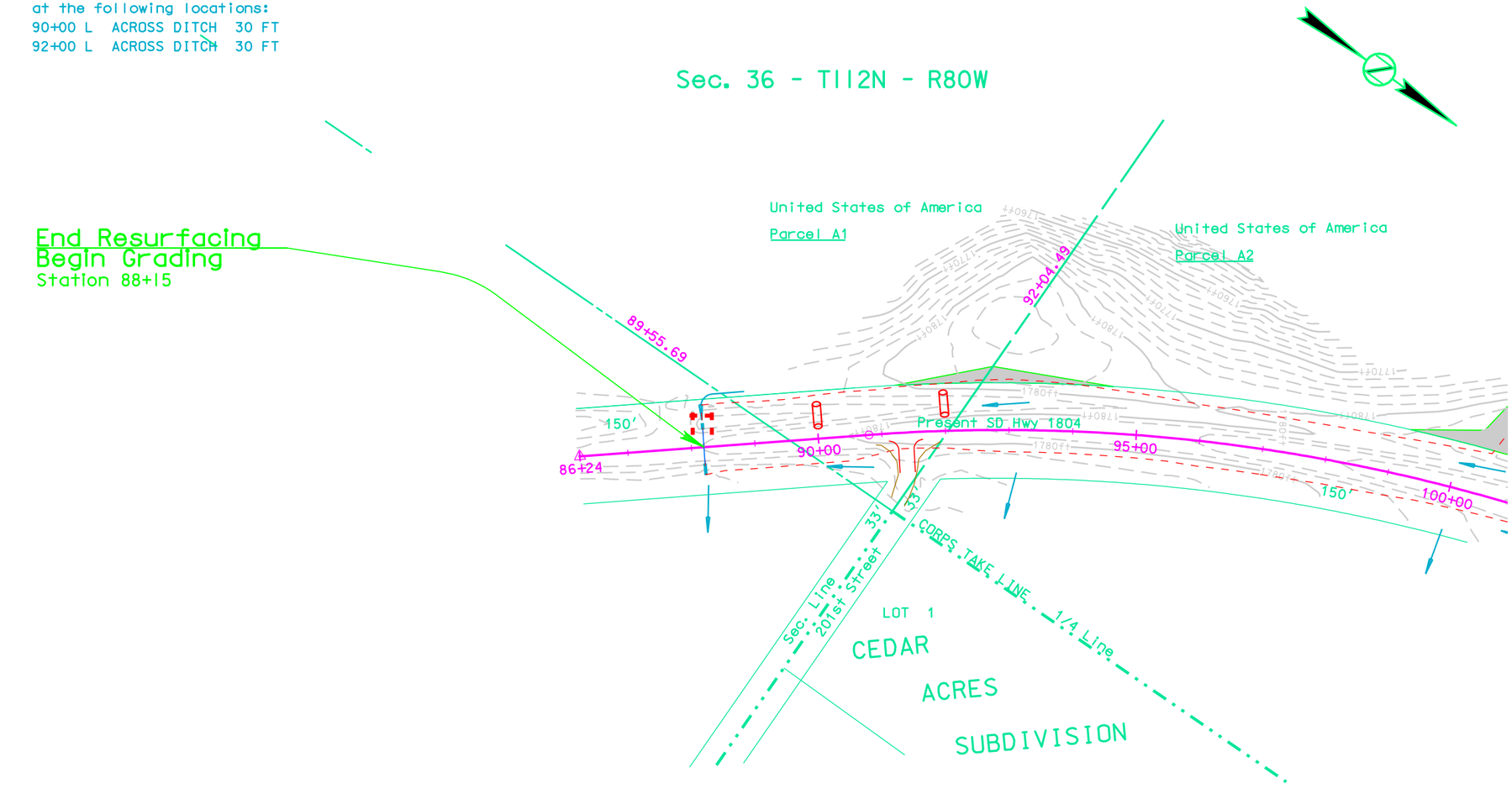
EROSION AND SEDIMENT CONTROL PLAN

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	P 3804(16)256	D8	D25

Plotting Date: 29-NOV-2006

Install High Flow Silt Fence
at the following locations:
88+20 L INLET END OF PIPE 18 FT

Install 12" Diameter Erosion Control Wattles
in the Highway Ditch Channel Bottom
at the following locations:
90+00 L ACROSS DITCH 30 FT
92+00 L ACROSS DITCH 30 FT



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EROSION AND SEDIMENT CONTROL PLAN

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	P 3804(16)256	D9	D25

Plotting Date: 29-NOV-2006
Revised 05-11-06 MLW

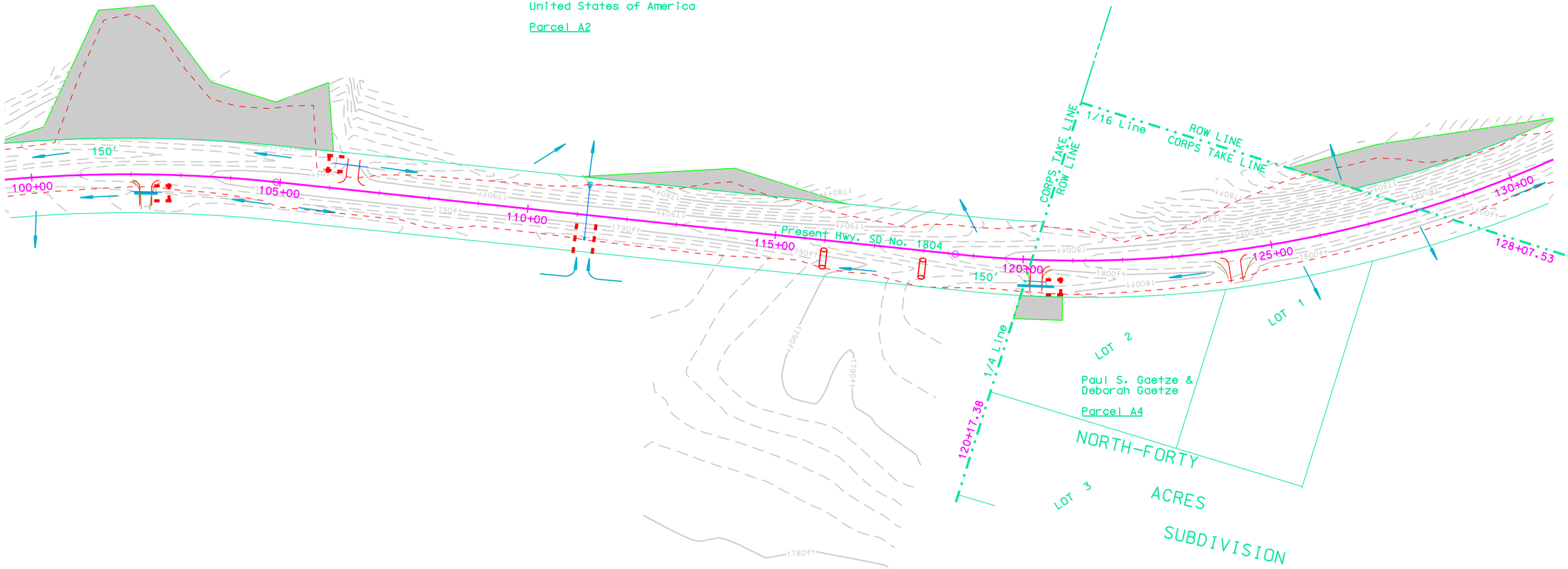
Install High Flow Silt Fence
at the following locations:
102+31 R INLET END OF PIPE 18 FT
106+37 L INLET END OF PIPE 18 FT
111+19 R ACROSS DITCH AT INLET END OF PIPE (30 FT EACH END) 60 FT
120+29 R INLET END OF PIPE 18 FT

Install 12" Diameter Erosion Control Wattles
in the Highway Ditch Channel Bottom
at the following locations:
116+00 R ACROSS DITCH 30 FT
118+00 R ACROSS DITCH 30 FT

Sec. 25 - T112N - R80W

United States of America
Parcel A2

United States of America
Parcel A3



EROSION AND SEDIMENT CONTROL PLAN

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	P 3804(16)256	D10	D25

Plotting Date: 29-NOV-2006

Install High Flow Silt Fence
at the following locations:
135+97 R INLET END OF PIPE 18 FT
151+18 L INLET END OF PIPE 18 FT
155+18 R INLET END OF PIPE 18 FT

Install 12" Diameter Erosion Control Wattles
in the Highway Ditch Channel Bottom
at the following locations:
148+00 L ACROSS DITCH 30 FT
150+00 R ACROSS DITCH 30 FT

Sec. 26 - T112N - R80W

United States of America
Parcel A3

ROW LINE
CORPS TAKE LINE
146+50.80
1/64 Line
155+48.65
150'
Present Hwy. SD No. 1804
130+00
135+00
140+00
145+00
150+00
155+00
160+00
128+07.53
1/16 Line
136+39.33
Sec. Line
155+75.84
33'
Prop. Line
LOT 1

Sec. 25 - T112N - R80W

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EROSION AND SEDIMENT CONTROL PLAN

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	P 3804(16)256	D11	D25

Plotting Date: 29-NOV-2006 Revised 2-28-06 MLW

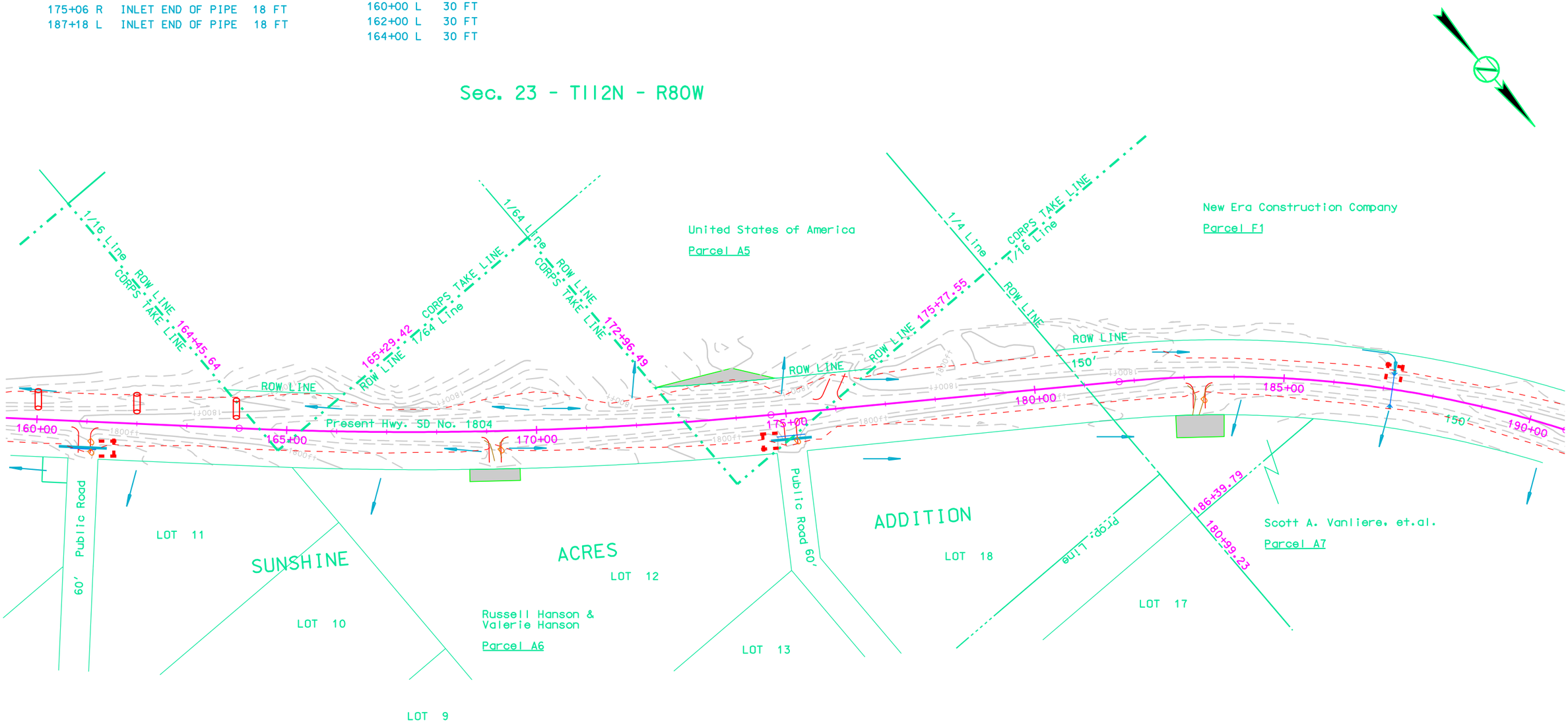
Install High Flow Silt Fence
at the following locations:

160+95 R	INLET END OF PIPE	18 FT
175+06 R	INLET END OF PIPE	18 FT
187+18 L	INLET END OF PIPE	18 FT

Install 12" Diameter Erosion Control Wattles
in the Highway Ditch Channel Bottom
at the following locations:

160+00 L	30 FT	
162+00 L	30 FT	
164+00 L	30 FT	

Sec. 23 - T112N - R80W



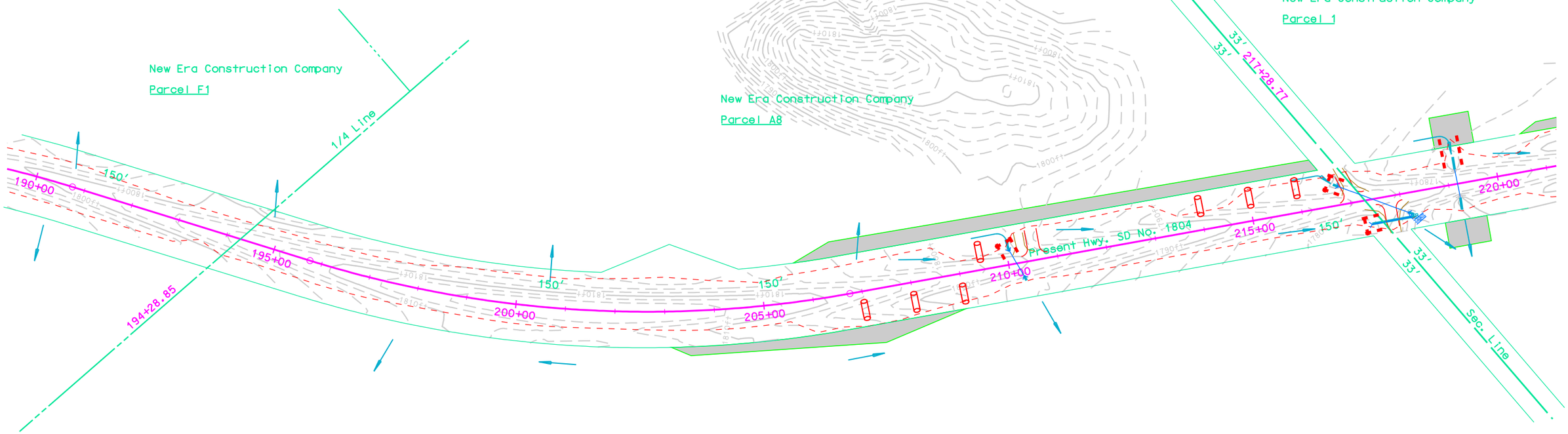
EROSION AND SEDIMENT CONTROL PLAN

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	P 3804(16)256	D12	D25

Plotting Date: 29-NOV-2006

Install High Flow Silt Fence
at the following locations:
210+17 L INLET END OF PIPE 18 FT
217+44 R INLET END OF PIPE 18 FT
217+74 R INLET END OF PIPE 18 FT
219+18 L INLET END OF CATTLE PASS (30 FT EACH SIDE) 60 FT

Install 12" Diameter Erosion Control Wattles
in the Highway Ditch Channel Bottom
at the following locations:
207+50 R 30 FT
209+00 R 30 FT
209+50 L 30 FT
214+00 L 30 FT
215+00 L 30 FT
216+00 L 30 FT



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EROSION AND SEDIMENT CONTROL PLAN

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	P 3804(16)256	D13	D25

Plotting Date: 29-NOV-2006

Install High Flow Silt Fence
at the following locations:
234+18 L INLET END OF PIPE 18 FT
241+78 L INLET END OF PIPE 18 FT

Install 12" Diameter Erosion Control Wattles
in the Highway Ditch Channel Bottom
at the following locations:
224+00 L ACROSS DITCH 30 FT
224+00 R ACROSS DITCH 30 FT
226+00 L ACROSS DITCH 30 FT
226+00 R ACROSS DITCH 30 FT
228+00 L ACROSS DITCH 30 FT
228+50 R ACROSS DITCH 30 FT
247+50 L ACROSS DITCH 30 FT
248+50 L ACROSS DITCH 30 FT
249+50 L ACROSS DITCH 30 FT
250+50 L ACROSS DITCH 30 FT

Sec. 22 - T112N - R80W

Peoria Flats Cattle Company
Parcel A9

NEW ERA
COMPANY
SUBDIVISION
1/4 Line

New Era Construction Company
Parcel 1

Present Hwy. SD No. 1804

220+00
225+00
230+00
235+00
240+00
245+00
250+00
246+68.77
150'
33'
67'
50'
New Approach
20'
Sec. Line
4+42

Sec. 15 - T112N - R80W

EROSION AND SEDIMENT CONTROL PLAN

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	P 3804(16)256	D14	D25

Plotting Date: 29-NOV-2006 Revised 2-28-06 MLW

Install High Flow Silt Fence
at the following locations:
253+35 L INLET END OF PIPE 18 FT
261+50 L ACROSS DITCH AT INLET END OF PIPE 30 FT
13+37 (REDDEN DRIVE) INLET END OF PIPE (30 FT EACH SIDE) 60 FT

Install Type 2 Erosion Control Blanket
in the Highway Ditch Channel Bottom
at the following locations:
263+00 L to 273+00 L 1778 SQYD

Install 12" Diameter Erosion Control Wattles
in the Highway Ditch Channel Bottom
at the following locations:
260+00 L ACROSS DITCH 30 FT
263+00 R ACROSS DITCH 30 FT
264+00 R ACROSS DITCH 30 FT
267+00 R ACROSS DITCH 30 FT
270+00 R ACROSS DITCH 30 FT
272+00 R ACROSS DITCH 30 FT
274+00 L ACROSS DITCH 30 FT
274+00 R ACROSS DITCH 30 FT
276+00 L ACROSS DITCH 30 FT
276+00 R ACROSS DITCH 30 FT
280+00 R ACROSS DITCH 30 FT

Sec. 22 - T112N - R80W

Patrick J. Redden &
Nita Redden
Parcel A11

TRACT A

Nystrom Brothers Corporation
Parcel A12

Peoria Flats Cattle Company
Parcel A9

NEW ERA COMPANY SUBDIVISION

Nystrom Brothers Corporation
Parcel 2X(Omitted)

Oliver Redden
Parcel A10

Present Hwy. SD No. 1804

Sec. Line

Prop. Line

Redden Drive

New Approach Road

LOT 1

Nystrom Brothers Corporation
Parcel 2

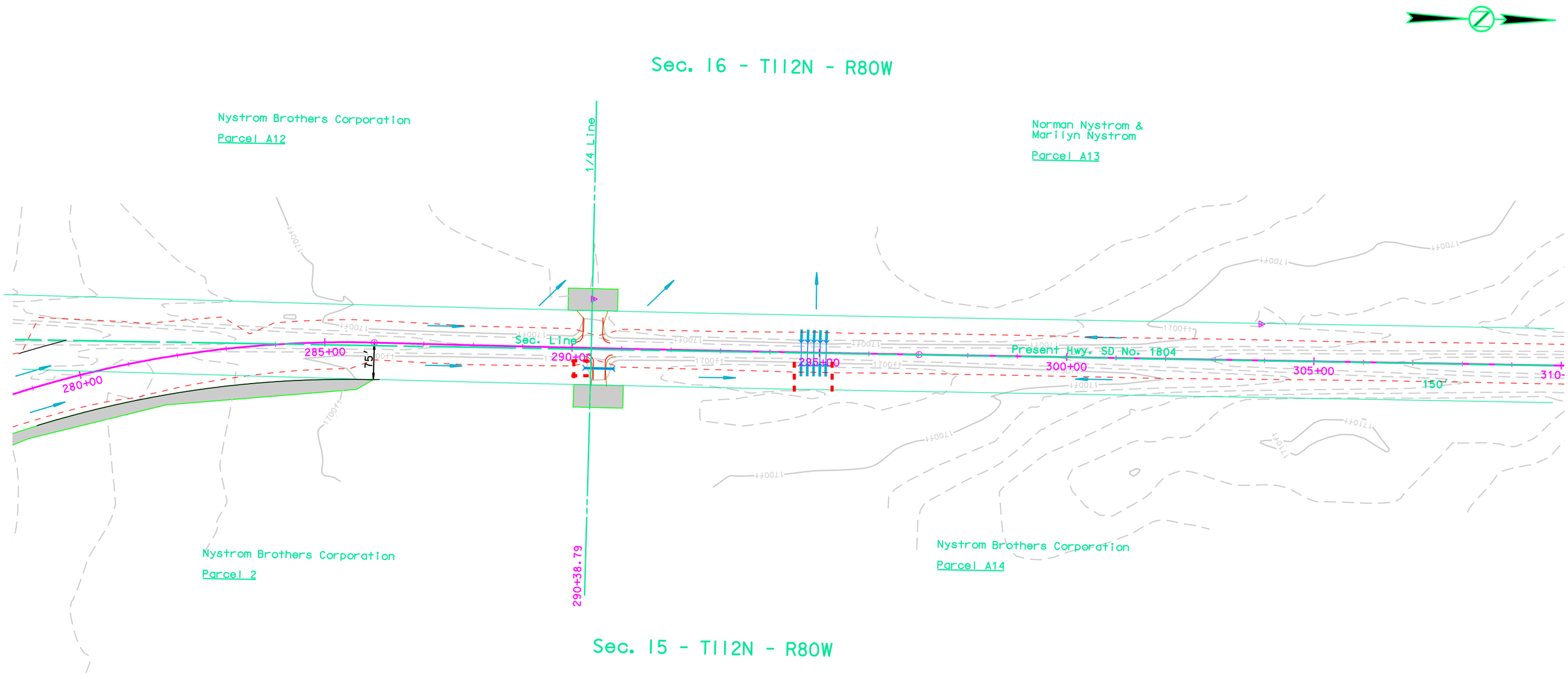
Sec. 15 - T112N - R80W

EROSION AND SEDIMENT CONTROL PLAN

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	P 3804(16)256	D15	D25

Plotting Date: 29-NOV-2006

Install High Flow Silt Fence
at the following locations:
290+55 R INLET END OF PIPE 18 FT
294+89 R INLET END OF PIPE (30 FT EACH END) 60 FT



PLOT SCALE - 200.000000:1.000000
PLOT NAME - 15
FILE - U:\RD\PRJ\HUGH6394\280EC.DGN
PLOTTED FROM - TRPR17200

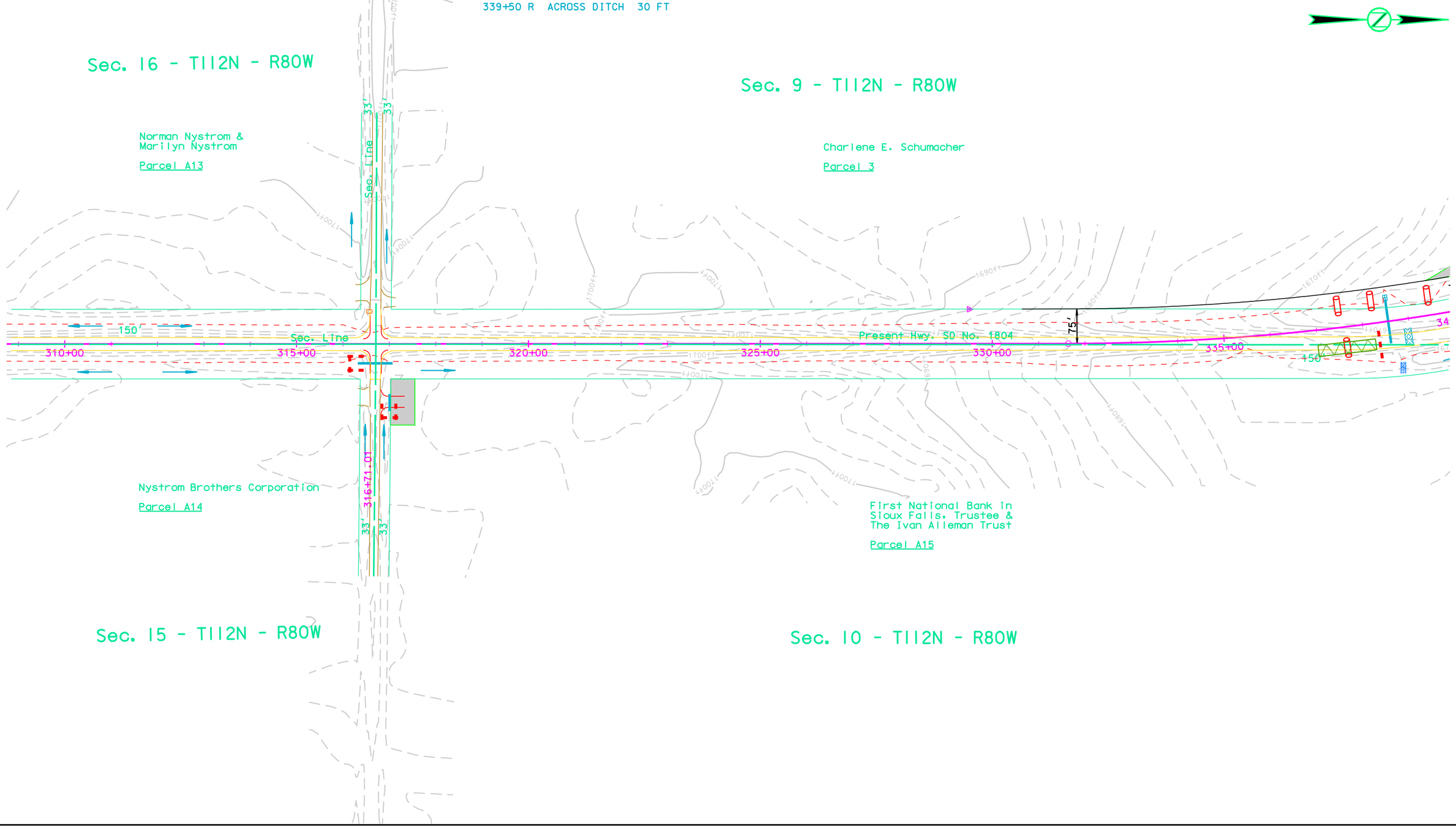
EROSION AND SEDIMENT CONTROL PLAN

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	P 3804(16)256	D16	D25

Plotting Date: 29-NOV-2006

Install High Flow Silt Fence
at the following locations:
316+70-42' R INLET END OF PIPE 18 FT
316+70-125' R & AHEAD 18 FT
338+56 R ACROSS DITCH AT INLET END OF PIPE 30 FT

Install 12" Diameter Erosion Control Wattles
in the Highway Ditch Channel Bottom
at the following locations:
337+50 L ACROSS DITCH 30 FT
337+50 R ACROSS DITCH 30 FT
338+25 L ACROSS DITCH 30 FT
339+50 R ACROSS DITCH 30 FT



EROSION AND SEDIMENT CONTROL PLAN

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	P 3804(16)256	D17	D25

Plotting Date: 29-NOV-2006

Install Low Flow Silt Fence
at the following locations:
355+65 INLET AND OUTLET ENDS OF BOX CULVERT (150 FT EACH END) 300 FT (RAPID STABILIZATION)

Install High Flow Silt Fence
at the following locations:
344+06 R INLET END OF PIPE 18 FT
353+94 L ACROSS DITCH AT INLET END OF PIPE 30 FT
354+69 R ACROSS DITCH AT INLET END OF PIPE 30 FT
364+00 L INLET END OF PIPE 18 FT

Install Type 3 Erosion Control Blanket
in the Highway Ditch Channel Bottom
at the following locations:
342+00 L to 353+90 L 2,116 SQYD
342+00 R to 343+75 R 311 SQYD
344+40 R to 353+50 R 910 SQYD
357+00 L to 363+60 L 1,173 SQYD

Install 12" Diameter Erosion Control Wattles
at the following locations:
BOX CULVERT AT 355+65
200 FT PLACED AT LOCATIONS DETERMINED
BY THE ENGINEER DURING CONSTRUCTION (RAPID STABILIZATION)

Sec. 9 - T112N - R80W

CORPS TAKE LINE
1/64 Line
1/4 Line
Charlene E. Schumacher
Parcel 4
Present Hwy. SD No. 1804
Gravel Drive
CRITICAL AREA
340+00
345+00
350+00
355+00
360+00
365+00
370+00
Sec. Line
33'
150'
75'
5+00
8+70
343+12.58
349+84.09
369+78.15
United States of America
Parcel 5
First National Bank in
Sioux Falls, Trustee &
The Ivan Alleman Trust
Parcel A16
Sec. 10 - T112N - R80W
1/16 Line

Install 12" Diameter Erosion Control Wattles
in the Highway Ditch Channel Bottom
at the following locations:
340+00 R ACROSS DITCH 30 FT
340+50 L ACROSS DITCH 30 FT
341+00 R ACROSS DITCH 30 FT
341+50 L ACROSS DITCH 30 FT
344+00 L ACROSS DITCH 30 FT
345+50 L ACROSS DITCH 30 FT
345+50 R ACROSS DITCH 30 FT
347+00 L ACROSS DITCH 30 FT
347+00 R ACROSS DITCH 30 FT
348+50 L ACROSS DITCH 30 FT
348+50 R ACROSS DITCH 30 FT
350+00 L ACROSS DITCH 30 FT
350+00 R ACROSS DITCH 30 FT
351+50 L ACROSS DITCH 30 FT
351+50 R ACROSS DITCH 30 FT
353+00 L ACROSS DITCH 30 FT
353+00 R ACROSS DITCH 30 FT
365+00 L ACROSS DITCH 30 FT
366+50 L ACROSS DITCH 30 FT
368+00 L ACROSS DITCH 30 FT

EROSION AND SEDIMENT CONTROL PLAN

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	P 3804(16)256	D18	D25

Plotting Date: 29-NOV-2006 Revised 03-14-06 MLW

Install High Flow Silt Fence
at the following locations:
371+92 L INLET END OF PIPE 18 FT
373+30 R INLET END OF PIPE 18 FT
395+33 R INLET END OF PIPE 18 FT

Marvin L. Schumacher &
Melanie Schumacher

Parcel A17

Sec. 4 - T112N - R80W

SCHUMACHERS
TRACT 1

Sec. Line

Charlene E. Schumacher

Parcel 6

1/16 Line

1/4 Line

33'
33'
75'
75'
150'
20'
20'

370+00
375+00
380+00
385+00
390+00
395+00
400+00

CORPS TAKE LINE

Present Hwy. SD No. 1804

Sec. Line

New Approach Road

369+78.15

1/64 Line

383+08.01

396+33.41

United States of America

Parcel A18

CORPS TAKE LINE
1/256 Line

William S. Schumacher &
Ethel M. Schumacher

Parcel A19

Sec. 3 - T112N - R80W

EROSION AND SEDIMENT CONTROL PLAN

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	P 3804(16)256	D19	D25

Plotting Date: 29-NOV-2006
Revised 08-01-06 MLW

Install High Flow Silt Fence
at the following locations:
409+28 L INLET END OF PIPE 18 FT
422+14 L INLET END OF PIPE 18 FT
424+80 R INLET END OF PIPE 18 FT

OUTLOT 1

Sec. 4 - T112N - R80W

1/16 Line

GOV'T LOT 1

Gene H. Vieh, Jr. &
Frances Hubbard Vieh, Trustees

Parcel A20

OUTLOT 2

Present Hwy. SD NO. 1804

400+00

405+00

410+00

415+00

420+00

425+00

430+00

75'

150'

33'

Sec. Line

409+60.27

William S. Schumacher &
Ethel M. Schumacher

Parcel 7

GOV'T LOT 3

GOV'T LOT 4

Sec. 3 - T112N - R80W

Paul Steven Hyde

Parcel 8

Sec. 34 - T113N - R80W

TRACY

0+00

422+06.95

Sec. Line

1660ft

1320ft

650ft

640ft

SULLY COUNTY

HUGHES COUNTY

PLOT SCALE - 200.000000:1.000000

PLOTTED FROM - TRPR17200

PLOT NAME - 19

FILE - U:\RD\PRJ\HUGH6394\400EC.DGN

EROSION AND SEDIMENT CONTROL PLAN

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	P 3804(16)256	D20	D25

Plotting Date: 29-NOV-2006
Revised 08-29-06 MLW

Install Low Flow Silt Fence
at the following locations:
453+15 INLET AND OUTLET ENDS OF BOX CULVERT (150 FT EACH END) 300 FT (RAPID STABILIZATION)
431+50 R to 434+00 R PROTECT CREEK 250 FT
441+50 R to 443+50 R PROTECT CREEK 200 FT

Install Type 3 Erosion Control Blanket
in the Highway Ditch Channel Bottom
at the following locations:
455+00 L to 468+00 L 2,311 SQYD
456+50 R to 465+00 R 1,511 SQYD

Install High Flow Silt Fence
at the following locations:
431+07 R INLET END OF PIPE 18 FT
434+62 L INLET END OF PIPE 18 FT
446+98 R INLET END OF PIPE 18 FT
454+12 L ACROSS DITCH AT INLET END OF PIPE 30 FT
454+12 R ACROSS DITCH AT INLET END OF PIPE 30 FT

Install 12" Diameter Erosion Control Wattles
in the Highway Ditch Channel Bottom
at the following locations:
448+00 L ACROSS DITCH 30 FT
449+00 L ACROSS DITCH 30 FT
450+00 L ACROSS DITCH 30 FT

Install 12" Diameter Erosion Control Wattles
at the following locations:
BOX CULVERT AT 453+15
200 FT PLACED AT LOCATIONS DETERMINED
BY THE ENGINEER DURING CONSTRUCTION (RAPID STABILIZATION)

Sec. 34 - T113N - R80W

OAHE

Cow Creek Recreation, LLC
Parcel 9

HILLS

SUBDIVISION

Oahe Trail Development, Inc.
Parcel A21

TRACT C

TRACT D

TRACT B

1/4 Line

Oahe Trail Development, Inc.
Parcel 11

CRITICAL AREA

Present Hwy. SD No. 1804

430+00 435+00 440+00 445+00 450+00 455+00 460+00

0+00 8+61

150'

33' 33'

B & B Equipment, Inc.
Parcel A23

Parcel 10 - Omitted

Sec. Line

452+12.70

B & B Equipment, Inc.
Parcel 12

Harvey D. Sheehan &
Andrea L. Sheehan
Parcel A22

Sec. 35 - T113N - R80W

PLOT SCALE - 200.0000000:1.0000000

PLOTTED FROM - TRPR17200

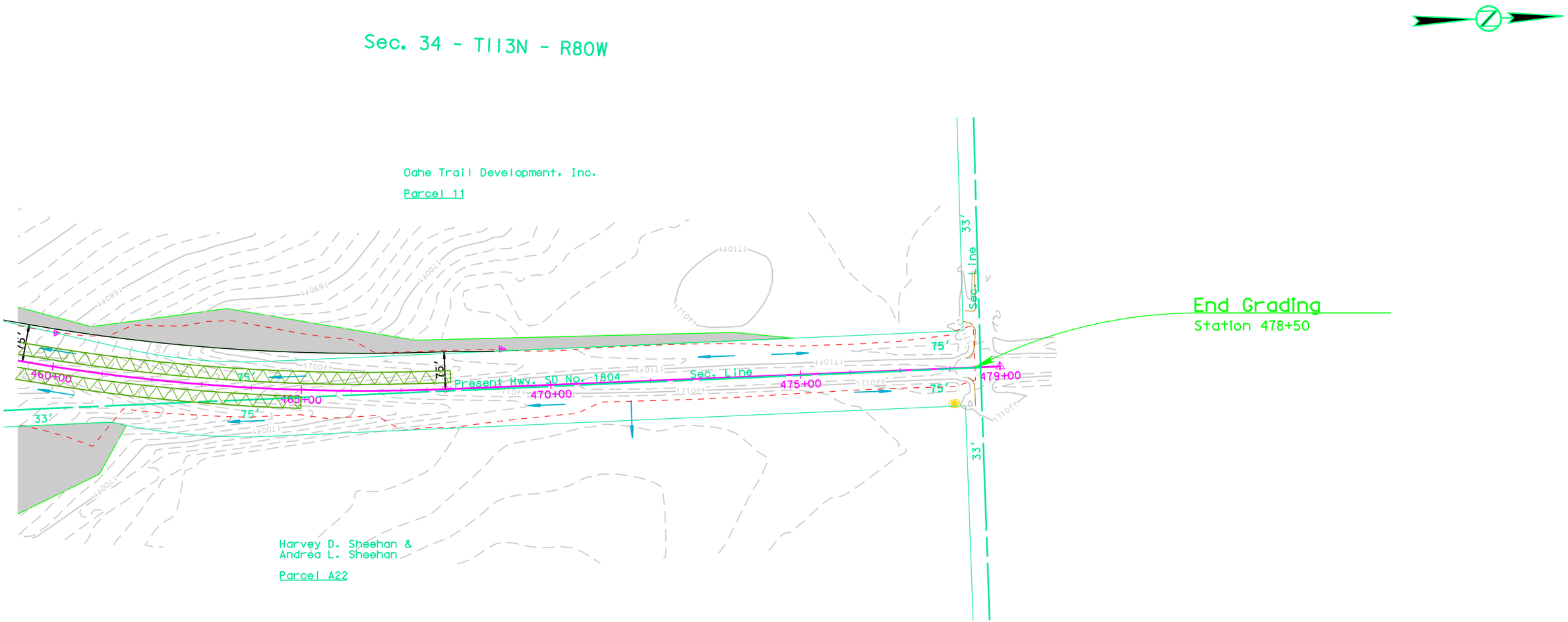
PLOT NAME - 20

FILE - U:\RD\PRJ\HUGH6394\430EC.DGN

EROSION AND SEDIMENT CONTROL PLAN

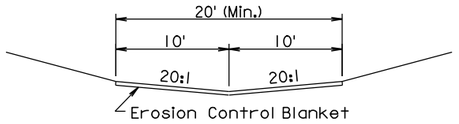
STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	P 3804(16)256	D21	D25

Plotting Date: 29-NOV-2006
Revised 08-29-06 MLW

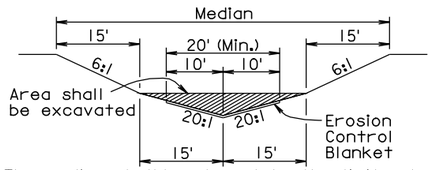


STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	P 3804(16)256	D22	D25

Plotting Date: 29-NOV-2006

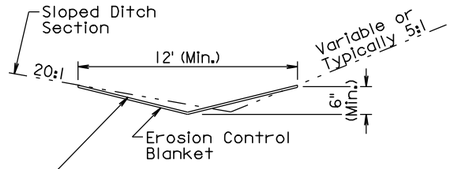


STANDARD DITCH SECTION

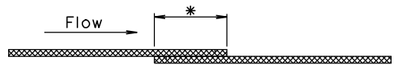


The median shall be shaped to the limits shown in this detail where the erosion control blanket will be placed.

MEDIAN SECTION



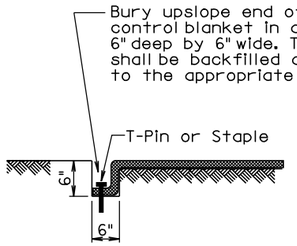
SLOPED DITCH SECTION



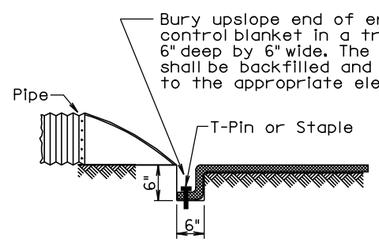
* Use a 4" (Min.) overlap wherever two widths of erosion control blanket are applied side by side.

* Use a 6" (Min.) overlap wherever one roll of erosion control blanket ends and another begins.

OVERLAP DETAIL



TRENCH DETAIL



PIPE END DETAIL

GENERAL NOTES:

Prior to placement of the erosion control blanket, the areas shall be properly prepared, shaped, seeded, and fertilized.

Erosion control blanket shall be unrolled in the direction of the flow of water when placed in ditches and on slopes. The upslope end of the erosion control blanket shall be buried in a trench 6" wide by 6" deep. There shall be at least a 6" overlap wherever one roll of erosion control blanket ends and another begins, with the upslope erosion control blanket placed on top of the downslope erosion control blanket.

The erosion control blanket shall be pinned to the ground according to the manufacturer's installation recommendations.

After the placement of the erosion control blanket, the Contractor shall fine grade along all edges of the blanket to maintain a uniform slope adjacent to the blanket and level any low spots which might prevent uniform and unrestricted flow of side drainage directly onto the erosion control blanket.

All ditch sections shall be shaped when installing the erosion control blanket. All costs for shaping the ditches shall be incidental to the contract unit price per foot for "Shaping for Erosion Control Blanket".

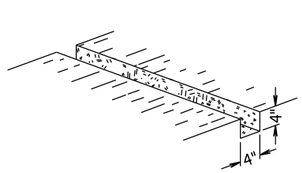
December 23, 2004

"Published Date: 4th Qtr. 2006"	SDDOT	EROSION CONTROL BLANKET	PLATE NUMBER 734.01
			Sheet 1 of 1

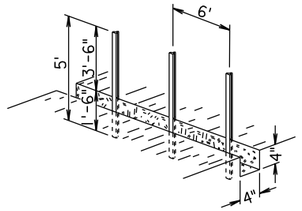
STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	P 3804(16)256	D23	D25

Plotting Date: 29-NOV-2006

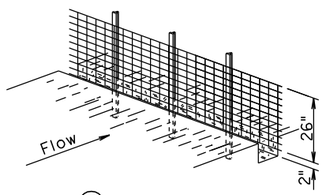
MANUAL LOW FLOW SILT FENCE INSTALLATION



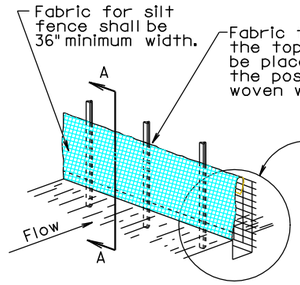
(1) EXCAVATE TRENCH

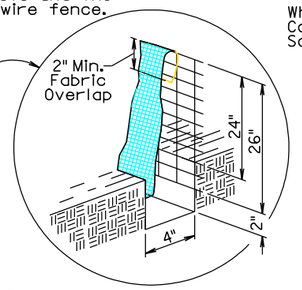


(2) DRIVE STEEL T FENCE POSTS

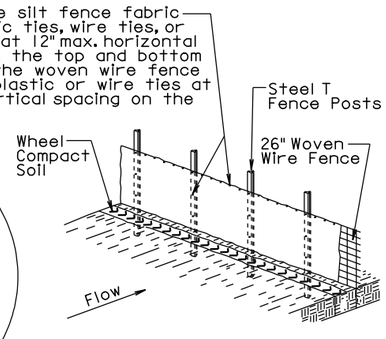


(3) ATTACH 26" WOVEN WIRE FENCE TO POSTS

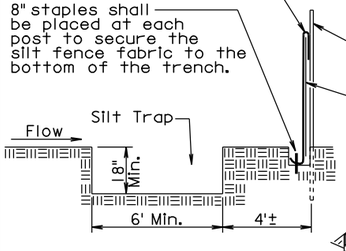




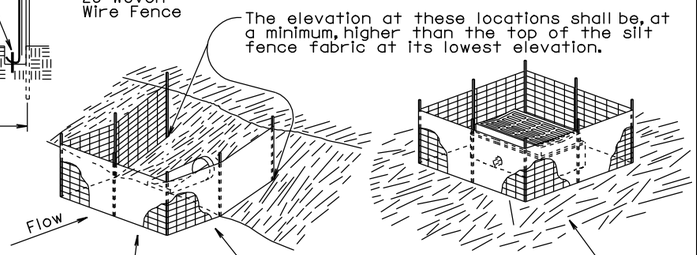
(4) ATTACH SILT FENCE FABRIC



(5) BACKFILL TRENCH AND WHEEL COMPACT SOIL



SECTION A-A



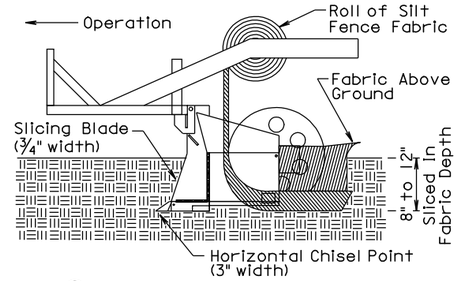
The silt fence length and width may be adjusted due to a larger pipe, multiple pipe, or other circumstances during construction as determined by the Engineer.

Post spacing shall be 3' for these types of applications of silt fence. All other components of the silt fence shall be the same as shown above.

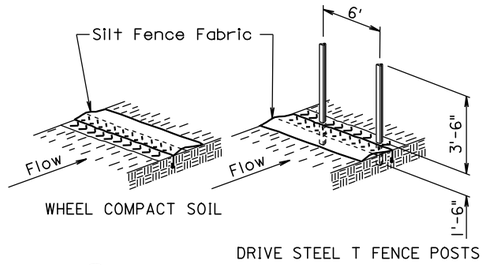
December 23, 2003

Published Date: 4th Qtr. 2006	SDDOT	LOW FLOW SILT FENCE AND SILT TRAP	PLATE NUMBER 734.04
			Sheet 1 of 2

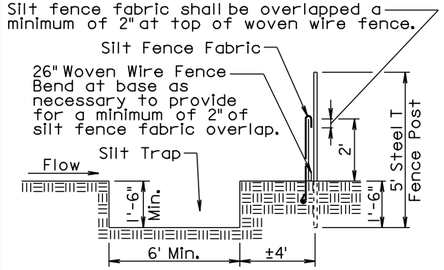
MACHINE SLICED LOW FLOW SILT FENCE INSTALLATION

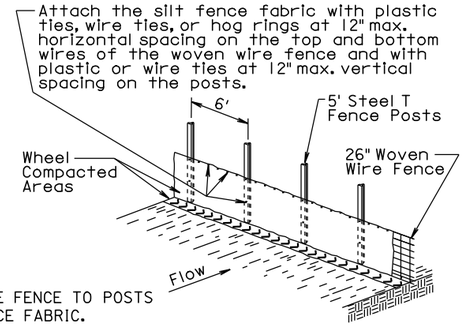


(1) INSTALL SILT FENCE FABRIC BY MACHINE SLICING METHOD.

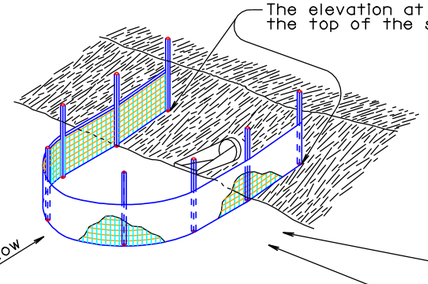


(2) WHEEL COMPACT SOIL ABOVE SLICED IN PORTION OF FABRIC AND THEN DRIVE STEEL T FENCE POSTS.

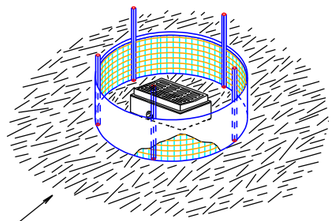




(3) ATTACH 26" WOVEN WIRE FENCE TO POSTS AND ATTACH SILT FENCE FABRIC.



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



The radius of the silt fence shall be the minimum capable by the slicing machine. The post spacing shall be 3' for these types of applications of silt fence. All the other components of the silt fence shall be the same as shown above.

GENERAL NOTES:

A silt trap shall be provided when specified by a plan note. All costs for constructing the silt trap shall be incidental to the contract unit price per cubic yard for "Silt Trap".

If a trench can not be dug or the silt fence fabric can not be 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.

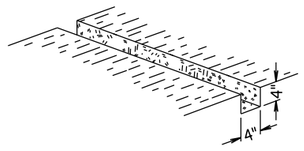
December 23, 2003

Published Date: 4th Qtr. 2006	SDDOT	LOW FLOW SILT FENCE AND SILT TRAP	PLATE NUMBER 734.04
			Sheet 2 of 2

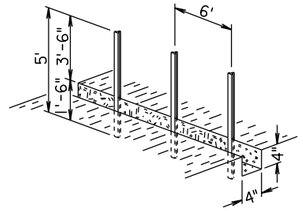
STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	P 3804(16)256	D24	D25

Plotting Date: 29-NOV-2006

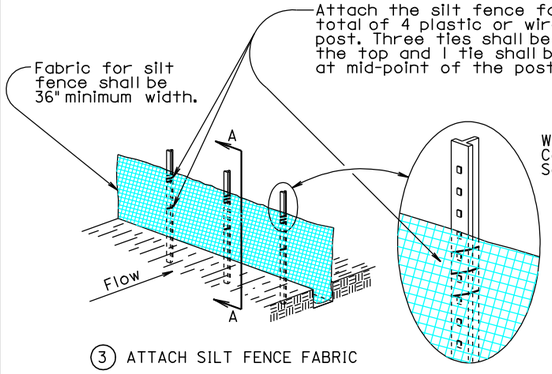
MANUAL HIGH FLOW SILT FENCE INSTALLATION



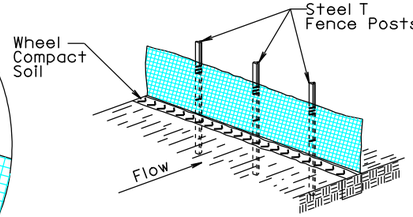
(1) EXCAVATE TRENCH



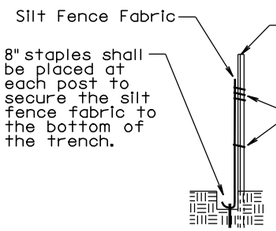
(2) DRIVE STEEL T FENCE POSTS



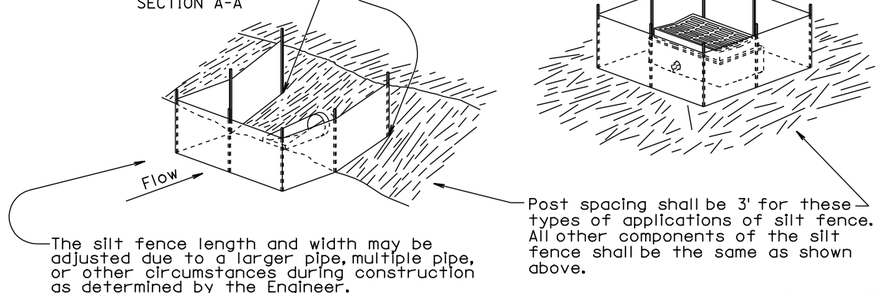
(3) ATTACH SILT FENCE FABRIC



(4) BACKFILL TRENCH AND WHEEL COMPACT SOIL



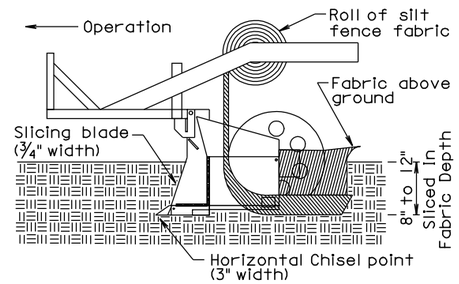
SECTION A-A



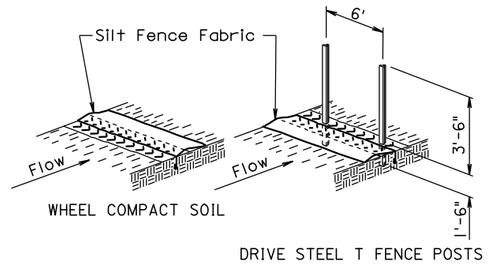
December 23,2003

Published Date: 4th Qtr. 2006	SDDOT	HIGH FLOW SILT FENCE	PLATE NUMBER 734.05
			Sheet 1 of 2

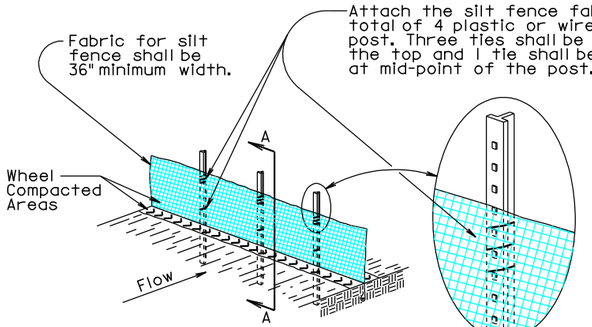
MACHINE SLICED HIGH FLOW SILT FENCE INSTALLATION



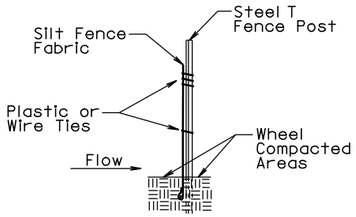
(1) INSTALL SILT FENCE FABRIC BY MACHINE SLICING METHOD.



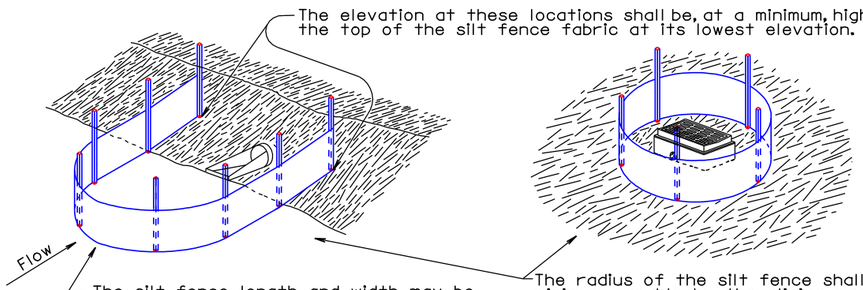
(2) WHEEL COMPACT SOIL ABOVE SLICED IN PORTION OF FABRIC AND THEN DRIVE STEEL T FENCE POSTS.



(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.

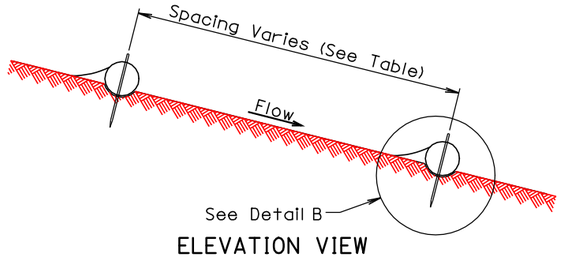
December 23,2003

Published Date: 4th Qtr. 2006	SDDOT	HIGH FLOW SILT FENCE	PLATE NUMBER 734.05
			Sheet 2 of 2

Username - TRPR17200

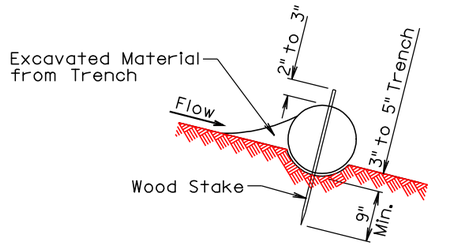
STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	P 3804(16)256	D25	D25

Plotting Date: 29-NOV-2006

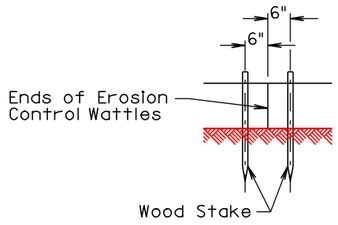


ELEVATION VIEW
CUT OR FILL SLOPE INSTALLATION

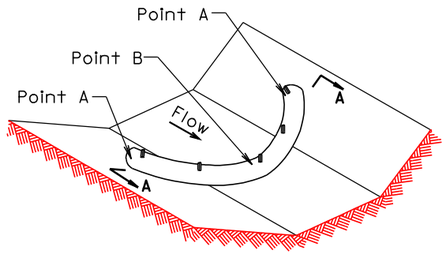
CUT OR FILL SLOPE INSTALLATION	
Slope	Spacing (Ft)
1:1	10
2:1	20
3:1	30
4:1	40



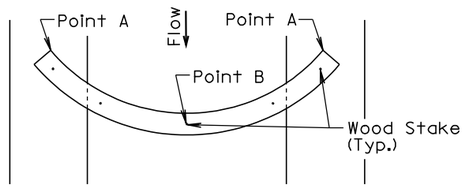
DETAIL B
(TYPICAL OF ALL INSTALLATIONS)



DETAIL C

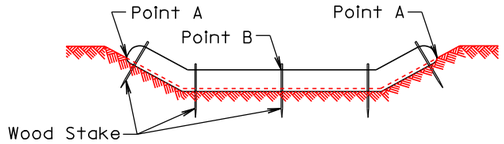


ISOMETRIC VIEW
DITCH INSTALLATION



PLAN VIEW
DITCH INSTALLATION

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



SECTION A-A

December 23, 2004

Published Date: 4th Qtr. 2006	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 ½". 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: 4th Qtr. 2006	SDDOT	EROSION CONTROL WATTLE	PLATE NUMBER 734.06
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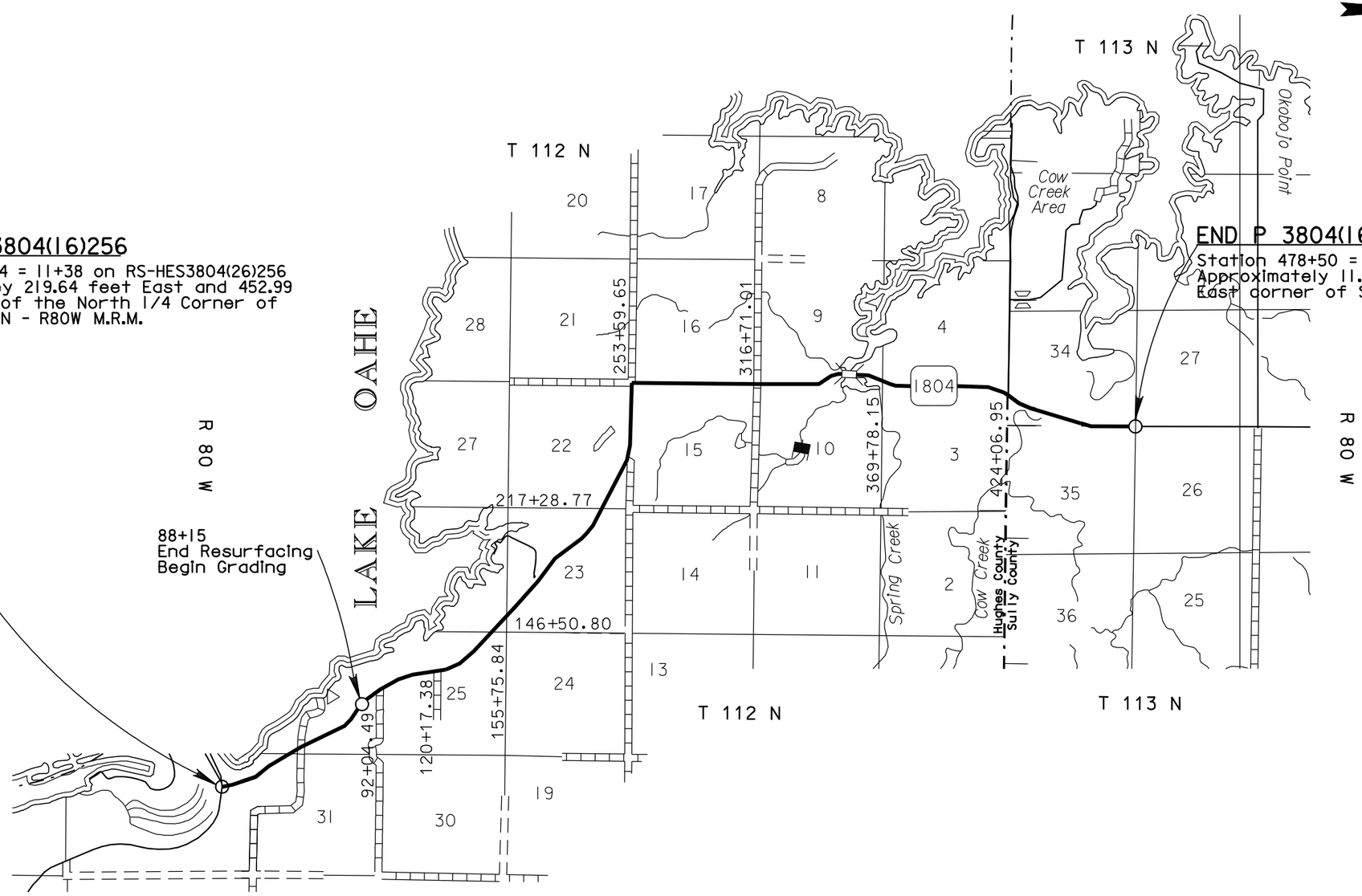
Section Z: Pipe Sections

STATE OF SOUTH DAKOTA	PROJECT	SHEET NO.	TOTAL SHEETS
	P 3804(16)256	Z01	Z23

Plotting Date: 20-SEP-2006

INDEX OF SHEETS



BEGIN P 3804(16)256

Station 11+14 = 11+38 on RS-HES3804(26)256
Approximatley 219.64 feet East and 452.99 feet South of the North 1/4 Corner of Sec 6 - T112N - R80W M.R.M.

END P 3804(16)256

Station 478+50 = 370+10.89 on NOS S-8052( )
Approximately 11.60 feet South of the North East corner of Sec 34 - T113N - R80W M.R.M.