

APPENDIX E

**ANALYTICAL RESPONSE ACTION COST TABLES
FOR THE RILEY PASS SITE**

BLUFF A

**RILEY PASS SITE
HARDING COUNTY, SOUTH DAKOTA**

**TABLE E-1. BLUFF A PRELIMINARY COST ESTIMATE - ALTERNATIVE 1, RILEY PASS
NO ACTION ALTERNATIVE**

	Quantity	Units	Unit Price	Cost
CAPITAL COSTS				
No Action	NA	NA	NA	0.00
TOTAL CAPITAL COSTS				\$0.00

ANNUAL 30 YEAR O&M COSTS	Cost
Clean Sediment from Road/ Pond	\$15,350.00
Repair Fences	\$2,500.00
Inspection Reporting	\$12,000.00
Sampling (3 water (runoff) and 10 soil)	\$7,500.00
Total Annual O&M Costs	\$37,350.00

TOTAL CAPITAL COSTS	\$0.00
TOTAL O&M PRESENT WORTH COSTS	\$463,476.15 Based on 30 year duration and 7.0% discount rate
TOTAL PRESENT WORTH COSTS	\$463,476.15

**TABLE E-2. BLUFF A PRELIMINARY COST ESTIMATE - ALTERNATIVE 2, RILEY PASS
INSTITUTIONAL CONTROLS**

	Quantity	Units	Unit Price	Cost
CAPITAL COSTS				
8-foot Chain link Fence	3,200	L.F	\$20.00	\$64,000.00
TOTAL CAPITAL COSTS				\$64,000.00

ANNUAL 30 YEAR O&M COSTS	Cost
Clean Sediment from Road/ Pond	\$15,350.00
Repair Fences	\$2,500.00
Inspection Reporting	\$12,000.00
Sampling (3 water (runoff) and 10 soil)	\$7,500.00
Total Annual O&M Costs	\$37,350.00

TOTAL CAPITAL COSTS	\$64,000.00
TOTAL O&M PRESENT WORTH COSTS	\$463,476.15 Based on 30 year duration and 7.0% discount rate
TOTAL PRESENT WORTH COSTS	\$527,476.15

**TABLE E-3. BLUFF A PRELIMINARY COST ESTIMATE - ALTERNATIVE 3, RILEY PASS
MINIMAL GRADING AND SEDIMENT CONTROL**

	Quantity	Units	Unit Price	Cost
CAPITAL COSTS				
Mobilization, Bonding, & Insurance (15%)	1	L.S.	\$17,777	\$17,777
Road Improvements / Road Construction	2	miles	\$2,500.00	\$5,000
Construct Internal Sediment Basins	1	Each	\$20,000.00	\$20,000
Waste Material Grading	2.0	Acres	\$3,000.00	\$6,000
Run-on/Run-off control Ditch Construction	900	L.F.	\$7.00	\$6,300
Organic Amendment	335	Dry Tons	\$140.00	\$46,900
Fertilize and Seed	2.5	Acres	\$1,000.00	\$2,500
Mulch	2.5	Acres	\$1,000.00	\$2,500
Install Erosion Control Mat	4,840	S.Y.	\$2.75	\$13,310
Install Fences	3,200	L.F.	\$5.00	\$16,000
Subtotal Capital Costs				\$136,287
Project Management Costs 10%				\$13,629
Professional and Technical Services Costs 15%				\$20,443
Contingency (20%)				\$27,257
TOTAL CAPITAL COSTS				\$197,615

ANNUAL 30 YEAR O&M COSTS	Cost
Clean Sediment from Road/ Pond	\$15,350.00
Repair Fences	\$2,500.00
Inspection Reporting	\$12,000.00
Sampling (3 water (runoff) and 10 soil)	\$7,500.00
Vegetation O&M	\$8,000.00
Total Annual O&M Costs	\$45,350.00

TOTAL CAPITAL COSTS	\$197,615.43
TOTAL O&M PRESENT WORTH COSTS	\$562,748.15 Based on 30 year duration and 7.0% discount rate
TOTAL PRESENT WORTH COSTS	\$760,363.58

**TABLE E-4. BLUFF A PRELIMINARY COST ESTIMATE - ALTERNATIVE 4, RILEY PASS
COMPREHENSIVE GRADING AND SEDIMENT CONTROL**

	Quantity	Units	Unit Price	Cost
CAPITAL COSTS				
Mobilization, Bonding, & Insurance (15%)	1	L.S.	\$30,963.00	\$30,963
Road Improvements / Road Construction	2	miles	\$2,500.00	\$5,000
Construct Internal Sediment Basins	1	Each	\$20,000.00	\$20,000
Waste Material Grading Side Slope (4H:1V)	2.5	Acres	\$7,500.00	\$18,750
Waste Material Grading (top of bluff)	2.0	Acre	\$3,000.00	\$6,000
Run-on/Run-off control Ditch Construction	400	L.F.	\$7.00	\$2,800
Organic Amendment	804	Dry Tons	\$140.00	\$112,560
Fertilize and Seed	6	Acres	\$1,000.00	\$6,000
Mulch	6	Acres	\$1,000.00	\$6,000
Install Erosion Control Mat	4,840	S.Y.	\$2.75	\$13,310
Install Fences	3,200	L.F.	\$5.00	\$16,000
Subtotal Capital Costs				\$237,383
Project Management Costs 10%				\$23,738
Professional and Technical Services Costs 15%				\$35,607
Contingency (20%)				\$47,477
TOTAL CAPITAL COSTS				\$344,205

ANNUAL 30 YEAR O&M COSTS	Cost
Clean Sediment from Road/ Pond	\$15,350.00
Repair Fences	\$2,500.00
Inspection Reporting	\$12,000.00
Sampling (3 water (runoff) and 10 soil)	\$7,500.00
Vegetation O&M	\$8,000.00
Total Annual O&M Costs	\$45,350.00

TOTAL CAPITAL COSTS	\$344,205.35
TOTAL O&M PRESENT WORTH COSTS	\$562,748.15 Based on 30 year duration and 7.0% discount rate
TOTAL PRESENT WORTH COSTS	\$906,953.50

**TABLE E-5. BLUFF A PRELIMINARY COST ESTIMATE - ALTERNATIVE 5, RILEY PASS
COMPREHENSIVE GRADING, CONSOLIDATION AND CONTAINMENT OF ACUTELY
CONTAMINATED MATERIALS, AND SEDIMENT CONTROL**

	Quantity	Units	Unit Price	Cost
CAPITAL COSTS				
Mobilization, Bonding, & Insurance (15%)	1	L.S.	\$35,031	\$35,031
Road Improvements / Road Construction	2	miles	\$2,500.00	\$5,000
Construct Internal Sediment Basins	1	Each	\$20,000.00	\$20,000
Waste Material Grading Side Slope (4H:1V)	1.5	Acres	\$7,500.00	\$11,250
Excavate, Loadout, Haul Excess Material from Side Slope to Top of Bluff A	6,000	C.Y.	\$7.00	\$42,000
Waste Material Grading (top of bluff)	3.0	Acre	\$3,000.00	\$9,000
Run-on/Run-off control Ditch Construction	400	L.F.	\$7.00	\$2,800
Organic Amendment	737	Dry Tons	\$140.00	\$103,180
Fertilize and Seed	5.5	Acres	\$1,000.00	\$5,500
Mulch	5.5	Acres	\$1,000.00	\$5,500
Install Erosion Control Mat	4,840	S.Y.	\$2.75	\$13,310
Install Fences	3,200	L.F.	\$5.00	\$16,000
Subtotal Capital Costs				\$268,571
Project Management Costs 10%				\$26,857
Professional and Technical Services Costs 15%				\$40,286
Contingency (20%)				\$53,714
TOTAL CAPITAL COSTS				\$389,427.95

ANNUAL 30 YEAR O&M COSTS	Cost
Clean Sediment from Road/ Pond	\$15,350.00
Repair Fences	\$2,500.00
Inspection Reporting	\$12,000.00
Sampling (3 water (runoff) and 10 soil)	\$7,500.00
Vegetation O&M	\$8,000.00
Total Annual O&M Costs	\$45,350.00

TOTAL CAPITAL COSTS	\$389,427.95
TOTAL O&M PRESENT WORTH COSTS	\$562,748.15 Based on 30 year duration and 7.0% discount rate
TOTAL PRESENT WORTH COSTS	\$952,176.10

BLUFF B

**RILEY PASS SITE
HARDING COUNTY, SOUTH DAKOTA**

**TABLE E-6. BLUFF B PRELIMINARY COST ESTIMATE - ALTERNATIVE 1, RILEY PASS
NO ACTION ALTERNATIVE**

	Quantity	Units	Unit Price	Cost
CAPITAL COSTS				
No Action	NA	NA	NA	0.00
TOTAL CAPITAL COSTS				\$0.00

ANNUAL 30 YEAR O&M COSTS	Cost
Clean Sediment Ponds	\$15,350.00
Inspection Reporting	\$12,000.00
Sampling (3 water (runoff) and 10 soil)	\$7,500.00
Total Annual O&M Costs	\$34,850.00

TOTAL CAPITAL COSTS	\$0.00
TOTAL O&M PRESENT WORTH COSTS	\$432,453.65 Based on 30 year duration and 7.0% discount rate
TOTAL PRESENT WORTH COSTS	\$432,453.65

**TABLE E-7. BLUFF B PRELIMINARY COST ESTIMATE - ALTERNATIVE 2, RILEY PASS
INSTITUTIONAL CONTROLS**

	Quantity	Units	Unit Price	Cost
CAPITAL COSTS				
8-foot Chain link Fence	17,000	L.F	\$20.00	\$340,000.00
TOTAL CAPITAL COSTS				\$340,000.00

ANNUAL 30 YEAR O&M COSTS	Cost
Clean Sediment from Road/ Pond	\$15,350.00
Repair Fences	\$38,000.00
Inspection Reporting	\$12,000.00
Sampling (3 water (runoff) and 10 soil)	\$7,500.00
Total Annual O&M Costs	\$72,850.00

TOTAL CAPITAL COSTS	\$340,000.00
TOTAL O&M PRESENT WORTH COSTS	\$903,995.65 Based on 30 year duration and 7.0% discount rate
TOTAL PRESENT WORTH COSTS	\$1,243,995.65

**TABLE E-8. BLUFF B PRELIMINARY COST ESTIMATE - ALTERNATIVE 3, RILEY PASS
MINIMAL GRADING AND SEDIMENT CONTROL**

	Quantity	Units	Unit Price	Cost
CAPITAL COSTS				
Mobilization, Bonding, & Insurance (15%)	1	L.S.	\$610,622	\$610,622
Road Improvements / Road Construction	2	miles	\$2,500.00	\$5,000
Construct Sediment Basins	5	Each	\$20,000.00	\$100,000
Waste Material Grading Side Slope (4H:1V)	21.0	Acres	\$7,500.00	\$157,500
Excavate, Haul, and Consolidate Graded Waste Material	65,600	C.Y.	\$7.00	\$459,200
Waste Material Grading (top of bluff)	112.0	Acre	\$3,000.00	\$336,000
Run-on/Run-off control Ditch Construction	1,200	L.F.	\$7.00	\$8,400
Organic Amendment	18,760	Dry Tons	\$140.00	\$2,626,400
Fertilize and Seed	140	Acres	\$1,000.00	\$140,000
Mulch	140	Acres	\$1,000.00	\$140,000
Install Erosion Control Mat	4,840	S.Y.	\$2.75	\$13,310
Install Fences	17,000	L.F.	\$5.00	\$85,000
Subtotal Capital Costs				\$4,681,432
Project Management Costs 10%				\$468,143
Professional and Technical Services Costs 15%				\$702,215
Contingency (20%)				\$936,286
TOTAL CAPITAL COSTS				\$6,788,076

ANNUAL 30 YEAR O&M COSTS	Cost
Clean Sediment Ponds	\$15,350.00
Repair Fences	\$9,400.00
Inspection Reporting	\$12,000.00
Sampling (3 water (runoff) and 10 soil)	\$7,500.00
Vegetation O&M	\$34,000.00
Total Annual O&M Costs	\$78,250.00

TOTAL CAPITAL COSTS	\$6,788,075.68
TOTAL O&M PRESENT WORTH COSTS	\$971,004.25 Based on 30 year duration and 7.0% discount rate
TOTAL PRESENT WORTH COSTS	\$7,759,079.93

**TABLE E-9. BLUFF B PRELIMINARY COST ESTIMATE - ALTERNATIVE 5, RILEY PASS
COMPREHENSIVE GRADING, CONSOLIDATION AND CONTAINMENT OF ACUTELY
CONTAMINATED MATERIALS, AND SEDIMENT CONTROL**

	Quantity	Units	Unit Price	Cost
CAPITAL COSTS				
Mobilization, Bonding, & Insurance (15%)	1	L.S.	\$1,076,942	\$1,076,942
Road Improvements / Road Construction	2	miles	\$2,500.00	\$5,000
Construct Sediment Basins	5	Each	\$20,000.00	\$100,000
Waste Material Grading Side Slope (4H:1V)	42	Acres	\$7,500.00	\$315,000
Excavate, Haul, And Consolidate Excess Material from Side Slope	362,300	C.Y.	\$7.00	\$2,536,100
Waste Material Grading (top of bluff)	112.0	Acre	\$3,000.00	\$336,000
Excavate, Haul, and Consolidate Graded Waste Material (top of bluff)	65,600	C.Y.	\$7.00	\$459,200
Run-on/Run-off control Ditch Construction	1,200	L.F.	\$7.00	\$8,400
Organic Amendment	21,440	Dry Tons	\$140.00	\$3,001,600
Fertilize and Seed	160	Acres	\$1,000.00	\$160,000
Mulch	160	Acres	\$1,000.00	\$160,000
Install Erosion Control Mat	4,840	S.Y.	\$2.75	\$13,310
Install Fences	17,000	L.F.	\$5.00	\$85,000
Subtotal Capital Costs				\$8,256,552
Project Management Costs 10%				\$825,655
Professional and Technical Services Costs 15%				\$1,238,483
Contingency (20%)				\$1,651,310
TOTAL CAPITAL COSTS				\$11,972,000

ANNUAL 30 YEAR O&M COSTS	Cost
Clean Sediment Ponds	\$15,350.00
Repair Fences	\$9,400.00
Inspection Reporting	\$12,000.00
Sampling (3 water (runoff) and 10 soil)	\$7,500.00
Vegetation O&M	\$34,000.00
Total Annual O&M Costs	\$78,250.00

TOTAL CAPITAL COSTS	\$11,971,999.68
TOTAL O&M PRESENT WORTH COSTS	\$971,004.25 Based on 30 year duration and 7.0% discount rate
TOTAL PRESENT WORTH COSTS	\$12,943,003.93

**TABLE E-10. BLUFF B PRELIMINARY COST ESTIMATE - ALTERNATIVE 6, RILEY PASS
 COMPREHENSIVE GRADING, CONSOLIDATION AND CONTAINMENT OF ACUTELY
 CONTAMINATED MATERIALS, SEDIMENT CONTROL AND REDUCTION OF HIGHWALLS**

	Quantity	Units	Unit Price	Cost
CAPITAL COSTS				
Mobilization, Bonding, & Insurance (15%)	1	L.S.	\$1,132,382	\$1,132,382
Road Improvements / Road Construction	2	miles	\$2,500.00	\$5,000
Construct Sediment Basins	5	Each	\$20,000.00	\$100,000
Waste Material Grading Side Slope (4H:1V)	42	Acres	\$7,500.00	\$315,000
Excavate, Haul, And Consolidate Excess Material from Side Slope	362,300	C.Y.	\$7.00	\$2,536,100
Waste Material Grading (top of bluff)	112.0	Acre	\$3,000.00	\$336,000
Excavate, Haul, and Consolidate Graded Waste Material (top of bluff)	65,600	C.Y.	\$7.00	\$459,200
High Wall Reduction	9.0	Acre	\$18,000.00	\$162,000
Run-on/Run-off control Ditch Construction	1,200	L.F.	\$7.00	\$8,400
Organic Amendment	22,780	Dry Tons	\$140.00	\$3,189,200
Fertilize and Seed	170	Acres	\$1,000.00	\$170,000
Mulch	170	Acres	\$1,000.00	\$170,000
Install Erosion Control Mat	4,840	S.Y.	\$2.75	\$13,310
Install Fences	17,000	L.F.	\$5.00	\$85,000
Subtotal Capital Costs				\$8,681,592
Project Management Costs 10%				\$868,159
Professional and Technical Services Costs 15%				\$1,302,239
Contingency (20%)				\$1,736,318
TOTAL CAPITAL COSTS				\$12,588,308

ANNUAL 30 YEAR O&M COSTS	Cost
Clean Sediment Ponds	\$15,350.00
Repair Fences	\$9,400.00
Inspection Reporting	\$12,000.00
Sampling (3 water (runoff) and 10 soil)	\$7,500.00
Vegetation O&M	\$34,000.00
Total Annual O&M Costs	\$78,250.00

TOTAL CAPITAL COSTS	\$12,588,307.68
TOTAL O&M PRESENT WORTH COSTS	\$971,004.25 Based on 30 year duration and 7.0% discount rate
TOTAL PRESENT WORTH COSTS	\$13,559,311.93

BLUFF C

**RILEY PASS SITE
HARDING COUNTY, SOUTH DAKOTA**

**TABLE E-11. BLUFF C PRELIMINARY COST ESTIMATE - ALTERNATIVE 2, RILEY PASS
INSTIUTIONAL CONTROLS**

	Quantity	Units	Unit Price	Cost
CAPITAL COSTS				
8-foot Chain link Fence	1,250	L.F	\$20.00	\$25,000.00
TOTAL CAPITAL COSTS				\$25,000.00

ANNUAL 30 YEAR O&M COSTS	Cost
Inspection Reporting	\$12,000
Repair Fences	\$3,200
Sampling (3 water (runoff) and 10 soil)	\$7,500
Total Annual O&M Costs	\$22,700

TOTAL CAPITAL COSTS	\$25,000.00
TOTAL O&M PRESENT WORTH COSTS	\$281,684.30 Based on 30 year duration and 7.0% discount rate
TOTAL PRESENT WORTH COSTS	\$306,684.30

**TABLE E-12. BLUFF C PRELIMINARY COST ESTIMATE - ALTERNATIVE 3, RILEY PASS
MINIMAL GRADING AND SEDIMENT CONTROL**

	Quantity	Units	Unit Price	Cost
CAPITAL COSTS				
Mobilization, Bonding, & Insurance (15%)	1	L.S.	\$7,991	\$7,991
Road Improvements / Road Construction	1	miles	\$2,500.00	\$2,500
Waste Material Grading	1.5	Acres	\$2,000.00	\$3,000
Organic Amendment	268	Dry Tons	\$140.00	\$37,520
Fertilize and Seed	2	Acres	\$1,000.00	\$2,000
Mulch	2	Acres	\$1,000.00	\$2,000
Install Fences	1,250	L.F.	\$5.00	\$6,250
Subtotal Capital Costs				\$61,261
Project Management Costs 10%				\$6,126
Professional and Technical Services Costs 15%				\$9,189
Contingency (20%)				\$12,252
TOTAL CAPITAL COSTS				\$88,828

ANNUAL 30 YEAR O&M COSTS	Cost
Repair Fences	\$3,200.00
Inspection Reporting	\$12,000.00
Sampling (3 water (runoff) and 10 soil)	\$7,500.00
Vegetation O&M	\$8,000.00
Total Annual O&M Costs	\$30,700.00

TOTAL CAPITAL COSTS	\$88,827.73
TOTAL O&M PRESENT WORTH COSTS	\$380,956.30 Based on 30 year duration and 7.0% discount rate
TOTAL PRESENT WORTH COSTS	\$469,784.03

BLUFF D

**RILEY PASS SITE
HARDING COUNTY, SOUTH DAKOTA**

**TABLE E-13. BLUFF D PRELIMINARY COST ESTIMATE - ALTERNATIVE 2, RILEY PASS
INSTIUTIONAL CONTROLS**

	Quantity	Units	Unit Price	Cost
CAPITAL COSTS				
8-foot Chain link Fence	1,660	L.F	\$20.00	\$33,200.00
TOTAL CAPITAL COSTS				\$33,200.00

ANNUAL 30 YEAR O&M COSTS	Cost
Inspection Reporting	\$12,000.00
Repair Fences	\$3,300
Sampling (3 water (runoff) and 10 soil)	\$7,500
Total Annual O&M Costs	\$22,800

TOTAL CAPITAL COSTS	\$33,200.00
TOTAL O&M PRESENT WORTH COSTS	\$282,925.20 Based on 30 year duration and 7.0% discount rate
TOTAL PRESENT WORTH COSTS	\$316,125.20

**TABLE E-14 BLUFF D PRELIMINARY COST ESTIMATE - ALTERNATIVE 3, RILEY PASS
MINIMAL GRADING AND SEDIMENT CONTROL**

	Quantity	Units	Unit Price	Cost
CAPITAL COSTS				
Mobilization, Bonding, & Insurance (15%)	1	L.S.	\$10,401	\$10,401
Road Improvements / Road Construction	1	miles	\$2,500.00	\$2,500
Waste Material Grading	1.5	Acres	\$2,000.00	\$3,000
Organic Amendment	368	Dry Tons	\$140.00	\$51,520
Fertilize and Seed	2	Acres	\$1,000.00	\$2,000
Mulch	2	Acres	\$1,000.00	\$2,000
Install Fences	1,664	L.F.	\$5.00	\$8,320
Subtotal Capital Costs				\$79,741
Project Management Costs 10%				\$7,974
Professional and Technical Services Costs 15%				\$11,961.15
Contingency (20%)				\$15,948
TOTAL CAPITAL COSTS				\$115,624

ANNUAL 30 YEAR O&M COSTS	Cost
Repair Fences	\$3,000.00
Inspection Reporting	\$12,000.00
Sampling (3 water (runoff) and 10 soil)	\$7,500.00
Vegetation O&M	\$8,000.00
Total Annual O&M Costs	\$30,500.00

TOTAL CAPITAL COSTS	\$115,624.45
TOTAL O&M PRESENT WORTH COSTS	\$378,474.50 Based on 30 year duration and 7.0% discount rate
TOTAL PRESENT WORTH COSTS	\$494,098.95

BLUFF E

**RILEY PASS SITE
HARDING COUNTY, SOUTH DAKOTA**

**TABLE E-15. BLUFF E PRELIMINARY COST ESTIMATE - ALTERNATIVE 2, RILEY PASS
INSTIUTIONAL CONTROLS**

	Quantity	Units	Unit Price	Cost
CAPITAL COSTS				
8-foot Chain link Fence	1,350	L.F	\$20.00	\$27,000.00
TOTAL CAPITAL COSTS				\$27,000.00

ANNUAL 30 YEAR O&M COSTS	Cost
Inspection Reporting	\$12,000.00
Repair Fences	\$3,240
Sampling (3 water (runoff) and 10 soil)	\$7,500
Total Annual O&M Costs	\$22,740.00

TOTAL CAPITAL COSTS	\$27,000.00
TOTAL O&M PRESENT WORTH COSTS	\$282,180.66 Based on 30 year duration and 7.0% discount rate
TOTAL PRESENT WORTH COSTS	\$309,180.66

**TABLE E-16 BLUFF E PRELIMINARY COST ESTIMATE - ALTERNATIVE 3, RILEY PASS
MINIMAL GRADING AND SEDIMENT CONTROL**

	Quantity	Units	Unit Price	Cost
CAPITAL COSTS				
Mobilization, Bonding, & Insurance (15%)	1	L.S.	\$6,546	\$6,546
Road Improvements / Road Construction	1.5	miles	\$2,500.00	\$3,750
Waste Material Grading	1	Acres	\$2,000.00	\$2,000
Organic Amendment	201	Dry Tons	\$140.00	\$28,140
Fertilize and Seed	1.5	Acres	\$1,000.00	\$1,500
Mulch	1.5	Acres	\$1,000.00	\$1,500
Install Fences	1,350	L.F.	\$5.00	\$6,750
Subtotal Capital Costs				\$50,186
Project Management Costs 10%				\$5,019
Professional and Technical Services Costs 15%				\$7,528
Contingency (20%)				\$10,037
TOTAL CAPITAL COSTS				\$72,770

ANNUAL 30 YEAR O&M COSTS	Cost
Repair Fences	\$3,240.00
Inspection Reporting	\$12,000.00
Sampling (3 water (runoff) and 10 soil)	\$7,500.00
Vegetation O&M	\$8,000.00
Total Annual O&M Costs	\$30,740.00

TOTAL CAPITAL COSTS	\$72,769.70
TOTAL O&M PRESENT WORTH COSTS	\$381,452.66 Based on 30 year duration and 7.0% discount rate
TOTAL PRESENT WORTH COSTS	\$454,222.36

BLUFF F

**RILEY PASS SITE
HARDING COUNTY, SOUTH DAKOTA**

**TABLE E-17. BLUFF F PRELIMINARY COST ESTIMATE - ALTERNATIVE 2, RILEY PASS
INSTIUTIONAL CONTROLS**

	Quantity	Units	Unit Price	Cost
CAPITAL COSTS				
8-foot Chain link Fence	1,450	L.F	\$20.00	\$29,000.00
TOTAL CAPITAL COSTS				\$29,000.00

ANNUAL 30 YEAR O&M COSTS	Cost
Inspection Reporting	\$12,000.00
Repair Fences	\$3,480
Sampling (3 water (runoff) and 10 soil)	\$7,500
Total Annual O&M Costs	\$22,980.00

TOTAL CAPITAL COSTS	\$29,000.00
TOTAL O&M PRESENT WORTH COSTS	\$285,158.82 Based on 30 year duration and 7.0% discount rate
TOTAL PRESENT WORTH COSTS	\$314,158.82

**TABLE E-18. BLUFF F PRELIMINARY COST ESTIMATE - ALTERNATIVE 3, RILEY PASS
MINIMAL GRADING AND SEDIMENT CONTROL**

	Quantity	Units	Unit Price	Cost
CAPITAL COSTS				
Mobilization, Bonding, & Insurance (15%)	1	L.S.	\$10,223	\$10,223
Road Improvements / Road Construction	2	miles	\$2,500.00	\$5,000
Waste Material Grading	2	Acres	\$2,000.00	\$4,000
Organic Amendment	335	Dry Tons	\$140.00	\$46,900
Fertilize and Seed	2.5	Acres	\$1,000.00	\$2,500
Mulch	2.5	Acres	\$1,000.00	\$2,500
Install Fences	1,450	L.F.	\$5.00	\$7,250
Subtotal Capital Costs				\$78,373
Project Management Costs 10%				\$7,837
Professional and Technical Services Costs 15%				\$11,756
Contingency (20%)				\$15,675
TOTAL CAPITAL COSTS				\$113,640

ANNUAL 30 YEAR O&M COSTS	Cost
Repair Fences	\$3,480.00
Inspection Reporting	\$12,000.00
Sampling (3 water (runoff) and 10 soil)	\$7,500.00
Vegetation O&M	\$8,000.00
Total Annual O&M Costs	\$30,980.00

TOTAL CAPITAL COSTS	\$113,640.13
TOTAL O&M PRESENT WORTH COSTS	\$384,430.82 Based on 30 year duration and 7.0% discount rate
TOTAL PRESENT WORTH COSTS	\$498,070.95

BLUFF G

**RILEY PASS SITE
HARDING COUNTY, SOUTH DAKOTA**

**TABLE E-19. BLUFF G PRELIMINARY COST ESTIMATE - ALTERNATIVE 2, RILEY PASS
INSTITUTIONAL CONTROLS**

	Quantity	Units	Unit Price	Cost
CAPITAL COSTS				
8-foot Chain link Fence	2,100	L.F	\$20.00	\$42,000.00
TOTAL CAPITAL COSTS				\$42,000.00

ANNUAL 30 YEAR O&M COSTS	Cost
Repair Fences	\$5,050.00
Inspection Reporting	\$12,000
Sampling (3 water (runoff) and 10 soil)	\$7,500
Total Annual O&M Costs	\$24,550.00

TOTAL CAPITAL COSTS	\$42,000.00
TOTAL O&M PRESENT WORTH COSTS	\$304,640.95 Based on 30 year duration and 7.0% discount rate
TOTAL PRESENT WORTH COSTS	\$346,640.95

**TABLE E-20. BLUFF G PRELIMINARY COST ESTIMATE - ALTERNATIVE 5a, RILEY PASS
COMPREHENSIVE GRADING, CONSOLIDATION AND CONTAINMENT OF ACUTELY
CONTAMINATED MATERIALS, AND SEDIMENT CONTROL**

	Quantity	Units	Unit Price	Cost
CAPITAL COSTS				
Mobilization, Bonding, & Insurance (15%)	1	L.S.	\$31,635	\$31,635
Road Improvements / Road Construction	2.5	miles	\$2,500.00	\$6,250
Waste Material Grading (top of bluff/saddle)	1.0	Acre	\$3,000.00	\$3,000
Waste Material Grading, West Side Slope (4H:1V)	5.0	Acres	\$7,500.00	\$37,500
Excavation and Haul Hot Spot to Bluff I ₁ Waste Consolidation Area	300	C.Y.	\$18.00	\$5,400
Organic Amendment	871	Dry Tons	\$140.00	\$121,940
Fertilize and Seed	6.5	Acres	\$1,000.00	\$6,500
Mulch	6.5	Acres	\$1,000.00	\$6,500
Install Erosion Control Mat	4,840	S.Y.	\$2.75	\$13,310
Install Fences	2,100	L.F.	\$5.00	\$10,500
Subtotal Capital Costs				\$242,535
Project Management Costs 10%				\$24,254
Professional and Technical Services Costs 15%				\$36,380
Contingency (20%)				\$48,507
TOTAL CAPITAL COSTS				\$351,676

ANNUAL 30 YEAR O&M COSTS	Cost
Repair Fences	\$3,000.00
Inspection Reporting	\$12,000.00
Sampling (3 water (runoff) and 10 soil)	\$7,500.00
Vegetation O&M	\$8,000.00
Total Annual O&M Costs	\$30,500.00

TOTAL CAPITAL COSTS	\$351,675.75
TOTAL O&M PRESENT WORTH COSTS	\$378,474.50 Based on 30 year duration and 7.0% discount rate
TOTAL PRESENT WORTH COSTS	\$730,150.25

**TABLE E-21. BLUFF G PRELIMINARY COST ESTIMATE - ALTERNATIVE 5b, RILEY PASS
COMPREHENSIVE GRADING, CONSOLIDATION AND CONTAINMENT OF ACUTELY
CONTAMINATED MATERIALS, AND SEDIMENT CONTROL**

	Quantity	Units	Unit Price	Cost
CAPITAL COSTS				
Mobilization, Bonding, & Insurance (15%)	1	L.S.	\$75,435	\$75,435
Road Improvements / Road Construction	2.5	miles	\$2,500.00	\$6,250
Waste Material Grading (top of bluff)	1.0	Acre	\$3,000.00	\$3,000
Waste Material Grading, West Side Slope (4H:1V)	5.0	Acres	\$7,500.00	\$37,500
Excavate, Haul, And Consolidate Excess Material from Side Slope on top of Bluff G	35,000	C.Y.	\$7.00	\$245,000
Excavation and Haul Hot Spot to Bluff B Waste Consolidation Area	300	C.Y.	\$23.00	\$6,900
Organic Amendment	1,196	Dry Tons	\$140.00	\$167,440
Fertilize and Seed	6.5	Acres	\$1,000.00	\$6,500
Mulch	6.5	Acres	\$1,000.00	\$6,500
Install Erosion Control Mat	4,840	S.Y.	\$2.75	\$13,310
Install Fences	2,100	L.F.	\$5.00	\$10,500
Subtotal Capital Costs				\$578,335
Project Management Costs 10%				\$57,834
Professional and Technical Services Costs 15%				\$86,750
Contingency (20%)				\$115,667
TOTAL CAPITAL COSTS				\$838,585.75

ANNUAL 30 YEAR O&M COSTS	Cost
Repair Fences	\$3,000.00
Inspection Reporting	\$12,000.00
Sampling (3 water (runoff) and 10 soil)	\$7,500.00
Vegetation O&M	\$8,000.00
Total Annual O&M Costs	\$30,500.00

TOTAL CAPITAL COSTS	\$838,585.75
TOTAL O&M PRESENT WORTH COSTS	\$378,474.50 Based on 30 year duration and 7.0% discount rate
TOTAL PRESENT WORTH COSTS	\$1,217,060.25

BLUFF H

**RILEY PASS SITE
HARDING COUNTY, SOUTH DAKOTA**

**TABLE E-22. BLUFF H PRELIMINARY COST ESTIMATE - ALTERNATIVE 2, RILEY PASS
INSTIUTIONAL CONTROLS**

	Quantity	Units	Unit Price	Cost
CAPITAL COSTS				
8-foot Chain link Fence	5,000	L.F	\$20.00	\$100,000.00
TOTAL CAPITAL COSTS				\$100,000.00

ANNUAL 30 YEAR O&M COSTS	Cost
Repair Fences	\$15,000.00
Inspection Reporting	\$12,000
Sampling (3 water (runoff) and 10 soil)	\$7,500
Total Annual O&M Costs	\$34,500.00

TOTAL CAPITAL COSTS	\$100,000.00
TOTAL O&M PRESENT WORTH COSTS	\$428,110.50 Based on 30 year duration and 7.0% discount rate
TOTAL PRESENT WORTH COSTS	\$528,110.50

**TABLE E-23. BLUFF H PRELIMINARY COST ESTIMATE - ALTERNATIVE 3, RILEY PASS
MINIMAL GRADING AND SEDIMENT CONTROL**

	Quantity	Units	Unit Price	Cost
CAPITAL COSTS				
Mobilization, Bonding, & Insurance (15%)	1	L.S.	\$46,315	\$46,315
Road Improvements / Road Construction	4	miles	\$2,500.00	\$10,000
Construct Internal Sediment Basins	3	Each	\$20,000.00	\$60,000
Waste Material Grading (top of bluff)	8	Acre	\$3,000.00	\$24,000
Run-on/Run-off control Ditch Construction	950	L.F.	\$7.00	\$6,650
Organic Amendment	1,139	Dry Tons	\$140.00	\$159,460
Fertilize and Seed	8.5	Acres	\$1,000.00	\$8,500
Mulch	8.5	Acres	\$1,000.00	\$8,500
Install Erosion Control Mat	2,420	S.Y.	\$2.75	\$6,655
Install Fences	5,000	L.F.	\$5.00	\$25,000
Subtotal Capital Costs				\$355,080
Project Management Costs 10%				\$35,508
Professional and Technical Services Costs 15%				\$53,262
Contingency (20%)				\$71,016
TOTAL CAPITAL COSTS				\$514,866

ANNUAL 30 YEAR O&M COSTS	Cost
Repair Fences	\$3,000.00
Inspection Reporting	\$12,000.00
Sampling (3 water (runoff) and 10 soil)	\$7,500.00
Vegetation O&M	\$8,000.00
Total Annual O&M Costs	\$30,500.00

TOTAL CAPITAL COSTS	\$514,865.64
TOTAL O&M PRESENT WORTH COSTS	\$378,474.50 Based on 30 year duration and 7.0% discount rate
TOTAL PRESENT WORTH COSTS	\$893,340.14

**TABLE E-24. BLUFF H PRELIMINARY COST ESTIMATE - ALTERNATIVE 4, RILEY PASS
COMPREHENSIVE GRADING AND SEDIMENT CONTROL**

	Quantity	Units	Unit Price	Cost
CAPITAL COSTS				
Mobilization, Bonding, & Insurance (15%)	1	L.S.	\$129,114	\$129,114
Road Improvements / Road Construction	4	miles	\$2,500.00	\$10,000
Construct Internal Sediment Basins	3	Each	\$20,000.00	\$60,000
Waste Material Grading (top of bluff)	21	Acre	\$3,000.00	\$63,000
Waste Material Grading Side Slope (4H:1V)	8	Acres	\$7,500.00	\$60,000
Run-on/Run-off control Ditch Construction	950	L.F.	\$7.00	\$6,650
Organic Amendment	4,020	Dry Tons	\$140.00	\$562,800
Fertilize and Seed	30	Acres	\$1,000.00	\$30,000
Mulch	30	Acres	\$1,000.00	\$30,000
Install Erosion Control Mat	4,840	S.Y.	\$2.75	\$13,310
Install Fences	5,000	L.F.	\$5.00	\$25,000
Subtotal Capital Costs				\$989,874
Project Management Costs 10%				\$98,987
Professional and Technical Services Costs 15%				\$148,481
Contingency (20%)				\$197,975
TOTAL CAPITAL COSTS				\$1,435,317

ANNUAL 30 YEAR O&M COSTS	Cost
Repair Fences	\$3,000.00
Inspection Reporting	\$12,000.00
Sampling (3 water (runoff) and 10 soil)	\$7,500.00
Vegetation O&M	\$8,000.00
Total Annual O&M Costs	\$30,500.00

TOTAL CAPITAL COSTS	\$1,435,317.30
TOTAL O&M PRESENT WORTH COSTS	\$378,474.50 Based on 30 year duration and 7.0% discount rate
TOTAL PRESENT WORTH COSTS	\$1,813,791.80

**TABLE E-25. BLUFF H PRELIMINARY COST ESTIMATE - ALTERNATIVE 5, RILEY PASS
COMPREHENSIVE GRADING, CONSOLIDATION AND CONTAINMENT OF ACUTELY
CONTAMINATED MATERIALS, AND SEDIMENT CONTROL**

	Quantity	Units	Unit Price	Cost
CAPITAL COSTS				
Mobilization, Bonding, & Insurance (15%)	1	L.S.	\$152,214	\$152,214
Road Improvements / Road Construction	4	miles	\$2,500.00	\$10,000
Construct Internal Sediment Basins	3	Each	\$20,000.00	\$60,000
Waste Material Grading (top of bluff)	21	Acre	\$3,000.00	\$63,000
Waste Material Grading Side Slope (4H:1V)	8	Acres	\$7,500.00	\$60,000
Excavate, Haul, And Consolidate Excess Material from Side Slope	22,000	C.Y.	\$7.00	\$154,000
Run-on/Run-off control Ditch Construction	950	L.F.	\$7.00	\$6,650
Organic Amendment	4,020	Dry Tons	\$140.00	\$562,800
Fertilize and Seed	30	Acres	\$1,000.00	\$30,000
Mulch	30	Acres	\$1,000.00	\$30,000
Install Erosion Control Mat	4,840	S.Y.	\$2.75	\$13,310
Install Fences	5,000	L.F.	\$5.00	\$25,000
Subtotal Capital Costs				\$1,166,974
Project Management Costs 10%				\$116,697
Professional and Technical Services Costs 15%				\$175,046
Contingency (20%)				\$233,395
TOTAL CAPITAL COSTS				\$1,692,112

ANNUAL 30 YEAR O&M COSTS	Cost
Repair Fences	\$3,000.00
Inspection Reporting	\$12,000.00
Sampling (3 water (runoff) and 10 soil)	\$7,500.00
Vegetation O&M	\$8,000.00
Total Annual O&M Costs	\$30,500.00

TOTAL CAPITAL COSTS	\$1,692,112.30
TOTAL O&M PRESENT WORTH COSTS	\$378,474.50 Based on 30 year duration and 7.0% discount rate
TOTAL PRESENT WORTH COSTS	\$2,070,586.80

**TABLE E-26. BLUFF H PRELIMINARY COST ESTIMATE - ALTERNATIVE 6, RILEY PASS
 COMPREHENSIVE GRADING, CONSOLIDATION AND CONTAINMENT OF ACUTELY
 CONTAMINATED MATERIALS, SEDIMENT CONTROL AND REDUCTION OF HIGHWALLS**

	Quantity	Units	Unit Price	Cost
CAPITAL COSTS				
Mobilization, Bonding, & Insurance (15%)	1	L.S.	\$163,842	\$163,842
Road Improvements / Road Construction	4	miles	\$2,500.00	\$10,000
Construct Internal Sediment Basins	3	Each	\$20,000.00	\$60,000
Waste Material Grading (top of bluff)	21	Acre	\$3,000.00	\$63,000
Waste Material Grading Side Slope (4H:1V)	8	Acres	\$7,500.00	\$60,000
Excavate, Haul, And Consolidate Excess Material from Side Slope To High Wall	22,000	C.Y.	\$7.00	\$154,000
High Wall Reduction	2.0	Acre	\$18,000.00	\$36,000
Run-on/Run-off control Ditch Construction	950	L.F.	\$7.00	\$6,650
Organic Amendment	4,288	Dry Tons	\$140.00	\$600,320
Fertilize and Seed	32	Acres	\$1,000.00	\$32,000
Mulch	32	Acres	\$1,000.00	\$32,000
Install Erosion Control Mat	4,840	S.Y.	\$2.75	\$13,310
Install Fences	5,000	L.F.	\$5.00	\$25,000
Subtotal Capital Costs				\$1,256,122
Project Management Costs 10%				\$125,612
Professional and Technical Services Costs 15%				\$188,418
Contingency (20%)				\$251,224
TOTAL CAPITAL COSTS				\$1,821,377

ANNUAL 30 YEAR O&M COSTS	Cost
Repair Fences	\$3,000.00
Inspection Reporting	\$12,000.00
Sampling (3 water (runoff) and 10 soil)	\$7,500.00
Vegetation O&M	\$8,000.00
Total Annual O&M Costs	\$30,500.00

TOTAL CAPITAL COSTS	\$1,821,376.90
TOTAL O&M PRESENT WORTH COSTS	\$378,474.50 Based on 30 year duration and 7.0% discount rate
TOTAL PRESENT WORTH COSTS	\$2,199,851.40

BLUFF I

**RILEY PASS SITE
HARDING COUNTY, SOUTH DAKOTA**

**TABLE E-27. BLUFF I_{1&2} PRELIMINARY COST ESTIMATE - ALTERNATIVE 2, RILEY PASS
INSTIUTIONAL CONTROLS**

	Quantity	Units	Unit Price	Cost
CAPITAL COSTS				
8-foot Chain link Fence	5,500	L.F	\$20.00	\$110,000.00
TOTAL CAPITAL COSTS				\$110,000.00

ANNUAL 30 YEAR O&M COSTS	Cost
Repair Fences	\$16,000.00
Inspection Reporting	\$12,000
Sampling (3 water (runoff) and 10 soil)	\$7,500
Total Annual O&M Costs	\$35,500.00

TOTAL CAPITAL COSTS	\$110,000.00
TOTAL O&M PRESENT WORTH COSTS	\$440,519.50 Based on 30 year duration and 7.0% discount rate
TOTAL PRESENT WORTH COSTS	\$550,519.50

**TABLE E-28. BLUFF I_{1&2} PRELIMINARY COST ESTIMATE - ALTERNATIVE 3, RILEY PASS
MINIMAL GRADING AND SEDIMENT CONTROL**

	Quantity	Units	Unit Price	Cost
CAPITAL COSTS				
Mobilization, Bonding, & Insurance (15%)	1	L.S.	\$55,232	\$55,232
Road Improvements / Road Construction	2	miles	\$2,500.00	\$5,000
Waste Material Grading (top of bluff)	12	Acre	\$3,000.00	\$34,500
Construct Internal Sediment Basins	1	Each	\$20,000.00	\$20,000
Run-on/Run-off control Ditch Construction	1,200	L.F.	\$7.00	\$8,400
Organic Amendment	1,675	Dry Tons	\$140.00	\$234,500
Fertilize and Seed	12.5	Acres	\$1,000.00	\$12,500
Mulch	12.5	Acres	\$1,000.00	\$12,500
Install Erosion Control Mat	4,840	S.Y.	\$2.75	\$13,310
Install Fences	5,500	L.F.	\$5.00	\$27,500
Subtotal Capital Costs				\$423,442
Project Management Costs 10%				\$42,344
Professional and Technical Services Costs 15%				\$63,516
Contingency (20%)				\$84,688
TOTAL CAPITAL COSTS				\$613,990

ANNUAL 30 YEAR O&M COSTS	Cost
Repair Fences	\$4,500.00
Inspection Reporting	\$12,000.00
Sampling (3 water (runoff) and 10 soil)	\$7,500.00
Vegetation O&M	\$8,000.00
Total Annual O&M Costs	\$32,000.00

TOTAL CAPITAL COSTS	\$613,990.18
TOTAL O&M PRESENT WORTH COSTS	\$397,088.00 Based on 30 year duration and 7.0% discount rate
TOTAL PRESENT WORTH COSTS	\$1,011,078.18

**TABLE E-29. BLUFF I_{1&2} PRELIMINARY COST ESTIMATE - ALTERNATIVE 5, RILEY PASS
COMPREHENSIVE GRADING, CONSOLIDATION OF
EXCESS MATERIAL, AND SEDIMENT CONTROL**

	Quantity	Units	Unit Price	Cost
CAPITAL COSTS				
Mobilization, Bonding, & Insurance (15%)	1	L.S.	\$143,571	\$143,571
Road Improvements / Road Construction	2	miles	\$2,500.00	\$5,000
Waste Material Grading	14	Acre	\$3,000.00	\$42,000
Excavation and haul to Consolidation Area Selected Spoils Piles	63,000	C.Y.	\$7.00	\$441,000
Waste Material Grading Side Slope (4H:1V)	3.5	Acres	\$7,500.00	\$26,250
Construct Internal Sediment Basins	1	Each	\$20,000.00	\$20,000
Run-on/Run-off control Ditch Construction	1,200	L.F.	\$7.00	\$8,400
Organic Amendment	2,412	Dry Tons	\$140.00	\$337,680
Fertilize and Seed	18	Acres	\$1,000.00	\$18,000
Mulch	18	Acres	\$1,000.00	\$18,000
Install Erosion Control Mat	4,840	S.Y.	\$2.75	\$13,310
Install Fences	5,500	L.F.	\$5.00	\$27,500
Subtotal Capital Costs				\$1,100,711
Project Management Costs 10%				\$110,071
Professional and Technical Services Costs 15%				\$165,107
Contingency (20%)				\$220,142
TOTAL CAPITAL COSTS				\$1,596,031

ANNUAL 30 YEAR O&M COSTS	Cost
Repair Fences	\$4,500.00
Inspection Reporting	\$12,000.00
Sampling (3 water (runoff) and 10 soil)	\$7,500.00
Vegetation O&M	\$8,000.00
Total Annual O&M Costs	\$32,000.00

TOTAL CAPITAL COSTS	\$1,596,030.95
TOTAL O&M PRESENT WORTH COSTS	\$397,088.00 Based on 30 year duration and 7.0% discount rate
TOTAL PRESENT WORTH COSTS	\$1,993,118.95

**TABLE E-30. BLUFF I_{1&2} PRELIMINARY COST ESTIMATE - ALTERNATIVE 6, RILEY PASS
 COMPREHENSIVE GRADING, CONSOLIDATION OF
 EXCESS MATERIAL, SEDIMENT CONTROL AND REDUCTION OF HIGHWALLS**

	Quantity	Units	Unit Price	Cost
CAPITAL COSTS				
Mobilization, Bonding, & Insurance (15%)	1	L.S.	\$189,927	\$189,927
Road Improvements / Road Construction	2	miles	\$2,500.00	\$5,000
Waste Material Grading	14	Acre	\$3,000.00	\$42,000
Excavation and haul to Consolidation Area Selected Spoils Piles	63,000	C.Y.	\$7.00	\$441,000
Waste Material Grading Side Slope (4H:1V)	3.5	Acres	\$7,500.00	\$26,250
Construct Internal Sediment Basins	1	Each	\$20,000.00	\$20,000
Run-on/Run-off control Ditch Construction	1,200	L.F.	\$7.00	\$8,400
High Wall Reduction	4	Acre	\$18,000.00	\$72,000
Organic Amendment	4,048	Dry Tons	\$140.00	\$566,720
Fertilize and Seed	22	Acres	\$1,000.00	\$22,000
Mulch	22	Acres	\$1,000.00	\$22,000
Install Erosion Control Mat	4,840	S.Y.	\$2.75	\$13,310
Install Fences	5,500	L.F.	\$5.00	\$27,500
Subtotal Capital Costs				\$1,456,107
Project Management Costs 10%				\$145,611
Professional and Technical Services Costs 15%				\$218,416
Contingency (20%)				\$291,221
TOTAL CAPITAL COSTS				\$2,111,355

ANNUAL 30 YEAR O&M COSTS	Cost
Repair Fences	\$4,500.00
Inspection Reporting	\$12,000.00
Sampling (3 water (runoff) and 10 soil)	\$7,500.00
Vegetation O&M	\$8,000.00
Total Annual O&M Costs	\$32,000.00

TOTAL CAPITAL COSTS	\$2,111,355.15
TOTAL O&M PRESENT WORTH COSTS	\$397,088.00 Based on 30 year duration and 7.0% discount rate
TOTAL PRESENT WORTH COSTS	\$2,508,443.15

**TABLE E-31. BLUFF 1, PRELIMINARY COST ESTIMATE - ALTERNATIVE 2, RILEY PASS
INSTIUTIONAL CONTROLS**

	Quantity	Units	Unit Price	Cost
CAPITAL COSTS				
8-foot Chain link Fence	1,920	L.F	\$20.00	\$38,400.00
TOTAL CAPITAL COSTS				\$38,400.00

ANNUAL 30 YEAR O&M COSTS	Cost
Repair Fences	\$4,600.00
Inspection Reporting	\$12,000
Sampling (3 water (runoff) and 10 soil)	\$7,500
Total Annual O&M Costs	\$24,100.00

TOTAL CAPITAL COSTS	\$38,400.00
TOTAL O&M PRESENT WORTH COSTS	\$299,056.90 Based on 30 year duration and 7.0% discount rate
TOTAL PRESENT WORTH COSTS	\$337,456.90

**TABLE E-32. BLUFF I, PRELIMINARY COST ESTIMATE - ALTERNATIVE 3, RILEY PASS
MINIMAL GRADING AND SEDIMENT CONTROL**

	Quantity	Units	Unit Price	Cost
CAPITAL COSTS				
Mobilization, Bonding, & Insurance (15%)	1	L.S.	\$10,057	\$10,057
Road Improvements / Road Construction	2	miles	\$2,500.00	\$5,000
Waste Material Grading	1.6	Acre	\$3,000.00	\$4,800
Run-on/Run-off control Ditch Construction	400	L.F.	\$7.00	\$2,800
Organic Amendment	268	Dry Tons	\$140.00	\$37,520
Fertilize and Seed	2.0	Acres	\$1,000.00	\$2,000
Mulch	2.0	Acres	\$1,000.00	\$2,000
Install Erosion Control Mat	1,210	S.Y.	\$2.75	\$3,328
Install Fences	1,920	L.F.	\$5.00	\$9,600
Subtotal Capital Costs				\$77,105
Project Management Costs 10%				\$7,710
Professional and Technical Services Costs 15%				\$11,566
Contingency (20%)				\$15,421
TOTAL CAPITAL COSTS				\$111,802

ANNUAL 30 YEAR O&M COSTS	Cost
Repair Fences	\$3,000.00
Inspection Reporting	\$12,000.00
Sampling (3 water (runoff) and 10 soil)	\$7,500.00
Vegetation O&M	\$8,000.00
Total Annual O&M Costs	\$30,500.00

TOTAL CAPITAL COSTS	\$111,801.71
TOTAL O&M PRESENT WORTH COSTS	\$378,474.50 Based on 30 year duration and 7.0% discount rate
TOTAL PRESENT WORTH COSTS	\$490,276.21

BLUFF J

**RILEY PASS SITE
HARDING COUNTY, SOUTH DAKOTA**

**TABLE E-33. BLUFF J PRELIMINARY COST ESTIMATE - ALTERNATIVE 2, RILEY PASS
INSTIUTIONAL CONTROLS**

	Quantity	Units	Unit Price	Cost
CAPITAL COSTS				
8-foot Chain link Fence	1,300	L.F	\$20.00	\$26,000.00
TOTAL CAPITAL COSTS				\$26,000.00

ANNUAL 30 YEAR O&M COSTS	Cost
Repair Fences	\$4,000.00
Inspection Reporting	\$12,000
Sampling (6 water and 10 soil)	\$12,000
Total Annual O&M Costs	\$28,000.00

TOTAL CAPITAL COSTS	\$26,000.00
TOTAL O&M PRESENT WORTH COSTS	\$347,452.00 Based on 30 year duration and 7.0% discount rate
TOTAL PRESENT WORTH COSTS	\$373,452.00

**TABLE E-34. BLUFF J PRELIMINARY COST ESTIMATE - ALTERNATIVE 3, RILEY PASS
MINIMAL GRADING AND SEDIMENT CONTROL**

	Quantity	Units	Unit Price	Cost
CAPITAL COSTS				
Mobilization, Bonding, & Insurance (15%)	1	L.S.	\$18,213	\$18,213
Road Improvements / Road Construction	1.0	miles	\$2,500.00	\$2,500
Waste Material Grading	3.0	Acre	\$3,000.00	\$9,000
Run-on/Run-off control Ditch Construction	500	L.F.	\$7.00	\$3,500
Organic Amendment	603	Dry Tons	\$140.00	\$84,420
Fertilize and Seed	4.5	Acres	\$1,000.00	\$4,500
Mulch	4.5	Acres	\$1,000.00	\$4,500
Install Fences	2,600	L.F.	\$5.00	\$13,000
Subtotal Capital Costs				\$139,633
Project Management Costs 10%				\$13,963
Professional and Technical Services Costs 15%				\$20,945
Contingency (20%)				\$27,927
TOTAL CAPITAL COSTS				\$202,468

ANNUAL 30 YEAR O&M COSTS	Cost
Repair Fences	\$3,000.00
Inspection Reporting	\$12,000.00
Sampling (6 water (runoff) and 10 soil)	\$12,000.00
Vegetation O&M	\$8,000.00
Total Annual O&M Costs	\$35,000.00

TOTAL CAPITAL COSTS	\$202,467.85
TOTAL O&M PRESENT WORTH COSTS	\$434,315.00 Based on 30 year duration and 7.0% discount rate
TOTAL PRESENT WORTH COSTS	\$636,782.85

**TABLE E-35. BLUFF J PRELIMINARY COST ESTIMATE - ALTERNATIVE 5a, RILEY PASS
 COMPREHENSIVE GRADING, CONSOLIDATION AND CONTAINMENT OF ACUTELY
 CONTAMINATED MATERIALS, AND SEDIMENT CONTROL**

	Quantity	Units	Unit Price	Cost
CAPITAL COSTS				
Mobilization, Bonding, & Insurance (15%)	1	L.S.	\$37,205	\$37,205
Road Improvements/Road Construction	1	miles	\$2,500.00	\$2,500
Excavate and Haul Waste Materials to Consolidation Area at Base of High Wall	6,500	C.Y.	\$7.00	\$45,500
Transport and Apply Cover Soil Over Excavation Area (2ft)	6,500	C.Y.	\$5.00	\$32,500
Apply Cover Soil Over Waste Consolidation Area (3ft)	7,700	C.Y.	\$3.00	\$23,100
Organic Amendment	737	Dry Tons	\$150.00	\$110,550
Fertilize and Seed	5.5	Acres	\$1,000.00	\$5,500
Mulch	5.5	Acres	\$1,000.00	\$5,500
Install Fences	4,576	L.F.	\$5.00	\$22,880
Subtotal Capital Costs				\$285,235
Project Management Costs 10%				\$28,523
Professional and Technical Services Costs 15%				\$42,785
Contingency (20%)				\$57,047
TOTAL CAPITAL COSTS				\$413,590

ANNUAL 30 YEAR O&M COSTS	Cost
Repair Fences	\$3,000.00
Inspection Reporting	\$12,000.00
Sampling (6 water (runoff) and 10 soil)	\$12,000.00
Vegetation O&M	\$8,000.00
Total Annual O&M Costs	\$35,000.00

TOTAL CAPITAL COSTS	\$413,590.03
TOTAL O&M PRESENT WORTH COSTS	\$434,315.00 Based on 30 year duration and 7.0% discount rate
TOTAL PRESENT WORTH COSTS	\$847,905.03

**TABLE E-36. BLUFF J PRELIMINARY COST ESTIMATE - ALTERNATIVE 5b, RILEY PASS
COMPREHENSIVE GRADING, CONSOLIDATION AND CONTAINMENT OF ACUTELY
CONTAMINATED MATERIALS, AND SEDIMENT CONTROL**

	Quantity	Units	Unit Price	Cost
CAPITAL COSTS				
Mobilization, Bonding, & Insurance (15%)	1	L.S.	\$56,351	\$56,351
Road Improvements / Road Construction	6.5	miles	\$2,500.00	\$16,250
Road Improvements/Road Construction (Bluff J to Bluff B)	5.5	miles	\$2,500.00	\$13,750
Excavate and Haul Waste Materials to Consolidation Area at Bluff B	6,500	C.Y.	\$30.00	\$195,000
Transport and Apply Cover Soil Over Excavation Area (2ft)	6,500	C.Y.	\$5.00	\$32,500
Organic Amendment	603	Dry Tons	\$150.00	\$90,450
Fertilize and Seed	4.5	Acres	\$1,000.00	\$4,500
Mulch	4.5	Acres	\$1,000.00	\$4,500
Install Fences	3,744	L.F.	\$5.00	\$18,720
Subtotal Capital Costs				\$432,021
Project Management Costs 10%				\$43,202
Professional and Technical Services Costs 15%				\$64,803
Contingency (20%)				\$86,404
TOTAL CAPITAL COSTS				\$626,430

ANNUAL 30 YEAR O&M COSTS	Cost
Repair Fences	\$3,000.00
Inspection Reporting	\$12,000.00
Sampling (6 water (runoff) and 10 soil)	\$12,000.00
Vegetation O&M	\$8,000.00
Total Annual O&M Costs	\$35,000.00

TOTAL CAPITAL COSTS	\$626,429.73
TOTAL O&M PRESENT WORTH COSTS	\$434,315.00 Based on 30 year duration and 7.0% discount rate
TOTAL PRESENT WORTH COSTS	\$1,060,744.73

BLUFF K

**RILEY PASS SITE
HARDING COUNTY, SOUTH DAKOTA**

**TABLE E-37. BLUFF K₁ PRELIMINARY COST ESTIMATE - ALTERNATIVE 2, RILEY PASS
INSTITUTIONAL CONTROLS**

	Quantity	Units	Unit Price	Cost
CAPITAL COSTS				
8-foot Chain link Fence	2,080	L.F	\$20.00	\$41,600.00
TOTAL CAPITAL COSTS				\$41,600.00

ANNUAL 30 YEAR O&M COSTS	Cost
Repair Fences	\$5,400.00
Inspection Reporting	\$12,000
Sampling (3 water (runoff) and 10 soil)	\$7,500
Total Annual O&M Costs	\$24,900

TOTAL CAPITAL COSTS	\$41,600.00
TOTAL O&M PRESENT WORTH COSTS	\$308,984.10 Based on 30 year duration and 7.0% discount rate
TOTAL PRESENT WORTH COSTS	\$350,584.10

**TABLE E-38. BLUFF K, PRELIMINARY COST ESTIMATE - ALTERNATIVE 3, RILEY PASS
MINIMAL GRADING AND SEDIMENT CONTROL**

	Quantity	Units	Unit Price	Cost
CAPITAL COSTS				
Mobilization, Bonding, & Insurance (15%)	1	L.S.	\$10,935	\$10,935
Road Improvements / Road Construction	1.0	miles	\$2,500.00	\$2,500
Spoils and Berm Materials Grading	2.0	Acre	\$3,000.00	\$6,000
Run-on/Run-off control Ditch Construction	300	L.F.	\$7.00	\$2,100
Organic Amendment	335	Dry Tons	\$140.00	\$46,900
Fertilize and Seed	2.5	Acres	\$1,000.00	\$2,500
Mulch	2.5	Acres	\$1,000.00	\$2,500
Install Fences	2,080	L.F.	\$5.00	\$10,400
Subtotal Capital Costs				\$83,835
Project Management Costs 10%				\$8,384
Professional and Technical Services Costs 15%				\$12,575
Contingency (20%)				\$16,767
TOTAL CAPITAL COSTS				\$121,561

ANNUAL 30 YEAR O&M COSTS	Cost
Repair Fences	\$4,000.00
Inspection Reporting	\$12,000.00
Sampling (3 water (runoff) and 10 soil)	\$7,500.00
Vegetation O&M	\$3,500.00
Total Annual O&M Costs	\$27,000.00

TOTAL CAPITAL COSTS	\$121,560.75
TOTAL O&M PRESENT WORTH COSTS	\$335,043.00 Based on 30 year duration and 7.0% discount rate
TOTAL PRESENT WORTH COSTS	\$456,603.75

**TABLE E-39. BLUFF K₁ PRELIMINARY COST ESTIMATE - ALTERNATIVE 5, RILEY PASS
 COMPREHENSIVE GRADING, CONSOLIDATION AND CONTAINMENT OF ACUTELY
 CONTAMINATED MATERIALS, AND SEDIMENT CONTROL**

	Quantity	Units	Unit Price	Cost
CAPITAL COSTS				
Mobilization, Bonding, & Insurance (15%)	1	L.S.	\$13,305	\$13,305
Road Improvements/Road Construction	1.0	miles	\$2,500.00	\$2,500
Road Improvements/Road Construction (Bluff J to Bluff K ₁)	4.5	miles	\$2,500.00	\$11,250
Excavate and Haul Waste Materials to Consolidation Area at Bluff B	40	C.Y.	\$30.00	\$1,200
Spoils and Berm Materials Grading	2.0	Acre	\$3,000.00	\$6,000
Run-on/Run-off control Ditch Construction	300	L.F.	\$7.00	\$2,100
Organic Amendment	335	Dry Tons	\$150.00	\$50,250
Fertilize and Seed	2.5	Acres	\$1,000.00	\$2,500
Mulch	2.5	Acres	\$1,000.00	\$2,500
Install Fences	2,080	L.F.	\$5.00	\$10,400
Subtotal Capital Costs				\$102,005
Project Management Costs 10%				\$10,201
Professional and Technical Services Costs 15%				\$15,301
Contingency (20%)				\$20,401
TOTAL CAPITAL COSTS				\$147,907

ANNUAL 30 YEAR O&M COSTS	Cost
Repair Fences	\$4,000.00
Inspection Reporting	\$12,000.00
Sampling (3 water (runoff) and 10 soil)	\$7,500.00
Vegetation O&M	\$3,500.00
Total Annual O&M Costs	\$27,000.00

TOTAL CAPITAL COSTS	\$147,907.25
TOTAL O&M PRESENT WORTH COSTS	Based on 30 year duration and 7.0% discount rate
TOTAL PRESENT WORTH COSTS	\$335,043.00

**TABLE E-40. BLUFF K₂ PRELIMINARY COST ESTIMATE - ALTERNATIVE 2, RILEY PASS
INSTIUTIONAL CONTROLS**

	Quantity	Units	Unit Price	Cost
CAPITAL COSTS				
8-foot Chain link Fence	3,744	L.F	\$20.00	\$74,880.00
TOTAL CAPITAL COSTS				\$74,880.00

ANNUAL 30 YEAR O&M COSTS	Cost
Repair Fences	\$9,000.00
Inspection Reporting	\$12,000
Sampling (3 water (runoff) and 10 soil)	\$7,500
Total Annual O&M Costs	\$28,500

TOTAL CAPITAL COSTS	\$74,880.00
TOTAL O&M PRESENT WORTH COSTS	\$308,984.10 Based on 30 year duration and 7.0% discount rate
TOTAL PRESENT WORTH COSTS	\$353,656.50

**TABLE E-41. BLUFF K, PRELIMINARY COST ESTIMATE - ALTERNATIVE 3, RILEY PASS
MINIMAL GRADING AND SEDIMENT CONTROL**

	Quantity	Units	Unit Price	Cost
CAPITAL COSTS				
Mobilization, Bonding, & Insurance (15%)	1	L.S.	\$20,219	\$20,219
Road Improvements / Road Construction	1	miles	\$2,500.00	\$2,500
Waste Materials and High Wall Grading	4.5	Acre	\$3,000.00	\$13,500
Organic Amendment	603	Dry Tons	\$140.00	\$84,420
Fertilize and Seed	4.5	Acres	\$1,000.00	\$4,500
Mulch	4.5	Acres	\$1,000.00	\$4,500
Install Erosion Control Mat	2,420	S.Y.	\$2.75	\$6,655
Install Fences	3,744	L.F.	\$5.00	\$18,720
Subtotal Capital Costs				\$155,014
Project Management Costs 10%				\$15,501
Professional and Technical Services Costs 15%				\$23,252
Contingency (20%)				\$31,003
TOTAL CAPITAL COSTS				\$224,771

ANNUAL 30 YEAR O&M COSTS	Cost
Repair Fences	\$3,000.00
Inspection Reporting	\$12,000.00
Sampling (3 water (runoff) and 10 soil)	\$7,500.00
Vegetation O&M	\$4,000.00
Total Annual O&M Costs	\$26,500.00

TOTAL CAPITAL COSTS	\$224,770.66
TOTAL O&M PRESENT WORTH COSTS	\$328,838.50 Based on 30 year duration and 7.0% discount rate
TOTAL PRESENT WORTH COSTS	\$553,609.16

BLUFF L

**RILEY PASS SITE
HARDING COUNTY, SOUTH DAKOTA**

**TABLE E-42. BLUFF L PRELIMINARY COST ESTIMATE - ALTERNATIVE 2, RILEY PASS
INSTIUTIONAL CONTROLS**

	Quantity	Units	Unit Price	Cost
CAPITAL COSTS				
8-foot Chain link Fence	5,000	L.F	\$20.00	\$100,000.00
TOTAL CAPITAL COSTS				\$100,000.00

ANNUAL 30 YEAR O&M COSTS	Cost
Repair Fences	\$12,000.00
Inspection Reporting	\$12,000
Sampling (3 water (runoff) and 10 soil)	\$7,500
Total Annual O&M Costs	\$31,500

TOTAL CAPITAL COSTS	\$100,000.00
TOTAL O&M PRESENT WORTH COSTS	\$390,883.50 Based on 30 year duration and 7.0% discount rate
TOTAL PRESENT WORTH COSTS	\$490,883.50

**TABLE E-43. BLUFF L PRELIMINARY COST ESTIMATE - ALTERNATIVE 3, RILEY PASS
MINIMAL GRADING AND SEDIMENT CONTROL**

	Quantity	Units	Unit Price	Cost
CAPITAL COSTS				
Mobilization, Bonding, & Insurance (15%)	1	L.S.	\$31,016	\$31,016
Road Improvements / Road Construction	3	miles	\$2,500.00	\$7,500
Waste Material Grading	6.5	Acres	\$3,000.00	\$19,500
Run-on/Run-off control Ditch Construction	400	L.F.	\$7.00	\$2,800
Organic Amendment	938	Dry Tons	\$140.00	\$131,320
Fertilize and Seed	7.0	Acres	\$1,000.00	\$7,000
Mulch	7.0	Acres	\$1,000.00	\$7,000
Install Erosion Control Mat	2,420	S.Y.	\$2.75	\$6,655
Install Fences	5,000	L.F.	\$5.00	\$25,000
Subtotal Capital Costs				\$237,791
Project Management Costs 10%				\$23,779
Professional and Technical Services Costs 15%				\$35,669
Contingency (20%)				\$47,558
TOTAL CAPITAL COSTS				\$344,797

ANNUAL 30 YEAR O&M COSTS	Cost
Repair Fences	\$6,000.00
Inspection Reporting	\$12,000.00
Sampling (3 water (runoff) and 10 soil)	\$7,500.00
Vegetation O&M	\$4,000.00
Total Annual O&M Costs	\$29,500.00

TOTAL CAPITAL COSTS	\$344,797.31
TOTAL O&M PRESENT WORTH COSTS	\$366,065.50 Based on 30 year duration and 7.0% discount rate
TOTAL PRESENT WORTH COSTS	\$710,862.81

**TABLE E-44. BLUFF L PRELIMINARY COST ESTIMATE - ALTERNATIVE 5, RILEY PASS
 COMPREHENSIVE GRADING, CONSOLIDATION OF EXCESS
 MATERIALS, AND SEDIMENT CONTROL**

	Quantity	Units	Unit Price	Cost
CAPITAL COSTS				
Mobilization, Bonding, & Insurance (15%)	1	L.S.	\$65,237	\$65,237
Road Improvements / Road Construction	3	miles	\$2,500.00	\$7,500
Grading of Spoils Piles, Roads, and Dozer Cuts	6.5	Acre	\$3,000.00	\$19,500
Waste Material Grading Side Slope (4H:1V)	2.0	Acres	\$7,500.00	\$15,000
Excavate, Haul, And Consolidate Excess Material from Side Slope	26,000	C.Y.	\$7.00	\$182,000
Run-on/Run-off control Ditch Construction	400	L.F.	\$7.00	\$2,800
Organic Amendment	1,139	Dry Tons	\$140.00	\$159,460
Fertilize and Seed	8.5	Acres	\$1,000.00	\$8,500
Mulch	8.5	Acres	\$1,000.00	\$8,500
Install Erosion Control Mat	2,420	S.Y.	\$2.75	\$6,655
Install Fences	5,000	L.F.	\$5.00	\$25,000
Subtotal Capital Costs				\$500,152
Project Management Costs 10%				\$50,015
Professional and Technical Services Costs 15%				\$75,023
Contingency (20%)				\$100,030
TOTAL CAPITAL COSTS				\$725,221

ANNUAL 30 YEAR O&M COSTS	Cost
Repair Fences	\$6,000.00
Inspection Reporting	\$12,000.00
Sampling (3 water (runoff) and 10 soil)	\$7,500.00
Vegetation O&M	\$4,000.00
Total Annual O&M Costs	\$29,500.00

TOTAL CAPITAL COSTS	\$725,220.76
TOTAL O&M PRESENT WORTH COSTS	\$366,065.50 Based on 30 year duration and 7.0% discount rate
TOTAL PRESENT WORTH COSTS	\$1,091,286.26