

APPENDIX B

**SEDIMENT CONTROL STRUCTURE ESTIMATES
AND MAPS**

BLACK GORE CREEK I-70 CORRIDOR

SCAP

Black Gore Creek Sediment Control Structure Estimates

23-May-02

Assumptions:

15,000 tons/year average (non-linear) sand application double volume estimate from Polk Creek to Vail Pass (5 miles)

1,120 cu-yd/mile upper elevations; 560 cu-yd/mile lower elevations

Large basins constructed at 150cy capacity and small basins at 60cy capacity

Below grade traps at 59cy capacity each (8W x 50L x 4D)

80% trap efficiency

Milepoint	Lane Direction	Distance (miles)	Distance (feet)	Treatment	No. Units	Length (feet)	Generated (cy)	Captured (cy)	Safety Margin
Polk Creek to Vail Pass (112 cu-yd/tenth-mile each direction)									
189.55-189.8	WB	0.25	1320	Large Basin	2		280	240	0.86
	WBoptional	0.25	1320	BgradeTraps	6	300	280	283	1.01
189.75-189.85	EB	0.10	528	Large Basin	1		112	120	1.07
189.5-189.75	EB	0.25	1320	BgradeTraps	4	200	280	189	0.67
	EB	0.25	1320	Large Basin	1		280	120	0.43
189.4-189.55	WB	0.15	792	Small Basin	3		168	144	0.86
	WBoptional	0.15	792	BgradeTraps	4	200	168	189	1.12
189.3-189.35	WB	0.05	264	Shed Basin	1		56	48	0.86
189.2-189.3	WB	0.10	528	Large Basin	1		112	120	1.07
189.2-189.35	WB	0.15	792	Large Basin	1		168	120	0.71
189.05-189.2	WB	0.15	792	Large Basin	2		168	240	1.43
189.05-189.3	EB	0.25	1320	Large Basin	2		280	240	0.86
	EBoptional	0.25	1320	BgradeTraps	6	300	280	283	1.01
188.65-189.0	WB	0.35	1848	Large Basin	3		392	360	0.92
	WBoptional	0.35	1848	BgradeTraps	9	450	392	425	1.08
	EB	0.35	1848	Large Basin	1		392	120	0.31
	EB	0.35	1848	BgradeTraps	6	300	392	283	0.72
188.35-188.65	WB	0.35	1848	Large Basin	3		392	360	0.92
	WBoptional	0.35	1848	BgradeTraps	9	450	392	425	1.08
188.4-188.65	EB	0.25	1320	Large Basin	2		280	240	0.86
	EBoptional	0.25	1320	BgradeTraps	6	300	280	283	1.01
188.0-188.3	WB	0.30	1584	Large Basin	2		336	240	0.71
	WBoptional	0.30	1584	BgradeTraps	8	400	336	378	1.12
188.1-188.4	EB	0.30	1584	Large Basin	3		336	360	1.07
	EBoptional	0.30	1584	BgradeTraps	8	400	336	378	1.12
187.8-188.0	WB	0.20	1056	BgradeTraps	5	250	224	236	1.05
187.8-188.1	EB	0.30	1584	Large Basin	1		336	120	0.36
		0.30	1584	BgradeTraps	5	250	336	236	0.70
187.45-187.8	WB	0.35	1848	Large Basin	1		392	120	0.31
		0.35	1848	BgradeTraps	6	300	392	283	0.72
187.6-187.8	EB	0.20	1056	Large Basin	1		224	120	0.54
		0.20	1056	BgradeTraps	3	150	224	142	0.63
187.35-187.45	WB	0.10	528	Large Basin	1		112	120	1.07
	WBoptional	0.15	792	BgradeTraps	4	200	168	189	1.12
187.3-187.6	EB	0.30	1584	Large Basin	3		336	360	1.07
187.0-187.3	WB	0.30	1584	Large Basin	3		336	360	1.07
	WBoptional	0.30	1584	BgradeTraps	7	350	336	330	0.98
	EB	0.30	1584	Large Basin	1		336	120	0.36
		0.30	1584	BgradeTraps	5	250	336	236	0.70
186.7-187.0	WB	0.30	1584	BgradeTraps	8	400	336	378	1.12
	EB	0.30	1584	BgradeTraps	8	400	336	378	1.12

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Large basins constructed at 150cy capacity and small basins at 60cy capacity

Below grade traps at 59cy capacity each (8W x 50L x 4D)

80% trap efficiency

Milepoint	Lane Direction	Distance (miles)	Distance (feet)	Treatment	No. Units	Length (feet)	Generated (cy)	Captured (cy)	Safety Margin
186.4-186.7	WB	0.30	1584	BgradeTraps	8	400	336	378	1.12
	EB	0.30	1584	BgradeTraps	8	400	336	378	1.12
186.1-186.4 Super to WB	WB	0.30	1584	BgradeTraps	8	400	336	378	1.12
	EB	0.30	1584	Large Basin	2		336	240	0.71
	EOptional	0.30	1584	BgradeTraps	5	250	336	236	0.70
185.9-186.1	WB	0.20	1056	Large Basin	2		224	240	1.07
	WOptional	0.20	1056	BgradeTraps	5	250	224	236	1.05
185.95-186.1 Super to WB	EB	0.15	792	Large Basin	1		168	120	0.71
	EOptional	0.15	792	BgradeTraps	2	100	168	94	0.56
185.85-185.95	EB	0.10	528	Large Basin	1		112	120	1.07
185.8-185.85	EB	0.05	264	Small Basin	1		56	48	0.86
185.6-185.9	WB	0.30	1584	Large Basin	3		336	360	1.07
	WOptional	0.30	1584	BgradeTraps	8	400	336	378	1.12
185.6-185.8	EB	0.20	1056	Small Basin	1		224	48	0.21
	EB	0.20	1056	BgradeTraps	4	200	224	189	0.84
185.3-185.6	WB	0.30	1584	Large Basin	3		336	360	1.07
	WOptional	0.30	1584	BgradeTraps	8	400	336	378	1.12
185.4-185.6	EB	0.20	1056	BgradeTraps	5	250	224	236	1.05

Retaining walls above Polk Creek channel beneath bridge

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Below grade traps at 59cy capacity each (8W x 50L x 4D)

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Milepoint	Lane Direction	Distance (miles)	Distance (feet)	Treatment	No. Units	Length (feet)	Generated (cy)	Captured (cy)	Safety Margin
East Vail to Polk Creek (56 cu-yd/tenth-mile each direction)									
184.9-185.2	WB	0.30	1584	Large Basin	2		168	240	1.43
	WBoptional	0.30	1584	BgradeTraps	4	200	168	189	1.12
	EB	0.30	1584	Small Basin	4		168	192	1.14
	EBoptional	0.30	1584	BgradeTraps	4	200	168	189	1.12
Retaining walls above Miller Creek channel beneath bridge									
184.75-184.8	WB	0.05	264	Small Basin	1		28	48	1.71
	WBoptional	0.05	264	BgradeTraps	1	50	28	47	1.69
184.55-184.75	WB	0.20	1056	Small Basin	3		112	144	1.29
	WBoptional	0.20	1056	BgradeTraps	3	150	112	142	1.26
184.45-184.55	WB	0.10	528	Small Basin	2		56	96	1.71
	WBoptional	0.10	528	BgradeTraps	2	100	56	94	1.69
184.6-184.8	EB	0.20	1056	Small Basin	3		112	144	1.29
	EBoptional	0.20	1056	BgradeTraps	3	150	112	142	1.26
184.45-184.6	EB	0.15	792	Small Basin	2		84	96	1.14
	EBoptional	0.15	792	BgradeTraps	2	100	84	94	1.12
Retaining walls above Black Gore Creek channel beneath bridge									
184.2-184.3	WB	0.10	528	Small Basin	2		56	96	1.71
	WBoptional	0.10	528	BgradeTraps	2	100	56	94	1.69
184.1-184.3	EB	0.20	1056	Small Basin	3		112	144	1.29
	EBoptional	0.20	1056	BgradeTraps	3	150	112	142	1.26
183.6-183.9	WB	0.30	1584	Small Basin	4		168	192	1.14
	WBoptional	0.30	1584	BgradeTraps	4	200	168	189	1.12
183.8-183.9	EB	0.10	528	Small Basin	2		56	96	1.71
	EBoptional	0.10	528	BgradeTraps	2	100	56	94	1.69
183.65-183.8	EB	0.15	792	Small Basin	2		84	96	1.14
	EBoptional	0.15	792	BgradeTraps	2	100	84	94	1.12
183.35-183.6	WB	0.25	1320	Small Basin	3		140	144	1.03
	WBoptional	0.25	1320	BgradeTraps	3	150	140	142	1.01
183.5-183.65	EB	0.15	792	Small Basin	2		84	96	1.14
	EBoptional	0.15	792	BgradeTraps	2	100	84	94	1.12
183.25-183.5	EB	0.25	1320	Small Basin	3		140	144	1.03
	EBoptional	0.25	1320	BgradeTraps	3	150	140	142	1.01
182.95-183.35	WB	0.40	2112	Large Basin	2		224	240	1.07
	WBoptional	0.40	2112	BgradeTraps	5	250	224	236	1.05
183.05-183.25	EB	0.20	1056	Small Basin	2		112	96	0.86
	EBoptional	0.20	1056	BgradeTraps	2	100	112	94	0.84
182.8-183.0	EB	0.20	1056	Small Basin	3		112	144	1.29
	EBoptional	0.20	1056	BgradeTraps	3	150	112	142	1.26
182.5-182.8	EB	0.30	1584	Small Basin	4		168	192	1.14
	EBoptional	0.30	1584	BgradeTraps	4	200	168	189	1.12
182.15-182.4	WB	0.25	1320	Small Basin	3		140	144	1.03

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80% trap efficiency

Milepoint	Lane Direction	Distance (miles)	Distance (feet)	Treatment	No. Units	Length (feet)	Generated (cy)	Captured (cy)	Safety Margin
182.3-182.4	WOptional	0.25	1320	BgradeTraps	3	150	140	142	1.01
	EB	0.10	528	Small Basin	2		56	96	1.71
	EOptional	0.10	528	BgradeTraps	2	100	56	94	1.69
182.0-182.15	WB	0.15	792	Small Basin	2		84	96	1.14
182.0-182.3	WOptional	0.15	792	BgradeTraps	2	100	84	94	1.12
	EB	0.30	1584	Small Basin	4		168	192	1.14
	EOptional	0.30	1584	BgradeTraps	4	200	168	189	1.12
181.25-181.5	WB	0.25	1320	Small Basin	3		140	144	1.03
	WOptional	0.25	1320	BgradeTraps	3	150	140	142	1.01
181.0-181.25	WB	0.25	1320	Small Basin	3		140	144	1.03
	WOptional	0.25	1320	BgradeTraps	3	150	140	142	1.01
180.2-180.5	WB	0.30	1584	Small Basin	4		168	192	1.14
	WOptional	0.30	1584	BgradeTraps	4	200	168	189	1.12

Basin Option Trap Option

BgradeTraps

Small Basin

Large Basin

Total