

APPENDIX K

COST ESTIMATE BREAKDOWN

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Sicamous to Armstrong Rail Trail - Class 'C' Estimate Summary by Stage	
Item	Total Amount
Stage 1: Protect the Corridor	\$ 3,563,889
Stage 2: Make it Safe	\$ 2,316,805
Stage 3: Build the Surface	\$ 7,011,882
Stage 4: Finish the Trail	\$ 4,153,675
Subtotal	\$ 17,046,250
40% Contingency and Engineering Allowance	\$ 6,818,500
Total	\$ 23,864,750

Stage 1: Protect the Corridor - Class 'C' Estimate Detailed Breakdown

ITEM	PAYMENT CLAUSE	DESCRIPTION	UNIT	QUANTITY	UNIT PRICE	TOTAL AMOUNT
General Requirements						
1.0		Mobilization	LS	1	\$50,000	\$50,000
2.0		Layout Survey	LS	1	\$66,614	\$66,614
3.0		Temporary Facilities	LS	1	\$49,961	\$49,961
4.0		Environmental Mitigation	LS	1	\$66,614	\$66,614
Section Sub-total:						\$233,189
Steep Slope (Rock Scaling)						
1.0		High Priority Sections 100m (Allowance)	LS	1	\$48,650	\$48,650
2.0		Moderate to High Priority 180m (Allowance)	LS	1	\$83,400	\$83,400
3.0		Moderate Priority 105m (Allowance)	LS	1	\$48,650	\$48,650
4.0		Rock Fall Fence	LS	1	\$10,000	\$10,000
5.0		Signage	each	20	\$750	\$15,000
Section Sub-total:						\$205,700
Shoreline Protection (Risk Managed)						
1.0		Short Term and Immediate Shoreline Protection: Mara Lake (0km - 16km) - Full Riprap	m	1,700	\$1,500	\$2,550,000
2.0		Repair/Rebuild Trail and Protection behind North Enderby Timber - 32.75km	L.S	1	\$320,000	\$320,000
3.0		Repair/Rebuild Trail and Protection at - 37.5km	m	170	\$1,500	\$255,000
Section Sub-total:						\$3,125,000
					Overall Sub-total:	\$3,563,889
					40% Contingency and Engineering Allowance:	\$1,425,555
					Total:	\$4,989,444

Stage 2: Make it Safe - Class 'C' Estimate Detailed Breakdown

ITEM	PAYMENT CLAUSE	DESCRIPTION	UNIT	QUANTITY	UNIT PRICE	TOTAL AMOUNT
General Requirements						
1.0		Mobilization	LS	1	\$50,000	\$50,000
2.0		Layout Survey	LS	1	\$42,973	\$42,973
3.0		Temporary Facilities	LS	1	\$32,229	\$32,229
4.0		Environmental Mitigation	LS	1	\$42,973	\$42,973
Section Sub-total:						\$168,175
Trail Clear and Grub						
1.0		Clear and Grub as Required	m	45,800	\$4	\$183,200
Section Sub-total:						\$183,200
Trail Prep and Construction						
1.0		Grade Trail as Required	m	45,800	\$5	\$229,000
2.0		Relocation of Trail at Sure Crop (Clear and Grub, Common Ex, Import, Gravels, CRB with Fence)	m	310	\$478	\$148,180
Section Sub-total:						\$377,180
Road Crossings						
1.0		Type 1a - Driveway/Agricultural Crossing	each	20	\$3,900	\$78,000
2.0		Type 1b - Driveway/Agricultural Crossing (inc. Bollards)	each	6	\$14,820	\$88,920
3.0		Type 2 - Enhanced Agricultural Crossing	each	3	\$19,500	\$58,500
4.0		Type 3 - Crosswalk and Side-mounted Signs	each	9	\$32,370	\$291,330
5.0		Type 4 - Enhanced Crosswalk and Overhead-mounted Signs	each	2	\$71,370	\$142,740
6.0		Type 5 - Ped/Cyclist Activated Flashers	each	4	\$117,650	\$470,600
7.0		Jurisdictional Signage	each	30	\$250	\$7,500
Section Sub-total:						\$1,130,090
Fencing and Barriers						
1.0		Evergreen St/Brick Yard Ave Barriers (Concrete Barriers at Key Locations)	each	5	\$2,000	\$10,000
2.0		Misc. Barriers Illegal Access	each	5	\$2,000	\$10,000
3.0		6' Black Vinyl Fence North Enderby Timber	m	550	\$80	\$44,000
4.0		6' Woven Wire Fence (Fosters Farm, Mara Siding, Vander Sar, Bruns, Coom Bay)	m	2,064	\$40	\$82,560
5.0		8' Chain-link Double Swing Gate - 20'	each	4	\$2,900	\$11,600
Section Sub-total:						\$158,160
Bridges - Pedestrianizing						
1.0		Pedestrianize Existing Bridge - Rosemond Lake (17km)	LS	1	\$70,000	\$70,000
2.0		Pedestrianize Existing Bridge - Unnamed (40km)	LS	1	\$70,000	\$70,000
3.0		Pedestrianize Existing Bridge - Stepney Cross Road (42km)	LS	1	\$35,000	\$35,000
4.0		Pedestrianize Existing Bridge - Fortune Creek (49km)	LS	1	\$70,000	\$70,000
Section Sub-total:						\$245,000
Drainage Improvements						
1.0		New/Replace Culverts (3) - km 17.8, 43.14, 46.5	LS	1	\$55,000	\$55,000
Section Sub-total:						\$55,000
Overall Sub-total:						\$2,316,805
40% Contingency and Engineering Allowance:						\$926,722
Total:						\$3,243,527

Stage 3: Build the Surface - Class 'C' Estimate Detailed Breakdown

ITEM	PAYMENT CLAUSE	DESCRIPTION	UNIT	QUANTITY	UNIT PRICE	TOTAL AMOUNT
General Requirements						
1.0		Mobilization	LS	1	\$50,000	\$50,000
2.0		Layout Survey	LS	1	\$131,979	\$131,979
3.0		Temporary Facilities	LS	1	\$98,984	\$98,984
4.0		Environmental Mitigation	LS	1	\$131,979	\$131,979
Section Sub-total:						\$412,942
Trail Clear and Grub						
1.0		Clear and Grub	m	45,800	\$8	\$366,400
Section Sub-total:						\$366,400
Trail Prep and Construction						
1.0		Trail Subgrade - Blend, Regrade, Compact, Ditching	m	45,800	\$32	\$1,465,600
Section Sub-total:						\$1,465,600
Trail Surface Gravels						
1.0		Supply, Install, and Prep 100mm Thick Crushed Base (High Fines/19mm minus) - 4.6m width	m	30,800	\$37	\$1,133,440
2.0		Supply, Install, and Prep 100mm Thick Crushed Base (High Fines/19mm minus) - 3.5m width	m	15,000	\$28	\$420,000
Section Sub-total:						\$1,553,440
Shoreline Protection (Risk Managed)						
1.0		Full Riprap - Mara Lake (0km - 16km)	m	300	\$1,500	\$450,000
2.0		Partial Riprap - Mara Lake (0km - 16km)	m	3,100	\$500	\$1,550,000
3.0		Raise Trail - Mara Lake (0km - 16km)	m3	10,000	\$60	\$600,000
4.0		Raise Trail at Fortune Creek (42.1km - 42.4km)	m3	750	\$40	\$30,000
Section Sub-total:						\$2,630,000
Drainage Improvements						
1.0		Remove and Replace High Priority Culverts (12)	LS	1	\$90,000	\$90,000
2.0		Remove and Replace Medium Culverts (3)	LS	1	\$32,000	\$32,000
3.0		New Culverts (13)	LS	1	\$130,000	\$130,000
4.0		Allowance for Ditching and Drainage Improvements	LS	1	\$100,000	\$100,000
Section Sub-total:						\$352,000
Wayfinding and Trail Counters						
1.0		Km Markers	each	45	\$700	\$31,500
2.0		Directional/Wayfinding Signs	each	32	\$1,800	\$57,600
3.0		Badge Post	each	32	\$900	\$28,800
4.0		Welcome, Etiquette, ALC Signs (3 signs per intersection)	each	48	\$700	\$33,600
5.0		Trail Counters	each	8	\$10,000	\$80,000
Section Sub-total:						\$231,500
					Overall Sub-total:	\$7,011,882
					40% Contingency and Engineering Allowance:	\$2,804,753
					Total:	\$9,816,634

Stage 4 Finish the Trail - Class 'C' Estimate Detailed Breakdown

ITEM	PAYMENT CLAUSE	DESCRIPTION	UNIT	QUANTITY	UNIT PRICE	TOTAL AMOUNT
General Requirements						
1.0		Mobilization	LS	1	\$50,000	\$50,000
2.0		Layout Survey	LS	1	\$77,112	\$77,112
3.0		Temporary Facilities	LS	1	\$57,834	\$57,834
4.0		Environmental Mitigation	LS	1	\$77,112	\$77,112
Section Sub-total:						\$262,059
Trail Clear and Grub						
1.0		Clear and Grub	m	4,500	\$8	\$36,000
2.0		Full Trail Construction Connection to Armstrong 49.2km - 50.3km (Clear and Grub, Common Ex, Import Granular Material, Fencing)	m	1,100	\$294	\$323,400
Section Sub-total:						\$359,400
Trail Prep and Construction						
1.0		Trail Subgrade - Blend, Regrade, Compact, Ditching	m	3,100	\$32	\$99,200
Section Sub-total:						\$99,200
Trail Surface Gravels						
1.0		Supply, Install, and Prep 100mm Thick Crushed Base (High Fines/19mm minus) - 4.6m width	m	3,100	\$37	\$114,080
Section Sub-total:						\$114,080
Road Crossings						
1.0		Type 1a - Driveway/Agricultural Crossing	each	8	\$3,900	\$31,200
2.0		Type 1b - Driveway/Agricultural Crossing (inc. Bollards)	each	0	\$14,820	\$0
3.0		Type 2 - Enhanced Agricultural Crossing	each	0	\$19,500	\$0
4.0		Type 3 - Crosswalk and Side-mounted Signs	each	1	\$32,370	\$32,370
5.0		Type 4 - Enhanced Crosswalk and Overhead-mounted Signs	each	0	\$71,370	\$0
6.0		Type 5 - Ped/Cyclist Activated Flashers	each	0	\$117,650	\$0
7.0		Stepney Crossing - Overpass	LS	1	\$2,500,000	\$2,500,000
Section Sub-total:						\$2,563,570
Trail Heads and Side Destinations						
1.0		Large Trail Head - 50 Stalls (incl. vault toilet, bear-proof bin, wood fence, signage, gravel surface, wheel stops)	each	1	\$96,135	\$96,135
2.0		Medium Trail Head - 25 Stalls (incl. vault toilet, bear-proof bin, wood fence, signage, gravel surface, wheel stops)	each	4	\$62,498	\$249,990
3.0		Small Trail Head - 10 Stalls (incl. bear-proof bin, wood fence, signage, gravel surface, wheel stops)	each	1	\$28,421	\$28,421
4.0		Side Destination Type 1 (Basic Path and Signage)	each	3	\$4,576	\$13,728
5.0		Side Destination Type 2 (Basic Path, Signage, and Bench)	each	1	\$7,176	\$7,176
6.0		Side Destination Type 3(Basic Path, Signage, Bench, Vault Toilet and Bear-proof Garbage)	each	4	\$29,536	\$118,144
7.0		Side Destination Type 4(Basic Path, Signage, Bench, Vault Toilet, Bear-proof Garbage, and Picnic Table)	each	2	\$33,436	\$66,872
8.0		Side Destination Type 5 Trail Connection - Sicamous Connection Bruhn Bridge (km 0)	LS	1	\$70,000	\$70,000
9.0		Side Destination Type 5 Trail Connection - Grindrod Park (km 27)	LS	1	\$16,400	\$16,400
10.0		Side Destination Type 5 Trail Connection - Enderby Riverwalk (km 36.9)	each			
11.0		Side Destination Type 5 Trail Connection - Splatsin Centre Connector (km 37.4)	LS	1	\$50,000	\$50,000
12.0		Side Destination Type 5 Trail Connection - Splatsin Connector (km 37.8)	each			
Section Sub-total:						\$716,866
Wayfinding and Trail Counters						
1.0		Km Markers	each	5	\$700	\$3,500
2.0		Directional/Wayfinding Signs	each	4	\$1,800	\$7,200
3.0		Badge Post	each	4	\$900	\$3,600
4.0		Welcome, Etiquette, ALC Signs (3 signs per intersection)	each	6	\$700	\$4,200
5.0		Trail Counters	each	2	\$10,000	\$20,000
Section Sub-total:						\$38,500
Overall Sub-total:						\$4,153,675
40% Contingency and Engineering Allowance:						\$1,661,470
Total:						\$5,815,145