

**APPENDIX C:
PRELIMINARY CONSTRUCTION COST ESTIMATES**



C.C. Tatham & Associates Ltd.
 Consulting Engineers
 Collingwood Bracebridge Orillia Barrie

PROJECT:	Sophia Creek Watershed and Mulcaster Drainage Area EA Update
FILE NUMBER:	115172
DATE:	September 28, 2016
DESIGNED BY:	Amanda West
CHECKED BY:	Daniel Twigger
SUBJECT:	Preliminary Construction Cost Estimates

IMPROVEMENT ALTERNATIVE 2A - RETROFIT/NEW STORMWATER MANAGEMENT FACILITIES (SWMF)

SWMF SP03 RETROFIT

Item No.	Description	Unit	Estimated Quantity	Estimated Unit Price	Estimated Amount
1	SWMF SP03 Retrofit	m ³	11,400	\$46	\$524,047
2	Property Acquisition Costs	LS	-	-	\$650,000
Total Preliminary Estimated Construction Cost					\$1,174,047

SWMF SP01 CREATION

Item No.	Description	Unit	Estimated Quantity	Estimated Unit Price	Estimated Amount
1	SWMF SP01 Creation	m ³	32,000	\$57	\$1,818,061
2	Bothwell Crescent Improvements	m	20	\$57,743	\$1,154,855
3	Watercourse Improvements	m	85	\$815	\$69,275
4	Property Acquisition Costs	LS	-	-	\$217,000
Total Preliminary Estimated Construction Cost					\$3,259,191

TOTAL

Item No.	Description	Unit	Estimated Quantity	Estimated Unit Price	Estimated Amount
1	SWMF SP03 Retrofit	LS	-	-	\$1,174,047
2	SWMF SP01 Creation	LS	-	-	\$3,259,191
Total Preliminary Estimated Construction Cost					\$4,433,238

SOPHIA CREEK WATERSHED & MULCASTER DRAINAGE AREA EA UPDATE
 PRELIMINARY CONSTRUCTION COST ESTIMATE
 SEPTEMBER 2016

IMPROVEMENT ALTERNATIVE 2A
 OTTAWAY AVENUE/CURRIE STREET SWMF (SWMF SP03)

ITEM No.	DESCRIPTION	UNIT	EST. QTY.	ESTIMATED UNIT PRICE	ESTIMATED AMOUNT
1	SWMF				
1.01	Remove Existing Pond Outlet Structure	L.S.	1	\$30,000.00	\$30,000.00
1.02	Earth Excavation and Grading	m ³	11,400	\$12.00	\$136,800.00
1.03	Strip, Screen and Stockpile Topsoil	m ²	6,500	\$7.00	\$45,500.00
1.04	Grubbing	ha	1	\$10,500.00	\$8,400.00
1.05	Place Screened Topsoil (from stockpile) and seed	m ²	6,500	\$4.00	\$26,000.00
1.06	Outlet Structure	LS	-	-	\$35,000.00
1.07	Overflow Spillway c/w MacMat	m ²	120	\$40.00	\$4,800.00
1.08	Off-site Disposal of Excess Fill	m ³	11,400	\$11.00	\$35,001.00
				Subtotal SWMF	\$321,501.00
2	Property Acquisition				
2.01	Property Acquisition	LS	-	-	\$650,000.00
				Subtotal Property Acquisition	\$650,000.00
				TOTAL PRELIMINARY CONSTRUCTION COST ESTIMATE	\$971,501.00
				CONSTRUCTION CONTINGENCY (25%)	\$80,375.25
				ENGINEERING DESIGN FEE (13%)	\$41,795.13
				CONTRACT ADMINISTRATION / CONSTRUCTION INSPECTION (10%)	\$32,150.10
				UTILITIES / SERVICES RELOCATION COST (15%)	\$48,225.15
				TOTAL PRELIMINARY PROJECT COST ESTIMATE	\$1,174,046.63

SOPHIA CREEK WATERSHED & MULCASTER DRAINAGE AREA EA UPDATE
 PRELIMINARY CONSTRUCTION COST ESTIMATE
 SEPTEMBER 2016

IMPROVEMENT ALTERNATIVE 2A
 MACMORRISON PARK (SWMF SP01)

ITEM No.	DESCRIPTION	UNIT	EST. QTY.	ESTIMATED UNIT PRICE	ESTIMATED AMOUNT
1	SWMF				
1.01	Earth Excavation and Grading	m ³	32,000	\$12.00	\$384,000.00
1.02	Grubbing	ha	2.5	\$10,500.00	\$26,250.00
1.03	Strip, Screen and Stockpile Topsoil	m ²	20,000	\$7.00	\$140,000.00
1.04	Place Screened Topsoil (from stockpile) and seed	m ²	20,000	\$4.00	\$80,000.00
1.05	Excavate and Grade Low Flow Channel	m	375	\$125.00	\$46,875.00
1.06	Relocate Playground Equipment	LS	-	-	\$25,000.00
1.07	Remove Asphalt Parking	m ²	900	\$6.50	\$5,850.00
1.08	Remove Granular Base	m ²	900	\$6.00	\$5,400.00
1.09	Remove Baseball Diamond Equipment	LS	-	-	\$50,000.00
1.10	Off-site Disposal of Excess Fill	m ³	32,000	\$11.00	\$352,000.00
				Subtotal SWMF	\$1,115,375.00
2	Bothwell Crescent Improvements				
2.01	Remove Existing Culvert	m	20	\$85.00	\$1,700.00
2.02	Remove Asphalt	m ²	200	\$6.50	\$1,300.00
2.03	Remove Granular Road Base	m ²	200	\$6.00	\$1,200.00
2.04	Remove Existing Concrete Curb and Gutter	m	50	\$23.00	\$1,150.00
2.05	Quick Span Culvert (7.93 m span)	m	20	\$30,700.00	\$614,000.00
2.06	Concrete Distribution Slab	LS	-	-	\$20,000.00
2.07	Concrete Wingwalls	LS	-	-	\$50,000.00
2.08	Granular 'B' (450 mm)	m ²	200	\$17.50	\$3,500.00
2.09	Granular 'A' (150 mm)	m ²	200	\$8.50	\$1,700.00
2.10	100 mm HL8 Base Course Asphalt	m ²	200	\$39.50	\$7,900.00
2.11	40 mm HL3 Surface Course Asphalt	m ²	200	\$11.50	\$2,300.00
2.12	Concrete Curb and Gutter	m	50	\$75.00	\$3,750.00
				Subtotal Bothwell Crescent Improvements	\$708,500.00
3	Watercourse Improvements				
3.01	Watercourse Improvements	m	85	\$500.00	\$42,500.00
				Subtotal Watercourse Improvements	\$42,500.00
4	Property Acquisition				
4.01	Property Acquisition	LS	-	-	\$217,000.00
				Subtotal Property Acquisition	\$217,000.00
				TOTAL PRELIMINARY CONSTRUCTION COST ESTIMATE	\$2,083,375.00
				CONSTRUCTION CONTINGENCY (25%)	\$466,593.75
				ENGINEERING DESIGN FEE (13%)	\$242,628.75
				CONTRACT ADMINISTRATION / CONSTRUCTION INSPECTION (10%)	\$186,637.50
				UTILITIES / SERVICES RELOCATION COST (15%)	\$279,956.25
				TOTAL PRELIMINARY PROJECT COST ESTIMATE	\$3,259,191.25



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IMPROVEMENT ALTERNATIVE 3A - CULVERT/CHANNEL IMPROVEMENTS (1:25 YEAR DESIGN FLOOD FREQUENCY CRITERIA)

Item No.	Description	Unit	Estimated Quantity	Estimated Unit Price	Estimated Amount
1	Howard Crescent - 3600 mm x 1200 mm Conc. Box Culvert	m	30	\$12,342	\$370,255
2	Lay Street - 3600 mm x 1200 mm Conc. Box Culvert	m	45	\$12,521	\$563,450
3	Grove Street (A) - 3600 mm x 1200 mm Conc. Box Culvert	m	20	\$19,202	\$384,032
4	Grove Street (B) - 3600 mm x 1200 mm Conc. Box Culvert	m	25	\$13,125	\$328,123
5	St. Vincent Street - Twin 3600 mm x 1200 mm Conc. Box Culvert	m	60	\$11,640	\$698,394
6	Ottaway Avenue - 3600 mm x 1200 mm Conc. Box Culvert	m	30	\$15,135	\$454,037
7	Rose Street - 3600 mm x 1500 mm Conc. Box Culvert	m	30	\$17,153	\$514,595
8	Laurie Crescent - 3600 mm x 1500 mm Conc. Box Culvert	m	40	\$18,765	\$750,599
9	Bothwell Crescent - Quickspan Concrete Culvert (8.53 m span)	m	20	\$62,494	\$1,249,884
10	Bothwell Crescent - Property Acquisition	LS	-	-	\$217,000
11	Grove Street (C) - Quickspan Concrete Culvert (8.53 m span)	m	35	\$57,655	\$2,017,920
12	Parkdale Crescent - Quickspan Concrete Culvert (8.53 m span)	m	25	\$58,080	\$1,452,004
13	Davidson Street/Gunn Street - Quickspan Concrete Culvert (8.53 m span)	m	75	\$55,349	\$4,151,141
14	Davidson Street/Gunn Street - Property Acquisition	LS	-	-	\$286,000
15	Berczy Street - Quickspan Concrete Culvert (8.53 m span)	m	30	\$58,110	\$1,743,305
16	Wellington Street - Quickspan Concrete Culvert (8.53 m span)	m	25	\$60,963	\$1,524,070
17	Howard Crescent to Lay Street - Channel Improvements	m	70	\$1,407	\$98,493
18	Downstream of Lay Street - Channel Improvements	m	45	\$2,429	\$109,308
19	Upstream/Downstream of Grove Street (B) - Channel Improvements	m	105	\$1,234	\$129,552
20	Upstream/Downstream of Grove Street (B) - Property Acquisition	LS	-	-	\$466,000
21	Ottaway Avenue to Laurie Crescent - Channel Improvements	m	270	\$1,064	\$287,206
22	Ottaway Avenue to Laurie Crescent - Property Acquisition	LS	-	-	\$743,000
23	Grove Street to Parkdale Crescent - Channel Improvements	m	240	\$338	\$81,083
24	Berczy Street to Queen Street - Channel Improvements	m	145	\$3,532	\$512,146
25	Berczy Street to Queen Street - Property Acquisition	LS	-	-	\$1,670,000
Total Preliminary Estimated Construction Cost					\$20,801,597

SOPHIA CREEK WATERSHED & MULCASTER DRAINAGE AREA EA UPDATE
 PRELIMINARY CONSTRUCTION COST ESTIMATE
 SEPTEMBER 2016

IMPROVEMENT ALTERNATIVE 3A
 (CHANNEL IMPROVEMENTS - 1:25 YEAR CAPACITY)

CHANNEL IMPROVEMENTS - HOWARD TO LAY

ITEM No.	DESCRIPTION	UNIT	EST. QTY.	ESTIMATED UNIT PRICE	ESTIMATED AMOUNT
1	Channel Improvements				
1.01	Excavation and Grading	cu.m	1,250	\$20.00	\$25,000.00
1.02	Grubbing	ha	0.2	\$10,500.00	\$2,100.00
1.03	Channel Reinstatement (Topsoil/Seed and Coir Cloth)	m ²	2,050	\$6.50	\$13,325.00
1.04	Demolish Building and Remove Debris	ea	1	\$20,000.00	\$20,000.00
				Subtotal Channel Improvements	\$60,425.00
				TOTAL PRELIMINARY CONSTRUCTION COST ESTIMATE	\$60,425.00
				CONSTRUCTION CONTINGENCY (25%)	\$15,106.25
				ENGINEERING DESIGN FEE (13%)	\$7,855.25
				CONTRACT ADMINISTRATION / CONSTRUCTION INSPECTION (10%)	\$6,042.50
				UTILITIES / SERVICES RELOCATION COST (15%)	\$9,063.75
				TOTAL PRELIMINARY PROJECT COST ESTIMATE	\$98,492.75

SOPHIA CREEK WATERSHED & MULCASTER DRAINAGE AREA EA UPDATE
 PRELIMINARY CONSTRUCTION COST ESTIMATE
 SEPTEMBER 2016

IMPROVEMENT ALTERNATIVE 3A
 (CHANNEL IMPROVEMENTS - 1:25 YEAR CAPACITY)

CHANNEL IMPROVEMENTS - DOWNSTREAM OF LAY STREET

ITEM No.	DESCRIPTION	UNIT	EST. QTY.	ESTIMATED UNIT PRICE	ESTIMATED AMOUNT
1	Channel Improvements				
1.01	Excavation and Grading	cu.m	900	\$20.00	\$18,000.00
1.02	Grubbing	ha	0.1	\$10,500.00	\$1,260.00
1.03	Channel Reinstatement (Topsoil/Seed and Coir Cloth)	m ²	1,200	\$6.50	\$7,800.00
1.04	Demolish Building and Remove Debris	ea	2	\$20,000.00	\$40,000.00
				Subtotal Channel Improvements	\$67,060.00
				TOTAL PRELIMINARY CONSTRUCTION COST ESTIMATE	\$67,060.00
				CONSTRUCTION CONTINGENCY (25%)	\$16,765.00
				ENGINEERING DESIGN FEE (13%)	\$8,717.80
				CONTRACT ADMINISTRATION / CONSTRUCTION INSPECTION (10%)	\$6,706.00
				UTILITIES / SERVICES RELOCATION COST (15%)	\$10,059.00
				TOTAL PRELIMINARY PROJECT COST ESTIMATE	\$109,307.80

SOPHIA CREEK WATERSHED & MULCASTER DRAINAGE AREA EA UPDATE
 PRELIMINARY CONSTRUCTION COST ESTIMATE
 SEPTEMBER 2016

IMPROVEMENT ALTERNATIVE 3A
 (CHANNEL IMPROVEMENTS - 1:25 YEAR CAPACITY)

CHANNEL IMPROVEMENTS - UPSTREAM / DOWNSTREAM OF GROVE STREET

ITEM No.	DESCRIPTION	UNIT	EST. QTY.	ESTIMATED UNIT PRICE	ESTIMATED AMOUNT
1	Channel Improvements				
1.01	Excavation and Grading	cu.m	1,370	\$20.00	\$27,400.00
1.02	Grubbing	ha	0.2	\$10,500.00	\$1,680.00
1.03	Channel Reinstatement (Topsoil/Seed and Coir Cloth)	m ²	1,600	\$6.50	\$10,400.00
1.04	Demolish Building and Remove Debris	ea	2	\$20,000.00	\$40,000.00
				Subtotal Channel Improvements	\$79,480.00
2	Property Acquisition				
2.01	Property Acquisition	LS	-	-	\$466,000.00
				Subtotal Property Acquisition	\$466,000.00
				TOTAL PRELIMINARY CONSTRUCTION COST ESTIMATE	\$545,480.00
				CONSTRUCTION CONTINGENCY (25%)	\$19,870.00
				ENGINEERING DESIGN FEE (13%)	\$10,332.40
				CONTRACT ADMINISTRATION / CONSTRUCTION INSPECTION (10%)	\$7,948.00
				UTILITIES / SERVICES RELOCATION COST (15%)	\$11,922.00
				TOTAL PRELIMINARY PROJECT COST ESTIMATE	\$595,552.40

SOPHIA CREEK WATERSHED & MULCASTER DRAINAGE AREA EA UPDATE
 PRELIMINARY CONSTRUCTION COST ESTIMATE
 SEPTEMBER 2016

IMPROVEMENT ALTERNATIVE 3A
 (CHANNEL IMPROVEMENTS - 1:25 YEAR CAPACITY)

CHANNEL IMPROVEMENTS - OTTAWAY AVENUE TO LAURIE CRESCENT

ITEM No.	DESCRIPTION	UNIT	EST. QTY.	ESTIMATED UNIT PRICE	ESTIMATED AMOUNT
1	Channel Improvements				
1.01	Excavation and Grading	cu.m	4,300	\$20.00	\$86,000.00
1.02	Grubbing	ha	0.4	\$10,500.00	\$4,200.00
1.03	Channel Reinstatement (Topsoil/Seed and Coir Cloth)	m ²	4,000	\$6.50	\$26,000.00
1.04	Demolish Building and Remove Debris	ea	3	\$20,000.00	\$60,000.00
				Subtotal Channel Improvements	\$176,200.00
2	Property Acquisition				
2.01	Property Acquisition	LS	-	-	\$743,000.00
				Subtotal Property Acquisition	\$743,000.00
				TOTAL PRELIMINARY CONSTRUCTION COST ESTIMATE	\$919,200.00
				CONSTRUCTION CONTINGENCY (25%)	\$44,050.00
				ENGINEERING DESIGN FEE (13%)	\$22,906.00
				CONTRACT ADMINISTRATION / CONSTRUCTION INSPECTION (10%)	\$17,620.00
				UTILITIES / SERVICES RELOCATION COST (15%)	\$26,430.00
				TOTAL PRELIMINARY PROJECT COST ESTIMATE	\$1,030,206.00

SOPHIA CREEK WATERSHED & MULCASTER DRAINAGE AREA EA UPDATE
 PRELIMINARY CONSTRUCTION COST ESTIMATE
 SEPTEMBER 2016

IMPROVEMENT ALTERNATIVE 3A
 (CHANNEL IMPROVEMENTS - 1:25 YEAR CAPACITY)

CHANNEL IMPROVEMENTS - GROVE STREET TO PARKDALE CRESCENT

ITEM No.	DESCRIPTION	UNIT	EST. QTY.	ESTIMATED UNIT PRICE	ESTIMATED AMOUNT
1	Channel Improvements				
1.01	Excavation and Grading	cu.m	1,400	\$20.00	\$28,000.00
1.02	Grubbing	ha	0.3	\$10,500.00	\$3,024.00
1.03	Channel Reinstatement (Topsoil/Seed and Coir Cloth)	m ²	2,880	\$6.50	\$18,720.00
				Subtotal Channel Improvements	\$49,744.00
				TOTAL PRELIMINARY CONSTRUCTION COST ESTIMATE	\$49,744.00
				CONSTRUCTION CONTINGENCY (25%)	\$12,436.00
				ENGINEERING DESIGN FEE (13%)	\$6,466.72
				CONTRACT ADMINISTRATION / CONSTRUCTION INSPECTION (10%)	\$4,974.40
				UTILITIES / SERVICES RELOCATION COST (15%)	\$7,461.60
				TOTAL PRELIMINARY PROJECT COST ESTIMATE	\$81,082.72

SOPHIA CREEK WATERSHED & MULCASTER DRAINAGE AREA EA UPDATE
 PRELIMINARY CONSTRUCTION COST ESTIMATE
 SEPTEMBER 2016

IMPROVEMENT ALTERNATIVE 3A
 (CHANNEL IMPROVEMENTS - 1:25 YEAR CAPACITY)

CHANNEL IMPROVEMENTS - BERCZY STREET TO QUEEN STREET

ITEM No.	DESCRIPTION	UNIT	EST. QTY.	ESTIMATED UNIT PRICE	ESTIMATED AMOUNT
1	Channel Improvements				
1.01	Excavation and Grading	cu.m	2,400	\$20.00	\$48,000.00
1.02	Armour Stone Reinforcement	m	290	\$400.00	\$116,000.00
1.03	Grubbing	ha	0.4	\$10,500.00	\$4,200.00
1.04	Channel Reinstatement (Topsoil/Seed and Coir Cloth)	m ²	4,000	\$6.50	\$26,000.00
1.05	Demolish Building and Remove Debris	ea	6	\$20,000.00	\$120,000.00
				Subtotal Channel Improvements	\$314,200.00
2	Property Acquisition				
2.01	Property Acquisition	LS	-	-	\$1,670,000.00
				Subtotal Property Acquisition	\$1,670,000.00
				TOTAL PRELIMINARY CONSTRUCTION COST ESTIMATE	\$1,984,200.00
				CONSTRUCTION CONTINGENCY (25%)	\$78,550.00
				ENGINEERING DESIGN FEE (13%)	\$40,846.00
				CONTRACT ADMINISTRATION / CONSTRUCTION INSPECTION (10%)	\$31,420.00
				UTILITIES / SERVICES RELOCATION COST (15%)	\$47,130.00
				TOTAL PRELIMINARY PROJECT COST ESTIMATE	\$2,182,146.00

SOPHIA CREEK WATERSHED & MULCASTER DRAINAGE AREA EA UPDATE
 PRELIMINARY CONSTRUCTION COST ESTIMATE
 SEPTEMBER 2016

IMPROVEMENT ALTERNATIVE 3A
 (CULVERT IMPROVEMENTS - 1:25 YEAR CAPACITY)

ST. VINCENT STREET

ITEM No.	DESCRIPTION	UNIT	EST. QTY.	ESTIMATED UNIT PRICE	ESTIMATED AMOUNT
1	Culvert Improvements				
1.01	Remove Existing Culvert	m	60	\$500.00	\$30,000.00
1.02	Remove Concrete Wingwalls	LS	-	-	\$15,000.00
1.03	Remove Asphalt	m ²	350	\$6.50	\$2,275.00
1.04	Remove Granular Road Base	m ²	350	\$6.00	\$2,100.00
1.05	Remove Existing Concrete Curb and Gutter	m	50	\$23.00	\$1,150.00
1.06	Remove Existing Sidewalk	m ²	75	\$16.50	\$1,237.50
1.07	1200 mm x 3000 mm Conc. Box	m	60	\$4,450.00	\$267,000.00
1.08	Concrete Distribution Slab	LS	-	-	\$20,000.00
1.09	Concrete Wingwalls	LS	-	-	\$50,000.00
1.10	Granular 'B' (450 mm)	m ²	350	\$17.50	\$6,125.00
1.11	Granular 'A' (150 mm)	m ²	350	\$8.50	\$2,975.00
1.12	100 mm HL8 Base Course Asphalt	m ²	350	\$39.50	\$13,825.00
1.13	40 mm HL3 Surface Course Asphalt	m ²	350	\$11.50	\$4,025.00
1.14	Concrete Curb and Gutter	m	50	\$75.00	\$3,750.00
1.15	Concrete Sidewalk	m ²	75	\$80.00	\$6,000.00
1.16	Reinstate Grassed Boulevard	m ²	250	\$12.00	\$3,000.00
					Subtotal Culvert Improvements
					\$428,462.50
					TOTAL PRELIMINARY CONSTRUCTION COST ESTIMATE
					\$428,462.50
					CONSTRUCTION CONTINGENCY (25%)
					\$107,115.63
					ENGINEERING DESIGN FEE (13%)
					\$55,700.13
					CONTRACT ADMINISTRATION / CONSTRUCTION INSPECTION (10%)
					\$42,846.25
					UTILITIES / SERVICES RELOCATION COST (15%)
					\$64,269.38
					TOTAL PRELIMINARY PROJECT COST ESTIMATE
					\$698,393.88

SOPHIA CREEK WATERSHED & MULCASTER DRAINAGE AREA EA UPDATE
 PRELIMINARY CONSTRUCTION COST ESTIMATE
 SEPTEMBER 2016

IMPROVEMENT ALTERNATIVE 3A
 (CULVERT IMPROVEMENTS - 1:25 YEAR CAPACITY)

GROVE STREET (B)

ITEM No.	DESCRIPTION	UNIT	EST. QTY.	ESTIMATED UNIT PRICE	ESTIMATED AMOUNT
1	Culvert Improvements				
1.01	Remove Existing Culvert	m	25	\$80.00	\$2,000.00
1.02	Remove Asphalt	m ²	270	\$6.50	\$1,755.00
1.03	Remove Granular Road Base	m ²	270	\$6.00	\$1,620.00
1.04	Remove Existing Concrete Curb and Gutter	m	50	\$23.00	\$1,150.00
1.05	Remove Existing Sidewalk	m ²	75	\$16.50	\$1,237.50
1.06	900 mm x 2400 mm Conc. Box	m	25	\$3,660.00	\$91,500.00
1.07	Concrete Distribution Slab	LS	-	-	\$20,000.00
1.08	Concrete Wingwalls	LS	-	-	\$50,000.00
1.09	Granular 'B' (450 mm)	m ²	270	\$17.50	\$4,725.00
1.10	Granular 'A' (150 mm)	m ²	270	\$8.50	\$2,295.00
1.11	100 mm HL8 Base Course Asphalt	m ²	270	\$39.50	\$10,665.00
1.12	40 mm HL3 Surface Course Asphalt	m ²	270	\$11.50	\$3,105.00
1.13	Concrete Curb and Gutter	m	50	\$75.00	\$3,750.00
1.14	Concrete Sidewalk	m ²	75	\$80.00	\$6,000.00
1.15	Reinstate Grassed Boulevard	m ²	125	\$12.00	\$1,500.00
					Subtotal Culvert Improvements
					\$201,302.50
					TOTAL PRELIMINARY CONSTRUCTION COST ESTIMATE
					\$201,302.50
					CONSTRUCTION CONTINGENCY (25%)
					\$50,325.63
					ENGINEERING DESIGN FEE (13%)
					\$26,169.33
					CONTRACT ADMINISTRATION / CONSTRUCTION INSPECTION (10%)
					\$20,130.25
					UTILITIES / SERVICES RELOCATION COST (15%)
					\$30,195.38
					TOTAL PRELIMINARY PROJECT COST ESTIMATE
					\$328,123.08

SOPHIA CREEK WATERSHED & MULCASTER DRAINAGE AREA EA UPDATE
 PRELIMINARY CONSTRUCTION COST ESTIMATE
 SEPTEMBER 2016

IMPROVEMENT ALTERNATIVE 3A
 (CULVERT IMPROVEMENTS - 1:25 YEAR CAPACITY)

GROVE STREET (A)

ITEM No.	DESCRIPTION	UNIT	EST. QTY.	ESTIMATED UNIT PRICE	ESTIMATED AMOUNT
1	Culvert Improvements				
1.01	Remove Existing Culvert	m	20	\$150.00	\$3,000.00
1.02	Remove Asphalt	m ²	270	\$6.50	\$1,755.00
1.03	Remove Granular Road Base	m ²	270	\$6.00	\$1,620.00
1.04	Remove Existing Concrete Curb and Gutter	m	50	\$23.00	\$1,150.00
1.05	Remove Existing Sidewalk	m ²	75	\$16.50	\$1,237.50
1.06	1200 mm x 3600 mm Conc. Box	m	20	\$6,240.00	\$124,800.00
1.07	Concrete Distribution Slab	LS	-	-	\$20,000.00
1.08	Concrete Wingwalls	LS	-	-	\$50,000.00
1.09	Granular 'B' (450 mm)	m ²	270	\$17.50	\$4,725.00
1.10	Granular 'A' (150 mm)	m ²	270	\$8.50	\$2,295.00
1.11	100 mm HL8 Base Course Asphalt	m ²	270	\$39.50	\$10,665.00
1.12	40 mm HL3 Surface Course Asphalt	m ²	270	\$11.50	\$3,105.00
1.13	Concrete Curb and Gutter	m	50	\$75.00	\$3,750.00
1.14	Concrete Sidewalk	m ²	75	\$80.00	\$6,000.00
1.15	Reinstate Grassed Boulevard	m ²	125	\$12.00	\$1,500.00
					Subtotal Culvert Improvements
					\$235,602.50
					TOTAL PRELIMINARY CONSTRUCTION COST ESTIMATE
					\$235,602.50
					CONSTRUCTION CONTINGENCY (25%)
					\$58,900.63
					ENGINEERING DESIGN FEE (13%)
					\$30,628.33
					CONTRACT ADMINISTRATION / CONSTRUCTION INSPECTION (10%)
					\$23,560.25
					UTILITIES / SERVICES RELOCATION COST (15%)
					\$35,340.38
					TOTAL PRELIMINARY PROJECT COST ESTIMATE
					\$384,032.08

SOPHIA CREEK WATERSHED & MULCASTER DRAINAGE AREA EA UPDATE
 PRELIMINARY CONSTRUCTION COST ESTIMATE
 SEPTEMBER 2016

IMPROVEMENT ALTERNATIVE 3A
 (CULVERT IMPROVEMENTS - 1:25 YEAR CAPACITY)

LAY STREET

ITEM No.	DESCRIPTION	UNIT	EST. QTY.	ESTIMATED UNIT PRICE	ESTIMATED AMOUNT
1	Culvert Improvements				
1.01	Remove Existing Culvert	m	105	\$150.00	\$15,750.00
1.02	Remove Asphalt	m ²	700	\$6.50	\$4,550.00
1.03	Remove Granular Road Base	m ²	700	\$6.00	\$4,200.00
1.04	Remove Existing Concrete Curb and Gutter	m	80	\$23.00	\$1,840.00
1.05	Remove Existing Sidewalk	m ²	90	\$16.50	\$1,485.00
1.06	1200 mm x 2400 mm Conc. Box	m	45	\$3,910.00	\$175,950.00
1.07	Concrete Distribution Slab	LS	-	-	\$20,000.00
1.08	Concrete Wingwalls	LS	-	-	\$50,000.00
1.09	Granular 'B' (450 mm)	m ²	700	\$17.50	\$12,250.00
1.10	Granular 'A' (150 mm)	m ²	700	\$8.50	\$5,950.00
1.11	100 mm HL8 Base Course Asphalt	m ²	700	\$39.50	\$27,650.00
1.12	40 mm HL3 Surface Course Asphalt	m ²	700	\$11.50	\$8,050.00
1.13	Concrete Curb and Gutter	m	80	\$75.00	\$6,000.00
1.14	Concrete Sidewalk	m ²	90	\$80.00	\$7,200.00
1.15	Reinstate Grassed Boulevard	m ²	400	\$12.00	\$4,800.00
					Subtotal Culvert Improvements
					\$345,675.00
					TOTAL PRELIMINARY CONSTRUCTION COST ESTIMATE
					\$345,675.00
					CONSTRUCTION CONTINGENCY (25%)
					\$86,418.75
					ENGINEERING DESIGN FEE (13%)
					\$44,937.75
					CONTRACT ADMINISTRATION / CONSTRUCTION INSPECTION (10%)
					\$34,567.50
					UTILITIES / SERVICES RELOCATION COST (15%)
					\$51,851.25
					TOTAL PRELIMINARY PROJECT COST ESTIMATE
					\$563,450.25

SOPHIA CREEK WATERSHED & MULCASTER DRAINAGE AREA EA UPDATE
 PRELIMINARY CONSTRUCTION COST ESTIMATE
 SEPTEMBER 2016

IMPROVEMENT ALTERNATIVE 3A
 (CULVERT IMPROVEMENTS - 1:25 YEAR CAPACITY)

HOWARD CRESCENT

ITEM No.	DESCRIPTION	UNIT	EST. QTY.	ESTIMATED UNIT PRICE	ESTIMATED AMOUNT
1	Culvert Improvements				
1.01	Remove Existing Culvert	m	40	\$150.00	\$6,000.00
1.02	Remove Asphalt	m ²	300	\$6.50	\$1,950.00
1.03	Remove Granular Road Base	m ²	300	\$6.00	\$1,800.00
1.04	Remove Existing Concrete Curb and Gutter	m	50	\$23.00	\$1,150.00
1.05	1200 mm x 2400 mm Conc. Box	m	30	\$3,910.00	\$117,300.00
1.06	Concrete Distribution Slab	LS	-	-	\$20,000.00
1.07	Concrete Wingwalls	LS	-	-	\$50,000.00
1.08	Granular 'B' (450 mm)	m ²	300	\$17.50	\$5,250.00
1.09	Granular 'A' (150 mm)	m ²	300	\$8.50	\$2,550.00
1.10	100 mm HL8 Base Course Asphalt	m ²	300	\$39.50	\$11,850.00
1.11	40 mm HL3 Surface Course Asphalt	m ²	300	\$11.50	\$3,450.00
1.12	Concrete Curb and Gutter	m	50	\$75.00	\$3,750.00
1.13	Reinstate Grassed Boulevard	m ²	175	\$12.00	\$2,100.00
					Subtotal Culvert Improvements
					\$227,150.00
					TOTAL PRELIMINARY CONSTRUCTION COST ESTIMATE
					\$227,150.00
					CONSTRUCTION CONTINGENCY (25%)
					\$56,787.50
					ENGINEERING DESIGN FEE (13%)
					\$29,529.50
					CONTRACT ADMINISTRATION / CONSTRUCTION INSPECTION (10%)
					\$22,715.00
					UTILITIES / SERVICES RELOCATION COST (15%)
					\$34,072.50
					TOTAL PRELIMINARY PROJECT COST ESTIMATE
					\$370,254.50

SOPHIA CREEK WATERSHED & MULCASTER DRAINAGE AREA EA UPDATE
 PRELIMINARY CONSTRUCTION COST ESTIMATE
 SEPTEMBER 2016

IMPROVEMENT ALTERNATIVE 3A
 (CULVERT IMPROVEMENTS - 1:25 YEAR CAPACITY)

OTTAWAY AVENUE

ITEM No.	DESCRIPTION	UNIT	EST. QTY.	ESTIMATED UNIT PRICE	ESTIMATED AMOUNT
1	Culvert Improvements				
1.01	Remove Existing Culvert	m	50	\$85.00	\$4,250.00
1.02	Remove Asphalt	m ²	200	\$6.50	\$1,300.00
1.03	Remove Granular Road Base	m ²	200	\$6.00	\$1,200.00
1.04	Remove Existing Concrete Curb and Gutter	m	50	\$23.00	\$1,150.00
1.05	1500 mm x 3000 mm Conc. Box	m	30	\$5,980.00	\$179,400.00
1.06	Concrete Distribution Slab	LS	-	-	\$20,000.00
1.07	Concrete Wingwalls	LS	-	-	\$50,000.00
1.08	Granular 'B' (450 mm)	m ²	200	\$17.50	\$3,500.00
1.09	Granular 'A' (150 mm)	m ²	200	\$8.50	\$1,700.00
1.10	100 mm HL8 Base Course Asphalt	m ²	200	\$39.50	\$7,900.00
1.11	40 mm HL3 Surface Course Asphalt	m ²	200	\$11.50	\$2,300.00
1.12	Concrete Curb and Gutter	m	50	\$75.00	\$3,750.00
1.13	Reinstate Grassed Boulevard	m ²	175	\$12.00	\$2,100.00
					Subtotal Culvert Improvements
					\$278,550.00
					TOTAL PRELIMINARY CONSTRUCTION COST ESTIMATE
					\$278,550.00
					CONSTRUCTION CONTINGENCY (25%)
					\$69,637.50
					ENGINEERING DESIGN FEE (13%)
					\$36,211.50
					CONTRACT ADMINISTRATION / CONSTRUCTION INSPECTION (10%)
					\$27,855.00
					UTILITIES / SERVICES RELOCATION COST (15%)
					\$41,782.50
					TOTAL PRELIMINARY PROJECT COST ESTIMATE
					\$454,036.50

SOPHIA CREEK WATERSHED & MULCASTER DRAINAGE AREA EA UPDATE
 PRELIMINARY CONSTRUCTION COST ESTIMATE
 SEPTEMBER 2016

IMPROVEMENT ALTERNATIVE 3A
 (CULVERT IMPROVEMENTS - 1:25 YEAR CAPACITY)

ROSE STREET

ITEM No.	DESCRIPTION	UNIT	EST. QTY.	ESTIMATED UNIT PRICE	ESTIMATED AMOUNT
1	Culvert Improvements				
1.01	Remove Existing Culvert	m	120	\$85.00	\$10,200.00
1.02	Remove Asphalt	m ²	270	\$6.50	\$1,755.00
1.03	Remove Granular Road Base	m ²	270	\$6.00	\$1,620.00
1.04	Remove Existing Concrete Curb and Gutter	m	50	\$23.00	\$1,150.00
1.05	Remove Existing Sidewalk	m ²	75	\$16.50	\$1,237.50
1.06	1500 mm x 3600 mm Conc. Box	m	30	\$6,500.00	\$195,000.00
1.07	Concrete Distribution Slab	LS	-	-	\$20,000.00
1.08	Concrete Wingwalls	LS	-	-	\$50,000.00
1.09	Granular 'B' (450 mm)	m ²	270	\$17.50	\$4,725.00
1.10	Granular 'A' (150 mm)	m ²	270	\$8.50	\$2,295.00
1.11	100 mm HL8 Base Course Asphalt	m ²	270	\$39.50	\$10,665.00
1.12	40 mm HL3 Surface Course Asphalt	m ²	270	\$11.50	\$3,105.00
1.13	Concrete Curb and Gutter	m	50	\$75.00	\$3,750.00
1.14	Concrete Sidewalk	m ²	75	\$80.00	\$6,000.00
1.15	Reinstate Grassed Boulevard	m ²	350	\$12.00	\$4,200.00
					Subtotal Culvert Improvements
					\$315,702.50
					TOTAL PRELIMINARY CONSTRUCTION COST ESTIMATE
					\$315,702.50
					CONSTRUCTION CONTINGENCY (25%)
					\$78,925.63
					ENGINEERING DESIGN FEE (13%)
					\$41,041.33
					CONTRACT ADMINISTRATION / CONSTRUCTION INSPECTION (10%)
					\$31,570.25
					UTILITIES / SERVICES RELOCATION COST (15%)
					\$47,355.38
					TOTAL PRELIMINARY PROJECT COST ESTIMATE
					\$514,595.08

SOPHIA CREEK WATERSHED & MULCASTER DRAINAGE AREA EA UPDATE
 PRELIMINARY CONSTRUCTION COST ESTIMATE
 SEPTEMBER 2016

IMPROVEMENT ALTERNATIVE 3A
 (CULVERT IMPROVEMENTS - 1:25 YEAR CAPACITY)

Laurie Crescent

ITEM No.	DESCRIPTION	UNIT	EST. QTY.	ESTIMATED UNIT PRICE	ESTIMATED AMOUNT
1	Culvert Improvements				
1.01	Remove Existing Culvert	m	40	\$85.00	\$3,400.00
1.02	Remove Asphalt	m ²	340	\$6.50	\$2,210.00
1.03	Remove Granular Road Base	m ²	340	\$6.00	\$2,040.00
1.04	Remove Existing Concrete Curb and Gutter	m	50	\$23.00	\$1,150.00
1.05	Remove Existing Sidewalk	m ²	40	\$16.50	\$660.00
1.06	1500 mm x 3600 mm Conc. Box	m	40	\$6,500.00	\$260,000.00
1.07	Concrete Distribution Slab	LS	-	-	\$20,000.00
1.08	Concrete Wingwalls	LS	-	-	\$50,000.00
1.09	Granular 'B' (450 mm)	m ²	340	\$17.50	\$5,950.00
1.10	Granular 'A' (150 mm)	m ²	340	\$8.50	\$2,890.00
1.11	100 mm HL8 Base Course Asphalt	m ²	340	\$39.50	\$13,430.00
1.12	40 mm HL3 Surface Course Asphalt	m ²	340	\$11.50	\$3,910.00
1.13	Concrete Curb and Gutter	m	50	\$75.00	\$3,750.00
1.14	Concrete Sidewalk	m ²	40	\$80.00	\$3,200.00
1.15	Reinstate Grassed Boulevard	m ²	450	\$12.00	\$5,400.00
					Subtotal Culvert Improvements
					\$377,990.00
2	Watercourse Improvements				
2.01	Watercourse Improvements	m	165	\$500.00	\$82,500.00
					Subtotal Watercourse Improvements
					\$82,500.00
					TOTAL PRELIMINARY CONSTRUCTION COST ESTIMATE
					\$460,490.00
					CONSTRUCTION CONTINGENCY (25%)
					\$115,122.50
					ENGINEERING DESIGN FEE (13%)
					\$59,863.70
					CONTRACT ADMINISTRATION / CONSTRUCTION INSPECTION (10%)
					\$46,049.00
					UTILITIES / SERVICES RELOCATION COST (15%)
					\$69,073.50
					TOTAL PRELIMINARY PROJECT COST ESTIMATE
					\$750,598.70

SOPHIA CREEK WATERSHED & MULCASTER DRAINAGE AREA EA UPDATE
 PRELIMINARY CONSTRUCTION COST ESTIMATE
 SEPTEMBER 2016

IMPROVEMENT ALTERNATIVE 3A
 (CULVERT IMPROVEMENTS - 1:25 YEAR CAPACITY)

WELLINGTON STREET

ITEM No.	DESCRIPTION	UNIT	EST. QTY.	ESTIMATED UNIT PRICE	ESTIMATED AMOUNT
1	Culvert Improvements				
1.01	Remove Existing Culvert	m	85	\$500.00	\$42,500.00
1.02	Remove Asphalt	m ²	250	\$6.50	\$1,625.00
1.03	Remove Granular Road Base	m ²	250	\$6.00	\$1,500.00
1.04	Remove Existing Concrete Curb and Gutter	m	50	\$23.00	\$1,150.00
1.05	Remove Existing Sidewalk	m ²	75	\$16.50	\$1,237.50
1.06	Quick Span Culvert (8.53 m span)	m	25	\$31,400.00	\$785,000.00
1.07	Concrete Distribution Slab	LS	-	-	\$20,000.00
1.08	Concrete Wingwalls	LS	-	-	\$50,000.00
1.09	Granular 'B' (450 mm)	m ²	250	\$17.50	\$4,375.00
1.10	Granular 'A' (150 mm)	m ²	250	\$8.50	\$2,125.00
1.11	100 mm HL8 Base Course Asphalt	m ²	250	\$39.50	\$9,875.00
1.12	40 mm HL3 Surface Course Asphalt	m ²	250	\$11.50	\$2,875.00
1.13	Concrete Curb and Gutter	m	50	\$75.00	\$3,750.00
1.14	Concrete Sidewalk	m ²	75	\$80.00	\$6,000.00
1.15	Reinstate Grassed Boulevard	m ²	250	\$12.00	\$3,000.00
					Subtotal Culvert Improvements
					\$935,012.50
					TOTAL PRELIMINARY CONSTRUCTION COST ESTIMATE
					\$935,012.50
					CONSTRUCTION CONTINGENCY (25%)
					\$233,753.13
					ENGINEERING DESIGN FEE (13%)
					\$121,551.63
					CONTRACT ADMINISTRATION / CONSTRUCTION INSPECTION (10%)
					\$93,501.25
					UTILITIES / SERVICES RELOCATION COST (15%)
					\$140,251.88
					TOTAL PRELIMINARY PROJECT COST ESTIMATE
					\$1,524,070.38

SOPHIA CREEK WATERSHED & MULCASTER DRAINAGE AREA EA UPDATE
 PRELIMINARY CONSTRUCTION COST ESTIMATE
 SEPTEMBER 2016

IMPROVEMENT ALTERNATIVE 3A
 (CULVERT IMPROVEMENTS - 1:25 YEAR CAPACITY)

BERCZY STREET

ITEM No.	DESCRIPTION	UNIT	EST. QTY.	ESTIMATED UNIT PRICE	ESTIMATED AMOUNT
1	Culvert Improvements				
1.01	Remove Existing Culvert	m	40	\$500.00	\$20,000.00
1.02	Remove Asphalt	m ²	250	\$6.50	\$1,625.00
1.03	Remove Granular Road Base	m ²	250	\$6.00	\$1,500.00
1.04	Remove Existing Concrete Curb and Gutter	m	50	\$23.00	\$1,150.00
1.05	Remove Existing Sidewalk	m ²	75	\$16.50	\$1,237.50
1.06	Quick Span Culvert (8.53 m span)	m	30	\$31,400.00	\$942,000.00
1.07	Concrete Distribution Slab	LS	-	-	\$20,000.00
1.08	Concrete Wingwalls	LS	-	-	\$50,000.00
1.09	Granular 'B' (450 mm)	m ²	250	\$17.50	\$4,375.00
1.10	Granular 'A' (150 mm)	m ²	250	\$8.50	\$2,125.00
1.11	100 mm HL8 Base Course Asphalt	m ²	250	\$39.50	\$9,875.00
1.12	40 mm HL3 Surface Course Asphalt	m ²	250	\$11.50	\$2,875.00
1.13	Concrete Curb and Gutter	m	50	\$75.00	\$3,750.00
1.14	Concrete Sidewalk	m ²	75	\$80.00	\$6,000.00
1.15	Reinstate Grassed Boulevard	m ²	250	\$12.00	\$3,000.00
					Subtotal Culvert Improvements
					\$1,069,512.50
					TOTAL PRELIMINARY CONSTRUCTION COST ESTIMATE
					\$1,069,512.50
					CONSTRUCTION CONTINGENCY (25%)
					\$267,378.13
					ENGINEERING DESIGN FEE (13%)
					\$139,036.63
					CONTRACT ADMINISTRATION / CONSTRUCTION INSPECTION (10%)
					\$106,951.25
					UTILITIES / SERVICES RELOCATION COST (15%)
					\$160,426.88
					TOTAL PRELIMINARY PROJECT COST ESTIMATE
					\$1,743,305.38

SOPHIA CREEK WATERSHED & MULCASTER DRAINAGE AREA EA UPDATE
 PRELIMINARY CONSTRUCTION COST ESTIMATE
 SEPTEMBER 2016

IMPROVEMENT ALTERNATIVE 3A
 (CULVERT IMPROVEMENTS - 1:25 YEAR CAPACITY)

DAVIDSON/GUNN STREET

ITEM No.	DESCRIPTION	UNIT	EST. QTY.	ESTIMATED UNIT PRICE	ESTIMATED AMOUNT
1	Culvert Improvements				
1.01	Remove Existing Culvert	m	75	\$500.00	\$37,500.00
1.02	Remove Asphalt	m ²	650	\$6.50	\$4,225.00
1.03	Remove Granular Road Base	m ²	650	\$6.00	\$3,900.00
1.04	Remove Existing Concrete Curb and Gutter	m	100	\$23.00	\$2,300.00
1.05	Remove Existing Sidewalk	m ²	75	\$16.50	\$1,237.50
1.06	Quick Span Culvert (8.53 m span)	m	75	\$31,400.00	\$2,355,000.00
1.07	Concrete Distribution Slab	LS	-	-	\$20,000.00
1.08	Concrete Wingwalls	LS	-	-	\$50,000.00
1.09	Granular 'B' (450 mm)	m ²	650	\$17.50	\$11,375.00
1.10	Granular 'A' (150 mm)	m ²	650	\$8.50	\$5,525.00
1.11	100 mm HL8 Base Course Asphalt	m ²	650	\$39.50	\$25,675.00
1.12	40 mm HL3 Surface Course Asphalt	m ²	650	\$11.50	\$7,475.00
1.13	Concrete Curb and Gutter	m	100	\$75.00	\$7,500.00
1.14	Concrete Sidewalk	m ²	75	\$80.00	\$6,000.00
1.15	Reinstate Grassed Boulevard	m ²	750	\$12.00	\$9,000.00
					Subtotal Culvert Improvements
					\$2,546,712.50
2	Property Acquisition				
2.01	Property Acquisition	LS	-	-	\$286,000.00
					Subtotal Property Acquisition
					\$286,000.00
					TOTAL PRELIMINARY CONSTRUCTION COST ESTIMATE
					\$2,832,712.50
					CONSTRUCTION CONTINGENCY (25%)
					\$636,678.13
					ENGINEERING DESIGN FEE (13%)
					\$331,072.63
					CONTRACT ADMINISTRATION / CONSTRUCTION INSPECTION (10%)
					\$254,671.25
					UTILITIES / SERVICES RELOCATION COST (15%)
					\$382,006.88
					TOTAL PRELIMINARY PROJECT COST ESTIMATE
					\$4,437,141.38

SOPHIA CREEK WATERSHED & MULCASTER DRAINAGE AREA EA UPDATE
 PRELIMINARY CONSTRUCTION COST ESTIMATE
 SEPTEMBER 2016

IMPROVEMENT ALTERNATIVE 3A
 (CULVERT IMPROVEMENTS - 1:25 YEAR CAPACITY)

PARKDALE CRESCENT

ITEM No.	DESCRIPTION	UNIT	EST. QTY.	ESTIMATED UNIT PRICE	ESTIMATED AMOUNT
1	Culvert Improvements				
1.01	Remove Existing Culvert	m	40	\$250.00	\$10,000.00
1.02	Remove Asphalt	m ²	200	\$6.50	\$1,300.00
1.03	Remove Granular Road Base	m ²	200	\$6.00	\$1,200.00
1.04	Remove Existing Concrete Curb and Gutter	m	50	\$23.00	\$1,150.00
1.05	Quick Span Culvert (8.53 m span)	m	25	\$31,400.00	\$785,000.00
1.06	Concrete Distribution Slab	LS	-	-	\$20,000.00
1.07	Concrete Wingwalls	LS	-	-	\$50,000.00
1.08	Granular 'B' (450 mm)	m ²	200	\$17.50	\$3,500.00
1.09	Granular 'A' (150 mm)	m ²	200	\$8.50	\$1,700.00
1.10	100 mm HL8 Base Course Asphalt	m ²	200	\$39.50	\$7,900.00
1.11	40 mm HL3 Surface Course Asphalt	m ²	200	\$11.50	\$2,300.00
1.12	Concrete Curb and Gutter	m	50	\$75.00	\$3,750.00
1.13	Reinstate Grassed Boulevard	m ²	250	\$12.00	\$3,000.00
					Subtotal Culvert Improvements
					\$890,800.00
					TOTAL PRELIMINARY CONSTRUCTION COST ESTIMATE
					\$890,800.00
					CONSTRUCTION CONTINGENCY (25%)
					\$222,700.00
					ENGINEERING DESIGN FEE (13%)
					\$115,804.00
					CONTRACT ADMINISTRATION / CONSTRUCTION INSPECTION (10%)
					\$89,080.00
					UTILITIES / SERVICES RELOCATION COST (15%)
					\$133,620.00
					TOTAL PRELIMINARY PROJECT COST ESTIMATE
					\$1,452,004.00

SOPHIA CREEK WATERSHED & MULCASTER DRAINAGE AREA EA UPDATE
 PRELIMINARY CONSTRUCTION COST ESTIMATE
 SEPTEMBER 2016

IMPROVEMENT ALTERNATIVE 3A
 (CULVERT IMPROVEMENTS - 1:25 YEAR CAPACITY)

GROVE STREET (C)

ITEM No.	DESCRIPTION	UNIT	EST. QTY.	ESTIMATED UNIT PRICE	ESTIMATED AMOUNT
1	Culvert Improvements				
1.01	Remove Existing Culvert	m	105	\$100.00	\$10,500.00
1.02	Remove Asphalt	m ²	300	\$6.50	\$1,950.00
1.03	Remove Granular Road Base	m ²	300	\$6.00	\$1,800.00
1.04	Remove Existing Concrete Curb and Gutter	m	50	\$23.00	\$1,150.00
1.05	Remove Existing Sidewalk	m ²	75	\$16.50	\$1,237.50
1.06	Quick Span Culvert (8.53 m span)	m	35	\$31,400.00	\$1,099,000.00
1.07	Concrete Distribution Slab	LS	-	-	\$35,000.00
1.08	Concrete Wingwalls	LS	-	-	\$50,000.00
1.09	Granular 'B' (450 mm)	m ²	300	\$17.50	\$5,250.00
1.10	Granular 'A' (150 mm)	m ²	300	\$8.50	\$2,550.00
1.11	100 mm HL8 Base Course Asphalt	m ²	300	\$39.50	\$11,850.00
1.12	40 mm HL3 Surface Course Asphalt	m ²	300	\$11.50	\$3,450.00
1.13	Concrete Curb and Gutter	m	50	\$75.00	\$3,750.00
1.14	Concrete Sidewalk	m ²	75	\$80.00	\$6,000.00
1.15	Reinstate Grassed Boulevard	m ²	375	\$12.00	\$4,500.00
					Subtotal Culvert Improvements
					\$1,237,987.50
					TOTAL PRELIMINARY CONSTRUCTION COST ESTIMATE
					\$1,237,987.50
					CONSTRUCTION CONTINGENCY (25%)
					\$309,496.88
					ENGINEERING DESIGN FEE (13%)
					\$160,938.38
					CONTRACT ADMINISTRATION / CONSTRUCTION INSPECTION (10%)
					\$123,798.75
					UTILITIES / SERVICES RELOCATION COST (15%)
					\$185,698.13
					TOTAL PRELIMINARY PROJECT COST ESTIMATE
					\$2,017,919.63

SOPHIA CREEK WATERSHED & MULCASTER DRAINAGE AREA EA UPDATE
 PRELIMINARY CONSTRUCTION COST ESTIMATE
 SEPTEMBER 2016

IMPROVEMENT ALTERNATIVE 3A
 (CULVERT IMPROVEMENTS - 1:25 YEAR CAPACITY)

BOTHWELL CRESCENT

ITEM No.	DESCRIPTION	UNIT	EST. QTY.	ESTIMATED UNIT PRICE	ESTIMATED AMOUNT
1	Culvert Improvements				
1.01	Remove Existing Culvert	m	20	\$85.00	\$1,700.00
1.02	Remove Asphalt	m ²	200	\$6.50	\$1,300.00
1.03	Remove Granular Road Base	m ²	200	\$6.00	\$1,200.00
1.04	Remove Existing Concrete Curb and Gutter	m	50	\$23.00	\$1,150.00
1.05	Quick Span Culvert (8.53 m span)	m	20	\$31,400.00	\$628,000.00
1.06	Concrete Distribution Slab	LS	-	-	\$20,000.00
1.07	Concrete Wingwalls	LS	-	-	\$50,000.00
1.08	Granular 'B' (450 mm)	m ²	200	\$17.50	\$3,500.00
1.09	Granular 'A' (150 mm)	m ²	200	\$8.50	\$1,700.00
1.10	100 mm HL8 Base Course Asphalt	m ²	200	\$39.50	\$7,900.00
1.11	40 mm HL3 Surface Course Asphalt	m ²	200	\$11.50	\$2,300.00
1.12	Concrete Curb and Gutter	m	50	\$75.00	\$3,750.00
1.13	Reinstate Grassed Boulevard	m ²	150	\$12.00	\$1,800.00
				Subtotal Culvert Improvements	\$724,300.00
2	Watercourse Improvements				
2.01	Watercourse Improvements	m	85	\$500.00	\$42,500.00
				Subtotal Watercourse Improvements	\$42,500.00
3	Property Acquisition				
3.01	Property Acquisition	LS	-	-	\$217,000.00
				Subtotal Property Acquisition	\$217,000.00
				TOTAL PRELIMINARY CONSTRUCTION COST ESTIMATE	\$983,800.00
				CONSTRUCTION CONTINGENCY (25%)	\$191,700.00
				ENGINEERING DESIGN FEE (13%)	\$99,684.00
				CONTRACT ADMINISTRATION / CONSTRUCTION INSPECTION (10%)	\$76,680.00
				UTILITIES / SERVICES RELOCATION COST (15%)	\$115,020.00
				TOTAL PRELIMINARY PROJECT COST ESTIMATE	\$1,466,884.00



C.C. Tatham & Associates Ltd.
Consulting Engineers
Collingwood Bracebridge Orillia Barrie

PROJECT:	Sophia Creek Watershed and Mulcaster Drainage Area EA Update
FILE NUMBER:	115172
DATE:	September 28, 2016
DESIGNED BY:	Amanda West
CHECKED BY:	Daniel Twigger
SUBJECT:	Preliminary Construction Cost Estimates

IMPROVEMENT ALTERNATIVE 3B - CULVERT/CHANNEL IMPROVEMENTS (CITY STANDARD DESIGN FLOOD FREQUENCY CRITERIA)

Item No.	Description	Unit	Estimated Quantity	Estimated Unit Price	Estimated Amount
1	Howard Crescent - 3600 mm x 1200 mm Conc. Box Culvert	m	30	\$16,140	\$484,192
2	Lay Street - 3600 mm x 1200 mm Conc. Box Culvert	m	45	\$16,319	\$734,356
3	Grove Street (A) - 3600 mm x 1200 mm Conc. Box Culvert	m	20	\$19,202	\$384,032
4	Grove Street (B) - 3600 mm x 1200 mm Conc. Box Culvert	m	25	\$17,330	\$433,258
5	St. Vincent Street - Twin 3600 mm x 1200 mm Conc. Box Culvert	m	60	\$14,558	\$873,456
6	Ottaway Avenue - 3000 mm x 1500 mm Conc. Box Culvert	m	30	\$15,982	\$479,465
7	Rose Street - 3000 mm x 1500 mm Conc. Box Culvert	m	30	\$20,315	\$609,461
8	Laurie Crescent - 3000 mm x 1500 mm Conc. Box Culvert	m	40	\$21,927	\$877,087
9	Bothwell Crescent - Quickspan Concrete Culvert (8.53 m span)	m	20	\$62,494	\$1,249,884
10	Bothwell Crescent - Property Acquisition	LS	-	-	\$217,000
11	Grove Street (C) - Quickspan Concrete Culvert (Twin 3.96 m span)	m	35	\$92,211	\$3,227,380
12	Parkdale Crescent - Twin 3000 mm x 1200 mm Conc. Box Culvert	m	25	\$92,636	\$2,315,904
13	Davidson Street/Gunn Street - Quickspan Culvert (Twin 5.79 m span)	m	75	\$89,905	\$6,742,841
14	Davidson Street/Gunn Street - Property Acquisition	LS	-	-	\$286,000
15	Berczy Street - Quickspan Concrete Culvert (Twin 5.79 m span)	m	30	\$92,666	\$2,779,985
16	Wellington Street - Quickspan Concrete Culvert (Twin 5.79 m span)	m	25	\$95,519	\$2,387,970
17	Howard Crescent to Lay Street - Channel Improvements	m	70	\$1,407	\$98,493
18	Downstream of Lay Street - Channel Improvements	m	45	\$2,429	\$109,308
19	Upstream/Downstream of Grove Street (B) - Channel Improvements	m	105	\$1,234	\$129,552
20	Upstream/Downstream of Grove Street (B) - Property Acquisition	LS	-	-	\$466,000
21	Ottaway Avenue to Laurie Crescent - Channel Improvements	m	270	\$1,064	\$287,206
22	Ottaway Avenue to Laurie Crescent - Property Acquisition	LS	-	-	\$743,000
23	Grove Street to Parkdale Crescent - Channel Improvements	m	240	\$338	\$81,083
24	Berczy Street to Queen Street - Channel Improvements	m	145	\$3,532	\$512,146
25	Berczy Street to Queen Street - Property Acquisition	LS	-	-	\$1,670,000
Total Preliminary Estimated Construction Cost					\$28,179,058

ALTERNATIVE 2A & 3B IMPLEMENTED IN COMBINATION

Item No.	Description	Unit	Estimated Quantity	Estimated Unit Price	Estimated Amount
1	Howard Crescent - 3600 mm x 1200 mm Conc. Box Culvert	m	30	\$16,140	\$484,192
2	Lay Street - 3600 mm x 1200 mm Conc. Box Culvert	m	45	\$16,319	\$734,356
3	Grove Street (A) - 3600 mm x 1200 mm Conc. Box Culvert	m	20	\$19,202	\$384,032
4	Grove Street (B) - 3600 mm x 1200 mm Conc. Box Culvert	m	25	\$17,330	\$433,258
5	St. Vincent Street - Twin 3600 mm x 1200 mm Conc. Box Culvert	m	60	\$14,558	\$873,456
6	Ottaway Avenue - 3000 mm x 1500 mm Conc. Box Culvert	m	30	\$15,135	\$454,037
7	Rose Street - 3000 mm x 1500 mm Conc. Box Culvert	m	30	\$16,306	\$489,167
8	Laurie Crescent - 3000 mm x 1500 mm Conc. Box Culvert	m	40	\$17,917	\$716,695
10	Grove Street (C) - Twin 3600 mm x 1500 mm Conc. Box Culvert	m	35	\$26,815	\$938,534
11	Parkdale Crescent - Twin 3600 mm x 1500 mm Conc. Box Culvert	m	25	\$27,241	\$681,014
12	Davidson Street/Gunn Street - Twin 3600 mm x 1500 mm Conc. Box Culvert	m	75	\$24,509	\$1,838,171
13	Davidson Street/Gunn Street - Property Acquisition	LS	-	-	\$286,000
14	Berczy Street - Twin 3600 mm x 1500 mm Conc. Box Culvert	m	30	\$27,271	\$818,117
15	Wellington Street - Twin 3600 mm x 1500 mm Conc. Box Culvert	m	25	\$30,123	\$753,080
16	Howard Crescent to Lay Street - Channel Improvements	m	70	\$1,407	\$98,493
17	Downstream of Lay Street - Channel Improvements	m	45	\$2,429	\$109,308
18	Upstream/Downstream of Grove Street (B) - Channel Improvements	m	105	\$1,234	\$129,552
19	Upstream/Downstream of Grove Street (B) - Property Acquisition	LS	-	-	\$466,000
20	Ottaway Avenue to Laurie Crescent - Channel Improvements	m	270	\$1,064	\$287,206
21	Ottaway Avenue to Laurie Crescent - Property Acquisition	LS	-	-	\$743,000
22	Grove Street to Parkdale Crescent - Channel Improvements	m	240	\$338	\$81,083
23	Berczy Street to Queen Street - Channel Improvements	m	145	\$3,532	\$512,146
24	Berczy Street to Queen Street - Property Acquisition	LS	-	-	\$1,670,000
Total Preliminary Estimated Construction Cost					\$13,980,896

SOPHIA CREEK WATERSHED & MULCASTER DRAINAGE AREA EA UPDATE
 PRELIMINARY CONSTRUCTION COST ESTIMATE
 SEPTEMBER 2016

IMPROVEMENT ALTERNATIVE 3B
 (CULVERT IMPROVEMENTS - DESIGN FLOOD FREQUENCY CRITERIA)

CHANNEL IMPROVEMENTS - HOWARD TO LAY

ITEM No.	DESCRIPTION	UNIT	EST. QTY.	ESTIMATED UNIT PRICE	ESTIMATED AMOUNT
1	Channel Improvements				
1.01	Excavation and Grading	cu.m	1,250	\$20.00	\$25,000.00
1.02	Grubbing	ha	0.2	\$10,500.00	\$2,100.00
1.03	Channel Reinstatement (Topsoil/Seed and Coir Cloth)	m ²	2,050	\$6.50	\$13,325.00
1.04	Demolish Building and Remove Debris	ea	1	\$20,000.00	\$20,000.00
				Subtotal Channel Improvements	\$60,425.00
				TOTAL PRELIMINARY CONSTRUCTION COST ESTIMATE	\$60,425.00
				CONSTRUCTION CONTINGENCY (25%)	\$15,106.25
				ENGINEERING DESIGN FEE (13%)	\$7,855.25
				CONTRACT ADMINISTRATION / CONSTRUCTION INSPECTION (10%)	\$6,042.50
				UTILITY / SERVICES RELOCATION COST (15%)	\$9,063.75
				TOTAL PRELIMINARY PROJECT COST ESTIMATE	\$98,492.75

SOPHIA CREEK WATERSHED & MULCASTER DRAINAGE AREA EA UPDATE
 PRELIMINARY CONSTRUCTION COST ESTIMATE
 SEPTEMBER 2016

IMPROVEMENT ALTERNATIVE 3B
 (CULVERT IMPROVEMENTS - DESIGN FLOOD FREQUENCY CRITERIA)

CHANNEL IMPROVEMENTS - DOWNSTREAM OF LAY STREET

ITEM No.	DESCRIPTION	UNIT	EST. QTY.	ESTIMATED UNIT PRICE	ESTIMATED AMOUNT
1	Channel Improvements				
1.01	Excavation and Grading	cu.m	900	\$20.00	\$18,000.00
1.02	Grubbing	ha	0.1	\$10,500.00	\$1,260.00
1.03	Channel Reinstatement (Topsoil/Seed and Coir Cloth)	m ²	1,200	\$6.50	\$7,800.00
1.04	Demolish Building and Remove Debris	ea	2	\$20,000.00	\$40,000.00
				Subtotal Channel Improvements	\$67,060.00
				TOTAL PRELIMINARY CONSTRUCTION COST ESTIMATE	\$67,060.00
				CONSTRUCTION CONTINGENCY (25%)	\$16,765.00
				ENGINEERING DESIGN FEE (13%)	\$8,717.80
				CONTRACT ADMINISTRATION / CONSTRUCTION INSPECTION (10%)	\$6,706.00
				UTILITY / SERVICES RELOCATION COST (15%)	\$10,059.00
				TOTAL PRELIMINARY PROJECT COST ESTIMATE	\$109,307.80

SOPHIA CREEK WATERSHED & MULCASTER DRAINAGE AREA EA UPDATE
 PRELIMINARY CONSTRUCTION COST ESTIMATE
 SEPTEMBER 2016

IMPROVEMENT ALTERNATIVE 3B
 (CULVERT IMPROVEMENTS - DESIGN FLOOD FREQUENCY CRITERIA)

CHANNEL IMPROVEMENTS - UPSTREAM / DOWNSTREAM OF GROVE STREET

ITEM No.	DESCRIPTION	UNIT	EST. QTY.	ESTIMATED UNIT PRICE	ESTIMATED AMOUNT
1	Channel Improvements				
1.01	Excavation and Grading	cu.m	1,370	\$20.00	\$27,400.00
1.02	Grubbing	ha	0.2	\$10,500.00	\$1,680.00
1.03	Channel Reinstatement (Topsoil/Seed and Coir Cloth)	m ²	1,600	\$6.50	\$10,400.00
1.04	Demolish Building and Remove Debris	ea	2	\$20,000.00	\$40,000.00
				Subtotal Channel Improvements	\$79,480.00
2	Property Acquisition				
2.01	Property Acquisition	LS	-	-	\$466,000.00
				Subtotal Property Acquisition	\$466,000.00
				TOTAL PRELIMINARY CONSTRUCTION COST ESTIMATE	\$545,480.00
				CONSTRUCTION CONTINGENCY (25%)	\$19,870.00
				ENGINEERING DESIGN FEE (13%)	\$10,332.40
				CONTRACT ADMINISTRATION / CONSTRUCTION INSPECTION (10%)	\$7,948.00
				UTILITY / SERVICES RELOCATION COST (15%)	\$11,922.00
				TOTAL PRELIMINARY PROJECT COST ESTIMATE	\$595,552.40

SOPHIA CREEK WATERSHED & MULCASTER DRAINAGE AREA EA UPDATE
 PRELIMINARY CONSTRUCTION COST ESTIMATE
 SEPTEMBER 2016

IMPROVEMENT ALTERNATIVE 3B
 (CULVERT IMPROVEMENTS - DESIGN FLOOD FREQUENCY CRITERIA)

CHANNEL IMPROVEMENTS - OTTAWAY AVENUE TO LAURIE CRESCENT

ITEM No.	DESCRIPTION	UNIT	EST. QTY.	ESTIMATED UNIT PRICE	ESTIMATED AMOUNT
1	Channel Improvements				
1.01	Excavation and Grading	cu.m	4,300	\$20.00	\$86,000.00
1.02	Grubbing	ha	0.4	\$10,500.00	\$4,200.00
1.03	Channel Reinstatement (Topsoil/Seed and Coir Cloth)	m ²	4,000	\$6.50	\$26,000.00
1.04	Demolish Building and Remove Debris	ea	3	\$20,000.00	\$60,000.00
				Subtotal Channel Improvements	\$176,200.00
2	Property Acquisition				
2.01	Property Acquisition	LS	-	-	\$743,000.00
				Subtotal Property Acquisition	\$743,000.00
				TOTAL PRELIMINARY CONSTRUCTION COST ESTIMATE	\$919,200.00
				CONSTRUCTION CONTINGENCY (25%)	\$44,050.00
				ENGINEERING DESIGN FEE (13%)	\$22,906.00
				CONTRACT ADMINISTRATION / CONSTRUCTION INSPECTION (10%)	\$17,620.00
				UTILITY / SERVICES RELOCATION COST (15%)	\$26,430.00
				TOTAL PRELIMINARY PROJECT COST ESTIMATE	\$1,030,206.00

SOPHIA CREEK WATERSHED & MULCASTER DRAINAGE AREA EA UPDATE
 PRELIMINARY CONSTRUCTION COST ESTIMATE
 SEPTEMBER 2016

IMPROVEMENT ALTERNATIVE 3B
 (CULVERT IMPROVEMENTS - DESIGN FLOOD FREQUENCY CRITERIA)

CHANNEL IMPROVEMENTS - GROVE STREET TO PARKDALE CRESCENT

ITEM No.	DESCRIPTION	UNIT	EST. QTY.	ESTIMATED UNIT PRICE	ESTIMATED AMOUNT
1	Channel Improvements				
1.01	Excavation and Grading	cu.m	1,400	\$20.00	\$28,000.00
1.02	Grubbing	ha	0.3	\$10,500.00	\$3,024.00
1.03	Channel Reinstatement (Topsoil/Seed and Coir Cloth)	m ²	2,880	\$6.50	\$18,720.00
				Subtotal Channel Improvements	\$49,744.00
				TOTAL PRELIMINARY CONSTRUCTION COST ESTIMATE	\$49,744.00
				CONSTRUCTION CONTINGENCY (25%)	\$12,436.00
				ENGINEERING DESIGN FEE (13%)	\$6,466.72
				CONTRACT ADMINISTRATION / CONSTRUCTION INSPECTION (10%)	\$4,974.40
				UTILITY / SERVICES RELOCATION COST (15%)	\$7,461.60
				TOTAL PRELIMINARY PROJECT COST ESTIMATE	\$81,082.72

SOPHIA CREEK WATERSHED & MULCASTER DRAINAGE AREA EA UPDATE
 PRELIMINARY CONSTRUCTION COST ESTIMATE
 SEPTEMBER 2016

IMPROVEMENT ALTERNATIVE 3B
 (CULVERT IMPROVEMENTS - DESIGN FLOOD FREQUENCY CRITERIA)

CHANNEL IMPROVEMENTS - BERCZY STREET TO QUEEN STREET

ITEM No.	DESCRIPTION	UNIT	EST. QTY.	ESTIMATED UNIT PRICE	ESTIMATED AMOUNT
1	Channel Improvements				
1.01	Excavation and Grading	cu.m	2,400	\$20.00	\$48,000.00
1.02	Armour Stone Reinforcement	m	290	\$400.00	\$116,000.00
1.03	Grubbing	ha	0.4	\$10,500.00	\$4,200.00
1.04	Channel Reinstatement (Topsoil/Seed and Coir Cloth)	m ²	4,000	\$6.50	\$26,000.00
1.05	Demolish Building and Remove Debris	ea	6	\$20,000.00	\$120,000.00
				Subtotal Channel Improvements	\$314,200.00
2	Property Acquisition				
2.01	Property Acquisition	LS	-	-	\$1,670,000.00
				Subtotal Property Acquisition	\$1,670,000.00
				TOTAL PRELIMINARY CONSTRUCTION COST ESTIMATE	\$1,984,200.00
				CONSTRUCTION CONTINGENCY (25%)	\$78,550.00
				ENGINEERING DESIGN FEE (13%)	\$40,846.00
				CONTRACT ADMINISTRATION / CONSTRUCTION INSPECTION (10%)	\$31,420.00
				UTILITY / SERVICES RELOCATION COST (15%)	\$47,130.00
				TOTAL PRELIMINARY PROJECT COST ESTIMATE	\$2,182,146.00

SOPHIA CREEK WATERSHED & MULCASTER DRAINAGE AREA EA UPDATE
 PRELIMINARY CONSTRUCTION COST ESTIMATE
 SEPTEMBER 2016

IMPROVEMENT ALTERNATIVE 3B
 (CULVERT IMPROVEMENTS - DESIGN FLOOD FREQUENCY CRITERIA)

ST. VINCENT STREET

ITEM No.	DESCRIPTION	UNIT	EST. QTY.	ESTIMATED UNIT PRICE	ESTIMATED AMOUNT
1	Culvert Improvements				
1.01	Remove Existing Culvert	m	60	\$500.00	\$30,000.00
1.02	Remove Concrete Wingwalls	LS	-	-	\$15,000.00
1.03	Remove Asphalt	m ²	350	\$6.50	\$2,275.00
1.04	Remove Granular Road Base	m ²	350	\$6.00	\$2,100.00
1.05	Remove Existing Concrete Curb and Gutter	m	50	\$23.00	\$1,150.00
1.06	Remove Existing Sidewalk	m ²	75	\$16.50	\$1,237.50
1.07	1200 mm x 3600 mm Conc. Box	m	60	\$6,240.00	\$374,400.00
1.08	Concrete Distribution Slab	LS	-	-	\$20,000.00
1.09	Concrete Wingwalls	LS	-	-	\$50,000.00
1.10	Granular 'B' (450 mm)	m ²	350	\$17.50	\$6,125.00
1.11	Granular 'A' (150 mm)	m ²	350	\$8.50	\$2,975.00
1.12	100 mm HL8 Base Course Asphalt	m ²	350	\$39.50	\$13,825.00
1.13	40 mm HL3 Surface Course Asphalt	m ²	350	\$11.50	\$4,025.00
1.14	Concrete Curb and Gutter	m	50	\$75.00	\$3,750.00
1.15	Concrete Sidewalk	m ²	75	\$80.00	\$6,000.00
1.16	Reinstate Grassed Boulevard	m ²	250	\$12.00	\$3,000.00
					Subtotal Culvert Improvements
					\$535,862.50
					TOTAL PRELIMINARY CONSTRUCTION COST ESTIMATE
					\$535,862.50
					CONSTRUCTION CONTINGENCY (25%)
					\$133,965.63
					ENGINEERING DESIGN FEE (13%)
					\$69,662.13
					CONTRACT ADMINISTRATION / CONSTRUCTION INSPECTION (10%)
					\$53,586.25
					UTILITIES / SERVICES RELOCATION COST (15%)
					\$80,379.38
					TOTAL PRELIMINARY PROJECT COST ESTIMATE
					\$873,455.88

SOPHIA CREEK WATERSHED & MULCASTER DRAINAGE AREA EA UPDATE
 PRELIMINARY CONSTRUCTION COST ESTIMATE
 SEPTEMBER 2016

IMPROVEMENT ALTERNATIVE 3B
 (CULVERT IMPROVEMENTS - DESIGN FLOOD FREQUENCY CRITERIA)

GROVE STREET (B)

ITEM No.	DESCRIPTION	UNIT	EST. QTY.	ESTIMATED UNIT PRICE	ESTIMATED AMOUNT
1	Culvert Improvements				
1.01	Remove Existing Culvert	m	25	\$80.00	\$2,000.00
1.02	Remove Asphalt	m ²	270	\$6.50	\$1,755.00
1.03	Remove Granular Road Base	m ²	270	\$6.00	\$1,620.00
1.04	Remove Existing Concrete Curb and Gutter	m	50	\$23.00	\$1,150.00
1.05	Remove Existing Sidewalk	m ²	75	\$16.50	\$1,237.50
1.06	1200 mm x 3600 mm Conc. Box	m	25	\$6,240.00	\$156,000.00
1.07	Concrete Distribution Slab	LS	-	-	\$20,000.00
1.08	Concrete Wingwalls	LS	-	-	\$50,000.00
1.09	Granular 'B' (450 mm)	m ²	270	\$17.50	\$4,725.00
1.10	Granular 'A' (150 mm)	m ²	270	\$8.50	\$2,295.00
1.11	100 mm HL8 Base Course Asphalt	m ²	270	\$39.50	\$10,665.00
1.12	40 mm HL3 Surface Course Asphalt	m ²	270	\$11.50	\$3,105.00
1.13	Concrete Curb and Gutter	m	50	\$75.00	\$3,750.00
1.14	Concrete Sidewalk	m ²	75	\$80.00	\$6,000.00
1.15	Reinstate Grassed Boulevard	m ²	125	\$12.00	\$1,500.00
					Subtotal Culvert Improvements
					\$265,802.50
					TOTAL PRELIMINARY CONSTRUCTION COST ESTIMATE
					\$265,802.50
					CONSTRUCTION CONTINGENCY (25%)
					\$66,450.63
					ENGINEERING DESIGN FEE (13%)
					\$34,554.33
					CONTRACT ADMINISTRATION / CONSTRUCTION INSPECTION (10%)
					\$26,580.25
					UTILITIES / SERVICES RELOCATION COST (15%)
					\$39,870.38
					TOTAL PRELIMINARY PROJECT COST ESTIMATE
					\$433,258.08

SOPHIA CREEK WATERSHED & MULCASTER DRAINAGE AREA EA UPDATE
 PRELIMINARY CONSTRUCTION COST ESTIMATE
 SEPTEMBER 2016

IMPROVEMENT ALTERNATIVE 3B
 (CULVERT IMPROVEMENTS - DESIGN FLOOD FREQUENCY CRITERIA)

GROVE STREET (A)

ITEM No.	DESCRIPTION	UNIT	EST. QTY.	ESTIMATED UNIT PRICE	ESTIMATED AMOUNT
1	Culvert Improvements				
1.01	Remove Existing Culvert	m	20	\$150.00	\$3,000.00
1.02	Remove Asphalt	m ²	270	\$6.50	\$1,755.00
1.03	Remove Granular Road Base	m ²	270	\$6.00	\$1,620.00
1.04	Remove Existing Concrete Curb and Gutter	m	50	\$23.00	\$1,150.00
1.05	Remove Existing Sidewalk	m ²	75	\$16.50	\$1,237.50
1.06	1200 mm x 3600 mm Conc. Box	m	20	\$6,240.00	\$124,800.00
1.07	Concrete Distribution Slab	LS	-	-	\$20,000.00
1.08	Concrete Wingwalls	LS	-	-	\$50,000.00
1.09	Granular 'B' (450 mm)	m ²	270	\$17.50	\$4,725.00
1.10	Granular 'A' (150 mm)	m ²	270	\$8.50	\$2,295.00
1.11	100 mm HL8 Base Course Asphalt	m ²	270	\$39.50	\$10,665.00
1.12	40 mm HL3 Surface Course Asphalt	m ²	270	\$11.50	\$3,105.00
1.13	Concrete Curb and Gutter	m	50	\$75.00	\$3,750.00
1.14	Concrete Sidewalk	m ²	75	\$80.00	\$6,000.00
1.15	Reinstate Grassed Boulevard	m ²	125	\$12.00	\$1,500.00
					Subtotal Culvert Improvements
					\$235,602.50
					TOTAL PRELIMINARY CONSTRUCTION COST ESTIMATE
					\$235,602.50
					CONSTRUCTION CONTINGENCY (25%)
					\$58,900.63
					ENGINEERING DESIGN FEE (13%)
					\$30,628.33
					CONTRACT ADMINISTRATION / CONSTRUCTION INSPECTION (10%)
					\$23,560.25
					UTILITIES / SERVICES RELOCATION COST (15%)
					\$35,340.38
					TOTAL PRELIMINARY PROJECT COST ESTIMATE
					\$384,032.08

SOPHIA CREEK WATERSHED & MULCASTER DRAINAGE AREA EA UPDATE
 PRELIMINARY CONSTRUCTION COST ESTIMATE
 SEPTEMBER 2016

IMPROVEMENT ALTERNATIVE 3B
 (CULVERT IMPROVEMENTS - DESIGN FLOOD FREQUENCY CRITERIA)

LAY STREET

ITEM No.	DESCRIPTION	UNIT	EST. QTY.	ESTIMATED UNIT PRICE	ESTIMATED AMOUNT
1	Culvert Improvements				
1.01	Remove Existing Culvert	m	105	\$150.00	\$15,750.00
1.02	Remove Asphalt	m ²	700	\$6.50	\$4,550.00
1.03	Remove Granular Road Base	m ²	700	\$6.00	\$4,200.00
1.04	Remove Existing Concrete Curb and Gutter	m	80	\$23.00	\$1,840.00
1.05	Remove Existing Sidewalk	m ²	90	\$16.50	\$1,485.00
1.06	1200 mm x 3600 mm Conc. Box	m	45	\$6,240.00	\$280,800.00
1.07	Concrete Distribution Slab	LS	-	-	\$20,000.00
1.08	Concrete Wingwalls	LS	-	-	\$50,000.00
1.09	Granular 'B' (450 mm)	m ²	700	\$17.50	\$12,250.00
1.10	Granular 'A' (150 mm)	m ²	700	\$8.50	\$5,950.00
1.11	100 mm HL8 Base Course Asphalt	m ²	700	\$39.50	\$27,650.00
1.12	40 mm HL3 Surface Course Asphalt	m ²	700	\$11.50	\$8,050.00
1.13	Concrete Curb and Gutter	m	80	\$75.00	\$6,000.00
1.14	Concrete Sidewalk	m ²	90	\$80.00	\$7,200.00
1.15	Reinstate Grassed Boulevard	m ²	400	\$12.00	\$4,800.00
					Subtotal Culvert Improvements
					\$450,525.00
					TOTAL PRELIMINARY CONSTRUCTION COST ESTIMATE
					\$450,525.00
					CONSTRUCTION CONTINGENCY (25%)
					\$112,631.25
					ENGINEERING DESIGN FEE (13%)
					\$58,568.25
					CONTRACT ADMINISTRATION / CONSTRUCTION INSPECTION (10%)
					\$45,052.50
					UTILITIES / SERVICES RELOCATION COST (15%)
					\$67,578.75
					TOTAL PRELIMINARY PROJECT COST ESTIMATE
					\$734,355.75

SOPHIA CREEK WATERSHED & MULCASTER DRAINAGE AREA EA UPDATE
 PRELIMINARY CONSTRUCTION COST ESTIMATE
 SEPTEMBER 2016

IMPROVEMENT ALTERNATIVE 3B
 (CULVERT IMPROVEMENTS - DESIGN FLOOD FREQUENCY CRITERIA)

HOWARD CRESCENT

ITEM No.	DESCRIPTION	UNIT	EST. QTY.	ESTIMATED UNIT PRICE	ESTIMATED AMOUNT
1	Culvert Improvements				
1.01	Remove Existing Culvert	m	40	\$150.00	\$6,000.00
1.02	Remove Asphalt	m ²	300	\$6.50	\$1,950.00
1.03	Remove Granular Road Base	m ²	300	\$6.00	\$1,800.00
1.04	Remove Existing Concrete Curb and Gutter	m	50	\$23.00	\$1,150.00
1.05	1200 mm x 3600 mm Conc. Box	m	30	\$6,240.00	\$187,200.00
1.06	Concrete Distribution Slab	LS	-	-	\$20,000.00
1.07	Concrete Wingwalls	LS	-	-	\$50,000.00
1.08	Granular 'B' (450 mm)	m ²	300	\$17.50	\$5,250.00
1.09	Granular 'A' (150 mm)	m ²	300	\$8.50	\$2,550.00
1.10	100 mm HL8 Base Course Asphalt	m ²	300	\$39.50	\$11,850.00
1.11	40 mm HL3 Surface Course Asphalt	m ²	300	\$11.50	\$3,450.00
1.12	Concrete Curb and Gutter	m	50	\$75.00	\$3,750.00
1.13	Reinstate Grassed Boulevard	m ²	175	\$12.00	\$2,100.00
					Subtotal Culvert Improvements
					\$297,050.00
					TOTAL PRELIMINARY CONSTRUCTION COST ESTIMATE
					\$297,050.00
					CONSTRUCTION CONTINGENCY (25%)
					\$74,262.50
					ENGINEERING DESIGN FEE (13%)
					\$38,616.50
					CONTRACT ADMINISTRATION / CONSTRUCTION INSPECTION (10%)
					\$29,705.00
					UTILITIES / SERVICES RELOCATION COST (15%)
					\$44,557.50
					TOTAL PRELIMINARY PROJECT COST ESTIMATE
					\$484,191.50

SOPHIA CREEK WATERSHED & MULCASTER DRAINAGE AREA EA UPDATE
 PRELIMINARY CONSTRUCTION COST ESTIMATE
 SEPTEMBER 2016

IMPROVEMENT ALTERNATIVE 3B
 (CULVERT IMPROVEMENTS - DESIGN FLOOD FREQUENCY CRITERIA)

OTTAWAY AVENUE

ITEM No.	DESCRIPTION	UNIT	EST. QTY.	ESTIMATED UNIT PRICE	ESTIMATED AMOUNT
1	Culvert Improvements				
1.01	Remove Existing Culvert	m	50	\$85.00	\$4,250.00
1.02	Remove Asphalt	m ²	200	\$6.50	\$1,300.00
1.03	Remove Granular Road Base	m ²	200	\$6.00	\$1,200.00
1.04	Remove Existing Concrete Curb and Gutter	m	50	\$23.00	\$1,150.00
1.05	1500 mm x 3600 mm Conc. Box	m	30	\$6,500.00	\$195,000.00
1.06	Concrete Distribution Slab	LS	-	-	\$20,000.00
1.07	Concrete Wingwalls	LS	-	-	\$50,000.00
1.08	Granular 'B' (450 mm)	m ²	200	\$17.50	\$3,500.00
1.09	Granular 'A' (150 mm)	m ²	200	\$8.50	\$1,700.00
1.10	100 mm HL8 Base Course Asphalt	m ²	200	\$39.50	\$7,900.00
1.11	40 mm HL3 Surface Course Asphalt	m ²	200	\$11.50	\$2,300.00
1.12	Concrete Curb and Gutter	m	50	\$75.00	\$3,750.00
1.13	Reinstate Grassed Boulevard	m ²	175	\$12.00	\$2,100.00
					Subtotal Culvert Improvements
					\$294,150.00
					TOTAL PRELIMINARY CONSTRUCTION COST ESTIMATE
					\$294,150.00
					CONSTRUCTION CONTINGENCY (25%)
					\$73,537.50
					ENGINEERING DESIGN FEE (13%)
					\$38,239.50
					CONTRACT ADMINISTRATION / CONSTRUCTION INSPECTION (10%)
					\$29,415.00
					UTILITIES / SERVICES RELOCATION COST (15%)
					\$44,122.50
					TOTAL PRELIMINARY PROJECT COST ESTIMATE
					\$479,464.50

SOPHIA CREEK WATERSHED & MULCASTER DRAINAGE AREA EA UPDATE
 PRELIMINARY CONSTRUCTION COST ESTIMATE
 SEPTEMBER 2016

IMPROVEMENT ALTERNATIVE 3B
 (CULVERT IMPROVEMENTS - DESIGN FLOOD FREQUENCY CRITERIA)

ROSE STREET

ITEM No.	DESCRIPTION	UNIT	EST. QTY.	ESTIMATED UNIT PRICE	ESTIMATED AMOUNT
1	Culvert Improvements				
1.01	Remove Existing Culvert	m	120	\$85.00	\$10,200.00
1.02	Remove Asphalt	m ²	270	\$6.50	\$1,755.00
1.03	Remove Granular Road Base	m ²	270	\$6.00	\$1,620.00
1.04	Remove Existing Concrete Curb and Gutter	m	50	\$23.00	\$1,150.00
1.05	Remove Existing Sidewalk	m ²	75	\$16.50	\$1,237.50
1.06	Twin 1500 mm x 2400 mm Conc. Box	m	30	\$8,440.00	\$253,200.00
1.07	Concrete Distribution Slab	LS	-	-	\$20,000.00
1.08	Concrete Wingwalls	LS	-	-	\$50,000.00
1.09	Granular 'B' (450 mm)	m ²	270	\$17.50	\$4,725.00
1.10	Granular 'A' (150 mm)	m ²	270	\$8.50	\$2,295.00
1.11	100 mm HL8 Base Course Asphalt	m ²	270	\$39.50	\$10,665.00
1.12	40 mm HL3 Surface Course Asphalt	m ²	270	\$11.50	\$3,105.00
1.13	Concrete Curb and Gutter	m	50	\$75.00	\$3,750.00
1.14	Concrete Sidewalk	m ²	75	\$80.00	\$6,000.00
1.15	Reinstate Grassed Boulevard	m ²	350	\$12.00	\$4,200.00
					Subtotal Culvert Improvements
					\$373,902.50
					TOTAL PRELIMINARY CONSTRUCTION COST ESTIMATE
					\$373,902.50
					CONSTRUCTION CONTINGENCY (25%)
					\$93,475.63
					ENGINEERING DESIGN FEE (13%)
					\$48,607.33
					CONTRACT ADMINISTRATION / CONSTRUCTION INSPECTION (10%)
					\$37,390.25
					UTILITIES / SERVICES RELOCATION COST (15%)
					\$56,085.38
					TOTAL PRELIMINARY PROJECT COST ESTIMATE
					\$609,461.08

SOPHIA CREEK WATERSHED & MULCASTER DRAINAGE AREA EA UPDATE
 PRELIMINARY CONSTRUCTION COST ESTIMATE
 SEPTEMBER 2016

IMPROVEMENT ALTERNATIVE 3B
 (CULVERT IMPROVEMENTS - DESIGN FLOOD FREQUENCY CRITERIA)

Laurie Crescent

ITEM No.	DESCRIPTION	UNIT	EST. QTY.	ESTIMATED UNIT PRICE	ESTIMATED AMOUNT
1	Culvert Improvements				
1.01	Remove Existing Culvert	m	40	\$85.00	\$3,400.00
1.02	Remove Asphalt	m ²	340	\$6.50	\$2,210.00
1.03	Remove Granular Road Base	m ²	340	\$6.00	\$2,040.00
1.04	Remove Existing Concrete Curb and Gutter	m	50	\$23.00	\$1,150.00
1.05	Remove Existing Sidewalk	m ²	40	\$16.50	\$660.00
1.06	Twin 1500 mm x 2400 mm Conc. Box	m	40	\$8,440.00	\$337,600.00
1.07	Concrete Distribution Slab	LS	-	-	\$20,000.00
1.08	Concrete Wingwalls	LS	-	-	\$50,000.00
1.09	Granular 'B' (450 mm)	m ²	340	\$17.50	\$5,950.00
1.10	Granular 'A' (150 mm)	m ²	340	\$8.50	\$2,890.00
1.11	100 mm HL8 Base Course Asphalt	m ²	340	\$39.50	\$13,430.00
1.12	40 mm HL3 Surface Course Asphalt	m ²	340	\$11.50	\$3,910.00
1.13	Concrete Curb and Gutter	m	50	\$75.00	\$3,750.00
1.14	Concrete Sidewalk	m ²	40	\$80.00	\$3,200.00
1.15	Reinstate Grassed Boulevard	m ²	450	\$12.00	\$5,400.00
					Subtotal Culvert Improvements
					\$455,590.00
2	Watercourse Improvements				
2.01	Watercourse Improvements	m	165	\$500.00	\$82,500.00
					Subtotal Watercourse Improvements
					\$82,500.00
					TOTAL PRELIMINARY CONSTRUCTION COST ESTIMATE
					\$538,090.00
					CONSTRUCTION CONTINGENCY (25%)
					\$134,522.50
					ENGINEERING DESIGN FEE (13%)
					\$69,951.70
					CONTRACT ADMINISTRATION / CONSTRUCTION INSPECTION (10%)
					\$53,809.00
					UTILITIES / SERVICES RELOCATION COST (15%)
					\$80,713.50
					TOTAL PRELIMINARY PROJECT COST ESTIMATE
					\$877,086.70

SOPHIA CREEK WATERSHED & MULCASTER DRAINAGE AREA EA UPDATE
 PRELIMINARY CONSTRUCTION COST ESTIMATE
 SEPTEMBER 2016

IMPROVEMENT ALTERNATIVE 3B
 (CULVERT IMPROVEMENTS - DESIGN FLOOD FREQUENCY CRITERIA)

WELLINGTON STREET

ITEM No.	DESCRIPTION	UNIT	EST. QTY.	ESTIMATED UNIT PRICE	ESTIMATED AMOUNT
1	Culvert Improvements				
1.01	Remove Existing Culvert	m	85	\$500.00	\$42,500.00
1.02	Remove Asphalt	m ²	250	\$6.50	\$1,625.00
1.03	Remove Granular Road Base	m ²	250	\$6.00	\$1,500.00
1.04	Remove Existing Concrete Curb and Gutter	m	50	\$23.00	\$1,150.00
1.05	Remove Existing Sidewalk	m ²	75	\$16.50	\$1,237.50
1.06	Quick Span Culvert (Twin 5.79 m span)	m	25	\$52,600.00	\$1,315,000.00
1.07	Concrete Distribution Slab	LS	-	-	\$20,000.00
1.08	Concrete Wingwalls	LS	-	-	\$50,000.00
1.09	Granular 'B' (450 mm)	m ²	250	\$17.50	\$4,375.00
1.10	Granular 'A' (150 mm)	m ²	250	\$8.50	\$2,125.00
1.11	100 mm HL8 Base Course Asphalt	m ²	250	\$39.50	\$9,875.00
1.12	40 mm HL3 Surface Course Asphalt	m ²	250	\$11.50	\$2,875.00
1.13	Concrete Curb and Gutter	m	50	\$75.00	\$3,750.00
1.14	Concrete Sidewalk	m ²	75	\$80.00	\$6,000.00
1.15	Reinstate Grassed Boulevard	m ²	250	\$12.00	\$3,000.00
					Subtotal Culvert Improvements
					\$1,465,012.50
					TOTAL PRELIMINARY CONSTRUCTION COST ESTIMATE
					\$1,465,012.50
					CONSTRUCTION CONTINGENCY (25%)
					\$366,253.13
					ENGINEERING DESIGN FEE (13%)
					\$190,451.63
					CONTRACT ADMINISTRATION / CONSTRUCTION INSPECTION (10%)
					\$146,501.25
					UTILITIES / SERVICES RELOCATION COST (15%)
					\$219,751.88
					TOTAL PRELIMINARY PROJECT COST ESTIMATE
					\$2,387,970.38

SOPHIA CREEK WATERSHED & MULCASTER DRAINAGE AREA EA UPDATE
 PRELIMINARY CONSTRUCTION COST ESTIMATE
 SEPTEMBER 2016

IMPROVEMENT ALTERNATIVE 3B
 (CULVERT IMPROVEMENTS - DESIGN FLOOD FREQUENCY CRITERIA)

BERCZY STREET

ITEM No.	DESCRIPTION	UNIT	EST. QTY.	ESTIMATED UNIT PRICE	ESTIMATED AMOUNT
1	Culvert Improvements				
1.01	Remove Existing Culvert	m	40	\$500.00	\$20,000.00
1.02	Remove Asphalt	m ²	250	\$6.50	\$1,625.00
1.03	Remove Granular Road Base	m ²	250	\$6.00	\$1,500.00
1.04	Remove Existing Concrete Curb and Gutter	m	50	\$23.00	\$1,150.00
1.05	Remove Existing Sidewalk	m ²	75	\$16.50	\$1,237.50
1.04	Quick Span Culvert (Twin 5.79 m span)	m	30	\$52,600.00	\$1,578,000.00
1.05	Concrete Distribution Slab	LS	-	-	\$20,000.00
1.06	Concrete Wingwalls	LS	-	-	\$50,000.00
1.07	Granular 'B' (450 mm)	m ²	250	\$17.50	\$4,375.00
1.08	Granular 'A' (150 mm)	m ²	250	\$8.50	\$2,125.00
1.09	100 mm HL8 Base Course Asphalt	m ²	250	\$39.50	\$9,875.00
1.10	40 mm HL3 Surface Course Asphalt	m ²	250	\$11.50	\$2,875.00
1.11	Concrete Curb and Gutter	m	50	\$75.00	\$3,750.00
1.12	Concrete Sidewalk	m ²	75	\$80.00	\$6,000.00
1.13	Reinstate Grassed Boulevard	m ²	250	\$12.00	\$3,000.00
					Subtotal Culvert Improvements
					\$1,705,512.50
					TOTAL PRELIMINARY CONSTRUCTION COST ESTIMATE
					\$1,705,512.50
					CONSTRUCTION CONTINGENCY (25%)
					\$426,378.13
					ENGINEERING DESIGN FEE (13%)
					\$221,716.63
					CONTRACT ADMINISTRATION / CONSTRUCTION INSPECTION (10%)
					\$170,551.25
					UTILITIES / SERVICES RELOCATION COST (15%)
					\$255,826.88
					TOTAL PRELIMINARY PROJECT COST ESTIMATE
					\$2,779,985.38

SOPHIA CREEK WATERSHED & MULCASTER DRAINAGE AREA EA UPDATE
 PRELIMINARY CONSTRUCTION COST ESTIMATE
 SEPTEMBER 2016

IMPROVEMENT ALTERNATIVE 3B
 (CULVERT IMPROVEMENTS - DESIGN FLOOD FREQUENCY CRITERIA)

DAVIDSON/GUNN STREET

ITEM No.	DESCRIPTION	UNIT	EST. QTY.	ESTIMATED UNIT PRICE	ESTIMATED AMOUNT
1	Culvert Improvements				
1.01	Remove Existing Culvert	m	75	\$500.00	\$37,500.00
1.02	Remove Asphalt	m ²	650	\$6.50	\$4,225.00
1.03	Remove Granular Road Base	m ²	650	\$6.00	\$3,900.00
1.04	Remove Existing Concrete Curb and Gutter	m	100	\$23.00	\$2,300.00
1.05	Remove Existing Sidewalk	m ²	75	\$16.50	\$1,237.50
1.06	Quick Span Culvert (Twin 5.79 m span)	m	75	\$52,600.00	\$3,945,000.00
1.07	Concrete Distribution Slab	LS	-	-	\$20,000.00
1.08	Concrete Wingwalls	LS	-	-	\$50,000.00
1.09	Granular 'B' (450 mm)	m ²	650	\$17.50	\$11,375.00
1.10	Granular 'A' (150 mm)	m ²	650	\$8.50	\$5,525.00
1.11	100 mm HL8 Base Course Asphalt	m ²	650	\$39.50	\$25,675.00
1.12	40 mm HL3 Surface Course Asphalt	m ²	650	\$11.50	\$7,475.00
1.13	Concrete Curb and Gutter	m	100	\$75.00	\$7,500.00
1.14	Concrete Sidewalk	m ²	75	\$80.00	\$6,000.00
1.15	Reinstate Grassed Boulevard	m ²	750	\$12.00	\$9,000.00
				Subtotal Culvert Improvements	\$4,136,712.50
2	Property Acquisition				
2.01	Property Acquisition	LS	-	-	\$286,000.00
				Subtotal Property Acquisition	\$286,000.00
				TOTAL PRELIMINARY CONSTRUCTION COST ESTIMATE	\$4,422,712.50
				CONSTRUCTION CONTINGENCY (25%)	\$1,034,178.13
				ENGINEERING DESIGN FEE (13%)	\$537,772.63
				CONTRACT ADMINISTRATION / CONSTRUCTION INSPECTION (10%)	\$413,671.25
				UTILITIES / SERVICES RELOCATION COST (15%)	\$620,506.88
				TOTAL PRELIMINARY PROJECT COST ESTIMATE	\$7,028,841.38

SOPHIA CREEK WATERSHED & MULCASTER DRAINAGE AREA EA UPDATE
 PRELIMINARY CONSTRUCTION COST ESTIMATE
 SEPTEMBER 2016

IMPROVEMENT ALTERNATIVE 3B
 (CULVERT IMPROVEMENTS - DESIGN FLOOD FREQUENCY CRITERIA)

PARKDALE CRESCENT

ITEM No.	DESCRIPTION	UNIT	EST. QTY.	ESTIMATED UNIT PRICE	ESTIMATED AMOUNT
1	Culvert Improvements				
1.01	Remove Existing Culvert	m	40	\$250.00	\$10,000.00
1.02	Remove Asphalt	m ²	200	\$6.50	\$1,300.00
1.03	Remove Granular Road Base	m ²	200	\$6.00	\$1,200.00
1.04	Remove Existing Concrete Curb and Gutter	m	50	\$23.00	\$1,150.00
1.05	Quick Span Culvert (Twin 5.79 m span)	m	25	\$52,600.00	\$1,315,000.00
1.06	Concrete Distribution Slab	LS	-	-	\$20,000.00
1.07	Concrete Wingwalls	LS	-	-	\$50,000.00
1.08	Granular 'B' (450 mm)	m ²	200	\$17.50	\$3,500.00
1.09	Granular 'A' (150 mm)	m ²	200	\$8.50	\$1,700.00
1.10	100 mm HL8 Base Course Asphalt	m ²	200	\$39.50	\$7,900.00
1.11	40 mm HL3 Surface Course Asphalt	m ²	200	\$11.50	\$2,300.00
1.12	Concrete Curb and Gutter	m	50	\$75.00	\$3,750.00
1.13	Reinstate Grassed Boulevard	m ²	250	\$12.00	\$3,000.00
				Subtotal Culvert Improvements	\$1,420,800.00
				TOTAL PRELIMINARY CONSTRUCTION COST ESTIMATE	\$1,420,800.00
				CONSTRUCTION CONTINGENCY (25%)	\$355,200.00
				ENGINEERING DESIGN FEE (13%)	\$184,704.00
				CONTRACT ADMINISTRATION / CONSTRUCTION INSPECTION (10%)	\$142,080.00
				UTILITIES / SERVICES RELOCATION COST (15%)	\$213,120.00
				TOTAL PRELIMINARY PROJECT COST ESTIMATE	\$2,315,904.00

SOPHIA CREEK WATERSHED & MULCASTER DRAINAGE AREA EA UPDATE
 PRELIMINARY CONSTRUCTION COST ESTIMATE
 SEPTEMBER 2016

IMPROVEMENT ALTERNATIVE 3B
 (CULVERT IMPROVEMENTS - DESIGN FLOOD FREQUENCY CRITERIA)

GROVE STREET (C)

ITEM No.	DESCRIPTION	UNIT	EST. QTY.	ESTIMATED UNIT PRICE	ESTIMATED AMOUNT
1	Culvert Improvements				
1.01	Remove Existing Culvert	m	105	\$100.00	\$10,500.00
1.02	Remove Asphalt	m ²	300	\$6.50	\$1,950.00
1.03	Remove Granular Road Base	m ²	300	\$6.00	\$1,800.00
1.04	Remove Existing Concrete Curb and Gutter	m	50	\$23.00	\$1,150.00
1.05	Remove Existing Sidewalk	m ²	75	\$16.50	\$1,237.50
1.06	Quick Span Culvert (Twin 5.79 m span)	m	35	\$52,600.00	\$1,841,000.00
1.07	Concrete Distribution Slab	LS	-	-	\$35,000.00
1.08	Concrete Wingwalls	LS	-	-	\$50,000.00
1.09	Granular 'B' (450 mm)	m ²	300	\$17.50	\$5,250.00
1.10	Granular 'A' (150 mm)	m ²	300	\$8.50	\$2,550.00
1.11	100 mm HL8 Base Course Asphalt	m ²	300	\$39.50	\$11,850.00
1.12	40 mm HL3 Surface Course Asphalt	m ²	300	\$11.50	\$3,450.00
1.13	Concrete Curb and Gutter	m	50	\$75.00	\$3,750.00
1.14	Concrete Sidewalk	m ²	75	\$80.00	\$6,000.00
1.15	Reinstate Grassed Boulevard	m ²	375	\$12.00	\$4,500.00
					Subtotal Culvert Improvements
					\$1,979,987.50
					TOTAL PRELIMINARY CONSTRUCTION COST ESTIMATE
					\$1,979,987.50
					CONSTRUCTION CONTINGENCY (25%)
					\$494,996.88
					ENGINEERING DESIGN FEE (13%)
					\$257,398.38
					CONTRACT ADMINISTRATION / CONSTRUCTION INSPECTION (10%)
					\$197,998.75
					UTILITIES / SERVICES RELOCATION COST (15%)
					\$296,998.13
					TOTAL PRELIMINARY PROJECT COST ESTIMATE
					\$3,227,379.63

SOPHIA CREEK WATERSHED & MULCASTER DRAINAGE AREA EA UPDATE
 PRELIMINARY CONSTRUCTION COST ESTIMATE
 SEPTEMBER 2016

IMPROVEMENT ALTERNATIVE 3B
 (CULVERT IMPROVEMENTS - DESIGN FLOOD FREQUENCY CRITERIA)

BOTHWELL CRESCENT

ITEM No.	DESCRIPTION	UNIT	EST. QTY.	ESTIMATED UNIT PRICE	ESTIMATED AMOUNT
1	Culvert Improvements				
1.01	Remove Existing Culvert	m	20	\$85.00	\$1,700.00
1.02	Remove Asphalt	m ²	200	\$6.50	\$1,300.00
1.03	Remove Granular Road Base	m ²	200	\$6.00	\$1,200.00
1.04	Remove Existing Concrete Curb and Gutter	m	50	\$23.00	\$1,150.00
1.05	Quick Span Culvert (8.53 m span)	m	20	\$31,400.00	\$628,000.00
1.06	Concrete Distribution Slab	LS	-	-	\$20,000.00
1.07	Concrete Wingwalls	LS	-	-	\$50,000.00
1.08	Granular 'B' (450 mm)	m ²	200	\$17.50	\$3,500.00
1.09	Granular 'A' (150 mm)	m ²	200	\$8.50	\$1,700.00
1.10	100 mm HL8 Base Course Asphalt	m ²	200	\$39.50	\$7,900.00
1.11	40 mm HL3 Surface Course Asphalt	m ²	200	\$11.50	\$2,300.00
1.12	Concrete Curb and Gutter	m	50	\$75.00	\$3,750.00
1.13	Reinstate Grassed Boulevard	m ²	150	\$12.00	\$1,800.00
				Subtotal Culvert Improvements	\$724,300.00
2	Watercourse Improvements				
2.01	Watercourse Improvements	m	85	\$500.00	\$42,500.00
				Subtotal Watercourse Improvements	\$42,500.00
3	Property Acquisition				
3.01	Property Acquisition	LS	-	-	\$217,000.00
				Subtotal Property Acquisition	\$217,000.00
				TOTAL PRELIMINARY CONSTRUCTION COST ESTIMATE	\$983,800.00
				CONSTRUCTION CONTINGENCY (25%)	\$191,700.00
				ENGINEERING DESIGN FEE (13%)	\$99,684.00
				CONTRACT ADMINISTRATION / CONSTRUCTION INSPECTION (10%)	\$76,680.00
				UTILITIES / SERVICES RELOCATION COST (15%)	\$115,020.00
				TOTAL PRELIMINARY PROJECT COST ESTIMATE	\$1,466,884.00

SOPHIA CREEK WATERSHED & MULCASTER DRAINAGE AREA EA UPDATE
 PRELIMINARY CONSTRUCTION COST ESTIMATE
 SEPTEMBER 2016

IMPROVEMENT ALTERNATIVE 2A & 3B IMPLEMENTED IN COMBINATION
 (CULVERT IMPROVEMENTS - DESIGN FLOOD FREQUENCY CRITERIA)

CHANNEL IMPROVEMENTS - HOWARD TO LAY

ITEM No.	DESCRIPTION	UNIT	EST. QTY.	ESTIMATED UNIT PRICE	ESTIMATED AMOUNT
1	Channel Improvements				
1.01	Excavation and Grading	cu.m	1,250	\$20.00	\$25,000.00
1.02	Grubbing	ha	0.2	\$10,500.00	\$2,100.00
1.03	Channel Reinstatement (Topsoil/Seed and Coir Cloth)	m ²	2,050	\$6.50	\$13,325.00
1.04	Demolish Building and Remove Debris	ea	1	\$20,000.00	\$20,000.00
				Subtotal Channel Improvements	\$60,425.00
				TOTAL PRELIMINARY CONSTRUCTION COST ESTIMATE	\$60,425.00
				CONSTRUCTION CONTINGENCY (25%)	\$15,106.25
				ENGINEERING DESIGN FEE (13%)	\$7,855.25
				CONTRACT ADMINISTRATION / CONSTRUCTION INSPECTION (10%)	\$6,042.50
				UTILITY / SERVICES RELOCATION COST (15%)	\$9,063.75
				TOTAL PRELIMINARY PROJECT COST ESTIMATE	\$98,492.75

SOPHIA CREEK WATERSHED & MULCASTER DRAINAGE AREA EA UPDATE
 PRELIMINARY CONSTRUCTION COST ESTIMATE
 SEPTEMBER 2016

IMPROVEMENT ALTERNATIVE 2A & 3B IMPLEMENTED IN COMBINATION
 (CULVERT IMPROVEMENTS - DESIGN FLOOD FREQUENCY CRITERIA)

CHANNEL IMPROVEMENTS - DOWNSTREAM OF LAY STREET

ITEM No.	DESCRIPTION	UNIT	EST. QTY.	ESTIMATED UNIT PRICE	ESTIMATED AMOUNT
1	Channel Improvements				
1.01	Excavation and Grading	cu.m	900	\$20.00	\$18,000.00
1.02	Grubbing	ha	0.1	\$10,500.00	\$1,260.00
1.03	Channel Reinstatement (Topsoil/Seed and Coir Cloth)	m ²	1,200	\$6.50	\$7,800.00
1.04	Demolish Building and Remove Debris	ea	2	\$20,000.00	\$40,000.00
				Subtotal Channel Improvements	\$67,060.00
				TOTAL PRELIMINARY CONSTRUCTION COST ESTIMATE	\$67,060.00
				CONSTRUCTION CONTINGENCY (25%)	\$16,765.00
				ENGINEERING DESIGN FEE (13%)	\$8,717.80
				CONTRACT ADMINISTRATION / CONSTRUCTION INSPECTION (10%)	\$6,706.00
				UTILITY / SERVICES RELOCATION COST (15%)	\$10,059.00
				TOTAL PRELIMINARY PROJECT COST ESTIMATE	\$109,307.80

SOPHIA CREEK WATERSHED & MULCASTER DRAINAGE AREA EA UPDATE
 PRELIMINARY CONSTRUCTION COST ESTIMATE
 SEPTEMBER 2016

IMPROVEMENT ALTERNATIVE 2A & 3B IMPLEMENTED IN COMBINATION
 (CULVERT IMPROVEMENTS - DESIGN FLOOD FREQUENCY CRITERIA)

CHANNEL IMPROVEMENTS - UPSTREAM / DOWNSTREAM OF GROVE STREET

ITEM No.	DESCRIPTION	UNIT	EST. QTY.	ESTIMATED UNIT PRICE	ESTIMATED AMOUNT
1	Channel Improvements				
1.01	Excavation and Grading	cu.m	1,370	\$20.00	\$27,400.00
1.02	Grubbing	ha	0.2	\$10,500.00	\$1,680.00
1.03	Channel Reinstatement (Topsoil/Seed and Coir Cloth)	m ²	1,600	\$6.50	\$10,400.00
1.04	Demolish Building and Remove Debris	ea	2	\$20,000.00	\$40,000.00
				Subtotal Channel Improvements	\$79,480.00
2	Property Acquisition				
2.01	Property Acquisition	LS	-	-	\$466,000.00
				Subtotal Property Acquisition	\$466,000.00
				TOTAL PRELIMINARY CONSTRUCTION COST ESTIMATE	\$545,480.00
				CONSTRUCTION CONTINGENCY (25%)	\$19,870.00
				ENGINEERING DESIGN FEE (13%)	\$10,332.40
				CONTRACT ADMINISTRATION / CONSTRUCTION INSPECTION (10%)	\$7,948.00
				UTILITY / SERVICES RELOCATION COST (15%)	\$11,922.00
				TOTAL PRELIMINARY PROJECT COST ESTIMATE	\$595,552.40

SOPHIA CREEK WATERSHED & MULCASTER DRAINAGE AREA EA UPDATE
 PRELIMINARY CONSTRUCTION COST ESTIMATE
 SEPTEMBER 2016

IMPROVEMENT ALTERNATIVE 2A & 3B IMPLEMENTED IN COMBINATION
 (CULVERT IMPROVEMENTS - DESIGN FLOOD FREQUENCY CRITERIA)

CHANNEL IMPROVEMENTS - OTTAWAY AVENUE TO LAURIE CRESCENT

ITEM No.	DESCRIPTION	UNIT	EST. QTY.	ESTIMATED UNIT PRICE	ESTIMATED AMOUNT
1	Channel Improvements				
1.01	Excavation and Grading	cu.m	4,300	\$20.00	\$86,000.00
1.02	Grubbing	ha	0.4	\$10,500.00	\$4,200.00
1.03	Channel Reinstatement (Topsoil/Seed and Coir Cloth)	m ²	4,000	\$6.50	\$26,000.00
1.04	Demolish Building and Remove Debris	ea	3	\$20,000.00	\$60,000.00
				Subtotal Channel Improvements	\$176,200.00
2	Property Acquisition				
2.01	Property Acquisition	LS	-	-	\$743,000.00
				Subtotal Property Acquisition	\$743,000.00
				TOTAL PRELIMINARY CONSTRUCTION COST ESTIMATE	\$919,200.00
				CONSTRUCTION CONTINGENCY (25%)	\$44,050.00
				ENGINEERING DESIGN FEE (13%)	\$22,906.00
				CONTRACT ADMINISTRATION / CONSTRUCTION INSPECTION (10%)	\$17,620.00
				UTILITY / SERVICES RELOCATION COST (15%)	\$26,430.00
				TOTAL PRELIMINARY PROJECT COST ESTIMATE	\$1,030,206.00

SOPHIA CREEK WATERSHED & MULCASTER DRAINAGE AREA EA UPDATE
 PRELIMINARY CONSTRUCTION COST ESTIMATE
 SEPTEMBER 2016

IMPROVEMENT ALTERNATIVE 2A & 3B IMPLEMENTED IN COMBINATION
 (CULVERT IMPROVEMENTS - DESIGN FLOOD FREQUENCY CRITERIA)

CHANNEL IMPROVEMENTS - GROVE STREET TO PARKDALE CRESCENT

ITEM No.	DESCRIPTION	UNIT	EST. QTY.	ESTIMATED UNIT PRICE	ESTIMATED AMOUNT
1	Channel Improvements				
1.01	Excavation and Grading	cu.m	1,400	\$20.00	\$28,000.00
1.02	Grubbing	ha	0.3	\$10,500.00	\$3,024.00
1.03	Channel Reinstatement (Topsoil/Seed and Coir Cloth)	m ²	2,880	\$6.50	\$18,720.00
				Subtotal Channel Improvements	\$49,744.00
				TOTAL PRELIMINARY CONSTRUCTION COST ESTIMATE	\$49,744.00
				CONSTRUCTION CONTINGENCY (25%)	\$12,436.00
				ENGINEERING DESIGN FEE (13%)	\$6,466.72
				CONTRACT ADMINISTRATION / CONSTRUCTION INSPECTION (10%)	\$4,974.40
				UTILITY / SERVICES RELOCATION COST (15%)	\$7,461.60
				TOTAL PRELIMINARY PROJECT COST ESTIMATE	\$81,082.72

SOPHIA CREEK WATERSHED & MULCASTER DRAINAGE AREA EA UPDATE
 PRELIMINARY CONSTRUCTION COST ESTIMATE
 SEPTEMBER 2016

IMPROVEMENT ALTERNATIVE 2A & 3B IMPLEMENTED IN COMBINATION
 (CULVERT IMPROVEMENTS - DESIGN FLOOD FREQUENCY CRITERIA)

CHANNEL IMPROVEMENTS - BERCZY STREET TO QUEEN STREET

ITEM No.	DESCRIPTION	UNIT	EST. QTY.	ESTIMATED UNIT PRICE	ESTIMATED AMOUNT
1	Channel Improvements				
1.01	Excavation and Grading	cu.m	2,400	\$20.00	\$48,000.00
1.02	Armour Stone Reinforcement	m	290	\$400.00	\$116,000.00
1.03	Grubbing	ha	0.4	\$10,500.00	\$4,200.00
1.04	Channel Reinstatement (Topsoil/Seed and Coir Cloth)	m ²	4,000	\$6.50	\$26,000.00
1.05	Demolish Building and Remove Debris	ea	6	\$20,000.00	\$120,000.00
				Subtotal Channel Improvements	\$314,200.00
2	Property Acquisition				
2.01	Property Acquisition	LS	-	-	\$1,670,000.00
				Subtotal Property Acquisition	\$1,670,000.00
				TOTAL PRELIMINARY CONSTRUCTION COST ESTIMATE	\$1,984,200.00
				CONSTRUCTION CONTINGENCY (25%)	\$78,550.00
				ENGINEERING DESIGN FEE (13%)	\$40,846.00
				CONTRACT ADMINISTRATION / CONSTRUCTION INSPECTION (10%)	\$31,420.00
				UTILITY / SERVICES RELOCATION COST (15%)	\$47,130.00
				TOTAL PRELIMINARY PROJECT COST ESTIMATE	\$2,182,146.00

SOPHIA CREEK WATERSHED & MULCASTER DRAINAGE AREA EA UPDATE
 PRELIMINARY CONSTRUCTION COST ESTIMATE
 SEPTEMBER 2016

IMPROVEMENT ALTERNATIVE 2A & 3B IMPLEMENTED IN COMBINATION
 (CULVERT IMPROVEMENTS - DESIGN FLOOD FREQUENCY CRITERIA)

ST. VINCENT STREET

ITEM No.	DESCRIPTION	UNIT	EST. QTY.	ESTIMATED UNIT PRICE	ESTIMATED AMOUNT
1	Culvert Improvements				
1.01	Remove Existing Culvert	m	60	\$500.00	\$30,000.00
1.02	Remove Concrete Wingwalls	LS	-	-	\$15,000.00
1.03	Remove Asphalt	m ²	350	\$6.50	\$2,275.00
1.04	Remove Granular Road Base	m ²	350	\$6.00	\$2,100.00
1.05	Remove Existing Concrete Curb and Gutter	m	50	\$23.00	\$1,150.00
1.06	Remove Existing Sidewalk	m ²	75	\$16.50	\$1,237.50
1.07	1200 mm x 3600 mm Conc. Box	m	60	\$6,240.00	\$374,400.00
1.08	Concrete Distribution Slab	LS	-	-	\$20,000.00
1.09	Concrete Wingwalls	LS	-	-	\$50,000.00
1.10	Granular 'B' (450 mm)	m ²	350	\$17.50	\$6,125.00
1.11	Granular 'A' (150 mm)	m ²	350	\$8.50	\$2,975.00
1.12	100 mm HL8 Base Course Asphalt	m ²	350	\$39.50	\$13,825.00
1.13	40 mm HL3 Surface Course Asphalt	m ²	350	\$11.50	\$4,025.00
1.14	Concrete Curb and Gutter	m	50	\$75.00	\$3,750.00
1.15	Concrete Sidewalk	m ²	75	\$80.00	\$6,000.00
1.16	Reinstate Grassed Boulevard	m ²	250	\$12.00	\$3,000.00
				Subtotal Culvert Improvements	\$535,862.50
				TOTAL PRELIMINARY CONSTRUCTION COST ESTIMATE	\$535,862.50
				CONSTRUCTION CONTINGENCY (25%)	\$133,965.63
				ENGINEERING DESIGN FEE (13%)	\$69,662.13
				CONTRACT ADMINISTRATION / CONSTRUCTION INSPECTION (10%)	\$53,586.25
				UTILITIES / SERVICES RELOCATION COST (15%)	\$80,379.38
				TOTAL PRELIMINARY PROJECT COST ESTIMATE	\$873,455.88

SOPHIA CREEK WATERSHED & MULCASTER DRAINAGE AREA EA UPDATE
 PRELIMINARY CONSTRUCTION COST ESTIMATE
 SEPTEMBER 2016

IMPROVEMENT ALTERNATIVE 2A & 3B IMPLEMENTED IN COMBINATION
 (CULVERT IMPROVEMENTS - DESIGN FLOOD FREQUENCY CRITERIA)

GROVE STREET (B)

ITEM No.	DESCRIPTION	UNIT	EST. QTY.	ESTIMATED UNIT PRICE	ESTIMATED AMOUNT
1	Culvert Improvements				
1.01	Remove Existing Culvert	m	25	\$80.00	\$2,000.00
1.02	Remove Asphalt	m ²	270	\$6.50	\$1,755.00
1.03	Remove Granular Road Base	m ²	270	\$6.00	\$1,620.00
1.04	Remove Existing Concrete Curb and Gutter	m	50	\$23.00	\$1,150.00
1.05	Remove Existing Sidewalk	m ²	75	\$16.50	\$1,237.50
1.06	1200 mm x 3600 mm Conc. Box	m	25	\$6,240.00	\$156,000.00
1.07	Concrete Distribution Slab	LS	-	-	\$20,000.00
1.08	Concrete Wingwalls	LS	-	-	\$50,000.00
1.09	Granular 'B' (450 mm)	m ²	270	\$17.50	\$4,725.00
1.10	Granular 'A' (150 mm)	m ²	270	\$8.50	\$2,295.00
1.11	100 mm HL8 Base Course Asphalt	m ²	270	\$39.50	\$10,665.00
1.12	40 mm HL3 Surface Course Asphalt	m ²	270	\$11.50	\$3,105.00
1.13	Concrete Curb and Gutter	m	50	\$75.00	\$3,750.00
1.14	Concrete Sidewalk	m ²	75	\$80.00	\$6,000.00
1.15	Reinstate Grassed Boulevard	m ²	125	\$12.00	\$1,500.00
					Subtotal Culvert Improvements
					\$265,802.50
					TOTAL PRELIMINARY CONSTRUCTION COST ESTIMATE
					\$265,802.50
					CONSTRUCTION CONTINGENCY (25%)
					\$66,450.63
					ENGINEERING DESIGN FEE (13%)
					\$34,554.33
					CONTRACT ADMINISTRATION / CONSTRUCTION INSPECTION (10%)
					\$26,580.25
					UTILITIES / SERVICES RELOCATION COST (15%)
					\$39,870.38
					TOTAL PRELIMINARY PROJECT COST ESTIMATE
					\$433,258.08

SOPHIA CREEK WATERSHED & MULCASTER DRAINAGE AREA EA UPDATE
 PRELIMINARY CONSTRUCTION COST ESTIMATE
 SEPTEMBER 2016

IMPROVEMENT ALTERNATIVE 2A & 3B IMPLEMENTED IN COMBINATION
 (CULVERT IMPROVEMENTS - DESIGN FLOOD FREQUENCY CRITERIA)

GROVE STREET (A)

ITEM No.	DESCRIPTION	UNIT	EST. QTY.	ESTIMATED UNIT PRICE	ESTIMATED AMOUNT
1	Culvert Improvements				
1.01	Remove Existing Culvert	m	20	\$150.00	\$3,000.00
1.02	Remove Asphalt	m ²	270	\$6.50	\$1,755.00
1.03	Remove Granular Road Base	m ²	270	\$6.00	\$1,620.00
1.04	Remove Existing Concrete Curb and Gutter	m	50	\$23.00	\$1,150.00
1.05	Remove Existing Sidewalk	m ²	75	\$16.50	\$1,237.50
1.06	1200 mm x 3600 mm Conc. Box	m	20	\$6,240.00	\$124,800.00
1.07	Concrete Distribution Slab	LS	-	-	\$20,000.00
1.08	Concrete Wingwalls	LS	-	-	\$50,000.00
1.09	Granular 'B' (450 mm)	m ²	270	\$17.50	\$4,725.00
1.10	Granular 'A' (150 mm)	m ²	270	\$8.50	\$2,295.00
1.11	100 mm HL8 Base Course Asphalt	m ²	270	\$39.50	\$10,665.00
1.12	40 mm HL3 Surface Course Asphalt	m ²	270	\$11.50	\$3,105.00
1.13	Concrete Curb and Gutter	m	50	\$75.00	\$3,750.00
1.14	Concrete Sidewalk	m ²	75	\$80.00	\$6,000.00
1.15	Reinstate Grassed Boulevard	m ²	125	\$12.00	\$1,500.00
					Subtotal Culvert Improvements
					\$235,602.50
					TOTAL PRELIMINARY CONSTRUCTION COST ESTIMATE
					\$235,602.50
					CONSTRUCTION CONTINGENCY (25%)
					\$58,900.63
					ENGINEERING DESIGN FEE (13%)
					\$30,628.33
					CONTRACT ADMINISTRATION / CONSTRUCTION INSPECTION (10%)
					\$23,560.25
					UTILITIES / SERVICES RELOCATION COST (15%)
					\$35,340.38
					TOTAL PRELIMINARY PROJECT COST ESTIMATE
					\$384,032.08

SOPHIA CREEK WATERSHED & MULCASTER DRAINAGE AREA EA UPDATE
 PRELIMINARY CONSTRUCTION COST ESTIMATE
 SEPTEMBER 2016

IMPROVEMENT ALTERNATIVE 2A & 3B IMPLEMENTED IN COMBINATION
 (CULVERT IMPROVEMENTS - DESIGN FLOOD FREQUENCY CRITERIA)

LAY STREET

ITEM No.	DESCRIPTION	UNIT	EST. QTY.	ESTIMATED UNIT PRICE	ESTIMATED AMOUNT
1	Culvert Improvements				
1.01	Remove Existing Culvert	m	105	\$150.00	\$15,750.00
1.02	Remove Asphalt	m ²	700	\$6.50	\$4,550.00
1.03	Remove Granular Road Base	m ²	700	\$6.00	\$4,200.00
1.04	Remove Existing Concrete Curb and Gutter	m	80	\$23.00	\$1,840.00
1.05	Remove Existing Sidewalk	m ²	90	\$16.50	\$1,485.00
1.06	1200 mm x 3600 mm Conc. Box	m	45	\$6,240.00	\$280,800.00
1.07	Concrete Distribution Slab	LS	-	-	\$20,000.00
1.08	Concrete Wingwalls	LS	-	-	\$50,000.00
1.09	Granular 'B' (450 mm)	m ²	700	\$17.50	\$12,250.00
1.10	Granular 'A' (150 mm)	m ²	700	\$8.50	\$5,950.00
1.11	100 mm HL8 Base Course Asphalt	m ²	700	\$39.50	\$27,650.00
1.12	40 mm HL3 Surface Course Asphalt	m ²	700	\$11.50	\$8,050.00
1.13	Concrete Curb and Gutter	m	80	\$75.00	\$6,000.00
1.14	Concrete Sidewalk	m ²	90	\$80.00	\$7,200.00
1.15	Reinstate Grassed Boulevard	m ²	400	\$12.00	\$4,800.00
					Subtotal Culvert Improvements
					\$450,525.00
					TOTAL PRELIMINARY CONSTRUCTION COST ESTIMATE
					\$450,525.00
					CONSTRUCTION CONTINGENCY (25%)
					\$112,631.25
					ENGINEERING DESIGN FEE (13%)
					\$58,568.25
					CONTRACT ADMINISTRATION / CONSTRUCTION INSPECTION (10%)
					\$45,052.50
					UTILITIES / SERVICES RELOCATION COST (15%)
					\$67,578.75
					TOTAL PRELIMINARY PROJECT COST ESTIMATE
					\$734,355.75

SOPHIA CREEK WATERSHED & MULCASTER DRAINAGE AREA EA UPDATE
 PRELIMINARY CONSTRUCTION COST ESTIMATE
 SEPTEMBER 2016

IMPROVEMENT ALTERNATIVE 2A & 3B IMPLEMENTED IN COMBINATION
 (CULVERT IMPROVEMENTS - DESIGN FLOOD FREQUENCY CRITERIA)

HOWARD CRESCENT

ITEM No.	DESCRIPTION	UNIT	EST. QTY.	ESTIMATED UNIT PRICE	ESTIMATED AMOUNT
1	Culvert Improvements				
1.01	Remove Existing Culvert	m	40	\$150.00	\$6,000.00
1.02	Remove Asphalt	m ²	300	\$6.50	\$1,950.00
1.03	Remove Granular Road Base	m ²	300	\$6.00	\$1,800.00
1.04	Remove Existing Concrete Curb and Gutter	m	50	\$23.00	\$1,150.00
1.05	1200 mm x 3600 mm Conc. Box	m	30	\$6,240.00	\$187,200.00
1.06	Concrete Distribution Slab	LS	-	-	\$20,000.00
1.07	Concrete Wingwalls	LS	-	-	\$50,000.00
1.08	Granular 'B' (450 mm)	m ²	300	\$17.50	\$5,250.00
1.09	Granular 'A' (150 mm)	m ²	300	\$8.50	\$2,550.00
1.10	100 mm HL8 Base Course Asphalt	m ²	300	\$39.50	\$11,850.00
1.11	40 mm HL3 Surface Course Asphalt	m ²	300	\$11.50	\$3,450.00
1.12	Concrete Curb and Gutter	m	50	\$75.00	\$3,750.00
1.13	Reinstate Grassed Boulevard	m ²	175	\$12.00	\$2,100.00
					Subtotal Culvert Improvements
					\$297,050.00
					TOTAL PRELIMINARY CONSTRUCTION COST ESTIMATE
					\$297,050.00
					CONSTRUCTION CONTINGENCY (25%)
					\$74,262.50
					ENGINEERING DESIGN FEE (13%)
					\$38,616.50
					CONTRACT ADMINISTRATION / CONSTRUCTION INSPECTION (10%)
					\$29,705.00
					UTILITIES / SERVICES RELOCATION COST (15%)
					\$44,557.50
					TOTAL PRELIMINARY PROJECT COST ESTIMATE
					\$484,191.50

SOPHIA CREEK WATERSHED & MULCASTER DRAINAGE AREA EA UPDATE
 PRELIMINARY CONSTRUCTION COST ESTIMATE
 SEPTEMBER 2016

IMPROVEMENT ALTERNATIVE 2A & 3B IMPLEMENTED IN COMBINATION
 (CULVERT IMPROVEMENTS - DESIGN FLOOD FREQUENCY CRITERIA)

OTTAWAY AVENUE

ITEM No.	DESCRIPTION	UNIT	EST. QTY.	ESTIMATED UNIT PRICE	ESTIMATED AMOUNT
1	Culvert Improvements				
1.01	Remove Existing Culvert	m	50	\$85.00	\$4,250.00
1.02	Remove Asphalt	m ²	200	\$6.50	\$1,300.00
1.03	Remove Granular Road Base	m ²	200	\$6.00	\$1,200.00
1.04	Remove Existing Concrete Curb and Gutter	m	50	\$23.00	\$1,150.00
1.05	1500 mm x 3000 mm Conc. Box	m	30	\$5,980.00	\$179,400.00
1.06	Concrete Distribution Slab	LS	-	-	\$20,000.00
1.07	Concrete Wingwalls	LS	-	-	\$50,000.00
1.08	Granular 'B' (450 mm)	m ²	200	\$17.50	\$3,500.00
1.09	Granular 'A' (150 mm)	m ²	200	\$8.50	\$1,700.00
1.10	100 mm HL8 Base Course Asphalt	m ²	200	\$39.50	\$7,900.00
1.11	40 mm HL3 Surface Course Asphalt	m ²	200	\$11.50	\$2,300.00
1.12	Concrete Curb and Gutter	m	50	\$75.00	\$3,750.00
1.13	Reinstate Grassed Boulevard	m ²	175	\$12.00	\$2,100.00
					Subtotal Culvert Improvements
					\$278,550.00
					TOTAL PRELIMINARY CONSTRUCTION COST ESTIMATE
					\$278,550.00
					CONSTRUCTION CONTINGENCY (25%)
					\$69,637.50
					ENGINEERING DESIGN FEE (13%)
					\$36,211.50
					CONTRACT ADMINISTRATION / CONSTRUCTION INSPECTION (10%)
					\$27,855.00
					UTILITIES / SERVICES RELOCATION COST (15%)
					\$41,782.50
					TOTAL PRELIMINARY PROJECT COST ESTIMATE
					\$454,036.50

SOPHIA CREEK WATERSHED & MULCASTER DRAINAGE AREA EA UPDATE
 PRELIMINARY CONSTRUCTION COST ESTIMATE
 SEPTEMBER 2016

IMPROVEMENT ALTERNATIVE 2A & 3B IMPLEMENTED IN COMBINATION
 (CULVERT IMPROVEMENTS - DESIGN FLOOD FREQUENCY CRITERIA)

ROSE STREET

ITEM No.	DESCRIPTION	UNIT	EST. QTY.	ESTIMATED UNIT PRICE	ESTIMATED AMOUNT
1	Culvert Improvements				
1.01	Remove Existing Culvert	m	120	\$85.00	\$10,200.00
1.02	Remove Asphalt	m ²	270	\$6.50	\$1,755.00
1.03	Remove Granular Road Base	m ²	270	\$6.00	\$1,620.00
1.04	Remove Existing Concrete Curb and Gutter	m	50	\$23.00	\$1,150.00
1.05	Remove Existing Sidewalk	m ²	75	\$16.50	\$1,237.50
1.06	1500 mm x 3000 mm Conc. Box	m	30	\$5,980.00	\$179,400.00
1.07	Concrete Distribution Slab	LS	-	-	\$20,000.00
1.08	Concrete Wingwalls	LS	-	-	\$50,000.00
1.09	Granular 'B' (450 mm)	m ²	270	\$17.50	\$4,725.00
1.10	Granular 'A' (150 mm)	m ²	270	\$8.50	\$2,295.00
1.11	100 mm HL8 Base Course Asphalt	m ²	270	\$39.50	\$10,665.00
1.12	40 mm HL3 Surface Course Asphalt	m ²	270	\$11.50	\$3,105.00
1.13	Concrete Curb and Gutter	m	50	\$75.00	\$3,750.00
1.14	Concrete Sidewalk	m ²	75	\$80.00	\$6,000.00
1.15	Reinstate Grassed Boulevard	m ²	350	\$12.00	\$4,200.00
					Subtotal Culvert Improvements
					\$300,102.50
					TOTAL PRELIMINARY CONSTRUCTION COST ESTIMATE
					\$300,102.50
					CONSTRUCTION CONTINGENCY (25%)
					\$75,025.63
					ENGINEERING DESIGN FEE (13%)
					\$39,013.33
					CONTRACT ADMINISTRATION / CONSTRUCTION INSPECTION (10%)
					\$30,010.25
					UTILITIES / SERVICES RELOCATION COST (15%)
					\$45,015.38
					TOTAL PRELIMINARY PROJECT COST ESTIMATE
					\$489,167.08

SOPHIA CREEK WATERSHED & MULCASTER DRAINAGE AREA EA UPDATE
 PRELIMINARY CONSTRUCTION COST ESTIMATE
 SEPTEMBER 2016

IMPROVEMENT ALTERNATIVE 2A & 3B IMPLEMENTED IN COMBINATION
 (CULVERT IMPROVEMENTS - DESIGN FLOOD FREQUENCY CRITERIA)

Laurie Crescent

ITEM No.	DESCRIPTION	UNIT	EST. QTY.	ESTIMATED UNIT PRICE	ESTIMATED AMOUNT
1	Culvert Improvements				
1.01	Remove Existing Culvert	m	40	\$85.00	\$3,400.00
1.02	Remove Asphalt	m ²	340	\$6.50	\$2,210.00
1.03	Remove Granular Road Base	m ²	340	\$6.00	\$2,040.00
1.04	Remove Existing Concrete Curb and Gutter	m	50	\$23.00	\$1,150.00
1.05	Remove Existing Sidewalk	m ²	40	\$16.50	\$660.00
1.06	1500 mm x 3000 mm Conc. Box	m	40	\$5,980.00	\$239,200.00
1.07	Concrete Distribution Slab	LS	-	-	\$20,000.00
1.08	Concrete Wingwalls	LS	-	-	\$50,000.00
1.09	Granular 'B' (450 mm)	m ²	340	\$17.50	\$5,950.00
1.10	Granular 'A' (150 mm)	m ²	340	\$8.50	\$2,890.00
1.11	100 mm HL8 Base Course Asphalt	m ²	340	\$39.50	\$13,430.00
1.12	40 mm HL3 Surface Course Asphalt	m ²	340	\$11.50	\$3,910.00
1.13	Concrete Curb and Gutter	m	50	\$75.00	\$3,750.00
1.14	Concrete Sidewalk	m ²	40	\$80.00	\$3,200.00
1.15	Reinstate Grassed Boulevard	m ²	450	\$12.00	\$5,400.00
					Subtotal Culvert Improvements
					\$357,190.00
2	Watercourse Improvements				
2.01	Watercourse Improvements	m	165	\$500.00	\$82,500.00
					Subtotal Watercourse Improvements
					\$82,500.00
					TOTAL PRELIMINARY CONSTRUCTION COST ESTIMATE
					\$439,690.00
					CONSTRUCTION CONTINGENCY (25%)
					\$109,922.50
					ENGINEERING DESIGN FEE (13%)
					\$57,159.70
					CONTRACT ADMINISTRATION / CONSTRUCTION INSPECTION (10%)
					\$43,969.00
					UTILITIES / SERVICES RELOCATION COST (15%)
					\$65,953.50
					TOTAL PRELIMINARY PROJECT COST ESTIMATE
					\$716,694.70

SOPHIA CREEK WATERSHED & MULCASTER DRAINAGE AREA EA UPDATE
 PRELIMINARY CONSTRUCTION COST ESTIMATE
 SEPTEMBER 2016

IMPROVEMENT ALTERNATIVE 2A & 3B IMPLEMENTED IN COMBINATION
 (CULVERT IMPROVEMENTS - DESIGN FLOOD FREQUENCY CRITERIA)

WELLINGTON STREET

ITEM No.	DESCRIPTION	UNIT	EST. QTY.	ESTIMATED UNIT PRICE	ESTIMATED AMOUNT
1	Culvert Improvements				
1.01	Remove Existing Culvert	m	85	\$500.00	\$42,500.00
1.02	Remove Asphalt	m ²	250	\$6.50	\$1,625.00
1.03	Remove Granular Road Base	m ²	250	\$6.00	\$1,500.00
1.04	Remove Existing Concrete Curb and Gutter	m	50	\$23.00	\$1,150.00
1.05	Remove Existing Sidewalk	m ²	75	\$16.50	\$1,237.50
1.06	Twin 1500 mm x 3600 mm Conc. Box	m	25	\$12,480.00	\$312,000.00
1.07	Concrete Distribution Slab	LS	-	-	\$20,000.00
1.08	Concrete Wingwalls	LS	-	-	\$50,000.00
1.09	Granular 'B' (450 mm)	m ²	250	\$17.50	\$4,375.00
1.10	Granular 'A' (150 mm)	m ²	250	\$8.50	\$2,125.00
1.11	100 mm HL8 Base Course Asphalt	m ²	250	\$39.50	\$9,875.00
1.12	40 mm HL3 Surface Course Asphalt	m ²	250	\$11.50	\$2,875.00
1.13	Concrete Curb and Gutter	m	50	\$75.00	\$3,750.00
1.14	Concrete Sidewalk	m ²	75	\$80.00	\$6,000.00
1.15	Reinstate Grassed Boulevard	m ²	250	\$12.00	\$3,000.00
					Subtotal Culvert Improvements
					\$462,012.50
					TOTAL PRELIMINARY CONSTRUCTION COST ESTIMATE
					\$462,012.50
					CONSTRUCTION CONTINGENCY (25%)
					\$115,503.13
					ENGINEERING DESIGN FEE (13%)
					\$60,061.63
					CONTRACT ADMINISTRATION / CONSTRUCTION INSPECTION (10%)
					\$46,201.25
					UTILITIES / SERVICES RELOCATION COST (15%)
					\$69,301.88
					TOTAL PRELIMINARY PROJECT COST ESTIMATE
					\$753,080.38

SOPHIA CREEK WATERSHED & MULCASTER DRAINAGE AREA EA UPDATE
 PRELIMINARY CONSTRUCTION COST ESTIMATE
 SEPTEMBER 2016

IMPROVEMENT ALTERNATIVE 2A & 3B IMPLEMENTED IN COMBINATION
 (CULVERT IMPROVEMENTS - DESIGN FLOOD FREQUENCY CRITERIA)

BERCZY STREET

ITEM No.	DESCRIPTION	UNIT	EST. QTY.	ESTIMATED UNIT PRICE	ESTIMATED AMOUNT
1	Culvert Improvements				
1.01	Remove Existing Culvert	m	40	\$500.00	\$20,000.00
1.02	Remove Asphalt	m ²	250	\$6.50	\$1,625.00
1.03	Remove Granular Road Base	m ²	250	\$6.00	\$1,500.00
1.04	Remove Existing Concrete Curb and Gutter	m	50	\$23.00	\$1,150.00
1.05	Remove Existing Sidewalk	m ²	75	\$16.50	\$1,237.50
1.06	Twin 1500 mm x 3600 mm Conc. Box	m	30	\$12,480.00	\$374,400.00
1.07	Concrete Distribution Slab	LS	-	-	\$20,000.00
1.08	Concrete Wingwalls	LS	-	-	\$50,000.00
1.09	Granular 'B' (450 mm)	m ²	250	\$17.50	\$4,375.00
1.10	Granular 'A' (150 mm)	m ²	250	\$8.50	\$2,125.00
1.11	100 mm HL8 Base Course Asphalt	m ²	250	\$39.50	\$9,875.00
1.12	40 mm HL3 Surface Course Asphalt	m ²	250	\$11.50	\$2,875.00
1.13	Concrete Curb and Gutter	m	50	\$75.00	\$3,750.00
1.14	Concrete Sidewalk	m ²	75	\$80.00	\$6,000.00
1.15	Reinstate Grassed Boulevard	m ²	250	\$12.00	\$3,000.00
					Subtotal Culvert Improvements
					\$501,912.50
					TOTAL PRELIMINARY CONSTRUCTION COST ESTIMATE
					\$501,912.50
					CONSTRUCTION CONTINGENCY (25%)
					\$125,478.13
					ENGINEERING DESIGN FEE (13%)
					\$65,248.63
					CONTRACT ADMINISTRATION / CONSTRUCTION INSPECTION (10%)
					\$50,191.25
					UTILITIES / SERVICES RELOCATION COST (15%)
					\$75,286.88
					TOTAL PRELIMINARY PROJECT COST ESTIMATE
					\$818,117.38

SOPHIA CREEK WATERSHED & MULCASTER DRAINAGE AREA EA UPDATE
 PRELIMINARY CONSTRUCTION COST ESTIMATE
 SEPTEMBER 2016

IMPROVEMENT ALTERNATIVE 2A & 3B IMPLEMENTED IN COMBINATION
 (CULVERT IMPROVEMENTS - DESIGN FLOOD FREQUENCY CRITERIA)

DAVIDSON/GUNN STREET

ITEM No.	DESCRIPTION	UNIT	EST. QTY.	ESTIMATED UNIT PRICE	ESTIMATED AMOUNT
1	Culvert Improvements				
1.01	Remove Existing Culvert	m	75	\$500.00	\$37,500.00
1.02	Remove Asphalt	m ²	650	\$6.50	\$4,225.00
1.03	Remove Granular Road Base	m ²	650	\$6.00	\$3,900.00
1.04	Remove Existing Concrete Curb and Gutter	m	100	\$23.00	\$2,300.00
1.05	Remove Existing Sidewalk	m ²	75	\$16.50	\$1,237.50
1.06	Twin 3600 mm x 1500 Conc. Box	m	75	\$12,480.00	\$936,000.00
1.07	Concrete Distribution Slab	LS	-	-	\$20,000.00
1.08	Concrete Wingwalls	LS	-	-	\$50,000.00
1.09	Granular 'B' (450 mm)	m ²	650	\$17.50	\$11,375.00
1.10	Granular 'A' (150 mm)	m ²	650	\$8.50	\$5,525.00
1.11	100 mm HL8 Base Course Asphalt	m ²	650	\$39.50	\$25,675.00
1.12	40 mm HL3 Surface Course Asphalt	m ²	650	\$11.50	\$7,475.00
1.13	Concrete Curb and Gutter	m	100	\$75.00	\$7,500.00
1.14	Concrete Sidewalk	m ²	75	\$80.00	\$6,000.00
1.15	Reinstate Grassed Boulevard	m ²	750	\$12.00	\$9,000.00
					Subtotal Culvert Improvements
					\$1,127,712.50
2	Property Acquisition				
2.01	Property Acquisition	LS	-	-	\$286,000.00
					Subtotal Property Acquisition
					\$286,000.00
					TOTAL PRELIMINARY CONSTRUCTION COST ESTIMATE
					\$1,413,712.50
					CONSTRUCTION CONTINGENCY (25%)
					\$281,928.13
					ENGINEERING DESIGN FEE (13%)
					\$146,602.63
					CONTRACT ADMINISTRATION / CONSTRUCTION INSPECTION (10%)
					\$112,771.25
					UTILITIES / SERVICES RELOCATION COST (15%)
					\$169,156.88
					TOTAL PRELIMINARY PROJECT COST ESTIMATE
					\$2,124,171.38

SOPHIA CREEK WATERSHED & MULCASTER DRAINAGE AREA EA UPDATE
 PRELIMINARY CONSTRUCTION COST ESTIMATE
 SEPTEMBER 2016

IMPROVEMENT ALTERNATIVE 2A & 3B IMPLEMENTED IN COMBINATION
 (CULVERT IMPROVEMENTS - DESIGN FLOOD FREQUENCY CRITERIA)

PARKDALE CRESCENT

ITEM No.	DESCRIPTION	UNIT	EST. QTY.	ESTIMATED UNIT PRICE	ESTIMATED AMOUNT
1	Culvert Improvements				
1.01	Remove Existing Culvert	m	40	\$250.00	\$10,000.00
1.02	Remove Asphalt	m ²	200	\$6.50	\$1,300.00
1.03	Remove Granular Road Base	m ²	200	\$6.00	\$1,200.00
1.04	Remove Existing Concrete Curb and Gutter	m	50	\$23.00	\$1,150.00
1.05	Twin 3600 mm x 1500 Conc. Box	m	25	\$12,480.00	\$312,000.00
1.06	Concrete Distribution Slab	LS	-	-	\$20,000.00
1.07	Concrete Wingwalls	LS	-	-	\$50,000.00
1.08	Granular 'B' (450 mm)	m ²	200	\$17.50	\$3,500.00
1.09	Granular 'A' (150 mm)	m ²	200	\$8.50	\$1,700.00
1.10	100 mm HL8 Base Course Asphalt	m ²	200	\$39.50	\$7,900.00
1.11	40 mm HL3 Surface Course Asphalt	m ²	200	\$11.50	\$2,300.00
1.12	Concrete Curb and Gutter	m	50	\$75.00	\$3,750.00
1.13	Reinstate Grassed Boulevard	m ²	250	\$12.00	\$3,000.00
				Subtotal Culvert Improvements	\$417,800.00
				TOTAL PRELIMINARY CONSTRUCTION COST ESTIMATE	\$417,800.00
				CONSTRUCTION CONTINGENCY (25%)	\$104,450.00
				ENGINEERING DESIGN FEE (13%)	\$54,314.00
				CONTRACT ADMINISTRATION / CONSTRUCTION INSPECTION (10%)	\$41,780.00
				UTILITIES / SERVICES RELOCATION COST (15%)	\$62,670.00
				TOTAL PRELIMINARY PROJECT COST ESTIMATE	\$681,014.00

SOPHIA CREEK WATERSHED & MULCASTER DRAINAGE AREA EA UPDATE
 PRELIMINARY CONSTRUCTION COST ESTIMATE
 SEPTEMBER 2016

IMPROVEMENT ALTERNATIVE 2A & 3B IMPLEMENTED IN COMBINATION
 (CULVERT IMPROVEMENTS - DESIGN FLOOD FREQUENCY CRITERIA)

GROVE STREET (C)

ITEM No.	DESCRIPTION	UNIT	EST. QTY.	ESTIMATED UNIT PRICE	ESTIMATED AMOUNT
1	Culvert Improvements				
1.01	Remove Existing Culvert	m	105	\$100.00	\$10,500.00
1.02	Remove Asphalt	m ²	300	\$6.50	\$1,950.00
1.03	Remove Granular Road Base	m ²	300	\$6.00	\$1,800.00
1.04	Remove Existing Concrete Curb and Gutter	m	50	\$23.00	\$1,150.00
1.05	Remove Existing Sidewalk	m ²	75	\$16.50	\$1,237.50
1.06	Twin 3600 mm x 1500 Conc. Box	m	35	\$12,480.00	\$436,800.00
1.07	Concrete Distribution Slab	LS	-	-	\$35,000.00
1.08	Concrete Wingwalls	LS	-	-	\$50,000.00
1.09	Granular 'B' (450 mm)	m ²	300	\$17.50	\$5,250.00
1.10	Granular 'A' (150 mm)	m ²	300	\$8.50	\$2,550.00
1.11	100 mm HL8 Base Course Asphalt	m ²	300	\$39.50	\$11,850.00
1.12	40 mm HL3 Surface Course Asphalt	m ²	300	\$11.50	\$3,450.00
1.13	Concrete Curb and Gutter	m	50	\$75.00	\$3,750.00
1.14	Concrete Sidewalk	m ²	75	\$80.00	\$6,000.00
1.15	Reinstate Grassed Boulevard	m ²	375	\$12.00	\$4,500.00
					Subtotal Culvert Improvements
					\$575,787.50
					TOTAL PRELIMINARY CONSTRUCTION COST ESTIMATE
					\$575,787.50
					CONSTRUCTION CONTINGENCY (25%)
					\$143,946.88
					ENGINEERING DESIGN FEE (13%)
					\$74,852.38
					CONTRACT ADMINISTRATION / CONSTRUCTION INSPECTION (10%)
					\$57,578.75
					UTILITIES / SERVICES RELOCATION COST (15%)
					\$86,368.13
					TOTAL PRELIMINARY PROJECT COST ESTIMATE
					\$938,533.63



C.C. Tatham & Associates Ltd.
Consulting Engineers

Collingwood Bracebridge Orillia Barrie

PROJECT:	Sophia Creek Watershed and Mulcaster Drainage Area EA Update
FILE NUMBER:	115172
DATE:	September 20, 2017
DESIGNED BY:	Amanda West
CHECKED BY:	Daniel Twigger
SUBJECT:	Preliminary Construction Cost Estimates

TRUNK STORM SEWER IMPROVEMENT ALTERNATIVES

Conveyance Capacity Improvements Downstream of Peel Street

Option No.	Description	Unit	Estimated Quantity	Estimated Unit Price	Estimated Amount
1	4A - Owen Street Trunk Storm Sewer	m	1265	\$14,237	\$18,010,278
2	4B - Mulcaster Street Trunk Storm Sewer	m	1155	\$25,933	\$29,952,473
3	4C - Clapperton Street Trunk Storm Sewer	m	1310	\$16,609	\$21,757,159
4	4D - Dunlop Street Trunk Storm Sewer	m	1355	\$15,707	\$21,283,399

Conveyance Capacity Improvements Downstream of Peel Street (Reduced Flows considering Improvement Alternative 2A)

Option No.	Description	Unit	Estimated Quantity	Estimated Unit Price	Estimated Amount
5	2A & 4A - Owen Street Trunk Storm Sewer	m	1265	\$13,571	\$17,166,916
6	2A & 4B - Mulcaster Street Trunk Storm Sewer	m	1155	\$18,608	\$21,492,773
7	2A & 4C - Clapperton Street Trunk Storm Sewer	m	915	\$15,583	\$14,258,099
8	2A & 4D - Dunlop Street Trunk Storm Sewer	m	1355	\$13,593	\$18,418,348

Property Acquisition Costs

Option No.	Description	Unit	Estimated Quantity	Estimated Unit Price	Estimated Amount
2	4B - Mulcaster Street Property or Easement Acquisition	LS	-	-	\$764,400
6	2A & 4B - Mulcaster Street Property or Easement Acquisition	LS	-	-	\$764,400

SOPHIA CREEK WATERSHED & MULCASTER DRAINAGE AREA EA UPDATE
 PRELIMINARY CONSTRUCTION COST ESTIMATE
 SEPTEMBER 2017

IMPROVEMENT ALTERNATIVE 4A
 (OWEN STREET TRUNK STORM SEWER)

ITEM No.	DESCRIPTION	UNIT	EST. QTY.	ESTIMATED UNIT PRICE	ESTIMATED AMOUNT
1	Storm Sewer and Drainage Works				
1.01	6000 mm x 2500 mm Precast Reinforced Concrete Box Culvert	m	8	\$13,850.00	\$110,800.00
1.02	2400 mm x 1500 mm Precast Reinforced Concrete Box Culvert	m	50	\$5,630.00	\$281,500.00
1.03	2700 mm x 1500 mm Precast Reinforced Concrete Box Culvert	m	110	\$6,800.00	\$748,000.00
1.04	2700 mm x 1800 mm Precast Reinforced Concrete Box Culvert	m	225	\$7,800.00	\$1,755,000.00
1.05	3600 mm x 1800 mm Precast Reinforced Concrete Box Culvert	m	180	\$9,750.00	\$1,755,000.00
1.06	3000 mm x 1800 mm Precast Reinforced Concrete Box Culvert	m	595	\$8,310.00	\$4,944,450.00
1.07	3600 mm x 1500 mm Precast Reinforced Concrete Box Culvert	m	100	\$9,050.00	\$905,000.00
1.08	Storm Sewer Connection	ea	14	\$3,500.00	\$49,000.00
1.09	Maintenance Access Port	ea	34	\$5,000.00	\$170,000.00
1.10	Trunk Storm Sewer Inlet Alterations	LS	-	-	\$150,000.00
1.11	Trunk Storm Sewer Outlet Works	LS	-	-	\$25,000.00
	Subtotal Storm Sewer and Drainage Works				\$10,893,750.00
2	Sanitary Sewer Relocation				
2.01	Relocated Existing Sanitary Sewer	m	150	\$850.00	\$127,500.00
2.02	Sanitary Maintenance Holes	ea	4	\$7,000.00	\$28,000.00
	Subtotal Sanitary Sewer Relocation				\$155,500.00
	TOTAL PRELIMINARY CONSTRUCTION COST ESTIMATE				\$11,049,250.00
				CONSTRUCTION CONTINGENCY (25%)	\$2,762,312.50
				ENGINEERING DESIGN FEE (13%)	\$1,436,402.50
				CONTRACT ADMINISTRATION / CONSTRUCTION INSPECTION (10%)	\$1,104,925.00
				UTILITIES / SERVICES RELOCATION COST (15%)	\$1,657,387.50
	TOTAL PRELIMINARY PROJECT COST ESTIMATE				\$18,010,277.50

SOPHIA CREEK WATERSHED & MULCASTER DRAINAGE AREA EA UPDATE
 PRELIMINARY CONSTRUCTION COST ESTIMATE
 SEPTEMBER 2017

IMPROVEMENT ALTERNATIVE 4B
 (MULCASTER STREET TRUNK STORM SEWER)

ITEM No.	DESCRIPTION	UNIT	EST. QTY.	ESTIMATED UNIT PRICE	ESTIMATED AMOUNT
1	Storm Sewer and Drainage Works				
1.01	Bore and Jack 3000 mm Dia. Concrete Storm Sewer	m	515	\$24,500.00	\$12,617,500.00
1.02	3000 mm x 1200 mm Precast Reinforced Concrete Box Culvert	m	175	\$6,450.00	\$1,128,750.00
1.03	3600 mm x 2400 mm Precast Reinforced Concrete Box Culvert	m	80	\$10,050.00	\$804,000.00
1.04	2400 mm x 1500 mm Precast Reinforced Concrete Box Culvert	m	50	\$5,630.00	\$281,500.00
1.05	2700 mm x 1500 mm Precast Reinforced Concrete Box Culvert	m	110	\$6,800.00	\$748,000.00
1.06	2700 mm x 1800 mm Precast Reinforced Concrete Box Culvert	m	225	\$7,800.00	\$1,755,000.00
1.07	Storm Sewer Connections	ea	6	\$3,500.00	\$21,000.00
1.08	Custom Maintenance Hole	ea	10	\$75,000.00	\$750,000.00
1.09	Maintenance Access Port	ea	11	\$5,000.00	\$55,000.00
1.10	Trunk Storm Sewer Inlet Alterations	LS	-	-	\$150,000.00
1.11	Trunk Storm Sewer Outlet Works	LS	-	-	\$25,000.00
	Subtotal Storm Sewer and Drainage Works				\$18,335,750.00
2	Miscellaneous				
2.01	Property Acquisition	LS	-	-	\$513,000.00
2.02	Easement Acquisition	LS	-	-	\$251,400.00
2.03	Demolish Building and Remove Debris	ea	2	\$20,000.00	\$40,000.00
	Subtotal Miscellaneous				\$804,400.00
	TOTAL PRELIMINARY CONSTRUCTION COST ESTIMATE				\$19,140,150.00
	CONSTRUCTION CONTINGENCY (25%)				\$4,593,937.50
	ENGINEERING DESIGN FEE (13%)				\$2,388,847.50
	CONTRACT ADMINISTRATION / CONSTRUCTION INSPECTION (10%)				\$1,837,575.00
	UTILITIES / SERVICES RELOCATION COST (15%)				\$2,756,362.50
	TOTAL PRELIMINARY PROJECT COST ESTIMATE				\$30,716,872.50

SOPHIA CREEK WATERSHED & MULCASTER DRAINAGE AREA EA UPDATE
 PRELIMINARY CONSTRUCTION COST ESTIMATE
 SEPTEMBER 2017

IMPROVEMENT ALTERNATIVE 4C
 (CLAPPERTON STREET TRUNK STORM SEWER)

ITEM No.	DESCRIPTION	UNIT	EST. QTY.	ESTIMATED UNIT PRICE	ESTIMATED AMOUNT
1	Storm Sewer and Drainage Works				
1.01	6000 mm x 2500 mm Precast Reinforced Concrete Box Culvert	m	8	\$13,850.00	\$110,800.00
1.02	3600 mm x 1800 mm Precast Reinforced Concrete Box Culvert	m	995	\$9,750.00	\$9,701,250.00
1.03	2000 mm Dia. Concrete Storm Sewer	m	115	\$4,730.00	\$543,950.00
1.04	Twin 2700 mm x 1250 mm Precast Reinforced Concrete Box Culvert	m	130	\$10,415.00	\$1,353,950.00
1.05	3600 mm x 2100 mm Precast Reinforced Concrete Box Culvert	m	60	\$10,400.00	\$624,000.00
1.06	Storm Sewer Connection	ea	12	\$3,500.00	\$42,000.00
1.07	Maintenance Access Port	ea	23	\$5,000.00	\$115,000.00
1.08	Custom Trunk Storm Sewer Maintenance Hole	ea	1	\$125,000.00	\$125,000.00
1.09	3600 mm Dia. Maintenance Hole	ea	3	\$30,000.00	\$90,000.00
1.10	Trunk Storm Sewer Inlet Alterations	LS	-	-	\$150,000.00
1.11	Trunk Storm Sewer Outlet Works	LS	-	-	\$25,000.00
	Subtotal Storm Sewer and Drainage Works				\$12,880,950.00
2	Sanitary Sewer Relocation				
2.01	Relocated Existing Sanitary Sewer	m	500	\$850.00	\$425,000.00
2.02	Sanitary Maintenance Holes	ea	6	\$7,000.00	\$42,000.00
	Subtotal Sanitary Sewer Relocation				\$467,000.00
	TOTAL PRELIMINARY CONSTRUCTION COST ESTIMATE				\$13,347,950.00
				CONSTRUCTION CONTINGENCY (25%)	\$3,336,987.50
				ENGINEERING DESIGN FEE (13%)	\$1,735,233.50
				CONTRACT ADMINISTRATION / CONSTRUCTION INSPECTION (10%)	\$1,334,795.00
				UTILITIES / SERVICES RELOCATION COST (15%)	\$2,002,192.50
	TOTAL PRELIMINARY PROJECT COST ESTIMATE				\$21,757,158.50

SOPHIA CREEK WATERSHED & MULCASTER DRAINAGE AREA EA UPDATE
 PRELIMINARY CONSTRUCTION COST ESTIMATE
 SEPTEMBER 2017

IMPROVEMENT ALTERNATIVE 4D
 (DUNLOP STREET TRUNK STORM SEWER)

ITEM No.	DESCRIPTION	UNIT	EST. QTY.	ESTIMATED UNIT PRICE	ESTIMATED AMOUNT
1	Storm Sewer and Drainage Works				
1.01	6000 mm x 2500 mm Precast Reinforced Concrete Box Culvert	m	8	\$13,850.00	\$110,800.00
1.02	2400 mm x 1500 mm Precast Reinforced Concrete Box Culvert	m	50	\$5,630.00	\$281,500.00
1.03	2700 mm x 1500 mm Precast Reinforced Concrete Box Culvert	m	110	\$6,800.00	\$748,000.00
1.04	2700 mm x 1800 mm Precast Reinforced Concrete Box Culvert	m	225	\$7,800.00	\$1,755,000.00
1.05	3000 mm x 1200 mm Precast Reinforced Concrete Box Culvert	m	15	\$5,940.00	\$89,100.00
1.06	3000 mm x 1800 mm Precast Reinforced Concrete Box Culvert	m	375	\$8,310.00	\$3,116,250.00
1.07	3600 mm x 1800 mm Precast Reinforced Concrete Box Culvert	m	255	\$9,750.00	\$2,486,250.00
1.08	Twin 2400 mm x 1800 mm Precast Reinforced Concrete Box Culvert	m	265	\$11,860.00	\$3,142,900.00
1.09	Twin 2700 mm x 1800 mm Precast Reinforced Concrete Box Culvert	m	50	\$15,600.00	\$780,000.00
1.10	Storm Sewer Connection	ea	12	\$3,500.00	\$42,000.00
1.11	Maintenance Access Port	ea	35	\$5,000.00	\$175,000.00
1.12	Trunk Storm Sewer Inlet Alterations	LS	-	-	\$150,000.00
1.13	Trunk Storm Sewer Outlet Works	LS	-	-	\$25,000.00
	Subtotal Storm Sewer and Drainage Works				\$12,901,800.00
2	Sanitary Sewer Relocation				
2.01	Relocated Existing Sanitary Sewer	m	150	\$850.00	\$127,500.00
2.02	Sanitary Maintenance Holes	ea	4	\$7,000.00	\$28,000.00
	Subtotal Sanitary Sewer Relocation				\$155,500.00
	TOTAL PRELIMINARY CONSTRUCTION COST ESTIMATE				\$13,057,300.00
				CONSTRUCTION CONTINGENCY (25%)	\$3,264,325.00
				ENGINEERING DESIGN FEE (13%)	\$1,697,449.00
				CONTRACT ADMINISTRATION / CONSTRUCTION INSPECTION (10%)	\$1,305,730.00
				UTILITIES / SERVICES RELOCATION COST (15%)	\$1,958,595.00
	TOTAL PRELIMINARY PROJECT COST ESTIMATE				\$21,283,399.00

SOPHIA CREEK WATERSHED & MULCASTER DRAINAGE AREA EA UPDATE
 PRELIMINARY CONSTRUCTION COST ESTIMATE
 SEPTEMBER 2017

IMPROVEMENT ALTERNATIVE 2A & 4A IMPLEMENTED IN COMBINATION
 (OWEN STREET TRUNK STORM SEWER)

ITEM No.	DESCRIPTION	UNIT	EST. QTY.	ESTIMATED UNIT PRICE	ESTIMATED AMOUNT
1	Storm Sewer and Drainage Works				
1.01	6000 mm x 2500 mm Precast Reinforced Concrete Box Culvert	m	8	\$13,850.00	\$110,800.00
1.02	2400 mm x 1500 mm Precast Reinforced Concrete Box Culvert	m	50	\$5,630.00	\$281,500.00
1.03	2700 mm x 1500 mm Precast Reinforced Concrete Box Culvert	m	110	\$6,800.00	\$748,000.00
1.04	2700 mm x 1800 mm Precast Reinforced Concrete Box Culvert	m	225	\$7,800.00	\$1,755,000.00
1.05	3000 mm x 1500 mm Precast Reinforced Concrete Box Culvert	m	735	\$7,980.00	\$5,865,300.00
1.06	3600 mm x 1500 mm Precast Reinforced Concrete Box Culvert	m	135	\$9,050.00	\$1,221,750.00
1.07	Storm Sewer Connection	ea	14	\$3,500.00	\$49,000.00
1.08	Maintenance Access Port	ea	34	\$5,000.00	\$170,000.00
1.09	Trunk Storm Sewer Inlet Alterations	LS	-	-	\$150,000.00
1.10	Trunk Storm Sewer Outlet Works	LS	-	-	\$25,000.00
	Subtotal Storm Sewer and Drainage Works				\$10,376,350.00
2	Sanitary Sewer Relocation				
2.01	Relocated Existing Sanitary Sewer	m	150	\$850.00	\$127,500.00
2.02	Sanitary Maintenance Holes	ea	4	\$7,000.00	\$28,000.00
	Subtotal Sanitary Sewer Relocation				\$155,500.00
	TOTAL PRELIMINARY CONSTRUCTION COST ESTIMATE				\$10,531,850.00
				CONSTRUCTION CONTINGENCY (25%)	\$2,632,962.50
				ENGINEERING DESIGN FEE (13%)	\$1,369,140.50
				CONTRACT ADMINISTRATION / CONSTRUCTION INSPECTION (10%)	\$1,053,185.00
				UTILITIES / SERVICES RELOCATION COST (15%)	\$1,579,777.50
	TOTAL PRELIMINARY PROJECT COST ESTIMATE				\$17,166,915.50

SOPHIA CREEK WATERSHED & MULCASTER DRAINAGE AREA EA UPDATE
 PRELIMINARY CONSTRUCTION COST ESTIMATE
 SEPTEMBER 2017

IMPROVEMENT ALTERNATIVE 2A & 4B IMPLEMENTED IN COMBINATION
 (MULCASTER STREET TRUNK STORM SEWER)

ITEM No.	DESCRIPTION	UNIT	EST. QTY.	ESTIMATED UNIT PRICE	ESTIMATED AMOUNT
1	Storm Sewer and Drainage Works				
1.01	Bore and Jack 2400 mm Dia. Concrete Storm Sewer	m	515	\$15,900.00	\$8,188,500.00
1.02	2100 mm x 1200 mm Precast Reinforced Concrete Box Culvert	m	175	\$4,810.00	\$841,750.00
1.03	3600 mm x 1800 mm Precast Reinforced Concrete Box Culvert	m	80	\$9,750.00	\$780,000.00
1.04	2400 mm x 1500 mm Precast Reinforced Concrete Box Culvert	m	50	\$5,630.00	\$281,500.00
1.05	2700 mm x 1500 mm Precast Reinforced Concrete Box Culvert	m	110	\$6,800.00	\$748,000.00
1.06	2700 mm x 1800 mm Precast Reinforced Concrete Box Culvert	m	225	\$7,800.00	\$1,755,000.00
1.07	Storm Sewer Connections	ea	6	\$3,500.00	\$21,000.00
1.08	3600 mm Dia. Maintenance Hole	ea	10	\$30,000.00	\$300,000.00
1.09	Maintenance Access Port	ea	11	\$5,000.00	\$55,000.00
1.10	Trunk Storm Sewer Inlet Alterations	LS	-	-	\$150,000.00
1.11	Trunk Storm Sewer Outlet Works	LS	-	-	\$25,000.00
	Subtotal Storm Sewer and Drainage Works				\$13,145,750.00
2	Miscellaneous				
2.01	Property Acquisition	LS	-	-	\$513,000.00
2.02	Easement Acquisition	LS	-	-	\$251,400.00
2.03	Demolish Building and Remove Debris	ea	2	\$20,000.00	\$40,000.00
	Subtotal Miscellaneous				\$804,400.00
	TOTAL PRELIMINARY CONSTRUCTION COST ESTIMATE				\$13,950,150.00
				CONSTRUCTION CONTINGENCY (25%)	\$3,296,437.50
				ENGINEERING DESIGN FEE (13%)	\$1,714,147.50
				CONTRACT ADMINISTRATION / CONSTRUCTION INSPECTION (10%)	\$1,318,575.00
				UTILITIES / SERVICES RELOCATION COST (15%)	\$1,977,862.50
	TOTAL PRELIMINARY PROJECT COST ESTIMATE				\$22,257,172.50

SOPHIA CREEK WATERSHED & MULCASTER DRAINAGE AREA EA UPDATE
 PRELIMINARY CONSTRUCTION COST ESTIMATE
 SEPTEMBER 2017

IMPROVEMENT ALTERNATIVE 2A & 4C IMPLEMENTED IN COMBINATION
 (CLAPPERTON STREET TRUNK STORM SEWER)

ITEM No.	DESCRIPTION	UNIT	EST. QTY.	ESTIMATED UNIT PRICE	ESTIMATED AMOUNT
1	Storm Sewer and Drainage Works				
1.01	6000 mm x 2500 mm Precast Reinforced Concrete Box Culvert	m	8	\$13,850.00	\$110,800.00
1.02	3000 mm x 1500 mm Precast Reinforced Concrete Box Culvert	m	625	\$7,980.00	\$4,987,500.00
1.03	3600 mm x 1800 mm Precast Reinforced Concrete Box Culvert	m	220	\$9,750.00	\$2,145,000.00
1.04	3600 mm x 2100 mm Precast Reinforced Concrete Box Culvert	m	60	\$10,400.00	\$624,000.00
1.05	Storm Sewer Connection	ea	8	\$3,500.00	\$28,000.00
1.06	Maintenance Access Port	ea	17	\$5,000.00	\$85,000.00
1.07	Custom Trunk Storm Sewer Maintenance Hole	ea	1	\$125,000.00	\$125,000.00
1.08	Trunk Storm Sewer Inlet Alterations	LS	-	-	\$150,000.00
1.09	Trunk Storm Sewer Outlet Works	LS	-	-	\$25,000.00
	Subtotal Storm Sewer and Drainage Works				\$8,280,300.00
2	Sanitary Sewer Relocation				
2.01	Relocated Existing Sanitary Sewer	m	500	\$850.00	\$425,000.00
2.02	Sanitary Maintenance Holes	ea	6	\$7,000.00	\$42,000.00
	Subtotal Sanitary Sewer Relocation				\$467,000.00
	TOTAL PRELIMINARY CONSTRUCTION COST ESTIMATE				\$8,747,300.00
				CONSTRUCTION CONTINGENCY (25%)	\$2,186,825.00
				ENGINEERING DESIGN FEE (13%)	\$1,137,149.00
				CONTRACT ADMINISTRATION / CONSTRUCTION INSPECTION (10%)	\$874,730.00
				UTILITIES / SERVICES RELOCATION COST (15%)	\$1,312,095.00
	TOTAL PRELIMINARY PROJECT COST ESTIMATE				\$14,258,099.00

SOPHIA CREEK WATERSHED & MULCASTER DRAINAGE AREA EA UPDATE
 PRELIMINARY CONSTRUCTION COST ESTIMATE
 SEPTEMBER 2017

IMPROVEMENT ALTERNATIVE 2A & 4D IMPLEMENTED IN COMBINATION
 (DUNLOP STREET TRUNK STORM SEWER)

ITEM No.	DESCRIPTION	UNIT	EST. QTY.	ESTIMATED UNIT PRICE	ESTIMATED AMOUNT
1	Storm Sewer and Drainage Works				
1.01	6000 mm x 2500 mm Precast Reinforced Concrete Box Culvert	m	8	\$13,850.00	\$110,800.00
1.02	2400 mm x 1500 mm Precast Reinforced Concrete Box Culvert	m	50	\$5,630.00	\$281,500.00
1.03	2700 mm x 1500 mm Precast Reinforced Concrete Box Culvert	m	110	\$6,800.00	\$748,000.00
1.04	2700 mm x 1800 mm Precast Reinforced Concrete Box Culvert	m	225	\$7,800.00	\$1,755,000.00
1.05	3000 mm x 1200 mm Precast Reinforced Concrete Box Culvert	m	15	\$5,940.00	\$89,100.00
1.06	3000 mm x 1500 mm Precast Reinforced Concrete Box Culvert	m	555	\$7,980.00	\$4,428,900.00
1.07	3600 mm x 1500 mm Precast Reinforced Concrete Box Culvert	m	35	\$9,050.00	\$316,750.00
1.08	3000 mm x 1800 mm Precast Reinforced Concrete Box Culvert	m	305	\$8,310.00	\$2,534,550.00
1.09	3600 mm x 1800 mm Precast Reinforced Concrete Box Culvert	m	50	\$9,750.00	\$487,500.00
1.10	Storm Sewer Connection	ea	12	\$3,500.00	\$42,000.00
1.11	Maintenance Access Port	ea	35	\$5,000.00	\$175,000.00
1.12	Trunk Storm Sewer Inlet Alterations	LS	-	-	\$150,000.00
1.13	Trunk Storm Sewer Outlet Works	LS	-	-	\$25,000.00
	Subtotal Storm Sewer and Drainage Works				\$11,144,100.00
2	Sanitary Sewer Relocation				
2.01	Relocated Existing Sanitary Sewer	m	150	\$850.00	\$127,500.00
2.02	Sanitary Maintenance Holes	ea	4	\$7,000.00	\$28,000.00
	Subtotal Sanitary Sewer Relocation				\$155,500.00
	TOTAL PRELIMINARY CONSTRUCTION COST ESTIMATE				\$11,299,600.00
				CONSTRUCTION CONTINGENCY (25%)	\$2,824,900.00
				ENGINEERING DESIGN FEE (13%)	\$1,468,948.00
				CONTRACT ADMINISTRATION / CONSTRUCTION INSPECTION (10%)	\$1,129,960.00
				UTILITIES / SERVICES RELOCATION COST (15%)	\$1,694,940.00
	TOTAL PRELIMINARY PROJECT COST ESTIMATE				\$18,418,348.00