

Appendix M
Detailed Cost Estimate



Detailed Summary Report

Project: 476148-11-ERWS-10pct-tj
 Project No.: 476148
 Design Stage: Pre-Design

Estimator: Jones T
 Revision / Date: 01 - 06/04/2014
 Estimate Class: 4

userWBS	Facility	Work Pkg	Trade Pkg	Description	Takeoff Quantity	Total Cost/Unit	Total Amount
01.00				Intake and Raw Water Pump Station			
	001			River Intake			
		03.0		Concrete Work			
			03-10	Cast-In-Place Concrete Work			
				Intake Structure	1.00 LS	190,192.50 /LS	190,193
				03-10 Cast-In-Place Concrete Work	150.00 M3	1,267.95 /M3	190,193
				03.0 Concrete Work	150.00 M3	1,267.95 /M3	190,193
		11.0		Process Equipment			
			11-00	Equipment			
				Intake Screens	2.00 EA	190,192.50 /EA	380,385
				11-00 Equipment	1.00 LS	380,385.00 /LS	380,385
				11.0 Process Equipment	1.00 LS	380,385.00 /LS	380,385
				001 River Intake	1.00 LS	570,577.50 /LS	570,578
	002			Raw Water Pump Station			
		03.0		Concrete Work			
			03-10	Cast-In-Place Concrete Work			
				Footings	19.20 M3	880.65 /M3	16,908
				Stem Walls	43.20 M3	1,565.37 /M3	67,624
				Slab on Grade	15.00 M3	893.65 /M3	13,405
				03-10 Cast-In-Place Concrete Work	77.40 M3	1,265.34 /M3	97,937
				03.0 Concrete Work	77.40 M3	1,265.34 /M3	97,937
		11.0		Process Equipment			
			11-00	Equipment			
				Vertical Turbine Pump	3.00 EA	462,607.49 /EA	1,387,822
				11-00 Equipment	1.00 LS	1,387,822.46 /LS	1,387,822
				11.0 Process Equipment	1.00 LS	1,387,822.46 /LS	1,387,822
		13.0		Special Construction			
			13-00	Special Construction			
				Pump Station Building	100.00 M2	2,092.12 /M2	209,212
				13-00 Special Construction	100.00 M2	2,092.12 /M2	209,212
				13.0 Special Construction	100.00 M2	2,092.12 /M2	209,212
				002 Raw Water Pump Station	1.00 LS	1,694,971.29 /LS	1,694,971
				01.00 Intake and Raw Water Pump Station	1.00 LS	2,265,548.79 /LS	2,265,549

Estimate Totals

Description	Amount	Totals	Rate
Labor	53,189		
Material	42,987		
Subcontract	2,169,307		
Equipment	66		
Other			
Total Contractor Markups	2,265,549	2,265,549	
Contingency - %	566,387		25.000 %
Total Contingency	566,387	2,831,936	
Escalation to Midpoint 2016	48,422		2.710 %
Construction Total	48,422	2,880,358	
GST	144,018		5.000 %
Provincial Sales Tax (PST)	201,625		7.000 %
Construction Total (w/ Taxes)	345,643	3,226,001	



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userWBS	Facility	Work Pkg	Trade Pkg	Description	Takeoff Quantity	Total Cost/Unit	Total Amount
02.00				Raw Water Main			
	006			Site Improvements - Access Road and Raw Water Transmission Main			
		31.0		Earthwork			
			31-11	Clearing and Grubbing			
				Clearing and Grubbing	1,000.00 M2	6.34 /M2	6,340
				31-11 Clearing and Grubbing	1,000.00 M2	6.34 /M2	6,340
			31-22	Grading			
				Finish Grading	1.00 LS	24,725.03 /LS	24,725
				31-22 Grading	1.00 LS	24,725.03 /LS	24,725
			31-23	Excavation and Fill			
				Subgrade Preparation	750.00 M3	31.70 /M3	23,774
				Excavation	380.00 M	105.11 /M	39,940
				Dewatering	1.00 LS	38,038.50 /LS	38,039
				Fill	2,500.00 M3	74.05 /M3	185,121
				31-23 Excavation and Fill	1.00 LS	286,873.69 /LS	286,874
				31.0 Earthwork	1.00 LS	317,938.47 /LS	317,938
		32.0		Exterior Improvements			
			32-11	Base Courses			
				Aggregate Base Courses	1,950.00 M2	25.36 /M2	49,450
				Aggregate Surfacing	1,950.00 M2	31.70 /M2	61,813
				32-11 Base Courses	1,950.00 M2	57.06 /M2	111,263
			32-92	Turfs and Grasses			
				Hydro-Mulching	3,900.00 M2	4.88 /M2	19,038
				32-92 Turfs and Grasses	1.00 LS	19,038.27 /LS	19,038
				32.0 Exterior Improvements	1.00 LS	130,300.88 /LS	130,301
		33.0		Utilities			
			33-20	Water Utilities			
				Transmission Main	390.00 M	964.46 /M	376,137
				Water Valves	2.00 EA	20,921.17 /EA	41,842
				33-20 Water Utilities	1.00 LS	417,979.72 /LS	417,980
			33-40	Storm Drainage Utilitites			
				Culverts	40.00 M	633.98 /M	25,359
				33-40 Storm Drainage Utilitites	1.00 LS	25,359.00 /LS	25,359
				33.0 Utilities	1.00 LS	443,338.72 /LS	443,339
		34.0		Transportation			
			34-72	Railway Construction			
				Railway Line	1.00 LS	19,019.25 /LS	19,019
				34-72 Railway Construction	1.00 LS	19,019.25 /LS	19,019
				34.0 Transportation	1.00 LS	19,019.25 /LS	19,019
				006 Site Improvements - Access Road and Raw Water Transmission Main	1.00 LS	910,597.32 /LS	910,597
				02.00 Raw Water Main	1.00 LS	910,597.32 /LS	910,597



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Estimate Totals

Description	Amount	Totals	Rate
Labor			
Material			
Subcontract	910,597		
Equipment			
Other			
Total Contractor Markups	910,597	910,597	
Contingency - %	227,649		25.000 %
Total Contingency	227,649	1,138,246	
Escalation to Midpoint 2016	19,462		2.710 %
Construction Total	19,462	1,157,708	
GST	57,885		5.000 %
Provincial Sales Tax (PST)	81,040		7.000 %
Construction Total (w/ Taxes)	138,925	1,296,633	



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userWBS	Facility	Work Pkg	Trade Pkg	Description	Takeoff Quantity	Total Cost/Unit	Total Amount
03.00				Water Treatment Plant			
	003			Water Treatment Plant			
		03.0		Concrete Work			
			03-10	Cast-In-Place Concrete Work			
				Slab on Grade	42.15 M3	960.57 /M3	40,488
				Foundation Slabs	675.30 M2	584.30 /M2	394,577
				Concrete Walls	650.16 M3	1,537.34 /M3	999,517
				Elevated Slab	67.50 M3	1,578.47 /M3	106,547
				03-10 Cast-In-Place Concrete Work	1,435.11 M3	1,073.88 /M3	1,541,129
				03.0 Concrete Work	1,435.11 M3	1,073.88 /M3	1,541,129
		11.0		Process Equipment			
			11-00	Equipment			
				Pall - Large: MF_UF	1.00 LS	4,741,692.18 /LS	4,741,692
				UV Disinfection	2.00 EA	453,631.86 /EA	907,264
				Sand Separator	3.00 EA	72,273.15 /EA	216,819
				Liquid Chemical: SodHydro	1.00 LS	166,342.65 /LS	166,343
				Recarbonation CO2 Feedsys	1.00 LS	255,947.12 /LS	255,947
				Liquid Chemical: Coag PACL	1.00 LS	129,711.85 /LS	129,712
				11-00 Equipment	1.00 LS	6,417,776.97 /LS	6,417,777
				11.0 Process Equipment	1.00 LS	6,417,776.97 /LS	6,417,777
		13.0		Special Construction			
			13-00	Special Construction			
				Pre-Engineered Building	1,219.00 M2	268.47 /M2	327,260
				13-00 Special Construction	1,219.00 M2	268.47 /M2	327,260
				13.0 Special Construction	1,219.00 M2	268.47 /M2	327,260
		26.0		Electrical			
			26-00	Electrical			
				Emergency Generator	1.00 LS	1,267,950.00 /LS	1,267,950
				26-00 Electrical	1.00 LS	1,267,950.00 /LS	1,267,950
				26.0 Electrical	1.00 LS	1,267,950.00 /LS	1,267,950
		32.0		Exterior Improvements			
			32-90	Landscaping			
				Site Preparation	1.00 LS	42,116.23 /LS	42,116
				Hard Landscape	1.00 LS	242,394.00 /LS	242,394
				Soft Landscape	1.00 LS	405,439.68 /LS	405,440
				Site Features	1.00 LS	252,353.77 /LS	252,354
				32-90 Landscaping	1.00 LS	942,303.68 /LS	942,304
				32.0 Exterior Improvements	1.00 LS	942,303.68 /LS	942,304
		33.0		Utilities			
			33-25	Water Utility Distribution Equipment			
				Water Utility Pumping Stations	1.00 LS	306,843.90 /LS	306,844
				33-25 Water Utility Distribution Equipment	1.00 LS	306,843.90 /LS	306,844
				33.0 Utilities	1.00 LS	306,843.90 /LS	306,844
		40.0		Process Integration			
			40-20	Exposed Valves			
				Liquids Process Piping	27.50 M	11,508.38 /M	316,480
				40-20 Exposed Valves	1.00 LS	316,480.32 /LS	316,480
			40-91	Process Measurement Devices			
				Instrumentation	1.00 LS	34,868.62 /LS	34,869
				40-91 Process Measurement Devices	1.00 LS	34,868.62 /LS	34,869
				40.0 Process Integration	1.00 LS	351,348.94 /LS	351,349
				003 Water Treatment Plant	1.00 LS	11,154,612.32 /LS	11,154,612
				03.00 Water Treatment Plant	1.00 LS	11,154,612.32 /LS	11,154,612



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Estimate Totals

Description	Amount	Totals	Rate
Labor	632,722		
Material	794,348		
Subcontract	9,727,127		
Equipment	416		
Other			
Total Contractor Markups	11,154,613	11,154,613	
Contingency - %	2,788,653		25.000 %
Total Contingency	2,788,653	13,943,266	
Escalation to Midpoint 2016	238,408		2.710 %
Construction Total	238,408	14,181,674	
GST	709,084		5.000 %
Provincial Sales Tax (PST)	992,717		7.000 %
Construction Total (w/ Taxes)	1,701,801	15,883,475	



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userWBS	Facility	Work Pkg	Trade Pkg	Description	Takeoff Quantity	Total Cost/Unit	Total Amount
04.00				Siteworks			
	005			Site Improvements - Water Treatment Plant			
		02.0		Existing Conditions			
			02-41	Demolition			
				Remove Existing Utilities	1.00 LS	12,679.50 /LS	12,680
				02-41 Demolition	1.00 LS	12,679.50 /LS	12,680
				02.0 Existing Conditions	1.00 LS	12,679.50 /LS	12,680
		31.0		Earthwork			
			31-22	Grading			
				Parking Lot Grading	1.00 LS	129,330.90 /LS	129,331
				31-22 Grading	1.00 LS	129,330.90 /LS	129,331
				31.0 Earthwork	1.00 LS	129,330.90 /LS	129,331
		32.0		Exterior Improvements			
			32-12	Flexible Paving			
				Impervious Asphalt	9,500.00 M2	123.06 /M2	1,169,050
				32-12 Flexible Paving	9,500.00 M2	123.06 /M2	1,169,050
			32-14	Unit Paving			
				Porous Paving	310.00 M2	155.43 /M2	48,182
				32-14 Unit Paving	310.00 M2	155.43 /M2	48,182
			32-16	Curb and Gutters			
				Cast in Place Concrete Curb and Gutters	1,210.00 M	151.11 /M	182,838
				32-16 Curb and Gutters	1,210.00 M	151.11 /M	182,838
			32-17	Paving Specialities			
				Parking Lot Line Painting	1.00 LS	2,092.13 /LS	2,092
				Signs	10.00 EA	633.98 /EA	6,340
				32-17 Paving Specialities	1.00 LS	8,431.88 /LS	8,432
			32-90	Landscaping			
				Site Preparation	1.00 LS	12,172.32 /LS	12,172
				Hard Landscape	1.00 LS	6,618.70 /LS	6,619
				Soft Landscape	1.00 LS	75,633.21 /LS	75,633
				Site Features	1.00 LS	47,167.74 /LS	47,168
				32-90 Landscaping	1.00 LS	141,591.97 /LS	141,592
				32.0 Exterior Improvements	1.00 LS	1,550,094.24 /LS	1,550,094
		33.0		Utilities			
			33-20	Water Utilities			
				600 mm Steel RW	190.00 M	1,293.31 /M	245,729
				200 mm PVC FPW	330.00 M	539.46 /M	178,020
				75 mm DI W	300.00 M	195.26 /M	58,579
				33-20 Water Utilities	1.00 LS	482,328.18 /LS	482,328
			33-30	Sanitary Sewer Utilities			
				Sanitary Sewer System	295.00 M	448.94 /M	132,437
				33-30 Sanitary Sewer Utilities	1.00 LS	132,437.38 /LS	132,437
			33-40	Storm Drainage Utilitites			
				Storm Sewer Systems	528.00 M	523.37 /M	276,337
				Infiltration Facility	1.00 LS	46,647.88 /LS	46,648
				33-40 Storm Drainage Utilitites	1.00 LS	322,984.90 /LS	322,985
			33-50	Fuel Distribution Lines			
				Natural Gass Supply System	1.00 LS	20,287.20 /LS	20,287
				33-50 Fuel Distribution Lines	1.00 LS	20,287.20 /LS	20,287
				33.0 Utilities	1.00 LS	958,037.66 /LS	958,038
				005 Site Improvements - Water Treatment Plant	1.00 LS	2,650,142.30 /LS	2,650,142
				04.00 Siteworks	1.00 LS	2,650,142.30 /LS	2,650,142



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Description	Amount	Totals	Rate
Labor			
Material			
Subcontract	2,650,142		
Equipment			
Other			
Total Contractor Markups	2,650,142	2,650,142	
Contingency - %	662,536		25.000 %
Total Contingency	662,536	3,312,678	
Escalation to Midpoint 2016	56,642		2.710 %
Construction Total	56,642	3,369,320	
GST	168,466		5.000 %
Provincial Sales Tax (PST)	235,852		7.000 %
Construction Total (w/ Taxes)	404,318	3,773,638	



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userWBS	Facility	Work Pkg	Trade Pkg	Description	Takeoff Quantity	Total Cost/Unit	Total Amount
05.01				Operations Building (RDN)			
	004			Operations Building			
		13.0		Special Construction			
			13-00	Special Construction			
				Wood Framed Office Building (2014 RS Means SF Cost)	62.80 M2	1,711.26 /M2	107,467
				13-00 Special Construction	62.80 M2	1,711.26 /M2	107,467
				13.0 Special Construction	62.80 M2	1,711.26 /M2	107,467
				004 Operations Building	62.80 M2	1,711.26 /M2	107,467
				05.01 Operations Building (RDN)	62.80 M2	1,711.26 /M2	107,467

Estimate Totals

Description	Amount	Totals	Rate
Labor			
Material			
Subcontract	107,467		
Equipment			
Other			
Total Contractor Markups	107,467	107,467	
Contingency - %	26,867		25.000 %
Total Contingency	26,867	134,334	
Escalation to Midpoint 2016	2,297		2.710 %
Construction Total	2,297	136,631	
GST	6,832		5.000 %
Provincial Sales Tax (PST)	9,564		7.000 %
Construction Total (w/ Taxes)	16,396	153,027	



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userWBS	Facility	Work Pkg	Trade Pkg	Description	Takeoff Quantity	Total Cost/Unit	Total Amount
05.02				Operations Building (City of Parkville)			
	004			Operations Building			
		13.0		Special Construction			
			13-00	Special Construction			
				Wood Framed Office Building (2014 RS Means SF Cost)	541.05 M2	1,711.26 /M2	925,874
				13-00 Special Construction	541.05 M2	1,711.26 /M2	925,874
				13.0 Special Construction	541.05 M2	1,711.26 /M2	925,874
				004 Operations Building	541.05 M2	1,711.26 /M2	925,874
				05.02 Operations Building (City of Parkville)	541.05 M2	1,711.26 /M2	925,874

Estimate Totals

Description	Amount	Totals	Rate
Labor			
Material			
Subcontract	925,874		
Equipment			
Other			
Total Contractor Markups	925,874	925,874	
Contingency - %	231,469		25.000 %
Total Contingency	231,469	1,157,343	
Escalation to Midpoint 2016	19,789		2.710 %
Construction Total	19,789	1,177,132	
GST	58,857		5.000 %
Provincial Sales Tax (PST)	82,399		7.000 %
Construction Total (w/ Taxes)	141,256	1,318,388	



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userWBS	Facility	Work Pkg	Trade Pkg	Description	Takeoff Quantity	Total Cost/Unit	Total Amount
07.01				Transmission Mains - City of Parksville			
	007			Site Improvements - Transmission			
		33.0		Utilities			
			33-10	Transmission Mains			
				W01	4,850.00 M	841.06 /M	4,079,122
				33-10 Transmission Mains	1.00 LS	4,079,121.95 /LS	4,079,122
				33.0 Utilities	1.00 LS	4,079,121.95 /LS	4,079,122
				007 Site Improvements - Transmission	1.00 LS	4,079,121.95 /LS	4,079,122
				07.01 Transmission Mains - City of Parksville	1.00 LS	4,079,121.95 /LS	4,079,122

Estimate Totals

Description	Amount	Totals	Rate
Labor			
Material			
Subcontract	4,079,122		
Equipment			
Other			
Total Contractor Markups	4,079,122	4,079,122	
Contingency - %	1,019,780		25.000 %
Total Contingency	1,019,780	5,098,902	
Escalation to Midpoint 2016	87,183		2.710 %
Construction Total	87,183	5,186,085	
GST	259,304		5.000 %
Provincial Sales Tax (PST)	363,026		7.000 %
Construction Total (w/ Taxes)	622,330	5,808,415	



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07.02				Transmission Mains - ERWS			
	007			Site Improvements - Transmission			
		33.0		Utilities			
			33-10	Transmission Mains			
				W02	1,110.00 M	496.67 /M	551,305
				33-10 Transmission Mains	1.00 LS	551,304.66 /LS	551,305
				33.0 Utilities	1.00 LS	551,304.66 /LS	551,305
				007 Site Improvements - Transmission	1.00 LS	551,304.66 /LS	551,305
				07.02 Transmission Mains - ERWS	1.00 LS	551,304.66 /LS	551,305

Estimate Totals

Description	Amount	Totals	Rate
Labor			
Material			
Subcontract	551,305		
Equipment			
Other			
Total Contractor Markups	551,305	551,305	
Contingency - %	137,826		25.000 %
Total Contingency	137,826	689,131	
Escalation to Midpoint 2016	11,783		2.710 %
Construction Total	11,783	700,914	
GST	35,046		5.000 %
Provincial Sales Tax (PST)	49,064		7.000 %
Construction Total (w/ Taxes)	84,110	785,024	



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06.01				Distribution System Improvements - (RND)			
	005			Site Improvements			
		33.0		Utilities			
			33-10	Transmission Mains			
				W4	460.00 M	729.07 /M	335,373
				33-10 Transmission Mains	1.00 LS	335,372.78 /LS	335,373
			33-11	Reservoirs			
				R02 - Fairwinds Reservoir Upgrade	1.00 LS	811,488.00 /LS	811,488
				33-11 Reservoirs	1.00 LS	811,488.00 /LS	811,488
			33-12	Pump Stations			
				P01 - NBP Supply Pump	1.00 LS	1,954,798.51 /LS	1,954,799
				33-12 Pump Stations	1.00 LS	1,954,798.51 /LS	1,954,799
				33.0 Utilities	1.00 LS	3,101,659.29 /LS	3,101,659
				005 Site Improvements	1.00 LS	3,101,659.29 /LS	3,101,659
				06.01 Distribution System Improvements - (RND)	1.00 LS	3,101,659.29 /LS	3,101,659

Estimate Totals

Description	Amount	Totals	Rate
Labor			
Material			
Subcontract	3,101,659		
Equipment			
Other			
Total Contractor Markups	3,101,659	3,101,659	
Contingency - %	775,415		25.000 %
Total Contingency	775,415	3,877,074	
Escalation to Midpoint 2018	159,248		6.510 %
Construction Total	159,248	4,036,322	
GST	201,816		5.000 %
Provincial Sales Tax (PST)	282,543		7.000 %
Construction Total (w/ Taxes)	484,359	4,520,681	



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06.02				Distribution System Improvements - (City of Parksville)			
	005			Site Improvements			
		33.0		Utilities			
			33-12	Pump Stations			
				P03	1.00 LS	73,033.92 /LS	73,034
				33-12 Pump Stations	1.00 LS	73,033.92 /LS	73,034
				33.0 Utilities	1.00 LS	73,033.92 /LS	73,034
				005 Site Improvements	1.00 LS	73,033.92 /LS	73,034
				06.02 Distribution System Improvements - (City of Parksville)	1.00 LS	73,033.92 /LS	73,034

Estimate Totals

Description	Amount	Totals	Rate
Labor			
Material			
Subcontract	73,034		
Equipment			
Other			
Total Contractor Markups	73,034	73,034	
Contingency - %	18,258		25.000 %
Total Contingency	18,258	91,292	
Escalation to Midpoint 2018	3,750		6.510 %
Construction Total	3,750	95,042	
GST	4,752		5.000 %
Provincial Sales Tax (PST)	6,653		7.000 %
Construction Total (w/ Taxes)	11,405	106,447	