## **DISCUSSION PAPER 036-DP-2**

# **APPENDIX C - Detailed Capital Cost Tables**







Revision Date: March 6, 2009 Latest Revision by: M Maynard

File: 20062935.04.E.06.00

### CAPITAL REGIONAL DISTRICT CORE AREA WASTEWATER MANAGEMENT STRATEGY PROGRAM DEVELOPMENT PHASE

#### **SUMMARY OF TOTAL ESTIMATED COSTS**

Options	Descriptions	Total Estimated Costs Million Dollars
OPTION 1		Willion Dollars
	Capital Costs Stage 1 Stage 2 Total Capital Costs	\$1,039 \$64 <b>\$1,103</b>
	Life Cycle Costs	\$1,174
OPTION 2		
	Capital Costs Stage 1 Stage 2 Stage 3 Total Capital Costs Life Cycle Costs	\$1,444 \$84 \$16 <b>\$1,543</b>
OPTION 3		
	Capital Costs Stage 1 Stage 2 Stage 3 Total Capital Costs	\$1,771 \$66 \$15 <b>\$1,852</b>
	Life Cycle Costs	\$1,666

#### Notes

- 1. Life cycle costs are based on a 4% real discount rate
- 2. Costs are in 2008 dollars

CAPITAL REGIONAL DISTRICT
CORE AREA WASTEWATER MANAGEMENT STRATEGY
PROGRAM DEVELOPMENT PHASE

OPTION 1

**SUMMARY - ESTIMATED CAPITAL COSTS** 

**ESTIMATED CAPITAL COSTS** 

Item	Saanich East WWTF	Clover Point Wet- Weather TF	South Colwood WWTF	Macaulay Point/McLoughlin Point WWTF	Hartland Biosolids Drying Facility	Wastewater Conveyance Modifications	Total
Item	\$Million	\$Million	\$Million	\$Million	\$Million	\$Million	\$Million
PLANT - LIQUID STREAM	финион	ψινιιιιοιι	ψινιιτιστι	ψινιιιιοιι	φινιιτιστι	ψινιιτίζιτ	ψινιιιιστι
Stage 1	\$118	\$141	\$88	\$314			\$662
Stage 2	\$10	ΨΙΨΙ	\$47	\$6			\$64
PLANT - SOLID STREAM							
Stage 1			\$48	\$90			\$139
PLANT RELATED CONVEYANCE							
Stage 1		\$19		\$20			\$39
OUTFALLS							
Stage 1	\$14	\$6	\$12	\$18			\$50
HEAT RECOVERY SYSTEM/PIPING							
Stage 1	\$1.1		\$1.6	\$5			\$8
LAND PURCHASE	\$7	\$5	\$2.0	\$7			\$20
WASTEWATER CONVEYANCE MODIFICATIONS							
Stage 1						\$68	\$68
HARTLAND BIOSOLIDS DRYING FACILITY							
Stage 1					\$53		\$53
TOTAL ESTIMATED CAPITAL COSTS	\$150	\$171	\$199	\$462	\$53	\$68	\$1,103

Note

check

\$1,103

<sup>1.</sup> Costs are in 2008 dollars and include indirect costs

CAPITAL REGIONAL DISTRICT CORE AREA WASTEWATER MANAGEMENT STRATEGY PROGRAM DEVELOPMENT PHASE

OPTION 1

ESTIMATED CAPITAL COSTS

					Saanich East WV	VTF	Clover	Point Wet-Wea	ather TF		South Colv	vood WWTF			Macaulay Po	int/McLoughlin	Point WWTF		Wastewater Conveyance Modifications	Hartland Biosolids Drying Facility		Check
				Plant - Liquid	Outfall	Heat Recovery	Plant - Liquid	Outfall	Plant Related	Plant - Liquid	Plant - Solids	Outfall	Heat Recovery	Influent sewer	Plant - Liquid	Plant - Solids	Outfall	Heat Recovery				
Item			Percentage	Stream <b>\$Million</b>	\$Million	System \$Million	Stream <b>\$Million</b>	\$Million	Conveyance \$Million	Stream <b>\$Million</b>	Stream <b>\$Million</b>	\$Million	System \$Million	\$Million	Stream \$Million	Stream <b>\$Million</b>	\$Million	System \$Million	\$Million	\$Million		(million dollars)
Direct Costs																						
Base Construction Cost Es Influent sewer Plant - Liquid Stream Plant - Solids Stream Plant Related Conveyance Outfall Heat Recovery System/Pipin				\$82,500,000	\$8,654,000	\$701,000	\$90,680,000	\$3,809,000	\$12,202,000	\$86,700,000	\$30,937,000	\$7,909,000	\$1,051,000	\$12,565,000	\$205,700,000	\$57,882,000	\$11,856,000	\$3,257,000		\$34,128,000		\$12,565,000 \$465,580,000 \$122,947,000 \$12,202,000 \$32,228,000 \$5,009,000
Other	Subtotal			\$82,500,000	\$8.654.000	\$701,000	\$90,680,000	\$3.809.000	\$12.202.000	\$86.700.000	\$30.937.000	\$7.909.000	\$1,051,000	\$12.565.000	\$205.700.000	\$57.882.000	\$11.856.000	\$3,257,000	\$43,499,000 \$43,499,000	\$34,128,000		\$43,499,000 \$694,030,000
Desires Ossations	Cubiciai		40.0	\$8,250,000	\$865.400	\$70,100		*-,,	\$1.220.200	\$8.670.000	\$3.093.700	\$790,900	\$105,100	\$1.256.500	\$20.570.000	\$5.788.200	\$1.185.600	\$325.700	\$4,349,900	\$3,412,800		\$69,403,000
Design Contingency Construction Contingency			10.0 15.0	\$12,375,000	\$1,298,100	\$105,150	\$9,068,000 \$13,602,000	\$380,900 \$571,350	\$1,830,300	\$13,005,000	\$4,640,550	\$1,186,350	\$105,100 \$157,650	\$1,884,750	\$30,855,000	\$8,682,300	\$1,778,400	\$488,550	\$6,524,850	\$5,119,200		\$104,104,500
	Subtotal			\$103,125,000	\$10,817,500	\$876,250	\$113,350,000	\$4,761,250	\$15,252,500	\$108,375,000	\$38,671,250	\$9,886,250	\$1,313,750	\$15,706,250	\$257,125,000	\$72,352,500	\$14,820,000	\$4,071,250	\$54,373,750	\$42,660,000		\$867,537,500
Indirect Costs																						
Engineering Administration Miscellaneous			15.0 3.0 2.0	\$15,468,750 \$3,093,750 \$2,062,500	\$1,622,625 \$324,525 \$216,350	\$131,438 \$26,288 \$17,525	\$17,002,500 \$3,400,500 \$2,267,000	\$714,188 \$142,838 \$95,225	\$2,287,875 \$457,575 \$305,050	\$16,256,250 \$3,251,250 \$2,167,500	\$5,800,688 \$1,160,138 \$773,425	\$1,482,938 \$296,588 \$197,725	\$197,063 \$39,413 \$26,275	\$2,355,938 \$471,188 \$314,125	\$38,568,750 \$7,713,750 \$5,142,500	\$10,852,875 \$2,170,575 \$1,447,050	\$2,223,000 \$444,600 \$296,400	\$610,688 \$122,138 \$81,425	\$8,156,063 \$1,631,213 \$1,087,475	\$6,399,000 \$1,279,800 \$853,200		\$130,130,625 \$26,026,125 \$17,350,750
	Subtotal			\$123,750,000	\$12,981,000	\$1,051,500	\$136,020,000	\$5,713,500	\$18,303,000	\$130,050,000	\$46,405,500	\$11,863,500	\$1,576,500	\$18,847,500	\$308,550,000	\$86,823,000	\$17,784,000	\$4,885,500	\$65,248,500	\$51,192,000		\$1,041,045,000
GST Interim Financing Inflation to Mid-Point of Cons	struction		0.0 4.0 0.0	\$0 \$4,950,000 \$0	\$0 \$519,240 \$0	\$0 \$42,060 \$0	\$0 \$5,440,800 \$0	\$0 \$228,540 \$0	\$0 \$732,120 \$0	\$0 \$5,202,000 \$0	\$0 \$1,856,220 \$0	\$0 \$474,540 \$0	\$0 \$63,060 \$0	\$0 \$753,900 \$0	\$0 \$12,342,000 \$0	\$0 \$3,472,920 \$0	\$0 \$711,360 \$0	\$0 \$195,420 \$0	\$0 \$2,609,940 \$0	\$0 \$2,047,680 \$0		\$0 \$41,641,800 \$0
Land Purchase				\$6,512,000			\$4,500,000			\$1,989,000					\$7,350,000							\$20,351,000
TOTAL CAPITAL COST				\$128,700,000	\$13,500,240	\$1,093,560	\$141,460,800	\$5,942,040	\$19,035,120	\$135,252,000	\$48,261,720	\$12,338,040	\$1,639,560	\$19,601,400	\$320,892,000	\$90,295,920	\$18,495,360	\$5,080,920	\$67,858,440	\$53,239,680	\$1,103,037,800 includes land costs	\$1,103,037,800
STAGED CAPITAL COST Stage 1 2		Year		\$118,404,000 \$10,296,000	\$13,500,240	\$1,093,560	\$141,460,800	\$5,942,040	\$19,035,120	\$87,913,800 \$47,338,200.00	\$48,261,720	\$12,338,040	\$1,639,560	\$19,601,400	\$314,474,160 \$6,417,840	\$90,295,920	\$18,495,360	\$5,080,920	\$67,858,440	\$53,239,680	\$1,038,985,760 \$64,052,040 \$1,103,037,800	

#### Notes

1 Costs are in 2008 dollars.

CAPITAL REGIONAL DISTRICT
CORE AREA WASTEWATER MANAGEMENT STRATEGY
PROGRAM DEVELOPMENT PHASE

OPTION 2

SUMMARY - ESTIMATED CAPITAL COSTS

ESTIMATED CAPITAL COSTS

Saanich East WWTF	Clover Point Wet- Weather TF	Ogden Point WWTF	South Colwood WWTF	Juan de Fuca WWTP	Macaulay Point/McLoughlin	Hartland Biosolids Drying	Wastewater Conveyance	Total
¢Million.	¢Million.	¢Million.	¢Million.	¢Million.				\$Million
ŞIVIIIION	\$WIIIIOH	ŞIVIIIIOII	ŞIVIIIIOTI	\$MIIIIOII	\$MIIIIOII	\$WIIIIOII	\$MIIIIOII	ŞIVIIIIOII
\$118	\$141	\$398	\$45	\$153	\$180			\$1,036
	Ψ1+1	ψοσο			ψισο			\$84
7.7			\$16	77.				\$16
					\$120			\$120
	\$13	\$1.3			\$20			\$34
					\$24			\$24
\$14	\$6	\$6	\$7	\$6	\$15			\$54
\$1.1		\$1.6	\$0.8	\$1.9	\$3			\$8
\$7	\$5	\$3	\$2.0	\$4	\$7			\$27
							\$87	\$87
						\$53		\$53
\$150	\$165	\$410	\$93	\$216	\$370	\$53	\$87	\$1,543
	\$118 \$110 \$118 \$10 \$14 \$1.1 \$7	\$Million \$Million \$Million \$\\$\$ \$118 \$\\$\$ \$141 \$\\$\$ \$10 \$\\$\$ \$13 \$\\$\$ \$14 \$\\$\$ \$6 \$\\$\$ \$1.1 \$\\$\$ 7 \$\\$\$ \$5	WWTF         Weather TF         WWTF           \$Million         \$Million           \$118         \$141         \$398           \$10         \$13         \$1.3           \$13         \$1.3         \$1.4           \$14         \$6         \$6           \$1.1         \$1.6         \$3           \$7         \$5         \$3	WWTF         Weather TF         WWTF         WWTF           \$Million         \$Million         \$Million           \$118         \$141         \$398         \$45           \$10         \$22         \$16           \$16         \$16         \$16           \$13         \$1.3         \$1.3           \$14         \$6         \$6         \$7           \$1.1         \$1.6         \$0.8           \$7         \$5         \$3         \$2.0	WWTF         Weather TF         WWTF         WWTF         WWTP           \$Million         \$Million         \$Million         \$Million           \$118         \$141         \$398         \$45         \$153           \$10         \$22         \$51           \$16         \$16           \$13         \$1.3           \$14         \$6         \$6         \$7         \$6           \$1.1         \$1.6         \$0.8         \$1.9           \$7         \$5         \$3         \$2.0         \$4	WWTF         Weather TF         WWTF         WWTF         WWTP Point/McLoughlin Point WWTF           \$Million         \$Million         \$Million         \$Million           \$118         \$141         \$398         \$45         \$153         \$180           \$10         \$22         \$51         \$16         \$16           \$13         \$1.3         \$20           \$14         \$6         \$6         \$7         \$6         \$15           \$1.1         \$1.6         \$0.8         \$1.9         \$3           \$7         \$5         \$3         \$2.0         \$4         \$7	WWTF         Weather TF         WWTF         WWTF         WWTP Point/McLoughlin Point WWTF Facility         Biosolids Drying Facility           \$Million         \$Million         \$Million         \$Million         \$Million         \$Million           \$118         \$141         \$398         \$45         \$153         \$180         \$180           \$10         \$16         \$16         \$120         \$120         \$120         \$120           \$13         \$1.3         \$1.3         \$20         \$24         \$24         \$14         \$6         \$6         \$7         \$6         \$15         \$15         \$15         \$1.1         \$1.6         \$0.8         \$1.9         \$3         \$7         \$6         \$7         \$6         \$7         \$6         \$7         \$6         \$6         \$7         \$6         \$7         \$6         \$7         \$6         \$7         \$6         \$7         \$6         \$7         \$6         \$7         \$6         \$7         \$6         \$7         \$6         \$7         \$6         \$7         \$6         \$7         \$6         \$7         \$6         \$7         \$6         \$7         \$6         \$7         \$6         \$7         \$6         \$7         \$6	WWTF

Note

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<sup>1.</sup> Costs are in 2008 dollars and include indirect costs

CAPITAL REGIONAL DISTRICT CORE AREA WASTEWATER MANAGEMENT STRATEGY PROGRAM DEVELOPMENT PHASE

OPTION 2

ESTIMATED CAPITAL COSTS

ESTIMATED CAPITAL COS	15		5	Saanich East WWT	F	Clove	r Point Wet-Weat	ther TF		Ogden Pe	oint WWTF		S	outh Colwood WW	TF	J	uan de Fuca WWT	rP		N	Macaulay Point/McI	oughlin Point WW	TF					
			Plant - Liquid Stream	Outfall	Heat Recovery System	Plant - Liquid Stream	Outfall	Plant Related Conveyance	Plant - Liquid Stream	Outfall	Plant Related Conveyance	Heat Recovery System	Plant - Liquid Stream	Outfall	Heat Recovery System	Plant - Liquid Stream	Outfall	Heat Recovery System	Influent sewer	Plant - Liquid Stream	Plant - Solids Stream	Wet Weather Stream	Outfall	Heat Recovery System	Wastewater Conveyance Modifications	Hartland Biosolids Drying Facility		Check
Item		Percentage	\$Million	\$Million	\$Million	\$Million	\$Million	\$Million	\$Million	\$Million	\$Million	\$Million	\$Million	\$Million	\$Million	\$Million	\$Million	\$Million	\$Million	\$Million	\$Million	\$Million	\$Million	\$Million	(million dollars)	(million dollars)		(million dollars)
Direct Costs																												
Base Construction Cost Es Influent sewer Plant - Liquid Stream Plant - Solids Stream plant - Wet Weather Stream Plant Related Conveyance	timate		\$82,500,000			\$90,680,000		\$8,133,000	\$255,100,000		\$820,000		\$53,200,000			\$130,800,000			\$12,565,000	\$115,500,000	\$77,229,000	\$15,600,000				\$34,128,000		\$12,565,000 \$727,780,000 \$111,357,000 \$15,600,000 \$8,953,000
Outfall Heat Recovery System/Piping				\$8,654,000	\$701,000		\$3,809,000			\$4,018,000		\$1,051,000		\$4,394,000	\$526,000		\$4,082,000	\$1,226,000					\$9,880,000	\$1,809,000				\$34,837,000 \$5,313,000
Other	Subtotal		\$82,500,000	\$8,654,000	\$701,000	\$90,680,000	\$3,809,000	\$8,133,000	\$255,100,000	\$4,018,000	\$820,000	\$1,051,000	\$53,200,000	\$4,394,000	\$526,000	\$130,800,000	\$4,082,000	\$1,226,000	\$12,565,000	\$115,500,000	\$77,229,000	\$15,600,000	\$9,880,000	\$1,809,000	\$55,599,000 \$55,599,000	\$34,128,000		\$55,599,000 \$972,004,000
Design Contingency Construction Contingency		10.0 15.0	\$8,250,000 \$12,375,000	\$865,400 \$1,298,100	\$70,100 \$105,150	\$9,068,000 \$13,602,000	\$380,900 \$571,350	\$813,300 \$1,219,950	\$25,510,000 \$38,265,000	\$401,800 \$602,700	\$82,000 \$123,000	\$105,100 \$157,650	\$5,320,000 \$7,980,000	\$439,400 \$659,100	\$52,600 \$78,900	\$13,080,000 \$19,620,000	\$408,200 \$612,300	\$122,600 \$183,900	\$1,256,500 \$1,884,750	\$11,550,000 \$17,325,000	\$7,722,900 \$11,584,350	\$1,560,000 \$2,340,000	\$988,000 \$1,482,000	\$180,900 \$271,350	\$5,559,900 \$8,339,850	\$3,412,800 \$5,119,200		\$0 \$97,200,400 \$145,800,600 \$0
	Subtotal		\$103,125,000	\$10,817,500	\$876,250	\$113,350,000	\$4,761,250	\$10,166,250	\$318,875,000	\$5,022,500	\$1,025,000	\$1,313,750	\$66,500,000	\$5,492,500	\$657,500	\$163,500,000	\$5,102,500	\$1,532,500	\$15,706,250	\$144,375,000	\$96,536,250	\$19,500,000	\$12,350,000	\$2,261,250	\$69,498,750	\$42,660,000		\$1,215,005,000
Indirect Costs																												
Engineering Administration Miscellaneous		15.0 3.0 2.0	\$15,468,750 \$3,093,750 \$2,062,500	\$1,622,625 \$324,525 \$216,350	\$131,438 \$26,288 \$17,525	\$17,002,500 \$3,400,500 \$2,267,000	\$714,188 \$142,838 \$95,225	\$1,524,938 \$304,988 \$203,325	\$47,831,250 \$9,566,250 \$6,377,500	\$753,375 \$150,675 \$100,450	\$153,750 \$30,750 \$20,500	\$197,063 \$39,413 \$26,275	\$9,975,000 \$1,995,000 \$1,330,000	\$823,875 \$164,775 \$109,850	\$98,625 \$19,725 \$13,150	\$24,525,000 \$4,905,000 \$3,270,000	\$765,375 \$153,075 \$102,050	\$229,875 \$45,975 \$30,650	\$2,355,938 \$471,188 \$314,125	\$21,656,250 \$4,331,250 \$2,887,500	\$14,480,438 \$2,896,088 \$1,930,725	\$2,925,000 \$585,000 \$390,000	\$1,852,500 \$370,500 \$247,000	\$339,188 \$67,838 \$45,225	\$10,424,813 \$2,084,963 \$1,389,975	\$6,399,000 \$1,279,800 \$853,200		\$182,250,750 \$36,450,150 \$24,300,100
	Subtotal		\$123,750,000	\$12,981,000	\$1,051,500	\$136,020,000	\$5,713,500	\$12,199,500	\$382,650,000	\$6,027,000	\$1,230,000	\$1,576,500	\$79,800,000	\$6,591,000	\$789,000	\$196,200,000	\$6,123,000	\$1,839,000	\$18,847,500	\$173,250,000	\$115,843,500	\$23,400,000	\$14,820,000	\$2,713,500	\$83,398,500	\$51,192,000		\$1,458,006,000
GST Interim Financing Inflation to Mid-Point of Const	ruction	0.0 4.0 0.0	\$0 \$4,950,000 \$0	\$0 \$519,240 \$0	\$0 \$42,060 \$0	\$0 \$5,440,800 \$0	\$0 \$228,540 \$0	\$0 \$487,980 \$0	\$0 \$15,306,000 \$0	\$0 \$241,080 \$0	\$0 \$49,200 \$0	\$0 \$63,060 \$0	\$0 \$3,192,000 \$0	\$0 \$263,640 \$0	\$0 \$31,560 \$0	\$0 \$7,848,000 \$0	\$0 \$244,920 \$0	\$0 \$73,560 \$0	\$0 \$753,900 \$0	\$0 \$6,930,000 \$0	\$0 \$4,633,740 \$0	\$0 \$936,000 \$0	\$0 \$592,800 \$0	\$0 \$108,540 \$0	\$0 \$3,335,940 \$0	\$0 \$2,047,680 \$0		\$0 \$58,320,240 \$0
Land Purchase			\$6,512,000			\$4,500,000			\$3,150,000				\$1,989,000			\$3,672,000			\$7,350,000									\$27,173,000
TOTAL CAPITAL COST			\$128,700,000	\$13,500,240	\$1,093,560	\$141,460,800	\$5,942,040	\$12,687,480	\$397,956,000	\$6,268,080	\$1,279,200	\$1,639,560	\$82,992,000	\$6,854,640	\$820,560	\$204,048,000	\$6,367,920	\$1,912,560	\$19,601,400	\$180,180,000	\$120,477,240	\$24,336,000	\$15,412,800	\$2,822,040	\$86,734,440	\$53,239,680	\$1,543,499,240 includes land costs	\$1,543,499,240
STAGED CAPITAL COST Stage 1 2 3	Year		\$118,404,000 \$10,296,000	\$13,500,240	\$1,093,560	\$141,460,800	\$5,942,040	\$12,687,480	\$397,956,000	\$6,268,080	\$1,279,200	\$1,639,560	\$44,815,680 \$22,407,840 \$15,768,480	\$6,854,640	\$820,560	\$153,036,000 \$51,012,000	\$6,367,920	\$1,912,560	\$19,601,400	\$180,180,000	\$120,477,240	\$24,336,000	\$15,412,800	\$2,822,040	\$86,734,440	\$53,239,680	\$1,444,014,920 \$83,715,840 \$15,768,480 \$1,543,499,240	

#### Notes

Costs are in 2008 dollars.
 Includes Wet Weather TF

P.120062935104\_Concept\_PlanlEngineeringi06.00\_Cost\_Estimating/AE Cost Estimates MCMiest\_component\_cost\_sheet\_20090306.xls

March 6, 2009 M Maynard 20062935.04.E.06.00 Revision Date: Latest Revision by: File:

CAPITAL REGIONAL DISTRICT CORE AREA WASTEWATER MANAGEMENT STRATEGY PROGRAM DEVELOPMENT PHASE

OPTION 3

SUMMARY - ESTIMATED CAPITAL COSTS

ESTIMATED CAPITAL COSTS

Item	Saanich East WWTF	Windsor Park WWTF	Clover Point Wet- Weather TF	Ogden Point WWTF	South Colwood WWTF	Westhills WWTP	Florence Lake WWTF	Juan de Fuca WWTP	Lang Cove WWTP	Roderick WWTP	Macaulay Point/McLoughlin Point WWTF	Hartland Biosolids Drying Facility	Wastewater Conveyance Modifications	Royal Roads Organics Facility	Total
item	\$Million	\$Million	\$Million	\$Million	\$Million	\$Million	\$Million	\$Million	\$Million	\$Million	\$Million	\$Million	\$Million	\$Million	\$Million
PLANT - LIQUID STREAM	Ţ	Ţ	<b>V</b>	<b>V</b>	Ţ	Ţ	Ţ	<b>4</b>	<b>V</b>	Ţ	<b>V</b>	Ų	<b>V</b>	<b>V</b>	<b>—</b>
	\$125	\$139	\$141	\$237	\$41	\$72	\$36	\$164	\$57	\$181	\$104				\$1,297
Stage 2	·	·			\$20	\$4	\$8	\$18	\$15						\$66
Stage 1 Stage 2 Stage 3					\$14		\$0.9								\$15
PLANT - SOLID STREAM															
Stage 1											\$90			\$66	\$156
PLANT RELATED CONVEYANCE															
Stage 1			\$13	\$1.1							\$20				\$33
WET WEATHER TREATMENT STREAM															
Stage 1											\$24				\$24
OUTFALLS															
Stage 1	\$14	\$7	\$6	\$5	\$7	\$19	\$19	\$5	\$3	\$6	\$15				\$107
HEAT RECOVERY SYSTEM/PIPING															
Stage 1	\$1.1	\$1.0		\$1.2	\$0.8	\$0.8	\$0.5	\$1.0	\$0.8	\$1.2	\$2.0				\$10
LAND PURCHASE	\$7	\$5	\$5	\$3	\$2.0		\$0.2	\$4	\$1.0	\$0.7	\$7			\$0.5	\$35
WASTEWATER CONVEYANCE MODIFICATIONS															
Stage 1													\$54		\$54
HARTLAND BIOSOLIDS DRYING															
FACILITY					<u> </u>										
Stage 1												\$53			\$53
TOTAL ESTIMATED CAPITAL COSTS	\$146	\$152	\$165	\$247	\$85	\$96	\$65	\$192	\$78	\$189	\$263	\$53	\$54	\$67	<b>\$1,852</b> \$1,852

Note
1. Costs are in 2008 dollars and include indirect costs

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Revision Date: Latest Revision by: File:

March 6, 2009 M Maynard 20062935.04.E.06.00

CAPITAL REGIONAL DISTRICT CORE AREA WASTEWATER MANAGEMENT STRATEGY PROGRAM DEVELOPMENT PHASE

OPTION 3

ESTIMATED CAPITAL COSTS

ESTIMATED CAPITAL CO	OSTS			s	Saanich East WW	/TF	W	/indsor Park WW	TF	Clove	r Point Wet-Weat	her TF		Ogden Po	oint WWTF		So	outh Colwood WW	/TF		Westhills WWTP <sup>4</sup>		Fic
Item		Pe	ercentage	Plant - Liquid Stream <b>\$Million</b>	Outfall \$Million	Heat Recovery System \$Million	Plant - Liquid Stream <b>\$Million</b>	Outfall \$Million	Heat Recovery System \$Million	Plant - Liquid Stream <b>\$Million</b>	Outfall	Plant Related Conveyance \$Million	Plant - Liquid Stream <b>\$Million</b>	Outfall \$Million	Heat Recovery System \$Million	Plant Related Conveyance	Plant - Liquid Stream \$Million	Outfall \$Million	Heat Recovery System \$Million	Plant - Liquid Stream <b>\$Million</b>	Outfall \$Million	Heat Recovery System \$Million	Plant - Liquid Stream <b>\$Million</b>
Direct Costs																							
Base Construction Cost Es Influent sewer Plant - Liquid Stream Plant - Solids Stream Plant - Wet Weather Strea				\$80,100,000			\$88,900,000			\$90,680,000			\$151,800,000				\$48,200,000			\$48,900,000			\$28,800,000
Plant Related Conveyance Outfall Heat Recovery System/Pip Other					\$8,654,000	\$701,000		\$4,764,000	\$613,000		\$3,809,000	\$8,133,000		\$2,946,000	\$788,000	\$729,000		\$4,394,000	\$526,000		\$12,408,000	\$481,000	
Culci	Subtotal			\$80,100,000	\$8,654,000	\$701,000	\$88,900,000	\$4,764,000	\$613,000	\$90,680,000	\$3,809,000	\$8,133,000	\$151,800,000	\$2,946,000	\$788,000	\$729,000	\$48,200,000	\$4,394,000	\$526,000	\$48,900,000	\$12,408,000	\$481,000	\$28,800,000
Design Contingency Construction Contingency			10.0 15.0	\$8,010,000 \$12,015,000	\$865,400 \$1,298,100	\$70,100 \$105,150	\$8,890,000 \$13,335,000	\$476,400 \$714,600	\$61,300 \$91,950	\$9,068,000 \$13,602,000	\$380,900 \$571,350	\$813,300 \$1,219,950	\$15,180,000 \$22,770,000	\$294,600 \$441,900	\$78,800 \$118,200	\$72,900 \$109,350	\$4,820,000 \$7,230,000	\$439,400 \$659,100	\$52,600 \$78,900	\$4,890,000 \$7,335,000	\$1,240,800 \$1,861,200	\$48,100 \$72,150	\$2,880,000 \$4,320,000
	Subtotal			\$100,125,000	\$10,817,500	\$876,250	\$111,125,000	\$5,955,000	\$766,250	\$113,350,000	\$4,761,250	\$10,166,250	\$189,750,000	\$3,682,500	\$985,000	\$911,250	\$60,250,000	\$5,492,500	\$657,500	\$61,125,000	\$15,510,000	\$601,250	\$36,000,000
Indirect Costs																							
Engineering Administration Miscellaneous			15.0 3.0 2.0	\$15,018,750 \$3,003,750 \$2,002,500	\$1,622,625 \$324,525 \$216,350	\$131,438 \$26,288 \$17,525	\$16,668,750 \$3,333,750 \$2,222,500	\$893,250 \$178,650 \$119,100	\$114,938 \$22,988 \$15,325	\$17,002,500 \$3,400,500 \$2,267,000	\$714,188 \$142,838 \$95,225	\$1,524,938 \$304,988 \$203,325	\$28,462,500 \$5,692,500 \$3,795,000	\$552,375 \$110,475 \$73,650	\$147,750 \$29,550 \$19,700	\$136,688 \$27,338 \$18,225	\$9,037,500 \$1,807,500 \$1,205,000	\$823,875 \$164,775 \$109,850	\$98,625 \$19,725 \$13,150	\$9,168,750 \$1,833,750 \$1,222,500	\$2,326,500 \$465,300 \$310,200	\$90,188 \$18,038 \$12,025	\$5,400,000 \$1,080,000 \$720,000
	Subtotal			\$120,150,000	\$12,981,000	\$1,051,500	\$133,350,000	\$7,146,000	\$919,500	\$136,020,000	\$5,713,500	\$12,199,500	\$227,700,000	\$4,419,000	\$1,182,000	\$1,093,500	\$72,300,000	\$6,591,000	\$789,000	\$73,350,000	\$18,612,000	\$721,500	\$43,200,000
GST Interim Financing Inflation to Mid-Point of Co	nstruction		0.0 4.0 0.0	\$0 \$4,806,000 \$0	\$0 \$519,240 \$0	\$0 \$42,060 \$0	\$0 \$5,334,000 \$0	\$0 \$285,840 \$0	\$0 \$36,780 \$0	\$0 \$5,440,800 \$0	\$0 \$228,540 \$0	\$0 \$487,980 \$0	\$0 \$9,108,000 \$0	\$0 \$176,760 \$0	\$0 \$47,280 \$0	\$0 \$43,740 \$0	\$0 \$2,892,000 \$0	\$0 \$263,640 \$0	\$0 \$31,560 \$0	\$0 \$2,934,000 \$0	\$0 \$744,480 \$0	\$0 \$28,860 \$0	\$0 \$1,728,000 \$0
Land Purchase				\$6,512,000			\$5,000,000			\$4,500,000			\$3,150,000				\$1,989,000						\$157,500
TOTAL CAPITAL COST				\$124,956,000	\$13,500,240	\$1,093,560	\$138,684,000	\$7,431,840	\$956,280	\$141,460,800	\$5,942,040	\$12,687,480	\$236,808,000	\$4,595,760	\$1,229,280	\$1,137,240	\$75,192,000	\$6,854,640	\$820,560	\$76,284,000	\$19,356,480	\$750,360	\$44,928,000
STAGED CAPITAL COST Stage 1 2 3		Year		\$124,956,000	\$13,500,240	\$1,093,560	\$138,684,000	\$7,431,840	\$956,280	\$141,460,800	\$5,942,040	\$12,687,480	\$236,808,000	\$4,595,760	\$1,229,280	\$1,137,240	\$40,603,680 \$20,301,840 \$14,286,480	\$6,854,640	\$820,560	\$72,469,800 \$3,814,200	\$19,356,480	\$750,360	\$35,942,400 \$8,087,040 \$898,560

<sup>1</sup> Costs are in 2008 dollars.

Includes Wet Weather TF
 Outfall piping to Humpback Reservoir & Royal Bay split equally between Westhills & Florence Lake

orence Lake WWT	rF⁴				•							Ма	caulay Point/McL	oughlin Point WWT	rF³		Wastewater Conveyance Modifications	Hartland Biosolids Drying Facility	Royal Roads Organics Facility		Check
Outfall \$Million	Heat Recovery System \$Million	Plant - Liquid Stream <b>\$Million</b>	Outfall \$Million	Heat Recovery System \$Million	Plant - Liquid Stream <b>\$Million</b>	Outfall \$Million	Heat Recovery System \$Million	Plant - Liquid Stream <b>\$Million</b>	Outfall \$Million	Heat Recovery System \$Million	Influent sewer	Plant - Liquid Stream \$Million	Plant - Solids Stream \$Million	Plant - Wet Weather Stream \$Million	Outfall \$Million	Heat Recovery System \$Million	\$Million	\$Million	\$Million		(million dollars)
		\$116,900,000			\$46,500,000			\$116,200,000			\$12,565,000	\$66,500,000	\$57,841,000	\$15,600,000				\$34,128,000	\$42,418,000		\$12,565,000 \$883,480,000 \$134,387,000 \$15,600,000
\$12,408,000	\$350,000		\$3,334,000	\$613,000		\$2,124,000	\$526,000		\$3,790,000	\$788,000					\$9,880,000	\$1,267,000	\$34,921,000				\$8,862,000 \$68,511,000 \$6,653,000 \$34,921,000
\$12,408,000	\$350,000	\$116,900,000	\$3,334,000	\$613,000	\$46,500,000	\$2,124,000	\$526,000	\$116,200,000	\$3,790,000	\$788,000	\$12,565,000	\$66,500,000	\$57,841,000	\$15,600,000	\$9,880,000	\$1,267,000	\$34,921,000 \$34,921,000	\$34,128,000	\$42,418,000		\$1,164,979,000
\$1,240,800 \$1,861,200	\$35,000 \$52,500	\$11,690,000 \$17,535,000	\$333,400 \$500,100	\$61,300 \$91,950	\$4,650,000 \$6,975,000	\$212,400 \$318,600	\$52,600 \$78,900	\$11,620,000 \$17,430,000	\$379,000 \$568,500	\$78,800 \$118,200	\$1,256,500 \$1,884,750	\$6,650,000 \$9,975,000	\$5,784,100 \$8,676,150	\$1,560,000 \$2,340,000	\$988,000 \$1,482,000	\$126,700 \$190,050	\$3,492,100 \$5,238,150	\$3,412,800 \$5,119,200	\$4,241,800 \$6,362,700		\$116,497,900 \$174,746,850
\$15,510,000	\$437,500	\$146,125,000	\$4,167,500	\$766,250	\$58,125,000	\$2,655,000	\$657,500	\$145,250,000	\$4,737,500	\$985,000	\$15,706,250	\$83,125,000	\$72,301,250	\$19,500,000	\$12,350,000	\$1,583,750	\$43,651,250	\$42,660,000	\$53,022,500		\$1,456,223,750
\$2,326,500 \$465,300 \$310,200	\$65,625 \$13,125 \$8,750	\$21,918,750 \$4,383,750 \$2,922,500	\$625,125 \$125,025 \$83,350	\$114,938 \$22,988 \$15,325	\$8,718,750 \$1,743,750 \$1,162,500	\$398,250 \$79,650 \$53,100	\$98,625 \$19,725 \$13,150	\$21,787,500 \$4,357,500 \$2,905,000	\$710,625 \$142,125 \$94,750	\$147,750 \$29,550 \$19,700	\$2,355,938 \$471,188 \$314,125	\$12,468,750 \$2,493,750 \$1,662,500	\$10,845,188 \$2,169,038 \$1,446,025	\$2,925,000 \$585,000 \$390,000	\$1,852,500 \$370,500 \$247,000	\$237,563 \$47,513 \$31,675	\$6,547,688 \$1,309,538 \$873,025	\$6,399,000 \$1,279,800 \$853,200	\$7,953,375 \$1,590,675 \$1,060,450		\$218,433,563 \$43,686,713 \$29,124,475
\$18,612,000	\$525,000	\$175,350,000	\$5,001,000	\$919,500	\$69,750,000	\$3,186,000	\$789,000	\$174,300,000	\$5,685,000	\$1,182,000	\$18,847,500	\$99,750,000	\$86,761,500	\$23,400,000	\$14,820,000	\$1,900,500	\$52,381,500	\$51,192,000	\$63,627,000		\$0 \$1,747,468,500
\$0 \$744,480 \$0	\$0 \$21,000 \$0	\$0 \$7,014,000 \$0	\$0 \$200,040 \$0	\$0 \$36,780 \$0	\$0 \$2,790,000 \$0	\$0 \$127,440 \$0	\$0 \$31,560 \$0	\$0 \$6,972,000 \$0	\$0 \$227,400 \$0	\$0 \$47,280 \$0	\$0 \$753,900 \$0	\$0 \$3,990,000 \$0	\$0 \$3,470,460 \$0	\$0 \$936,000 \$0	\$0 \$592,800 \$0	\$0 \$76,020 \$0	\$0 \$2,095,260 \$0	\$0 \$2,047,680 \$0	\$0 \$2,545,080 \$0		\$0 \$69,898,740 \$0
		\$3,672,000			\$1,000,000			\$700,000			\$7,350,000								\$472,500		\$34,503,000
\$19,356,480	\$546,000	\$182,364,000	\$5,201,040	\$956,280	\$72,540,000	\$3,313,440	\$820,560	\$181,272,000	\$5,912,400	\$1,229,280	\$19,601,400	\$103,740,000	\$90,231,960	\$24,336,000	\$15,412,800	\$1,976,520	\$54,476,760	\$53,239,680	\$66,172,080	\$1,851,870,240 includes land costs	\$1,851,870,240
\$19,356,480	\$546,000	\$164,127,600 \$18,236,400	\$5,201,040	\$956,280	\$57,306,600 \$15,233,400	\$3,313,440	\$820,560	\$181,272,000	\$5,912,400	\$1,229,280	\$19,601,400	\$103,740,000	\$90,231,960	\$24,336,000	\$15,412,800	\$1,976,520	\$54,476,760	\$53,239,680	\$66,172,080	\$1,771,012,320 \$65,672,880 \$15,185,040 \$1,851,870,240	