

**CITY OF DAYTON  
Wastewater System Facilities Plan**

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**Collection System Improvement Preliminary Cost Estimates  
Treatment Alternatives Preliminary Cost Estimates**

**Appendix G**

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**Appendix G**  
Preliminary Collection System Cost Estimates  
Dayton Wastewater Facilities Plan  
2609.3010.0

6/1/2012

Priority	Project & Location(s)	Unit Cost Size (in)	(\$/LF) 6" - (\$/LF) 12" - (\$/LF) 18" -			# Manholes	# Services	# Manhole Rehabs	Other Costs	Constr Cost	10% Constr Contingency	20% Eng	5% Legal, Permits Easement, Admin	Total Project	Rounded Total	Total project costs rounded to nearest \$100			
			10" Length (ft)	16" Length (ft)	24" Length (ft)											Prior 1A	Prior 1B	Prior 2	Prior 3
1A	<b>Main Pump Station (Ferry &amp; Water)</b>								\$ 1,280,000.00	\$1,280,000	\$128,000	\$256,000	\$64,000	\$1,728,000	\$1,728,000	\$1,728,000	\$0	\$0	\$0
1A	<b>Main Pump Station Force Main (to WWTP) &amp; Bore Under the Yamhill River</b>	16		2400					\$ 975,000.00	\$1,359,000	\$135,900	\$271,800	\$67,950	\$1,834,650	\$1,835,000	\$1,835,000	\$0	\$0	\$0
	<b>Kreder Basin</b>																\$0		
1A	Reroute RV Park Forcemain	6	700						\$101,500	\$10,150	\$20,300	\$5,075	\$137,025	\$137,000	\$137,000	\$0	\$0	\$0	
	<b>9th Street Basin</b>								\$0										
1B	Ferry Street (9th Street P.S. to MH 34)	12		100		2	2		\$27,800	\$2,780	\$5,560	\$1,390	\$37,530	\$38,000	\$0	\$38,000	\$0	\$0	
1B	9th Street Pump Station							\$ 350,000.00	\$350,000	\$35,000	\$70,000	\$17,500	\$472,500	\$473,000	\$0	\$473,000	\$0	\$0	
1B	9th Street P.S. Force Main (P.S. to MH 11)	6	1550				2		\$227,750	\$22,775	\$45,550	\$11,388	\$307,463	\$307,000	\$0	\$307,000	\$0	\$0	
	<b>Main Central Basin</b>								\$0										
1B	Main Street ( MH 19 to Overflow)	24			300				\$54,000	\$5,400	\$10,800	\$2,700	\$72,900	\$73,000	\$0	\$73,000	\$0	\$0	
1B	Main Street (MH 19 to MH 20)	21			300	2	2		\$65,800	\$6,580	\$13,160	\$3,290	\$88,830	\$89,000	\$0	\$89,000	\$0	\$0	
	<b>Main South Basin</b>								\$0										
1B	Ferry Street (Main Pump Station to MH 3)	21			400	3	4		\$91,900	\$9,190	\$18,380	\$4,595	\$124,065	\$124,000	\$0	\$124,000	\$0	\$0	
1B	1st Street (MH 3 to MH 8)	18			1360	5	31		\$331,500	\$33,150	\$66,300	\$16,575	\$447,525	\$448,000	\$0	\$448,000	\$0	\$0	
1B	5th Street (MH 8 to MH 11)	15		860		3	9		\$168,500	\$16,850	\$33,700	\$8,425	\$227,475	\$227,000	\$0	\$227,000	\$0	\$0	
	<b>HWY 221 Basin</b>								\$0										
1B	HWY 221 Pump Station						1	\$ 770,000.00	\$771,500	\$77,150	\$154,300	\$38,575	\$1,041,525	\$1,042,000	\$0	\$1,042,000	\$0	\$0	
1B	HWY 221 P.S. Force Main (connect to existing)	6	120						\$17,400	\$1,740	\$3,480	\$870	\$23,490	\$23,000	\$0	\$23,000	\$0	\$0	
	<b>Main South Basin</b>								\$0										
2	1st Street (MH 3 to MH 71)	12		350		2	5		\$74,400	\$7,440	\$14,880	\$3,720	\$100,440	\$100,000	\$0	\$0	\$100,000	\$0	
2	1st Street (MH 71 to MH 76)	10		750		3	8		\$148,700	\$14,870	\$29,740	\$7,435	\$200,745	\$201,000	\$0	\$0	\$201,000	\$0	
	<b>Main Central Basin</b>								\$0										
2	Ferry Street (Main Pumps Station to MH 19)	24			320	2	4		\$73,800	\$7,380	\$14,760	\$3,690	\$99,630	\$100,000	\$0	\$0	\$100,000	\$0	
2	1st Street (MH 20 to MH 54)	12		360		2	10		\$87,000	\$8,700	\$17,400	\$4,350	\$117,450	\$117,000	\$0	\$0	\$117,000	\$0	
2	2nd Street (MH 54 to MH 58)	10	1260			4	28		\$259,100	\$25,910	\$51,820	\$12,955	\$349,785	\$350,000	\$0	\$0	\$350,000	\$0	
	<b>HWY 221 Basin</b>								\$0										
2	HWY 221 P.S. (Old PS Wet Well to MH 176)	10	950			4	5	1	\$ 5,000.00	\$170,050	\$17,005	\$34,010	\$8,503	\$229,568	\$230,000	\$0	\$0	\$230,000	\$0
	<b>Main North Basin</b>								\$0										
2	1st Street (MH 20 to MH 24)	18			1425	4	10		\$293,300	\$29,330	\$58,660	\$14,665	\$395,955	\$396,000	\$0	\$0	\$396,000	\$0	
2	3rd Street (MH 24 to MH 28)	18			1315	5	23		\$305,800	\$30,580	\$61,160	\$15,290	\$412,830	\$413,000	\$0	\$0	\$413,000	\$0	
	<b>Palmer Creek Basin</b>								\$0										
3	Palmer Creek P.S. Upgrades When School Connects							\$ 100,000.00	\$100,000	\$10,000	\$20,000	\$5,000	\$135,000	\$135,000	\$0	\$0	\$0	\$135,000	
	<b>Foster Basin</b>								\$0										
3	New Foster Pump Station							\$ 1,000,000.00	\$1,000,000	\$100,000	\$200,000	\$50,000	\$1,350,000	\$1,350,000	\$0	\$0	\$0	\$1,350,000	
3	New Foster Pump Station Force Main	8	3750			2			\$551,150	\$55,115	\$110,230	\$27,558	\$744,053	\$744,000	\$0	\$0	\$0	\$744,000	
<b>Totals</b>									\$7,909,950	\$790,995	\$1,581,990	\$395,498	\$10,678,433	\$10,680,000	\$3,700,000	\$2,844,000	\$1,907,000	\$2,229,000	

## Appendix G

City of Dayton, Oregon Wastewater Facilities Plan		COST ESTIMATE Level of Detail - Planning		
Evaluation of Wastewater Treatment Alternatives				
Comparison of Capital Costs				
Alternative				
Item	Qty	Unit	Unit Cost	Total Cost
<b>1. Expand Existing Plant/Polish Effluent/Continue Summer-Holding Winter Discharge</b>				
<b>Construction Costs</b>				
Mobilization & Bond (8%)	ALL	LS	Lump Sum	\$510,000
New headworks, flow measurement and sampling	ALL	LS	Lump Sum	\$125,000
New facultative lagoon with synthetic liner and fencing	24	acre	\$70,000	\$1,680,000
New distribution piping (from new headworks to new lagoon)	1,000	LF	\$110	\$110,000
New lagoon transfer structures (2)	2	Each	\$65,000	\$130,000
New transfer piping (from lagoon to lagoon)	400	LF	\$110	\$44,000
Existing lagoon dike roadway rehabilitation	ALL	LS	Lump Sum	\$60,000
Repair Leak in Lagoon 4	ALL	LS	Lump Sum	\$100,000
Transfer pump station & controls	ALL	LS	Lump Sum	\$350,000
New transfer piping (from exist. lagoon 4 to DAF & filters)	800	LF	\$75	\$60,000
New 3-phase power service	ALL	LS	Lump Sum	\$50,000
Plant Office, DAF Equipment Cover & Site Work	ALL	LS	Lump Sum	\$847,000
DAF Equipment & Piping	ALL	LS	Lump Sum	\$781,000
Filter Equipment & Piping	ALL	LS	Lump Sum	\$686,000
Chemical Feed Equipment (Coagulant, Chlorine, disinfection)	ALL	LS	Lump Sum	\$217,000
Plant pump station	ALL	LS	Lump Sum	\$250,000
Plant pump station piping	1,500	LF	\$75	\$113,000
New Auxiliary power unit with automatic transfer switch	ALL	LS	Lump Sum	\$150,000
New chlorine contact chamber	ALL	LS	Lump Sum	\$339,000
New outfall piping	1,300	LF	\$90	\$117,000
New outfall and diffuser	ALL	LS	Lump Sum	\$115,000
New SCADA system for Wastewater Utility	ALL	LS	Lump Sum	\$50,000
<b>Construction Costs Subtotal</b>				<b>\$6,884,000</b>
<b>Soft Costs</b>				
Purchase land for improvements	36	acre	\$5,000	\$180,000
Construction Contingency (10%)	ALL	LS	Lump Sum	\$688,000
Engineering (20%)	ALL	LS	Lump Sum	\$1,377,000
Legal, Administration & Permitting (5%)	ALL	LS	Lump Sum	\$344,000
<b>Soft Cost Subtotal</b>				<b>\$2,589,000</b>
<b>Alternative 1 Grand Total</b>				<b>\$9,473,000</b>

## Appendix G

City of Dayton, Oregon		COST ESTIMATE		
Wastewater Facilities Plan		Level of Detail - Planning		
Evaluation of Wastewater Treatment Alternatives				
Comparison of Capital Costs				
<b>Alternative</b>				
Item	Qty	Unit	Unit Cost	Total Cost
<b>2. New Facultative Lagoons/Polish Effluent/Continue Summer-Holding Winter Discharge</b>				
<b>Construction Costs</b>				
Mobilization & Bond (8%)	ALL	LS	Lump Sum	\$581,000
New headworks	ALL	LS	Lump Sum	\$125,000
New facultative lagoon with synthetic liner	34	acre	\$70,000	\$2,380,000
New distribution piping (from new headworks to new lagoon)	1,000	LF	\$100	\$100,000
New lagoon transfer structures (2)	ALL	LS	Lump Sum	\$130,000
New transfer piping (from lagoon to lagoon)	600	LF	\$110	\$66,000
New 3-phase power service	ALL	LS	Lump Sum	\$50,000
Plant Office, Equipment Cover & Site Work	ALL	LS	Lump Sum	\$847,000
DAF Equipment & Piping	ALL	LS	Lump Sum	\$781,000
Filter Equipment & Piping	ALL	LS	Lump Sum	\$686,000
Chemical Feed Equipment (Coagulant, Chlorine, disinfection)	ALL	LS	Lump Sum	\$217,000
Plant pump station	ALL	LS	Lump Sum	\$250,000
Plant pump station piping	1,500	LF	\$75	\$113,000
New Auxiliary power unit with automatic transfer switch	ALL	LS	Lump Sum	\$150,000
New chlorine contact chamber, flow measurement and sampling	ALL	LS	Lump Sum	\$339,000
New outfall piping	1,500	LF	\$90	\$135,000
New outfall and diffuser	ALL	LS	Lump Sum	\$115,000
New SCADA system for Wastewater Utility	ALL	LS	Lump Sum	\$50,000
Decommissioning Existing WWTP	ALL	LS	Lump Sum	\$725,000
<b>Construction Costs Subtotal</b>				<b>\$7,840,000</b>
<b>Soft Costs</b>				
Purchase land for improvements	50	acre	\$5,000	\$250,000
Construction Contingency (10%)	ALL	LS	Lump Sum	\$784,000
Engineering (20%)	ALL	LS	Lump Sum	\$1,568,000
Legal, Administration & Permitting (5%)	ALL	LS	Lump Sum	\$392,000
<b>Soft Cost Subtotal</b>				<b>\$2,994,000</b>
<b>Alternative 2 Grand Total</b>				<b>\$10,834,000</b>

## Appendix G

City of Dayton, Oregon Wastewater Facilities Plan		COST ESTIMATE Level of Detail - Planning		
Evaluation of Wastewater Treatment Alternatives				
Comparison of Capital Costs				
Alternative				
Item	Qty	Unit	Unit Cost	Total Cost
<b>3. New Lined Aerated &amp; Facultative Lagoon Expansion/Polish Effluent/Continue Summer-Holding Winter Discha</b>				
Mobilization & Bond (8%)	ALL	LS	Lump Sum	\$506,000
New headworks	ALL	LS	Lump Sum	\$125,000
New aerated lagoons with synthetic liner	1.3	acre	\$75,000	\$98,000
New aerated lagoon equipment	ALL	LS	Lump Sum	\$100,000
New facultative lagoon with synthetic liner (10 active storage)	16	acre	\$80,000	\$1,280,000
New distribution piping (from new headworks to aeration basins)	600	LF	\$110	\$66,000
New transfer piping (from aeration basin to new lagoon )	1,000	LF	\$110	\$110,000
New lagoon transfer structures	3	Each	\$65,000	\$195,000
New transfer piping (from new lagoon to existing lagoons)	600	LF	\$110	\$66,000
Existing lagoon dike roadway rehabilitation	ALL	LS	Lump Sum	\$60,000
Repair Leak in Lagoon 4	ALL	LS	Lump Sum	\$100,000
Transfer pump station & controls	ALL	LS	Lump Sum	\$350,000
New transfer piping (from exist. lagoon 4 to DAF & filters)	800	LF	\$75	\$60,000
New 3-phase power service	ALL	LS	Lump Sum	\$50,000
Plant Office, Equipment Cover & Site Work	ALL	LS	Lump Sum	\$847,000
DAF Equipment & Piping	ALL	LS	Lump Sum	\$781,000
Filter Equipment & Piping	ALL	LS	Lump Sum	\$686,000
Chemical Feed Equipment (Coagulant, Chlorine, disinfection)	ALL	LS	Lump Sum	\$217,000
Plant pump station	ALL	LS	Lump Sum	\$250,000
Plant pump station piping	1,500	LF	\$75	\$113,000
New Auxiliary power unit with automatic transfer switch	ALL	LS	Lump Sum	\$150,000
New chlorine contact chamber, flow measurement and sampling	ALL	LS	Lump Sum	\$339,000
New outfall piping	1,300	LF	\$90	\$117,000
New outfall and diffuser	ALL	LS	Lump Sum	\$115,000
New SCADA system for Wastewater Utility	ALL	LS	Lump Sum	\$50,000
<b>Construction Costs Subtotal</b>				<b>\$6,831,000</b>
<b>Soft Costs</b>				
Purchase land for improvements	33	acre	\$5,000	\$165,000
Construction Contingency (10%)	ALL	LS	Lump Sum	\$683,000
Engineering (20%)	ALL	LS	Lump Sum	\$1,366,000
Legal, Administration & Permitting (5%)	ALL	LS	Lump Sum	\$342,000
<b>Soft Cost Subtotal</b>				<b>\$2,556,000</b>
<b>Alternative 3 Grand Total</b>				<b>\$9,387,000</b>