

US EPA ARCHIVE DOCUMENT

**APPENDIX A. EQUATIONS AND PARAMETER VALUES
USED IN THE ASSESSMENT OF RISKS AND RISK
REDUCTION BENEFITS**

Exhibit A-1. Risk Equation and Variable Definitions Used in Radon Risk Assessment

1. Risk Equations for Inhalation of Radon Progeny

$$\text{IR}(\text{prog}) = C_w * \text{TF} * \text{EF} * \text{OF} * 0.516 * \text{iRF}(\text{prog})$$

$$\text{PR}(\text{prog}) = \text{IR}(\text{prog}) * \text{Pop}$$

2. Risk Equations for Ingestion of Radon Gas in Drinking Water

$$\text{IR}(\text{ingest}) = C_w * V * F * 365 * \text{oRF}$$

$$\text{PR}(\text{ingest}) = \text{IR}(\text{ingest}) * \text{Pop}$$

3. Risk Equations for Inhalation of Radon Gas

$$\text{IR}(\text{gas}) = C_w * \text{TF} * \text{BR} * 24 * \text{OF} * 365 * \text{iRF}(\text{gas})$$

$$\text{PR}(\text{gas}) = \text{IR}(\text{gas}) * \text{Pop}$$

4. Equation for Total Population Risk

$$\text{PR}(\text{total}) = \text{Pr}(\text{prog}) + \text{PR}(\text{ingest}) + \text{PR}(\text{gas})$$

Variable Definitions

IR(prog)	Individual risk associated with inhalation of radon progeny, lifetime fatal cancer risk per year of exposure
PR(prog)	Population risk from inhalation of radon progeny, fatal cancers per year of exposure
IR(ingest)	Individual risk associated with ingestion of radon gas, lifetime fatal cancer risk per year of exposure
PR(ingest)	Population risk from ingestion of radon gas, fatal cancers per year of exposure
IR(gas)	Individual risk associated with inhalation of radon gas, lifetime fatal cancer risk per year of exposure
PR(gas)	Population risk from inhalation of radon gas, fatal cancers per year of exposure
PR(total)	Total population risk, fatal cancers per year of exposure
C _w	Radon activity level in water, pCi/l
TF	Transfer factor for domestic water use, pCi/l(air)/pCi/l(water)
EF	Equilibrium factor (unitless)
OF	Occupancy factor (unitless)
iRf (prog)	Risk Factor for inhalation of progeny, fatal cancer risk per wlm (working level month)
Pop	Population exposed
V	Volume of direct water ingestion, liters/day
F	Fraction of radon remaining in drinking water, unitless
oRf	Risk Factor for radon ingestion, fatal cancer risk per pCi
BR	Breathing rate, liters per hour
iRf(gas)	Risk Factor for inhalation of radon gas, fatal cancer risk per pCi

Simulation Parameters

Type of sampling	One-dimensional Latin Hypercube
Number of iterations	5 X 50,000
Seed numbers	First run = 1027; subsequent runs, chosen randomly by program

Exhibit A-2. Variable Values Used in Radon Risk Assessment

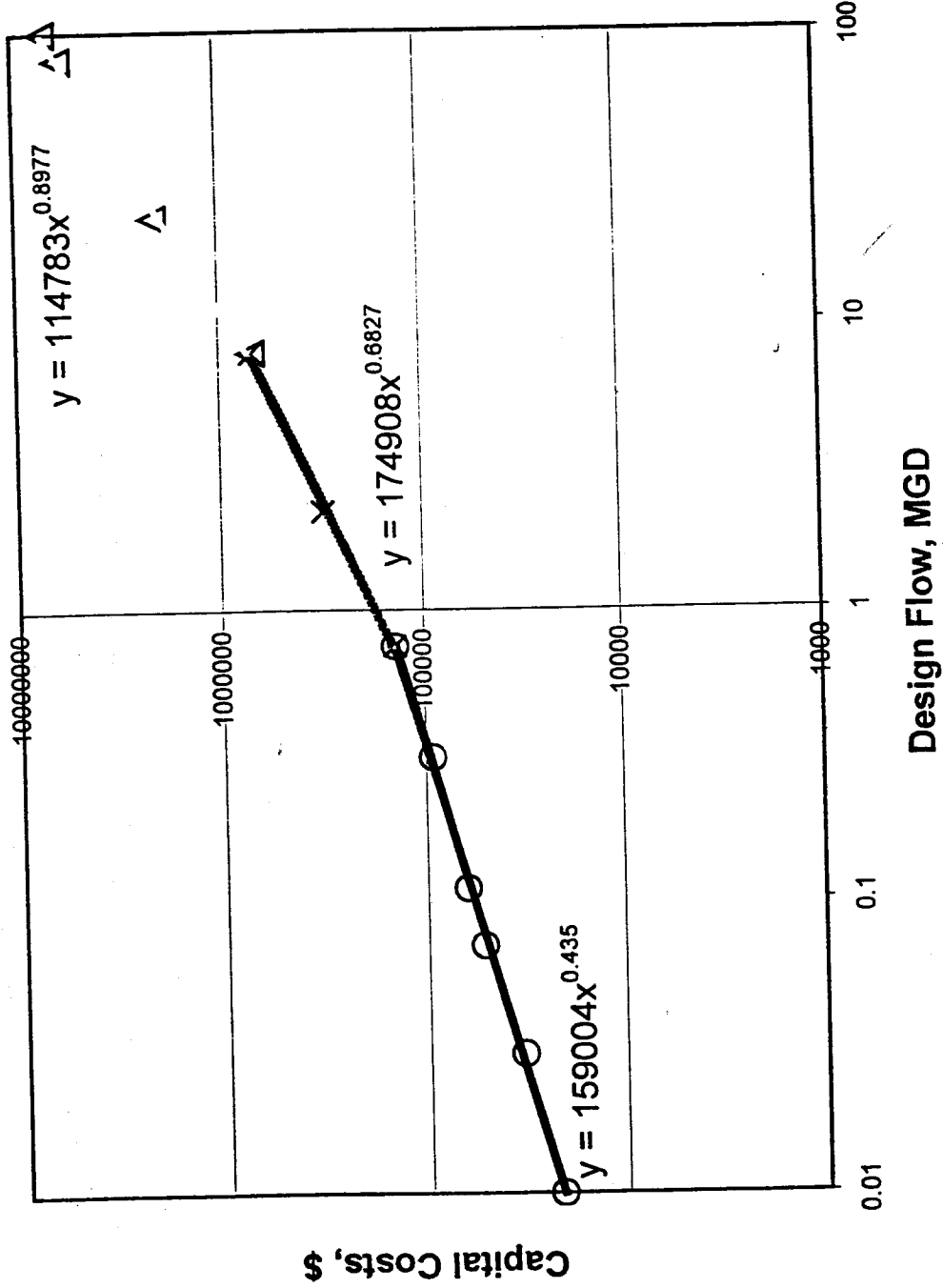
Variable	Distribution Type	Value		
		System Size	gm, pCi/l	gsd, pCi/l
Cw (baseline)	LN(gm, gsd) ¹	25-100	312	3.04
		101-500	259	3.31
		501-3,3300	122	3.22
		3,301-10,000	124	2.29
		>10,000	132	2.31
		Cw(with maximum exposure limits)	Variable	If Cw(baseline) < limit, Cw(baseline)
If Cw(baseline) < 2*limit, Cw(baseline)/2				
If Cw(baseline) < 5*limit, Cw(baseline)/5				
If Cw(baseline) > 5*limit, Cw(baseline)/100				
Pop	Point estimates	25-100	865,245	
		101-500	4,176,468	
		501-3,3300	14,239,295	
		3,301-10,000	14,542,812	
		>10,000	55,907,052	
		TF	Point estimate	1.0×10^{-4} pCi/l(water)/pCi(air)
EF	Point estimate	0.4 unitless		
OF	Point estimate	0.7 unitless		
V	Point estimate	0.6 liters/day		
F	Point estimate	1 unitless		
BR	Point estimate	22,000 liters/hour		
iRF(prog)	Point estimate	5.15×10^{-4} fatal cancer risk per wlm		
oRF(ingest)	Point estimate	4.25×10^{-12} fatal cancer risk per pCi		
iRF(gas)	Point estimate	1.52×10^{-13} fatal cancer risk per pCi		

1. LN = lognormal distribution, gm = geometric mean, gsd = geometric standard deviation

**APPENDIX B. COST CURVES FOR RADON REDUCTION AND
DISINFECTION TECHNOLOGIES**

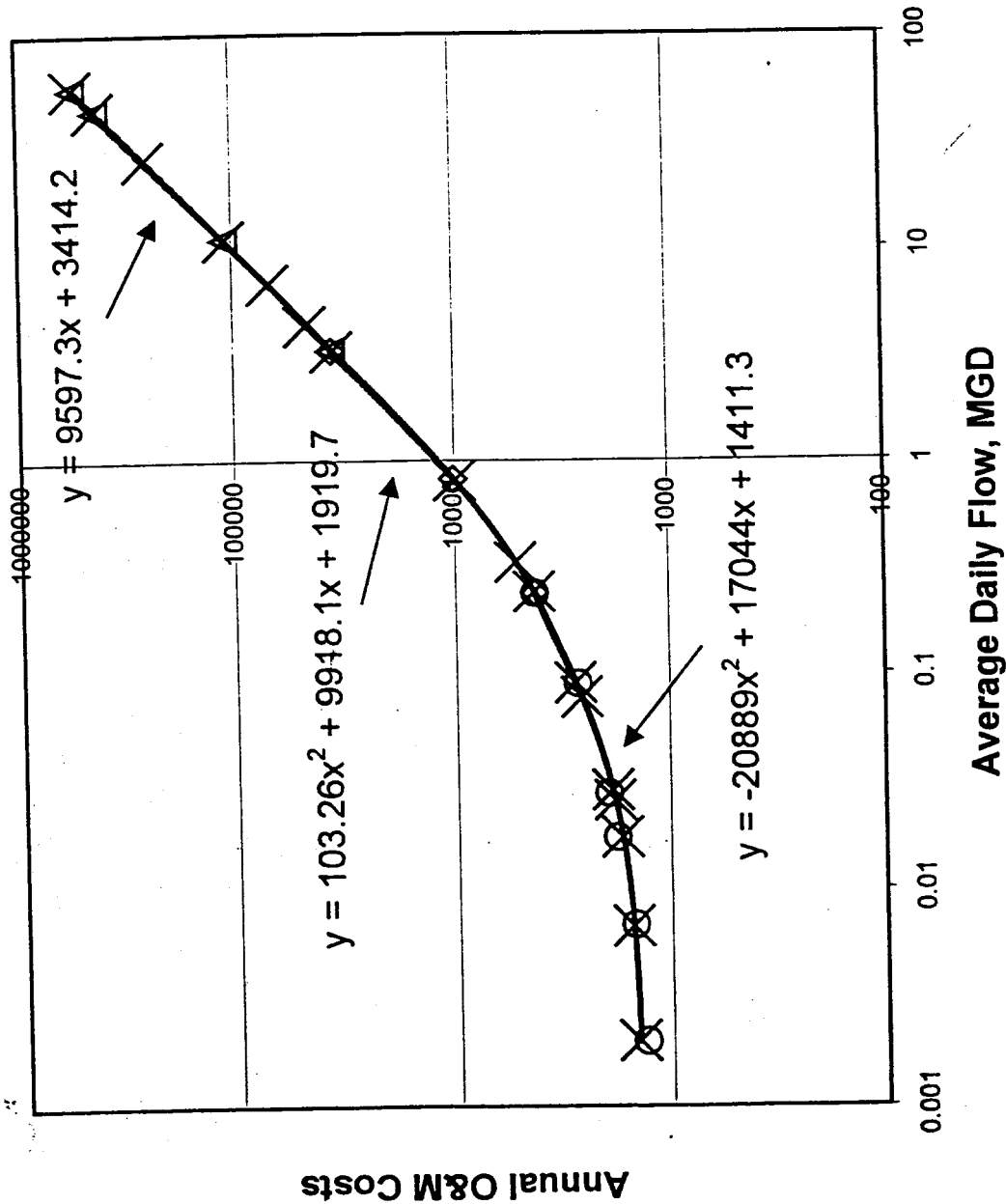
PTA Capital Costs

80 % Removal, 5 min. Detention

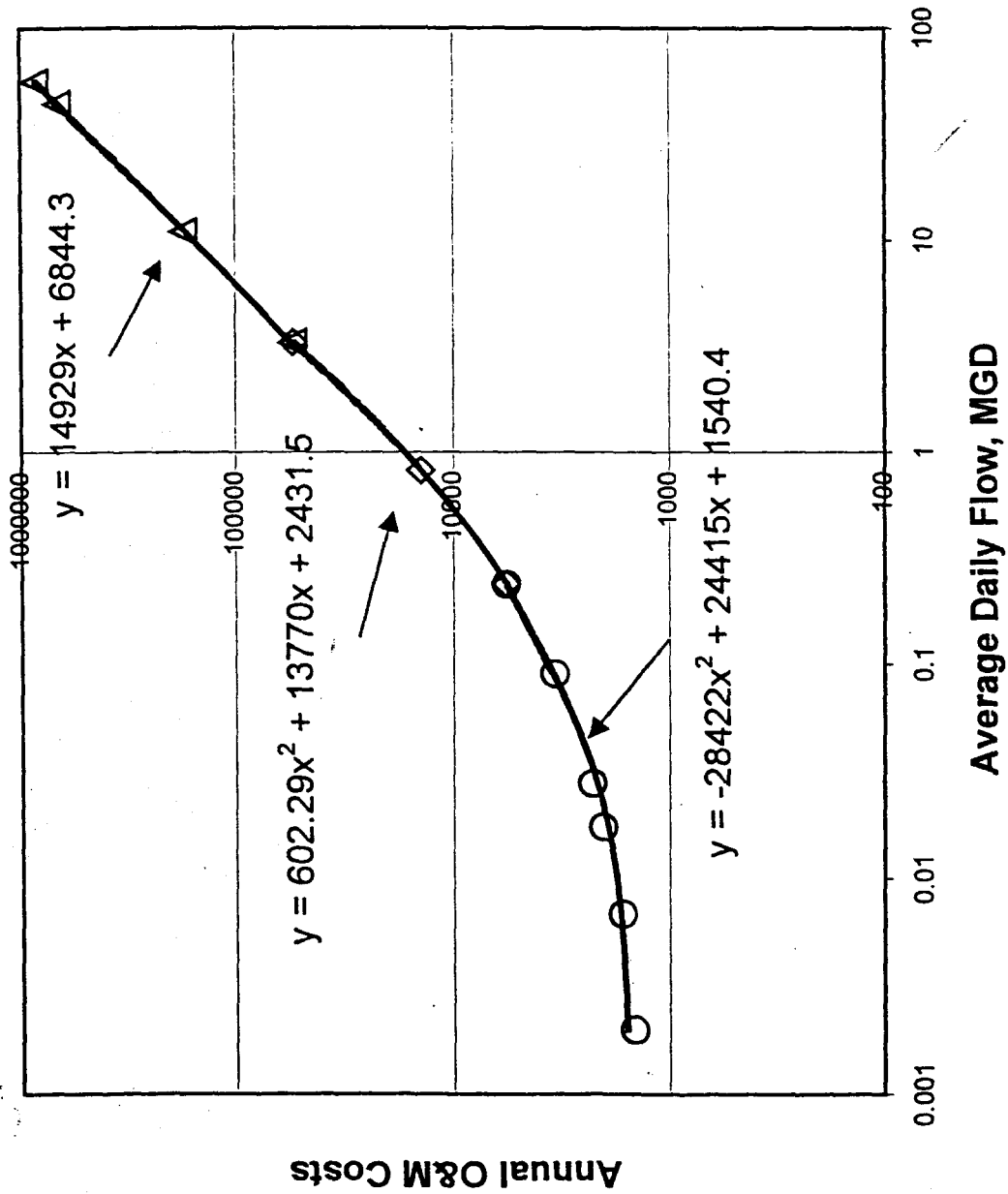


- small systems
- △ large systems
- × Transition Zone
- Power (small systems)
- Power (Transition Zone)
- Power (large systems)

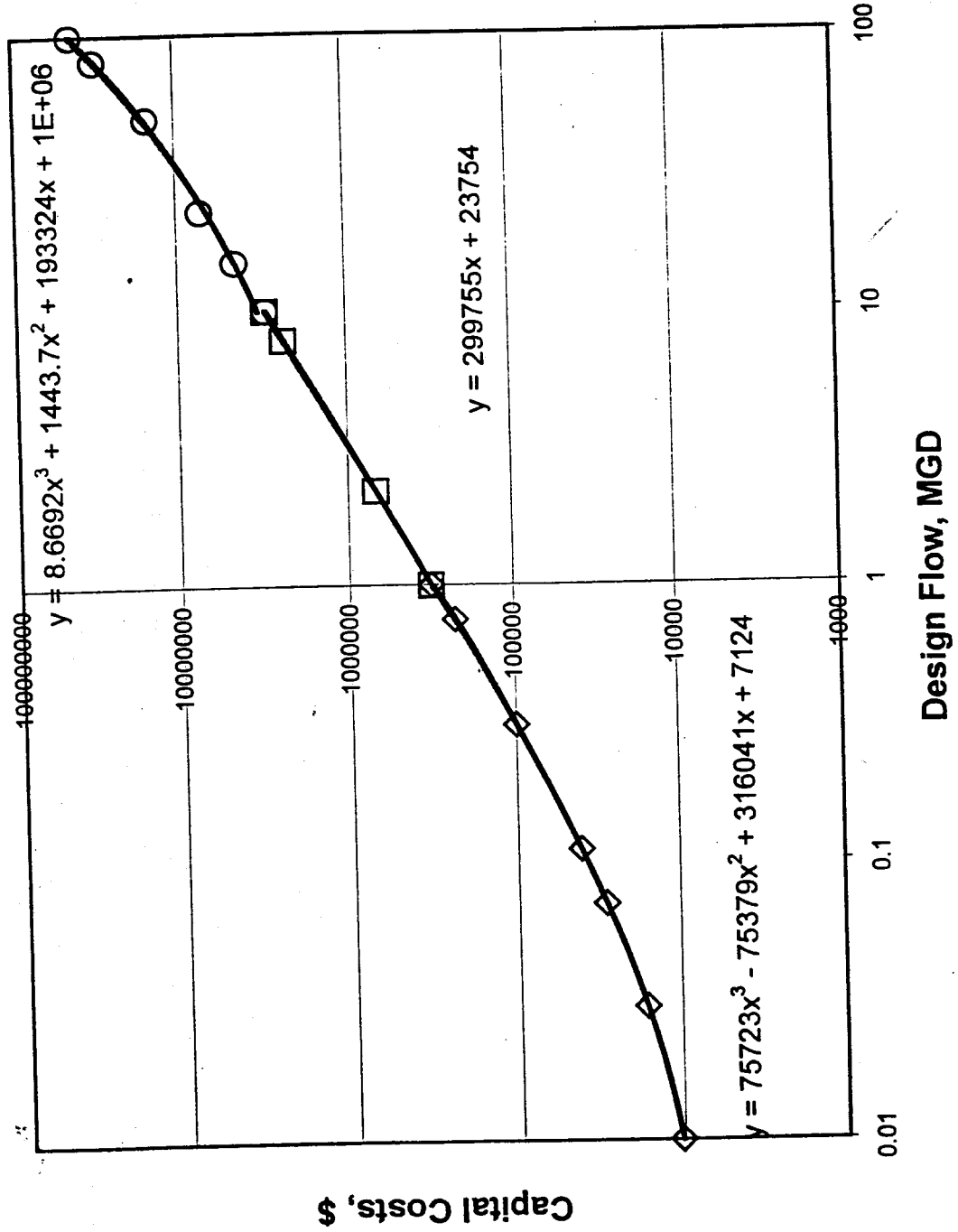
PTA O&M Costs, 80% Removal



PTA O&M Costs, 99% Removal

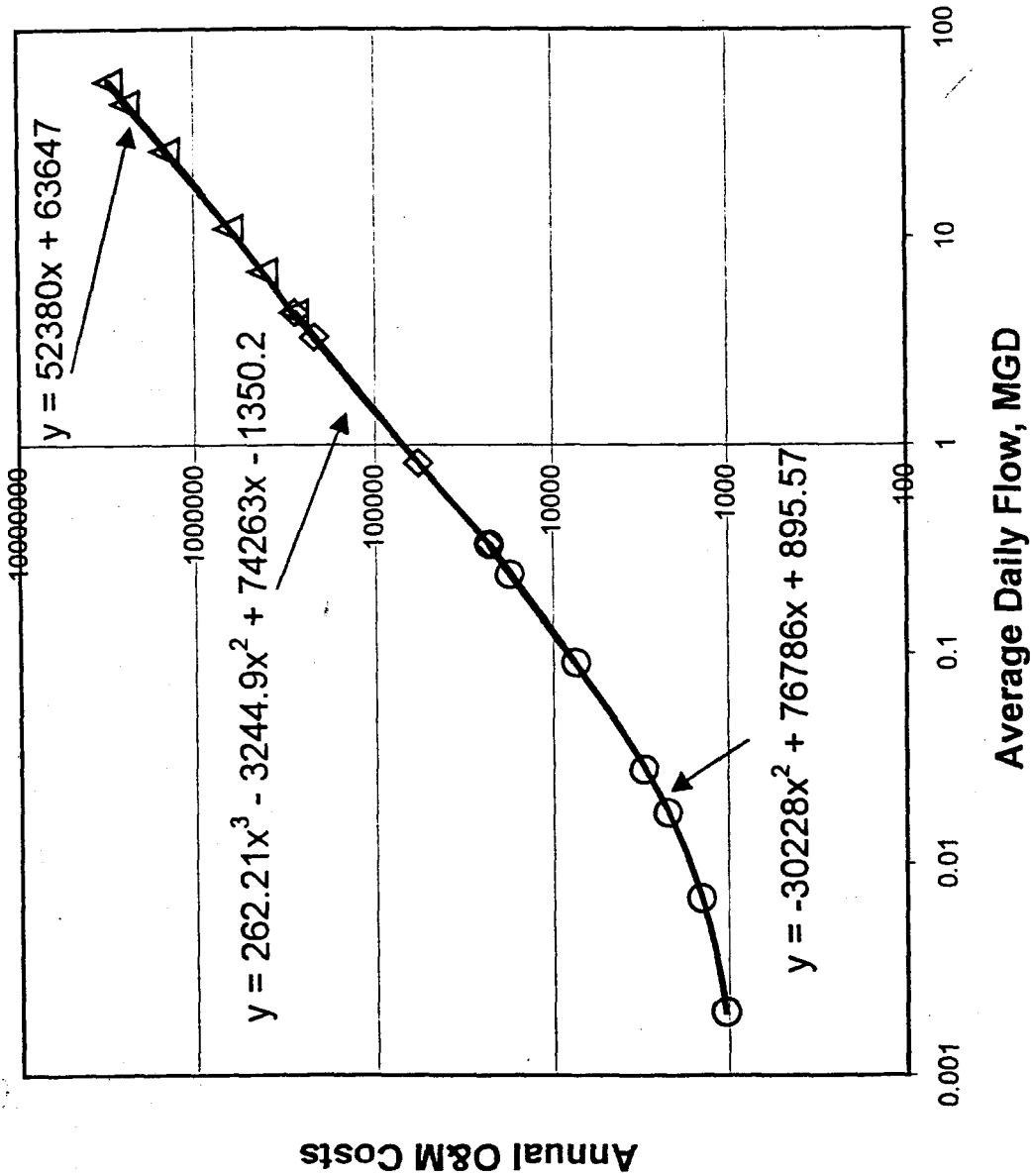


Diffused Aeration: Capital Costs, Treatment Only

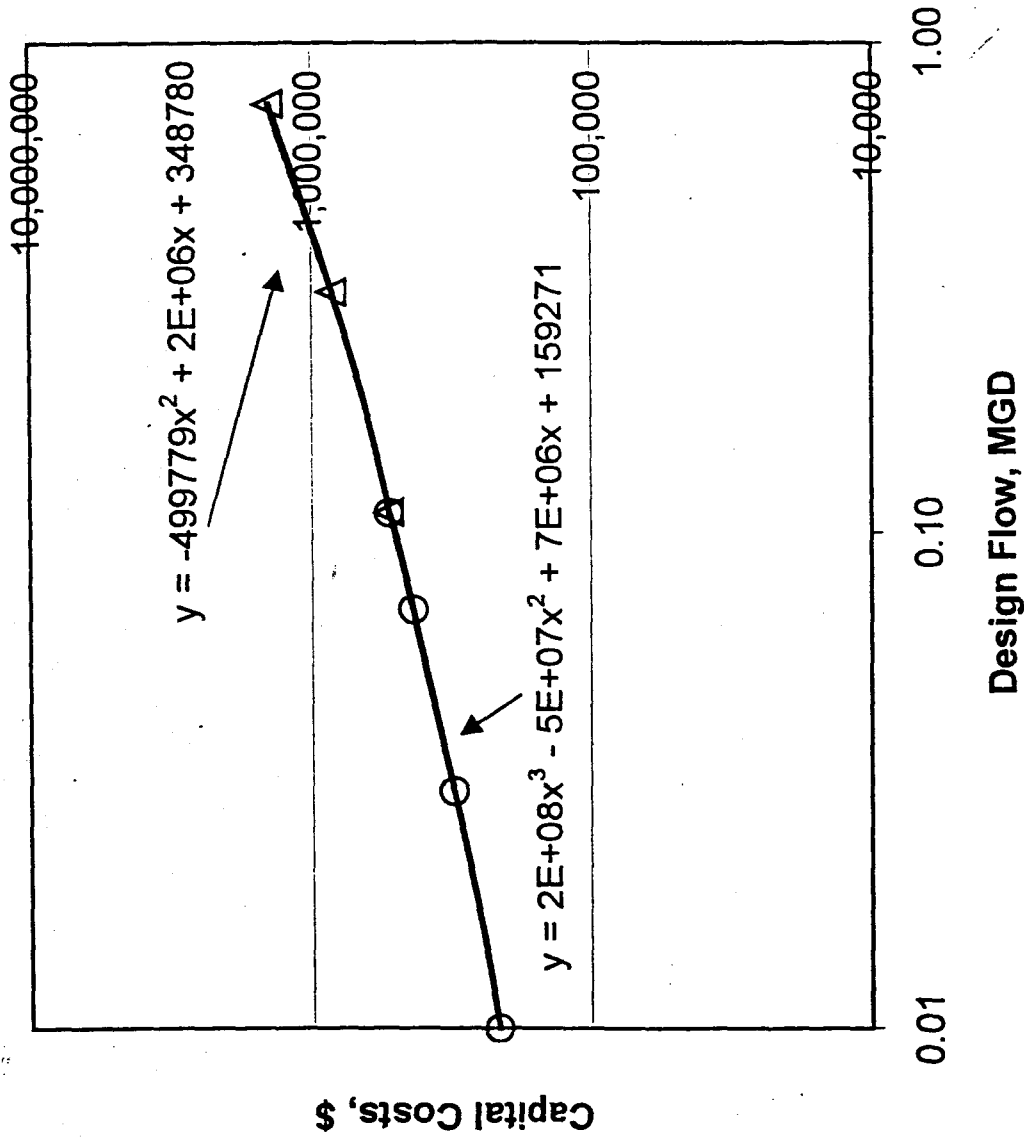


- ◇ 0.015 < Flow < 1.0
- 1.0 < Flow < 10
- 10 < Flow < 100
- Poly. (0.015 < Flow < 1.0)
- Linear (1.0 < Flow < 10)
- Poly. (10 < Flow < 100)

DA O&M Costs, 80% Removal

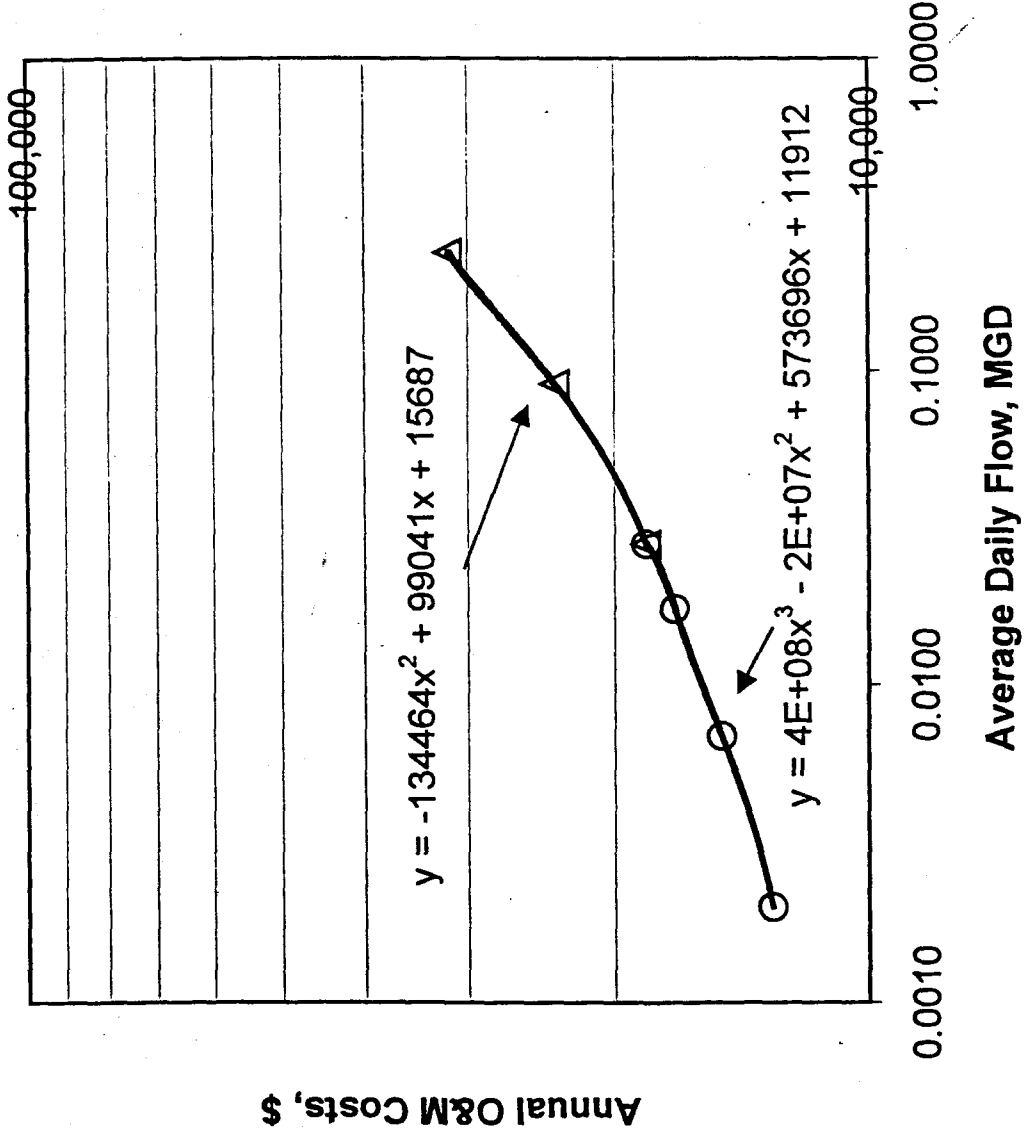


GAC Capital Costs, 50% removal



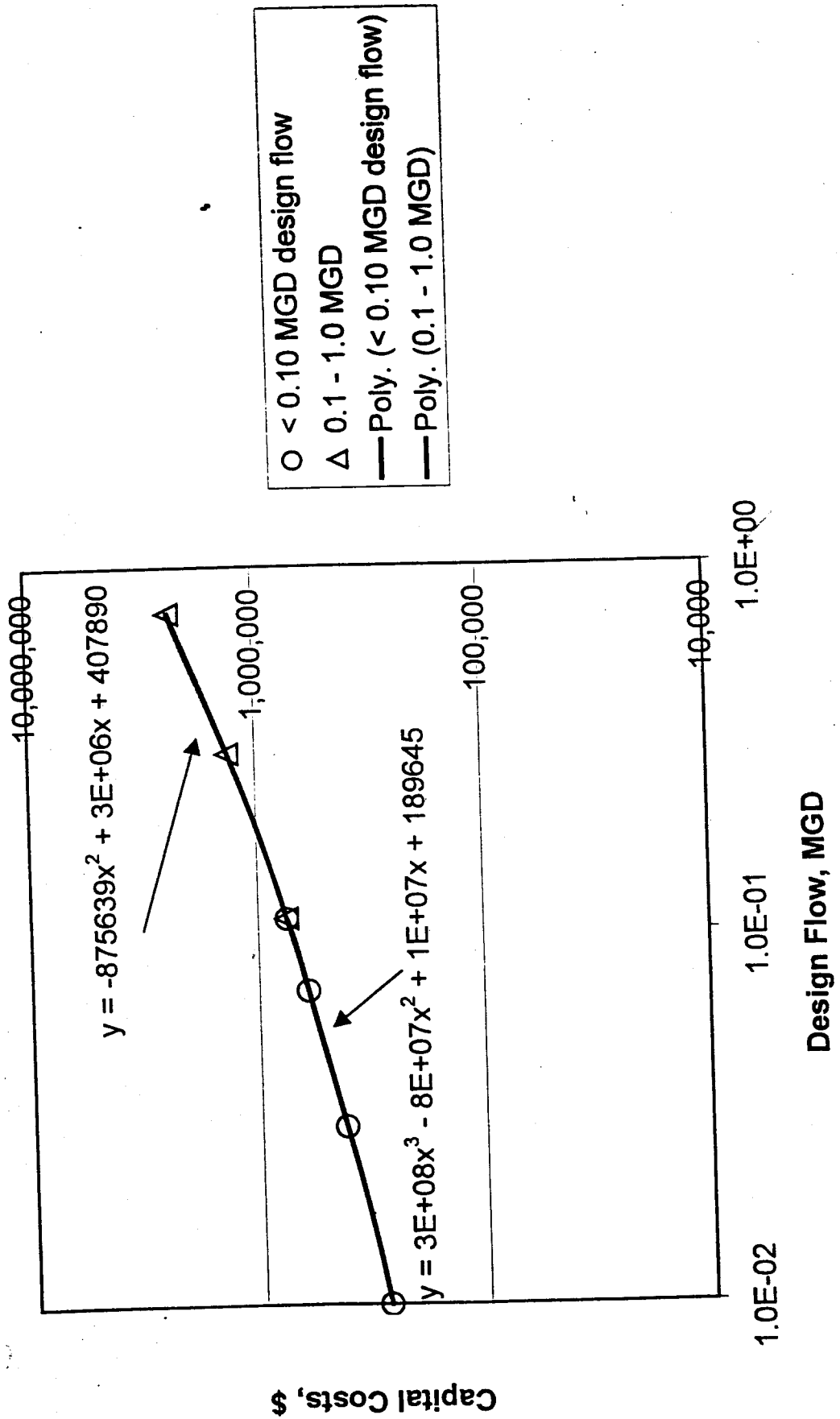
- < 0.10 MGD design flow
- △ 0.1 - 1.0 MGD
- Poly. (< 0.10 MGD design flow)
- Poly. (0.1 - 1.0 MGD)

GAC O&M Costs, 50% removal



- < 0.10 MGD design flow
- △ 0.1 - 1.0 MGD
- Poly. (< 0.10 MGD design flow)
- Poly. (0.1 - 1.0 MGD)

GAC Capital Costs, 80% removal



Capital Costs, \$

1.0E-02

1.0E-01

1.0E+00

Design Flow, MGD

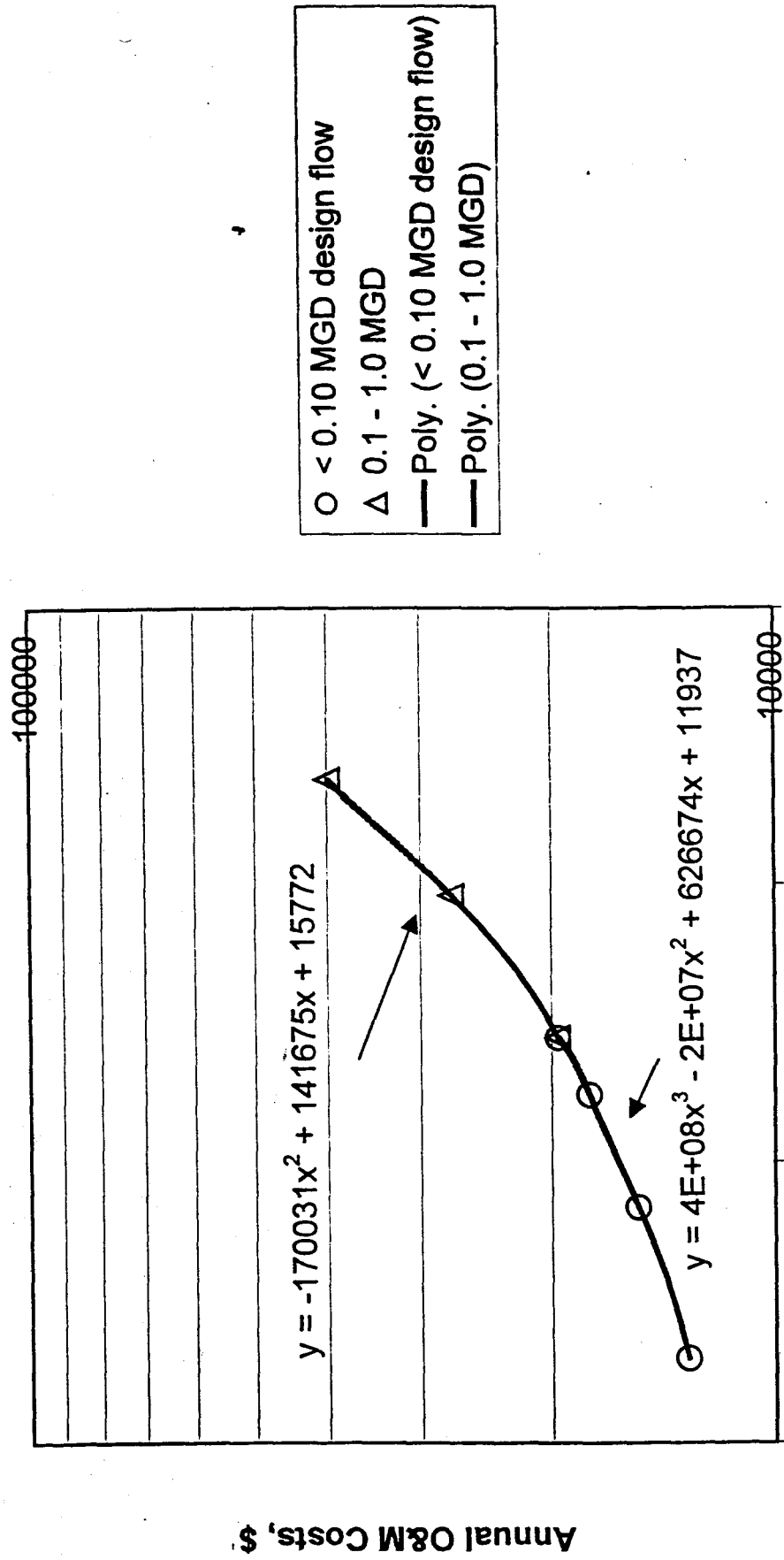
○ < 0.10 MGD design flow

△ 0.1 - 1.0 MGD

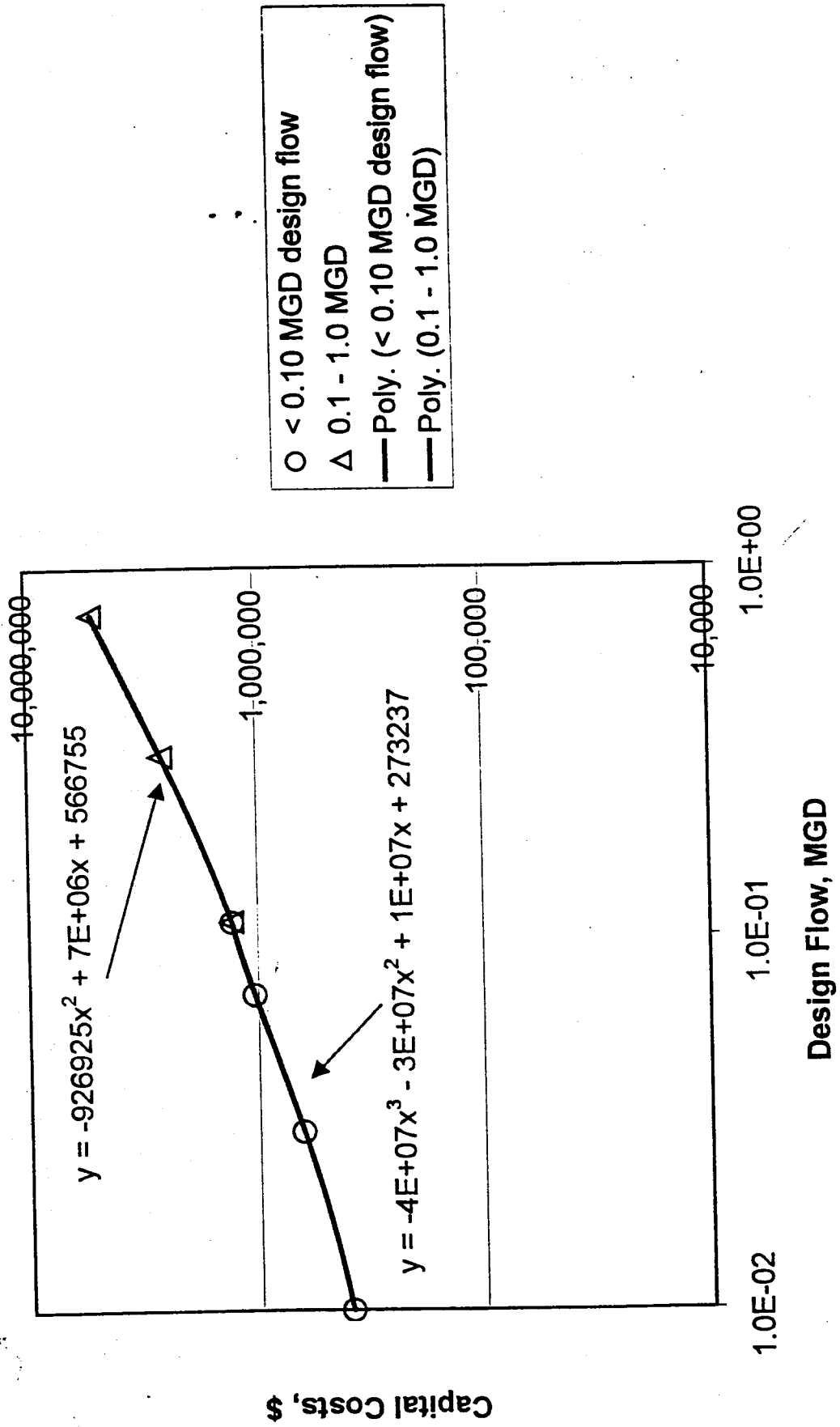
— Poly. (< 0.10 MGD design flow)

— Poly. (0.1 - 1.0 MGD)

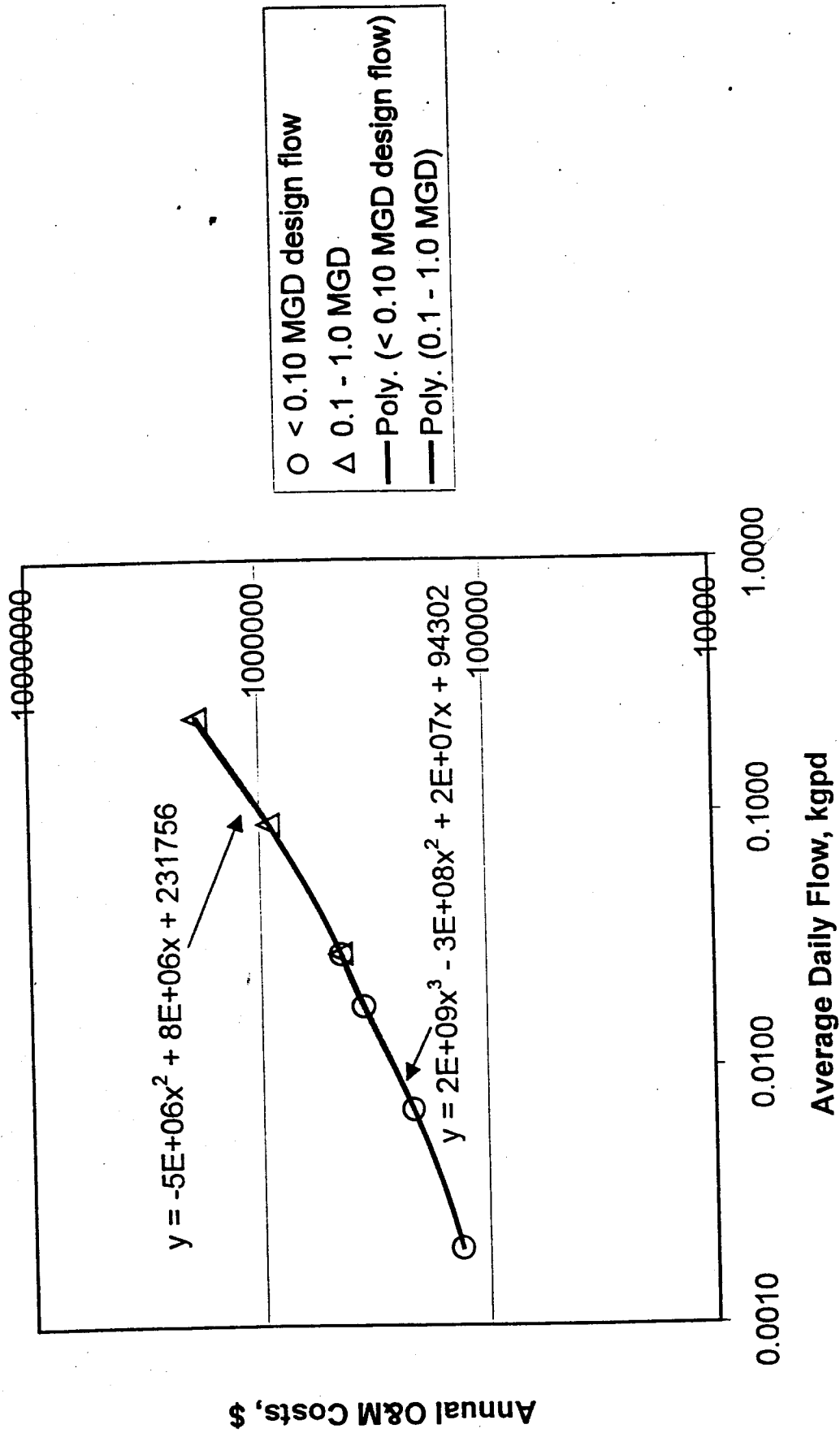
GAC O&M Costs, 80% removal



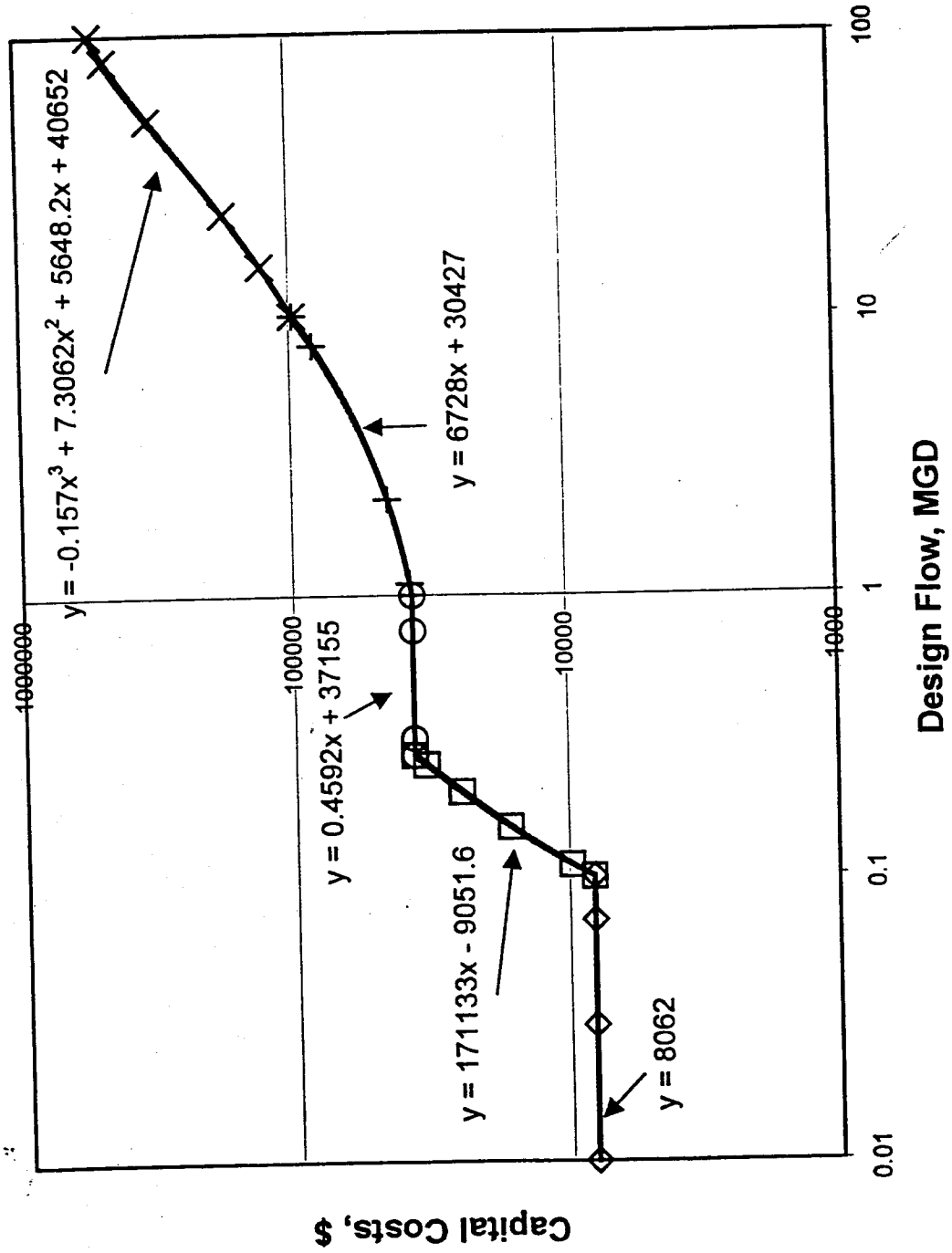
GAC Capital Costs, 99% removal



GAC O&M Costs, 99% removal

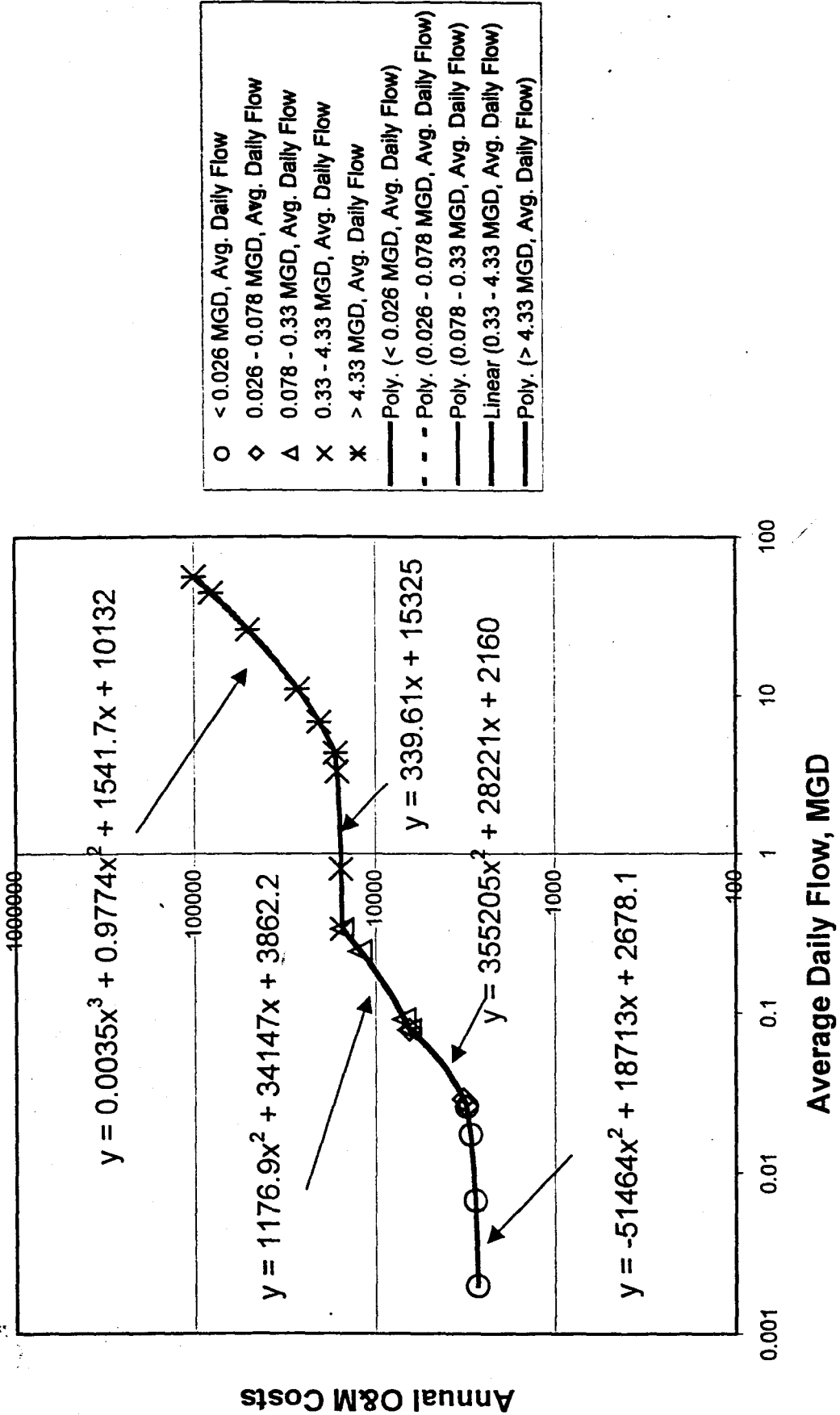


Chlorination Capital Costs



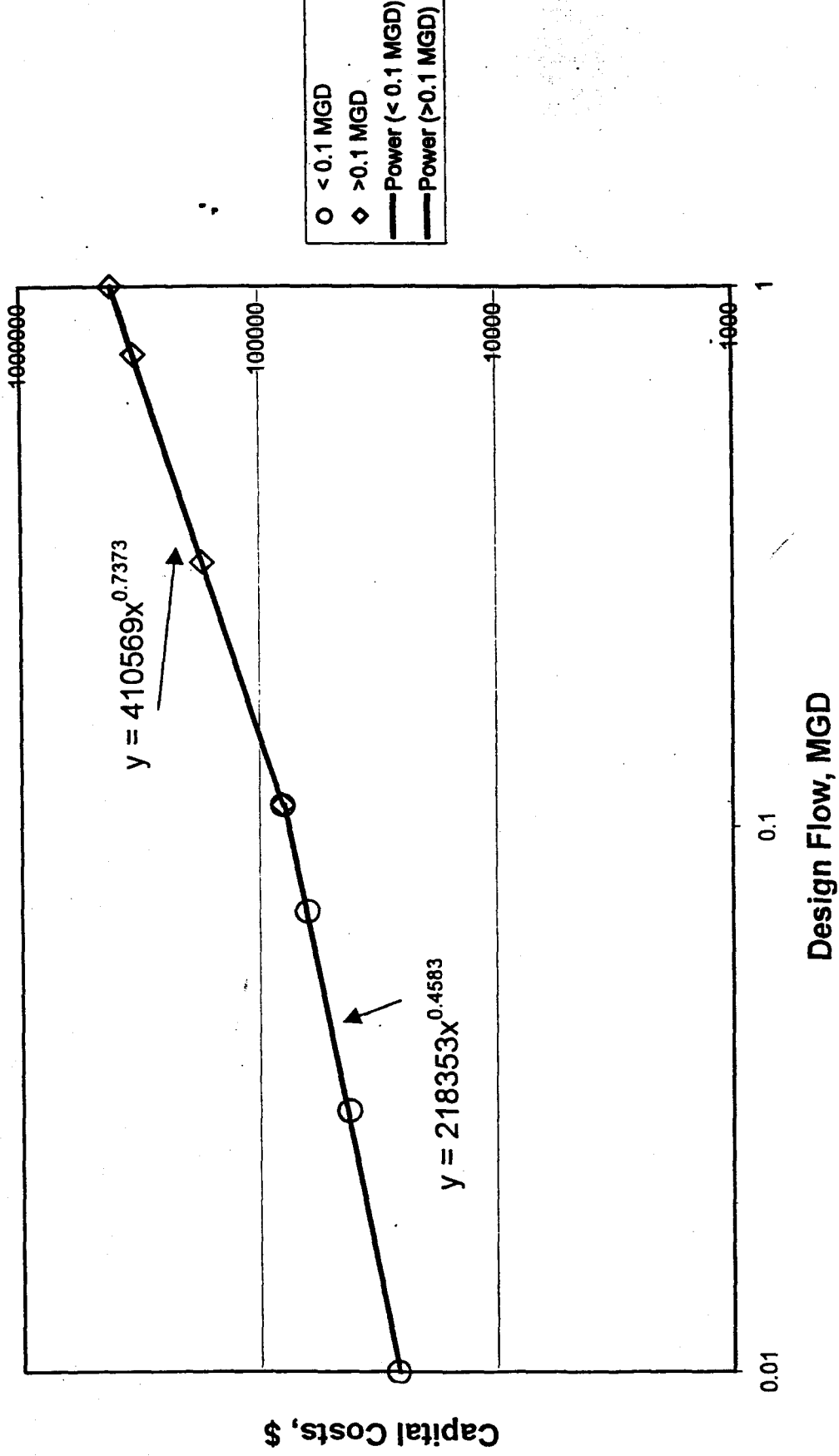
- | | |
|---|--------------------------|
| ◇ | < 0.10 MGD |
| □ | 0.10 - 0.27 MGD |
| ○ | 0.27 - 1.0 MGD |
| + | 1.0 - 10 MGD |
| X | > 10 MGD |
| — | Linear (< 0.10 MGD) |
| — | Linear (0.10 - 0.27 MGD) |
| — | Linear (0.27 - 1.0 MGD) |
| — | Linear (1.0 - 10 MGD) |
| — | Poly. (> 10 MGD) |

Chlorination Treatment Only, O&M Costs



2-Days of Storage, Capital Costs

Steel Tank Above Ground, Plus Effluent Pumping, Includes Disinfection Capital



**APPENDIX C. FLOW ESTIMATION EQUATIONS FOR PUBLIC
AND PRIVATE WATER SYSTEMS**

EXHIBIT C-1. EQUATIONS FOR ESTIMATING FLOW

Flow (MGD) = a * (pop/1000)^b

Average Flow (AF)			
Public Water Systems		Private Water Systems	
a =	0.1284	a =	0.1029
b =	1.0584	b =	1.0628
Design Flow (DF)			
Public Water Systems		Private Water Systems	
a =	0.4041	a =	0.3179
b =	0.9554	b =	0.9608
Public Water Systems			
System Size	Average Population	AF, mgd	DF, mgd
25-100	65	0.0071	0.0297
101-500	290	0.0346	0.1238
501-1,000	750	0.0947	0.3070
1,000-3,300	1880	0.2505	0.7386
3,301-10,000	5800	0.8252	2.1670
10,001-50,000	20900	3.2049	7.3749
50,001-100,000	68000	11.1710	22.7650
>100,000	214000	37.5902	75.1805
Private Water Systems			
System Size	Average Population	AF, mgd	DF, mgd
25-100	60	0.0052	0.0213
101-500	230	0.0216	0.0775
501-1,000	720	0.0726	0.2319
1,000-3,300	1800	0.1922	0.5592
3,301-10,000	5700	0.6543	1.6925
10,001-50,000	21900	2.7355	6.1686
50,001-100,000	68000	9.1202	18.3217
>100,000	248000	36.0777	72.1554

1. Flow parameters estimated by ODWGW from SDWIS data

APPENDIX D. SUMMARY COST TABLES

PUBLIC

Monitoring Costs

Monitoring Cost \$ Cost Frequency

System Size	No. of Sites	No. of Systems	Total Annual Monitoring Cost	Cost per System	System Size	No. of Sites	No. of Systems	Total Annual Monitoring Cost	Cost per System
25-100	1190.6	1083	238,112	\$ 224	VS	5938.6	4987	1,187,720	\$ 238
101-500	4748.0	3024	948,508	\$ 242	VS	8281	6281	1,962,698	\$ 317
501-1000	3550.4	2518	710,078	\$ 282	M	4336.6	1902	967,312	\$ 458
1001-3,000	6363.1	3743	1,272,620	\$ 340	M	4871.4	1110	974,200	\$ 878
3,081-10,000	4336.6	1902	967,312	\$ 456	L	457.6	52	81,520	\$ 1,760
10,001-50,000	3888.3	987	777,660	\$ 780					
50,001-100,000	983.1	113	198,820	\$ 1,740					
100,001-1,000,000	457.6	52	81,520	\$ 1,760					

Totals

System Size	O&M Cost	Annual Cap Cost	Annual Monitoring Cost	Total Annual Cost	System Size	O&M Cost	Annual Cap Cost	Annual Monitoring Cost	Total Annual Cost
25-100	\$ 5,702,175	\$ 5,262,338	\$ 238,112	\$ 11,202,625	VS	\$ 32,166,962	\$ 33,588,781	\$ 1,187,720	\$ 66,943,463
101-500	\$ 26,464,787	\$ 28,326,443	\$ 948,608	\$ 55,740,838	VS	\$ 43,425,774	\$ 71,904,661	\$ 1,962,698	\$ 117,313,131
501-1000	\$ 11,413,655	\$ 20,679,264	\$ 710,078	\$ 32,802,998	VS	\$ 34,716,416	\$ 63,055,259	\$ 967,312	\$ 98,739,087
1001-3,000	\$ 32,012,119	\$ 51,225,397	\$ 1,272,620	\$ 84,510,135	M	\$ 51,246,557	\$ 98,821,367	\$ 974,200	\$ 151,042,204
3,081-10,000	\$ 34,716,416	\$ 60,029,878	\$ 967,312	\$ 95,713,606	M	\$ 19,475,711	\$ 27,552,876	\$ 81,520	\$ 44,110,907
10,001-50,000	\$ 38,098,122	\$ 75,978,817	\$ 777,660	\$ 114,854,599	L	\$ 178,031,419	\$ 281,897,163	\$ 5,103,528	\$ 365,032,110
50,001-100,000	\$ 13,148,435	\$ 22,842,750	\$ 198,820	\$ 36,189,805					
100,001-1,000,000	\$ 18,475,711	\$ 27,552,876	\$ 281,897,163	\$ 5,103,528					
Total	\$ 176,031,419	\$ 291,897,163	\$ 5,103,528	\$ 473,032,110					

Per System Costs

System Size	O&M Cost	Annual Cap Cost	No. of Sites Above Reg. Limit	Monitoring Cost for Systems Above Reg. Limit	Cost per System Above Reg. Limit	System Size	O&M Cost	Annual Cap Cost	No. of Sites Above Reg. Limit	Monitoring Cost for Systems Above Reg. Limit	Cost per System Above Reg. Limit
25-100	\$ 5,702,175	\$ 5,262,338	1,004	\$ 200,781	\$ 200	VS	\$ 32,166,962	\$ 33,588,781	4,719	\$ 943,719	\$ 198
101-500	\$ 26,464,787	\$ 28,326,443	3,715	\$ 742,938	\$ 198	VS	\$ 43,425,774	\$ 71,904,661	6,536	\$ 1,307,223	\$ 200
501-1000	\$ 11,413,655	\$ 20,679,264	2,341	\$ 466,164	\$ 199	VS	\$ 34,716,416	\$ 63,055,259	3,197	\$ 639,391	\$ 200
1001-3,000	\$ 32,012,119	\$ 51,225,397	4,195	\$ 839,059	\$ 199	M	\$ 51,246,557	\$ 98,821,367	3,990	\$ 717,997	\$ 180
3,081-10,000	\$ 34,716,416	\$ 60,029,878	3,197	\$ 639,391	\$ 200	M	\$ 19,475,711	\$ 27,552,876	337	\$ 67,448	\$ 200
10,001-50,000	\$ 38,098,122	\$ 75,978,817	2,605	\$ 573,097	\$ 219	L					
50,001-100,000	\$ 13,148,435	\$ 22,842,750	83	\$ 144,899	\$ 174						
100,001-1,000,000	\$ 18,475,711	\$ 27,552,876	38	\$ 67,446	\$ 1,774						

Household Costs

System Size	O&M Cost	Annual Cap Cost	Monitoring Cost for Systems Above Reg. Limit	Average Daily Flow (MGD)	HH Incremental Cost	System Size	O&M Cost	Annual Cap Cost	Monitoring Cost for Systems Above Reg. Limit	Average Daily Flow (MGD)	HH Incremental Cost
25-100	\$ 5,702,175	\$ 5,262,338	\$ 200,781	0.0071	\$ 388.13	VS	\$ 32,166,962	\$ 33,588,781	\$ 943,719	0.0294	\$ 134.88
101-500	\$ 26,464,787	\$ 28,326,443	\$ 742,938	0.0346	\$ 47.10	VS	\$ 43,425,774	\$ 71,904,661	\$ 1,307,223	0.1878	\$ 24.21
501-1000	\$ 11,413,655	\$ 20,679,264	\$ 466,164	0.0947	\$ 47.10	VS	\$ 34,716,416	\$ 63,055,259	\$ 639,391	0.6252	\$ 18.75
1001-3,000	\$ 32,012,119	\$ 51,225,397	\$ 839,059	0.2505	\$ 30.93	M	\$ 51,246,557	\$ 98,821,367	\$ 717,997	0.6186	\$ 18.44
3,081-10,000	\$ 34,716,416	\$ 60,029,878	\$ 639,391	0.8252	\$ 11.07	M	\$ 19,475,711	\$ 27,552,876	\$ 67,448	37.9802	\$ 8.98
10,001-50,000	\$ 38,098,122	\$ 75,978,817	\$ 573,097	3.2049	\$ 8.83	L					
50,001-100,000	\$ 13,148,435	\$ 22,842,750	\$ 144,899	11.1710	\$ 6.98						
100,001-1,000,000	\$ 18,475,711	\$ 27,552,876	\$ 67,446	37.9802	\$ 6.98						

Results (100 MCL)

PRIVATE

Monitoring Costs

Monitoring Cost \$ Cost 50 Frequency 4

System Size	No. of Sites	No. of Systems	Total Annual Monitoring Cost	Cost per System	System Size	No. of Sites	No. of Systems	Total Annual Monitoring Cost	Cost per System
26-100	13316.8	11890	\$ 2,643,360	\$	224	V/S	24574.6	\$ 4,914,628	\$ 232
101-400	11257.0	9304	\$ 2,251,568	\$	242	V/S	45611.2	\$ 912,240	\$ 309
601-1000	2258.0	1800	\$ 451,200	\$	282	S	943.9	\$ 188,784	\$ 456
1001-3,300	2305.2	1356	\$ 481,040	\$	340	M	1046.4	\$ 209,240	\$ 872
3,301-10,000	943.9	414	\$ 188,784	\$	486	L	114.4	\$ 22,880	\$ 1,760
10,001-60,000	646.3	217	\$ 189,260	\$	780				
60,001-100,000	200.1	23	\$ 40,020	\$	1,740				
100,001-1,000,000	114.4	13	\$ 22,880	\$	1,760				

Totals

System Size	OLM Cost	Annual Cap Cost	Annual Cap Cost	Total Annual Monitoring Cost	Total Annual Cost	System Size	O&M Cost	Annual Cap Cost	Annual Cap Cost	Annual Monitoring Cost	Total
26-100	\$ 58,338,824	\$ 51,007,487	\$ 541,008,784	\$ 2,643,360	\$ 112,006,081	V/S	\$ 109,917,782	\$ 104,628,139	\$ 1,106,410,812	\$ 4,914,628	\$ 210,458,049
101-400	\$ 51,578,958	\$ 53,558,642	\$ 507,401,018	\$ 2,251,568	\$ 107,386,169	V/S	\$ 15,961,797	\$ 27,014,492	\$ 286,191,909	\$ 912,240	\$ 43,908,528
601-1000	\$ 6,198,098	\$ 11,190,843	\$ 118,535,965	\$ 451,200	\$ 17,840,141	S	\$ 6,433,975	\$ 11,177,574	\$ 118,415,378	\$ 188,784	\$ 17,806,333
1001-3,300	\$ 8,783,899	\$ 15,423,648	\$ 167,635,854	\$ 481,040	\$ 26,068,387	M	\$ 9,582,775	\$ 18,843,656	\$ 197,834,913	\$ 209,240	\$ 28,475,711
3,301-10,000	\$ 6,433,975	\$ 11,177,574	\$ 118,415,378	\$ 188,784	\$ 17,000,333	L	\$ 3,960,450	\$ 6,642,785	\$ 70,545,750	\$ 22,880	\$ 10,646,123
10,001-60,000	\$ 7,291,536	\$ 14,655,708	\$ 155,282,778	\$ 189,260	\$ 22,116,504	Total	\$ 145,878,778	\$ 186,164,658	\$ 1,781,538,761	\$ 6,248,112	\$ 202,882,847
60,001-100,000	\$ 2,291,240	\$ 4,027,948	\$ 42,872,135	\$ 40,020	\$ 6,359,207						
100,001-1,000,000	\$ 3,960,450	\$ 6,662,785	\$ 70,545,750	\$ 22,880	\$ 10,646,123						
Total	\$ 145,878,778	\$ 186,164,658	\$ 1,781,538,761	\$ 8,248,112	\$ 320,389,647						

Per System Costs

System Size	OLM Cost	Annual Cap Cost	No. of Sites Above Reg. Limit	Monitoring Cost for Systems Above Reg. Limit	Cost per System Above Reg. Limit	System Size	O&M Cost	Annual Cap Cost	Annual Cap Cost	No. of Sites Above Reg. Limit	Monitoring Cost for Systems Above Reg. Limit	Cost per System Above Reg. Limit
26-100	\$ 58,338,824	\$ 51,007,487	11,229	\$ 2,245,804	\$ 199.63	V/S	\$ 109,917,782	\$ 104,628,139	\$ 1,106,410,812	30,037	\$ 4,907,348	\$ 160.15
101-400	\$ 51,578,958	\$ 53,558,642	8,008	\$ 1,761,542	\$ 220.00	V/S	\$ 15,961,797	\$ 27,014,492	\$ 286,191,909	3,007	\$ 601,454	\$ 200.15
601-1000	\$ 6,198,098	\$ 11,190,843	1,487	\$ 287,483	\$ 193.33	S	\$ 6,433,975	\$ 11,177,574	\$ 118,415,378	606	\$ 138,173	\$ 228.12
1001-3,300	\$ 8,783,899	\$ 15,423,648	1,520	\$ 303,971	\$ 200.00	M	\$ 9,582,775	\$ 18,843,656	\$ 197,834,913	771	\$ 154,229	\$ 198.88
3,301-10,000	\$ 6,433,975	\$ 11,177,574	896	\$ 138,173	\$ 154.23	L	\$ 3,960,450	\$ 6,642,785	\$ 70,545,750	84	\$ 18,861	\$ 224.52
10,001-60,000	\$ 7,291,536	\$ 14,655,708	924	\$ 124,736	\$ 135.00							
60,001-100,000	\$ 2,291,240	\$ 4,027,948	147	\$ 29,493	\$ 200.68							
100,001-1,000,000	\$ 3,960,450	\$ 6,662,785	84	\$ 18,861	\$ 224.52							

Household Costs

System Size	OLM Cost	Annual Cap Cost	Monitoring Cost for Systems Above Reg. Limit	Average Daily Flow (MGD)	HH Incremental Cost	System Size	O&M Cost	Annual Cap Cost	Annual Cap Cost	Monitoring Cost for Systems Above Reg. Limit	Average Daily Flow (MGD)	HH Incremental Cost
26-100	\$ 58,338,824	\$ 51,007,487	\$ 2,245,804	0.0052	\$ 489.43	V/S	\$ 109,917,782	\$ 104,628,139	\$ 1,106,410,812	\$ 4,907,348	0.0121	\$ 237.63
101-400	\$ 51,578,958	\$ 53,558,642	\$ 1,761,542	0.0216	\$ 154.75	V/S	\$ 15,961,797	\$ 27,014,492	\$ 286,191,909	\$ 601,454	0.1274	\$ 38.91
601-1000	\$ 6,198,098	\$ 11,190,843	\$ 287,483	0.0728	\$ 52.53	S	\$ 6,433,975	\$ 11,177,574	\$ 118,415,378	\$ 139,173	0.6543	\$ 20.21
1001-3,300	\$ 8,783,899	\$ 15,423,648	\$ 303,971	0.1922	\$ 34.29	M	\$ 9,582,775	\$ 18,843,656	\$ 197,834,913	\$ 184,229	3.3474	\$ 10.82
3,301-10,000	\$ 6,433,975	\$ 11,177,574	\$ 138,173	0.0543	\$ 20.21	L	\$ 3,960,450	\$ 6,642,785	\$ 70,545,750	\$ 18,861	36.0777	\$ 7.00
10,001-60,000	\$ 7,291,536	\$ 14,655,708	\$ 124,736	2.7355	\$ 17							
60,001-100,000	\$ 2,291,240	\$ 4,027,948	\$ 29,493	1.2002	\$ 9.34							
100,001-1,000,000	\$ 3,960,450	\$ 6,662,785	\$ 18,861	36.0777	\$ 7.00							

Results (200 MCL)

PUBLIC

Monitoring Costs

Monitoring Cost \$ 50 Frequency 4

System Size	No. of Sites	No. of Systems	Total Annual Monitoring Cost	Cost per System	System Size	No. of Sites	No. of Systems	Total Annual Monitoring Cost	Cost per System
25-100	1180.6	1083	\$ 238,112	\$	VVS	5038.6	224	\$ 1,187,720	\$ 238
101-500	4748.0	3824	\$ 949,608	\$	VS	9913.5	8261	\$ 1,982,698	\$ 317
501-1000	3550.4	2518	\$ 710,076	\$	S	4338.6	1802	\$ 887,312	\$ 458
1001-3,300	6383.1	3743	\$ 1,272,820	\$	M	4871.4	1110	\$ 974,280	\$ 878
3,301-10,000	4338.6	1802	\$ 887,312	\$	L	457.6	52	\$ 91,520	\$ 1,760
10,001-50,000	3888.3	987	\$ 777,860	\$					
50,001-100,000	983.1	113	\$ 196,620	\$					
100,001-1,000,000	457.6	52	\$ 91,520	\$					

Totals

System Size	O&M Cost	Annual Cap Cost	Annual Monitoring Cost	Total Annual Cost	System Size	O&M Cost	Annual Cap Cost	Annual Monitoring Cost	Total Annual Cost
25-100	\$ 3,750,191	\$ 3,753,595	\$ 39,785,635	\$ 7,741,898	VVS	\$ 21,668,389	\$ 24,328,602	\$ 1,187,720	\$ 47,182,712
101-500	\$ 17,918,198	\$ 20,573,008	\$ 217,950,738	\$ 39,440,814	VS	\$ 31,161,874	\$ 48,736,248	\$ 1,982,698	\$ 81,880,619
501-1000	\$ 8,188,040	\$ 13,911,373	\$ 147,377,278	\$ 22,809,489	S	\$ 23,876,781	\$ 39,999,687	\$ 867,312	\$ 64,743,770
1001-3,300	\$ 22,973,634	\$ 34,824,878	\$ 368,935,230	\$ 58,071,130	M	\$ 31,958,532	\$ 59,617,813	\$ 974,280	\$ 82,548,628
3,301-10,000	\$ 23,876,791	\$ 39,999,687	\$ 423,757,042	\$ 867,312	L	\$ 9,619,194	\$ 16,028,923	\$ 91,520	\$ 25,737,637
10,001-50,000	\$ 24,189,442	\$ 46,144,477	\$ 488,855,250	\$ 777,660	Total	\$ 118,282,581	\$ 188,707,255	\$ 5,103,528	\$ 312,093,364
50,001-100,000	\$ 7,757,091	\$ 13,473,338	\$ 142,738,715	\$ 198,620					
100,001-1,000,000	\$ 9,619,194	\$ 16,028,923	\$ 169,789,455	\$ 91,520					
Total	\$ 118,282,581	\$ 188,707,255	\$ 1,999,187,342	\$ 5,103,528					

Per System Costs

System Size	O&M Cost	Annual Cap Cost	Annual Monitoring Cost	Total Annual Cost	System Size	O&M Cost	Annual Cap Cost	Annual Monitoring Cost	Total Annual Cost	No. of Sys. Above Reg. Limit	Cost per System
25-100	\$ 3,750,191	\$ 3,753,595	\$ 751	\$ 7,504,487	VVS	\$ 21,668,389	\$ 24,328,602	\$ 3,561	\$ 46,000,552	2,983.2	\$ 16,009
101-500	\$ 17,918,198	\$ 20,573,008	\$ 2,810	\$ 38,494,016	VS	\$ 31,161,874	\$ 48,736,248	\$ 4,513	\$ 80,402,635	2,850.1	\$ 28,350
501-1000	\$ 8,188,040	\$ 13,911,373	\$ 1,618	\$ 22,801,031	S	\$ 23,876,781	\$ 39,999,687	\$ 2,158	\$ 63,978,626	431.143	\$ 64,019
1001-3,300	\$ 22,973,634	\$ 34,824,878	\$ 2,897	\$ 58,001,410	M	\$ 31,958,532	\$ 59,617,813	\$ 2,208	\$ 91,576,553	502.6	\$ 183,087
3,301-10,000	\$ 23,876,791	\$ 39,999,687	\$ 2,158	\$ 63,978,626	L	\$ 9,619,194	\$ 16,028,923	\$ 207	\$ 25,656,124	23.5	\$ 1,090,917
10,001-50,000	\$ 24,189,442	\$ 46,144,477	\$ 1,761	\$ 70,335,680							
50,001-100,000	\$ 7,757,091	\$ 13,473,338	\$ 445	\$ 21,680,874							
100,001-1,000,000	\$ 9,619,194	\$ 16,028,923	\$ 207	\$ 25,656,124							

Household Costs HH Consumption (gal):

System Size	O&M Cost	Annual Cap Cost	Annual Monitoring Cost	Total Annual Cost	System Size	O&M Cost	Annual Cap Cost	Annual Monitoring Cost	Total Annual Cost	No. of Sys. Above Reg. Limit	Cost per System	Average Daily Flow (MGD)	HH Incremental Cost
25-100	\$ 3,750,191	\$ 3,753,595	\$ 150,290	\$ 7,504,487	VVS	\$ 21,668,389	\$ 24,328,602	\$ 712,268	\$ 46,709,259	2,983.2	\$ 124.84	0.0285	\$
101-500	\$ 17,918,198	\$ 20,573,008	\$ 561,978	\$ 39,053,184	VS	\$ 31,161,874	\$ 48,736,248	\$ 902,551	\$ 80,800,673	2,850.1	\$ 34.33	0.1878	\$
501-1000	\$ 8,188,040	\$ 13,911,373	\$ 323,237	\$ 22,422,650	S	\$ 23,876,781	\$ 39,999,687	\$ 431,143	\$ 64,307,601	431.143	\$ 84.56	0.8252	\$
1001-3,300	\$ 22,973,634	\$ 34,824,878	\$ 578,315	\$ 58,376,827	M	\$ 31,958,532	\$ 59,617,813	\$ 2,208	\$ 91,578,553	502.6	\$ 10.37	4.0158	\$
3,301-10,000	\$ 23,876,791	\$ 39,999,687	\$ 431,143	\$ 64,307,601	L	\$ 9,619,194	\$ 16,028,923	\$ 41,442	\$ 25,689,559	23.5	\$ 6.00	37.5902	\$
10,001-50,000	\$ 24,189,442	\$ 46,144,477	\$ 352,142	\$ 70,686,061									
50,001-100,000	\$ 7,757,091	\$ 13,473,338	\$ 89,034	\$ 21,319,463									
100,001-1,000,000	\$ 9,619,194	\$ 16,028,923	\$ 41,442	\$ 25,689,559									

Results (MCL 300)

PUBLIC

Monitoring Costs

Monitoring Cost \$ Cost 50 Frequency 4

System Size	No. of Sites	No. of Systems	Total Annual Monitoring Cost	Cost per System	System Size	No. of Sites	No. of Systems	Total Annual Monitoring Cost	Cost per System
25-100	1190.8	1083	\$ 238,112	\$	224	VVS	5638.6	\$ 1,187,720	\$ 238
101-500	4748.0	3924	\$ 948,608	\$	242	VS	9913.5	\$ 1,982,696	\$ 317
501-1000	3550.4	2518	\$ 710,078	\$	262	S	4336.6	\$ 867,312	\$ 456
1001-3,300	6363.1	3743	\$ 1,272,620	\$	340	M	4871.4	\$ 974,280	\$ 878
3,301-10,000	4336.6	1902	\$ 867,312	\$	458	L	457.8	\$ 81,520	\$ 1,760
10,001-50,000	3868.3	997	\$ 777,660	\$	780				
50,001-100,000	983.1	113	\$ 186,820	\$	1,740				
100,001-1,000,000	457.8	52	\$ 81,520	\$	1,760				

Totals

System Size	O&M Cost	Annual Cap Cost	Annual Monitoring Cost	Cap Cost	Total Annual Cost	System Size	O&M Cost	Annual Cap Cost	Annual Monitoring Cost	Cap Cost	Total Annual Cost
25-100	\$ 2,781,592	\$ 2,850,613	\$ 238,112	\$ 30,199,440	\$ 33,070,757	VVS	\$ 16,628,015	\$ 19,046,491	\$ 201,778,797	\$ 1,187,720	\$ 38,860,226
101-500	\$ 13,844,424	\$ 16,195,878	\$ 171,578,357	\$ 171,578,357	\$ 353,150,116	VS	\$ 22,807,221	\$ 35,373,505	\$ 374,747,417	\$ 1,982,696	\$ 60,263,422
501-1000	\$ 6,020,317	\$ 10,068,553	\$ 108,666,396	\$ 108,666,396	\$ 227,561,762	S	\$ 13,630,541	\$ 22,831,973	\$ 241,882,243	\$ 867,312	\$ 37,329,826
1001-3,300	\$ 16,886,904	\$ 25,304,952	\$ 268,081,021	\$ 268,081,021	\$ 502,272,954	M	\$ 20,521,179	\$ 37,608,682	\$ 400,528,943	\$ 974,280	\$ 59,302,341
3,301-10,000	\$ 13,630,541	\$ 22,831,973	\$ 867,312	\$ 31,071,048	\$ 57,370,873	L	\$ 6,045,177	\$ 10,067,444	\$ 108,654,648	\$ 81,520	\$ 18,204,141
10,001-50,000	\$ 4,881,259	\$ 8,478,051	\$ 186,820	\$ 89,819,598	\$ 105,285,728		\$ 79,730,134	\$ 125,128,294	\$ 1,325,589,746	\$ 5,103,528	\$ 1,999,457,757
50,001-100,000	\$ 6,045,177	\$ 10,067,444	\$ 81,520	\$ 108,654,648	\$ 125,557,789						
100,001-1,000,000	\$ 79,730,134	\$ 125,128,294	\$ 5,103,528	\$ 1,325,589,746	\$ 1,609,541,702						
Total	\$ 79,730,134	\$ 125,128,294	\$ 5,103,528	\$ 1,325,589,746	\$ 1,609,541,702						

Per System Costs

System Size	O&M Cost	Annual Cap Cost	Monitoring Cost for Reg. Limit	Monitoring Cost for Systems Above Reg. Limit	No. of Sys. Above Reg. Limit	Cost per System	System Size	O&M Cost	Annual Cap Cost	Annual Cap Cost	No. of Sys. Above Reg. Limit	Monitoring Cost for Systems Above Reg. Limit	Cost per System
25-100	\$ 2,781,592	\$ 2,850,613	\$ 579	\$ 115,846	517	\$ 11,114	VVS	\$ 16,628,015	\$ 19,046,491	\$ 19,046,491	2,817	\$ 563,313	\$ 16,314
101-500	\$ 13,844,424	\$ 16,195,878	\$ 2,237	\$ 447,467	1,849	\$ 16,488	VS	\$ 22,807,221	\$ 35,373,505	\$ 35,373,505	3,290	\$ 658,039	\$ 28,364
501-1000	\$ 6,020,317	\$ 10,068,553	\$ 1,178	\$ 235,668	838	\$ 19,534	S	\$ 13,630,541	\$ 22,831,973	\$ 22,831,973	1,231	\$ 246,109	\$ 68,015
1001-3,300	\$ 16,886,904	\$ 25,304,952	\$ 2,112	\$ 422,371	1,242	\$ 34,304	M	\$ 20,521,179	\$ 37,608,682	\$ 37,608,682	1,395	\$ 278,982	\$ 184,369
3,301-10,000	\$ 13,630,541	\$ 22,831,973	\$ 1,231	\$ 246,109	540	\$ 68,015	L	\$ 6,045,177	\$ 10,067,444	\$ 10,067,444	131	\$ 26,208	\$ 1,083,867
10,001-50,000	\$ 15,639,920	\$ 29,328,830	\$ 1,113	\$ 222,681	285	\$ 158,295							
50,001-100,000	\$ 4,881,259	\$ 8,478,051	\$ 282	\$ 56,302	32	\$ 414,608							
100,001-1,000,000	\$ 6,045,177	\$ 10,067,444	\$ 131	\$ 26,208	15	\$ 1,083,867							

Household Costs HH Consumption (gal):

System Size	O&M Cost	Annual Cap Cost	Monitoring Cost for Reg. Limit	Monitoring Cost for Systems Above Reg. Limit	Average Daily Flow (MGD)	No. of Sys. Above Reg. Limit	HH Incremental Cost	System Size	O&M Cost	Annual Cap Cost	Annual Cap Cost	Monitoring Cost for Systems Above Reg. Limit	Average Daily Flow (MGD)	Affected Systems	HH Incremental Cost
25-100	\$ 2,781,592	\$ 2,850,613	\$ 115,846	\$ 0,0071	0.0071	517	\$ 355.24	VVS	\$ 16,628,015	\$ 19,046,491	\$ 19,046,491	\$ 563,313	0.0266	2,366.2	\$ 121.68
101-500	\$ 13,844,424	\$ 16,195,878	\$ 447,467	\$ 0.0349	0.0349	1,849	\$ 108.24	VS	\$ 22,807,221	\$ 35,373,505	\$ 35,373,505	\$ 658,039	0.1878	2,078.0	\$ 34.34
501-1000	\$ 6,020,317	\$ 10,068,553	\$ 235,668	\$ 0.0947	0.0947	838	\$ 46.91	S	\$ 13,630,541	\$ 22,831,973	\$ 22,831,973	\$ 246,109	0.8252	639.7	\$ 18.74
1001-3,300	\$ 16,886,904	\$ 25,304,952	\$ 422,371	\$ 0.2505	0.2505	1,242	\$ 31.15	M	\$ 20,521,179	\$ 37,608,682	\$ 37,608,682	\$ 278,982	4.0158	317.8	\$ 10.44
3,301-10,000	\$ 13,630,541	\$ 22,831,973	\$ 246,109	\$ 3.2048	3.2048	540	\$ 11.23	L	\$ 6,045,177	\$ 10,067,444	\$ 10,067,444	\$ 26,208	37.5902	14.9	\$ 6.95
10,001-50,000	\$ 15,639,920	\$ 29,328,830	\$ 222,681	\$ 11,1710	11,1710	32	\$ 8.44								
50,001-100,000	\$ 4,881,259	\$ 8,478,051	\$ 56,302	\$ 37,5902	37,5902	15	\$ 6.56								
100,001-1,000,000	\$ 6,045,177	\$ 10,067,444	\$ 26,208	\$ 83,000	83,000										

PRIVATE

Monitoring Costs

Monitoring Cost \$ 50 Frequency 4

System Size	No. of Sites	No. of Systems	Total Annual Monitoring Cost	Cost per System	System Size	No. of Sites	No. of Systems	Total Annual Monitoring Cost	Cost per System
25-100	13316.8	11890	\$ 2,663,360	\$	VVS	24574.0	21194.0	\$ 4,914,928	\$ 232
101-500	11257.8	9304	\$ 2,251,568	\$	VS	4561.2	2956.0	\$ 912,240	\$ 309
501-1000	2256.0	1800	\$ 451,200	\$	S	843.9	414.0	\$ 168,784	\$ 458
1001-3,300	2305.2	1356	\$ 481,040	\$	M	1046.4	240.0	\$ 209,280	\$ 872
3,301-10,000	943.9	414	\$ 188,784	\$	L	114.4	13.0	\$ 22,880	\$ 1,760
10,001-50,000	846.3	217	\$ 189,280	\$					
50,001-100,000	200.1	23	\$ 40,020	\$					
100,001-1,000,000	114.4	13	\$ 22,880	\$					

Totals

System Size	O&M Cost	Annual Cap Cost	Annual Monitoring Cost	Total Annual Monitoring Cost	Total Annual Cost	System Size	O&M Cost	Annual Cap Cost	Annual Monitoring Cost	Total Annual Monitoring Cost	Total Annual Cost
25-100	\$ 26,743,047	\$ 27,700,787	\$ 2,663,360	\$ 59,107,194	\$ 86,447,381	VVS	\$ 55,750,673	\$ 58,177,015	\$ 4,914,928	\$ 118,842,616	\$ 118,842,616
101-500	\$ 27,007,628	\$ 30,476,227	\$ 2,251,568	\$ 59,735,421	\$ 86,971,646	VS	\$ 8,374,003	\$ 13,127,334	\$ 912,240	\$ 22,413,577	\$ 22,413,577
501-1000	\$ 3,246,828	\$ 5,396,100	\$ 451,200	\$ 9,093,928	\$ 13,337,756	S	\$ 2,519,748	\$ 4,239,924	\$ 168,784	\$ 6,948,464	\$ 6,948,464
1001-3,300	\$ 5,127,374	\$ 7,731,234	\$ 81,904,808	\$ 481,040	\$ 13,319,949	M	\$ 3,941,900	\$ 7,148,050	\$ 209,280	\$ 11,977,231	\$ 11,977,231
3,301-10,000	\$ 2,518,748	\$ 4,239,924	\$ 188,784	\$ 6,948,454	\$ 9,467,202	L	\$ 1,453,438	\$ 2,435,641	\$ 25,803,217	\$ 3,911,957	\$ 3,911,957
10,001-50,000	\$ 2,989,480	\$ 5,647,942	\$ 189,280	\$ 8,606,682	\$ 11,596,162		\$ 71,938,756	\$ 85,125,964	\$ 6,248,112	\$ 153,313,834	\$ 153,313,834
50,001-100,000	\$ 852,420	\$ 1,498,108	\$ 40,020	\$ 2,390,548	\$ 3,242,968						
100,001-1,000,000	\$ 1,453,438	\$ 2,435,641	\$ 22,880	\$ 3,911,957	\$ 5,365,399						
Total	\$ 71,938,756	\$ 85,125,964	\$ 6,248,112	\$ 153,313,834	\$ 224,382,656						

Per System Costs

System Size	O&M Cost	Annual Cap Cost	Monitoring Cost for Systems Above Reg. Limit	No. of Sys. Above Reg. Limit	Cost per System	System Size	O&M Cost	Annual Cap Cost	Monitoring Cost for Systems Above Reg. Limit	No. of Sys. Above Reg. Limit	Cost per System
25-100	\$ 26,743,047	\$ 27,700,787	\$ 6,479	5,785	\$ 9,981	VVS	\$ 55,750,673	\$ 58,177,015	\$ 11,784	10,168.9	\$ 11,435
101-500	\$ 27,007,628	\$ 30,476,227	\$ 5,305	4,384	\$ 13,354	VS	\$ 8,374,003	\$ 13,127,334	\$ 1,514	961.1	\$ 22,225
501-1000	\$ 3,246,828	\$ 5,396,100	\$ 749	531	\$ 18,558	S	\$ 2,519,748	\$ 4,239,924	\$ 268	117.5	\$ 57,098
1001-3,300	\$ 5,127,374	\$ 7,731,234	\$ 765	450	\$ 28,912	M	\$ 3,941,900	\$ 7,148,050	\$ 300	68.7	\$ 160,759
3,301-10,000	\$ 2,518,748	\$ 4,239,924	\$ 242	117	\$ 39,785	L	\$ 1,453,438	\$ 2,435,641	\$ 33	3.7	\$ 1,046,505
10,001-50,000	\$ 2,989,480	\$ 5,647,942	\$ 57	7	\$ 358,639						
50,001-100,000	\$ 852,420	\$ 1,498,108	\$ 33	4	\$ 1,046,505						

Household Costs HH Consumption (gal): 83,000

System Size	O&M Cost	Annual Cap Cost	Monitoring Cost for Systems Above Reg. Limit	No. of Sys. Above Reg. Limit	Average Daily Flow (MGD)	HH Incremental Cost	System Size	O&M Cost	Annual Cap Cost	Monitoring Cost for Systems Above Reg. Limit	No. of Sys. Above Reg. Limit	Average Daily Flow (MGD)	HH Incremental Cost
25-100	\$ 26,743,047	\$ 27,700,787	\$ 1,295,779	0,052	0.0052	\$ 438.87	VVS	\$ 55,750,673	\$ 58,177,015	\$ 2,358,748	10,168.9	0.0122	\$ 212.32
101-500	\$ 27,007,628	\$ 30,476,227	\$ 1,060,987	0,0216	0.0216	\$ 384.00	VS	\$ 8,374,003	\$ 13,127,334	\$ 302,764	961.1	0.1274	\$ 38.66
501-1000	\$ 3,246,828	\$ 5,396,100	\$ 149,749	0,0728	0.0728	\$ 51.88	S	\$ 2,519,748	\$ 4,239,924	\$ 53,569	117.5	0.8543	\$ 26.16
1001-3,300	\$ 5,127,374	\$ 7,731,234	\$ 153,015	0,1822	0.1822	\$ 34.21	M	\$ 3,941,900	\$ 7,148,050	\$ 59,927	68.7	3.3474	\$ 10.92
3,301-10,000	\$ 2,518,748	\$ 4,239,924	\$ 53,569	0,8543	0.8543	\$ 20.16	L	\$ 1,453,438	\$ 2,435,641	\$ 6,552	3.7	38.0777	\$ 6.60
10,001-50,000	\$ 2,989,480	\$ 5,647,942	\$ 48,467	2,7355	2.7355	\$ 7.94							
50,001-100,000	\$ 852,420	\$ 1,498,108	\$ 11,480	9,1202	9.1202	\$ 8.94							
100,001-1,000,000	\$ 1,453,438	\$ 2,435,641	\$ 6,552	38,0777	38.0777	\$ 6.60							

Results (MCL 400)

PUBLIC

Monitoring Costs

Monitoring Cost \$ Cost 50 Frequency 4

System Size	No. of Sites	No. of Systems	Total Annual Monitoring Cost	Cost per System	System Size	No. of Sites	No. of Systems	Total Annual Monitoring Cost	Cost per System
25-100	1190.6	1063	\$ 238,112	\$	224	VVS	5938.6	\$ 1,187,720	\$ 238
101-500	4748.0	3924	\$ 948,608	\$	242	VS	9913.5	\$ 1,982,696	\$ 317
501-1000	3550.4	2518	\$ 710,078	\$	282	S	4338.6	\$ 867,312	\$ 456
1001-3,300	6383.1	3743	\$ 1,272,820	\$	340	M	4871.4	\$ 974,260	\$ 878
3,301-10,000	4338.6	1802	\$ 867,312	\$	456	L	457.6	\$ 91,520	\$ 1,760
10,001-50,000	3666.3	997	\$ 777,660	\$	780				
50,001-100,000	983.1	113	\$ 196,620	\$	1,740				
100,001-1,000,000	457.6	52	\$ 91,520	\$	1,760				

Totals

System Size	O&M Cost	Annual Cap Cost	Cap Cost	Annual Monitoring Cost	Total Annual Cost	System Size	O&M Cost	Annual Cap Cost	Cap Cost	Annual Monitoring Cost	Total Annual Cost
25-100	\$ 2,123,221	\$ 2,253,169	\$ 23,870,107	\$ 238,112	\$ 4,614,502	VVS	\$ 13,178,845	\$ 15,536,617	\$ 184,595,147	\$ 1,187,720	\$ 26,903,903
101-500	\$ 11,056,424	\$ 13,283,448	\$ 140,725,040	\$ 949,608	\$ 25,299,480	VS	\$ 17,514,784	\$ 26,587,800	\$ 281,671,533	\$ 1,982,696	\$ 46,085,280
501-1000	\$ 4,603,019	\$ 7,547,858	\$ 78,982,119	\$ 710,078	\$ 12,860,953	S	\$ 6,824,225	\$ 14,697,410	\$ 155,704,574	\$ 867,312	\$ 24,388,948
1001-3,300	\$ 12,911,775	\$ 19,039,942	\$ 201,709,414	\$ 1,272,820	\$ 33,224,338	M	\$ 13,604,049	\$ 24,867,160	\$ 263,443,049	\$ 974,260	\$ 39,445,489
3,301-10,000	\$ 8,624,225	\$ 14,897,410	\$ 155,704,574	\$ 867,312	\$ 24,388,948	L	\$ 3,941,971	\$ 6,557,905	\$ 89,474,539	\$ 91,520	\$ 10,581,366
10,001-50,000	\$ 10,411,872	\$ 19,322,808	\$ 204,708,101	\$ 777,660	\$ 30,512,140		\$ 57,064,684	\$ 88,248,893	\$ 934,888,843	\$ 5,103,528	\$ 190,418,108
50,001-100,000	\$ 3,192,378	\$ 5,544,352	\$ 58,738,948	\$ 196,620	\$ 8,933,349						
100,001-1,000,000	\$ 3,941,971	\$ 6,557,905	\$ 69,474,539	\$ 91,520	\$ 10,591,398						
Total	\$ 57,064,684	\$ 88,248,893	\$ 934,888,843	\$ 5,103,528	\$ 190,418,108						

Per System Costs

System Size	O&M Cost	Annual Cap Cost	No. of Sites Above Reg. Limit	Monitoring Cost for Systems Above Reg. Limit	Cost per System	System Size	O&M Cost	Annual Cap Cost	No. of Sites Above Reg. Limit	Monitoring Cost for Systems Above Reg. Limit	Cost per System
25-100	\$ 2,123,221	\$ 2,253,169	485	\$ 93,039	\$ 10,761	VVS	\$ 13,178,845	\$ 15,536,617	2,324	\$ 484,719	\$ 1,951.2
101-500	\$ 11,056,424	\$ 13,283,448	1,858	\$ 371,879	\$ 16,090	VS	\$ 17,514,784	\$ 26,587,800	2,487	\$ 497,476	\$ 28,391
501-1000	\$ 4,603,019	\$ 7,547,858	891	\$ 178,164	\$ 19,515	S	\$ 6,824,225	\$ 14,697,410	794	\$ 158,767	\$ 348.2
1001-3,300	\$ 12,911,775	\$ 19,039,942	1,597	\$ 319,311	\$ 34,382	M	\$ 13,604,049	\$ 24,867,160	922	\$ 184,481	\$ 183,917
3,301-10,000	\$ 8,624,225	\$ 14,897,410	784	\$ 158,767	\$ 68,013	L	\$ 3,941,971	\$ 6,557,905	87	\$ 17,329	\$ 1,068,141
10,001-50,000	\$ 10,411,872	\$ 19,322,808	738	\$ 147,251	\$ 158,286						
50,001-100,000	\$ 3,192,378	\$ 5,544,352	186	\$ 37,230	\$ 410,061						
100,001-1,000,000	\$ 3,941,971	\$ 6,557,905	87	\$ 17,329	\$ 1,068,141						

Household Costs HH Consumption (gal): 83,000

System Size	O&M Cost	Annual Cap Cost	Monitoring Cost for Systems Above Reg. Limit	Average Daily Flow (MGD)	HH Incremental Cost	System Size	O&M Cost	Annual Cap Cost	Monitoring Cost for Systems Above Reg. Limit	Average Daily Flow (MGD)	HH Incremental Cost
25-100	\$ 2,123,221	\$ 2,253,169	\$ 93,039	0.0071	\$ 343.93	VVS	\$ 13,178,845	\$ 15,536,617	\$ 484,719	0.0268	\$ 118.16
101-500	\$ 11,056,424	\$ 13,283,448	\$ 371,879	0.0346	\$ 105.62	VS	\$ 17,514,784	\$ 26,587,800	\$ 497,476	0.1878	\$ 34.37
501-1000	\$ 4,603,019	\$ 7,547,858	\$ 178,164	0.0947	\$ 48.86	S	\$ 6,824,225	\$ 14,697,410	\$ 158,767	0.6252	\$ 16.74
1001-3,300	\$ 12,911,775	\$ 19,039,942	\$ 319,311	0.2505	\$ 31.20	M	\$ 13,604,049	\$ 24,867,160	\$ 184,481	2.102	\$ 10.41
3,301-10,000	\$ 8,624,225	\$ 14,897,410	\$ 158,767	0.8252	\$ 18.74	L	\$ 3,941,971	\$ 6,557,905	\$ 17,329	37.5902	\$ 6.48
10,001-50,000	\$ 10,411,872	\$ 19,322,808	\$ 147,251	3.2048	\$ 11.23						
50,001-100,000	\$ 3,192,378	\$ 5,544,352	\$ 37,230	11.1710	\$ 8.35						
100,001-1,000,000	\$ 3,941,971	\$ 6,557,905	\$ 17,329	37.5902	\$ 6.48						

Results (MCL 400)

PRIVATE

Monitoring Costs

System Size	No. of Sites	No. of Systems	Total Annual Monitoring Cost	Cost per System	System Size	No. of Sites	No. of Systems	Total Annual Monitoring Cost	Cost per System
25-100	13316.8	11890	\$ 2,893,360	\$ 242	VVS	24574.6	21194.0	\$ 4,914,928	\$ 232
101-500	11257.8	9304	\$ 2,251,568	\$ 242	VS	4581.2	2956.0	\$ 912,240	\$ 309
501-1000	2258.0	1800	\$ 451,200	\$ 251	S	943.9	414.0	\$ 188,784	\$ 456
1001-3,300	2305.2	1358	\$ 461,040	\$ 339	M	1046.4	240.0	\$ 208,280	\$ 872
3,301-10,000	943.9	414	\$ 188,784	\$ 456	L	114.4	13.0	\$ 22,880	\$ 1,760
10,001-50,000	846.3	217	\$ 169,260	\$ 780					
50,001-100,000	200.1	23	\$ 40,020	\$ 1,740					
100,001-1,000,000	114.4	13	\$ 22,880	\$ 1,760					

Totals

System Size	O&M Cost	Annual Cap Cost	Annual Monitoring Cost	Total Annual Cost	System Size	No. of Sites	No. of Systems	O&M Cost	Annual Cap Cost	Annual Monitoring Cost	Total Annual Cost
25-100	\$ 22,013,510	\$ 21,902,572	\$ 2,893,360	\$ 46,809,442	VVS	24574.6	21194.0	\$ 43,589,327	\$ 48,965,341	\$ 4,914,928	\$ 97,469,597
101-500	\$ 21,574,817	\$ 24,962,770	\$ 2,251,568	\$ 48,789,155	VS	4581.2	2956.0	\$ 6,392,602	\$ 9,835,670	\$ 912,240	\$ 17,140,512
501-1000	\$ 2,478,244	\$ 4,034,934	\$ 427,461	\$ 6,940,639	S	943.9	414.0	\$ 1,630,523	\$ 2,727,989	\$ 188,784	\$ 4,547,296
1001-3,300	\$ 3,914,358	\$ 5,800,736	\$ 461,040	\$ 10,176,134	M	1046.4	240.0	\$ 2,547,659	\$ 4,700,534	\$ 487,975	\$ 7,736,168
3,301-10,000	\$ 1,889,875	\$ 3,720,311	\$ 188,784	\$ 5,800,970	L	114.4	13.0	\$ 947,812	\$ 1,586,757	\$ 22,880	\$ 2,557,449
10,001-50,000	\$ 557,784	\$ 980,223	\$ 169,260	\$ 1,707,267				\$ 55,106,923	\$ 65,716,292	\$ 6,248,112	\$ 127,071,328
50,001-100,000	\$ 947,812	\$ 1,586,757	\$ 40,020	\$ 2,574,589							
100,001-1,000,000	\$ 55,106,923	\$ 65,716,292	\$ 22,880	\$ 121,645,995							
Total											

Per System Costs

System Size	O&M Cost	Annual Cap Cost	Annual Monitoring Cost	Total Annual Cost	System Size	No. of Sites	No. of Systems	O&M Cost	Annual Cap Cost	Annual Monitoring Cost	Total Annual Cost
25-100	\$ 22,013,510	\$ 21,902,572	\$ 1,040,675	\$ 44,956,757	VVS	4646	4646	\$ 4,358,327	\$ 48,665,341	\$ 9,810	\$ 1,021,945
101-500	\$ 21,574,817	\$ 24,962,770	\$ 881,270	\$ 47,418,857	VS	3842	3842	\$ 6,392,602	\$ 9,835,670	\$ 1,144	\$ 22,628
501-1000	\$ 2,478,244	\$ 4,034,934	\$ 113,210	\$ 6,626,388	S	401	401	\$ 1,630,523	\$ 2,727,989	\$ 173	\$ 34,558
1001-3,300	\$ 3,914,358	\$ 5,800,736	\$ 115,678	\$ 9,830,772	M	340	340	\$ 2,547,659	\$ 4,700,534	\$ 198	\$ 39,827
3,301-10,000	\$ 1,889,875	\$ 3,720,311	\$ 32,050	\$ 5,642,236	L	76	76	\$ 947,812	\$ 1,586,757	\$ 22	\$ 4,332
10,001-50,000	\$ 557,784	\$ 980,223	\$ 7,578	\$ 1,545,585		4	4				
50,001-100,000	\$ 947,812	\$ 1,586,757	\$ 38	\$ 2,534,367		2	2				
100,001-1,000,000	\$ 55,106,923	\$ 65,716,292	\$ 4,332	\$ 121,645,995							

Household Costs

System Size	O&M Cost	Annual Cap Cost	Annual Monitoring Cost	Total Annual Cost	System Size	No. of Sites	No. of Systems	O&M Cost	Annual Cap Cost	Annual Monitoring Cost	Total Annual Cost
25-100	\$ 22,013,510	\$ 21,902,572	\$ 0,000	\$ 43,916,082	VVS	4646	4646	\$ 43,589,327	\$ 48,665,341	\$ 1,921,945	\$ 94,176,613
101-500	\$ 21,574,817	\$ 24,962,770	\$ 0,000	\$ 46,537,587	VS	3842	3842	\$ 6,392,602	\$ 9,835,670	\$ 228,889	\$ 17,457,161
501-1000	\$ 2,478,244	\$ 4,034,934	\$ 0,000	\$ 6,513,178	S	401	401	\$ 1,630,523	\$ 2,727,989	\$ 34,558	\$ 4,403,070
1001-3,300	\$ 3,914,358	\$ 5,800,736	\$ 0,000	\$ 9,715,094	M	340	340	\$ 2,547,659	\$ 4,700,534	\$ 39,827	\$ 7,288,016
3,301-10,000	\$ 1,889,875	\$ 3,720,311	\$ 0,000	\$ 5,610,186	L	76	76	\$ 947,812	\$ 1,586,757	\$ 4,332	\$ 2,538,901
10,001-50,000	\$ 557,784	\$ 980,223	\$ 0,000	\$ 1,538,007		4	4				
50,001-100,000	\$ 947,812	\$ 1,586,757	\$ 0,000	\$ 2,534,569		2	2				
100,001-1,000,000	\$ 55,106,923	\$ 65,716,292	\$ 0,000	\$ 120,823,215							

Results (MCL 500)

PUBLIC

Monitoring Costs

Monitoring Cost \$ Cost 50 Frequency 4

System Size	No. of Sites	No. of Systems	Total Annual Monitoring Cost	Cost per System	System Size	No. of Sites	No. of Systems	Total Annual Monitoring Cost	Cost per System
25-100	1190.6	1063	\$ 238,112	\$	VVS	5938.6	4987	\$ 1,187,720	\$ 238
101-500	4748.0	3924	\$ 949,608	\$	VS	9913.5	242	\$ 6281	\$ 317
501-1000	3550.4	2518	\$ 710,076	\$	S	4336.8	1902	\$ 867,312	\$ 456
1001-3,300	6363.1	3743	\$ 1,272,620	\$	M	4871.4	1110	\$ 974,280	\$ 878
3,301-10,000	4336.8	1902	\$ 867,312	\$	L	457.6	52	\$ 91,520	\$ 1,760
10,001-50,000	3,301.0	997	\$ 388.8	\$ 780					
50,001-100,000	993.1	113	\$ 186,620	\$ 1,740					
100,001-1,000,000	457.6	52	\$ 91,520	\$ 1,760					

Totals

System Size	O&M Cost	Annual Cap Cost	Cap Cost	Annual Monitoring Cost	Total Annual Cost	System Size	O&M Cost	Annual Cap Cost	Cap Cost	Annual Monitoring Cost	Total Annual Cost
25-100	\$ 1,732,298	\$ 1,856,503	\$ 19,668,458	\$ 238,112	\$ 3,826,973	VVS	\$ 11,090,058	\$ 13,180,372	\$ 139,633,046	\$ 1,187,720	\$ 26,458,150
101-500	\$ 9,357,761	\$ 11,323,808	\$ 119,964,888	\$ 849,808	\$ 21,631,177	VS	\$ 13,627,956	\$ 20,621,756	\$ 218,467,173	\$ 1,992,898	\$ 38,332,407
501-1000	\$ 3,582,267	\$ 5,846,022	\$ 91,932,844	\$ 710,076	\$ 10,136,365	S	\$ 5,976,441	\$ 9,959,378	\$ 105,508,795	\$ 867,312	\$ 16,803,131
1001-3,300	\$ 10,045,688	\$ 14,775,733	\$ 156,534,329	\$ 1,272,620	\$ 28,094,042	M	\$ 9,503,218	\$ 17,247,238	\$ 182,717,484	\$ 974,280	\$ 27,724,734
3,301-10,000	\$ 5,976,441	\$ 9,959,378	\$ 105,508,795	\$ 867,312	\$ 16,903,131	L	\$ 2,721,497	\$ 4,527,109	\$ 47,960,257	\$ 91,520	\$ 7,340,128
10,001-50,000	\$ 7,298,690	\$ 13,418,547	\$ 142,158,277	\$ 777,860	\$ 21,494,897		\$ 42,919,170	\$ 65,535,851	\$ 694,287,734	\$ 5,103,528	\$ 113,658,648
50,001-100,000	\$ 2,204,528	\$ 3,828,689	\$ 40,561,187	\$ 196,620	\$ 6,229,037						
100,001-1,000,000	\$ 2,721,497	\$ 4,527,109	\$ 47,960,257	\$ 91,520	\$ 7,340,128						
Total	\$ 42,919,170	\$ 65,535,851	\$ 694,287,734	\$ 5,103,528	\$ 113,658,648						

Per System Costs

System Size	O&M Cost	Annual Cap Cost	No. of Sites Above Reg. Limit	Monitoring Cost for Systems Above Reg. Limit	Cost per System Above Reg. Limit	System Size	O&M Cost	Annual Cap Cost	Annual Monitoring Cost	No. of Sites Above Reg. Limit	Monitoring Cost for Systems Above Reg. Limit	Cost per System Above Reg. Limit
25-100	\$ 1,732,298	\$ 1,856,503	396	\$ 77,223	\$ 194.7	VVS	\$ 11,090,058	\$ 13,180,372	\$ 1,187,720	1,978	\$ 395,553	\$ 199.8
101-500	\$ 9,357,761	\$ 11,323,808	1,592	\$ 318,330	\$ 200.0	VS	\$ 13,627,956	\$ 20,621,756	\$ 1,992,898	1,932	\$ 396,354	\$ 205.0
501-1000	\$ 3,582,267	\$ 5,846,022	892	\$ 138,367	\$ 155.1	S	\$ 5,976,441	\$ 9,959,378	\$ 867,312	538	\$ 107,584	\$ 199.8
1001-3,300	\$ 10,045,688	\$ 14,775,733	1,240	\$ 247,996	\$ 199.8	M	\$ 9,503,218	\$ 17,247,238	\$ 974,280	636	\$ 127,513	\$ 199.8
3,301-10,000	\$ 5,976,441	\$ 9,959,378	538	\$ 107,584	\$ 199.8	L	\$ 2,721,497	\$ 4,527,109	\$ 91,520	60	\$ 11,978	\$ 199.8
10,001-50,000	\$ 7,298,690	\$ 13,418,547	509	\$ 101,779	\$ 199.8							
50,001-100,000	\$ 2,204,528	\$ 3,828,689	129	\$ 25,733	\$ 199.8							
100,001-1,000,000	\$ 2,721,497	\$ 4,527,109	60	\$ 6,000	\$ 199.8							

Household Costs HH Consumption (gal):

System Size	O&M Cost	Annual Cap Cost	Monitoring Cost for Systems Above Reg. Limit	Average Daily Flow (MGD)	No. of Sys. Above Reg. Limit	HH Incremental Cost	System Size	O&M Cost	Annual Cap Cost	Monitoring Cost for Systems Above Reg. Limit	Average Daily Flow (MGD)	No. of Sys. Above Reg. Limit	HH Incremental Cost
25-100	\$ 1,732,298	\$ 1,856,503	\$ 77,223	0.0071	345	\$ 339.86	VVS	\$ 11,090,058	\$ 13,180,372	\$ 395,553	0.0289	1,980.2	\$ 118.81
101-500	\$ 9,357,761	\$ 11,323,808	\$ 318,330	0.0346	1,315	\$ 104.80	VS	\$ 13,627,956	\$ 20,621,756	\$ 396,354	0.1878	1,220.0	\$ 34.37
501-1000	\$ 3,582,267	\$ 5,846,022	\$ 138,367	0.0947	491	\$ 46.82	S	\$ 5,976,441	\$ 9,959,378	\$ 107,584	0.8252	235.9	\$ 18.74
1001-3,300	\$ 10,045,688	\$ 14,775,733	\$ 247,996	0.2505	729	\$ 31.21	M	\$ 9,503,218	\$ 17,247,238	\$ 127,513	4.0158	145.3	\$ 10.48
3,301-10,000	\$ 5,976,441	\$ 9,959,378	\$ 107,584	0.8252	236	\$ 18.74	L	\$ 2,721,497	\$ 4,527,109	\$ 11,978	37.5802	6.8	\$ 6.45
10,001-50,000	\$ 7,298,690	\$ 13,418,547	\$ 101,779	3.2049	130	\$ 11.32							
50,001-100,000	\$ 2,204,528	\$ 3,828,689	\$ 25,733	11.1710	15	\$ 8.34							
100,001-1,000,000	\$ 2,721,497	\$ 4,527,109	\$ 11,978	37.5802	7	\$ 6.45							

PUBLIC

Monitoring Costs
 Cost \$ 50
 Frequency 4

System Size	No. of Sites	No. of Systems	Total Annual Monitoring Cost	Cost per System	System Size	No. of Sites	No. of Systems	Total Annual Monitoring Cost	Cost per System
25-100	1190.0	1063	\$ 238,112	\$ 224	VVS	5638.0	4987	\$ 1,187,720	\$ 239
101-500	4748.0	3924	\$ 949,608	\$ 242	VS	9913.5	8281	\$ 1,982,696	\$ 317
501-1000	3550.4	2518	\$ 710,076	\$ 282	S	4338.0	1902	\$ 867,312	\$ 456
1001-3,000	6393.1	3743	\$ 1,272,620	\$ 340	M	4671.4	1110	\$ 974,280	\$ 878
3,301-10,000	4336.0	1602	\$ 867,312	\$ 456	L	457.6	52	\$ 91,520	\$ 1,760
10,001-50,000	3888.3	987	\$ 777,660	\$ 780					
50,001-100,000	983.1	113	\$ 196,620	\$ 1,740					
100,001-1,000,000	457.6	52	\$ 91,520	\$ 1,760					

System Size	O&M Cost	Annual Cap Cost	Annual Monitoring Cost	Total Annual Cost	System Size	O&M Cost	Annual Cap Cost	Annual Monitoring Cost	Total Annual Cost
25-100	\$ 1,229,539	\$ 1,353,177	\$ 238,112	\$ 2,820,828	VVS	\$ 8,340,786	\$ 10,123,918	\$ 1,187,720	\$ 19,652,424
101-500	\$ 7,111,247	\$ 8,770,741	\$ 949,608	\$ 16,831,596	VS	\$ 8,776,529	\$ 13,212,718	\$ 1,982,696	\$ 23,971,942
501-1000	\$ 2,307,150	\$ 3,745,089	\$ 39,675,523	\$ 7,10,076	S	\$ 3,150,682	\$ 5,247,074	\$ 967,312	\$ 9,365,068
1001-3,000	\$ 6,471,378	\$ 9,487,629	\$ 100,300,199	\$ 1,272,620	M	\$ 5,002,287	\$ 9,125,166	\$ 96,672,137	\$ 15,101,713
3,301-10,000	\$ 3,150,682	\$ 5,247,074	\$ 55,587,574	\$ 867,312	L	\$ 1,442,828	\$ 2,399,020	\$ 91,520	\$ 3,933,368
10,001-50,000	\$ 3,632,684	\$ 7,093,943	\$ 75,153,333	\$ 777,660	Total	\$ 26,714,889	\$ 40,107,898	\$ 5,103,528	\$ 72,926,315
50,001-100,000	\$ 1,189,583	\$ 2,031,223	\$ 196,620	\$ 3,397,426					
100,001-1,000,000	\$ 1,442,828	\$ 2,399,020	\$ 91,520	\$ 4,943,368					
Total	\$ 26,714,889	\$ 40,107,898	\$ 5,103,528	\$ 72,926,315					

Per System Costs

System Size	O&M Cost	Annual Cap Cost	Annual Monitoring Cost	Total Annual Cost	System Size	O&M Cost	Annual Cap Cost	Annual Monitoring Cost	Total Annual Cost
25-100	\$ 1,229,539	\$ 1,353,177	\$ 238,112	\$ 2,820,828	VVS	\$ 8,340,786	\$ 10,123,918	\$ 1,187,720	\$ 19,652,424
101-500	\$ 7,111,247	\$ 8,770,741	\$ 949,608	\$ 16,831,596	VS	\$ 8,776,529	\$ 13,212,718	\$ 1,982,696	\$ 23,971,942
501-1000	\$ 2,307,150	\$ 3,745,089	\$ 39,675,523	\$ 7,10,076	S	\$ 3,150,682	\$ 5,247,074	\$ 967,312	\$ 9,365,068
1001-3,000	\$ 6,471,378	\$ 9,487,629	\$ 100,300,199	\$ 1,272,620	M	\$ 5,002,287	\$ 9,125,166	\$ 96,672,137	\$ 15,101,713
3,301-10,000	\$ 3,150,682	\$ 5,247,074	\$ 55,587,574	\$ 867,312	L	\$ 1,442,828	\$ 2,399,020	\$ 91,520	\$ 3,933,368
10,001-50,000	\$ 3,632,684	\$ 7,093,943	\$ 75,153,333	\$ 777,660	Total	\$ 26,714,889	\$ 40,107,898	\$ 5,103,528	\$ 72,926,315
50,001-100,000	\$ 1,189,583	\$ 2,031,223	\$ 196,620	\$ 3,397,426					
100,001-1,000,000	\$ 1,442,828	\$ 2,399,020	\$ 91,520	\$ 4,943,368					

Household Costs HH Consumption (gal):

System Size	O&M Cost	Annual Cap Cost	Annual Monitoring Cost	Total Annual Cost	System Size	O&M Cost	Annual Cap Cost	Annual Monitoring Cost	Total Annual Cost
25-100	\$ 1,229,539	\$ 1,353,177	\$ 238,112	\$ 2,820,828	VVS	\$ 8,340,786	\$ 10,123,918	\$ 1,187,720	\$ 19,652,424
101-500	\$ 7,111,247	\$ 8,770,741	\$ 949,608	\$ 16,831,596	VS	\$ 8,776,529	\$ 13,212,718	\$ 1,982,696	\$ 23,971,942
501-1000	\$ 2,307,150	\$ 3,745,089	\$ 39,675,523	\$ 7,10,076	S	\$ 3,150,682	\$ 5,247,074	\$ 967,312	\$ 9,365,068
1001-3,000	\$ 6,471,378	\$ 9,487,629	\$ 100,300,199	\$ 1,272,620	M	\$ 5,002,287	\$ 9,125,166	\$ 96,672,137	\$ 15,101,713
3,301-10,000	\$ 3,150,682	\$ 5,247,074	\$ 55,587,574	\$ 867,312	L	\$ 1,442,828	\$ 2,399,020	\$ 91,520	\$ 3,933,368
10,001-50,000	\$ 3,632,684	\$ 7,093,943	\$ 75,153,333	\$ 777,660	Total	\$ 26,714,889	\$ 40,107,898	\$ 5,103,528	\$ 72,926,315
50,001-100,000	\$ 1,189,583	\$ 2,031,223	\$ 196,620	\$ 3,397,426					
100,001-1,000,000	\$ 1,442,828	\$ 2,399,020	\$ 91,520	\$ 4,943,368					

Results (1000 MCL)

PUBLIC

Monitoring Costs

Monitoring Cost \$ Cost Frequency

System Size	No. of Sites	No. of Systems	Total Annual Monitoring Cost	Cost per System	System Size	No. of Sites	No. of Systems	Total Annual Monitoring Cost	Cost per System
25-100	1190.0	1063	\$ 238,112	\$	VVS	5638.6	4987	\$ 1,187,720	\$ 238
101-500	4748.0	3924	\$ 949,608	\$	VS	9913.5	6281	\$ 1,982,696	\$ 317
501-1000	3550.4	2518	\$ 710,078	\$	S	4336.6	1902	\$ 867,312	\$ 459
1001-3,300	8363.1	3743	\$ 1,272,820	\$	M	4871.4	1110	\$ 974,280	\$ 878
3,301-10,000	4336.8	1902	\$ 867,312	\$	L	457.6	52	\$ 91,520	\$ 1,760
10,001-50,000	3886.3	997	\$ 777,660	\$					
50,001-100,000	983.1	113	\$ 196,620	\$					
100,001-1,000,000	457.6	52	\$ 91,520	\$					

Totals

System Size	O&M Cost	Annual Cap Cost	Cap Cost	Annual Monitoring Cost	Total Annual Cost	System Size	O&M Cost	Annual Cap Cost	Cap Cost	Annual Monitoring Cost	Total Annual Cost
25-100	\$ 826,364	\$ 927,172	\$ 9,822,476	\$ 238,112	\$ 1,091,648	VVS	\$ 6,063,740	\$ 7,488,483	\$ 79,333,092	\$ 1,187,720	\$ 14,739,843
101-500	\$ 5,237,376	\$ 6,561,310	\$ 69,510,616	\$ 949,608	\$ 12,748,295	VS	\$ 5,101,315	\$ 7,845,218	\$ 80,993,546	\$ 1,982,696	\$ 14,729,229
501-1000	\$ 1,341,182	\$ 2,162,216	\$ 22,908,551	\$ 710,078	\$ 4,213,475	S	\$ 1,557,443	\$ 2,592,421	\$ 27,464,147	\$ 867,312	\$ 5,017,176
1001-3,300	\$ 3,760,133	\$ 5,483,001	\$ 58,088,995	\$ 1,272,820	\$ 10,515,754	M	\$ 2,397,121	\$ 4,308,227	\$ 45,820,234	\$ 974,280	\$ 7,677,629
3,301-10,000	\$ 1,557,443	\$ 2,592,421	\$ 27,464,147	\$ 867,312	\$ 5,017,176	L	\$ 874,093	\$ 1,120,795	\$ 11,873,716	\$ 91,520	\$ 1,866,407
10,001-50,000	\$ 1,850,358	\$ 3,358,668	\$ 35,560,564	\$ 777,660	\$ 5,984,682	Total	\$ 15,793,712	\$ 23,153,144	\$ 245,284,735	\$ 5,103,528	\$ 324,195,044
50,001-100,000	\$ 548,765	\$ 849,562	\$ 10,059,669	\$ 196,620	\$ 1,592,947						
100,001-1,000,000	\$ 874,093	\$ 1,120,795	\$ 11,873,716	\$ 91,520	\$ 1,866,407						
Total	\$ 15,793,712	\$ 23,153,144	\$ 245,284,735	\$ 5,103,528	\$ 44,050,384						

Per System Costs

System Size	O&M Cost	Annual Cap Cost	Annual Monitoring Cost	Total Annual Cost	System Size	O&M Cost	Annual Cap Cost	Annual Monitoring Cost	Total Annual Cost	No. of Sites Above Reg. Limit	Monitoring Cost for Systems Above Reg. Limit	No. of Sys. Above Reg. Limit	Monitoring Cost for Systems Above Reg. Limit	Cost per System Above Reg. Limit
25-100	\$ 826,364	\$ 927,172	\$ 198	\$ 1,811,644	VVS	\$ 6,063,740	\$ 7,488,483	\$ 1,135	\$ 14,553,358	176	\$ 10,185	176	\$ 1,059,921	\$ 5,999
101-500	\$ 5,237,376	\$ 6,561,310	\$ 938	\$ 11,805,624	VS	\$ 5,101,315	\$ 7,845,218	\$ 719	\$ 12,947,352	775	\$ 15,464	775	\$ 16,181	\$ 20,871
501-1000	\$ 1,341,182	\$ 2,162,216	\$ 257	\$ 3,563,615	S	\$ 1,557,443	\$ 2,592,421	\$ 140	\$ 4,149,864	183	\$ 19,474	183	\$ 10,611	\$ 13,811
1001-3,300	\$ 3,760,133	\$ 5,483,001	\$ 481	\$ 9,243,615	M	\$ 2,397,121	\$ 4,308,227	\$ 159	\$ 6,705,548	271	\$ 34,403	271	\$ 1,220,795	\$ 4,506
3,301-10,000	\$ 1,557,443	\$ 2,592,421	\$ 140	\$ 4,149,864	L	\$ 874,093	\$ 1,120,795	\$ 15	\$ 1,994,888	61	\$ 68,013	61	\$ 1,120,795	\$ 1,831
10,001-50,000	\$ 1,850,358	\$ 3,358,668	\$ 127	\$ 5,209,153						33	\$ 180,888	33	\$ 5,407,664	\$ 164
50,001-100,000	\$ 548,765	\$ 849,562	\$ 32	\$ 1,408,359						4	\$ 407,664	4	\$ 4,076,664	\$ 1,019
100,001-1,000,000	\$ 874,093	\$ 1,120,795	\$ 15	\$ 1,994,888						2	\$ 1,059,921	2	\$ 5,103,528	\$ 2,552

Household Costs HH Consumption (gal):

System Size	O&M Cost	Annual Cap Cost	Annual Monitoring Cost	Total Annual Cost	System Size	O&M Cost	Annual Cap Cost	Annual Monitoring Cost	Total Annual Cost	Average Daily Flow (MGD)	Monitoring Cost for Systems Above Reg. Limit	Average Daily Flow (MGD)	Monitoring Cost for Systems Above Reg. Limit	Incremental Cost
25-100	\$ 826,364	\$ 927,172	\$ 198	\$ 1,811,644	VVS	\$ 6,063,740	\$ 7,488,483	\$ 1,135	\$ 14,553,358	0.0071	\$ 227,068	0.0265	\$ 227,068	\$ 111.49
101-500	\$ 5,237,376	\$ 6,561,310	\$ 938	\$ 11,805,624	VS	\$ 5,101,315	\$ 7,845,218	\$ 719	\$ 12,947,352	0.0947	\$ 143,739	0.1878	\$ 143,739	\$ 34.38
501-1000	\$ 1,341,182	\$ 2,162,216	\$ 257	\$ 3,563,615	S	\$ 1,557,443	\$ 2,592,421	\$ 140	\$ 4,149,864	0.2505	\$ 28,011	0.6252	\$ 28,011	\$ 18.74
1001-3,300	\$ 3,760,133	\$ 5,483,001	\$ 481	\$ 9,243,615	M	\$ 2,397,121	\$ 4,308,227	\$ 159	\$ 6,705,548	0.8252	\$ 31,781	4.0158	\$ 31,781	\$ 10.53
3,301-10,000	\$ 1,557,443	\$ 2,592,421	\$ 140	\$ 4,149,864	L	\$ 874,093	\$ 1,120,795	\$ 15	\$ 1,994,888	1.120795	\$ 2,985	37.5902	\$ 2,985	\$ 6.41
10,001-50,000	\$ 1,850,358	\$ 3,358,668	\$ 127	\$ 5,209,153										
50,001-100,000	\$ 548,765	\$ 849,562	\$ 32	\$ 1,408,359										
100,001-1,000,000	\$ 874,093	\$ 1,120,795	\$ 15	\$ 1,994,888										

PRIVATE

Monitoring Costs
Monitoring Cost \$ Cost Frequency
\$ 50 4

System Size	No. of Sites	No. of Systems	Total Annual Monitoring Cost	Cost per System	System Size	No. of Sites	No. of Systems	Total Annual Monitoring Cost	Cost per System
25-100	13316.8	11690	\$ 2,693,360	\$ 224	VVS	24574.6	21194.0	\$ 4,914,928	\$ 232
101-500	11257.8	9304	\$ 2,251,568	\$ 242	VS	4591.2	2856.0	\$ 912,240	\$ 308
501-1000	2258.0	1800	\$ 451,200	\$ 282	S	943.9	414.0	\$ 188,784	\$ 456
1001-3,300	2305.2	1356	\$ 481,040	\$ 340	M	1046.4	240.0	\$ 208,280	\$ 872
3,301-10,000	943.9	414	\$ 188,784	\$ 456	L	114.4	13.0	\$ 22,880	\$ 1,760
10,001-50,000	848.3	217	\$ 169,280	\$ 780					
50,001-100,000	200.1	23	\$ 40,020	\$ 1,740					
100,001-1,000,000	114.4	13	\$ 22,880	\$ 1,760					

System Size	O&M Cost	Annual Cap Cost	Total Annual Monitoring Cost	Total Annual Cost	System Size	O&M Cost	Annual Cap Cost	Total Annual Monitoring Cost	Total Annual Cost
25-100	\$ 8,620,062	\$ 9,019,509	\$ 2,663,360	\$ 20,302,931	VVS	\$ 18,844,916	\$ 21,324,253	\$ 4,914,928	\$ 45,084,097
101-500	\$ 10,224,854	\$ 12,304,744	\$ 2,251,568	\$ 24,781,166	VS	\$ 1,859,954	\$ 2,820,868	\$ 912,240	\$ 5,593,061
501-1000	\$ 721,236	\$ 1,153,746	\$ 451,200	\$ 2,326,182	S	\$ 287,767	\$ 481,154	\$ 188,784	\$ 957,705
1001-3,300	\$ 1,138,718	\$ 1,667,121	\$ 461,040	\$ 3,266,879	M	\$ 448,923	\$ 813,530	\$ 208,280	\$ 1,471,733
3,301-10,000	\$ 287,767	\$ 481,154	\$ 188,784	\$ 957,705	L	\$ 162,084	\$ 271,208	\$ 22,880	\$ 456,170
10,001-50,000	\$ 353,363	\$ 645,804	\$ 169,280	\$ 1,168,447	Total	\$ 21,603,644	\$ 25,711,010	\$ 6,248,112	\$ 53,562,766
50,001-100,000	\$ 95,560	\$ 167,928	\$ 40,020	\$ 303,508					
100,001-1,000,000	\$ 162,084	\$ 271,208	\$ 22,880	\$ 456,170					
Total	\$ 21,603,644	\$ 25,711,010	\$ 6,248,112	\$ 53,562,766					

Per System Costs

System Size	O&M Cost	Annual Cap Cost	Monitoring Cost for Reg. Limit	Monitoring Cost for Systems Above Reg. Limit	Cost per System	System Size	O&M Cost	Annual Cap Cost	Monitoring Cost for Reg. Limit	Monitoring Cost for Systems Above Reg. Limit	Cost per System
25-100	\$ 6,620,062	\$ 9,019,509	\$ 2,210	\$ 441,949	\$ 9,165	VVS	\$ 18,844,916	\$ 21,324,253	\$ 4,434	\$ 886,703	\$ 10,774
101-500	\$ 10,224,854	\$ 12,304,744	\$ 2,224	\$ 444,753	\$ 12,501	VS	\$ 1,859,954	\$ 2,820,868	\$ 331	\$ 66,134	\$ 22,161
501-1000	\$ 721,236	\$ 1,153,746	\$ 164	\$ 32,711	\$ 18,448	S	\$ 287,767	\$ 481,154	\$ 30	\$ 9,097	\$ 57,064
1001-3,300	\$ 1,138,718	\$ 1,667,121	\$ 167	\$ 33,424	\$ 28,682	M	\$ 448,923	\$ 813,530	\$ 34	\$ 6,827	\$ 162,130
3,301-10,000	\$ 287,767	\$ 481,154	\$ 30	\$ 8,097	\$ 57,964	L	\$ 162,084	\$ 271,208	\$ 4	\$ 746	\$ 1,023,539
10,001-50,000	\$ 353,363	\$ 645,804	\$ 28	\$ 5,521	\$ 7						
50,001-100,000	\$ 95,560	\$ 167,928	\$ 7	\$ 1,305	\$ 1						
100,001-1,000,000	\$ 162,084	\$ 271,208	\$ 4	\$ 746	\$ 0						

Household Costs HH Consumption (gall):

System Size	O&M Cost	Annual Cap Cost	Monitoring Cost for Reg. Limit	Monitoring Cost for Systems Above Reg. Limit	Average Daily Flow (MGD)	No. of Sys. Above Reg. Limit	HH Incremental Cost
25-100	\$ 8,620,062	\$ 9,019,509	\$ 441,948	\$ 0.052	1,973	\$ 402.77	\$ 187.21
101-500	\$ 10,224,854	\$ 12,304,744	\$ 444,753	\$ 0.0216	1,838	\$ 131.72	\$ 38.52
501-1000	\$ 721,236	\$ 1,153,746	\$ 32,711	\$ 0.0728	116	\$ 51.53	\$ 20.15
1001-3,300	\$ 1,138,718	\$ 1,667,121	\$ 33,424	\$ 0.1922	88	\$ 34.17	\$ 11.01
3,301-10,000	\$ 287,767	\$ 481,154	\$ 8,097	\$ 0.6543	13	\$ 20.15	\$ 6.45
10,001-50,000	\$ 353,363	\$ 645,804	\$ 5,521	\$ 2.7355	7	\$ 11.80	\$ 8.80
50,001-100,000	\$ 95,560	\$ 167,928	\$ 1,305	\$ 9.1202	1	\$ 8.80	\$ 6.45
100,001-1,000,000	\$ 162,084	\$ 271,208	\$ 746	\$ 36.0777	0	\$ 6.45	\$ 6.45

Results (2000 MCL)

PUBLIC

Monitoring Costs
 Cost \$ 50
 Frequency 4

System Size	No. of Sites	No. of Systems	Total Annual Monitoring Cost	Cost per System	System Size	No. of Sites	No. of Systems	Total Annual Monitoring Cost	Cost per System
25-100	1190.6	1063	\$ 238,112	\$	VVS	5938.6	4987	\$ 1,187,720	\$ 238
101-500	4748.0	3924	\$ 848,608	\$	VS	9913.5	6261	\$ 1,982,696	\$ 317
501-1000	3550.4	2518	\$ 710,078	\$	S	4336.6	1802	\$ 867,312	\$ 458
1001-3,300	6363.1	3743	\$ 1,272,820	\$	M	4871.4	1110	\$ 974,280	\$ 878
3,301-10,000	4338.6	1902	\$ 867,312	\$	L	457.8	52	\$ 91,520	\$ 1,780
10,001-50,000	3888.3	897	\$ 777,660	\$					
50,001-100,000	983.1	113	\$ 198,620	\$					
100,001-1,000,000	457.6	52	\$ 91,520	\$					

System Size	O&M Cost	Annual Cap Cost	Cap Cost	Annual Monitoring Cost	Total Annual Cost	System Size	O&M Cost	Annual Cap Cost	Cap Cost	Annual Monitoring Cost	Total Annual Cost
25-100	\$ 340,909	\$ 400,672	\$ 4,244,725	\$ 238,112	\$ 978,683	VVS	\$ 3,074,459	\$ 3,871,056	\$ 42,009,421	\$ 1,187,720	\$ 8,233,235
101-500	\$ 2,733,550	\$ 3,570,384	\$ 37,824,895	\$ 848,608	\$ 7,253,542	VS	\$ 1,572,200	\$ 2,338,523	\$ 24,774,342	\$ 1,982,696	\$ 5,893,418
501-1000	\$ 413,320	\$ 660,727	\$ 6,959,754	\$ 710,078	\$ 1,784,124	S	\$ 409,208	\$ 672,407	\$ 7,123,487	\$ 867,312	\$ 1,948,927
1001-3,300	\$ 1,158,879	\$ 1,677,995	\$ 17,774,588	\$ 1,272,820	\$ 4,108,295	M	\$ 443,582	\$ 794,335	\$ 8,415,198	\$ 974,280	\$ 2,212,197
3,301-10,000	\$ 408,208	\$ 672,407	\$ 7,123,487	\$ 867,312	\$ 1,948,927	L	\$ 123,953	\$ 208,028	\$ 2,182,844	\$ 91,520	\$ 421,499
10,001-50,000	\$ 342,952	\$ 619,578	\$ 6,563,787	\$ 777,660	\$ 1,740,188		\$ 5,623,401	\$ 7,982,346	\$ 84,565,091	\$ 5,103,528	\$ 1,055,278
50,001-100,000	\$ 100,630	\$ 174,759	\$ 1,851,400	\$ 198,620	\$ 421,009						
100,001-1,000,000	\$ 123,953	\$ 208,028	\$ 2,182,844	\$ 91,520	\$ 421,499						
Total	\$ 5,623,401	\$ 7,982,346	\$ 84,565,091	\$ 5,103,528	\$ 18,709,278						

Per System Costs

System Size	O&M Cost	Annual Cap Cost	No. of Sites Above Reg. Limit	Monitoring Cost for Systems Above Reg. Limit	Cost per System Above Reg. Limit	System Size	O&M Cost	Annual Cap Cost	Annual Monitoring Cost	No. of Sites Above Reg. Limit	Monitoring Cost for Systems Above Reg. Limit	Cost per System Above Reg. Limit
25-100	\$ 340,909	\$ 400,672	87	\$ 17,454	\$ 78	VVS	\$ 3,074,459	\$ 3,871,056	\$ 607	121,290	\$ 121,290	\$ 607.4
101-500	\$ 2,733,550	\$ 3,570,384	520	\$ 103,936	\$ 429	VS	\$ 1,572,200	\$ 2,338,523	\$ 220	44,079	\$ 44,079	\$ 139.2
501-1000	\$ 413,320	\$ 660,727	79	\$ 15,786	\$ 56	S	\$ 409,208	\$ 672,407	\$ 37	7,301	\$ 7,301	\$ 16.0
1001-3,300	\$ 1,158,879	\$ 1,677,995	141	\$ 28,283	\$ 83	M	\$ 443,582	\$ 794,335	\$ 29	5,868	\$ 5,868	\$ 8.7
3,301-10,000	\$ 408,208	\$ 672,407	37	\$ 7,301	\$ 10	L	\$ 123,953	\$ 208,028	\$ 3	551	\$ 551	\$ 0.3
10,001-50,000	\$ 342,952	\$ 619,578	23	\$ 4,684	\$ 6							
50,001-100,000	\$ 100,630	\$ 174,759	6	\$ 1,184	\$ 1							
100,001-1,000,000	\$ 123,953	\$ 208,028	3	\$ 551	\$ 0							

Household Costs HH Consumption (gall):

System Size	O&M Cost	Annual Cap Cost	Monitoring Cost for Systems Above Reg. Limit	Average Daily Flow (MGD)	No. of Sys. Above Reg. Limit	HH Incremental Cost	System Size	O&M Cost	Annual Cap Cost	Monitoring Cost for Systems Above Reg. Limit	Average Daily Flow (MGD)	No. of Sys. Above Reg. Limit	HH Incremental Cost
25-100	\$ 340,909	\$ 400,672	\$ 17,454	0.0071	78	\$ 311.34	VVS	\$ 3,074,459	\$ 3,971,056	\$ 121,390	0.0004	607.4	\$ 106.61
101-500	\$ 2,733,550	\$ 3,570,384	\$ 103,936	0.0346	429	\$ 97.84	VS	\$ 1,572,200	\$ 2,338,523	\$ 44,079	0.1878	139.2	\$ 34.40
501-1000	\$ 413,320	\$ 660,727	\$ 15,786	0.0947	56	\$ 46.75	S	\$ 409,208	\$ 672,407	\$ 7,301	0.8252	16.0	\$ 18.74
1001-3,300	\$ 1,158,879	\$ 1,677,995	\$ 28,283	0.2505	83	\$ 31.26	M	\$ 443,582	\$ 794,335	\$ 5,868	4.0158	6.7	\$ 10.53
3,301-10,000	\$ 408,208	\$ 672,407	\$ 7,301	0.8252	10	\$ 18.74	L	\$ 123,953	\$ 208,028	\$ 551	37.5802	0.3	\$ 6.38
10,001-50,000	\$ 342,952	\$ 619,578	\$ 4,684	3.2048	6	\$ 11.43							
50,001-100,000	\$ 100,630	\$ 174,759	\$ 1,184	11.1710	1	\$ 8.27							
100,001-1,000,000	\$ 123,953	\$ 208,028	\$ 551	37.5802	0	\$ 6.38							

Results (2000 MCL)

PRIVATE

Monitoring Costs
 Cost \$ 50
 Frequency 4

System Size	No. of Sites	No. of Systems	Total Annual Monitoring Cost	Cost per System	System Size	No. of Sites	No. of Systems	Total Annual Monitoring Cost	Cost per System
25-100	13316.8	11890	\$ 2,663,360	\$ 224	VS	24574.6	21194.0	\$ 4,914,928	\$ 232
101-500	11257.6	8304	\$ 2,251,568	\$ 242	VS	4561.2	2858.0	\$ 912,240	\$ 309
501-1000	2258.0	1600	\$ 451,200	\$ 282	S	943.9	414.0	\$ 188,784	\$ 456
1001-3,300	2305.2	1356	\$ 481,040	\$ 340	M	1046.4	240.0	\$ 209,280	\$ 872
3,301-10,000	943.9	414	\$ 188,784	\$ 456	L	114.4	13.0	\$ 22,880	\$ 1,760
10,001-50,000	846.3	217	\$ 169,260	\$ 780					
50,001-100,000	208.1	23	\$ 40,020	\$ 1,740					
100,001-1,000,000	114.4	13	\$ 22,880	\$ 1,760					

System Size	O&M Cost	Annual Cap Cost	Annual Monitoring Cost	Total Annual Cost	System Size	O&M Cost	Annual Cap Cost	Annual Monitoring Cost	Total Annual Cost
25-100	\$ 3,574,471	\$ 3,899,745	\$ 2,663,360	\$ 10,137,576	VS	\$ 8,913,866	\$ 10,582,503	\$ 4,914,928	\$ 24,411,117
101-500	\$ 5,339,215	\$ 6,882,758	\$ 2,251,568	\$ 14,273,541	VS	\$ 5,728,288	\$ 861,628	\$ 9,122,400	\$ 2,346,693
501-1000	\$ 222,110	\$ 352,147	\$ 3,730,855	\$ 4,305,112	S	\$ 75,533	\$ 124,658	\$ 188,784	\$ 368,976
1001-3,300	\$ 350,718	\$ 509,478	\$ 5,397,420	\$ 6,257,616	M	\$ 83,079	\$ 150,962	\$ 1,589,768	\$ 2,069,810
3,301-10,000	\$ 75,533	\$ 124,658	\$ 1,320,633	\$ 1,520,824	L	\$ 29,805	\$ 49,855	\$ 528,187	\$ 608,047
10,001-50,000	\$ 65,488	\$ 118,152	\$ 1,262,294	\$ 1,445,934		\$ 8,874,930	\$ 11,768,704	\$ 6,248,112	\$ 27,891,746
50,001-100,000	\$ 17,580	\$ 30,910	\$ 327,464	\$ 375,954					
100,001-1,000,000	\$ 29,805	\$ 49,855	\$ 528,187	\$ 607,847					
Total	\$ 9,874,930	\$ 11,768,704	\$ 124,977,822	\$ 23,611,457					

Per System Costs

System Size	O&M Cost	Annual Cap Cost	Annual Monitoring Cost	Total Annual Cost	System Size	O&M Cost	Annual Cap Cost	Annual Monitoring Cost	Total Annual Cost
25-100	\$ 3,574,471	\$ 3,899,745	\$ 2,663,360	\$ 10,137,576	VS	\$ 8,913,866	\$ 10,582,503	\$ 4,914,928	\$ 24,411,117
101-500	\$ 5,339,215	\$ 6,882,758	\$ 2,251,568	\$ 14,273,541	VS	\$ 5,728,288	\$ 861,628	\$ 9,122,400	\$ 2,346,693
501-1000	\$ 222,110	\$ 352,147	\$ 3,730,855	\$ 4,305,112	S	\$ 75,533	\$ 124,658	\$ 188,784	\$ 368,976
1001-3,300	\$ 350,718	\$ 509,478	\$ 5,397,420	\$ 6,257,616	M	\$ 83,079	\$ 150,962	\$ 1,589,768	\$ 2,069,810
3,301-10,000	\$ 75,533	\$ 124,658	\$ 1,320,633	\$ 1,520,824	L	\$ 29,805	\$ 49,855	\$ 528,187	\$ 608,047
10,001-50,000	\$ 65,488	\$ 118,152	\$ 1,262,294	\$ 1,445,934		\$ 8,874,930	\$ 11,768,704	\$ 6,248,112	\$ 27,891,746
50,001-100,000	\$ 17,580	\$ 30,910	\$ 327,464	\$ 375,954					
100,001-1,000,000	\$ 29,805	\$ 49,855	\$ 528,187	\$ 607,847					

Household Costs

System Size	O&M Cost	Annual Cap Cost	Annual Monitoring Cost	Total Annual Cost	System Size	O&M Cost	Annual Cap Cost	Annual Monitoring Cost	Total Annual Cost
25-100	\$ 3,574,471	\$ 3,899,745	\$ 2,663,360	\$ 10,137,576	VS	\$ 8,913,866	\$ 10,582,503	\$ 4,914,928	\$ 24,411,117
101-500	\$ 5,339,215	\$ 6,882,758	\$ 2,251,568	\$ 14,273,541	VS	\$ 5,728,288	\$ 861,628	\$ 9,122,400	\$ 2,346,693
501-1000	\$ 222,110	\$ 352,147	\$ 3,730,855	\$ 4,305,112	S	\$ 75,533	\$ 124,658	\$ 188,784	\$ 368,976
1001-3,300	\$ 350,718	\$ 509,478	\$ 5,397,420	\$ 6,257,616	M	\$ 83,079	\$ 150,962	\$ 1,589,768	\$ 2,069,810
3,301-10,000	\$ 75,533	\$ 124,658	\$ 1,320,633	\$ 1,520,824	L	\$ 29,805	\$ 49,855	\$ 528,187	\$ 608,047
10,001-50,000	\$ 65,488	\$ 118,152	\$ 1,262,294	\$ 1,445,934		\$ 8,874,930	\$ 11,768,704	\$ 6,248,112	\$ 27,891,746
50,001-100,000	\$ 17,580	\$ 30,910	\$ 327,464	\$ 375,954					
100,001-1,000,000	\$ 29,805	\$ 49,855	\$ 528,187	\$ 607,847					

Results (MCL 4000)

PUBLIC

Monitoring Costs

Monitoring Cost \$ 50 Frequency 4

System Size	No. of Sites	No. of Systems	Total Annual Monitoring Cost	Cost per System	System Size	No. of Sites	No. of Systems	Total Annual Monitoring Cost	Cost per System
25-100	1190.6	1083	\$ 238,112	\$	VVS	5938.6	4887	\$ 1,187,720	\$ 238
101-500	4748.0	3924	\$ 949,608	\$	VS	9913.5	6261	\$ 1,862,696	\$ 317
501-1000	3550.4	2516	\$ 710,076	\$	S	4336.6	1902	\$ 887,312	\$ 456
1001-3,300	6363.1	3743	\$ 1,272,620	\$	M	4871.4	1110	\$ 974,280	\$ 878
3,301-10,000	4336.6	1602	\$ 887,312	\$	L	457.6	52	\$ 91,520	\$ 1,760
10,001-50,000	3888.3	987	\$ 777,660	\$					
50,001-100,000	983.1	113	\$ 196,620	\$					
100,001-1,000,000	457.6	52	\$ 91,520	\$					

Totals

System Size	O&M Cost	Annual Cap Cost	Annual Monitoring Cost	Total Annual Cost	System Size	O&M Cost	Annual Cap Cost	Annual Monitoring Cost	Total Annual Cost
25-100	\$ 117,253	\$ 148,676	\$ 238,112	\$ 505,041	VVS	\$ 1,137,081	\$ 1,879,902	\$ 1,187,720	\$ 4,204,703
101-500	\$ 1,019,828	\$ 1,730,225	\$ 949,608	\$ 3,699,661	VS	\$ 464,417	\$ 679,798	\$ 7,201,786	\$ 8,346,000
501-1000	\$ 122,044	\$ 191,886	\$ 2,032,843	\$ 2,346,773	S	\$ 107,483	\$ 176,532	\$ 867,312	\$ 1,151,328
1001-3,300	\$ 342,372	\$ 487,912	\$ 5,168,943	\$ 6,000,227	M	\$ 72,070	\$ 130,118	\$ 1,378,475	\$ 1,578,663
3,301-10,000	\$ 107,483	\$ 176,532	\$ 1,272,620	\$ 1,556,635	L	\$ 20,378	\$ 33,859	\$ 358,701	\$ 411,938
10,001-50,000	\$ 55,509	\$ 101,359	\$ 777,660	\$ 934,528		\$ 1,801,429	\$ 2,900,208	\$ 3,072,458	\$ 5,774,105
50,001-100,000	\$ 16,560	\$ 28,759	\$ 196,620	\$ 241,939				\$ 145,757	\$ 145,757
100,001-1,000,000	\$ 20,378	\$ 33,859	\$ 91,520	\$ 145,757				\$ 5,103,528	\$ 5,103,528
Total	\$ 1,801,429	\$ 2,900,208	\$ 5,103,528	\$ 9,805,165				\$ 9,805,165	\$ 9,805,165

Per System Costs

System Size	O&M Cost	Annual Cap Cost	Annual Monitoring Cost	Total Annual Cost	System Size	O&M Cost	Annual Cap Cost	Annual Monitoring Cost	Total Annual Cost	No. of Sys. Above Reg. Limit	Monitoring Cost for Systems Above Reg. Limit	Cost per System Above Reg. Limit
25-100	\$ 117,253	\$ 148,676	\$ 238,112	\$ 505,041	VVS	\$ 1,137,081	\$ 1,879,902	\$ 1,187,720	\$ 4,204,703	306	\$ 61,188	\$ 256.1
101-500	\$ 1,019,828	\$ 1,730,225	\$ 949,608	\$ 3,699,661	VS	\$ 464,417	\$ 679,798	\$ 7,201,786	\$ 8,346,000	64	\$ 12,690	\$ 40.7
501-1000	\$ 122,044	\$ 191,886	\$ 2,032,843	\$ 2,346,773	S	\$ 107,483	\$ 176,532	\$ 867,312	\$ 1,151,328	10	\$ 1,817	\$ 4.2
1001-3,300	\$ 342,372	\$ 487,912	\$ 5,168,943	\$ 6,000,227	M	\$ 72,070	\$ 130,118	\$ 1,378,475	\$ 1,578,663	5	\$ 966	\$ 1.1
3,301-10,000	\$ 107,483	\$ 176,532	\$ 1,272,620	\$ 1,556,635	L	\$ 20,378	\$ 33,859	\$ 358,701	\$ 411,938	0	\$ 0	\$ 0.1
10,001-50,000	\$ 55,509	\$ 101,359	\$ 777,660	\$ 934,528		\$ 1,801,429	\$ 2,900,208	\$ 3,072,458	\$ 5,774,105	0	\$ 0	\$ 0.1
50,001-100,000	\$ 16,560	\$ 28,759	\$ 196,620	\$ 241,939				\$ 145,757	\$ 145,757	0	\$ 0	\$ 0.1
100,001-1,000,000	\$ 20,378	\$ 33,859	\$ 91,520	\$ 145,757				\$ 5,103,528	\$ 5,103,528	0	\$ 0	\$ 0.1
Total	\$ 1,801,429	\$ 2,900,208	\$ 5,103,528	\$ 9,805,165				\$ 9,805,165	\$ 9,805,165			

Household Costs HH Consumption (gal): 83,000

System Size	O&M Cost	Annual Cap Cost	Annual Monitoring Cost	Total Annual Cost	System Size	O&M Cost	Annual Cap Cost	Annual Monitoring Cost	Total Annual Cost	No. of Sys. Above Reg. Limit	Monitoring Cost for Systems Above Reg. Limit	Average Daily Flow (MGD)	Affected Systems	HH Incremental Cost
25-100	\$ 117,253	\$ 148,676	\$ 238,112	\$ 505,041	VVS	\$ 1,137,081	\$ 1,879,902	\$ 1,187,720	\$ 4,204,703	30	\$ 292.54	0.0071	286.1	\$ 67.96
101-500	\$ 1,019,828	\$ 1,730,225	\$ 949,608	\$ 3,699,661	VS	\$ 464,417	\$ 679,798	\$ 7,201,786	\$ 8,346,000	225	\$ 61.77	0.0346	40.7	\$ 34.45
501-1000	\$ 122,044	\$ 191,886	\$ 2,032,843	\$ 2,346,773	S	\$ 107,483	\$ 176,532	\$ 867,312	\$ 1,151,328	16	\$ 46.76	0.0847	4.2	\$ 18.74
1001-3,300	\$ 342,372	\$ 487,912	\$ 5,168,943	\$ 6,000,227	M	\$ 72,070	\$ 130,118	\$ 1,378,475	\$ 1,578,663	24	\$ 31.31	0.2505	1.1	\$ 10.42
3,301-10,000	\$ 107,483	\$ 176,532	\$ 1,272,620	\$ 1,556,635	L	\$ 20,378	\$ 33,859	\$ 358,701	\$ 411,938	4	\$ 11.28	0.6252	0.1	\$ 6.35
10,001-50,000	\$ 55,509	\$ 101,359	\$ 777,660	\$ 934,528		\$ 1,801,429	\$ 2,900,208	\$ 3,072,458	\$ 5,774,105	1	\$ 8.24	11.1710		
50,001-100,000	\$ 16,560	\$ 28,759	\$ 196,620	\$ 241,939				\$ 145,757	\$ 145,757	0	\$ 0	37.5802		
100,001-1,000,000	\$ 20,378	\$ 33,859	\$ 91,520	\$ 145,757				\$ 5,103,528	\$ 5,103,528	0	\$ 0			
Total	\$ 1,801,429	\$ 2,900,208	\$ 5,103,528	\$ 9,805,165				\$ 9,805,165	\$ 9,805,165					

Results (MCL 4000)

Private

Monitoring Costs

Monitoring Cost \$ Cost Frequency
50 4

System Size	No. of Sites	No. of Systems	Total Annual Monitoring Cost	Cost per System	System Size	No. of Sites	No. of Systems	Total Annual Monitoring Cost	Cost per System
25-100	13316.6	11890	\$ 2,663,360	\$	VVS	24574.6	224	\$ 2,663,360	\$
101-500	11257.6	9304	\$ 2,251,568	\$	VS	4561.2	242	\$ 2,251,568	\$
501-1000	2256.0	1600	\$ 451,200	\$	S	843.9	282	\$ 451,200	\$
1001-3,300	2305.2	1356	\$ 481,040	\$	M	1046.4	340	\$ 481,040	\$
3,301-10,000	843.9	414	\$ 188,784	\$	L	114.4	456	\$ 188,784	\$
10,001-50,000	846.3	217	\$ 189,260	\$			780	\$ 189,260	\$
50,001-100,000	200.1	23	\$ 40,020	\$			1,740	\$ 40,020	\$
100,001-1,000,000	114.4	13	\$ 22,880	\$			1,760	\$ 22,880	\$

Totals

System Size	O&M Cost	Annual Cap Cost	Annual Monitoring Cost	Total Annual Cost	System Size	O&M Cost	Annual Cap Cost	Annual Monitoring Cost	Total Annual Cost
25-100	\$ 1,240,495	\$ 1,457,658	\$ 2,663,360	\$ 5,361,513	VVS	\$ 3,238,851	\$ 4,663,372	\$ 4,914,828	\$ 12,817,151
101-500	\$ 1,998,358	\$ 3,205,714	\$ 33,961,375	\$ 7,455,639	VS	\$ 186,948	\$ 249,736	\$ 912,240	\$ 1,350,922
501-1000	\$ 65,485	\$ 102,004	\$ 1,080,639	\$ 451,200	S	\$ 19,839	\$ 32,726	\$ 188,784	\$ 241,346
1001-3,300	\$ 103,482	\$ 147,731	\$ 1,565,069	\$ 481,040	M	\$ 13,501	\$ 24,594	\$ 260,546	\$ 247,374
3,301-10,000	\$ 19,839	\$ 32,726	\$ 346,702	\$ 188,784	L	\$ 4,900	\$ 8,194	\$ 86,804	\$ 22,880
10,001-50,000	\$ 10,605	\$ 19,508	\$ 206,848	\$ 169,260		\$ 3,446,037	\$ 4,978,621	\$ 6,246,112	\$ 14,672,770
50,001-100,000	\$ 2,895	\$ 5,088	\$ 53,898	\$ 40,020				\$ 22,880	\$ 35,974
100,001-1,000,000	\$ 4,800	\$ 8,194	\$ 86,804	\$ 22,880				\$ 22,880	\$ 35,974
Total	\$ 3,446,037	\$ 4,978,621	\$ 52,743,562	\$ 6,246,112				\$ 6,246,112	\$ 14,672,770

Per System Costs

System Size	O&M Cost	Annual Cap Cost	Annual Monitoring Cost	Total Annual Cost	System Size	O&M Cost	Annual Cap Cost	Annual Monitoring Cost	Total Annual Cost	System Size	O&M Cost	Annual Cap Cost	Annual Monitoring Cost	Total Annual Cost
25-100	\$ 1,240,495	\$ 1,457,658	\$ 2,663,360	\$ 5,361,513	VVS	\$ 3,238,851	\$ 4,663,372	\$ 4,914,828	\$ 12,817,151	VVS	\$ 3,238,851	\$ 4,663,372	\$ 4,914,828	\$ 12,817,151
101-500	\$ 1,998,358	\$ 3,205,714	\$ 33,961,375	\$ 7,455,639	VS	\$ 186,948	\$ 249,736	\$ 912,240	\$ 1,350,922	VS	\$ 186,948	\$ 249,736	\$ 912,240	\$ 1,350,922
501-1000	\$ 65,485	\$ 102,004	\$ 1,080,639	\$ 451,200	S	\$ 19,839	\$ 32,726	\$ 188,784	\$ 241,346	S	\$ 19,839	\$ 32,726	\$ 188,784	\$ 241,346
1001-3,300	\$ 103,482	\$ 147,731	\$ 1,565,069	\$ 481,040	M	\$ 13,501	\$ 24,594	\$ 260,546	\$ 247,374	M	\$ 13,501	\$ 24,594	\$ 260,546	\$ 247,374
3,301-10,000	\$ 19,839	\$ 32,726	\$ 346,702	\$ 188,784	L	\$ 4,900	\$ 8,194	\$ 86,804	\$ 22,880	L	\$ 4,900	\$ 8,194	\$ 86,804	\$ 22,880
10,001-50,000	\$ 10,605	\$ 19,508	\$ 206,848	\$ 169,260		\$ 3,446,037	\$ 4,978,621	\$ 6,246,112	\$ 14,672,770		\$ 3,446,037	\$ 4,978,621	\$ 6,246,112	\$ 14,672,770
50,001-100,000	\$ 2,895	\$ 5,088	\$ 53,898	\$ 40,020				\$ 22,880	\$ 35,974				\$ 22,880	\$ 35,974
100,001-1,000,000	\$ 4,800	\$ 8,194	\$ 86,804	\$ 22,880				\$ 22,880	\$ 35,974				\$ 22,880	\$ 35,974
Total	\$ 3,446,037	\$ 4,978,621	\$ 52,743,562	\$ 6,246,112				\$ 6,246,112	\$ 14,672,770				\$ 6,246,112	\$ 14,672,770

Household Costs HH Consumption (gal):

System Size	O&M Cost	Annual Cap Cost	Annual Monitoring Cost	Total Annual Cost	System Size	O&M Cost	Annual Cap Cost	Annual Monitoring Cost	Total Annual Cost	System Size	O&M Cost	Annual Cap Cost	Annual Monitoring Cost	Total Annual Cost
25-100	\$ 1,240,495	\$ 1,457,658	\$ 2,663,360	\$ 5,361,513	VVS	\$ 3,238,851	\$ 4,663,372	\$ 4,914,828	\$ 12,817,151	VVS	\$ 3,238,851	\$ 4,663,372	\$ 4,914,828	\$ 12,817,151
101-500	\$ 1,998,358	\$ 3,205,714	\$ 33,961,375	\$ 7,455,639	VS	\$ 186,948	\$ 249,736	\$ 912,240	\$ 1,350,922	VS	\$ 186,948	\$ 249,736	\$ 912,240	\$ 1,350,922
501-1000	\$ 65,485	\$ 102,004	\$ 1,080,639	\$ 451,200	S	\$ 19,839	\$ 32,726	\$ 188,784	\$ 241,346	S	\$ 19,839	\$ 32,726	\$ 188,784	\$ 241,346
1001-3,300	\$ 103,482	\$ 147,731	\$ 1,565,069	\$ 481,040	M	\$ 13,501	\$ 24,594	\$ 260,546	\$ 247,374	M	\$ 13,501	\$ 24,594	\$ 260,546	\$ 247,374
3,301-10,000	\$ 19,839	\$ 32,726	\$ 346,702	\$ 188,784	L	\$ 4,900	\$ 8,194	\$ 86,804	\$ 22,880	L	\$ 4,900	\$ 8,194	\$ 86,804	\$ 22,880
10,001-50,000	\$ 10,605	\$ 19,508	\$ 206,848	\$ 169,260		\$ 3,446,037	\$ 4,978,621	\$ 6,246,112	\$ 14,672,770		\$ 3,446,037	\$ 4,978,621	\$ 6,246,112	\$ 14,672,770
50,001-100,000	\$ 2,895	\$ 5,088	\$ 53,898	\$ 40,020				\$ 22,880	\$ 35,974				\$ 22,880	\$ 35,974
100,001-1,000,000	\$ 4,800	\$ 8,194	\$ 86,804	\$ 22,880				\$ 22,880	\$ 35,974				\$ 22,880	\$ 35,974
Total	\$ 3,446,037	\$ 4,978,621	\$ 52,743,562	\$ 6,246,112				\$ 6,246,112	\$ 14,672,770				\$ 6,246,112	\$ 14,672,770