All blue entries for illustration purposes only!

MUA Cost Reduction Proposals

October 11, 2009

SICTA
Sea Isle City Taxpayers Association, Inc.
P.O. Box 82, Sea Isle City, NJ 08243-0082

Proposal A - Create a Utility Loan Program

Reduce domestic treatment costs, via low-cost financing for high volume users to replace fixtures and other equipment. Particulars for the program are:

a) Sea Isle creates a $250,000 loan program pool using cash-on-hand or by bond issuance at low municipal rates.
b) Individual loan approvals subject to cost for fixture replacement being recovered by reduced treatment costs within a 36 month period.
c) Fixtures include a large variety of equipment such as low flow toilets, faucets & shower heads as well as water cooled ice cube makers & air conditioning units.
d) Loan repayments made through W&S billing system, with quarterly repayments less than the anticipated treatment cost savings (i.e. no net cost to user).
e) Loan would create a temporary lien on property similar to sewer assessment situations with periodic payments.
f) Further discussions may reveal ability to adjust the size of the loan pool and/or the recovery period.
g) Higher volume customers will probably be the only ones that can satisfy recoverability period. However, everyone benefits from reduced MUA treatment charges. *PROGRAM SHOULD NOT RESULT IN ADDITIONAL WATER & SEWER RATE INCREASES, AS IT IS SELF-FUNDED.*

Proposal B - Estimate our MUA Charges by Flow Type

Estimate our MUA costs and flows to better understand our spending and focus cost reduction efforts effectively.

	2008 Annual Sewer Flows (mg)			2008 Treatment Charges ($)		
Type	Summer	Other	Total	Summer	Other	Total
Domestic	140.9	119.3	260.2	$2,258,050	$92,729	$2,350,779
Inflow	19.1	90.9	110.0	$306,095	$70,654	$376,749
Infiltration	11.1	33.3	44.4	$177,888	$25,883	$203,771
Total I&I	30.2	124.2	154.4	$483,982	$96,537	$580,520
Total MUA Flow	171.1	243.5	414.6	$2,742,032	$189,266	$2,931,298

Tide & Rain analysis indicates Inflow might be even larger portion of I&I than shown here (attached).

Proposal C - Complete Cost Benefit Analysis for Every Initiative

A CBA process should be completed for every cost reduction imitative to estimate the costs, flow reductions and savings using best realistic assumptions. Process would be a useful tool to understand payback periods, prioritize cost reduction investments and enroll community support for additional initiatives.

Example Initiatives	Flow Type	Total Cost($)	Annual Flow Reductions (mg)			Annual Treatment Savings ($)			Example Initiative Assumptions
			Summer	Other	Total	Summer	Other	Total	
Low Flow Fixtures	Domestic	$15,000	1.3	0.6	1.9	$20,193	$490	$20,682	High volume user $150 subsidy for 100 fixtures that save 63% of usage
Public Education	Domestic	$10,000	1.4	1.2	2.6	$22,580	$927	$23,508	$10,000 PR Campaign helps save 1% of domestic usage
Manhole Inserts	Inflow	$75,000	2.5	10.0	12.5	$40,065	$7,773	$47,837	50 inserts @ $1,500 each, save average of 250,000g
Smoke Tests	Inflow	$210,000	0.3	0.8	1.0	$4,006	$583	$4,589	10 smoke tests @ $1,000 + 10 repairs @ $20,000 saving average of 1,000g
Cap Repairs	Inflow	$1,125	0.2	0.6	0.8	$3,005	$437	$3,442	75 open cap replacements @ $15 each, save average of 10,000g
Phase III	Infiltration	$550,000	5.0	15.0	20.0	$80,130	$11,659	$91,789	$250,000 study reveals 20 repairs @ $15,000 each, save average 1mg
Total All Initiatives		$861,125	10.6	28.1	38.7	$169,979	$21,869	$191,848	

Sea Isle City - Comparison of Daily Precipitation versus SIC Treatment Flows

Precipitation	Days	Avg Precip (in)	Avg High Tide (ft)	Total SIC Flow (mgd)	Avg SIC Flow (mgd)
#N/A	245	NA	5.40	264.96	1.08
None	2,719	0.00	5.48	3010.27	1.11
.01" - .50"	973	0.13	5.71	1117.85	1.15
.50" - 1.00"	186	0.68	5.95	241.39	1.30
1.00" - 1.50"	77	1.19	6.03	109.49	1.42
1.50" - 2.00"	40	1.68	6.09	66.12	1.65
2.00" - 2.50"	14	2.21	6.10	25.40	1.81
2.50" - 3.00"	3	2.78	5.33	6.68	2.23
2.50" - 9.99"	4	3.39	5.73	9.39	2.35
Grand Total	4,261	0.12	5.57	4851.53	1.14

Precipitation	High Tide	Days	Avg Precip (in)	Avg High Tide (ft)	Total SIC Flow (mgd)	Avg SIC Flow (mgd)
#N/A	3' to 4'	7	NA	3.62	5.22	0.75
	4' to 5'	61	NA	4.63	55.66	0.91
	5' to 6'	123	NA	5.49	139.17	1.13
	6' to 7'	54	NA	6.29	64.91	1.20
	Total	245	NA	5.40	264.96	1.08
None	#N/A	67	0.00	NA	55.58	0.83
	2' to 3'	9	0.00	2.78	5.61	0.62
	3' to 4'	55	0.00	3.71	40.98	0.75
	4' to 5'	521	0.00	4.64	459.81	0.88
	5' to 6'	1,466	0.00	5.50	1662.60	1.13
	6' to 7'	578	0.00	6.34	755.73	1.31
	7' to 8'	23	0.00	7.26	29.95	1.30
	Total	2,719	0.00	5.48	3010.27	1.11
.01" - .50"	#N/A	31	0.15	NA	29.67	0.96
	2' to 3'	2	0.06	2.81	1.39	0.69
	3' to 4'	8	0.08	3.81	7.50	0.94
	4' to 5'	130	0.12	4.70	122.76	0.94
	5' to 6'	488	0.13	5.53	567.72	1.16
	6' to 7'	281	0.15	6.37	347.20	1.24
	7' to 8'	31	0.16	7.28	37.89	1.22
	8' to 9'	2	0.10	8.11	3.73	1.87
	Total	973	0.13	5.71	1117.85	1.15
.50" - 1.00"	#N/A	5	0.65	NA	6.28	1.26
	4' to 5'	17	0.68	4.76	16.25	0.96
	5' to 6'	77	0.69	5.52	94.29	1.22
	6' to 7'	71	0.68	6.41	95.80	1.35
	7' to 8'	16	0.71	7.27	28.77	1.80
	Total	186	0.68	5.95	241.39	1.30
1.00" - 1.50"	#N/A	6	1.18	NA	8.30	1.38
	4' to 5'	4	1.16	4.70	6.40	1.60
	5' to 6'	27	1.16	5.48	38.89	1.44
	6' to 7'	34	1.22	6.39	48.10	1.41
	7' to 8'	6	1.26	7.39	7.81	1.30
	Total	77	1.19	6.03	109.49	1.42
1.50" - 2.00"	4' to 5'	2	1.82	4.70	2.39	1.20
	5' to 6'	16	1.66	5.58	26.52	1.66
	6' to 7'	18	1.69	6.35	29.15	1.62
	7' to 8'	4	1.65	7.60	8.05	2.01
	Total	40	1.68	6.09	66.12	1.65
2.00" - 2.50"	4' to 5'	1	2.29	4.60	2.55	2.55
	5' to 6'	5	2.20	5.57	8.62	1.72
	6' to 7'	6	2.18	6.46	11.54	1.92
	7' to 8'	2	2.30	7.09	2.69	1.34
	Total	14	2.21	6.10	25.40	1.81
2.50" - 3.00"	5' to 6'	3	2.78	5.33	6.68	2.23
	Total	3	2.78	5.33	6.68	2.23
2.50" - 9.99"	5' to 6'	3	3.29	5.59	6.95	2.32
	6' to 7'	1	3.68	6.15	2.43	2.43
	Total	4	3.39	5.73	9.39	2.35
	Grand Total	4,261	0.12	5.57	4851.53	1.14

Sea Isle City - Comparison of Daily High Tides versus SIC Treatment Flows

High Tide	Days	Avg Precip (in)	Avg High Tide (ft)	Total SIC Flow (mgd)	Avg SIC Flow (mgd)
#N/A	109	0.14	NA	99.82	0.92
2' to 3'	11	0.01	2.79	6.99	0.64
3' to 4'	70	0.01	3.71	53.70	0.77
4' to 5'	736	0.06	4.65	665.83	0.90
5' to 6'	2,208	0.10	5.50	2551.43	1.16
6' to 7'	1,043	0.18	6.35	1354.86	1.30
7' to 8'	82	0.43	7.29	115.17	1.40
8' to 9'	2	0.10	8.11	3.73	1.87
Grand Total	4,261	0.12	5.57	4851.53	1.14

High Tide	Precipitation	Days	Avg Precip (in)	Avg High Tide (ft)	Total SIC Flow (mgd)	Avg SIC Flow (mgd)
#N/A	None	67	0.00	NA	55.58	0.83
	.01" - .50"	31	0.15	NA	29.67	0.96
	.50" - 1.00"	5	0.65	NA	6.28	1.26
	1.00" - 1.50"	6	1.18	NA	8.30	1.38
	Total	109	0.14	NA	99.82	0.92
2' to 3'	None	9	0.00	2.78	5.61	0.62
	.01" - .50"	2	0.06	2.81	1.39	0.69
	Total	11	0.01	2.79	6.99	0.64
3' to 4'	#N/A	7	NA	3.62	5.22	0.75
	None	55	0.00	3.71	40.98	0.75
	.01" - .50"	8	0.08	3.81	7.50	0.94
	Total	70	0.01	3.71	53.70	0.77
4' to 5'	#N/A	61	NA	4.63	55.66	0.91
	None	521	0.00	4.64	459.81	0.88
	.01" - .50"	130	0.12	4.70	122.76	0.94
	.50" - 1.00"	17	0.68	4.76	16.25	0.96
	1.00" - 1.50"	4	1.16	4.70	6.40	1.60
	1.50" - 2.00"	2	1.82	4.70	2.39	1.20
	2.00" - 2.50"	1	2.29	4.60	2.55	2.55
	Total	736	0.06	4.65	665.83	0.90
5' to 6'	#N/A	123	NA	5.49	139.17	1.13
	None	1,466	0.00	5.50	1662.60	1.13
	.01" - .50"	488	0.13	5.53	567.72	1.16
	.50" - 1.00"	77	0.69	5.52	94.29	1.22
	1.00" - 1.50"	27	1.16	5.48	38.89	1.44
	1.50" - 2.00"	16	1.66	5.58	26.52	1.66
	2.00" - 2.50"	5	2.20	5.57	8.62	1.72
	2.50" - 3.00"	3	2.78	5.33	6.68	2.23
	2.50" - 9.99"	3	3.29	5.59	6.95	2.32
	Total	2,208	0.10	5.50	2551.43	1.16
6' to 7'	#N/A	54	NA	6.29	64.91	1.20
	None	578	0.00	6.34	755.73	1.31
	.01" - .50"	281	0.15	6.37	347.20	1.24
	.50" - 1.00"	71	0.68	6.41	95.80	1.35
	1.00" - 1.50"	34	1.22	6.39	48.10	1.41
	1.50" - 2.00"	18	1.69	6.35	29.15	1.62
	2.00" - 2.50"	6	2.18	6.46	11.54	1.92
	2.50" - 9.99"	1	3.68	6.15	2.43	2.43
	Total	1,043	0.18	6.35	1354.86	1.30
7' to 8'	None	23	0.00	7.26	29.95	1.30
	.01" - .50"	31	0.16	7.28	37.89	1.22
	.50" - 1.00"	16	0.71	7.27	28.77	1.80
	1.00" - 1.50"	6	1.26	7.39	7.81	1.30
	1.50" - 2.00"	4	1.65	7.60	8.05	2.01
	2.00" - 2.50"	2	2.30	7.09	2.69	1.34
	Total	82	0.43	7.29	115.17	1.40
8' to 9'	.01" - .50"	2	0.10	8.11	3.73	1.87
	Total	2	0.10	8.11	3.73	1.87
	Grand Total	4,261	0.12	5.57	4851.53	1.14