

APPENDIX M
EXCERPTS FROM THE I/I DATABASE

The following excerpt from the I/I database illustrates all of the columns that comprise the database. Only the first 25 rows of data are provided. A complete listing of the database can be provided upon request.

APPENDIX M. EXCERPTS FROM THE I/I DATABASE **INFILTRATION SUMMARY DATA**

20-Sep-94

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INFILTRATION SUMMARY DATA								
CITY/ TOWN	PUBLIC CONN. #	PEAK INFILT (MGD)	PEAK INFILT (GPDIM)	PROPORTION INFILTR. PER PCONN %	MAINLINE REHABILITATION (PUBLIC SOURCES ONLY)			
					EST. INFILTR. REMOVED (MGD)	% OF TOTAL INFILTR. REMOVED	AMOUNT INFILTR. REMAINING (MGD)	EST. COST TO REMOVE INFILTR. \$
		A	B=(A/X)×10 ⁶	C=A/SUM A	D=(HH)	E=D/A	F=A-D	G=(YY)
						NA		
ASHLAND	AS-001-P	0.070	2,259	14.58%	0.000	0.00%	0.070	\$0
ASHLAND	AS-002-P	0.410	2,330	85.42%	0.000	0.00%	0.410	\$0
	SUM-Ashland	0.480	2,319	100.00%	0.000	0.00%	0.480	\$0
SBOSTON	BD-001-P	0.400	10,532	18.54%	0.030	7.50%	0.370	\$7,566
SBOSTON	BD-008-P	1.757	8,723	81.46%	0.088	5.00%	1.669	\$72,747
	SUM-Dorchester	2.157	9,010	100.00%	0.118	5.46%	2.039	\$80,313
SBOSTON	BH-001-P	0.016	1,985	0.52%	0.000	0.00%	0.016	\$0
SBOSTON	BH-002-P	0.145	2,075	4.86%	0.000	0.00%	0.145	\$0
SBOSTON	BH-003-P	0.129	4,192	4.34%	0.003	2.50%	0.126	\$90,591
SBOSTON	BH-004-P	0.023	1,779	0.77%	0.000	0.00%	0.023	\$0
SBOSTON	BH-005-P	0.696	6,848	23.42%	0.035	5.00%	0.661	\$400,352
SBOSTON	BH-006-P	0.065	2,999	2.19%	0.000	0.00%	0.065	\$0
SBOSTON	BH-007-P	0.042	4,690	1.40%	0.001	2.50%	0.041	\$27,440
SBOSTON	BH-008-P	0.002	5,085	0.05%	0.000	5.00%	0.001	\$730
SBOSTON	BH-009-P	0.019	4,183	0.63%	0.000	2.50%	0.018	\$11,366
SBOSTON	BH-010-P	0.124	4,731	4.16%	0.003	2.50%	0.121	\$74,934
SBOSTON	BH-011-P	0.255	8,401	8.56%	0.013	5.00%	0.242	\$161,076
SBOSTON	BH-012-P	0.088	2,416	2.96%	0.000	0.00%	0.088	\$0
SBOSTON	BH-013-P	0.005	9,490	0.18%	0.000	5.00%	0.005	\$3,457
SBOSTON	BH-014-P	0.065	4,863	2.18%	0.002	2.50%	0.063	\$37,558
SBOSTON	BH-015-P	0.629	4,634	21.17%	0.016	2.50%	0.613	\$295,131
SBOSTON	BH-016-P	0.034	3,023	1.15%	0.001	2.50%	0.033	\$32,044
SBOSTON	BH-017-P	0.013	3,418	0.43%	0.000	2.50%	0.013	\$12,199
SBOSTON	BH-018-P	0.010	11,308	0.34%	0.001	7.50%	0.009	\$8,065
SBOSTON	BH-019-P	0.355	NA	11.95%	0.000	0.00%	0.355	\$0
SBOSTON	BH-020-P	0.179	12,065	6.02%	0.013	7.50%	0.166	\$65,880
SBOSTON	BH-021-P	0.080	18,014	2.69%	0.006	7.50%	0.074	\$34,403
	SUM-Hyde Park	2.972	5,545	100.00%	0.094	3.18%	2.877	\$1,255,227

APPENDIX M.(Continued) EXCERPTS FROM THE I/I DATABASE INFLOW SUMMARY DATA

20-Sep-94

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INFLOW SUMMARY DATA									
CITY/ TOWN	PUBLIC CONN. #	1Y 6H 4 DAY INFLOW	1Y 6H 4 DAY INFLOW PER MILE	PROPORTION INFLOW (M&E) PER PCONN %	REHABILITATION OF PUBLIC & PRIVATE SOURCES				
		(MG)	(MG/MILE)		EST. INFLOW REMOVED DIRECT PUB&PRV	INDIRECT INFLOW REMOVED VIA COMP INFILT.REHAB	% OF TOTAL INFLOW REMOVED	AMOUNT INFLOW REMAINING	EST. COST TO REMOVE DIR. INFLOW
		L	LL=L/Y	M	S=(AM)	SS=(AO)	T=(S+SS)/L	U=L-(S+SS)	V=(AN)
ASHLAND	AS-001-P	0.326	0.121	97.40%	0.022	0.036	17.75%	0.268	\$36,634
ASHLAND	AS-002-P	0.011	0.001	2.60%	0.000	0.001	8.00%	0.010	\$0
	SUM-Ashland	0.336	0.122	100.00%	0.022	0.037	25.75%	0.278	\$36,634
SBOSTON	BD-001-P	0.002	0.023	32.12%	0.000	0.000	8.00%	0.002	\$0
SBOSTON	BD-008-P	0.005	0.003	67.88%	0.000	0.000	8.00%	0.005	\$0
	SUM-Dorchester	0.007	0.026	100.00%	0.000	0.001	16.00%	0.007	\$0
SBOSTON	BH-001-P	0.361	0.521	3.24%	0.049	0.029	21.50%	0.283	\$81,178
SBOSTON	BH-002-P	0.548	0.073	4.93%	0.025	0.044	12.50%	0.480	\$41,136
SBOSTON	BH-003-P	0.350	0.101	3.15%	0.032	0.028	17.00%	0.291	\$52,525
SBOSTON	BH-004-P	0.582	0.419	5.23%	0.079	0.047	21.50%	0.457	\$130,900
SBOSTON	BH-005-P	0.423	0.052	3.81%	0.010	0.059	16.25%	0.355	\$15,880
SBOSTON	BH-006-P	0.356	0.145	3.20%	0.029	0.033	17.30%	0.295	\$48,084
SBOSTON	BH-007-P	0.629	0.596	5.65%	0.076	0.058	21.35%	0.494	\$127,285
SBOSTON	BH-008-P	0.520	34.657	4.67%	0.084	0.048	25.40%	0.388	\$140,360
SBOSTON	BH-009-P	0.619	1.417	5.57%	0.100	0.057	25.40%	0.462	\$167,180
SBOSTON	BH-010-P	0.330	0.115	2.97%	0.030	0.026	17.00%	0.274	\$49,554
SBOSTON	BH-011-P	0.489	0.148	4.40%	0.033	0.054	17.75%	0.403	\$55,067
SBOSTON	BH-012-P	0.516	0.139	4.64%	0.046	0.041	17.00%	0.429	\$77,468
SBOSTON	BH-013-P	0.619	8.721	5.57%	0.100	0.057	25.40%	0.462	\$167,180
SBOSTON	BH-014-P	0.759	0.525	6.82%	0.092	0.070	21.35%	0.597	\$153,622
SBOSTON	BH-015-P	0.356	0.031	3.20%	0.000	0.028	8.00%	0.327	\$0
SBOSTON	BH-016-P	0.716	0.581	6.44%	0.087	0.066	21.35%	0.563	\$145,033
SBOSTON	BH-017-P	0.782	1.668	7.03%	0.127	0.072	25.40%	0.584	\$211,256
SBOSTON	BH-018-P	0.780	6.900	7.01%	0.126	0.072	25.40%	0.582	\$210,507
SBOSTON	BH-019-P	0.699	NA	6.29%	0.000	0.056	8.00%	0.643	\$0
SBOSTON	BH-020-P	0.371	0.402	3.33%	0.013	0.063	20.38%	0.295	\$20,848
SBOSTON	BH-021-P	0.317	0.657	2.85%	0.043	0.025	21.50%	0.249	\$71,255
	SUM-Hyde Park	11.123	57.867	100.00%	1.180	1.033	406.73%	8.911	\$1,966,320

**APPENDIX M.(Continued) EXCERPTS FROM THE I/I DATABASE
GENERAL SYSTEM DATA**

20-Sep-94

GENERAL SYSTEM DATA						
CITY/ TOWN	PUBLIC CONN. #	TRIB. FEET TO PCONN (LF)	INCH- MILES IDM	TRIB. MILES TO PCONN	EST. NO. HOUSE SERVICES	DOWNSTREAM INTERCEPTOR
		W	X	Y	Z	AA
ASHLAND	AS-001-P	14,229	30.99	2.69	385	FRAMINGHAM EXTENSION SEWER
ASHLAND	AS-002-P	80,811	176.00	15.31	2,189	FRAMINGHAM EXTENSION SEWER
	SUM-Ashland	95,040	206.99	18.00	2,574	
SBOSTON	BD-001-P	560	37.98	0.11	21	
SBOSTON	BD-008-P	7,888	201.45	1.49	295	NEPONSET VALLEY SEWER
	SUM-Dorchester	8,448	239.43	1.60	316	
SBOSTON	BH-001-P	3,654	7.86	0.69	137	NEPONSET VALLEY SEWER
SBOSTON	BH-002-P	39,764	69.63	7.53	1,489	NEPONSET VALLEY SEWER
SBOSTON	BH-003-P	18,390	30.75	3.48	689	NEPONSET VALLEY SEWER
SBOSTON	BH-004-P	7,339	12.93	1.39	275	NEPONSET VALLEY SEWER
SBOSTON	BH-005-P	43,412	101.62	8.22	1,626	NEPONSET VALLEY SEWER
SBOSTON	BH-006-P	12,968	21.68	2.46	486	NEPONSET VALLEY SEWER
SBOSTON	BH-007-P	5,570	8.87	1.06	209	NEPONSET VALLEY SEWER
SBOSTON	BH-008-P	79	0.30	0.02	3	NEPONSET VALLEY SEWER
SBOSTON	BH-009-P	2,307	4.47	0.44	86	NEPONSET VALLEY SEWER
SBOSTON	BH-010-P	15,212	26.15	2.88	570	NEPONSET VALLEY SEWER
SBOSTON	BH-011-P	17,466	30.29	3.31	654	NEPONSET VALLEY SEWER
SBOSTON	BH-012-P	19,605	36.46	3.71	734	NEPONSET VALLEY SEWER
SBOSTON	BH-013-P	375	0.57	0.07	14	NEPONSET VALLEY SEWER
SBOSTON	BH-014-P	7,624	13.32	1.44	286	WELLESLEY EXTENSION SEWER
SBOSTON	BH-015-P	59,912	135.74	11.35	2,244	WELLESLEY EXTENSION RELIEF SE
SBOSTON	BH-016-P	6,505	11.35	1.23	244	WELLESLEY EXTENSION SEWER
SBOSTON	BH-017-P	2,476	3.77	0.47	93	WELLESLEY EXTENSION SEWER
SBOSTON	BH-018-P	597	0.90	0.11	22	NEPONSET VALLEY SEWER
SBOSTON	BH-019-P	N/A		N/A	N/A	NEPONSET VALLEY SEWER
SBOSTON	BH-020-P	4,873	14.84	0.92	183	NEPONSET VALLEY RELIEF SEWER
SBOSTON	BH-021-P	2,545	4.44	0.48	95	?
	SUM-Hyde Park	270,674	535.93	51.26	10,139	

APPENDIX M.(Continued) EXCERPTS FROM THE I/I DATABASE INFILTRATION WORKSHEET

NOTE: SHADED HEADINGS ARE COL'S TO BE CHGD IF I/I DISTRIB. CHANGES(SEE REFERENCE SHEET)

20-Sep-94

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20-Sep-91		REMOVALS AND COSTS FOR REHAB OF PUBLIC & PRIVATE SOURCES										CONSTRUCTION COST		DESIGN COST	REHAB OF PUBLIC SOURCES			
CITY/ TOWN	PUBLIC CONN. #	PUBLIC SECTOR (MAINLINE)				PRIVATE SECTOR		PK. INFILT REDUCTN	QTY OF INFILT.	PUBLIC SECTOR RELATED FTG TO REHAB	RELATED # OF HSE SERV'S	RELATED \$ TO ID	RELATED \$ ENG'G	RELATED \$ TO REHAB	RELATED \$ TO REHAB	MAINLINE REHAB ENGINEERING DESIGN	SUM REHAB COSTS (PUB. SOURCES ONLY)	DOLLARS SPENT PER GALLON REMOVED
		EST. % FROM MH SOURCES	MH INFILTR. QTY.	EST. % FROM ML SOURCES	MAINLINE INFILTR. QTY.	EST. % FROM SERVICES	HOUSE SERVICE INFILTR. QTY.	EST. INFILTR. REMOVED PUB. SOURCES ONLY	IN PUBLIC SECTOR TO BE REHAB'D			RELATED FLOW ISOLATIO AND TV INSP'G	OVERSITE @12%	MAIN SEWER @ \$25/LF	HSE SERV'S @ \$600 EA IF 25% ARE REHAB'D			
		BB	CC=AXBB	DD	EE=AXDD	FF	GG=AXFF	LOTUS BV	NN=CC+EE	PP=W x VARIABL	QQ=Z x	TT=W x \$ 5625	UU=TT x .12	VV=PPx\$25	WW=QQ x .25	DE=VVx.15	YY=TT+UU+VV+ + WW + DE	AQ=
										VARIABLE				\$5600			YY/(HHx10^6)	
ASHLAND	AS-001-P	10%	0.007	30%	0.021	60%	0.042	0.000	0.028	0.000	0	\$0	\$0	\$0	\$0	\$0	\$0	ERR
ASHLAND	AS-002-P	10%	0.041	30%	0.123	60%	0.246	0.000	0.164	0.000	0	\$0	\$0	\$0	\$0	\$0	\$0	ERR
	SUM-Ashland	10%	0.048	30%	0.144	60%	0.288	0.000	0.192	0.000	0.000	0.000	0.000	\$0	0.000	\$0	ERR	
SBOSTON	BD-001-P	10%	0.040	30%	0.120	60%	0.240	0.030	0.160	209.880	8	\$315	\$38	\$5,247	\$1,179	\$787	\$7,566	\$0.25
SBOSTON	BD-008-P	10%	0.176	30%	0.527	60%	1.054	0.088	0.703	1972.080	74	\$4,437	\$532	\$49,302	\$11,080	\$7,395	\$72,747	\$0.83
	SUM-Dorchester	10%	0.216	30%	0.647	60%	1.294	0.118	0.863	2181.960	81.729	\$752.000	\$70.240	\$4549.000	\$12,259	\$182.350	\$80,313	1.080
SBOSTON	BII-001-P	10%	0.002	30%	0.005	60%	0.009	0.000	0.006	0.000	0	\$0	\$0	\$0	\$0	\$0	\$0	ERR
SBOSTON	BII-002-P	10%	0.014	30%	0.043	60%	0.087	0.000	0.058	0.000	0	\$0	\$0	\$0	\$0	\$0	\$0	ERR
SBOSTON	BII-003-P	10%	0.013	30%	0.039	60%	0.077	0.003	0.052	2298.780	86	\$10,345	\$1,241	\$57,470	\$12,916	\$8,620	\$90,591	\$28.11
SBOSTON	BII-004-P	10%	0.002	30%	0.007	60%	0.014	0.000	0.009	0.000	0	\$0	\$0	\$0	\$0	\$0	\$0	ERR
SBOSTON	BII-005-P	10%	0.070	30%	0.209	60%	0.418	0.035	0.278	10853.040	407	\$24,419	\$2,930	\$271,326	\$60,978	\$40,699	\$400,352	\$11.51
SBOSTON	BII-006-P	10%	0.007	30%	0.020	60%	0.039	0.000	0.026	0.000	0	\$0	\$0	\$0	\$0	\$0	\$0	ERR
SBOSTON	BII-007-P	10%	0.004	30%	0.012	60%	0.025	0.001	0.017	696.300	26	\$3,133	\$376	\$17,408	\$3,912	\$2,611	\$27,440	\$26.38
SBOSTON	BII-008-P	10%	0.000	30%	0.000	60%	0.001	0.000	0.001	19.800	1	\$45	\$5	\$495	\$111	\$74	\$730	\$9.74
SBOSTON	BII-009-P	10%	0.002	30%	0.006	60%	0.011	0.000	0.007	288.420	11	\$1,298	\$156	\$7,211	\$1,620	\$1,082	\$11,366	\$24.31
SBOSTON	BII-010-P	10%	0.012	30%	0.037	60%	0.074	0.003	0.049	1901.460	71	\$8,557	\$1,027	\$47,537	\$10,683	\$7,130	\$74,934	\$24.23
SBOSTON	BII-011-P	10%	0.025	30%	0.076	60%	0.153	0.013	0.102	4366.560	164	\$9,825	\$1,179	\$109,164	\$24,533	\$16,375	\$161,076	\$12.66
SBOSTON	BII-012-P	10%	0.009	30%	0.026	60%	0.053	0.000	0.035	0.000	0	\$0	\$0	\$0	\$0	\$0	\$0	ERR
SBOSTON	BII-013-P	10%	0.001	30%	0.002	60%	0.003	0.000	0.002	93.720	4	\$211	\$25	\$2,343	\$527	\$351	\$3,457	\$12.80
SBOSTON	BII-014-P	10%	0.006	30%	0.019	60%	0.039	0.002	0.026	953.040	36	\$4,289	\$515	\$23,826	\$5,355	\$3,574	\$37,558	\$23.18
SBOSTON	BII-015-P	10%	0.063	30%	0.189	60%	0.377	0.016	0.252	7489.020	281	\$33,701	\$4,044	\$187,226	\$42,077	\$28,084	\$295,131	\$18.77
SBOSTON	BII-016-P	10%	0.003	30%	0.010	60%	0.021	0.001	0.014	813.120	30	\$3,659	\$439	\$20,328	\$4,569	\$3,049	\$32,044	\$37.37
SBOSTON	BII-017-P	10%	0.001	30%	0.004	60%	0.008	0.000	0.005	309.540	12	\$1,393	\$167	\$7,739	\$1,739	\$1,161	\$12,199	\$37.82
SBOSTON	BII-018-P	10%	0.001	30%	0.003	60%	0.006	0.001	0.004	223.740	8	\$336	\$40	\$5,594	\$1,257	\$839	\$8,065	\$10.54
SBOSTON	BII-019-P	10%	0.036	30%	0.107	60%	0.213	0.000	0.142	0.000	NA	\$0	\$0	\$0	\$0	\$0	\$0	ERR
SBOSTON	BII-020-P	10%	0.018	30%	0.054	60%	0.107	0.013	0.072	1827.540	68	\$2,741	\$329	\$45,689	\$10,268	\$6,853	\$65,880	\$4.91
SBOSTON	BII-021-P	10%	0.008	30%	0.024	60%	0.048	0.006	0.032	954.360	36	\$1,432	\$172	\$23,859	\$5,362	\$3,579	\$34,403	\$5.73
	SUM-Hyde Park	10%	0.297	30%	0.892	60%	1.783	0.094	1.189	33088.440	1239.380	\$105381.540	\$12645.785	\$827211.000	\$185,907	\$124081.650	\$1,255,227	ERR

APPENDIX M.(Continued) EXCERPTS FROM THE I/I DATABASE INFLOW WORKSHEET

NOTE: SHADED HEADINGS ARE COL'S TO BE CHG'D IF I/I DISTRIB. CHANGES(SEE REFERENCE SHEET)

20-Sep-94		DIRECT PUBLIC SOURCE INFLOW REMOVAL					DIRECT PRIVATE SOURCE INFLOW REMOVAL									
F:\SW\MWR\APO SW\SHEET WK3		EST. % OF 4DAY INFLOW ON 1ST DAY (SEEGRAPHS) I.E. DIR. INFLOW	TOTAL ESTIMATED DIRECT INFLOW QUANTITY (MG)	TOTAL ESTIMATED INDIRECT INFLOW QUANTITY (MG)	DIRECT PUBLIC SOURCES INFLOW QTY. (MG)	EST. INFLOW REMOVED DIRECT PUB SOURCES (MG)	COST FOR DIR. PUBLIC REMOVAL \$	DIRECT PRIVATE SOURCES INFLOW QTY. (MG)	EST. INFLOW REMOVED DIR. PRIVATE SOURCES (MG)	COST FOR DIR. PRIVATE REMOVAL \$	ESTIM'D RELATED QTY OF INDIR. INFLOW REMOVED VIA ALT 1 REHAB. (MAINLINE SOURCES)	ESTIM'D RELATED QTY OF INDIR. INFLOW REMOVED VIA ALT 2 REHAB. (COMPREHENSIVE)	INFLOW REMOVED DIRECT SOURCES PUB&PRIV (MG)	COST DIRPUBLIC PLUS DIRPRIVATE INFLOW QTY REMOVED \$	PERCENT INFLOW REMOVED DIRECT SOURCES PUB&PRIV %	
CITY/ TOWN	PUBLIC CONN. #	N	AX=	AX=	AD=	AE=	AG=	AI=	AJ=	AL=	AZ=AX x VARIABLE	AO=AX x .20	AM=	AN=		
			L x N x 0.6	L x AY	AY x 0.50	lotus CF	AE x 10^6 x \$1.00	AY x 0.50	lotus CK	AJ x 10^6 x \$5.00				AE x AJ	AG x AL	AM / L
ASHLAND	AS-001-P	75%	0.147	0.179	0.073	0.018	\$18,317	0.073	0.004	\$18,317	0.000	0.036	0.022	\$36,634	6.75%	
ASHLAND	AS-002-P	100%	0.006	0.004	0.003	0.000	\$0	0.003	0.000	\$0	0.000	0.001	0.000	\$0	0.00%	
	SUM-Ashland	1.750	0.153	0.183	0.077	0.018	18316.931	0.077	0.004	18316.931	0.000	0.037	0.022	36633.861	6.53%	
SBOSTON	BD-001-P	100%	0.001	0.001	0.001	0.000	\$0	0.001	0.000	\$0	0.000	0.000	0.000	\$0	0.00%	
SBOSTON	BD-008-P	100%	0.003	0.002	0.002	0.000	\$0	0.002	0.000	\$0	0.000	0.000	0.000	\$0	0.00%	
	SUM-Dorchester	2.000	0.004	0.003	0.002	0.000	0.000	0.002	0.000	0.000	0.000	0.001	0.000	0.000	0.00%	
SBOSTON	BH-001-P	100%	0.216	0.144	0.108	0.041	\$40,589	0.108	0.008	\$40,589	0.000	0.029	0.049	\$81,178	13.50%	
SBOSTON	BH-002-P	100%	0.329	0.219	0.165	0.021	\$20,568	0.165	0.004	\$20,568	0.000	0.044	0.025	\$41,136	4.50%	
SBOSTON	BH-003-P	100%	0.210	0.140	0.105	0.026	\$26,263	0.105	0.005	\$26,263	0.004	0.028	0.032	\$52,525	9.00%	
SBOSTON	BH-004-P	100%	0.349	0.233	0.175	0.065	\$65,450	0.175	0.013	\$65,450	0.000	0.047	0.079	\$130,900	13.50%	
SBOSTON	BH-005-P	50%	0.127	0.296	0.064	0.008	\$7,940	0.064	0.002	\$7,940	0.015	0.059	0.010	\$15,880	2.25%	
SBOSTON	BH-006-P	90%	0.192	0.164	0.096	0.024	\$24,042	0.096	0.005	\$24,042	0.000	0.033	0.029	\$48,084	8.10%	
SBOSTON	BH-007-P	90%	0.339	0.289	0.170	0.064	\$63,642	0.170	0.013	\$63,642	0.007	0.058	0.076	\$127,285	12.15%	
SBOSTON	BH-008-P	90%	0.281	0.239	0.140	0.070	\$70,180	0.140	0.014	\$70,180	0.012	0.048	0.084	\$140,360	16.20%	
SBOSTON	BH-009-P	90%	0.334	0.285	0.167	0.084	\$83,590	0.167	0.017	\$83,590	0.007	0.057	0.100	\$167,180	16.20%	
SBOSTON	BH-010-P	100%	0.198	0.132	0.099	0.025	\$24,777	0.099	0.005	\$24,777	0.003	0.026	0.030	\$49,554	9.00%	
SBOSTON	BH-011-P	75%	0.220	0.269	0.110	0.028	\$27,533	0.110	0.006	\$27,533	0.013	0.054	0.033	\$55,067	6.75%	
SBOSTON	BH-012-P	100%	0.310	0.207	0.155	0.039	\$38,734	0.155	0.008	\$38,734	0.000	0.041	0.046	\$77,468	9.00%	
SBOSTON	BH-013-P	90%	0.334	0.285	0.167	0.084	\$83,590	0.167	0.017	\$83,590	0.014	0.057	0.100	\$167,180	16.20%	
SBOSTON	BH-014-P	90%	0.410	0.349	0.205	0.077	\$76,811	0.205	0.015	\$76,811	0.009	0.070	0.092	\$153,622	12.15%	
SBOSTON	BH-015-P	100%	0.214	0.142	0.107	0.000	\$0	0.107	0.000	\$0	0.004	0.028	0.000	\$0	0.00%	
SBOSTON	BH-016-P	90%	0.387	0.329	0.193	0.073	\$72,516	0.193	0.015	\$72,516	0.008	0.066	0.087	\$145,033	12.15%	
SBOSTON	BH-017-P	90%	0.423	0.360	0.211	0.106	\$105,628	0.211	0.021	\$105,628	0.009	0.072	0.127	\$211,256	16.20%	
SBOSTON	BH-018-P	90%	0.421	0.359	0.211	0.105	\$105,253	0.211	0.021	\$105,253	0.027	0.072	0.126	\$210,507	16.20%	
SBOSTON	BH-019-P	100%	0.420	0.280	0.210	0.000	\$0	0.210	0.000	\$0	0.000	0.056	0.000	\$0	0.00%	
SBOSTON	BH-020-P	25%	0.056	0.315	0.028	0.010	\$10,424	0.028	0.002	\$10,424	0.024	0.063	0.013	\$20,848	3.38%	
SBOSTON	BH-021-P	100%	0.190	0.127	0.095	0.036	\$35,627	0.095	0.007	\$35,627	0.010	0.025	0.043	\$71,255	13.50%	
	SUM-Hyde Park	18.600	5.960	5.163	2.980	0.983	983159.751	2.980	0.197	983159.751	0.165	1.033	1.180	1966319.502	10.61%	

APPENDIX N
I/I BASELINE INFORMATION BY PUBLIC CONNECTION AND COMMUNITY

This information was presented in the June 15, 1994, System Master Plan Baseline Assessment report. For an explanation of this information, refer to that report.

**I/I BASELINE INFORMATION BY PUBLIC CONNECTION AND COMMUNITY
I/I REDUCTION STRATEGIES DATABASE**

			INFILTRATION DATA		INFLOW DATA		GENERAL SYSTEM DATA			
SYS	CITY/ TOWN	PUBLIC CONN. #	PEAK INFILT (MGD)	PEAK INFILT (GPDIM)	1Y 6H 4 DAY INFLOW (MG)	1Y 6H 4 DAY INFLOW PER MILE (MG/MILE)	TRIB. FEET TO PCONN (LF)	INCH- MILES IDM	TRIB. MILES TO PCONN	EST. NO. HOUSE SERVICES
			A	B=(A/X)x10^6	L	LL=L/Y	W	X	Y	Z
NORTH SYSTEM										
N	ARLING	AR-001-P	0.077	3,348	0.167	0.060	14,626	23.00	2.77	334
N	ARLING	AR-003-P	0.026	1,130	0.036	0.013	14,837	23.01	2.81	339
N	ARLING	AR-004-P	0.002	2,158	0.000	0.000	475	0.75	0.09	11
N	ARLING	AR-005-P	0.119	3,184	0.024	0.005	24,922	37.44	4.72	570
N	ARLING	AR-006-P	0.056	3,186	0.000	0.000	11,458	17.44	2.17	262
N	ARLING	AR-007-P	0.002	492	0.000	0.000	2,218	3.29	0.42	51
N	ARLING	AR-008-P	0.002	809	0.000	0.000	1,320	2.00	0.25	30
N	ARLING	AR-009-P	0.008	646	0.012	0.008	7,762	12.10	1.47	177
N	ARLING	AR-010-P	0.084	1,159	0.233	0.028	43,718	72.63	8.28	1,000
N	ARLING	AR-011-P	0.008	3,032	0.000	0.000	1,690	2.58	0.32	39
N	ARLING	AR-012-P	0.005	3,152	0.000	0.000	1,003	1.54	0.19	23
N	ARLING	AR-013-P	0.000	0	0.000	0.000	106	0.18	0.02	2
N	ARLING	AR-014-P	0.003	1,090	0.058	0.156	1,954	2.97	0.37	45
N	ARLING	AR-015-P	0.005	3,419	0.000	0.000	950	1.42	0.18	22
N	ARLING	AR-016-P	0.003	2,415	0.000	0.000	898	1.34	0.17	21
N	ARLING	AR-017-P	0.005	1,527	0.000	0.000	2,218	3.18	0.42	51
N	ARLING	AR-018-P	0.006	1,018	0.015	0.019	4,171	6.36	0.79	95
N	ARLING	AR-019-P	0.000	0	0.000	0.000	106	0.15	0.02	2
N	ARLING	AR-020-P	0.002	4,374	0.000	0.000	264	0.37	0.05	6
N	ARLING	AR-021-P	0.032	4,573	0.000	0.000	4,594	6.96	0.87	105
N	ARLING	AR-022-P	0.002	2,248	0.000	0.000	475	0.72	0.09	11
N	ARLING	AR-023-P	0.071	2,293	0.105	0.027	20,275	31.17	3.84	464
N	ARLING	AR-024-P	0.013	3,398	0.000	0.000	2,482	3.73	0.47	57
N	ARLING	AR-025-P	0.030	2,602	0.037	0.026	7,656	11.61	1.45	175
N	ARLING	AR-026-P	0.018	7,155	0.000	0.000	1,637	2.45	0.31	37
N	ARLING	AR-027-P	0.003	1,031	0.000	0.000	2,059	3.14	0.39	47
N	ARLING	AR-028-P	0.350	2,278	0.522	0.031	88,440	153.65	16.75	2,022
N	ARLING	AR-029-P	0.005	2,682	0.000	0.000	1,214	1.81	0.23	28
N	ARLING	AR-030-P	0.005	1,319	0.002	0.005	2,429	3.68	0.46	56
N	ARLING	AR-031-P	0.002	2,102	0.000	0.000	422	0.77	0.08	10
N	ARLING	AR-032-P	0.002	2,610	0.000	0.000	422	0.62	0.08	10
N	ARLING	AR-033-P	0.030	3,639	0.002	0.002	5,491	8.30	1.04	126
N	ARLING	AR-036-P	0.002	3,947	0.000	0.000	264	0.41	0.05	6
N	ARLING	AR-037-P	0.033	14,111	0.000	0.000	1,373	2.37	0.26	31
N	ARLING	AR-039-P	0.016	1,568	0.000	0.000	6,283	10.15	1.19	144
N	ARLING	AR-040-P	0.002	319	0.000	0.000	3,326	5.07	0.63	76
N	ARLING	AR-041-P	0.076	14,161	0.000	0.000	3,326	5.39	0.63	76
N	ARLING	AR-042-P	0.002	3,112	0.000	0.000	370	0.52	0.07	8
N	ARLING	AR-043-P	0.013	1,408	0.000	0.000	5,914	9.00	1.12	135
N	ARLING	AR-044-P	0.005	3,853	0.000	0.000	845	1.26	0.16	19
N	ARLING	AR-045-P	0.002	591	0.031	0.091	1,795	2.74	0.34	41
N	ARLING	AR-046-P	0.011	3,233	0.000	0.000	2,270	3.42	0.43	52
N	ARLING	AR-047-P	0.003	1,788	0.000	0.000	1,214	1.81	0.23	28
N	ARLING	AR-048-P	0.000	0	0.000	0.000	2,165	3.31	0.41	49
N	ARLING	AR-049-P	0.002	457	0.000	0.000	2,323	3.54	0.44	53
N	ARLING	AR-050-P	0.025	13,485	0.000	0.000	1,267	1.88	0.24	29
N	ARLING	AR-051-P	0.018	6,130	0.000	0.000	1,901	2.86	0.36	43

**I/I BASELINE INFORMATION BY PUBLIC CONNECTION AND COMMUNITY
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SYS	CITY/ TOWN	PUBLIC CONN. #	INFILTRATION DATA		INFLOW DATA		GENERAL SYSTEM DATA			
			PEAK INFILT (MGD)	PEAK INFILT (GPDIM)	1Y 6H 4 DAY INFLOW (MG)	1Y 6H 4 DAY INFLOW PER MILE (MG/MILE)	TRIB. FEET TO PCONN (LF)	INCH- MILES IDM	TRIB. MILES TO PCONN	EST. NO. HOUSE SERVICES
			A	$B=(A/X) \times 10^6$	L	$LL=L/Y$	W	X	Y	Z
N	ARLING	AR-052-P	0.021	4,841	0.000	0.000	2,851	4.29	0.54	65
N	ARLING	AR-053-P	0.002	3,518	0.000	0.000	317	0.46	0.06	7
N	ARLING	AR-054-P	0.011	2,835	0.000	0.000	2,587	3.90	0.49	59
N	ARLING	AR-055-P	0.011	1,822	0.000	0.000	4,013	6.07	0.76	92
N	ARLING	AR-056-P	0.003	3,678	0.000	0.000	581	0.88	0.11	13
N	ARLING	AR-057-P	0.145	3,346	0.289	0.054	28,248	43.20	5.35	646
N	ARLING	AR-058-P	0.003	1,579	0.000	0.000	1,373	2.05	0.26	31
N	ARLING	AR-059-P	0.018	1,134	0.020	0.010	10,190	15.46	1.93	233
N	ARLING	AR-060-P	0.100	11,332	0.021	0.019	5,755	8.83	1.09	132
N	ARLING	AR-061-P	0.005	750	0.032	0.039	4,277	6.47	0.81	98
N	ARLING	AR-062-P	0.545	6,639	0.228	0.024	50,318	82.06	9.53	1,150
N	ARLING	AR-063-P	0.002	155	0.006	0.005	6,917	10.45	1.31	158
N	ARLING	AR-064-P	0.303	3,366	0.040	0.004	56,179	90.13	10.64	1,284
N	ARLING	AR-065-P	0.000	0	0.000	0.000	158	0.23	0.03	4
N	ARLING	AR-066-P	0.000	0	0.000	0.000	106	0.17	0.02	2
N	ARLING	AR-067-P	0.005	2,582	0.000	0.000	1,267	1.88	0.24	29
N	ARLING	AR-068-P	0.046	7,536	0.080	0.103	4,066	6.12	0.77	93
N	ARLING	AR-069-P	0.006	2,983	0.000	0.000	1,426	2.17	0.27	33
N	ARLING	AR-070-P	0.006	1,343	0.000	0.000	3,168	4.82	0.60	72
N	ARLING	AR-072-P	0.002	2,415	0.000	0.000	422	0.67	0.08	10
N	ARLING	AR-073-P	0.283	2,557	0.283	0.022	69,326	110.76	13.13	1,585
N	ARLING	AR-074-P	0.002	2,248	0.000	0.000	581	0.84	0.11	13
N	ARLING	AR-075-P	0.002	5,779	0.000	0.000	211	0.28	0.04	5
N		SUM-Arlington	2.702	3,014	2.244	0.752	561,264	896.28	106.30	12,832
N	BEDFOR	BF-001-P	1.750	3,170	0.734	0.011	353,760	552.00	67.00	2,980
N		SUM-Bedford	1.750	3,170	0.734	0.011	353,760	552.00	67.00	2,980
N	BROOK	BK-001-P	2.660	6,945	1.991	0.069	153,120	383.00	29.00	2,238
N		SUM-Brookline	2.660	6,945	1.991	0.069	153,120	383.00	29.00	2,238
N	BELMO	BM-001-P	1.790	3,215	2.308	0.038	321,369	556.70	60.87	5,281
N	BELMO	BM-002-P	0.570	4,460	1.046	0.068	80,924	127.80	15.33	1,330
N	BELMO	BM-0AR-P	0.000	0	0.011	0.077	770	1.80	0.15	13
N		SUM-Belmont	2.360	3,439	3.365	0.183	403,063	686.30	76.34	6,624
N	BURLIN	BU-001-P	2.510	2,409	2.468	0.023	564,960	1042.00	107.00	6,456
N		SUM-Burlington	2.510	2,409	2.468	0.023	564,960	1042.00	107.00	6,456
N	EVERET	EV-001-P	1.500	7,937	3.089	0.145	112,484	189.00	21.30	2,855
N	EVERET	EV-002-P	0.500	12,195	0.758	0.160	25,009	41.00	4.74	635
N	EVERET	EV-004-P	0.400	6,897	0.826	0.109	40,188	58.00	7.61	1,020
N	EVERET	EV-005-P	0.600	3,636	2.338	0.151	81,728	165.00	15.48	2,075
N	EVERET	EV-006-P	0.200	3,636	0.589	0.161	19,342	55.00	3.66	491
N	EVERET	EV-007-P	0.000	NA	0.024	0.180	717	0.00	0.14	18
N	EVERET	EV-008-P	0.350	15,909	0.542	0.156	18,381	22.00	3.48	467
N	EVERET	EV-009-P	0.000	NA	0.009	0.188	255	0.00	0.05	6
N	EVERET	EV-010-P	0.000	NA	0.019	0.180	559	0.00	0.11	14
N	EVERET	EV-011-P	0.000	NA	0.003	0.188	84	0.00	0.02	2
N	EVERET	EV-012-P	0.000	NA	0.032	0.186	904	0.00	0.17	23
N	EVERET	EV-013-P	0.050	4,065	0.126	0.181	3,674	12.30	0.70	93
N		SUM-Everett	3.600	6,638	8.355	1.985	303,325	542.30	57.45	7,700
N	LEXING	LE-001-P	0.175	3,886	0.117	0.006	97,786	45.00	18.52	1,094

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SYS	CITY/ TOWN	PUBLIC CONN. #	INFILTRATION DATA		INFLOW DATA		GENERAL SYSTEM DATA			
			PEAK INFILT (MGD)	PEAK INFILT (GPDIM)	1Y 6H 4 DAY INFLOW (MG)	1Y 6H 4 DAY INFLOW PER MILE (MG/MILE)	TRIB. FEET TO PCONN (LF)	INCH- MILES IDM	TRIB. MILES TO PCONN	EST. NO. HOUSE SERVICES
			A	$B=(A/X) \times 10^6$	L	$LL=L/Y$	W	X	Y	Z
N	LEXING	LE-002-P	1.308	5,338	0.131	0.005	144,038	245.00	27.28	1,612
N	LEXING	LE-003-P	1.775	3,466	0.019	0.000	348,797	512.00	66.06	3,902
N	LEXING	LE-004-P	0.639	13,040	1.896	0.212	47,309	49.00	8.96	529
N	LEXING	LE-005-P	0.203	7,830	0.001	0.000	15,946	25.90	3.02	178
N	LEXING	LE-006-P	0.081	7,320	0.020	0.014	7,286	11.10	1.38	82
N	LEXING	LE-007-P	0.081	7,320	0.000	0.000	5,386	11.10	1.02	60
N	LEXING	LE-008-P	0.081	7,320	0.000	0.000	13,675	11.10	2.59	153
N	LEXING	LE-009-P	0.031	8,257	0.386	0.205	9,926	3.70	1.88	111
N	LEXING	LE-010-P	0.081	7,320	0.000	0.000	8,395	11.10	1.59	94
N	LEXING	LE-011-P	0.304	11,791	0.000	0.000	12,355	25.80	2.34	138
N	LEXING	LE-012-P	0.304	11,791	0.000	0.000	19,589	25.80	3.71	219
N	LEXING	LE-013-P	0.081	8,125	0.055	0.055	5,227	10.00	0.99	58
N	LEXING	LE-014-P	1.166	7,774	0.000	0.000	75,029	150.00	14.21	839
N	LEXING	LE-016-P	0.172	8,613	0.000	0.000	11,088	20.00	2.10	124
N		SUM-Lexington	6.482	5,605	2.625	0.498	821,832	1156.60	155.65	9,195
N	MALDE	MA-002-P	0.543	4,423	1.461	0.113	68,482	122.80	12.97	1,533
N	MALDE	MA-003-P	0.241	4,429	0.180	0.028	33,950	54.40	6.43	760
N	MALDE	MA-004-P	0.202	4,443	0.081	0.014	31,469	45.50	5.96	704
N	MALDE	MA-005-P	0.019	4,850	0.018	0.040	2,376	4.00	0.45	53
N	MALDE	MA-006-P	0.012	4,656	0.013	0.041	1,690	2.50	0.32	38
N	MALDE	MA-007-P	0.008	3,695	0.012	0.046	1,373	2.10	0.26	31
N	MALDE	MA-008-P	0.008	4,311	0.011	0.049	1,214	1.80	0.23	27
N	MALDE	MA-009-P	0.004	5,543	0.006	0.063	475	0.70	0.09	11
N	MALDE	MA-010-P	0.008	3,880	0.012	0.046	1,320	2.00	0.25	30
N	MALDE	MA-011-P	0.019	4,042	0.020	0.035	2,952	4.80	0.56	66
N	MALDE	MA-012-P	0.008	3,695	0.012	0.045	1,373	2.10	0.26	31
N	MALDE	MA-013-P	0.008	3,880	0.012	0.049	1,267	2.00	0.24	28
N	MALDE	MA-016-P	0.012	5,291	0.011	0.052	1,109	2.20	0.21	25
N	MALDE	MA-018-P	0.008	3,527	0.010	0.041	1,320	2.20	0.25	30
N	MALDE	MA-019-P	0.008	5,543	0.007	0.054	686	1.40	0.13	15
N	MALDE	MA-020-P	0.000	43	0.015	0.034	2,323	4.50	0.44	52
N	MALDE	MA-021-P	0.019	4,732	0.018	0.040	2,376	4.10	0.45	53
N	MALDE	MA-022-P	0.016	4,565	0.015	0.040	2,006	3.40	0.38	45
N	MALDE	MA-023-P	0.012	3,880	0.015	0.043	1,848	3.00	0.35	41
N	MALDE	MA-024-P	0.004	3,233	0.008	0.052	792	1.20	0.15	18
N	MALDE	MA-025-P	0.000	48	0.016	0.038	2,218	4.90	0.42	50
N	MALDE	MA-026-P	0.016	4,565	0.016	0.043	2,006	3.40	0.38	45
N	MALDE	MA-027-P	0.031	4,252	0.050	0.055	4,752	7.30	0.90	106
N	MALDE	MA-028-P	0.008	3,880	0.014	0.055	1,320	2.00	0.25	30
N	MALDE	MA-029-P	0.008	5,173	0.006	0.054	581	1.50	0.11	13
N	MALDE	MA-030-P	0.004	7,760	0.005	0.076	317	0.50	0.06	7
N	MALDE	MA-032-P	0.012	3,755	0.014	0.043	1,690	3.10	0.32	38
N	MALDE	MA-033-P	0.004	6,467	0.005	0.053	459	0.60	0.09	10
N	MALDE	MA-034-P	0.019	4,732	0.024	0.051	2,482	4.10	0.47	56
N	MALDE	MA-035-P	0.000	0	0.004	0.094	211	0.30	0.04	5
N	MALDE	MA-036-P	0.012	4,157	0.014	0.056	1,320	2.80	0.25	30
N	MALDE	MA-037-P	0.000	0	0.057	0.135	2,218	3.50	0.42	50
N	MALDE	MA-039-P	0.004	3,233	0.009	0.058	792	1.20	0.15	18

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I/I REDUCTION STRATEGIES DATABASE**

SYS	CITY/ TOWN	PUBLIC CONN. #	INFILTRATION DATA		INFLOW DATA		GENERAL SYSTEM DATA			
			PEAK INFILT (MGD)	PEAK INFILT (GPDIM)	1Y 6H 4 DAY INFLOW (MG)	1Y 6H 4 DAY INFLOW PER MILE (MG/MILE)	TRIB. FEET TO PCONN (LF)	INCH- MILES IDM	TRIB. MILES TO PCONN	EST. NO. HOUSE SERVICES
			A	$B=(A/X) \times 10^6$	L	$LL=L/Y$	W	X	Y	Z
N	MALDE	MA-040-P	0.008	4,850	0.012	0.058	1,056	1.60	0.20	24
N	MALDE	MA-041-P	0.004	5,543	0.006	0.062	475	0.70	0.09	11
N	MALDE	MA-043-P	0.016	4,084	0.008	0.052	845	3.80	0.16	19
N	MALDE	MA-044-P	0.008	5,543	0.011	0.060	950	1.40	0.18	21
N	MALDE	MA-045-P	0.008	3,880	0.011	0.057	1,056	2.00	0.20	24
N	MALDE	MA-046-P	0.369	4,434	0.142	0.016	48,418	83.30	9.17	1,084
N	MALDE	MA-047-P	0.019	4,128	0.011	0.055	1,056	4.70	0.20	24
N	MALDE	MA-048-P	0.000	43	0.009	0.055	845	1.80	0.16	19
N	MALDE	MA-049-P	0.447	4,452	0.000	0.000	56,021	100.40	10.61	1,254
DNE	MALDE	MA-050-P		0	0.242	0.574	2,223	3.89	0.42	50
N	MALDE	MA-051-P	0.319	4,454	0.195	0.022	46,411	71.60	8.79	1,039
N	MALDE	MA-052-P	0.012	4,850	0.021	0.067	1,637	2.40	0.31	37
N	MALDE	MA-053-P	0.085	4,516	0.085	0.036	12,514	18.90	2.37	280
N	MALDE	MA-054-P	0.004	2,985	0.012	0.072	845	1.30	0.16	19
N	MALDE	MA-055-P	0.023	4,656	0.033	0.053	3,326	5.00	0.63	74
N	MALDE	MA-056-P	0.008	5,173	0.014	0.072	1,003	1.50	0.19	22
N	MALDE	MA-057-P	0.085	4,446	0.090	0.037	12,936	19.20	2.45	290
N	MALDE	MA-058-P	0.097	4,427	0.093	0.034	14,467	22.00	2.74	324
N	MALDE	MA-059-P	0.004	7,760	0.004	0.063	317	0.50	0.06	7
N	MALDE	MA-060-P	0.027	4,115	0.023	0.046	2,640	6.60	0.50	59
N	MALDE	MA-061-P	0.016	4,565	0.009	0.052	898	3.40	0.17	20
N	MALDE	MA-062-P	0.004	3,880	0.007	0.059	634	1.00	0.12	14
N	MALDE	MA-063-P	0.089	4,332	0.055	0.024	12,355	20.60	2.34	277
N	MALDE	MA-064-P	0.043	4,268	0.016	0.041	2,006	10.00	0.38	45
N	MALDE	MA-065-P	0.012	4,311	0.007	0.051	739	2.70	0.14	17
N	MALDE	MA-066-P	0.004	4,311	0.007	0.066	581	0.90	0.11	13
N	MALDE	MA-067-P	0.008	4,850	0.011	0.053	1,056	1.60	0.20	24
N	MALDE	MA-068-P	0.144	4,429	0.061	0.015	21,595	32.50	4.09	483
N	MALDE	MA-069-P	0.012	4,157	0.016	0.042	2,006	2.80	0.38	45
N	MALDE	MA-070-P	0.031	4,372	0.043	0.050	4,541	7.10	0.86	102
N	MALDE	MA-071-P	0.019	4,042	0.035	0.061	3,062	4.80	0.58	69
N	MALDE	MA-072-P	0.004	7,760	0.004	0.074	317	0.50	0.06	7
N	MALDE	MA-073-P	0.000	39	0.011	0.042	1,373	2.00	0.26	31
N	MALDE	MA-075-P	0.000	0	0.004	0.093	211	0.30	0.04	5
N	MALDE	MA-076-P	0.490	4,427	0.263	0.020	70,594	110.70	13.37	1,580
N	MALDE	MA-077-P	0.016	4,434	0.017	0.045	2,006	3.50	0.38	45
N	MALDE	MA-078-P	0.012	4,311	0.021	0.062	1,795	2.70	0.34	40
N	MALDE	MA-079-P	0.004	7,760	0.006	0.086	370	0.50	0.07	8
N	MALDE	MA-080-P	0.074	4,468	0.062	0.034	9,662	16.50	1.83	216
N	MALDE	MA-081-P	0.008	4,565	0.006	0.031	1,056	1.70	0.20	24
N		SUM-Malden	3.804	4,321	3.849	4.226	526,664	880.29	99.75	11,789
N	MEDFO	MF-001-P	0.343	3,267	0.730	0.060	64,167	104.99	12.15	1,476
N	MEDFO	MF-002-P	0.012	320	0.339	0.075	23,835	37.47	4.51	548
N	MEDFO	MF-004-P	0.118	5,770	0.010	0.004	13,118	20.45	2.48	302
N	MEDFO	MF-005-P	0.890	12,560	0.000	0.000	44,777	70.86	8.48	1,030
N	MEDFO	MF-006-P	0.000	0	0.000	0.000	18,518	28.49	3.51	426
N	MEDFO	MF-007-P	0.199	13,621	0.001	0.001	9,146	14.61	1.73	210
N	MEDFO	MF-008-P	0.146	15,835	0.400	0.465	4,543	9.22	0.86	105

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SYS	CITY/ TOWN	PUBLIC CONN. #	INFILTRATION DATA		INFLOW DATA		GENERAL SYSTEM DATA			
			PEAK INFILT (MGD)	PEAK INFILT (GPDIM)	1Y 6H 4 DAY INFLOW (MG)	1Y 6H 4 DAY INFLOW PER MILE (MG/MILE)	TRIB. FEET TO PCONN (LF)	INCH- MILES IDM	TRIB. MILES TO PCONN	EST. NO. HOUSE SERVICES
			A	B=(A/X)x10^6	L	LL=L/Y	W	X	Y	Z
N	MEDFO	MF-009-P	0.304	17,312	0.000	0.000	10,567	17.56	2.00	243
N	MEDFO	MF-010-P	0.000	0	0.000	NA	0	0.10	0.00	0
N	MEDFO	MF-011-P	1.600	6,990	0.000	0.000	136,704	228.91	25.89	3,145
N	MEDFO	MF-012-P	0.000	0	0.000	NA	0	0.10	0.00	0
N	MEDFO	MF-013-P	0.250	7,344	0.357	0.089	21,169	34.04	4.01	487
N	MEDFO	MF-014-P	0.565	10,840	7.517	1.312	30,260	52.12	5.73	696
N	MEDFO	MF-015-P	0.053	12,559	0.364	0.691	2,785	4.22	0.53	64
N	MEDFO	MF-016-P	0.025	19,841	0.011	0.070	829	1.26	0.16	19
N	MEDFO	MF-018-P	0.070	15,590	0.299	0.713	2,211	4.49	0.42	51
N	MEDFO	MF-019-P	0.018	5,844	0.277	0.721	2,029	3.08	0.38	47
N	MEDFO	MF-020-P	0.105	10,365	0.097	0.078	6,552	10.13	1.24	151
N	MEDFO	MF-021-P	0.493	35,265	0.193	0.114	8,982	13.98	1.70	207
N	MEDFO	MF-022-P	0.276	9,494	0.233	0.068	18,169	29.07	3.44	418
N	MEDFO	MF-023-P	0.229	11,031	0.000	0.000	11,793	20.76	2.23	271
N	MEDFO	MF-024-P	0.118	13,705	0.586	0.544	5,682	8.61	1.08	131
N	MEDFO	MF-025-P	0.088	11,429	0.000	0.000	4,994	7.70	0.95	115
N	MEDFO	MF-026-P	0.000	0	0.047	0.121	2,061	2.96	0.39	47
N	MEDFO	MF-027-P	0.330	11,694	0.000	0.000	19,002	28.22	3.60	437
N	MEDFO	MF-028-P	0.017	10,366	0.256	1.249	1,083	1.64	0.21	25
N	MEDFO	MF-029-P	0.013	2,610	0.004	0.006	3,263	4.98	0.62	75
N	MEDFO	MF-030-P	0.000	0	0.002	0.234	53	0.05	0.01	1
N	MEDFO	MF-031-P	0.000	0	0.006	0.127	233	0.35	0.04	5
N	MEDFO	MF-033-P	0.035	11,076	0.254	0.704	1,902	3.16	0.36	44
N	MEDFO	MF-034-P	0.000	0	0.010	0.140	370	0.10	0.07	9
N	MEDFO	MF-035-P	0.038	5,901	0.058	0.080	3,838	6.44	0.73	88
N	MEDFO	MF-036-P	0.000	0	0.007	0.134	264	0.43	0.05	6
N	MEDFO	MF-037-P	0.017	23,288	0.016	0.178	480	0.73	0.09	11
N	MEDFO	MF-038-P	0.000	0	0.163	0.141	6,125	9.70	1.16	141
N	MEDFO	MF-039-P	0.007	15,217	0.004	0.070	290	0.46	0.05	7
N	MEDFO	MF-040-P	0.003	6,818	0.000	0.000	158	0.44	0.03	4
N	MEDFO	MF-041-P	0.000	0	0.050	0.143	1,848	0.10	0.35	43
N	MEDFO	MF-042-P	0.000	0	0.025	0.217	601	0.91	0.11	14
N	MEDFO	MF-043-P	0.000	0	0.049	0.140	1,848	1.00	0.35	43
N	MEDFO	MF-044-P	0.017	20,000	0.019	0.180	558	0.85	0.11	13
N	MEDFO	MF-045-P	0.021	17,797	0.015	0.100	776	1.18	0.15	18
N	MEDFO	MF-046-P	0.015	7,212	0.025	0.096	1,376	2.08	0.26	32
N	MEDFO	MF-047-P	1.956	9,516	3.960	0.172	121,535	205.55	23.02	2,796
N	MEDFO	MF-048-P	0.000	0	0.000	NA	0	0.80	0.00	0
N		SUM-Medford	8.371	8,419	16.383	9.238	608,493	994.35	115.24	14,000
N	MILTON	MI-001-P	0.230	6,488	2.960	0.914	17,107	35.45	3.24	287
N	MILTON	MI-002-P	0.040	4,728	0.883	1.132	4,118	8.46	0.78	69
N	MILTON	MI-003-P	0.050	2,350	1.980	1.000	10,454	21.28	1.98	176
N		SUM-Milton	0.320	4,909	5.824	3.046	31,680	65.19	6.00	532
DNE	MELRO	MR-000-P	0.075	21,470	0.034	0.075	2,408	3.51	0.46	49
N	MELRO	MR-002-P	0.240	12,000	0.038	0.020	10,032	20.00	1.90	203
N	MELRO	MR-003-P	0.003	952	0.011	0.027	2,165	3.00	0.41	44
N	MELRO	MR-004-P	0.030	2,727	0.023	0.021	5,808	11.00	1.10	118
N	MELRO	MR-005-P	0.003	2,857	0.003	0.029	475	1.00	0.09	10

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SYS	CITY/ TOWN	PUBLIC CONN. #	INFILTRATION DATA		INFLOW DATA		GENERAL SYSTEM DATA			
			PEAK INFILT (MGD)	PEAK INFILT (GPDIM)	1Y 6H 4 DAY INFLOW (MG)	1Y 6H 4 DAY INFLOW PER MILE (MG/MILE)	TRIB. FEET TO PCONN (LF)	INCH- MILES IDM	TRIB. MILES TO PCONN	EST. NO. HOUSE SERVICES
			A	B=(A/X)x10 ⁶	L	LL=L/Y	W	X	Y	Z
N	MELRO	MR-006-P	0.020	2,857	0.018	0.025	3,696	7.00	0.70	75
N	MELRO	MR-007-P	0.002	999	0.005	0.030	898	2.00	0.17	18
N	MELRO	MR-008-P	1.920	8,889	0.188	0.007	151,589	216.00	28.71	3,067
N	MELRO	MR-009-P	0.010	4,999	0.013	0.023	2,851	2.00	0.54	58
N	MELRO	MR-010-P	0.002	1,999	0.004	0.032	739	1.00	0.14	15
N	MELRO	MR-012-P	0.010	4,999	0.005	0.031	898	2.00	0.17	18
N	MELRO	MR-013-P	0.003	2,857	0.005	0.028	845	1.00	0.16	17
N	MELRO	MR-014-P	0.010	2,500	0.012	0.028	2,218	4.00	0.42	45
N	MELRO	MR-015-P	0.030	5,000	0.016	0.021	3,960	6.00	0.75	80
N	MELRO	MR-016-P	0.090	9,000	0.027	0.018	7,814	10.00	1.48	158
N	MELRO	MR-017-P	0.070	7,778	0.027	0.018	8,026	9.00	1.52	162
N	MELRO	MR-018-P	0.003	2,502	0.004	0.044	422	1.00	0.08	9
N	MELRO	MR-019-P	0.590	5,130	0.119	0.009	73,339	115.00	13.89	1,484
N	MELRO	MR-020-P	0.020	6,667	0.006	0.013	2,376	3.00	0.45	48
N	MELRO	MR-021-P	0.010	9,999	0.003	0.034	528	1.00	0.10	11
N	MELRO	MR-022-P	0.003	2,502	0.003	0.035	422	1.00	0.08	9
N	MELRO	MR-023-P	0.000	0	0.000	0.000	602	1.00	0.11	12
N	MELRO	MR-024-P	0.030	7,500	0.017	0.023	3,854	4.00	0.73	78
N	MELRO	MR-025-P	0.003	2,502	0.003	0.032	528	1.00	0.10	11
N	MELRO	MR-026-P	0.040	1,667	0.049	0.014	17,741	24.00	3.36	359
N	MELRO	MR-027-P	0.010	9,999	0.004	0.030	792	1.00	0.15	16
N	MELRO	MR-028-P	0.002	1,999	0.000	0.000	739	1.00	0.14	15
N	MELRO	MR-029-P	0.002	1,999	0.005	0.098	264	1.00	0.05	5
N	MELRO	MR-030-P	0.002	NA	0.002	0.013	792	0.00	0.15	16
N	MELRO	MR-031-P	0.010	9,999	0.005	0.006	4,435	1.00	0.84	90
N	MELRO	MR-032-P	0.020	2,857	0.034	0.041	4,435	7.00	0.84	90
N	MELRO	MR-033-P	0.002	1,999	0.000	0.000	211	1.00	0.04	4
N	MELRO	MR-034-P	0.003	714	0.011	0.024	2,376	4.00	0.45	48
N	MELRO	MR-035-P	0.003	1,428	0.005	0.033	739	2.00	0.14	15
N	MELRO	MR-036-P	0.090	8,182	0.028	0.019	7,709	11.00	1.46	156
N	MELRO	MR-037-P	0.000	0	0.000	0.000	702	1.00	0.13	14
N	MELRO	MR-038-P	0.060	3,333	0.041	0.016	13,622	18.00	2.58	276
N	MELRO	MR-040-P	0.003	2,857	0.003	0.039	422	1.00	0.08	9
N	MELRO	MR-041-P	0.020	4,000	0.020	0.036	2,851	5.00	0.54	58
N	MELRO	MR-042-P	0.370	4,805	0.207	0.025	43,982	77.00	8.33	890
N	MELRO	MR-044-P	0.050	8,333	0.024	0.027	4,752	6.00	0.90	96
N	MELRO	MR-045-P	0.070	11,667	0.014	0.033	2,323	6.00	0.44	47
N		SUM-Melrose	3.932	6,636	1.034	1.076	395,382	592.51	74.88	8,000
N	NEWTO	NT-001-P	0.910	4,159	0.103	0.008	71,452	218.79	13.53	1,219
N	NEWTO	NT-002-P	0.480	1,554	0.167	0.009	100,893	308.94	19.11	1,722
N	NEWTO	NT-003-P	0.070	3,084	0.014	0.010	7,413	22.70	1.40	127
N	NEWTO	NT-004-P	0.970	747	0.987	0.012	424,220	1298.99	80.34	7,240
N	NEWTO	NT-005,14,18,21-P	0.020	14,815	0.001	0.008	441	1.35	0.08	8
N	NEWTO	NT-006-P	0.160	11,268	0.010	0.012	4,637	14.20	0.88	79
N	NEWTO	NT-008-P	0.010	3,165	0.000	0.000	1,003	3.16	0.19	17
N	NEWTO	NT-009-P	0.360	8,623	0.112	0.043	13,635	41.75	2.58	233
N	NEWTO	NT-010-P	0.000	0	0.000	0.000	640	1.96	0.12	11
N	NEWTO	NT-011,15,24-P	0.000	0	0.000	0.000	202	0.62	0.04	3

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			PEAK INFILT (MGD)	PEAK INFILT (GPDIM)	1Y 6H 4 DAY INFLOW (MG)	1Y 6H 4 DAY INFLOW PER MILE (MG/MILE)	TRIB. FEET TO PCONN (LF)	INCH- MILES IDM	TRIB. MILES TO PCONN	EST. NO. HOUSE SERVICES
			A	B=(A/X)×10 ⁶	L	LL=L/Y	W	X	Y	Z
N	NEWTO	NT-13A&B-P	3.500	24,306	0.210	0.024	47,027	144.00	8.91	803
N		SUM-Newton	6.480	3,151	1.603	0.126	671,563	2056.46	127.19	11,462
N	READIN	RE-001-P	1.271	2,375	0.830	0.014	302,702	535.18	57.33	4,053
N	READIN	RE-002-P	0.359	1,337	0.334	0.011	162,941	268.46	30.86	2,182
N	READIN	RE-WOBURN	0.002	428	0.000	0.000	3,062	4.67	0.58	41
N		SUM-Reading	1.632	2,019	1.165	0.025	468,706	808.31	88.77	6,276
N	REVERE	RV-001-P	3.080	3,918	8.902	0.121	389,083	786.06	73.69	14,171
N	REVERE	RV-002-P	0.080	3,918	0.075	0.039	10,085	20.42	1.91	367
N	REVERE	RV-003-P	0.100	3,918	0.077	0.032	12,619	25.52	2.39	460
N		SUM-Revere	3.260	3,918	9.054	0.192	411,787	832.00	77.99	14,998
N	STONEH	SH-001-P	0.930	5,868	0.002	0.000	105,917	158.48	20.06	1,862
N	STONEH	SH-002-P	0.153	15,982	0.098	0.078	6,653	9.59	1.26	117
N	STONEH	SH-003-P	0.153	3,772	0.348	0.070	26,400	40.63	5.00	464
N	STONEH	SH-004-P	0.130	5,474	0.168	0.055	16,262	23.75	3.08	286
N	STONEH	SH-005-P	0.200	9,747	0.067	0.016	22,546	20.52	4.27	396
N	STONEH	SH-006-P	0.150	4,179	0.073	0.031	12,514	35.89	2.37	220
N	STONEH	SH-007-P	0.000	0	0.078	0.157	2,640	3.90	0.50	46
N	STONEH	SH-008-P	0.290	10,919	0.055	0.017	16,790	26.56	3.18	295
N	STONEH	SH-009-P	0.000	0	0.023	0.026	4,699	7.15	0.89	83
N	STONEH	SH-010-P	0.015	11,882	0.013	0.081	845	1.29	0.16	15
N	STONEH	SH-011-P	0.000	0	0.003	0.039	422	0.58	0.08	7
N	STONEH	SH-012-P	0.000	0	0.002	0.042	211	0.26	0.04	4
N	STONEH	SH-013-P	0.000	0	0.006	0.041	739	1.15	0.14	13
N	STONEH	SH-014-P	0.810	11,046	0.119	0.014	45,672	73.33	8.65	803
N	STONEH	SH-015-P	0.000	0	0.006	0.046	739	0.90	0.14	13
N	STONEH	SH-016-P	0.000	0	0.001	0.043	158	0.23	0.03	3
N	STONEH	SH-017-P	0.450	4,608	0.243	0.022	59,453	97.66	11.26	1,045
N	STONEH	SH-018-P	0.000	0	0.202	0.964	1,109	1.67	0.21	19
N		SUM-Stoneham	3.282	6,518	1.510	1.741	323,770	503.54	61.32	5,692
N	WINCH	WC-002-P	0.014	1,174	0.059	0.034	9,082	11.92	1.72	134
N	WINCH	WC-003-P	0.017	933	0.006	0.002	14,256	18.22	2.70	210
N	WINCH	WC-004-P	0.000	0	0.000	NA	0	0.04	0.00	0
N	WINCH	WC-005-P	0.003	286	0.000	0.000	7,656	10.49	1.45	113
N	WINCH	WC-006-P	0.585	9,398	0.253	0.032	41,712	62.25	7.90	615
N	WINCH	WC-007-P	1.266	4,207	0.665	0.019	188,390	300.96	35.68	2,780
N	WINCH	WC-008-P	0.000	0	0.000	0.000	422	0.84	0.08	6
N	WINCH	WC-009-P	0.003	1,523	0.041	0.131	1,637	1.97	0.31	24
N	WINCH	WC-010-P	0.035	4,453	0.079	0.073	5,702	7.86	1.08	84
N	WINCH	WC-011-P	0.017	1,956	0.017	0.015	5,861	8.69	1.11	86
N	WINCH	WC-012-P	0.014	1,615	0.047	0.043	5,771	8.67	1.09	85
N	WINCH	WC-013-P	0.009	1,610	0.006	0.007	3,960	5.59	0.75	58
N	WINCH	WC-014-P	0.000	0	0.000	0.000	475	0.69	0.09	7
N	WINCH	WC-016-P	0.005	4,587	0.003	0.021	739	1.09	0.14	11
N	WINCH	WC-017-P	0.000	0	0.000	0.000	2,775	4.06	0.53	41
N	WINCH	WC-019-P	0.000	0	0.000	0.000	739	1.00	0.14	11
N	WINCH	WC-020-P	0.389	28,394	0.143	0.073	10,296	13.70	1.95	152
N	WINCH	WC-022-P	0.000	0	0.000	0.000	106	0.25	0.02	2
N	WINCH	WC-023-P	0.002	647	0.000	0.000	2,006	3.09	0.38	30

**I/I BASELINE INFORMATION BY PUBLIC CONNECTION AND COMMUNITY
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SYS	CITY/ TOWN	PUBLIC CONN. #	INFILTRATION DATA		INFLOW DATA		GENERAL SYSTEM DATA			
			PEAK INFILT (MGD)	PEAK INFILT (GPDIM)	1Y 6H 4 DAY INFLOW (MG)	1Y 6H 4 DAY INFLOW PER MILE (MG/MILE)	TRIB. FEET TO PCONN (LF)	INCH- MILES IDM	TRIB. MILES TO PCONN	EST. NO. HOUSE SERVICES
			A	B=(A/X)×10 ⁶	L	LL=L/Y	W	X	Y	Z
N	WINCH	WC-024-P	0.000	0	0.000	0.000	370	0.69	0.07	5
N	WINCH	WC-026-P	0.000	0	0.000	0.000	2,218	3.16	0.42	33
N	WINCH	WC-027-P	0.135	10,887	0.054	0.069	4,118	12.40	0.78	61
N	WINCH	WC-030-P	0.008	333	0.047	0.015	16,368	24.01	3.10	242
N	WINCH	WC-033-P	0.335	7,265	0.174	0.031	29,357	46.11	5.56	433
N	WINCH	WC-035-P	0.615	8,542	0.199	0.022	47,362	72.00	8.97	699
N	WINCH	WC-036-P	0.000	0	0.000	0.000	475	0.75	0.09	7
N	WINCH	WC-041-P	0.065	5,043	0.039	0.025	8,184	12.89	1.55	121
N	WINCH	WC-043-P	0.002	671	0.000	0.000	1,954	2.98	0.37	29
N	WINCH	WC-044-P	0.024	1,842	0.170	0.115	7,814	13.03	1.48	115
N	WINCH	WC-046-P	0.006	1,000	0.037	0.048	4,013	6.00	0.76	59
N	WINCH	WC-047-P	0.026	5,977	0.030	0.059	2,693	4.35	0.51	40
N	WINCH	WC-048-P	0.000	0	0.000	0.000	1,214	1.85	0.23	18
N	WINCH	WC-049-P	0.003	2,069	0.000	0.000	792	1.45	0.15	12
N	WINCH	WC-050-P	0.023	1,587	0.212	0.115	9,715	14.49	1.84	143
N	WINCH	WC-051-P	0.000	0	0.000	0.000	475	0.90	0.09	7
N	WINCH	WC-098-P	0.012	5,430	0.026	0.377	370	2.21	0.07	5
N	WINCH	WC-099-P	0.011	5,528	0.061	1.019	317	1.99	0.06	5
N	WINCH	WC-100-P	0.000	0	0.000	0.000	158	3.61	0.03	2
N	WINCH	WC-101-P	0.000	0	0.000	0.000	106	2.39	0.02	2
N		SUM-Winchester	3.624	5,263	2.370	2.349	439,658	688.64	83.27	6,487
N	WAKEFI	WF-001-P	2.010	2,745	2.959	0.041	376,894	732.30	71.38	6,707
N	WAKEFI	WF-002-P	0.090	4,423	0.008	0.004	11,126	20.35	2.11	198
N	WAKEFI	WF-003,4-P	0.490	6,532	0.308	0.218	7,445	75.02	1.41	132
N	WAKEFI	WF-005-P	0.030	4,518	0.030	0.040	3,960	6.64	0.75	70
N	WAKEFI	WF-006-P	0.040	5,457	0.032	0.037	4,563	7.33	0.86	81
N	WAKEFI	WF-007-P	0.000	0	0.004	0.063	317	0.45	0.06	6
N		SUM-Wakefield	2.660	3,159	3.341	0.404	404,304	842.09	76.57	7,195
N	WINTH	WH-001-P	0.490	9,198	4.192	0.663	33,370	53.27	6.32	797
N	WINTH	WH-002-P	0.390	4,240	6.698	0.623	56,760	91.99	10.75	1,355
N	WINTH	WH-003-P	0.670	8,480	5.399	0.640	44,563	79.01	8.44	1,064
N	WINTH	WH-004-P	0.220	8,807	2.118	0.706	15,840	24.98	3.00	378
N	WINTH	WH-005-P	0.010	10,753	0.092	0.763	634	0.93	0.12	15
N	WINTH	WH-006-P	0.010	11,364	0.087	0.789	581	0.88	0.11	14
N	WINTH	WH-007-P	0.340	39,216	0.795	0.736	5,702	8.67	1.08	136
N	WINTH	WH-008-P	0.020	20,408	0.000	0.000	634	0.98	0.12	15
N	WINTH	WH-009-P	0.020	8,658	0.221	0.762	1,531	2.31	0.29	37
N	WINTH	WH-011-P	0.100	10,989	0.815	0.715	6,019	9.10	1.14	144
N	WINTH	WH-012-P	0.030	9,375	0.000	0.000	2,059	3.20	0.39	49
N	WINTH	WH-013-P	0.010	10,753	0.092	0.763	634	0.93	0.12	15
N	WINTH	WH-014-P	0.020	17,391	0.114	0.816	739	1.15	0.14	18
N	WINTH	WH-015-P	0.020	13,514	0.000	0.000	950	1.48	0.18	23
N	WINTH	WH-016-P	0.030	9,740	0.288	0.779	1,954	3.08	0.37	47
N	WINTH	WH-017-P	0.970	35,311	2.229	0.712	16,526	27.47	3.13	395
N		SUM-Winthrop	3.350	10,826	23.141	9.468	188,496	309.43	35.70	4,500
N	WILMIN	WI-001,2-P	0.880	3,393	0.310	0.016	100,320	259.32	19.00	813
N		SUM-Wilmington	0.880	3,393	0.310	0.016	100,320	259.32	19.00	813
N	WATER	WN-001-P	1.750	4,909	0.872	0.021	223,117	356.47	42.26	4,780

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SYS	CITY/ TOWN	PUBLIC CONN. #	INFILTRATION DATA		INFLOW DATA		GENERAL SYSTEM DATA			
			PEAK INFILT (MGD)	PEAK INFILT (GPDIM)	1Y 6H 4 DAY INFLOW (MG)	1Y 6H 4 DAY INFLOW PER MILE (MG/MILE)	TRIB. FEET TO PCONN (LF)	INCH- MILES IDM	TRIB. MILES TO PCONN	EST. NO. HOUSE SERVICES
			A	B=(A/X)×10 ⁶	L	LL=L/Y	W	X	Y	Z
N	WATER	WN-002-P	0.040	10,782	0.047	0.093	2,676	3.71	0.51	57
N	WATER	WN-003,4-P	0.070	8,464	0.085	0.077	5,879	8.27	1.11	126
N	WATER	WN-005,6-P	0.730	3,611	1.307	0.055	125,980	202.16	23.86	2,699
N	WATER	WN-007-P	0.040	2,692	0.061	0.029	11,086	14.86	2.10	238
DNE	WATER	WN-(WT-001)		0	0.237	0.046	27,261	17.53	5.16	584
N		SUM-Watertown	2.630	4,362	2.610	0.321	396,000	603.00	75.00	8,484
N	WOBUR	WO-001-P	0.630	4,684	0.479	0.029	86,645	134.49	16.41	1,167
N	WOBUR	WO-002-P	0.140	4,184	0.140	0.040	18,638	33.46	3.53	251
N	WOBUR	WO-003-P	0.380	13,986	0.267	0.075	18,850	27.17	3.57	254
N	WOBUR	WO-004-P	3.460	8,957	0.725	0.019	205,392	386.27	38.90	2,767
N	WOBUR	WO-005-P	2.700	4,343	1.302	0.022	314,952	621.68	59.65	4,243
N	WOBUR	WO-006-P	0.320	2,267	0.010	0.001	78,197	141.14	14.81	1,053
N	WOBUR	WO-007-P	0.200	4,513	0.095	0.026	19,642	44.32	3.72	265
N		SUM-Woburn	7.830	5,639	3.018	0.210	742,315	1388.53	140.59	10,000
N	WALTH	WT-001-P	4.690	22,227	0.265	0.012	120,359	211.00	22.80	2,062
N	WALTH	WT-002-P	1.910	5,262	1.074	0.031	182,868	363.00	34.63	3,132
DNE	WALTH	WT-004-P	0.000	0	1.233	0.015	426,520	761.00	80.78	7,306
N		SUM-Waltham	6.600	4,944	2.572	0.058	729,747	1335.00	138.21	12,500
			80.7192	4,634	99.5651	36.0160933	9,600,209	17417.14	1818.22	170,752

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SOUTH SYSTEM

S	ASHLA	AS-001-P	0.070	2259	0.326	0.121	14,229	30.99	2.69	385
S	ASHLA	AS-002-P	0.410	2,330	0.011	0.001	80,811	176.00	15.31	2,189
S		SUM-Ashland	0.480	2,319	0.336	0.122	95,040	206.99	18.00	2,574
S	SBOSTO	BD-001-P	0.400	10,532	0.002	0.023	560	37.98	0.11	21
S	SBOSTO	BD-008-P	1.757	8,723	0.005	0.003	7,888	201.45	1.49	295
S	SBOSTO	SUM-Dorchester	2.157	9,010	0.007	0.026	8,448	239.43	1.60	316
S	SBOSTO	BH-001-P	0.016	1,985	0.361	0.521	3,654	7.86	0.69	137
S	SBOSTO	BH-002-P	0.145	2,075	0.548	0.073	39,764	69.63	7.53	1,489
S	SBOSTO	BH-003-P	0.129	4,192	0.350	0.101	18,390	30.75	3.48	689
S	SBOSTO	BH-004-P	0.023	1,779	0.582	0.419	7,339	12.93	1.39	275
S	SBOSTO	BH-005-P	0.696	6,848	0.423	0.052	43,412	101.62	8.22	1,626
S	SBOSTO	BH-006-P	0.065	2,999	0.356	0.145	12,968	21.68	2.46	486
S	SBOSTO	BH-007-P	0.042	4,690	0.629	0.596	5,570	8.87	1.06	209
S	SBOSTO	BH-008-P	0.002	5,085	0.520	34.657	79	0.30	0.02	3
S	SBOSTO	BH-009-P	0.019	4,183	0.619	1.417	2,307	4.47	0.44	86
S	SBOSTO	BH-010-P	0.124	4,731	0.330	0.115	15,212	26.15	2.88	570
S	SBOSTO	BH-011-P	0.255	8,401	0.489	0.148	17,466	30.29	3.31	654
S	SBOSTO	BH-012-P	0.088	2,416	0.516	0.139	19,605	36.46	3.71	734
S	SBOSTO	BH-013-P	0.005	9,490	0.619	8.721	375	0.57	0.07	14
S	SBOSTO	BH-014-P	0.065	4,863	0.759	0.525	7,624	13.32	1.44	286
S	SBOSTO	BH-015-P	0.629	4,634	0.356	0.031	59,912	135.74	11.35	2,244
S	SBOSTO	BH-016-P	0.034	3,023	0.716	0.581	6,505	11.35	1.23	244
S	SBOSTO	BH-017-P	0.013	3,418	0.782	1.668	2,476	3.77	0.47	93
S	SBOSTO	BH-018-P	0.010	11,308	0.780	6.900	597	0.90	0.11	22
S	SBOSTO	BH-019-P	0.355	NA	0.699	NA	N/A		N/A	N/A
S	SBOSTO	BH-020-P	0.179	12,065	0.371	0.402	4,873	14.84	0.92	183
S	SBOSTO	BH-021-P	0.080	18,014	0.317	0.657	2,545	4.44	0.48	95

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SYS	CITY/ TOWN	PUBLIC CONN. #	INFILTRATION DATA		INFLOW DATA		GENERAL SYSTEM DATA			
			PEAK INFILT (MGD)	PEAK INFILT (GPDIM)	1Y 6H 4 DAY INFLOW (MG)	1Y 6H 4 DAY INFLOW PER MILE (MG/MILE)	TRIB. FEET TO PCONN (LF)	INCH- MILES IDM	TRIB. MILES TO PCONN	EST. NO. HOUSE SERVICES
			A	B=(A/X)×10 ⁶	L	LL=L/Y	W	X	Y	Z
S	SBOSTO	SUM-Hyde Park	2.972	5,545	11.123	57.867	270,674	535.93	51.26	10,139
S	SBOSTO	BW-001-P	0.072	1,181	0.092	0.016	29,975	60.56	5.68	1,123
S	SBOSTO	BW-002-P	0.006	911	0.032	0.056	3,004	6.48	0.57	113
S	SBOSTO	BW-003-P	0.353	4,478	0.143	0.021	36,416	78.88	6.90	1,364
S	SBOSTO	BW-004-P	0.010	2,756	0.604	2.019	1,579	3.48	0.30	59
S	SBOSTO	BW-005-P	0.056	3,165	0.665	0.465	7,556	17.60	1.43	283
S	SBOSTO	BW-006-P	0.011	996	0.659	0.766	4,541	11.14	0.86	170
S	SBOSTO	BW-007-P	0.157	3,900	0.085	0.022	20,259	40.31	3.84	759
S	SBOSTO	BW-007-P2		NA	0.434	NA	N/A		N/A	N/A
S	SBOSTO	BW-008-P		NA	0.000	NA	N/A		N/A	N/A
S	SBOSTO	BW-009-P	6.580	13,843	0.553	0.120	24,293	475.37	4.60	910
S	SBOSTO	BW-010-P	0.136	2,089	0.648	0.110	31,215	65.11	5.91	1,169
S	SBOSTO	BW-011-P	0.000	0	0.000	0.000	322	0.92	0.06	12
S	SBOSTO	BW-012-P	0.011	40,230	0.676	2.591	1,378	0.26	0.26	52
S	SBOSTO	BW-013-P	0.062	2,113	0.110	0.038	15,243	29.20	2.89	571
S	SBOSTO	BW-014-P	0.000	0	0.036	2.391	79	0.15	0.02	3
S	SBOSTO	BW-015-P	0.130	4,620	0.047	0.018	13,717	28.18	2.60	514
S	SBOSTO	BW-016-P	0.002	1,597	0.035	0.283	660	1.25	0.13	25
S	SBOSTO	BW-017-P	0.735	9,385	0.158	0.025	33,137	78.36	6.28	1,241
S	SBOSTO	BW-018-P	0.004	907	0.036	0.093	2,038	3.86	0.39	76
S	SBOSTO	BW-019-P	0.010	41,631	0.268	14.081	100	0.23	0.02	4
S	SBOSTO	BW-020-P	0.003	2,425	0.035	0.294	634	1.20	0.12	24
S	SBOSTO	BW-021-P	0.021	2,084	0.055	0.055	5,296	10.03	1.00	198
S	SBOSTO	BW-022-P	0.831	9,910	0.147	0.024	31,886	83.88	6.04	1,194
S	SBOSTO	BW-022-P2		NA	0.743	NA	N/A		N/A	N/A
S	SBOSTO	BW-023-P	0.011	1,674	0.016	0.027	3,126	6.51	0.59	117
S	SBOSTO	BW-024-P	0.012	1,189	0.045	0.049	4,905	10.01	0.93	184
S	SBOSTO	BW-025-P	0.167	20,181	0.997	1.224	4,298	8.28	0.81	161
S	SBOSTO	BW-026-P	0.000	0	0.036	0.778	243	0.46	0.05	9
S	SBOSTO	BW-027-P	0.002	1,601	0.006	0.054	623	1.25	0.12	23
S	SBOSTO	BW-028-P	0.005	1,164	0.031	0.077	2,123	4.04	0.40	80
S	SBOSTO	BW-030-P	0.002	1,472	0.036	0.240	787	1.50	0.15	29
S	SBOSTO	BW-032-P	0.001	2,047	0.035	0.552	338	0.64	0.06	13
S	SBOSTO	BW-034-P	0.004	1,343	0.031	0.103	1,610	3.05	0.31	60
S	SBOSTO	BW-035-P	0.000	NA	0.000	NA	N/A		N/A	N/A
S	SBOSTO	BW-036-P	0.003	NA	0.467	NA	N/A		N/A	N/A
S	SBOSTO	BW-037-P	0.401	5,999	0.151	0.026	30,730	66.79	5.82	1,151
S	SBOSTO	BW-038-P		NA	0.000	NA	N/A		N/A	N/A
S	SBOSTO	BW-039-P	0.009	NA	0.615	NA	N/A		N/A	N/A
S	SBOSTO	BW-0X1-P	0.003	1,232	0.035	0.204	913	2.03	0.17	34
S	SBOSTO	SUM-West Roxbur	9.808	8,908	8.761	26.822	313,025	1100.98	59.29	11,725
S	SBOSTO	SUM-South Boston	14.937	7,961	19.892	0.177	592,147	1876.34	112.15	22,180
S	BROOK	BK-001-P(BOS)	0.444	NA	0.000	NA				
S	BROOK	BK-002-P	1.340	8,875	1.625	0.095	89,945	151.00	17.04	1,305
S	BROOK	BK-005-P	1.630	7,653	1.657	0.069	126,877	213.00	24.03	1,841
S	BROOK	BK-005-P(BOS)	0.311	5,501	0.338	0.053	33,625	56.45	6.37	488
S	BROOK	BK-006-P	0.150	3,409	0.745	0.150	26,209	44.00	4.96	380
S	BROOK	BK-007-P	0.890	6,403	0.852	0.054	82,797	139.00	15.68	1,201

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			PEAK INFILT (MGD)	PEAK INFILT (GPDIM)	1Y 6H 4 DAY INFLOW (MG)	1Y 6H 4 DAY INFLOW PER MILE (MG/MILE)	TRIB. FEET TO PCONN (LF)	INCH- MILES IDM	TRIB. MILES TO PCONN	EST. NO. HOUSE SERVICES
			A	B=(A/X)x10 ⁶	L	LL=L/Y	W	X	Y	Z
S	BROOK	BK-008-P	0.420	9,997	0.560	0.118	25,018	42.00	4.74	363
S	BROOK	BK-017-P	0.040	850	0.464	0.087	27,996	47.00	5.30	406
S	BROOK	BK-017-P(BOS)	0.072	9,232	0.054	0.062	4,652	7.81	0.88	67
S		SUM-Brookline	5.297	7,564	6.294	0.689	417,120	700.26	79.00	6,052
S	BRAINT	BN-001-P	3.240	3,659	4.184	0.044	501,583	885.51	95.00	7,399
S	BRAINT	BN-002-P	0.040	8,909	0.170	0.302	2,966	4.49	0.56	44
S	BRAINT	BN-003-P	0.050	2,877	0.003	0.001	11,474	17.38	2.17	169
S	BRAINT	BN-004-P	0.080	4,264	0.004	0.002	11,494	18.76	2.18	170
S	BRAINT	BN-005-P	0.540	31,765	0.730	0.558	6,917	17.00	1.31	102
S	BRAINT	BN-006-P	0.890	5,364	0.894	0.047	101,101	165.93	19.15	1,491
S	BRAINT	BN-007-P	0.030	438	0.000	0.000	43,304	68.45	8.20	639
S	BRAINT	BN-008-P	0.050	2,859	0.000	0.000	11,543	17.49	2.19	170
S	BRAINT	BN-009-P	0.000	0	0.000	0.000	3,674	5.57	0.70	54
S	BRAINT	BN-010-P	0.160	10,667	0.000	0.000	6,125	15.00	1.16	90
S	BRAINT	BN-011-P	0.000	NA	0.000	NA	0	0.00	0.00	0
S	BRAINT	BN-012-P	0.000	NA	0.000	NA	0	0.00	0.00	0
S		SUM-Braintree	5.080	4,179	5.985	0.954	700,179	1215.58	132.61	10,329
S	CANTO	CT-001-P	0.289	3,078	0.133	0.013	55,707	93.90	10.55	626
S	CANTO	CT-002-P	0.002	3,333	0.001	0.018	386	0.60	0.07	4
S	CANTO	CT-003-P	0.005	2,083	0.005	0.017	1,556	2.40	0.29	17
S	CANTO	CT-004-P	0.181	3,679	0.074	0.013	29,576	49.20	5.60	332
S	CANTO	CT-006-P	0.143	2,347	0.087	0.013	35,824	60.80	6.78	403
S	CANTO	CT-007-P	0.014	700	0.042	0.015	15,290	20.00	2.90	172
S	CANTO	CT-009-P	0.035	4,268	0.019	0.021	4,912	8.20	0.93	55
S	CANTO	CT-010-P	0.002	2,000	0.002	0.020	649	1.00	0.12	7
S	CANTO	CT-011-P	0.288	6,288	0.077	0.014	28,060	45.80	5.31	315
S	CANTO	CT-012-P	0.489	2,473	0.342	0.018	102,223	197.70	19.36	1,149
S	CANTO	CT-013,18-P	0.242	3,809	0.111	0.014	40,933	63.50	7.75	460
S	CANTO	CT-014-P	0.005	1,724	0.007	0.018	1,891	2.90	0.36	21
S	CANTO	CT-015-P	0.000	0	0.002	0.020	486	0.70	0.09	5
S	CANTO	CT-016-P	0.005	3,333	0.007	0.018	2,075	1.50	0.39	23
S	CANTO	CT-017-P	0.040	3,636	0.018	0.017	5,438	11.00	1.03	61
S		SUM-Canton	1.740	3,111	0.926	0.249	325,008	559.20	61.55	3,652
S	DEDHA	DE-001-P	0.276	7,783	0.282	0.067	22,334	35.46	4.23	421
S	DEDHA	DE-002-P	0.267	6,033	0.407	0.081	26,664	44.28	5.05	503
S	DEDHA	DE-003-P	0.386	19,166	0.081	0.032	13,464	20.14	2.55	254
S	DEDHA	DE-004-P	2.163	6,640	1.253	0.038	176,194	325.73	33.37	3,323
S	DEDHA	DE-005-P	0.035	19,337	0.000	0.000	1,267	1.81	0.24	24
S	DEDHA	DE-006-P	0.336	10,807	0.132	0.041	17,107	31.09	3.24	323
S	DEDHA	DE-007-P	0.332	19,169	0.005	0.003	8,870	17.32	1.68	167
S	DEDHA	DE-009-P	0.034	1,282	0.092	0.030	16,368	26.53	3.10	309
S	DEDHA	DE-010-P	0.356	19,171	0.045	0.020	11,986	18.57	2.27	226
S	DEDHA	DE-011-P	0.147	19,241	0.006	0.007	4,594	7.64	0.87	87
S	DEDHA	DE-012-P	0.220	19,138	0.041	0.029	7,498	11.48	1.42	141
S	DEDHA	DE-013-P	0.045	18,987	0.000	0.000	1,584	2.37	0.30	30
S	DEDHA	DE-014-P	0.439	19,162	0.138	0.053	13,728	22.91	2.60	259
S	DEDHA	DE-015-P	1.198	9,858	0.749	0.054	73,022	121.53	13.83	1,377
S	DEDHA	DE-016-P	0.251	19,160	0.045	0.029	8,184	13.10	1.55	154

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SYS	CITY/ TOWN	PUBLIC CONN. #	INFILTRATION DATA		INFLOW DATA		GENERAL SYSTEM DATA			
			PEAK INFILT (MGD)	PEAK INFILT (GPDIM)	1Y 5H 4 DAY INFLOW (MG)	1Y 6H 4 DAY INFLOW PER MILE (MG/MILE)	TRIB. FEET TO PCONN (LF)	INCH- MILES IDM	TRIB. MILES TO PCONN	EST. NO. HOUSE SERVICES
			A	B=(A/X)x10 ⁶	L	LL=L/Y	W	X	Y	Z
S	DEDHA	DE-017-P	0.014	19,718	0.000	0.000	475	0.71	0.09	9
S	DEDHA	DE-018-P	0.001	NA	0.000	NA	0	0.00	0.00	0
S		SUM-Dedham	6.500	9,277	3.277	0.482	403,339	700.67	76.39	7,607
S	FRAMIN	FR-001-P	0.150	2,383	1.715	0.174	52,173	62.95	9.88	568
S	FRAMIN	FR-003-P	2.420	2,285	0.621	0.004	877,666	1058.96	166.22	9,550
S	FRAMIN	FR-004-P	1.440	2,286	0.904	0.009	522,161	630.02	98.89	5,682
S		SUM-Framingham	4.010	2,289	3.239	0.186	1,452,000	1751.93	275.00	15,800
S	HINGHA	HI-001-P	1.040	4,000	0.232	0.007	163,680	260.00	31.00	2,038
S		SUM-Hingham	1.040	4,000	0.232	0.007	163,680	260.00	31.00	2,038
S	HOLBR	HO-001-P	0.410	2,993	0.278	0.012	121,212	137.00	22.96	1,740
S	HOLBR	HO-002-P	0.120	2,500	0.098	0.012	42,468	48.00	8.04	610
S		SUM-Holbrook	0.530	2,865	0.376	0.024	163,680	185.00	31.00	2,350
S	MILTON	MI-004-P	0.059	3,347	0.091	0.042	11,563	17.75	2.19	203
S	MILTON	MI-005-P	0.020	8,801	0.018	0.065	1,478	2.25	0.28	26
S	MILTON	MI-006-P	0.119	2,530	0.214	0.040	28,406	46.96	5.38	499
S	MILTON	MI-007-P	0.188	6,496	0.139	0.040	18,322	29.00	3.47	322
S	MILTON	MI-008-P	0.397	48,418	0.067	0.065	5,438	8.19	1.03	96
S	MILTON	MI-010-P	0.010	7,143	0.012	0.066	950	1.42	0.18	17
S	MILTON	MI-016-P	0.030	7,487	0.032	0.064	2,640	4.00	0.50	46
S	MILTON	MI-018-P	0.079	6,829	0.070	0.049	7,656	11.60	1.45	135
S	MILTON	MI-019-P	0.030	2,449	0.097	0.070	7,392	12.23	1.40	130
S	MILTON	MI-020-P	0.079	6,662	0.088	0.060	7,762	11.89	1.47	136
S	MILTON	MI-021-P	0.099	6,614	0.072	0.043	8,923	14.97	1.69	157
S	MILTON	MI-026-P	0.109	35,326	0.025	0.064	2,059	3.09	0.39	36
S	MILTON	MI-028-P	0.506	8,139	0.357	0.052	36,062	62.13	6.83	634
S	MILTON	MI-030-P	0.585	6,972	0.489	0.051	51,005	83.89	9.66	897
S	MILTON	MI-032-P	0.694	6,844	0.570	0.051	59,083	101.41	11.19	1,039
S	MILTON	MI-033-P	0.188	10,424	0.138	0.071	10,190	18.07	1.93	179
S	MILTON	MI-036-P	0.089	6,222	0.109	0.070	8,184	14.36	1.55	144
S	MILTON	MI-037-P	0.010	10,677	0.008	0.067	634	0.95	0.12	11
S	MILTON	MI-041-P	0.000	0	0.004	0.018	1,109	0.45	0.21	19
S	MILTON	MI-043-P	0.000	0	0.003	0.018	845	0.37	0.16	15
S	MILTON	MI-045-P	0.139	15,540	0.054	0.048	5,914	8.92	1.12	104
S	MILTON	MI-046-P	0.040	7,558	0.034	0.057	3,115	5.24	0.59	55
S	MILTON	MI-047-P	0.327	6,503	0.238	0.043	29,410	50.36	5.57	517
S	MILTON	MI-048-P	0.000	0	0.004	0.020	1,109	0.50	0.21	19
S	MILTON	MI-049-P	0.070	6,512	0.088	0.065	7,075	10.68	1.34	124
S	MILTON	MI-051-P	0.020	7,676	0.019	0.059	1,690	2.58	0.32	30
S	MILTON	MI-052-P	0.000	0	0.004	0.021	1,109	0.50	0.21	19
S	MILTON	MI-053-P	0.129	6,378	0.100	0.040	13,147	20.22	2.49	231
S	MILTON	MI-054-P	0.000	0	0.000	NA	0	0.02	0.00	0
S	MILTON	MI-055-P	0.149	6,971	0.109	0.041	14,150	21.34	2.68	249
S	MILTON	MI-056-P	0.000	0	0.004	0.021	1,109	0.50	0.21	19
S	MILTON	MI-058-P	0.010	6,185	0.012	0.058	1,109	1.64	0.21	19
S	MILTON	MI-059-P	0.476	8,055	0.262	0.039	35,904	59.12	6.80	631
S	MILTON	MI-061-P	0.089	6,780	0.066	0.040	8,712	13.18	1.65	153
S	MILTON	MI-062-P	0.020	7,890	0.019	0.060	1,637	2.51	0.31	29
S	MILTON	MI-(BH-002-P)	0.050	6,667	0.000	0.000	4,805	7.50	0.91	84

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SYS	CITY/ TOWN	PUBLIC CONN. #	INFILTRATION DATA		INFLOW DATA		GENERAL SYSTEM DATA			
			PEAK INFILT (MGD)	PEAK INFILT (GPDIM)	1Y 6H 4 DAY INFLOW (MG)	1Y 6H 4 DAY INFLOW PER MILE (MG/MILE)	TRIB. FEET TO PCONN (LF)	INCH- MILES IDM	TRIB. MILES TO PCONN	EST. NO. HOUSE SERVICES
			A	B=(A/X)×10 ⁶	L	LL=L/Y	W	X	Y	Z
S	MILTON	MI-(BH-011-P)	0.020	5,848	0.000	0.000	2,270	3.42	0.43	40
S		SUM-Milton	4.830	7,395	3.615	1.678	401,966	653.21	76.13	7,068
S	NATICK	NA-001-P	0.130	3,179	0.072	0.015	24,686	40.89	4.68	363
S	NATICK	NA-002-P	1.000	1,814	0.511	0.008	332,811	551.27	63.03	4,896
S	NATICK	NA-003-P	0.010	1,376	0.014	0.017	4,389	7.27	0.83	65
S	NATICK	NA-004-P	0.120	2,934	0.035	0.008	24,692	40.90	4.68	363
S	NATICK	NA-005-P	0.010	921	0.023	0.018	6,556	10.86	1.24	96
S	NATICK	NA-006-P	0.090	1,262	0.084	0.010	43,142	71.46	8.17	635
S	NATICK	NA-007-P	0.020	1,289	0.030	0.017	9,370	15.52	1.77	138
S	NATICK	NA-008-P	0.010	5,882	0.004	0.020	1,026	1.70	0.19	15
S	NATICK	NA-009-P	0.120	5,527	0.042	0.017	13,107	21.71	2.48	193
S	NATICK	NA-010-P	0.040	4,773	0.013	0.013	5,059	8.38	0.96	74
S	NATICK	NA-011-P	0.150	2,445	0.094	0.013	37,038	61.35	7.01	545
S	NATICK	NA-012-P	0.080	2,608	0.054	0.015	18,516	30.67	3.51	272
S	NATICK	NA-013-P	0.040	7,366	0.011	0.017	3,278	5.43	0.62	48
S	NATICK	NA-014-P	0.010	1,220	0.016	0.017	4,950	8.20	0.94	73
S	NATICK	NA-015-P	0.020	2,538	0.018	0.020	4,757	7.88	0.90	70
S	NATICK	NA-016-P	0.170	12,593	0.024	0.016	8,150	13.50	1.54	120
S	NATICK	NA-017-P	0.010	5,917	0.004	0.020	1,020	1.69	0.19	15
S	NATICK	NA-018-P	0.010	22,222	0.001	0.020	272	0.45	0.05	4
S	NATICK	NA-019-P	0.010	5,944	0.004	0.019	1,020	1.69	0.19	15
S	NATICK	NA-020-P	0.000	NA	0.000	NA	0	0.00	0.00	0
S		SUM-Natick	2.050	2,276	1.054	0.302	543,840	900.82	103.00	8,000
S	NEEDH	NH-001-P	2.108	3,090	1.849	0.024	406,666	682.11	77.02	5,561
S	NEEDH	NH-002-P	0.950	3,072	0.818	0.024	178,622	309.29	33.83	2,443
S	NEEDH	NH-003-P	0.013	NA	0.000	0.000	2,534		0.48	35
S	NEEDH	NH-004-P	0.003	NA	0.000	0.000	581		0.11	8
S	NEEDH	NH-005-P	0.001	109	0.000	0.000	6,019	9.14	1.14	82
S	NEEDH	NH-006-P	0.021	5,134	0.000	0.000	2,851	4.09	0.54	39
S	NEEDH	NH-007-P	0.016	6,202	0.000	0.000	1,690	2.58	0.32	23
S	NEEDH	NH-008-P	0.095	NA	0.000	0.000	18,638		3.53	255
S	NEEDH	NH-009-P	0.001	NA	0.000	NA	0	0.00	0.00	0
S	NEEDH	NH-010-P	0.010	608	0.000	0.000	10,507	16.46	1.99	144
S	NEEDH	NH-011-P	0.002	NA	0.000	0.000	370		0.07	5
S		SUM-Needham	3.220	3,146	2.666	0.048	628,478	1023.67	119.03	8,594
S	NORWO	NO-001-P	1.190	5,499	0.169	0.010	93,201	216.40	17.65	1,601
S	NORWO	NO-002-P	0.060	6,667	0.020	0.016	6,670	9.00	1.26	115
S	NORWO	NO-003-P	0.530	4,653	0.139	0.009	86,497	113.90	16.38	1,486
S	NORWO	NO-004-P	1.370	4,394	0.195	0.008	132,147	311.80	25.03	2,270
S	NORWO	NO-005-P	0.000	0	0.004	0.022	992	1.50	0.19	17
S	NORWO	NO-006-P	0.610	3,330	0.268	0.029	49,569	183.20	9.39	851
S	NORWO	NO-007-P	0.100	7,576	0.005	0.002	10,930	13.20	2.07	188
S	NORWO	NO-008-P	0.020	1,626	0.024	0.022	5,701	12.30	1.08	98
S	NORWO	NO-009-P	0.000	0	0.001	0.028	151	0.20	0.03	3
S	NORWO	NO-010-P	0.290	4,348	0.085	0.014	32,590	66.70	6.17	560
S	NORWO	NO-011-P	0.000	0	0.012	0.031	1,940	1.70	0.37	33
S	NORWO	NO-012-P	0.000	0	0.011	0.030	1,895	3.30	0.36	33
S	NORWO	NO-013-P	0.000	NA	0.132	0.028	24,959	0.00	4.73	429

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SYS	CITY/ TOWN	PUBLIC CONN. #	INFILTRATION DATA		INFLOW DATA		GENERAL SYSTEM DATA			
			PEAK INFILT (MGD)	PEAK INFILT (GPDIM)	1Y 6H 4 DAY INFLOW (MG)	1Y 6H 4 DAY INFLOW PER MILE (MG/MILE)	TRIB. FEET TO PCONN (LF)	INCH- MILES IDM	TRIB. MILES TO PCONN	EST. NO. HOUSE SERVICES
			A	B=(A/X)x10 ⁶	L	LL=L/Y	W	X	Y	Z
S		SUM-Norwood	4.170	4,468	1.065	0.248	447,241	933.20	84.70	7,682
S	NEWTO	NT-007,20,22-P	0.000	0	0.055	0.105	2,762	2.59	0.52	47
S	NEWTO	NT-012-P	9.900	16,607	5.943	0.049	635,749	596.12	120.41	10,873
S	NEWTO	NT-016-P	0.220	9,999	0.315	0.071	23,420	21.96	4.44	401
S	NEWTO	NT-017-P	0.600	13,218	0.330	0.036	48,407	45.39	9.17	828
S	NEWTO	NT-019-P	0.060	8,580	0.090	0.064	7,444	6.98	1.41	127
S	NEWTO	NT-023-P	0.000	0	0.094	0.089	5,578	5.23	1.06	95
S	NEWTO	NT-(BB-009-P)	0.310	NA	0.000	NA			0.00	
S	NEWTO	NT-(BK-005-P)	0.310	NA	0.100	NA			0.00	
S		SUM-Newton	11.399	16,807	6.926	0.414	723,360	678.27	137.00	12,371
S	QUINCY	QU-001-P	0.000	0	0.031	0.066	2,493	3.85	0.47	42
S	QUINCY	QU-002-P	0.000	0	0.054	0.067	4,325	6.68	0.82	72
S	QUINCY	QU-004-P	0.000	0	0.004	0.068	285	0.44	0.05	5
S	QUINCY	QU-005-P	0.000	0	0.013	0.067	1,017	1.57	0.19	17
S	QUINCY	QU-007-P	0.000	0	0.000	0.000	1,159	1.79	0.22	19
S	QUINCY	QU-008-P	0.000	0	0.014	0.066	1,140	1.76	0.22	19
S	QUINCY	QU-009-P	0.000	0	0.007	0.068	518	0.80	0.10	9
S	QUINCY	QU-010-P	0.000	0	0.020	0.067	1,612	2.49	0.31	27
S	QUINCY	QU-011-P	0.340	5,987	0.000	0.000	36,769	56.79	6.96	612
S	QUINCY	QU-012-P	0.000	0	0.000	0.000	693	1.07	0.13	12
S	QUINCY	QU-013-P	0.000	0	0.030	0.066	2,421	3.74	0.46	40
S	QUINCY	QU-014-P	0.000	0	0.001	0.069	97	0.15	0.02	2
S	QUINCY	QU-015-P	0.060	5,698	0.083	0.064	6,818	10.53	1.29	114
S	QUINCY	QU-016-P	0.000	0	0.015	0.067	1,185	1.83	0.22	20
S	QUINCY	QU-017-P	0.000	0	0.049	0.066	3,930	6.07	0.74	65
S	QUINCY	QU-018-P	0.000	0	0.038	0.066	3,017	4.66	0.57	50
S	QUINCY	QU-019-P	0.000	0	0.007	0.068	583	0.90	0.11	10
S	QUINCY	QU-020-P	0.000	0	0.032	0.066	2,583	3.99	0.49	43
S	QUINCY	QU-021-P	0.000	0	0.005	0.069	382	0.59	0.07	6
S	QUINCY	QU-022-P	0.006	571	0.076	0.064	6,235	9.63	1.18	104
S	QUINCY	QU-023-P	0.000	0	0.006	0.068	440	0.68	0.08	7
S	QUINCY	QU-024-P	0.000	0	0.007	0.068	583	0.90	0.11	10
S	QUINCY	QU-025-P	0.000	0	0.007	0.068	557	0.86	0.11	9
S	QUINCY	QU-026-P	0.000	0	0.004	0.069	337	0.52	0.06	6
S	QUINCY	QU-027-P	0.000	0	0.029	0.068	2,279	3.52	0.43	38
S	QUINCY	QU-029-P	0.000	0	0.000	0.000	1,573	2.43	0.30	26
S	QUINCY	QU-030-P	0.147	1,338	0.611	0.045	71,123	109.85	13.47	1,185
S	QUINCY	QU-031-P	0.000	0	0.000	0.000	168	0.26	0.03	3
S	QUINCY	QU-032-P	0.000	0	0.031	0.067	2,447	3.78	0.46	41
S	QUINCY	QU-033-P	0.000	0	0.000	0.000	9,815	15.16	1.86	163
S	QUINCY	QU-034-P	0.000	0	0.000	0.000	4,778	7.38	0.90	80
S	QUINCY	QU-035-P	0.000	0	0.077	0.042	9,634	14.88	1.82	160
S	QUINCY	QU-036-P	0.000	0	0.005	0.068	414	0.64	0.08	7
S	QUINCY	QU-037-P	0.000	0	0.058	0.066	4,616	7.13	0.87	77
S	QUINCY	QU-039-P	0.000	0	0.000	0.000	11,311	17.47	2.14	188
S	QUINCY	QU-040-P	0.000	0	0.079	0.129	3,218	4.97	0.61	54
S	QUINCY	QU-041-P	0.000	0	0.002	0.069	168	0.26	0.03	3
S	QUINCY	QU-044-P	0.000	0	0.020	0.068	1,541	2.38	0.29	26

**I/I BASELINE INFORMATION BY PUBLIC CONNECTION AND COMMUNITY
I/I REDUCTION STRATEGIES DATABASE**

SYS	CITY/ TOWN	PUBLIC CONN. #	INFILTRATION DATA		INFLOW DATA		GENERAL SYSTEM DATA			
			PEAK INFILT (MGD)	PEAK INFILT (GPDIM)	1Y 6H 4 DAY INFLOW (MG)	1Y 6H 4 DAY INFLOW PER MILE (MG/MILE)	TRIB. FEET TO PCONN (LF)	INCH- MILES IDM	TRIB. MILES TO PCONN	EST. NO. HOUSE SERVICES
			A	B=(A/X)×10 ⁶	L	LL=L/Y	W	X	Y	Z
S	QUINCY	QU-045-P	0.150	1,396	0.801	0.061	69,589	107.48	13.18	1,159
S	QUINCY	QU-049-P	1.400	8,185	0.699	0.033	110,741	171.04	20.97	1,844
S	QUINCY	QU-050-P	1.860	8,060	1.400	0.049	149,421	230.78	28.30	2,489
S	QUINCY	QU-QPS-P = QU-0	6.300	6,594	0.091	0.001	618,556	955.36	117.15	10,302
S	QUINCY	QU-SPS-P	1.000	5,552	0.980	0.044	116,627	180.13	22.09	1,942
S		SUM-Quincy	11.263	5,754	5.389	2.217	1,267,200	1957.19	240.00	21,105
S	RANDO	RA-001-P	1.530	1,742	1.117	0.014	411,856	878.50	78.00	6,333
S	RANDO	RA-002-P	0.270	1,042	0.346	0.015	121,424	259.00	23.00	1,867
S		SUM-Randolph	1.800	1,582	1.463	0.029	533,280	1137.50	101.00	8,200
S	STOUG	ST-001-P	2.210	2,994	1.085	0.019	307,982	738.20	58.33	4,424
S		SUM-Stoughton	2.210	2,994	1.085	0.019	307,982	738.20	58.33	4,424
S	WELLES	WL-001-P	1.260	4,520	0.017	0.001	170,557	278.78	32.30	1,819
S	WELLES	WL-002-P	2.350	4,215	1.064	0.016	341,108	557.55	64.60	3,638
S	WELLES	WL-(NT-004-P))	0.710	2,486	0.832	0.025	174,735	285.61	33.09	1,863
S		SUM-Wellesley	4.320	3,850	1.914	0.042	686,400	1121.94	130.00	7,320
S	WALPO	WP-002-P	0.100	5,236	0.000	0.001	2,693	19.10	0.51	34
S	WALPO	WP-001-P	1.530	2,740	0.876	0.016	282,955	558.37	53.59	3,625
S		SUM-Walpole	1.630	2,823	0.876	0.017	285,648	577.47	54.10	3,659
S	WESTW	WW-001-P	0.920	2,465	0.263	0.006	227,040	373.25	43.00	2,149
S	WESTW	WW-002-P	0.180	1,634	0.216	0.016	72,019	110.14	13.64	682
S	WESTW	WW-003-P	0.080	1,027	0.256	0.026	51,216	77.92	9.70	485
S		SUM-Westwood	1.180	2,102	0.735	0.048	350,275	561.31	66.34	3,315
S	WEYMO	WY-001-P	0.150	7,580	0.130	0.004	161,726	19.79	30.63	2,433
S	WEYMO	WY-002-P	0.020	1,148	0.000	0.000	5,782	17.42	1.09	87
S	WEYMO	WY-003-P	1.720	4,084	0.000	0.000	192,954	421.17	36.54	2,903
S	WEYMO	WY-004-P	0.010	20,408	0.000	0.000	10,771	0.49	2.04	162
S	WEYMO	WY-005-P	0.010	2,667	0.000	0.000	445	3.75	0.08	7
S	WEYMO	WY-006-P	0.010	2,695	0.000	0.000	1,121	3.71	0.21	17
S	WEYMO	WY-007-P	0.010	1,517	0.000	0.000	3,095	6.59	0.59	47
S	WEYMO	WY-008-P	3.570	4,160	0.944	0.012	404,201	858.24	76.55	6,082
S	WEYMO	WY-009-P	0.170	4,003	0.163	0.032	26,981	42.47	5.11	406
S	WEYMO	WY-010-P	0.010	20,000	0.000	0.000	10,824	0.50	2.05	163
S	WEYMO	WY-011-P	0.700	5,136	0.276	0.014	100,824	136.28	19.10	1,517
S		SUM-Weymouth	6.380	4,224	1.512	0.063	918,725	1510.41	174.00	13,824
SUMS SOUTH SYSTEM			94.066	4,887	68.857	92.554	11,406,590	19249.16	2160.34	178,144
#####										
CSO COMMUNITIES										
CSO	CAMBRI	CB-001-P	1.610	19,706	-----	0.000	106,812	81.70	20.23	2,482
CSO	CAMBRI	CB-002-P	0.470	2,391	-----	0.000	257,028	196.60	48.68	5,973
CSO	CAMBRI	CB-008-P	0.430	20,874	-----	0.000	26,932	20.60	5.10	626
CSO	CAMBRI	CB-017-P	0.180	20,690	-----	0.000	11,374	8.70	2.15	264
CSO	CAMBRI	CB-020-P	1.170	11,261	-----	0.000	135,835	103.90	25.73	3,157
CSO	CAMBRI	CB-022-P	0.000	0	-----	0.000	1,961	1.50	0.37	46
CSO	CAMBRI	CB-024-P	0.000	NA	-----	NA	0	0.00	0.00	0
CSO	CAMBRI	CB-027-P	0.650	11,188	-----	0.000	75,958	58.10	14.39	1,765
CSO	CAMBRI	CB-028-P	0.000	NA	-----	NA	0	0.00	0.00	0
CSO	CAMBRI	CB-029-P	0.350	11,146	-----	0.000	41,051	31.40	7.77	954
CSO	CAMBRI	CB-031-P	0.180	11,321	-----	0.000	20,787	15.90	3.94	483

**I/I BASELINE INFORMATION BY PUBLIC CONNECTION AND COMMUNITY
I/I REDUCTION STRATEGIES DATABASE**

SYS	CITY/ TOWN	PUBLIC CONN. #	INFILTRATION DATA		INFLOW DATA		GENERAL SYSTEM DATA			
			PEAK INFILT (MGD)	PEAK INFILT (GPDIM)	1Y 6H 4 DAY INFLOW (MG)	1Y 6H 4 DAY INFLOW PER MILE (MG/MILE)	TRIB. FEET TO PCONN (LF)	INCH- MILES IDM	TRIB. MILES TO PCONN	EST. NO. HOUSE SERVICES
			A	B=(A/X)x10 ⁶	L	LL=L/Y	W	X	Y	Z
CSO	CAMBRIDGE	CB-034-P	0.030	21,429	-----	0.000	1,830	1.40	0.35	43
CSO	CAMBRIDGE	CB-035-P	0.090	10,843	-----	0.000	10,851	8.30	2.06	252
CSO	CAMBRIDGE	CB-038-P	0.180	11,465	-----	0.000	20,526	15.70	3.89	477
CSO	CAMBRIDGE	CB-046-P	0.450	11,307	-----	0.000	52,033	39.80	9.85	1,209
CSO	CAMBRIDGE	CB-048-P	0.160	11,268	-----	0.000	18,565	14.20	3.52	431
CSO	CAMBRIDGE	CB-050-P	0.530	21,032	-----	0.000	32,946	25.20	6.24	766
CSO	CAMBRIDGE	CB-051-P	0.190	20,213	-----	0.000	12,289	9.40	2.33	286
CSO	CAMBRIDGE	CB-052-P	0.110	21,569	-----	0.000	6,668	5.10	1.26	155
CSO	CAMBRIDGE	CB-056-P	0.220	11,282	-----	0.000	25,494	19.50	4.83	592
CSO	CAMBRIDGE	CB-058-P	0.000	NA	-----	NA	0	0.00	0.00	0
CSO	CAMBRIDGE	CB-068-P	0.030	23,077	-----	0.000	1,700	1.30	0.32	39
CSO		SUM-Cambridge	7.030	272059.177	0.000	0.000	860,640	658.30	163.00	20,000
CSO	CHELSEA	CH-004-P	0.360	2,357	-----	0.000	89,941	152.74	17.03	2,867
CSO	CHELSEA	CH-005-P	0.620	6,126	-----	0.000	59,592	101.20	11.29	1,899
CSO	CHELSEA	CH-006-P	0.010	7,463	-----	0.000	789	1.34	0.15	25
CSO	CHELSEA	CH-007-P	0.050	6,974	-----	0.000	4,222	7.17	0.80	135
CSO	CHELSEA	CH-009-P	0.010	4,566	-----	0.000	1,290	2.19	0.24	41
CSO	CHELSEA	CH-010-P	0.010	6,061	-----	0.000	972	1.65	0.18	31
CSO	CHELSEA	CH-012-P	0.030	7,463	-----	0.000	2,367	4.02	0.45	75
CSO	CHELSEA	CH-013-P	0.040	6,944	-----	0.000	3,392	5.76	0.64	108
CSO	CHELSEA	CH-014-P	0.220	5,741	-----	0.000	22,565	38.32	4.27	719
CSO	CHELSEA	CH-015-P	0.020	5,587	-----	0.000	2,108	3.58	0.40	67
CSO	CHELSEA	CH-016-P	0.010	6,061	-----	0.000	972	1.65	0.18	31
CSO	CHELSEA	CH-020-P	0.020	4,640	-----	0.000	2,538	4.31	0.48	81
CSO	CHELSEA	CH-022-P	0.010	12,195	-----	0.000	483	0.82	0.09	15
CSO	CHELSEA	CH-024-P	0.010	6,061	-----	0.000	972	1.65	0.18	31
CSO	CHELSEA	CH-026-P	0.010	10,417	-----	0.000	565	0.96	0.11	18
CSO	CHELSEA	CH-027-P	0.170	6,633	-----	0.000	15,092	25.63	2.86	481
CSO	CHELSEA	CH-032-P	0.090	6,148	-----	0.000	8,621	14.64	1.63	275
CSO		SUM-Chelsea	1.690	111435.048	0.000	0.000	216,480	367.63	41.00	6,900
CSO	SOMERSET	SO-001-P	0.040	6,024	-----	0.000	5,699	6.64	1.08	150
CSO	SOMERSET	SO-002-P	0.680	3,048	-----	0.000	191,517	223.13	36.27	5,044
CSO	SOMERSET	SO-003-P	0.470	11,599	-----	0.000	34,779	40.52	6.59	916
CSO	SOMERSET	SO-004-P	2.410	8,687	-----	0.000	238,115	277.42	45.10	6,271
CSO	SOMERSET	SO-005-P	0.040	6,656	-----	0.000	5,158	6.01	0.98	136
CSO	SOMERSET	SO-006-P	0.020	5,435	-----	0.000	3,159	3.68	0.60	83
CSO	SOMERSET	SO-008-P	0.110	6,732	-----	0.000	14,025	16.34	2.66	369
CSO	SOMERSET	SO-009-P	0.030	6,608	-----	0.000	3,897	4.54	0.74	103
CSO	SOMERSET	SO-011-P	0.010	8,621	-----	0.000	996	1.16	0.19	26
CSO	SOMERSET	SO-012-P	0.030	6,787	-----	0.000	3,794	4.42	0.72	100
CSO	SOMERSET	SO-013-P	0.020	8,696	-----	0.000	1,974	2.30	0.37	52
CSO	SOMERSET	SO-014-P	0.050	6,068	-----	0.000	7,073	8.24	1.34	186
CSO	SOMERSET	SO-015-P	0.040	6,547	-----	0.000	5,244	6.11	0.99	138
CSO	SOMERSET	SO-016-P	0.000	0	-----	0.000	403	0.47	0.08	11
CSO	SOMERSET	SO-017-P	0.000	NA	-----	NA	0	0.00	0.00	0
CSO	SOMERSET	SO-018-P	0.020	15,152	-----	0.000	1,133	1.32	0.21	30
CSO	SOMERSET	SO-019-P	1.230	6,670	-----	0.000	158,274	184.40	29.98	4,169
CSO	SOMERSET	SO-022-P	0.000	0	-----	0.000	601	0.70	0.11	16

**I/I BASELINE INFORMATION BY PUBLIC CONNECTION AND COMMUNITY
I/I REDUCTION STRATEGIES DATABASE**

SYS	CITY/ TOWN	PUBLIC CONN. #	INFILTRATION DATA		INFLOW DATA		GENERAL SYSTEM DATA			
			PEAK INFILT (MGD)	PEAK INFILT (GPDIM)	1Y 6H 4 DAY INFLOW (MG)	1Y 6H 4 DAY INFLOW PER MILE (MG/MILE)	TRIB. FEET TO PCONN (LF)	INCH- MILES IDM	TRIB. MILES TO PCONN	EST. NO. HOUSE SERVICES
			A	$B=(A/X) \times 10^6$	L	$LL=L/Y$	W	X	Y	Z
CSO	SOMER	SO-023-P	0.000	NA	-----	NA	0	0.00	0.00	0
CSO		SUM-Somerville	5.200	113328.354	0.000	0.000	675,840	787.40	128.00	17,800
CSO	NBOST	Main Drain	14.240	4,167	-----	0.000	654,720	3417.00	124.00	14,110
CSO	NBOST	Brighton	2.721	4,167	-----	0.000	343,200	653.00	65.00	7,396
CSO	NBOST	Charlestown	1.617	4,167	-----	0.000	110,880	388.00	21.00	2,390
CSO	NBOST	Dorchester	8.056	4,167	-----	0.000	586,080	1933.00	111.00	12,631
CSO	NBOST	East Boston	3.576	4,167	-----	0.000	253,440	858.00	48.00	5,462
CSO	NBOST	Roxbury	5.897	4,167	-----	0.000	316,800	1415.00	60.00	6,828
CSO	NBOST	Southboston	8.201	4,167	-----	0.000	364,320	1968.00	69.00	7,852
CSO	NBOST	West Roxbury	5.693	4,167	-----	0.000	517,440	1366.00	98.00	11,152
CSO		SUM-North Boston	50.000	33338.890	0.000	0.000	3,146,880	11998.00	596.00	67,820
SUM CSO AREAS			63.920	530161.468	0.000	0.000	4,899,840	13811.33	928.00	112,520
ADDITIONAL BREAKDOWN:										
CSO	NBOST	Charlestown	1.900	4,444			119,581	427.54		2,577
CSO	NBOST	East Boston	3.500	4,435			220,282	789.18		4,747
CSO	NBOST	Columbus Park	29.000	4,402			1,825,190	6587.91		39,336
CSO	NBOST	Ward St.	15.600	4,388			981,827	3555.15		21,160
		Sum - North Bosto	50.000	4,401	0.000	0.000	3,146,880	11359.78	0.00	67,820

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APPENDIX O
SUMMARY BASIC DESIGN DATA SHEETS

- Future Planned Condition, 2-Battery Secondary
- Future Planned Condition, CEPT plus 2-Battery Secondary
- Future Planned Condition, 2 2/3-Battery Secondary
- Future Planned Condition, 3-Battery Secondary
- CSO Strategy M, 2-Battery Secondary
- CSO Strategy M, CEPT Plus 2-Battery Secondary
- CSO Strategy M, 2 2/3-Battery Secondary
- CSO Strategy M, 3-Battery Secondary
- CSO Strategy M2, 2-Battery Secondary
- CSO Strategy M2, CEPT Plus 2-Battery Secondary
- CSO Strategy M2, 2 2/3-Battery Secondary
- CSO Strategy M2, 3-Battery Secondary
- CSO Strategy M2, 3-Battery Secondary with 10 Percent Population Growth

MWRA SMP SECONDARY STRATEGIES
FUTURE PLANNED CONDITION TWO BATTERY SUMMARY
REVISED CRITERIA WITH PILOT PLANT PERFORMANCE
TYPICALIZED 1992 LOADINGS & SPRING 93

	AVG	MAX 30 DAY	MAX 7 DAY	MAX DAY	MAX HR
DATE	TYP 1992	SPR 93	SPR 93	SPR 93	SPR 93
FLOW MGD	364	690	851	990	1165
INFLUENT LOAD					
BOD LBS/D	517000	657000	717800	972300	
TSS LBS/D	550000	706600	863650	1082400	
PRIM INF. WITH RECYCLE					
BOD LBS/D 6 %	548020	696420	760868	1030638	
TSS LBS/D 15 %	632500	812590	993197	1244760	
PRIMARY TANKS					
# OF TANKS	48	48	48	48	48
# IN SERVICE	42	42	42	42	42
OVERFLOW RATES GPD/SGFT	568	1077	1328	1545	1819
DETENTION TIME HRS	3.79	2.00	1.62	1.39	1.18
% REMOVALS (PILOT)					
BOD	34	28	22	20	20
TSS	56	46	42	35	32
PRIMARY EFFLUENT					
BOD LBS/D	361693	501422	593477	824510	
TSS LBS/D	278300	438799	576055	809094	
AERATION TANKAGE					
# OF BATTERY S	2	2	2	2	2
# OF TANKS IN SERVICE	6	6	6	6	6
FLOW TO SECONDARY MGD	364	540	540	540	540
MLSS MG/L	2500	2500	2500	2500	2500
MLVSS MG/L	2000	2000	2000	2000	2000
F/MLVSS	0.80	0.87	0.84	1.0	
SRT DAYS	1.4	1.3	1.4	1.0	
HRT HRS	1.78	1.2	1.2	1.2	1.2
VOL LOAD LBS/1000CFT	100.1	108.6	104.2	124.5	
SECONDARY CLARIFIERS					
# OF BATTERY S	2	2	2	2	2
# OF CLARIFIERS	36	36	36	36	36
# IN SERVICE	32	32	32	32	32
MLSS MG/L	2500	2500	2500	2500	2500
RETURN SLUDGE FLOW MGD	120	178	178	230	230
OVERFLOW RATE GPD/SGFT	816	1211	1211	1211	1211
SOLIDS LOADING LBS/SGFT/D	22.6	33.6	33.6	36.0	36.0
ESTIMATED SEC EFFLUENT					
BOD MG/L	22	31	30	32	
CBOD MG/L	18	26	25	27	
TSS MG/L	24	36	36	36	
BOD LBS/D	66787	139612	135108	144115	
TSS LBS/D	72858	162130	162130	162130	
PERCENT REMOVALS					
BOD	87.1%	72.8%	70.3%	72.8%	
TSS	86.8%	70.7%	70.4%	72.5%	
BLENDED EFFLUENT					
BOD MG/L	22	43	50	63	
CBOD MG/L	18	36	41	52	
TSS MG/L	24	45	53	64	
BOD LBS/D	66787	248616	351996	518893	
TSS LBS/D	72858	257521	372650	529900	
PERCENT REMOVALS					
BOD	87%	62%	51%	47%	
TSS	87%	64%	57%	51%	

MWRA SMP SECONDARY STRATEGIES
FUTURE PLANNED CONDITION TWO BATTERY SUMMARY
REVISED CRITERIA WITH PILOT PLANT PERFORMANCE
TYPICALIZED 1992 LOADINGS & SPRING 93

	AVG	MAX 30 DAY	MAX 7 DAY	MAX DAY	MAX HR
GRAVITY THICKNERS					
# OF UNITS	6	6	6	6	
# IN SERVICE	5	5	5	5	
PRIMARY SLUDGE LBS/D	354200	373791	417143	435666	
SOLIDS LOADING LBS/SGFT/D	18.4	19.4	21.7	22.6	
WAS CENTRIFUGES					
# OF UNITS	14	14	14	14	
# IN SERVICE	9	8	9	11	
FLOW RATE GPM	401	412	400	381	
ANAEROBIC DIGESTORS					
TSL TO DIGESTION LBS/D	611284	603308	667187	731894	
# OF PRIMARY DIGESTORS	12	12	12	12	
LBS VSS / 1000 CFT	98.3	96.8	107.0	117.6	
HRT DAYS	24.6	24.9	22.5	20.5	
DIGESTED SLUDGE DTPD	175.5	173.6	192.0	210.3	
SECONDARY DIGESTORS	2	2	2	2	
SLUDGE STORAGE TANKS	2	2	2	2	
	CONSTRUCTION COST \$ MILLION			POTENTIAL COST SAVING	
LIQUID TRAIN	\$958			\$228	
SLUDGE TRAIN	\$372			\$30	
SUPPORT FACILITY	\$1,170				

TOTAL CONSTRUCTION COST FOR DI WWTP	\$2,500			\$258	
	O & M COST \$ MILLION/ YR			POTENTIAL COST SAVING	
SUPPORT FACILITY					
TOTAL ANNUAL O & M COST FOR DI WWTP	\$73.9			\$5.3	
NOTES:					
1) O & M COST BASED ON FY 1995 DOLLARS					

MWRA SMP SECONDARY STRATEGIES
FUTURE PLANNED CONDITION CEPT PLUS TWO BATTERY SUMMARY
REVISED CRITERIA WITH PILOT PLANT PERFORMANCE
TYPICALIZED 1992 LOADINGS & SPRING 93

	AVG	MAX 30 DAY	MAX 7 DAY	MAX DAY	MAX HR
DATE	TYP 1992	SPR 93	SPR 93	SPR 93	SPR 93
FLOW MGD	364	690	851	990	1165
INFLUENT LOAD					
BOD LBS/D	517000	657000	717800	972300	
TSS LBS/D	550000	706600	863650	1082400	
PRIM INF. WITH RECYCLE					
BOD LBS/D 7.5 %	555775	706275	771635	1045222.	
TSS LBS/D 17.5 %	646250	830255	1014788.	1271820	
PRIMARY TANKS					
# OF TANKS	48	48	48	48	48
# IN SERVICE	42	42	42	42	42
OVERFLOW RATES GPD/SGFT	568	1077	1328	1545	1819
DETENTION TIME HRS	3.79	2.00	1.62	1.39	1.18
% REMOVALS (PILOT)					
BOD	58	53	51	50	50
TSS	67	51	50	40	40
PRIMARY EFFLUENT					
BOD LBS/D	233426	331949	378101	522611	
TSS LBS/D	213263	406825	507394	763092	
AERATION TANKAGE					
# OF BATTERYYS	2	2	2	2	2
# OF TANKS IN SERVICE	6	6	6	6	6
FLOW TO SECONDARY MGD	364	540	540	540	540
MLSS MG/L	2000	2000	2000	2000	2000
MLVSS MG/L	1600	1600	1600	1600	1600
F/MLVSS	0.65	0.72	0.67	0.8	
SRT DAYS	1.9	1.7	1.9	1.4	
HRT HRS	1.78	1.2	1.2	1.2	1.2
VOL LOAD LBS/1000CFT	64.6	71.9	66.4	78.9	
SECONDARY CLARFIERS					
# OF BATTERYYS	2	2	2	2	2
# OF CLARFIERS	36	36	36	36	36
# IN SERVICE	32	32	32	32	32
MLSS MG/L	2000	2000	2000	2000	2000
RETURN SLUDGE FLOW MGD	120	178	178	230	230
OVERFLOW RATE GPD/SGFT	816	1211	1211	1211	1211
SOLIDS LOADING LBS/SGFT/D	18.1	26.9	26.9	28.8	28.8
ESTIMATED SEC EFFLUENT					
BOD MG/L	21	29	28	30	
CBOD MG/L	18	24	23	25	
TSS MG/L	24	36	36	36	
BOD LBS/D	63751	130604	126101	135108	
TSS LBS/D	72858	162130	162130	162130	
PERCENT REMOVALS					
BOD	87.7%	74.6%	72.3%	74.5%	
TSS	86.8%	70.7%	70.4%	72.5%	
BLENDED EFFLUENT					
BOD MG/L	21	35	37	45	
CBOD MG/L	18	29	31	38	
TSS MG/L	24	44	49	62	
BOD LBS/D	63751	202767	264279	372659	
TSS LBS/D	72858	250570	347558	508990	
PERCENT REMOVALS					
BOD	88%	69%	63%	62%	
TSS	87%	65%	60%	53%	

MWRA SMP SECONDARY STRATEGIES
FUTURE PLANNED CONDITION CEPT PLUS TWO BATTERY SUMMARY
REVISED CRITERIA WITH PILOT PLANT PERFORMANCE
TYPICALIZED 1992 LOADINGS & SPRING 93

	AVG	MAX 30 DAY	MAX 7 DAY	MAX DAY	MAX HR
GRAVITY THICKNERS					
# OF UNITS	12	12	12	12	
# IN SERVICE	11	11	11	11	
PRIMARY SLUDGE LBS/D	463360	481005	578403	591335	
SOLIDS LOADING LBS/SGFT/D	10.9	11.4	13.7	14.0	
WAS CENTRIFUGES					
# OF UNITS	12	12	12	12	
# IN SERVICE	5	4	4	4	
FLOW RATE GPM	357	346	416	420	
ANAEROBIC DIGESTORS					
TSL TO DIGESTION LBS/D	561535	545115	655429	668495	
# OF PRIMARY DIGESTORS	12	12	12	12	
LBS VSS / 1000 CFT	89.0	86.1	103.5	105.6	
HRT DAYS	26.0	26.9	22.4	22	
DIGESTED SLUDGE DTPD	163	158.6	190.7	194.5	
SECONDARY DIGESTORS	2	2	2	2	
SLUDGE STORAGE TANKS	2	2	2	2	
	CONSTRUCTION COST \$ MILLION			POTENTIAL COST SAVING	
LIQUID TRAIN	\$958			\$220	
SLUDGE TRAIN	\$372			\$28	
SUPPORT FACILITY	\$1,170				

TOTAL CONSTRUCTION COST FOR DI WWTP	\$2,500			\$248	
	O & M COST \$ MILLION/ YR			POTENTIAL COST SAVING	
TOTAL ANNUAL O & M COST FOR DI WWTP	\$73.9			\$2.7	
NOTES					
1) O & M COST BASED ON FY 1995 DOLLARS					

MWRA SMP SECONDARY STRATEGIES
FUTURE PLANNED CONDITION 2 & 2/3 BATTERY SUMMARY
REVISED CRITERIA WITH PILOT PLANT PERFORMANCE
TYPICALIZED 1992 LOADINGS & SPRING 93

	AVG	MAX 30 DAY	MAX 7 DAY	MAX DAY	MAX HR
DATE	TYP 1992	SPR 93	SPR 93	SPR 93	SPR 93
FLOW MGD	364	690	851	990	1165
INFLUENT LOAD					
BOD LBS/D	517000	657000	717800	972300	
TSS LBS/D	550000	706600	863650	1082400	
PRIM INF. WITH RECYCLE					
BOD LBS/D 6 %	548020	696420	760868	1030638	
TSS LBS/D 15 %	632500	812590	993197	1244760	
PRIMARY TANKS					
# OF TANKS	48	48	48	48	48
# IN SERVICE	42	42	42	42	42
OVERFLOW RATES GPD/SGFT	568	1077	1328	1545	1819
DETENTION TIME HRS	3.79	2.00	1.62	1.39	1.18
% REMOVALS (PILOT)					
BOD	34	28	22	20	20
TSS	56	46	42	35	35
PRIMARY EFFLUENT					
BOD LBS/D	361693	501422	593477	824510	
TSS LBS/D	278300	438799	576055	809094	
AERATION TANKAGE					
# OF BATTERY	2 & 2/3	2 & 2/3	2 & 2/3	2 & 2/3	2 & 2/3
# OF TANKS IN SERVICE	8	8	8	8	8
FLOW TO SECONDARY MGD	364	690	720	720	720
MLSS MG/L	2500	2500	2500	2500	2500
MLVSS MG/L	2000	2000	2000	2000	2000
F/MLVSS	0.6	0.83	0.84	1.0	
SRT DAYS	2.1	1.4	1.4	1.0	
HRT HRS	2.38	1.25	1.2	1.2	1.2
VOL LOAD LBS/1000CFT	75.1	104.1	104.2	124.5	
SECONDARY CLARIFIERS					
# OF BATTERY	2 & 2/3	2 & 2/3	2 & 2/3	2 & 2/3	2 & 2/3
# OF CLARIFIERS	48	48	48	48	48
# IN SERVICE	42	42	42	42	42
MLSS MG/L	2500	2500	2500	2500	2500
RETURN SLUDGE FLOW MGD	120	228	238	302	302
OVERFLOW RATE GPD/SGFT	622	1179	1230	1230	1230
SOLIDS LOADING LBS/SGFT/D	17.2	32.7	34.1	36.4	36.4
ESTIMATED SEC EFFLUENT					
BOD MG/L	17	30	30	32	
CBOD MG/L	14	25	25	27	
TSS MG/L	18	36	36	36	
BOD LBS/D	51608	172638	180144	192154	
TSS LBS/D	54644	207166	216173	216173	
PERCENT REMOVALS					
BOD	90.0%	73.7%	70.3%	72.8%	
TSS	90.1%	70.7%	70.4%	72.5%	
BLENDED EFFLUENT					
BOD MG/L	17	30	38	51	
CBOD MG/L	14	25	32	42	
TSS MG/L	18	36	43	53	
BOD LBS/D	51608	172638	271502	417020	
TSS LBS/D	54644	207166	304849	436835	
PERCENT REMOVALS					
BOD	90%	74%	62%	57%	
TSS	90%	71%	65%	60%	

MWRA SMP SECONDARY STRATEGIES
FUTURE PLANNED CONDITION 2 & 2/3 BATTERY SUMMARY
REVISED CRITERIA WITH PILOT PLANT PERFORMANCE
TYPICALIZED 1992 LOADINGS & SPRING 93

	AVG	MAX 30 DAY	MAX 7 DAY	MAX DAY	MAX HR
GRAVITY THICKNERS					
# OF UNITS	6	6	6	6	
# IN SERVICE	5	5	5	5	
PRIMARY SLUDGE LBS/D	354200	373791	417143	435666	
SOLIDS LOADING LBS/SGFT/D	18.4	19.4	21.7	22.6	
WAS CENTRIFUGES					
# OF UNITS	16	16	16	16	
# IN SERVICE	9	11	12	14	
FLOW RATE GPM	379	382	400	399	
ANAEROBIC DIGESTORS					
TSL TO DIGESTION LBS/D	595124	677445	764441	845159	
# OF PRIMARY DIGESTORS	12	12	12	12	
LBS VSS / 1000 CFT	95.6	109.1	123.2	136.4	
HRT DAYS	25.2	22.2	19.6	17.8	
DIGESTED SLUDGE DTPD	171.0	194.3	219.2	242.0	
SECONDARY DIGESTORS	2	2	2	2	
SLUDGE STORAGE TANKS	2	2	2	2	
	CONSTRUCTION COST \$ MILLION			POTENTIAL COST SAVING	
LIQUID TRAIN	\$958			\$120	
SLUDGE TRAIN	\$372			\$27	
SUPPORT FACILITY	\$1,170				
TOTAL CONSTRUCTION COST FOR DI WWTP	\$2,500			\$147	
	O & M COST \$ MILLION/ YR			POTENTIAL COST SAVING	
TOTAL ANNUAL O & M COST FOR DI WWTP	\$73.9			\$4.9	
NOTES:					
1) O & M COST BASED ON FY 1995 DOLLARS					

MWRA SMP SECONDARY STRATEGIES
FUTURE PLANNED CONDITION THREE BATTERY SUMMARY
REVISED CRITERIA WITH PILOT PLANT PERFORMANCE
TYPICALIZED 1992 LOADINGS & SPRING 93

	AVG	MAX 30 DAY	MAX 7 DAY	MAX DAY	MAX HR
DATE	TYP 1992	SPR 93	SPR 93	SPR 93	SPR 93
FLOW MGD	364	690	851	990	1165
INFLUENT LOAD					
BOD LBS/D	517000	657000	717800	972300	
TSS LBS//D	550000	706600	863650	1082400	
PRIM INF. WITH RECYCLE					
BOD LBS/D 6 %	548020	696420	760868	1030638	
TSS LBS//D 15 %	632500	812590	993197	1244760	
PRIMARY TANKS					
# OF TANKS	48	48	48	48	48
# IN SERVICE	42	42	42	42	42
OVERFLOW RATES GPD/SGFT	568	1077	1328	1545	1819
DETENTION TIME HRS	3.79	2.00	1.62	1.39	1.18
% REMOVALS (PILOT)					
BOD	34	28	22	20	20
TSS	56	46	42	35	32
PRIMARY EFFLUENT					
BOD LBS/D	361693	501422	593477	824510	
TSS LBS//D	278300	438799	576055	809094	
AERATION TANKAGE					
# OF BATTERY S	3	3	3	3	3
# OF TANKS IN SERVICE	9	9	9	9	9
FLOW TO SECONDARY MGD	364	690	810	810	810
MLSS MG/L	2000	2500	2500	2500	2500
MLVSS MG/L	1600	2000	2000	2000	2000
F/MLVSS	0.67	0.74	0.84	1.0	
SRT DAYS	1.9	1.5	1.4	1.0	
HRT HRS	2.67	1.41	1.2	1.2	1.2
VOL LOAD LBS/1000CFT	66.7	92.5	104.2	124.5	
SECONDARY CLARIFIERS					
# OF BATTERY S	3	3	3	3	3
# OF CLARIFIERS	54	54	54	54	54
# IN SERVICE	48	48	48	48	48
MLSS MG/L	2000	2500	2500	2500	2500
RETURN SLUDGE FLOW MGD	120	228	267	346	346
OVERFLOW RATE GPD/SGFT	544	1031	1211	1211	1211
SOLIDS LOADING LBS/SGFT/D	12.1	28.6	33.6	36.0	36.0
ESTIMATED SEC EFFLUENT					
BOD MG/L	17	25	30	32	
CBOD MG/L	14	21	25	27	
TSS MG/L	16	30	36	36	
BOD LBS/D	51608	143865	202662	216173	
TSS LBS/D	48572	172638	243194	243194	
PERCENT REMOVALS					
BOD	90.0%	78.1%	70.3%	72.8%	
TSS	91.2%	75.6%	70.4%	72.5%	
BLENDED EFFLUENT					
BOD MG/L	17	25	33	44	
CBOD MG/L	14	21	27	37	
TSS MG/L	16	30	38	47	
BOD LBS/D	51608	143865	231255	366084	
TSS LBS/D	48572	172638	270948	390302	
PERCENT REMOVALS					
BOD	90%	78%	68%	62%	
TSS	91%	76%	69%	64%	

MWRA SMP SECONDARY STRATEGIES
FUTURE PLANNED CONDITION THREE BATTERY SUMMARY
REVISED CRITERIA WITH PILOT PLANT PERFORMANCE
TYPICALIZED 1992 LOADINGS & SPRING 93

	AVG	MAX 30 DAY	MAX 7 DAY	MAX DAY	MAX HR
GRAVITY THICKNERS					
# OF UNITS	6	6	6	6	
# IN SERVICE	5	5	5	5	
PRIMARY SLUDGE LBS/D	354200	373791	417143	435666	
SOLIDS LOADING LBS/SGFT/D	18.4	19.4	21.7	22.6	
WAS CENTRIFUGES					
# OF UNITS	16	16	16	16	
# IN SERVICE	9	11	14	13	
FLOW RATE GPM	386	382	386	484	
ANAEROBIC DIGESTORS					
TSL TO DIGESTION LBS/D	600589	677445	813068	901792	
# OF PRIMARY DIGESTORS	12	12	12	12	
LBS VSS / 1000 CFT	96.5	109.1	131.2	145.8	
HRT DAYS	25.0	22.2	18.5	16.6	
DIGESTED SLUDGE DTPD	172.5	194.3	232.8	257.9	
SECONDARY DIGESTORS	2	2	2	2	
SLUDGE STORAGE TANKS	2	2	2	2	
	CONSTRUCTION COST \$ MILLION			POTENTIAL COST SAVING	
LIQUID TRAIN	\$958			\$93	
SLUDGE TRAIN	\$372			\$27	
SUPPORT FACILITY	\$1,170				
TOTAL CONSTRUCTION COST FOR DI WWTP	\$2,500			\$120	
	O & M COST \$ MILLION/ YR			POTENTIAL COST SAVING	
SUPPORT FACILITY					
TOTAL ANNUAL O & M COST FOR DI WWTP	\$73.9			\$4.3	
NOTES:					
1) O & M COST BASED ON FY 1995 DOLLARS					

MWRA SMP SECONDARY STRATEGIES
STRATEGY M TWO BATTERY SUMMARY
REVISED CRITERIA WITH PILOT PLANT PERFORMANCE
TYPICALIZED 1992 LOADINGS & SPRING 93

	AVG	MAX 30 DAY	MAX 7 DAY	MAX DAY	MAX HR
DATE	TYP 1992	SPR 93	SPR 93	SPR 93	SPR 93
FLOW MGD	363	697	867.3	1010.5	1211
INFLUENT LOAD					
BOD LBS/D	519700	660100	720800	971350	
TSS LBS/D	553250	710700	865000	1085300	
PRIM INF. WITH RECYCLE					
BOD LBS/D 6 %	550882	699706	764048	1029631	
TSS LBS/D 15 %	636238	817305	994750	1248095	
PRIMARY TANKS					
# OF TANKS	48	48	48	48	48
# IN SERVICE	42	42	42	42	42
OVERFLOW RATES GPD/SGFT	567	1088	1354	1577	1890
DETENTION TIME HRS	3.8	1.98	1.59	1.37	1.14
% REMOVALS (PILOT)					
BOD	34	28	22	20	20
TSS	56	46	42	35	31
PRIMARY EFFLUENT					
BOD LBS/D	363582	503788	595957	823705	
TSS LBS/D	279945	441345	576955	811262	
AERATION TANKAGE					
# OF BATTERY S	2	2	2	2	2
# OF TANKS IN SERVICE	6	6	6	6	6
FLOW TO SECONDARY MGD	363	697	810	810	810
MLSS MG/L	2500	2500	2500	2500	2500
MLVSS MG/L	2000	2000	2000	2000	2000
F/MLVSS	0.81	0.87	0.82	0.98	
SRT DAYS	1.4	1.3	1.4	1.1	
HRT HRS	1.79	1.2	1.2	1.2	1.2
VOL LOAD LBS/1000CFT	100.6	108	102.7	121.9	
SECONDARY CLARIFIERS					
# OF BATTERY S	2	2	2	2	2
# OF CLARIFIERS	36	36	36	36	36
# IN SERVICE	32	32	32	32	32
MLSS MG/L	2500	2500	2500	2500	2500
RETURN SLUDGE FLOW MGD	120	178	178	230	230
OVERFLOW RATE GPD/SGFT	814	1211	1211	1211	1211
SOLIDS LOADING LBS/SGFT/D	22.6	33.6	33.6	36.0	36.0
ESTIMATED SEC EFFLUENT					
BOD MG/L	23	30	30	31	
CBOD MG/L	19	25	25	26	
TSS MG/L	24	36	36	36	
BOD LBS/D	69631	135108	135108	139612	
TSS LBS/D	72658	162130	162130	162130	
PERCENT REMOVALS					
BOD	86.6%	73.6%	69.9%	73.1%	
TSS	86.9%	70.6%	69.9%	72.0%	
BLENDED EFFLUENT					
BOD MG/L	23	43	50	62	
CBOD MG/L	19	36	41	52	
TSS MG/L	24	45	53	64	
BOD LBS/D	69631	248587	360009	523138	
TSS LBS/D	72658	261543	379860	539862	
PERCENT REMOVALS					
BOD	87%	62%	50%	46%	
TSS	87%	63%	56%	50%	

MWRA SMP SECONDARY STRATEGIES
STRATEGY M TWO BATTERY SUMMARY
REVISED CRITERIA WITH PILOT PLANT PERFORMANCE
TYPICALIZED 1992 LOADINGS & SPRING 93

	AVG	MAX 30 DAY	MAX 7 DAY	MAX DAY	MAX HR
GRAVITY THICKNERS					
# OF UNITS	6	6	6	6	
# IN SERVICE	5	5	5	5	
PRIMARY SLUDGE LBS/D	356293	375960	417795	436833	
SOLIDS LOADING LBS/SGFT/D	18.5	19.5	21.7	22.7	
WAS CENTRIFUGES					
# OF UNITS	14	14	14	14	
# IN SERVICE	9	8	9	10	
FLOW RATE GPM	404	408	392	406	
ANAEROBIC DIGESTORS					
TSL TO DIGESTION LBS/D	615218	603173	662296	722627	
# OF PRIMARY DIGESTORS	12	12	12	12	
LBS VSS / 1000 CFT	98.9	96.7	106.2	116	
HRT DAYS	24.4	24.9	22.7	20.8	
DIGESTED SLUDGE DTPD	176.7	173.5	190.6	207.7	
SECONDARY DIGESTORS	2	2	2	2	
SLUDGE STORAGE TANKS	2	2	2	2	
	CONSTRUCTION COST \$ MILLION		POTENTIAL COST SAVING		
LIQUID TRAIN	\$958		\$228		
SLUDGE TRAIN	\$372		\$30		
SUPPORT FACILITY	\$1,170				
TOTAL CONSTRUCTION COST FOR DI WWTP	\$2,500		\$258		
	O & M COST \$ MILLION/ YR		POTENTIAL COST SAVING		
TOTAL ANNUAL O & M COST FOR DI WWTP	\$73.9		\$5.3		
NOTES					
1) O & M COST BASED ON FY 1995 DOLLARS					

MWRA SMP SECONDARY STRATEGIES
STRATEGY M – CEPT + TWO BATTERY
REVISED CRITERIA WITH PILOT PLANT PERFORMANCE
TYPICALIZED 1992 LOADINGS & SPRING 93

	AVG	MAX 30 DAY	MAX 7 DAY	MAX DAY	MAX HR
DATE	TYP 1992	SPR 93	SPR 93	SPR 93	SPR 93
FLOW MGD	363	697	867.3	1010.5	1211
INFLUENT LOAD					
BOD LBS/D	519700	660100	720800	971350	
TSS LBS/D	553250	710700	865000	1085300	
PRIM INF. WITH RECYCLE					
BOD LBS/D 7.5 %	558678	709608	774860	1044201	
TSS LBS/D 17.5 %	650069	835073	1016375	1275228	
PRIMARY TANKS					
# OF TANKS	48	48	48	48	48
# IN SERVICE	42	42	42	42	42
OVERFLOW RATES GPD/SGFT	567	1088	1354	1577	1890
DETENTION TIME HRS	3.8	1.98	1.59	1.37	1.14
% REMOVALS (PILOT)					
BOD	58	53	51	50	50
TSS	67	46	44	40	40
PRIMARY EFFLUENT					
BOD LBS/D	234645	333516	379681	522101	
TSS LBS/D	214523	450939	569170	765137	
AERATION TANKAGE					
# OF BATTERY	2	2	2	2	2
# OF TANKS IN SERVICE	6	6	6	6	6
FLOW TO SECONDARY MGD	364	540	540	540	540
MLSS MG/L	2000	2000	2000	2000	2000
MLVSS MG/L	1600	1600	1600	1600	1600
F/MLVSS	0.65	0.72	0.66	0.77	
SRT DAYS	1.9	1.7	1.9	1.5	
HRT HRS	1.78	1.2	1.2	1.2	1.2
VOL LOAD LBS/1000CFT	65	71.5	65.4	77.2	
SECONDARY CLARIFIERS					
# OF BATTERY	2	2	2	2	2
# OF CLARIFIERS	36	36	36	36	36
# IN SERVICE	32	32	32	32	32
MLSS MG/L	2000	2000	2000	2000	2000
RETURN SLUDGE FLOW MGD	120	178	178	230	230
OVERFLOW RATE GPD/SGFT	814	1211	1211	1211	1211
SOLIDS LOADING LBS/SGFT/D	18.1	26.9	26.9	28.8	28.8
ESTIMATED SEC EFFLUENT					
BOD MG/L	21	29	28	29	
CBOD MG/L	18	24	23	24	
TSS MG/L	24	36	36	36	
BOD LBS/D	63751	130604	126101	130604	
TSS LBS/D	72858	162130	162130	162130	
PERCENT REMOVALS					
BOD	87.7%	74.5%	71.9%	74.8%	
TSS	86.8%	70.6%	69.9%	72.0%	
BLENDED EFFLUENT					
BOD MG/L	21	35	37	45	
CBOD MG/L	17	29	31	37	
TSS MG/L	24	45	52	62	
BOD LBS/D	63273	204828	270285	375051	
TSS LBS/D	72658	263704	376922	518386	
PERCENT REMOVALS					
BOD	88%	69%	63%	61%	
TSS	87%	63%	56%	52%	

MWRA SMP SECONDARY STRATEGIES
STRATEGY M – CEPT + TWO BATTERY
REVISED CRITERIA WITH PILOT PLANT PERFORMANCE
TYPICALIZED 1992 LOADINGS & SPRING 93

	AVG	MAX 30 DAY	MAX 7 DAY	MAX DAY	MAX HR
GRAVITY THICKNERS					
# OF UNITS	12	12	12	12	
# IN SERVICE	11	11	11	11	
PRIMARY SLUDGE LBS/D	465835	442292	519574	594409	
SOLIDS LOADING LBS/SGFT/D	11	10.4	12.3	14.0	
WAS CENTRIFUGES					
# OF UNITS	12	12	12	12	
# IN SERVICE	5	3	2	4	
FLOW RATE GPM	359	356	412	363	
ANAEROBIC DIGESTORS					
TSL TO DIGESTION LBS/D	564860	484699	534545	652685	
# OF PRIMARY DIGESTORS	12	12	12	12	
LBS VSS / 1000 CFT	89.5	76.4	84.0	102.9	
HRT DAYS	24.6	28.4	25.6	21.1	
DIGESTED SLUDGE DTPD	163.9	141.2	156.1	190.1	
SECONDARY DIGESTORS	2	2	2	2	
SLUDGE STORAGE TANKS	2	2	2	2	
	CONSTRUCTION COST \$ MILLION		POTENTIAL COST SAVING		
LIQUID TRAIN	\$958		\$220		
SLUDGE TRAIN	\$372		\$28		
SUPPORT FACILITY	\$1,170				

TOTAL CONSTRUCTION COST FOR DI WWTP	\$2,500		\$248		
	O & M COST \$ MILLION/ YR		POTENTIAL COST SAVING		
TOTAL ANNUAL O & M COST FOR DI WWTP	\$73.9		\$2.7		
NOTES					
1) O & M COST BASED ON FY 1995 DOLLARS					

MWRA SMP SECONDARY STRATEGIES
STRATEGY M – 2 & 2/3 BATTERY SUMMARY
REVISED CRITERIA WITH PILOT PLANT PERFORMANCE
TYPICALIZED 1992 LOADINGS & SPRING 93

	AVG	MAX 30 DAY	MAX 7 DAY	MAX DAY	MAX HR
DATE	TYP 1992	SPR 93	SPR 93	SPR 93	SPR 93
FLOW MGD	363	697	867.3	1010.5	1211
INFLUENT LOAD					
BOD LBS/D	519700	660100	720800	971350	
TSS LBS/D	553250	710700	865000	1085300	
PRIM INF. WITH RECYCLE					
BOD LBS/D 6 %	550882	699706	764048	1029631	
TSS LBS/D 15 %	636238	817305	994750	1248095	
PRIMARY TANKS					
# OF TANKS	48	48	48	48	48
# IN SERVICE	42	42	42	42	42
OVERFLOW RATES GPD/SGFT	567	1088	1354	1577	1890
DETENTION TIME HRS	3.8	1.98	1.59	1.37	1.14
% REMOVALS (PILOT)					
BOD	34	28	22	20	20
TSS	56	46	42	35	31
PRIMARY EFFLUENT					
BOD LBS/D	363582	503788	595957	823705	
TSS LBS/D	279945	441345	576955	811262	
AERATION TANKAGE					
# OF BATTERYS	2 & 2/3	2 & 2/3	2 & 2/3	2 & 2/3	2 & 2/3
# OF TANKS IN SERVICE	8	8	8	8	8
FLOW TO SECONDARY MGD	363	697	720	720	720
MLSS MG/L	2500	2500	2500	2500	2500
MLVSS MG/L	2000	2000	2000	2000	2000
F/MLVSS	0.61	0.84	0.82	0.98	
SRT DAYS	2.1	1.4	1.4	1.4	
HRT HRS	2.38	1.24	1.2	1.2	1.2
VOL LOAD LBS/1000CFT	75.5	104.6	102.7	121.9	
SECONDARY CLARIFIERS					
# OF BATTERYS	2 & 2/3	2 & 2/3	2 & 2/3	2 & 2/3	2 & 2/3
# OF CLARIFIERS	48	48	48	48	48
# IN SERVICE	42	42	42	42	42
MLSS MG/L	2500	2500	2500	2500	2500
RETURN SLUDGE FLOW MGD	120	230	238	302	302
OVERFLOW RATE GPD/SGFT	620	1190	1230	1230	1230
SOLIDS LOADING LBS/SGFT/D	17.2	33	34.1	36.4	36.4
ESTIMATED SEC EFFLUENT					
BOD MG/L	17	30	30	31	
CBOD MG/L	14	25	25	26	
TSS MG/L	18	36	36	36	
BOD LBS/D	51466	174389	180144	186149	
TSS LBS/D	54494	209267	216173	216173	
PERCENT REMOVALS					
BOD	90.1%	73.6%	69.9%	73.1%	
TSS	90.2%	70.6%	69.9%	72.0%	
BLENDED EFFLUENT					
BOD MG/L	17	30	39	50	
CBOD MG/L	14	25	32	42	
TSS MG/L	18	36	43	53	
BOD LBS/D	51466	174389	281360	422949	
TSS LBS/D	54494	209267	314161	449396	
PERCENT REMOVALS					
BOD	90%	74%	61%	56%	
TSS	90%	71%	64%	59%	

MWRA SMP SECONDARY STRATEGIES
STRATEGY M – 2 & 2/3 BATTERY SUMMARY
REVISED CRITERIA WITH PILOT PLANT PERFORMANCE
TYPICALIZED 1992 LOADINGS & SPRING 93

	AVG	MAX 30 DAY	MAX 7 DAY	MAX DAY	MAX HR
GRAVITY THICKNERS					
# OF UNITS	6	6	6	6	
# IN SERVICE	5	5	5	5	
PRIMARY SLUDGE LBS/D	356293	375960	417795	436833	
SOLIDS LOADING LBS/SGFT/D	18.5	19.5	21.7	22.7	
WAS CENTRIFUGES					
# OF UNITS	16	16	16	16	
# IN SERVICE	9	11	12	14	
FLOW RATE GPM	381	383	392	387	
ANAEROBIC DIGESTORS					
TSL TO DIGESTION LBS/D	598843	680163	757723	832452	
# OF PRIMARY DIGESTORS	12	12	12	12	
LBS VSS / 1000 CFT	96.2	109.5	122.0	134.3	
HRT DAYS	25.1	22.1	19.8	18.0	
DIGESTED SLUDGE DTPD					
SECONDARY DIGESTORS	2	2	2	2	
SLUDGE STORAGE TANKS	2	2	2	2	
	CONSTRUCTION COST \$ MILLION			POTENTIAL COST SAVING	
LIQUID TRAIN	\$958			\$120	
SLUDGE TRAIN	\$372			\$27	
SUPPORT FACILITY	\$1,170				
TOTAL CONSTRUCTION COST FOR DI WWTP	\$2,500			\$147	
	O & M COST \$ MILLION/ YR			POTENTIAL COST SAVING	
TOTAL ANNUAL O & M COST FOR DI WWTP	\$73.9			\$4.9	
NOTES					
1) O & M COST BASED ON FY 1995 DOLLARS					

MWRA SMP SECONDARY STRATEGIES
STRATEGY M THREE BATTERY SUMMARY
REVISED CRITERIA WITH PILOT PLANT PERFORMANCE
TYPICALIZED 1992 LOADINGS & SPRING 93

	AVG	MAX 30 DAY	MAX 7 DAY	MAX DAY	MAX HR
DATE	TYP 1992	SPR 93	SPR 93	SPR 93	SPR 93
FLOW MGD	363	697	867.3	1010.5	1211
INFLUENT LOAD					
BOD LBS/D	519700	660100	720800	971350	
TSS LBS/D	553250	710700	865000	1085300	
PRIM INF. WITH RECYCLE					
BOD LBS/D 6 %	550882	699706	764048	1029631	
TSS LBS/D 15 %	636238	817305	994750	1248095	
PRIMARY TANKS					
# OF TANKS	48	48	48	48	48
# IN SERVICE	42	42	42	42	42
OVERFLOW RATES GPD/SGFT	567	1088	1354	1577	1890
DETENTION TIME HRS	3.8	1.98	1.59	1.37	1.14
% REMOVALS (PILOT)					
BOD	34	28	22	20	20
TSS	56	46	42	35	31
PRIMARY EFFLUENT					
BOD LBS/D	363582	503788	595957	823705	
TSS LBS/D	279945	441345	576955	811262	
AERATION TANKAGE					
# OF BATTERYs	3	3	3	3	3
# OF TANKS IN SERVICE	9	9	9	9	9
FLOW TO SECONDARY MGD	363	697	810	810	810
MLSS MG/L	2000	2500	2500	2500	2500
MLVSS MG/L	1600	2000	2000	2000	2000
F/MLVSS	0.67	0.75	0.82	0.98	
SRT DAYS	1.9	1.5	1.4	1.1	
HRT HRS	2.68	1.4	1.2	1.2	1.2
VOL LOAD LBS/1000CFT	67.1	93	102.7	121.9	
SECONDARY CLARIFIERS					
# OF BATTERYs	3	3	3	3	3
# OF CLARIFIERS	54	54	54	54	54
# IN SERVICE	48	48	48	48	48
MLSS MG/L	2000	2500	2500	2500	2500
RETURN SLUDGE FLOW MGD	120	230	267	346	346
OVERFLOW RATE GPD/SGFT	543	1042	1211	1211	1211
SOLIDS LOADING LBS/SGFT/D	12	28.9	33.6	36.0	36.0
ESTIMATED SEC EFFLUENT					
BOD MG/L	16	26	30	32	
CBOD MG/L	13	22	25	27	
TSS MG/L	16	31	36	36	
BOD LBS/D	48439	151137	202662	216173	
TSS LBS/D	48439	180202	243194	243194	
PERCENT REMOVALS					
BOD	90.7%	77.1%	69.9%	72.2%	
TSS	91.2%	74.6%	69.9%	72.0%	
BLENDED EFFLUENT					
BOD MG/L	16	26	33	45	
CBOD MG/L	13	22	28	38	
TSS MG/L	16	31	39	48	
BOD LBS/D	48439	151137	242035	379610	
TSS LBS/D	48439	180202	281312	404162	
PERCENT REMOVALS					
BOD	91%	77%	66%	61%	
TSS	91%	75%	67%	63%	

MWRA SMP SECONDARY STRATEGIES
STRATEGY M THREE BATTERY SUMMARY
REVISED CRITERIA WITH PILOT PLANT PERFORMANCE
TYPICALIZED 1992 LOADINGS & SPRING 93

	AVG	MAX 30 DAY	MAX 7 DAY	MAX DAY	MAX HR
GRAVITY THICKNERS					
# OF UNITS	6	6	6	6	
# IN SERVICE	5	5	5	5	
PRIMARY SLUDGE LBS/D	356293	375960	417795	436833	
SOLIDS LOADING LBS/SGFT/D	18.5	19.5	21.7	22.7	
WAS CENTRIFUGES					
# OF UNITS	16	16	16	16	
# IN SERVICE	9	11	14	13	
FLOW RATE GPM	389	383	378	469	
ANAEROBIC DIGESTORS					
TSL TO DIGESTION LBS/D	604293	680163	805437	879862	
# OF PRIMARY DIGESTORS	12	12	12	12	
LBS VSS / 1000 CFT	97.1	109.5	130.0	142.2	
HRT DAYS	24.8	22.1	18.6	17.1	
DIGESTED SLUDGE DTPD	173.6	195.1	230.7	251.8	
SECONDARY DIGESTORS	2	2	2	2	
SLUDGE STORAGE TANKS	2	2	2	2	
	CONSTRUCTION COST \$ MILLION			POTENTIAL COST SAVING	
LIQUID TRAIN	\$958			\$93	
SLUDGE TRAIN	\$372			\$27	
SUPPORT FACILITY	\$1,170				
TOTAL CONSTRUCTION COST FOR DI WWTP	\$2,500			\$120	
	O & M COST \$ MILLION/ YR			POTENTIAL COST SAVING	
TOTAL ANNUAL O & M COST FOR DI WWTP	\$73.9			\$4.3	
NOTES					
1) O & M COST BASED ON FY 1995 DOLLARS					

MWRA SMP SECONDARY STRATEGIES
STRATEGY M-2 TWO BATTERY SUMMARY
REVISED CRITERIA WITH PILOT PLANT PERFORMANCE
TYPICALIZED 1992 LOADINGS & SPRING 93

	AVG	MAX 30 DAY	MAX 7 DAY	MAX DAY
DATE	TYP 1992	SPR 93	SPR 93	SPR 93
FLOW MGD	353	689	854	998
INFLUENT LOAD				
BOD LBS/D	516800	660900	721200	974300
TSS LBS/D	547950	711900	868100	1091900
PRIM INF. WITH RECYCLE				
BOD LBS/D 6 %	547808	700554	764472	1032758
TSS LBS/D 15 %	630143	818685	998315	1255685
PRIMARY TANKS				
# OF TANKS	48	48	48	48
# IN SERVICE	42	42	42	42
OVERFLOW RATES GPD/SGFT	551	1076	1333	1558
DETENTION TIME HRS	3.91	2.00	1.62	1.38
% REMOVALS (PILOT)				
BOD	34	28	22	20
TSS	56	46	42	35
PRIMARY EFFLUENT				
BOD LBS/D	361553	504399	596288	826206
TSS LBS/D	277263	442090	579023	816195
AERATION TANKAGE				
# OF BATTERY	2	2	2	2
# OF TANKS IN SERVICE	6	6	6	6
FLOW TO SECONDARY MGD	353	540	540	540
MLSS MG/L	2500	2500	2500	2500
MLVSS MG/L	2000	2000	2000	2000
F/MLVSS	0.8	0.88	0.84	0.99
SRT DAYS	1.4	1.3	1.4	1.1
HRT HRS	1.84	1.2	1.2	1.2
VOL LOAD LBS/1000CFT	100.1	109.4	104.4	123.8
SECONDARY CLARIFIERS				
# OF BATTERY	2	2	2	2
# OF CLARIFIERS	36	36	36	36
# IN SERVICE	32	32	32	32
MLSS MG/L	2500	2500	2500	2500
RETURN SLUDGE FLOW MGD	120	178	178	230
OVERFLOW RATE GPD/SGFT	814	1211	1211	1211
SOLIDS LOADING LBS/SGFT/D	22.6	33.6	33.6	36.0
ESTIMATED SEC EFFLUENT				
BOD MG/L	22	30	30	32
CBOD MG/L	18	25	25	27
TSS MG/L	24	36	36	36
BOD LBS/D	64768	135108	135108	144115
TSS LBS/D	70656	162130	162130	162130
PERCENT REMOVALS				
BOD	87.5%	73.9%	70.4%	72.7%
TSS	87.1%	70.9%	70.5%	72.6%
BLENDED EFFLUENT				
BOD MG/L	22	42	50	63
CBOD MG/L	18	35	41	52
TSS MG/L	24	45	53	64
BOD LBS/D	64768	244187	354352	523276
TSS LBS/D	70656	257734	375026	536696
PERCENT REMOVALS				
BOD	87%	63%	51%	46%
TSS	87%	64%	57%	51%

MWRA SMP SECONDARY STRATEGIES
STRATEGY M-2 TWO BATTERY SUMMARY
REVISED CRITERIA WITH PILOT PLANT PERFORMANCE
TYPICALIZED 1992 LOADINGS & SPRING 93

	AVG	MAX 30 DAY	MAX 7 DAY	MAX DAY
GRAVITY THICKNERS				
# OF UNITS	6	6	6	6
# IN SERVICE	5	5	5	5
PRIMARY SLUDGE LBS/D	352880	376595	419292	439490
SOLIDS LOADING LBS/SGFT/D	18.3	19.6	21.8	22.8
WAS CENTRIFUGES				
# OF UNITS	14	14	14	14
# IN SERVICE	9	8	9	10
FLOW RATE GPM	403	416	401	416
ANAEROBIC DIGESTORS				
TSL TO DIGESTION LBS/D	611939	608706	669571	732434
# OF PRIMARY DIGESTORS	12	12	12	12
LBS VSS / 1000 CFT	98.4	97.7	107.4	117.6
HRT DAYS	24.5	24.7	22.4	20.5
DIGESTED SLUDGE DTPD	175.7	175.1	192.7	210.5
SECONDARY DIGESTORS	2	2	2	2
SLUDGE STORAGE TANKS	2	2	2	2
	CONSTRUCTION COST \$ MILLION		POTENTIAL COST SAVING	
LIQUID TRAIN	\$958		\$228	
SLUDGE TRAIN	\$372		\$30	
SUPPORT FACILITY	\$1,170			

TOTAL CONSTRUCTION COST FOR DI WWTP	\$2,500		\$258	
	O & M COST \$ MILLION/ YR		POTENTIAL COST SAVING	
TOTAL ANNUAL O & M COST FOR DI WWTP	\$73.9		\$5.3	
NOTES:				
1) O & M COST BASED ON FY 1995 DOLLARS				

MWRA SMP SECONDARY STRATEGIES
STRATEGY M-2 CEPT + 2 BATTERY
REVISED CRITERIA WITH PILOT PLANT PERFORMANCE
TYPICALIZED 1992 LOADINGS & SPRING 93

	AVG	MAX 30 DAY	MAX 7 DAY	MAX DAY
DATE	TYP 1992	SPR 93	SPR 93	SPR 93
FLOW MGD	353	689	854	998
INFLUENT LOAD				
BOD LBS/D	516800	660900	721200	974300
TSS LBS/D	547950	711900	868100	1091900
PRIM INF. WITH RECYCLE				
BOD LBS/D 7.5 %	555560	710468	775290	1047373
TSS LBS/D 17.5 %	643841	836483	1020018	1282983
PRIMARY TANKS				
# OF TANKS	48	48	48	48
# IN SERVICE	42	42	42	42
OVERFLOW RATES GPD/SGFT	551	1076	1333	1558
DETENTION TIME HRS	3.91	2.00	1.62	1.38
% REMOVALS (PILOT)				
BOD	58	53	51	50
TSS	67	46	44	40
PRIMARY EFFLUENT				
BOD LBS/D	233335	333920	379892	523686
TSS LBS/D	212468	451701	571210	769790
AERATION TANKAGE				
# OF BATTERY	2	2	2	2
# OF TANKS IN SERVICE	6	6	6	6
FLOW TO SECONDARY MGD	353	540	540	540
MLSS MG/L	2000	2000	2000	2000
MLVSS MG/L	1600	1600	1600	1600
F/MLVSS	0.65	0.73	0.67	0.79
SRT DAYS	1.9	1.7	1.9	1.5
HRT HRS	1.84	1.2	1.2	1.2
VOL LOAD LBS/1000CFT	64.6	72.4	66.5	78.4
SECONDARY CLARIFIERS				
# OF BATTERY	2	2	2	2
# OF CLARIFIERS	36	36	36	36
# IN SERVICE	32	32	32	32
MLSS MG/L	2000	2000	2000	2000
RETURN SLUDGE FLOW MGD	116	178	178	230
OVERFLOW RATE GPD/SGFT	791	1211	1211	1211
SOLIDS LOADING LBS/SGFT/D	17.6	26.9	26.9	28.8
ESTIMATED SEC EFFLUENT				
BOD MG/L	21	29	28	30
CBOD MG/L	18	24	23	25
TSS MG/L	24	36	36	36
BOD LBS/D	61824	130604	126101	135108
TSS LBS/D	70656	162130	162130	162130
PERCENT REMOVALS				
BOD	88.0%	74.8%	72.3%	74.4%
TSS	87.1%	70.9%	70.5%	72.6%
BLENDED EFFLUENT				
BOD MG/L	21	35	37	45
CBOD MG/L	17	29	31	38
TSS MG/L	24	45	52	62
BOD LBS/D	61824	202816	265780	375437
TSS LBS/D	70656	259812	372153	515400
PERCENT REMOVALS				
BOD	88%	69%	63%	61%
TSS	87%	64%	57%	53%

MWRA SMP SECONDARY STRATEGIES
STRATEGY M-2 CEPT + 2 BATTERY
REVISED CRITERIA WITH PILOT PLANT PERFORMANCE
TYPICALIZED 1992 LOADINGS & SPRING 93

	AVG	MAX 30 DAY	MAX 7 DAY	MAX DAY
GRAVITY THICKNERS				
# OF UNITS	12	12	12	12
# IN SERVICE	11	11	11	11
PRIMARY SLUDGE LBS/D	460829	484097	581268	596468
SOLIDS LOADING LBS/SGFT/D	10.9	11.4	13.7	14.1
WAS CENTRIFUGES				
# OF UNITS	12	12	12	12
# IN SERVICE	5	3	2	4
FLOW RATE GPM	361	369	433	376
ANAEROBIC DIGESTORS				
TSL TO DIGESTION LBS/D	561157	525307	593416	658677
# OF PRIMARY DIGESTORS	12	12	12	12
LBS VSS / 1000 CFT	89.0	82.8	93.2	103.9
HRT DAYS	24.7	26.2	23.0	20.9
DIGESTED SLUDGE DTPD	162.8	153.1	173.3	191.8
SECONDARY DIGESTORS	2	2	2	2
SLUDGE STORAGE TANKS	2	2	2	2
	CONSTRUCTION COST \$ MILLION		POTENTIAL COST SAVING	
LIQUID TRAIN	\$958		\$220	
SLUDGE TRAIN	\$372		\$28	
SUPPORT FACILITY	\$1,170			

TOTAL CONSTRUCTION COST FOR DI WWTP	\$2,500		\$248	
	O & M COST \$ MILLION/ YR		POTENTIAL COST SAVING	
TOTAL ANNUAL O & M COST FOR DI WWTP	\$73.9		\$2.7	
NOTES:				
1) O & M COST BASED ON FY 1995 DOLLARS				

MWRA SMP SECONDARY STRATEGIES
STRATEGY M-2 - 2 & 2/3 BATTERY SUMMARY
REVISED CRITERIA WITH PILOT PLANT PERFORMANCE
TYPICALIZED 1992 LOADINGS & SPRING 93

	AVG	MAX 30 DAY	MAX 7 DAY	MAX DAY
DATE	TYP 1992	SPR 93	SPR 93	SPR 93
FLOW MGD	353	689	854	998
INFLUENT LOAD				
BOD LBS/D	516800	660900	721200	974300
TSS LBS/D	547950	711900	868100	1091900
PRIM INF. WITH RECYCLE				
BOD LBS/D 6 %	547808	700554	764472	1032758
TSS LBS/D 15 %	630143	818685	998315	1255685
PRIMARY TANKS				
# OF TANKS	48	48	48	48
# IN SERVICE	42	42	42	42
OVERFLOW RATES GPD/SGFT	551	1076	1333	1558
DETENTION TIME HRS	3.91	2.00	1.62	1.38
% REMOVALS (PILOT)				
BOD	34	28	22	20
TSS	56	46	42	35
PRIMARY EFFLUENT				
BOD LBS/D	361553	504399	596288	826206
TSS LBS/D	277263	442090	579023	816195
AERATION TANKAGE				
# OF BATTERYS	2 & 2/3	2 & 2/3	2 & 2/3	2 & 2/3
# OF TANKS IN SERVICE	8	8	8	8
FLOW TO SECONDARY MGD	353	689	720	720
MLSS MG/L	2500	2500	2500	2500
MLVSS MG/L	2000	2000	2000	2000
F/MLVSS	0.6	0.84	0.84	0.99
SRT DAYS	2.1	1.4	1.4	1.1
HRT HRS	2.45	1.25	1.2	1.2
VOL LOAD LBS/1000CFT	75.1	104.7	104.4	123.8
SECONDARY CLARIFIERS				
# OF BATTERYS	2 & 2/3	2 & 2/3	2 & 2/3	2 & 2/3
# OF CLARIFIERS	48	48	48	48
# IN SERVICE	42	42	42	42
MLSS MG/L	2500	2500	2500	2500
RETURN SLUDGE FLOW MGD	116	227	238	302
OVERFLOW RATE GPD/SGFT	603	1177	1230	1230
SOLIDS LOADING LBS/SGFT/D	16.7	32.6	34.1	36.4
ESTIMATED SEC EFFLUENT				
BOD MG/L	17	30	30	32
CBOD MG/L	14	25	25	27
TSS MG/L	18	36	36	36
BOD LBS/D	50048	172388	180144	192154
TSS LBS/D	52992	206865	216173	216173
PERCENT REMOVALS				
BOD	90.3%	73.9%	70.4%	72.7%
TSS	90.3%	70.9%	70.5%	72.6%
BLENDED EFFLUENT				
BOD MG/L	17	30	38	50
CBOD MG/L	14	25	32	42
TSS MG/L	18	36	43	53
BOD LBS/D	50048	172388	273707	419297
TSS LBS/D	52992	206865	307026	443530
PERCENT REMOVALS				
BOD	90%	74%	62%	57%
TSS	90%	71%	65%	59%

MWRA SMP SECONDARY STRATEGIES
STRATEGY M-2 - 2 & 2/3 BATTERY SUMMARY
REVISED CRITERIA WITH PILOT PLANT PERFORMANCE
TYPICALIZED 1992 LOADINGS & SPRING 93

	AVG	MAX 30 DAY	MAX 7 DAY	MAX DAY
GRAVITY THICKNERS				
# OF UNITS	6	6	6	6
# IN SERVICE	5	5	5	5
PRIMARY SLUDGE LBS/D	352880	376595	419292	439490
SOLIDS LOADING LBS/SGFT/D	18.3	19.6	21.8	22.8
WAS CENTRIFUGES				
# OF UNITS	16	16	16	16
# IN SERVICE	9	11	12	14
FLOW RATE GPM	381	386	401	396
ANAEROBIC DIGESTORS				
TSL TO DIGESTION LBS/D	595297	683142	766975	844731
# OF PRIMARY DIGESTORS	12	12	12	12
LBS VSS / 1000 CFT	95.7	110	123.6	136.3
HRT DAYS	25.2	22	19.6	17.8
DIGESTED SLUDGE DTPD	171.1	195.9	219.9	242.0
SECONDARY DIGESTORS	2	2	2	2
SLUDGE STORAGE TANKS	2	2	2	2
	CONSTRUCTION COST \$ MILLION		POTENTIAL COST SAVING	
LIQUID TRAIN	\$958		\$120	
SLUDGE TRAIN	\$372		\$27	
SUPPORT FACILITY	\$1,170			
TOTAL CONSTRUCTION COST FOR DI WWTP	\$2,500		\$147	
	O & M COST \$ MILLION/ YR		POTENTIAL COST SAVING	
TOTAL ANNUAL O & M COST FOR DI WWTP	\$73.9		\$4.9	
NOTES				
1) O & M COST BASED ON FY 1995 DOLLARS				

MWRA SMP SECONDARY STRATEGIES
STRATEGY M-2 THREE BATTERY SCENARIO
REVISED CRITERIA WITH PILOT PLANT PERFORMANCE
TYPICALIZED 1992 LOADINGS & SPRING 93

	AVG	MAX 30 DAY	MAX 7 DAY	MAX DAY
DATE	TYP 1992	SPR 93	SPR 93	SPR 93
FLOW MGD	353	689	854	998
INFLUENT LOAD				
BOD LBS/D	516800	660900	721200	974300
TSS LBS/D	547950	711900	868100	1091900
PRIM INF. WITH RECYCLE				
BOD LBS/D 6 %	547808	700554	764472	1032758
TSS LBS/D 15 %	630143	818685	998315	1255685
PRIMARY TANKS				
# OF TANKS	48	48	48	48
# IN SERVICE	42	42	42	42
OVERFLOW RATES GPD/SGFT	551	1076	1333	1558
DETENTION TIME HRS	3.91	2.00	1.62	1.38
% REMOVALS (PILOT)				
BOD	34	28	22	20
TSS	56	46	42	35
PRIMARY EFFLUENT				
BOD LBS/D	361553	504399	596288	826206
TSS LBS/D	277263	442090	579023	816195
AERATION TANKAGE				
# OF BATTERY S	3	3	3	3
# OF TANKS IN SERVICE	9	9	9	9
FLOW TO SECONDARY MGD	353	689	810	810
MLSS MG/L	2000	2500	2500	2500
MLVSS MG/L	1600	2000	2000	2000
F/MLVSS	0.67	0.75	0.84	0.99
SRT DAYS	1.9	1.5	1.4	1.1
HRT HRS	2.76	1.41	1.2	1.2
VOL LOAD LBS/1000CFT	66.7	93.1	104.4	123.8
SECONDARY CLARIFIERS				
# OF BATTERY S	3	3	3	3
# OF CLARIFIERS	54	54	54	54
# IN SERVICE	48	48	48	48
MLSS MG/L	2000	2500	2500	2500
RETURN SLUDGE FLOW MGD	120	230	267	346
OVERFLOW RATE GPD/SGFT	528	1030	1211	1211
SOLIDS LOADING LBS/SGFT/D	11.7	28.6	33.6	36.0
ESTIMATED SEC EFFLUENT				
BOD MG/L	16	26	30	32
CBOD MG/L	13	22	25	27
TSS MG/L	16	31	36	36
BOD LBS/D	47104	149403	202662	216173
TSS LBS/D	47104	178134	243194	243194
PERCENT REMOVALS				
BOD	90.9%	77.4%	69.9%	72.3%
TSS	91.4%	75.0%	70.0%	72.2%
BLENDED EFFLUENT				
BOD MG/L	16	26	33	45
CBOD MG/L	13	22	27	37
TSS MG/L	16	31	38	48
BOD LBS/D	47104	149403	233384	371811
TSS LBS/D	47104	178134	273027	396947
PERCENT REMOVALS				
BOD	91%	77%	68%	62%
TSS	91%	75%	69%	64%

MWRA SMP SECONDARY STRATEGIES
STRATEGY M-2 THREE BATTERY SCENARIO
REVISED CRITERIA WITH PILOT PLANT PERFORMANCE
TYPICALIZED 1992 LOADINGS & SPRING 93

	AVG	MAX 30 DAY	MAX 7 DAY	MAX DAY
GRAVITY THICKNERS				
# OF UNITS	6	6	6	6
# IN SERVICE	5	5	5	5
PRIMARY SLUDGE LBS/D	352880	376595	419292	439490
SOLIDS LOADING LBS/SGFT/D	18.3	19.6	21.8	22.8
WAS CENTRIFUGES				
# OF UNITS	16	16	16	16
# IN SERVICE	9	11	14	13
FLOW RATE GPM	388	386	386	480
ANAEROBIC DIGESTORS				
TSL TO DIGESTION LBS/D	600596	683142	815676	900879
# OF PRIMARY DIGESTORS	12	12	12	12
LBS VSS / 1000 CFT	96.5	110	131.7	145.6
HRT DAYS	25.0	22.0	18.4	16.7
DIGESTED SLUDGE DTPD	172.5	195.9	233.6	257.7
SECONDARY DIGESTORS	2	2	2	2
SLUDGE STORAGE TANKS	2	2	2	2
	CONSTRUCTION COST \$ MILLION	POTENTIAL COST SAVING		
LIQUID TRAIN	\$958	\$93		
SLUDGE TRAIN	\$372	\$27		
SUPPORT FACILITY	\$1,170			

TOTAL CONSTRUCTION COST FOR DI WWTP	\$2,500	\$120		
	O & M COST \$ MILLION/ YR	POTENTIAL COST SAVING		
TOTAL ANNUAL O & M COST FOR DI WWTP	\$73.9	\$4.3		
NOTES				
1) O & M COST BASED ON FY 1995 DOLLARS				

MWRA SMP SECONDARY STRATEGIES
STRATEGY M-2 THREE BATTERY SUMMARY
REVISED CRITERIA WITH PILOT PLANT PERFORMANCE
TYPICALIZED 1992 LOADINGS & SPRING 93 WITH 10% GROWTH

	AVG	MAX 30 DAY	MAX 7 DAY	MAX DAY
DATE	TYP 1992	SPR 93	SPR 93	SPR 93
FLOW MGD	383	719	884	1028
INFLUENT LOAD				
BOD LBS/D	566800	710900	771200	1024300
TSS LBS/D	597950	761900	918100	1141900
PRIM INF. WITH RECYCLE				
BOD LBS/D 6 %	600808	753554	817472	1085758
TSS LBS/D 15 %	687643	876185	1055815	1313185
PRIMARY TANKS				
# OF TANKS	48	48	48	48
# IN SERVICE	42	42	42	42
OVERFLOW RATES GPD/SGFT	598	1122	1380	1605
DETENTION TIME HRS	3.6	1.92	1.56	1.34
% REMOVALS (PILOT)				
BOD	34	27	20	20
TSS	56	46	40	35
PRIMARY EFFLUENT				
BOD LBS/D	396533	550094	653978	868606
TSS LBS/D	302563	473140	633489	853570
AERATION TANKAGE				
# OF BATTERY S	3	3	3	3
# OF TANKS IN SERVICE	9	9	9	9
FLOW TO SECONDARY MGD	383	719	810	810
MLSS MG/L	2500	2500	2500	2500
MLVSS MG/L	2000	2000	2000	2000
F/MLVSS	0.59	0.81	0.89	1.01
SRT DAYS	2.1	1.4	1.2	1.0
HRT HRS	2.54	1.35	1.2	1.2
VOL LOAD LBS/1000CFT	73.2	101.5	110.6	126.3
SECONDARY CLARIFIERS				
# OF BATTERY S	3	3	3	3
# OF CLARIFIERS	54	54	54	54
# IN SERVICE	48	48	48	48
MLSS MG/L	2500	2500	2500	2500
RETURN SLUDGE FLOW MGD	126	237	267	346
OVERFLOW RATE GPD/SGFT	572	1075	1211	1211
SOLIDS LOADING LBS/SGFT/D	15.9	29.8	33.6	36.0
ESTIMATED SEC EFFLUENT				
BOD MG/L	16	27	30	32
CBOD MG/L	13	23	25	27
TSS MG/L	17	32	36	36
BOD LBS/D	51108	161904	202662	216173
TSS LBS/D	54302	191887	243194	243194
PERCENT REMOVALS				
BOD	91.0%	77.2%	71.3%	73.2%
TSS	90.9%	74.8%	71.1%	73.0%
BLENDED EFFLUENT				
BOD MG/L	16	27	35	47
CBOD MG/L	13	22	29	39
TSS MG/L	17	32	40	49
BOD LBS/D	51108	161904	257407	400371
TSS LBS/D	54302	191887	296224	424204
PERCENT REMOVALS				
BOD	91%	77%	67%	61%
TSS	91%	75%	68%	63%

MWRA SMP SECONDARY STRATEGIES
STRATEGY M-2 THREE BATTERY SUMMARY
REVISED CRITERIA WITH PILOT PLANT PERFORMANCE
TYPICALIZED 1992 LOADINGS & SPRING 93 WITH 10% GROWTH

	AVG	MAX 30 DAY	MAX 7 DAY	MAX DAY
GRAVITY THICKNERS				
# OF UNITS	6	6	6	6
# IN SERVICE	5	5	5	5
PRIMARY SLUDGE LBS/D	385080	403045	422326	459615
SOLIDS LOADING LBS/SGFT/D	20	20.9	21.9	23.9
WAS CENTRIFUGES				
# OF UNITS	16	16	16	16
# IN SERVICE	10	12	14	14
FLOW RATE GPM	380	393	439	458
ANAEROBIC DIGESTORS				
TSL TO DIGESTION LBS/D	654580	745430	878702	933940
# OF PRIMARY DIGESTORS	14	14	14	14
LBS VSS / 1000 CFT	90.2	103	121.8	129.4
HRT DAYS	26.8	23.5	19.9	18.8
DIGESTED SLUDGE DTPD	188	213.7	251.3	267.2
SECONDARY DIGESTORS	2	2	2	2
SLUDGE STORAGE TANKS	2	2	2	2
	CONSTRUCTION COST \$ MILLION	POTENTIAL COST SAVING		
LIQUID TRAIN	\$958	\$93		
SLUDGE TRAIN	\$372	\$7		
SUPPORT FACILITY	\$1,170			

TOTAL CONSTRUCTION COST FOR DI WWTP	\$2,500	\$100		
	O & M COST \$ MILLION/ YR	POTENTIAL COST SAVING		
TOTAL ANNUAL O & M COST FOR DI WWTP	\$73.9			
NOTES:				
1) O & M COST BASED ON FY 1995 DOLLARS				

APPENDIX P
BASIC DESIGN DATA SHEETS
FOR
CSO STRATEGY M2
3-BATTERY SECONDARY ALTERNATIVE

- Stacked Rectangular Primary Clarifiers
- Pure Oxygen Activated Sludge System
- Stacked Rectangular Secondary Clarifiers
- Gravity Thickeners
- WAS Centrifuge System
- Anaerobic Digestion
- Effluent Performance Projection

**MWRA SMP WWTR ALTERNATIVES
STRATEGY M-2 THREE BATTERY
REVISED CRITERIA WITH PILOT REMOVALS
STACKED RECTANGULAR PRIMARY CLARIFIERS
USING TYP 1992 FLOWS & SPRING 93 PEAKS**

[illegible]

MWRA SMP WWTR ALTERNATIVES
STRATEGY M-2 THREE BATTERY
REVISED CRITERIA WITH PILOT REMOVALS
PURE OXYGEN ACTIVATED SLUDGE SYSTEM
USING TYP 1992 & SPRING 93

DESIGN CRITERIA	AVG	MAX 30 DAY	MAX 7 DAY	MAX DAY
INFLUENT FLOW MGD	353	689	854	998
FLOW TO SEC MGD	353	689	810	810
BOD MG/L	122.8	87.8	83.7	99.3
BOD LBS/D	361553	504399	565566	670568
PROCESS MODIFICATION				
AERATION TANK MLSS MG/L	2000	2500	2500	2500
PERCENT VSS	80	80	80	80
AERATION TANK MLVSS MG/L	1600	2000	2000	2000
DESIRED F/MLVSS	0.67	0.75	0.84	1.00
REQUIRED MLVSS LBS	539631	672532	673293	670568
TOTAL VOLUME REQUIRED				
MIL. GALLONS	40.4	40.3	40.4	40.2
CUBIC FT.	5406417	5390329	5396427	5374588
VOLUMETRIC LOADING				
LBS BOD/1000 CFT.	67	94	105	125
FINAL DESIGN DATA ANAEROBIC SELECTOR				
NUMBER OF TANKS	9	9	9	9
NUMBER OF STAGES	2	2	2	2
LENGTH FT	70	70	70	70
WIDTH FT	43.00	43.00	43.00	43.00
DEPTH FT	23.5	23.5	23.5	23.5
UNIT VOLUME CFT	70735	70735	70735	70735
TOTAL VOLUME CFT	1273230	1273230	1273230	1273230
TOTAL VOLUME MGALS	9.52	9.52	9.52	9.52
DETENTION TIME MINUTES	38.9	19.9	16.9	16.9
AERATION TANKAGE				
NUMBER OF TANKS	9	9	9	9
NUMBER OF STAGES/TANK	4	4	4	4
AVERAGE TANK DEPTH FT.	23.50	23.50	23.50	23.50
WIDTH OF STAGE FT.	70	70	70	70
LENGTH OF STAGE FT.	70	70	70	70
OVER-ALL TANK DIMENSIONS				
WIDTH FT.	70	70	70	70
LENGTH FT.	280	280	280	280
UNIT VOLUME CFT	460600	460600	460600	460600
UNIT VOLUME GALLONS	3445288	3445288	3445288	3445288
TOTAL VOLUME CFT	4145400	4145400	4145400	4145400
TOTAL VOLUME GALLONS	31007592	31007592	31007592	31007592
NUMBER OF TANKS IN SERVICE	9	9	9	9
VOLUME IN SERVICE GALS.	31007592	31007592	31007592	31007592
VOLUME SELECTOR + AERATION	40531352.4	40531352.4	40531352.4	40531352.4
DETENTION TIME HRS	2.76	1.41	1.20	1.20
VOLUMETRIC LOADING				
LBS BOD/1000 CFT.	66.7	93.1	104.4	123.8
MLSS CONC. MG/L	2000	2500	2500	2500
TOTAL MLSS LBS	676063	845079	845079	845079
PERCENT VSS	80	80	80	80
MLVSS CONC. MG/L	1600	2000	2000	2000
TOTAL MLVSS LBS	540850	676063	676063	676063
F/MLVSS	0.67	0.75	0.84	0.99
SRT DAYS	1.9	1.5	1.4	1.1
LBS TSS/LB BOD APPL	1	1.1	1.1	1.2
SLUDGE YIELD LBS/D	361553	554839	622122	804682
SEC EFFL TSS MG/L	16	31	36	36
SEC EFFL LBS/D	47104	172388	135108	243194
WAS PRODUCTION LBS/D	314449	382451	487014	561487
NOTES:				
1) VOLUME CALCULATIONS INCLUDE SELECTOR VOLUMES				
2) SELECTOR TANKS COMMONWALLED WITH AERATION REACTORS				
3) LOADING BASED ON 1992 TYP YR AND SPRING 93 PEAKS				
4) SLUDGE YIELD FACTORS AND EFFL PERF NEED TO BE CONFIRMED BY PILOTING				

MWRA SMP WWTR ALTERNATIVES
STRATEGY M-2 THREE BATTERY
REVISED CRITERIA WITH PILOT REMOVALS
STACKED RECTANGULAR SECONDARY CLARIFIERS
USING TYP 1992 & SPRING 93

	AVG	MAX 30 DAY	MAX 7 DAY	MAX DAY	MAX HR
DESIGN CRITERIA					
INFLUENT FLOW MGD	353	689	854	998	
FLOW TO SEC MGD	353	689	810	810	810
OVERFLOW RATE GPD/SQ. FT.	550	1050	1200	1200	1200
TOTAL AREA REQD. SQ. FT.	641818	656190	675000	675000	675000
FINAL DESIGN DATA					
# OF TANKS INSTALLED	54	54	54	54	54
# OF TANKS IN SERVICE	48	48	48	48	48
UNIT AREA REQD. SQ. FT.	13371	13671	14063	14063	14063
WIDTH FT.	41.0	41.0	41.0	41.0	41.0
CALC. LENGTH FT.	326	333	343	343	343
TOP LENGTH	160	160	160	160	160
BOTTOM LENGTH	180	180	180	180	180
DESIGN LENGTH FT.	340	340	340	340	340
CHANNEL WIDTH	20.5	20.5	20.5	20.5	20.5
# OF CHANNELS PER TANK	2	2	2	2	2
DEPTH FT	13	13	13	13	13
UNIT AREA SQ.FT	13940	13940	13940	13940	13940
TOTAL AREA SQ. FT	669120	669120	669120	669120	669120
UNIT VOLUME CFT.	181220	181220	181220	181220	181220
TOTAL VOLUME CFT	8698560	8698560	8698560	8698560	8698560
TOTAL VOLUME GAL	65065229	65065229	65065229	65065229	65065229
OVERFLOW RATES GPD/SQFT					
AT FLOW RATE	528	1030	1211	1211	1211
DETENTION TIME HRS					
AT FLOW RATE	4.42	2.27	1.93	1.93	1.93
SOLIDS LOADING RATE					
MLSS MG/L	2000	2500	2500	2500	2500
Q + R MGD	469	916	1077	1156	1156
LBS/SQ FT/D	11.7	28.6	33.6	36.0	36.0
RETURN SLUDGE RATE MGD	116	227	267	346	346
RAS PUMPS					
# INSTALLED	81	81	81	81	81
# SERVICE	48	48	48	48	48
CAPACITY MGD	7.20	7.20	7.20	7.20	7.20
TOTAL OPERATING AVAILABLE	346	346	346	346	346
NOTES:					
1) RETURN SLUDGE PUMPING ORIGINALLY BASED ON 15 TO 75 % MONTHLY AVG					
2) AVG RSL RATE ASSUMED TO BE 33 % WITH RSL = 8000 MG/L					

MWRA SMP WWTR ALTERNATIVES
STRATEGY M-2 THREE BATTERY
PILOT PLANT REMOVALS
GRAVITY THICKENERS
USING TYP 1992 LOADS & SPRING 93 PEAKS

	AVG	MAX 30 DAY	MAX 7 DAY	MAX DAY
DESIGN CRITERIA				
INFLUENT FLOW MGD	353	689	854	998
SLUDGE FEED LBS/D				
PRIMARY	352880	376595	419292	439490
BIOLOGICAL	0	0	0	0
TOTAL	352880	376595	419292	439490
SOLIDS LOADING				
LBS/SQ. FT/HR	0.83	1.04	1.25	1.25
LBS/SQ. FT/DAY *	20	25	30	30
TOTAL AREA REQD SQ FT	17644	15064	13976	14650
HYDRAULIC LOADING GPD/SQFT	600	600	600	600
FINAL DESIGN				
NUMBER OF TANKS	6	6	6	6
NUMBER IN SERVICE	5	5	5	5
UNIT AREA REQUIRED SQ. FT.	3529	3013	2795	2930
CALC. TANK DIA.FT	67.0	61.9	59.6	61
AVAILABLE DIA. FT.	70	70	70	70
UNIT AREA SQ. FT.	3851	3851	3851	3851
TOTAL AREA IN SERVICE	19257	19257	19257	19257
DEPTH FT.	12	12	12	12
UNIT VOLUME CFT	231084	231084	231084	231084
TOTAL VOLUME CFT	1155420	1155420	1155420	1155420
SOLIDS LOADING LBS /SQFT/D				
AVERAGE	18.3	19.6	21.8	22.8
REQD. TOTAL FLOW GPD	11554200	11554200	11554200	11554200
AVERAGE SLUDGE FEED LBS/D				
PRIMARY SLUDGE	352880	376595	419292	439490
FEED CONC. %TS *	2	2	2	2
FLOW RATE GPD	2115588	2257764	2513741	2634832
TOTAL SLUDGE FLOW GPD	2115588	2257764	2513741	2634832
DILUTION WATER REQD.				
GPD	9438612	9296436	9040459	8919368
GPM	6555	6456	6278	6194
% CAPTURE *	90	90	90	90
THICKENED SLUDGE LBS/D	317592	338936	377363	395541
% TS *	5	5	5	5
TSL FLOW GPD	761612	812795	904947	948540

MWRA SMP WWTR ALTERNATIVES
STRATEGY M-2
PILOT PLANT REMOVALS
WAS CENTRIFUGE SYSTEM
USING TYP 1992 FLOWS & SPRING 93 PEAKS

DESIGN CRITERIA	AVG	MAX 30 DAY	MAX 7 DAY	MAX DAY
INFLUENT FLOW	353	689	854	998
SOLIDS LOADINGS LBS				
TOTAL/D	314449	382451	487014	561487
TOTAL/WK	2201143	2677157	3409098	
FEED SOLIDS %TS *	0.75	0.75	0.75	0.75
FEED RATE GALS				
AVERAGE DAY	5027162	6114325	7785995	8976611
AVERAGE WEEK	35190135	42800271	54501966	
DESIRED OPERATING SCHEDULE				
HRS/D	24	24	24	24
DAYS/WK	7	7	7	
HRS/WK	168	168	168	
REQUIRED CAPACITY				
LBS/HR	13102	15935	20292	23395
GALS/HR	209465	254764	324416	374025
GPM	3491	4246	5407	6234
UNIT CAPACITY GPM	400	400	400	500
NUMBER OF UNITS	8.7	10.6	13.5	12.5
FINAL DESIGN DATA				
NUMBER OF UNITS	16	16	16	16
NUMBER IN SERVICE	9	11	14	13
UNIT CAPACITY GPM	388	386	386	480
TOTAL CAPACITY GPM	3491	4246	5407	6234
UNIT CAPACITY LBS /HR	1456	1449	1449	1800
TOTAL CAPACITY LBS/HR				
WITH 2 STANDBY	20381	20281	20292	25195
OPERATING PERIOD HRS/WK				
TOTAL - 2 UNITS	108.0	132.0	168.0	156.0
NOTES:				
1) BASED ON WAS AT 0.75 %				
2) WOULD BE POSSIBLE TO REDUCE NUMBER OF UNITS INSTALLED FROM				
20 TO 16 UNITS IF YIELDS AND GOOD SETTLING PROVEN				
3) ASSUMES LOW LEVELS OF SECONDARY SCUM				

MWRA SMP WWTR ALTERNATIVES
STRATEGY M-2 THREE BATTERY
PILOT REMOVALS
ANAEROBIC DIGESTION
USING TYP 1992 LOADS & SPRING 93

	AVG	MAX 30 DAY	MAX 7 DAY	MAX DAY
DESIGN CRITERIA				
FLOW CONDITION MGD	353	689	854	998
THICKENED PRIM SLUDGE LBS/D	317592	338936	377363	395541
THICKENED BIOL SLUDGE LBS/D	283004	344206	438313	505338
TOTAL SLUDGE LBS/D	600596	683142	815676	900879
TOTAL VOLATILE SOLIDS				
PRIMARY SLUDGE % VSS	75	75	75	75
AVG. VSS LBS/D	238194	254202	283022	296656
BIOLOGICAL SOLIDS % VSS	80	80	80	80
AVG. VSS LBS/D	226403	275365	350650	404271
TOTAL VSS LBS/D	464597	529567	633672	700926
SLUDGE FEED RATE GPD				
PRIMARY % TSS	5.0	5.0	5.0	5.0
FLOW RATE GPD	761612	812796	904947	948540
BIOLOGICAL % TSS	5.0	5.0	5.0	5.0
FLOW RATE GPD	678667	825434	1051109	1211842
TOTAL GPD	1440278	1638230	1956057	2160382
DETENTION TIME REQD	20	15	15	15
VOLUME REQUIRED GALS	28805568	24573450	29340849	32405730
VOLUME REQD CFT	3851012	3285221	3922573	4332317
VOLUMETRIC LOADING				
LBS VSS/1000 CFT *	100	125	125	150
VOLUME REQD. CFT	4645973	4236534	5069379	4672843
FINAL DESIGN PRIMARY				
NUMBER OF TANKS	12	12	12	12
DIAMETER FT	90	90	90	90
SIDEWATER DEPTH FT	128	128	128	128
UNIT VOLUME MGAL	3	3	3	3
TOTAL VOLUME MGAL	36	36	36	36
TOTAL VOL CFT	4812834	4812834	4812834	4812834
HRT DAYS	25.0	22.0	18.4	16.7
VOLATILE SOLIDS LOADING	96.5	110.0	131.7	145.6
VSS % REDUCTION *	55	55	55	55
VSS DESTROYED LBS/D	255529	291262	348520	385510
GAS PRODUCED @15 CFT/LB VSS	3832928	4368925	5227797	5782643
DIGESTED SLUDGE LBS/D	345068	391880	467156	515370
DIGESTED SLUDGE DTPD	172.5	195.9	233.6	257.7
DIGESTED SLUDGE STORAGE				
NUMBER OF TANKS	2	2	2	2
DIAMETER FT	90	90	90	90
SIDEWATER DEPTH FT	128	128	128	128
UNIT VOLUME MGAL	3	3	3	3
TOTAL VOLUME MGAL	6	6	6	6
DETENTION TIME DAYS	4.2	3.7	3.1	2.8
TOTAL VOLUME MGAL	42	42	42	42
TOTAL DETENTION TIME	29.2	25.6	21.5	19.4

MWRA SMP WWTR ALTERNATIVES
STRATEGY M-2 THREE BATTERY
REVISED CRITERIA AND PILOT PLANT RESULTS
EFFLUENT PERFORMANCE PROJECTION
USING 1992 TYP YR FLOWS & SPRING 93 PEAKS

	AVG	MAX 30 DAY	MAX 7 DAY	MAX DAY
DATE	TYP 92	SPR 93	SPR 93	SPR 93
FLOW, MGD	353	689	854	998
INFLUENT LOADS LBS/D				
BOD	516800	660900	721200	974300
TSS	547950	711900	868100	1091900
INFLUENT CONC MG/L				
BOD	175.5	115.0	101.3	117.1
TSS	186.1	123.9	121.9	131.2
PRIMARY INFL + RECYCLE LBS/D				
BOD 6 %	547808	700554	764472	1032758
TSS 15 %	630143	818685	998315	1255685
PRIMARY INFL + RECYCLE MG/L				
BOD	186	122	107	124
TSS	214	142	140	151
PRIMARY REMOVAL PERCENTAGE				
BOD	34	28	22	20
TSS	56	46	42	35
PRIMARY EFFLUENT LOADS LBS/D				
BOD	361553	504399	596288	826206
TSS	277263	442090	579023	816195
PRIMARY EFFL CONC MG/L				
BOD	123	88	84	99
TSS	94	77	81	98
SECONDARY EFFLUENT				
BOD MG/L	16	26	30	32
CBOD MG/L	13	22	25	27
TSS MG/L	16	31	36	36
BOD LBS/D	47104	149403	202662	216173
TSS LBS/D	47104	178134	243194	243194
PLANT PERCENT REMOVALS				
BOD	91%	77%	70%	73%
TSS	91%	75%	70%	73%
BYPASS FLOWS AT				
FLOW MGD			44	188
BOD LBS/D			30722	155638
TSS LBS/D			29833	153752
BLENDED EFFLUENT				
FLOW MGD	353	689	854	998
BOD LOAD LBS/D	47104	149403	233384	371811
TSS LOAD LBS/D	47104	178134	273027	396947
BOD CONC MG/L	16	26	33	45
TSS CONC MG/L	16	31	38	48
CBOD CONC MG/L	13	22	27	37
PERCENT REMOVALS TOTAL PLANT				
BOD	91%	77%	68%	62%
TSS	91%	75%	69%	64%
NOTES:				
1) PILOT PLANT REMOVALS ACROSS PRIMARY SETTLING				
2) ASSUMED SEC EFFLUENT SHOULD BE ADJUSTED FOR PILOT RESULTS				

APPENDIX Q
BASIC DESIGN DATA SHEETS
FOR
CSO STRATEGY M2
2 2/3-BATTERY SECONDARY ALTERNATIVE

- Stacked Rectangular Primary Clarifiers
- Pure Oxygen Activated Sludge System
- Stacked Rectangular Secondary Clarifiers
- Gravity Thickeners
- WAS Centrifuge System
- Anaerobic Digestion
- Effluent Performance Projection

MWRA SMP WWTR ALTERNATIVES
STRATEGY M-2 2 & 2/3 BATTERY
REVISED CRITERIA WITH PILOT REMOVALS
STACKED RECTANGULAR PRIMARY CLARIFIERS
USING TYP 1992 FLOWS & SPRING 93 PEAKS

	AVG	MAX 30 DAY	MAX 7 DAY	MAX DAY
YEAR	TYP 92	SPR 93	SPR 93	SPR 93
DESIGN CRITERIA				
FLOW, MGD	353	689	854	998
OVERFLOW RATE GPD/SQ. FT.	600	1100	1350	1600
TOTAL AREA REQD. SQ. FT.	588333	626364	632593	623750
INFLUENT LOADS LBS/D				
BOD	516800	660900	721200	974300
TSS	547950	711900	868100	1091900
INFLUENT CONC MG/L				
BOD	175.5	115.0	101.3	117.1
TSS	186.1	123.9	121.9	131.2
PRIMARY INFL WITH RECYCLE				
BOD 6 %	547808	700554	764472	1032758
TSS 15 %	630143	818685	998315	1255685
FINAL DESIGN DATA USING EXISTING				
# OF TANKS INSTALLED	48	48	48	48
# OF TANKS IN SERVICE	42	42	42	42
UNIT AREA REQD. SQ. FT.	14008	14913	15062	14851
WIDTH FT.	41.0	41.0	41.0	41.0
CALC. LENGTH FT.	342	364	367	362
TOP LENGTH	181	181	181	181
BOTTOM LENGTH	191	191	191	191
DESIGN LENGTH FT.	372	372	372	372
CHANNEL WIDTH	20.5	20.5	20.5	20.5
# OF CHANNELS PER TANK	2	2	2	2
DEPTH FT	12	12	12	12
UNIT AREA SQ.FT	15252	15252	15252	15252
TOTAL AREA SQ. FT	640584	640584	640584	640584
UNIT VOLUME CFT.	183024	183024	183024	183024
TOTAL VOLUME CFT	7687008	7687008	7687008	7687008
TOTAL VOLUME GAL	57498820	57498820	57498820	57498820
OVERFLOW RATES GPD/SQFT				
AT FLOW RATE	551	1076	1333	1558
DETENTION TIME HRS				
AVERAGE FLOW	3.91	2.00	1.62	1.38
% REMOVALS BASED ON PILOT				
BOD	34	28	22	20
TSS	56	46	42	35
EFFLUENT LOADS LBS/D				
BOD	361553	504399	596288	826206
TSS	277263	442090	579023	816195
PRIMARY EFFL CONC MG/L				
BOD	123	88	84	99
TSS	94	77	81	98
SLUDGE REMOVAL				
LBS/D	352880	376595	419292	439490
% SOLIDS ASSUMED	2	2	2	2
SLUDGE FLOW GPD	2115586	2257764	2513743	2634831
SLUDGE FLOW GPM	1469	1568	1746	1830
SLUDGE PUMPS				
# INSTALLED	72	72	72	72
# SERVICE	48	48	48	48
CAPACITY GPM	120	120	120	120
SCUM PUMPS				
# INSTALLED	14	14	14	14
UNIT CAPACITY GPM	450	450	450	450
NOTES:				
1) ANNUAL AVG FLOW AND LOAD FROM TYP 1992				
2) MAX LOADS FROM SPRING OF 1993 WITH ADJUSTMENT FOR ADDED CSO LOADS				
3) ASSUMED PILOT PLANT REMOVALS ACROSS PRIMARY SETTLING				

MWRA SMP WWTR ALTERNATIVES
STRATEGY M-2 2 & 2/3 BATTERY
REVISED CRITERIA WITH PILOT REMOVALS
PURE OXYGEN ACTIVATED SLUDGE SYSTEM
USING TYP 1992 & SPRING 93

	AVG	MAX 30 DAY	MAX 7 DAY	MAX DAY
DESIGN CRITERIA				
INFLUENT FLOW MGD	353	689	854	998
FLOW TO SEC MGD	353	689	720	720
BOD MG/L	122.8	87.8	83.7	99.3
BOD LBS/D	361553	504399	502725	596060
PROCESS MODIFICATION				
AERATION TANK MLSS MG/L	2500	2500	2500	2500
PERCENT VSS	80	80	80	80
AERATION TANK MLVSS MG/L	2000	2000	2000	2000
DESIRED F/MLVSS	0.60	0.84	0.84	1.00
REQUIRED MLVSS LBS	602588	600475	598482	596060
TOTAL VOLUME REQUIRED				
MIL. GALLONS	36.1	36.0	35.9	35.7
CUBIC FT.	4829732	4812794	4796824	4777412
VOLUMETRIC LOADING				
LBS BOD/1000 CFT.	75	105	105	125
FINAL DESIGN DATA	ANAEROBIC SELECTOR			
NUMBER OF TANKS	8	8	8	8
NUMBER OF STAGES	2	2	2	2
LENGTH FT	70	70	70	70
WIDTH FT	43.00	43.00	43.00	43.00
DEPTH FT	23.5	23.5	23.5	23.5
UNIT VOLUME CFT	70735	70735	70735	70735
TOTAL VOLUME CFT	1131760	1131760	1131760	1131760
TOTAL VOLUME MGALS	8.47	8.47	8.47	8.47
DETENTION TIME MINUTES	34.5	17.7	16.9	16.9
	AERATION TANKAGE			
NUMBER OF TANKS	8	8	8	8
NUMBER OF STAGES/TANK	4	4	4	4
AVERAGE TANK DEPTH FT.	23.50	23.50	23.50	23.50
WIDTH OF STAGE FT.	70	70	70	70
LENGTH OF STAGE FT.	70	70	70	70
OVER-ALL TANK DIMENSIONS				
WIDTH FT.	70	70	70	70
LENGTH FT.	280	280	280	280
UNIT VOLUME CFT	460600	460600	460600	460600
UNIT VOLUME GALLONS	3445288	3445288	3445288	3445288
TOTAL VOLUME CFT	3684800	3684800	3684800	3684800
TOTAL VOLUME GALLONS	27562304	27562304	27562304	27562304
NUMBER OF TANKS IN SERVICE	8	8	8	8
VOLUME IN SERVICE GALS.	27562304	27562304	27562304	27562304
VOLUME SELECTOR + AERATION	36027868.8	36027868.8	36027868.8	36027868.8
DETENTION TIME HRS	2.45	1.25	1.20	1.20
VOLUMETRIC LOADING				
LBS BOD/1000 CFT.	75.1	104.7	104.4	123.8
MLSS CONC. MG/L	2500	2500	2500	2500
TOTAL MLSS LBS	751181	751181	751181	751181
PERCENT VSS	80	80	80	80
MLVSS CONC. MG/L	2000	2000	2000	2000
TOTAL MLVSS LBS	600945	600945	600945	600945
F/MLVSS	0.60	0.84	0.84	0.99
SRT DAYS	2.1	1.4	1.4	1.1
LBS TSS/LB BOD APPL	1	1.1	1.1	1.2
SLUDGE YIELD LBS/D	361553	554839	552998	715273
SEC EFFL TSS MG/L	18	36	36	36
SEC EFFL LBS/D	52992	172387.8	120096	216173
WAS PRODUCTION LBS/D	308561	382451	432902	499100
NOTES:				
1) VOLUME CALCULATIONS INCLUDE SELECTOR VOLUMES				
2) SELECTOR TANKS COMMONWALLED WITH AERATION REACTORS				
3) LOADING BASED ON 1992 TYP YR AND SPRING 93 PEAKS				
4) SLUDGE YIELD FACTORS AND EFFL PERF NEED TO BE CONFIRMED BY PILOTING				

MWRA SMP WWTR ALTERNATIVES
STRATEGY M-2 2 & 2/3 BATTERY
REVISED CRITERIA WITH PILOT REMOVALS
STACKED RECTANGULAR SECONDARY CLARIFIERS
USING TYP 1992 & SPRING 93

	AVG	MAX 30 DAY	MAX 7 DAY	MAX DAY
DESIGN CRITERIA				
INFLUENT FLOW MGD	353	689	854	998
FLOW TO SEC MGD	353	689	720	720
OVERFLOW RATE GPD/SQ. FT.	600	1200	1200	1200
TOTAL AREA REQD. SQ. FT.	588333	574167	600000	600000
FINAL DESIGN DATA				
# OF TANKS INSTALLED	48	48	48	48
# OF TANKS IN SERVICE	42	42	42	42
UNIT AREA REQD. SQ. FT.	14008	13671	14286	14286
WIDTH FT.	41.0	41.0	41.0	41.0
CALC. LENGTH FT.	342	333	348	348
TOP LENGTH	160	160	160	160
BOTTOM LENGTH	180	180	180	180
DESIGN LENGTH FT.	340	340	340	340
CHANNEL WIDTH	20.5	20.5	20.5	20.5
# OF CHANNELS PER TANK	2	2	2	2
DEPTH FT	13	13	13	13
UNIT AREA SQ.FT	13940	13940	13940	13940
TOTAL AREA SQ. FT	585480	585480	585480	585480
UNIT VOLUME CFT.	181220	181220	181220	181220
TOTAL VOLUME CFT	7611240	7611240	7611240	7611240
TOTAL VOLUME GAL	56932075	56932075	56932075	56932075
OVERFLOW RATES GPD/SQFT AT FLOW RATE	603	1177	1230	1230
DETENTION TIME HRS AT FLOW RATE	3.87	1.98	1.90	1.90
SOLIDS LOADING RATE				
MLSS MG/L	2500	2500	2500	2500
Q + R MGD	469	916	958	1022
LBS/SQ FT/D	16.7	32.6	34.1	36.4
RETURN SLUDGE RATE MGD	116	227	238	302
RAS PUMPS				
# INSTALLED	72	72	72	72
# SERVICE	42	42	42	42
CAPACITY MGD	7.20	7.20	7.20	7.20
TOTAL OIAVAILABLE	302	302	302	302
NOTES:				
1) RETURN SLUDGE PUMPING ORIGINALLY BASED ON 15 TO 75 % MONTHLY AVG				
2) AVG RSL RATE ASSUMED TO BE 33 % WITH RSL = 8000 MG/L				

MWRA SMP WWTR ALTERNATIVES
STRATEGY M-2 2 & 2/3 BATTERY
PILOT PLANT REMOVALS
GRAVITY THICKENERS
USING TYP 1992 LOADS & SPRING 93 PEAKS

	AVG	MAX 30 DAY	MAX 7 DAY	MAX DAY
DESIGN CRITERIA				
INFLUENT FLOW MGD	353	689	854	998
SLUDGE FEED LBS/D				
PRIMARY	352880	376595	419292	439490
BIOLOGICAL	0	0	0	0
TOTAL	352880	376595	419292	439490
SOLIDS LOADING				
LBS/SQ. FT/HR	0.83	1.04	1.25	1.25
LBS/SQ. FT/DAY *	20	25	30	30
TOTAL AREA REQD SQ FT	17644	15064	13976	14650
HYDRAULIC LOADING GPD/SQFT	600	600	600	600
FINAL DESIGN				
NUMBER OF TANKS	6	6	6	6
NUMBER IN SERVICE	5	5	5	5
UNIT AREA REQUIRED SQ. FT.	3529	3013	2795	2930
CALC. TANK DIA.FT	67.0	61.9	59.6	61
AVAILABLE DIA. FT.	70	70	70	70
UNIT AREA SQ. FT.	3851	3851	3851	3851
TOTAL AREA IN SERVICE	19257	19257	19257	19257
DEPTH FT.	12	12	12	12
UNIT VOLUME CFT	231084	231084	231084	231084
TOTAL VOLUME CFT	1155420	1155420	1155420	1155420
SOLIDS LOADING LBS /SQFT/D				
AVERAGE	18.3	19.6	21.8	22.8
REQD. TOTAL FLOW GPD	11554200	11554200	11554200	11554200
AVERAGE SLUDGE FEED LBS/D				
PRIMARY SLUDGE	352880	376595	419292	439490
FEED CONC. %TS *	2	2	2	2
FLOW RATE GPD	2115588	2257764	2513741	2634832
TOTAL SLUDGE FLOW GPD	2115588	2257764	2513741	2634832
DILUTION WATER REQD.				
GPD	9438612	9296436	9040459	8919368
GPM	6555	6456	6278	6194
% CAPTURE *	90	90	90	90
THICKENED SLUDGE LBS/D	317592	338936	377363	395541
% TS *	5	5	5	5
TSL FLOW GPD	761612	812795	904947	948540

MWRA SMP WWTR ALTERNATIVES
STRATEGY M-2 2 & 2/3 BATTERY
PILOT PLANT REMOVALS
WAS CENTRIFUGE SYSTEM
USING TYP 1992 FLOWS & SPRING 93 PEAKS

	AVG	MAX 30 DAY	MAX 7 DAY	MAX DAY
DESIGN CRITERIA				
INFLUENT FLOW	353	689	854	998
SOLIDS LOADINGS LBS				
TOTAL/D	308561	382451	432902	499100
TOTAL/WK	2159927	2677157	3030314	
FEED SOLIDS %TS *	0.75	0.75	0.75	0.75
FEED RATE GALS				
AVERAGE DAY	4933030	6114325	6920895	7979217
AVERAGE WEEK	34531207	42800271	48446266	
DESIRED OPERATING SCHEDULE				
HRS/D	24	24	24	24
DAYS/WK	7	7	7	
HRS/WK	168	168	168	
REQUIRED CAPACITY				
LBS/HR	12857	15935	18038	20796
GALS/HR	205543	254764	288371	332467
GPM	3426	4246	4806	5541
UNIT CAPACITY GPM	400	400	400	400
NUMBER OF UNITS	8.6	10.6	12.0	13.9
FINAL DESIGN DATA				
NUMBER OF UNITS	16	16	16	16
NUMBER IN SERVICE	9	11	12	14
UNIT CAPACITY GPM	381	386	401	396
TOTAL CAPACITY GPM	3426	4246	4806	5541
UNIT CAPACITY LBS /HR	1429	1449	1503	1485
TOTAL CAPACITY LBS/HR WITH 2 STANDBY	19999	20281	21044	20796
OPERATING PERIOD HRS/WK				
TOTAL – 2 UNITS	108.0	132.0	144.0	168.0
NOTES:				
1) BASED ON WAS AT 0.75 %				
2) WOULD BE POSSIBLE TO REDUCE NUMBER OF UNITS INSTALLED FROM 20 TO 16 UNITS IF YIELDS AND GOOD SETTLING PROVEN				
3) ASSUMES LOW LEVELS OF SECONDARY SCUM				

MWRA SMP WWTR ALTERNATIVES
STRATEGY M-2 2 & 2/3 BATTERY
PILOT REMOVALS
ANAEROBIC DIGESTION
USING TYP 1992 LOADS & SPRING 93 PEAKS

	AVG	MAX 30 DAY	MAX 7 DAY	MAX DAY
DESIGN CRITERIA				
FLOW CONDITION MGD	353	689	854	998
THICKENED PRIM SLUDGE LBS/D	317592	338936	377363	395541
THICKENED BIOL SLUDGE LBS/D	277705	344206	389612	449190
TOTAL SLUDGE LBS/D	595297	683142	766975	844731
TOTAL VOLATILE SOLIDS				
PRIMARY SLUDGE % VSS	75	75	75	75
AVG. VSS LBS/D	238194	254202	283022	296656
BIOLOGICAL SOLIDS % VSS	80	80	80	80
AVG. VSS LBS/D	222164	275365	311689	359352
TOTAL VSS LBS/D	460358	529567	594712	656008
SLUDGE FEED RATE GPD				
PRIMARY % TSS	5.0	5.0	5.0	5.0
FLOW RATE GPD	761612	812796	904947	948540
BIOLOGICAL % TSS	5.0	5.0	5.0	5.0
FLOW RATE GPD	665959	825434	934321	1077194
TOTAL GPD	1427571	1638230	1839268	2025734
DETENTION TIME REQD	20	15	15	15
VOLUME REQUIRED GALS	28551410	24573450	27589022	30386007
VOLUME REQD CFT	3817033	3285221	3688372	4062300
VOLUMETRIC LOADING				
LBS VSS/1000 CFT *	100	125	125	150
VOLUME REQD. CFT	4603579	4236534	4757694	4373385
FINAL DESIGN PRIMARY				
NUMBER OF TANKS	12	12	12	12
DIAMETER FT	90	90	90	90
SIDEWATER DEPTH FT	128	128	128	128
UNIT VOLUME MGAL	3	3	3	3
TOTAL VOLUME MGAL	36	36	36	36
TOTAL VOL CFT	4812834	4812834	4812834	4812834
HRT DAYS	25.2	22.0	19.6	17.8
VOLATILE SOLIDS LOADING	95.7	110.0	123.6	136.3
VSS % REDUCTION *	55	55	55	55
VSS DESTROYED LBS/D	253197	291262	327091	360804
GAS PRODUCED @15 CFT/LB VSS	3797953	4368925	4906371	5412064
DIGESTED SLUDGE LBS/D	342100	391880	439883	483927
DIGESTED SLUDGE DTPD	171.1	195.9	219.9	242.0
DIGESTED SLUDGE STORAGE				
NUMBER OF TANKS	2	2	2	2
DIAMETER FT	90	90	90	90
SIDEWATER DEPTH FT	128	128	128	128
UNIT VOLUME MGAL	3	3	3	3
TOTAL VOLUME MGAL	6	6	6	6
DETENTION TIME DAYS	4.2	3.7	3.3	3.0
TOTAL VOLUME MGAL	42	42	42	42
TOTAL DETENTION TIME	29.4	25.6	22.8	20.7

MWRA SMP WWTR ALTERNATIVES
STRATEGY M-2 2 & 2/3 BATTERY
REVISED CRITERIA AND PILOT PLANT RESULTS
EFFLUENT PERFORMANCE PROJECTION
USING 1992 TYP YR FLOWS & SPRING 93 PEAKS

	AVG	MAX 30 DAY	MAX 7 DAY	MAX DAY
DATE	TYP 92	SPR 93	SPR 93	SPR 93
FLOW, MGD	353	689	854	998
INFLUENT LOADS LBS/D				
BOD	516800	660900	721200	974300
TSS	547950	711900	868100	1091900
INFLUENT CONC MG/L				
BOD	175.5	115.0	101.3	117.1
TSS	186.1	123.9	121.9	131.2
PRIMARY INFL + RECYCLE LBS/D				
BOD 6 %	547808	700554	764472	1032758
TSS 15 %	630143	818685	998315	1255685
PRIMARY INFL + RECYCLE MG/L				
BOD	186	122	107	124
TSS	214	142	140	151
PRIMARY REMOVAL PERCENTAGE				
BOD	34	28	22	20
TSS	56	46	42	35
PRIMARY EFFLUENT LOADS LBS/D				
BOD	361553	504399	596288	826206
TSS	277263	442090	579023	816195
PRIMARY EFFL CONC MG/L				
BOD	123	88	84	99
TSS	94	77	81	98
SECONDARY EFFLUENT				
BOD MG/L	17	30	30	32
CBOD MG/L	14	25	25	26
TSS MG/L	18	36	36	36
SECONDARY EFFLUENT				
BOD LBS/D	50048	172388	180144	189151
TSS LBS/D	52992	206865	216173	216173
SECONDARY PLANT PERCENT REMOVALS				
BOD	90%	74%	70%	73%
TSS	90%	71%	70%	73%
BYPASS FLOWS AT				
FLOW MGD			134	278
BOD LBS/D			93563	230146
TSS LBS/D			90854	227357
BLENDED EFFLUENT				
FLOW MGD	353	689	854	998
BOD LOAD LBS/D	50048	172388	273707	419297
TSS LOAD LBS/D	52992	206865	307026	443530
BOD CONC MG/L	17	30	38	50
TSS CONC MG/L	18	36	43	53
CBOD CONC MG/L	14	25	32	42
PERCENT REMOVALS TOTAL PLANT				
BOD	90%	74%	62%	57%
TSS	90%	71%	65%	59%
NOTES:				
1) PILOT PLANT REMOVALS ACROSS PRIMARY SETTLING				
2) ASSUMED SEC EFFLUENT SHOULD BE ADJUSTED FOR PILOT RESULTS				