



# Appendix 1

Table 1 - 1	2003 Parameter Average-Minimum-Maximum	Quantitative and measured data
Table 1 - 2	2003 Parameter Maximum	Quantitative data
Table 1 - 3	2003 Parameter Frequency	Quantitative and measured data
Table 1 - 4	2003 Parameter Frequency	Qualitative data
Table 1 - 5	2003 Parameter E. Coli	Quantitative data

City of Pacific Grove Urban Watch Storm Drain Monitoring Program  
Date Results June-October 2003

# Appendix 2

Table 2 - 1, 2      2003 Field Data

Represents all data collected on all field visits.

City of Pacific Grove Urban Watch Storm Drain Monitoring Program  
Data Results June-October      2003

**Urban Watch Positive Results Average-Min-Max  
Table**

**Summary Table 1**

	<b>Detergent Avg ppm</b>	<b>Min</b>	<b>Max</b>	<b>Ammonia Nitrogen Avg ppm</b>	<b>Min</b>	<b>Max</b>	<b>Chlorine Avg ppm</b>	<b>Min</b>	<b>Max</b>	<b>E.coli MPN/100ml</b>	<b>Min</b>	<b>Max</b>
8th Street	0.65	0.2	2.5	0.70	0.20	2.00	0.0	0.0	0.0	1331	200	2560
Central & 13th	0.3	0.2	0.5	0.94	0.10	4.00	0.3	0.2	0.4	10010	2400	24000
Lover's Point	0.27	0.2	0.6	0.10	0.10	0.10	0.2	0.2	0.2	8472	1090	39900
Pico	0.18	0.1	0.2	0.10	0.10	0.10	0.0	0.0	0.0	60	9	146
Congress 1	0.7	0.2	1.2	0.19	0.10	0.50	0.6	0.2	1.0	374	5	2400

	<b>pH Avg.</b>	<b>Min</b>	<b>Max</b>	<b>Air Temp Avg.</b>	<b>Min</b>	<b>Max</b>	<b>Water Temp Avg.</b>	<b>Min</b>	<b>Max</b>
8th Street	7.3	7.0	7.5	19.25	15.5	25.6	18.7	17.9	20.3
Central & 13th	7.3	7.0	7.5	18.35	15.1	23.4	17.4	15.5	19.4
Lover's Point	7.5	7.0	8.0	18.4	14.8	26.3	18.4	16.9	19.7
Pico	7.1	7.0	7.5	19.16	14.4	26.1	16.38	13.8	20.1
Congress 1	7.5	7.0	7.5	18.6	13.9	24.5	19.8	17.0	22.5

	<b>Conductivity Avg. (uS)</b>	<b>Min</b>	<b>Max</b>	<b>Flow Width Avg</b>	<b>Min</b>	<b>Max</b>	<b>Flow Depth Avg</b>	<b>Min</b>	<b>Max</b>
8th Street	2206	1500	2800	17.95	12.0	44.0	0.86	0.1	2.4
Central & 13th	1687	1490	2000	51	30.0	73.0	0.76	0.2	1.5
Lover's Point	1989	1700	2600	23.5	2.0	30.0	1.07	0.5	2.5
Pico	1229	900	1500	19.35	8.0	24.0	0.67	0.2	1.5
Congress 1	1851	1000	2300	11.96	10.0	15.0	0.63	0.3	1.5

**Urban Watch Monitoring Maximum Values****Summary Table 2**

	<b>Ammonia Nitrogen (ppm)</b>	<b>Chlorine (ppm)</b>	<b>Copper (ppm)</b>	<b>Detergents (ppm)</b>
8th Street	2.00	0.00	0.00	2.50
Central & 13th	4.00	0.40	0.00	0.50
Lover's Point	0.50	0.20	0.00	0.60
Pico	0.25	0.00	0.00	0.20
Congress 1	2.00	1.00	0.00	1.20

## Urban Watch Monitoring Frequency Values

Summary Table  
3

	Detergents (ppm)	Ammonia Nitrogen (ppm)
8th Street	11 of 19	5 of 20
Central & 13th	9 of 20	3 of 20
Lover's Point	7 of 20	3 of 20
Pico	4 of 20	3 of 20
Congress 1	11 of 20	7 of 20

	Copper (ppm)	Chlorine (ppm)	Presence of flow
8th Street	0 of 20	0 of 20	20 of 20
Central & 13th	0 of 20	2 of 20	20 of 20
Lover's Point	0 of 20	1 of 20	20 of 20
Pico	0 of 20	0 of 20	20 of 20
Congress 1	0 of 20	9 of 20	20 of 20

	Conductivity (uS)	Turbidity (>Low)
8th Street	15 of 20	1 of 20
Central & 13th	1 of 20	0 of 20
Lover's Point	10 of 20	0 of 20
Pico	0 of 20	0 of 20
Congress 1	6 of 20	0 of 20

Turbidity visual assessment (Low/Med/High)

Conductivity "frequency" refers to the number of times over detectable range of meter, 1999 microS.

Example of how to read these values: "7 of 8" detergents were detected 7 times of the 8 visits to Site X.

**Urban Watch Monitoring Frequency Values****Summary Table 4**

	<b>trash</b>	<b>sewage</b>
8th Street	12 of 20	0 of 18
Central & 13th	20 of 20	0 of 20
Lover's Point	13 of 20	1 of 20
Pico	4 of 20	1 of 20
Congress 1	18 of 20	0 of 20

	<b>oil sheen</b>	<b>surface scum</b>
8th Street	1 of 20	2 of 20
Central & 13th	0 of 20	7 of 20
Lover's Point	0 of 20	1 of 20
Pico	0 of 20	2 of 20
Congress 1	0 of 20	6 of 20

	<b>odor</b>	<b>color</b>
8th Street	0 of 14	1 of 20
Central & 13th	0 of 20	0 of 20
Lover's Point	0 of 20	0 of 20
Pico	0 of 20	0 of 20
Congress 1	0 of 20	0 of 20

Example of how to read these values: "7 of 8" detergents were detected 7 times of the 8 visits to Site X.

**Urban Watch E. coli Monitoring Results (MPN/100ml)**

	<b>8th Street</b>	<b>Central&amp; 13th Street</b>	<b>Lover's Point</b>	<b>Pico</b>	<b>Congress</b>
6/25/2003	816	> 2400	1990	8.5	> 2400
7/16/2003	2063	> 24,000	2302	63	121
7/23/2003	1450	16,160	9330	146	102
8/5/2003	1070	2430	39,900	< 100	200
8/18/2003	200	16,160	1090		<200
9/11/2003	310	7270	6867		< 10
9/22/2003	2180	12,960	2590	63	30
10/14/2003	2560	9070	3410	30	31

SiteTag	DateTime	RAIND	DEPTH	WIDTH (inches)	WIDTH_wetted (inches)	AIR_TEMP (deg C)	H2O_TEMP (deg C)	CONDUCTIVITY (microSiemens)	PH	DETERGENT (ppm)	CHLORINE (ppm)	COPPER (ppm)	AMMONIA (ppm)	TURBIDITY	ODOR	COLOR	TCOLI (MPN/100 ml)	ECOLI (MPN/100 ml)
PGSD1	6/17/2003 18:15	0	2.5	24	45	16.3	17.9	1900	7.0	0.05	0.10	0.0	0.10	Low	0	BCS93		
PGSD1	6/19/2003 17:35	0	1.0	24	30	17.4	17.9	1900	7.5	0.05	0.10	0.0	0.25	Low	0	BCS93		
PGSD1	6/25/2003 14:25																>2400	816.0
PGSD1	7/1/2003 18:10	0	0.8	14	37	17.2	18.6	2000	7.5	2.90	0.20	0.0	0.25	Low	0	BCS93		
PGSD1	7/3/2003 17:45	0	2.0	27	47	16.6	19.6	1910	7.5	0.30	0.10	0.0	0.05	Low	0	BCS93		
PGSD1	7/16/2003 18:12	0	1.5	21	32	17.5	18.4	2100	7.5	0.70	0.10	0.0	0.05	Low	0	BCS93		
PGSD1	7/16/2003 18:19																>24,000	24000.0
PGSD1	7/20/2003 10:50	0	1.0	12	26	25.6	19.9	1800	7.0	2.50	0.10	0.0	0.05	Low	0	BCS93		
PGSD1	7/23/2003 14:37																22820.0	1450.0
PGSD1	7/29/2003 17:36	0	0.5	16	23	18.3	18.5	2300	7.5	0.20	0.10	0.0	0.05	Low	0	BCS93		
PGSD1	7/30/2003 17:28	0	1.0	12	32	21.8	19.0	2300	7.0	0.20	0.10	0.0	0.05	Low	0	BCS93		
PGSD1	8/5/2003 0:00																129,970	1070.0
PGSD1	8/11/2003 18:20	0	1.2	19	23	19.8	20.3	2800	7.5		0.10	0.0	0.10	Low	0	BCS93		
PGSD1	8/15/2003 18:15	0	0.5	14	30	18.7	19.0	2600	7.0	0.20	0.10	0.0	0.10	Low	0	BCS93		
PGSD1	8/18/2003 16:44																39680.0	200.0
PGSD1	8/27/2003 17:50	0	1.0	17	25	19.2	20.1	2200	7.0	0.70	0.10	0.0	0.05	Low	0	BCS93		
PGSD1	9/10/2003 15:32	0	0.5	16	22	22.0	19.8	2400	7.5	0.05	0.10	0.0	0.05	Low	0	BCS93		
PGSD1	9/11/2003 16:12	0	0.7	15	28	24.0	20.0	2300	7.5	0.30	0.10	0.0	0.05	Low	0	BCS93	46110.0	310.0
PGSD1	9/22/2003 10:55																43520.0	2180.0
PGSD1	9/23/2003 15:12	0	0.1	14	23	21.3	18.9	2500	7.5	0.20	0.10	0.0	0.05	Low	0	BCS93		
PGSD1	9/24/2003 15:17	0	0.1	15	23	21.7	19.2	2400	7.0	0.05	0.10	0.0	0.05	Low	0	BCS93		
PGSD1	10/8/2003 16:10	0	0.3	18	25	17.4	17.4	2300	7.5	1.50	0.10	0.0	2.00	Medium	0	BCS60		
PGSD1	10/9/2003 16:55	0	1.5	17	28	17.9	17.7	2500	7.5	0.30	0.10	0.0	0.05	Low	0	BCS93		
PGSD1	10/14/2003 10:55																240000.0	2560.0
PGSD1	10/20/2003 14:00	0	0.2	16	24	18.0	16.5	2100	7.5	0.20	0.10	0.0	0.05	Low	0	BCS93		
PGSD1	10/21/2003 14:12	0	0.2	13	21	15.1	15.5	2300	7.0	0.30	0.10	0.0	0.05	Low	0	BCS93		
PGSD1	8/26/2003 18:58	0	0.5	15	23	19.1	19.8	1500	7.5	0.30	0.10	0.0	0.05	Low	0	BCS93		
PGSD2	6/17/2003 17:55	0	1.0	40	90	16.2	16.0	1700	7.5	0.05	0.10	0.0	0.10	Low	0	BCS93		
PGSD2	6/19/2003 17:20	0	0.5	47	60	15.8	15.7	1500	7.0	0.05	0.10	0.0	0.05	Low	0	BCS93		
PGSD2	6/25/2003 14:30																>2400	2400.0



PGSD3	8/26/2003 18:19	0	1.0	30	38	18.3	19.3	1900	7.5	0.05	0.10	0.0	0.05	Low	0	BCS93		
PGSD3	8/27/2003 18:03	0	1.0	26	34	17.4	18.9	1900	7.5	0.05	0.10	0.0	0.05	Low	0	BCS93		
PGSD3	9/10/2003 16:05	0	1.0	11	12	20.7	19.4	1900	7.5	0.05	0.10	0.0	0.05	Low	0	BCS93		
PGSD3	9/11/2003 16:40	0	1.5	22	37	26.3	19.3	2100	7.5	0.05	0.10	0.0	0.05	Low	0	BCS93	>24,000	6867.0
PGSD3	9/22/2003 11:30																32550.0	2590.0
PGSD3	9/23/2003 15:35	0	1.0	26	29	18.0	19.0	2000	8.0	0.05	0.10	0.0	0.05	Low	0	BCS93		
PGSD3	9/24/2003 15:40	0	0.5	25	30	19.3	19.1	2000	7.5	0.20	0.10	0.0	0.05	Low	0	BCS93		
PGSD3	10/8/2003 16:42	0	0.5	30	32	15.8	18.0	2000	7.0	0.05	0.10	0.0	0.05	Low	0	BCS93		
PGSD3	10/9/2003 16:30	0	1.0	25	34	15.5	17.6	2300	7.5	0.05	0.10	0.0	0.05	Low	0	BCS93		
PGSD3	10/14/2003 10:45																22240.0	3410.0
PGSD3	10/20/2003 14:36	0	0.8	28	31	15.6	17.3	2600	7.0	0.05	0.10	0.0	0.05	Low	0	BCS93		
PGSD3	10/21/2003 14:45	0	0.9	30	33	14.8	16.9	1900	7.5	0.05	0.10	0.0	0.05	Low	0	BCS93		
PGSD4	6/17/2003 18:25	0	1.0	23	29	16.4	15.9	1500	7.0	0.05	0.10	0.0	0.05	Low	0	BCS93		
PGSD4	6/19/2003 18:00	0	1.0	20	28	15.8	15.6	1550	7.0	0.05	0.10	0.0	0.05	Low	0	BCS93		
PGSD4	6/25/2003 14:45																1120.0	8.5
PGSD4	7/1/2003 17:30	0	1.0	23	28	19.4	16.8	1410	7.5	0.20	0.10	0.0	0.10	Low	0	BCS93		
PGSD4	7/3/2003 18:35	0	0.5	23	28	15.7	14.8	1470	7.5	0.10	0.00	0.0	0.10	Low	0	BCS93		
PGSD4	7/16/2003 18:20	0	1.0	13	25	26.1	17.5	1400	7.0	0.20	0.10	0.0	0.05	Low	0	BCS93		
PGSD4	7/16/2003 18:20																1120.0	63.0
PGSD4	7/20/2003 11:00	0	1.0	12	27	17.6	14.8	1400	7.0	0.05	0.10	0.0	0.05	Low	0	BCS93		
PGSD4	7/23/2003 13:59																1515.0	146.0
PGSD4	7/29/2003 17:30	0	1.5	22	28	22.5	15.6	1400	7.0	0.05	0.10	0.0	0.05	Low	0	BCS93		
PGSD4	7/30/2003 17:27	0	1.0	22	30	17.0	15.6	1400	7.0	0.05	0.10	0.0	0.05	Low	0	BCS93		
PGSD4	8/5/2003 0:00																4500.0	50.0
PGSD4	8/11/2003 18:05	0	0.2	22	27	18.6	16.4	1200	7.0	0.05	0.10	0.0	0.05	Low	0	BCS93		
PGSD4	8/15/2003 17:50	0	0.2	24	30	22.6	18.6	1100	7.0	0.05	0.10	0.0	0.05	Low	0	BCS93		
PGSD4	8/26/2003 17:45	0	0.5	8	22	16.9	20.1	1120	7.0	0.05	0.10	0.0	0.05	Low	0	BCS93		
	8/27/2003 18:40	0	0.5	24	27	20.1	16.5	1180	7.0	0.10	0.10	0.0	0.10	Low	0	BCS93		
PGSD4	9/10/2003 16:33	0	0.5	13	26	25.1	18.9	1080	7.0	0.05	0.10	0.0	0.05	Low	0	BCS93		
PGSD4	9/11/2003 15:40	0	0.5	21	27	23.6	16.8	1000	7.0	0.05	0.10	0.0	0.05	Low	0	BCS93		
PGSD4	9/22/2003 11:45																4106.0	63.0
PGSD4	9/23/2003 15:15	0	1.0	17	26	21.4	17.0	1070	7.0	0.05	0.10	0.0	0.05	Low	0	BCS93		
PGSD4	9/24/2003 15:10	0	0.5	23	27	21.2	17.0	1100	7.0	0.05	0.10	0.0	0.05	Low	0	BCS93		
PGSD4	10/8/2003 15:20	0	0.5	24	29	18.4	15.6	1100	7.0	0.05	0.10	0.0	0.05	Low	0	BCS93		
PGSD4	10/9/2003 16:20	0	0.3	22	27	14.4	13.8	900	7.0	0.05	0.10	0.0	0.05	Low	0	BCS93		
PGSD4	10/14/2003 10:55																889.0	30.0
PGSD4	10/20/2003 15:15	0	0.3	15	21	15.2	15.3	1100	7.0	0.05	0.10	0.0	0.05	Low	0	BCS93		

PGSD4	10/21/2003 14:35	0	0.4	16	20	15.2	15.0	1100	7.0	0.05	0.10	0.0	0.05	Low	0	BCS93		
PGSD5	6/25/2003 14:50																>2400	219.0
PGSD5	9/22/2003 12:05																19863.0	712.0
PGSD6	6/17/2003 18:00	0	1.1	15	16	15.1	19.4	2200	7.5	0.05	0.10	0.0	0.05	Low	0	BCS93		
PGSD6	6/19/2003 17:30	0	1.0	12	12	16.6	19.1	2300	7.0	0.05	0.10	0.0	0.05	Low	0	BCS93		
PGSD6	6/25/2003 14:57																>2400	2400.0
PGSD6	7/1/2003 18:00	0	1.5	13	14	17.4	20.3	1660	7.5	0.05	0.10	0.0	0.25	Low	0	BCS93		
PGSD6	7/3/2003 17:35	0	1.0	12	13	15.6	20.3	1780	7.5	0.50	0.20	0.0		Low	0	BCS93		
PGSD6	7/16/2003 18:00	0	0.5	10	12	16.7	21.5	1900	7.0	1.20	0.10	0.0	0.05	Low	0	BCS93		
PGSD6	7/16/2003 18:00																>2400	121.0
PGSD6	7/20/2003 10:32	0	1.0	12	14	21.0	18.5	2100	7.5	0.05	0.10	0.0	0.05	Low	0	BCS93		
PGSD6	7/23/2003 13:52																90863.0	102.0
PGSD6	7/29/2003 17:45	0	0.4	11	13	18.9	17.0	2200	7.5	0.05	0.10	0.0	0.05	Low	0	BCS93		
PGSD6	7/30/2003 18:48	0		13	16	16.8	18.6	2300	7.5	0.05	0.10	0.0	0.10	Low	0	BCS93		
PGSD6	8/5/2003 0:00																18920.0	200.0
PGSD6	8/11/2003 18:22	0	0.4	13	19	19.6	20.7	1100	7.5	0.05	0.10	0.0	0.05	Low	0	BCS93		
PGSD6	8/15/2003 18:08	0	0.5	11	14	22.7	22.2	1800	7.5	0.05	0.10	0.0	0.10	Low	0	BCS93		
PGSD6	8/18/2003 16:10																3680.0	100.0
PGSD6	8/26/2003 18:10	0	0.5	13	16	20.2	21.1	1860	7.5	0.05	0.10	0.0	0.05	Low	0	BCS93		
PGSD6	8/27/2003 17:55	0	0.5	11	14	23.0	21.2	1900	7.5	0.05	0.60	0.0	0.10	Low	0	BCS93		
PGSD6	9/10/2003 16:49	0	0.3	13	14	22.4	22.5	1830	7.5	0.05	0.60	0.0	0.05	Low	0	BCS93		
PGSD6	9/11/2003 15:55	0	0.5	12	13	24.5	20.1	1900	7.5	0.20	0.80	0.0	0.05	Low	0	BCS93	384.0	<10
PGSD6	9/22/2003 12:20																8130.0	30.0
PGSD6	9/23/2003 15:40	0	1.0	11	13	20.3	20.7	1780	7.5	0.05	0.80	0.0	0.05	Low	0	BCS93		
PGSD6	9/24/2003 15:25	0	0.5	11	12	19.8	20.3	2000	7.5	0.05	0.20	0.0	0.05	Low	0	BCS93		
PGSD6	10/8/2003 15:33	0	0.3	13	14	17.2	19.0	1900	7.5	0.05	1.00	0.0	0.20	Low	0	BCS93		
PGSD6	10/9/2003 16:35	0	0.5	12	16	15.5	17.9	1000	7.5	0.05	0.20	0.0	0.05	Low	0	BCS93		
PGSD6	10/14/2003 10:55																>24,000	31.0
PGSD6	10/20/2003 15:35	0	0.3	11	13	15.3	17.8	1800	7.5	0.05	0.40	0.0	0.05	Low	0	BCS93		
PGSD6	10/21/2003 14:55	0	0.3	11	14	13.9	17.9	1700	7.5	0.05	0.40	0.0	0.05	Low	0	BCS93		