2010 Water Quality Table

	B	C	D	F	G	H					I
						Treatment Plant Effluent					
	Parameter	Units	State MCL [MRDL]	PHG (MCLG) [MRDLG]	Range Average	Weymouth Plant	Diemer Plant	Jensen Plant	Skinner Plant	Mills Plant	Major Sources in Drinking Water
A	Percent State Project Water	%	NA	NA	Range **Average**	2 - 41 25	3 - 35 21	100 100	3 - 36 24	100 100	NA
E	**PRIMARY STANDARDS - Mandatory Health-Related Standards**										
	CLARITY										
	Combined Filter Effluent Turbidity	NTU %	0.3 95 (a)	NA	Highest **% < 0.3**	0.05 100	0.08 100	0.05 100	0.05 100	0.10 100	Soil runoff
	MICROBIOLOGICAL										
	Total Coliform Bacteria (b)	%	5.0	(0)	Range **Average**	**Distribution System-wide:** **Distribution System-wide:**	ND - 0.3 0.1				Naturally present in the environment
	Heterotrophic Plate Count (HPC) (c)	CFU/mL	TT	NA	Range **Average**	**Distribution System-wide:** **Distribution System-wide:**	TT TT				Naturally present in the environment
	ORGANIC CHEMICALS										
	Acrylamide	NA	TT	(0)	Range **Average**	TT TT	TT TT	TT TT	TT TT	TT TT	Water treatment chemical impurities
	Epichlorohydrin	NA	TT	(0)	Range **Average**	TT TT	TT TT	TT TT	TT TT	TT TT	Water treatment chemical impurities
	INORGANIC CHEMICALS										
	Aluminum (d)	ppb	1,000	600	Range **Highest RAA**	ND - 200 170	66 - 230 170	56 - 100 82	ND ND	ND - 130 110	Residue from water treatment process; natural deposits erosion
	Arsenic	ppb	10	0.004	Range **Highest RAA**	ND - 2.7 2.2	ND - 2.8 2.3	2.5 - 3.2 3.2	ND ND	ND - 3.1 2.7	Natural deposits erosion; glass and electronics production wastes
	Barium	ppb	1,000	2,000	Range **Average**	ND - 130 110	ND - 120 110	ND ND	ND - 120 110	ND ND	Oil and metal refineries discharge; natural deposits erosion
					Control Range **Optimal Fluoride Level**	0.7 - 1.3 0.8	0.7 - 1.3 0.8	0.7 - 1.3 0.8	0.7 - 1.3 0.8	0.6 - 1.2 0.7	
	Fluoride (e) (treatment-related)	ppm	2.0	1	Range Range	0.7 - 1.0 0.8 **Distribution System-wide:**	0.4 - 1.0 0.8 0.4 - 1.0	0.7 - 0.9 0.8	0.6 - 1.0 0.8	0.5 - 0.9 0.7	Water additive for dental health
	Nitrate (as N) (f)	ppm	10	10	Range **Highest RAA**	ND - 0.4 ND	ND ND	0.5 - 0.7 0.6	ND ND	ND - 0.9 0.6	Runoff and leaching from fertilizer use; sewage; natural deposits erosion
	RADIONUCLIDES (g)										
	Gross Alpha Particle Activity	pCi/L	15	(0)	Range **Average**	ND - 7.6 5.2	3.8 - 9.3 5.6	ND - 7.3 3.4	3.3 - 4.3 3.6	ND - 5.5 ND	Erosion of natural deposits
	Gross Beta Particle Activity (h)	pCi/L	50	(0)	Range **Average**	ND - 9.7 4.2	ND - 6.4 4.3	ND - 5.2 ND	ND - 8.8 ND	ND - 7.5 ND	Decay of natural and man-made deposits
	Uranium	pCi/L	20	0.43	Range **Average**	2.4 - 3.4 2.9	2.9 - 3.7 3.3	1.6 - 2.0 1.8	2.3 - 2.7 2.5	1.5 - 2.8 2.1	Erosion of natural deposits
	DISINFECTION BY-PRODUCTS, DISINFECTANT RESIDUALS, AND DISINFECTION BY-PRODUCTS PRECURSORS (i)										
	Total Trihalomethanes (TTHM) (j)	ppb	80	NA	Range **Average**	26 - 65 44	28 - 58 42	15 - 26 20	20 - 45 30	14 - 47 22	By-product of drinking water chlorination
	Total Trihalomethanes (TTHM) (j)	ppb	80	NA	Range **Highest RAA**	**Distribution System-wide:** **Distribution System-wide:**	12 - 86 41				By-product of drinking water chlorination
	Haloacetic Acids (five) (HAA5) (k)	ppb	60	NA	Range **Average**	8.1 - 24 15	9.3 - 19 13	3.1 - 4.5 3.7	9.3 - 18 12	4.1 - 8.6 6.0	By-product of drinking water chlorination
	Haloacetic Acids (five) (HAA5) (k)	ppb	60	NA	Range **Highest RAA**	**Distribution System-wide:** **Distribution System-wide:**	1.6 - 38 13				By-product of drinking water chlorination
	Total Chlorine Residual	ppm	[4.0]	[4.0]	Range **Highest RAA**	**Distribution System-wide:** **Distribution System-wide:**	1.2 - 2.9 2.3				Drinking water disinfectant added for treatment
	Bromate (l)	ppb	10	0.1	Range **Highest RAA**	NA NA	NA NA	ND - 11 7.2	ND - 6.1 NA	ND - 13 7.7	By-product of drinking water ozonation
	DBP Precursor Control (TOC)	ppm	TT	NA	Range **Average**	TT TT	TT TT	TT TT	TT TT	TT TT	Various natural and man-made sources
E	**SECONDARY STANDARDS - Aesthetic Standards**										
	Aluminum (d)	ppb	200	600	Range **Highest RAA**	ND - 200 170	66 - 230 170	56 - 100 82	ND ND	ND - 130 110	Residue from water treatment process; natural deposits erosion
	Chloride	ppm	500	NA	Range **Highest RAA**	84 - 94 93	83 - 93 93	67 - 80 79	88 - 98 96	52 - 88 78	Runoff/leaching from natural deposits; seawater influence
	Color	Units	15	NA	Range **Highest RAA**	1 1	1 - 2 1	1 - 2 1	1 1	1 2	Naturally occurring organic materials
	Manganese	ppb	50	NL = 500	Range **Average**	ND ND	ND ND	ND ND	ND ND	ND - 35 20	Leaching from natural deposits
	Odor Threshold (m)	TON	3	NA	Range **Average**	2 2	2 2	3 3	**19 - 35** **25**	2 2	Naturally occurring organic materials
	Specific Conductance	µS/cm	1,600	NA	Range **Highest RAA**	460 - 1,000 950	460 - 1,000 970	500 - 570 580	720 - 1,000 940	390 - 540 530	Substances that form ions in water; seawater influence
	Sulfate	ppm	500	NA	Range **Highest RAA**	160 - 250 210	160 - 240 230	55 - 65 63	160 - 240 210	27 - 54 52	Runoff/leaching from natural deposits; industrial wastes
	Total Dissolved Solids (TDS)	ppm	1,000	NA	Range **Highest RAA**	470 - 630 570	470 - 610 590	290 - 320 330	480 - 610 560	230 - 270 290	Runoff/leaching from natural deposits; seawater influence
	Turbidity (a)	NTU	5	NA	Range **Highest RAA**	0.03 - 0.06 0.05	0.03 - 0.16 0.04	0.03 - 0.08 0.04	0.03 - 0.06 0.05	0.04 - 0.09 0.06	Soil runoff

ABBREVIATIONS AND DEFINITIONS

CFU/mL	Colony-Forming Units per milliliter	pCi/L	picoCuries per liter
DBP	Disinfection By-Products	PHG	Public Health Goal - The level of a contaminant in drinking water below which there is no known or expected risk to health. PHGs are set by the California Environmental Protection Agency.
MCL	Maximum Contaminant Level - The highest level of a contaminant that is allowed in drinking water. Primary MCLs are set as close to the PHGs (or MCLGs) as is economically and technologically feasible. Secondary MCLs are set to protect the odor, taste, and appearance of drinking water.	ppb	parts per billion or micrograms per liter (µg/L)
		ppm	parts per million or milligrams per liter (mg/L)
MCLG	Maximum Contaminant Level Goal - The level of a contaminant in drinking water below which there is no known or expected risk to health. MCLGs are set by the U.S. Environmental Protection Agency (USEPA).	RAA	Running Annual Average: highest RAA is the highest of all RAAs calculated as the average of all samples collected within a twelve-month period. In some cases, the RAA may exceed the highest value in the range because of data from 2009 used in the RAA calculation.
MRDL	Maximum Residual Disinfectant Level - The highest level of a disinfectant allowed in drinking water. There is convincing evidence that addition of a disinfectant is necessary for control of microbial contaminants.	TOC	Total Organic Carbon
MRDLG	Maximum Residual Disinfectant Level Goal - The level of a drinking water disinfectant below which there is no known or expected risk to health. MRDLGs do not reflect the benefits of the use of disinfectants to control microbial contaminants.	TON	Threshold Odor Number
N	Nitrogen	TT	Treatment Technique - A required process intended to reduce the level of a contaminant in drinking water.
NA	Not Applicable	µS/cm	microSiemen per centimeter; or micromho per centimeter (µmho/cm)
ND	Not Detected	Primary Standards (Primary Drinking Water Standards) - MCLs and MRDLs for contaminants that affect health along with their monitoring and reporting requirements, and water treatment requirements.	
NL	Notification Level		
NTU	Nephelometric Turbidity Units	Secondary Standards - Requirements that ensure the appearance, taste and smell of drinking water are acceptable.	

FOOTNOTES

(a) The turbidity level of the filtered water shall be less than or equal to 0.3 NTU in 95% of the measurements taken each month and shall not exceed 1 NTU at any time. Turbidity is a measure of the cloudiness of the water and is an indicator of treatment performance. The averages and ranges of turbidity shown in the Secondary Standards were based on the treatment plant effluent.

(b) Total coliform MCLs: No more than 5.0% of the monthly samples may be total coliform-positive. Compliance is based on the combined distribution system sampling from all the treatment plants. In 2010, 7727 samples were analyzed and eight samples were positive for total coliforms. The MCL was not violated.

(c) All distribution system samples collected had detectable total chlorine residuals and no HPC was required. HPC reporting level is 1 CFU/mL.

(d) Aluminum has both primary and secondary standards.

(e) Metropolitan was in compliance with all provisions of the state's Fluoridation System Requirements.

(f) State MCL is 45 mg/L as nitrate, which is the equivalent of 10 mg/L as N.

(g) Data were collected in 2008 and represent the average of four samples taken during the year.

(h) The gross beta particle activity MCL is 4 millirem/year annual dose equivalent to the total body or any internal organ. The screening level is 50 pCi/L.

(i) Metropolitan was in compliance with all provisions of the Stage 1 Disinfectants/ Disinfection By-Products (D/DBP) Rule. Compliance was based on the RAA.

(j) Reporting level is 0.5 ppb for each of the following: bromodichloromethane, bromoform, chloroform, and dibromochloromethane.

(k) The detection limit for purposes of reporting is 1.0 ppb for each of the following: dichloroacetic acid, trichloroacetic acid, monobromoacetic acid, and dibromoacetic acid; and 2.0 ppb for monochloroacetic acid.

(l) Bromate reporting level is 3 ppb. The Skinner Water Treatment Plant began using ozone as the primary disinfectant in October 2010. The bromate RAA will be calculated after four quarters of data have been collected.

(m) Data for Skinner based on the state-required quarterly monitoring following MCL exceedance. Metropolitan utilizes a flavor-profile analysis (FPA) method that can detect odor occurrences more accurately and found the FPA samples from this location acceptable. No taste and odor event was observed and no complaints were received during the period.