APPENDICES

APPENDIX A CITY OF MAYWOOD WATER QUALITY ASSESSMENT

CITY OF MAYWOOD WATER QUALITY ASSESSMENT

CITY OF MAYWOOD
LOS ANGELES COUNTY, CALIFORNIA

Prepared for:

Maywood Mutual Water Company #1

Maywood Mutual Water Company #2

Maywood Mutual Water Company #3

Prepared by:

GeoTrans, Inc.
A TETRA TECH COMPANY

17885 Von Karman Avenue, Suite 500
Irvine, California 92614
(949) 809-5000

December 15, 2010

CITY OF MAYWOOD WATER QUALITY ASSESSMENT

CITY OF MAYWOOD
LOS ANGELES COUNTY, CALIFORNIA

Prepared for:

Maywood Mutual Water Company #1

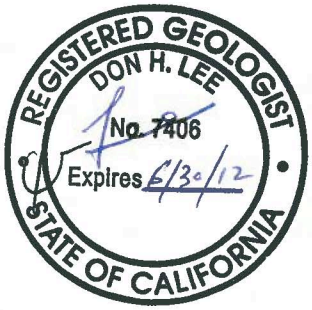
Maywood Mutual Water Company #2

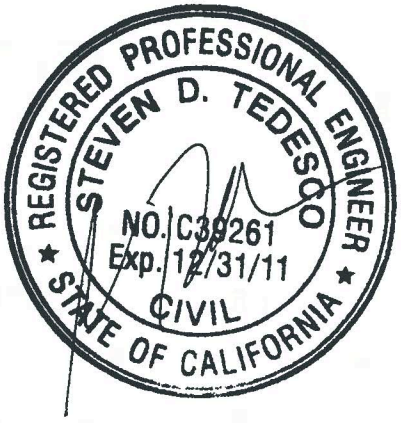
Maywood Mutual Water Company #3

December 15, 2010

Prepared by:

GeoTrans, Inc., A Tetra Tech Company
17885 Von Karman Avenue, Suite 500
Irvine, California 92614





Don Lee, PG, C.HG.
Senior Hydrogeologist

Steve Tedesco, P.E.
Senior Vice President (Tt EAS)

TABLE OF CONTENTS

TABLES

FIGURE

APPENDICES

1.0 INTRODUCTION

This report presents the results of a City of Maywood drinking water quality study conducted by GeoTrans Inc., a Tetra Tech Company, at the request of Maywood Mutual Water Company #1, Maywood Mutual Water Company #2, and Maywood Mutual Water Company #3 (the Maywood mutuals), the three public water systems that serve the City of Maywood in Los Angeles County, California.

On October 11, 2009, the California Assembly passed a bill, Assembly Bill No. 890 (AB 890), requiring the public water systems serving the City of Maywood to conduct a study on the City of Maywood's water supply and address the impacts of manganese. The public water systems serving the City of Maywood have not been found to date to exceed federal and state primary drinking water standards, and therefore, not in violation of their permits. However, a number of Maywood's water source wells have manganese concentrations that are above the Secondary Maximum Contaminant Level (SMCL) of 50 micrograms per liter (ug/L or parts per billion). Manganese concentrations greater than this level is undesirable because it causes a rusty appearance, poor taste, and causes a discoloration of plumbing and laundry. The manganese problems have affected consumer acceptance of water resources. The goal of AB 890 is to determine the extent of manganese impact in the City of Maywood's drinking water and the potential actions needed to address the situation. AB 890 specifies that a study be conducted to identify the sources of manganese and the immediate and long term infrastructure improvements that can be considered to reduce levels of the manganese and other contaminants, and bring the water to the same standards as that of nearby neighborhoods. AB 890 also specifies information on funding that can be pursued by the public water systems to fund those improvements.

1.1 PURPOSE OF STUDY

The purpose of this study is to conduct a review of available data, identify potential sources of manganese, evaluate the extent of manganese impact in the City of Maywood's public drinking water supply, and present potential course of actions that the public water systems can consider to mitigate the water quality concerns. The study objectives, as set forth in AB 890, are to obtain the following:

- Testing information and results for manganese from City of Maywood drinking water sources;
- The amount of manganese being contributed by each water source that serves the city;
- Immediate and long-term steps that can be taken by the public water systems to reduce the amount of manganese in the drinking water supply to be at least as low as a level that is consistent with the average level in communities within a 20-mile radius of the City of Maywood;
- Infrastructure improvements that can be made to reach the immediate and long-term goals to reduce the level of manganese and other contaminants in the water to be consistent with the average level in communities within a 20-mile radius of the City of Maywood; and
- Actions that the public water systems can take to pursue funding in order to achieve those improvements.

This report presents a summary of the study findings and potential actions that the Maywood mutuals may consider for water quality improvement.

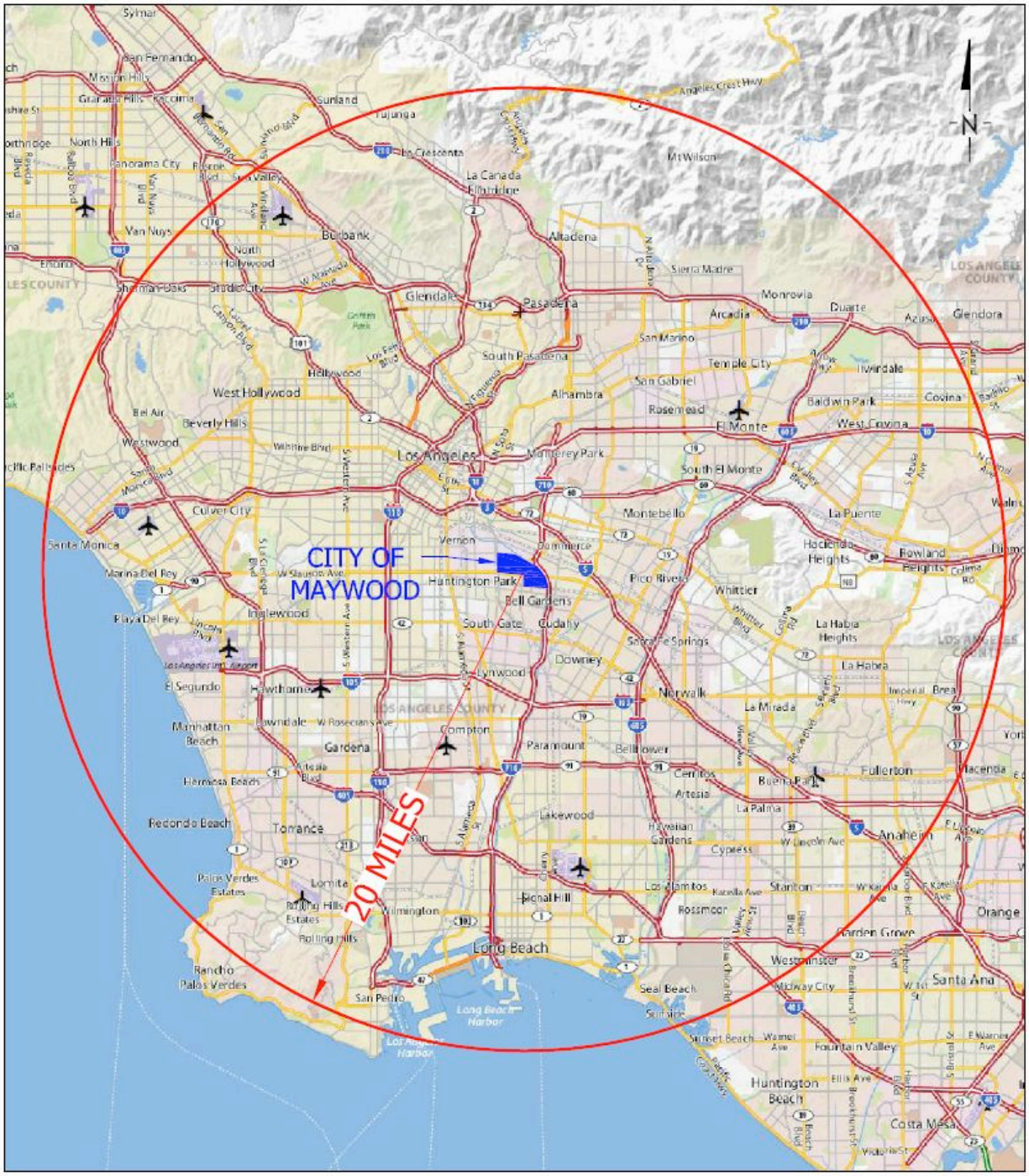


Figure 1. *Study Area*

2.0 CITY OF MAYWOOD WATER SOURCES

The sources of the City of Maywood's water, the amount of water supplied, and manganese contribution in 2009 are summarized in this section.

2.1 SOURCES OF CITY WATER

Source		Amount of Water Served to the City of Maywood (Acre-Feet)	%
Maywood Mutual Water Co. #1*	Well #3	91	4
	Well #4	136	6
	CBMWD (imported water)	12	1
Maywood Mutual Water Co. #2	Maywood Avenue Well (Well #1)	747	35
	52nd Street Well (Well #2)	397	18
	CBMWD (imported water)	0	0
Maywood Mutual Water Co. #3	Prospect Well (Well #1)	371	17
	Warehouse Well (Well #7)	228	11
	District Well (Well #4)	173	8
Total		**2155**	**100**

Table 1. S*ources and the Approximate Amount of Water Served to the City of Maywood in 2009 (January to December 2009).*

Data Source: Maywood mutuals.
** July 2009 to June 2010 period for Maywood Mutual Water Co. #1.*
CBMWD – Central Basin Municipal Water District; imported surface water.

Maywood Mutual Water Company #1 produced a total of approximately 795 acre-feet of water in fiscal year 2009 (July 2009 to June 2010), of which approximately 30% (239 acre-feet) was served to the City of Maywood, according to the Maywood Mutual Water Company #1.

Maywood Mutual Water Company #2 produced a total of approximately 1,179 acre-feet of water in 2009, of which approximately 97% (1,144 acre-feet) was served to the City of Maywood, according to the Maywood Mutual Water Company #2.

Maywood Mutual Water Company #3 produced a total of approximately 1,502 acre-feet of water in 2009, of which approximately 52% (772 acre-feet) was supplied to customers in the City of Maywood, according to the Maywood Mutual Water Company #3.

A description of the three Maywood mutuals' existing water system including a copy of 2009 consumer confidence reports (CCR) are provided in Appendix A.

2.2 MANGANESE LEVELS

Water Replenishment District of Southern California (WRD) collected water samples from the supply wells on a monthly or quarterly basis, as required by Title 22 sampling requirements in 2009. Additional water sampling and manganese testing is conducted by the Maywood mutuals. Collected water samples are obtained directly from the well discharge prior to any treatment. Collected water samples are analyzed for manganese either by EPA Method 200.7 or 200.8 at a State of California certified laboratories. The manganese results from the California Department of Public Health (CDPH) database are included in Appendix B, and are summarized below.

	Water Source	Number of Samples	Manganese Concentration (ug/L)	
			Average	Range
Maywood Mutual Water Co.#1	Well #3	21	13.9	ND(20) – 70
	Well #4	17	82.2	69 - 110
	CBMWD (imported water)	NA	ND(20)	ND(20)
Maywood Mutual Water Co.#2	Maywood Avenue Well (#1)	63	61.7	51 - 93
	52nd Street Well (#2)	64	73.3	45 - 150
	CBMWD (imported water)	0	-	-
Maywood Mutual Water Co.#3	Prospect Well	1	ND(20)*	ND(20)*
	Warehouse Well	1	ND(20)*	ND(20)*
	District Well	1	26*	26*

Table 2. *Average Manganese Levels in Maywood Water Sources in 2009.*

Data Sources: CDPH water quality database. Manganese data for CBMWD water was obtained from the 2009 CCR for Maywood Mutual Water Co.#1.
ND(20) - Not detected above the reporting limit indicated
**4/24/2008 sample results. Not sampled in 2009.*

The average manganese concentration greater than the SMCL of 50 ug/L was identified in three wells (Well #4 at 82.2 ug/L, Maywood Avenue Well at 61.7 ug/L, and 52nd Street Well at 73.3 ug/L).

2.3 MANGANESE CONTRIBUTION BY SOURCE

The amount of manganese contributed from each source of water for the City of Maywood in 2009 was estimated using the water production and manganese concentration data. The results are presented below.

	Source	Amount of Water Served to the City of Maywood (Acre-Feet)	Average Manganese Concentration (ug/L)	Amount of Manganese Contributed from Each Source	
				(lbs/day)	(%)
Maywood Mutual Water Co.#1	Well #3	91	13.9	0.01	1
	Well #4	136	82.2	0.08	11
	CBMWD (imported water)	12	ND(20)	<0.01	<1
Maywood Mutual Water Co.#2	Maywood Avenue Well	747	61.7	0.34	45
	52nd Street Well	397	73.3	0.22	29
	CBMWD (imported water)	0	-	0	0
Maywood Mutual Water Co.#3	Prospect Well	371	ND(20)*	0.03	4
	Warehouse Well	228	ND(20)*	0.02	3
	District Well	173	26*	0.05	7
Total		**2155**	-	**0.75**	**100**

Table 3. *Manganese Contribution from Maywood Water Sources in 2009.*

Data Sources: CDPH water quality database. Manganese data for CBMWD water was obtained from the 2009 CCR for Maywood Mutual Water Co.#1. Production data provided by the mutuals.
ND(20) - Not detected above the reporting limit indicated.
**4/24/2008 sample results. Not sampled in 2009.*
For non-detect results, an estimated value of 10 ug/L, a half of the laboratory reporting limit, was used for calculation purposes.

In 2009, approximately 74% of the total manganese mass originated from two wells (Maywood Avenue Well at 45% and 52nd Street Well at 29%). The other water sources contributed significantly less. Manganese contribution by water providers, Maywood Mutual Water Company #1, Maywood Mutual Water Company #2, and Maywood Mutual Water Company #3 were approximately 12%, 74%, and 14%, respectively, in 2009.

2.4 SURROUNDING COMMUNITIES

Manganese data published in the 2009 CCRs for the communities located within a 20-mile radius of the City of Maywood were reviewed to determine the manganese levels in their drinking water.

Based on the available data from a total of 113 water providers in 2009, the average manganese concentration for the communities within a 20-mile radius of Maywood (not including Maywood mutuals) is 13.7 µg/L (which is below the manganese reporting limit of 20 µg/L). Manganese was reported as not detected at a reporting limit of 20 µg/L in approximately 88% of the CCRs. A summary of the manganese data for the surrounding communities is included in Appendix C.

3.0 WATER QUALITY IMPROVEMENT OPTIONS

A description of the options that Maywood mutuals may consider to reduce the amount of manganese in the drinking water supply is presented in this section. The goal is for the manganese concentrations to be at least as low as a level consistent with the average concentration in communities within a 20-mile radius of the City of Maywood (e.g., 13.7 µg/L or less than the detection limit of 20 µg/L).

3.1 MAYWOOD MUTUAL WATER COMPANY #1

Well #4 in the Maywood Mutual Water Company #1 system has levels of manganese over the SMCL. The remaining Well #3 and the Central Basin Municipal Water District (CBMWD) imported surface water sources have lower manganese levels.

3.1.1 Short Term Measure

A short term measure is limiting the use of Well #4 and blending Well #4 water with Well #3 and/or CBMWD water. Maywood Mutual Water Company #1 has submitted a Blending Plan (Appendix A) to CDPH for approval to blend to 80% (40 µg/L) of the manganese SMCL and has been blending Well #3 and Well #4 water since fall of 2009. The manganese concentrations in the blended water ranged from less than the detection limit of 20 µg/L to 40 µg/L (Appendix A) in the distribution pipeline within the City of Maywood. In order to meet the AB 890 requirements (13.7 µg/L or less than the laboratory reporting limit of 20 µg/L) additional blending would be required at a higher cost. However, existing facilities are adequate to meet the blending requirements.

3.1.2 Long Term Approaches

Long term approaches to the system include the following:

- Modify existing wells or install new wells to produce from aquifers or water-bearing units that have low manganese levels; and/or

- Treat existing water sources.

In 2010 WRD began well profiling of Well #4 to determine whether aquifers low in manganese concentrations are present and whether the zones that have high manganese concentrations can be sealed off. The well profiling results are being reviewed by WRD for further action. Alternatively, install a replacement well completed in aquifers low in manganese concentrations, if feasible. This option requires further investigation.

The other long term approach is to install a manganese removal plant to treat the water from Well #4. Maywood Mutual Water Company #1 has applied for several grants including the Safe Drinking Water State Revolving Fund in the amount of $2.4 million to build a treatment plant at Well #4, along with a new storage reservoir. According to CDPH, this project is on the 2010-2011 Fundable List and may receive a funding agreement by June 30, 2011. Manganese levels at Well #4 can be reduced to below the AB 890 requirements with available treatment technology such as oxidation followed by filtration.

3.2 MAYWOOD MUTUAL WATER COMPANY #2

Maywood Avenue Well (61.7 µg/L) and 52nd Street Well (73.3 µg/L) in the Maywood Mutual Water Company #2 system have levels of manganese over the SMCL. The CBMWD source has lower manganese levels and is available but was not used in 2009.

Maywood Mutual Water Company #2 is completing construction and testing of a manganese removal system at the 52nd Street site. Once the system is tested and permitted manganese from this well will be below the AB 890 levels. The capacity of the treatment plant is 1,100 gpm.

3.2.1 Short Term Measure

The short term plan is to operate the 52nd Street treatment plant. Maywood Avenue Well water is available to blend with the treated 52nd Street water to produce water at 80% below the SMCL for manganese, if necessary. In order to meet AB 890 requirements significantly more blending will be required at an additional operational expense.

3.2.2 Long Term Approaches

The long term solution to the problem is to pipe Maywood Avenue Well water to the 52nd Street site for treatment, if feasible. A dedicated pipeline of approximately 6,000 linear feet of 10-inch pipe would be required. The capacity of the existing plant would also need to be increased. Estimated cost for these improvements would be in the order of $1 to 1.5 million. Alternatively investigate whether the Maywood Avenue Well can be modified or a new replacement well can be installed to produce from aquifers that have low manganese levels, if appropriate.

3.3 MAYWOOD MUTUAL WATER COMPANY #3

The manganese levels in the Maywood Mutual Water Company #3 wells were below AB 890 standards.

In addition to manganese, available water quality data were reviewed to determine whether "other contaminants" of concern were present in the City of Maywood water sources. AB 890 indicated that "other contaminants," if present, be addressed in the water quality study.

The trichloroethene (TCE) analytical data from the CDPH database are included in Appendix A, and are summarized below.

	Water Source	Number of Samples	TCE Concentration (ug/L)	
			Average	Range
Maywood Mutual Water Company #3	Prospect Well (Well #1)	4	2.7	1.8-4.5
	District Well (Well #4)	1	ND(0.5)	ND(0.5)
	Warehouse Well (Well #7)	4	3.5	2.8-4.2

Table 4. *TCE Levels in Maywood Mutual Water Company #3 Water Sources in 2009. The wells were sampled by WRD quarterly in 2009 and TCE was analyzed by EPA Method 524.2 at the State of California certified laboratories.*

Trichloroethene (TCE) levels in the Prospect Well and Warehouse Well were found to be as high as approximately 80 to 90% of the Primary MCL of 5 µg/L in 2009. The water production from

Prospect Well was lowered from 48.1% of the system total in 2009 to 19.6% in 2010 due to concerns with TCE.

Additionally TCE data for communities located within a 20-mile radius of the City of Maywood were reviewed to determine the TCE levels in their drinking water. Based on data from a total of 113 water providers in 2009, the average TCE concentration for a 20-mile radius area is 0.47 µg/L (which is below the TCE laboratory reporting limit of 0.5 µg/L). TCE was reported as not detected or less than the reporting limit of 0.5 µg/L in approximately 85% of the CCRs. A summary of the manganese data for the surrounding communities is included in Appendix C.

3.3.1 Short Term Measure

On a short term basis the Maywood Mutual Water Company #3 has reduced its use of the Prospect well and is blending this water with other sources. This option can reduce the TCE concentration to within 80% (4.0 µg/L) of the MCL, but not to the AB 890 level (0.47 µg/L, or less than the TCE laboratory reporting limit of 0.5 µg/L).

3.3.2 Long Term Approaches

Long term approaches to the problem need to be investigated. They include the following:

- Modify existing wells by sealing off sections that are producing the TCE, if appropriate. Estimated cost for well modifications would be in the order of $250,000;

- Install a TCE removal plant at the Prospect Well or Warehouse Well. Estimated cost to construct a treatment plant would be in the order of $1 million; and/or

- Install new wells to produce from aquifers or water-bearing units that do not produce TCE. Estimated cost for new wells would be in the order of $1.5 million.

3.3.3 Perchlorate

Perchlorate was detected at a concentration of 4.1 µg/L in a Warehouse Well water sample on 2/11/2009; however perchlorate has not been detected since. The perchlorate level is below the perchlorate Primary MCL of 6.0 ug/L. Perchlorate was not detected in the other two Maywood Mutual Water Company #3 wells. A summary table of perchlorate analytical data is included in Appendix B.

4.0 MANGANESE AND TCE REMOVAL TECHNOLOGIES

4.1 MANGANESE REMOVAL

Manganese can be present in water in one of three basic forms: dissolved, particulate and colloidal. The predominance of one form over another is dependent on the pH of the water source. The most common treatment methods for removing manganese include:

- Chemical oxidation and pressure filtration; and
- Adsorption onto ion exchange resins.

Oxidation involves the addition of an oxidizing agent to the water which chemically reacts with the manganese to form a precipitate and insoluble particles. These particles can then be physically filtered out through pressure media. Oxidation can be accomplished by one of the following methods:

- Aeration – blowing/spraying air through the water; and
- Addition of chemical oxidants – sodium hypochlorite, chlorine dioxide, potassium permanganate or ozone.

The oxidized manganese precipitates can then be removed by sand filtration, greensand media filtration or activated carbon filtration.

The use of ion exchange resins for the removal of manganese has also been used in more limited application due to the requirement that the contaminants be in dissolved form and at very low levels. This is due to the tendency of oxygen to react with the iron and manganese and therefore, increase the potential for plugging and buildup on the resin surface. Iron fouling is a common, and sometimes, irreversible problem with ion exchange treatment.

As a result, the easiest and most common treatment processes for removal of iron and manganese from groundwater is chemical oxidation followed by filtration. For a typical well facility, the treatment facilities would consist of chemical feed pump equipment and storage tanks for sodium hypochlorite ferric chloride as oxidizing agents, reaction vessels, pressure filtration vessels, and backwash facilities. An example of the reaction vessels and pressure filter schematics from one equipment supplier, Filtronics, is provided in Appendix D.

4.2 TCE REMOVAL

Trichloroethene, commonly referred to as TCE, is a volatile, chlorinated hydrocarbon widely used as a solvent, paint stripper, and degreasing agent. Patterns of TCE contamination of drinking water generally parallel use patterns, with the highest levels and highest number of contaminated wells occurring in urban areas. Over 350 drinking water sources in California have reportable levels of TCE contamination (i.e., greater than 0.5 ug/L or ppb). Systems with contamination exceeding the MCL are required to provide treatment that reduces TCE concentrations to levels below 5 ug/L.

There are several commonly used unit treatment processes that can be utilized to remove volatile organic compounds (VOCs), including TCE, from groundwater. These include: adsorption, air-

stripping, oxidation/biological and reverse osmosis processes. Two treatment processes, carbon adsorption and air-stripping are considered to be the most viable, suitable and widely accepted for potable water treatment purposes. These two technologies best meet the scale, common acceptance by the public water regulatory community and provide efficient and predictable contaminant removal.

Carbon adsorption, commonly using activated carbon as the adsorbent media, is known to be an effective water treatment process for the removal of VOCs. The *adsorption process* is a physical surface phenomenon where an adsorbate (the contaminant in this case) is removed from the contaminated solution and held onto the surface of the adsorbent (activated carbon) by various types of chemical and physical forces present. The contaminant(s) to be removed is adsorbed and held onto the surface (and interspatial surfaces or pores) of the solid adsorbent until the adsorbent no longer has the ability to accumulate any additional adsorbate. Granular Activated Carbon (GAC), specifically liquid phase carbon adsorption, is what is most commonly used as an adsorbent due to its higher adsorptive capacity to achieve reduction of certain organic chemicals (semi-volatile and volatile organics) and chlorine compounds from contaminated waters. GAC is an effective adsorbent medium due to its high surface area to volume ratio.

Air stripping and aeration systems are also widely used in water treatment for the removal of volatile organic compounds (VOCs), ammonia (NH3), carbon dioxide (CO^2), hydrogen sulfide (H2S) and radon from drinking water. The basis for the air stripping process is the mass transfer of dissolved VOCs in water from the liquid phase to the vapor (gas/air) phase. Air strippers remove VOCs from liquid (water) by providing contact between the contaminated liquid and a gas (air). The contaminant (in the vapor phase) is then typically released to the atmosphere (or may be removed by off-gas treatment systems, typically vapor phase carbon adsorption units). Air quality standards and Regulatory permitting requirements dictate the appropriate release or treatment requirements for the off-gas generated by the air strippers.

The ease and efficiency of the mass transfer of the contaminant to be removed (VOCs) to the vapor phase is dependent upon the *Henry's law constant* for the contaminant to be removed. At equilibrium, the partial pressure of a gas above a liquid is directly proportional to the mole fraction of the gas dissolved in the liquid. This proportionality is known as the *Henry's law constant*. The value of the *Henry's law constant* (H) is an important part in determining whether the contaminant is amenable to stripping and impacts the process design and operating parameters for air strippers. Temperature and the presence of other contaminants (including inorganic components) in the water to be treated impact the value of the Henry's constant.

An important process design consideration for air strippers is the ratio of the volumetric air flow to the volumetric water flow (A/W). This is referred as the *"air to water ratio"* (i.e., CFM air to CFM water). The optimum value of the air to water ratio varies for different VOCs (based upon their respective Henry's constant) as well as the influent concentration and expected or desired effluent concentration following stripping.

Air strippers transfer contaminants from one medium to another (liquid to gas) and therefore there is no destruction of the contaminant. Consequently, consideration must be given to the off-gas generated by this technology. Typically the mass of the contaminant stripped and discharged from the unit does not pose a health risk or require further treatment to remove it from the air stream. In that instance the off-gas is discharged directly to the atmosphere. However each situation does require analysis to confirm this condition and proper compliance and coordination with appropriate

regulatory air permitting requirements. Off-gas treatment can be incorporated if the mass removed is sufficient enough to require it. Off-gas treatment can be provided by several methods, most commonly it is provided by vapor phase carbon adsorption.

Operating concerns for air strippers include pretreatment or periodic column cleaning required because of the presence of other contaminants in the influent water including inorganic compounds (including calcium hardness, iron and manganese). Other contaminants that may be produced in the stripper if not properly maintained include algae, fungi, bacteria, or fine particles deposition. The air stripping process also requires a substantial amount of power to operate. Power is required primarily for the aeration equipment (blowers) and may be required for influent and effluent pumping from the unit depending upon its location in the overall treatment process.

5.0 POTENTIAL FUNDING SOURCES

Funding for water supply projects is available through a variety of federal, state and local sources. Table 5 below outlines some of the currently available sources of funding.

Sponsoring Agency	Potential Funding Program
California Department of Public Health	• Safe Drinking Water State Revolving Fund • Proposition 50 *Water Security, Clean Drinking Water, Coastal & Beach Protection* • Proposition 84 *Safe Drinking Water, Water Quality & Supply, Flood Control, River & Coastal Protection*
California Department of Water Resources	• Proposition 50 *Integrated Regional Water Management Program (possible future round)* • Proposition 82 *New Local Water Supply Construction Loans*
State Water Resources Control Board	• Proposition 50 *Integrated Regional Water Management Program (possible future round)* • Clean Water State Revolving Fund
Metropolitan Water District of Southern California	• Community Partnering Program
U.S. Bureau of Reclamation	• Water 2025: *Preventing Crises and Conflict in the West – FY 2008*
U.S. Army Corps of Engineers	• Water Resources Development Act (WRDA)

Table 5. *Potential Funding Sources*

Maywood Mutual Water Company #1 and #2 have already applied for several grants and loans for manganese removal.

Maywood Mutual Water Company #3 has applied and is on the waiting list for WRD-funded well profiling program to determine the source of TCE in one or more of the wells. Maywood Mutual Water Company #3 is also on the WRD's waiting list for potential well modification or replacement, if MCL is exceeded.

APPENDIX A

WATER SYSTEM INFORMATION

APPENDIX A

MAYWOOD MUTUAL WATER COMPANY #1

WATER SYSTEM INFORMATION

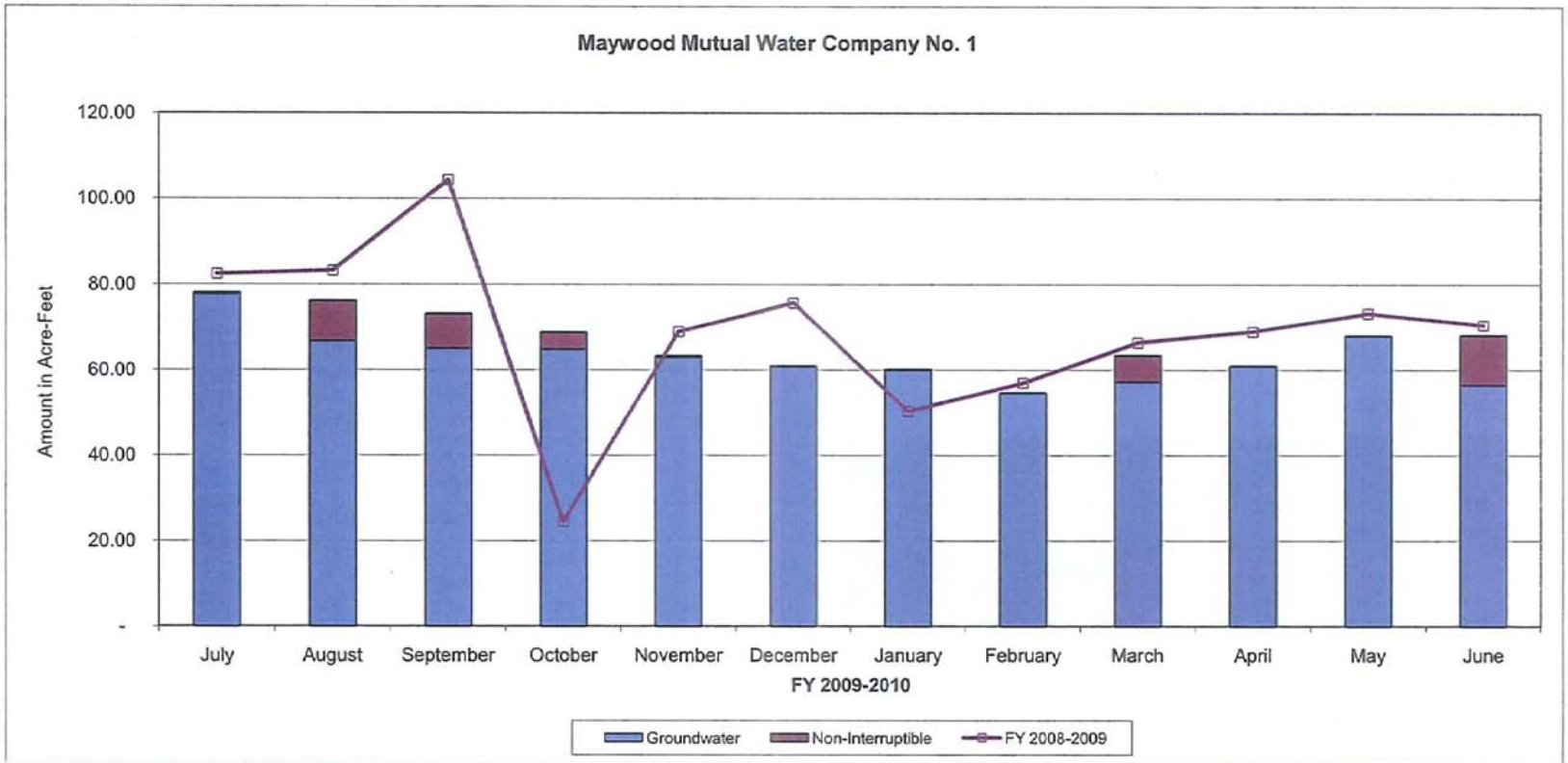
Maywood Mutual Water Company #1 serves approximately 5,500 residents in portions of Cities of Maywood and Huntington Park. Approximately 795 acre-feet of water was produced by the Maywood Mutual Water Company #1 in fiscal year 2009 (July 2009 to June 2010), of which approximately 30% of the total production was served to the City of Maywood, according to the Maywood Mutual Water Company #1. A single pressure zone is supplied by two groundwater wells and imported surface water sources outlined in the following table.

Source	Capacity (gpm)	Remarks
Well #3	690	Pumps directly into distribution system
Well #4	980	Pumps into storage reservoir and is then boosted into the distribution system
Central Basin Municipal Water District (CBMWD, imported water)	2,900	Feeds directly into distribution system and storage tank. The capacity of this connection is currently set at 1,500 gpm

Maywood Mutual Water Company #1 also has emergency connections to the City of Huntington Park and Maywood Mutual Water Company #2 water systems. These connections have not been used to date according to Maywood Mutual Water Company #1.

Average summer weekly water production (2007-2008) is as follows:

Source	Production (MG)	Percent
Well #3	2.33	40.24
Well #4	2.65	45.70
CBMWD	0.82	14.00
Totals	**5.80**	**100%**



Maywood Mutual Water Company No. 1	Fiscal Year 2009-2010												TOTAL
	July	August	September	October	November	December	January	February	March	April	May	June	
Groundwater	77.57	66.71	65.02	64.79	62.94	60.73	59.97	54.55	57.16	60.86	67.92	56.43	754.65
Non-Interruptible	0.40	9.40	8.10	3.90	0.30	0.10	0.10	-	6.20	-	-	11.60	40.10
Total	77.97	76.11	73.12	68.69	63.24	60.83	60.07	54.55	63.36	60.86	67.92	68.03	794.75

Note that Seasonal Storage Long-Term (In-Lieu) water was not available during FY 2009-10

MANGANESE BLENDING PLAN

FOR

MAYWOOD MUTUAL WATER COMPANY #1

Prepared by: Sergio Palos, Chief Operator

5953 Gifford Avenue
Huntington Park, California 90255
(323) 560-2439

INTRODUCTION

On April 10, 2009 Maywood Mutual Water Company #1 received a letter from California Department of Public Health (CADPH) stating that well No. 4 showed that manganese levels that consistently exceeded the secondary standard for manganese, the maximum contaminate level (MCL) is 50ug/l. CADPH is requiring that Maywood Mutual Water Company #1 either treat the water from Well #4 by removal of the excess manganese or submit a blending plan that would assure compliance of the secondary MCL rule.

Manganese / Black & Brown Staining

Manganese will cause a black stain and will many times be accompanied by iron and hydrogen sulfide gas odor. In combination with iron, manganese staining will sometimes be chocolate colored or brown. Evidence of manganese staining is usually most prominent in the dishwasher. The detergents used to wash the dishes raise the pH of the water high enough (>8) to allow the manganese to easily precipitate. A second place to see a manganese problem is on the top of the water in the toilet storage tank. The manganese will form a film that is sometimes mistaken for oil on the water. If you touch the surface of this water, the film will break into flakes with jagged edges. At high concentrations (>.2 ppm), the manganese will give the water what is sometimes described as a sweet taste.

Manganese generally exists in two forms

Manganous manganese - This form of manganese is invisible in the water just like dissolved sugar is. Just like sugar water, the manganese can not be mechanically filtered from the water.

Manganic manganese - This form has precipitated (formed a solid and is no longer in solution - it has turned to rust - "oxidized") and gives the water a cloudy black appearance. This form of manganese can be mechanically filtered. The reason for this is the waters have a pH above the 8 required to oxidize the manganous form into the manganic form.

Although manganese is generally not considered to be a health risk, a level of greater than 50 ppb is a cause for concern. The State of California does recommends that greater than 50 ppb be reduced.

The request for a blending plan is based on the lack of customer complains in regards to staining of laundry, plumbing fixtures or odor in the water.

This paper will try to give the reader a clear understanding of the working conditions of the water system at Maywood Mutual Water Co. #1; and propose solutions to the concerns of manganese from our well #4 to the California Department of Public Health (CADPH).

Maywood Mutual Water Company #1

SYSTEM NUMBER 1910084

System Hydraulics and Water Movement

General information on Maywood Mutual Water Company #1 water system # 1910084

Maywood Mutual Water Company #1 is a rectangular shape water distribution system; serving the cities of Huntington Park and Maywood. Maywood Mutual Water Company #1 serves about 5500 residence within our service area. We operate as (1) one zone only.

This paper will concentrate on the Iron and Manganese issues; and what Maywood Mutual Water Company has done to mitigate both iron and manganese within the distribution system that serve our customers.

Maywood Mutual Water Company #1 operates two groundwater wells.

1.) Groundwater Well #3 is located at 6026 Carmelita Avenue, Huntington Park, California 90255. Built in 1937

2.) Groundwater Well #4 is located at 5953 South Gifford Avenue, Huntington Park, California 90255. Built in 1950

Maywood Mutual Water Company #1 has (2) two emergency intersystem connection points.

1.) The City of Huntington Park intersystem connection located at the corner of Randolph Avenue and Maywood Avenue near the ally.

2.) Maywood Mutual Water Company #2 intersystem connection located near the corner of Carmelita Avenue and Slauson Avenue.

These (2) two emergency intersystem connection points have never been used yet to my knowledge.

Groundwater Well #3

Groundwater Well #3 built in 1937 produces 690 gallons per minute. This well pumps directly into the distribution system. It is designed to allow as much water to flow into our tanks as possible. The water should flow towards 60th Street which has a 10 inch water main leading to our plant storage tanks. As the distribution system pressure increases; a pressure reducing valve at the booster and storage tank station located at our 5953 Gifford Ave. will open and allow water to flow into the water tanks to relieve pressure build-up within the distribution system; and fill our tanks for the next days usage.

Groundwater Well #4

Groundwater Well #4 built in 1950 produces 980 gallons per minute. This well water is pump by the chlorinator injection point to our sand trap and then into our water reservoirs and held.

Chlorination Pump

We have (2) two 200 gallon tanks with sodium hypochlorite 12½%; which feed well water #4 that goes into our tanks. Our target residual is 1.0 mg/l average chlorine for tank storage. System demand is about 0.5 mg/l and remaining total chlorine in system averages 0.5 to 1.0 mg/l.

Well #3 has (2) 200 gallon tanks with sodium hypochlorite 12½%; which feed the system and tanks. We set a very low chlorine feed of about 0.4 mg/l.

Maywood Mutual Water Company #1 uses Pulsatron pump for delivery of the chlorine to the well water.

Well Name	Well #3	Well #4
Address	6026 Carmelita Ave., Huntington Park, CA 90255	5953 Gifford Ave., Huntington Park, CA 90255
Date Drilled . . .	1946	1950
Location	Residential	Residential
Lot Size . . .	50 X 150	122 X 285
Distance to Sewer	53 Feet	Over 50 feet
Sewer Disposal . . .	None	None
Abandon Well . . .	None	None
Nearest Property Line . . .	25 Feet	40 Feet
Housing Type		
Condition . . .	Good	Good
Floor . . .	Concrete	Concrete
Drainage . . .	Good	Good
Well Depth		
Depth . . .	1200 Feet	1435 Feet
Diameter . . .	16 Inches	16 & 14 Inches
Casing Kind . . .	8 ga. Steel	8 ga. Steel
Height Above Floor . . .	30 Inches	Flush
Distance To Highest Perforations . . .	506 Feet	837 Feet
Surface Sealed . . .	Yes	Yes
Gravel Pack . . .	No	No
Second Casing Depth . . .	None	None
Second Casing Diameter . . .	None	None
Annular Seal - Depth . . .	None	None
Sampling Tap & Meter . . .	Yes	Yes
Impervious Strata: Thickness	28' - 33' - 25'	72' - 166' - 29' - 22'
Penetrated - Depth to	162' - 322' - 455'	18' - 96' - 186' - 320'
Water Levels:		
Static . . .	176	187
Pumping . . .	287	263
Drawdown . . .	111	76
Pump		
Make . . .	Layne & Bowler	Layne & Bowler
Type . . .	Vertical Turbine 125 hp	Vertical Turbine 125 hp
Capacity - GPM . . .	690	980
Lubrication . . .	Oil	Oil
Power . . .	Electric	Electric
Auxiliary Power . . .	None	Stand-By Generator
Controls . . .	Auto & Manual - RTU	Auto & Manual - RTU
Discharge Location . . .	Below Ground	Above Ground
Discharge To . . .	Water System	To Water Reservoirs
Frequency of Use . . .	Daily	Daily
Primary Station Code . . .	02S / 13W - 24F01 S	02S / 13W - 24B02 S
State Well Number . . .	2S / 13W – 24F1	2S / 13W – 24B2
Flood Hazard . . .	Negligible	Negligible

Central Basin Metropolitan Water District
Maywood Mutual Water Company #1 also is tied into Central Basin Metropolitan Water District (CBMWD) the entry point is located on the corner of Pine Avenue and 60th Street in the city of Maywood and the water is designed to flow west towards our plant to help fill our tanks. CBMWD is design to flow into our water system at a maximum volume of 2900 gallons per minute. However, Maywood Mutual Water Co. #1 has set the volume at 1500 gallons/minute or less to enter our distribution system.

Standpipe Water Tanks
Maywood Mutual Water Company #1 has (2) water tanks.
1.) The small tank is 500,000 gallon maximum capacity; this tank measures 35 feet in diameters by 70 feet tall.
2.) The larger tank is 2,000,000 gallon maximum capacity; this tank measures 70 feet in diameters by 70 feet tall.
3.) Both tanks are interconnected and fill or drain at the same time. Any of these tanks can be isolated if the need arises. These tanks are located at the main plant at 5953 Gifford Ave., Huntington Park, CA

Plant Booster Pump Station
Maywood Mutual Water Company #1 has (3) three 40 hp booster pumps to supply our system pressure of 60psi. Maywood Mutual Water Company #1 uses only one booster pump at a time. The other two booster pumps are for redundancy purposes only.

The booster pumps take water from both tanks to pressurize the distribution system to 60 psi and return any over pressurized water back into our tanks. The booster pumps, pumps the water from our tanks to the back of our plant to Riverside Street heading south to 60th Street; any over pressurized water in the distribution system is return to the front of our plant on Gifford Avenue and return back into our tanks.

Typical Daily Operation – (Summer & Winter)
Maywood Mutual Water Company #1 adjusts to the water demand and makes changes accordingly. The summer demand is the highest. And we increase the level of water that the tanks hold. In the winter months or cooler periods of the year we maintain the water tank at lower levels.

Well #3 runs on a time basis only; the start time is 10:00 PM and stops at 10:00AM for a total of 12 hours. Well #3 produces 41,400 gallons per hour or 497,000 gallons per 12 hours. Well #3 pumps directly into the distribution system and water storage tanks.

Well #4 runs on time and level basis. When the desirer level is reached Well #4 will shut down. The start time is 10:00 PM and stops at 2:00AM only.

MWD may be used daily for at least 1 hour at this time to help fill and blend our water tanks.

Average Summer: Weekly and Monthly Water Demand To Water Tanks & Distribution System
(The following figures is based on maximum operation hours - 2007 - 2008)

WEEKLY

Well #3 . (720gpm)(60min/hr)(9hrs/day)(6days) =	**2,333,000 gallons**	**. . . . . .**	**40.24%**
Well #4 . (920gpm)(60min/hr)(8hrs/day)(6days) =	**2,649,600 gallons**	**. . . . . .**	**45.70%**
MWD	**815,000 gallons**	**. . . . . .**	**14.06%**
	==========		======
TOTAL >	**5,797,600 gallons**		**100.0%**

Maywood Mutual Water Company #1 – Manganese Blending Plan - 2009

MONTHLY (4 week period)

Well #3 . . . . . . (2.333mg/week)(4 weeks) =	**9,332,000 gallons**	**. . . . . .**	**40.24%**
Well #4 . . . . . . (2.649mg/week)(4 weeks) =	**10,598,400 gallons**	**. . . . . .**	**45.70%**
MWD . . . . . . (0.815mg/week)(4 weeks) =	**3,260,000 gallons**	**. . . . . .**	**14.06%**
	==========		======
TOTAL >	**23,190,000 gallons**		**100.0%**

==========

Testing & Monitoring the Water Distribution System for Iron and Manganese Levels

Maywood Mutual Water Company #1 has since 2005 been monitoring the Iron and Manganese levels in the distribution system on a weekly basis. We have been monitoring the iron and manganese since 2005 on a every week. have

The Wells we monitor once every month. The other sites we monitor very week.

The following are the site that is the proposed sample locations for Iron and Manganese:

1.) **Sampling Station:** 4544 East 59th Street, Maywood, CA 90270 . . . . . Weekly
2.) **Sampling Station:** 6110 South Gifford Avenue, Huntington Park, CA 90255 . . Weekly
3.) **Boosters:** 5953 Gifford Ave., Huntington Park, CA 90255 . . . . . Weekly
4.) **Sampling Station:** 5953 Gifford Ave., Huntington Park, CA 90255 . . . . . Weekly
5.) **Well #4:** 5953 Gifford Ave., Huntington Park, CA 90255 . . . . . Monthly

- Site #1 is the far East side of our system.
- Site #2 is the Middle part of our system.
- Site #3 is our Booster (water to distribution system).
- Site #4 is at our main plant (water from distribution system into our tanks).
- Site #5 is our Well #4 (water to distribution system).

Monitoring will enabled Maywood Mutual Water Company #1 to plan as to when and where to flush our water mains to reduce increasing levels of iron, manganese or sediment from the water distribution system pipelines.

Maywood Mutual Water Company #1 has had very no complaints about orange, brown or black water coming out of the facets of customer's homes in the past. Most complaints are about very short duration of yellowish water in the morning; usually 1 to 3 minutes and then it clears up. This has indicated to us that the problem is from old galvanized pipes in the homes; and not from the water system.

However the monitoring has indicated to us that our dead end areas do accumulate sedimentation more so than most of the other parts of our distribution system. Monitoring of the distribution system has helped us to keep the accumulate sedimentation from increasing in the distribution system by flushing that area about very 4 to 6 weeks.

We flush as close as possible to 5cfs to clean and eliminate most of the sedimentation that has accumulated in the water mains of our dead end areas and any inverted pipeline area. The other parts of are system is flush once every year or as needed.

The reduction in customer's complaints and laboratory test records have indicated that accumulate sedimentation and manganese levels in the distribution system have been controlled to acceptable customer aesthetic levels.

Public complaints in the City of Maywood

The city of Maywood and a community group Pro-Uno has been concern about the quality of the water. However, every complaint heard at these meeting has been about another water company that serves the city of Maywood. We have had very few complaints about the water in the city of Huntington Park.

There has been at least about (6) meetings that Maywood Mutual Water Company #1 has attended and we have written minutes of these meetings; three of these meetings we have audio recordings.

Procedures to Investigate Any Dirty Water Complaints

Maywood Mutual Water Company #1 has discovered that many residents do not realize that old galvanize pipes or mixing the pipes with copper and galvanize do produce yellowish water problem. Many residents have never flush the water heater that can also stain the laundry.

Every complaint that comes to Maywood Mutual Water Company #1 is investigated. Most times the water is coming out clear when we arrive to investigate at the location, but we still investigate the plumbing on the outside and under their homes to see the condition and material of their pipes.

The cities of Maywood and Huntington Park are older community and many homes still have the original piping when the home was built. Many of these homes were built in 1920's to the 1940's.

Within those years scale from the hard water and rust has filled inside these pipes and yellowish water is the result every morning or evening after disuse for a few hours. Most complaints investigation has lead to this conclusion.

We do not come across orangey or brown or black water in our investigations. If we do suspect that sedimentation in our pipelines maybe the problem; we do a thorough flushing of our water mains within the area. This will take care of the problem and return things to normal conditions again.

PROPOSE OPERATIONAL CHANGES FOR MAYWOOD MUTUAL WATER CO. #1 TO MEET THE SECONDARY MCL STANDARD FOR MANGANESE

Maywood Mutual Water Company #1 will be changing the operations to assure that the secondary standard for manganese, with a maximum contaminate level (MCL) is 50ug/l does not exceed the standard when it is boosted out into the water distribution system.

Maywood Mutual Water Company #1 proposes to run our well #3 to produce up to 60% to 65% of the daily production of water, and run Well #4 about 35% to 40% of the daily production of water. MWD imported water will be used off and on depending on the water demand for safe operations; or to blend if well #3 should need work or is off line for any reason.

The following is the theoretical calculations for Mn from all three water sources.

Table 1

The following is the theoretical calculations for Mn from two water sources.

TABLE 1

Well #3			**Well #4**			**MWD**			**Total**
Design Flow **GPM**	690		Design Flow **GPM**	960		Design Flow **GPM**	0		**1650**
ug/Mn	10		ug/Mn	78		ug/Mn	0		88
Total	**6900**		**Total**	**74880**		**Total**	**0**		**81780**

Theoretical Calculations:	**49.56**	**ug/l**

MCL 50 ug/L - 80% MCL for Mn = 40 ug/l - Blend Goal <40 ug/L

Table 1 calculations are based on each well work at the same time, for the same amount of time. This is how we have been operating our plant plus some MWD water in past years.

However, Maywood Mutual Water Co. #1 is proposing running Well #4 only four hours a day. Well #3 will be running at least 12 hours a day. CBMWD will be used when water is needed to meet demand and 1 hour per day is anticipated as a daily use. These scenarios are calculated below in table 2, table 3 and table 4.

Table 2

TABLE 2

Well #3		Well #4		MWD		Total
Design Flow **GPM**	690	Design Flow **GPM**	960	Design Flow **GPM**	1500	**3150**
Manganese ug/L	10	Manganese ug/L	78	Manganese ug/L	10	98
Total	**6900**	**Total**	**74880**	**Total**	**15000**	**96780**

Theoretical Calculations: **30.72 ug/l**

MCL 50 ug/L - 80% MCL for Mn = 40 ug/l - Blend Goal <40 ug/L

Table 3

TABLE 3

Well #3		Well #4		MWD		Total
Design Flow: **Gals / 12 hrs**	496800	Design Flow:**Gal./ 4hrs**	230400	Design Flow: **Gals./ 1 hr**	90000	**817200**
Manganese ug/L	10	ug/Mn	78	ug/Mn	10	98
Total	**4968000**	**Total**	**17971200**	**Total**	**900000**	**23839200**

Theoretical Calculations: **29.17 ug/l**

MCL 50 ug/L - 80% MCL for Mn = 40 ug/l - Blend Goal <40 ug/L

Table 4

TABLE 4

Well #3		Well #4				Total
Design Flow: **Gals / 12 hrs**	496800	Design Flow: **Gal./ 4hrs**	230400		0	**727200**
ug/Mn	10	ug/Mn	78		0	88
Total	**4968000**	**Total**	**17971200**		**0**	**22939200**

Theoretical Calculations: **31.54 ug/l**

MCL 50 ug/L - 80% MCL for Mn = 40 ug/l - Blend Goal <40 ug/L

Contingency plan:

Maywood Mutual Water Company #1 intends to follow this blending plan as outlined in table 2, table 3 or table 4. We should be able to blend our waters to be at or below our blending goal of <40 ug/L for manganese.

Maywood Mutual Water Company #1 will be; that all times on the alert for any failure to follow the blending plan. However, in case of failure for whatever cause Maywood Mutual Water Company #1 will immediately shut

down the offending Well #4 water supply and turn on ether well #3 or MWD to dilute the distribution water system at least 48 hours or and flush the distribution system if the manganese test levels are higher than our blending goal of <40ug/L.

Testing & Sampling procedure:

The following are the site that is the proposed sample locations for Iron and Manganese:

1.) **Sampling Station:** 4544 East 59th Street, Maywood, CA 90270 . . . . . Weekly
2.) **Sampling Station:** 6110 South Gifford Avenue, Huntington Park, CA 90255 . . Weekly
3.) **Boosters:** 5953 Gifford Ave., Huntington Park, CA 90255 . . . . . Weekly
4.) **Sampling Station:** 5953 Gifford Ave., Huntington Park, CA 90255 . . . . . Weekly
5.) **Well #3:** 5953 Gifford Ave., Huntington Park, CA 90255 . . . . . Monthly
6.) **Well #4:** 5953 Gifford Ave., Huntington Park, CA 90255 . . . . . Monthly

- Site #1 is the far East side of our system.
- Site #2 is the Middle part of our system.
- Site #3 is our Booster (water out to distribution system).
- Site #4 is at our main plant (water coming from distribution system into our reservoirs).
- Site #5 is our Well #3 (water to distribution system to our reservoirs).
- Site #6 is our Well #4 (water to the reservoirs).

Weekly monitoring will enabled Maywood Mutual Water Company #1 to keep the blending plan working as proposed. Should there be a failure in our blending plan and high manganese levels are detected above the blending plan goal; we will immediately shut down well #4 which is the well with high manganese and stop production for at least 48 hours, before putting the well online again.

Maywood Mutual Water Co. #1 intends to purchase a hand held HACH DR/800 Series Colorimeters with offers simple, push-button program and step-by-step instructions that prompts the users through the testing procedure. This unit will enable us to test the manganese level at the plant everyday. We will be testing the water going out to the distribution system and the water coming back into our reservoirs.

Maywood Mutual Water Company #1 will also install a flow meter to the return main pipe that goes into our pump station and reservoirs. We will be able to monitor all waters that go into our tanks from the distribution system. We will be able to calculate exactly how much of that water is our well #3 or how much MWD is purchased as well as how much water is circulated by our booster; that goes back into our reservoirs.

Maywood Mutual Water Company #1 will also calculate the daily and weekly theoretical calculations by inputting these valves on an excel program to make sure that we are keeping with the blending goal of <40 ug/L for manganese. If our calculations indicate a problem, we will be able to react quickly to correct the problem.

System Design

Maywood Mutual Water Co. #1 basic pump and motor controls for our water distribution is as follows:

- Well #4 pumps directly into the reservoirs.
- Well #3 pumps directly into the water distribution system then to the reservoirs.
- Central Basin MWD interconnection flows directly into the water distribution system then to the reservoirs.
- Pump and motor controls and timing are made by programming our RTU unit.
- System pressure is regulated by 2 Cla-Vals at the pumping station.
- System pressure is maintain by one of three 40hp boosters or when well #3 is on.

Maywood Mutual Water Company #1 adjusts to the water demand and makes changes accordingly. The summer demand is the highest; we increase the level of water at the tanks. In the winter it will be less water in the tanks.

Maywood Mutual Water Co. #1 will rely on well #3 and MWD as necessary to keep the blending plan at 40 ug/L Mn or below at all times.

Water Movement

Well #3 will operate at least 12 hours each day and Well #4 will operate 4 hours.

Well #3 pumps directly into the distribution system. The distribution system was design to allow most of the water that is pump to be diverted into the water tanks the distribution system works the same with MWD connection.

When well #3 is on, the water travels north on Carmelita Ave. to 60th Street then the water will travel east on 60th Street to Gifford Ave. and turn north again to our storage tanks. We have a 10 inch water main on Carmelita Ave., 60th Street and Gifford Ave. these are the main artery of the distribution system. Any excess water that is not being used by the system will be diverted into our tanks.

The branches to the rest of the water distribution system are 6" from north and south.

We plan on operating well #3 and well #4 in the evening, nights and early morning hours. Well#3 and well #4 will be operating at the same time; and when well #4 stops; well #3 will continue to operate until the 12 hours are up.

As the water is being pump by well #3 or purchasing water from CBMWD. The distribution system was design to allow as much water as possible to go to the pump station were we have 2 Cla-Vals or pressure relief valves that is set at 60 PSI. Once water is above 60 PSI the Cla-Vals will open and allow water into the tanks.

When ether Well #3 or MWD is operating the boosters at the pump station will not be operating.

We have been testing and adjusting formulas of running our wells since January 2009; and have had positive results from the laboratory analysis that the above mention plans are feasible.

Conclusion:

According to our calculations with a 50 / 50 blend of water from both wells we are still below the secondary MCL of 50 ug/l of manganese. However, Maywood Mutual Water Co. #1 is proposing to run are wells well below the threshold of secondary MCL level of 50 ug/l of manganese.

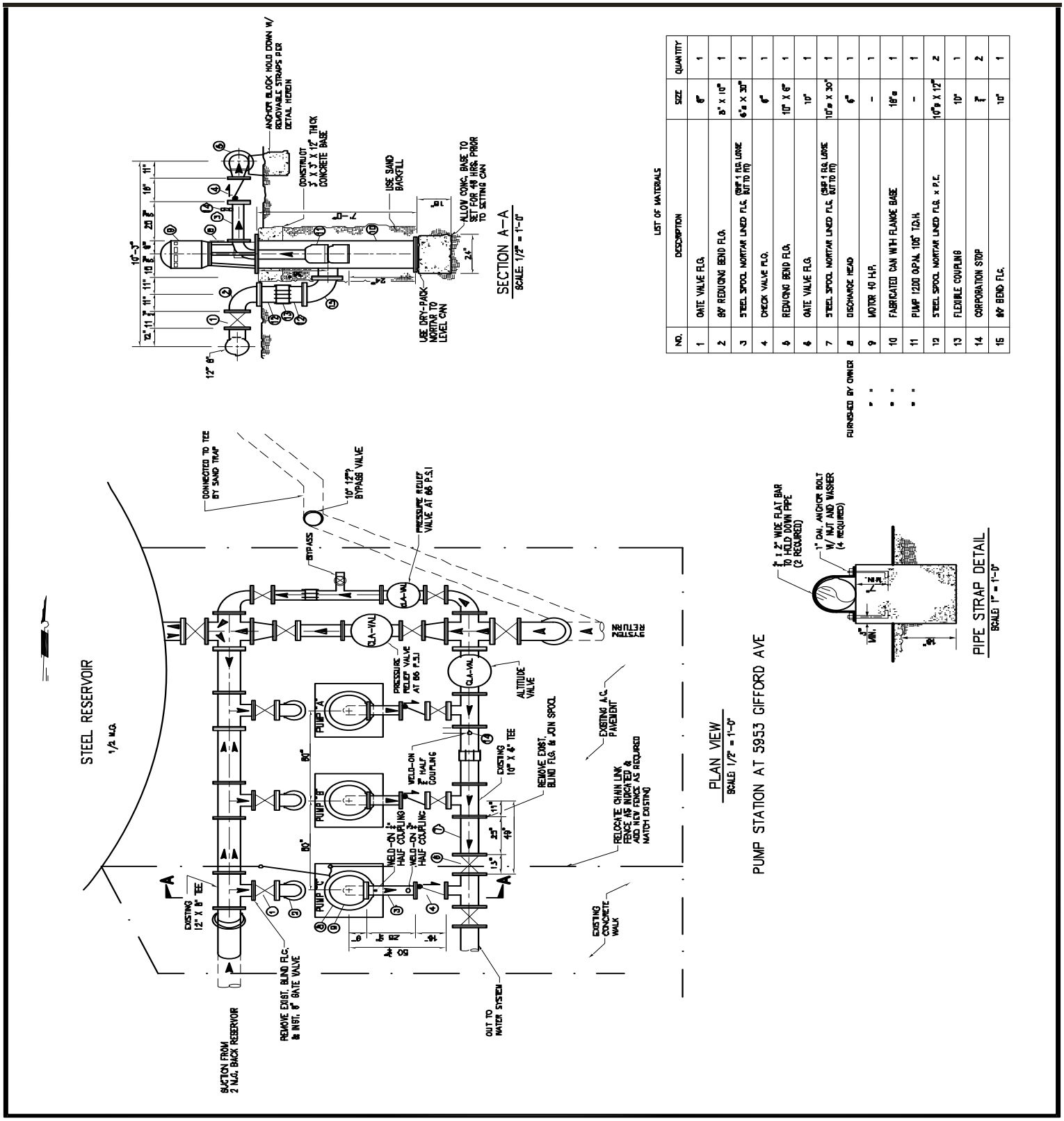
Maywood Mutual Water Co. #1 can meet and exceed reducing the levels of secondary MCL standard of 50 ug/L of manganese, by simply running our wells as table #2, #3 or #4 we will always be below the secondary MCL blending goal level of 40 ug/l of manganese in our water distribution system.

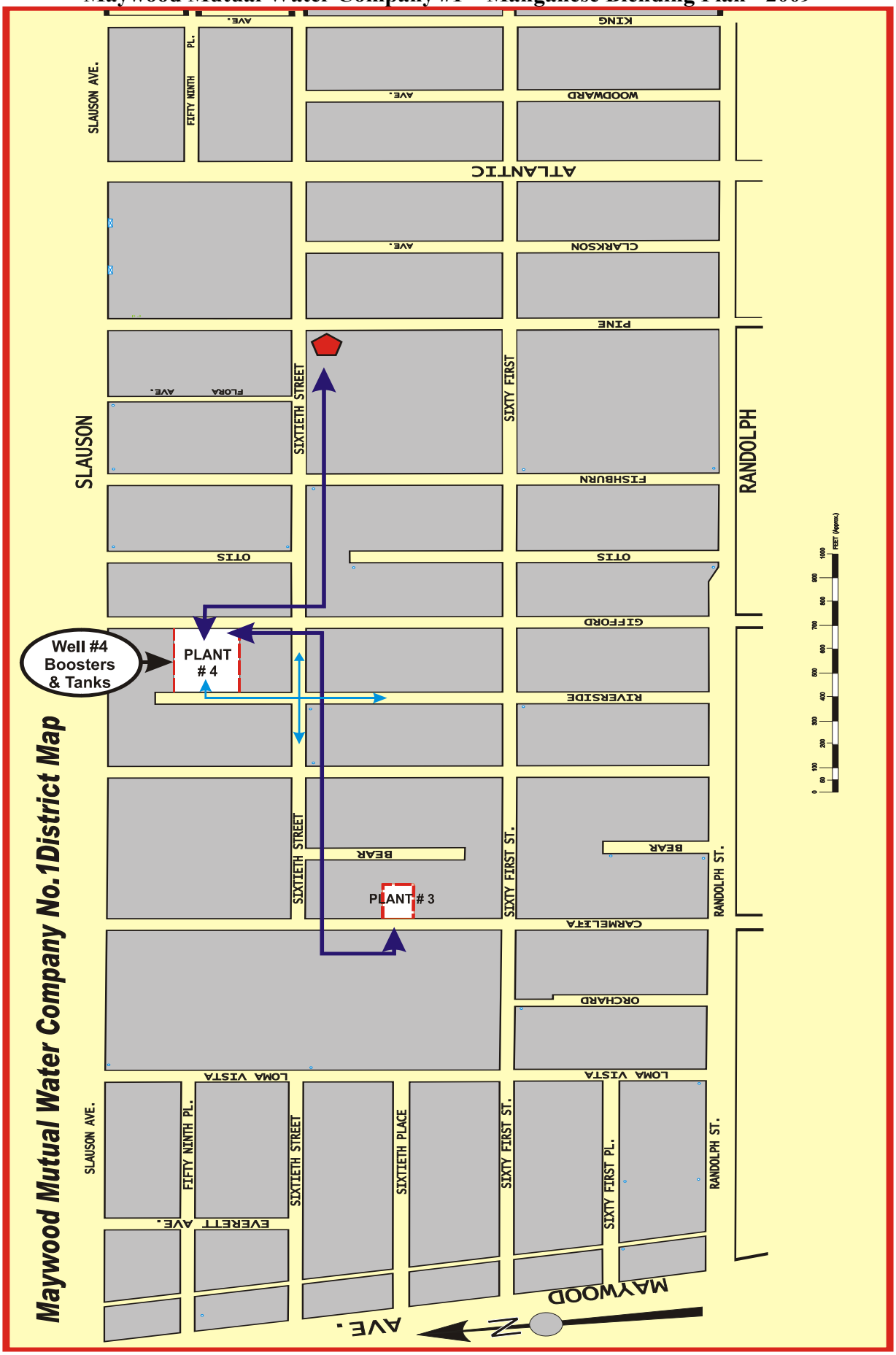
It is our desirer to provide the best potable water possible to our customers.

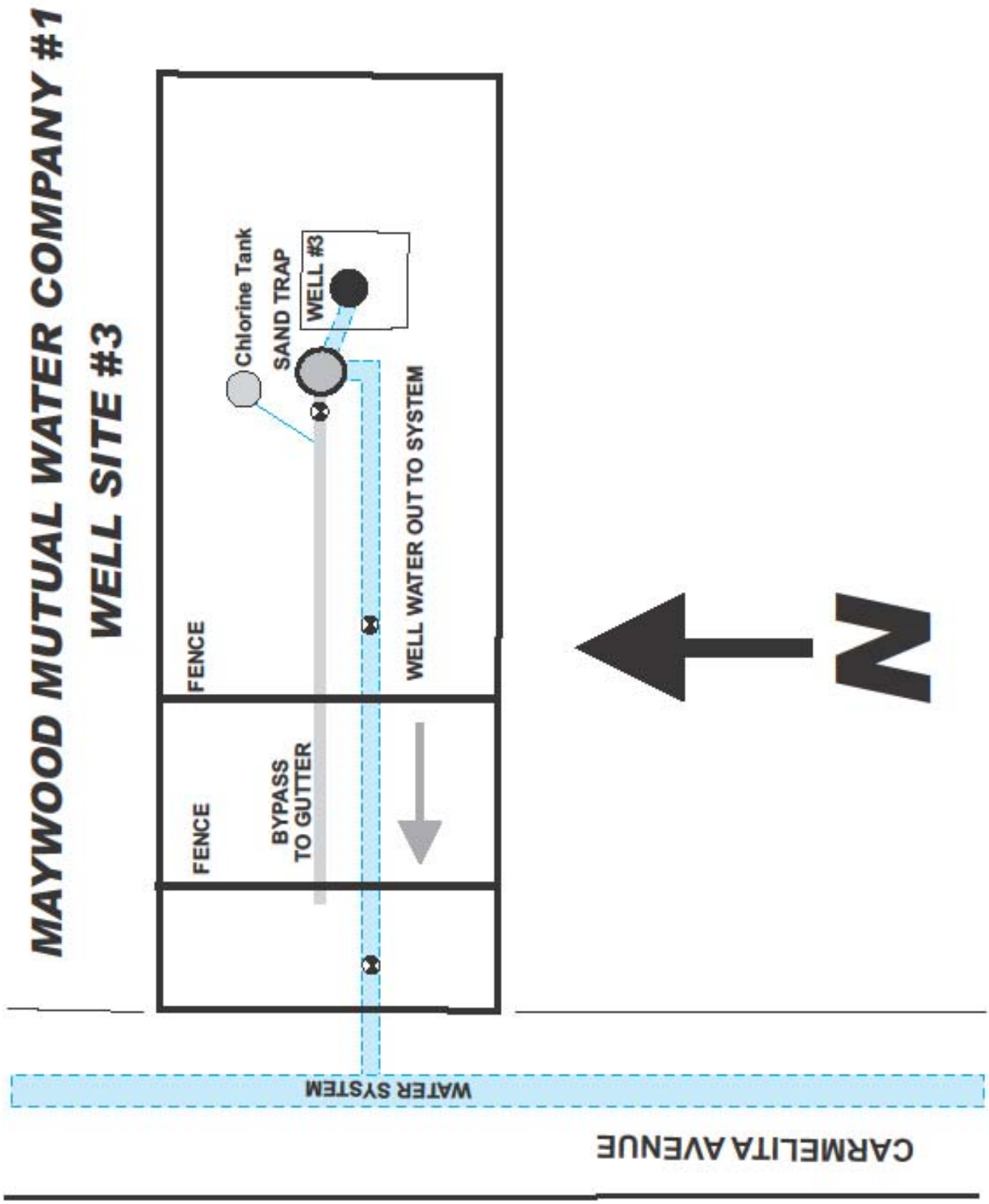
Maywood Mutual Water Co. #1 will continue to upgrade, repair and replace our infrastructure as we have in the past.

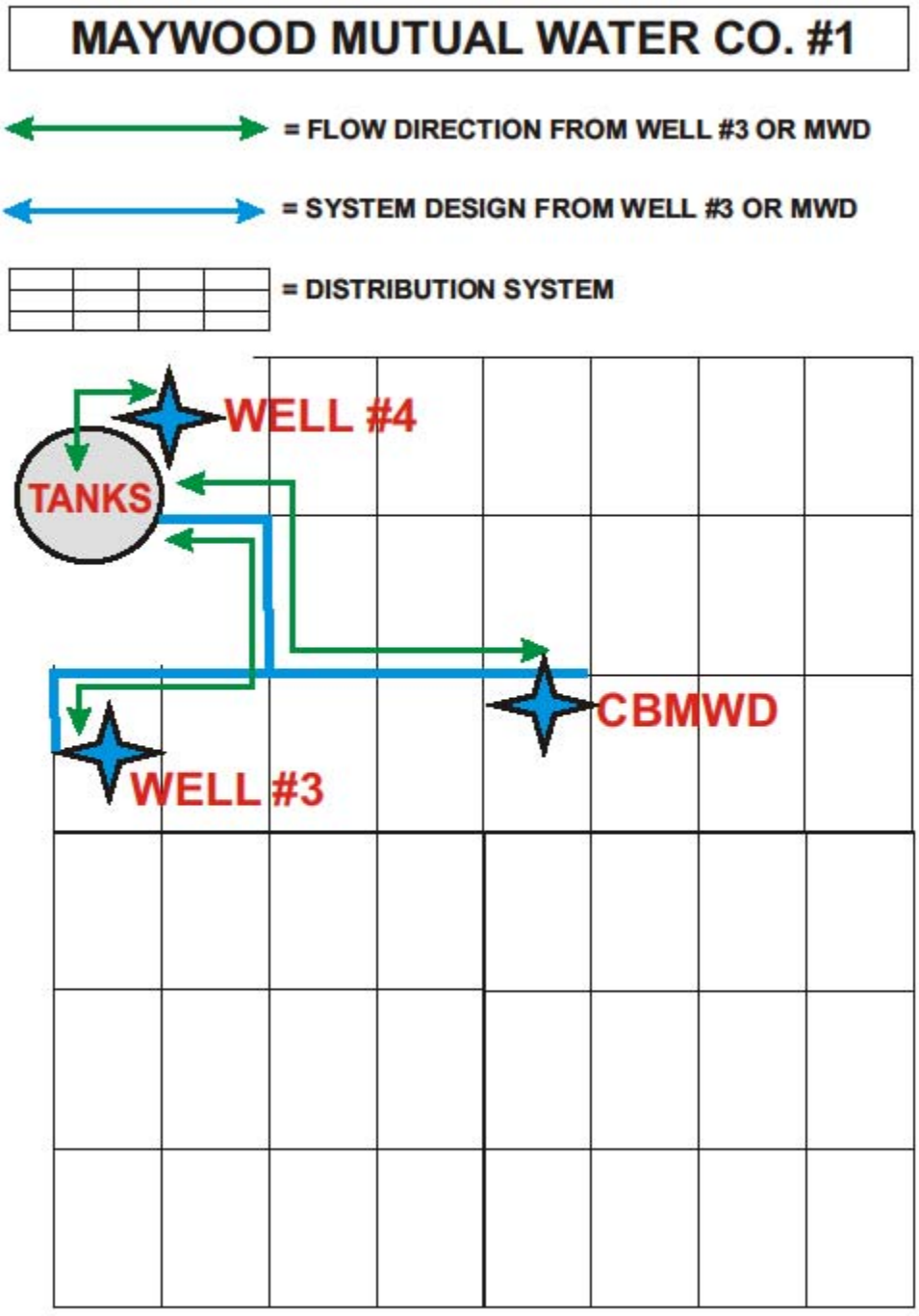
We hope this has satisfied the concerns of the California Department of Public Health (CADPH); and we look forward to your favorable response concerning our propose blending plan.

Sergio Palos
General Manager
Maywood Mutual Water Company #1


STEEL RESERVOIR
1/2 M.G.
SUCTION FROM 2 M.G. BACK RESERVOIR
REMOVE EXIST. BLND FLG. & INST. 6" GATE VALVE
EXISTING 12" X 8" TEE
OUT TO WATER SYSTEM
PUMP "A"
PUMP "B"
PUMP "C"
80"
WELD-ON 2" HALF COUPLING
WELD-ON 2" HALF COUPLING
WELD-ON 2" HALF COUPLING
CLA-VAL
PRESSURE RELIEF VALVE AT 85 P.S.I
ALTITUDE VALVE
EXISTING 10" X 6" TEE
REMOVE EXIST. BLIND FLG. & JOIN SPOOL
EXISTING A.C. PAVEMENT
RELOCATE CHAIN LINK FENCE AS NEEDED & ADD NEW FENCE AS REQUIRED MATCH EXISTING
EXISTING CONCRETE WALK
CONNECTED TO TEE BY SAND TRAP
10" 12"Ø BYPASS VALVE
BYPASS
PRESSURE RELIEF VALVE AT 85 P.S.I
RETURN
PLAN VIEW
SCALE: 1/2" = 1'-0"
PUMP STATION AT 5953 GIFFORD AVE
ANCHOR BLOCK HOLD DOWN W/ REMOVABLE STRAPS PER DETAIL HEREIN
CONSTRUCT 3' X 3' X 12" THICK CONCRETE BASE
USE SAND BACKFILL
ALLOW CONC. BASE TO SET FOR 48 HRS. PRIOR TO SETTING CAN
USE DRY-PACK MORTAR TO LEVEL CAN
12" Ø
SECTION A–A
SCALE: 1/2" = 1'-0"
LIST OF MATERIALS
NO. | DESCRIPTION | SIZE | QUANTITY
1 | GATE VALVE FLG. | 6" | 1
2 | 90° REDUCING BEND FLG. | 8" X 10" | 1
3 | STEEL SPOOL MORTAR LINED FLG. (SHIP 1 FLG. LOOSE BUT TO FIT) | 6"ø X 30" | 1
4 | CHECK VALVE FLG. | 6" | 1
5 | REDUCING BEND FLG. | 10" X 6" | 1
6 | GATE VALVE FLG. | 10" | 1
7 | STEEL SPOOL MORTAR LINED FLG. (SHIP 1 FLG. LOOSE BUT TO FIT) | 10"ø X 30" | 1
8 | DISCHARGE HEAD | 6" | 1
9 | MOTOR 40 H.P. | – | 1
10 | FABRICATED CAN WITH FLANGE BASE | 18"ø | 1
11 | PUMP 1200 GPM. 105' T.D.H. | – | 1
12 | STEEL SPOOL MORTAR LINED FLG. x P.E. | 10"ø X 12" | 2
13 | FLEXIBLE COUPLING | 10" | 1
14 | CORPORATION STOP | 2" | 2
15 | 90° BEND FLG. | 10" | 1
FURNISHED BY OWNER
" "
" "
" "
1" DIA. ANCHOR BOLT W/ NUT AND WASHER (4 REQUIRED)
2" X 1/2" WIDE FLAT BAR TO HOLD DOWN PIPE (2 REQUIRED)
PIPE STRAP DETAIL
SCALE: 1" = 1'-0"


Maywood Mutual Water Company No.1District Map
Well #4
Boosters
& Tanks
PLANT
4
PLANT # 3
SLAUSON
RANDOLPH
SLAUSON AVE.
FIFTY NINTH PL.
SIXTIETH STREET
SIXTIETH PLACE
SIXTY FIRST ST.
SIXTY FIRST PL.
RANDOLPH ST.
EVERETT AVE.
LOMA VISTA
CARMELITA
ORCHARD
BEAR
OTIS
GIFFORD
RIVERSIDE
FISHBURN
PINE
CLARKSON
WOODWARD
ATLANTIC
KING
FLORA AVE.
MAYWOOD AVE.
FEET (Approx.)


MAYWOOD MUTUAL WATER COMPANY #1
WELL SITE #3
Chlorine Tank
SAND TRAP
WELL #3
WELL WATER OUT TO SYSTEM
FENCE
FENCE
BYPASS TO GUTTER
N
WATER SYSTEM
CARMELITA AVENUE


MAYWOOD MUTUAL WATER CO. #1
= FLOW DIRECTION FROM WELL #3 OR MWD
= SYSTEM DESIGN FROM WELL #3 OR MWD
= DISTRIBUTION SYSTEM
WELL #4
TANKS
CBMWD
WELL #3

SYSTEM MANGANSESE REPORTS - MAYWOOD MUTUAL WATER COMPANY #1
Blended Water

System Name: **Maywood Mutual Water Co. #1** System No.: **1910084** Year: **2009** MONTH: **OCTOBER**

Year: 2009	JANUARY					FEBRUARY					MARCH					APRIL					MAY				
WEEK	1st	2nd	3rd	4th		1st	2nd	3rd	4th		1st	2nd	3rd	4th	5th	1st	2nd	3rd	4th		1st	2nd	3rd	4th	
(month/date):	1/5	1/12	1/20	1/26		2/2	2/9	2/17	2/23		3/2	3/9	3/17	3//24	3/30	4/6	4/13	4/20	4/27		5/4	5/11	5/18	5/26	
Site #1	38.0	23.0	28.0	ND		23.0	ND	ND	22.0		ND	23.0	ND	26.0	ND	ND	ND	ND	21.0		ND	26.0	ND	22.0	

Year: 2009	JUNE					JULY					AUGUST					SEPTEMBER					OCTOBER				
WEEK	1st	2nd	3rd	4th	5th	1st	2nd	3rd	4th		1st	2nd	3rd	4th		1st	2nd	3rd	4th		1st	2nd	3rd	4th	
(month/date):	6/1	6/8	6/15	6/22	6/29	7/6	7/13	7/20	7/27		8/3	8/10	8/17	8/20	8/24	9/8	9/12	9/21	9/28		10/5	10/12	10/19	10/26	
Site #1	ND	ND	ND	ND	40.0	ND	25.0	20.0	ND		ND	ND	ND	12.0	1/15	31.0	ND	ND	ND		ND	ND	ND	30.0	

Tested for low levels-see test sheet

Year: 2009	NOVEMBER					DECEMBER				
WEEK	1st	2nd	3rd	4th	5th	1st	2nd	3rd	4th	
(month/date):	11/2	11/9	11/16	11/23	11/30	12/1	12/8	12/15	12/22	
Site #1	ND			26.0	30.0	30.0	25.0	24.0	24.0	

MANGANSESE Ditection Level = 20ug/l - MANGANSESE MCL = 50ug/l

Identify the sample locations in the table below.

Site	Sample Location
1	4544 East 59th Place, Maywood, CA 90270 - (East End of System)

(*) = Test America - Irvine (Formerly Del Mar)

Maywood Mutual Water Company #1 • Accomplishments & System Needs

The Managing Board of Directors and General Manager of Maywood Mutual Water Company #1 main concern has always been to provide sound financial management with a proactive approach to our water infrastructure needs and to always provide clean, safe, wholesome potable drinking water to our customers.

In these past few years Maywood Mutual Water Company #1 has aggressively been updating our water system. This is done for the safety and reliability of our local water supply. The General Manager and Board of Directors are committed to improving our community water system.

Through careful management and cost-saving measures Maywood Mutual Water Company #1 has been able to accomplish many necessary upgrades within existing resources despite rising energy and other production costs. Maywood Mutual Water Company #1 has also been paying increased fees this year to local, county and state water agencies.

The following are a few of the projects Maywood Mutual Water #1 has done to improve the water system for our community.

- Replacement of over 10,000 feet (2 miles) of old 4" pipeline at the east end (Maywood side) of our system 2007
- Upgraded to 8 inch PVC non-corrosive pipeline as replacement pipes 2007
- Installed over 40 new street valves 2007
- New copper service connections for 250 customers 2007
- 10 new fire hydrants at the east end of our system to provide excellent fire protection to the area 2007
- Back-flow prevention program started along Atlantic Avenue 2007
- Installed 10 - 3" and larger commercial meters 2008
- Installed 5 large meter vaults 2008
- Cleaned the interior of our 2 million gallon water tank 2008
- Installed additional (2) Two additional 200 gallon chlorine tanks one at each well site 2008
- Secured and replaced stolen fire hydrants to stop the theft 2008
- Finish paying off all water main replacement project 2008
- Added equipment to our inventory to include a Volvo backhoe 2009
- Pipeline though the intersection of Slauson Ave. and Atlantic Ave. with tie-in on 10 inch water main 2009
- Started valve replacement program 2 or 4 valves per month 2009
- Improve security in yard by adding lights in the yard 2009
- Booster station upgrade with new more efficient pump 2009
- Applied for 7 Federal grants for over 10 million dollars 2009
- Installing modern computerized controls to monitor all wells, motors for better efficiency 2009
- (40) new customer copper water service lines on 60th Street, Fishburn Ave. and Riverside Ave. 2010
- Two (2) water tanks cleaned out 2010
- Applied for state grant for new treatment plant 2010

Maywood Mutual Water Company #1 has spent over 2.5 Million Dollars in improvements to our water system since 2002 when this present management took over the day to day duties of the Water Company.

Our dedication to improve your water system is not only in words, but in deeds. Even with all the work and improvements that have been done; in our aging water system, much work still remains to be completed. Merely replacing or rehabilitating our storage tanks, additional water lines and the rehabilitation of our water well #4 alone will cost in excess of six million dollars.

Maywood Mutual Water Company #1 has purchased a backhoe, with this equipment our crew will now be able to start changing out the old valves and customer service lines in our system. This will save many thousands of dollars instead of hiring pipeline contractors.

Other maintenance programs such as fire hydrant flushing, painting, meters and general maintenance of our well sites is always ongoing.

The cost of imported water has risen 20% this year and may increase more in the future, due to the drought that has struck California. Voluntary conservation of water must become necessary in order to have enough water for the remainder of the year or water levels in the reservoirs will be reduced even more.

Nonetheless, the general manager and Board of Directors is committed to providing safe, wholesome and potable drinking water with quality service to our customers, by keeping a sufficient supply of water, responding to any customers concerns at any hour or day, maintaining an aggressive preventative maintenance program, repairing valves or water mains when needed and upgrading the water system when opportunity presents itself. Maintaining and improving our system will require diligences and commitment.

2009 Consumer Confidence Report

Informe De Confianza De Consumidor Del Agua Del Año 2009

MAYWOOD MUTUAL WATER CO. #1

5953 South Gifford Avenue
Huntington Park, California 90255

Este informe contiene información muy imporante sobre su agua potable. Para mas información llame a (323) 560-2439

How Can I Conserve Water At Home?

Install a low-flow showerhead & save over 5 gallons of water per shower, or about 1,800 gallons per year per person!

Install a low-flow toilet or displacement device in your toilet - save 3.5 to 4.5 gals on every flush!

Run full loads in your washing machine / dishwasher - save 300 - 800 gallons per month!

Sweep your sidewalks and driveways - save 250 gallons each time by sweeping instead of hosing!

Water the lawn only when it needs it - save 50 to 100 gallons per day!

¿Cómo puedo conservar Agua En Casa?

¡Instale una regaera de flujo bajo y ahórre mas de 5 galones cada vez que se bane, o mas de 1.800 galones por año por persona!

¡Instale un inodoro de flujo bajo o reemplaze la bomba dentro del tanque de su tasa - ahorre de 3.5 galones a 4.5 galones por uso!

¡De marcha a sus lavadora/lavaplatos solo con carga llenas - ahorre de 300 - 800 galones al mes!

¡Barra las banquetas y cocheras - ahorre 250 galones de agua cada hora con la escoba en vez de regar!

¡Riegue el césped solo cuando sea necesarrio - ahorre 50 a 100 galones por día!

This Report has imporant information about your water. Please call our office if you have any concerns at (323) 560-2439

Maywood Mutual Water Company No.1

2009 CONSUMER CONFIDENCE REPORT

Since 1991, California water utilities have been providing information on water served to its consumers. This report is a snapshot of the tap water quality that we provided last year. Included are details about where your water comes from, how it is tested, what is in it, and how it compares with state and federal limits. We strive to keep you informed about the quality of your water, and to provide a reliable and economic supply that meets all regulatory requirements.

Where Does My Tap Water Come From?

Your tap water comes from 2 sources: groundwater and surface water. We pump groundwater from local, deep wells. We also use Metropolitan Water District of Southern California's (MWD) surface water from both the Colorado River and the State Water Project in northern California. These water sources supply our service area shown on the adjacent map. The quality of our groundwater and MWD's surface water supplies is presented in this report.

How is My Drinking Water Tested?

Your drinking water is tested regularly for unsafe levels of chemicals, radioactivity and bacteria at the source and in the distribution system. We test weekly, monthly, quarterly, annually or less often depending on the substance. State and federal laws allow us to test some substances less than once per year because their levels do not change frequently. All water quality tests are conducted by specially trained technicians in state-certified laboratories.

What Are Drinking Water Standards?

The U.S Environmental Protection Agency (USEPA) limits the amount of certain substances allowed in tap water. In California, the State Department of Public Health (Department) regulates tap water quality by enforcing limits that are at least as stringent as the USEPA's. Historically, California limits are more stringent than the Federal ones.

There are two types of these limits, known as standards. Primary standards protect you from substances that could potentially affect your health. Secondary standards regulate substances that affect the aesthetic qualities of water. Regulations set a Maximum Contaminant Level (MCL) for each of the primary and secondary standards. The MCL is the highest level of a substance that is allowed in your drinking water.

Public Health Goals (PHGs) are set by the California Environmental Protection Agency. PHGs provide more information on the quality of drinking water to customers, and are similar to their federal counterparts, Maximum Contaminant Level Goals (MCLGs). PHGs and MCLGs are advisory levels that are nonenforceable. Both PHGs and MCLGs are concentrations of a substance below which there are no known or expected health risks.

How Do I Read the Water Quality Table?

Although we test for over 100 substances, regulations require us to report only those found in your water. The first column of the water quality table lists substances detected in your water. The next columns list the average concentration and range of concentrations found in your drinking water. Following are columns that list the MCL and PHG or MCLG, if appropriate. The last column describes the likely sources of these substances in drinking water.

To review the quality of your drinking water, compare the highest concentration and the MCL. Check for substances greater than the MCL. Exceedence of a primary MCL does not usually constitute an immediate health threat. Rather, it requires testing the source water more frequently for a short duration. If test results show that the water continues to exceed the MCL, the water must be treated to remove the substance, or the source must be removed from service.

Why Do I See So Much Coverage in the News About the Quality Of Tap Water?

The sources of drinking water (both tap water and bottled water) include rivers, lakes, streams, ponds, reservoirs, springs and wells. As water travels over the surface of the land or through the ground, it dissolves naturally occurring minerals and, in some cases, radioactive material, and can pick up substances resulting from the presence of animals or from human activity;

Contaminants that may be present in source water include:

- Microbial contaminants, including viruses and bacteria, that may come from sewage treatment plants, septic systems, agricultural livestock operations, and wildlife;
- Inorganic contaminants, such as salts and metals, that can be naturally-occurring or result from urban stormwater runoff, industrial or domestic wastewater discharges, oil and gas production, mining or farming;
- Pesticides and herbicides, which may come from a variety of sources such as agriculture, urban stormwater runoff, and residential uses;
- Organic chemical contaminants, including synthetic and volatile organic chemicals, that are byproducts of industrial processes and petroleum production, and can also come from gas stations, urban stormwater runoff, agricultural application, and septic systems;
- Radioactive contaminants, which can be naturally occurring or be the result of oil and gas production and mining activities.

In order to ensure that tap water is safe to drink, the USEPA and the Department prescribe regulations that limit the amount of certain contaminants in water provided by public water systems. Department regulations also establish limits for contaminants in bottled water that must provide the same protection for public health.

All drinking water, including bottled water, may reasonably be expected to contain at least small amounts of some contaminants. The presence of contaminants does not necessarily indicate that water poses a health risk. More information about contaminants and potential health effects can be obtained by calling the USEPA's Safe Drinking Water Hotline (1-800-426-4791). You can also get more information on tap water by logging on to these helpful web sites:

- www.epa.gov/OGWDW (USEPA's web site)
- www.cdph.ca.gov (Department of Public Health web site)

Should I Take Additional Precautions?

Some people may be more vulnerable to contaminants in drinking water than the general population. Immunocompromised persons such as persons with cancer undergoing chemotherapy, persons who have undergone organ transplants, people with HIV/AIDS or other immune system disorders, some elderly, and infants can be particularly at risk from infections. These people should seek advice about drinking water from their health care providers. The USEPA/Centers for Disease Control guidelines on appropriate means to lessen the risk of infection of *Cryptosporidium* and other microbial contaminants are available from the USEPA's Safe Drinking Water Hotline by calling: (1-800-426-4791).

Source Water Assessment

MWD completed an assessment of its Colorado River and State Water Project supplies in 2002. Colorado River supplies are considered most vulnerable to recreation, urban/storm water runoff, increasing urbanization in the watershed, and wastewater. State Water Project supplies are considered most vulnerable to urban/storm water runoff, wildlife, agriculture, recreation and wastewater. A copy of the assessment can be obtained by contacting MWD at (213) 217-6850.

Maywood Mutual Water Company No. 1 conducted an assessment of its groundwater supplies in May of 2003. Groundwater supplies are considered most vulnerable to historic gas stations, chemical/petroleum processing/storage, metal plating/finishing/fabricating, automobile body shops, automobile gas stations, and dry cleaners. A copy of the approved assessment may be obtained by contacting the main office.

How Can I Participate in Decisions On Water Issues That Affect Me?

All shareholders our welcome to attend Board meetings on the third Monday of each month at 11:00 a.m., and the annual shareholders meeting the third Saturday of July at 11:00 a.m. at 5953 South Gifford Ave., Huntington Park, CA 90255.

How Do I Contact My Water Agency If I Have Any Questions About Water Quality?

If you have specific questions about your tap water quality, please contact Sergio Palos at (323) 560-2439.

Maywood Mutual Water Company #1 Mission Statement

"Maywood Mutual Water Company No. 1, shall deliver to our shareholders a reliable supply of quality drinking water through preventative maintenance, efficient pumping and distribution methods, informing and servicing our customers, in a professional and courteous manner"

Maywood Mutual Board of Directors for 2009 - 2010

Sergio Palos	Donald Jervis	Giovanni Samayoa	Orley Waite	Guillermo Sánchez
President / Gen. Manager	Treasurer	Board Member	Board Member	Secretary

MAYWOOD MUTUAL WATER COMPANY No. 1
2009 CONSUMER CONFIDENCE REPORT

Results are from the most recent testing performed in accordance with state and federal drinking water regulations. The State allows the monitoring for some contaminants less than once per year because the concentrations of these contaminants do not change frequently. Some of the data, though representative, are more than one year old.

PRIMARY STANDARDS MONITORED AT THE SOURCE - MANDATED FOR PUBLIC HEALTH

ORGANIC CHEMICALS	GROUNDWATER AVERAGE (a)	GROUNDWATER RANGE (a)	MWD'S SURFACE WATER AVERAGE (a)	MWD'S SURFACE WATER RANGE (a)	PRIMARY MCL	MCLG or PHG	MAJOR SOURCES IN DRINKING WATER
INORGANIC Sampled from 2007 to 2009 (b)							
Aluminum (mg/l)	0.01	ND - 0.02	0.14	ND - 0.24	1	0.6 (c)	Erosion of natural deposits; residue from surface water treatment processes
Arsenic (µg/l)	ND	ND	2.5	ND - 3.9	10	0.004	Erosion of natural deposits; glass/eletronics production wastes; runoff
Barium (mg/l)	0.15	0.12 - 0.16	0.08	ND - 0.14	1	2 (c)	Oil drilling waste and metal refinery discharge; erosion of natural deposits
Fluoride (mg/l) (l)	0.43	0.42 - 0.44	0.80	0.6 - 1.0	2.0	1 (c)	Erosion of natural deposits; water additive that promotes strong teeth
Nitrate (mg/l as NO3)	1.40	ND - 2.80	2.30	0.9 - 4.2	45	45 (c)	Runoff and leaching from fertilizer use/sepic tanks/sewage, natural erosion
Perchlorate (ug/l)	ND	ND	ND	ND	6	6	Perchloate is an inorganic chemical used in solid rocket propellant, fireworks, explosives, flares, matches and a variety of industries. It usually gets into drinking water as a result of environmental contamination from historic aero-space or other industrial operations that used or use, store or dispose of prechlorate and its salts.
RADIOLOGICAL - (pCi/l) Analyzed 4 consecutive quarters every 4 years (results are from 2006 to 2009) (b)							
Gross Alpha	0.4	0.4	4.7	ND - 9.3	15 (c)	0	Erosion of natural deposits
Gross Beta	NA	NA	2.8	ND - 9.7	50 (e)	0	Decay of natural and man made deposits
Radium 226	NA	NA	ND	ND	5 (d)	0.05	Erosion of natural deposits
Radium 228	0.83	ND - 1.7	ND	ND	5 (d)	0.019	Erosion of natural deposits
Uranium	0.75	ND - 1.5	2.7	1.6 - 3.7	20 (e)	0.43 (c)	Erosion of natural deposits

PRIMARY STANDARDS MONITORED AT THE DISTRIBUTION SYSTEM - MANDATED FOR PUBLIC HEALTH

MICROBIALS	DISTRIBUTION SYSTEM AVERAGE # POSITIVE	DISTRIBUTION SYSTEM RANGE OF # POSITIVE	PRIMARY MCL	MCLG or PHG	
Total Coliform Bacteria	0	0	< 1 positive	0	Naturally present in the environment
Fecal Coliform and *E. Coli* Bacteria	0	0	0	0	Human and animal fecal waste
No. of Acute Violations	0	0	-	-	

MICROBIALS	DISTRIBUTION SYSTEM AVERAGE	DISTRIBUTION SYSTEM RANGE	PRIMARY MCL	MCLG or PHG	
Turbidity (NTU)	0.3	< 0.1 - 1.2	TT	-	Soil runoff

DISINFECTION BY-PRODUCTS AND DISINFECTION RESIDUALS (f)	DISTRIBUTION SYSTEM AVERAGE	DISTRIBUTION SYSTEM RANGE	PRIMARY MCL	MCLG or PHG	
Total Trihalomethanes - TTHMS (µg/l)	46.4	ND - 20.9	80	-	By-product of drinking water chlorination
Haloacetic Acids (µg/l)	14.9	ND - 3.6	60	-	By-product of drinking water disinfection
Total Chlorine Residual (mg/l)	0.6	0.57 - 0.75	4.0 (g)	4.0 (h)	Drinking water disinfection added for treatment

AT THE TAP PHYSICAL CONSTITUENTS 25 sites sampled In 2007	DISTRIBUTION SYSTEM 90%ile	DISTRIBUTION SYSTEM # OF SITES ABOVE THE AL	PRIMARY MCL	MCLG or PHG	
Copper (mg/l)	ND (i)	0	1.3 AL	0.17 (c)	Internal corrosion of household plumbing, erosion of natural deposits
Lead (µg/l)	ND (i)	0	15 AL	2 (c)	Internal corrosion of household plumbing, industrial manufacturer discharges

SECONDARY STANDARDS MONITORED AT THE SOURCE - FOR AESTHETIC PURPOSES

Sampled from 2007 to 2009 (b)	GROUNDWATER AVERAGE	GROUNDWATER RANGE	MWD'S SURFACE WATER AVERAGE	MWD'S SURFACE WATER RANGE	SECONDARY MCL	MCLG or PHG	
Aggressiveness Index (corrosivity)	12.8	12.4 - 13	12.1	12.0 - 12.4	Non-Corrosive	-	Natural/Industrially-influenced balance of hydrogen/carbon/oxygen in water
Aluminum (µg/l) (j)	6	ND - 18	135	ND - 240	200	600 (c)	Erosion of natural deposits, surface water treatment process residue
Chloride (mg/l)	54.3	50 - 58	91	77 - 100	500	-	Runoff / leaching from natural deposit, seawater influence
Color (color units)	ND	ND	2	1 - 2	15	-	Naturally - occurring organic materials
Conductivity (uS/cm)	680	660 - 700	863.3	570 - 1100	1600	-	Substances that form ions when in water; seawater influence
Iron (µg/l)	74.9	ND - 200	ND	ND	300	-	Leaching from natural deposits; industrial wastes
Langlier Index (corrosivity) (SI)	0.46	0.46	NA	NA	Non-Corrosive	-	Natural/industrial-influenced balance of hydrogen/carbon/oxygen in water
Manganese (µg/l)	41.1	ND - 92 (k)	ND	ND	50	-	**Leaching from natural deposits**
Oder (threshold odor number)	0.5	ND - 1	2	2.0	3	-	Naturally - occurring organic materials
Sulfate (mg/l)	106.7	100 - 120	182	56 - 260	500	-	Runoff / leaching from natural deposits, industrial wastes
Total Dissolved Solids (mg/l)	396.7	370 - 420	520	310 - 660	1,000	-	Runoff / leaching from natural deposits
Turbidity (NTU)	0.24	ND - 0.85	0.05	0.04 - 0.06	5	-	Soil runoff

SECONDARY STANDARDS MONITORED AT THE DISTRIBUTION SYSTEM - FOR AESTHETIC PURPOSES

GENERAL PHYSICAL CONSTITUENTS	DISTRIBUTION SYSTEM AVERAGE	DISTRIBUTION SYSTEM RANGE	SECONDARY MCL	MCLG or PHG	
Color (color units)	6	< 3 - 10			Naturally - occurring organic materials
Odor (threshold odor number)	1	1.0			Naturally - occurring organic materials

ADDITIONAL CHEMICALS OF INTEREST

Sampled in 2007 - 2009 (b)	GROUNDWATER AVERAGE	GROUNDWATER RANGE	MWD'S SURFACE WATER AVERAGE	MWD'S SURFACE WATER RANGE
Alkalinity (mg/l)	160	150 - 180	110	84 - 130
Boron (µg/l)	180	180	153	120 - 220
Bromate (µg/l)	NA	NA	NA	NA
Calcium (mg/l)	66.7	63 - 71	56	27 - 76
Magnesium (mg/l)	15	14 - 16	22.3	11 - 30
N-Nitrosodimethylamine (ng/l)	NA	NA	2.03	ND - 5.1
pH (standard unit)	7.7	7.5 - 7.9	8.0	7.8 - 8.0
Potassium (mg/l)	3.7	3.6 - 3.7	4.1	2.6 - 5.3
Silica (mg/l)	28	28	NA	NA
Sodium (mg/l)	54	53 - 55	88.3	66 - 100
Total Hardness (mg/l)	230	210 - 240	230	120 - 310
Total Organic Carbon (mg/l)	1.1	1.1	2.1	1.2 - 2.6
Vanadium (µg/l)	ND	ND	4.2	ND - 6.7

FOOTNOTES

(a) Over 50 regulated and unregulated organic chemicals were analyzed. None were detected at or above the reporting limit in groundwater or surface water sources.

(b) Indicates dates sampled for groundwater sources only.

(c) California Public Health Goal (PHG). Other advisory levels listed in this column are federal Maximum Contaminant Level Goals (MCLGs).

(d) Combined Radium 226 + Radium 228 has a Maximum Contaminant Level (MCL) of 5 pCi/L.

(e) MCL compliance based on 4 consecutive quarters of sampling.

(f) Running annual average used to calculate average, range, and MCL compliance.

(g) Maximum Residual Disinfectant Level (MRDL)

(h) Maximum Residual Disinfectant Level Goal (MRDLG)

(i) 90th percentile from the most recent sampling at selected customer taps.

(j) Aluminum has primary and secondary standards.

(k) The secondary MCL for manganese was exceeded in one (1) out of two (2) wells in 2009. Manganese has been detected at elevated levels since 1995 and has been monitored monthly or quarterly since. Groundwater is blended with surface water before delivery to the customer, which dilutes the amount of manganese actually reaching the tap. Manganese samples taken weekly in the distribution system averaged well below regulatory limits. The manganese MCL is set to protect against unpleasant effects such as color, taste, odor, and staining of laundry/plumbing fixtures. A manganese secondary MCL exceedance does not pose a health risk.

(l) MWD started adding flouride at each treatment plant in the fall of 2007. MWD was in compliance with the provisions of the State's requirements.

ABBREVIATIONS

ABBREVIATIONS: **NA** = constituent not analyzed • **NTU** = nephelometric trubidity
uS/cm = Microsimens per centimeter = a measure of electrical conductivity
ND = constituent not detected at the reporting limit
< = less than • **SI** = saturation index • **pCi/l** = picoCuries per liter
mg/l = milligrams per liter or parts per million . . . (equivalent to 1 drop in 42 gallons)
µg/l = micrograms per liter or parts per billion . . . (equivalent to 1 drop in 42,000 gallons)
ng/l = nanograms per liter or parts per trillion . . . (equivalent to 1 drop in 42,000,000 gallons)

DEFINITIONS

DEFINITIONS: ***Maximum Contaminant Level (MCL)*:** 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. ***Maximum Contaminant Level Goal (MCLG)*:** 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. ***Maximum Residual Disinfectant Level (MRDL)*:** 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. ***Public Health Goal (PHG)*:** 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. ***Treatment Technique (TT)*:** A required process intended to reduce the level of a contaminant in drinking water. ***Regulatory Action Level (AL)*:** The concentration of a contaminant which, if exceeded, triggers treatment or other requirements that a water system must follow. ***Primary Drinking Water Standard (PDWS)*:** MCLs and MRDLs for contaminants that affect health along with their monitoring and reporting requirements, and water treatment requirements.

APPENDIX A

MAYWOOD MUTUAL WATER COMPANY #2

WATER SYSTEM INFORMATION

Maywood Mutual Water Company #2 serves potable water to portions of Cities of Maywood and Huntington Park. Approximately 97% of the distribution system is located in Maywood and the remaining 3% is in Huntington Park. A total of approximately 1,179 acre-feet of water was produced by the Maywood Mutual Water Company #2 in 2009, of which approximately 97% (1,144 acre-feet) of the total production was served to the City of Maywood, according to the Maywood Mutual Water Company #2. The system is a grid with a single pressure zone. The following table contains the sources of supply for Maywood Mutual Water Company #2.

Source	Capacity (gpm)	Remarks
Maywood Avenue Well (Well #1)	1,300	Pumps into a storage tank and is then boosted into the district system
52nd Street Well (Well #2)	1,000	Pumps into a storage tank and is then boosted into the district system
CBMWD Pine Avenue PRV	2,500	Feeds directly into distribution system

Maywood Mutual Water Company #2 also has interconnection with Maywood Mutual Water Company #1 and Maywood Mutual Water Company #3 that can be used during emergencies.

Maywood Mutual Water Company #2 is completing construction and testing of a manganese removal system at the 52nd Street site. Once the system is tested and permitted manganese from this well will be below the AB 890 levels. The capacity of the treatment plant is 1,100 gpm.

Maywood Mutual Water Company #2

-5207 Maywood Ave Pumplot

One 70 ft. 1000K gal. tank
Two 70 ft. 370K gal. tank
One 150 hp. Deep Turbine Well, 1300 GPM
Two 15 hp. Fire Booster Pumps, 1600 GPM @ 20psi.
Three 40 hp. Boosters @ Hydropneumatic Pressure Station

-4421 52nd St. Pumplot

One 36 ft. 190K gal. tank
One 50 hp. Booster Pump
One 125 hp. Deep Turbine Well Pump, 1000 GPM

-5315 Pine Ave. Pumplot

Destroyed 10/2002 under LA County Health Dept. Permit

-5915 Pine Ave. Pressure Reducing Station

One 8" Hartman Sleeve Valve
One 12" Venturi Meter
One Flow Control and Totalizer Cabinet on west sidewalk

-Interconnection with Maywood Mutual Water Company # 1

Located at the Northwest Corner of Carmelita Ave. and Slauson Ave.
Two 6" Gate Valves, north and south sides of Slauson Ave.

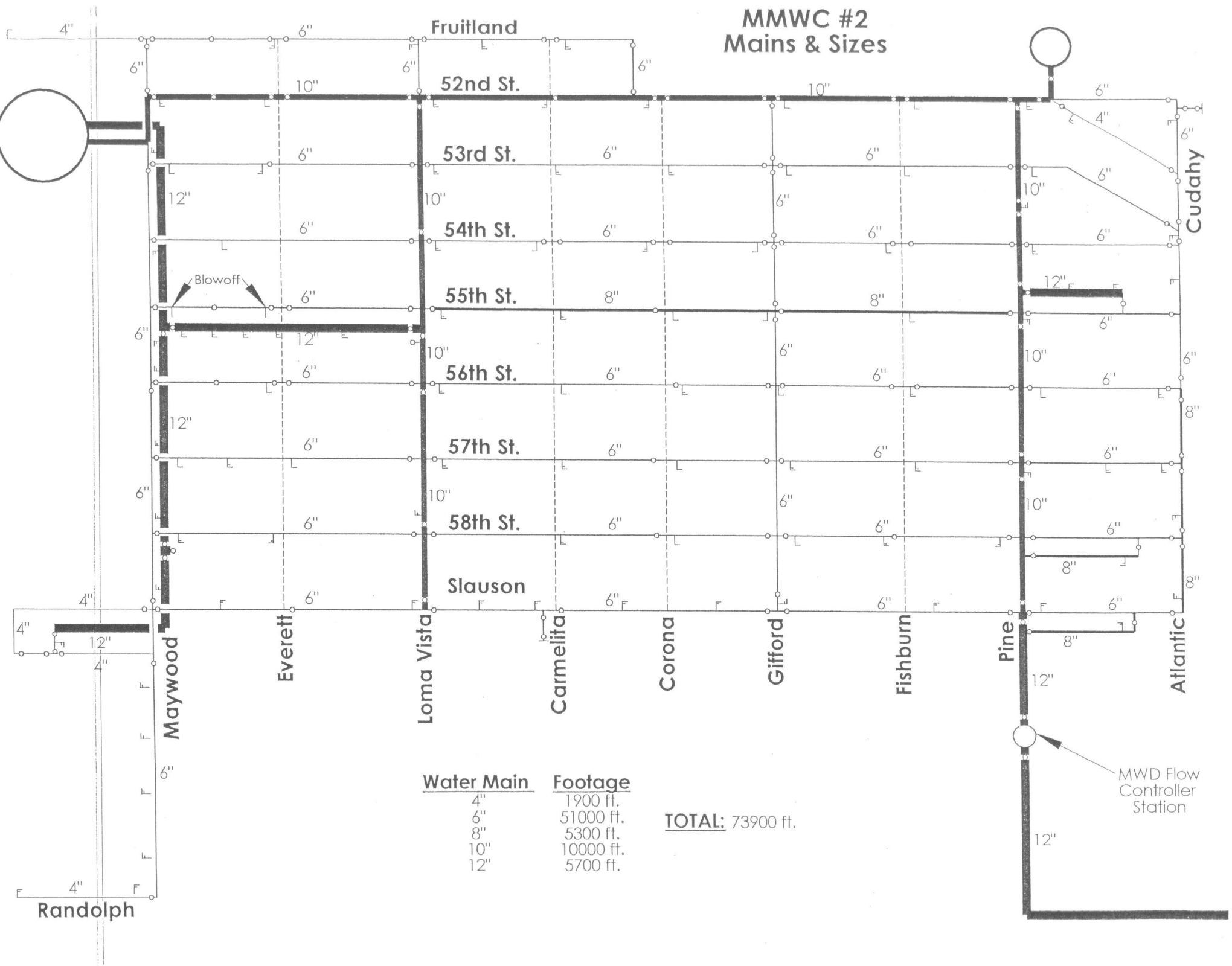
-Interconnection with Maywood Mutual Water Company #3

Located at the Southwest Corner of 52nd St. and Cudahy
Two 6" Gate Valves, east and west sides of Cudahy

-Maywood Mutual Water Company # 2 Office

Located on 3521 E. Slauson Ave.

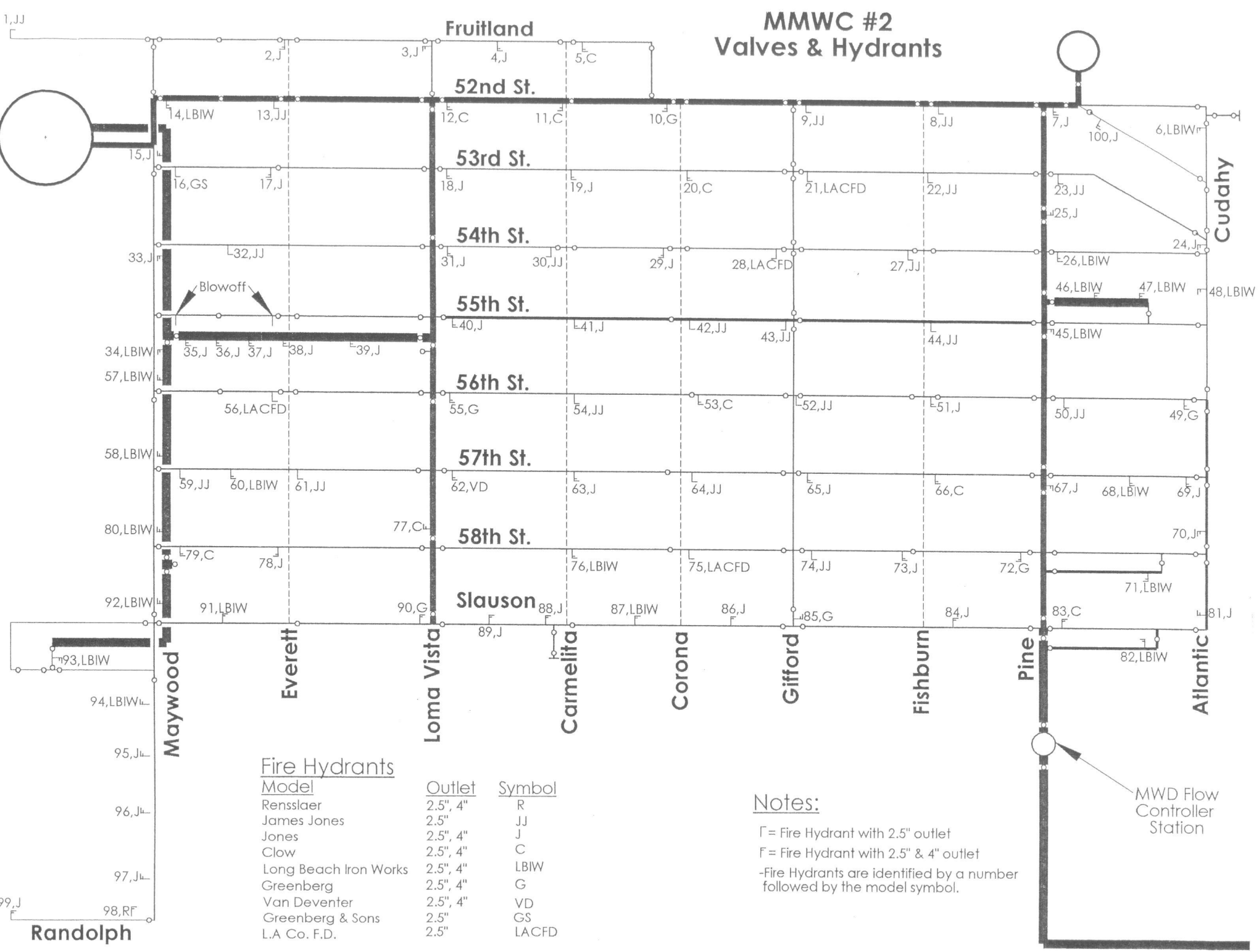
MMWC #2
Mains & Sizes



Water Main	Footage
4"	1900 ft.
6"	51000 ft.
8"	5300 ft.
10"	10000 ft.
12"	5700 ft.

TOTAL: 73900 ft.

MMWC #2
Valves & Hydrants



Fire Hydrants

Model	Outlet	Symbol
Rensslaer	2.5", 4"	R
James Jones	2.5"	JJ
Jones	2.5", 4"	J
Clow	2.5", 4"	C
Long Beach Iron Works	2.5", 4"	LBIW
Greenberg	2.5", 4"	G
Van Deventer	2.5", 4"	VD
Greenberg & Sons	2.5"	GS
L.A Co. F.D.	2.5"	LACFD

Notes:

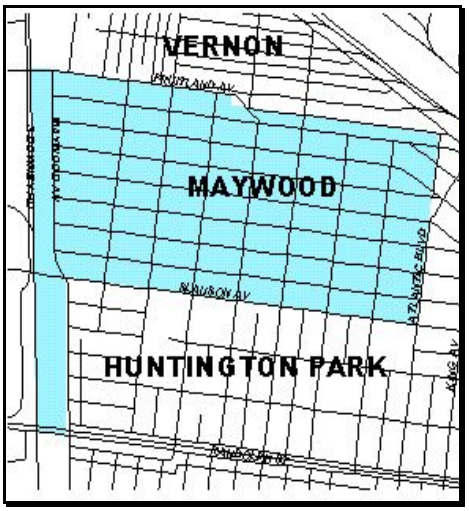
⌜ = Fire Hydrant with 2.5" outlet

⌜ = Fire Hydrant with 2.5" & 4" outlet

-Fire Hydrants are identified by a number followed by the model symbol.

MAYWOOD MUTUAL WATER COMPANY NO. 2
2009 CONSUMER CONFIDENCE REPORT

Since 1991, California water utilities have been providing information on water served to its consumers. This report is a snapshot of the tap water quality that we provided last year. Included are details about where your water comes from, how it is tested, what is in it, and how it compares with state and federal limits. We strive to keep you informed about the quality of your water, and to provide a reliable and economic supply that meets all regulatory requirements.



Where Does My Tap Water Come From?

Your tap water comes from local, deep groundwater wells that supply our service area shown on the adjacent map. The quality of groundwater delivered to your home is presented in this report.

How is My Drinking Water Tested?

Your drinking water is tested regularly for unsafe levels of chemicals, radioactivity and bacteria at the source and in the distribution system. We test weekly, monthly, quarterly, annually or less often depending on the substance. State and federal laws allow us to test some substances less than once per year because their levels do not change frequently. All water quality tests are conducted by specially trained technicians in state-certified laboratories.

What Are Drinking Water Standards?

The U.S Environmental Protection Agency (USEPA) limits the amount of certain substances allowed in tap water. In California, the State Department of Public Health (Department) regulates tap water quality by enforcing limits that are at least as stringent as the USEPA's. Historically, California limits are more stringent than the Federal ones.

There are two types of these limits, known as standards. Primary standards protect you from substances that could potentially affect your health. Secondary standards regulate substances that affect the aesthetic qualities of water. Regulations set a Maximum Contaminant Level (MCL) for each of the primary and secondary standards. The MCL is the highest level of a substance that is allowed in your drinking water.

Public Health Goals (PHGs) are set by the California Environmental Protection Agency. PHGs provide more information on the quality of drinking water to customers, and are similar to their federal counterparts, Maximum Contaminant Level Goals (MCLGs). PHGs and MCLGs are advisory levels that are nonenforceable. Both PHGs and MCLGs are concentrations of a substance below which there are no known or expected health risks.

How Do I Read the Water Quality Table?

Although we test for over 100 substances, regulations require us to report only those found in your water. The first column of the water quality table lists substances detected in your water. The next columns list the average concentration and range of concentrations found in your drinking water. Following are columns that list the MCL and PHG or MCLG, if appropriate. The last column describes the likely sources of these substances in drinking water.

To review the quality of your drinking water, compare the highest concentration and the MCL. Check for substances greater than the MCL. Exceedence of a primary MCL does not usually constitute an immediate health threat. Rather, it requires testing the source water more frequently for a short duration. If test results show that the water continues to exceed the MCL, the water must be treated to remove the substance, or the source must be removed from service.

Why Do I See So Much Coverage in the News About the Quality Of Tap Water?

The sources of drinking water (both tap water and bottled water) include rivers, lakes, streams, ponds, reservoirs, springs and wells. As water travels over the surface of the land or through the ground, it dissolves naturally occurring minerals and, in some cases, radioactive material, and can pick up substances resulting from the presence of animals or from human activity.

Contaminants that may be present in source water include:

- Microbial contaminants, including viruses and bacteria, that may come from sewage treatment plants, septic systems, agricultural livestock operations, and wildlife;

- Inorganic contaminants, such as salts and metals, that can be naturally-occurring or result from urban stormwater runoff, industrial or domestic wastewater discharges, oil and gas production, mining or farming;
- Pesticides and herbicides, that may come from a variety of sources such as agriculture, urban stormwater runoff, and residential uses;
- Organic chemical contaminants, including synthetic and volatile organic chemicals, that are byproducts of industrial processes and petroleum production, and can also come from gas stations, urban stormwater runoff, agricultural application, and septic systems;
- Radioactive contaminants, that can be naturally occurring or be the result of oil and gas production and mining activities.

In order to ensure that tap water is safe to drink, the USEPA and the Department prescribe regulations that limit the amount of certain contaminants in water provided by public water systems. Department regulations also establish limits for contaminants in bottled water that must provide the same protection for public health.

All drinking water, including bottled water, may reasonably be expected to contain at least small amounts of some contaminants. The presence of contaminants does not necessarily indicate that water poses a health risk. More information about contaminants and potential health effects can be obtained by calling the USEPA's Safe Drinking Water Hotline (1-800-426-4791). You can also get more information on tap water by logging on to these helpful web sites:

- **www.epa.gov/OGWDW** (USEPA's web site)
- **www.cdph.ca.gov** (Department of Public Health web site)

If present, elevated levels of lead can cause serious health problem, especially for pregnant women and young children. Lead in drinking water is primarily from materials and components associated with services lines and home plumbing. Maywood Mutual Water Company No. 2 is responsible for providing high quality drinking water, but cannot control the variety of materials used in plumbing components. When your water has been sitting for several hours, you can minimize the potential for lead exposure by flushing your tap for 30 seconds to 2 minutes before using water for drinking or cooking. If you are concerned about lead in your water, you may wish to have your water tested. Information on lead in drinking water, testing methods, and steps you can take to minimize exposure is available from the Safe Drinking Water Hotline or at **http://www.epa.gov/safewater/lead**.

Should I Take Additional Precautions?

Some people may be more vulnerable to contaminants in drinking water than the general population. Immunocompromised persons such as persons with cancer undergoing chemotherapy, persons who have undergone organ transplants, people with HIV/AIDS or other immune system disorders, some elderly, and infants can be particularly at risk from infections. These people should seek advice about drinking water from their health care providers. The USEPA/Centers for Disease Control guidelines on appropriate means to lessen the risk of infection of *Cryptosporidium* and other microbial contaminants are available from the USEPA's Safe Drinking Water Hotline (1-800-426-4791).

Source Water Assessment

Maywood Mutual Water Company No. 2 conducted an assessment of its groundwater supplies in 2003. Groundwater supplies are considered most vulnerable to electrical/electronic manufacturing, chemical/petroleum processing/storage, sewer collection systems, historic gas stations, military installations, metal plating/finishing/fabricating, automobile repair shops, fleet/truck/bus terminals, wood/pulp/paper processing and mills, and landfills/dumps. A copy of the approved assessment may be viewed at the water company office.

How Can I Participate in Decisions On Water Issues That Affect Me?

Shareholders are welcome to attend monthly Board of Directors meetings the third or fourth Tuesday of each month at 4:00 p.m. at 3521 E. Slauson Avenue, Maywood CA 90270. Please call the office at least one day prior to the meeting to be placed on the agenda.

How Do I Contact My Water Agency If I Have Any Questions About Water Quality?

If you have specific questions about your tap water quality, please contact Gustavo N. Villa at (323) 581-5816.

Some Helpful Water Conservation Tips

- Fix leaky faucets in your home – save up to 20 gallons every day for every leak stopped
- Save between 15 and 50 gallons each time by only washing full loads of laundry
- Adjust your sprinklers so that water lands on your lawn/garden, not the sidewalk/driveway – save 500 gallons per month
- Use organic mulch around plants to reduce evaporation – save hundreds of gallons a year

MAYWOOD MUTUAL WATER COMPANY No. 2
2009 CONSUMER CONFIDENCE REPORT

Results are from the most recent testing performed in accordance with state and federal drinking water regulations

PRIMARY STANDARDS MONITORED AT THE SOURCE-MANDATED FOR PUBLIC HEALTH

ORGANIC CHEMICALS (µg/l)	GROUNDWATER AVERAGE	GROUNDWATER RANGE	PRIMARY MCL	MCLG or PHG	MAJOR SOURCES IN DRINKING WATER
	(a)	(a)			
INORGANICS Sampled from 2007 to 2009 (b)					
Aluminum (mg/l)	ND	ND	1	0.6 (c)	Erosion of natural deposits; residue from surface water treatment processes
Arsenic (µg/l)	ND	ND	10	0.004	Erosion of natural deposits; glass/electronics production wastes; runoff
Barium (mg/l)	ND	ND	1	2 (c)	Oil drilling waste and metal refinery discharge; erosion of natural deposits
Fluoride (mg/l)	0.37	0.34-0.4	2.0	1 (c)	Erosion of natural deposits, water additive that promotes strong teeth
Nitrate (mg/l as NO3)	1.8	ND - 7.1	45	45 (c)	Runoff and leaching from fertilizer use/septic tanks/sewage, natural erosion
Perchlorate (µg/l)	ND	ND	6	6	Industrial waste discharge
RADIOLOGICAL - (pCi/l) Analyzed 4 consecutive quarters every 4 years (results are from 2006 to 2009) (b)					
Gross Alpha	1.5	1.5	15 (e)	0	Erosion of natural deposits
Radium 226	NA	NA	5 (d)	0.05	Erosion of natural deposits
Radium 228	NA	NA		0.019	Erosion of natural deposits
Uranium	ND	ND	20 (e)	0.43 (c)	Erosion of natural deposits

PRIMARY STANDARDS MONITORED IN THE DISTRIBUTION SYSTEM - MANDATED FOR PUBLIC HEALTH

MICROBIALS	DISTRIBUTION SYSTEM AVERAGE # POSITIVE	DISTRIBUTION SYSTEM RANGE OF # POSITIVE	PRIMARY MCL	MCLG or PHG	
Total Coliform Bacteria	0	0	< 1 positive	0	Naturally present in the environment
Fecal Coliform and *E.Coli* Bacteria	0	0	0	0	Human and animal fecal waste
No. of Acute Violations	0	0	-	-	

MICROBIALS	DISTRIBUTION SYSTEM AVERAGE	DISTRIBUTION SYSTEM RANGE			
Turbidity (NTU)	0.7	0.1 - 1.5	TT	-	Soil runoff

DISINFECTION BY-PRODUCTS (f) AND DISINFECTION RESIDUALS	DISTRIBUTION SYSTEM HIGHEST RUNNING ANNUAL AVERAGE	DISTRIBUTION SYSTEM RANGE	PRIMARY MCL	MCLG or PHG	
Total Trihalomethanes-TTHMS (µg/l)	20.7	17.4 - 26.9	80	-	By-product of drinking water chlorination
Haloacetic Acids (µg/l)	3.6	3.1 - 3.9	60	-	By-product of drinking water disinfection
Total Chlorine Residual (mg/l)	0.74	0.24 - 1.98	4.0 (g)	4.0 (h)	Drinking water disinfectant added for treatment

AT THE TAP PHYSICAL CONSTITUENTS 20 sites sampled in 2007	DISTRIBUTION SYSTEM 90%ile	DISTRIBUTION SYSTEM # OF SITES ABOVE THE AL	PRIMARY MCL	MCLG or PHG	
Copper (mg/l)	0.17 (i)	0	1.3 AL	0.3 (c)	Internal corrosion of household plumbing, erosion of natural deposits
Lead (µg/l)	ND (i)	0	15 AL	2 (c)	Internal corrosion of household plumbing, industrial manufacturer discharges

SECONDARY STANDARDS MONITORED AT THE SOURCE-FOR AESTHETIC PURPOSES

Sampled from 2007-2009 (b)

	GROUNDWATER		SECONDARY	MCLG	
	AVERAGE	RANGE	MCL	or PHG	
Aggressiveness Index (corrosivity)	12	12	Non-corrosive	-	Natural/industrially-influenced balance of hydrogen/carbon/oxygen in water
Aluminum (µg/l) (j)	ND	ND	200	600 (c)	Erosion of natural deposits, surface water treatment process residue
Chloride (mg/l)	45.5	34-57	500	-	Runoff/leaching from natural deposits, seawater influence
Color (color units)	ND	ND	15	-	Naturally-occurring organic materials
Conductivity (uS/cm)	595	540-650	1,600	-	Substances that form ions when in water, seawater influence
Iron (µg/l)	18.5	ND - 360	300	-	Leaching from natural deposits, industrial wastes
Langlier Index (corrosivity) (SI)	NA	NA	Non-corrosive	-	Natural/industrially-influenced balance of hydrogen/carbon/oxygen in water
Manganese (µg/l)	***63.5***	ND -***150 (k)***	***50***	**-**	***Leaching from natural deposits***
Odor (threshold odor number)	ND	ND	3	-	Naturally-occurring organic materials
Sulfate (mg/l)	74.5	70-79	500	-	Runoff/leaching from natural deposits, industrial wastes
Total Dissolved Solids (mg/l)	375	330-420	1,000	-	Runoff/leaching from natural deposits
Turbidity (NTU)	0.12	ND-0.23	5	-	Soil runoff

SECONDARY STANDARDS MONITORED IN THE DISTRIBUTION SYSTEM-FOR AESTHETIC PURPOSES

GENERAL	DISTRIBUTION SYSTEM		SECONDARY	MCLG	
PHYSICAL CONSTITUENTS	AVERAGE	RANGE	MCL	or PHG	
Color (color units)	6.4	<3 - 20	15	-	Naturally-occurring organic materials
Odor (threshold odor number)	1	1	3	-	Naturally-occurring organic materials

ADDITIONAL CHEMICALS OF INTEREST

Sampled from 2007 - 2009 (b)

	GROUNDWATER	
	AVERAGE	RANGE
Alkalinity (mg/l)	190.0	180-200
Boron (µg/l)	NA	NA
Bromate (µg/l)	NA	NA
Calcium (mg/l)	53.5	53-54
Magnesium (mg/l)	13.0	12-14
N-Nitrosodimethylamine (ng/l)	NA	NA
pH (standard unit)	7.9	7.9
Potassium (mg/l)	3.6	3.3-3.9
Sodium (mg/l)	53.5	43-64
Total Hardness (mg/l)	185.0	180-190
Vanadium (µg/l)	NA	NA
1,4-Dioxane (ug/l)	NA	NA

FOOTNOTES

(a) California Public Health Goal (PHG). Other advisory levels listed in this column are federal Maximum Contaminant Level Goals (MCLGs).
(b) Indicates dates sampled for groundwater sources only.
(c) California Public Health Goal (PHG). Other advisory levels listed in this column are federal Maximum Contaminant Level Goals (MCLGs).
(d) Combined Radium 226 + Radium 228 has a Maximum Contaminant Level (MCL) of 5 pCi/L.
(e) MCL compliance based on 4 consecutive quarters of sampling.
(f) Running annual average used to calculate average, range, and MCL compliance.
(g) Maximum Residual Disinfectant Level (MRDL)
(h) Maximum Residual Disinfectant Level Goal (MRDLG)
(i) 90th percentile from the most recent sampling at selected customer taps.
(j) Aluminum has primary and secondary standards.
(k) The secondary MCL for manganese was exceeded in two wells in 2009. Both wells have experienced manganese at elevated levels on a regular basis since 1990. Groundwater is blended with surface water before delivery to the customer, which dilutes the amount of manganese actually reaching the tap. The manganese secondary MCL is set to protect against unpleasant effects such as color, taste, odor, and staining of laundry/plumbing fixtures. A manganese secondary MCL exceedance does not pose a health risk.

ABBREVIATIONS

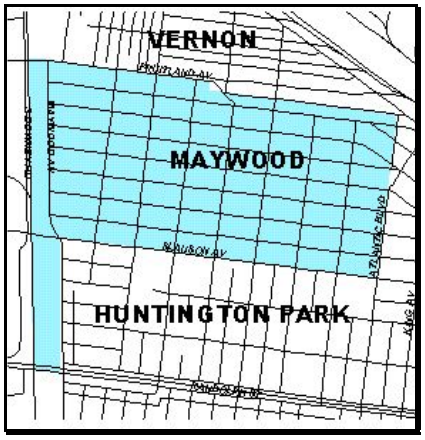
< = less than
NA = constituent not analyzed
mg/l = milligrams per liter or parts per million (equivalent to 1 drop in 42 gallons)
ng/l = nanograms per liter or parts per trillion (equivalent to 1 drop in 42,000,000 gallons)
SI = saturation index
ND = constituent not detected at the reporting limit
pCi/l = picoCuries per liter
NTU = nephelometric turbidity units
uS/cm = microSiemens per centimeter
µg/l = micrograms per liter or parts per billion (equivalent to 1 drop in 42,000 gallons)

DEFINITIONS

Maximum Contaminant Level (MCL) **:** 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.
Maximum Contaminant Level Goal (MCLG): 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.
Maximum Residual Disinfectant Level (MRDL): 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.
Maximum Residual Disinfectant Level Goal (MRDLG): 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 disinfectant to control microbial contaminants.
Public Health Goal (PHG) : 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.
Treatment Technique (TT) : A required process intended to reduce the level of a contaminant in drinking water.
Regulatory Action Level (AL) **:** The concentration of a contaminant which, if exceeded, triggers treatment or other requirements that a water system must follow.
Primary Drinking Water Standard (PDWS) : MCLs and MRDLs for contaminants that affect health along with their monitoring and reporting requirements, and water treatment requirements.
Secondary Water Standard (SDWS) : MCLs and MRDLs for contaminants that affect the aesthetic qualities of water.

LA COMPAÑÍA DE AGUA DE MAYWOOD MUTUAL No. 2
INFORME DE CONFIANZA DE CONSUMIDOR de 2009

Desde 1991, las agencias proveedoras de recursos hidráulicos de California han emitido información sobre el agua que se provee al consumidor. Este informe es una copia del informe sobre la calidad del agua potable que le proveímos el año pasado. Incluímos detalles sobre el origen del agua que toma, cómo se analiza, que contiene, y cómo se compara con los límites estatales y federales. Nos esforzamos por mantenerle informado sobre la calidad de su agua, y proveerle un abastecimiento confiable y económico que cumpla con todos los requisitios.



¿De Dónde Proviene el Aqua que Tomo?
Su agua del grifo viene de pozos de agua subterránea locales, profundos que suministran nuestra área de servicio mostrada en el mapa adyacente. La calidad de agua subterránea entregada a su casa es presentada en este informe.

¿Cómo Se Analiza Mi Agua Potable?
El agua que toma se analiza regularmente para asegurarnos de que no halla niveles altos de sustancias químicas, de radioactividad o de bacteria en el sistema de distribución y en las tomas de servicios. Estos análisis se llevan a cabo semanal, mensual, trimestral, y anualmente o con más frecuencia, dependiendo de la sustancia analizada. Bajo las leyes estatales y federales, se nos permite analizar algunas sustancias menos frecuentemente que los periodos anuales porque los resultados no cambian.

¿Cuales Son Los Estándares del Agua Potable?
La Agencia federal de Proteción al Medio Ambiente (USEPA) impone los límites de las cantidades de ciertos contaminantes en el agua potable. En California, el Ministerio de Asuntos Exteriores de la Seguridad Social Pública (Departamento) regula la calidad de agua del grifo haciendo cumplir límites que son al menos tan rigurosos como el USEPA'S. Historicamente, los estandares de California han sido más estrictos que los federales.

Hay dos tipos de límites conocidos como estándares. Los estándares primarios lo protegen de sustancias que potencialmente podrían afectar su salud. Las normas establecen los Niveles Contaminantes Máximos (MCL, en inglés) que se permite del contaminante primario o secundario en el agua de beber. Los abastecedores de agua deben asegurarse de que la calidad de esta cumpla con los Niveles Contaminantes Máximos (o MCLs, en inglés). No todas las sustancias tienen un Nivel Contaminante Máximo. El plomo y el cobre, por ejemplo, son regulados, por cierto nivel de acción. Si cualquier sustancia química sobrepasa el nivel de acción, se dará la necesidad de un proceso de tratamiento para rebajar los niveles en el agua de beber. Los abastecedores de agua deben cumplir con los Niveles Contaminantes Máximos para asegurar la calidad del agua.

Las Metas para la Salud Pública (MSP [o PHGs, en inglés]) son establecidas por la agencia estatal de California-EPA. Las PHGs proveen más información con respecto a la calidad del agua, y son similares a los reglamentos federales nombrados Metas para Los Niveles de Contaminante *Maximos* (MNCM [o MCLGs, en inglés]). Las PHGs y MCLGs son metas a nivel recomendable. Las PHG y MCLG son ambas definidas como los niveles de contaminantes en el agua potable por debajo de los niveles donde no se esperan riesgos a la salud y no enforzables. Ambos niveles PHG y MCLG son concentraciones de una sustancia en las que no hay riesgos a la salud aún conocidos.

¿Cómo Interpreto Mi Informe de Calidad del Agua?
Aunque analizamos más de 100 sustancias, las normas nos requireren que reportemos solo aquellas que se encuentran en el agua. La primer columna en la tabla de la calidad de agua muestra la lista de las sustancias detectadas en el agua. La siguiente columna muestra la lista de la concentracion promedio y el rango de concentraciones que se hallan encontrado en el agua que usted toma. En seguida están las listas de el MCL, el PHG y el MCLG, si estos son apropiados. La última columna describe las probables fuentes u origen de las sustancias detectadas en el agua potable.

Para revisar la calidad de su agua de beber, compare los valores por encima del promedio, mínimos y máximos y el Nivel Contaminante Máximo. Revise todos los químicos que se encuentran por encima del Nivel Contaminante Máximo. Si los químicos sobrepasan el Nivel Contaminante Máximo no significa que sea detrimental a la salud de inmediato. Más bien, se requiere que se realizen análisis más frecuentemente en el abastecimiento del agua por un corto período. Si los resultados muestran sobrepasar el MCL, el agua debe ser tratada para remover esa sustancia, o el abastecimiento de esta debe decomisionarse.

¿Por Qué Hay Tanta Publicidad Sobre La Calidad Del Agua Potable?
Las fuentes del agua potable (de ambas agua de la llave y agua embotellada) incluye ríos, lagos, arroyos, lagunas, embalses, manantiales, y pozos. Al pasar el agua por la superficie de los suelos o por la tierra, se disuelven minerales que ocurren al natural, y en algunas ocasiones, material radioactivo, al igual que pueden levantar sustancias generadas por la presencia de animales o por actividades humanas.

Entre los contaminantes que puenden existir en las fuentes de agua se incluyen:

- Contaminantes microbiales como los viruses y la bacteria, los que pueden venir de las plantas de tratamiento de aguas negras, de los sistemas sépticos, de las operaciones de ganadería, y de la vida salvaje;
- Contaminantes inorgánicos, como las sales y los metales, los cuales pueden ocurrir naturalmente o como resultado del desagüe pluvial, industrial, o de alcantarillado, producción de gas natural y petróleo, minas y agricultura.
- Pesticidas y herbicidas, los cuales pueden venir de varias fuentes tales como la agricultura, del desagüe pluvial, y de usos residenciales;
- Contaminantes de otras sustancias químicas orgánicas, incluyendo químicos orgánicos volátiles y sintéticos que son productos de procesos industriales y de la producción de petróleo, y que pueden provenir de las estaciones de gasolina, desagües pluviales urbanos, y agricultura application y de sistemas sépticos;
- Contaminantes radioactivos, los cuales puenden ocurrir naturalmente o que puenden ser resultados de las actividades de la producción de gas natural y minería.

Para asegurarse que el agua potable sea saludable, la USEPA y el Departamento impone reglamentos que limitan las cantidades de ciertos contaminantes en el agua que los sistemas públicos de agua proveen. Los reglamentos de Departamento también establecen límites de contaminantes en el agua embotellada la cual debe proveer la misma protección a la salud pública.

Toda el agua potable, incluyendo el agua embotellada, puede contener cantidades pequeñas de ciertos contaminantes. La presencia de contaminantes no necesariamente indica que haya algún riesgo de salud. Para más información acerca de contaminantes y riesgos a la salud favor de llamar a la USEPA encargada de proteger el agua potable al teléfono (1-800-426-4791). Usted puede obtener más información sobre el agua potable al conectarse al Internet en los siguientes domicilios:

• **www.epa.gov/OGWDW** (el sitio Web del USEPA) • **www.cdph.ca.gov** (sitio Web de Departamento de Salud Pública)

Si presente, los niveles elevados del plomo pueden causar el problema de salud serio, sobre todo para mujeres embarazadas y chiquitos. El plomo en el agua potable es principalmente de materiales y componentes asociados con líneas de servicios y a casa fontanería. Maywood Compañía de Echar agua Mutua el No 2 es responsable de proporcionar el agua potable de alta calidad, pero no puede controlar la variedad de materiales usados en la fontanería de componentes. Cuando su echar agua ha estado sentándose durante varias horas, usted puede minimizar el potencial para la exposición de plomo limpiando con agua su grifo durante 30 segundos a 2 minutos antes de usar el echar agua para beber o cocinarse. Si usted está preocupado por el plomo en su echar agua, usted puede desear hacer probar su echar agua. La información en el plomo en el agua potable, probando métodos, y pasos que usted puede tomar para minimizar la exposición está disponible de la Línea directa de Agua Potable Segura o en **http://www.epa.gov/safewater/lead**.

¿Debería Tomar Otras Precauciones?

Algunas personas pueden ser más vulnerables a los contaminantes en el agua potable que el público en general. Las personas que tienen problemas imunológicos, o sea esas personas que estén en tratamiento por medio de quimoterapia cancerosa; personas que tienen órganos transplantados, o personas con SIDA o desordenes imunológicos, personas de edad avanzada, y los bebés que son particularmente suseptibles a ciertas infecciones. Estas personas deben de consultar a sus proveedores de salud médica. Las guias de la USEPA/Centros de Control de Enfermedades aconsejan cómo disminuir los riesgos para prevenir la infección de Cryptosporidium y otros contaminantes microbiales están disponibles por teléfono de la USEPA encargada de proteger el agua potable al teléfono (1-800-426-4791).

Valoración de su Abastecimiento de Agua

La compañía de agua de Maywood Mutual #2 condujo una valoración de su abastecimiento de aguas subterráneas en el 2003. El abastecimiento de aguas subterráneas es considerado mas vulnerable a la manufactura electrónica y eléctrica; a químicos, procesos petroleros, a sistemas de colección de alcantarillados; a estaciones de gasolina históricas; a instalaciones militares; al plateado, acabado, y fabricación de metal; a talleres automotrices; a flotas, camiones, y terminales de autobuses; a la elaboración y fabricación de madera, pasta, y papel; y a depósitos bajo tierra y basureros. Una copia de la valoración aprobada puede ser leer a la oficina a la 3521 E. Slauson Ave.

¿ Cómo Puedo Participar en las Decisiones Sobre Asuntos Acerca del Agua Que Me Puedan Afectar ?

Los accionistas son bienvenidos asisten a reuniones de Junta directiva mensuales el tercer o cuarto martes de cada mes en 4:00 en 3521 E. Avenida de Slauson, Maywood CA 90270. Por favor llame la oficina al menos un día antes de la reunión para ser colocada por el orden del día.

¿Cómo Me Pongo En Contacto Con Mi Agencia del Agua Si Tengo Preguntas Sobre La Calidad Del Agua?

Si usted tiene preguntas específicas sobre la calidad del agua potable, por favor llame a Gustavo N. Villa (323) 581-5816.

Algunas extremidades provechosas de la conservación del agua

• Arreglar los grifos que gotean en su hogar - excepto hasta 20 galones cada día por cada detenido de fugas
• Guardar entre 15 y 50 galones por cada vez que el lavado sólo cargas completas de ropa
• Ajuste sus regaderas de modo que el agua caiga en su césped / jardín, no la acera / calzada - excepto 500 galones por mes
• Utilice pajote orgánico alrededor de las plantas para reducir la evaporación - guardar cientos de galones por año

MAYWOOD MUTUAL WATER COMPANY NO. 2

2009 CONSUMER CONFIDENCE REPORT

Este informe contiene información muy importante sobre su agua potable. Tradúzcalo ó hable con alguien que lo entienda bien. Para obtener una copia en Español, llame a (323) 581-5816.

MAYWOOD MUTUAL WATER COMPANY NO. 2

3521 E. SLAUSON AVE

MAYWOOD, CA 90270

APPENDIX A

MAYWOOD MUTUAL WATER COMPANY #3

WATER SYSTEM INFORMATION

Maywood Mutual Water Company #3 serves portions of the Cities of Maywood, Bell, and Vernon (industrial). A total of approximately 1,502 acre-feet of water was produced by the Maywood Mutual Water Company #3 in 2009, of which approximately 52% (772 acre-feet) of total water sold by Maywood Mutual Water Company #3 was supplied to customers in the City of Maywood. The following table contains information on Maywood Mutual Water Company #3 supply sources.

Source	Capacity (gpm)	Remarks
Prospect Well (Well #1)	750	Pumps into a storage tank and is then boosted into the district system
Warehouse Well (Well #7)	1,000	Pumps into a storage tank and is then boosted into the district system
District Well (Well #4)	1,300	Pumps into a storage tank and is then boosted into the district system

Maywood Mutual Water Company #3 also has emergency connections with Maywood Mutual Water Company #2 and Southern California Water Company.

2008/2009 Water Year **MAYWOOD MUTUAL WATER COMPANY No. 3**

CITY/WATER UTILITY INFORMATION

CITY/WATER UTILITY	MAYWOOD MUTUAL WATER COMPANY No. 3 System # 19–086	
SERVICE AREA	City of Maywood, and City of Bell, small part of Vernon (industrial)	
AREA (SQUARE MILES)	<ONE Square Mile	19 miles of pipe 100,000 feet of service mains
SERVICE AREA POPULATION	9,500	Average of 4.9 per household Average useage150 gpd per person
NUMBER OF CONNECTIONS	2023 total	1954 residential customers
NUMBER OF CONNECTIONS ACTIVE	2004 total	1938 residential customers
WATER RIGHTS	1407 A/F	Average years demand 1625 A/F

Location and State ID#		Latitude		Longitude
Well #57 State #02S/12W-19C003S(New)	N	33.98876559	W	-118.177776981
Well #4 District State #02S/12W-19J02S	N	33.98028463	W	-118.170564025
Prospect Well State # 02S/12W-19M02S	N	33.97948985	W	-118.183579003

FACILITY

WBMWD METER CONNECTIONS	NUMBER	CAPACITY (GPM)	FEEDER
1. GARFIELD & RANDOLPH	WB31a	3,000	Middle (south)
TOTAL		**3,000**	

INTERCONNECTIONS/EMERGENCY CONNECTIONS

Description/Location	AGENCY	CAPACITY
1. Atlantic & 52nd street	Maywood Mutual Water Co. No. 2	System Pressure 6" main
2. Atlantic & Gage	So. Calif Water Company	System Pressure 6" main
TOTAL		**1,000 (GPM) each**

BOOSTER STATIONS

Description/Location	Capacity (GPM)	Discharge	Suction	# of Pumps	Standby power
1. District 4-District & Randolph	2150	x	Res/Well	3	250KW Gen.
2. Prospect 1-Prospect & Filmore	1650	x	Res/Well	3	N
3. 57th street 3 warehouse	1100	x	Res. Only	2	N
TOTAL	**4900**	May-00		**8**	May-00

RESERVOIRS

Description/Location	Storage (MG)	Source	Average Fill	Standby power
1. District 4	4	Well/System	2.6	N
2. Prospect 1	0.5	Well/System	0.3	N
3. 57th street 3 warehouse	0.175	Well/System	0.12	N
4. Elevated Tank 5519 District	0.2	System	0.125	N
TOTAL	**4.875**		**3.145**	

WELLS

Description/Location	Capacity (GPM)	Previous years Prod.	Discharge	Treatment	Standby power
1. District 4	1360	479 A/F	Res/System	Hypo	250KW Gen.
2. Prospect 1	400	479 A/F	Res/System	Hypo	N
3. 57th street 7 warehouse	1113	493 A/F	Res. Only	Hypo	N
4. MWD Connection/8" pressure valve	2000	0 A/F	System/Res	Clorimine	Gravity feed
TOTAL	**4873**	**1451 A/F**			

MWD Connection 80–160psi 2000 (GPM)
12" MWD Main to our 8" System 6" Reducing Clay Valve adjustable from 30psi-100psi

325,851	GALLONS/A/F
7.480509642	GALLONS/C/F
43,560	C/F/A/F
748.0509642	GALLONS/1C

PRESSURE ZONES
Number of Zones ONE 52–58psi

2009–2010

	January 1/1/2009	February 2/1/2009	March 3/1/2009	April 4/1/2009	May 5/1/2009	June 6/1/2009	July 7/1/2009	August 8/1/2009	September 9/1/2009	October 10/1/2009	November 11/1/2009	December 12/1/2009 Motor Blown Out
GALLONS												
Plant 1 Prospect												
0	8480190	10967050	13718800	16203520	18911500	21312940	23895250	27241890	30508850	33883210	37041530	37633320
	2571700	2486860	2751750	2484720	2707980	2401440	2582310	3346640	3266960	3374360	3158320	591790
ACRE FEET	59.0381	57.0904	63.1715	57.0413	62.1667	55.1295	59.2817	76.8283	74.9991	77.4646	72.5051	13.5856
ELECTRIC USED	6884/528	7394/510	7955/561	8468/513	9033/545	9536/503	10078/542	10781/543	11465/684	12172/708	12834/662	12955/121
Hours per Acre Foot run/time	8.94 HP A/F	8.93 HP A/F	8.07 HP A/F	8.94 HP A/F	8.20 HP A/F	9.25 HP A/F	8.60 HP A/F	6.64 HP A/F	6.80 HP A/F	9.14 HP A/F	9.14 HP A/F	9.14 HP A/F
	13727	14441	15230	15946	16734	17437	18191	19163	20112	21097	22021	22195
	741	*714*	*789*	*716*	*788*	*703*	*754*	*972*	*949*	*985*	*924*	*174*
0	NEW METER	NEW METER	NEW METER	NEW METER	NEW METER	NEW METER	NEW METER	NEW METER	NEW METER	NEW METER	NEW METER	NEW METER
KWH-A/F Average 7.48	*12.55*	*12.51*	*12.49*	*12.55*	*12.68*	*12.75*	*12.72*	*12.65*	*12.65*	*12.72*	*12.74*	*12.81*
Year to date amount	***434.80 A/F***	***491.89 A/F***	***555.06 A/F***	***612.10 A/F***	***674.27 A/F***	***729.40 A/F***	***59.28 A/F***	***136.11 A/F***	***211.11 A/F***	***288.57 A/F***	***361.08 A/F***	***374.66 A/F***
GALLONS												
Plant 3 W/House Well 7												
	16425530	17785940	19250550	21043440	22902460	24826560	26779900	28334860	29880980	31275410	32471360	34292990
	1354430	1360410	1464610	1792890	1859020	1924100	1953340	1554960	1546120	1394430	1195950	1821630
	31.0934	31.2307	33.6228	41.1591	42.6772	44.1713	44.8425	35.6970	35.4940	32.0117	27.4552	41.8189
ELECTRIC USED	2619/186 486	2806/187 489	3007/201 527	3257/250 587	3523/266 685	3802/279 711	4087/285 724	4315/228 575	4546/231 575	4755/209 523	4935/180 445	5208/273 665
Hours per Acre Foot run/time	5.98 HP A/F	5.99 HP A/F	5.56 HP A/F	4.54 HP A/F	4.38 HP A/F	4.23 HP A/F	4.17 HP A/F	5.24 HP A/F	5.27 HP A/F	6.53 HP A/F	6.53 HP A/F	6.53 HP A/F
0												
0												
KWH-A/F Average 8.97												
Year to date amount	*325.93 A/F*	*366.69 A/F*	*407.45 A/F*	*448.21 A/F*	*488.97 A/F*	*529.73 A/F*	*44.84 A/F*	*85.60 A/F*	*126.36 A/F*	*167.12 A/F*	*207.88 A/F*	*248.64 A/F*
Prospect	**50.16%**	**52.19%**	**52.13%**	**45.48%**	**45.40%**	**44.43%**	**42.52%**	**53.48%**	**55.41%**	**61.04%**	**62.11%**	**12.85%**
Warehouse	**26.42%**	**28.55%**	**27.75%**	**32.82%**	**31.17%**	**35.60%**	**32.16%**	**24.85%**	**26.22%**	**25.23%**	**23.52%**	**39.56%**
District	**23.41%**	**19.25%**	**20.13%**	**21.70%**	**23.42%**	**19.96%**	**25.32%**	**21.67%**	**18.37%**	**13.74%**	**14.35%**	**47.59%**
GALLONS												
Warehouse & District Total	Rollover	Rollover	Rollover	Rollover	Rollover	Rollover	Rollover					
ACRE FEET												
Plant 4 District	102880500	103797700	104860200	106045600	107442600	108521600	110059600	111415400	112498200	113257500	113987400	116179100
	1200300	917200	1062500	1185400	1397000	1079000	1538000	1355800	1082800	759300	729900	2191700
	27.5551	21.0560	24.3916	27.2130	32.0707	24.7704	35.3076	31.1249	24.8577	17.4311	16.7562	50.3145
ELECTRIC USED	1925/212	2024/99	2140/116	2271/131	2427/156	2549/122	2724/175	2879/155	3004/125	3092/88	3177/85	3428/251
0	7.69 HP A/F	4.70 HP A/F	4.76 HP A/F	4.81 HP A/F	4.86 HP A/F	4.93 HP A/F	3.46 HP A/F	3.92 HP A/F	4.91 HP A/F	5.05 HP A/F	5.05 HP A/F	5.05 HP A/F
Hours per Acre Foot run/time	*2160*	*2339*	*2545*	*2777*	*3053*	*3270*	*3579*	*3852*	*4072*	*4229*	*4379*	*4819*
	234	*179*	*206*	*232*	*276*	*217*	*309*	*273*	*220*	*157*	*150*	*440*
0	8.49	8.50	8.45	8.53	8.61	8.76	8.75	8.77	8.85	9.01	8.95	8.74
KWH-A/F Average 8.18	***245.77 A/F***	***266.82 A/F***	***291.21 A/F***	***318.43 A/F***	***350.50 A/F***	***375.27 A/F***	***35.31 A/F***	***66.43 A/F***	***91.29 A/F***	***108.72 A/F***	***125.48 A/F***	***175.79 A/F***
Year to date amount												
ALL WELLS /MONTH	117.69 A/F	109.38 A/F	121.18 A/F	125.41 A/F	136.92 A/F	124.07 A/F	139.43 A/F	143.65 A/F	135.35 A/F	126.90 A/F	116.73 A/F	105.72 A/F
MWD purchased	0.0 A/F	0.0 A/F	0.0 A/F	0.0 A/F	0.0 A/F	0.0 A/F	0.0 A/F	0.0 A/F	0.0 A/F	0.0 A/F	0.0 A/F	0.0 A/F

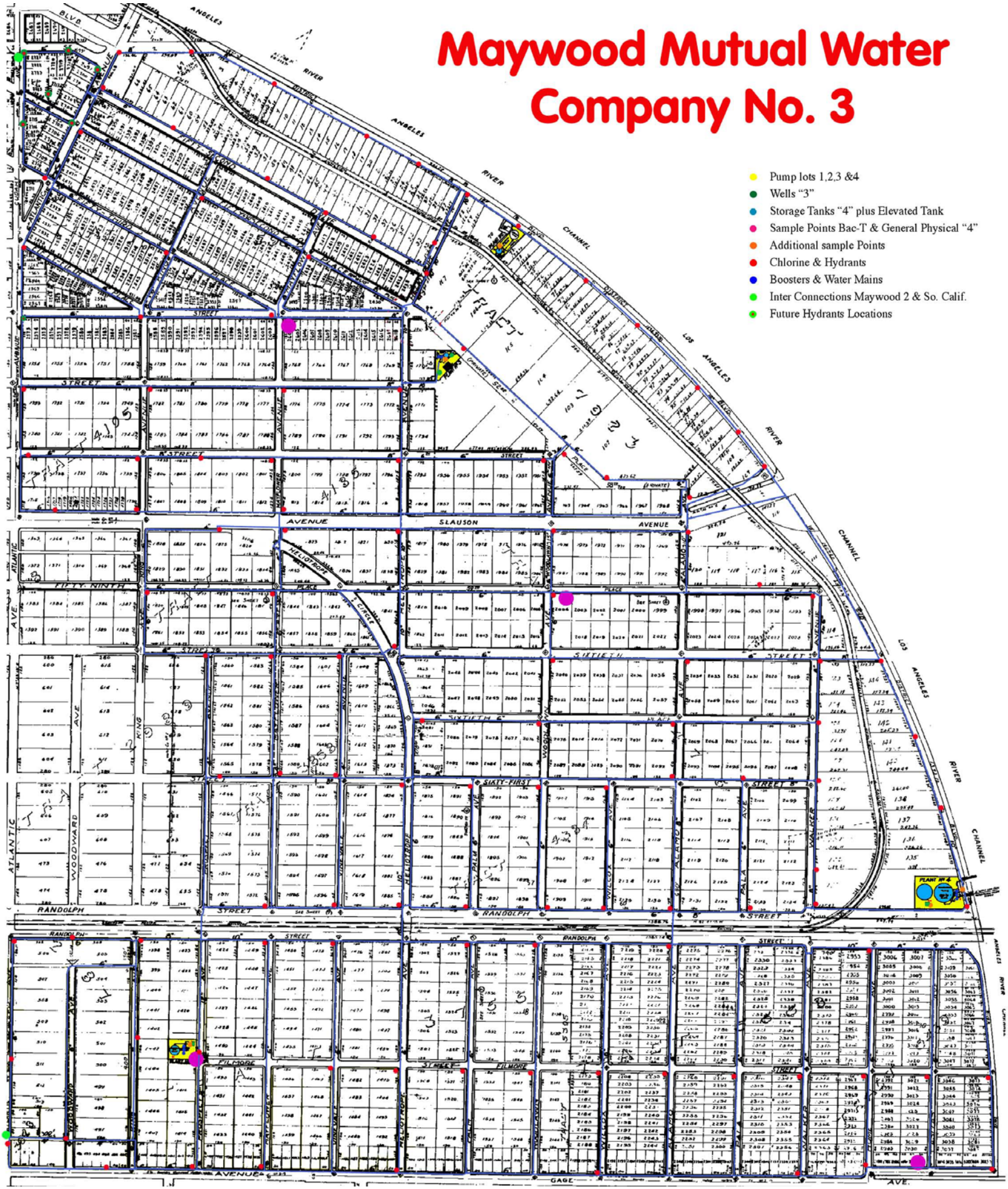
577.23%	**48.10%**
353.85%	**29.49%**
268.92%	**22.41%**

Location and State ID#		Latitude		Longitude
Well #57 State #02S/12W-19C02S	N	33.98876559	W	-118.177776981
Well #4 District State #02S/12W-19J02S	N	33.98028463	W	-118.170564025
Prospect Well State # 02S/12W-19M02S	N	33.97948985	W	-118.183579003

WELLS

Description/Location	Capacity (GPM)	Previous years Prod.	Discharge	Treatment	Standby power
1. District 4 Depth 980 feet Water lubricating 100HP	1400	479 A/F Address: 6159 District Ave. Maywood, CA Perforations start 610'	Res/System	Hypo	250KW Gen.
2. Prospect 1 Depth 1333 feet Water lubricating 100HP	400	479 A/F Address: 6253 Prospect Bell, CA Perforations start 350"	Res/System	Hypo	N
3. 57th street 7 warehouse Depth 800 feet Water lubricating 100HP	1200	493 A/F Address: 4809 57th Street Maywood, CA Perforations start 635"	Res. Only	Hypo	N

Maywood Mutual Water Company No. 3



APPENDIX B

MANGANESE, TCE, AND PERCHLORATE CONCENTRATIONS

APPENDIX B
Manganese Concentrations
Maywood Mutual Water Co. #1

SOURCE_NAM	SAMPLE_,_D	MANGANESE	LAB_NAME
WELL 03	1/5/2009	ND(20)	CLINICAL LABORATORIES OF SAN BERNARDINO
WELL 03	1/20/2009	ND(20)	CLINICAL LABORATORIES OF SAN BERNARDINO
WELL 03	2/2/2009	ND(20)	CLINICAL LABORATORIES OF SAN BERNARDINO
WELL 03	2/17/2009	ND(20)	CLINICAL LABORATORIES OF SAN BERNARDINO
WELL 03	2/20/2009	ND(20)	TESTAMERICA - ONTARIO (FORMERLY DEL MAR)
WELL 03	3/2/2009	ND(20)	CLINICAL LABORATORIES OF SAN BERNARDINO
WELL 03	4/6/2009	ND(20)	CLINICAL LABORATORIES OF SAN BERNARDINO
WELL 03	5/7/2009	ND(20)	TESTAMERICA - IRVINE (FORMERLY DEL MAR)
WELL 03	6/1/2009	ND(20)	CLINICAL LABORATORIES OF SAN BERNARDINO
WELL 03	7/6/2009	ND(20)	CLINICAL LABORATORIES OF SAN BERNARDINO
WELL 03	8/3/2009	ND(20)	CLINICAL LABORATORIES OF SAN BERNARDINO
WELL 03	8/20/2009	ND(20)	CLINICAL LABORATORIES OF SAN BERNARDINO
WELL 03	8/21/2009	ND(20)	TESTAMERICA - IRVINE (FORMERLY DEL MAR)
WELL 03	8/27/2009	ND(20)	CLINICAL LABORATORIES OF SAN BERNARDINO
WELL 03	8/31/2009	ND(20)	CLINICAL LABORATORIES OF SAN BERNARDINO
WELL 03	9/3/2009	ND(20)	CLINICAL LABORATORIES OF SAN BERNARDINO
WELL 03	9/8/2009	ND(20)	CLINICAL LABORATORIES OF SAN BERNARDINO
WELL 03	10/5/2009	ND(20)	CLINICAL LABORATORIES OF SAN BERNARDINO
WELL 03	11/2/2009	ND(20)	CLINICAL LABORATORIES OF SAN BERNARDINO
WELL 03	11/19/2009	31	TESTAMERICA - IRVINE (FORMERLY DEL MAR)
WELL 03	12/7/2009	70	CLINICAL LABORATORIES OF SAN BERNARDINO
2009 AVERAGE		**13.9**	
WELL 04	1/5/2009	69	CLINICAL LABORATORIES OF SAN BERNARDINO
WELL 04	1/20/2009	91	CLINICAL LABORATORIES OF SAN BERNARDINO
WELL 04	2/2/2009	80	CLINICAL LABORATORIES OF SAN BERNARDINO
WELL 04	2/17/2009	82	CLINICAL LABORATORIES OF SAN BERNARDINO
WELL 04	2/20/2009	85	TESTAMERICA - ONTARIO (FORMERLY DEL MAR)
WELL 04	3/2/2009	78	CLINICAL LABORATORIES OF SAN BERNARDINO
WELL 04	4/6/2009	77	CLINICAL LABORATORIES OF SAN BERNARDINO
WELL 04	5/7/2009	78	TESTAMERICA - IRVINE (FORMERLY DEL MAR)
WELL 04	6/1/2009	79	CLINICAL LABORATORIES OF SAN BERNARDINO
WELL 04	7/6/2009	74	CLINICAL LABORATORIES OF SAN BERNARDINO
WELL 04	8/3/2009	77	CLINICAL LABORATORIES OF SAN BERNARDINO
WELL 04	8/21/2009	92	TESTAMERICA - IRVINE (FORMERLY DEL MAR)
WELL 04	9/8/2009	81	CLINICAL LABORATORIES OF SAN BERNARDINO
WELL 04	10/5/2009	76	CLINICAL LABORATORIES OF SAN BERNARDINO
WELL 04	11/2/2009	84	CLINICAL LABORATORIES OF SAN BERNARDINO
WELL 04	11/19/2009	85	TESTAMERICA - IRVINE (FORMERLY DEL MAR)
WELL 04	12/7/2009	110	CLINICAL LABORATORIES OF SAN BERNARDINO
2009 AVERAGE		**82.2**	

Data Source: California Department of Public Health, November 2010
Concentrations are in micrograms per liter (ug/L)
ND(20) - Not detected above the reporting limit, if provided
For calculation purposes, results reported as ND are assumed to have a half of the laboratory reporting limit,
e.g., a value of 10 µg/L is used for ND(20).

APPENDIX B
Manganese Concentrations
Maywood Mutual Water Co. #2

SOURCE NAME	SAMPLE DATE	MANGANESE	LAB NAME
52ND STREET WELL	1/5/2009	58	CLINICAL LABORATORIES OF SAN BERNARDINO
52ND STREET WELL	1/12/2009	71	CLINICAL LABORATORIES OF SAN BERNARDINO
52ND STREET WELL	1/16/2009	58	TESTAMERICA - IRVINE (FORMERLY DEL MAR)
52ND STREET WELL	1/19/2009	45	CLINICAL LABORATORIES OF SAN BERNARDINO
52ND STREET WELL	1/26/2009	55	CLINICAL LABORATORIES OF SAN BERNARDINO
52ND STREET WELL	2/2/2009	150	CLINICAL LABORATORIES OF SAN BERNARDINO
52ND STREET WELL	2/9/2009	96	CLINICAL LABORATORIES OF SAN BERNARDINO
52ND STREET WELL	2/16/2009	55	CLINICAL LABORATORIES OF SAN BERNARDINO
52ND STREET WELL	2/20/2009	61	TESTAMERICA - IRVINE (FORMERLY DEL MAR)
52ND STREET WELL	2/23/2009	36	CLINICAL LABORATORIES OF SAN BERNARDINO
52ND STREET WELL	3/2/2009	83	CLINICAL LABORATORIES OF SAN BERNARDINO
52ND STREET WELL	3/9/2009	84	CLINICAL LABORATORIES OF SAN BERNARDINO
52ND STREET WELL	3/12/2009	94	TESTAMERICA - IRVINE (FORMERLY DEL MAR)
52ND STREET WELL	3/16/2009	86	CLINICAL LABORATORIES OF SAN BERNARDINO
52ND STREET WELL	3/23/2009	90	CLINICAL LABORATORIES OF SAN BERNARDINO
52ND STREET WELL	3/30/2009	86	CLINICAL LABORATORIES OF SAN BERNARDINO
52ND STREET WELL	4/6/2009	80	CLINICAL LABORATORIES OF SAN BERNARDINO
52ND STREET WELL	4/13/2009	77	CLINICAL LABORATORIES OF SAN BERNARDINO
52ND STREET WELL	4/20/2009	110	CLINICAL LABORATORIES OF SAN BERNARDINO
52ND STREET WELL	4/21/2009	81	CLINICAL LABORATORIES OF SAN BERNARDINO
52ND STREET WELL	4/27/2009	82	CLINICAL LABORATORIES OF SAN BERNARDINO
52ND STREET WELL	5/4/2009	72	CLINICAL LABORATORIES OF SAN BERNARDINO
52ND STREET WELL	5/7/2009	77	TESTAMERICA - ONTARIO (FORMERLY DEL MAR)
52ND STREET WELL	5/11/2009	74	CLINICAL LABORATORIES OF SAN BERNARDINO
52ND STREET WELL	5/18/2009	76	CLINICAL LABORATORIES OF SAN BERNARDINO
52ND STREET WELL	5/26/2009	69	CLINICAL LABORATORIES OF SAN BERNARDINO
52ND STREET WELL	6/1/2009	75	CLINICAL LABORATORIES OF SAN BERNARDINO
52ND STREET WELL	6/8/2009	72	CLINICAL LABORATORIES OF SAN BERNARDINO
52ND STREET WELL	6/12/2009	86	TESTAMERICA - IRVINE (FORMERLY DEL MAR)
52ND STREET WELL	6/15/2009	68	CLINICAL LABORATORIES OF SAN BERNARDINO
52ND STREET WELL	6/22/2009	77	CLINICAL LABORATORIES OF SAN BERNARDINO
52ND STREET WELL	6/29/2009	71	CLINICAL LABORATORIES OF SAN BERNARDINO
52ND STREET WELL	7/6/2009	65	CLINICAL LABORATORIES OF SAN BERNARDINO
52ND STREET WELL	7/13/2009	62	CLINICAL LABORATORIES OF SAN BERNARDINO
52ND STREET WELL	7/17/2009	70	TESTAMERICA - IRVINE (FORMERLY DEL MAR)
52ND STREET WELL	7/20/2009	66	CLINICAL LABORATORIES OF SAN BERNARDINO
52ND STREET WELL	7/27/2009	66	CLINICAL LABORATORIES OF SAN BERNARDINO
52ND STREET WELL	8/3/2009	59	CLINICAL LABORATORIES OF SAN BERNARDINO
52ND STREET WELL	8/10/2009	75	CLINICAL LABORATORIES OF SAN BERNARDINO
52ND STREET WELL	8/14/2009	71	TESTAMERICA - IRVINE (FORMERLY DEL MAR)
52ND STREET WELL	8/17/2009	72	CLINICAL LABORATORIES OF SAN BERNARDINO
52ND STREET WELL	8/24/2009	72	CLINICAL LABORATORIES OF SAN BERNARDINO
52ND STREET WELL	8/31/2009	72	CLINICAL LABORATORIES OF SAN BERNARDINO
52ND STREET WELL	9/8/2009	72	CLINICAL LABORATORIES OF SAN BERNARDINO
52ND STREET WELL	9/14/2009	60	CLINICAL LABORATORIES OF SAN BERNARDINO
52ND STREET WELL	9/21/2009	68	CLINICAL LABORATORIES OF SAN BERNARDINO
52ND STREET WELL	9/24/2009	69	TESTAMERICA - IRVINE (FORMERLY DEL MAR)
52ND STREET WELL	9/28/2009	66	CLINICAL LABORATORIES OF SAN BERNARDINO
52ND STREET WELL	10/5/2009	88	CLINICAL LABORATORIES OF SAN BERNARDINO
52ND STREET WELL	10/12/2009	67	CLINICAL LABORATORIES OF SAN BERNARDINO
52ND STREET WELL	10/19/2009	71	CLINICAL LABORATORIES OF SAN BERNARDINO
52ND STREET WELL	10/26/2009	67	CLINICAL LABORATORIES OF SAN BERNARDINO
52ND STREET WELL	10/27/2009	62	TESTAMERICA - IRVINE (FORMERLY DEL MAR)
52ND STREET WELL	11/2/2009	60	CLINICAL LABORATORIES OF SAN BERNARDINO

APPENDIX B
Manganese Concentrations
Maywood Mutual Water Co. #2

SOURCE NAME	SAMPLE DATE	MANGANESE	LAB NAME
52ND STREET WELL	11/9/2009	68	CLINICAL LABORATORIES OF SAN BERNARDINO
52ND STREET WELL	11/16/2009	69	CLINICAL LABORATORIES OF SAN BERNARDINO
52ND STREET WELL	11/19/2009	70	TESTAMERICA - IRVINE (FORMERLY DEL MAR)
52ND STREET WELL	11/23/2009	63	CLINICAL LABORATORIES OF SAN BERNARDINO
52ND STREET WELL	11/30/2009	71	CLINICAL LABORATORIES OF SAN BERNARDINO
52ND STREET WELL	12/7/2009	74	CLINICAL LABORATORIES OF SAN BERNARDINO
52ND STREET WELL	12/14/2009	78	CLINICAL LABORATORIES OF SAN BERNARDINO
52ND STREET WELL	12/14/2009	72	TESTAMERICA - IRVINE (FORMERLY DEL MAR)
52ND STREET WELL	12/21/2009	70	CLINICAL LABORATORIES OF SAN BERNARDINO
52ND STREET WELL	12/28/2009	100	CLINICAL LABORATORIES OF SAN BERNARDINO
2009 AVERAGE		**73.3**	
MAY AVENUE WELL	1/5/2009	62	CLINICAL LABORATORIES OF SAN BERNARDINO
MAY AVENUE WELL	1/12/2009	64	CLINICAL LABORATORIES OF SAN BERNARDINO
MAY AVENUE WELL	1/16/2009	61	TESTAMERICA - IRVINE (FORMERLY DEL MAR)
MAY AVENUE WELL	1/19/2009	65	CLINICAL LABORATORIES OF SAN BERNARDINO
MAY AVENUE WELL	1/26/2009	70	CLINICAL LABORATORIES OF SAN BERNARDINO
MAY AVENUE WELL	2/2/2009	58	CLINICAL LABORATORIES OF SAN BERNARDINO
MAY AVENUE WELL	2/9/2009	51	CLINICAL LABORATORIES OF SAN BERNARDINO
MAY AVENUE WELL	2/16/2009	57	CLINICAL LABORATORIES OF SAN BERNARDINO
MAY AVENUE WELL	2/20/2009	68	TESTAMERICA - ONTARIO (FORMERLY DEL MAR)
MAY AVENUE WELL	2/23/2009	63	CLINICAL LABORATORIES OF SAN BERNARDINO
MAY AVENUE WELL	3/2/2009	59	CLINICAL LABORATORIES OF SAN BERNARDINO
MAY AVENUE WELL	3/9/2009	62	CLINICAL LABORATORIES OF SAN BERNARDINO
MAY AVENUE WELL	3/12/2009	64	TESTAMERICA - IRVINE (FORMERLY DEL MAR)
MAY AVENUE WELL	3/16/2009	65	CLINICAL LABORATORIES OF SAN BERNARDINO
MAY AVENUE WELL	3/23/2009	64	CLINICAL LABORATORIES OF SAN BERNARDINO
MAY AVENUE WELL	3/30/2009	63	CLINICAL LABORATORIES OF SAN BERNARDINO
MAY AVENUE WELL	4/6/2009	62	CLINICAL LABORATORIES OF SAN BERNARDINO
MAY AVENUE WELL	4/13/2009	60	CLINICAL LABORATORIES OF SAN BERNARDINO
MAY AVENUE WELL	4/20/2009	63	CLINICAL LABORATORIES OF SAN BERNARDINO
MAY AVENUE WELL	4/20/2009	65	TESTAMERICA - IRVINE (FORMERLY DEL MAR)
MAY AVENUE WELL	4/27/2009	62	CLINICAL LABORATORIES OF SAN BERNARDINO
MAY AVENUE WELL	5/4/2009	58	CLINICAL LABORATORIES OF SAN BERNARDINO
MAY AVENUE WELL	5/7/2009	60	TESTAMERICA - ONTARIO (FORMERLY DEL MAR)
MAY AVENUE WELL	5/11/2009	60	CLINICAL LABORATORIES OF SAN BERNARDINO
MAY AVENUE WELL	5/18/2009	61	CLINICAL LABORATORIES OF SAN BERNARDINO
MAY AVENUE WELL	5/26/2009	58	CLINICAL LABORATORIES OF SAN BERNARDINO
MAY AVENUE WELL	6/1/2009	62	CLINICAL LABORATORIES OF SAN BERNARDINO
MAY AVENUE WELL	6/8/2009	62	CLINICAL LABORATORIES OF SAN BERNARDINO
MAY AVENUE WELL	6/12/2009	60	TESTAMERICA - IRVINE (FORMERLY DEL MAR)
MAY AVENUE WELL	6/15/2009	93	CLINICAL LABORATORIES OF SAN BERNARDINO
MAY AVENUE WELL	6/22/2009	62	CLINICAL LABORATORIES OF SAN BERNARDINO
MAY AVENUE WELL	6/29/2009	58	CLINICAL LABORATORIES OF SAN BERNARDINO
MAY AVENUE WELL	7/6/2009	54	CLINICAL LABORATORIES OF SAN BERNARDINO
MAY AVENUE WELL	7/13/2009	52	CLINICAL LABORATORIES OF SAN BERNARDINO
MAY AVENUE WELL	7/17/2009	59	TESTAMERICA - IRVINE (FORMERLY DEL MAR)
MAY AVENUE WELL	7/20/2009	58	CLINICAL LABORATORIES OF SAN BERNARDINO
MAY AVENUE WELL	7/27/2009	58	CLINICAL LABORATORIES OF SAN BERNARDINO
MAY AVENUE WELL	8/3/2009	51	CLINICAL LABORATORIES OF SAN BERNARDINO
MAY AVENUE WELL	8/10/2009	65	CLINICAL LABORATORIES OF SAN BERNARDINO
MAY AVENUE WELL	8/14/2009	64	TESTAMERICA - ONTARIO (FORMERLY DEL MAR)
MAY AVENUE WELL	8/17/2009	63	CLINICAL LABORATORIES OF SAN BERNARDINO
MAY AVENUE WELL	8/24/2009	63	CLINICAL LABORATORIES OF SAN BERNARDINO

APPENDIX B
Manganese Concentrations
Maywood Mutual Water Co. #2

SOURCE NAME	SAMPLE DATE	MANGANESE	LAB NAME
MAY AVENUE WELL	8/31/2009	63	CLINICAL LABORATORIES OF SAN BERNARDINO
MAY AVENUE WELL	9/8/2009	64	CLINICAL LABORATORIES OF SAN BERNARDINO
MAY AVENUE WELL	9/14/2009	53	CLINICAL LABORATORIES OF SAN BERNARDINO
MAY AVENUE WELL	9/21/2009	63	CLINICAL LABORATORIES OF SAN BERNARDINO
MAY AVENUE WELL	9/28/2009	59	CLINICAL LABORATORIES OF SAN BERNARDINO
MAY AVENUE WELL	10/5/2009	64	CLINICAL LABORATORIES OF SAN BERNARDINO
MAY AVENUE WELL	10/12/2009	60	CLINICAL LABORATORIES OF SAN BERNARDINO
MAY AVENUE WELL	10/19/2009	64	CLINICAL LABORATORIES OF SAN BERNARDINO
MAY AVENUE WELL	10/26/2009	61	CLINICAL LABORATORIES OF SAN BERNARDINO
MAY AVENUE WELL	10/27/2009	54	TESTAMERICA - IRVINE (FORMERLY DEL MAR)
MAY AVENUE WELL	11/2/2009	73	CLINICAL LABORATORIES OF SAN BERNARDINO
MAY AVENUE WELL	11/9/2009	62	CLINICAL LABORATORIES OF SAN BERNARDINO
MAY AVENUE WELL	11/16/2009	61	CLINICAL LABORATORIES OF SAN BERNARDINO
MAY AVENUE WELL	11/19/2009	63	TESTAMERICA - IRVINE (FORMERLY DEL MAR)
MAY AVENUE WELL	11/23/2009	58	CLINICAL LABORATORIES OF SAN BERNARDINO
MAY AVENUE WELL	11/30/2009	62	CLINICAL LABORATORIES OF SAN BERNARDINO
MAY AVENUE WELL	12/7/2009	62	CLINICAL LABORATORIES OF SAN BERNARDINO
MAY AVENUE WELL	12/14/2009	62	CLINICAL LABORATORIES OF SAN BERNARDINO
MAY AVENUE WELL	12/14/2009	62	TESTAMERICA - IRVINE (FORMERLY DEL MAR)
MAY AVENUE WELL	12/21/2009	60	CLINICAL LABORATORIES OF SAN BERNARDINO
MAY AVENUE WELL	12/28/2009	65	CLINICAL LABORATORIES OF SAN BERNARDINO
2009 AVERAGE		**61.7**	

Data Source: California Department of Public Health, November 2010
Concentrations are in micrograms per liter (ug/L)

APPENDIX B
Manganese, TCE, and Perchlorate Concentrations
Maywood Mutual Water Co. #3

SOURCE	SAMPLE DATE	MANGANESE	PERCHLORATE	TCE	LAB NAME
PROSPECT WELL 01	2/22/2008	NA	ND(4)	NA	TESTAMERICA - ONTARIO (FORMERLY DEL MAR)
PROSPECT WELL 01	4/24/2008	ND(20)	NA	NA	TESTAMERICA - IRVINE (FORMERLY DEL MAR)
PROSPECT WELL 01	5/23/2008	NA	NA	2	TESTAMERICA - IRVINE (FORMERLY DEL MAR)
PROSPECT WELL 01	5/23/2008	NA	ND(4)	NA	TESTAMERICA - ONTARIO (FORMERLY DEL MAR)
PROSPECT WELL 01	9/29/2008	NA	NA	1.9	TESTAMERICA - IRVINE (FORMERLY DEL MAR)
PROSPECT WELL 01	9/29/2008	NA	NA	2.3	TESTAMERICA - ONTARIO (FORMERLY DEL MAR)
PROSPECT WELL 01	11/18/2008	NA	NA	2.3	TESTAMERICA - ONTARIO (FORMERLY DEL MAR)
PROSPECT WELL 01	2/20/2009	NA	NA	2	TESTAMERICA - ONTARIO (FORMERLY DEL MAR)
PROSPECT WELL 01	5/11/2009	NA	ND(4)	NA	TESTAMERICA - ONTARIO (FORMERLY DEL MAR)
PROSPECT WELL 01	8/14/2009	NA	NA	1.8	TESTAMERICA - IRVINE (FORMERLY DEL MAR)
PROSPECT WELL 01	8/14/2009	NA	NA	2.4	TESTAMERICA - ONTARIO (FORMERLY DEL MAR)
PROSPECT WELL 01	11/20/2009	NA	NA	4.5	TESTAMERICA - IRVINE (FORMERLY DEL MAR)
2009 AVERAGE			**ND(4)**	**2.7**	
WELL 04 (District)	4/24/2008	26	NA	NA	TESTAMERICA - IRVINE (FORMERLY DEL MAR)
WELL 04 (District)	5/23/2008	NA	NA	ND(0.5)	TESTAMERICA - IRVINE (FORMERLY DEL MAR)
WELL 04 (District)	5/23/2008	NA	ND(4)	NA	TESTAMERICA - ONTARIO (FORMERLY DEL MAR)
WELL 04 (District)	9/29/2008	NA	NA	ND(0.5)	TESTAMERICA - IRVINE (FORMERLY DEL MAR)
WELL 04 (District)	5/11/2009	NA	ND(4)	NA	TESTAMERICA - ONTARIO (FORMERLY DEL MAR)
WELL 04 (District)	9/22/2009	NA	NA	ND(0.5)	TESTAMERICA - IRVINE (FORMERLY DEL MAR)
2009 AVERAGE			**ND(4)**	**ND(0.5)**	
WELL 07 (Warehouse)	4/24/2008	NA	NA	2.8	TESTAMERICA - IRVINE (FORMERLY DEL MAR)
WELL 07 (Warehouse)	4/24/2008	ND(20)	NA	NA	TESTAMERICA - ONTARIO (FORMERLY DEL MAR)
WELL 07 (Warehouse)	5/23/2008	NA	5.7	NA	TESTAMERICA - IRVINE (FORMERLY DEL MAR)
WELL 07 (Warehouse)	9/29/2008	NA	ND	NA	TESTAMERICA - IRVINE (FORMERLY DEL MAR)
WELL 07 (Warehouse)	12/1/2008	NA	ND	NA	CLINICAL LABORATORIES OF SAN BERNARDINO
WELL 07 (Warehouse)	1/5/2009	NA	ND	NA	CLINICAL LABORATORIES OF SAN BERNARDINO
WELL 07 (Warehouse)	2/11/2009	NA	4.1	NA	CLINICAL LABORATORIES OF SAN BERNARDINO
WELL 07 (Warehouse)	2/20/2009	NA	ND	NA	TESTAMERICA - IRVINE (FORMERLY DEL MAR)
WELL 07 (Warehouse)	4/6/2009	NA	ND	NA	CLINICAL LABORATORIES OF SAN BERNARDINO
WELL 07 (Warehouse)	4/9/2009	NA	ND(4)	NA	CLINICAL LABORATORIES OF SAN BERNARDINO
WELL 07 (Warehouse)	4/9/2009	NA	ND	NA	TESTAMERICA - IRVINE (FORMERLY DEL MAR)
WELL 07 (Warehouse)	5/11/2009	NA	ND(4)	NA	CLINICAL LABORATORIES OF SAN BERNARDINO
WELL 07 (Warehouse)	5/11/2009	NA	NA	4.2	TESTAMERICA - IRVINE (FORMERLY DEL MAR)
WELL 07 (Warehouse)	5/11/2009	NA	ND	NA	TESTAMERICA - ONTARIO (FORMERLY DEL MAR)
WELL 07 (Warehouse)	6/9/2009	NA	ND	NA	CLINICAL LABORATORIES OF SAN BERNARDINO
WELL 07 (Warehouse)	7/8/2009	NA	ND	NA	CLINICAL LABORATORIES OF SAN BERNARDINO
WELL 07 (Warehouse)	8/3/2009	NA	ND(4)	NA	CLINICAL LABORATORIES OF SAN BERNARDINO
WELL 07 (Warehouse)	8/14/2009	NA	NA	2.8	TESTAMERICA - IRVINE (FORMERLY DEL MAR)
WELL 07 (Warehouse)	8/14/2009	NA	ND	NA	TESTAMERICA - ONTARIO (FORMERLY DEL MAR)
WELL 07 (Warehouse)	9/8/2009	NA	ND(4)	3.8	CLINICAL LABORATORIES OF SAN BERNARDINO
WELL 07 (Warehouse)	11/20/2009	NA	ND(4)	3.3	TESTAMERICA - IRVINE (FORMERLY DEL MAR)
2009 AVERAGE			**ND(4)**	**3.5**	

Data Source: California Department of Public Health, November 2010
NA - Data not available
ND(20) - Not detected above the reporting limit, if provided
TCE - Trichloroethene
Concentrations are in micrograms per liter (ug/L)
For calculation purposes, results reported as ND are assumed to have a half of the laboratory reporting limit,
e.g., a value of 10 µg/L is used for ND(20).

APPENDIX C

MANGANESE AND TCE CONCENTRATIONS IN PUBLIC WATER SUPPLY IN COMMUNITIES WITHIN A 20-MILE RADIUS OF CITY OF MAYWOOD

APPENDIX C

Manganese and TCE Concentrations In Public Water Supply Within 20-Mile Radius of City of Maywood

City/Community	Purveyor	2009 CCR					Calculated Conc. Based On % of Source Used			
		Groundwater		MWD Water Used	MWD Water	Ground-water	Mn		TCE	
		Mn	TCE				Max	Min	Max	Min
		ug/L	ug/L		%	%	ug/L	ug/L	ug/L	ug/L
Alhambra	City of Alhambra Utilities Department	NA	0.8	Yes	20	80	10.0	10.0	0.69	0.69
Altadena	Lincoln Avenue Water Company	NA	NA	Yes	38	62	10.0	10.0	0.25	0.25
Anaheim	Anaheim Public Utilities	NA	NA	Yes	NA	NA	10.0	10.0	0.25	0.25
Arcadia	City of Arcadia	NA	NA	Yes	NA	NA	10.0	10.0	0.25	0.25
Artesia	Golden State Water Company	NA	ND	Yes	NA	NA	10.0	10.0	0.25	0.25
Azusa	Azusa Light & Water	NA	NA	Yes	35	65	10.0	10.0	0.25	0.25
Baldwin Hills	California American Water	0.009	0.2	Yes	NA	NA	10.0	10.0	0.25	0.25
Baldwin Park	Valley County Water District	NA	0.6	Yes	NA	NA	10.0	10.0	0.25	0.60
Bell	Golden State Water Company	ND	ND	Yes	NA	NA	10.0	10.0	0.25	0.25
Bell Gardens	City of Bell Gardens	ND	NA	Yes	68.6	31.4	10.0	10.0	0.25	0.25
Bell Gardens	Golden State Water Company	ND	ND	Yes	NA	NA	10.0	10.0	0.25	0.25
Bellflower	Bellflower Home Gardern Water Company	11.6	NA	Yes	19	81	11.3	11.3	0.25	0.25
Bellflower	Bellflower Municipal Water System	250.7	NA	Yes	NA	NA	10.0	250.7	0.25	0.25
Bellflower Norwalk	Park Water Company	NA	NA	Yes	74	26	10.0	10.0	0.25	0.25
Beverly Hills	City of Beverly Hills Public Works and Transportation Department	NA	NA	Yes	90	10	10.0	10.0	0.25	0.25
Brea	City of Brea Water Division	NA	1.0	Yes	NA	NA	10.0	10.0	0.25	1.00
Buena Park	City of Buena Park Water Department	<20	NA	Yes	NA	NA	10.0	10.0	0.25	0.25
Burbank	Burbank Water an Power	NA	NA	Yes	57	43	10.0	10.0	0.25	0.25
Cerritos	City of Cerritos Department of Water and Power	44	<0.5	Yes	4.14	95.86	42.6	42.6	0.25	0.25
City of Industry	Industry Public Utilities	NA	NA	No	0	100	10.0	10.0	0.25	0.25
Commerce	California Water Service Company	NA	0.8	Yes	NA	NA	10.0	10.0	0.25	0.80
Compton	City of Compton	29.3	NA	Yes	21	79	25.2	25.2	0.25	0.25
Compton	Park Water Company	NA	NA	Yes	100	0	10.0	10.0	0.25	0.25
Compton	Sativa Los Angeles County Water District	ND	NA	No	0	100	10.0	10.0	0.25	0.25
Covina	City of Covina	NA	NA	Yes	NA	NA	10.0	10.0	0.25	0.25
Covina	Covina Irrigating company	ND	ND	Yes	NA	NA	10.0	10.0	0.25	0.25
Cudahy	Tract 180 Mutual Water Company	ND	2.28	No	0	100	10.0	10.0	2.28	2.28
Cudahy	Tract 349 Mutual Water Company	52	0.2	No	0	100	52.0	52.0	0.25	0.25
Cypress, Los Almitos, Stanton	Golden State Water Company	ND	NA	Yes	NA	NA	10.0	10.0	0.25	0.25
Dominguez	California Water Service Company	5.6	NA	Yes	NA	NA	10.0	10.0	0.25	0.25
Downey	City of Downey	NA	0.02	No	0	100	10.0	10.0	0.25	0.25
Duarte	California American Water	NA	NA	No	0	100	10.0	10.0	0.25	0.25

APPENDIX C

Manganese and TCE Concentrations In Public Water Supply Within 20-Mile Radius of City of Maywood

City/Community	Purveyor	2009 CCR					Calculated Conc. Based On % of Source Used			
		Groundwater		MWD Water Used	MWD Water	Ground-water	Mn		TCE	
		Mn	TCE				Max	Min	Max	Min
		ug/L	ug/L		%	%	ug/L	ug/L	ug/L	ug/L
East Los Angeles	California Water Service Company	7.4	0.4	Yes	NA	NA	10.0	10.0	0.25	0.40
East Pasadena	East Pasadena Water Company	NA	0.45	No	0	100	10.0	10.0	0.45	0.45
El Monte	City of El Monte Water Department	NA	ND	No	0	100	10.0	10.0	0.25	0.25
El Monte	Rurban Homes Mutual Co.	ND	NA	No	0	100	10.0	10.0	0.25	0.25
El Monte, Montbello, Rosemead	San Gabriel Valley Water Company	1	ND	No	0	100	10.0	10.0	0.25	0.25
Florence	Golden State Water Company	NA	ND	Yes	NA	NA	10.0	10.0	0.25	0.25
Fountain Valley	City of Fountain Valley Water Department	NA	NA	Yes	NA	NA	10.0	10.0	0.25	0.25
Fullerton	California Water Utilities	NA	0.7	Yes	NA	NA	10.0	10.0	0.25	0.70
Garden Grove	Garden Grove Water Services Division	NA	NA	Yes	NA	NA	10.0	10.0	0.25	0.25
Glendale	City of Glendale Water & Power	ND	NA	Yes	74	26	10.0	10.0	0.25	0.25
Glendora	City of Glendora	NA	NA	Yes	NA	NA	10.0	10.0	0.25	0.25
Glendora, Covina, West Covina, La Puente, Industry, Hacianda Heights	Suburban Water Systems	NA	ND	Yes	NA	NA	10.0	10.0	0.25	0.25
Hawthorne	California Water Service Company	NA	NA	Yes	NA	NA	10.0	10.0	0.25	0.25
Hemlock	Hemlock Mutual Water Company	NA	NA	No	0	100	10.0	10.0	0.25	0.25
Hollydale	Golden State Water Company	NA	NA	No	0	100	10.0	10.0	0.25	0.25
Huntington Park	City of Huntington Park	20.6	0.37	Yes	20	80	18.5	18.5	0.35	0.35
Huntingtong Beach	City of Huntingtong Beach Utilities Division	NA	NA	Yes	33	67	10.0	10.0	0.25	0.25
Inglewood	California Water Utilities	NA	NA	Yes	NA	NA	10.0	10.0	0.25	0.25
La Canada Flintridge	La Canada Irrigation District	NA	0.9	Yes	90	10	10.0	10.0	0.32	0.32
La Canada Flintridge	Valley Water Company	NA	NA	Yes	75	25	10.0	10.0	0.25	0.25
La Crescenta, Montrose, Glendale, La Canada Flintridge	Crescenta Valley Water District	NA	NA	Yes	40	60	10.0	10.0	0.25	0.25
La Habra	The City of La Habra Water Division	NA	0.5	Yes	NA	NA	10.0	10.0	0.25	0.50
La Habra Heights	La Habra Heights County Water District	ND	ND	Yes	NA	NA	10.0	10.0	0.25	0.25
La Puente	La Puente Valley County Water District	NA	NA	No	0	100	10.0	10.0	0.25	0.25
La Verne	California Water Utilities	ND	NA	Yes	70	30	10.0	10.0	0.25	0.25
Lakewood	City of Lakewood	12	NA	No	0	100	12.0	12.0	0.25	0.25
Las Flores	Las Flores Water Company	NA	NA	Yes	65	35	10.0	10.0	0.25	0.25
Lomita	City of Lomita Water System	NA	NA	Yes	100	0	10.0	10.0	0.25	0.25
Long Beach	Long Beach Water Department	NA	NA	Yes	42	58	10.0	10.0	0.25	0.25

APPENDIX C

Manganese and TCE Concentrations In Public Water Supply Within 20-Mile Radius of City of Maywood

City/Community	Purveyor	2009 CCR					Calculated Conc. Based On % of Source Used			
		Groundwater		MWD Water Used	MWD Water	Ground-water	Mn		TCE	
		Mn	TCE				Max	Min	Max	Min
		ug/L	ug/L		%	%	ug/L	ug/L	ug/L	ug/L
Los Angeles	Los Angeles Department of Water and Power	NA	1	Yes	63	12	10.0	10.0	0.28	0.28
Lynwood	California Water Utilities	2.8	NA	Yes	15	85	10.0	10.0	0.25	0.25
Lynwood	Park Water Company	NA	NA	Yes	84	15	10.0	10.0	0.25	0.25
Lynwood Park	Lynwood Park Mutual Water Company	ND	NA	No	0	100	10.0	10.0	0.25	0.25
Manhattan Beach	California Water Utilities	59	NA	Yes	NA	NA	10.0	59.0	0.25	0.25
Maywood	Maywood Mutual Water Company No.1	41.1	NA	Yes	29	71	32.1	32.1	0.25	0.25
Maywood	Maywood Mutual Water Company No.2	63.5	NA	No	0	100	63.5	63.5	0.25	0.25
Maywood	Maywood Mutual Water Company No.3	8.7	2.4	No	0	100	10.0	10.0	2.40	2.40
Monrovia	City of Monrovia Department of Public Works	NA	3.99	No	0	100	10.0	10.0	3.99	3.99
Montebello	California Water Service Company	NA	NA	Yes	NA	NA	10.0	10.0	0.25	0.25
Montebello	Montebello Land and Water Company	ND	NA	No	0	100	10.0	10.0	0.25	0.25
Montery Park	City of Montery Park Public Works Water Division	ND	NA	No	0	100	10.0	10.0	0.25	0.25
Norwalk	California Water Utilities	44	0.26	Yes	NA	NA	10.0	44.0	0.25	0.26
Norwalk	Golden State Water Company	NA	NA	Yes	NA	NA	10.0	10.0	0.25	0.25
Orange	City of Orange Water Division	NA	NA	Yes	NA	NA	10.0	10.0	0.25	0.25
Palos Verdes	California Water Utilities	NA	NA	Yes	100	0	10.0	10.0	0.25	0.25
Paramount	California Water Utilities	47.8	NA	Yes	NA	NA	10.0	47.8	0.25	0.25
Pasadena	Pasadena Water & Power	1.8	3.33	Yes	61	36	10.0	10.0	1.35	1.35
Pico Rivera	California Water Utilities	NA	ND	No	0	100	10.0	10.0	0.25	0.25
Pico Rivera	California Water Utilities	1.04	0.5	No	0	100	10.0	10.0	0.50	0.50
Pico Rivera	City of Pico Rivera	NA	ND	No	0	100	10.0	10.0	0.25	0.25
Placentia	Golden State Water Company	NA	NA	Yes	NA	NA	10.0	10.0	0.25	0.25
Pomona	City of Pomona Public Works	NA	2.05	Yes	14	86	10.0	10.0	1.80	1.80
Rancho Dominguez	California Water Service Company	NA	NA	Yes	NA	NA	10.0	10.0	0.25	0.25
Rowland	Rowland Water District	NA	NA	Yes	100	0	10.0	10.0	0.25	0.25
San Dimas	Golden State Water Company	NA	NA	Yes	NA	NA	10.0	10.0	0.25	0.25
San Gabriel	Golden State Water Company	NA	NA	No	0	100	10.0	10.0	0.25	0.25
San Gabriel	San Gabriel County Water Company	NA	NA	No	0	100	10.0	10.0	0.25	0.25
San Marino	California American Water	NA	0.70	Yes	8	92	10.0	10.0	0.66	0.66

APPENDIX C

Manganese and TCE Concentrations In Public Water Supply Within 20-Mile Radius of City of Maywood

City/Community	Purveyor	2009 CCR					Calculated Conc. Based On % of Source Used			
		Groundwater		MWD Water Used	MWD Water	Ground-water	Mn		TCE	
		Mn	TCE				Max	Min	Max	Min
		ug/L	ug/L		%	%	ug/L	ug/L	ug/L	ug/L
Santa Ana	City of Santa Public Works Agency	NA	NA	Yes	31	69	10.0	10.0	0.25	0.25
Santa Monica	City of Santa Monica Water Division	5	0.7	Yes	15	85	10.0	10.0	0.63	0.63
Seal Beach	City of Seal Beach Water Department	NA	NA	Yes	NA	NA	10.0	10.0	0.25	0.25
Sierra Madre	City of Sierra Madre	NA	<0.5	Yes	NA	NA	10.0	10.0	0.25	0.25
Signal Hill	California Water Utilities	ND	NA	Yes	NA	NA	10.0	10.0	0.25	0.25
South Arcadia	Golden State Water Company	NA	ND	No	0	100	10.0	10.0	0.25	0.25
South Gate	California Water Utilities	NA	0.79	No	0	100	10.0	10.0	0.79	0.79
South Gate	City of South Gate Water Division	40	1.17	No	0	100	40.0	40.0	1.17	1.17
South Montebello	South Montebello Irrigation District	No Data	No Data	No	0	100	10.0	10.0	0.25	0.25
South Pasadena	City of South Pasadena	NA	0.9	Yes	NA	NA	10.0	10.0	0.25	0.90
Sunny Slope	Sunny Slope Water Company	NA	NA	No	0	100	10.0	10.0	0.25	0.25
Torrance	City of Torrance	ND	NA	Yes	89	11	10.0	10.0	0.25	0.25
Valencia Heights	Valencia Heights Water Company	NA	NA	Yes	NA	NA	10.0	10.0	0.25	0.25
Valley View	Valley View Mutual Water Company	NA	NA	No	0	100	10.0	10.0	0.25	0.25
Vernon	City of Vernon	61	NA	Yes	NA	NA	10.0	61.0	0.25	0.25
Walnut Park	Walnut Park Mutual Water Company	NA	NA	No	0	100	10.0	10.0	0.25	0.25
Walnut, Cudhay, Huntington Park	Walnut Valley Water District	NA	NA	Yes	100	0	10.0	10.0	0.25	0.25
Westminster	City of Westminster Water Division	2.6	NA	Yes	17	83	10.0	10.0	0.25	0.25
Whittier	California Domestic Water Company	NA	9.1	No	0	100	10.0	10.0	9.10	9.10
Whittier	City of Whittier	NA	ND	No	0	100	10.0	10.0	0.25	0.25
Whittier, La Habra heights, La Mirada, Buena Park	Suburban Water Systems	NA	0.5	Yes	NA	NA	10.0	10.0	0.25	0.50
Whittier, La Marada	California Water Utilities	ND	ND	Yes	NA	NA	10.0	10.0	0.25	0.25
Willowbrook	Golden State Water Company	NA	NA	Yes	NA	NA	10.0	10.0	0.25	0.25
Averages							11.8	15.5	0.45	0.48
							13.7		0.47	

Notes:

2009 CCR - Data as reported in 2009 Consumer Confidence Reports from CDPH
Additional data were obtained from various city websites and Water Replenishment District of Southern California. The Mn and TCE values are reported as average values in the 2009 CCRs.

Mn - Manganese

MWD - Metropolitan Water District; imported surface water.

NA - not available; not detected above the laboratory reporting limit.

ND - not detected above reporting limit; reporting limit not provided.

TCE - trichloroethene

ug/L - micrograms per liter; equivalent to parts per billion

For calculation purposes, results reported as ND or NA are assumed to have a half of the laboratory reporting limit, e.g., a value of 10 µg/L is used for ND(20). Assume reporting limits of 20 ug/L for Mn and 0.5 ug/L for TCE.

Values less than the detection limit reported in the CCR may be due to using "0" for ND values. For calculation purposes we have assumed that the lowest concentration is half of the detection limit.

APPENDIX D

CHEMICAL OXIDATION REACTION VESSELS AND PRESSURE FILTER SCHEMATICS

FILTRONICS

Filtronics, Inc. • 4000 Leaverton Court
Anaheim, CA 92807 (714) 630-5040 FAX (714) 630-1160
Website: www.filtronics.com Email: info@filtronics.com

FILTRONICS IRON, MANGANESE AND ARSENIC REMOVAL SYSTEMS

Filtronics, Inc., is a manufacturer of down flow pressure sand filters, to use general terms. It does not, however, employ sand or any silica products in its product line. This unique filtration system incorporates the latest technology for the removal of arsenic, iron, manganese, and hydrogen sulfide. The systems utilize a permanent, back washable media, chemical feed system, and oxidation system to accomplish arsenic removals to less than 5 ug/l (ppb). Filtronics ***Electromedia®*** permanent filtering media is capable of filter rates up to 15 gpm per square foot – with the same or better performance than other systems that filter at 3 – 5 gpm per square foot.

Filtronics full-scale arsenic removal units have been in operation since 1992 and our process has been featured in The American Water Works Association *Opflow* publication, Vol 22 No.2 "Question of the Month" as well as in the March 2001 edition of WaterWorld. Filtronics ***Electromedia®*** I systems have been shown to reduce arsenic concentrations of 69 to 100 ug/l down to 2.6 ug/l – well below the new 10 ug/l MCL. Recent pilot test results proved a reduction from 39 ug/l to non detectable levels. This data has been validated by third-party laboratory testing. Filtronics systems are designed to be operator friendly and are automated for full, unattended operation. The control panels provide a simple, clear, intuitive display panel for easy operation. The filter, chemical feed systems, well pumps and auxiliary equipment are automatically operated.

Photo 1 – Typical Filtronics filter vessel (behind blue & red piping) and reaction vessels. Note sodium hypochlorite chemical oxidant injection point (foreground right) and backwash reclamation tank (right background).

All ***Electromedia***® systems have a four-minute backwash duration. Backwash rates are 17 gallons to 20 gallons per minute per square foot, depending upon the media selected. The short duration results in lower wash water requirements and thus provides a better backwash-to-filtration ratio. The high rate and media design provide complete fluidization of the working media. Thorough cleaning of the media is obtained without the requirement of filter cleaning aids such as surface wash and air scour.

TECHNOLOGY DESCRIPTION AND FUNCTION

The process oxidizes soluble iron, manganese, sulfides and arsenic into insoluble forms and uses native iron in the raw water as a coagulant and/or adds an iron coagulant to attract the arsenic. The filter then removes these metals from the water.

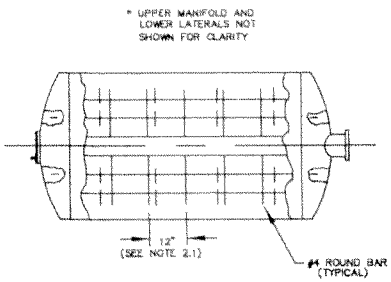
OXIDATION: The prime ingredients for chemical reactions, mixing and time, are provided by the dual reaction vessels supplied with the system.

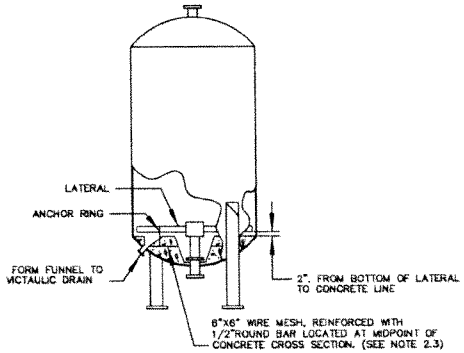
FILTRATION: The filter vessel contains ***Electromedia***® **I**, a media specifically designed for iron, manganese and other heavy metal removal. Its adsorptive surface attracts iron and manganese ions and holds them in the bed. The ***Electromedia***® **I** system does not require regeneration or media replacement. The system is so effective there is no requirement for "air scouring" or "surface wash" as is needed by other systems. At the end of the filtration cycle the iron, manganese, and arsenic are back-washed from the media and the surfaces are thoroughly scrubbed.

PROCESS ANALYZER: At the discharge of the filter a continuously monitoring analyzer samples the effluent. No calculations or separate analysis is required. This system has a positive response to the oxidant dosage.

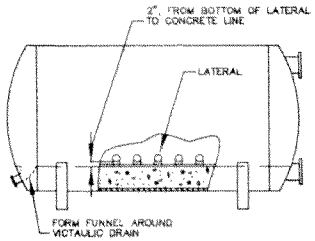
OPERATION AND DESIGN SPECIFICATIONS:

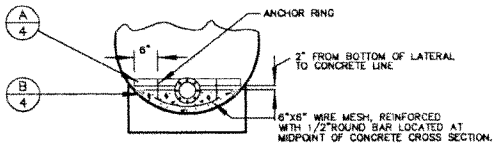
- Filter flux rate: 10 gpm/ft^2 (system available up to 15 gpm/ft^2)
- Backwash duration: 4 minutes regardless of loading
- Backwash initiation: 8 to 12 hours, started automatically by a timer with a differential pressure override at 10 psi
- Purge: 1 minute, after each backwash
- Internal distribution system: Hub and lateral/manifold and lateral
- Valving: Pneumatic/butterfly



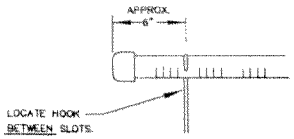


VERTICAL FILTERS





HORIZONTAL FILTERS

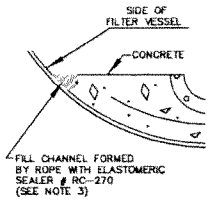


A/4 LOWER LATERAL

MODEL #	CUBIC YDS. REQ.	ANCHOR RINGS
FV-7	0.4	NO
FV-8	0.5	NO
FV-9	0.8	NO
FV-10	1.1	YES
FH-11	0.8	YES
FH-12	1.0	YES
FH-13	1.6	YES
FH-14	2.2	YES
FH-15	3.3	YES
FH-16	3.9	YES

CONCRETE REQUIREMENTS

ARE APPOXIMATE VALUES ONLY AND FLUCTUATE FROM VESSEL TO VESSEL (SEE NOTE 1.5)



B/4 SEALANT INSTALLATION

NOTES:

CONCRETE 1.
- 1.1 SIX SACK MIX
- 1.2 AGGREGATE: 3/4" - 1" WASHED GRAVEL OR SUITABLE QUARRY STONE.
- 1.3 WATER TO CEMENT RATIO: 0.35
- 1.4 USE BOTH WATER AND HIGH RANGE WATER REDUCER.
- 1.5 POUR CONCRETE WITHIN 2" +/- 1/4" OF LOWER LATERALS.
- 1.6 WOODEN FLOAT FINISH SATISFACTORY.

DO NOT USE ANY ADD MIX CONTAINING CHLORIDE.
INSURE AGGREGATE IS FREE OF ANY SALT TO PREVENT SPALLING.

ROUND BAR 2.
- 2.1 ø4 ROUND BAR ON 12" CENTERLINE OR AS APPROPRIATE ON SMALLER VESSELS.
- 2.2 WIRE 2" WITHIN CONCRETE SURFACE.
- 2.3 RECOMENDED REBAR SPACING, 6".

SEALING 3.
- 3.1 LAY 3/4" DIAMETER ROPE AT PERIMETER OF CONCRETE INSIDE OF VESSEL WHILE CONCRETE IS STILL WET. REMOVE AFTER CONCRETE HAS SET.
- 3.2 CLEAN DUST AND DEBRIS FROM CHANNEL LEFT BY ROPE. CLEAN VESSEL WALL. INSTALL SUITABLE ELASTOMERIC MATERIAL TO SEAL CONCRETE AND VESSEL WALL. THE RESERVOR SEALER IS PRODUCT # RC-270 FROM PRODUCT RESEARCH & CHEMICAL

CONCRETE REQUIREMENTS ARE APPROXIMATE VALUES ONLY. CONCRETE MINIMUM 4500 PSI WITH A FINE AGGREGATE MIX. THIS DRAWING TO BE USED FOR REFERENCE ONLY. FILTRONICS INC. IS NOT RESPONSIBLE FOR CONCRETE OR CONCRETE DESIGN.

CAUTION:

EXTREME CARE SHOULD BE TAKEN WHEN INSTALLING REBAR TO AVOID DAMAGE TO EPOXY LINING OF VESSELS.
DO NOT CUT REBAR INSIDE TANK

NO.	DATE	DESCRIPTION	DWN	APPD
1	08/09/2002	REVISED & REDRAWN	DWB	MEW

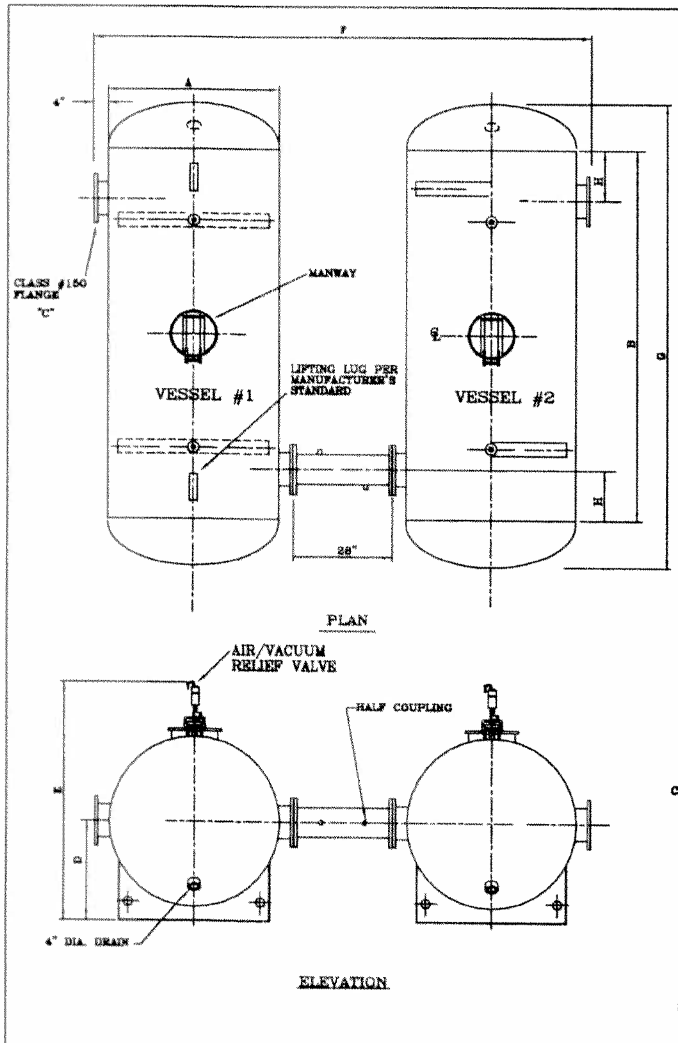
REVISIONS

TITLE: ELECTROMEDIA-I FILTER STATION
CONCRETE INSTALLATION FOR VESSELS

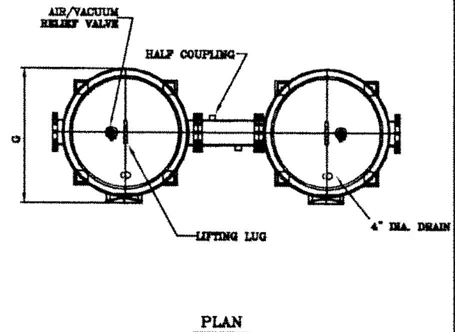
SCALE: NONE	DRAWN BY: D. W. Behrens	APPROVED BY:
DATE: 08/09/2002	CHECKED BY: W. E. Webb	S-930

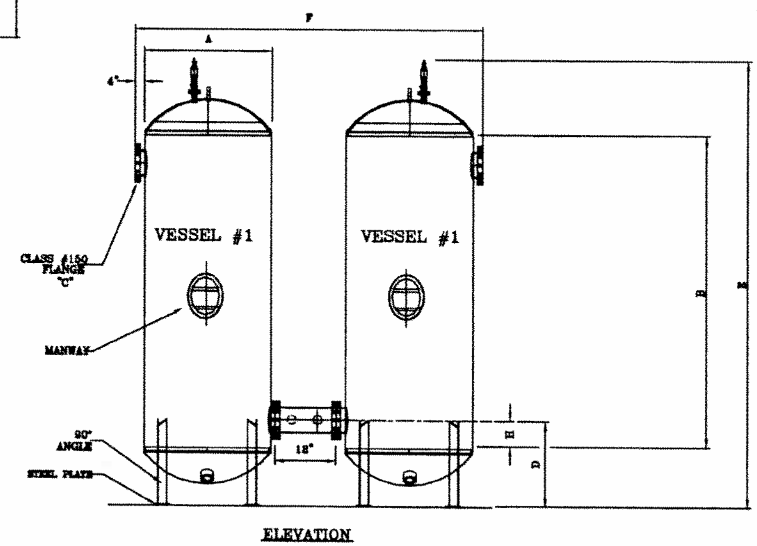
FILTRONICS, INCORPORATED
4000 LEAVERTON CT. ANAHEIM, CA. 92806
(714) 630-5040

SHEET 1 OF 1
DWG NO. S-930
REV 1



HORIZONTAL CONFIGURATION





VERTICAL CONFIGURATION

SIZE SCHEDULE (INCHES)

VESSEL	DESIGN FLOW (GPM)	DIAM. A	LENGTH B	CONNECTION & OVERALL DIMENSIONS C	D	E	F	G	H
				VERTICAL					
V-45	10-45	18	42	2 2.5 3	24	70	64	19	9
V-70	46-70	20	52	2.5 3 4	24	80	68	21	8
V-100	71-100	24	62	3 4 6	24	91	76	25	13
V-150	101-150	24	72	4 6	24	101	76	25	9
V-200	151-200	30	66	4 6	30	102	88	31	9
V-300	201-300	36	60	6 8	30	97	100	37	13-1/2
V-500	301-500	42	90	8 10	30	130	112	43	9
V-700	501-700	48	96	8 10 12	36	142	124	49	12
V-1000	701-7000	54	108	10 12	36	156	136	55	12
V-1300	1001-1300	54	132	10 12	36	180	136	55	12
V-1600	1301-1600	60	132	10 12	36	161	148	61	12
				HORIZONTAL					
H-1000	701-1000	48	129	10	30	61	140	151	12
H-1300	1001-1300	54	132	12	33	67	152	157	12
H-1600	1301-1600	60	132	12	36	73	164	159	12
H-1900	1601-1900	60	156	12	36	73	164	183	12
H-2250	1901-2250	66	152	14	39	79	176	182	12
H-3300	3000-3300	72	184	16	42	96	196	222	24
H-3800	3500-3800	72	218	18	42	96	196	258	28
H-5200	4800-5200	84	218	18 24	48	108	212	263	28

NOTES:

1. ALL DETAILS AND DIMENSIONS INCLUDED HEREON ARE FOR PROJECT PLANNING PURPOSES ONLY AND MUST BE VERIFIED PRIOR TO CONSTRUCTION.
2. TANKS TO BE CONSTRUCTED IN ACCORDANCE WITH A.S.M.E. CODE AND SO STAMPED. UNLESS OTHERWISE SPECIFIED, VESSEL SHALL BE DESIGNED FOR A WORKING PRESSURE OF 60 PSIG AND HYDROSTATICALLY TESTED FOR 90 PSIG.
3. ALL PIPING 2" DIAMETER AND LARGER SHALL BE FLANGED, CLASS 125.
4. MANWAYS SHALL BE OF A SIZE COMPATIBLE WITH INTERNAL ASSEMBLY PIPING AND VESSEL SIZE.
5. OTHER PIPING CONFIGURATIONS ARE AVAILABLE TO SUIT CUSTOMER REQUIREMENTS. CONSULT MANUFACTURER FOR DIMENSIONS.
6. NOT TO BE USED FOR CONSTRUCTION

REV	DATE	DESCRIPTION	BY	CHK
D	8-15-2000	GENERAL REVISION	M.L.	JB
C	4-28-98	GENERAL REVISION	PCD	JB
B	11-18-96	REVISED D-014 TO S-170 & DIA. V-100,V-15-, V-800		
A	6-18-96	RELOCATED BASE SUPPORT		

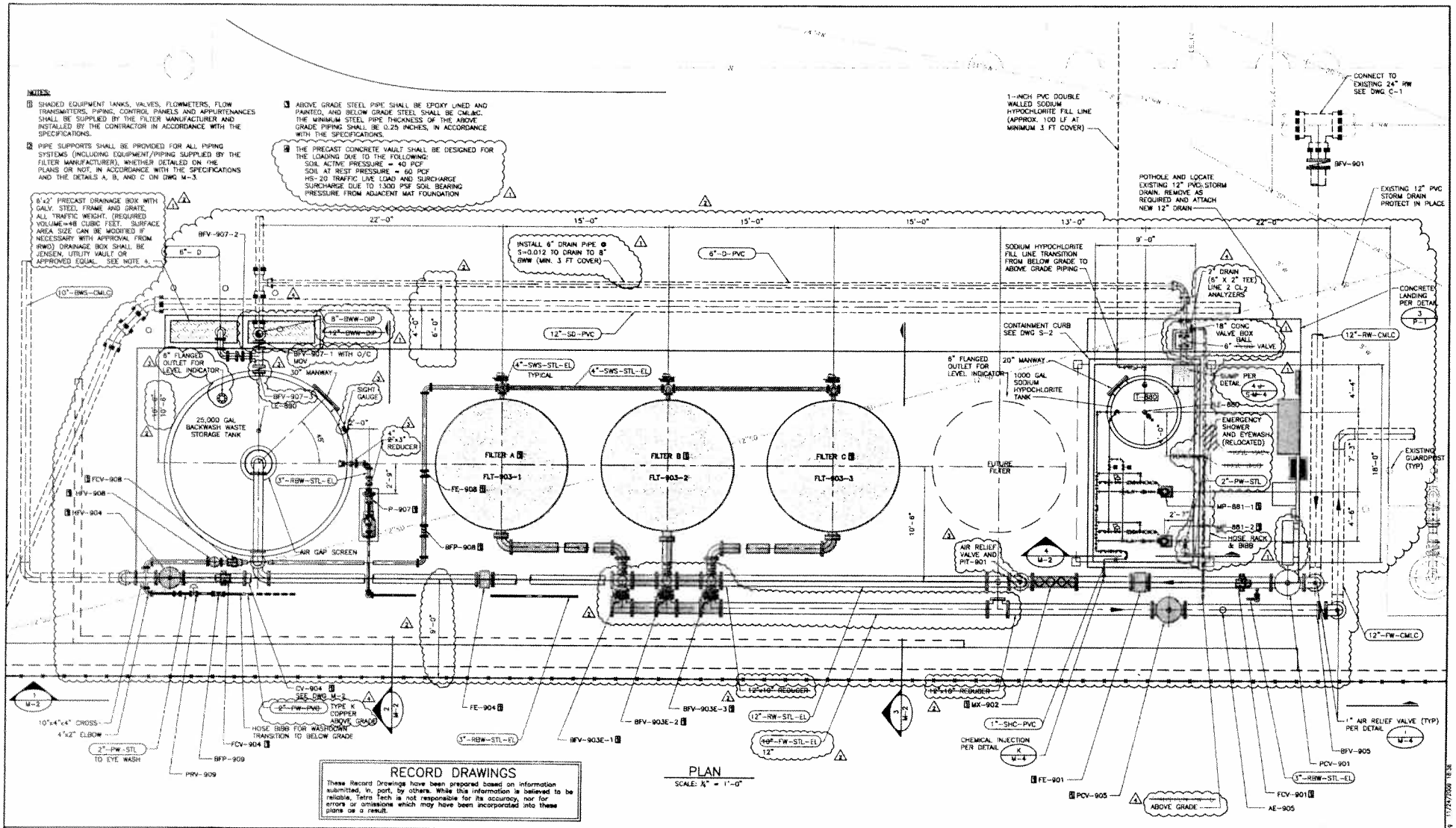
REVISIONS

ELECTROMEDIA-1 FILTER STATION
REACTION VESSELS

HORIZONTAL AND VERTICAL
REACTION VESSELS

FILTRONICS, INCORPORATED

S-170 D



RECORD DRAWINGS

These Record Drawings have been prepared based on information submitted, in, part, by others. While this information is believed to be reliable, Tetra Tech is not responsible for its accuracy, nor for errors or omissions which may have been incorporated into these plans as a result.

REV	DESCRIPTION	ENGR	DATE	APPD	DATE
1	RECORD DRAWINGS	RSA	11/08		
2	SW TANK REVISIONS	RSA	09/08		
3	FOUNDATION AND GRADING REVISIONS	RSA	09/08		
4	ADDENDUM NO. 2 REVISIONS	RSA	07/08		

SCALE 1/4"=1'-0"
DATE JUNE 2008
FILENAME MEPL01
DESIGNED BY HD
DRAWN BY HD
CHECKED BY RSA

10/1/09

PLANS PREPARED BY:
TETRA TECH
16241 Laguna Canyon Road
Suite 200
Irvine, California 92618
(949) 727-7099
(949) 727-7097 FAX

STEVEN AGOR RCE 57082 10/1/09 DATE
STEVEN L. MALLOY RCE 31926 DATE

IRVINE RANCH WATER DISTRICT
IRVINE DESALTER PROJECT
PR 10376

IRVINE RANCH WATER DISTRICT

MANGANESE REMOVAL SYSTEM

MANGANESE REMOVAL FILTERS PLAN

DRAWING M-1R1
PROJECT NO. 00928.0097
SHT. NO. 11 OF 20

APPENDIX B CAL/EPA DEPARTMENT OF TOXIC SUBSTANCES CONTROL COMMUNITY NOTICE

COMMUNITY Notice

The mission of DTSC is to protect California's people and environment from harmful effects of toxic substances through the restoration of contaminated resources, enforcement, regulation and pollution prevention.

Summary of the August 8, 2012 technical findings for the Phase II Maywood Drinking Water Sampling

Si desea información en espanol comuníquese Jesus Cruz al número gratis, 1 (866) 495-5651, or Jesus.Cruz@dtsc.ca.gov

The Department of Toxic Substances Control (DTSC) is providing the Maywood community with technical support in the assessment of Maywood drinking water quality. DTSC is also working with the California Department of Public Health Drinking Water Program, the agency responsible for the enforcement of the federal and California Safe Drinking Water Acts (SDWAs) and the regulatory oversight of public water systems to assure the delivery of safe drinking water to all Californians.

Maywood Community Inter-Agency Partnership

DTSC is a founding member of the Maywood Inter-Agency Partnership (Partnership), a collaborative group made up of community residents, environmental justice advocates, local officials and state and federal environmental agency representatives. The Partnership is working on community driven solutions to address environmental issues in Maywood. Through extensive collaborative discussion, Maywood community members identified and prioritized their environmental needs to the Partnership. Drinking water was at the top of the list. The Partnership began to look for solutions to address the drinking water concerns of Maywood, and implemented drinking water sampling in 2010 and 2012. This fact sheet summarizes the second phase of drinking water sampling that was undertaken in August, 2012.

Purpose of the Phase II Maywood Drinking Water Sampling

The purpose of the Phase II Maywood Drinking Water Sampling was to assess the quality of drinking water from selected wells representing all three water companies; as well as the drinking water distribution system of a selected number of households and public locations based upon the Phase I sampling results (October, 2010).

PUBLIC MEETING

Public meeting to be held on Saturday, June 29, 2013

Representatives from the Maywood Community Inter-Agency Partnership are holding a community meeting in order to discuss the Maywood Phase II drinking water sampling results, and other relevant information relating to drinking water quality located in Maywood.

The meeting will take place from 10.30 am to 12.30 pm (two hours), Saturday, June 29th at the YMCA located at 4801 E. 58th Street, Maywood.

Scan the following link with your cell phone for further online information.

Project History

On July 31, 2012, DTSC and the Inter-Agency Partnership held a community meeting at the Community Center in Maywood Park, to discuss the findings of the water sampling results from the October 2011 Phase I Drinking Water Sampling.

On August 8, 2012 the DTSC, the Enforcement and Emergency Response Program (EERP) and the Office of Criminal Investigations (OCI) conducted drinking water confirmation samplings for three separate Maywood homes, the Maywood City Hall, and from three Maywood Water Companies 1, 2 and 3.

The data collected from the Phase II Sampling was analyzed and compared to official drinking water standards. The Phase II data was also compared to the Phase I Drinking Water Sampling data and to previous sampling events collected by the California Department of Public Health.

What was the drinking water analyzed for?

- Heavy Metals (Copper, lead, zinc, manganese)
- Perchlorate
- Volatile Organic Compounds (VOCs) such as Trichloroethylene (TCE)

How the drinking water was sampled

Four types of drinking water sampling were performed in order to obtain drinking water samples representative of the quality of water in the source wells, distribution systems, and residents homes.

The sampling included (1) no flushing of home water pipes, (2) flushing of water pipes for 30 seconds, (3) flushing of water pipes for 10 minutes, (4) and the use of a residential activated carbon water filter prior to collecting a water samples.

The four stages of sampling were undertaken in order to determine if heavy metals were in the plumbing or water distribution system, and to see if any volatile organic chemicals (VOCs) were in the drinking water wells from Maywood water companies 1, 2 and 3.

Four types of drinking water sampling were undertaken

Sample 1	Sample 2	Sample 3	Sample 4
No Flush	30 Second Flush	10 Minute Flush	Water Filter: Granular activated carbon

The fourth sampling event involved the use of an certified activated carbon residential faucet filter for in-home reduction of drinking water contaminants from heavy metals such as lead, VOC's, and chlorine by-products. The objective was to determine whether the filter achieved a reduction in these contaminants by comparing filtered water samples to the unfiltered water samples.

On January 15, 2013, DTSC representatives and a technician from the Los Angeles Sanitation Department collected one water well sample from the drinking water well designated as number 7 that is operated by the Maywood Mutual Water Company number 3. Well number 7 is know to have ongoing concentrations of TCE detected within the well.

The concentrations have been found to be within the Maximum Contaminant Levels (MCL). Concentrations below the MCL are considered to be safe drinking water as determined by the Department of Public Health (DPH). The water companies are required to submit quarterly monitoring reports to the DPH, Drinking Water Division for review. If a well exceeds the MCL it

is required to be shut down so then the water cannot be distributed to the public.

MCL is the maximum concentration of a chemical that is allowed in public drinking water systems. The MCL is established by the U.S. EPA. Currently there are fewer than 100 chemicals for which an MCL has been established; however, these represent chemicals that are thought to pose the most serious risk.

Public Health Goals (PHG's)

PHG's are public health goals established by the California Office of Environmental Health Hazard Assessment (OEHHA). PHG's indicate chemical background concentrations at which no adverse health effects are observed. DTSC's Phase I and II Maywood drinking water sampling are one of the first water quality assessments to include PHG's in comparison to United States, Environmental Protection Agency (U.S. EPA) established drinking water standards. PHG's are a non-enforceable standard to which drinking water quality standards are encouraged to be met by water company service providers throughout California.The level of a contaminant in drinking water, below which there is no known or expected risk to health, DTSC included PGH as an additional measure of water quality.

Results of the drinking water sampling

Water was sampled and analyzed from three residential locations within the City of Maywood, the City Hall women's restroom and the main active wells from the three water companies. All samples were found to be within the EPA established primary and secondary standards before treatment with the residential water filter.

However, a portion of the samples exceeded the public health goal levels for Lead, Arsenic and the chlorinated treatment by-product chemicals resulting from the disinfectant process at the water company site. Also, TCE exceeded the PHG level at mutual water company number 3, located at well number 7 The Result indicated 3.0 micrograms/Liter, the PHG is 1.7 micrograms/Liter, the MCL is 5.0 micrograms/Liter.

Sample results for manganese demonstrated a significant reduction of levels for residents serviced by water company number 2. This may be due to a new manganese treatment plant installed and operated by Maywood Water Company number 2 in 2011, which seem to have removed the majority of the manganese prior to the water entering the drinking water distribution system.

Recommendation

In the interim, while Water company #1 installs a manganese treatment unit, and additional improvements are identified to the public systems. The use of a California Department of Public Health certified activated carbon faucet filter showed a reduction of heavy metals (including lead and arsenic) and is recommended as a lower cost residential water treatment option. Please note that this filtration system is not intended to enhance the clarity of the water, but reduce concentrations of chemicals and heavy metals.

Next Steps

1. **Maywood Community Meeting:** A public meeting will be held at the Maywood YMCA on Saturday, June 29th to discuss the DTSC Phase II Maywood Drinking Water Sampling Report.

2. **Groundwater Assessment:** Working under the U.S. EPA Preliminary Assessment/Site Investigation (PA/SI) grant, the DTSC and the U.S. EPA are currently evaluating the Maywood Mutual Water Company number 3, water well number 7 for potential TCE contamination sources.

3. **School Water Fountain Sampling:** Sampling of drinking water fountains at the location of three schools

within Maywood is anticipated to occur and be made publicly available by September 2013. The location of the schools to be sampled will be representative of the three water purveyers. This sampling will be planned and conducted in conjunction with the Los Angeles Unified School District Lead Monitoring Program.

4. **Community Training:** Community training on the use of residential water filters will be conducted for the community of Maywood. The training will inform residents of the benefits and proper usage of approved residential water filters. A list of approved filters may be found at: http://www.cdph.ca.gov/certlic/device/pages/watertreatmentdevices.aspx

5. **Water Company Number 1:** Follow-up on plans for Water Mutual Water Company Number 1 to complete the installation of the manganese treatment system for Well #4.

Who to contact for further information:

Roger Kintz
DTSC Environmental Justice Coordinator - Enforcement and Emergency Response Program
9211 Oakdale Avenue
Chatsworth, CA 91311-6505
Phone: (818) 717-6500
Cell: 818-618-9745
Email: RKintz@dtsc.ca.gov

Tim Chauvel
Public Participation Specialist
Phone: (714) 484-5487
Email: TChauvel@dtsc.ca.gov

For media related inquiries, please contact:

Sandy Nax
DTSC Public Information Officer
Phone: (916) 327-6114
Email: snax@dtsc.ca.gov

Where you can find information:

Maywood Cesar Chavez Library
4323 East Slauson Avenue
Maywood, CA 90270
Phone: (323) 771-8600

DTSC website:

DTSC's website located online at: http://www.dtsc.ca.gov/SiteCleanup/Maywood_Phase_II_EJ.cfm

Glossary

Maximum Contaminant Levels (MCLs) are standards that are set by the United States Environmental Protection Agency (EPA) for drinking water quality. An MCL is the legal threshold limit in the amount of certain contaminates in water provided by public water systems.

Parts Per Million: The amount of a contaminant in water is often measured in milligrams per liter (abbreviated as mg/L). This also is referred to as parts per million. A liter of water weighs 1000 grams, and a milligram is 1/1,000th of a gram. Therefore, a milligram of a substance dissolved in a liter of water represents one millionth (1,000 divided by 1/1,000) of the weight, or one part per million (1 ppm). Example: One drop of water is 2 ppm of a bathtub full of water.

Primary Drinking Water Standards are the allowable maximums that can be found in drinking water of various potential contaminants. They are set to protect the public from contaminants that are a threat to human health. . For information on drinking water and how it is regulated: http://water.epa.gov/drink/.

Secondary Drinking Water Standards: are set to protect the odor, taste and appearance of drinking water.

Public Health Goals (PHG's) are established levels of contaminants that represent no known risk to human health. Information on PHG's can be found: http://oehha.ca.gov/water/phg/allphgs.html http://www.cdph.ca.gov/certlic/drinkingwater/Pages/MCLsandPHGs.aspx

Lead: Lead exposure affects the nervous system and can cause a range of health effects, from behavioral problems and learning disabilities, to seizures and death. Children six years old and younger are most at risk. If not detected early, children with high levels of lead in their bodies can suffer from damage to brain and nervous system, learning and hearing problems anemia, and headaches.

Manganese: is a naturally occurring metal that is found in many types of rocks. It combines with other substances such as oxygen, sulfur, or chlorine. At high concentrations and prolonged exposure, manganese has been shown to affect the nervous system.

Trichloroethylene (TCE) is a volatile organic chemical used as an industrial solvent in automotive and metal industries. Some people who drink water containing high levels of TCE over many years may experience liver problems and may have an increased risk of getting cancer.

For specific information provided in Spanish and/or multiple languages, on a particular chemical or type of metal, please refer to Toxfaqs which is provided by the Agency for Toxic Substances and Disease Registry (ATSDR) at: http://www.atsdr.cdc.gov

APPENDIX C OUTREACH MATERIALS

APPENDIX C.1 FLYERS

Community Workshop
City of Maywood

Building on the outreach conducted by UNION DE VECINOS, please join us on Saturday, September 17, 2011 to discuss issues facing residents in Maywood and their potential solutions. The US Army Corps of Engineers Los Angeles District, Los Angeles County Flood Control District and City of Maywood representatives will all be there to listen and facilitate discussion on potential solutions. All are welcome! A light lunch will be provided for those who participate.

YOUR FEEDBACK IS CRUCIAL TO US!

When:
Saturday
September 17, 2011
10 a.m. to 2 p.m.

Where:
City of Maywood- City Hall
4319 East Slauson Avenue
Maywood, California 90270

Tel: (323) 562-5700

US Army Corps of Engineers

Council for Watershed Health

UNION DE VECINOS UV

Sponsored by: U.S. Army Corps of Engineers Los Angeles District, Los Angeles County Flood Control District, Council for Watershed Health, City of Maywood, and Union de Vecinos

Follow-up Community Workshop

City of Maywood

WHEN:
Thursday, February 2, 2012
7 p.m. to 9 p.m.

WHERE:
Saint Rose of Lima Parish
4450 E. 60th Street
Maywood, CA 90270

CONTACT:
Jonathan Guerrero, USACE
(213) 452-3795
Jonathan.e.guerrero@usace.army.mil

PLEASE JOIN US…

- On September 17, 2011 Maywood community members helped the U.S. Army Corps of Engineers (USACE) Los Angeles District identify the primary water resource concerns in the City of Maywood.
- USACE drafted a report summarizing community issues, including water quality and supply costs; and will present preliminary recommendations.
- USACE will present and facilitate discussion of this draft report, **Thursday, February 2, 2012; between 7-9pm** at **Saint Rose of Lima Parish**.
- A copy of the draft report will be available approximately two weeks before the workshop at the Maywood César Chávez Library and on our website: http://www.spl.usace.army.mil/maywoodwater.html.
- Your feedback is important. Please join us.

Sponsored by:
U.S. Army Corps of Engineers Los Angeles District &
Los Angeles County Department of Public Works

US Army Corps of Engineers

COUNTY OF LOS ANGELES PUBLIC WORKS Public Service That Works

APPENDIX C.2 AGENDA

Community Workshop
City of Maywood
Saturday, September 17, 2011

AGENDA

10:00 Welcome by City of Maywood Council Member Felipe Aguirre

Introductions

10:30 Today's Agenda, Project Background, and Results of Community Outreach by Union de Vecinos, Leonardo Vilchis

10:45 Addressing the Issues:

Soil and Park Update, Felipe Aguirre, Council Member

Update on Pemaco Site by Rose Marie Caraway, EPA

LAUSD Sites and Water Quality, Kathleen Bullard, Tetra Tech

11:15 Overview of Workshop Process and Group Break-outs, Kathleen Bullard

Break-out groups and working (complimentary) lunch

12:45 Reports back to entire group

1:45 Wrap-up and next steps

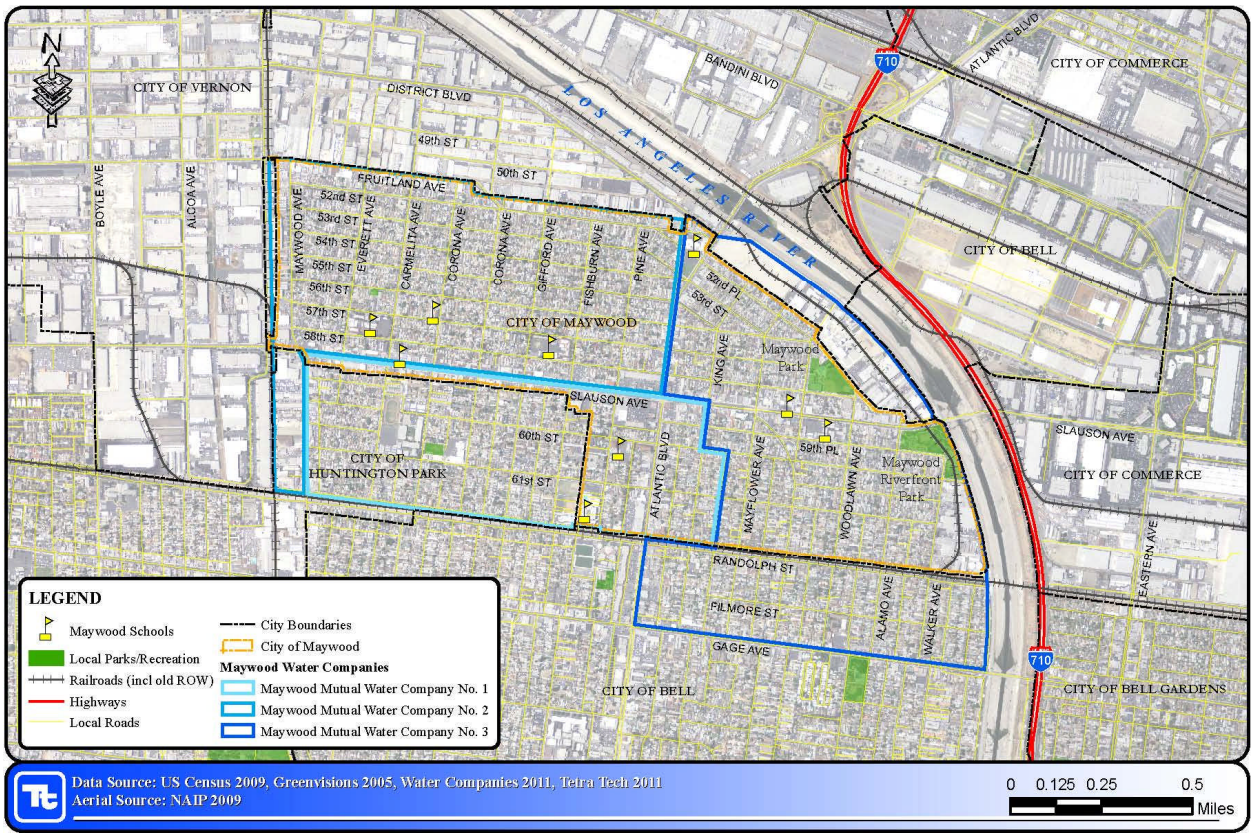
US Army Corps of Engineers

Council for Watershed Health

Los Angeles County Flood Control District

Union de Vecinos

City of Maywood Community Workshop
U.S. Army Corps of Engineers
February 2, 2012



Service Areas of Maywood Mutual Water Companies 1, 2, and 3

Background

The State of California created the Integrated Regional Water Management (IRWM) concept to spur regions into considering a holistic approach to water management. California funded the development of IRWM Plans through bond measures. IRWM plans identify regional water management issues and the projects that would help solve water management issues. Agencies and municipalities, led by the County of Los Angeles Flood Control District, partnered to develop the Greater Los Angeles County (GLAC) Integrated Regional Water Management Plan, resulting in the establishment of a region-wide planning effort. Through the U.S. Army Corps of Engineers (Corps) Planning Assistance to States program, the Corps and the County are working together to identify issues and potential solutions that have been identified by the community. The goal is to identify projects eligible for funding under IRWM and those that meet Corps missions and programs.

On September 17, 2011 the first workshop was held to listen to the issues identified by the community and then work in smaller groups to further clarify the issues and identify potential solutions. Clearly, the issue of drinking water quality is of primary concern to the community. A report was generated that

documented the workshop, and further investigated the potential solutions that were raised at the meeting. This report is now available for review. Comments on the report can be made at today's workshop; by filling out one of the comment sheets available in the room; or by emailing: Jonathan.E.Guerrero@usace.army.mil. Comments can be submitted until Monday, March 5, 2012.

Goals and Agenda for February 2, 2012 Workshop

The goal of tonight's workshop is to present the progress to date and receive further feedback from the community.

Agenda

Introductions

Project Background

Summary of previous workshop of September 17, 2012

Top 5 Issues

Potential Sources of Poor Water Quality

Results of Recent Studies

Potential Solutions Identified

Public Comment and Feedback

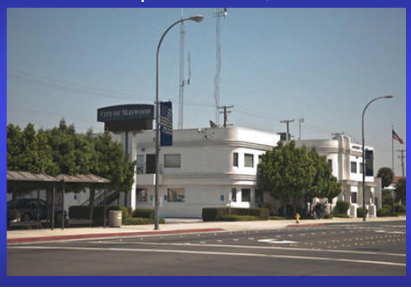
Wrap-up and next steps

Public Comment Ground Rules:

- Limit of 2 minutes
- Please respect each person's time and do not interrupt
- State comment or question clearly and calmly
- Wait for response
- If someone has already made your comment please do not repeat it, instead show you are in agreement with it

APPENDIX C.3 POWER POINTS

City of Maywood
Community Workshop
September 17, 2011



US Army Corps of Engineers

Council for Watershed Health

Maywood Community Workshop
Agenda:

- Introductions
- Welcome from Councilmember Aguirre
- Project Background and Results of Community Outreach: Leonardo Vilchis, Union de Vecinos
- Addressing the issues:
  - Soil and Park Status: Felipe Aguirre, City of Maywood
  - Update on Pemaco Site: Rose Marie Caraway, EPA
  - LAUSD, Water Quality: Kathleen Bullard, Tetra Tech
- Break-out Discussions (All)
- Report Back from Break-out Groups
- Wrap-up and next steps, Kathleen Bullard

City of Maywood
Project Background

Los Angeles County, under the Planning Assistance to the States Program, asked the US Army Corps of Engineers for assistance in identifying projects for the Integrated Regional Water Management Program (IRWMP)

City of Maywood
Project Background

The County and the State wanted to identify projects under IRWMP that specifically targeted underserved communities and find out what they saw as their major issues.

City of Maywood
Project Background

Union de Vecinos was engaged to conduct community outreach and listen to the community about their issues

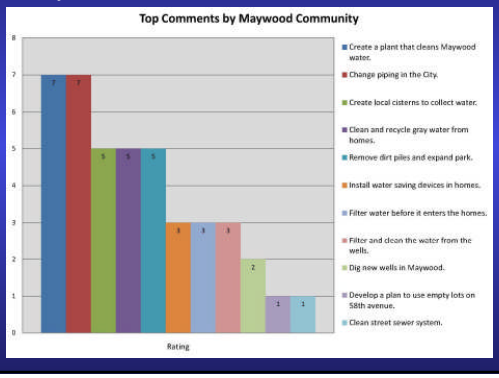
Results of Community Outreach

A total of XX community meetings were held reaching approximately xx people. The major issues identified were:

- Create a treatment plant to clean Maywood's water supply
- Change piping in the City
- Clean and recycle gray water from homes
- Create local cisterns to collect water
- Remove dirt piles and expand the park
- Install water-saving devices in homes
- Filter the water before it enters the homes
- Filter and clean the water from the wells
- Dig new wells in Maywood
- Develop a plan to use empty lots on 58th Avenue
- Clean street sewer system

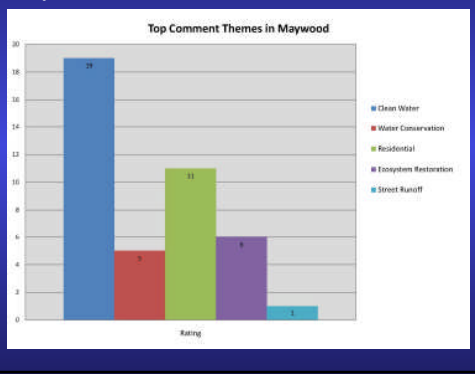
Results of Community Outreach

Sorted by how often mentioned:



Results of Community Outreach

Sorted by theme:



Addressing the issues:
Soil and Park Update

Felipe Aguirre, Council Member, City of Maywood

Addressing the issues:
Pemaco Site

Rose Marie Caraway,
Remedial Project Manager &
Environmental Scientist

U.S. Environmental Protection Agency

Addressing the Issues

Empty lots around 58th Avenue as a result of LAUSD's plan to build another school:

Further plans for the sites are on hold until a judge rules on the case - expected next Spring

Addressing the Issues:

Water Quality:

- California Assembly Bill AB 890 was passed requiring a study of Maywood's water supply and to address the impacts of manganese
- Results of study issued in report dated December 12, 2011 can be summarized as:

" The public water systems serving the City of Maywood have not been found to exceed federal and state primary drinking water standards, therefore, not in violation of their permits.

Addressing the Issues:

Water Quality continued:

"However, a number of Maywood's water source wells have manganese concentrations that are above Secondary Maximum Contaminant Level (SMCL)

Manganese concentrations greater than this level is undesirable because it causes a rusty appearance, poor taste, and causes a discoloration of plumbing and laundry.

The manganese problems have affected consumer acceptance of water resources."

Addressing the Issues:

Water Quality continued:

The report identifies potential solutions and funding mechanisms to address these issues:

In summary:

Blending with higher quality sources

Digging new wells

Treatment plant or sending to existing treatment plants

Addressing the Issues

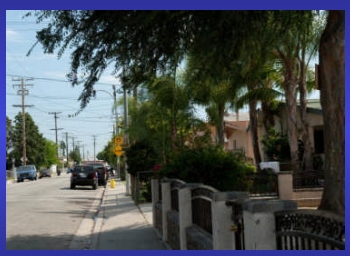
Water Conservation:

Cisterns or rain barrels

Residential water saving devices

Residential gray water use

Other solutions not mentioned:



Green streets, rain gardens, bioswales, permeable paving

Addressing the Issues

Water Conservation:

Cisterns or rain barrels

- -Cisterns are underground tanks that hold rainwater
- -Rain barrels can capture water from home roof tops

Residential water saving devices

- -Low flush toilets
- -Water saving shower devices

Residential gray water use

- -Takes water from showers or sinks and puts it on the landscape

Addressing the Issues

Water Conservation: Other Solutions:

Green Streets

-Allow for greater water infiltration

Rain Gardens

-Direct rain gutters to part of the yard rather than straight to the street

Bioswales

-Grassed ditches that capture water

Permeable Paving

-Infiltrates water within paved areas

Addressing the Issues

Advantages/Disadvantages:

Cisterns

-Expensive to install and operate; best for large scale use

Rain barrels

-Relatively inexpensive, many ways to make them

See City of LA: http://larainwaterharvesting.org/

Residential gray water use

-May contain soaps, bleach, or bacteria that are harmful to the landscape and can make home grown food questionable for consumption

Addressing the Issues

Funding:

IRWMP Funding

US Army Corps of Engineers

Other solutions?

Give us your ideas

Break-out Sessions

Take one of the issues and first imagine it is solved. What would that look like? How would everyday life be different? Discuss this among your group members and try to create a picture or story of what Maywood is like with this problem solved. Be as specific as possible.

Now try to imagine the steps that it would take to get there and answer the following questions:

-What do you see as potential solutions to the problems that were identified?

-How would you prioritize these solutions?

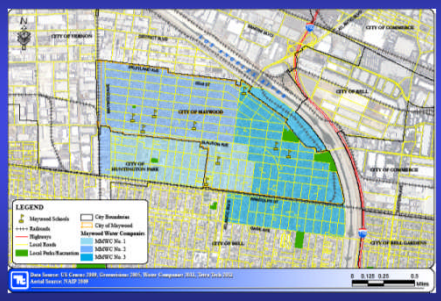
-How long do you think it would take to get there?

-Can you identify how residents can be part of the solution?

Break-out Sessions

Facilitators and technical experts are on hand to help with your group!

Lunch is coming!



Report back to the group

First, tell us your story or give us an image of a changed Maywood.

- What were the solutions you identified?
- What were the highest priorities?
- How long did it take to achieve the new vision of Maywood?
- What were the steps that residents could take to be part of the solution?

Next Steps

Team further investigates suggestions and solutions

-Expand on potential projects

-Investigate funding

Team reports back to the community through another community workshop and gains feedback

Team revises report

Final presentation to the community

City of Maywood
Community Workshop

Los Angeles District
February 2, 2012

US Army Corps of Engineers
BUILDING STRONG®
And Taking Care Of People!

Maywood Community Workshop
Agenda:

- Introductions
- Project Background
- Summary of previous workshop of September 17, 2012
  - Top 5 Issues
- Potential Sources of Poor Water Quality
- Results of Recent Studies
- Top Issues and Responses
- Potential Solutions: Potential Funding
- Next Steps
- Public Comments

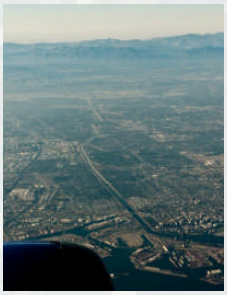
BUILDING STRONG®
And Taking Care Of People!

City of Maywood
Project Background
Water Supply

BUILDING STRONG®
And Taking Care Of People!

City of Maywood
Project Background

Los Angeles County, under the Planning Assistance to the States Program, asked the US Army Corps of Engineers for assistance in identifying projects for the Integrated Regional Water Management Program (IRWMP)



BUILDING STRONG®
And Taking Care Of People!

City of Maywood
Project Background

- The Integrated Regional Water Management Program (IRWMP) plans identify regional water management issues and the projects that would help these.
- The County has taken the leadership role for the regional Greater Los Angeles County (GLAC) IRWMP.
- Project funds are available on a state-wide competitive basis for viable projects with responsible agencies and organizations working together.

BUILDING STRONG®
And Taking Care Of People!

City of Maywood
Potential Sources of Poor Water Quality

Water comes from:

Wells and purchased outside water

Travels through main lines

Goes through indoor plumbing

A problem from any one or all 3 can degrade water quality

BUILDING STRONG®
And Taking Care Of People!

Results of Recent Studies

AB 890 City of Maywood Water Quality Assessment Report looked at the source of water – the wellheads and concluded:

• Does not meet secondary standards for taste, color, and staining, but does meet EPA primary standards.

•Major source of brown water: manganese

•TCE was also found in wells in Water Company #3

BUILDING STRONG®
And Taking Care Of People!

Results of Recent Studies

The water distribution system appears to be a significant factor contributing to the degraded Maywood drinking water quality.

The Maywood Community Inter-Agency Partnership conducted:

•Water quality tests of outside spigots at 4 public places (City Hall, Riverfront Park, Pro Uno Community Bldg., Maywood Park,) and 18 residences across all 3 companies.

•Results from the testing are now undergoing Quality Control and will be available at a later date.

BUILDING STRONG®
And Taking Care Of People!

Top Issues and Responses

Clean Water/Contaminated Water

- Wellhead treatment (In progress)
- Distribution main lines – some have been replaced; others need replacing – varies by water company
- Water filters – are they effective? Which ones? For how much $$?

All this requires funding and the best way to get it:

Grants from federal and state government

BUILDING STRONG®
And Taking Care Of People!

Top Issues and Responses

- Consolidate 3 Water Companies
  - All 3 companies must be in agreement to merge
- Create a municipal water district:
  - Possible, requires 2/3rds vote and approval through separate state agency
  - May not be able to provide cost effective water
- Water is too expensive
  - Streamline billing:
    - Create consistent bills across all 3 companies for easy comparison
  - Better communication:
    - On charges, improvements, maintenance

BUILDING STRONG®
And Taking Care Of People!

Potential Solution: Funding

- Funds set aside for certain programs, for example:
  - US EPA: clean water, environmental justice
  - State: Integrated Regional Water Management Program
- **How do you get it?**
- Apply during funding cycle
- Demonstrate need and good fit with program
- Ability to carry out the program
- **KEY: Demonstrate wide support for your project:**
  - **All government representatives**
  - **Community groups**

BUILDING STRONG®
And Taking Care Of People!

Next Steps

Further Investigate Funding:

- Funding agencies and foundations
- Partnerships required
- Program objectives
- Deadlines
- Amount of money available
- Type of organization eligible for funding for example:
  - State or local agency
  - Water Company
  - Non-profit organization
- Evidence of community support required

BUILDING STRONG®
And Taking Care Of People!

Next Steps

- Obtain feedback from community (30 Days – March 5)
- We respond to your comments in the report
- Further investigate potential solutions
- Incorporate and revise report
- Finalize report
- Final workshop to community

BUILDING STRONG®
And Taking Care Of People!

Public Comments

Please give us your feedback:

- Verbally this evening:
  - Limit of 2 minutes
  - Please respect each person's time and do not interrupt
  - State comment or question clearly and calmly
  - Wait for response
- On written comment sheets (here in the room)

BUILDING STRONG®
And Taking Care Of People!

Public Comments

Please give us your feedback:

- Through email:
  - Jonathan.E.Guerrero@usace.army.mil
  - In Spanish or English

BUILDING STRONG®
And Taking Care Of People!

APPENDIX C.4 INSTRUCTIONS TO FACILITATORS

APPENDIX C.5 FLIP CHART TRANSCRIPTIONS

City of Maywood
Community Workshop Meeting Minutes
Saturday, September 17, 2011

Group 1

A. Water Company #1
   - Wells
   - Water pipes
   - 1 well
   - Received grant $2.5 million
   - #1 State Revolving Fund (Prop 50)
   - Water Tank
     - Damaged earthquakes
     - Recoating
     - Source/ capacity
     - Safety community
     - Fire response
   - Treatment System
     - Manganese
   - 3years
B. Water Company #2
   - Completed (operating) treatment plant (manganese) this year.
   - Maywood Ave.
   - Water Replenishment District
   - Central Basin= increase prices 33% 2years.
C. Water Company #3
   - TCE
   - Water Replenishment District provide equipment start 2012
   - Estimated start 1year
D. AB 890
   - Bring manganese levels down
E. How can residents help?
   - Change water heaters
   - Pipes are cast iron (replacement) – 75 years old
   - More information on manganese
   - Water conservation

Group 2

- Public agencies there are federal funds, state, foundations, non-profit organizations
- Recyclable water (water the medians)
- Change all the water system (pipes and drainage)
- White room
- High prices
- Solutions:
  - Only one company
  - City too small to have 3 water companies. Ridicules!
  - A filtration system
  - A community representative

Group 3

A. Vision – Clean Water
   - If the water was clean no protesting – let's laugh about the prices and how we don't feel any better about our health.
   - We would not spend on buying bottles water.

B. Steps to get to our solution
   1. Advise us and educate us legally.
   2. Complain to consume affairs
   3. Vote if you want it to become public
   4. For the community to attend the meetings
   5. Flexible schedule for meetings
   6. That company #2 will give us clear answers

Group 4

A. Maywood's Vision
   - Clean, pure and economic water.
   - Family parks; maintain and improve the ones we have.
   - Clean the streets and the sewers

   1. Clean and pure water
      - Treatment plant (no cost to the people of Maywood)
      - Rehab the water pipes with sand blasting and a new coating inside (less cost than replacing all the pipes)
      - Do a cleaning of the pipes form the inside instead of changing all the pipes because it's more economic.
      - Clean street run-off by improving and greening the culverts/drains
      - Improve the storm drainage system and sidewalk area; make sure water doesn't back up onto the sidewalk.
   2. Parks
      - Better Maywood parks – better maintained
      - Plant trees, etc. at the small park on Maywood Ave.
      - Environmental enhancement
      - Seats/chairs
      - More lights
   3. Clean the streets and the sewer system
      - Prevent trash from going into the system
      - Community clean up before rain
      - Special city clean up before rain
      - Screens
      - Place screens inside the drains

B. Problems
   - High prices
   - They charge to test water
   - Dirty water
   - Leaks in the water meters to the properties
   - Contaminated water; Chlorine, lead

- Solve the problems with the committee on water policy

Group 5

- Health
- Benefits the children – better drinking water in schools
- Water should cost less
- Clean water to shower in, drink and live
- Quality of cloths, savings not enough to buy new cloths
- Savings spent on buying water filters
- Better hair
- Waste water less because the cloths has to be washed twice
- Dirty water, contaminated, expensive
- 181.43 bill for a family of four (2 months)
- Water quality- really bad
- Combine to have only one water company
- One year or less
    1. Change water pipes- chemicals have damaged the pipes, never changed!!!
    2. Investigate the wells
    3. Unite the three companies
    4. How can the community be involved?
    5. Public agencies
    6. Express yourself to the community –inform the neighbors so we can unite
    7. Sign a petition to get into politics and make recommendations about making the water company public
    8. Participate more in the process
    9. Improve the water – three companies in one
    10. Public company
    11. Receive federal, state, and county help (funds)
    12. Water bill incr. (every 2 months) 161.72- then to 212.84-where is the increase going to?
    13. Water meter reading- fees excessive- no one reading it!
    14. No oversight on these companies

Group 6

1. How many employed
2. Recreational center
3. There is no supervision

A. Kids

- Soccer field
- More light
- Swamps
- Solar panels
- More kid playgrounds
- Water playground
- Kiosk
- Signs
- Flowers
- Center

- Reuse the clean water taken out of the wells
- Get rid of the dirt piles
- Field for football
- Artificial grass
- Trees
- Dog park
- No chemicals

B. Water
- Fine littering
- Clean, clear and pure
- Drinking water
- No filtrated water/ no water bottles
- You can cook with it

C. Problems
- It comes out dirty
- Smells like chlorine

D. Ask the city
- Pressure the city
- Inform the community and the union
- Safety, cleanliness, lighting
- Alliance club of Maywood
- There is no control (community take control)
- Sells at the games

<u>Group 7</u>

A. Municipal Water District
- Better monitoring of water quality.
- Improve accountability of water quality
- Better governance (safe and healthy water)
- Centralized management
- Face to face communication
- Will help close the disconnect between plans (what they hear) and practice (what they experience)
- Equal access to drinking water (residents spending)
- Better water monitoring
- Centralized water source

B. Prices- Vision
- Charge only what is being used
- Municipal water
- More resources if it were made public
- Responsibility for maintenance

C. Questions List
- Why are there 3 water companies when Maywood is so small?

D. Timeline
- Vote March 2012

E. Steps to clean the water
- Get rid of the people who are not helping us

- Attend the meetings on water
- Receive correct information
- Good publicity in order to inform all of Maywood's community
- More confident when it becomes public

Group 8

A. How would your life be if Maywoods water were clean?
   - A better life
   - It wouldn't be an embarrassment not to have clean water
   - Our economic health
   - We have had enough
   - Not buy bottled water
B. Types of projects
   - Better control over water
   - More supervision, vigilance
   - A more public company
   - More access to the companies
   - Better communication of the user company
   - Don't increase rates
   - Change the piping
   - The three companies work together with their users
   - Have the companies unite
C. Solutions to the water quality problem
   - Have the community's voice heard
   - Unite the community
   - Clean water
D. How would our life and Maywood be if our water problems were solved
   - Less stress
   - Our health and our children's health would be better
     - We don't how contaminated water affects us
   - Better our economy
     - We wouldn't waste on buying bottled water
     - We wouldn't be wasting on doctors, cloths, medications, filters
     - Water ruins our cloths
E. How we make this possible
   - Make only one public company that follows state and federal regulations on contamination, health, rates, ways in which you estimate consumption
   - Clean the water
   - Change pipes
   - Get funds to clean the water and change the pipes/treatment plant
   - Collect signatures to introduce a ballot to make only one water company in March
   - Payment of water strike
   - City take proactive steps to find a solution to the problem and help its community
   - We hope to have a quick solution

Group 9

A. How would your life change if the problem was solved?

1. Less wasted money
2. The water would be cleaner
3. Less illnesses
4. They raised the water prices
5. We would live healthier lives
6. Children get sick in schools

B. How do we prioritize solutions
1. Have funds
2. Have a project for all the community in all the city
3. Bring in specialist people who know about this
4. Have reunions where our children are separate from the reunion
5. That we had water filters
6. Do not increase water prices until the water problem is fixed

C. How do we make this possible
1. Collecting signatures
2. More than 1, 000 signatures
3. Going form door to door
4. Calling by phone
5. Create a telephone message to call homes, in person and by phone
6. Call multiple times
7. Reminders

D. How are we going to prioritize
1. Motivate people and tell them what is happening with the water
2. Create a formal group
3. Use the existing group to collect signatures and make the calls
4. Come into agreement with Union de Vecinos
5. We send the signatures to people with money
6. Come with a comprehensive plan that will benefit the community and give follow ups

E. How long will this process take
1. 3 ears if there is money and if not more time
2. Depends on bringing somebody that knows the process

F. When everything is resolved, what solutions are we going to have
1. You have to change the filters and the pipes and improve the system
2. Do not increase water bills if possible
3. If we are paying we really want clean water
4. Consolidate the 3 water companies into one
5. Convert testers public instead of private
6. Listen to us and don't let our words be taken by the air

<u>Group 10</u>

A. Water remedies
- Have the water companies be public and not private
    - Why are there 3 private companies?
- Have filters in every house
- Have a treatment plant, preferably filters
- Change the pipe system
    - Get money from the state or a loan
- Have changes made in less than 1 year. Realistically 5 years max.

B. Community involvement

- Attend meetings
- Educational pamphlets
- Water inspections of the private water companies
- Private companies have the community involved

C. Water conservation
- Check plumbing for leaks

Group 11

A. Problems:
- Poor water quality, expensive
- Lack of information
    - What to trust in?
    - Misinformation
    - Information in conflict?
- Lack of plans and opinions
    - Lack of knowledge of the laws, dependant, loyal responsibility, etc.
- City division denies co-operation
    - A lot of groups, demand representation to the public
- Lack of education and ideas to conserve water

B. Public forum or workshop to sow truth
- Big and public place
- Trust in assemblyman John Perez as main point for information
- Timeline
- Officially define the responsibilities of the situation/pipes condition
- Officially define the responsibilities of AB 890
- Purpose/define options to move forward
    - Combine the companies? Yes/no?
    - Public water companies?
    - Effect on accounts
- Have the participation of the health department again (LA CALI. Health department)

C. Ideas
- Water saving projects in the parks
- Apply for grants/contributions of devices/equipment- filters, shower heads, sprinklers

Maywood Public Participation

Meeting Minutes

February 2, 2012

Comments made by individuals:

- Who knows which water company transports the water?
- How much more money is going to be needed?

Mr. Castro (company #2)

- Priority is the health of the community.
- Want to know if schools have filters?
- They want to unify the three water companies.
- They want to make water companies public.
- Tired of buying water for cooking, etc.

Guillermo (company #2)

- The problem is company #2
- What is the benefit of companies making it one published?
- How much will pay if they are made public

Euberto

- I want to change the political structure.

Unknown

- They want the propositions are realized. We don't want lies.
- People are ill-informed. They want to talk more information of water.

Unknown

- Does not agree that the companies be made public.
- He said that the only problem is the quality of the water and the cost.

Martha

- She said that most of the community wants the companies to be public.
- They want to know if it is better public or private.

Mr. Huera

- Problems
  - Land Use
  - Water
  - atmosphere
  - sustainability
- He says that the problem is not in the water.
- He says that John Pérez not going them to give any money.
- He says that they have to do something, a solution that benefits all.

City of Maywood Mayor

- Wants all information in Spanish (would appreciate the effort on this)
- People don't understand the report in English, and would better understand the situation if it were translated.

Felipe Aguirre

- Has talked with local, state, and federal agencies but nothing gets done.
- He suggests putting in the ballot weather the companies should be public or not.

Unknown

- Wants to know how deep the water is.
- The government can't help us, the federal government can.

Unknown

- The wells have clean water but companies have to change pipes and increase them also.
- It would be good to change the pipes of the houses.
- The city should care for its citizens.
- Water has bad color and bad taste we need to change this

Héctor Padilla

- There has been a lot of poverty. I and been a member of many groups.
- The report has deceived us, we are being misled.
- If the companies are not made public won't see any federal money.
- We will never see those millions of dollars. We have no representative here that melted down us the money.
- If they become public companies of Maywood, they say that they are not going to pay taxes, but they are lying.
- They are dictators.

José Cárdena (company #3)

- They found TEC in the system of the company # 3. A filter is being set up.
- Question – are they going to stay with the water companies funds? The funds are not for the companies, they are to replace pipes.
- Question - where is money to change pipes, who will be the company? The same? Response - it is unclear right now

Enrique – Author of AB 890

- What you draw from the 890 AB is a report
- What is the quality of the water and the answers
- $ 8 million are public in the State of California.
- Us and representative Perez put the money there.

- We will not give money to any company. They are the Maywood Community funds and money going to a public agency. It may be US Army Corps of Engineers, the public water district, or a new and free agency.
- Huntington Park and Maywood as public agency.
- The most important thing that people want to know is where are the contributions that companies have?
- Where is the money going? People give money, but we want to know where is going:-salary structures?

Javier Gonzales (company #2)

- Every company that is made public does not come to work. They are $ 400 or $ 500 of payments; we pay almost to the rent of the House! I here have receipts for the people who come here, they say there is no money for us, but here it says there is money.

Unknown

- Private companies should not leave Maywood. They never told us how much money is spent where. Tell us where the money is going (crowd: he doesn't live here)

Manuel (company #3)

- Bell does pay a lot for water.
- We should sell the water companies.
- Union de Vecinos want to grab our signatures to sell our companies.
- We don't want that. We want the tiny companies, which we can find when we have questions.

Unknown

- I drink the Maywood water every day. Everything that is happening here is all political.

Unknown

- I call the attention which says the report that is trying to improve the water, but are using or our money. We are already spending money buying water.
- They should place a system that cleans the water but not out of our pockets.
- Do not want to give this water to our babies and we want to take it of us.

Leticia Arellano

- When will the report come out in Spanish? (answer: the report is out today)
- What is the purpose of this meeting?
- Report talks about funds. How can we provide comments if report is not out?

Eduardo Lopez

- How involved is the EPA?
- They are sources of support and financing

Water Company

- Our companies are not private.
- Those who have their own houses here, you are my bosses.
- If you call me I go. You have not called any time.
- You are my bosses.

- I have changed all pipes.
- Do you want a public company controlled by people who do not know what they are doing?

Hernández

- I have 70 years living here, and this did not happen until now.
- We have to buy 3 gallons of drinking water.
- They are stealing our money.
- They do not understand; here it say there is no money.
- If they are made public, the Government will be forced to help us.