

CITY OF LA VERNE

2015 URBAN WATER MANAGEMENT PLAN

DRAFT REPORT
MAY 2016



City of La Verne
2015 Urban Water Management Plan
DRAFT

PREPARED FOR

CITY OF LA VERNE
3660 D STREET
LA VERNE, CA 91750

MAY 2016

PREPARED BY



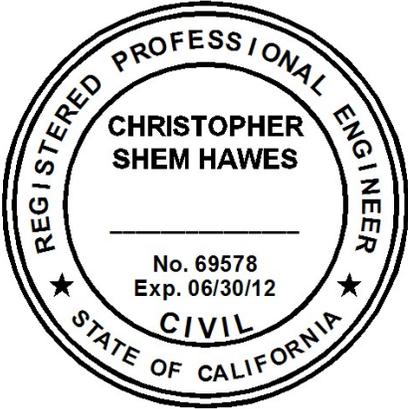
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City of La Verne
2015 Urban Water Management Plan
DRAFT

PREPARED FOR

CITY OF LA VERNE
3660 D STREET
LA VERNE, CA 91750

MAY 2016



Under the Supervision of:

C. SHEM HAWES, P.E. 69578
C.E.



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Date UWMP was submitted to DWR: XXXX XX, 2016

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EXECUTIVE SUMMARY

Introduction

The Urban Water Management Planning Act (Act) was adopted in 1983 and may be found in the California Water Code, §§10610-10656. The City of La Verne is obligated to prepare and adopt this Urban Water Management Plan (UWMP) in the manner specified in the Act by virtue of meeting the statutory definition of an “urban retail water supplier”.

This UWMP has been prepared in fulfillment of the requirements of the Act and in compliance with the *Guidebook to Assist Water Suppliers in the Preparation of a 2010 Urban Water Management Plan* as provided by the California Department of Water Resources (DWR).

In addition to compliance with state mandate, this UWMP is a living document whose contents fulfill a variety of planning, informational and legal requirements. It will serve as a primary source for integrated water and land use planning at the district, city and county levels per compliance with SB 610 and SB 221 related to water assessment and procurement of water supplies prior to construction of new development. The accuracy, clarity, completeness and usefulness of this UWMP is defensible and representative of the City’s best understanding of the state of water management at the time of adoption and/or amendment. To that end, all aspects of water management as they pertain to the City have been delineated in order to provide developers, planners, government agencies and its customers with the tools they need to fulfill their individual missions and interests.

The UWMP serves as an important source document for cities and counties as they update their General Plans. Conversely, General Plans are source documents as water suppliers update their UWMPs. These planning documents are linked and their accuracy and usefulness are interdependent. It is crucial that cities, counties and water suppliers work closely when developing and updating these planning documents.

To assist the reader in understanding the legal mandates involved in the various aspects of this UWMP, relevant and applicable excerpts for the California Water Code (CWC) are provided immediately following each section heading. These excerpts are cited by CWC section designation and offset in italic print to differentiate them from other text. In general, the chapters of this UWMP are laid out as presented in the DWR Guidebook along with recommended tables and other content.

La Verne coordinated with local stakeholders and internal City departments to elicit comments relative to producing an accurate and complete UWMP.



Service Area and Population

The water service area comprises approximately 5,330 acres within the incorporated boundary and approximately 861 acres considered to be within the sphere of influence of the City of La Verne. The current and projected service area population is shown in the table below.

Population	2015	2020	2025	2030	2035	2040
Service Area	31,043	32,216	33,430	34,688	35,990	37,338

This population analysis considers available data provided by the 2012 Southern California Association of Governments Forecast. Careful attention was paid to the precise boundary of the service area to assure that all residential water customers were accounted for.

Water Demand

La Verne supports a significant residential population which accounts for the bulk of the City’s water deliveries. Also significant are institutional and governmental demands of the various institutions which serve the residential population including schools, churches, civic buildings and most notably the University of La Verne. There are modest industrial and commercial demands related to the various business interests within the City.

The table below shows current and projected water use within the service area.

Water Use	2015 (AFY)	2020 (AFY)	2025 (AFY)	2030 (AFY)	2035 (AFY)
Deliveries and Losses	6,737	7,614	7,901	8,199	8,506

The projections comply with the mandates of the California Water Conservation Act of 2009 which stipulates minimum water use reduction requirements.

Application of the California Water Conservation Act

The California Water Conservation Act of 2009 (aka 20x2020, aka SB7x7) sets a goal for water use efficiency for all urban retail water suppliers equivalent to a 20% reduction in state-wide water use by the year 2020. Methodologies and techniques for the calculation of a supplier’s water use target were developed by DWR following the passage of the Act and published in 2010 under the title *Methodologies for Calculating Baseline and Compliance Urban Per Capita Water Use*.

Water Use Calculation	Effective Date	GPCD
Baseline	2010	264
Interim Target	2015	238
Compliance Target	2020	211



Water Supply

Local groundwater had been the City’s primary source of water since the late 1800’s. In 1972, the City began importing water to meet the demands associated with population growth. Amendments to the federal and State drinking water standards also influenced the City’s decision to import water since some of the City’s groundwater sources did not meet the new standards without a substantial investment in treatment infrastructure. Today, water production is a closely monitored process including direct introduction of disinfected groundwater and imported water into the distribution system, blending of imported water with groundwater having nitrate concentrations that exceed the MCL¹, and treatment of groundwater to remove VOCs², perchlorate and nitrate.

The table below provides an assessment of La Verne’s current and projected supplies.

Water Supply	2010 ³ (AFY)	2015 (AFY)	2020 (AFY)	2025 (AFY)	2030 (AFY)	2035 (AFY)
TVMWD	4,865	10,860	10,860	10,860	10,860	10,860
Six Basins	2,517	3,061	3,061	3,061	3,061	3,061
Total	7,382	13,921	13,921	13,921	13,921	13,921

Determination of projected supply considers existing contracts with the local wholesaler and adjudicated rights in area groundwater basins.

Supply Reliability

A comparison of projected demand and projected supply demonstrates that the reliability of La Verne’s supply will be adequate to meet normal year, single dry year and multiple dry year demand conditions through the planning horizon of this UWMP. This comparison takes into account the reliability of imported water supplies which are predicted to drop by 14% under single dry year and multiple dry year conditions, and the reliability of groundwater supplies whose infrastructure and treatment facilities require constant monitoring and upgrading to meet water quality standards and to overcome normal deterioration as a result of age and use.

The City of La Verne adopted Urgency Ordinance No.1046 on August 4th, 2014 (Appendix G) which amended Section 13.15.015A to define the “base year” water use period. The City of La Verne has also adopted Ordinance No.1057 on June 1st, 2015 as shown in Appendix B.

La Verne Municipal Code Chapter 13.15 details the City’s Water Conservation and Restrictions. The stages of action, including the reduction objective and level of

¹ MCL = maximum contaminant limit

² VOC = volatile organic compounds

³ Supply for 2010 represents actual production



participation, for La Verne's water shortage and drought contingency planning are shown below.

Water Shortage and Drought Rationing Stages

Stage of Action	Reduction Objective	Participation
Phase I	10%	Voluntary
Phase II	5%	Mandatory
Phase III	10%	Mandatory
Phase IV	15%	Mandatory
Phase V	20%	Mandatory
Phase VI	25%	Mandatory
Phase VII	30%	Mandatory
Phase VIII	40%	Mandatory
Phase IX	50%	Mandatory



CHAPTER ONE – INTRODUCTION

1.1 General Description of UWMP

The Urban Water Management Planning Act (Act) was adopted in 1983 and may be found in the California Water Code, §§10610-10656⁴. City of La Verne is obligated to prepare and adopt this Urban Water Management Plan (UWMP) in the manner specified in the Act by virtue of meeting the statutory definition of an “urban retail water supplier”:

§10608.12(p) “Urban retail water supplier” means a water supplier, either publicly or privately owned, that directly provides potable municipal water to more than 3,000 end users or that supplies more than 3,000 acre-feet of potable water annually at retail for municipal purposes.

§10620(b) Every person that becomes an urban water supplier shall adopt an urban water management plan within one year after it has become an urban water supplier.

The Act, and elements of the California Water Conservation Act of 2009, require urban water suppliers to report, describe, and in some cases evaluate:

- ◆ water deliveries and uses
- ◆ water supply sources
- ◆ efficient water uses
- ◆ implementation strategy and schedule for demand management measures
- ◆ baseline, interim and compliance daily per capita water use
- ◆ water supply availability to meet existing and future demands
- ◆ water shortage and drought contingency planning

Beginning in 2016 retail urban water suppliers are required to comply with the water conservation requirements from The Water Conservation Act of 2009. The 2009 legislative package requires a 20% reduction in urban water use per capita by 2020. Retail water suppliers are required to report in their UWMPs their Base Daily Per Capita Water Use, 2015 Interim Urban Water Use Target, 2020 Urban Water Use Target, and Compliance Daily per Capita Water Use.

⁴ California Urban Water Management Planning Act (2010), Water Code §10610-10656



1.2 Purpose of UWMP

This 2015 Urban Water Management Plan for the City of La Verne has been prepared in fulfillment of the requirements of the California Urban Water Management Planning Act (Act) and in compliance with the *2015 Urban Water Management Plans Guidebook for Urban Water Suppliers* (Guidebook) as provided by the California Department of Water Resources (DWR). The UWMP must be prepared every 5 years and submitted to the Department of Water Resources (DWR).

The Guidebook provides guidance respective to the minimum requirements of the California Urban Water Management Planning Act and the recent legislative changes and amendments embodied in the California Water Conservation Act of 2009 and AB 1420 which more narrowly defines eligibility for water management grants and loans.

In addition to compliance with state mandate, this UWMP is a living document whose contents fulfill a variety of planning, informational and legal requirements. It will serve as a primary source for integrated water and land use planning at the district, city and county levels per compliance with SB 610 and SB 221 related to water assessment and procurement of water supplies prior to construction of new development. The accuracy, clarity, completeness and usefulness of this UWMP is defensible and representative of the City's best understanding of the state of water management at the time of adoption and/or amendment. To that end, all aspects of water management as they pertain to the City have been delineated in order to provide developers, planners, government agencies and its customers with the tools they need to fulfill their individual missions and interests.

Substantial growth in the State of California is projected by the State Department of Finance, and there is no end in sight. The challenge facing water agencies, public agencies, planners and project proponents is to identify and secure the sources of water needed for the inevitable increase in population. From a water resources point of view, planning for such growth is addressed by SB 610, SB 221 and related jurisdictional General Plans.

Cities, counties, water districts, property owners, and developers will all be able to utilize the UWMP when planning for and proposing new projects. For certain "projects" meeting the definitions under SB 610 and/or SB 221, a city or county evaluating the environmental effects of that project must request a Water Supply Assessment (WSA) from the water provider or prepare the WSA on its own. A WSA can rely on an adopted and DWR-approved UWMP making the UWMP a foundational document for compliance with both SB 610 and SB 221. Both of these statutes repeatedly identify the UWMP as a planning document that, if properly prepared, can be used by a water supplier to meet the standards set forth in both statutes. A thorough and complete UWMP will allow the City to use the UWMP as a foundation to fulfill the specific requirements of these two statutes.

SB 610 creates a strong link between water supply availability and land use by requiring cities and counties to consider water availability for certain development projects. It



promotes collaboration between local water suppliers and cities/counties while recognizing the importance of local control and decision making regarding water availability.

SB 221 requires written verification of sufficient water supply from the water supplier prior to the construction of residential subdivisions of greater than 500 dwelling units. A “sufficient water supply” includes assessment of the water supplier’s available projected water supplies for a 20-year period during normal years, single-dry years and multiple-dry years. This assessment must consider the subdivision’s water demands in addition to existing and planned future demands.

The UWMP serves as an important source document for cities and counties as they update their General Plans. Conversely, General Plans are source documents as water suppliers update their UWMPs. These planning documents are linked and their accuracy and usefulness are interdependent. It is crucial that cities, counties and water suppliers work closely when developing and updating these planning documents.

1.3 Background of UWMP

In 1983, State Assembly Bill (AB) 797 modified the California Water Code Division 6, by creating the UWMPA. Several amendments to the original Act, which were introduced since 1983, increased data requirements and the planning elements to be included in the 2005 and 2010 UWMPs.

Initial amendments to the Act required that total projected water use be compared to water supply sources over the next 20 years, in 5-year increments. Recent DWR guidelines also suggest projecting through a 25-year planning horizon to maintain a 20-year timeframe until the next UWMP update has been completed and for use in developing Water Supply Assessments.

Other amendments require that UWMPs include provisions for recycled water use, demand management measures, and a water shortage contingency plan, set forth therein. Recycled water was added in the reporting requirements for water usage and figures prominently in the requirements for evaluation of alternative water supplies, when future projections predict the need for additional water supplies. Each water supplier must also describe demand management measures (DMMs) that are being implemented, or scheduled for implementation.

In addition to the Act and its amendments, there are several other regulations that are related to the content of the UWMP. In summary, the key relevant regulations are as follows.

- ◆ AB 1420: Requires implementation of DMMs/best management practices (BMPs) and meeting a 20 percent demand reduction by 2020 to qualify for water management grants or loans.



- ◆ AB 1465: Requires water suppliers to describe opportunities related to recycled water use and stormwater recapture to offset potable water use.
- ◆ SB 1087: Requires water suppliers to report projected water demands for planned lower income units.
- ◆ Amendment SB 318 (Alpert, 2004) requires the UWMP to describe the opportunities for development of desalinated water, including but not limited to, ocean water, brackish water, and groundwater, as a long-term supply.
- ◆ AB 105 (Wiggins, 2004) requires urban water suppliers to submit their UWMPs to the California State Library.
- ◆ SBx7-7: Requires development and use of new methodologies for reporting population growth estimates, base per capita use, and per capita targets for 2015 and 2020. This bill also extended the 2010 UWMP adoption deadline for retail agencies to July 1, 2011.

1.4 Coordination

The Act requires that the UWMP identify the water agency's coordination with appropriate nearby agencies.

§10631(j) An urban water supplier that relies upon a wholesale agency for a source of water shall provide the wholesale agency with water use projections from that agency for that source of water in five-year increments to 20 years or as far as data is available. The wholesale agency shall provide information to the urban water supplier for inclusion in the urban water supplier's plan that identifies and quantifies, to the extent practicable, the existing and planned sources of water as required by subdivision (b), available from the wholesale agency to the urban water supplier over the same five-year increments, and during various water-year types in accordance with subdivision (c). An urban water supplier may rely upon water supply information provided by the wholesale agency in fulfilling the plan informational requirements of subdivisions (b) and (c).

§10620(d)(2) Each urban water supplier shall coordinate the preparation of its plan with other appropriate agencies in the area, including other water suppliers that share a common source, water management agencies, and relevant public agencies, to the extent practicable.

§10642 Each urban water supplier shall encourage the active involvement of diverse social, cultural, and economic elements of the population within the service area prior to and during the preparation of the plan...



Table 1 provides a brief summary of coordination activities undertaken on La Verne’s behalf for the preparation of this UWMP. Proper notification of stakeholders was provided (see Appendix I).

Table 1 – Coordination with Appropriate Agencies

Coordinating Agencies	Participated in developing the plan	Notified 2015 Preparation UWMP is in Progress	Commented on the draft	Attended public meetings	Was contacted for assistance	Was sent a copy of the draft plan	Was sent a notice of intention to adopt	Not involved / No information
City of La Verne	✓	✓	✓	✓	✓	✓	✓	
City of Claremont		✓					✓	
City of San Dimas		✓					✓	
Los Angeles County		✓					✓	
Metropolitan Water District		✓					✓	
Three Valleys MWD		✓					✓	
Golden State Water Company		✓					✓	
Department of Water Resources		✓					✓	
La County Sanitation Districts							✓	
General Public							✓	

1.5 Organization

To assist the reader in understanding the legal mandates involved in the various aspects of this UWMP, relevant and applicable excerpts for the California Water Code (CWC) are provided immediately following each section heading. These excerpts are cited by CWC section designation and offset in italic print to differentiate them from other text.

In general, the chapters of this UWMP are laid out as presented in the Guidebook along with recommended tables and other content.

1.6 Type of Planning and Compliance

The City of La Verne will be doing an “Individual Reporting” for its 2015 UWMP. Individual Reporting is when an agency develops an UWMP that reports solely on its



service area. The individual UWMP addresses all requirements of the CWC. The agency notifies and coordinates with appropriate regional agencies and constituents.

1.7 Fiscal or Calendar Year and Units of Measurements

The City of La Verne calculated actual demands, projected demands, and any water supply reliability quantities on a calendar year basis. All tables required by UWMP were reported using a calendar year basis.

1.8 Abbreviations

Following is a list of commonly used abbreviations that may be found in this UWMP.

AB	Assembly Bill
Act	Urban Water Management Plan Act
AF	acre-feet
AFY	acre-feet per year
AWWA	American Water Works Association
Baseline	base daily per capita water use
BMP	Best Management Practice
CEHTP	California Environmental Health Tracking Program
CASGEM	California Statewide Groundwater Elevation Monitoring Program
CEQA	California Environmental Quality Act
cfs	cubic feet per second
CII	commercial, industrial, and institutional
CIMIS	California Irrigation Management Information System
CUWCC	California Urban Water Conservation Council
CWC	California Water Code
DMM	Demand Management Measure
DOF	Department of Finance
DWR	Department of Water Resources
DPH	California Department of Public Health
DWR	California Department of Water Resources
eARDWP	Electronic Annual Reports to the Drinking Water Program (SWRCB)
ETo	Reference Evapotranspiration
GIS	Geographic Information System
GPCD	gallons per capita per day
GRIP	Groundwater Reliability Improvement Project
GSWC	Golden State Water Company
IRWM	Integrated Regional Water Management
ITP	Local Agency Formation Commission
LACSD	Los Angeles County Sanitation Districts
LAFCP	National Oceanic and Atmospheric Administration



CHAPTER ONE – INTRODUCTION

CITY OF LA VERNE

MGD	million gallons per day
MWD	Metropolitan Water District of Southern California
NOAA	National Pollutant Discharge Elimination System
OSY	operating safe yield
PWS	Public Water System
RHNA	Regional Housing Needs Allocation
RUWMP	Regional Urban Water Management Plan
RWQCB	Regional Water Quality Control Board
SB	Senate Bill
SBX7-7	Senate Bill Seven of the Senate’s Seventh Extraordinary Session of 2009
SCAG	Southern California Association of Governments
SGMA	Sustainable Groundwater Management Act
SWP	State Water Project
SWRCB	State Water Resources Control Board
TVMWD	Three Valley Municipal Water District
UWMP	Urban Water Management Plan
WARN	Water/Wastewater Agency Response Network
WDR	Waste Discharge Requirement
WRP	Water Reclamation Plant
WRR	Water Recycling Requirement
WSCP	Water Shortage Contingency Plan
WSA	Water Supply Assessment



CHAPTER TWO – SYSTEM DESCRIPTION

2.1 Service Area

§10631(a) Describe the service area of the supplier.

The service area boundary, as shown in Figure 1, is identical to the City of La Verne incorporated boundary with the following exceptions:

- ◆ 819 customers in the southwest corner of the City are serviced by the Golden State Water Company⁵ (GSWC). This configuration was put in place due to a division in the development of water supply created following construction of the Puddingstone Channel for flood control purposes.
- ◆ Four private water groups located in unincorporated Los Angeles County and within the City’s sphere of influence are serviced by the City. These include (1) the Webb Oak Group, (2) the Oakglen Heights Water Group, (3) the Flaten-Heuer Group and (4) the Briney Water Group.
- ◆ Water is supplied to Marshall Canyon via a dedicated Los Angeles County master meter. Los Angeles County maintains and manages all water distribution downstream of the master meter including service connections at the Marshall Canyon Golf Course, the Fred M. Palmer Marshall Canyon Equestrian Center, the Marshall Canyon Tree Farm and the Los Angeles County Probation Department Camp Joseph M. Paige Juvenile Detention Facility. Service connections to these facilities are located in unincorporated Los Angeles County and within the City’s sphere of influence.

The service area comprises approximately 5,330 acres within the incorporated boundary and approximately 861 acres considered to be within the sphere of influence of the City of La Verne as shown in Figure 1.

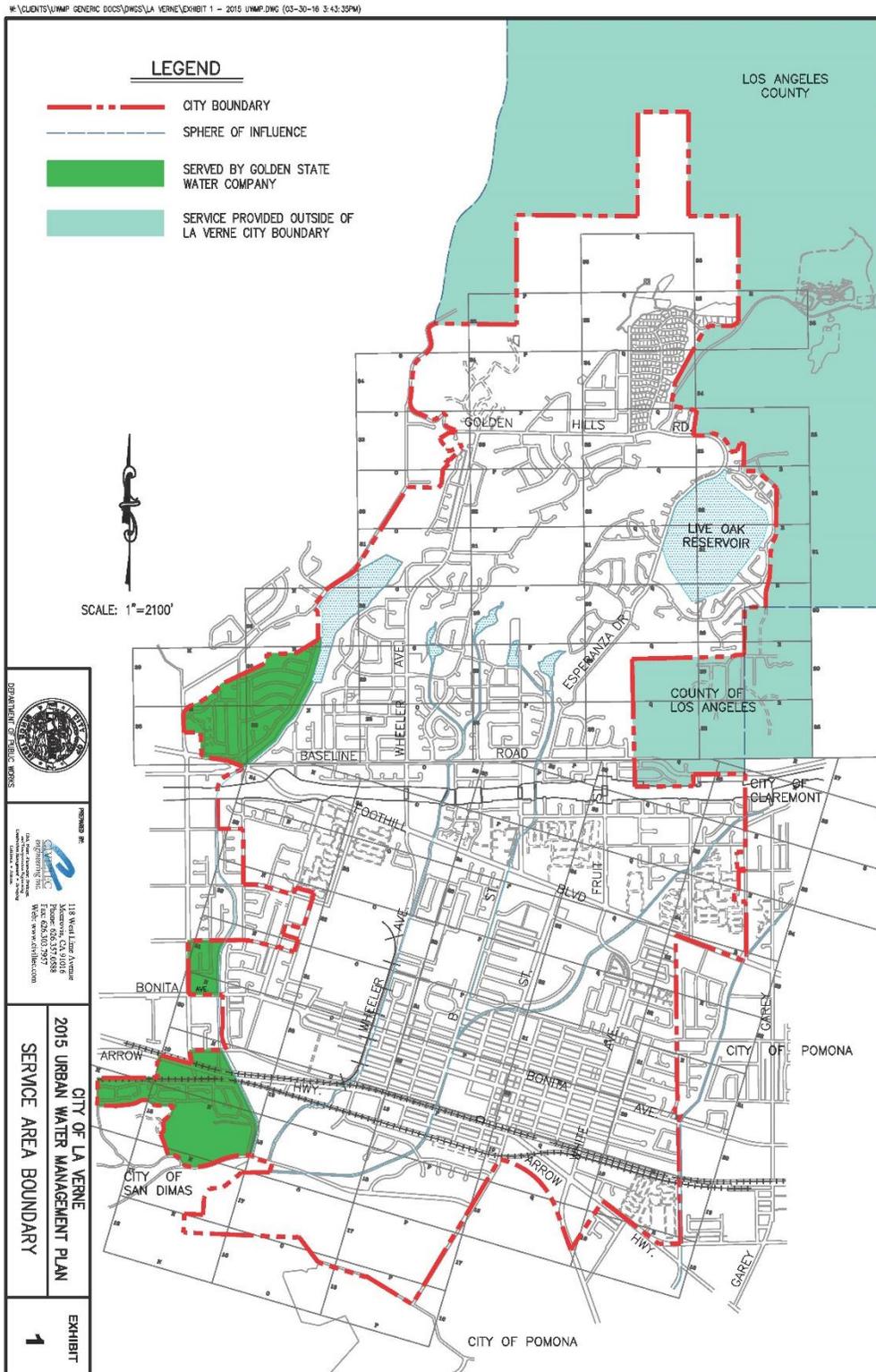
⁵ Formerly the Southern California Water Company (SCWCo)



CHAPTER TWO – SYSTEM DESCRIPTION

CITY OF LA VERNE

Figure 1 – Service Area Map





CHAPTER TWO – SYSTEM DESCRIPTION

CITY OF LA VERNE

2.2 Service Area Climate

§10631 Describe the service are of the supplier, including...climate...

The distinctive climate of the region, and the City of La Verne, is determined by its terrain and geographical location. The City can be divided into two physiographic areas: a hillside area in the northern section with an existing ground elevation of 1700 feet and a flatter valley area in the southern section with an elevation of 1000 feet. The climate tends to be mild and is tempered by cool offshore breezes. This usually mild climate is interrupted infrequently by periods of extremely hot weather, winter storms, or Santa Ana winds. The July high is around 91 degrees and the January low is 38 degrees. Average rainfall is approximately 18 inches annually, most of which occurs during the months of November through April.

The potential of climate changes on precipitation and water demand is being studied by MWD as well as other water agencies.

According to the California Irrigation Management Information System (CIMIS) Reference Evapotranspiration, The City of La Verne is located in Zone 9 in the South Coast Marine to Desert Transition with an average reference evapotranspiration of 55.1 inches/year.

Figure 2 – Eto Zone Map and Monthly Average Reference Evapotranspiration



Monthly Average Reference Evapotranspiration by ETo Zone (inches/month)													
Zone	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
1	0.93	1.40	2.48	3.30	4.03	4.50	4.65	4.03	3.30	2.48	1.20	0.62	33.0
2	1.24	1.68	3.10	3.90	4.65	5.10	4.96	4.65	3.90	2.79	1.80	1.24	39.0
3	1.86	2.24	3.72	4.80	5.27	5.70	5.58	5.27	4.20	3.41	2.40	1.86	46.3
4	1.86	2.24	3.41	4.50	5.27	5.70	5.89	5.58	4.50	3.41	2.40	1.86	46.6
5	0.93	1.68	2.79	4.20	5.58	6.30	6.51	5.89	4.50	3.10	1.50	0.93	43.9
6	1.86	2.24	3.41	4.80	5.58	6.30	6.51	6.20	4.80	3.72	2.40	1.86	49.7
7	0.82	1.40	2.48	3.90	5.27	6.30	7.44	6.51	4.80	2.79	1.20	0.62	43.4
8	1.24	1.68	3.41	4.80	6.20	6.90	7.44	6.51	5.10	3.41	1.80	0.93	49.4
9	2.17	2.80	4.03	5.10	5.89	6.60	7.44	6.82	5.70	4.03	2.70	1.86	55.1
10	0.93	1.68	3.10	4.50	5.89	7.20	8.06	7.13	5.10	3.10	1.50	0.93	49.1
11	1.55	2.24	3.10	4.50	5.89	7.20	8.06	7.44	5.70	3.72	2.10	1.55	53.0
12	1.24	1.96	3.41	5.10	6.82	7.80	8.06	7.13	5.40	3.72	1.80	0.93	53.3
13	1.24	1.96	3.10	4.80	6.51	7.80	8.99	7.75	5.70	3.72	1.80	0.93	54.3
14	1.55	2.24	3.72	5.10	6.82	7.80	8.68	7.75	5.70	4.03	2.10	1.55	57.0
15	1.24	2.24	3.72	5.70	7.44	8.10	8.68	7.75	5.70	4.03	2.10	1.24	57.9
16	1.55	2.52	4.03	5.70	7.75	8.70	9.30	8.37	6.30	4.34	2.40	1.55	62.5
17	1.86	2.80	4.65	6.00	8.06	9.00	9.92	8.68	6.60	4.34	2.70	1.86	66.5
18	2.48	3.36	5.27	6.90	8.68	9.60	9.61	8.68	6.90	4.96	3.00	2.17	71.6

Variability between stations within single zones is as high as 0.02 inches per day for zone 1 and during winter months in zone 13. The average standard deviation of the ETo between estimation sites within a zone for all months is about 0.01 inches per day for all 200 sites.



2.3 Service Area Population and Demographics

§10631 Describe the service are of the supplier, including current and projected population...The projected population estimates shall be based upon data from the state, regional, or local service agency population projections within the service area of the urban water supplier and shall be in five-year increments to 20 years or as far as data is available.

2.3.1 Service Area Population

The 2015 population for the City of La Verne was determined by using the California Department of Finance Demographic Research Unit State Census Data, Table E-5 2015.

The California Department of Finance Demographic Research Unit provided 2015 population for the City of La Verne based on assimilation of 2010 US Census data. Population growth projections for the City of La Verne were provided by the Southern California Association of Governments 2016-2040 RTP/SCS Demographics and Growth Forecast based on data from the US Census Bureau. The population was adjusted to reflect the difference between the City’s population and the service area population.

The service area population takes in consideration the number of customers serviced by the Golder State Water Company and the four sub-groups that are within the City’s sphere of influence but outside the City boundary.

There are 819 customers serviced by GSWC and there are four private water groups within the City’s sphere of influence but outside the City boundary:

- ◆ Webb Oak Group (55 customers)
- ◆ Oakglen Heights Water Group (4 customers)
- ◆ Flaten-Heuer Groud (6 customers)
- ◆ Briney Water Group (19 customers)

It is assumed the number of customers associated with these five sub-groups has remained constant throughout the calculation period. Southern California Association of Governments (SCAG) estimated the average household size in the City of La Verne to be 2.72 persons per household. This equates to a net difference between the City’s population and the distribution system boundary population of 1,999 persons.

$$\Delta P = (\sum \text{private water group customers} - \text{GSWC customers}) * (\text{occupancy rate})$$

$$= (55+4+6+19-819 \text{ customers}) * (2.72 \text{ persons per household}) \approx -1,999 \text{ persons}$$

where: ΔP is the difference in population between the City and the service area.



CHAPTER TWO – SYSTEM DESCRIPTION

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According to the Southern California Association of Governments 2016-2040 RTP/SCS Demographics and Growth Forecast, the SCAG Region’s population is estimated to have a 0.7% Annual Average Growth Rate from 2015-2040.

Table 2 – Current and Projected Population

Year	2015	2020	2025	2030	2035	2040
City of La Verne	33,042	34,215	35,429	36,687	37,989	39,337
Service Area	31,043	32,216	33,430	34,688	35,990	37,338

2.3.2 Demographics

§10631(a) Describe . . . other demographic factors affecting the supplier's water management planning.

Water consumption varies with population, occupancy, and other social, economic, political, and environmental factors. Demographic data in Table 3 was provided in the *Profile of the City of La Verne* published by SCAG in 2015. The data are relative to 2014 as indicated.

Table 3 – Demographic Data

Category	La Verne	Los Angeles County	La Verne relative to Los Angeles County	SCAG Region
Median Age (Years)	43.2	35.8	7.4	35.5
Number of Households (2014)	11,375	3,268,347	0.35%	6,029,326
Number of Housing Units (2014)	11,804	3,474,152	0.34%	6,624,730
Median Family Income (\$) (2014)	68,688	53,125	15,563	56,737



CHAPTER THREE – SYSTEM DEMANDS

3.1 General Description

La Verne supports a significant residential population which accounts for the bulk of the City's water deliveries. There are also significant institutional and governmental demands such as schools, churches, civic buildings and the University of La Verne. There are also modest industrial and commercial demands related to the various business interests within the City.

The sections that follow quantify past, current and projected demands by water use sector taking into account population trends and the impact of water conservation measures.

3.2 Water Uses by Sector

§10631(e)(1) Quantify, to the extent records are available, past and current water use, over the same five-year increments described in subdivision (a), and projected water use, identifying the uses among water use sectors, including, but not necessarily limited to, all of the following uses:

- (A) Single-family residential.*
 - (B) Multifamily.*
 - (C) Commercial.*
 - (D) Industrial.*
 - (E) Institutional and governmental.*
 - (F) Landscape.*
 - (G) Sales to other agencies.*
 - (H) Saline water intrusion barriers, groundwater recharge, or conjunctive use, or any combination thereof.*
 - (I) Agricultural...*
- (2) The water use projections shall be in the same five-year increments described in subdivision (a).*

Table 4 delineates historical and current water use by water use sector derived from historical water delivery records. The total represent all water supplied for the respective years and system losses represents the difference between actual deliveries and supply.



CHAPTER THREE – SYSTEM DEMANDS

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Table 4 – Actual Water Deliveries and Losses between 2010 through 2015

Water use sectors ⁶	2010 (AFY)	2015 (AFY)
Single-family Residential	3,698	3,207
Multi-family Residential	1,062	961
Commercial	634	648
Industrial	191	187
Institutional and Governmental	1,232	1,112
Agricultural	45	22
Other – Temp Construction	2	15
System Losses	518	585
Total	7,384	6,737

3.3 Projected Water Demands

Projected demands were calculated based on the following assumptions:

- The distribution of demands among the various water use sectors is proportional to the average of the 2010 and 2015 demands included in Table 4.
- Total deliveries for 2020 and beyond represent the compliance water use efficiency target of 212 GPCD; as shown in Table 9, times the corresponding projected service area population, as shown in Table 2.
- The use of the compliance water use targets may be conservative since current water use efficiency already exceeds the interim target and the trend for projected water use efficiency is to exceed the compliance water use target.

⁶ La Verne made no deliveries to the following water use sectors: sales to other agencies, saline water intrusion barriers, groundwater recharge, conjunctive use, agriculture



Table 5 – Projected Water Deliveries and Losses between 2020 through 2035

Year	2020 (AFY)	2025 (AFY)	2030 (AFY)	2035 (AFY)
Single-family Residential	3,522	3,655	3,792	3,934
Multi-family Residential	1,105	1,147	1,190	1,235
Commercial	745	773	803	833
Industrial	215	223	232	240
Institutional and Governmental	1,279	1,327	1,377	1,429
Agricultural	25	26	27	28
Other – Temp Construction	17	18	19	19
System Losses	705	732	759	788
Total	7,614	7,901	8,199	8,506

3.4 Distribution System Water Losses

§10631(e)(1) Quantify, to the extent records are available, past and current water use over the same five-year increments described in subdivision (a), and projected water use, identifying the uses among water use sectors, including, but not necessarily limited to, all of the following uses:

(J) Distribution system water loss

§10631(e)(3)(A) For the 2015 urban water management plan update, the distribution system water loss shall be quantified for the most recent 12-month period available. For all subsequent updates, the distribution system water loss shall be quantified for each of the five years preceding the plan update.

(B) The distribution system water loss quantification shall be reported in accordance with a worksheet approved or developed by the department through a public process. The water loss quantification worksheet shall be based on the water system balance methodology developed by the American Water Works Association.

The American Water Works Association (AWWA) Audit Software was used to obtain the water audit data validity score of the system. The City of La Verne scored 84/100 as shown in Appendix D.

Distribution system losses are the physical water losses from the water distribution system and the supplier’s storage facilities including customer consumption.



Using the AWWA software, the distribution system water losses were reported from the beginning of July 2014 through end of June 2015 and Table 6 provides a summary of the results of the software.

Table 6 – Results from AWWA Free Water Audit Software

Data	Quantity (AFY)
Water Supplied	7,401.230
Authorized Consumption	7,087.460
Water Losses	313.770
Apparent Losses	217.389
Real Losses	96.381
Water Audit Data Validity Score	84/100

3.5 Estimating Future Water Savings

§10631(e)(4)(A) If available and applicable to an urban water supplier, water use projections may display and account for the water savings estimated to result from adopted codes, standards, ordinances, or transportation and land use plans identified by the urban water supplier, as applicable to the service area.

(B) To the extent that an urban water supplier reports the information described in subparagraph (A), an urban water supplier shall do both of the following: (i) Provide citations of the various codes, standards, ordinances, or transportation and land use plans utilized in making the projections. (ii) Indicate the extent that the water use projections consider savings from codes, standards, ordinances, or transportation and land use plans. Water use projections that do not account for these water savings shall be noted of that fact.

Passive savings are not considered in the water use projections provided in Table 5.

3.6 Water Use for Low Income Households

§10631.1(a) The water use projections required by Section 10631 shall include projected water use for single-family and multifamily residential housing needed for lower income households, as defined in Section 50079.5 of the Health and Safety Code, as identified in the housing element of any city, county, or city and county in the service area of the supplier.

California Health and Safety Code 50079.5



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(a) “Lower income households” means persons and families whose income does not exceed the qualifying limits for lower income families... In the event the federal standards are discontinued, the department shall, by regulation, establish income limits for lower income households for all geographic areas of the state at 80 percent of area median income, adjusted for family size and revised annually.

The City of La Verne 2014-2021 Housing Element was adopted December 2, 2013 in coordination with the SCAG. The City cites SCAG as a primary source for application of the Regional Housing Needs Allocation (RHNA) plan. For this reason, data developed both by the City and by SCAG have been gathered and analyzed for purposes of complying with §10631.1(a).

The approach of this analysis was to estimate existing lower-income population, to estimate the increase in lower-income population associated with completion of the City’s commitments to fulfilling its near-term RHNA obligations, to estimate the long-term projected lower-income population growth, and to apply typical per capita water use to those population estimates.

For purposes of this analysis, lower-income is either (1) as identified in the La Verne Housing Element or (2) defined as households earning less than \$50,000 in 2014 to be consistent with data disseminated by SCAG in the Profile of the City of La Verne.

SCAG estimated that 39% of households are lower-income⁷. Assuming a direct correlation between households and population and based on a service area population of 32,241 in 2014, the lower-income population in 2014 was estimated at 12,574.

Applying this trend to projected population within the service area, the projected lower-income population is shown in Table 7.

Table 7 – Projected Lower-Income Population Served

Year	2020	2025	2030	2035	2040
Lower-income Population	13,605	14,063	14,536	15,027	15,535

The standard residential demand per person is considered to be the cumulative residential demand in 2015 (see Table 4) divided by the population in 2015 (see Table 2), or 0.134 AFY per person:

$$\frac{D_{single\ family} + D_{multi\ family}}{population} = \frac{3,207\ AFY + 961\ AFY}{31,043\ persons} = 0.134\ AFY\ per\ person$$

⁷ Profile of the City of La Verne, SCAG (Dec 2013)



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Assuming that lower-income residences are distributed among single-family and multi-family units proportionally to the city-wide distribution in 2015, Table 8 provides the projected breakdown of the lower-income water demand.

Table 8 – Projected Lower-Income Water Demands

Land Use Type	2020 (AFY)	2025 (AFY)	2030 (AFY)	2035 (AFY)	2040 (AFY)
Single-family Residential	1,386	1,433	1,481	1,531	1,583
Multi-family Residential	440	455	470	486	503



CHAPTER FOUR – SBX7-7 BASELINES AND TARGETS

4.1 Updating Calculations from 2010 UWMP

§10608.20 (g) An urban retail water supplier may update its 2020 urban water use target in its 2015 urban water management plan required pursuant to Part 2.6 (commencing with Section 10610).

Methodologies DWR 2011, Methodology 2 Service Area Population Page 27 - Water suppliers may revise population estimates for baseline years between 2000 and 2010 when 2010 census information becomes available. DWR will examine discrepancy between the actual population estimate and DOF’s projections for 2010; if significant discrepancies are discovered, DWR may require some or all suppliers to update their baseline population estimates.

In the 2010 UWMPs, water agencies calculated 2020 Urban Water Use Target through the use of a selected target method. The DWR has given water agencies the opportunity to update their 2010 target and may update this calculation using a different method than done in 2010.

There are multiple methodologies in place for determining water use targets and complying with the Urban Water Management Plan Act. This chapter is dedicated to specifying chosen methodologies and justifying those choices. After reviewing the different methodologies that were available to determine the 2020 Compliance Target, Target Method 1 – 20% Reduction was chosen.

A summary of the various water use calculations performed for the City of La Verne is shown in Table 9.

Table 9 – Water Use Baselines and Targets

Water Use Calculation	Effective Year	GPCD from 2010 UWMP	GPCD from 2015 UWMP
10-year Baseline	2000 - 2009	268	264
Interim Target	2015	244	238
Compliance Target	2020	219	211

4.2 Baseline Periods

§10608.20 (e) An urban retail water supplier shall include in its urban water management plan due in 2010. . . the baseline daily per capita water use...along with the bases for determining those estimates, including references to supporting data.



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(g) An urban retail water supplier may update its 2020 urban water use target in its 2015 urban water management plan required pursuant to Part 2.6 (commencing with Section 10610)

The following subsections will explain the process of how the baseline period was chosen.

4.2.1 Determination of the 10-15 Year Baseline Period (Baseline GPCD)

§10608.12 (b) “Base daily per capita water use” means any of the following:

(1) The urban retail water supplier’s estimate of its average gross water use, reported in gallons per capita per day and calculated over a continuous 10-year period ending no earlier than December 31, 2004, and no later than December 31, 2010.

(2) For an urban retail water supplier that meets at least 10 percent of its 2008 measured retail water demand through recycled water that is delivered within the service area of an urban retail water supplier or its urban wholesale water supplier, the urban retail water supplier may extend the calculation described in paragraph (1) up to an additional five years to a maximum of a continuous 15-year period ending no earlier than December 31, 2004, and no later than December 31, 2010.

According to the 2015 UWMP guidebook, the water agency must use a 10- year baseline period or, if applicable, a 15-year baseline period. The period must be ending between December 31, 2004 and December 31, 2010.

A 15-year baseline period is chosen whether or not the recycled water was at least 10% of their total water deliveries in the year 2008. If the percentage of recycled water used in the year 2008 was less than 10%, then the water supplier must use a 10-year baseline period.

In the case of La Verne, the baseline periods chosen were from the years 2000 (1 year) through 2009 (10 year). There was zero recycled water delivered in the year 2008, which is less than 10%, and by the definition provided by the UWMP guidebook, the 10-year baseline was acceptable.



CHAPTER FOUR – SBX7-7 BASELINES AND TARGETS

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Table 10 – Population for 10 Year Baseline

Year for Baseline	Baseline Year	Total Population
Year 1	2000	29,639
Year 2	2001	29,746
Year 3	2002	29,876
Year 4	2003	29,945
Year 5	2004	29,917
Year 6	2005	29,703
Year 7	2006	29,334
Year 8	2007	29,036
Year 9	2008	29,450
Year 10	2009	29,235

4.2.2 Determination of the 5-Year Baseline Period (Target Confirmation)

§10608.12 (b) (3) For the purposes of Section 10608.22, the urban retail water supplier's estimate of its average gross water use, reported in gallons per capita per day and calculated over a continuous five-year period ending no earlier than December 31, 2007, and no later than December 31, 2010.

The GPCD calculated under the 5-year Baseline Period will be used to confirm that the 2020 target meets the minimum water use reduction requirements. Table 11 provides the GPCD for each year in the 5-year Baseline and the average per capita.

Table 11 – Population for 5 Year Baseline

Year for Baseline	Baseline Year	Supply (AF)	Total Population	GPCD
Year 1	2005	8,625	29,703	259
Year 2	2006	9,073	29,334	276
Year 3	2007	9,374	29,036	288
Year 4	2008	9,080	29,450	275
Year 5	2009	8,234	29,235	251
5-Year Average Baseline				270

4.3 Service Area Population

§10608.20 (e) An urban retail water supplier shall include in its urban water management plan due in 2010...the baseline per capita water use,...along with the bases for determining those estimates, including references to supporting data.



CHAPTER FOUR – SBX7-7 BASELINES AND TARGETS

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(f) When calculating per capita values for the purposes of this chapter, an urban retail water supplier shall determine population using federal, state, and local population reports and projections.

§10644 (a)(2) The plan...shall include any standardized forms, tables or displays specified by the department.

The service area is substantially the same as the boundary of the City of La Verne, with a few subgroups exception. The Department of Finance (DOF) was used to calculate the population estimates. Table 12 shows the population for the year 2015.

Table 12 – 2015 Compliance Year Population

Compliance Year	Total Population
2015	31,043

4.4 Gross Water Use

§10608.12 (g) “Gross Water Use” means the total volume of water, whether treated or untreated, entering the distribution system of an urban retail water supplier, excluding all of the following:

- (1) Recycled water that is delivered within the service area of an urban retail water supplier or its urban wholesale water supplier*
- (2) The net volume of water that the urban retail water supplier places into long term storage*
- (3) The volume of water the urban retail water supplier conveys for use by another urban water supplier*
- (4) The volume of water delivered for agricultural use, except as otherwise provided in subdivision (f) of Section 10608.24.*

California Code of Regulations Title 23 Division 2 Chapter 5.1 Article Section 596 (a) An urban retail water supplier that has a substantial percentage of industrial water use in its service area is eligible to exclude the process water use of existing industrial water customers from the calculation of its gross water use to avoid a disproportionate burden on another customer sector.

La Verne has no exclusions as defined in §10608.12 (g)(1-4). Due to this, La Verne’s gross water use will be the sum of all imported water and groundwater entering the distribution system. Table 13 provides a summary of the gross water use for the calculated period.



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Table 13 – Gross Water Use in Acre-feet for Calculation Period

Source	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009
Pomona Basin	1,087	802	1,306	1,389	1,411	1,455	1,469	1,507	1,317	1,330
Ganesha Basin	41.42	151.64	125.14	4.71	1.38	1.18	2.29	224.45	377.70	594.38
Live Oak Basin	0.37	2.01	140.88	253.75	53.55	220.26	508.97	443.98	619.68	776.78
TVMWD Import	7,069	7,098	7,542	7,098	7,624	6,948	7,093	7,198	6,766	5,533
Total Supply	8,198	8,054	9,113	8,746	9,091	8,625	9,073	9,374	9,080	8,234

4.5 Baseline Daily Per Capita Water Use

The Baseline Daily Per Capita Water Use is defined as the average water use, expressed in gallons per capita per day (GPCD), for a continuous, multi-year baseline period. There are two different baseline periods for calculating Baseline Daily Per Capita Water Use, as follows (CWC Sections 10608.20 and 10608.22):

4.5.1 Calculation of Baseline

The per capita water use for each of the years in the calculation period and the average per capita water use for the same period are provided in Table 14. The baseline per capita water use is the same as the average per capita water use of 264 GPCD.

Table 14 – Calculation of Baseline GPCD

Year	Supply (AF)	Population	GPCD
2000	8,198	29,639	247
2001	8,054	29,746	242
2002	9,113	29,876	272
2003	8,746	29,945	261
2004	9,091	29,917	271
2005	8,625	29,703	259
2006	9,073	29,334	276
2007	9,374	29,036	288
2008	9,080	29,450	275
2009	8,234	29,235	251
Average			264



4.6 Application of Target Method 1 for 2015 and 2020 Targets

§10608.20 (e) An urban retail water supplier shall include in its urban water management plan due in 2010. . . urban water use target, interim urban water use target,...along with the bases for determining those estimates, including references to supporting data (10608.20(e)).

(g) An urban retail water supplier may update its 2020 urban water use target in its 2015 urban water management plan...

La Verne has adopted Provisional Target Method 1 for establishment of its interim and compliance per capita water use targets. Following is a description of the steps taken to calculate the water use targets as delineated in Section 5.7.1 of the 2015 UWMP Guidebook. For purposes of this method, the same calculation period used to determine baseline water use was applied.

Target Method 1 is where 80% of the supplier’s base daily per capita water use is calculated and will represent the confirmed 2020 target to achieve.

80% of Baseline = 264 * 0.80 = 211 GPCD

Table 15 – Confirmed 2020 Target

10-Year Baseline (GPCD)	Confirmed 2020 Target (GPCD)
264	211

By choosing this method, the supplier completed the UWMP SBX-7 Table 7A as shown in Appendix E.

4.6.1 5-Year Baseline - 2020 Target Verification

§10608.22 Notwithstanding the method adopted by an urban retail water supplier pursuant to Section 10608.20, an urban retail water supplier’s per capita daily water use reduction shall be no less than 5 percent of base daily per capita water use as defined in paragraph (3) of subdivision (b) of Section 10608.12. This section does not apply to an urban retail water supplier with a base daily per capita water use at or below 100 gallons per capita per day.

The 2020 Target was calculated to be 211 GPCD per UWMP SBX-7 Table 7A (Appendix E). The 10-year baseline was determined to be 264 GPCD and since this is above the 100 GPCD requirement per §10608.22, verification must be performed.

As shown in Table 16, the 5-year baseline average was calculated to be 270 GPCD. 95% of the average was determined to be 256.5 GPCD and since the Compliance Water Target



CHAPTER FOUR – SBX7-7 BASELINES AND TARGETS

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of 2020 was calculated to be 211 GPCD, as shown in Table 15, the supplier’s water use will be reduced by more than the required 5% of the average 5-year baseline as shown in Table 16.

Table 16 – Verification of Minimum Water Use Reduction

Year for Baseline	Supply (AF)	Total Population	GPCD
Year 1	8,625	29,703	259
Year 2	9,073	29,334	276
Year 3	9,374	29,036	288
Year 4	9,080	29,450	275
Year 5	8,234	29,235	251
5-Year Average Baseline			270
95% of 5-Year Average Baseline			256.5

Confirmed 2020 Target < 95% of 5-Year Average Baseline

$$211\text{GPCD} < 256.5\text{GPCD}$$

4.6.2 2015 Interim Urban Water Use Target

According to the 2015 UWMP Guidebook, the 2015 Interim Target is the value halfway between the 10-year Baseline GPCD and the confirmed 2020 Target. Table 17 provides the Interim 2015 Target.

$$\frac{10\text{ year Baseline (GPCD)} + \text{Confirmed 2020 Target}}{2} = \text{Interim 2015 Target}$$

$$\frac{264 + 211}{2} = 238\text{GPCD}$$

Table 17 – Interim 2015 Target

Interim Target Year	Target GPCD
2015	238



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4.6.3 Baselines and Targets Summary

Table 18 provides the summary of the Baselines and Targets for the City of La Verne.

Table 18 – Baseline Targets Summary

Baseline Period	Start Year	End Year	Average Baseline (GPCD)	2015 Interim (GPCD)	Confirmed 2020 (GPCD)
10-Year	2000	2009	264	238	211
5-Year	2005	2009	270		

4.7 2015 Compliance Daily Per Capita Water Use (GPCD)

§10608.12 (e) “Compliance daily per-capita water use” means the gross water use during the final year of the reporting period...

§10608.24 (a) Each urban retail water supplier shall meet its interim urban water use target by December 31, 2015.

§10608.20 (e) An urban retail water supplier shall include in its urban water management plan due in 2010 . . . compliance daily per capita water use, along with the bases for determining those estimates, including references to supporting data.

The City of La Verne is in compliant according to the 2015 UWMP guidebook and self-calculated tables. The 2015 water usage is shown in Table 19 below.

Table 19 – Target Achieved Summary

Actual 2015 (GPCD)	2015 Interim (GPCD)	Supplier Achieved Targeted Reduction for 2015?
189	238	yes



CHAPTER FIVE – SYSTEM SUPPLIES

5.1 General Description

Local groundwater had been the City’s primary source of water since the late 1800’s. In 1972, the City began importing water to meet the demands associated with population growth. Amendments to the federal and State drinking water standards also influenced the City’s decision to import water since some of the City’s groundwater sources did not meet the new standards without a substantial investment in treatment infrastructure. Today, water production is a closely monitored process including direct introduction of disinfected groundwater and imported water into the distribution system, blending of groundwater having nitrate concentrations that exceed the MCL⁸ with imported water, and treatment of groundwater to remove perchlorate and nitrate.

5.2 Water Sources

§10631(b) Identify and quantify, to the extent practicable, the existing and planned sources of water available to the supplier over the same five-year increments described in subdivision (a).

La Verne’s firm water sources include imported water from the Three Valleys Municipal Water District’s (TVMWD) Miramar Treatment Plant and groundwater extracted from Six Basins. Table 20 indicates the current and projected supplies available from these sources.

Table 20 – Current and Projected Water Supplies

Water Supply	2015 ⁹ (AFY)	2020 (AFY)	2025 (AFY)	2030 (AFY)	2035 (AFY)	2040 (AFY)
TVMWD	4,661	10,867	10,867	10,867	10,867	10,867
Six Basins	1,908	2,894	2,894	2,894	2,894	2,894
Total	6,568	13,761	13,761	13,761	13,761	13,761

5.3 Purchased or Imported Water

TVMWD, a municipal water district organized pursuant to Division 20 of the California Water Code, is a water wholesaler and one of 26 public agencies that comprise the Metropolitan Water District of Southern California (MWD). TVMWD has the ability to import water from two sources: the Colorado River (originating at Lake Havasu) and the State Water Project (originating at the Delta of the Sacramento and San Joaquin Rivers). TVMWD treats the imported water at the Miramar Water Treatment Plant (Miramar), located on the northeastern corner of the intersection of Miramar Avenue and Padua Avenue in the City of Claremont. The treatment process at Miramar includes chemical

⁸ MCL = maximum contaminant limit

⁹ Supply for 2015 represents actual production



CHAPTER FIVE – SYSTEM SUPPLIES

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mixing, tapered energy flocculation, sedimentation, dual media filtration, and disinfection. Typically, Miramar receives 100% State Project Water from MWD’s Foothill Feeder and treats that water for potable use. Water imported from the Colorado River is only utilized by TVMWD in the event of an emergency or other outstanding circumstance. More recently, a groundwater production well was drilled at the Miramar site and now augments the imported water production of the plant. The well provides about 4% of the total output of the plant.

The treatment capacity at Miramar is 25.0 million gallons per day (MGD) or 38.7 cubic feet per second (cfs). The normal design capacity is 19.4 MGD or 30.0 cfs with a capability of being expanded; however, there are no current plans to expand this facility within the planning horizon of this document. GSWC and La Verne are each entitled to a 50% share of the available flow from Miramar (15cfs). When the plant and pipeline capacities are not fully subscribed to these main participants, TVMWD may sell the water to non-participant agencies on an interruptible basis. It is understood by the participants, that MWD or other suppliers of water, by reason of drought conditions or other emergency conditions, may require TVMWD to impose water conservation or rationing measures. The imposing operations and measurements are subject to TVMWD rules and regulations.

The City has been one of the three participants of Miramar’s construction, operation, and maintenance since 1984. Miramar has supplied water to the City since 1987. The City is executing the First Lease-Purchase Miramar Project Sublease Agreement. It shares capital costs pursuant to a 30-year fixed rate in fully amortizing municipal securities.

TVMWD imposes certain restrictions on rates of flow through each connection to its system. These include the following:

- ◆ Changes in flow must usually be made 6 hours prior to the requested change. However, TVMWD staff is generally responsive to making requested changes within 30 minutes.
- ◆ Within any 24-hour period, changes in rate of flow shall not vary more than 10% above or below the average of the previous 24 hours.
- ◆ Average flow during any one month shall not exceed 132 percent of the annual flow.
- ◆ When flow through a connection is reduced below 10 percent of the requested flow or 10 percent of the design capacity of the meter, whichever is less, the agency will be charged for flow at 10 percent of the capacity of the meter.

al design capacity is available plus 25 AFY the City of La Verne permanently transferred from their Six Basin annual rights to TVMWD in 2010.



Table 21 indicates La Verne’s projected imported water supply from Miramar assuming that 50% of the current normal design capacity is available plus 25 AFY the City of La Verne permanently transferred from their Six Basin annual rights to TVMWD in 2010¹⁰.

Table 21 – Projected Wholesale Supplies

Basin Designation	2020 (AFY)	2025 (AFY)	2030 (AFY)	2035 (AFY)	2040 (AFY)
TVMWD	10,885	10,885	10,885	10,885	10,885

5.4 Groundwater

§10631 (b) If groundwater is identified as an existing or planned source of water available to the supplier, all of the following information shall be included in the plan:

(1) A copy of any groundwater management plan adopted by the urban water supplier...or any other specific authorization for groundwater management.

(2) A description of any groundwater basin or basins from which the urban water supplier pumps groundwater...For basins that a court or the board has adjudicated the rights to pump groundwater, a copy of the order or decree adopted by the court or the board and a description of the amount of groundwater the urban water supplier has the legal right to pump under the order or decree.

(3) A detailed description and analysis of the location, amount, and sufficiency of groundwater pumped by the urban water supplier for the past five years. The description and analysis shall be based on information that is reasonably available, including, but not limited to, historic use records.

§10631 (b)(2) For basins that have not been adjudicated, (provide) information as to whether the department has identified the basin or basins as overdrafted or has projected that the basin will become overdrafted if present management conditions continue, in the most current official departmental bulletin that characterizes the condition of the groundwater basin, and a detailed description of the efforts being undertaken by the urban water supplier to eliminate the long-term overdraft condition.

§10631 (b) ...If groundwater is identified as an existing or planned source of water available to the supplier, all of the following information shall be included in the plan: (3) A detailed description and analysis of the location, amount, and sufficiency of groundwater pumped by the urban water

¹⁰ 2015 UWMP Six Basin (Draft) - Six Basin Judgment Exhibit D, note 2



supplier for the past five years. The description and analysis shall be based on information that is reasonably available, including, but not limited to, historic use records.

La Verne extracts groundwater from Six Basins in accordance with the Six Basins Judgment. Six Basins, as its name implies, is actually six small interrelated basins: (1) Canyon Basin, (2) Upper Claremont Heights Basin, (3) Lower Claremont Heights Basin, (4) Pomona Basin, (5) Live Oak Basin and (6) Ganesha Basin. The Judgment specifically defines adjudication for the Four Basins (i.e. the first four basins listed above) and generally defines adjudication for the Two Basins (i.e. the last two basins listed above). The Judgment is overseen by the Six Basins Watermaster, whose duties are currently being overseen by Wildermuth Environmental.

La Verne has an adjudicated right in Four Basins to 7.601% of the Operating Safe Yield (OSY)¹¹. Per the Six Basins Judgment, La Verne also has “the right to produce as much groundwater as it may reasonably withdraw from the Two Basins Area on an annual basis so long as it does not substantially injure the rights of any other” parties identified in the Six Basins Judgment. The purpose behind such delineation of rights in the Two Basins involves the proximity of La Verne to the Two Basins and the acknowledgement of water quality issues in the Two Basins whose remediation would require substantial investment and management. La Verne has recently completed construction of the Amherst Groundwater Treatment Plant, which is capable of treating local groundwater for perchlorate and nitrate contamination, and is now in a position to further define and develop its rights in the Two Basins.

The following sections provide descriptions of those basins where La Verne extracts groundwater.

5.4.1 Live Oak Basin

The Live Oak Basin is bounded by the Sierra Madre-Cucamonga fault on the north, (which is considered an active fault) and the Indian Hill fault on the south. The Indian Hill fault separates the Live Oak Basin from the Ganesha and Pomona Basins. Subsurface ridges of relatively impermeable bedrock may act as barriers that separate the Live Oak Basin from the Main San Gabriel Basin (the San Dimas Basin) on the west and the Lower Claremont Heights Basin on the east. Total thickness of alluvium in the Live Oak Basin is from about 350 feet to over 500 feet (as described in the drillers’ logs of La Verne Heights Well No. 1). The shape of the underlying bedrock controls alluvium thickness, which is a factor of the ancient surface topography and tectonics. As the relative motion along both basin-bounding faults is predominantly north-side up, faulting, folding, and tilting associated with these structures has apparently allowed somewhat thicker accumulations of alluvium to be deposited in the northern and northeastern portions of the Live Oak Basin. Relatively

¹¹ Updated as of December 2014, Six Basin Judgment, Exhibit D, Six Basin 2015 Annual Report



speaking, alluvial thickness in this basin is considered the thinnest with respect to the accumulation of alluvial deposits in the adjoining basins.

5.4.2 Ganesha Basin

The Ganesha Basin is a narrow groundwater basin that lies between the Indian Hill fault on the north, the San Antonio fault on the south, and the Main San Gabriel Basin on the north and west. A depositional contact between the alluvium within the Ganesha Basin and the underlying tertiary bedrock forms the southwest boundary of the basin. Alluvium thickness revealed on the drillers' logs of wells in the Ganesha Basin range from as much as 750 feet in the northeast portion of the basin to near zero at the contact with tertiary bedrock to the southwest. The basin contains a high percentage of clay in the upper 100 feet of alluvium, which partially inhibits deep percolation of direct rainfall.

5.4.3 Pomona Basin

Only the northwestern portion of the Pomona Basin underlies the City of La Verne. The Basin is south of the Live Oak Basin and is bounded on the north by the Indian Hill Fault, on the northwest by the San Antonio fault, on the southeast by the San Jose fault, and on the southwest by a depositional contact with tertiary bedrock. The Pomona Basin has the thickest alluvium compared with the other basins underlying the City. Within the basin, alluvium is thickest in the southeastern portion. The thickness of alluvium at Cartwright Well is approximately 900 feet thick and nearly 800 feet thick at Mills Tract Well.

5.4.4 Summary of Groundwater Production

Table 22 includes the volumes of water pumped for the last five years from the various basins where La Verne maintains groundwater production facilities.

Table 22 – Groundwater Pumped for the Last Five Years

Basin Designation	2011 (AFY)	2012 (AFY)	2013 (AFY)	2014 (AFY)	2015 (AFY)
Pomona Basin	761	1,225	1,460	1,211	1,126
Ganesha Basin	401	164	433	332	119
Live Oak Basin	1,001	689	619	618	662
Total	2,164	2,078	2,511	2,161	1,907

The volume projected to be extracted from the Pomona Basin represents maximization of La Verne's adjudicated rights in the Four Basins assuming an average OSY of 20,000 AFY.

The safe yields for the Ganesha and Live Oak Basins are currently unknown. As La Verne continues to develop these basins for groundwater production, it is anticipated that a greater understanding of the respective safe yields will emerge. In light of this, the maximum historical annual production from these basins is assumed to be the safe yield. These



historical production volumes are indicated in Table 22 as 433 AFY in 2013 for the Ganesha Basin and 1,001 in 2011 for the Live Oak Basin.

Table 23 includes the volumes of water projected to be pumped through 2040.

Table 23 – Groundwater Projected to be Pumped

Basin Designation	2020 (AFY)	2025 (AFY)	2030 (AFY)	2035 (AFY)	2040 (AFY)
Pomona Basin	1,460	1,460	1,460	1,460	1,460
Ganesha Basin	433	433	433	433	433
Live Oak Basin	1,001	1,001	1,001	1,001	1,001
Total	2,894	2,894	2,894	2,894	2,894

5.5 Surface Water

The City of La Verne does not plan to use self-supplied surface water as part of their water supply.

5.6 Stormwater

The City of La Verne is currently not using stormwater to meet local water supply demands.

5.7 Wastewater and Recycled Water

§10633 The plan shall provide, to the extent available, information on recycled water and its potential for use as a water source in the service area of the urban water supplier. The preparation of the plan shall be coordinated with local water, wastewater, groundwater, and planning agencies that operate within the supplier’s service area.

- (a) (Describe) the wastewater collection and treatment systems in the supplier’s service area, including a quantification of the amount of wastewater collected and treated and the methods of wastewater disposal.*
- (b) (Describe) the quantity of treated wastewater that meets recycled water standards, is being discharged, and is otherwise available for use in a recycled water project.*
- (c) (Describe) the recycled water currently being used in the supplier’s service area, including, but not limited to, the type, place, and quantity of use.*



- (d) *(Describe and quantify) the potential uses of recycled water, including, but not limited to, agricultural irrigation, landscape irrigation, wildlife habitat enhancement, wetlands, industrial reuse, groundwater recharge, indirect potable reuse, and other appropriate uses, and a determination with regard to the technical and economic feasibility of serving those uses.*
- (e) *(Describe) the projected use of recycled water within the supplier's service area at the end of 5, 10, 15, and 20 years and a description of the actual use of recycled water in comparison to uses previously projected pursuant to this subdivision.*
- (f) *(Describe the) actions, including financial incentives, which may be taken to encourage the use of recycled water, and the projected results of these actions in terms of acre-feet of recycled water used per year.*
- (g) *(Provide a) plan for optimizing the use of recycled water in the supplier's service area, including actions to facilitate the installation of dual distribution systems, to promote recirculating uses, to facilitate the increased use of treated wastewater that meets recycled water standards, and to overcome any obstacles to achieving that increased use.*

The 2010 La Verne UWMP projected zero recycled water use for 2015, which is consistent with the actual recycled water use for 2015. The lack of recycled water development is explained in the following sections.

5.7.1 Disposition of Wastewater Collection and Treatment

Wastewater generated within the City of La Verne is collected in City sewers and discharged to a regional trunk sewer pipeline owned by the Los Angeles County Sanitation Districts (LACSD) where it flows by gravity to either the Pomona Water Reclamation Plant (WRP) or the San Jose Creek WRP.

5.7.2 Potential Recycled Water Use and Incentives

Development of recycled water use is proceeding rapidly in the City of Pomona and in Walnut Valley Water District. As a result of these activities, it is anticipated that 100% of the recycled produced at the Pomona WRP will be reused locally.

At this time, the development of recycled water distribution infrastructure to transport recycled water from the San Jose Creek WRP, which is more than 15 miles away from La Verne, has been found to be economically infeasible.



As such, there are no plans for the development of recycled water during the 20-year planning horizon of this UWMP because nearby recycled water production at Pomona is unavailable and more distant recycle water production at San Jose Creek is too far away.

A comprehensive analysis of potential recycled water use has not been performed to date largely because the prospect of developing recycled water as a source has been determined to be infeasible. The following summary demonstrates qualitatively the potential recycled water uses in La Verne which will be further refined in the event a more feasible solution is found in the future:

- ◆ 10 schools
- ◆ 19 parks
- ◆ 2 golf courses
- ◆ 1 tree farm
- ◆ Limited commercial and industrial application
- ◆ Extensive irrigation of medians and other public lands

Data on the potential use of recycled water related to wildlife habitat, groundwater recharge and indirect potable reuse are not immediately available and are not considered to be within the purview of the City. These activities have been deferred to Los Angeles County and the various Watermasters responsible for management of area basins. There is no potential use of recycled water for wetlands, seawater barriers or energy.

There is no incentive at this time to promote local recycled water use.

5.7.3 Future Recycled Water Projects

Local purveyors are planning to expand recycled water availability for groundwater replenishment purposes as part of the Groundwater Reliability Improvement Project (GRIP). The project includes the development 25,000 AFY of recycled water at the San Jose Creek Water Reclamation Plant. The project includes improvement to treatment capacity and quality and improvements to recycled water distribution and replenishment infrastructure. Although the project will not directly benefit La Verne, there will be significant improvements to water reliability in the San Gabriel Valley which will in turn improve the potential for reliability of those sources that La Verne depends on. As a result, there may be opportunities to enter into transfer agreements with neighboring suppliers to promote conjunctive use or other management plans contingent upon groundwater reliability.

5.8 Desalinated Water Opportunities

§10631 (h) Describe the opportunities for development of desalinated water, including, but not limited to, ocean water, brackish water, and groundwater, as a long-term supply.



There are currently no opportunities for the City to develop desalinated water as a long-term supply.

5.9 Exchanges or Transfer Opportunities

§10631 (d) Describe the opportunities for exchanges or transfers of water on a short-term or long-term basis.

There is currently no exchange or transfer opportunities for the City of La Verne at this time.

5.10 Future Water Projects

§10631 (g)...The urban water supplier shall include a detailed description of expected future projects and programs... that the urban water supplier may implement to increase the amount of the water supply available to the urban water supplier in average, single-dry, and multiple-dry water years. The description shall identify specific projects and include a description of the increase in water supply that is expected to be available from each project. The description shall include an estimate with regard to the implementation timeline for each project or program.

According to the City of La Verne’s 2010 Water Master Plan, there are three Capital Improvement Projects that will improve their groundwater production. The descriptions are provided in Table 24 below.

Table 24 – Groundwater Production Capital Improvement Program Projects

PROJECT	DESCRIPTION
Construct a new well in the Live Oak Basin to replace LVH No. 1 Well	A new well is required to compensate for losses in specific capacity of LVH No. 1 Well and other wells. The Beech Street Well was constructed for that purpose; however, with a capacity of only 350 gpm, the desired production reliability has not been achieved. The construction of an additional well is recommended such that, in conjunction with the Beech Street Well, a production capacity of between 500 gpm and 1,000 gpm is achieved.
Construct 3,000 feet of 12-inch pipe from the Old Baldy Plant to the White Avenue Forebay	To improve groundwater production capacity in Zone II, completion of a groundwater transmission pipeline is required. Install 3,000 feet on 12-inch pipeline in "B: Street between the Old Baldy Plant and the White Avenue Forebay.
Old Baldy Well Restoration Study	The loss of the Old Baldy Well may jeopardize near-term supply redundancy. Investigate the possibility of restoring production through treatment, blending or replacement. This study will focus on water quality and hydrology.



5.11 Summary of Existing and Planned Sources of Water

§10631 (b) Identify and quantify, to the extent practicable, the existing and planned sources of water available to the supplier over the same five-year increments described in subdivision 10631(a).

(4) (Provide a) detailed description and analysis of the amount and location of groundwater that is projected to be pumped by the urban water supplier. The description and analysis shall be based on information that is reasonably available, including, but not limited to, historic use records.

For Existing and Planned Sources of Water for the City of La Verne, refer to Table 20 of the UWMP report.

For current 2015, the City of La Verne gets 4,661 AFY of drinking water from TVMWD and about 1,908 AFY of drinking water from the Six Basins (Pomona, Ganesha, and Live Oak Basins).

For the Planned Sources of Water for the City of La Verne, please refer to section 5.3 and 5.4 within the UWMP Report.

5.12 Climate Change Impacts to Supply

The City of La Verne has completed the IRWM Climate Change Vulnerability Assessment (Appendix H).



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6.1 Constraints on Water Sources

§10631 (c)(2) For any water source that may not be available at a consistent level of use, given specific legal, environmental, water quality, or climatic factors, describe plans to supplement or replace that source with alternative sources or water demand management measures, to the extent practicable.

§10634 The plan shall include information, to the extent practicable, relating to the quality of existing sources of water available to the supplier over the same five-year increments as described in subdivision (a) of Section 10631, and the manner in which water quality affects water management strategies and supply reliability.

Planning documents inherently deal with uncertainties about the future. Uncertainty cannot be avoided; however, adequate documentation and applied reason ensures defensibility against legal challenges, completeness and comprehensiveness. The following steps have been employed, documented as necessary, to satisfy issues surrounding supply uncertainty as they pertain to development of this UWMP:

- ◆ Acknowledge the uncertainty
- ◆ Specify the conclusion and how the conclusion was reached
- ◆ Reference supporting evidence
- ◆ Evaluate the likelihood that the conclusion is incorrect
- ◆ Provide an alternative in case the conclusion is proved incorrect
- ◆ Respond to comments regarding the conclusion
- ◆ Pay attention to the wholesaler's plans
- ◆ Use the latest and best data available

6.1.1 Imported Water Reliability

As a retail member agency, La Verne receives imported water from TVMWD. As a wholesale member agency of MWD and per the TVMWD 2010 UWMP, TVMWD relies primarily on the availability of MWD supplies to gauge reliability. To a lesser degree, TVMWD has access to local supplies, but it is its member retail agencies that have greater



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access and demand greater use of those local resources. To that end, TVMWD encourages the development and use of local supplies by the member retail agencies when it is available. TVMWD's overall water resource management scheme focuses on maximizing local resource development recognizing that the availability of imported water can be highly variable and overall import supply may dwindle in the future due to competing statewide interests.

Meanwhile, MWD's import supply reliability is dependent on the State Water Project and the Colorado River Aqueduct. These two primary sources are subject to a whole host of legal, environmental, water quality, and climatic factors that affect available deliveries on almost an annual basis. MWD has developed its 2015 Regional Urban Water Management Plan wherein MWD explains the measures it has taken to try to guard against shortages in import supplies coming from the two primary sources. Such measures include groundwater banking/storage agreements within and outside of the MWD service area, surface water storage at its terminal reservoirs, and conservation/water resource programs that promote water efficiency. Likewise, TVMWD has sought similar measures within its own service area to improve overall reliability. TVMWD seeks to maximize available local groundwater storage for conjunctive use purposes, promotes conservation efforts, and coordinates with its retail member agencies in developing local resource projects that will offset the need to import water.

Groundwater Storage/Conjunctive Use

TVMWD's service area overlies five groundwater basins (Chino Basin, Main San Gabriel Basin, Puente Basin, Six Basins, and Spadra Basin). Within three of these basins, TVMWD is involved in the following storage/conjunctive use programs:

- The Chino Basin Dry-Year Yield Program is a cooperative agreement between MWD and Chino Basin stakeholders, of which TVMWD is one. The program included a potential storage capability of 100,000 AF, withdrawal of which is limited to a third of that amount per year. On a practical basis, TVMWD and its member retail agency can account for about 6,000 AF of that amount or a quantity on the order of 2,000 AFY.
- In the Main San Gabriel Basin, TVMWD maintains a cyclic storage account that allows up to 40,000 AF of storage. Import water is typically delivered to storage when it is available and then extracted from the groundwater basin by TVMWD's member retail agencies during periods of shortage or drought. Annual extraction limits are not limited but are capped by the practical pumping capacity of the retail member agencies. This provides another hedge against dwindling import supplies and short-term emergencies.



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- The Live Oak Basin and Upper Claremont Heights Basin conjunctive use projects utilize two of the sub-basins within Six Basins. Combined, the projects allow for a maximum storage amount of 6,000 AF with annual withdrawal limits of 2,000 AF.

Groundwater storage programs/projects help to relieve pressures on the import water systems during periods when those sources are less plentiful. The ability to effectively coordinate the conjunctive use of import supplies and the local groundwater basins remains a challenge but is the key to effective management of the water resources of the region.

Groundwater Recovery

In addition to improving the ability to put water into the local groundwater basins, TVMWD is also working with its retail member agencies to develop or recover the capability to use groundwater with marginal water quality issues. Years ago, many groundwater producers deactivated wells after seeing high concentrations of contaminants such as nitrate, volatile organic compounds (VOCs), perchlorate, and others. When faced with the added expense treatment before putting groundwater into a potable system, many instead chose the alternative of replacing that supply with imported water.

As the future of imported water supplies has become more tentative over the past few years, TVMWD and its retail member agencies are reassessing those earlier decisions regarding the use of slightly impaired groundwater supplies. With the advent of reliable treatment technology to address water quality problems and experience gained by those who have installed such facilities, past analyses showing groundwater treatment to be too costly may no longer be valid.

For those retail member agencies that have access to recycled water, expansion of dedicated systems and conversion of appropriate demands from potable water to recycled water is the key to reducing future imported water use and managing resources for growing populations within the service area.

The noteworthy idea behind groundwater recovery is that for every acre-foot of water produced, a like amount of potable supply – typically imported water – can be replaced. The displaced amount then manifests itself as a reduced demand and a potential resource for future growth in the region.

Conclusions

In response to the challenges that TVMWD faces with respect to the reliability of its MWD sources and its efforts to develop local programs and sources, La Verne has developed the following approach:

- Under normal year and wet year conditions, imported water is assumed to be available at a rate equivalent to 50% of the normal production capacity of the Miramar Water Treatment Plant, per La Verne current entitlement.



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- Under dry year and multiple dry year conditions, imported water is assumed to be available at a rate equivalent Shortage Level 2 of the TVMWD Water Supply Allocation Plan (WSAP) or 6,299 AFY. The implementation of Shortage Level 2 represents a 14% reduction in typical imported water supply.
- During the FY 2014-15, MWD and TVMWD declared Shortage Level 3 for its respective member agencies. The implementation of Shortage Level 3 represents a 25% reduction in supply compared to its average use over the three-year period of 2012-2014¹²

These assumptions have been applied in supply and demand comparison through this UWMP.

6.2 Summary of Historical Water Year Data

Table 25 provides historical data for La Verne’s annual supply and for its annual precipitation measured at San Antonio Dam for the 24-year period from 1992 through 2015. Runoff in the vicinity of the San Antonio Dam directly influences the Six Basins. This data source is considered the most pertinent to La Verne’s water reliability under varying supply conditions. In the sections that follow, normal, dry and multiple dry years have been identified, and the demands associated with La Verne’s response to those supply conditions have been quantified.

¹² 2015 UWMP for Three Valley MWD (Draft), Section 8.5



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Table 25 – Water Shortage and Drought Rationing Stages

Year	Supply (AFY)	Precipitation (in.)
2015	6,565	9.53
2014	8,250	11.15
2013	8,426	7.22
2012	8,103	13.38
2011	7,457	13.39
2010	7,382	28.48
2009	8,234	16.53
2008	9,080	24.71
2007	9,374	7.36
2006	9,072	21.12
2005	8,625	26.53
2004	9,091	26.53
2003	8,881	24.18
2002	9,113	14.19
2001	8,054	21.17
2000	8,198	18.30
1999	8,412	10.07
1998	7,271	41.13
1997	8,071	18.26
1996	7,898	32.11
1995	6,991	38.71
1994	7,043	15.69
1993	6,807	43.52
1992	6,464	37.06

The normal year is considered the average of this 24-year period, or 7,994 AFY.

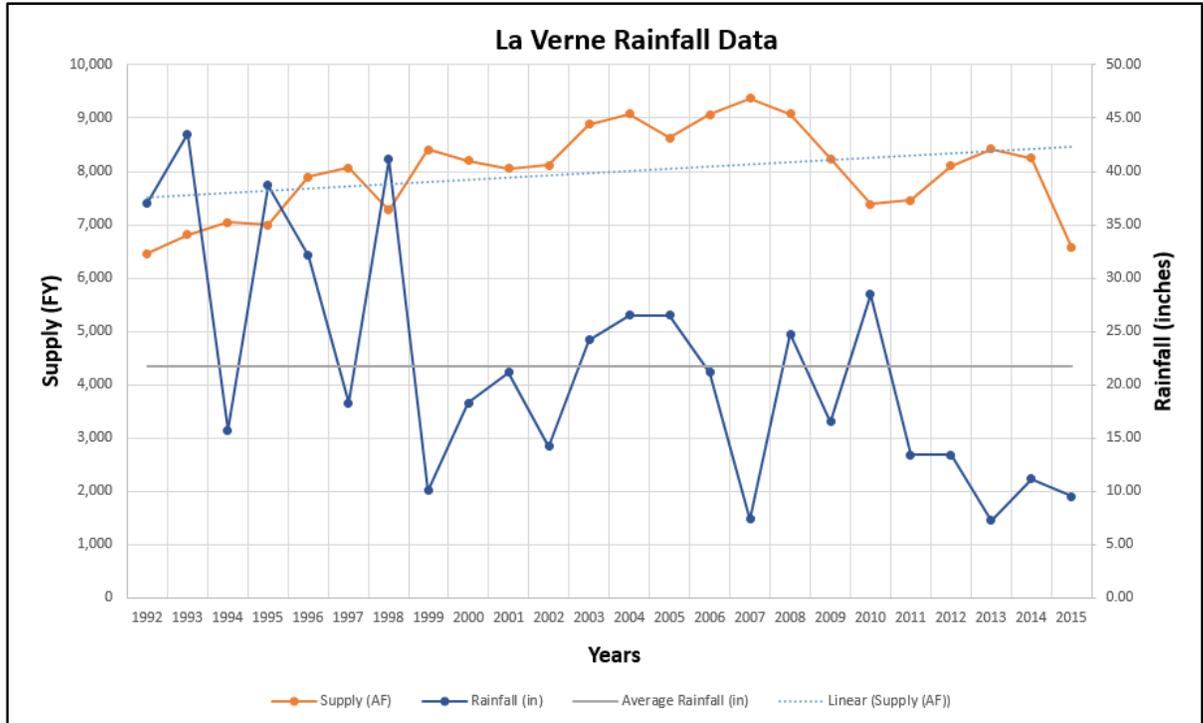
Figure 3 shows how supply has continued to escalate to meet demand since 1992.



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Figure 3 – Normalized Annual Supply



6.3 Reliability by Type of Year

§10631 (c)(1) Describe the reliability of the water supply and vulnerability to seasonal or climatic shortage, to the extent practicable, and provide data for each of the following:

- (A) an average water year (normal year)
- (B) a single dry water year
- (C) multiple dry water years.

Table 26 – Basis of Water Year Data

Year Type	Base Year	Volume Available (AFY)
Average Year (Normal Year)	2001	8,054
Single-Dry Year	2015	6,566
Multiply-Dry Years 1st Year	2013	8,426
Multiply-Dry Years 2nd Year	2014	8,250
Multiply-Dry Years 3rd Year	2015	6,566



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The average year (or normal year) for the City of La Verne was calculated to be the year 2001 over the 24-year period of data provided as shown in Table 27.

The single-dry year for the City of La Verne was calculated to be the year 2015.

The multiple-dry years for the City of La Verne was observed to be between the years 2013-2015 according to Figure 3. The new multiple-dry years are believed to be resulted from the latest drought in California which explains the low annual rainfall as well as the low supply of water provided during that period.

6.4 Supply and Demand Assessment

§10635 (a) Every urban water supplier shall include, as part of its urban water management plan, an assessment of the reliability of its water service to its customers during normal, dry, and multiple dry water years. This water supply and demand assessment shall compare the total water supply sources available to the water supplier with the total projected water use over the next 20 years, in five-year increments, for a normal water year, a single dry water year, and multiple dry water years. The water service reliability assessment shall be based upon the information compiled pursuant to Section 10631, including available data from state, regional or local agency population projections within the service area of the urban water supplier.

Table 27 provides a summary of the projected normal year supply and demand. The projected supply represents the maximum supply in terms of the City of La Verne's Annual Groundwater Rights according to groundwater judgments and the 2015 Six Basins Watermaster Draft Annual Report.

Projected supply for normal year assumes the following:

- TVMWD's allowable capacity for La Verne (10,885 AF)
- Typical production from the Ganesha and Live Oak Basins (1,434 AF)
- Adjudicated rights of the Pomona Basin - 7.601% of the OSY in 2001 of 19,300 AF (1,467 AF)

The projected demand for the normal year is provided by Table 27.



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Table 27 – Normal Year Supply (2001) and Demand Comparison

	2020 (AFY)	2025 (AFY)	2030 (AFY)	2035 (AFY)
Supply Totals	13,779	13,779	13,779	13,779
Demand Totals	6,979	7,242	7,515	7,797
Difference	6,800	6,537	6,264	5,982

Table 28 provides a summary of the projected single-dry year supply and demand.

Projected supply for single-dry year assumes the following:

- ◆ Implementation of TVMWD’s Water Supply Allocation Plan (WSAP) Shortage Level 3 (5,154 AF)
- ◆ A 20% temporary overdraft of Ganesha and Live Oak Basins (1,721 AF)
- ◆ Adjudicated rights of the Pomona Basin - 7.601% of the OSY in 2015 of 16,000 AF (1,216 AF)

The projected demand for the single-dry year is equivalent to the estimated normal-year demand as shown in Table 5.

Table 28 – Single Dry Year (2015) Supply and Demand Comparison

	2020 (AFY)	2025 (AFY)	2030 (AFY)	2035 (AFY)
Supply Totals	8,091	8,091	8,091	8,091
Demand Totals	6,979	7,242	7,515	7,797
Difference	1,112	849	576	294

Table 29 provides a summary of the projected multiple-dry year supply and demand.

Projected supply for multiple-dry year assumes the following:

- ◆ Implementation of TVMWD’s Water Supply Allocation Plan (WSAP) Shortage Level 3 (5,154 AF)
- ◆ Typical production from the Ganesha and Live Oak Basins (1,434 AF)
- ◆ Adjudicated rights of the Pomona Basin - 7.601% of the OSY in 2013 through 2015
 - 2013 – OSY 17,500 AF (1,330 AF)
 - 2014 – OSY 16,500 AF (1,254 AF)



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- 2015 – OSY 16,000 AF (1,216 AF)

The projected demand for the multiple-dry year is equivalent to the estimated normal-year demand as shown in Table 5.

Table 29 – Multiple Dry Year (2013-2015) Supply and Demand Comparison

		2020 (AFY)	2025 (AFY)	2030 (AFY)	2035 (AFY)
First Year (2013)	Supply Totals	7,918	7,918	7,918	7,918
	Demand Totals	6,979	7,242	7,515	7,797
	Difference	939	676	404	122
Second Year (2014)	Supply Totals	7,842	7,842	7,842	7,842
	Demand Totals	6,979	7,242	7,515	7,797
	Difference	863	600	328	46
Third Year (2015)	Supply Totals	7,804	7,804	7,804	7,804
	Demand Totals	6,979	7,242	7,515	7,797
	Difference	825	562	290	8



CHAPTER SEVEN – WATER SHORTAGE CONTINGENCY PLAN

7.1 Stages of Action

§10632 (a)(1) Stages of action to be undertaken by the urban water supplier in response to water supply shortages, including up to a 50 percent reduction in water supply, and an outline of specific water supply conditions which are applicable to each stage.

§10632 (a)(7) An analysis of the impacts of each of the actions and conditions described in paragraphs (1) to (6), inclusive, on the revenues and expenditures of the urban water supplier, and proposed measures to overcome those impacts, such as the development of reserves and rate adjustments.

The stages of action, including the reduction objective and level of participation, for La Verne’s water shortage and drought contingency planning are shown in Table 30.

Table 30 – Water Shortage and Drought Rationing Stages

Stage of Action	Reduction Objective	Participation
Phase I	10%	Voluntary
Phase II	5%	Mandatory
Phase III	10%	Mandatory
Phase IV	15%	Mandatory
Phase V	20%	Mandatory
Phase VI	25%	Mandatory
Phase VII	30%	Mandatory
Phase VIII	40%	Mandatory
Phase IX	50%	Mandatory

Phase I is entirely voluntary and as such there is no associated enforcement. All other phases include the implementation of conservation or drought pricing to be applied to the following service designation levels:

- ◆ Single-family Residential levels A through E
- ◆ Multi-family Residential levels A through C
- ◆ Irrigation and Other Accounts levels A through C
- ◆ All Remaining Accounts levels A through C



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The following tables delineate the thresholds for each level as they relate to Phases II through IX. A surcharge shall be levied for exceeding the established baseline allowance. That surcharge shall be established by the City Council for each level indicated above, as needed. For purposes of establishing the various levels, the base year is defined as “*the average amount of water delivered to each non-residential customer’s property during the corresponding bimonthly billing period during calendar years 2004-2006*” (§13.15.015(A) of the La Verne Municipal Code) provided that no customer shall be deemed to “*reduce their water consumption to an amount less than ten thousand gallons per bimonthly billing period*” (§13.15.025 of the La Verne Municipal Code).

Table 31 - Phase II Levels

Category	Level	Description of Level
Single-family Residential	A	0-37,000 gallons
	B	37,001-47,000 gallons
	C	47,001-67,000 gallons
	D	67,001-97,000 gallons
	E	97,001 gallons or greater
Multi-family Residential	A	≤95% of base year
	B	>95% of base year and <100% of base year
	C	≥100% of base year
Irrigation and Other Accounts	A	≤90% of base year
	B	>90% of base year and <100% of base year
	C	≥100% of base year
All Remaining Accounts	A	≤95% of base year
	B	>95% of base year and <100% of base year
	C	≥100% of base year

Table 32 - Phase III Levels

Category	Level	Description of Level
Single-family Residential	A	0-34,000 gallons
	B	34,001-44,000 gallons
	C	44,001-64,000 gallons
	D	64,001-94,000 gallons
	E	94,001 gallons or greater
Multi-family Residential	A	≤90% of base year
	B	>90% of base year and <100% of base year
	C	≥100% of base year
Irrigation and Other Accounts	A	≤80% of base year
	B	>80% of base year and <100% of base year
	C	≥100% of base year
All Remaining Accounts	A	≤90% of base year
	B	>90% of base year and <100% of base year
	C	≥100% of base year



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Table 33 - Phase IV Levels

Category	Level	Description of Level
Single-family Residential	A	0-31,000 gallons
	B	31,001-41,000 gallons
	C	41,001-61,000 gallons
	D	61,001-91,000 gallons
	E	91,001 gallons or greater
Multi-family Residential	A	≤85% of base year
	B	>85% of base year and <100% of base year
	C	≥100% of base year
Irrigation and Other Accounts	A	≤70% of base year
	B	>70% of base year and <100% of base year
	C	≥100% of base year
All Remaining Accounts	A	≤85% of base year
	B	>85% of base year and <100% of base year
	C	≥100% of base year

Table 34 - Phase V Levels

Category	Level	Description of Level
Single-family Residential	A	0-28,000 gallons
	B	28,001-38,000 gallons
	C	38,001-58,000 gallons
	D	58,001-88,000 gallons
	E	88,001 gallons or greater
Multi-family Residential	A	≤80% of base year
	B	>80% of base year and <100% of base year
	C	≥100% of base year
Irrigation and Other Accounts	A	≤60% of base year
	B	>60% of base year and <100% of base year
	C	≥100% of base year
All Remaining Accounts	A	≤80% of base year
	B	>80% of base year and <100% of base year
	C	≥100% of base year



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Table 35 - Phase VI Levels

Category	Level	Description of Level
Single-family Residential	A	0-25,000 gallons
	B	25,001-35,000 gallons
	C	35,001-55,000 gallons
	D	55,001-85,000 gallons
	E	85,001 gallons or greater
Multi-family Residential	A	≤75% of base year
	B	>75% of base year and <100% of base year
	C	≥100% of base year
Irrigation and Other Accounts	A	≤50% of base year
	B	>50% of base year and <100% of base year
	C	≥100% of base year
All Remaining Accounts	A	≤75% of base year
	B	>75% of base year and <100% of base year
	C	≥100% of base year

Table 36 - Phase VII Levels

Category	Level	Description of Level
Single-family Residential	A	0-22,000 gallons
	B	22,001-32,000 gallons
	C	32,001-52,000 gallons
	D	52,001-82,000 gallons
	E	82,001 gallons or greater
Multi-family Residential	A	≤70% of base year
	B	>70% of base year and <100% of base year
	C	≥100% of base year
Irrigation and Other Accounts	A	≤40% of base year
	B	>40% of base year and <100% of base year
	C	≥100% of base year
All Remaining Accounts	A	≤70% of base year
	B	>70% of base year and <100% of base year
	C	≥100% of base year



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Table 37 - Phase VIII Levels

Category	Level	Description of Level
Single-family Residential	A	0-18,000 gallons
	B	18,001-28,000 gallons
	C	28,001-48,000 gallons
	D	48,001-78,000 gallons
	E	78,001 gallons or greater
Multi-family Residential	A	≤60% of base year
	B	>60% of base year and <100% of base year
	C	≥100% of base year
Irrigation and Other Accounts	A	≤30% of base year
	B	>30% of base year and <100% of base year
	C	≥100% of base year
All Remaining Accounts	A	≤60% of base year
	B	>60% of base year and <100% of base year
	C	≥100% of base year

Table 38 - Phase IX Levels

Category	Level	Description of Level
Single-family Residential	A	0-16,000 gallons
	B	16,001-23,000 gallons
	C	23,001-43,000 gallons
	D	43,001-73,000 gallons
	E	73,001 gallons or greater
Multi-family Residential	A	≤50% of base year
	B	>50% of base year and <100% of base year
	C	≥100% of base year
Irrigation and Other Accounts	A	≤25% of base year
	B	>25% of base year and <100% of base year
	C	≥100% of base year
All Remaining Accounts	A	≤50% of base year
	B	>50% of base year and <100% of base year
	C	≥100% of base year



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7.2 Prohibitions on End Uses and Consumption Reduction Methods

§10632 (a)(4) Additional, mandatory prohibitions against specific water use practices during water shortages, including, but not limited to, prohibiting the use of potable water for street cleaning.

(5) Consumption reduction methods in the most restrictive stages. Each urban water supplier may use any type of consumption reduction methods in its water shortage contingency analysis that would reduce water use, are appropriate for its area, and have the ability to achieve a water use reduction consistent with up to a 50 percent reduction in water supply.

§10632 (b) Commencing with the urban water management plan update due July 1, 2016, for purposes of developing the water shortage contingency analysis pursuant to subdivision (a), the urban water supplier shall analyze and define water features that are artificially supplied with water, including ponds, lakes, waterfalls, and fountains, separately from swimming pools and spas, as defined in subdivision (a) of Section 115921 of the Health and Safety Code.

Consumptive reduction methods consist of voluntary measures encouraged under a Phase-I rationing stage.

7.2.1 Mandatory Prohibitions

Mandatory prohibitions under the various rationing stages are listed below:

Phase II

1. Hose washing of sidewalks, walkways, driveways, parking areas, or other paved surfaces shall be prohibited.
2. Washing of motor vehicles, trailers, boats, and other types of mobile equipment shall be done only with a hand-held water container or a hose equipped with a positive shut off nozzle for quick rinses, except that washing may be done on the immediate premises of a commercial car wash or with reclaimed water.
3. No water shall be used to clean, fill or maintain levels in decorative fountains, or other similar aesthetic structures unless such water is part of a recycling system.
4. No restaurant, hotel, café, cafeteria, or other public place where food is sold, served, or offered for sale, shall serve drinking water to any customer unless expressly requested.



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5. All leaks from indoor and outdoor plumbing fixtures shall be repaired within forty-eight hours of discovery or notification.
6. Watering of landscape or other turf area shall only be permitted between the hours of one hour before sunset and ten a.m. except that this provision shall not apply to commercial nurseries, golf courses, and other water dependent industries; except that there shall be no restriction on watering with reclaimed water, provided that signs are posted that identify reclaimed water is being used. The use of properly operating drip irrigation systems or hand held buckets shall be permitted at any time.
7. Water runoff from landscaped areas in adjoining streets, sidewalks, or other paved areas shall be prohibited.
8. Construction water for grading and other purposes shall be limited to ground produced water at the discretion of the City.
9. Installation of single-pass cooling systems shall be prohibited in buildings requesting new water service.
10. Installation of non-recirculating water systems shall be prohibited in new commercial conveyor car wash and new commercial laundry systems.
11. Food preparation establishments, such as restaurants or cafes, shall be prohibited from using non-water conserving dish wash spray valves.

Phase III

1. The same restrictions identified for Phase II apply.

Phase IV

1. The same restrictions identified for Phase II apply with the exception of irrigation restrictions (see below).
2. Watering of landscape or other turf area, including that of commercial nurseries, golf courses, and other water dependent industries shall only be permitted between the hours of one hour before sunset and ten a.m. for no more than five minutes per station or area, and not to exceed more than twenty minutes per week; except that there shall be no restriction on watering with reclaimed water, provided that signs are posted that identify reclaimed water is being used. The use of properly operating drip irrigation systems or hand held buckets shall be permitted at any time.



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Phase V

1. The same restrictions identified for Phase II apply with the exception of irrigation restrictions (see below).
2. Watering of landscape or other turf area, including that of commercial nurseries, golf courses, and other water dependent industries shall only be permitted between the hours of one hour before sunset and ten a.m. for no more than five minutes per station or area, and not to exceed more than twenty minutes per week; except that there shall be no restriction on watering with reclaimed water, provided that signs are posted that identify reclaimed water is being used. The use of properly operating drip irrigation systems or hand held buckets shall be permitted at any time.

Phase VI

1. The same restrictions identified for Phase II apply with the exception of irrigation restrictions (see below).
2. Watering of landscape or other turf area, including that of commercial nurseries, golf courses, and other water dependent industries shall only be permitted between the hours of one hour before sunset and ten a.m. for no more than five minutes per station or area, and not to exceed more than twenty minutes per week; except that there shall be no restriction on watering with reclaimed water, provided that signs are posted that identify reclaimed water is being used. The use of properly operating drip irrigation systems or hand held buckets shall be permitted at any time.

Phase VII

1. The same restrictions identified for Phase II apply with the exception of irrigation restrictions and pool and spa permitting (see below).
2. Watering of landscape or other turf area, including that of commercial nurseries, golf courses, and other water dependent industries shall only be permitted between the hours of one hour before sunset and ten a.m. for no more than five minutes per station or area, and not to exceed more than twenty minutes per week; except that there shall be no restriction on watering with reclaimed water, provided that signs are posted that identify reclaimed water is being used. The use of properly operating drip irrigation systems or hand held buckets shall be permitted at any time.
3. New swimming pool and spa permits shall be issued at the discretion of the public works director based upon the availability of water.



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Phase VIII

1. The same restrictions identified for Phase II apply with the exception of Item II-6, Item VIII-3 and Item VIII-4.
2. All outdoor irrigation is prohibited except for hand held watering or use of properly operating drip irrigation systems to water mature trees and mature shrubs. Commercial nurseries and other water dependent industries shall only water landscape stock by use of properly operating drip irrigation systems of hand held buckets. Watering of all outdoor turf areas is prohibited, excepting golf course greens.
3. Issuance of new swimming pool and spa permits shall be prohibited.
4. No new water service connections will be permitted nor will an increase in the size of an already existing water service connection be permitted, nor will there be any net increase in plumbing fixtures to an already existing water service connection.

7.3 Penalties, Charges, Other Enforcement of Prohibitions

§10632 (a)(6) Penalties or charges for excessive use, where applicable.

It is unlawful for any customer to fail to comply with the provisions of mandatory prohibitions. It is unlawful for customers in the categories of Multi-Family Residential, Irrigation and Other Accounts and All Remaining Accounts for Level C to consume water in excess of the base year. The City reserves the right to install a flow restricting device on the service line at the customer's expense for continued violation of mandatory prohibitions or for excess consumption for two consecutive billing periods. Further, such prohibited uses and restrictions shall not be applicable to the maintenance of active parks as designated by the director of public works and other routinely used athletic fields. However, to the extent possible, such facilities shall be irrigated in accordance with the provisions of the chapter.

7.4 Consumption Reduction Methods

§10632 (a)(5) Consumption reduction methods in the most restrictive stages. Each urban water supplier may use any type of consumption reduction methods in its water shortage contingency analysis that would reduce water use, are appropriate for its area, and have the ability to achieve a water use reduction consistent with up to a 50 percent reduction in water supply.

Consumption reduction methods consist of voluntary measures encouraged under a Phase I Rationing Stage.



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7.5 Determining Water Shortage Reductions

§10632 (a)(9) A mechanism for determining actual reductions in water use pursuant to the urban water shortage contingency analysis.

The City of La Verne’s water distribution system is highly automated and production data is reviewed daily. The global impact of imposed mandatory restrictions will be evident as a result of this routine overview of system performance.

7.6 Resolution or Ordinance

§10632 (a)(8) A draft water shortage contingency resolution or ordinance.

The City of La Verne adopted Urgency Ordinance No.1046 on August 4th, 2014 (Appendix B) which amended Section 13.15.015A to define the “base year” water use period. The City of La Verne has also adopted Ordinance No.1057 on June 1st, 2015 as shown in Appendix C.

7.7 Catastrophic Supply Interruption

§10632 (a)(3) Actions to be undertaken by the urban water supplier to prepare for, and implement during, a catastrophic interruption of water supplies including, but not limited to, a regional power outage, an earthquake, or other disaster.

In the event of a catastrophic supply interruption, the City of La Verne will require immediate communication with its customers to conserve supply. As of today, the City of La Verne is able to withstand a 3-day shutdown and likely a 7-day shutdown with solid conservation.

The actions the City of La Verne would take if such interruption would happen would be to first, halt all of its outdoor irrigation. If further action is required, the City of La Verne also has access to other imported supply connections. If these connections are unaffected by the event, water suppliers could temporarily be obtained. If these connections were affected by the catastrophic supply interruption, the city could turn to its wells for additional supply. The city also maintains a contact list of nearby water suppliers and bottlers.

7.7.1 Interruptions Due to Power Outage or Earthquakes

Because the City is dependent on imported water supplies, they are vulnerable to a break or disruption in the imported supply system. If this occurred, the City of La Verne would have to resort to storage within its system and TVMWD’s Miramar Treatment Plant until the supply is restored.



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7.7.2 Emergency Response Plan

The City of La Verne has a Water System Emergency Response and Standard Operating Procedure Plan that was most recently updated in May 2016. It is provided in Appendix G.

7.8 Minimum Supply Next Three Years

§10632 (a)(2) An estimate of the minimum water supply available during each of the next three water years based on the driest three-year historic sequence for the agency's water supply.

Table 39 provides a summary of La Verne's capacity to withstand an immediate multiple dry year condition based on historical conditions from 1999 to 2001.

Multiple dry year supply assumes the following:

- ◆ Implementation of TVMWD's Water Supply Allocation Plan (WSAP) Shortage Level 3 (5,154 AF)
- ◆ Typical production from the Ganesha and Live Oak Basins (1,434 AF)
- ◆ Adjudicated rights of the Pomona Basin - 7.601% of the OSY in 2013 through 2015
 - 2013 – OSY 17,500 AF (1,330 AF)
 - 2014 – OSY 16,500 AF (1,254 AF)
 - 2015 – OSY 16,000 AF (1,216 AF)

The projected demand for the multiple-dry year is equivalent to the estimated normal-year demand as shown in Table 29.

Table 39 – Minimum Supply for the Next Three Years

	2016 (AFY)	2017 (AFY)	2018 (AFY)
Supply Totals	7,918	7,842	7,804
Demand Totals	6,808	6,850	6,893
Difference	1,111	992	911



CHAPTER EIGHT – DEMAND MANAGEMENT MEASURES

8.1 General Information

§10631(f)(1)(A) and (B) Provide a description of the supplier’s water demand management measures. This description shall include all of the following: For an urban retail water supplier, as defined in Section 10608.12, a narrative description that addresses the nature and extent of each water demand management measure implemented over the past five years. The narrative shall describe the water demand management measures that the supplier plans to implement to achieve its water use targets pursuant to Section 10608.20 The narrative pursuant to this paragraph shall include descriptions of the following water demand management measures:

- (i) Water waste prevention ordinances.*
- (ii) Metering.*
- (iii) Conservation pricing.*
- (iv) Public education and outreach.*
- (v) Programs to assess and manage distribution system real loss.*
- (vi) Water conservation program coordination and staffing support.*
- (vii) Other demand management measures that have a significant impact on water use as measured in gallons per capita per day, including innovative measures, if implemented.*

The City of La Verne recognizes that water conservation and demand management measures are important for the reliability of water sources. The City has made continued efforts to address and comply with all DMM. The DMM’s implemented by the city are described below.

Demand Management Measures (DMMs) have been implemented at the local and wholesale level in accordance with the California Urban Water Conservation Council (CUWCC). La Verne is an original signatory to CUWCC’s Memorandum of Understanding Regarding Urban Water Conservation Best Management Practices (MOU) and reports annually its progress toward the reasonable implementation of water conservation Best Management Practices (BMP). The following sections provide detail on implementation and effectiveness of each DMM.

8.2 Water Waste Prevention Ordinances

In July 2010, the District passed Ordinance No. 1046 – Water Conservation Use and Restrictions” (Appendix B) creating rules, regulations and setting penalties that encourage efficient water use practices.



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8.3 Metering

§526 (a) Notwithstanding any other provisions of law, an urban water supplier that, on or after January 1, 2004, receives water from the federal Central Valley Project under a water service contract or subcontract... shall do both of the following:

(1) On or before January 1, 2013, install water meters on all service connections to residential and nonagricultural commercial buildings... located within its service area.

§527 (a) An urban water supplier that is not subject to Section 526 shall do both the following:

(1) Install water meters on all municipal and industrial service connections located within its service area on or before January 1, 2025.

The City is fully metered for all customer sectors. There are no unmetered services within the customer base.

8.4 Conservation Pricing

The City of La Verne implements an increasing block pricing structure for all water connections. The price per unit is constant; therefore, the greater the consumption, the greater the cost to the customer. Sewer fees are charged at a flat rate for residential customers. Commercial/Industrial customers are charged a rate that is based on a percentage of water consumption.

8.5 Public Education and Outreach

Public Education

The City works in coordination with MWD, TVMWD, Southern California Edison and Southern California Gas Company to develop and disseminate public outreach information. There are several informational outreach strategies that are provided to the public by the City. Information on efficient water use is posted on the City's website, broadcast on local cable access channel, published in newsletters, and distributed directly in customer water bills.

School Education

La Verne has been actively involved with providing water education programs in local schools. The City is involved in the Water Education Water Awareness Committee (WEWAC), which provides several water related educational opportunities. WEWAC



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programs include Edu Grant, a Media Contest, WEWAC Water Scholar Program and Project Wet.

Edu Grant is an opportunity for teachers to obtain funds to be used in the classroom for water education. The Media Contest asks junior high and high school students to develop a broadcast media or digital art piece relating to water conservation. The Water Scholar Program requests students write an essay describing the importance of a clean water supply from their perspective. Project Wet is a workshop that educates teachers on how to teach students about water efficiency.

The City contributes to such water educational organizations through the Water Education Foundation, whose mission is to create a better understanding of water issues and help resolve water resource problems through educational programs.

8.6 Programs to Assess and Manage Distribution System Losses

Each year there is a review of water purchases and production versus the sale of water to measure total water losses. The City has divided the service area into three sectors and performs a water audit for each sector in successive years; therefore, a comprehensive system-wide water audit is completed every three years.

There are programs in place for the inspection, repair and replacement of aging distribution and supply infrastructure as well as the inspection, calibration and replacement of service meters including the installation of Automatic Meter Reading devices. The City continually monitors meter telemetry for anomalies, which may be caused by a sudden change in water use behavior, unauthorized use, an inaccurate meter or a leak. Any identified leaks are immediately repaired.

The City has hired a contractor to perform leak detection and water loss audits. Results have been very effective in reducing water losses.

8.7 Water Conservation Programs

In collaboration with TVMWD and MWD, the City has worked to improve water use efficiency in residential and commercial areas. The recent efforts have included distribution of equipment such as pre-rinse spray nozzles, efficient toilets and urinals, cooling tower conductivity controllers, rain barrels, high-efficiency clothes washers, and waterrooms.

Turf Removal Program

Over the past few years, the City of La Verne, partnering with Three Valleys Municipal Water District and Metropolitan Water District, have issued rebates for several local turf removal projects.



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Landscape Training

The City of La Verne offers a free waterwise gardening class to learn how to use rainwater as a resource and manage irrigation in backyards.

8.8 Members of the California Urban Water Conservation Council (CUWCC)

§10631 (i) For purposes of this part, urban water suppliers that are members of the California Urban Water Conservation Council shall be deemed in compliance with the requirements of subdivision (f) by complying with all the provisions of the “Memorandum of Understanding Regarding Urban Water Conservation in California,” dated December 10, 2008, as it may be amended, and by submitting the annual reports required by Section 6.2 of that memorandum.

The City of La Verne is currently an active member of the CUWCC.



CHAPTER NINE – PLAN ADOPTION, SUBMITTAL, AND IMPLEMENTATION

9.1 Notice of Public Hearing

Water agencies must hold a public hearing prior to adopting the 2015 UWMP.

§10621 (b) “Every urban water supplier required to prepare a plan shall... at least 60 days prior to the public hearing on the plan ... notify any city or county within which the supplier provides waters supplies that the urban water supplier will be reviewing the plan and considering amendments or changes to the plan.”

§10642 “...The urban water supplier shall provide notice of the time and place of hearing to any city or county within which the supplier provides water supplies. A privately owned water supplier shall provide an equivalent notice within its service area....Prior to adopting a plan, the urban water supplier shall make the plan available for public inspection...Prior to the hearing, notice of the time and place of hearing shall be published within the jurisdiction of the publicly owned water supplier pursuant to Section 6066 of the Government Code...”

The Public hearing notification letters were sent out during the of 2016. The public hearing for the 2015 UWMP was held on **June, 6, 2016**, and final comments were updated prior to the adoption of the 2015.

9.2 Public Hearing and Adoption

According to the Guidebook, water agencies shall include the adoption resolution within the UWMP.

§10642 ...Prior to adopting a plan, the urban water supplier shall hold a public hearing thereon...After the hearing, the plan shall be adopted as prepared or as modified after the hearing.

§10608.26 (a) In complying with this part, an urban retail water supplier shall conduct at least one public hearing to accomplish all of the following:

(1) Allow community input regarding the urban retail water supplier’s implementation plan for complying with this part.

(2) Consider the economic impacts of the urban retail water supplier’s implementation plan for complying with this part.



CHAPTER NINE - PLAN ADOPTION, SUBMITTAL, AND IMPLEMENTATION

CITY OF LA VERNE

(3) Adopt a method, pursuant to subdivision (b) of Section 10608.20 for determining its urban water use target.

Immediately following the public hearing, this UWMP was adopted by the City of La Verne on **June 6**, 2016 as part of Resolution #XX (see Appendix K).

9.3 Plan Submittal

§10621 (d) “An urban water supplier shall update and submit its 2015 plan to the department by July 1, 2016.”

§10644 (a)(1) An urban water supplier shall submit to the department, the California State Library, and any city or county within which the supplier provides water supplies a copy of its plan no later than 30 days after adoption.

§10635 (b) “The urban water supplier shall provide that portion of its urban water management plan prepared pursuant to this article to any city or county within which it provides water supplies no later than 60 days after the submission of its urban water management plan.”

This 2015 UWMP was submitted on *(include date with month, date)*, 2016 to:

- ◆ California Department of Water Resources
- ◆ California State Library
- ◆ Los Angeles County
- ◆ City of La Verne
- ◆ City of Claremont
- ◆ City of San Dimas
- ◆ Metropolitan Water District
- ◆ Three Valleys Metropolitan Water District
- ◆ Golden State Water Company
- ◆ Los Angeles County Sanitation Districts



CHAPTER NINE - PLAN ADOPTION, SUBMITTAL, AND IMPLEMENTATION

CITY OF LA VERNE

9.3.1 Electronic Data Submittal to California DWR

The online submittal tool, *WUEdata*, was used to submit the UWMP electronically. *WUEdata* is the online submittal tool developed by the Department of Water Resources (DWR). Once the DWR has completed the plan review, it will issue a letter to the agency stating the results of the review.

9.3.2 Hard Copy Data Submittal to California State Library

No later than 30 days after the adoption of the UWMP, the City of La Verne will submit a CD or hardcopy of the adopted 2015 UWMP to the California State Library.

9.3.3 Submittal to Cities and Counties

The City of La Verne submitted a CD or hardcopy of the adopted UWMP to the Los Angeles County.

9.4 Public Availability of the 2015 UWMP

§10645 “Not later than 30 days after filing a copy of its plan with the department, the urban water supplier and the department shall make the plan available for public review during normal business hours.”

The 2015 UWMP for the City of La Verne will be available for the public at



REFERENCES

*California Department of Water Resources (November 2015)
2015 Urban Water Management Plans Guidebook for Urban Water Suppliers*

*California Department of Water Resources (January 2016)
DWR Population Tool*

*California Department of Water Resources (February 2011)
Methodologies for Calculating Baseline and Compliance Urban Per Capita Water Use*

*California Department of Water Resources (November 2010)
California Drought Contingency Plan*

*California Department of Water Resources (February 2010)
20x2020 Water Conservation Plan*

*California Department of Water Resources (2008)
Urban Drought Guidebook 2008 Updated Edition*

Southern California Water Company v. City of La Verne, City of Claremont, City of Pomona, City of Upland, Pomona College, Pomona Valley Protective Association, San Antonio Water Company, Three Valleys Municipal Water District, West End Consolidated Water Company, and DOES 1 through 1,000, Inclusive, 1998 Six Basins Judgment, Filed in 1998, Case No. KC029152

*Three Valley Municipal Water District UWMP (2010)
Urban Water Management Plan Year 2010*

California Urban Water Management Planning Act (2010)

http://www.water.ca.gov/urbanwatermanagement/docs/water_code-10610-10656.pdf

California Irrigation Management Information System (CIMIS) Reference
Evapotranspiration

http://www.cimis.water.ca.gov/App_Themes/images/etozonemap.jpg

American Community Survey (ACS)

<https://www.census.gov/programs-surveys/acs/>



Appendix A

2015 UWMP Guidebook Checklist

Checklist Arranged by Subject

CWC Section	UWMP Requirement	Subject	Guidebook Location	UWMP Location <i>(Optional Column for Agency Use)</i>
10620(b)	Every person that becomes an urban water supplier shall adopt an urban water management plan within one year after it has become an urban water supplier.	Plan Preparation	Section 2.1	1.1
10620(d)(2)	Coordinate the preparation of its plan with other appropriate agencies in the area, including other water suppliers that share a common source, water management agencies, and relevant public agencies, to the extent practicable.	Plan Preparation	Section 2.5.2	1.4
10642	Provide supporting documentation that the water supplier has encouraged active involvement of diverse social, cultural, and economic elements of the population within the service area prior to and during the preparation of the plan.	Plan Preparation	Section 2.5.2	1.4
10631(a)	Describe the water supplier service area.	System Description	Section 3.1	2.1
10631(a)	Describe the climate of the service area of the supplier.	System Description	Section 3.3	2.2
10631(a)	Provide population projections for 2020, 2025, 2030, and 2035.	System Description	Section 3.4	2.3
10631(a)	Describe other demographic factors affecting the supplier's water management planning.	System Description	Section 3.4	2.3.1
10631(a)	Indicate the current population of the service area.	System Description and Baselines and Targets	Sections 3.4 and 5.4	2.3.2
10631(e)(1)	Quantify past, current, and projected water use, identifying the uses among water use sectors.	System Water Use	Section 4.2	3.2, 3.4
10631(e)(3)(A)	Report the distribution system water loss for the most recent 12-month period available.	System Water Use	Section 4.3	3.4
10631.1(a)	Include projected water use needed for lower income housing projected in the service area of the supplier.	System Water Use	Section 4.5	3.6
10608.20(b)	Retail suppliers shall adopt a 2020 water use target using one of four methods.	Baselines and Targets	Section 5.7 and App E	-
10608.20(e)	Retail suppliers shall provide baseline daily per capita water use, urban water use target, interim urban water use target, and	Baselines and Targets	Chapter 5 and App E	4.2, 4.3, 4.6, 4.7

	compliance daily per capita water use, along with the bases for determining those estimates, including references to supporting data.			
10608.22	Retail suppliers' per capita daily water use reduction shall be no less than 5 percent of base daily per capita water use of the 5 year baseline. This does not apply if the suppliers base GPCD is at or below 100.	Baselines and Targets	Section 5.7.2	4.6.1
10608.24(a)	Retail suppliers shall meet their interim target by December 31, 2015.	Baselines and Targets	Section 5.8 and App E	4.7
10608.24(d)(2)	If the retail supplier adjusts its compliance GPCD using weather normalization, economic adjustment, or extraordinary events, it shall provide the basis for, and data supporting the adjustment.	Baselines and Targets	Section 5.8.2	-
10608.36	Wholesale suppliers shall include an assessment of present and proposed future measures, programs, and policies to help their retail water suppliers achieve targeted water use reductions.	Baselines and Targets	Section 5.1	N/A
10608.40	Retail suppliers shall report on their progress in meeting their water use targets. The data shall be reported using a standardized form.	Baselines and Targets	Section 5.8 and App E	-
10631(b)	Identify and quantify the existing and planned sources of water available for 2015, 2020, 2025, 2030, and 2035.	System Supplies	Chapter 6	5.2
10631(b)	Indicate whether groundwater is an existing or planned source of water available to the supplier.	System Supplies	Section 6.2	5.4
10631(b)(1)	Indicate whether a groundwater management plan has been adopted by the water supplier or if there is any other specific authorization for groundwater management. Include a copy of the plan or authorization.	System Supplies	Section 6.2.2	5.4
10631(b)(2)	Describe the groundwater basin.	System Supplies	Section 6.2.1	5.4
10631(b)(2)	Indicate if the basin has been adjudicated and include a copy of the court order or decree and a description of the amount of water the supplier has the legal right to pump.	System Supplies	Section 6.2.2	5.4
10631(b)(2)	For unadjudicated basins, indicate whether or not the department has identified the basin as overdrafted, or projected to become overdrafted. Describe efforts by the supplier to eliminate the long-term overdraft condition.	System Supplies	Section 6.2.3	5.4
10631(b)(3)	Provide a detailed description and analysis of the location, amount, and sufficiency of	System Supplies	Section 6.2.4	5.4

	groundwater pumped by the urban water supplier for the past five years			
10631(b)(4)	Provide a detailed description and analysis of the amount and location of groundwater that is projected to be pumped.	System Supplies	Sections 6.2 and 6.9	5.11
10631(d)	Describe the opportunities for exchanges or transfers of water on a short-term or long-term basis.	System Supplies	Section 6.7	5.9
10631(g)	Describe the expected future water supply projects and programs that may be undertaken by the water supplier to address water supply reliability in average, single-dry, and multiple-dry years.	System Supplies	Section 6.8	5.10
10631(h)	Describe desalinated water project opportunities for long-term supply.	System Supplies	Section 6.6	5.8
10631(j)	Retail suppliers will include documentation that they have provided their wholesale supplier(s) – if any - with water use projections from that source.	System Supplies	Section 2.5.1	1.4
10631(j)	Wholesale suppliers will include documentation that they have provided their urban water suppliers with identification and quantification of the existing and planned sources of water available from the wholesale to the urban supplier during various water year types.	System Supplies	Section 2.5.1	N/A
10633	For wastewater and recycled water, coordinate with local water, wastewater, groundwater, and planning agencies that operate within the supplier's service area.	System Supplies (Recycled Water)	Section 6.5.1	5.7
10633(a)	Describe the wastewater collection and treatment systems in the supplier's service area. Include quantification of the amount of wastewater collected and treated and the methods of wastewater disposal.	System Supplies (Recycled Water)	Section 6.5.2	5.7
10633(b)	Describe the quantity of treated wastewater that meets recycled water standards, is being discharged, and is otherwise available for use in a recycled water project.	System Supplies (Recycled Water)	Section 6.5.2.2	5.7
10633(c)	Describe the recycled water currently being used in the supplier's service area.	System Supplies (Recycled Water)	Section 6.5.3 and 6.5.4	5.7
10633(d)	Describe and quantify the potential uses of recycled water and provide a determination of the technical and economic feasibility of those uses.	System Supplies (Recycled Water)	Section 6.5.4	5.7
10633(e)	Describe the projected use of recycled water within the supplier's service area at the end of 5, 10, 15, and 20 years, and a description	System Supplies (Recycled Water)	Section 6.5.4	5.7

	of the actual use of recycled water in comparison to uses previously projected.			
10633(f)	Describe the actions which may be taken to encourage the use of recycled water and the projected results of these actions in terms of acre-feet of recycled water used per year.	System Supplies (Recycled Water)	Section 6.5.5	5.7
10633(g)	Provide a plan for optimizing the use of recycled water in the supplier's service area.	System Supplies (Recycled Water)	Section 6.5.5	5.7
10620(f)	Describe water management tools and options to maximize resources and minimize the need to import water from other regions.	Water Supply Reliability Assessment	Section 7.4	6.5
10631(c)(1)	Describe the reliability of the water supply and vulnerability to seasonal or climatic shortage.	Water Supply Reliability Assessment	Section 7.1	6.3
10631(c)(1)	Provide data for an average water year, a single dry water year, and multiple dry water years	Water Supply Reliability Assessment	Section 7.2	6.3
10631(c)(2)	For any water source that may not be available at a consistent level of use, describe plans to supplement or replace that source.	Water Supply Reliability Assessment	Section 7.1	6.1
10634	Provide information on the quality of existing sources of water available to the supplier and the manner in which water quality affects water management strategies and supply reliability	Water Supply Reliability Assessment	Section 7.1	6.1
10635(a)	Assess the water supply reliability during normal, dry, and multiple dry water years by comparing the total water supply sources available to the water supplier with the total projected water use over the next 20 years.	Water Supply Reliability Assessment	Section 7.3	6.4
10632(a) and 10632(a)(1)	Provide an urban water shortage contingency analysis that specifies stages of action and an outline of specific water supply conditions at each stage.	Water Shortage Contingency Planning	Section 8.1	7.1
10632(a)(2)	Provide an estimate of the minimum water supply available during each of the next three water years based on the driest three-year historic sequence for the agency.	Water Shortage Contingency Planning	Section 8.9	7.8
10632(a)(3)	Identify actions to be undertaken by the urban water supplier in case of a catastrophic interruption of water supplies.	Water Shortage Contingency Planning	Section 8.8	7.7
10632(a)(4)	Identify mandatory prohibitions against specific water use practices during water shortages.	Water Shortage Contingency Planning	Section 8.2	7.2
10632(a)(5)	Specify consumption reduction methods in the most restrictive stages.	Water Shortage Contingency Planning	Section 8.4	7.2, 7.4

10632(a)(6)	Indicated penalties or charges for excessive use, where applicable.	Water Shortage Contingency Planning	Section 8.3	7.3
10632(a)(7)	Provide an analysis of the impacts of each of the actions and conditions in the water shortage contingency analysis on the revenues and expenditures of the urban water supplier, and proposed measures to overcome those impacts.	Water Shortage Contingency Planning	Section 8.6	7.1
10632(a)(8)	Provide a draft water shortage contingency resolution or ordinance.	Water Shortage Contingency Planning	Section 8.7	7.6
10632(a)(9)	Indicate a mechanism for determining actual reductions in water use pursuant to the water shortage contingency analysis.	Water Shortage Contingency Planning	Section 8.5	7.5
10631(f)(1)	Retail suppliers shall provide a description of the nature and extent of each demand management measure implemented over the past five years. The description will address specific measures listed in code.	Demand Management Measures	Sections 9.2 and 9.3	8.1, 8.4, 8.5
10631(f)(2)	Wholesale suppliers shall describe specific demand management measures listed in code, their distribution system asset management program, and supplier assistance program.	Demand Management Measures	Sections 9.1 and 9.3	N/A
10631(i)	CUWCC members may submit their 2013-2014 CUWCC BMP annual reports in lieu of, or in addition to, describing the DMM implementation in their UWMPs. This option is only allowable if the supplier has been found to be in full compliance with the CUWCC MOU.	Demand Management Measures	Section 9.5	8.6
10608.26(a)	Retail suppliers shall conduct a public hearing to discuss adoption, implementation, and economic impact of water use targets.	Plan Adoption, Submittal, and Implementation	Section 10.3	9.2
10621(b)	Notify, at least 60 days prior to the public hearing, any city or county within which the supplier provides water that the urban water supplier will be reviewing the plan and considering amendments or changes to the plan.	Plan Adoption, Submittal, and Implementation	Section 10.2.1	9.1
10621(d)	Each urban water supplier shall update and submit its 2015 plan to the department by July 1, 2016.	Plan Adoption, Submittal, and Implementation	Sections 10.3.1 and 10.4	1.1, 9.3
10635(b)	Provide supporting documentation that Water Shortage Contingency Plan has been, or will be, provided to any city or county within which it provides water, no later than 60 days after the submission of the plan to DWR.	Plan Adoption, Submittal, and Implementation	Section 10.4.4	9.3

10642	Provide supporting documentation that the urban water supplier made the plan available for public inspection, published notice of the public hearing, and held a public hearing about the plan.	Plan Adoption, Submittal, and Implementation	Sections 10.2.2, 10.3, and 10.5	9.2
10642	The water supplier is to provide the time and place of the hearing to any city or county within which the supplier provides water.	Plan Adoption, Submittal, and Implementation	Sections 10.2.1	9.1
10642	Provide supporting documentation that the plan has been adopted as prepared or modified.	Plan Adoption, Submittal, and Implementation	Section 10.3.1	-
10644(a)	Provide supporting documentation that the urban water supplier has submitted this UWMP to the California State Library.	Plan Adoption, Submittal, and Implementation	Section 10.4.3	9.3
10644(a)(1)	Provide supporting documentation that the urban water supplier has submitted this UWMP to any city or county within which the supplier provides water no later than 30 days after adoption.	Plan Adoption, Submittal, and Implementation	Section 10.4.4	9.3
10644(a)(2)	The plan, or amendments to the plan, submitted to the department shall be submitted electronically.	Plan Adoption, Submittal, and Implementation	Sections 10.4.1 and 10.4.2	4.3
10645	Provide supporting documentation that, not later than 30 days after filing a copy of its plan with the department, the supplier has or will make the plan available for public review during normal business hours.	Plan Adoption, Submittal, and Implementation	Section 10.5	9.4



Appendix B

La Verne Ordinance No.1046

ORDINANCE NO. 1046

1 AN URGENCY ORDINANCE OF THE CITY COUNCIL OF THE CITY OF LA VERNE,
2 COUNTY OF LOS ANGELES, STATE OF CALIFORNIA AMENDING CHAPTER 13.15
3 OF THE LA VERNE MUNICIPAL CODE RELATIVE WATER CONSERVATION, USE
4 AND RESTRICTIONS

5 **WHEREAS**, the State of California has endured three years of drought resulting
6 in two of the driest years on record; and

7 **WHEREAS**, on January 17, 2014, the Governor of the State of California
8 proclaimed a State of Emergency due to the ongoing drought conditions and requested
9 all Californians conserve water; and

10 **WHEREAS**, the State Water Resources Control Board adopted emergency
11 regulations restricting certain outdoor water uses and requiring local water agencies to
12 implement their respective water shortage contingency plans; and

13 **WHEREAS**, the City of La Verne's water shortage contingency plan is found in
14 Chapter 13.15 of the La Verne Municipal Code, also known as the Water Conservation
15 Ordinance; and

16 **WHEREAS**, an update to the definition of the "Base Year" within the Water
17 Conservation Ordinance is necessary to effectively measure conservation efforts and
18 impose water use restrictions on the City's customers;

19 **NOW, THEREFORE**, the La Verne City Council **HEREBY ORDAINS** as follows:

20 **Section 1.** The following Section of Chapter 13.15 of the La Verne Municipal
21 Code entitled "Water Conservation, Use and Restrictions" is **HEREBY AMENDED** to
22 read as follows:

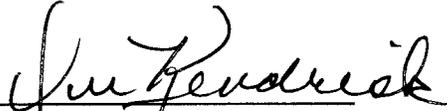
23 **Section 13.15.015**

24 A. "Base year" means the average amount of water delivered to each
25 nonresidential customer's property during the corresponding bimonthly
26 billing period during a specified period as established from time to time
27 by resolution of the City Council. A baseline for residential customers is
28 set forth in Section 13.15.030.

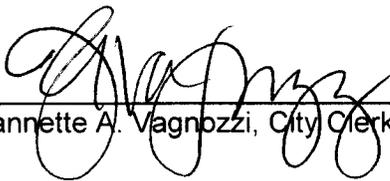
29 **Section 2.** The City Council **HEREBY FINDS** and **DETERMINES** that
California's continuing drought and the limited supply of water represent an immediate
threat to the public health, safety or welfare, and as a result, that there is urgent
necessity to take legislative action through exercise of its police powers to protect the
public peace, health, safety and welfare of this City. The City Council adopts the recitals
set forth above as legislative findings of the threat to the public health, safety or welfare.

1 **Section 3.** The Mayor shall sign and the City Clerk shall certify to the passage
and adoption of this Ordinance and thereupon the same shall take effect and be in full
force immediately.

2 **PASSED, APPROVED AND ADOPTED** this 6th day of July, 2010.

3
4 
5 _____
Mayor Don Kendrick

6 ATTEST:

7
8 
9 _____
Jeannette A. Vagnozzi, City Clerk

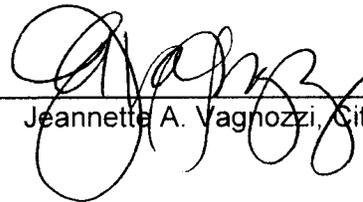
10 The foregoing **Urgency Ordinance No. 1046** was introduced at a regular
11 meeting of said Council duly held on 4th day of August and duly passed and adopted by
12 the said City Council and thereupon duly signed by the Mayor of said City, attested by
the City Clerk of said City, and passed and adopted by the following vote:

13 AYES: Council Members: Ingels, Rosales, Carder, Redman, and
Mayor Kendrick.

14 NOES: Council Members: None.

15 ABSENT: Council Members: None

16 ABSTAIN: Council Members: None.

17
18 
19 _____
Jeannette A. Vagnozzi, City Clerk

Agenda Report

CITY OF LA VERNE
Public Works Department

**APPROVED BY CITY COUNCIL
AT ITS MEETING OF:
DATE: August 4, 2014**

DATE: August 4, 2014
TO: Honorable Mayor and City Council
FROM: Daniel W. Keesey, Public Works Director 
SUBJECT: Drought Response Actions

AGENDA SUMMARY

On January 17, 2014, Governor Brown issued a proclamation declaring a State of Emergency to exist in California in response to ongoing drought conditions throughout the state. The Governor requested that all Californians voluntarily reduce their water demands by 20 percent and directed state officials to take all actions necessary to manage the state's ongoing drought conditions. Subsequently, the State Water Resources Control Board (SWRCB) adopted emergency regulations on July 15, 2014, that prohibit certain outdoor water uses and require urban water agencies to implement mandatory outdoor water use restrictions. The emergency regulations are expected to take effect August 1, 2014 and remain in place for 270 days.

RECOMMENDATION

Staff recommends that the City Council take the following actions:

1. Adopt Resolution No. 14-56 implementing Phase V water use restrictions found in the City's Water Conservation Ordinance and suspending the California Drought Surcharge, as specified in the City's existing Water Fee Resolution No. 13-65, until such time that the City is subjected to penalties and/or it is necessary to advance conservation efforts further.
2. Adopt Urgency Ordinance No. 1046, amending Section 13.15.015.A of the La Verne Municipal Code relative to the definition of "Base Year" water use period and waive further reading.
3. Approve Resolution No. 14-57 defining the "Base Year" water use period.

These actions are not considered to be projects under the California Environmental Quality Act; therefore no environmental review is required.

BACKGROUND

Water supplies throughout the state have been significantly depleted as California nears its fourth consecutive year of the drought. Calendar year 2013 was in fact the driest on record and 2014 is keeping pace with little precipitation. In response to this concern, Governor Brown proclaimed a State of Emergency on January 17, 2014, to stretch the state's available water

resources. The Governor's proclamation also requested that all Californians voluntarily reduce their water demands by 20%. The Governor later issued an executive order on April 25, 2014 strengthening the state's ability to manage water after having achieved only limited conservation statewide. The SWRCB also reacted by adopting emergency regulations on July 15, 2014 requiring urban water agencies to implement mandatory outdoor water use restrictions under their water shortage contingency plans.

Specifically, the emergency regulations prohibit the following:

- The direct application of potable water to driveways and sidewalks.
- Watering of outdoor landscapes that cause runoff to adjacent property, non-irrigated areas, private and public walkways, roadways, parking lots or structures.
- Using a hose to wash a vehicle, unless the hose is fitted with a shut-off nozzle.
- Using potable water in a fountain or decorative water feature, unless the water is recirculated.

Under the SWRCB's regulations, any violation of the above is an infraction and punishable by a fine of up to five hundred dollars (\$500) for each day in which the violation occurs. The regulations also include mandatory actions to be taken by the water supplier. The SWRCB has indicated that it will initiate enforcement actions against water agencies that don't comply with the new regulations, which carries a \$10,000 per day penalty. The SWRCB's emergency regulations are outlined in Attachment "B".

City of La Verne Response

The City of La Verne's water shortage contingency plan is found in Chapter 13.15 of the La Verne Municipal Code, otherwise known as the "Water Conservation, Use and Restrictions" Ordinance. This Chapter includes the necessary framework to achieve compliance with the SWRCB's regulations.

In order to comply with the SWRCB's order, the City Council must impose a specific phase of the Water Conservation Ordinance. The ordinance includes nine conservation phases that include increasingly stringent conservation goals and restrictions. The lowest level is Phase I, which suggests a voluntary 10% reduction in water use, but levies no restrictions on water use. The City is currently in Phase I, adopted by the City Council in February following the Governor's emergency proclamation.

Implementation of Phase V of the ordinance, which is designed to achieve a 20% reduction in overall water use, would satisfy the requirements of the SWRCB's regulations. The mandatory restrictions on water use under this phase include:

1. Hose washing of sidewalks, walkways, driveways, parking areas, or other paved surfaces shall be prohibited.
2. Washing of motor vehicles, trailers, boats, and other types of mobile equipment shall be done only with a hand-held water container or a hose equipped with a positive shut off nozzle for quick rinses, except that washing may be done on the immediate premises of a commercial car wash or with reclaimed water.
3. No water shall be used to clean, fill or maintain levels in decorative fountains, or other similar aesthetic structures unless such water is part of a recycling system.

4. No restaurant, hotel, cafe, cafeteria, or other public place where food is sold, served, or offered for sale, shall serve drinking water to any customer unless expressly requested.
5. All leaks from indoor and outdoor plumbing fixtures shall be repaired within forty-eight hours of discovery or notification.
6. Watering of landscape or other turf area, including that of commercial nurseries, golf courses, and other water dependent industries shall only be permitted between the hours of one hour before sunset and ten a.m. for no more than five minutes per station or area, and not to exceed more than twenty minutes per week; except that there shall be no restriction on watering with reclaimed water, providing that signs are posted that identify reclaimed water is being used. The use of properly operating drip irrigation systems or hand held buckets shall be permitted at any time.
7. Water runoff from landscaped areas into adjoining streets, sidewalks, or other paved areas shall be prohibited.
8. Construction water for grading and other purposes shall be limited to ground produced water at the discretion of the city.
9. Installation of single pass cooling systems shall be prohibited in buildings requesting new water service.
10. Installation of non-recirculating water systems shall be prohibited in new commercial conveyor car wash and new commercial laundry systems.
11. Food preparation establishments, such as restaurants or cafes, shall be prohibited from using non-water conserving dish wash spray valves.

The other key component of the Water Conservation Ordinance is the California Drought Surcharge. The surcharge is assessed upon those customers who exceed their baseline allowances during a billing period. The surcharge serves as a financial disincentive to use water and provides funding for conservation programs and potential penalties levied against the City by its suppliers. Staff suggests that the surcharge be temporarily suspended as permitted in Section 13.15.060 until such time it is deemed necessary to enhance conservation efforts or upon the imposition of supply restrictions by the City's wholesalers.

In order to effectively measure the conservation levels achieved, Section 13.15.015 of the Water Conservation Ordinance defining the "Base Year" water consumption period must be updated. The current definition of Base Year is defined as the average of the period 2004-2006; however, something closer to the current period provides a more realistic level of comparative success. Staff is suggesting that the definition be generic within the Ordinance and re-established from time to time by Council resolution. This will simplify future water shortage declarations.

Other City Actions

The department maintains an active conservation program and has done so since 1991. The program's content has varied over the years, but consistently focuses on public outreach and education. Current and planned programs include:

Outreach and Education

- Active involvement in the Water Education Water Awareness Committee (WEWAC) to promote water conservation and education through local schools

- Conservation promotional items and educational presentations for schools and community groups
- Conservation Corner Newsletter on the website, La Verne Community News and Facebook
- Letters to residents in violation of current voluntary water use restrictions
- Letters to the highest industrial, commercial and institutional water consumers regarding voluntary water use restrictions and the need to conserve
- Press releases as necessary to promote conservation messages
- Bill messages and inserts as necessary to promote conservation messages

Financial Incentives/Water Conserving Devices and Fixtures

- Promotion of rebates for turf removal and other water efficient devices through face to face outreach throughout the community, flyers, website, social media, press releases and events
- Partnership with Three Valleys MWD for rain barrel giveaway for City staff and residents.

Scheduled Events

- Promotion of conservation information and giveaways:
 - 8/10 Movie Night at the Park
 - 8/14 Farmer's Market
 - 8/17 Concert in the Park
 - 8/30 Three Valleys MWD sponsored water efficient landscaping class (Tentative Date based on MWD staff availability) with three additional
 - 11/8 NHRA Fan Fest
 - 4/4/15 Cool Cruise

City Facilities and Landscape Maintenance Districts

Staff has also implemented numerous conserving measures at various City facilities. Since 2008, City water use has decreased an average of nearly 15%. Unfortunately, demand within City facilities has significantly increased during the past two years due to extreme use, less than normal rainfall, and higher than average temperatures. Water consumption in the combined areas of the Landscape Maintenance Districts (LMDs) has decreased an average of 34% during this period as well. In 2013, water use within the LMDs was 43% less than the 2008 period. Measures to curb water use included:

- Installation of "Smart" Irrigation Controllers at all 122 city maintained locations
- Replacement of nearly 1,000 irrigation heads with more efficient, low flow heads
- Installation of artificial turf in front of the city yard
- Installation of water conserving toilets and faucets at various facilities
- Constant inspection of all large irrigation systems and quick repair of all leaks

Enforcement

The water use restrictions of the City's Water Conservation Ordinance will be enforced by existing City personnel. All public works field personnel will be instructed to identify violators

and report said violations to the department's customer service division. Customer service staff will subsequently contact the offending customer to educate them about the restrictions and provide the customer with conservation information.

Enforcement is expected to utilize customer outreach and education as the primary enforcement tool. The Ordinance does not provide for the levying of fines, but it does authorize the installation of flow restricting devices on individual customer service accounts in extreme cases. The SWRCB's regulations also authorize the use of fines up to \$500. However, the imposition of such fines is not seen as likely by staff as customer education and assistance is preferred and a proven alternative.

Attachments:

1. Resolution No. 14-56
2. Ordinance No. 1046
3. Resolution No. 14-57



Appendix C

La Verne Ordinance No.1057

ORDINANCE NO. 1057

AN URGENCY ORDINANCE OF THE CITY COUNCIL OF THE CITY OF LA VERNE,
COUNTY OF LOS ANGELES, STATE OF CALIFORNIA, CLARIFYING PROVISIONS OF
CHAPTER 13.15 OF THE LA VERNE MUNICIPAL CODE

WHEREAS, the State of California is experiencing an historic drought; and

WHEREAS, the City of La Verne is required by the State of California to reduce the use of water by its customers; and

WHEREAS, the City of La Verne has had a water shortage contingency plan in its Municipal Code since 1991; and

WHEREAS, the City Council now wishes to clarify and restate that the "California Drought Surcharge" in the La Verne Municipal Code is imposed as a penalty for exceeding a customer's baseline allocation and that the "California Drought Surcharge is not a part of the calculated water rate and is not used to support Water Division operations and infrastructure, and

NOW, THEREFORE, the City Council of the City of La Verne does ordain as follows:

SECTION 1. That the above recitals are true and correct and are adopted as the City Council's findings.

SECTION 2. Section 3.15.020 of the La Verne Municipal Code is hereby amended to read as follows:

3.15.020 - California Drought Surcharge Penalty Established.

In addition to and not a part of the base rate for water as established from time to time by the city council, penalty surcharges shall be levied for each and every customer who exceeds the baseline allowances as established from time to time by resolution or as specified in this Chapter. Such penalty surcharges shall be based upon a bimonthly consumption or a daily equivalent for any pro-rated bill. All penalty surcharges are computed per thousand gallons or fraction thereof for each of the corresponding levels. Such penalty surcharges shall not be utilized to defray day-to-day operating or capital costs of the city's water system.

SECTION 3. The first paragraph of Section 13.15.030 of the La Verne Municipal Code is hereby amended to read as follows:

13.15.030 - Water Use Limits Established.

Limits on the water consumed by any customer of the La Verne water utility may be restricted by the city council. The effective limits of such rationing shall be determined by resolution of the city council adopting the appropriate phase as set out in subsections A through H of this section as the city council deems necessary to meet the conservation requirements imposed on the city of La Verne by the State of California, the Metropolitan

I DECLARE UNDER PENALTY OF PERJURY THAT I AM EMPLOYED
BY THE CITY OF LA VERNE IN THE CITY CLERK DEPARTMENT:
AND THAT I POSTED THIS AGENDA AT CITY HALL COUNCIL.

CHAMBER ON

June 11, 2015

SIGNATURE

Water District or Three Valleys Municipal Water District. All limits are based upon water use for a two month period (bimonthly billing period).

1 **SECTION 4.** The third sentence of Section 13.15.043 - Failure to Comply -
2 Violation - Penalty is hereby amended to read as follows:

3 In addition to any other penalties or penalty surcharges provided for in any other
4 section of this chapter, the city reserves the right to install a flow restricting device
5 on the service line at the customer's expense for continued violation of the
6 provisions of this chapter or for excess consumption for two consecutive billing
7 periods.

8 **SECTION 5.** Section 13.15.060 of the La Verne Municipal Code is hereby
9 amended to read as follows:

10 13.15.060 - Suspension of Penalty Surcharge When.

11 The city council may, by resolution and without repealing the ordinance codified in
12 this chapter, suspend the California Drought Penalty Surcharge, as specified in
13 Section 13.15020, at such time that the city council determines that the water
14 shortage no longer exists or that the threat has been substantially reduced so that
15 the penalty surcharge is no longer necessary to motivate conservation. Similarly,
16 the city council may, by resolution, impose the penalty surcharge upon finding that
17 the water shortage conditions have reappeared. Suspension or imposition of the
18 penalty surcharge shall not affect the requirements of the adopted phase of this
19 conservation plan.

20 **SECTION 6.** Section 13.15.070 of the La Verne Municipal Code is hereby amended
21 by replacing the phrase "California Drought Surcharge" in the second sentence with
22 "California Drought Penalty Surcharge".

23 **SECTION 7.** This ordinance is declared to be an urgency measure. This ordinance
24 is necessary for preserving the public health, safety and welfare of the community.
25 Accordingly, upon adoption by a four-fifths vote of the City Council, this ordinance shall
26 take effect immediately.

27 **SECTION 8.** If any section, sentence, clause or phrase of this ordinance is for any
28 reason held to be invalid or unconstitutional by a decision of any court of competent
29 jurisdiction, such decision shall not affect the validity of the remaining portions of this
30 ordinance. The City Council hereby declares that it would have passed this ordinance and
31 adopted this ordinance and each section, sentence, clause or phrase thereof, irrespective of
32 the fact that any one or more sections, subsections, sentences, clauses or phrases be
33 declared invalid or unconstitutional.



Appendix D

AWWA Water Audit Software

AWWA Free Water Audit Software - City of La Verne

This spreadsheet-based water audit tool is designed to help quantify and track water losses associated with water distribution systems and identify areas for improved efficiency and cost recovery. It provides a "top-down" summary water audit format, and is not meant to take the place of a full-scale, comprehensive water audit format.

Auditors are strongly encouraged to refer to the most current edition of AWWA M36 Manual for Water Audits for detailed guidance on the water auditing process and targeting loss reduction levels

The spreadsheet contains several separate worksheets. Sheets can be accessed using the tabs towards the bottom of the screen, or by clicking the buttons below.

Please begin by providing the following information

Name of Contact Person:

Email Address:

Telephone (incl Ext.):

Name of City / Utility:

City/Town/Municipality:

State / Province:

Country:

Year: Financial Year

Start Date: Enter MM/YYYY numeric format

End Date: Enter MM/YYYY numeric format

Audit Preparation Date:

Volume Reporting Units:

PWSID / Other ID:

The following guidance will help you complete the Audit

All audit data are entered on the [Reporting Worksheet](#)

-
 Value can be entered by user
-
 Value calculated based on input data
-
 These cells contain recommended default values

Use of Option (Radio) Buttons: Pcnt: Value:

Select the default percentage by choosing the option button on the left

To enter a value, choose this button and enter a value in the cell to the right

The following worksheets are available by clicking the buttons below or selecting the tabs along the bottom of the page

<p><u>Instructions</u></p> <p>The current sheet. Enter contact information and basic audit details (year, units etc)</p>	<p><u>Reporting Worksheet</u></p> <p>Enter the required data on this worksheet to calculate the water balance and data grading</p>	<p><u>Comments</u></p> <p>Enter comments to explain how values were calculated or to document data sources</p>	<p><u>Performance Indicators</u></p> <p>Review the performance indicators to evaluate the results of the audit</p>	<p><u>Water Balance</u></p> <p>The values entered in the Reporting Worksheet are used to populate the Water Balance</p>	<p><u>Dashboard</u></p> <p>A graphical summary of the water balance and Non-Revenue Water components</p>
<p><u>Grading Matrix</u></p> <p>Presents the possible grading options for each input component of the audit</p>	<p><u>Service Connection Diagram</u></p> <p>Diagrams depicting possible customer service connection line configurations</p>	<p><u>Definitions</u></p> <p>Use this sheet to understand the terms used in the audit process</p>	<p><u>Loss Control Planning</u></p> <p>Use this sheet to interpret the results of the audit validity score and performance indicators</p>	<p><u>Example Audits</u></p> <p>Reporting Worksheet and Performance Indicators examples are shown for two validated audits</p>	<p><u>Acknowledgements</u></p> <p>Acknowledgements for the AWWA Free Water Audit Software v5.0</p>

If you have questions or comments regarding the software please contact us via email at: wlc@awwa.org

AWWA Free Water Audit Software - City of La Verne



Click to access definition
 Click to add a comment

Water Audit Report for: City of La Verne (1910062)
Reporting Year: 2015 / 7/2014 - 6/2015

Please enter data in the white cells below. Where available, metered values should be used; if metered values are unavailable please estimate a value. Indicate your confidence in the accuracy of the input data by grading each component (n/a or 1-10) using the drop-down list to the left of the input cell. Hover the mouse over the cell to obtain a description of the grades

All volumes to be entered as: ACRE-FEET PER YEAR

To select the correct data grading for each input, determine the highest grade where the utility meets or exceeds all criteria for that grade and all grades below it.

WATER SUPPLIED

----- Enter grading in column 'E' and 'J' ----->

Volume from own sources:	<input type="button" value="+"/>	<input type="button" value="?"/>	<input type="text" value="8"/>	<input type="text" value="1,924.060"/>	acre-ft/yr
Water imported:	<input type="button" value="+"/>	<input type="button" value="?"/>	<input type="text" value="9"/>	<input type="text" value="5,477.170"/>	acre-ft/yr
Water exported:	<input type="button" value="+"/>	<input type="button" value="?"/>	<input type="text" value="9"/>	<input type="text" value="0.000"/>	acre-ft/yr

Master Meter and Supply Error Adjustments

	<input type="button" value="+"/>	<input type="button" value="?"/>	<input type="text" value="5"/>	<input type="text" value="0.00%"/>	<input type="radio"/>	<input type="radio"/>	<input type="text" value=""/>	acre-ft/yr
	<input type="button" value="+"/>	<input type="button" value="?"/>	<input type="text" value="5"/>	<input type="text" value="0.00%"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="text" value=""/>	acre-ft/yr
	<input type="button" value="+"/>	<input type="button" value="?"/>	<input type="text" value=""/>	<input type="text" value=""/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="text" value=""/>	acre-ft/yr

Enter negative % or value for under-registration
Enter positive % or value for over-registration

WATER SUPPLIED: 7,401.230 acre-ft/yr

AUTHORIZED CONSUMPTION

Billed metered:	<input type="button" value="+"/>	<input type="button" value="?"/>	<input type="text" value="9"/>	<input type="text" value="7,067.460"/>	acre-ft/yr
Billed unmetered:	<input type="button" value="+"/>	<input type="button" value="?"/>	<input type="text" value="10"/>	<input type="text" value="0.000"/>	acre-ft/yr
Unbilled metered:	<input type="button" value="+"/>	<input type="button" value="?"/>	<input type="text" value="9"/>	<input type="text" value="0.000"/>	acre-ft/yr
Unbilled unmetered:	<input type="button" value="+"/>	<input type="button" value="?"/>	<input type="text" value="7"/>	<input type="text" value="20.000"/>	acre-ft/yr

AUTHORIZED CONSUMPTION: 7,087.460 acre-ft/yr

Click here: for help using option buttons below

Pcnt:	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	Value:	<input type="text" value="20.000"/>	acre-ft/yr
-------	-----------------------	----------------------------------	-----------------------	--------	-------------------------------------	------------

Use buttons to select percentage of water supplied OR value

Pcnt:	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	Value:	<input type="text" value=""/>	acre-ft/yr
-------	-----------------------	----------------------------------	-----------------------	--------	-------------------------------	------------

2.50%	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	Value:	<input type="text" value=""/>	acre-ft/yr
0.25%	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	Value:	<input type="text" value=""/>	acre-ft/yr

WATER LOSSES (Water Supplied - Authorized Consumption)

313.770 acre-ft/yr

Apparent Losses

Unauthorized consumption: acre-ft/yr

Default option selected for unauthorized consumption - a grading of 5 is applied but not displayed

Customer metering inaccuracies:	<input type="button" value="+"/>	<input type="button" value="?"/>	<input type="text" value="7"/>	<input type="text" value="181.217"/>	acre-ft/yr
Systematic data handling errors:	<input type="button" value="+"/>	<input type="button" value="?"/>	<input type="text" value="7"/>	<input type="text" value="17.669"/>	acre-ft/yr

Default option selected for Systematic data handling errors - a grading of 5 is applied but not displayed

Apparent Losses: 217.389 acre-ft/yr

Real Losses (Current Annual Real Losses or CARL)

Real Losses = Water Losses - Apparent Losses: 96.381 acre-ft/yr

WATER LOSSES: 313.770 acre-ft/yr

NON-REVENUE WATER

NON-REVENUE WATER: 333.770 acre-ft/yr

= Water Losses + Unbilled Metered + Unbilled Unmetered

SYSTEM DATA

Length of mains:	<input type="button" value="+"/>	<input type="button" value="?"/>	<input type="text" value="9"/>	<input type="text" value="198.0"/>	miles
Number of <u>active</u> AND <u>inactive</u> service connections:	<input type="button" value="+"/>	<input type="button" value="?"/>	<input type="text" value="9"/>	<input type="text" value="8,598"/>	
Service connection density:	<input type="button" value="?"/>	<input type="text" value=""/>	<input type="text" value="43"/>	conn./mile main	

Are customer meters typically located at the curbstop or property line?

Average length of customer service line: (length of service line, beyond the property boundary, that is the responsibility of the utility)

Average length of customer service line has been set to zero and a data grading score of 10 has been applied

Average operating pressure: psi

COST DATA

Total annual cost of operating water system:	<input type="button" value="+"/>	<input type="button" value="?"/>	<input type="text" value="9"/>	<input type="text" value="\$8,487,621"/>	\$/Year
Customer retail unit cost (applied to Apparent Losses):	<input type="button" value="+"/>	<input type="button" value="?"/>	<input type="text" value="10"/>	<input type="text" value="\$3.28"/>	\$/1000 gallons (US)
Variable production cost (applied to Real Losses):	<input type="button" value="+"/>	<input type="button" value="?"/>	<input type="text" value="9"/>	<input type="text" value=""/>	\$/acre-ft <input checked="" type="checkbox"/> Use Customer Retail Unit Cost to value real losses

WATER AUDIT DATA VALIDITY SCORE:

*** YOUR SCORE IS: 84 out of 100 ***

A weighted scale for the components of consumption and water loss is included in the calculation of the Water Audit Data Validity Score

PRIORITY AREAS FOR ATTENTION:

Based on the information provided, audit accuracy can be improved by addressing the following components:

- 1: Unauthorized consumption
- 2: Systematic data handling errors
- 3: Customer metering inaccuracies

AWWA Free Water Audit Software - City of La Verne



Water Audit Report for: City of La Verne (1910062)
 Reporting Year: 2015 | 7/2014 - 6/2015

*** YOUR WATER AUDIT DATA VALIDITY SCORE IS: 84 out of 100 ***

System Attributes:

Apparent Losses:	217.389	acre-ft/yr
+	Real Losses:	96.381 acre-ft/yr
=	Water Losses:	313.770 acre-ft/yr

? Unavoidable Annual Real Losses (UARL): 211.56 acre-ft/yr

Annual cost of Apparent Losses: \$232,343

Annual cost of Real Losses: Valued at **Customer Retail Unit Cost**
Return to Reporting Worksheet to change this assumption

Performance Indicators:

Financial: { Non-revenue water as percent by volume of Water Supplied: 4.5%
 Non-revenue water as percent by cost of operating system: 4.2% Real Losses valued at Customer Retail Unit Cost

Operational Efficiency: { Apparent Losses per service connection per day: 22.57 gallons/connection/day
 Real Losses per service connection per day: 10.01 gallons/connection/day
 Real Losses per length of main per day*: N/A
 Real Losses per service connection per day per psi pressure: 0.13 gallons/connection/day/psi

From Above, Real Losses = Current Annual Real Losses (CARL): 96.38 acre-feet/year

? Infrastructure Leakage Index (ILI) [CARL/UARL]: 0.46

* This performance indicator applies for systems with a low service connection density of less than 32 service connections/mile of pipeline

AWWA Free Water Audit Software - City of La Verne

Water Audit Report for: City of La Verne (1910062)					
Reporting Year: 2015		7/2014 - 6/2015			
Data Validity Score: 84					
Own Sources (Adjusted for known errors) 1,924.060	Water Exported <i>0.000</i>	Authorized Consumption 7,087.460	Billed Authorized Consumption 7,067.460	Billed Water Exported Billed Metered Consumption (water exported is removed) 7,067.460	
	Water Supplied 7,401.230		Unbilled Authorized Consumption 20.000	Billed Unmetered Consumption 0.000	
Water Losses 313.770		Apparent Losses 217.389		Unbilled Metered Consumption 0.000	
		Unbilled Unmetered Consumption 20.000		Non-Revenue Water (NRW) 333.770	
		Unauthorized Consumption 18.503			
Water Imported 5,477.170	Real Losses 96.381		Customer Metering Inaccuracies 181.217		
	Leakage on Transmission and/or Distribution Mains <i>Not broken down</i>		Systematic Data Handling Errors 17.669		
	Leakage and Overflows at Utility's Storage Tanks <i>Not broken down</i>				
Leakage on Service Connections <i>Not broken down</i>					

AWWA Free Water Audit Software - City of La Verne

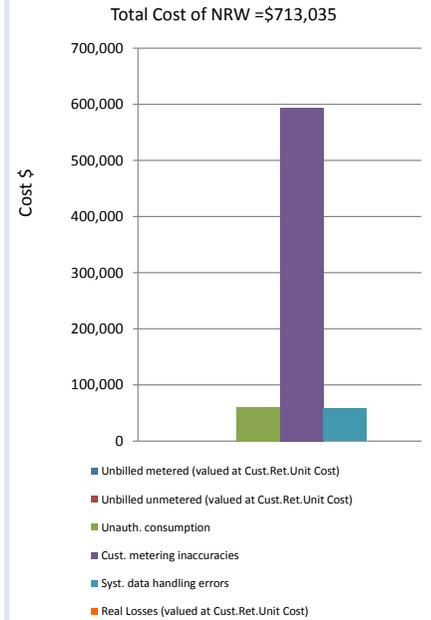
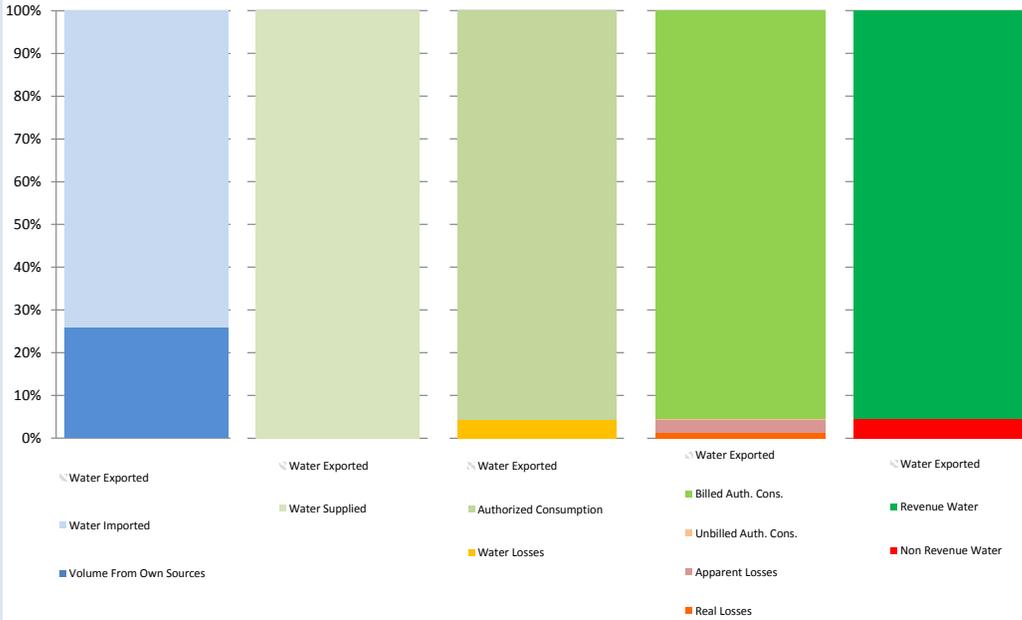


The graphic below is a visual representation of the Water Balance with bar heights proportional to the volume of the audit components

Water Audit Report for: **City of La Verne (1910062)**

Reporting Year:	2015	7/2014 - 6/2015
Data Validity Score:	84	

- Show me the VOLUME of Non-Revenue Water
- Show me the COST of Non-Revenue Water





Water Audit Report for: **City of La Verne (1910062)**
 Reporting Year: **2015** / 7/2014 - 6/2015
 Data Validity Score: **84**

Water Loss Control Planning Guide					
Functional Focus Area	Water Audit Data Validity Level / Score				
	Level I (0-25)	Level II (26-50)	Level III (51-70)	Level IV (71-90)	Level V (91-100)
Audit Data Collection	Launch auditing and loss control team; address production metering deficiencies	Analyze business process for customer metering and billing functions and water supply operations. Identify data gaps.	Establish/revise policies and procedures for data collection	Refine data collection practices and establish as routine business process	Annual water audit is a reliable gauge of year-to-year water efficiency standing
Short-term loss control	Research information on leak detection programs. Begin flowcharting analysis of customer billing system	Conduct loss assessment investigations on a sample portion of the system: customer meter testing, leak survey, unauthorized consumption, etc.	Establish ongoing mechanisms for customer meter accuracy testing, active leakage control and infrastructure monitoring	Refine, enhance or expand ongoing programs based upon economic justification	Stay abreast of improvements in metering, meter reading, billing, leakage management and infrastructure rehabilitation
Long-term loss control		Begin to assess long-term needs requiring large expenditure: customer meter replacement, water main replacement program, new customer billing system or Automatic Meter Reading (AMR) system.	Begin to assemble economic business case for long-term needs based upon improved data becoming available through the water audit process.	Conduct detailed planning, budgeting and launch of comprehensive improvements for metering, billing or infrastructure management	Continue incremental improvements in short-term and long-term loss control interventions
Target-setting			Establish long-term apparent and real loss reduction goals (+10 year horizon)	Establish mid-range (5 year horizon) apparent and real loss reduction goals	Evaluate and refine loss control goals on a yearly basis
Benchmarking			Preliminary Comparisons - can begin to rely upon the Infrastructure Leakage Index (ILI) for performance comparisons for real losses (see below table)	Performance Benchmarking - ILI is meaningful in comparing real loss standing	Identify Best Practices/ Best in class - the ILI is very reliable as a real loss performance indicator for best in class service

For validity scores of 50 or below, the shaded blocks should not be focus areas until better data validity is achieved.

Once data have been entered into the Reporting Worksheet, the performance indicators are automatically calculated. How does a water utility operator know how well his or her system is performing? The AWWA Water Loss Control Committee provided the following table to assist water utilities in gauging an approximate Infrastructure Leakage Index (ILI) that is appropriate for their water system and local conditions. The lower the amount of leakage and real losses that exist in the system, then the lower the ILI value will be.

Note: this table offers an approximate guideline for leakage reduction target-setting. The best means of setting such targets include performing an economic assessment of various loss control methods. However, this table is useful if such an assessment is not possible.

Target ILI Range	Financial Considerations	Operational Considerations	Water Resources Considerations
1.0 - 3.0	Water resources are costly to develop or purchase; ability to increase revenues via water rates is greatly limited because of regulation or low ratepayer affordability.	Operating with system leakage above this level would require expansion of existing infrastructure and/or additional water resources to meet the demand.	Available resources are greatly limited and are very difficult and/or environmentally unsound to develop.
>3.0 - 5.0	Water resources can be developed or purchased at reasonable expense; periodic water rate increases can be feasibly imposed and are tolerated by the customer population.	Existing water supply infrastructure capability is sufficient to meet long-term demand as long as reasonable leakage management controls are in place.	Water resources are believed to be sufficient to meet long-term needs, but demand management interventions (leakage management, water conservation) are included in the long-term
>5.0 - 8.0	Cost to purchase or obtain/treat water is low, as are rates charged to customers.	Superior reliability, capacity and integrity of the water supply infrastructure make it relatively immune to supply shortages.	Water resources are plentiful, reliable, and easily extracted.
Greater than 8.0	Although operational and financial considerations may allow a long-term ILI greater than 8.0, such a level of leakage is not an effective utilization of water as a resource. Setting a target level greater than 8.0 - other than as an incremental goal to a smaller long-term target - is discouraged.		
Less than 1.0	If the calculated Infrastructure Leakage Index (ILI) value for your system is 1.0 or less, two possibilities exist. a) you are maintaining your leakage at low levels in a class with the top worldwide performers in leakage control. b) A portion of your data may be flawed, causing your losses to be greatly understated. This is likely if you calculate a low ILI value but do not employ extensive leakage control practices in your operations. In such cases it is beneficial to validate the data by performing field measurements to confirm the accuracy of production and customer meters, or to identify any other potential sources of error in the data.		



Appendix E

2015 UWMP SB X7-7 Tables

2015 UWMP SB X7-7 Tables - City of La Verne

SB X7-7 Table 0: Units of Measure Used in UWMP*

(select one from the drop down list)

Acre Feet

**The unit of measure must be consistent with Table 2-3*

NOTES:

2015 UWMP SB X7-7 Tables - City of La Verne

SB X7-7 Table-1: Baseline Period Ranges			
Baseline	Parameter	Value	Units
10- to 15-year baseline period	2008 total water deliveries	8,292	Acre Feet
	2008 total volume of delivered recycled water	-	Acre Feet
	2008 recycled water as a percent of total deliveries	0.00%	Percent
	Number of years in baseline period ^{1,2}	10	Years
	Year beginning baseline period range	2000	
5-year baseline period	Year ending baseline period range ³	2009	
	Number of years in baseline period	5	Years
	Year beginning baseline period range	2005	
	Year ending baseline period range ⁴	2009	
<p>¹ If the 2008 recycled water percent is less than 10 percent, then the first baseline period is a continuous 10-year period. If the amount of recycled water delivered in 2008 is 10 percent or greater, the first baseline period is a continuous 10- to 15-year period.</p> <p>² The Water Code requires that the baseline period is between 10 and 15 years. However, DWR recognizes that some water suppliers may not have the minimum 10 years of baseline data.</p>			
<p>³ The ending year must be between December 31, 2004 and December 31, 2010.</p>			
<p>⁴ The ending year must be between December 31, 2007 and December 31, 2010.</p>			
<p>NOTES:</p>			

2015 UWMP SB X7-7 Tables - City of La Verne

SB X7-7 Table 2: Method for Population Estimates	
Method Used to Determine Population (may check more than one)	
<input checked="" type="checkbox"/>	1. Department of Finance (DOF) DOF Table E-8 (1990 - 2000) and (2000-2010) and DOF Table E-5 (2011 - 2015) when available
<input type="checkbox"/>	2. Persons-per-Connection Method
<input type="checkbox"/>	3. DWR Population Tool
<input type="checkbox"/>	4. Other DWR recommends pre-review
NOTES:	

2015 UWMP SB X7-7 Tables - City of La Verne

SB X7-7 Table 3: Service Area Population		
Year		Population
10 to 15 Year Baseline Population		
Year 1	2000	29,639
Year 2	2001	29,746
Year 3	2002	29,876
Year 4	2003	29,945
Year 5	2004	29,917
Year 6	2005	29,703
Year 7	2006	29,334
Year 8	2007	29,036
Year 9	2008	29,450
Year 10	2009	29,235
<i>Year 11</i>		
<i>Year 12</i>		
<i>Year 13</i>		
<i>Year 14</i>		
<i>Year 15</i>		
5 Year Baseline Population		
Year 1	2005	29,703
Year 2	2006	29,334
Year 3	2007	29,036
Year 4	2008	29,450
Year 5	2009	29,235
2015 Compliance Year Population		
	2015	31,043
NOTES:		

2015 UWMP SB X7-7 Tables - City of La Verne

SB X7-7 Table 4: Annual Gross Water Use *							
Baseline Year <i>Fm SB X7-7 Table 3</i>	Volume Into Distribution System <i>This column will remain blank until SB X7-7 Table 4-A is completed.</i>	Deductions					Annual Gross Water Use
		Exported Water	Change in Dist. System Storage (+/-)	Indirect Recycled Water <i>This column will remain blank until SB X7-7 Table 4-B is completed.</i>	Water Delivered for Agricultural Use	Process Water <i>This column will remain blank until SB X7-7 Table 4-D is completed.</i>	
10 to 15 Year Baseline - Gross Water Use							
Year 1	2000	8,198		-	-	-	8,198
Year 2	2001	8,054		-	-	-	8,054
Year 3	2002	9,113		-	-	-	9,113
Year 4	2003	8,746		-	-	-	8,746
Year 5	2004	9,091		-	-	-	9,091
Year 6	2005	8,625		-	-	-	8,625
Year 7	2006	9,073		-	-	-	9,073
Year 8	2007	9,374		-	-	-	9,374
Year 9	2008	9,080		-	-	-	9,080
Year 10	2009	8,234		-	-	-	8,234
Year 11	0	-		-	-	-	-
Year 12	0	-		-	-	-	-
Year 13	0	-		-	-	-	-
Year 14	0	-		-	-	-	-
Year 15	0	-		-	-	-	-
10 - 15 year baseline average gross water use							8,759
5 Year Baseline - Gross Water Use							
Year 1	2005	8,625		-	-	-	8,625
Year 2	2006	9,073		-	-	-	9,073
Year 3	2007	9,374		-	-	-	9,374
Year 4	2008	9,080		-	-	-	9,080
Year 5	2009	8,234		-	-	-	8,234
5 year baseline average gross water use							8,877
2015 Compliance Year - Gross Water Use							
2015	6,568	-		-	-	-	6,568
* NOTE that the units of measure must remain consistent throughout the UWMP, as reported in Table 2-3							
NOTES:							

2015 UWMP SB X7-7 Tables - City of La Verne

SB X7-7 Table 4-A: Volume Entering the Distribution System(s)				
Complete one table for each source.				
Name of Source		Pomona Basin		
This water source is:				
<input checked="" type="checkbox"/>		The supplier's own water source		
<input type="checkbox"/>		A purchased or imported source		
Baseline Year <i>Fm SB X7-7 Table 3</i>	Volume Entering Distribution System	Meter Error Adjustment* <i>Optional (+/-)</i>	Corrected Volume Entering Distribution System	
10 to 15 Year Baseline - Water into Distribution System				
Year 1	2000	1,087		1,087
Year 2	2001	802		802
Year 3	2002	1,306		1,306
Year 4	2003	1,389		1,389
Year 5	2004	1,411		1,411
Year 6	2005	1,455		1,455
Year 7	2006	1,469		1,469
Year 8	2007	1,507		1,507
Year 9	2008	1,317		1,317
Year 10	2009	1,330		1,330
Year 11	0			-
Year 12	0			-
Year 13	0			-
Year 14	0			-
Year 15	0			-
5 Year Baseline - Water into Distribution System				
Year 1	2005	1,455		1,455
Year 2	2006	1,469		1,469
Year 3	2007	1,507		1,507
Year 4	2008	1,317		1,317
Year 5	2009	1,330		1,330
2015 Compliance Year - Water into Distribution System				
2015		1,126		1,126
<i>* Meter Error Adjustment - See guidance in Methodology 1, Step 3 of Methodologies Document</i>				
NOTES:				

SB X7-7 Table 4-A: Volume Entering the Distribution System(s)				
Complete one table for each source.				
Name of Source		Ganesha Basin		
This water source is:				
<input checked="" type="checkbox"/>		The supplier's own water source		
<input type="checkbox"/>		A purchased or imported source		
Baseline Year <i>Fm SB X7-7 Table 3</i>	Volume Entering Distribution System	Meter Error Adjustment* <i>Optional (+/-)</i>	Corrected Volume Entering Distribution System	
10 to 15 Year Baseline - Water into Distribution System				
Year 1	2,000	41.42		41
Year 2	2,001	151.64		152
Year 3	2,002	125.14		125
Year 4	2,003	4.71		5
Year 5	2,004	1.38		1
Year 6	2,005	1.18		1
Year 7	2,006	2.29		2
Year 8	2,007	224.45		224
Year 9	2,008	377.7		378
Year 10	2,009	594.38		594

2015 UWMP SB X7-7 Tables - City of La Verne

Year 11	-			0
Year 12	-			0
Year 13	-			0
Year 14	-			0
Year 15	-			0
5 Year Baseline - Water into Distribution System				
Year 1	2,005	1.18		1
Year 2	2,006	2.29		2
Year 3	2,007	224.45		224
Year 4	2,008	377.7		378
Year 5	2,009	594.38		594
2015 Compliance Year - Water into Distribution System				
2015		119		119
<i>* Meter Error Adjustment - See guidance in Methodology 1, Step 3 of Methodologies Document</i>				
NOTES:				

SB X7-7 Table 4-A: Volume Entering the Distribution				
Name of Source		Live Oak Basin		
This water source is:				
<input checked="" type="checkbox"/>	The supplier's own water source			
<input type="checkbox"/>	A purchased or imported source			
Baseline Year <i>Fm SB X7-7 Table 3</i>	Volume Entering Distribution System	Meter Error Adjustment* <i>Optional (+/-)</i>	Corrected Volume Entering Distribution System	
10 to 15 Year Baseline - Water into Distribution System				
Year 1	2,000	0.37		0
Year 2	2,001	2.01		2
Year 3	2,002	140.88		141
Year 4	2,003	253.75		254
Year 5	2,004	53.55		54
Year 6	2,005	220.26		220
Year 7	2,006	508.97		509
Year 8	2,007	443.98		444
Year 9	2,008	619.68		620
Year 10	2,009	776.78		777
Year 11	-			0
Year 12	-			0
Year 13	-			0
Year 14	-			0
Year 15	-			0
5 Year Baseline - Water into Distribution System				
Year 1	2,005	220.26		220
Year 2	2,006	508.97		509
Year 3	2,007	443.98		444
Year 4	2,008	619.68		620
Year 5	2,009	776.78		777
2015 Compliance Year - Water into Distribution System				
2015		662		662
<i>* Meter Error Adjustment - See guidance in Methodology 1, Step 3 of Methodologies Document</i>				
NOTES:				

SB X7-7 Table 4-A: Volume Entering the Distribution				
Name of Source		TWMWD Import		
This water source is:				
<input type="checkbox"/>	The supplier's own water source			
<input checked="" type="checkbox"/>	A purchased or imported source			

2015 UWMP SB X7-7 Tables - City of La Verne

Baseline Year <i>Fm SB X7-7 Table 3</i>	Volume Entering Distribution System	Meter Error Adjustment* <i>Optional (+/-)</i>	Corrected Volume Entering Distribution System
10 to 15 Year Baseline - Water into Distribution System			
Year 1	2,000	7069.3	7,069
Year 2	2,001	7098.28	7,098
Year 3	2,002	7541.61	7,542
Year 4	2,003	7098.28	7,098
Year 5	2,004	7624.23	7,624
Year 6	2,005	6948.43	6,948
Year 7	2,006	7092.69	7,093
Year 8	2,007	7198.41	7,198
Year 9	2,008	6765.88	6,766
Year 10	2,009	5532.53	5,533
Year 11	-		0
Year 12	-		0
Year 13	-		0
Year 14	-		0
Year 15	-		0
5 Year Baseline - Water into Distribution System			
Year 1	2,005	6948.43	6,948
Year 2	2,006	7092.69	7,093
Year 3	2,007	7198.41	7,198
Year 4	2,008	6765.88	6,766
Year 5	2,009	5532.53	5,533
2015 Compliance Year - Water into Distribution System			
2015	4,661		4,661
<i>* Meter Error Adjustment - See guidance in Methodology 1, Step 3 of Methodologies Document</i>			
NOTES:			

SB X7-7 Table 4-A: Volume Entering the Distribution			
Name of Source	Source 5		
This water source is:			
<input type="checkbox"/>	The supplier's own water source		
<input type="checkbox"/>	A purchased or imported source		
Baseline Year <i>Fm SB X7-7 Table 3</i>	Volume Entering Distribution System	Meter Error Adjustment* <i>Optional (+/-)</i>	Corrected Volume Entering Distribution System
10 to 15 Year Baseline - Water into Distribution System			
Year 1	2,000		0
Year 2	2,001		0
Year 3	2,002		0
Year 4	2,003		0
Year 5	2,004		0
Year 6	2,005		0
Year 7	2,006		0
Year 8	2,007		0
Year 9	2,008		0
Year 10	2,009		0
Year 11	-		0
Year 12	-		0
Year 13	-		0
Year 14	-		0
Year 15	-		0
5 Year Baseline - Water into Distribution System			
Year 1	2,005		0
Year 2	2,006		0

2015 UWMP SB X7-7 Tables - City of La Verne

SB X7-7 Table 5: Gallons Per Capita Per Day (GPCD)				
Baseline Year <i>Fm SB X7-7 Table 3</i>		Service Area Population <i>Fm SB X7-7 Table 3</i>	Annual Gross Water Use <i>Fm SB X7-7 Table 4</i>	Daily Per Capita Water Use (GPCD)
10 to 15 Year Baseline GPCD				
Year 1	2000	29,639	8,198	247
Year 2	2001	29,746	8,054	242
Year 3	2002	29,876	9,113	272
Year 4	2003	29,945	8,746	261
Year 5	2004	29,917	9,091	271
Year 6	2005	29,703	8,625	259
Year 7	2006	29,334	9,073	276
Year 8	2007	29,036	9,374	288
Year 9	2008	29,450	9,080	275
Year 10	2009	29,235	8,234	251
<i>Year 11</i>	0	-	-	
<i>Year 12</i>	0	-	-	
<i>Year 13</i>	0	-	-	
<i>Year 14</i>	0	-	-	
<i>Year 15</i>	0	-	-	
10-15 Year Average Baseline GPCD				264
5 Year Baseline GPCD				
Baseline Year <i>Fm SB X7-7 Table 3</i>		Service Area Population <i>Fm SB X7-7 Table 3</i>	Gross Water Use <i>Fm SB X7-7 Table 4</i>	Daily Per Capita Water Use
Year 1	2005	29,703	8,625	259
Year 2	2006	29,334	9,073	276
Year 3	2007	29,036	9,374	288
Year 4	2008	29,450	9,080	275
Year 5	2009	29,235	8,234	251
5 Year Average Baseline GPCD				270
2015 Compliance Year GPCD				
2015		31,043	6,568	189
NOTES:				

2015 UWMP SB X7-7 Tables - City of La Verne

SB X7-7 Table 6: Gallons per Capita per Day

Summary From Table SB X7-7 Table 5

10-15 Year Baseline GPCD	264
5 Year Baseline GPCD	270
2015 Compliance Year GPCD	189

NOTES:

2015 UWMP SB X7-7 Tables - City of La Verne

SB X7-7 Table 7: 2020 Target Method		
<i>Select Only One</i>		
Target Method		Supporting Documentation
<input checked="" type="checkbox"/>	Method 1	SB X7-7 Table 7A
<input type="checkbox"/>	Method 2	SB X7-7 Tables 7B, 7C, and 7D <i>Contact DWR for these tables</i>
<input type="checkbox"/>	Method 3	SB X7-7 Table 7-E
<input type="checkbox"/>	Method 4	Method 4 Calculator
NOTES:		

2015 UWMP SB X7-7 Tables - City of La Verne

SB X7-7 Table 7-A: Target Method 1	
20% Reduction	
10-15 Year Baseline GPCD	2020 Target GPCD
264	211
NOTES:	

2015 UWMP SB X7-7 Tables - City of La Verne

SB X7-7 Table 7-F: Confirm Minimum Reduction for 2020 Target			
5 Year Baseline GPCD <i>From SB X7-7 Table 5</i>	Maximum 2020 Target ¹	Calculated 2020 Target ²	Confirmed 2020 Target
270	257	211	211
¹ Maximum 2020 Target is 95% of the 5 Year Baseline GPCD Target is calculated based on the selected Target Method, see SB X7-7 Table 7 and corresponding tables for agency's calculated target. ² 2020			
NOTES:			

2015 UWMP SB X7-7 Tables - City of La Verne

SB X7-7 Table 8: 2015 Interim Target GPCD		
Confirmed 2020 Target <i>Fm SB X7-7 Table 7-F</i>	10-15 year Baseline GPCD <i>Fm SB X7-7 Table 5</i>	2015 Interim Target GPCD
211	264	238
NOTES:		

2015 UWMP SB X7-7 Tables - City of La Verne

SB X7-7 Table 9: 2015 Compliance								
Actual 2015 GPCD	2015 Interim Target GPCD	Optional Adjustments <i>(in GPCD)</i>					2015 GPCD <i>(Adjusted if applicable)</i>	Did Supplier Achieve Targeted Reduction for 2015?
		Enter "0" if Adjustment Not Used			TOTAL Adjustments	Adjusted 2015 GPCD		
		Extraordinary Events	Weather Normalization	Economic Adjustment				
189	238	-	-	-	-	189	189	YES
NOTES:								



Appendix F

LVMC Chapter 13.15 Water Conservation

La Verne Municipal Code							
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[Title 13 PUBLIC SERVICES](#)[Division I. Water](#)

Chapter 13.15 WATER CONSERVATION, USE AND RESTRICTIONS

13.15.010 Purpose.

The purpose of this chapter is to foster water conservation and to assure that wasteful water practices are eliminated throughout the city's service area. The regulations set forth in this chapter shall become effective immediately and shall remain in effect until repealed by the city council. (Ord. 1009 § 2, 2009; Ord. 822 § 3, 1991)

13.15.015 Definitions.

For the purposes of this chapter, the following definitions shall apply:

- A. "Base year" means the average amount of water delivered to each nonresidential customer's property during the corresponding bimonthly billing period during a specified period as established from time to time by resolution of the city council. A baseline for residential customers is set forth in Section 13.15.030.
- B. "Appeal officer" shall be the director of public works or designee.
- C. "Customer" means and refers to the person whose name water service is rendered as evidenced by the signature on the application, contract or agreement for water service, or, in the absence of a signed instrument, by receipt and payment of bills for such service regularly issued in such person's name regardless of the identity of the actual user of such water service. For the purposes of this chapter, only one meter shall be issued per each individual customer account. (Ord. 1046 § 1, 2014; Ord. 1009 § 2, 2009; Ord. 822 § 3, 1991)

13.15.020 California drought penalty surcharge established.

In addition to and not a part of the base rate for water as established from time to time by the city council, penalty surcharges shall be levied for each and every customer who exceeds the baseline allowances as established from time to time by resolution or as specified in this chapter. Such penalty surcharges shall be based upon a bimonthly consumption or a daily equivalent for any pro-rated bill. All penalty surcharges are computed per thousand gallons or fraction thereof for each of the corresponding levels. Such penalty surcharges shall not be utilized to defray day-to-day operating or capital costs of the city's water system. (Ord. 1057 § 2, 2015; Ord. 1009 § 2, 2009; Ord. 822 § 3, 1991)

13.15.025 Exceptions to surcharge.

Nothing contained in this chapter shall be deemed to require any customer to reduce their water consumption to an amount less than ten thousand gallons per bimonthly billing period. (Ord. 1009 § 2, 2009; Ord. 822 § 3, 1991)

13.15.030 Water use limits established.

Limits on the water consumed by any customer of the La Verne water utility may be restricted by the city council. The effective limits of such rationing shall be determined by resolution of the city council adopting the appropriate phase as

set out in subsections A through H of this section as the city council deems necessary to meet the conservation requirements imposed on the city of La Verne by the state of California, the Metropolitan Water District or Three Valleys Municipal Water District. All limits are based upon water use for a two month period (bimonthly billing period).

A. Phase I. The city council orders that overall water consumption be reduced by ten percent. Such conservation shall be considered voluntary and shall not be subject to any of the restrictions identified in Section 13.15.040 of this chapter except on a voluntary basis.

B. Phase II. The city council orders that overall water consumption be reduced by five percent. Such conservation shall be mandatory and is subject to the following limits:

1. Single-family residential:
 - a. Level A = 0 - 37,000 gallons;
 - b. Level B = 37,001 - 47,000 gallons;
 - c. Level C = 47,001 - 67,000 gallons;
 - d. Level D = 67,001 - 97,000 gallons;
 - e. Level E = 97,001 gallons or greater.
2. Multifamily residential:
 - a. Level A = Less than or equal to ninety-five percent of base year, calculated on an individual account basis;
 - b. Level B = Greater than ninety-five percent of base year, but less than one hundred percent of base year, calculated on an individual account basis;
 - c. Level C = One hundred percent or greater of base year, calculated on an individual account basis.
3. Irrigation and other accounts:
 - a. Level A = Less than or equal to ninety percent of base year, calculated on an individual account basis;
 - b. Level B = Greater than ninety percent of base year, but less than one hundred percent of base year, calculated on an individual account basis;
 - c. Level C = One hundred percent or greater of base year, calculated on an individual account basis.
4. All remaining accounts:
 - a. Level A = Less than or equal to ninety-five percent of base year, calculated on an individual account basis;
 - b. Level B = Greater than ninety-five percent of base year, but less than one hundred percent of base year, calculated on an individual account basis;
 - c. Level C = One hundred percent or greater of base year, calculated on an individual account basis.

C. Phase III. The city council orders that overall water consumption be reduced by ten percent. Such conservation shall be mandatory and is subject to the following limits:

1. Single-family residential:
 - a. Level A = 0 - 34,000 gallons;
 - b. Level B = 34,001 - 44,000 gallons;

- c. Level C = 44,001 - 64,000 gallons;
 - d. Level D = 64,001 - 94,000 gallons;
 - e. Level E = 94,001 gallons or greater.
 2. Multifamily residential:
 - a. Level A = Less than or equal to ninety percent of base year, calculated on an individual account basis;
 - b. Level B = Greater than ninety percent of base year, but less than one hundred percent of base year, calculated on an individual account basis;
 - c. Level C = One hundred percent or greater of base year, calculated on an individual account basis.
 3. Irrigation and other accounts:
 - a. Level A = Less than or equal to eighty percent of base year, calculated on an individual account basis;
 - b. Level B = Greater than eighty percent of base year, but less than one hundred percent of base year, calculated on an individual account basis;
 - c. Level C = One hundred percent or greater of base year, calculated on an individual account basis.
 4. All remaining accounts:
 - a. Level A = Less than or equal to ninety percent of base year, calculated on an individual account basis;
 - b. Level B = Greater than ninety percent of base year, but less than one hundred percent of base year, calculated on an individual account basis;
 - c. Level C = One hundred percent or greater of base year, calculated on an individual account basis.
- D. Phase IV. The city council orders that overall water consumption be reduced by fifteen percent. Such conservation shall be mandatory and is subject to the following limits:

1. Single-family residential:
 - a. Level A = 0 - 31,000 gallons;
 - b. Level B = 31,001 - 41,000 gallons;
 - c. Level C = 41,001 - 61,000 gallons;
 - d. Level D = 61,001 - 91,000 gallons;
 - e. Level E = 91,001 gallons or greater.
2. Multifamily residential:
 - a. Level A = Less than or equal to eighty-five percent of base year, calculated on an individual account basis;
 - b. Level B = Greater than eighty-five percent of base year, but less than one hundred percent of base year, calculated on an individual account basis;
 - c. Level C = One hundred percent or greater of base year, calculated on an individual account basis.
3. Irrigation and other accounts:
 - a. Level A = Less than or equal to seventy percent of base year, calculated on an individual account basis;

- b. Level B = Greater than seventy percent of base year, but less than one hundred percent of base year, calculated on an individual account basis;
- c. Level C = One hundred percent or greater of base year calculated on an individual account basis.
- 4. All remaining accounts:
 - a. Level A = Less than or equal to eighty-five percent of base year, calculated on an individual account basis;
 - b. Level B = Greater than eighty-five percent of base year, but less than one hundred percent of base year, calculated on an individual account basis;
 - c. Level C = One hundred percent or greater of base year, calculated on an individual account basis.
- E. Phase V. The city council orders that overall water consumption be reduced by twenty percent.

Such conservation shall be mandatory and is subject to the following limits:

- 1. Single-family residential:
 - a. Level A = 0 - 28,000 gallons;
 - b. Level B = 28,001 - 38,000 gallons;
 - c. Level C = 38,001 - 58,000 gallons;
 - d. Level D = 58,001 - 88,000 gallons
 - e. Level E = 88,001 gallons or greater.
- 2. Multifamily residential:
 - a. Level A = Less than or equal to eighty percent of base year, calculated on an individual account basis;
 - b. Level B = Greater than eighty percent of base year, but less than one hundred percent of base year, calculated on an individual account basis;
 - c. Level C = One hundred percent or greater of base year, calculated on an individual account basis.
- 3. Irrigation and other accounts:
 - a. Level A = Less than or equal to sixty percent of base year, calculated on an individual account basis;
 - b. Level B = Greater than sixty percent of base year, but less than one hundred percent of base year, calculated on an individual account basis;
 - c. Level C = One hundred percent or greater of base year, calculated on an individual account basis.
- 4. All remaining accounts:
 - a. Level A = Less than or equal to eighty percent of base year, calculated on an individual account basis;
 - b. Level B = Greater than eighty percent of base year, but less than one hundred percent of base year, calculated on an individual account basis;
 - c. Level C = One hundred percent or greater of base year, calculated on an individual account basis.

F. Phase VI. The city council orders that overall water consumption be reduced by twenty-five percent. Such conservation shall be mandatory and is subject to the following limits:

- 1. Single-family residential:
 - a. Level A = 0 - 25,000 gallons;
 - b. Level B = 25,001 - 35,000 gallons;

- c. Level C = 35,001 - 55,000 gallons;
 - d. Level D = 55,001 - 85,000 gallons;
 - e. Level E = 85,001 gallons or greater.
 2. Multifamily residential:
 - a. Level A = Less than or equal to seventy-five percent of base year, calculated on an individual account basis;
 - b. Level B = Greater than seventy-five percent of base year, but less than one hundred percent of base year, calculated on an individual account basis;
 - c. Level C = One hundred percent or greater of base year, calculated on an individual account basis.
 3. Irrigation and other accounts:
 - a. Level A = Less than or equal to fifty percent of base year, calculated on an individual account basis;
 - b. Level B = Greater than fifty percent of base year, but less than one hundred percent of base year, calculated on an individual account basis;
 - c. Level C = One hundred percent or greater of base year, calculated on an individual account basis.
 4. All remaining accounts:
 - a. Level A = Less than or equal to seventy-five percent of base year, calculated on an individual account basis;
 - b. Level B = Greater than seventy-five percent of base year, but less than one hundred percent of base year, calculated on an individual account basis;
 - c. Level C = One hundred percent or greater of base year, calculated on an individual account basis.
- G. Phase VII. The city council orders that overall water consumption be reduced by thirty percent.

Such conservation shall be mandatory and is subject to the following limits:

1. Single-family residential:
 - a. Level A = 0 - 22,000 gallons;
 - b. Level B = 22,001 - 32,000 gallons;
 - c. Level C = 32,001 - 52,000 gallons;
 - d. Level D = 52,001 - 82,000 gallons;
 - e. Level E = 82,001 gallons or greater.
2. Multifamily residential:
 - a. Level A = Less than or equal to seventy percent of base year, calculated on an individual account basis;
 - b. Level B = Greater than seventy percent of base year, but less than one hundred percent of base year, calculated on an individual account basis;
 - c. Level C = One hundred percent or greater of base year, calculated on an individual account basis.
3. Irrigation and other accounts:
 - a. Level A = Less than or equal to forty percent of base year, calculated on an individual account basis;
 - b. Level B = Greater than forty percent of base year, but less than one hundred percent of base year, calculated on an individual account basis;
 - c. One hundred percent or greater of base year, calculated on an individual account basis.
4. All remaining accounts:

- a. Level A = Less than or equal to seventy percent of base year, calculated on an individual account basis;
- b. Level B = Greater than seventy percent of base year, but less than one hundred percent of base year calculated on an individual account basis;
- c. Level C = One hundred percent or greater of base year, calculated on an individual account basis.

H. Phase VIII. The city council orders that overall water consumption be reduced by forty percent.

Such conservation shall be mandatory and is subject to the following limits:

- 1. Single-family residential:
 - a. Level A = 0 - 18,000 gallons;
 - b. Level B = 18,001 - 28,000 gallons;
 - c. Level C = 28,001 - 48,000 gallons;
 - d. Level D = 48,001 - 78,000 gallons;
 - e. Level E = 78,001 gallons or greater.
- 2. Multifamily residential:
 - a. Level A = Less than or equal to sixty percent of base year, calculated on an individual account basis;
 - b. Level B = Greater than sixty percent of base year, but less than one hundred percent of base year, calculated on an individual account basis;
 - c. Level C = One hundred percent or greater of base year, calculated on an individual account basis.
- 3. Irrigation and other accounts:
 - a. Level A = Less than or equal to thirty percent of base year, calculated on an individual account basis;
 - b. Level B = Greater than thirty percent of base year, but less than one hundred percent of base year, calculated on an individual account basis;
 - c. Level C = One hundred percent or greater of base year, calculated on an individual account basis.
- 4. All remaining accounts:
 - a. Level A = Less than or equal to sixty percent of base year, calculated on an individual account basis;
 - b. Level B = Greater than sixty percent of base year, but less than one hundred percent of base year, calculated on an individual account basis;
 - c. Level C = One hundred percent or greater of base year, calculated on an individual account basis.

I. Phase IX. The city council orders that overall water consumption be reduced by fifty percent. Such conservation shall be mandatory and is subject to the following limits:

- 1. Single-family residential:
 - a. Level A = 0 - 16,000 gallons;
 - b. Level B = 16,001 - 23,000 gallons;
 - c. Level C = 23,001 - 43,000 gallons;
 - d. Level D = 43,001 - 73,000 gallons;
 - e. Level E = 73,001 gallons or greater.
- 2. Multifamily residential:
 - a. Level A = Less than or equal to fifty percent of base year, calculated on an individual account basis;

- b. Level B = Greater than fifty percent of base year, but less than one hundred percent of base year, calculated on an individual account basis;
 - c. Level C = One hundred percent or greater of base year, calculated on an individual account basis.
 - 3. Irrigation and other accounts:
 - a. Level A = Less than or equal to twenty-five percent of base year, calculated on an individual account basis;
 - b. Level B = Greater than twenty-five percent of base year, but less than one hundred percent of base year, calculated on an individual account basis;
 - c. Level C = One hundred percent or greater of base year, calculated on an individual account basis.
 - 4. All remaining accounts:
 - a. Level A = Less than or equal to fifty percent of base year, calculated on an individual account basis;
 - b. Level B = Greater than fifty percent of base year, but less than one hundred percent of base year, calculated on an individual account basis;
 - c. Level C = One hundred percent or greater of base year, calculated on an individual account basis.
- (Ord. 1057 § 3, 2015; Ord. 1009 § 2, 2009; Ord. 830 § 2, 1991; Ord. 822 § 3, 1991)

13.15.035 Base year adjustments.

A. The city, in its discretion, may adjust the base year assigned to any customer if that customer establishes, to the satisfaction of the appeal officer, that the base year, as provided herein, would cause great hardship in accordance with the provisions of Section 13.15.050.

B. Any nonresidential customer who was not a customer on the premises for which service was billed during the base period shall be assigned the same base period for such or similar premises as provided herein and the city shall have the further discretion to adjust the base year in the event such customer's use of the premises is substantially different from the previous use thereof during the base period. (Ord. 1009 § 2, 2009; Ord. 822 § 3, 1991)

13.15.040 Water use restrictions established.

The following water use restrictions and regulations shall apply to the respective phases of this section as approved by the city council. Except under Phase I of this section, compliance with these regulations shall be mandatory.

A. Phase I. Voluntary Restrictions. Compliance with any of the restrictions identified under this section shall be voluntary and is encouraged.

B. Phase II. Mandatory Restrictions.

1. Hose washing of sidewalks, walkways, driveways, parking areas, or other paved surfaces shall be prohibited.

2. Washing of motor vehicles, trailers, boats, and other types of mobile equipments shall be done only with a hand-held water container or a hose equipped with a positive shut off nozzle for quick rinses, except that washing may be done on the immediate premises of a commercial car wash or with reclaimed water.

3. No water shall be used to clean, fill or maintain levels in decorative fountains, or other similar aesthetic structures unless such water is part of a recycling system.

4. No restaurant, hotel, café, cafeteria, or other public place where food is sold, served, or offered for sale, shall serve drinking water to any customer unless expressly requested.

5. All leaks from indoor and outdoor plumbing fixtures shall be repaired within forty-eight hours of discovery or notification.

6. Watering of landscape or other turf area shall only be permitted between the hours of one hour before sunset and ten a.m., except that this provision shall not apply to commercial nurseries, golf courses, and other water dependent industries; except that there shall be no restriction on watering with reclaimed water, providing that signs are posted that identify reclaimed water is being used. The use of properly operating drip irrigation systems or hand held buckets shall be permitted at any time.

7. Water runoff from landscaped areas into adjoining streets, sidewalks, or other paved areas shall be prohibited.

8. Construction water for grading and other purposes shall be limited to ground produced water at the discretion of the city.

9. Installation of single pass cooling systems shall be prohibited in buildings requesting new water service.

10. Installation of non-recirculating water systems shall be prohibited in new commercial conveyor car wash and new commercial laundry systems.

11. Food preparation establishments, such as restaurants or cafes, shall be prohibited from using non-water conserving dish wash spray valves.

C. Phase III. Mandatory Restrictions. The restrictions identified in Section 13.15.040(B) shall remain in effect with no further restrictions applying.

D. Phase IV. Mandatory Restrictions.

1. The restrictions identified in Section 13.15.040(B), excepting Section 13.15.040(B)(6), shall remain in effect.

2. Watering of landscape or other turf area, including that of commercial nurseries, golf courses, and other water dependent industries shall only be permitted between the hours of one hour before sunset and ten a.m. for no more than five minutes per station or area, and not to exceed more than twenty minutes per week; except that there shall be no restriction on watering with reclaimed water, providing that signs are posted that identify reclaimed water is being used. The use of properly operating drip irrigation systems or hand held buckets shall be permitted at any time.

E. Phase V. Mandatory Restrictions.

1. The restrictions identified in Section 13.15.040(B), excepting Section 13.15.040(B)(6), shall remain in effect.

2. Watering of landscape or other turf area, including that of commercial nurseries, golf courses, and other water dependent industries shall only be permitted between the hours of one hour before sunset and ten a.m. for no more than five minutes per station or area, and not to exceed more than twenty minutes per week; except that there shall be no restriction on watering with reclaimed water, providing that signs are posted that identify reclaimed water is being used. The use of properly operating drip irrigation systems or hand held buckets shall be permitted at any time.

F. Phase VI. Mandatory Restrictions.

1. The restrictions identified in Section 13.15.040(B), excepting Section 13.15.040(B)(6), shall remain in effect.

2. Watering of landscape or other turf area, including that of commercial nurseries, golf courses, and other water dependent industries shall only be permitted between the hours of one hour before sunset and ten a.m. for no more than five minutes per station or area, and not to exceed more than twenty minutes per week; except that there shall be no restriction on watering with reclaimed water, providing that signs are posted that

identify reclaimed water is being used. The use of properly operating drip irrigation systems or hand held buckets shall be permitted at any time.

G. Phase VII. Mandatory Restrictions.

1. The restrictions identified in Section 13.15.040(B), excepting Section 13.15.040(B)(6), shall remain in effect.

2. Watering of landscapes and other turf area, including that of commercial nurseries, golf courses, and other water dependent industries shall only be permitted between the hours of one hour before sunset and ten a.m. for no more than five minutes per station or area, and not to exceed more than twenty minutes per week; except that there shall be no restriction on watering with reclaimed water, providing that signs are posted that identify reclaimed water is being used. The use of properly operating drip irrigation systems or hand held buckets shall be permitted at any time.

3. New swimming pool and spa permits shall be issued at the discretion of the public works director based upon the availability of water.

H. Phase VIII. Mandatory Restrictions.

1. The restrictions identified in Section 13.15.040(B), excepting Section 13.15.040(B)(6), shall remain in effect.

2. All outdoor irrigation is prohibited except for hand held watering or use of properly operating drip irrigation systems to water mature trees and mature shrubs. Commercial nurseries and other water dependent industries shall only water landscape stock by use of properly operating drip irrigation systems or hand held buckets. Watering of all outdoor turf areas is prohibited, excepting golf course greens.

3. Issuance of new swimming pool and spa permits shall be prohibited.

4. No new water service connections will be permitted nor will an increase in the size of an already existing water service connection be permitted, nor will there be any net increase in plumbing fixtures to an already existing water service connection. (Ord. 1009 § 2, 2009; Ord. 834, 1991; Ord. 822 § 3, 1991)

13.15.043 Failure to comply—Violation—Penalty.

It is unlawful for any customer to fail to comply with the provisions of this chapter. Further, it is unlawful for any customer to consume water in excess of the base year or as provided in Level C of Sections 13.15.030(B), (C), (D), (E), (F) and (G). In addition to any other penalties or penalty surcharges provided for in any other section of this chapter, the city reserves the right to install a flow restricting device on the service line at the customer's expense for continued violation of the provisions of this chapter or for excess consumption for two consecutive billing periods. Further, such prohibited uses and restrictions shall not be applicable to the maintenance of active parks as designated by the director of public works and other routinely used athletic fields. However, to the extent possible, such facilities shall be irrigated in accordance with the provisions of this chapter. (Ord. 1057 § 4, 2015; Ord. 1017 § 5, 2010; Ord. 1009 § 2, 2009; Ord. 827 § 1, 1991; Ord. 822 § 3, 1991)

13.15.045 Exceptions.

The prohibited uses and restrictions on water shall not be applicable to that use of water which is necessary for essential governmental services such as police, fire, and other similar emergency services. (Ord. 1009 § 2, 2009; Ord. 822 § 3, 1991)

13.15.050 Appeals.

Any customer may appeal the provisions of this chapter on the basis of hardship or billing error. Appeals shall be processed as set forth in this section.

A. All appeals shall be submitted in writing on forms provided by the customer service division to the public works director within ten days after the receipt of the disputed billing and shall include the name and address of the party submitting the appeal as well as a brief explanation on the nature of the appeal. The appeal should also include what remedy the appellant seeks, if any.

B. To avoid additional late penalties or discontinuance of service, water bills shall be paid under protest prior to the due date and pending the conclusion of the appeal procedure.

C. In the event that an appeal is requested for irrigation of trees in residential categories, for any agricultural use or business related use, the city may use the services of a qualified consultant in determining the validity of the request.

D. The appeal officer, as defined in Section 13.15.015(B), shall review and decide all appeals within fifteen business days. A written decision shall be sent to the appellant.

E. After a review of the appeal by the appeal officer, a site visit may be scheduled to aid in determining the facts of the appeal.

F. The appeal officer shall have the power, upon the filing of an appeal by the aggrieved customer, to take such steps as necessary and reasonable to resolve said appeals. In reviewing the appeal, the appeal officer shall take into consideration all relevant factors including, but not limited to, the following:

1. Whether any additional reduction will result in unemployment;
2. Increased number of employees in commercial, industrial or governmental offices;
3. Increased production requiring increased process water;
4. Adjustments to water use caused by emergency health and safety hazards;
5. Water use necessary for reasons related to family illness or health;
6. Whether additional members have been added to the household (average per household equals three per multifamily and four per single-family residence);
7. Valid home occupation requiring process water;
8. Irrigation of mature fruit trees;
9. Plantings required for fire protection and slope stability;
10. Hospital and/or health care facility;
11. Customer currently employing maximum water conservation measures.

G. If the appellant is aggrieved of the appeal officer's decision, an appeal may be filed in the same manner as set forth in Section 13.15.040(A)(1) to the city manager or designee whose decision shall be final. The appeals shall be accompanied by a fifty dollar nonrefundable filing fee for residential customer accounts and a one hundred dollar filing fee for all other customer accounts; except that in the event that the appeal or portion of the appeal is granted, a proportional amount of the filing fee shall be refunded.

H. No appeal shall be granted unless the customer can show maximum practical reduction in water consumption other than in the specific areas in which relief is being sought. Further, in no event shall an appeal be granted for the purpose of maintaining turf and similar landscape. The appeal officer may request, and the customer shall provide, reasonable and necessary information for the resolution of the customer's application for appeal. This includes the installation and use of the following water efficient plumbing fixtures and/or irrigation systems:

1. High efficiency toilets (1.6 gallons per flush or less) as approved by the building official;

2. Low flow shower heads (2.5 gallons per minute or less at 40 psi);
3. Drip, mini emitter or low volume sprinkler irrigation systems;
4. Weather based controllers in association with automated irrigation systems;
5. Sink and lavatory faucets which limit the flow of water to a maximum of 2.5 gallons per minute at 40 psi. (Ord. 1009 § 2, 2009; Ord. 822 § 3, 1991)

13.15.060 Suspension of penalty surcharge when.

The city council may, by resolution and without repealing the ordinance codified in this chapter, suspend the California Drought Penalty Surcharge, as specified in Section 13.15.020, at such time that the city council determines that the water shortage no longer exists or that the threat has been substantially reduced so that the penalty surcharge is no longer necessary to motivate conservation. Similarly, the city council may, by resolution, impose the penalty surcharge upon finding that the water shortage conditions have reappeared. Suspension or imposition of the penalty surcharge shall not affect the requirements of the adopted phase of this conservation plan. (Ord. 1057 § 5, 2015; Ord. 1009 § 2, 2009; Ord. 822 § 3, 1991)

13.15.070 Effective date.

The ordinance codified in this chapter shall be effective immediately upon adoption. The California Drought Penalty Surcharge shall be applicable to all water billing periods on or after March 5, 1991. (Ord. 1057 § 6, 2015; Ord. 1009 § 2, 2009; Ord. 822 § 3, 1991)

13.15.080 Enforcement.

The city manager and the director of public works, and their appointed designees, shall have the duty and are authorized to enforce the provisions of this chapter and shall have the powers and authority contained in the California Penal Code Section 836.5, including the power to issue written notice to appear. Each law enforcement officer of the city shall, in connection with those duties empowered by law, diligently enforce the provisions of this chapter. (Ord. 1009 § 2, 2009; Ord. 822 § 3, 1991)

13.15.090 Reports and recommendations.

The director of public works shall submit a written report to the city council on compliance with this chapter in light of future water supply conditions and shall also report on the administration of this chapter. The reports shall be bimonthly and commence May 1991. (Ord. 1009 § 2, 2009; Ord. 822 § 3, 1991)

13.15.100 Severability.

If any section, subsection, sentence, clause, or phrase of this chapter is for any reason held to be invalid or unconstitutional by the decision of any court of competent jurisdiction, such decision shall not affect the validity of the remaining portions of this chapter. The city council declares that it would have passed the ordinance codified in this chapter and each section, subsection, clause or phrase hereof, irrespective of the fact that any one or more of the sections, subsection, sentences, clauses or phrases hereof be declared invalid or unconstitutional. (Ord. 1009 § 2, 2009; Ord. 822 § 3, 1991)

View the [mobile version](#).



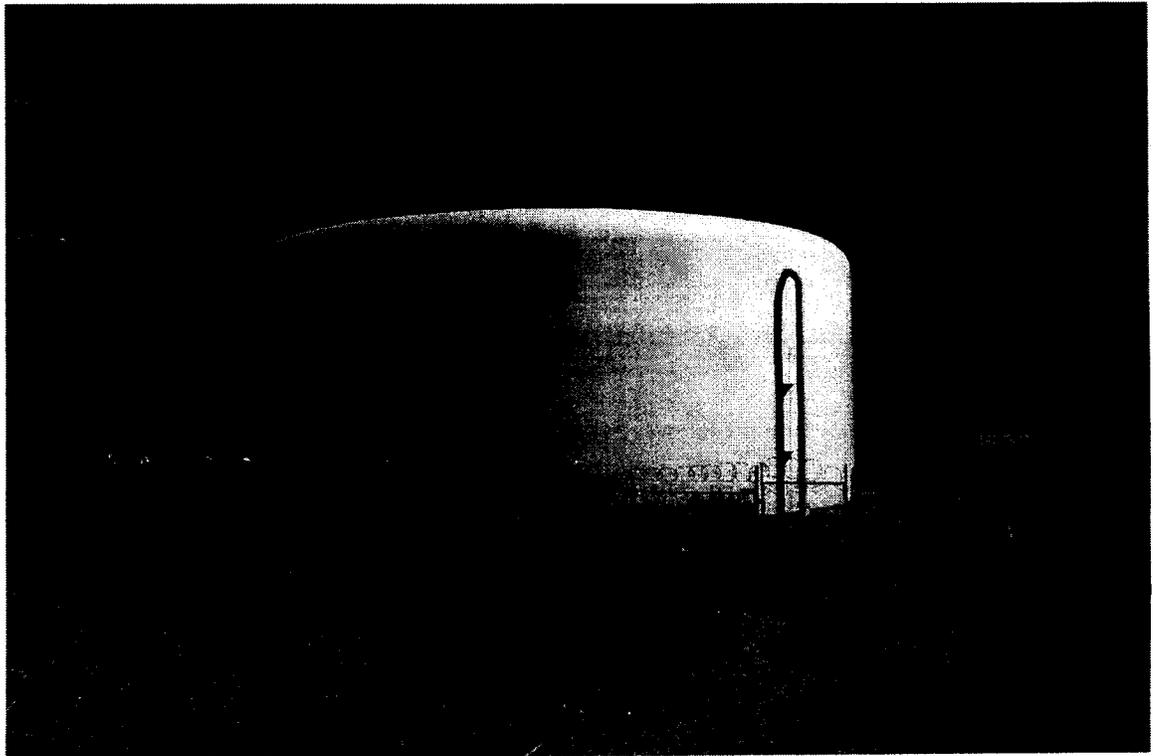
Appendix G

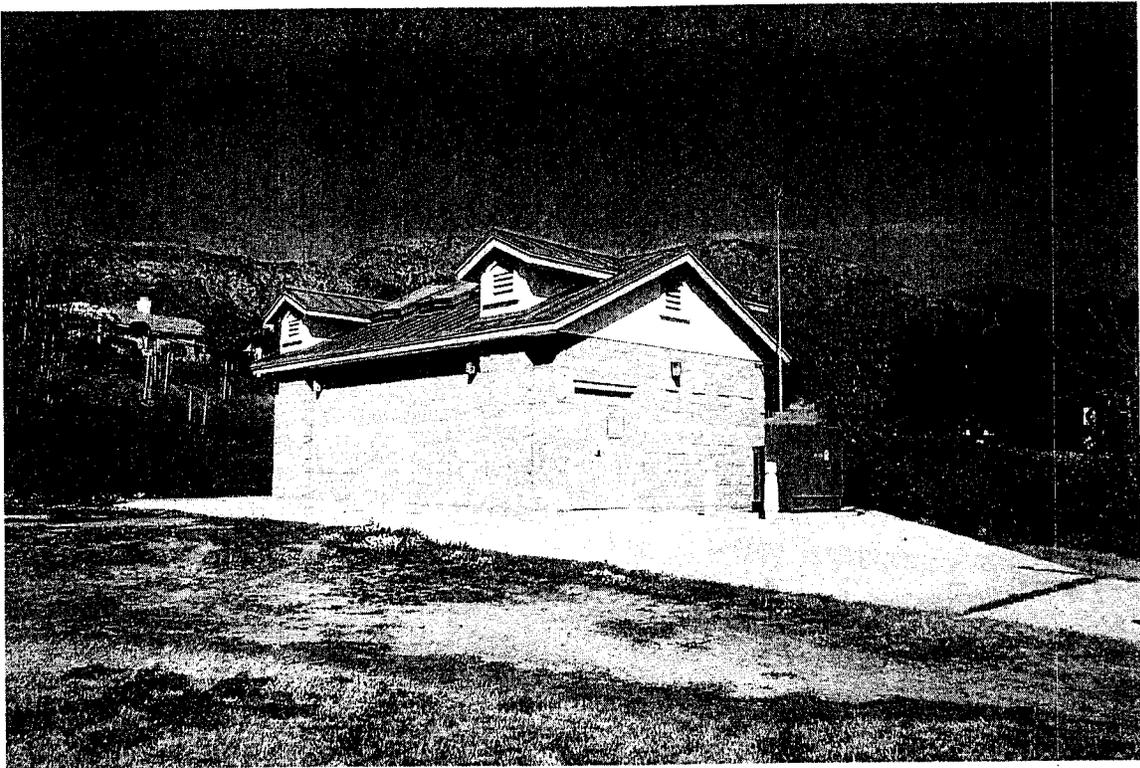
Water System Emergency Response and Standard Operating Procedure Plan

**Water System
Emergency Response and Standard Operating
Procedure Plan**



City of La Verne





Update
May 2016

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APPENDIX A

Date:

UNSAFE WATER ALERT

[Insert one-liner language other than Spanish here, otherwise delete.]

[System Name] water is possibly contaminated with [an unknown substance]

DO NOT USE YOUR WATER

Failure to follow this advisory could result in illness.

An unknown substance has been added to the drinking water supplied by the [Water System Name] due to a recent [intrusion; break-in] at [one of the wells; our treatment plant; storage tank; specific facility]. The State Water Resources Control Board, [County Name] County Health Department, and [Water System name] Water System are advising residents of [City, Town, System] to NOT USE THE TAP WATER FOR DRINKING, COOKING, HAND WASHING, OR BATHING UNTIL FURTHER NOTICE.

What should I do?

- **DO NOT USE YOUR TAP WATER---USE ONLY BOTTLED WATER.** Bottled water should be used for all drinking (including baby formula and juice), brushing teeth, washing dishes, making ice, food preparation and bathing **until further notice.**
- **DO NOT TRY AND TREAT THE WATER YOURSELF.** Boiling, freezing, filtering, adding chlorine or other disinfectants, or letting water stand will not make the water safe.
- Optional: Potable water is available at the following locations: [List locations]
Please bring a clean water container (5 gallons maximum capacity).

We will inform you when tests show that the water is safe again. We expect to resolve the problem within [estimated time frame].

For more information call:

Water Utility contact: [Name, title, phone & address of responsible utility representative].

State Water Resources Control Board at: [insert local district office, DE and phone number].

Local County Health Department: [insert phone number of local health department].

This notice is being sent to you by [insert water system name]. California Public Water System ID # [XXXXXXX]. Date Distributed: [date].

Please share this information with all other people who receive this water, especially those who may not have received this notice directly (for example, people in apartments, nursing homes, schools, and businesses). You can do this by posting this notice in a public place or distributing copies by hand.

NAME OF UTILITY

DATE _____

CANCELLATION OF BOIL WATER NOTICE

On (date) _____ you were notified of the need to boil/disinfect all tap water used for drinking and cooking purposes.

The _____ Water System in conjunction with the State Water Resources Control Board, and/or _____ Local Environmental Health Jurisdiction, has determined that, through abatement of the health hazard and comprehensive testing of the water, your water is safe to drink. **It is no longer necessary to boil your tap water or for you to consume bottled water.**

For more information call:

Water Utility contact: _____
(Name, title and phone number of utility representative)

State Water Resources Control Board: _____

Local Environmental Health Jurisdiction: _____

APPENDIX B

EMERGENCY DIRECTORY (CONFIDENTIAL)

Revised April 11, 2016

(TVMWD Emergency radio frequency: 153.2150RX / 159.6000TX kHz with DPL 131, 12.5 kHz)

Agency/Address	Name/Title	Phone Numbers	Email	Emergency Radio
BOY SCOUTS Firestone Reservation 19005 Tonner Canyon Rd. Brea, CA 92621	① Matthew Haisig Ranger/Property Manager	Work: 714-529-3022 Fax: 714-529-3015 Cell: 714-397-2941	mwhaisig@gmail.com	NO
	② Boy Scouts of America 2333 Scout Way Los Angeles, CA 90026	Work: 213-413-4400 ext 344 Fax: 213-353-0379		
CAL POLY UNIV POMONA 3801 West Temple Ave. Pomona, CA 91768-4020	① Javier Arreguin Mgr, Water Operations	Work: 909-869-5189 Cell: 909-524-9237	jarreguin@cpp.edu	NO
	② George Lwin Manager of Energy & Utilities	Work: 909-869-3034 Cell: 909-455-8846	galwin@cpp.edu	
	③ Joseph D. Phillipy Shift Operator	Work: 909-869-5189 Cell: 909-706-5643	jdphillipy@cpp.edu	
	④ Customer Service Center (8-5 M-F)	909-869-3030	fncustomer@cpp.edu	
	⑤ Cal Poly University Police (24 hr dispatch)	909-869-3070		
COVINA IRRIGATING 146 E. College St. Covina, CA 91723-0306 Tele: 626-332-1502 Fax: 626-967-5942	① David De Jesus Plant Superintendent	Work: 626-332-1502 Cell: 213-446-8730 Home: 909-595-8189	cic@cich2o.com	YES
	② Steve Sherman Plant Superintendent	Work: 626-332-1502 Cell: 626-255-1784 Pager: 626-301-7225 Home: 909-591-0324	cic@cich2o.com	
	③ Matthew Kuns Plant Operator	Work: 626-332-1502 Cell: 626-255-1783 Pager: 626-301-6775 Home: 626-974-6549	cic@cich2o.com	
COVINA WATER DEPT 534 North Barranca Ave. Covina, CA 91723 Tele: 626-384-5230 Fax: 626-384-5227	① Siobhan Foster Director	Work: 626-384-5215 Cell: 951-453-8808	sfosier@covinaca.gov	YES
	② Paul Hertz Public Works Superintendent	Work: 626-384-5219 Cell: 626-705-4118 Home: 323-999-7786	phertz@covinaca.gov	
	③ Dean Dospital Water Services Supervisor	Work: 626-384-5235 Cell: 626-712-3803 Home: 626-334-3062	ddospital@covinaca.gov	
	④ Oscar Luque Water Pump Operator	Work: 626-384-5233 Cell: 626-705-6300 Home: 626-289-7345	oluque@covinaca.gov	
	⑤ Adrian Rodriguez Pump Operator	Work: 626-384-5233 Cell: 626-523-4350 Home: 626-487-5662	arodriguez@covinaca.gov	
	⑥ Mike Puente Water Foreman	Work: 626-384-5234 or 5232 Cell: 626-945-9237	mpuente@covinaca.gov	

Covina Police Dispatcher (24 hr. dispatcher)
STAND-BY: 626-945-6093
STAND-BY2: 626-945-6095

626-384-5808

GLENDORA WATER DEPT

City Hall
116 E. Foothill Blvd.
Glendora, CA 91740-3380

ddavies@ci.glendora.ca.us YES

- ① Dave Davies
Director Public Works
Work: 626-914-8246
Home: 909-989-2438
Cell: 909-561-7343
- ② Steve Patton
Water Division Manager
Work: 626-914-8249
Cell: 626-786-1810
Home: 909-987-4240
- ③ Scott Hopkins
Water Division Manager
Work: 626-914-8256
Cell: 626-512-2777
Home: 626-967-4238

rhopkins@ci.glendora.ca.us

- ④ Emergency Cell Phones (on standby)
Water Transmission
Water Distribution

GOLDEN STATE WATER CO

Corporate Headquarters
630 E. Foothill Blvd.
San Dimas, CA 91773
Tele: 909-394-3600
Fax: 909-394-0711

dale.wert@gswater.com YES

- ① Dale Wert
Lead personnel will answer mobile ⇄
Work: 909-394-1387
Cell: 909-226-6731
- ② Kyle Snay
Operations Engineer
Work: 909-592-4271, ex 103
Cell: 909-224-7207
Fax: 909-592-6690
- ③ Ben Lewis
District Manager
Work: 909-592-4271, ex 102
Cell: 909-227-0617
Fax: 909-592-6690

kylesnay@gswater.com

benjamin.lewis@gswater.com

- ④ 24-hr Customer Service
800-999-4033

LA VERNE WATER DEPT

City Hall
3660 D Street
La Verne, CA 91750
Tele: 909-596-8741
Fax: 909-596-8799

YES

- ① Production Operations Staff
Work: 909-596-8770
Cell: 909-229-2759
- ② PD Dispatch (after hours - 24-hr number)
909-596-1913
- ③ Richard Martinez
Water Supervisor
Work: 909-596-8741
Cell: 909-730-3504
Home: 760-946-2317
- ④ Jerry Mesa
Utilities Manager
Work: 909-596-8741
Cell: 714-325-6882
Home: 714-996-8522
- ⑤ Dan Keeseey
Director Public Works
Work: 909-596-8741
Cell: 909-240-5950
Home: 909-944-7975

rjmartinez@ci.la-verne.ca.us

jmesa@ci.la-verne.ca.us

dkeeseey@ci.la-verne.ca.us

MT SAN ANTONIO COLLEGE

1100 N. Grand Ave
Walnut, CA 91789-1399
Tele: 909-594-5611
Fax: 909-468-3931

Washer@mtsac.edu NO

- ① William Asher
Asst Director Facilities Mgmt
Work: 909-274-5177
Cell: 909-664-4910
- ② Matt Thatcher
Lead Plumber
Work: 909-274-4868
Home: 909-821-3518
- ③ Campus Police (24-hr emergency number)
909-594-5611 ex 4555

mthatcher@mtsac.edu

POMONA WATER/

WASTEWATER OPERATIONS
148 N. Huntington
Pomona, CA 91768-3519
Tele: 909-621-2251

YES

- ① On-duty Operator
After hours "Stand-by"
Work: 909-772-4241
Cell: 909-772-9989
- ② Steve Paz
Water Production Supervisor
Work: 909-620-2254
Cell: 909-455-6417

stephen_paz@ci.pomona.ca.us

Fax: 909-620-2222

- ③ Jason Interlicchia
Water Operations Crew Chief
Work: 909-620-3668
Cell: 909-724-9557
jason_interlicchia@ci.pomona.ca.us
 - ④ Gary Matthews
Water Distribution Supervisor
Work: 909-620-2255
Cell: 909-455-8497
gary_matthews@ci.pomona.ca.us
 - ⑤ Darron Poulsen
Water/Wastewater Operations
Work: 909-620-2253
Cell: 909-240-6122
Darron_Poulsen@ci.pomona.ca.us
 - ⑥ Raul Garibay
Supervising Water Resources Eng
Work: 909-620-2239
Home: 626-510-6210
Raul_Garibay@ci.pomona.ca.us
- PWR JOINT WATER LINE**
(See Walnut Valleys Water District for list of contacts.)
Tele: 909-595-7554
Fax: 909-594-9532
YES

c/o Walnut Valley WD
271 S. Brea Canyon Rd.
Walnut, CA 91789-3002

- ① Tom Coleman
General Manager
Work: 562-697-1726
Cell: 951-751-7550
Home: 951-220-7648
tomcolem@rowlandwater.com YES
- ② Dave Warren
Director of Operations
Work: 562-697-1726
Cell: 310-779-0368
Home: 909-591-4714
dwarren@rowlandwater.com
- ③ Eric Hall
Operations Superintendent
Work: 562-697-1726
Cell: 562-457-7067
Home: 626-914-9931
ehall@rowlandwater.com
- ④ Dave Shubin
Distribution Superintendent
Work: 562-697-1726
Cell: 562-457-8118
Home: 626-964-5091
dshubin@rowlandwater.com

- ① Matt Martinez (M-F Day 7:00am - 3:30pm)
Work: 626-543-2698
Cell: 626-255-1904
mmartinez@swwc.com YES
- ② Alex Rangel (M-F Day 7:00am - 3:30pm)
Work: 626-543-2679
Cell: 562-755-5023
arangel@swwc.com
- ③ Call Center (Nights and Weekends)
Work: 562-464-1844
- ④ Craig Gott
V.P. Operations
Work: 626-543-2554
Cell: 626-705-0476
cgott@swwc.com
- ⑤ John Brettli
V.P. Quality Assurance
Work: 626-543-2643
Cell: 626-523-0859
jbrettli@swwc.com

1325 N. Grand
Covina, CA 91724-4044
Tele: 626-543-2500
Fax: 626-331-6363

- ① On-duty Water Treatment Technician
24 Hours: 909-621-5568 ex 118
Cell: 909-241-6757
lab@tvrmwd.com YES
- ② Steve Lang
Operations Manager
Work: 909-621-5568 ex 111
Cell: 909-477-9698
slang@tvrmwd.com
- ③ Dominique Aguiar
Operations Supervisor
Work: 909-621-5568 ex 101
Cell: 909-815-7350
daguiar@tvrmwd.com

THREE VALLEYS MWD
1021 E. Miramar Ave.
Claremont, CA 91711
Tele: 909-621-5568
Fax: 909-625-5470

- ④ Freeman Ensign
Operations Supervisor

Work: 909-621-5568 ex 115
Cell: 626-290-8259

fensign@tvrmwd.com

VALENCIA HEIGHTS WATER

3009 Virginia Ave.
West Covina, CA
91791-2252
Tele: 626-332-8935
Fax: 626-332-9441
email: info@vhwc.org

- ① Dave Michalko
General Manager

Work: 626-332-8935
Cell: 909-215-6895

dmichalko@vhwc.org

YES

- ② Tim Pacheco

Work: 626-332-8935
Cell: 909-821-0255

tpacheco@vhwc.org

- ③ Ernie Romero

Work: 626-332-8935
Cell: 626-664-7742

eromero@vhwc.org

- ④ Barbara Karady

Work: 626-332-8935
Cell: 626-590-0549

bkarady@vhwc.org

- ① On-duty Operator
After hours "Stand-by"

Work: 909-595-7554
Prod Cell: 909-210-6655
Field Cell: 909-210-6656

operators@wwwd.com

YES

- ② Dave Johnson
Field Superintendent

Work: 909-595-7554
Home: 951-733-7952

djohnson@wwwd.com

- ③ Tom Monk
Production Manager

Work: 909-595-7554
Home: 909-839-0430
Cell: 909-821-3749

tmonk@wwwd.com

- ④ Sherry Shaw
Engineering Manager & Production
Superintendent

Work: 909-595-7554
Home: 909-596-6960
Cell: 818-388-2980

sshaw@wwwd.com

- ⑤ Ty Maddux
Production/Water Quality

Work: 909-595-7554
Home: 909-762-9943

tmaddux@wwwd.com

- ⑥ Tom Hunt
Production Lead

Work: 909-595-7554
Cell: 951-836-2320

thunt@wwwd.com

- ⑦ Erik Hitchman
Asst GM / Chief Engineer

Work: 909-595-1268 ext 244
Home: 909-629-4212
Cell: 909-702-4511

ehitchman@wwwd.com

- ⑧ Mike Holmes
General Manager

Work: 909-595-1268 ext 273
Home: 626-852-1984
Cell: 909-831-4868

mholmes@wwwd.com

WALNUT VALLEY WATER

DISTRICT
271 Brea Canyon Rd.
Walnut, CA 91789-3002
Tele: 909-595-7554
Fax: 909-444-5521

**COVINA, CITY OF
EMERGENCY EQUIPMENT LIST**

Contact Name: Richard Jordan (626) 858-7257

EQUIPMENT	TOTAL # AVAILABLE
Backhoes	2
Cranes	
Fuel Trucks	
Graders	
Loaders, Front End	2
Portable Air Compressors	2
Portable Chlorinators	2
Portable Generators	
Portable Welders	3
Pumps	5
Trenchers	
Water Quality Testing Ability	
Water Trucks	
Dump Truck	
Ditch Pump	
10 kw Light Tower	
INVENTORY	
Pipeline Sections	4" - 10"
Valves	4" - 10"
Clamps	4" - 10"
Couplings	4" - 10"
Others:	
SERVICES (on retainer)	
Electrical Contractors	
General Contractors	
Heavy Construction Services	
Vendors	
Support Staff	12 Field, 8 Public Works
Others:	

**GLENDORA, CITY OF
EMERGENCY EQUIPMENT LIST**

Contact Name: Ted Carrera (626) 914-8248

EQUIPMENT	TOTAL # AVAILABLE
Backhoes	2
Cranes	1
Fuel Trucks	
Graders	
Loaders, Front End	3
Portable Air Compressors	2
Portable Chlorinators	
Portable Generators	3
Portable Welders	1
Pumps	3
Trenchers	
Water Quality Testing Ability	
Water Trucks	
Dump Truck	
Ditch Pumps	
10 kw Light Tower	
INVENTORY	
Pipeline Sections	(5) 2" - 12"
Valves	(5) 2" - 8" B, F & G
Clamps	(10) 6", (5) 8", (2) 10" & 12"
Couplings	(5) 2" - 12"
Others:	
SERVICES (on retainer)	
Electrical Contractors	
General Contractors	
Heavy Construction Services	
Vendors	
Support Staff	21
Others:	

**LA VERNE, CITY OF
EMERGENCY EQUIPMENT LIST**

Contact Name: ^{10/24} ~~Ron Bow~~ (909) 596-8741

EQUIPMENT	TOTAL # AVAILABLE
Backhoes	1
Cranes	
Fuel Trucks	
Graders	
Loaders, Front End	2
Portable Air Compressors	2
Portable Chlorinators	
Portable Generators	3
Portable Welders	2
Pumps	3
Trenchers	1
Water Quality Testing Ability	
Water Trucks	
Dump Truck	
Ditch Pumps	
10 kw Light Tower	1
INVENTORY	
Pipeline Sections	12" (20)
Valves	8"(2), 10"(1), 12"(2)
Clamps	8"(4), 10"(2), 12"(2), 14"(2)
Couplings	10"(4), 12"(3)
Others:	
SERVICES (on retainer)	
Electrical Contractors	A&B Electric, Golden West Electric
General Contractors	Gentry, Brkrich
Heavy Construction Services	Doty Brothers
Vendors	Western Water Works, S&J Supply
Support Staff	
Others:	

**POMONA, CITY OF
EMERGENCY EQUIPMENT LIST**

Contact Name: Jim Taylor (909) 620-2253

EQUIPMENT	TOTAL # AVAILABLE
Backhoes	
Cranes	1.5 Ton
Fuel Trucks	
Graders	
Loaders, Front End	2
Portable Air Compressors	4
Portable Chlorinators	
Portable Generators	4
Portable Welders	2
Pumps	4
Trenchers	
Water Quality Testing Ability	
Water Trucks	2,000 Gallon
Dump Truck	
Ditch Pumps	
10 kw Light Tower	
INVENTORY	
Pipeline Sections	D.T. 6", 8", 10", 12", 14"
Valves	Gate 6", 8", 10", 12"
Clamps	6", 8", 10", 12", 14"
Couplings	6", 8", 10", 12"
Others:	
SERVICES (on retainer)	
Electrical Contractors	
General Contractors	
Heavy Construction Services	
Vendors	Inland Water
Support Staff	5
Others:	

**ROWLAND WATER DISTRICT
EMERGENCY EQUIPMENT LIST**

Contact Name: Ken Deck (562) 697-1726

EQUIPMENT	TOTAL # AVAILABLE
Backhoes	2
Cranes	
Fuel Trucks	
Graders	
Loaders, Front End	
Portable Air Compressors	2
Portable Chlorinators	
Portable Generators	2
Portable Welders	1
Pumps	3
Trenchers	
Water Quality Testing Ability	
Water Trucks	
Dump Truck	
Ditch Pumps	
10 kw Light Tower	
INVENTORY	
Pipeline Sections	
Valves	
Clamps	
Couplings	
Others:	
SERVICES (on retainer)	
Electrical Contractors	
General Contractors	
Heavy Construction Services	
Vendors	
Support Staff	
Others:	

**SOUTHERN CALIFORNIA WATER COMPANY
EMERGENCY EQUIPMENT LIST**

Contact Name: Leroy Barker (909) 599-1289

EQUIPMENT	TOTAL # AVAILABLE
Backhoes	2
Cranes	
Fuel Trucks	
Graders	
Loaders, Front End	1
Portable Air Compressors	3
Portable Chlorinators	
Portable Generators	
Portable Welders	
Pumps	2
Trenchers	
Water Quality Testing Ability	
Water Trucks	
Dump Truck	2
Ditch Pumps	5
10 kw Light Tower	
INVENTORY	
Pipeline Sections	
Valves	
Clamps	
Couplings	
Others:	
SERVICES (on retainer)	
Electrical Contractors	
General Contractors	
Heavy Construction Services	
Vendors	
Support Staff	
Others:	

**VALENCIA HEIGHTS WATER COMPANY
EMERGENCY EQUIPMENT LIST**

Contact Name: Dave Michalko (626) 332-8935

EQUIPMENT	TOTAL # AVAILABLE
Backhoes	1
Cranes	
Fuel Trucks	
Graders	
Loaders, Front End	
Portable Air Compressors	
Portable Chlorinators	
Portable Generators	
Portable Welders	
Pumps	1
Trenchers	
Water Quality Testing Ability	
Water Trucks	
Dump Truck	
Ditch Pumps	
10 kw Light Tower	
INVENTORY	
Pipeline Sections	4" - 12"
Valves	
Clamps	4" - 12"
Couplings	
Others:	
SERVICES (on retainer)	
Electrical Contractors	
General Contractors	
Heavy Construction Services	
Vendors	
Support Staff	3
Others:	

**WALNUT VALLEY WATER DISTRICT
EMERGENCY EQUIPMENT LIST**

Contact Name: Ed Castanon (909) 595-1268

EQUIPMENT	TOTAL # AVAILABLE
Backhoes	
Cranes	
Fuel Trucks	
Graders	
Loaders, Front End	
Portable Air Compressors	3
Portable Chlorinators	
Portable Generators	2
Portable Welders	1
Pumps	2
Trenchers	
Water Quality Testing Ability	
Water Trucks	
Dump Truck	
Ditch Pumps	
10 kw Light Tower	
INVENTORY	
Pipeline Sections	(Several)
Valves	4" - 12"
Clamps	4" - 12"
Couplings	4" - 12"
Others:	
SERVICES (on retainer)	
Electrical Contractors	
General Contractors	
Heavy Construction Services	
Vendors	
Support Staff	
Others:	

**WEST COVINA, CITY OF
EMERGENCY EQUIPMENT LIST**

Contact Name: Henry Dove (626) 814-8425

EQUIPMENT	TOTAL # AVAILABLE
Backhoes	1
Cranes	1
Fuel Trucks	
Graders	
Loaders, Front End	1
Portable Air Compressors	
Portable Chlorinators	
Portable Generators	1
Portable Welders	1
Pumps	1
Trenchers	
Water Quality Testing Ability	
Water Trucks	1
Dump Truck	
Ditch Pumps	
10 kw Light Tower	
INVENTORY	
Pipeline Sections	
Valves	
Clamps	
Couplings	
Others:	
SERVICES (on retainer)	
Electrical Contractors	
General Contractors	
Heavy Construction Services	
Vendors	
Support Staff	
Others:	

**THREE VALLEYS MUNICIPAL WATER DISTRICT
EMERGENCY EQUIPMENT LIST**

Contact Name: Gerry Stube (909) 621-5568

EQUIPMENT	TOTAL # AVAILABLE
Backhoes	
Cranes	
Fuel Trucks	
Graders	
Loaders, Front End	
Portable Air Compressors	
Portable Chlorinators	
Portable Generators	
Portable Welders	
Pumps	
Trenchers	
Water Quality Testing Ability	Bacteriological, Gen Chem
Water Trucks	
Dump Truck	
Ditch Pumps	1
10 kw Light Tower	
INVENTORY	
Pipeline Sections	75' 36"
Valves	
Clamps	
Couplings	
Others:	
SERVICES (on retainer)	
Electrical Contractors	
General Contractors	
Heavy Construction Services	
Vendors	
Support Staff	
Others:	

APPENDIX C



CONFIDENTIAL. Prepared in anticipation of litigation at the request of CALIFORNIA JPIA defense counsel.

FROM: CITY / AGENCY: ADDRESS:	TO: PLEASE FAX COMPLETED FORM TO: CALIFORNIA JPIA AT 562-860-4992
-------------------------------------	---

SUBJECT: REPORT OF SIGNIFICANT INCIDENT (USE ADDITIONAL SHEETS IF NEEDED)

POTENTIAL CLAIMANT: NAME: ADDRESS & PHONE:	REPORT DATE:
	TIME OF REPORT: <input type="checkbox"/> AM <input type="checkbox"/> PM

A. - COMPLETE FOR ALL INCIDENTS

DATE AND TIME OF ACCIDENT					LOCATION:	LEAD POLICE OFFICER ON SITE:
MONTH	DAY	YEAR	TIME	<input type="checkbox"/> AM <input type="checkbox"/> PM		

B. - COMPLETE ONLY IF CITY CAR OR EQUIPMENT IS INVOLVED

VEHICLE NO.	YEAR	MAKE	MODEL	OWNER	
EMPLOYEE OR DRIVER		ADDRESS		AGE	PHONE NUMBER
PURPOSE OF USE				USED WITH PERMISSION <input type="checkbox"/> YES <input type="checkbox"/> NO	

C. - COMPLETE ONLY IF OTHER PROPERTY IS DAMAGED

OWNER	ADDRESS			PHONE NUMBER
OTHER DRIVER	ADDRESS			PHONE NUMBER
DESCRIPTION OF PROPERTY OR AUTO	YEAR	MAKE	LICENSE NO.	DESCRIBE DAMAGE

D. - COMPLETE ONLY IF SOMEONE IS INJURED

1	NAME	ADDRESS	PHONE NUMBER	INJURY	AGE
---	------	---------	--------------	--------	-----

E. - COMPLETE FOR ALL INCIDENTS

DESCRIBE INCIDENT-STATE FACTUAL POINTS ONLY - DO NOT GIVE OPINION AS TO FAULT, NEGLIGENCE, OR LIABILITY

F. WEATHER CONDITIONS SUNNY RAINY OVERCAST WINDY DESCRIBE:

G. WITNESS-NAME	ADDRESS	PHONE NUMBER

WAS RISK MANAGER NOTIFIED? YES NO BY WHOM? DATE TIME
REPORT PREPARED BY:



CALIFORNIA
J · P · I · A

INSTRUCTIONS

It is the responsibility of all City / Agency employees to immediately notify the Risk Manager upon receipt of knowledge or witnessing an occurrence or transaction from which a potential claim could result or in which the City / Agency could be liable. This information will give the CALIFORNIA JPIA the opportunity to perform pre-claim investigation of a significant incident. Prompt reporting is more important than having completed all of the information. Do not delay reporting while awaiting a piece of information.

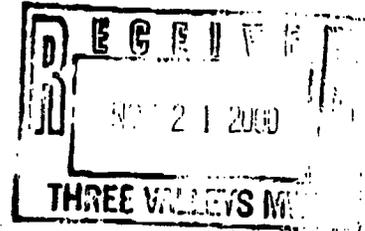
WHAT TO DO IN CASE OF A SIGNIFICANT INCIDENT

1. **MAKE NO COMMENT AS TO YOUR OPINION REGARDING CAUSE, FAULT OR LIABILITY!**
2. Notify the Risk Manager as soon as possible.
3. Complete this form as follows:
 - A. Enter the date and time of the incident.
 - B. Identify and enter the name of the person(s) sustaining injury or a description of the property damages.
 - C. Describe the exact location where the incident occurred.
 - D. Briefly describe how the incident occurred.
 - E. Briefly describe the damages or injuries observed.
 - F. Describe weather conditions (was surface condition slippery, etc.).
 - G. Obtain names, addresses and telephone numbers of persons involved or witnessing the incident.
4. If the person involved makes claim overtures to you, advise that claims must be made with the City Clerk.
5. If the person does not make claim overtures, do not volunteer information.
6. If contacted by the Risk Manager or a CALIFORNIA JOINT POWERS INSURANCE AUTHORITY representative, furnish requested information as accurately and as quickly as possible.
7. All persons, other than City personnel, seeking accident information should be referred to the City Clerk or to CARL WARREN & COMPANY, PO Box 25180, Santa Ana, CA 92799-5180, Telephone 714-740-7999 Ext. 140.
8. Give other persons involved your name and City address.
9. Please include newspaper clippings, police reports or other supplementary information you may have relating to this incident.

APPENDIX D



MWD
METROPOLITAN WATER DISTRICT OF SOUTHERN CALIFORNIA



Date: November 16, 2000
To: Member Agency Managers
 Member Agency Water Quality Managers
From: Jill T. Wicke, Manager, Water System Operations
Subject: Update of Notification Protocol for System Emergencies

This memorandum serves as an update of the notification protocol to be used by your staff in the event of operational or water quality emergencies.

Event	Notify	Phone No.
For all system events that occur during non-business hours	Eagle Rock Operations Control Center	(626) 844-5610
For operational events that occur during normal business hours (6 a.m. - 4:30 p.m. Monday-Thursday)	Eagle Rock Operations Control Center	(626) 844-5610
For water quality events that occur during normal business hours (7 a.m. - 4:30 p.m. Monday-Friday)	Water Quality Operations Compliance Team	(909) 392-5300 or (909) 392-5065

Jill T. Wicke

JTW:JK:sjm
 O:\opsexec\emergency\notify_1.doc

Attachment

CONCEPTUAL DISASTER RESPONSE PLAN FOR PUBLIC WATER SYSTEMS

GOAL

The disaster response plan identifies the actions necessary for a public water system to prepare for and conduct emergency operations to ensure delivery of a safe, pure and wholesome water supply to the users during disaster events.

SCOPE

The scope will define the discrepancies between existing system capabilities and disaster operation requirements, and the methods and procedures to be used to fill this gap.

KEY ELEMENTS OF DISASTER RESPONSE PLAN

1. Designated responsible personnel (plus alternates) with clear chain of command and responsibilities.
2. Inventory of system resources:
 - a. Existing resources - normal operation:
Maps and diagrams showing operating data: sources, transmission, storage, booster capacities, treatment capacities, power sources.
 - b. Emergency resources:
Lists of emergency equipment, equipment suppliers, emergency contract agreements; emergency water interconnections.
3. Communication Network
 - a. Designated location(s) for emergency operations center assigned with responsible personnel: Addresses, names, phone numbers.
 - b. Emergency contact with equipment suppliers, emergency water suppliers. Phone and radio communication or other equally rapid means.
 - c. Coordination with governmental agencies for emergency, health and safety protection, technical, legal and financial assistance. Contact numbers for designated personnel of State, County health departments, fire and police departments, hospitals.

Conceptual Disaster Response Plan for Public Water Systems
Page Two

- d. Public notification to water users: Emergency supply sources, necessary health protection/water disinfection measures, conservation measures, status of supply, repair, restoration of service, etc. Use direct communication channels with TV, radio stations, newspaper.

4. Emergency Procedures

A plan of action to maximize the use of reduced human and equipment resources (assuming 50% reduction), activation of emergency supply interconnections, emergency pumping and/or backfeeding, equipment acquisition and repairs.

Plan of action consists of:

- a. Assess damage to water system and its components.
- b. Analyze logistics on emergency supply activation and repairs.
- c. Repair and restore supply service.
- d. Monitor progress of repairs and restoration.
- e. Communicate with health officials and water users on supply status.
- f. Document damage/repairs.

5. Service Restoration

Resume normal operations, prepare and submit reports to appropriate agencies.

EMERGENCY WATER SUPPLY POLICY

BACKGROUND

During times of a disaster such as earthquakes, floods, or fires, it is not unusual for domestic water systems to incur major damage to the treatment process, production or distribution facilities. In addition to facility damage, loss of power is also a factor in disrupting the treatment process.

Based on this, ODW has been requested to investigate under what circumstances domestic water supply systems can deliver water when the potability of the water is compromised. This will enable customers to utilize the tap water with confidence that it is safe within a reasonable time frame.

PURPOSE

The purpose of this document is to provide guidance to ODW staff and PWS following a disaster, to restore water service to the affected area(s). A Disaster Response Plan must be developed by each domestic water system. The plan should address the procedures that would be implemented to restore water service.

POLICY STATEMENT

The use of compromised water sources can be approved during emergencies. Approval should be based upon specific conditions when all other safe alternatives have been exhausted. The use of surface water with disinfection only must be implemented in conjunction with a Boil Water Order (BWO) or an Unsafe Water Alert (UWA). The intent of this policy is to ensure that the public health and safety always takes priority during an emergency, and when available information is unclear, a conservative approach is adopted.

DISASTER RESPONSE PLAN

A Disaster Response Plan needs to be prepared for each domestic water supply system. The plan should be developed by the water purveyor with final review and approval by ODW.

The Disaster Response Plan should be reviewed periodically by ODW and the water purveyor to help insure that it reflects the current water treatment plant or production and distribution facilities, as well as any changes that may have occurred that could adversely affect the quality of the water source.

Date of Document: January 22, 1992

Policy on Emergency Use of Alternate Sources

Purpose:

This policy provides guidance on the use of alternate water sources of substandard quality for water utilities under catastrophic or emergency conditions. ODW staff will assist the water utility in developing a contingency plan on the use of alternate sources as part of utility's Disaster Response Plan.

Background:

In the event of a severe water supply emergency caused by natural or manmade disasters resulting in immediate public health and/or safety threats to the users, the Department of Health Services Office of Drinking Water (ODW) may authorize the use of other alternate sources available to the water utility in order for it to restore and/or maintain minimum pressure requirements.

Criteria used in the authorization of use of alternate sources:

1. A contingency plan for use of unapproved alternate sources under specified emergency situations will be available for review and approval by the appropriate health agency. During a disaster event, affected utilities must coordinate with and receive verbal or written approval from the appropriate health agency prior to activation of unapproved alternate sources.
2. Use of alternate sources not meeting primary drinking water standards must be accompanied with issuance of a Boil Water Order (BWO) or Unsafe Water Alert (UWA) to advise users of water quality problems and necessary remedial actions. Refer to utility's Emergency Notification Plan for issuance of public notification, and the Department's Emergency Water Supply Policy for issuance of BWO and UWA.
3. The priority use of alternate sources must be in the order insuring the least health hazards to the water users as follows:
 - a. Sources exceeding secondary (aesthetic) drinking water standards. Examples: iron, manganese, TDS.

- b. Sources exceeding primary (health related) standards that only pose long term or chronic threats to health. Examples: above MCL but less than five times MCL of TCE, PCE, etc.
 - c. Sources exceeding primary standards that pose long term or chronic health threats with greater than 5 times MCL to 10 times MCL.
 - d. Sources exceeding primary standards that pose a short term or acute risk will not be allowed without ODW approval and the issuance of an UWA.
 4. In conjunction with the activation of alternate sources, the affected water utility should implement the following remedial measures to alleviate the water supply emergency in an expeditious manner:
 - a. Water conservation and rationing;
 - b. Emergency interties with adjacent systems;
 - c. Provision of temporary water treatment such as blending, disinfection, filtration, etc. to the alternate sources exceeding primary standards to the extent practical.
 5. The use of alternate sources exceeding drinking water standards must cease as soon as the immediate health or safety hazards are abated.
 6. If alternate sources utilized present a microbial risk, their use must be accompanied by a BWO. If alternate sources utilized present an acute risk (e.g., nitrate) to any portion of the population, their use must be accompanied by an UWA.

UNSAFE WATER ALERT

Date of document: January 22, 1992

UNSAFE WATER ALERT

Background

In the event of a water quality emergency due to known or suspected chemical (non-bacteriological) contamination, the Office of Drinking Water (ODW) will prescribe an "Unsafe Water Alert" (UWA) to the affected water purveyor(s).

This document is to provide guidance on:

- (1) the criteria for issuance of an UWA;
- (2) sample UWA notices to be used in the event of an emergency.

Designated agencies for issuance of UWA:

The UWA can be issued by either one, or a combination of the following agencies:

California Department of Health Services
Local Environmental Health Jurisdictions
Affected Water Purveyors

The responsible person(s) in charge of water quality in all of the above-listed agencies should coordinate the issuance of UWA. However, any of the above agencies should act independently and immediately to issue an UWA if delays would jeopardize public health and safety.

Designated personnel to authorize issuance of UWA:

- (1) Office of Drinking Water

The UWA is to be authorized by the ODW Regional Chief (RC) with a predesignated line of succession. The line of succession consists of RC, and District Engineer(s) of affected and/or Mutual Aid Partner District(s).

- (2) Local Environmental Health Jurisdictions

The Health Officer, and/or Director of Environmental Health and designates have the authority for UWA issuance for small water systems under county jurisdiction.

- (3) Affected Water Purveyors

The responsible person in charge of the affected water system,

Purveyors

i.e., the Director of Water Quality, the Manager, Director of Water Department, Director of Public Works, the Owner, the Operator in Charge, etc. have the authority to issue and execute an UWA, as specified in their Disaster Response Plan.

Methods of UWA issuance:

UWA should take the form of the most rapid means of communication in appropriate language(s) to notify the affected public. These include but are not limited to:

- (1) Electronic transmission and broadcasts on the air by local television and/or radio stations;
- (2) Loud speaker announcements in localized affected area(s);
- (3) Posting at readily visible public locations: building entrances, commercial establishments, telephone poles, schools, and factories, billboards, etc.
- (4) Hand-carried door to door distribution;
- (5) Mailing of follow-up notice to confirm emergency if appropriate.

Under what conditions should UWA be issued:

To assure public health protection, an UWA should be issued as soon as it is concluded by the designated personnel that the water supply is or may be unsafe for domestic consumption. Examples of these situations include:

- (1) Known or suspected widespread chemical or hazardous contamination in water supply distribution system

Examples: Ruptured water distribution system (storage tanks, mains) in area of known chemical spills coupled with loss of pressure, severe odor and discoloration, loss of chlorine residual; inability of existing water treatment processes to neutralize chemical contaminants prior to entering the distribution system.

- (2) Threatened or suspected acts of sabotage confirmed by analytical results

Examples: In the event that the suspected contamination triggered by acts of sabotage or threats by vandals is confirmed by analytical testing, and there is reason to believe that the contamination has affected the distribution system, an UWA should be issued immediately.

(3) Implemented by water utility due to treatment inadequacies.

A Sample Unsafe Water Alert Notice is attached.

Under what conditions should UWA be cancelled:

Hazardous contamination in the water system has been effectively abated and safe water quality has been reliably confirmed by water quality monitoring throughout the system.

The UWA can be cancelled by ODW, LEHJ (small water systems under county jurisdiction), and the Water Purveyor only with the concurrence of the appropriate health agency (ODW/LEHJ) by issuing the attached "Cancellation of Unsafe Water Alert" notice to the affected residents.

OFFICE
OF
DRINKING
WATER

A Sample "Cancellation of Unsafe Water Alert" is attached.

Date:

UNSAFE WATER ALERT

[Insert one-liner language other than Spanish here, if needed, otherwise delete.]

[System Name] water is possibly contaminated with [an unknown substance]

DO NOT DRINK YOUR WATER

Failure to follow this advisory could result in illness.

An unknown substance has been added to the drinking water supplied by the [Water System Name] due to a recent [intrusion; break-in] at [one of the wells; our treatment plant; storage tank; specific facility]. The State Water Resources Control Board, [County Name] County Health Department, and [Water System name] Water System are advising residents of [City, Town, System] to NOT USE THE TAP WATER FOR DRINKING AND COOKING UNTIL FURTHER NOTICE.

What should I do?

- **DO NOT DRINK YOUR TAP WATER---USE ONLY BOTTLED WATER.** Bottled water should be used for all drinking (including baby formula and juice), brushing teeth, washing dishes, making ice and food preparation **until further notice.**
- **DO NOT TRY AND TREAT THE WATER YOURSELF.** Boiling, freezing, filtering, adding chlorine or other disinfectants, or letting water stand will not make the water safe.
- Optional: Potable water is available at the following locations: [List locations]
Please bring a clean water container (5 gallons maximum capacity).

We will inform you when tests show that the water is safe again. We expect to resolve the problem within [estimated time frame].

For more information call:

Water Utility contact: [Name, title, phone & address of responsible utility representative].

State Water Resources Control Board at: [insert local district office, DE and phone number].

Local County Health Department: [insert phone number of local health department].

This notice is being sent to you by [insert water system name]. California Public Water System ID # [XXXXXXX]. Date Distributed: [date].

Please share this information with all other people who receive this water, especially those who may not have received this notice directly (for example, people in apartments, nursing homes, schools, and businesses). You can do this by posting this notice in a public place or distributing copies by hand.

Last updated – 12/08/14

Instructions for Tier 1 “Problem Corrected” Notice Template

Template Attached

It is a good idea to issue a notice when a serious violation or situation has been resolved. Although U.S. EPA regulations do not require such notices, the State Water Resources Control Board, Division of Drinking Water recommends that you issue one. You should coordinate with your local health department as well. Below are some recommended methods for a “problem corrected” notice. You should use the same delivery methods you used for the original notice.

- Radio or television
- Posting in conspicuous locations throughout the area served by the water system
- Hand delivery to persons served by the water system

You may wish to use additional methods (e.g., delivery of multiple copies to hospitals, clinics, or apartment buildings) if necessary to reach all persons served. If you post or hand deliver, print your notice on letterhead, if available.

The notice attached is very general and can be used for any violation or situation. However, to help restore consumers’ confidence in the water system, you should modify the notice to fit your situation. Although the public should have seen your initial notice, there may be additional information you learned after the notice was issued. Therefore, you should describe the violation or situation again and discuss how the problem was resolved.

IMPORTANT INFORMATION ABOUT YOUR DRINKING WATER

Este informe contiene información muy importante sobre su agua potable.
Tradúzcalo o hable con alguien que lo entienda bien.

DRINKING WATER PROBLEM CORRECTED

Customers of [system] were notified on [date] of a problem with our drinking water and were advised to [describe recommended action]. We are pleased to report that the problem has been corrected and that it is no longer necessary to [describe recommended action]. We apologize for any inconvenience and thank you for your patience.

[Add further details here when appropriate].

As always, you may contact [contact name] at [phone number] or [mailing address] with any comments or questions.

Please share this information with all the other people who drink this water, especially those who may not have received this notice directly (for example, people in apartments, nursing homes, schools, and businesses). You can do this by posting this public notice in a public place or distributing copies by hand or mail.

This notice is being sent to you by [system].

State Water System ID#: _____. Date distributed: _____.

Date of document: January 22, 1992

BOIL WATER ORDER

Background

In the event of a water quality emergency where minimum bacteriological water quality standards cannot be reasonably assured, the Office of Drinking Water (ODW) will prescribe a "Boil Water Order" (BWO) to the affected water purveyor(s).

This document is to provide guidance on:

- (1) the criteria for issuance of a BWO:
- (2) sample BWO notices to be used in the event of an emergency.

Designated agencies for issuance of BWO:

The BWO can be issued by either one, or a combination of the following agencies:

Office of Drinking Water
Local Environmental Health Jurisdiction (LEHJ)
Affected Water Purveyors

The responsible person(s) in charge of water quality in all of the above-listed agencies should coordinate the issuance of BWO. However, any of the above agencies should act independently and immediately to issue a BWO, if delays will jeopardize public health and safety.

Designated personnel to authorize issuance of BWO:

- (1) Office of Drinking Water

The BWO is to be authorized by the ODW Regional Chief (RC) with a *predesignated* line of succession. The line of succession consists of the Regional Chief, and District Engineer(s) of affected and/or Mutual Aid Partner District(s).

- (2) Local Environmental Health Jurisdictions

The Health Officer, and/or Director of Environmental Health and designates have the authority for BWO issuance for small water systems under county jurisdiction.

DHS
OFFICE
OF DRINKING
WATER

(3) Affected Water Purveyors

The responsible person in charge of the affected water system, i.e., the Director of Water Quality, the Manager, Director of Water Department, Director of Public Works, the Owner, the Operator in Charge, etc. have the authority to issue and execute a BWO, as specified in their Disaster Response Plan.

Methods of BWO issuance:

BWO should take the form of the most rapid means of communication in appropriate language(s) to notify the public. These include but are not limited to:

- (1) Electronic transmission and broadcasts on the air by local television and/or radio stations;
- (2) Loud speaker announcements in localized affected area(s),
- (3) Posting at readily visible public locations: building entrances, commercial establishments, telephone poles, schools, and factories, billboards, etc.
- (4) Hand-carried door to door distribution;
- (5) Mailing of follow-up notice to confirm emergency, if appropriate.

Under what conditions should BWO be issued:

To assure public health protection a BWO should be issued as soon as it is concluded by the designated personnel that the water supply is or may be biologically unsafe. Examples of these situations include:

1. Biological contamination of water supply system including but not limited to:

Examples

Prolonged water outages in areas with ruptured sewer and/or water mains;

Failed septic tank systems in close proximity to ruptured water mains;

Ruptured water treatment, storage, and/or distribution facilities in areas of known sewage spills or other biological contamination;

Cross connection contamination problems;

Illness attributed to water supply.

2. Unusual system characteristics including but not limited to:

Examples

Prolonged loss of pressure;

Sudden loss of chlorine residual;

Severe discoloration and odor;

Inability to implement emergency chlorination;

3. Implemented by utility due to treatment inadequacies.

A Sample Boil Water Order Notice is attached.

Under what conditions should BWO be cancelled:

Biological contamination and the health hazard in the water system have been effectively abated and safe water quality has been reliably confirmed by water quality monitoring throughout the water system.

The BWO can be cancelled by ODW, LEHJ (small water systems under county jurisdiction) and the Water Purveyor only with the concurrence of the appropriate health agency (ODW or LEHJ) by issuing the attached "Rescission of Boil Water Order" notice to the affected residents.

A Sample "Cancellation of Boil Water Order" is attached.

BOIL WATER NOTICE

Este informe contiene información muy importante sobre su agua potable.
Tradúzcalo o hable con alguien que lo entienda bien.

BOIL YOUR WATER BEFORE USING

Failure to follow this advisory could result in stomach or intestinal illness.

Due to the recent event [e.g., water outage, power outage, flood, fire, earthquake or other emergency situation], the State Water Resources Control Board, Division of Drinking Water in conjunction with the [County Name] County Health Department, and [Water System name] Water System are advising residents of [City, Town, System] to use boiled tap water or bottled water for drinking and cooking purposes as a safety precaution.

DO NOT DRINK THE WATER WITHOUT BOILING IT FIRST. Bring all water to a boil, **let it boil for one (1) minute**, and let it cool before using, or use bottled water. Boiled or bottled water should be used for drinking and food preparation **until further notice**. Boiling kills bacteria and other organisms in the water. [or This is the preferred method to assure that the water is safe to drink.]

Optional alternative to include for prolonged situations where it fits.

- An alternative method of disinfection for residents that are not able to boil their water is to use fresh, unscented, liquid household bleach. To do so, add 8 drops (or 1/8 teaspoon) of bleach per gallon of clear water or 16 drops (or 1/4 teaspoon) per gallon of cloudy water, mix thoroughly, and allow it to stand for 30 minutes before using. A chlorine-like taste and odor will result from this disinfection procedure and is an indication that adequate disinfection has taken place.
- Water disinfection tablets may also be used by following the manufacturer's instructions.
- Optional: Potable water is available at the following locations: [List locations]
Please bring a clean water container (5 gallons maximum capacity).

We will inform you when tests show that water is safe to drink and you no longer need to boil your water. We anticipate resolving the problem within [estimated time frame].

For more information call:

Water Utility contact: [Name, title, phone & address of responsible utility representative].

State Water Resources Control Board – Drinking Water Field Operations Branch- District Office at [(XXX) XXX-XXXX].

Local Environmental Health Jurisdiction: [XXXXXX County at (XXX) XXX-XXXX].

Please share this information with all the other people who drink this water, especially those who may not have received this notice directly (for example, people in apartments, nursing homes, schools, and businesses). You can do this by posting this notice in a public place or distributing copies by hand or mail.

NAME OF UTILITY

DATE _____

CANCELLATION OF BOIL WATER NOTICE

On (date) _____ you were notified of the need to boil/disinfect all tap water used for drinking and cooking purposes.

The _____ Water System in conjunction with the State Water Resources Control Board, and/or _____ Local Environmental Health Jurisdiction, has determined that, through abatement of the health hazard and comprehensive testing of the water, your water is safe to drink. **It is no longer necessary to boil your tap water or for you to consume bottled water.**

For more information call:

Water Utility contact: _____
(Name, title and phone number of utility representative)

State Water Resources Control Board: _____

Local Environmental Health Jurisdiction: _____

APPENDIX E

EMERGENCY CHLORINATION PLAN

The purpose of this Emergency Chlorination Plan is to assist utilities implement emergency chlorination. The guidance provided below is designed to facilitate the installation of emergency chlorination equipment and to assist in the setting of chemical dosages in order to maintain an acceptable free chlorine residual needed to insure public health protection immediately after a disaster. Items which should be obtained prior to the onset of a disaster include the following equipment:

1. Emergency chlorination units.
2. Chlorine residual test kits (preferably DPD).
3. Granular Calcium Hypochlorite, 65% available chlorine, (liquid sodium hypochlorite e.g. bleach has a relatively short shelf life so it is advisable that it not be purchased in advance).

Installation Procedures

A utility should not wait until an emergency has occurred before it attempts to install its emergency chlorination equipment. It is advisable that all field maintenance staff be familiar with the installation procedures in order to quickly install the emergency chlorination equipment. The remainder of this plan addresses the use of hypochlorinators in the event of an emergency. For those utilities which use gas chlorination units, they should already be familiar with their operation if they are using this type of equipment.

The chlorination equipment purchased by the utility must be adequately sized for the proposed installation. The feed capacity of the hypochlorinator should allow the utility to dose at a minimum of 5 parts per million free chlorine residual. After the emergency chlorination units have been physically connected to the wells and/or other sources in question, refer to the attached tables or use the following procedures to calculate the appropriate settings. If you are unable to perform these calculations, contact an ODW staff member immediately.

The attached tables may be used to mix a solution of a known strength. Decide on a solution strength that you wish to use and find the amount of chlorine needed for a 100 gallon barrel from Table 1.

Table 2 can be used to determine the volume of solution to be added for different flow rates for each mg/l of chlorine dosage. It should be recognized that large capacity wells will need stronger solution strengths or the feed barrel will need to be filled too frequently. The volumes in Table 2 are in gallons per day (gpd). If the feed pump capacity is given in gallons per hour, then the volume from Table 2 must be divided by 24 to give a gph value.

To determine the appropriate pump setting, the value from Table 2 must be divided by the feed pump capacity.

Example:

Feed Pump Capacity = 10 gph; Q = 1500 gpm; 7% solution; 5 mg/l dosage

From Table 2 —> Chlorine Volume = 30.9 gpd for each mg/l.

For 5 mg/l $\rightarrow 5(30.9) = 154.5$ gpd

Since feed pump has a maximum capacity of 10 gph, the appropriate length of stroke setting is:

$$\frac{154.5}{10 \text{ gph}} = 0.64$$

Set the dial for 64% of maximum.

Outlined below are the equations to use if the Tables are not used:

1. A solution barrel of a known volume must be obtained. The barrel should be filled with a known volume of water. To this volume a known weight of chemical should be added. The solution strength must be determined using the equation given below:

$$\% \text{ solution} = \frac{\text{Weight of chemical added to solution barrel (lbs)} \times 100}{\text{Weight of water in solution barrel (lbs)}}$$

(1 gallon of water weighs 8.34 lbs)

A 6% solution can be obtained by adding one half pound of chemical per gallon of water using a 100 gallon barrel. (See below):

$$50 \text{ (} 100 \times 8.34 \text{ lb/gal of water)} \times 100 = 5.99 \text{ or } 6\%$$



used to get percentage

To calculate the pounds per hour of chemical that must be added to obtain a known chlorine concentration, the following equation must be used:

$$\text{Equation \# 1} \quad \text{lbs. per hour of chemical} = 8.34 \times \text{desired dosage in ppm} \times \text{the flow rate in gpm} \times 60 \text{ min}/1,000,000$$

Assuming the desired dosage is 5 ppm, that gives the following equation:

$$\text{Equation \# 2} \quad \text{lbs per hour of chemical} = 2.5 \times 10^{-3} \times \text{flow rate in gpm}$$

Next you must determine the required gallons per hour of chemical to be added. This must be obtained using the following equation:

$$\text{Equation \# 3} \quad \text{gallons per hour of chemical} = \frac{\text{lbs per hour}/8.34/\text{solution strength}/100}{\text{(from above)}}$$

Once this value has been obtained, then the next step is to review the maximum feed rate in gallons per day of the chemical feed pump. This is generally printed on a label attached to the pump and it may specify the discharge pressure this maximum rate applies to. Most chemical feed pumps have either a length of stroke setting or two settings for frequency of stroke and length of stroke. To determine what settings should be used, a review of the instrumentation on the pump must be conducted.

If two control settings are provided, then set the frequency control at 100% and provide adjustment only to the length of stroke adjustment. The equation to be used to determine at what setting the length of stroke should be is given below:

Percent length of stroke =

**gallons per hour (obtained above) x 24 x 100/ the pump capacity in
gpd**

This numerical setting should be used when adjusting the pump. If both pump settings are to be changed from 100% then the percent stroke equation is as follows:

Percent length of stroke =

gallons per hour x 24 x 100/stroke frequency/pump capacity in gpd

A check on the actual dosage can be performed by using the total gallons of solution pumped within a known operating period. That information can be used as follows:

Actual Dosage = $\frac{\text{gallons of solution} \times \text{solution strength}}{\text{gallons of water treated in MG}}$

An easier way to use hypochlorination equipment is to have calibration or volumetric feed cylinders installed on the intake line to the pump. If these cylinders are available, then a known volume of solution can be pumped and the time it takes to pump that volume is used to determine gallons per hour at a known discharge pressure. The actual percent solution must still be known to conduct the other calculations.

Once a utility has implemented emergency chlorination of their system, it is important to conduct follow up distribution chlorine residual monitoring to determine the effectiveness of the chlorination process. In the event of an emergency, hypochlorination equipment should be used to dose the system at 2 ppm of free chlorine residual. Chlorine residual monitoring within the distribution system should take place to verify that an adequate residual is being obtained at all locations within the distribution system. Any areas which have suppressed residuals should receive further investigation to determine whether or not there are other problems associated with the reduced residuals.

Flushing should be provided if possible, to draw the chlorinated water into the distribution system as soon as possible.

In addition to the chlorine residual monitoring, bacteriological sampling of the distribution system in all areas should be conducted. Chlorine residual monitoring in addition to bacteriological sampling results should be used to further define areas of the distribution system that need additional investigation. Chlorination of the system should continue until it has been verified that no structural problems exist within the distribution system and all bacteriological monitoring shows that there is no presence of pathogenic organisms.

EMER.DOC-10/91

TABLE 1

AMOUNT OF CHLORINE PER 100 GALLON BARREL •

Solution Strength	3%	4%	5%	6%	7%	8%	9%	10%	11%	12%	13%
Type of Chlorine											
5% Bleach											
Household Bleach (Chlorox)	60 gal	80 gal	100 gal								
12.5% Bleach											
Commercial Bleach	24 gal	32 gal	40 gal	48 gal	56 gal	64 gal	72 gal	80 gal	88 gal	96 gal	
65% Calcium Hypochlorite **	38 lbs	51 lbs	64 lbs	77 lbs	90 lbs	103 lbs	116 lbs	128 lbs	141 lbs	154 lbs	167 lbs

• Add the quantity indicated to the 100 gallon barrel and then fill the remaining volume with water.

** HTH, tablets or granular chlorine

Example: For 10% solution using 12.5% bleach

Use 80 gallons of bleach and add 20 gallons of water

Example: For 10% solution using 65% available Calcium Hypochlorite (CaHOCl)

Use 128 lbs of granular chlorine and add water to fill barrel and mix.

TABLE 2

CHLORINE VOLUME REQUIRED GALLONS PER DAY (GPD) PER MG/L OR PPM OF DESIRED CHLORINE DOSAGE •

Flow Rate	Solution Strength	3%	4%	5%	6%	7%	8%	9%	10%	11%	12%	13%
50 gpm		2.4	1.8	1.4	1.2	1.03	0.9	0.8	0.7	0.7	0.6	0.6
75 gpm		3.6	2.7	2.2	1.8	1.5	1.4	1.2	1.1	1.0	0.9	0.8
100 gpm		4.8	3.6	2.9	2.4	2.1	1.8	1.6	1.4	1.3	1.2	1.1
300 gpm		14.4	10.8	8.6	7.2	6.2	5.4	4.8	4.3	3.9	3.6	3.3
500 gpm		24.0	18.0	14.4	12.0	10.3	9.0	8.0	7.2	6.6	6.0	5.5
800 gpm		38.4	28.8	23.0	19.2	16.5	14.4	12.8	11.5	10.5	9.6	8.9
1000 gpm		48.0	36.0	28.8	24.0	20.6	18.0	16.0	14.4	13.1	12.0	11.1
1500 gpm		72.0	54.0	21.5	36.0	30.9	27.0	24.0	21.6	19.6	18.0	16.6
2000 gpm		96.0	72.0	57.6	48.0	41.1	36.0	32.0	28.8	26.2	24.0	22.2

• Values in the Table are the flow rates in gallons of solution per day that must be added for each mg/l of desired dosage.

Example

Well Discharge = 1000 gpm

Solution Strength = 5 %

Desired Dosage = 5 mg/l or 5 ppm

From Chart, Need to add 28.8 gpd per mg/l (or ppm)

Therefore, 5 mg/l x 28.8 gpd/(mg/l) = 144 gpd

CHLORINE

Nonflammable Gas

RQ 10 Lb/4.54 Kg*

GENERAL INFORMATION

Chlorine is a greenish yellow gas shipped under pressure as a liquid and having a pungent suffocating odor. It is used to purify water, to bleach paper, woodpulp and textiles, and for making a wide variety of other chemicals and products. Being slightly soluble in water and heavier, while also having a low boiling point, liquid chlorine will partially sink in water while boiling rapidly. Some amount will dissolve in water, but all discharges to the environment will result in the generation of large quantities of heavier than air gas that is highly corrosive and toxic and may persist in pits, hollows, and depressions. Although chlorine is not itself flammable, the product is a very strong oxidizer and most combustible materials will ignite and/or burn in chlorine. Containers of liquid may rupture due to overpressurization if exposed to fire or excessive heat for sufficient time duration. The liquid weighs approximately 13 pounds per gallon near its boiling point temperature.

Chlorine is stable in normal transportation but is a highly reactive substance that will form potentially explosive mixtures with a wide variety of other chemicals and materials (see Explosion Hazards below). Liquid chlorine and high gas concentrations in air may cause eye and skin burns upon contact.

If the material is leaking (not on fire) and generating vapors or fumes, downwind evacuation of the immediate spill area should be considered until properly equipped responders have evaluated the hazard. Note that large spills may require evacuation over significant distances. If bulk container is exposed to direct flame or fire becomes uncontrollable, evacuate for a radius of 2500 feet. If cylinder is exposed to direct flame or fire becomes uncontrollable, evacuate for a radius of 1500 feet.

CHEMICAL/PHYSICAL DATA

Solubility in Water: Slightly soluble. 0.65 g/100 g water at 77°F (25°C)

Solubility in Other Chemicals: Soluble in alkalis

Specific Gravity (Liquid): 1.56 at -31°F (-35°C); 1.424 at 59°F (15°C)

Boiling Point: -30.3 to -29.4°F (-34.1 to -34.6°C) at 1 atm.

Melting Point: -150°F (-101°C)

Freezing Point: -150°F (-101°C)

Molecular Weight: 70.91

Heat of Combustion: Not flammable

Vapor Pressure: 6.3 atm (92.8 psia) at 68°F (20°C)

Flash Point: Not flammable

Autoignition Temperature: Not flammable

Burning Rate: Not flammable

Stability: Stable

Corrosiveness: Highly corrosive in presence of moisture.

Reacts with most metals at high temperatures. Copper may burn spontaneously.

Reactivity with Water: Forms a corrosive solution of hypochlorous acid (ClHO) which decomposes on standing to chlorine, oxygen, and chloric acid.

Reactivity with Other Chemicals: Reacts with combustible substances and chemicals, finely divided metals, aluminum, certain plastics and rubbers, carbon, and a wide variety of metal compounds.

IDENTIFICATION

Shipping Names: Chlorine (USDOT and IMO)

Synonyms and Tradenames: Molecular chlorine; liquid chlorine.

Chemical Formula: Cl₂

Constituent Components(% each): 99.95-100% pure with trace of inert ingredients.

49 STCC: 49 041 20

UN/NA Designation: UN1017

IMO Designation: 2.3, poison gas

Physical State as Shipped: Liquefied compressed gas

Physical State as Released: Gas or boiling liquid

Color of the Shipped Material: Greenish yellow

Odor Characteristics: Pungent, choking, irritating, like bleach

Common Uses: Used in water and sewage treatment; mfg. of pulp, paper, bleaches, disinfectants, dyes, rubber, plastics, inorganic and organic chemicals, and in other products and processes.

*Reportable quantity (RQ) subject to change—refer to current EPA regulations.

FOR ADDITIONAL ASSISTANCE OR INFORMATION CALL:
CHEMTREC (800)424-9300 OR (202)483-7616 OR
THE AAR BUREAU OF EXPLOSIVES (202)835-9500



CHLORINE

Nonflammable Gas



POTENTIAL HAZARDS

GENERAL HAZARDS

Threshold Odor Concentration: 0.02-3.5 ppm

Unusual Hazards: Extremely corrosive, toxic, volatile, and reactive substance. Will evolve large amounts of gas that may be toxic over considerable downwind distances. Gas is heavier than air and may persist in pits and depressions.

Short Term Exposure Limits (STEL): 3 ppm for 15 minutes. (ACGIH)

Time Weighted Average (TLV-TWA): 1 ppm over each 8 hours of a 40 hour work week. (ACGIH)

Conditions to Avoid: Contact with incompatible materials and other chemicals; entry to water bodies; inhalation, ingestion, or direct physical contact.

HEALTH HAZARDS

Public Health Hazards: Major hazard is from inhalation of gas that may be toxic over considerable downwind distances. Direct physical contact is also to be strictly avoided.

Hazards of Skin or Eye Contact: Liquid chlorine may cause severe eye or skin burns upon contact. In high concentrations, chlorine gas irritates the skin and causes sensations of burning and prickling, inflammation, and blister formation. It is also injurious to eyes.

Hazards of Inhalation: Chlorine gas may cause severe irritation of the eyes and respiratory tract with tearing, headache, runny nose, sneezing, coughing, choking, dizziness, and chest pain. Severe breathing difficulties may be delayed in onset and may involve tracheobronchitis, pulmonary edema, and pneumonia. A level of 1000 ppm may be fatal after a few deep breaths. Even 50 ppm may be dangerous in short exposures.

Hazards of Ingestion: Ingestion of chlorine is unlikely in its pure form.

FIRE HAZARDS

Lower Flammable Limit: Not flammable

Upper Flammable Limit: Not flammable

Behavior in Fire: Containers may rupture violently in fire due to overpressurization. Will generate large quantities of toxic gas upon release. Although chlorine is not flammable, combustible materials will burn in chlorine gas.

Hazardous Combustion Products: Toxic products are evolved when combustibles burn in chlorine.

EXPLOSION HAZARDS

Lower Explosive Limit: Not flammable

Upper Explosive Limit: Not flammable

Explosiveness: Containers may rupture violently in fire due to overpressurization. Contact with other chemicals such as alcohols, hydrocarbons, hydrogen, pulverized metals, turpentine, acetylene, rubber, ether, ammonia, wax, fuel gas, polypropylene, and others may on occasion result in the formation of explosive mixtures.

PROTECTIVE CLOTHING AND EQUIPMENT

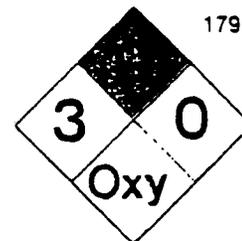
Protective Clothing Required: Equipment should prevent any possibility of skin or eye contact with the spilled product. This may include rubber boots, gloves, face shields, splash-proof safety goggles, and other impervious and resistant clothing. Fully encapsulating suits with self-contained breathing apparatus (SCBA) may be necessary to prevent contact with high vapor or fume concentrations in air. Compatible materials may include neoprene, chlorinated polyethylene, polyvinyl chloride, Viton, and Saranex.

Respiratory Protection: For unknown concentrations, fire fighting, or high concentrations (above 25 ppm), a self-contained breathing apparatus (SCBA) with full facepiece (or the equivalent). For lesser concentrations, a gas mask with chin-style or front or back mounted chlorine canister (25 ppm or less) or a chlorine cartridge respirator with a full facepiece (25 ppm or less) within the use of limitations of these devices.

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CHLORINE

Nonflammable Gas



FIRST AID

Nonspecific symptoms: Irritation or burns of any bodily tissues; other symptoms of inhalation.

First Aid for Inhalation: Remove victim to fresh air and keep warm and at rest. If breathing becomes difficult or if breathing has stopped, administer artificial respiration. Get medical attention immediately. Caution:

Administration of mouth-to-mouth resuscitation may expose the first aid provider to chemical within the victim's lungs or vomit.

First Aid for Skin and Eye Contact: Flush eyes immediately with water for at least 15 minutes, occasionally lifting the eyelids. Remove all contaminated clothing. Wash affected body areas with large amounts of water. Get medical attention immediately if eye contact has occurred or if skin irritation persists after washing.

FIRE RESPONSE

Extinguishing Materials: As necessary for surrounding fire, but note that water may increase gas generation from pools of liquid chlorine on the ground or flowing from tank. Water spray may be used to protect personnel attempting shutoff of flow.

Extinguishing Techniques: Corrosive vapor or fume hazard. Stay upwind. Avoid all bodily contact. Wear breathing apparatus and appropriate protective clothing. Wear full chemical protective suit if contact with material or dense fumes, smoke anticipated. Move container from fire area if no risk. Be alert to container rupture potential. Stay away from ends of tank involved in fire but realize that shrapnel may travel in any direction. Use water from side and from safe distance to keep fire exposed containers cool. For massive fire in cargo area, use unmanned hose holder or monitor nozzles.

SPILL RESPONSES

General Information: Proceed with caution. Restrict access to area. Keep unprotected personnel upwind of spill area. Avoid contact with spilled product. Protect sewers and waterways from contaminated runoff. Notify proper authorities, downstream sewer and water treatment operations, and other downstream users of potentially contaminated water. Note that intake of highly contaminated water may result in damage of industrial process equipment. Choose equipment, where possible, that is not corroded or otherwise damaged by the spilled product. Take into account the highly volatile, toxic, and reactive nature of chlorine when planning the response. Call CHEMTREC to activate CHLOREP (chlorine emergency response team). Note that the heavy gas may persist in pits and depressions.

AIR SPILL TECHNIQUE

EVACUATION ... Evacuate local and downwind areas as conditions warrant to prevent exposure and to allow vapors or fumes to dissipate. Chlorine spills may expose downwind areas to toxic concentrations over considerable distances in some cases.

CONSEQUENCE

Need to notify, organize, transport, and house displaced persons.

MITIGATION

Stop leak if without risk and if proper equipment available. Allow vapors and fumes to dissipate completely before reentering spill area without special protective gear. Call CHEMTREC for specially available assistance from the chlorine industry.

CHLORINE

Nonflammable Gas

TECHNIQUE

WATER FOG OR SPRAY . . . Water fog or spray applied to chlorine vapors or fumes may absorb vapors, knockdown fumes, and accelerate their dispersal in the atmosphere. Apply water at a point downwind and do not permit it to contact pools of liquid chlorine as this may increase gas evolution.

CONSEQUENCE

Water runoff may contain chlorine from contact with its vapors or fumes.

MITIGATION

Contain contaminated water and remove or neutralize as soon as possible to prevent spread of contamination. Be alert to conditions such as fire hose runoff or rainwater that may add to spill volume and overflow impoundments. Consult qualified experts for safe neutralizing techniques.

TECHNIQUE

FOAM . . . Fluoroprotein foam or special chlorine foam applied to the surface of liquid pools may slow the release of chlorine vapors into the atmosphere after an initial increase in vapor evolution.

CONSEQUENCE

The effects of foam may be short term. As the foam breaks down, release of vapors will increase. Products of foam breakdown will add to the volume of spilled material.

MITIGATION

Continue foam applications until spilled product is removed. Contain increased volume. Proceed with caution if an initial increase in vapor evolution may affect downwind populations.

LAND SPILL**TECHNIQUE**

CONTAINMENT DIKES . . . Liquid chlorine may be contained by building dikes using soil, sand or other materials.

CONSEQUENCE

Contained chlorine may percolate into soil or seep through dike material. This may result in loss of contained product and spread of contamination.

MITIGATION

Remove or neutralize contained product as soon as possible to prevent spread of contamination. Be alert to conditions such as fire hose runoff or rainwater that may overflow impoundments. Where possible, line collection area with compatible impervious materials.

TECHNIQUE

EXCAVATION . . . A trench or ditch may be excavated to contain leaking product.

CONSEQUENCE

There may be increased potential for groundwater contamination in some cases.

MITIGATION

Remove contained products as soon as possible to prevent spread of contamination. Use surface dikes or barriers where groundwater contamination is possible or line collection basin with compatible impervious material.

TECHNIQUE

PUMPING/VACUUM SUCTION . . . Accumulated liquid pools may be recovered using appropriate hoses, pumps and storage containers or vacuum trucks.

CONSEQUENCE

Equipment that is incompatible with the spilled product may become damaged or develop leaks. High pressures may be developed in equipment.

MITIGATION

Use compatible equipment of proper pressure capacity.

CHLORINE

Nonflammable Gas

TECHNIQUE

NEUTRALIZATION . . . Application of an appropriate neutralization agent may modify the spilled product to a less hazardous substance.

CONSEQUENCE

Application and removal of chemical agents involves additional environmental risks.

MITIGATION

Consult qualified experts for safe neutralization techniques.

TECHNIQUE

MECHANICAL REMOVAL . . . Contaminated soil and spilled product may be removed by shovels, motorized graders and scrapers, loaders, bulldozers, and draglines. The response is best suited to removing final traces of a spill where necessary.

CONSEQUENCE

Removal equipment may become contaminated and present a hazard to later users. Incompatible equipment may be damaged or corroded. Improper storage of removed materials may result in future spread of contamination.

MITIGATION

Decontaminate all equipment after use. Use equipment compatible with spilled product. Store contaminated materials in safe and secure location.

WATER SPILL

TECHNIQUE

STOP USE . . . Notify downstream industrial, municipal, and public users to stop water intake or to monitor water for contamination.

CONSEQUENCE

Alternative water supplies may be needed to accommodate users.

MITIGATION

Provide alternative water supplies as needed until water supply is declared safe.

TECHNIQUE

CONTAINMENT DIKES . . . Water with dissolved chemical may be contained or diverted to impoundment area by diking upper and/or lower bounds to limit volume of water affected and spread of contamination.

CONSEQUENCE

Earthen dikes may become saturated with water and seep through or collapse. Additional water may cause overflow of diked area or water body boundaries.

MITIGATION

Reinforce or modify dikes as necessary. Be alert to conditions that may lead to overflow or dike collapse. Remove contaminated water to impoundment or storage area for later treatment or disposal.

TECHNIQUE

NEUTRALIZATION . . . Application of a suitable neutralization agent to the contaminated water may reduce environmental hazards.

CONSEQUENCE

Some neutralizing agents are themselves hazardous and must be handled with care. Improper application may lead to increased damage or harm.

MITIGATION

Consult qualified experts for safe neutralizing techniques. Consider treating water via a processing system constructed on land.

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CHLORINE

Nonflammable Gas

TECHNIQUE

ADSORPTION ... Addition of activated carbon to the contaminated water, followed by effective mixing, may capture spilled product that has dissolved in water. Adsorbent materials may later be removed by mechanical means.

CONSEQUENCE

Recovery of activated carbon may require dredging in a process that poses risk of environmental damage. Recovered adsorbent materials will be contaminated with spilled product, as may recovery equipment.

MITIGATION

Consult qualified experts for safe adsorption techniques. Consider pumping water through tank containing adsorbent on land. Handle and store recovered materials safely. Decontaminate equipment as necessary.

CHLORINE 4904120
NONFLAMMABLE GAS, POISONOUS UN1017
ENVIRONMENTALLY HAZARDOUS SUBSTANCE (RQ-10/4.54)
CAS NUMBER: 7782505

Chlorine is a greenish yellow gas, with a pungent suffocating odor. It is used to purify water, bleach wood pulp, and to make other chemicals. It is toxic by inhalation. It is slightly soluble in water. It reacts explosively or forms explosive compounds, with many common chemicals. It is normally shipped as a liquid in cylinders or tank cars. Contact with liquid should be avoided as it can cause frostbite. The liquid readily vaporizes to a gas. Chlorine does not burn but will support combustion (lets other articles burn). Long term exposure to low concentrations or short term exposure to high concentrations may result in adverse health effects from inhalation. The vapors are much heavier than air and tend to settle in low areas. Contact CHEMTREC to activate Chlorine Response Team (800 424-9300 or 202 483-7616). It weighs 13.0 pounds per gallon.

If material involved in fire

- Extinguish fire using agent suitable for type of surrounding fire (Material itself does not burn or burns with difficulty.)
- Cool all affected containers with flooding quantities of water
- Apply water from as far a distance as possible
- Use water spray to knock-down vapors

If material not involved in fire

- Keep material out of water sources and sewers
- Attempt to stop leak if without undue personnel hazard
- Do not apply water to point of leak in tank car or container

Personnel protection

- Avoid breathing vapors
- Keep upwind
- Wear positive pressure self-contained breathing apparatus
- Avoid bodily contact with the material
- Wear appropriate chemical protective clothing
- Do not handle broken packages unless wearing appropriate personal protective equipment
- Wash away any material which may have contacted the body with copious amounts of water or soap and water

Evacuation

If material leaking (not on fire) consider evacuation of one-half (1/2) mile radius based on amount of material spilled, location and weather conditions

Environmental considerations—land spill

- Dig a pit, pond,agoon, holding area to contain liquid or solid material
- Dike surface flow using soil, sand bags, foamed polyurethane, or foamed concrete
- Absorb bulk liquid with fly ash or cement powder
- Neutralize with dilute caustic soda (NaOH) or soda ash (Na₂CO₃)

Environmental considerations—water spill

- Add dilute caustic soda (NaOH)
- If dissolved, in region of 10ppm or greater concentration, add activated carbon at ten times the soiled amount
- Use mechanical crecces or lifts to remove immobilized masses of pollutants and precipitates

Environmental considerations—air spill

- Apply water spray or mist to knock down vapors
- Vapor knockdown water is corrosive or toxic and should be diked for containment

First aid responses

- Move victim to fresh air; call emergency medical care.
- If not breathing, give artificial respiration.
- If breathing is difficult, give oxygen.
- Remove and isolate contaminated clothing and shoes at the site.
- In case of contact with material, immediately flush skin or eyes with running water for at least 15 minutes.
- Keep victim quiet and maintain normal body temperature.
- Effects may be delayed, keep victim under observation.
- Compatible protective equipment construction materials include: Neoprene, Chlorinated polyethylene, Polyvinyl chloride, Viton

Sec. 174.67 Tank car unloading. (a) In unloading tank cars, the following rules must be observed (see Subpart F of this Part for gases):

(1) Unloading operations must be performed only by reliable persons properly instructed in unloading hazardous materials and made responsible for careful compliance with this part.

(2) Brakes must be set and wheels blocked on all cars being unloaded.

(3) Caution signs must be so placed on the track or cars to give necessary warning to persons approaching the cars from the open end of a siding and must be left up until after the cars are unloaded and disconnected from the discharge connection. The signs must be of metal or other comparable material, at least 30 cm (12 inches) high by 38 cm (15 inches) wide in size, and bear the words, "STOP—Tank Car Connected," or "STOP—Men at Work," the word "STOP" being in letters at least 10 cm (3.9 inches) high and the other words in letters at least 5 cm (2 inches) high. The letters must be white on a blue background.

(4) Before a manhole cover or outlet valve cap is removed from a tank car, the car must be relieved of all interior pressure by cooling the tank with water or by venting the tank by raising the safety valve or opening the dome vent at short intervals. However, if venting to relieve pressure will cause a dangerous amount of vapor to collect outside the car, venting and unloading must be deferred until the pressure is reduced by allowing the car to stand overnight or otherwise cooling the contents. These precautions are not necessary when the car is equipped with a manhole cover which hinges inward or with an inner manhole cover which does not have to be removed to unload the car, and when pressure is relieved by piping vapor into a condenser or storage tank.

(b) After the pressure is released, the seal must be broken and the manhole cover removed as follows:

(1) Screw type. The cover must be loosened by placing a bar between the manhole cover lug and knob. After two complete turns, so that vent openings are exposed, the operation must be stopped, and if there is any sound of escaping vapor, the cover must be screwed down tightly and the interior pressure relieved as prescribed in paragraph (a)(4) of this section, before again attempting to remove the cover.

(2) Hinged and bolted type. All nuts must be unscrewed one complete turn, after which same precautions as prescribed for screw type cover must be observed.

(3) Interior type. All dirt and binders must be carefully removed from around the cover before the yoke is unscrewed.

(c) When the car is unloaded through a bottom outlet valve, the manhole cover must be adjusted as follows:

(1) Screw type. The cover must be put in place, but not entirely screwed down, so that air may enter the tank through the vent holes in threaded flange of the cover.

(2) Hinged and bolted type. A nonmetallic block must be placed under one edge of the cover.

(3) Interior type. The screw must be tightened up in the yoke so that the cover is brought up within one-half inch of the closed position.

(d) When unloading through the bottom outlet of a car equipped with an interior manhole type cover, and in each case where unloading is done through the manhole (unless a special cover with a safety vent opening and a tight connection for the discharge outlet is used), the manhole must be protected by asbestos or metal covers against the entrance of sparks or other sources of ignition or vapor, or by being covered and surrounded with wet burlap or similar cloth material. The burlap or other cloth must be kept damp by the replacement or the application of water as needed.

(e) Seals or other substances must not be thrown into the tank and the contents may not be soiled over the car or tank.

(f) The valve rod handle or control in the dome must be operated several times to see that outlet valve in bottom of tank is on its seat before valve cap is removed.

(g) The valve cap, or the reducer when a large outlet is to be used, must be removed with a suitable wrench after the set screws are loosened and a pail must be placed in position to catch any liquid that may be in the outlet chamber. If the valve cap or reducer does not unscrew easily, it may be tapped lightly with a mallet or wooden block in an upward direction. If leakage shows upon starting the removal, the cap or reducer may not be entirely unscrewed. Sufficient threads must be left engaged and sufficient time allowed to permit controlled escape of any accumulation of liquid in the outlet chamber. If the leakage stops or the rate of leakage diminishes materially, the cap or reducer may be entirely removed. If the initial rate of leakage continues, further efforts must be made to seal the outlet valve (see paragraph (f) of this section). If this fails, the cap or reducer must be screwed up tight and the tank must be unloaded through the dome. If upon removal of the outlet cap the outlet chamber is found to be blocked with frozen liquid or any other matter, the cap must be replaced immediately and a careful examination must be made to determine whether the outlet casting has been cracked. If the obstruction is not frozen liquid, the car must be unloaded through the dome. If the obstruction is frozen liquid and no crack has been found in the outlet casting, the car may, if circumstances require it, be unloaded from the bottom by removing the cap and attaching unloading connections immediately. Before opening the valve inside the tank car, steam must be applied to the outside of the outlet casting or wrap casting with

burlap or other rags and hot water must be applied to melt the frozen liquid.

(h) Unloading connections must be securely attached to unloading pipes on the dome or to the bottom discharge outlets before any discharge valves are opened.

(i) Tank cars may not be allowed to stand with unloading connections attached after unloading is completed. Throughout the entire period of unloading, and while cars are connected to unloading device, the car must be attended by the unloader.

(j) If necessary to discontinue unloading a tank car for any reason, all unloading connections must be disconnected. All valves must first be tightly closed, and the closures or all other openings securely applied.

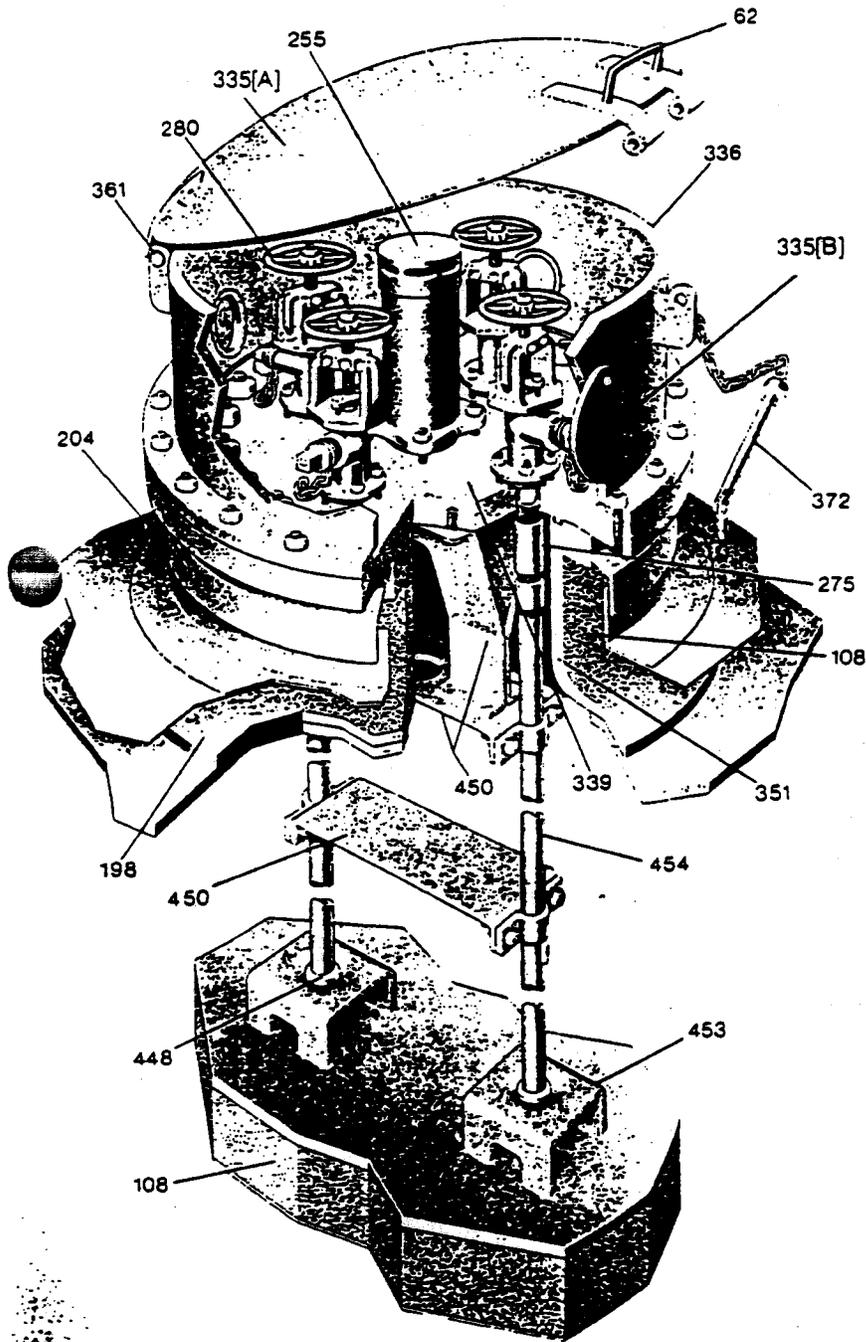
(k) As soon as a tank car is completely unloaded, all valves must be made tight, the unloading connections must be removed and all other closures made tight, except that heater coil inlet and outlet pipes must be left open for drainage. The manhole cover must be reappplied by the use of a bar or wrench, the outlet valve reducer and outlet valve cap replaced by the use of a wrench having a handle at least 0.9 m (3.0 feet) long, and the outlet valve cap plug, and plug, and all other closures or openings and of their protective housings must be closed by the use of a suitable tool.

(l) Railroad defect cars may not be removed.

(m) If oil or gasoline has been soiled on the ground around connections, it must be covered with fresh, dry sand or dirt.

(n) All tools and implement used in connection with unloading must be kept free of oil, dirt, and grit.

LOADING AND UNLOADING ARRANGEMENT FOR LIQUID CHLORINE CARS



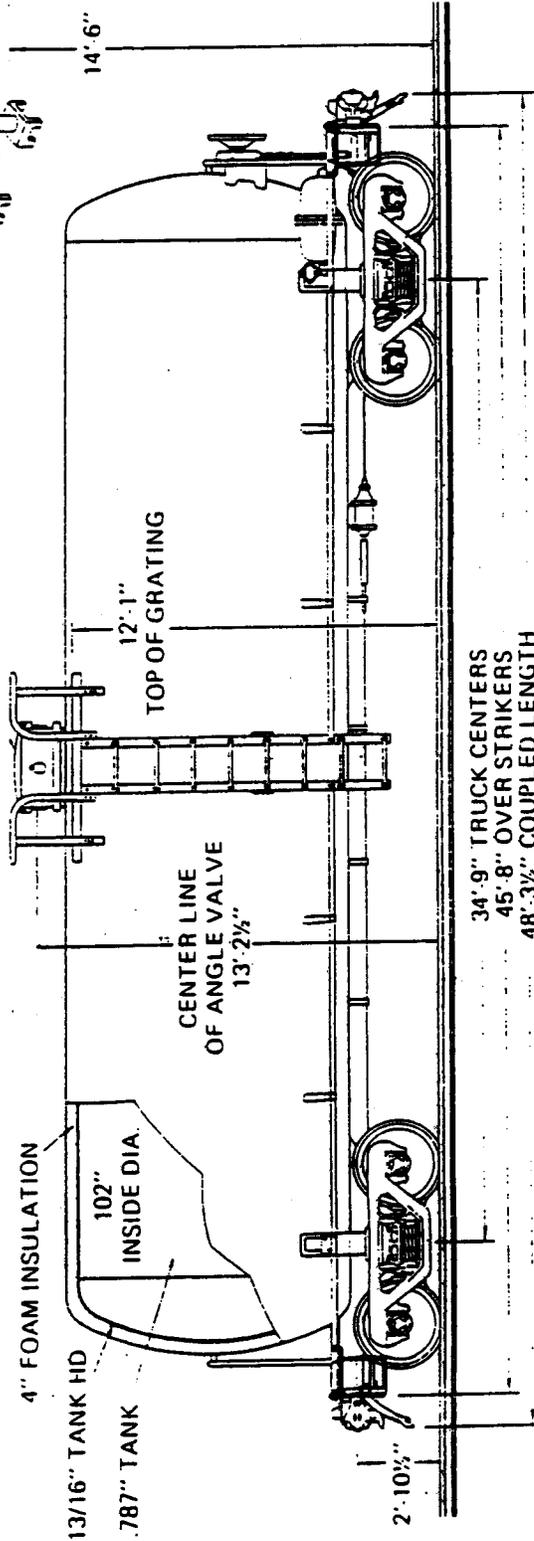
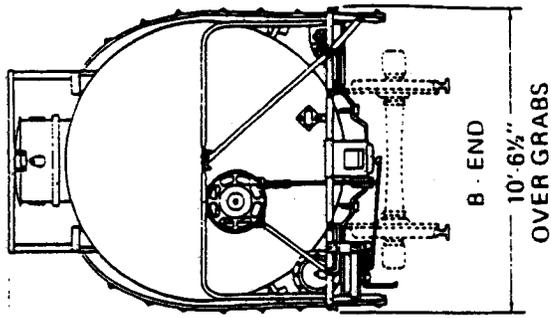
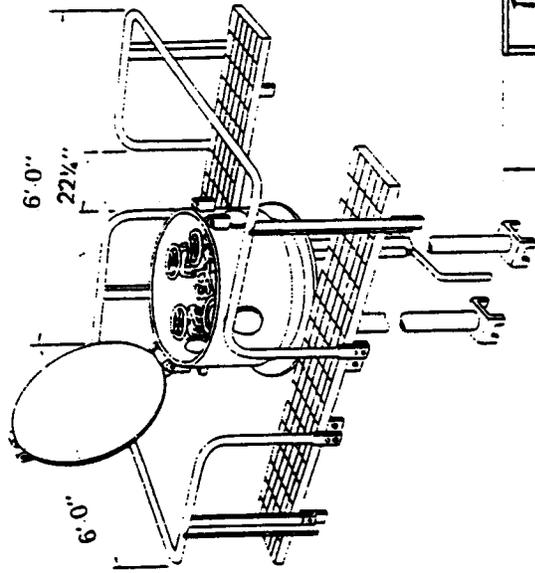
PART NO.	DESCRIPTION
62	BONNET COVER HANDLE
108	INSULATION
198	MANWAY NOZZLE
204	MANWAY FLASHING
255	SAFETY VALVE ASSEMBLY
275	1 1/2" CHECK VALVE
280	1" ANGLE VALVE
335(A)	MANWAY BONNET COVER
335(B)	MANWAY BONNET SIDE COVER
336	MANWAY BONNET
339	MANWAY COVER PLATE
351	MANWAY NOZZLE
361	HINGE
372	SEAL PIN
448	WEAR SLEEVE
450	PIPE BRACKET
453	PIPE GUIDE
454	1 1/2" DISCHARGE PIPE

90 TON CAPACITY - INSULATED

DOT - 105A500W

FOR CHLORINE SERVICE

(POST 1982)



CAPACITY & WEIGHTS

NOMINAL CAPACITY @ 125% FILLING DENSITY - 90 TONS

ESTIMATED LIGHT WEIGHT - 79,700 LBS.

RAIL LOAD LIMIT (100 TON TRUCKS) - (5' 10" WHEEL BASE) - 263,000 LBS.

**ACTIVE CLEAN-UP COMPANIES IN THE COUNTY OF LOS ANGELES
24-HOUR SERVICE**

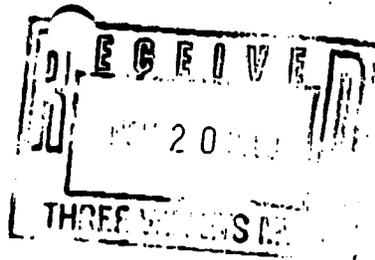
A&S ENVIRONMENTAL RECOVERY	Los Angeles	(213) 623-9443 (800) 548-1946
ADVANCED CLEANUP TECHNOLOGY, INC.	Carson Bakersfield	(310) 763-1423 (800) 354-2284
ADVANCED ENVIRONMENTAL, INC. <i>(Including Pressurized Cylinders, Radioactive Materials and Explosives)</i>	Fontana	(909) 356-9025 (800) 590-4229
ANCON MARINE	San Pedro	(310) 548-8300 (800) 556-9090
BFI - <i>(Bio-Med Waste)</i>	Vernon	(323) 263-6400 (800) 866-4234
BROCO ENVIRONMENTAL - <i>(Explosives)</i> 0800 - 1700 HOURS	Rialto	(909) 350-0580
CLEAN SCENE SERVICES <i>(Bio-Hazard Mitigation - Death Scene Cleaning)</i>	Los Angeles	(213) 288-2081
CONSOLIDATED WASTE, INC.	Montclair	(909) 482-2267 (800) 788-2167
ECOLOGY CONTROL INDUSTRIES	Torrance	(310) 320-2555 (800) 262-1900
ENVIRONMENTAL DYNAMIS, INC.	Carson	(310) 952-9812 (800) 888-0702
HAR-BRO EMERGENCY SERVICE <i>(Bio-Hazard Remediation)</i>	Signal Hill	(800) 350-4379 (562) 528-8000
HAZPAK ENVIRONMENTAL SERVICES, INC.	Fontana	(909) 822-7667 (800) 326-1011
ISLAND ENVIRONMENTAL SERVICES	Pomona	(909) 598-4449 (800) 400-4347
MESA ENVIRONMENTAL SERVICES	Long Beach	(562) 901-3470
OCEAN BLUE ENVIRONMENTAL	Long Beach	(562) 624-4120 (800) 990-9930
SEA TOW SERVICES	Westchester	(310) 641-9566 (888) 732-8697
TRANSLOADING ENVIRONMENTAL CORP.	Los Angeles	(213) 628-8000 (800) 628-8000
UNITED PUMPING SERVICES, INC.	Industry	(626) 961-9326 (800) 600-9326

Rev. 7/87

CAL WEST ENVIRONMENTAL LaVerne 909-593-7731



MWD
METROPOLITAN WATER DISTRICT OF SOUTHERN CALIFORNIA



Date: November 16, 2000
To: Member Agency Managers
 Member Agency Water Quality Managers
From: Jill T. Wicke, Manager, Water System Operations
Subject: Update of Notification Protocol for System Emergencies

This memorandum serves as an update of the notification protocol to be used by your staff in the event of operational or water quality emergencies.

Event	Notify	Phone No.
For all system events that occur during non-business hours	Eagle Rock Operations Control Center	(626) 844-5610
For operational events that occur during normal business hours (6 a.m. - 4:30 p.m. Monday-Thursday)	Eagle Rock Operations Control Center	(626) 844-5610
For water quality events that occur during normal business hours (7 a.m. - 4:30 p.m. Monday-Friday)	Water Quality Operations Compliance Team	(909) 392-5300 or (909) 392-5065

Jill T. Wicke

JTW:JK:slm
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DEPARTMENT OF HEALTH SERVICES**DRINKING WATER FIELD OPERATIONS****SOUTHERN CALIFORNIA BRANCH**

1155 N. Temple Street, Room 202

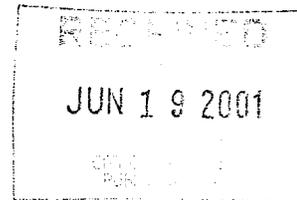
La Brea, Los Angeles, CA 90026

TEL (213) 580-5723

FAX (213) 580-5711



June 11, 2001



Daniel W. Keeseey
La Verne - City, Water Department
3660 D Street
La Verne, CA 91750

SYSTEM NO. 1910062 - ELECTRICAL POWER INTERRUPTIONS - RESPONSE PLANNING

The purpose of this letter is to remind you of the continuing potential for electrical power interruptions to occur within the State of California and to urge your utility to determine your ability to provide adequate quantities of safe drinking water during rolling electrical power outages of at least 2 hours in duration. As you probably are aware, the demand for electrical power within the State has frequently exceeded the current infrastructure's ability to meet that demand. Rolling outages were experienced in January 2001 and have continued to occur periodically throughout the State. Long-term predictions indicate that the State will likely continue to have problems during the summer months when electrical demands rise rapidly due to the use of air conditioning equipment.

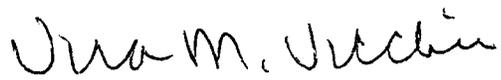
The Drinking Water Program encourages all utilities to secure backup power capabilities and to routinely test their emergency power generating equipment to ensure that it will function properly when needed. In addition, storage should be maintained as full as possible to prevent system dewatering during rolling power outages. As part of our being prepared to assist water utilities during emergency situations, we ask that you update your Disaster Response Plan, if needed, and provide us with a copy. A suggested notice advising the public on actions to be taken during low pressure situations or water outages is attached for your use. Also attached are some recommendations for a contingency plan and recommendations for rolling power outages. If your system experiences problems, please contact this office for advice or assistance.

During emergencies, water utilities may provide valuable mutual aid to other water utilities. The Water/Wastewater Agency Response Network (WARN) is one of those mutual aid organizations established for the purpose of providing assistance to member utilities in California during emergencies. Utilities that are members of WARN have access to resources of other WARN member agencies to help them in emergency situations. The available resources include personnel, heavy equipment, pumps, generators, piping supplies, etc. The WARN web site can provide you with more information at: <http://www.calwarn.org>.

June 11, 2001

If you have any questions regarding this letter, please call our office at
(213) 580-5723.

Sincerely,



Vera Melnyk Vecchio, P.E., Chief
Los Angeles Region
Drinking Water Field Operations

Enclosures

PUBLIC NOTICE

CONSUMER ALERT DURING WATER OUTAGES OR PERIODS OF LOW PRESSURE CAUSED BY ROLLING POWER OUTAGES

1. If you are experiencing water outages or low water pressure, immediately discontinue any non-essential water usage. This includes all outdoor irrigation and car washing. Minimizing usage will reduce the potential for the water system to lose pressure or completely run out of water. Please notify your water system of the outage or low pressure.
2. If the water looks cloudy or dirty, you should not drink it. Upon return of normal water service, you should flush the hot and cold water lines until the water appears clear and the water quality returns to normal.
3. If you are concerned about the water quality or are uncertain of its safety, you may add eight drops of household bleach to one gallon of water and let it sit for 30 minutes or alternatively, if you are able, water can be boiled for one minute at a rolling boil to ensure its safety.
4. Use of home treatment devices does not guarantee the water supply is safe after low pressure situations.
5. Do not be alarmed if you experience higher than normal chlorine concentrations in your water supply since the California Department of Health Services is advising public water utilities to increase chlorine residuals in areas subject to low pressure or outages.
6. The California Department of Health Services has also advised public water systems to increase the bacteriological water quality monitoring of the distribution system in areas subject to low pressure. They may be collecting samples in your area to confirm that the water remains safe. You will be advised if the sampling reveals a water quality problem.
7. Your water system is committed to make certain that an adequate quantity of clean, wholesome, and potable water is delivered to you. We recommend that you discuss the information in this notice with members of your family to ensure that all family members are prepared should water outages or low water pressure occur.

Memorandum

Date: June 2001
To: All Public Water Systems
From: Department of Health Services – Drinking Water Program
Subject: Rolling Power Outage Recommendations

Extensive power outages appear to be unavoidable this year in California. Rolling power outages have already occurred in Sacramento County and other areas around the state even though current electrical demands are only a fraction of the peak demands that will occur in the summer months.

In the future, power outages are likely to be more frequent and of longer duration. The Sacramento Municipal Utility District (SMUD), which supplies electricity for the Sacramento area, is forecasting that power outages will occur on 84 days during the coming summer season. Rolling power outage periods will continue as long as there is a need to "shed load" from the state's electrical grid.

The following actions and procedures are recommended to mitigate the effects of a power outage on your water system.

1. Act immediately to acquire standby power generators for all essential source pumps and booster pumping stations.
2. Make contact with your normal electrical supplier to make sure they know you are a domestic water supplier and you are providing an essential public service. Ask them to inform you as soon as possible of impending power outages, to restore your electrical service as soon as possible, and to restore your electrical power immediately in case of a fire in your service area.
3. Make sure all sources of supply in your system are capable of operating at optimal production capacity.
4. Establish procedures for monitoring system pressures to quickly identify areas of low pressure or water outage.
5. Inform your customers of what to expect if a water outage occurs and what actions they should take to lessen the effects of the outage. Tell them to stop ALL water use, including outside irrigation, whenever the power is off at their premises. At all other times, follow normal water conservation practices and use the water wisely.
6. Exercise all intertie connections with adjacent water systems and make arrangements to activate the interties quickly if they are needed.

7. Continue to conduct your normal bacteriological sampling program in spite of any water outages. This sampling program consists of the collection and analysis of routine samples from selected locations in the distribution system. If any of these routine samples is "positive" for the presence of bacteria, a set of three follow-up samples is collected at the site of each positive sample to confirm the initial result. If the presence of bacteria is confirmed, remedial actions should be taken to eliminate the contamination from the system.

If water outages occur, the routine sampling in some water systems may show the presence of bacterial contamination. If a water system fails to meet the bacteriological quality portion of the drinking water standards, California regulations require that the system notify its customers of the failure and take effective action to correct the cause of the failure and prevent future failure. To avoid this situation, the Department recommends that all water systems take the following actions.

- a. Install chlorinators on all groundwater sources so the water produced from these sources after a power blackout can be disinfected to ensure its bacteriological quality. Also, the ability to produce chlorinated water will help purge any contamination that may have entered the water system during the power outage.
 - b. Before any outages occur, perform a thorough flushing of your entire distribution system to remove accumulated sediment, rust, biological growths, and stagnant water. Having a clean distribution system will eliminate or lessen the extent of dirty water complaints that may result from a water outage.
 - c. Maintain a chlorine residual of at least 0.5 mg/l in the water throughout the distribution system. Chlorine in the water will help counteract the effect of any minor contamination that may enter the system during a water outage.
 - d. When pressure is restored following a water outage, flush the affected areas to remove dirty water from the system and restore the chlorine residual. Respond to water quality complaints from the customers. Set up a "hot complaint" procedure in your office to quickly dispatch field crews to respond to complaints.
 - e. Whenever possible, collect water quality samples from those parts of the system that have been affected by low pressures or actual water outages. Analyze the samples for coliform bacteria, turbidity, taste, odor, color, pH, and chlorine residual as appropriate.
8. Issue boil water notice for your customers with the consultation and approval of the Department of Health Services or the local county Health Officer. (Boil water notice during a power outage situation are likely to occur this summer would create many problems and normally may not be in the best interest of the public)

Contingency Plan Recommendations for Power Outages

1. Communications/Coordination Center

- a) A "Communications/Coordination Center" (CCC) needs to be set up to facilitate accurate and timely direction to field crews, nearby water utilities and government officials.
- b) A large map of the water system should be available on a wall.
- c) Lists of phone numbers for field crew cell phones and State and County Health Departments as well as police and fire should be readily available in the CCC.
- d) A phone bank should be set up in the CCC.
- e) Back-up power for the CCC should be provided.
- f) System pressures and intertie opening/closing should be logged by the CCC.

2. Maps

- a) If possible obtain a copy of the electrical utility's "load shedding" map.
- b) Identify on the "load shedding" map, all key system facilities including wells, treatment plants, interties, pressure reducing stations and storage facilities.
- c) Post the map in the CCC and provide a copy to all field crews.

3. Personnel

- a) Determine the staffing necessary to carry out the actions of the utilities' "Power Outage Contingency Plan".
- b) Staff will be needed to open/close interties, move/install generators, report pressures to the CCC, adjust chemical feeding, perform bacti sampling (if necessary), man the CCC, etc.

4. Electric Generators

- a) Determine how many generators are needed to keep the system pressurized. Obtain the generators through purchase/lease arrangements as soon as possible.
- b) Determine the location(s) where generators should be placed (prepositioned) to maximize benefit to the system. Place the generators at these locations.
- c) If generator transportation is necessary, determine how this will be accomplished (e.g. towed behind a truck). Determine the required towing capacity of the vehicle that will tow the generator(s) and purchase/lease such vehicles if they aren't currently in your inventory.
- d) Determine driving routes to move the generators so as to avoid traffic congestion. Obtain a list of intersections that have battery backup power for the light signals. Coordinate with the CHP if necessary for escort needs.
- e) Determine electrical panel modifications to be made (if necessary) to allow for the generator connection and make the necessary modifications.

- f) Determine whether generators will be started with an "automatic transfer switch" or manually.

5. Interties

- a) Identify, locate and exercise all intertie valves to assure their working ability during a power outage.
- b) All opening and closing of interties should be logged with date, time, location and whether it was opened or closed.

6. Pressure Monitoring

- a) Determine where and install pressure recorders at locations in the distribution system that will most likely represent the lowest pressure in the system.
- b) Assure that in the event of a power outage that pressures will be known to the water utility's management and the utility CCC.
- c) All pressure readings should be logged with date, time, and location.

7. Precautions to be Taken Prior to a Rolling Power Outage

- a) Flush the system even prior to a rolling power outage so that debris will be removed, resulting in less impact from flow reversals.
- b) Elevate disinfectant residual to 1.5 mg/l (if chlorine is being used).

8. Trigger Points

- a) > 5 psi – No specific actions are required.
- b) < 5 psi but > 0 psi
 - 1. Notify the Department
 - 2. Bacteriological Check Sampling*
- c) 0 psi
 - 1. Boil Water Notice
 - 2. Notify the Department
 - 3. Bacteriological Sampling*
- d) Boil water notice shall remain in effect until such time as a complete bacteriological sample set has been collected and the results of which are <1.1 MPN.

**Bacteriological sampling should be performed as soon as possible. However, the Department considers keeping the water lines pressurized a higher priority than bacteriological sampling. Therefore, if a utility is in a position of choosing between moving generators (or take other measures to keep mains pressurized) or taking bacteriological check samples, moving the generators would be a higher priority.*

9. Customer Precautions

- a) Inform all customers repeatedly throughout the summer via a media campaign (hopefully shared by more than one water utility), that customers should **STOP ALL WATER USE**, including outside irrigation, whenever the power is off at their premises. Moreover, all water irrigation water should be performed between midnight and 5:00 a.m. if consumers have programmable sprinkler controllers. At all other times, follow normal water conservation practices and use the water wisely.

EMERGENCY DISINFECTION PLAN

In the event of a disaster in which the water system remains intact, it is possible to maintain system chlorination in all zones through water received from TVMWD. In the event of a power loss, the 16 million gallon reservoir at TVMWD's Miramar Plant will hydraulically feed Zones 1, 2, and 3. The city can also receive chlorinated water from MWD's Weymouth Treatment plant and maintains emergency connections to Southern California Water Company.

Should specific zone chlorination be necessary, portable chlorination systems can be installed at the applicable booster sites to maintain a desired residual in the pressure zone. In addition, Zones 1, 2, and 3 can be supplied with water chlorinated to 2 ppm from the Lincoln Forebay. Alternatively, granular calcium hypochlorite (65% available chlorine) can be added to any reservoir to provide necessary disinfection to a given pressure zone.

The chlorination of a specific area of a given pressure zone can be accomplished by the installation of a portable chlorinator, applicable valve closures, and hydrant flushing where necessary to draw a chlorinated water to the desired destination.

During an emergency, chlorination should be dosed to provide 2 ppm free chlorine residual. Once chlorination is implemented under any scenario, it is important to conduct follow up distribution chlorine residual monitoring to determine the effectiveness of the chlorination process. Any areas that have suppressed residuals must receive further investigation to determine whether or not there are other problems associated with the reduced residuals. Chlorination of the system should continue until it has been verified that no structural problems exist within the distribution system and all bacteriological monitoring shows no presence of pathogenic organisms.

Chlorination equipment is generally used on a daily basis at one point in this system. The personnel of the production operation are familiar with the installation, operation, and maintenance of all equipment in use. Routine maintenance of the chlorinator is also performed on a daily basis. Daily records are maintained at the production office to determine the frequency of necessary maintenance and use of sodium hypochlorite.

SECTION 1 - INTRODUCTION

General

It should be understood that the following Emergency Response Plan is intended as a basic guide for the front line City of La Verne water division employees dealing with the early stages of a local disaster. No single plan can address every situation encountered in the field during an emergency. All employees will be expected to exercise good judgment while relying on individual experience and training. Periodically, this plan should be reviewed and updated to insure its effectiveness. This plan is not intended to address major issues such as mutual aid, emergency operations center procedures or post disaster clean up and finance.

The primary objectives of this plan are to protect the general public from imminent danger from flooding and contamination that may occur due to structural damage to water distribution and storage facilities. And also conserve the existing water supply for human consumption and fire protection. This Plan has been updated to take into account the results of the recent Water System Vulnerability Assessment completed in June 2004.

Water Division Information

The City of La Verne is located at 3660 D Street La Verne, California 91750-3599. City Hall's telephone number is (909) 596-8751 and the fax number is (909) 596-8799.

The Public Water System Identification Number is 1910062. The City of La Verne's water system is classified as a Distribution grade 4 level and a Treatment grade 2 level by the State Health Department.

Sources of Supply

The City of La Verne's water system provides water to a population of 32,000 residents and small businesses through 8,600 varying sized water services. The Three Valleys Municipal Water District (TVMWD) water is imported and supplies approximately 85% of the City of La Verne's supply; the balance is from wells within the city of La Verne. Total water demand averages about 8,529 acre-

feet annually with maximum daily production up to 8 -million gallons per day (equating to 23.4-acre feet per day. Maximum monthly production reaches as high as 3.9-million gallons or 1194 – acre-feet).

The City of La Verne Water Division produces its groundwater by exercising its rights within the Six Basins watershed. There are currently 9 state approved water wells within La Verne which produce approximately 1,657 acre feet annually, additionally, production is supplemented by imported water purchased from the Three Valleys Municipal Water District (TVMWD). There are 7 metered connections to TVMWD designated Williams & Baseline with a capacity of 3.5-cfs (cubic feet second), 6th Street & White Ave with a capacity of 8-cfs, Baseline @ Emerald with a capacity of 6-cfs, Wheeler Avenue and Baseline with a capacity of 6-cfs, 5th Street & C Street with a capacity of 3-cfs, Williams Ave & Amherst with a capacity of 3-cfs, Pump Back 5th Avenue & C Streets with a capacity of 8 cfs. Three Valleys Municipal Water District's (TVMWD) purchases its water non-treated, originating from the State Water Project from The Metropolitan Water District. The treatment facility is referred to as Miramar Treatment Plant, which can produce up to 25 million gallons per day or 38.75 cfs. This plant is located within the City of Claremont north of Baseline at Padua and Miramar Ave. The treatment plant has a reservoir storage capacity of 16 million gallons and has a rejection hydraulic grade.line of at elevation 1642.

Facilities

The City has approximately 140 miles of distribution main line in the system ranging in size and type from 2-inch to 24" and various types of Steel and Asbestos Cement (AC). There are 11 reservoirs in the system with a total of 27 million gallons (mg) of capacity. There are 10 booster-pumping stations in the system and a hydro pneumatic pumping station.

Telemetry

A computerized telemetry or SCADA (Supervisory Control and Data Acquisition) system was installed in the mid 90's and was upgraded again 2006 to control and monitor the City's water system. All critical functions of the production system, including MWD valve control, can be controlled from the central computer. These include pump control, reservoir level, intrusion alarms and data

management tasks. The computer also monitors all functions of the system and stores data relative to those tasks. Those functions monitored include pump & well run times/status, pump energy use, reservoir levels, system pressure, remote communications status, and blended flow from the TVMWD meters. The various components of the telemetry system are shown in the following Table.

Telemetry Components

COMPONENT	MANUFACTURER	FUNCTION
Computer	Dell Power Edge 2800 Dual Processors 4GBM-RAM, 143 GB disk 10Krpm	Monitors all system functions including pump controls and logic, reservoir levels, flows, system, power usage, data storage, alarms
Operating System	Windows NT 3.51 platform, Wonderware, SCADAAlarm and PC Anywhere 10.5	
Radios	Microwave Data Systems MDS 9310	Provides wireless communication between central telemetry and remote locations. Operates at 900 MHz.
RTU	Allen Bradley @ 5 sites only.	Process control and monitoring, remote data logging to central computer

The telemetry computer is maintained in the main headquarters office located at 2525 White Ave. The computer and the remote locations are backed up by batteries that will supply up to 4 hours of operation in the event of a power failure. Authorized persons can access it from a remote location. Access to the various levels of the system is restricted based upon classification, operators, data processing, supervisors, and management. Problems with the production system are recorded in the SCADA system through the alarm process. Each incident is logged, including the date and time, and if necessary, sends out a page to a responsible person. The operator can access the system remotely, determine the alarm significance and make any needed adjustments.

Maintenance

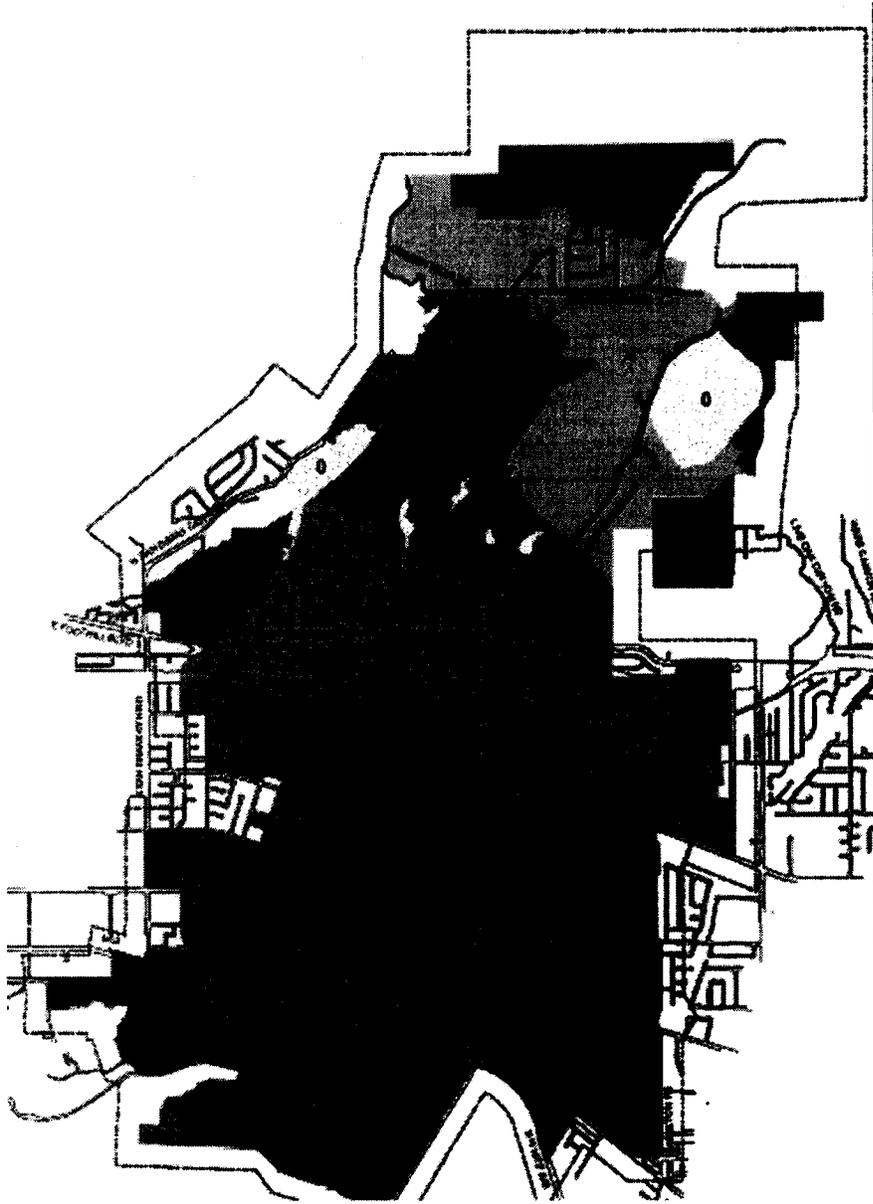
City of La Verne staff performs routine maintenance on the entire system. Certified operators are responsible for motor and pump maintenance, leak and valve repair. Projects beyond routine

maintenance are contracted for with private contractors, such as Lane Christenson Co., Water Well Inc, or General Pump Co.

SECTION 2 - ASSESS DAMAGE AND CLASSIFY EMERGENCY

PRELIMINARY DAMAGE ASSESSMENT

- **DETERMINE NEED TO REPAIR, REPLACE, OR ABANDON FACILITY**
- **CONSIDER POSSIBLE EFFECTS OF AFTERSHOCKS**
- **EVACUATE BUILDINGS IN DANGER OF COLLAPSE**
- **CONFIRM THAT FIELD CREW MAKES ASSESSMENT OF FACILITIES AND DISTRIBUTION SYSTEM**



5th STREET FOREBAY AND BOOSTER FACILITY
2525 WHITE AVE (normal level 5-13 feet / feeds zone 1)

CONDITION OF OFFICE

CONDITION OF MAINTENANCE BUILDING

**CHECK IF POWER AVAILABLE AND CONDITION OF ELECTRICAL
AND MECHANICAL BOOSTER EQUIPMENT AND CHLORINATION
UNIT**

Additional Notes:

WHEELER BOOSTER AND RESERVOIR FACILITY
7311 CALLE ARAGON (2 ea 3mg reservoirs / normal level 8-16 feet / feeds zone 1)

CHECK SUCTION AND DISCHARGE LINES FOR CRACKS AND BROKEN CONNECTIONS

CHECK FOR POWER DISCONNECT

CHECK FOR STRUCTURAL DAMAGE

RESERVOIR

CHECK FOR EVIDENCE OF FAILURE OF SUBBASE

CHECK FOR LEAKS, CRACKS, BROKEN INLET-OUTLET PIPES, UNDERDRAINS

Additional Notes:

AMHERST RESERVOIR AND TREATMENT FACILITY (2.5 mg / normal level 8-16 feet / feeds zone 1)

CHECK IF POWER AVAILABLE AND CONDITION OF MECHANICAL AND ELECTRICAL EQUIPMENT

CHECK FOR AVAILABILITY AND QUALITY OF WATER

CHECK FOR CHEMICAL SPILLS OR RELEASES

CHECK FOR NEED TO INSTITUTE EMERGENCY CHLORINATION PLAN

CHECK FOR STRUCTURAL DAMAGE

16 LINE FROM WELL FIELD WILLIAMS 1, 2, AND 3

Additional Notes:

**PLATEAU FOREBAY AND BOOSTER BASELINE @
LEROYS BOYS HOME (10k gallons / normal level 5-10 feet / feeds
zone 2)**

CHECK SUCTION AND DISCHARGE LINES FOR CRACKS AND
BROKEN CONNECTIONS

CHECK FOR POWER DISCONNECT

CHECK FOR STRUCTURAL DAMAGE

Pressure Reducing Station

RESERVOIR

CHECK FOR FAILURE OF SUBBASE

CHECK FOR LEAKS, CRACKS, BROKEN INLET-OUTLET PIPES,
UNDERDRAINS

CHECK ALL BOOSTER PUMPS

Additional Notes:

Additional Notes:

Additional Notes:

Additional Notes:

ZONE 5 BOOSTER 7275 STEVENS RANCH ROAD

CHECK FOR STRUCTURAL DAMAGE

CHECK FOR POWER DISCONNECT

CHECK DISCHARGE LINES FOR LEAKS, BROKEN FITTINGS,
CONNECTIONS

CHECK FLOW RATE

**DEWENTER RESERVOIR 1 MILE NORTH OF END
OF BRYDON ROAD (.5 mg / normal level 8-15 feet / feeds zone 5)**

CHECK FOR EVIDENCE OF FAILURE OF SUBBASE

CHECK FOR STEEL BUCKLING AND OR LEAKAGE

CHECK IN AND OUT WATER LINES FOR LEAKS OR OTHER DAMAGE

OTHER RELATED COMMENTS

Additional Notes:

EMERALD RESERVOIRS 1 & 2 / 5035 EMERALD AVE

(1.5 mg normal level 15-21.5 feet / 3mg normal level 15-21.5 feet / feeds zone 2)

CHECK FOR EVIDENCE OF FAILURE OF SUBBASE

CHECK FOR CRACKS IN CONCRETE AND LEAKAGE

CHECK IN AND OUT WATER LINES FOR LEAKS OR OTHER DAMAGE

OTHER RELATED COMMENTS

Additional Notes:

**MARSHALL CANYON RESERVOIR 7565 AVILA
COURT** (2.5 mg / normal level 8-15 feet / feeds zone 5)

CHECK FOR EVIDENCE OF FAILURE OF SUBBASE

CHECK FOR CRACKS IN CONCRETE AND LEAKAGE

CHECK IN AND OUT LINES FOR LEAKS OR OTHER DAMAGE

OTHER RELATED COMMENTS

Additional Notes:

MOUNTIAN SPRINGS RESERVOIR 5395 MOUNTIAN SPRINGS ROAD (1 mg normal level 14-26 feet / feeds zone 4)

CHECK FOR EVIDENCE OF FAILURE OF SUBBASE

CHECK FOR CRACKS IN CONCRETE OR LEAKAGE

CHECK IN AND OUT WATER LINES FOR LEAKS OR OTHER DAMAGE

OTHER COMMENTS

Additional Notes:

ZONE III RESERVOIR 7311 CALLE ARAGON

(2.5mg normal level 15-22.5 feet / feeds zone 3)

CHECK FOR EVIDENCE OF FAILURE OF SUBBASE

CHECK FOR CRACKS IN CONCRETE AND LEAKAGE

CHECK IN AND OUT LINES FOR LEAKS OR OTHER DAMAGE

OTHER RELATED COMMENTS

Additional Notes:

Additional Notes:

DAMIEN BOOSTER FACILITY 3600 DAMIEN AVE

CHECK FOR STRUCTUAL DAMAGE

CHECK FOR POWER DISCONNECT

CHECK DISCHARGE LINES FOR LEAKS BBROKEN FITTINGS, CONNECTIONS

CHECK FLOW RATE

Additional Notes:

Additional Notes:

HILLCREST BOOSTER FACILITY 2761 HILLCREST DRIVE

CHECK FOR STRUICTUAL DAMAGE. (NOTE IF POWER IS OFF A MANUAL VENTILATOR WILL BE REQUIRED TO VENTILATE VAULT BEFORE ENTERING)

CHECK FOR POWER DISCONNECT

CHECK DISCHARGE LINES FOR LEAKS, BROKEN FITTINGS, CONNECTIONS

CHECK FLOW RATE

Additional Notes:

MCCALL BOOSTER FACILITY 2433 FOOTHILL BLVD

CHECK FOR STRUCTURAL DAMAGE

CHECK FOR POWER DISCONNECT

CHECK DISCHARGE LINES FOR LEAKS, BROKEN FITTINGS, CONNECTIONS

CHECK FLOW RATE

Additional Notes:

AMHERST WELL SITE 2898 AMHERST AVE

CHECK FOR STRUCTUAL DAMAGE AT SANITARY SEAL

CHECK FOR POWER DISCONNECT

CHECK DISCHARGE LINES FOR LEAKS, BROKEN FITTINGS, CONNECTIONS

CHECK FLOW RATE

Additional Notes:

CARTWRIGHT WELL SITE 2701 SHERWIN WAY

CHECK FOR STRUCTUAL DAMAGE TO THE SANITARY SEAL

CHECK FOR POWER DISCONNECT

CHECK DISCHARGE LINES FOR LEAKS, BROKEN FITTINGS, CONNECTIONS

CHECK FLOW RATE

Additional Notes:

**LA VERNE HEIGHTS WELLS #1 & #2 4339
WILLIAMS AVE**

CHECK FOR STRUCTUAL DAMAGE AT SANITARY SEAL

CHECK FOR POWER DISCONNECT

CHECK DISCHARGE LINES FOR LEAKS, BROKEN FITTINGS, CONNECTIONS

CHECK FLOW RATE

Additional Notes:

LA VERNE HEIGHTS #3 4080 N WILLAMS AVE

CHECK FOR STRUCTURAL DAMAGE AT SANITARY SEAL

CHECK FOR POWER DISCONNECT

CHECK DISCHARGE LINES FOR LEAKS, BROKEN FITTINGS, CONNECTIONS

CHECK FLOW RATE

Additional Notes:

LINCOLN WELL 2525 WHITE AVE

CHECK FOR STRUCTUAL DAMAGE AT THE SANITARY SEAL

CHECK FOR POWER DISCONNECT

CHECK DISCHARGE LINES FOR LEAKS, BROKEN FITTINGS, CONNECTIONS

CHECK FLOW RATE

Additional Notes:

MILLS TRACT WELL 2431 SIXTH STREET

CHECK SANITARY SEAL FOR STRUCTUAL DAMAGE

CHECK FOR POWER DISCONNECT

CHECK DISCHARGE LINES FOR LEAKS, BROKEN FITTINGS, CONNECTIONS

CHECK FLOW RATE

Additional Notes:

OLD BALDY WELL 1991 5TH STREET

CHECK SANITARY SEAL FOR STRUCTUAL DAMAGE

CHECK FOR POWER DISCONNECT

CHECK DISCHARGE LINES FOR LEAKS, BROKEN FITTINGS, CONNECTIONS

CHECK FLOW RATE

Additional Notes:

WALNUT WELL 1922 WALNUT STREET

CHECK FOR STRUCTUAL DAMAGE TO SANITARY SEAL

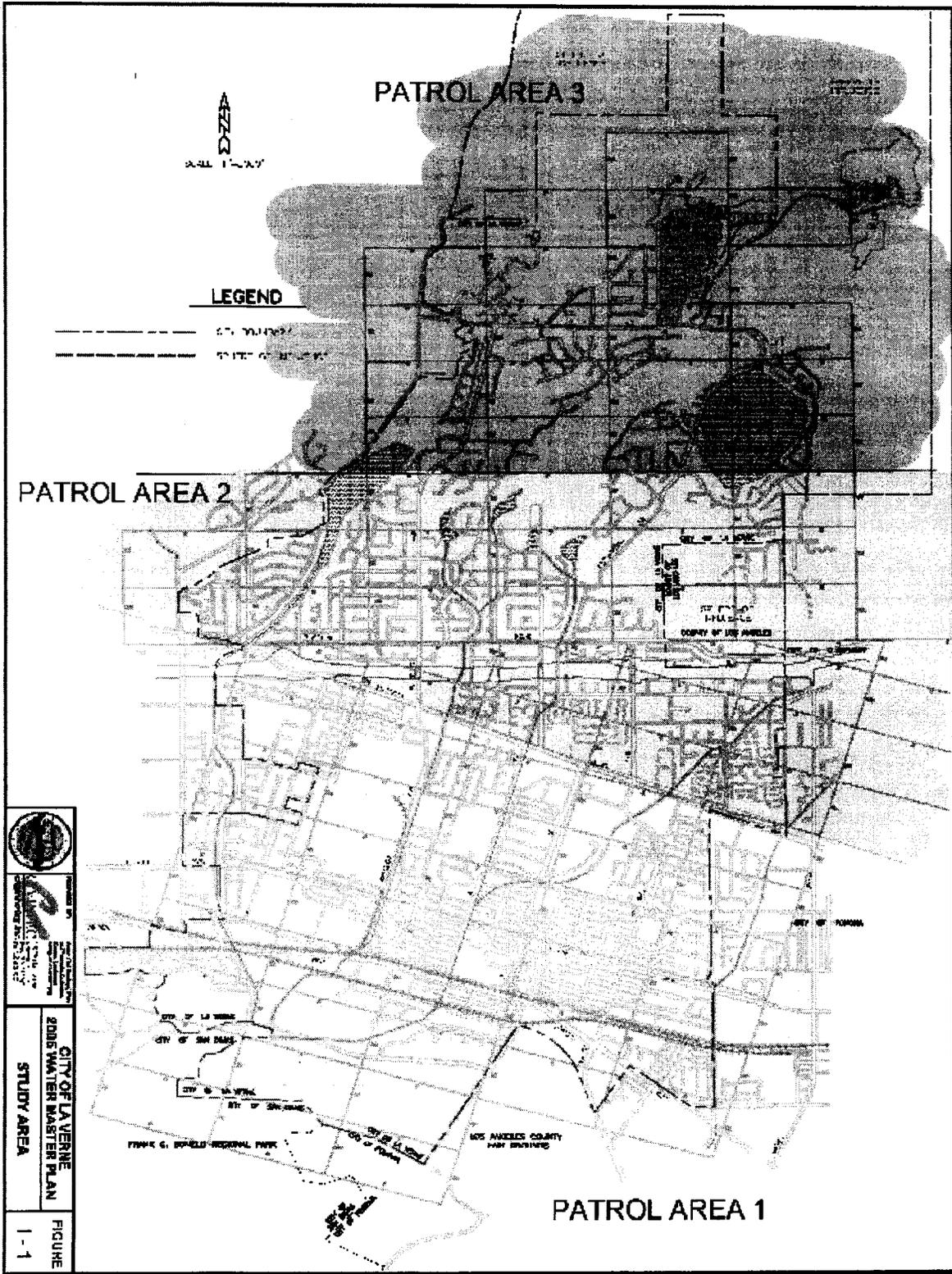
CHECK FOR POWER DISCONNECT

CHECK DISCHARGE LINES FOR LEAK, BROKEN FITTINGS, CONNECTIONS

CHECK FLOW RATE

PATROL DISTRIBUTION SYSTEM

- PATROL ASSIGNED AREA
- CHECK DISTRIBUTION SYSTEM FOR LEAKS, BREAKS, WATER OR SEWAGE FLOWING INTO STREETS OR FLOOD CONTROL CHANNELS
- CHECK FOR PRESSURE LOSS IN LINES
- RECORD LOCATION AND CONDITIONS AND TURN IN TO EOC



CLASSIFICATION GUIDELINES

DETERMINE LEVEL OF EMERGENCY

LEVEL #1- NORMAL TROUBLE

- PERSONNEL OF UTILITY CAN HANDLE PROBLEM EASILY

EXAMPLES: BREAK IN INDIVIDUAL MAIN OR INDIVIDUAL PUMPING STATION OFF LINE

LEVEL #2- ALERT (MINOR EMERGENCY)

- PERSONNEL OF UTILITY CAN HANDLE PROBLEM MAY REQUIRE PERSONNEL TO BE PUT ON ALERT, BE REROUTED TO OTHER THAN THEIR NORMAL WORK OR WORK ADDITIONAL SHIFTS

EXAMPLES: BREAK IN SEVERAL MAINS, MORE THAN ONE PUMPING STATION OFF LINE, OR SOURCE WATER PROBLEM

LEVEL #3-MAJOR EMERGENCY

- PROBLEMS SOMEWHAT BEYOND CAPABILITY OF UTILITY AND MAY REQUIRE DECLARATION OF EMERGENCY TO AUTHORIZE SHORTCUT PROCEDURES
- REQUIRES WORKING EMPLOYEES ADDITIONAL SHIFTS AND RECEIVING ADDITIONAL ASSISTANCE, EITHER MUTUAL AID OR CONTRACTS

EXAMPLES: SERIOUS TREATS TO RESERVOIR, OR TREATMENT PLANT; POWER LOSS TO PUMPING SYSTEMS; UNSAFE WATER SUPPLY IN SYSTEM; BREAKS IN MAJOR TRUNK LINES; FLOWS OF UNTREATED SEWAGE AT SEVERAL LOCATIONS; OR LOSS OF WATER SUPPLY WITHIN SERVICE AREA

LEVEL #4-DISASTER

- PROBLEMS CLEARLY AND IMMEDIATELY BEYOND CAPABILITY OF UTILITY
- RECOVERY TIME WILL EXCEED ONE WEEK, COST WILL BE GREAT, LARGE AMOUNTS OF MUTUAL AID OR CONTRACTS WILL BE REQUIRED, EXTENDED SHIFTS WILL BE NEEDED FOR AT LEAST ONE WEEK, AND REQUEST FOR DECLARATION OF EMERGENCY WILL BE REQUIRED

EXAMPLES: EARTHQUAKE OF MAGNITUDE 6.0 OR GREATER ORIGINATING WITHIN OR AFFECTING THE SERVICE AREA, EARTHQUAKE OF MAGNITUDE 7.5 OR GREATER WITHIN 50 MILES OF SERVICE AREA, LOSS OF AT LEAST 50 PERCENT OF WATER SUPPLY IMPORT CAPACITY, UNTREATED SEWAGE FLOWING IN MANY STREET LOCATIONS, LOSS OF ABILITY TO BIOLOGICALLY PROTECT WATER SUPPLY, OR OUTBREAK OF WATERBORNE DISEASES

CLASSIFICATIONS OF LEVELS #3 OR #4 REQUIRE USE OF THE STANDARDIZED EMERGENCY MANAGEMENT SYSTEM (SEMS)

DOCUMENTATION OF UTILITY STATUS (CUEA FORM EOC-2) MUST BE FORWARDED TO THE L. A. COUNTY EMERGENCY OPERATIONS CENTER

(323) 980-2201 OR (323) 980-2211
(323) 881-6898 (FAX) OR (323) 881-0152 (FAX)

SECTION 3 - WATER QUALITY EMERGENCIES

General

The TVMWD Treatment Plant receives imported water from MWD and typically produces an effluent chlorine residual of 2.5 to 3 PPM. The City of La Verne's distribution system maintains a free chlorine residual ranging from 0.3 to 1.5 PPM. Residual chlorine analysis is performed daily at various locations throughout the system.

Daily chlorination is achieved with two on line chlorine generators located at the forebay @ 6th and White Ave and @ Williams Well #3 facility. These systems have multiple days of sodium hypochlorite storage at each of these sites. All actions and residuals are logged daily.

The City of La Verne has an approved emergency disinfection plan which includes installing portable chlorinators at each well site / source which can produce a concentration of 2 ppm or mg/l. If chlorination is required at reservoirs sites 65% calcium chlorite will be made available to produce a concentration of 2 ppm at each reservoir.

In the event of a disaster it is possible to maintain chlorine residuals in all five pressure zones by taking water from TVMWD with the assistance of system booster pumps.

During an emergency, chlorinating equipment will be adjusted to provide 2-PPM free chlorine residual. Chlorine residuals will be monitored in the distribution system twice daily to determine effects of the increased chlorinating.

Water Quality Sampling

Water quality sampling is conducted in accordance with Title 22 of the California Code of Regulations and the State of California Department of Health Services' requirements. Bacteria samples for the distribution system are collected and analyzed by Clinical Laboratories of San Bernardino every Tuesday. All well samples are taken by qualified District personnel and forwarded to Clinical Lab. All results are tabulated and forwarded to the State Department of Health Services on or before the 10th of each month.

Water Quality Mitigation and Notification Procedure

Samples of all groundwater wells are taken directly at the well discharge prior to chlorinating. Samples are tested for bacteria at each well and for volatile organic contaminants at the Lincoln and Mills Tract Well sites. Laboratory personnel will contact the City of La Verne supervisory staff by telephone and followed up with a fax if a MCL is exceeded.

Per Section 64421 ET seq., if the City of La Verne does experience a positive bacteria sample, within the distribution system, which is fecal coliform present, the State Department of Health Services shall be notified within 24 hours. Samples shall be retaken within 24 hours in three locations: at the site of the bad sample, the nearest service connection upstream, and the next service connection downstream. If a well sample is found to be the source of the suspected positive results, this well shall be taken off line until the results are returned as a negative. If the specific positive results were taken from a well site that is not actually pumping water to the system, no Health Department notification would be required.

Notification

Certified operators maintain and operate all of the City of La Verne's facilities. An operator can be reached 24 hours a day at (909) 596-8741 or (909) 596-1913.

WATER QUALITY - EMERGENCY NOTIFICATION PLAN

Contact List

The following City Staff have been designated to implement the plan upon notification by the State Department of Health Services when an imminent danger to the health of the water users exists:

<u>NAME</u>	<u>TITLE</u>	<u>TELEPHONE</u>	
		<u>DAY</u>	<u>NIGHT</u>
Daniel Keesey	Director of Public Works	(909) 596-8741	(909) 596-1913
Jerry Mesa	Utilities Manager	(909) 596-8741	(909) 596-1913
Richard J. Martinez	Supervisor	(909) 596-8741	(909) 596-1913

The implementation of the plan will be carried out with the following State Health Department Personnel:

<u>NAME</u>	<u>TITLE</u>	<u>TELEPHONE</u>	
		<u>DAY</u>	<u>NIGHT</u>
Chi Diep, P.E.	District Engineer	(818) 551-2016	(213) 309-3822
Lolito Bagtasos	Sanitary Engineer	(818) 551-2035	(562) 879-6219

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY (EPA) contact information:

Standard Mailing Address
Environmental Protection Agency
Local Primacy Agency
5050 Commerce Drive
Baldwin Park Ca, 91706-1423
(626) 430-5280
(626) 430-5271
(213) 974-1234
Fax (626) 813.3006

Region 9 (AZ, CA, HI, NV)
Environmental Protection Agency
75 Hawthorne Street
San Francisco, CA 94105
<http://www.epa.gov/region09/>

Phone: (415) 947-8000
(866) EPA-WEST (toll free in Region 9)
Fax: (415) 947-3553
Email: r9.info@epa.gov

State Water Resources Control Board
Division of Drinking Water

WATER QUALITY EMERGENCY NOTIFICATION PLAN

Name of Utility: City of La Verne

Physical Location/Address: 3660 D Street, La Verne, CA 91750

The following persons have been designated to implement the plan upon notification by the Division of Drinking Water (DDW) of the State Water Resources Control Board (SWRCB) that an imminent danger to the health of the water users exists:

Water Utility: Contact Name & Title	Email Address	Day	Telephone	
			Evening	Cell
1. Jerry Mesa, Utilities Manager	jmesa@ci.la-verne.ca.us	909/596-8741	714/325-6882	714/325-6882
2. Richard Martinez, Wtr/Swr Supv.	rjmartinez@ci.la-verne.ca.us	909/596-8741	909/946-2317	909/730-3504
3. Daniel Keesey, Dir. of Public Wks.	dkeesey@ci.la-verne.ca.us	909/596-8741	909/944-7975	909/240-5950

The implementation of the plan will be carried out with the following State DDW and County Health Department personnel:

State DDW & County Health Department: Contact Name & Title	Telephone	
	Day	Evening
1. Chi Diep, P.E., District Engineer SWRCB, Division of Drinking Water	(818) 551-2016 Fax (818) 551-2054	M (213) 309-3822
2. Lolito Bagtasos, Sanitary Engineer Susan Brownstein, P.E., Associate Sanitary Engineer Karen Wong, P.E., Associate Sanitary Engineer Juan Arriola, P.E., Associate Sanitary Engineer Thomas Tsui, P.E., Associate Sanitary Engineer SWRCB, Division of Drinking Water	(818) 551-2035 (818) 551-2039 (818) 551-2037 (818) 551-2034 (818) 551-2036	(562) 879-6219 (310) 709-9060 (626) 833-3828 (310) 963-9644 (626) 757-4262
3. Jacqueline Taylor, Director Richard Lavin, Chief of Small Water Systems Program Bureau of Environmental Protection Los Angeles County Department of Public Health Local Primacy Agency 5050 Commerce Drive Baldwin Park, CA 91706-1423	(626) 430-5280 (626) 430-5420	(213) 270-5568 (213) 270-5568

4. If the above personnel cannot be reached, contact:

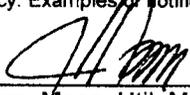
Office of Emergency Services Warning Center (24 hrs) (800) 852-7550 or (916) 845-8911
When reporting a water quality emergency to the Warning Center, please ask for the California State Water Resources Control Board – Division of Drinking Water Duty Officer.

NOTIFICATION PLAN

Attach a written description of the method or combination of methods to be used (radio, television, door-to-door, sound truck, etc.) to notify customers in an emergency. For each section of your plan give an estimate of the time required, necessary personnel, estimated coverage, etc. Consideration must be given to special organizations (such as schools), non-English speaking groups, and outlying water users. Ensure that the notification procedures you describe are practical and that you will be able to actually implement them in the event of an emergency. Examples of notification plans are attached for large, medium and small communities.

Report prepared by:

Signature and Title


Jerry Mesa, Util. Mgr

May 20, 2015
Date

During regular working hours the Director of Public Works or the Assistant City Manger will contact the news media at television stations KCBS – News (323) 460-3316, KNBC – News (818) 840-3425 and KABC – Eyewitness, News (323) 557-5811 to broadcast the necessary warnings. The local radio stations will also be contacted. The television and radio personnel are available at all hours. As a follow-up measure, we will also contact the Daily Bulletin, a local newspaper that serves La Verne and the surrounding area.

The warnings will be issued in both English and Spanish to cover all members of the community. Outlying areas of the water service area will also be notified by sound truck and/or handbill distributed to their respective areas.

A special telephone answering service can also be quickly set up at City Hall to answer questions that will come in from consumers.

It is anticipated that the time for notification to the television and radio audiences will be very short. The areas served by handbill and sound truck will also be notified within 4 hours. For notification to be issued in other than normal hours the same media will be contacted and an announcement will be scheduled for as long as is necessary. A sound truck will be used in the early morning hours to quickly alert the people not listening to their radio or television.

SECTION 4 - IMPLEMENT EMERGENCY INSTRUCTIONS AND COMMUNICATION

GENERAL INFORMATION

REPORTING TO DUTY STATIONS – AUTOMATIC ACTIONS

- IN THE ADVENT OF AN EMERGENCY, ALL OFF DUTY EMPLOYEES SHALL REPORT TO THE CITY YARD OR TO THE NEAREST POSSIBLE SUBSTITUTE LOCATION AFTER ENSURING THE WELL BEING OF THEIR FAMILIES.
- SUPERVISORS ARE AUTHORIZED TO CARE, TO THE EXTENT RESOURCES ALLOW, FOR THE EMERGENCY PHYSICAL NEEDS OF FAMILY MEMBERS OF ON DUTY EMPLOYEES WHO CANNOT BE RELEASED FROM DUTY DURING A PROCLAIMED EMERGENCY CONDITION.
- ON DUTY EMPLOYEES SHALL HAVE IMMEDIATE RESPONSIBILITY TO BEGIN AN ASSESSMENT OF DAMAGE AND REPORT OBSERVATIONS TO THE PUBLIC WORKS DIRECTOR OR MANAGER.
- EMPLOYEES ASSIGNED TO SPECIFIC EMERGENCY TASKS SHALL PERFORM THOSE TASKS AS THEIR HIGHEST PRIORITY.
- WHEN RESPONDING TO FIELD MEDIA INQUIRES REGARDING THE EMERGENCY, ONLY FACTUAL RESPONSES SHALL BE MADE. EMPLOYEES WILL AVOID SPECULATION, CONJECTURE, OR STATEMENTS OF OPINION.

EMERGENCY PERSONNEL ASSIGNMENTS

POSITION	ASSIGNMENT	LOCATION
DIRECTOR / MANAGER	ASSESS & CLASSIFY EMERGENCY PRIORITIZE NEEDS DIRECT RESPONSE SEMS FACILITATOR MEDIA-PUBLIC INFORMATION	E O C
FINANCE / REPRESENTATIVE	RADIO-TELEPHONE COMMUNICATIONS FINANCIAL RESOURCES & PROCUREMENT PUBLIC INFORMATION	E O C
MAINTENANCE SUPERVISOR	DAMAGE ASSESSMENT PRIORITIZE REPAIRS ASSIGN & DISPATCH PERSONNEL	FIELD OPERATIONS
LEAD WORKER AND MAINTENANCE STAFF	RESPOND PATROL REPORT REPAIR	FIELD OPERATIONS

PERSONNEL ROSTER

POSITION: Public Works Director

NAME: Daniel Keesey
PHONE: (909) 944.7975
CELL: (909)240.5950

POSITION: Utilities Manager

NAME: Jerry Mesa
PHONE: (714) 996.8522
CELL: (714) 325.6882

POSITION: Administrative Superintendent

NAME: Jeannette Vagnozzi
CELL: (909) 392.0199

POSITION: Maintenance Supervisor

NAME: Richard J. Martinez
PHONE: (760) 946.2317
CELL: (909) 730.3504

POSITION: Lead Worker

NAME: John Diaz
PHONE: (909) 593.4636
CELL: (909) 633.3105

EMERGENCY MEDICAL FACILITIES

AMBULANCE / LA VERNE PARAMETICS

(909) 596-1913

EMERGENCY CLINIC AND HOSPITALS

CENTRAL AVE URGENT CARE CENTER (24 / 7)

(909) 865-9977

8891 CENTRAL AVE
MONTCLAIR, CA 91763

POMONA VALLEY HOSPITAL

(24 / 7)

(909) 630-7875

1798 NORTH GAREY AVE
POMONA, CA 91767

SAN DIMAS COMMUNITY HOSPITAL

(24 / 7)

(909) 599.6811

1350 W. COVINA BLVD
SAN DIMAS, CA 91773

EMERGENCY COMMUNICATION

PRIMARY EMERGENCY COMMUNICATION BETWEEN THE EOC AND FIELD OPERATION PERSONNEL WILL BE BY TWO WAY RADIO. IF POWER IS OFF, STANDBY GENERATORS WILL NEED TO BE ACTIVATED AT THE EOC AND WATER PRODUCTION FACILITY. IN THE INTERIM HANDHELD BATTERY OPERATED RADIOS AND TRUCK UNIT RADIOS WILL BE USED FOR FIELD STAFF COMMUNICATION.

IF TELEPHONES OR CELLULAR PHONES ARE OUT OF SERVICE, COMMUNICATIONS WITH OTHER AGENCIES MAY REQUIRE MESSAGE INFORMATION TO BE RELAYED BY POLICE OR FIRE DEPARTMENT PERSONNEL TO THE LA COUNTY EOC OR STATE OFFICE OF EMERGENCY SERVICES.

FIRE AND LAW ENFORCEMENT STATIONS

FIRE STATIONS

LA VERNE FIRE DEPARTMENT EMERGENCY PHONE (24 / 7)
(909) 596-1913 OR 911

LAW ENFORCEMENT

CITY OF LA VERNE POLICE DEPARTMENT EMERGENCY PHONE
(24 / 7)
(909) 596.1993 OR 911

CALIFORNIA HIGHWAY PATROL EMERGENCY PHONE(24 / 7)
911

<u>LOCATION</u>	<u>BUSINESS PHONE</u>
9530 PITTSBURGH AVE RANCHO CUCAMONGA, CA 91730	(909) 980-3994

FEDERAL BUREAU OF INVESTIGATION

FBI LOS ANGELES FIELD OFFICE

(310) 477-6565
los.angeles@fbi.gov

STATE WATER RESOURCES AND COUNTY HEALTH DEPARTMENT

STATE OF CALIFORNIA
WATER RESOURCES CONTROL BOARD
DIVISION OF DRINKING WATER
500 NORTH CENTRAL AVENUE – SUITE 500
GLENDALE CA 91203

(818)551-2047
(818)551-2052 FAX

PERSONNEL ASSIGNED TO SYSTEM #19010101 ORCHARD DALE WATER DISTRICT

<u>NAME</u>	<u>TITLE</u>	<u>TELEPHONE</u>
Chi Diep, P.E. Chi.diep@waterboards.ca.gov	District Engineer	(818)551-2016 DAY (213)309-3822 NIGHT (818)551-2054 FAX
Lolito Bagtasos Lolito.bagtasos@waterboards.ca.gov	Sanitary Engineer	(818)551-2035 DAY (562)879-6219 NIGHT (818)551-2054 FAX

LOS ANGELES COUNTY HEALTH SERVICES DEPT.
ENVIRONMENTAL HEALTH
WATER, SEWAGE AND SUBDIVISIONS
5050 COMMERCE DRIVE
BALDWIN PARK, CA 91706-1423

PHONE (626) 430-5420
FAX (626) 813-3013

AFTER HOURS & WEEKENDS – 24 HOURS
OPERATOR (818) 700-9995

L.A. COUNTY DEPARTMENT OF PUBLIC WORKS

L. A. COUNTY DEPARTMENT OF PUBLIC WORKS
900 FREMONT AVENUE
ALHAMBRA CA 91803-1331

(626) 458-5100

WEBSITE dpw.lacounty.gov

EMERGENCY (800) 675-4357

PERMITS AND CONSTRUCTION DIVISION

(626) 458-3129

(626) 458-4949 FAX

CITY OF LA VERNE

BUILDING AND SAFETY DIVISION

(909) 596-8713

(909) 596-8737 FAX

DIG ALERT

UNDERGROUND SERVICE ALERT OF SOUTHERN CALIFORNIA FOR MARKING
OF UNDERGROUND FACILITIES PRIOR TO EXCAVATING

(800) 227-2600

SECTION 5 - PRIORITIZE DAMAGE TO BE REPAIRED AND DETERMINE NECESSARY WORK

GENERAL INFORMATION

- ACT TO PROTECT LIFE
- PRESERVE WATER IN STORAGE
- CONSIDER WHAT CAN BE SAVED, WHAT CAN BE SACRIFICED
- ASSESS DAMAGE TO SEWER SYSTEM BECAUSE IT COULD CONTAMINATE WATER SUPPLY
- IMPLEMENT EMERGENCY CHLORINATION PLAN IF CONTAMINATION IS SUSPECTED
- ISOLATE AREAS THAT WILL TAKE LONGEST TO RESTORE SERVICE AND ARRANGE FOR EMERGENCY WATER DISTRIBUTION
 - ESTABLISH LOCATIONS FOR EMERGENCY WATER DISTRIBUTION
 - MAKE BOTTLED WATER AVAILABLE OR GET TRUCKS WITH WATER TANKS TO FILL CUSTOMER CONTAINERS

- IDENTIFY AREAS THAT CAN BE SERVED WITH MINIMUM OF REPAIR AND LIST REPAIRS
- SET PRIORITIES ON REPAIR WORK
 - PLAN TO RESTORE SERVICE AREA BY AREA
 - PREPARE AND KEEP CURRENT A PLAN TO RESTORE SERVICE
 - GET INPUT FROM EOC ON ESSENTIAL AREAS
 - TAKE INTO ACCOUNT THE CONDITION OF FEEDER LINES
 - KEEP IN MIND THE NEED FOR FIRE PROTECTION
 - DETERMINE IF IMPORTED WATER IS AVAILABLE FROM BORDERING SYSTEMS.
 - WHEN WORK EXCEEDS CAPABILITIES OF WORK FORCE NOTIFY EOC
- DISPATCH PERSONNEL AND EQUIPMENT TO BEGIN REPAIRS

SECTION 6 - REQUEST AID

GENERAL INFORMATION

AFTER A DISASTER OR DURING EMERGENCIES, IT IS IMPORTANT TO USE ALL RESOURCES AVAILABLE TO INSURE A SPEEDY RESPONSE AND RESTORATION OF NORMAL SERVICE. IN THE ABSENCE OF MANAGEMENT THE EMPLOYEE ON DUTY SHALL HAVE AUTHORITY TO ACT IN THE BEST INTEREST OF THE CITY OF LA VERNE. IF PROBLEMS ARE BEYOND THE CAPABILITY OF THE CITY USE THE SUPPLIERS, CONTRACTORS, OR NEARBY AGENCIES LISTED HERE FOR HELP.

City of La Verne Public Works Department

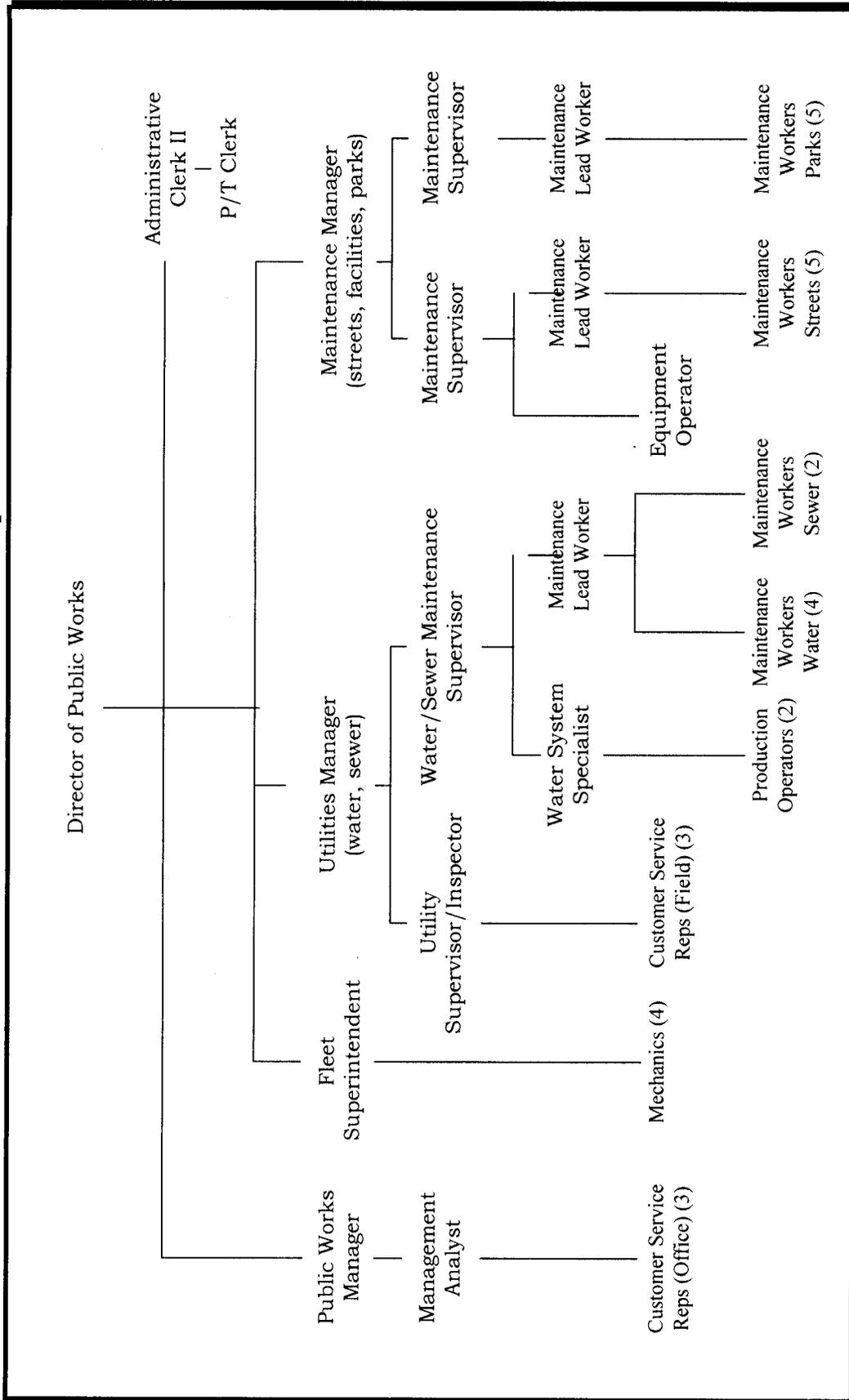


Exhibit I

SEMS CONTACT

**STANDARDIZED EMERGENCY MANAGEMENT SYSTEM (SEMS)
IF THE CITY OF LA VERNES EOC IS ACTIVATED FORWARD
UTILITY OUTAGE AND RESTORATION STATUS REPORT BY FAX
OR DIRECTLY TO THE EOC VIA RADIO OR TELEPHONE.**

COMMERCIAL SUPPLIERS OF HEAVY EQUIPMENT AND SUPPLIES

PIPELINE CONTRACTORS

**GENTRY BROTHERS INC
384 E. LIVE OAK AVE
IRWINDALE CA
CONTACT: ROD OR WAYNE
(626) 357-9631
(626) 482-2225 (CELL)
(909) 880-8640 (FAX)**

**BOB BRKICH CONSTRUCTION
1508 SOUTH MAYFLOWER
MONROVIA CA**

**CONTACT
(626) 305-7426 (office)
(626) 308-7426 (CELL) Bobby
(626) 308-7408 (CELL)
(626) 945-0606 (JOHNNY LIMA CELL)**

SEAWEST CONSTRUCTION

**DOTY BROTHERS EQUIPMENT CO. INC. LIC # 273024
11232 FIRESTONE BLVD.
NORWALK, CA. 90640
(562) 864-6566**

(562) 864-6052 (FAX)

AFTER HOURS EMERGENCY NUMBER

(562) 864-6566

VALVERDE CONSTRUCTION, INC. LIC #276469

10936 SHOEMAKER AVE.

SANTA FE SPRINGS, CA. 90670

(562) 906-1826

(562) 906-1918 (FAX)

AFTER HOURS EMERGENCY NUMBERS

MIKE VALVERDE (562) 947-4180

CELL: (310) 877-2855

ED VALVERDE (562) 943-2186

CELL: (310) 420-2167

AHRON VALVERDE (562) 947-7873

CELL: (562) 244-4705

JOHN DIP (626) 288-4016

CELL: (626) 255-0770

ENGINEERING

CIVILTEC ENGINEERING INC.

118 WEST LIME AVE.

MONROVIA, CA. 91016

www.civiltec.com

W. DAVID BYRUM

TERRY KERGER (626) 357-0588 (626) 303-7957 (FAX)

WATER TESTING LABORATORY

E. S. BABCOCK & SONS, INC.

6100 QUAIL VALLEY COURT

RIVERSIDE, CA 92507-0704

(951) 653-3351

(951) 653-1662 FAX

BACKFILL AND PAVING MATERIALS

GENTRY BROS CONSTRUCTION INC
384 E. LIVE OAK AVE IRWINDALE, CA 91706
(626) 357-9631
(626) 357-6322 (FAX)

VULCAN MATERIALS COMPANY
CALMAT DIVISION
16005 FOOTHILL BLVD.
IRWINDALE, CA 91702
(626) 334-4913
(626) 334-4161 (FAX)
FOR ROCK OR SAND CALL (626) 856-6143
OUR ACCOUNT # 540059

SCADA TELEMETERING- CONTROLS

TRIMAX
565 WEST EXPLORERS STREET
BREA CA 92821
(714) 255-8590
(714) 255-1922 FAX
(714) 582-0740 (CHRIS MCLAUGHLIN)

HUNTER ELECTRIC SERVICES
5421 MCFADDEN AVENUE UNIT C
HUNTINGTON BEACH CA 92649

(714) 903-7933
(714) 903-7943 FAX
(714) 981-4822 (SAM HUNTER)

A&B ELECTRIC
248 N. LORANNE AVENUE
POMONA, CA. 91767-5789
909-865-5886 Fax 909-865-7929

PUMP REPAIRS AND SUPPLIES

LAYNE CHRISTENSEN COMPANY
11001 ETIWANDA AVENUE
FONTANA, CA 92337
(909) 390-2833
(909) 390-6097 (FAX)
(909) 322-2406

WATER WELL SUPPLY
11234 NORWALK BLVD.
SANTA FE SPRINGS, CA 90670
(562) 864-3229 OR (562) 868-0654
(562) 929-6272 (FAX)

GENERAL PUMP COMPANY
159 N. ACACIA STREET
SAN DIMAS, CA 91773
909-599-9606 FAX 909-599-6238

STEWART & STEVENSON POWER, INC. (WAUKESHA ENGINE)
215 JASON COURT
CORONA, CA. 92879
(909) 372-1288
(909) 372-1299 (FAX)

EQUIPMENT RENTAL YARDS

UNITED RENTALS
10632 MONTE VISTA AVE MONTCLAIR
(909) 624-9615
(800) 877-3687

HOMETOWN RENTALS
2610 N. GAREY AVE. POMONA
(909) 596-3799

REPAIR PARTS AND SUPPLIES

S&J SUPPLY COMPANY, INC.
13105 FLORENCE AVE.
SANTA FE SPRINGS, CA. 90670
(562) 944-7433
(562) 944-7224 (FAX)
AFTER HOURS EMERGENCY NUMBER
(888) 520-1226

WESTERN WATER WORKS SUPPLY COMPANY INC
(909) 597-7000
(909) 800-834-2666
(909) 597-7050 FAX

AFTER HOURS EMERGENCY NUMBER
(909) 597-7000

J.W. DANGELO CO.
601 SO. HARBOR BLVD.
LA HABRA CA 90631
(562) 690-1000
AFTER HOURS EMERGENCY NUMBER
(562) 497-0122

WELLS SUPPLY CO.
1313 HUNTER AVE
SANTA ANA CA 92705
(760) 775-5766
(714) 542-0711
(951) 683-3820
(714) 420-1483 CHRIS BLASCO CELL

MATT CHLOR, INC. (CHLORINATION / DISINFECTION)
4107 NORTH ARDEN DR.
EL MONTE, CA 91731
(626) 443-5034
(626) 443-2226 (FAX)
EMERGENCY 24 HOUR # (626) 253-6465

BASIC CHEMICAL SOLUTIONS (SODIUM HYPOCHLORITE)
(800) 597-7868 OR (562) 944-7244 (562) 903-0056 (FAX)
FOR EMERGENCY SPILLS AND RELEASES CALL: CHEMTREC (800)
424-9300

OSH HARDWARE
2244 FOOTHILL BLVD.
LA VERNE, CA, 91750
(909) 596-1383

HOME DEPOT INC.
2707 SO. TOWN AVE
POMONA, CA 91766
(909) 627-9400

1305 S. LONEHILL AVE
GLEN DORA AVE, CA 91740
(909) 394-1400
(909) 3941402 (FAX)

BOTTLED WATER SUPPLIERS

MILLER BREWING CO.
IRWINDALE, CA
(626) 969-6811
(626) 969-6239 COMMUNITY AFFAIRS
(626) 969-6666 (FAX REQUEST: ATTENTION VICTOR FRANCO)

ROCKY MOUNTAIN WATER
10260 MATERN PL.
SANTA FE SPRINGS, CA 90670

(562) 946-5000
(562) 946-4352 (FAX)

YOSEMITE WATERS
SANTA ANA

(800) 273-4026 OR (714) 870-4022 x 136
(714) 870-4060 (FAX)

SPARKLETTS DRINKING WATER
(800) 453-0295 OR (800) 824-8525 OR (626) 472-7201

NEARBY AGENCIES

CITY OF POMONA WATER DEPARTMENT
148 N. HUNTINGTON
POMONA CA 91768
(909) 620-2231
(909) 620-2030
EMERGENCY AFTER HOURS (JIM TAYLOR)
(909) 240-6122 CELL

ROWLAND WATER DISTRICT
3021 S. FULLERTON ROAD
ROWLAND HEIGHTS CA 91748

(562) 697-1726
(562) 697-6149
EMERGENCY AFTER HOURS KEN DECK
(310) 779-0372

GOLDEN STATE WATER COMPANY
630 E. FOOTHILL BLVD.
SAN DIMAS, CA 91773
(909) 394-3600

(909) 394-0711 (FAX)
FOR EMERGENCY USE ONLY (800) 758-6790
SANTA FE SPRINGS
11710 TELEGRAPH ROAD
SANTA FE SPRINGS, CA 90670
(562) 868-0511
(562) 868-7112 (FAX)

WATER EMERGENCIES 909-596-8913 (POLICE SERVICES OFFICE)
2061 3rd Street La Verne CA 91750

AFTER HOURS EMERGENCIES 91=

THREE VALLEYS MWD
1021 E. MIRMAR AVE
CLAREMONT CA 91711
(909) 621-5568
(909) 625-5470 FAX
AFTER HOURS EMERGENCY JIM JOHNS
(909) 238-4885

WALNUT VALLEY WATER DISTRICT
271 BREA CANYON ROAD
WALNUT CA 91789
(909) 595-7554
(909) 444-5521
AFTER HOURS EMERGENCY CREGG ZIMMERMAN
(909) 464-3163

SECTION 7 - MUTUAL AID AGREEMENT AND ACCESS

SEE APPENDIX A FOR THE WATER / WASTEWATER AGENCY RESPONSE NETWORK (WARN) STATEWIDE MUTUAL AID 2001 OMNIBUS MUTUAL AID ASSISTANCE AGREEMENT

**WATER / WASTEWATER AGENCY RESPONSE NETWORK (WARN)
STATEWIDE MUTUAL AID**

INTERNET WEBSITE ACCESS INFORMATION

www.calwarn.org

USER NAME: LAVERNE

PASSWORD: SOUTHERN 18

- AFTER YOU LOGIN AND ENTER PASSWORD INDICATE WHETHER THIS IS AN EMERGENCY:
 - “YES” WILL ALLOW YOU TO IMMEDIATELY REQUEST RESOURCES.
 - “NO” WILL ALLOW YOU TO UPDATE YOUR MEMBER PROFILE AND THE RESOURCES YOUR AGENCY IS MAKING AVAILABLE.
 - “EXIT” TAKES YOU BACK TO THE WARN MAIN PAGE.

MUTUAL AID AGREEMENT WITH SURROUNDING CITYS AND TVMWD

SEE APPENDIX A

CALIFORNIA OFFICE OF EMERGENCY SERVICES (OES)

EXECUTIVE OFFICES

3650 SCHRIEVER AVE.

MATHER, CA. 95655

(916) 845-8518 – (916) 845-8911

(916) 845-8516 (FAX)

www.oes.ca.gov

SOUTHERN REGION OFFICE

EMERGENCY OPERATION CENTER

LOS ALAMITOS ARMED FORCES BASE

4671 LIBERTY

LOS ALAMITOS, CA 90720

(562) 795-2900

(562) 795-2877 (FAX)

LOS ANGELES COUNTY MUTUAL AID AREA “E”

COORDINATOR: FAN ABEL

(562) 868-9908

(562) 863-1518 (FAX)

SECTION 8 - MEDIA-PUBLIC INFORMATION

GENERAL INFORMATION

- **CENTRALIZE NEWS RELEASES AND STATEMENTS TO AVOID CONFUSING THE PUBLIC.**
- **MAKE PUBLIC INFORMATION AVAILABLE AT THE EMERGENCY OPERATIONS CENTER (DISTRICT OFFICE).**
- **COORDINATE INFORMATION RELEASES WITH STATE AND COUNTY HEALTH DEPARTMENTS IF POSSIBLE.**
- **WHEN RESPONDING TO INQUIRES, MAKE ONLY FACTUAL RESPONSES. AVOID SPECULATION.**
- **INFORM PUBLIC OF PROBABLE CONTAMINATION OF WATER SUPPLY IF BREAKS FOUND IN LINES.**
- **NOTIFY PUBLIC OF AVAILABILITY OF WATER AND PRECAUTIONS TO BE TAKEN.**
- **USE BROADCAST AND PRINT MEDIA TO INFORM DISTRICT CUSTOMERS.**

LOCAL RADIO, TELEVISION, AND NEWSPAPERS

RADIO

KFWB, 980 AM – NEWS AND INFORMATION

(323) 871-4633 NEWSLINE

WEBSITE:<http://kfwb.com/>

E-MAILS ATTENTION: PROGRAMMING AND NEWS DIRECTOR

KNX, 1070 AM NEWS AND INFORMATION

(323) 460-3343 NEWSLINE

(323) 460-3339 COMMUNITY SERVICES

(323) 460-3114 (FAX)

WEBSITE:<http://knx1070.com/>

TELEVISION

KABC, CHANNEL 7

(818) 863-7600 NEWSLINE

(818) 863-7080 (FAX)

KTLA, CHANNEL 5

(323) 460-5502 NEWSLINE

(323) 460-0533 (FAX)

ADELPHA CABLE, CHANNEL 20 PUBLIC ACCESS

(562) 946-5022 BUSINESS

(562) 946-0170 (FAX) FOR POSTING ITEMS ON BULLETIN BOARD

NEWSPAPERS

INLAND VALLEY DAILY TRIBUNE

2041 E. 4TH STREET

ONTARIO CA 91764

(909) 483-9340

(909) 989-8287

LOS ANGELES TIMES

(213) 237-7001 CITY DESK

(800) LATIMES

(213) 237-4712 (FAX)

WEBSITE: <http://www.latimes.com/>

SECTION 9 - RECOVERY PERIOD

CHECKLIST OF THINGS TO BE DONE DURING RECOVERY PERIOD

1. DISASTER RECOVERY COORDINATOR TO DOCUMENT EMERGENCY WORK PERFORMED AND TO SUBMIT APPROPRIATE DOCUMENTS FOR REIMBURSEMENT UNDER EXISTING LEGISLATION.
2. MAKE DETAILED DAMAGE INSPECTION OF SYSTEM SAFETY.
3. NOTIFY KEY PERSONNEL (INCLUDING REGULATORY AND HEALTH AGENCIES).
4. COMPLETE EMERGENCY REPAIRS AND SCHEDULE PERMANENT REPAIRS.
5. UNTAG REPAIRED FACILITIES AND EQUIPMENT.
6. REPLACE USED MATERIALS AND SUPPLIES.
7. COMPLETE PERMANENT REPAIRS AND REPLACEMENTS

DESIGNATION OF AGENCY DISASTER RECOVERY COORDINATOR

AFTER A STATE OF EMERGENCY OR MAJOR DISASTER IS PROCLAIMED STATE AND FEDERAL FUNDING MAY BECOME AVAILABLE. TO INSURE RECEIVING MAXIMUM REIMBURSEMENT, THE AGENCIES DESIGNATED COORDINATOR MUST MAINTAIN DETAILED RECORDS OF ALL MEASURES TAKEN TO PROTECT AGAINST DISASTERS. ALL RESTORATION WORK DONE, INCLUDING LOCATION, NUMBER OF HOURS

WORKED, NUMBER OF PERSONS EMPLOYED, AND COST OF EQUIPMENT AND SUPPLIES USED MUST BE DOCUMENTED.

SEE APPENDIX B FOR CLAIMS REPORTING PROCEDURES FOR PROPERTY, BOILER AND MACHINERY CLAIMS UNDER ACWA/JPIA COVERAGES.



Appendix H

IRWM Climate Change Vulnerability Assessment

Appendix I

Climate Change Vulnerability Assessment

The Climate Change Vulnerability Assessment is taken from the Climate Change Handbook for Regional Water Planning, USEPA and DWR, 2011. The vulnerability assessment highlights those water-related resources that are important to a region and are sensitive to climate change.

I. Water Demand

Are there major industries that require cooling/process water in your planning region? NO

- As average temperatures increase, cooling water needs may also increase.
- Identify major industrial water users in your region and assess their current and projected needs for cooling and process water.

Does water use vary by more than 50% seasonally in parts of your region? NO

- Seasonal water use, which is primarily outdoor water use, is expected to increase as average temperatures increase and droughts become more frequent.
- Where water use records are available, look at total monthly water uses averaged over the last five years (if available). If maximum and minimum monthly water uses vary by more than 25%, then the answer to this question is "yes"
- Where no water use records exist, is crop irrigation responsible for a significant (say >50%) percentage of water demand in parts of your region?

Are crops grown in your region climate-sensitive? Would shifts in daily heat patterns, such as how long heat lingers before night-time cooling, be prohibitive for some crops? NO

- Fruit and nut crops are climate-sensitive and may require additional water as the climate warms.

Do groundwater supplies in your region lack resiliency after drought events? YES

- Droughts are expected to become more frequent and more severe in the future. Areas with a more hardened demand may be particularly vulnerable to droughts and may become more dependent on groundwater pumping.

Are water use curtailment measures effective in your region? YES

- Droughts are expected to become more frequent and more severe in the future. Areas with a more hardened demand may be particularly vulnerable to droughts.

Are some instream flow requirements in your region either currently insufficient to support aquatic life, or occasionally unmet?

N/A

- Changes in snowmelt patterns in the future may make it difficult to balance water demands. Vulnerabilities for ecosystems and municipal/agricultural water needs may be exacerbated by instream flow requirements that are:
 1. not quantified,
 2. not accurate for ecosystem needs under multiple environmental conditions including droughts, and
 3. not met by regional water managers.

II. Water Supply

Does a portion of the water supply in your region come from snowmelt?

NO

- Snowmelt is expected to decrease as the climate warms. Water systems supplied by snowmelt are therefore potentially vulnerable to climate change.
- Where watershed planning documents are available, refer to these in identifying parts of your region that rely on surface water for supplies; if your region contains surface water supplies originating in watersheds where snowpack accumulates, the answer to this question is "Yes."
- Where planning documents are not available, identify major rivers in your region with large users. Identify whether the river's headwaters are fed by snowpack.

Does part of your region rely on water diverted from the Delta, imported from the Colorado River, or imported from other climate-sensitive systems outside your region?

COLORADO RIVER

- Some imported or transferred water supplies are sources from climate-sensitive watersheds, such as water imported from the Delta and the Colorado River.

Does part of your region rely on coastal aquifers? Has salt intrusion been a problem in the past?

NO

- Coastal aquifers are susceptible to salt intrusion as sea levels rise, and many have already observed salt intrusion due to over-extraction, such as the West Coast Basin in southern California.

Would your region have difficulty in storing carryover supply surpluses from year to year?

NO

- Droughts are expected to become more severe in the future. Systems that can store more water may be more resilient to droughts.

Has your region faced a drought in the past during which it failed to meet local water demands?

NO

- Droughts are expected to become more severe in the future. Systems that have already come close to their supply thresholds may be especially vulnerable to droughts in the future.

Does your region have invasive species management issues at your facilities, along conveyance structures, or in habitat areas? NO

- As invasive species are expected to become more prevalent with climate change, existing invasive species issues may indicate an ecological vulnerability to climate change.

III. Water Quality

Are increased wildfires a threat in your region? If so, does your region include reservoirs with fire-susceptible vegetation nearby which could pose a water quality concern from increased erosion? NO

- Some areas are expected to become more vulnerable to wildfires over time. To identify whether this is the case for parts of your region, the California Public Interest Energy Research (PIER) Program has posted wildfire susceptibility projections as a Google Earth application at: <http://cal-adapt.org/fire/>. These projections are only the results of a single study and are not intended for analysis, but can aid in qualitatively answering this question. Read the application's disclaimers carefully to be aware of its limitations.

Does part of your region rely on surface water bodies with current or recurrent water quality issues related to eutrophication, such as low dissolved oxygen or algal blooms? Are there other water quality constituents potentially exacerbated by climate change? NO

- Warming temperatures will result in lower dissolved oxygen levels in water bodies, which are exacerbated by algal blooms and in turn enhance eutrophication. Changes in streamflows may alter pollutant concentrations in water bodies.

Are seasonal low flows decreasing for some waterbodies in your region? If so, are the reduced low flows limiting the waterbodies' assimilative capacity? NO

- In the future, low flow conditions are expected to be more extreme and last longer. This may result in higher pollutant concentrations where loadings increase or remain constant.

Are there beneficial uses designated for some water bodies in your region that cannot always be met due to water quality issues? NO

- In the future, low flows are expected decrease, and to last longer. This may result in higher pollutant concentrations where loadings increase or remain constant.

Does part of your region currently observe water quality shifts during rain events that impact treatment facility operation? **NO**

- While it is unclear how average precipitation will change with temperature, it is generally agreed that storm severity will probably increase. More intense, severe storms may lead to increased erosion, which will increase turbidity in surface waters. Areas that already observe water quality responses to rainstorm intensity may be especially vulnerable.

IV. Sea Level Rise

Has coastal erosion already been observed in your region? **NO**

- Coastal erosion is expected to occur over the next century as sea levels rise.

Are there coastal structures, such as levees or breakwaters, in your region? **NO**

- Coastal structures designed for a specific mean sea level may be impacted by sea level rise.

Is there significant coastal infrastructure, such as residences, recreation, water and wastewater treatment, tourism, and transportation) at less than six feet above mean sea level in your region? **NO**

- Coastal flooding will become more common, and will impact a greater extent of property, as sea levels rise. Critical infrastructure in the coastal floodplain may be at risk.
- Digital elevation maps should be compared with locations of coastal infrastructure.

Are there climate-sensitive low-lying coastal habitats in your region? **NO**

- Low-lying coastal habitats that are particularly vulnerable to climate change include estuaries and coastal wetlands that rely on a delicate balance of freshwater and salt water.

Are there areas in your region that currently flood during extreme high tides or storm surges? **NO**

- Areas that are already experiencing flooding during storm surges and very high tides, are more likely to experience increased flooding as sea levels rise.

- Is there land subsidence in the coastal areas of your region?* NO
 - Land subsidence may compound the impacts of sea level rise.

- Do tidal gauges along the coastal parts of your region show an increase over the past several decades?* NO
 - Local sea level rise may be higher or lower than state, national, or continental projections.
 - Planners can find information on local tidal gauges at http://tidesandcurrents.noaa.gov/sltrends/sltrends_states.shtml?region=ca

V. Flooding

- Does critical infrastructure in your region lie within the 200-year floodplain? DWR's best available floodplain maps are available at: http://www.water.ca.gov/floodmgmt/trafmo/fmb/fes/best_available_maps/* NO
 - While it is unclear how average precipitation will change with temperature, it is generally agreed that storm severity will probably increase. More intense, severe storms may lead to higher peak flows and more severe floods.
 - Refer to FEMA floodplain maps and any recent FEMA, US Army Corps of Engineers, or DWR studies that might help identify specific local vulnerabilities for your region. Other follow-up questions that might help answer this question:
 1. What public safety issues could be affected by increased flooding events or intensity? For example, evacuation routes, emergency personnel access, hospitals, water treatment and wastewater treatment plants, power generation plants and fire stations should be considered.
 2. Could key regional or economic functions be impacted from more frequent and/or intense flooding?

- Does part of your region lie within the Sacramento-San Joaquin Drainage District?* NO
 - The SSJDD contains lands that are susceptible to overflows from the Sacramento and San Joaquin Rivers, and are a key focus of the Central Valley Flood Protection Plan. (<http://www.water.ca.gov/cvfmpp/program.cfm>).

- Does aging critical flood protection infrastructure exist in your region?* NO

- Levees and other flood protection facilities across the state of California are aging and in need of repair. Due to their overall lowered resiliency, these facilities may be particularly vulnerable to climate change impacts.
- DWR is evaluating more than 300 miles of levees in the San Joaquin and Sacramento Rivers Valleys and the Delta (<http://www.water.ca.gov/levees/>).

Have flood control facilities (such as impoundment structures) been insufficient in the past? YES

- Reservoirs and other facilities with impoundment capacity may be insufficient for severe storms in the future. Facilities that have been insufficient in the past may be particularly vulnerable.

Are wildfires a concern in parts of your region? NO

- Wildfires alter the landscape and soil conditions, increasing the risk of flooding within the burn and downstream areas. Some areas are expected to become more vulnerable to wildfires over time. To identify whether this is the case for parts of your region, the California Public Interest Energy Research Program (PIER) has posted wildfire susceptibility projections as a Google Earth application at: <http://cal-adapt.org/fire/>. These projections are the results of only a single study and are not intended for analysis, but can aid in qualitatively answering this question. Read the application's disclaimers carefully to be aware of its limitations.

VI. Ecosystem and Habitat Vulnerability

Does your region include inland or coastal aquatic habitats vulnerable to erosion and sedimentation issues? NO

- Erosion is expected to increase with climate change, and sedimentation is expected to shift. Habitats sensitive to these events may be particularly vulnerable to climate change.

Does your region include estuarine habitats which rely on seasonal freshwater flow patterns? NO

- Seasonal high and low flows, especially those originating from snowmelt, are already shifting in many locations.

Do climate-sensitive fauna or flora populations live in your region? NO

- Some specific species are more sensitive to climate variations than others.

- Do endangered or threatened species exist in your region? Are changes in species distribution already being observed in parts of your region?* NO
 - Species that are already threatened or endangered may have a lowered capacity to adapt to climate change.

- Does the region rely on aquatic or water-dependent habitats for recreation or other economic activities?* NO
 - Economic values associated with natural habitat can influence prioritization.

- Are there rivers in your region with quantified environmental flow requirements or known water quality/quantity stressors to aquatic life?* NO
 - Constrained water quality and quantity requirements may be difficult to meet in the future.

- Do estuaries, coastal dunes, wetlands, marshes, or exposed beaches exist in your region? If so, are coastal storms possible/frequent in your region?* NO
 - Storm surges are expected to result in greater damage in the future due to sea level rise. This makes fragile coastal ecosystems vulnerable.

- Does your region include one or more of the habitats described in the Endangered Species Coalition's Top 10 habitats vulnerable to climate change (<http://www.itsgettinghotoutthere.org/>)?* NO
 - These ecosystems are particularly vulnerable to climate change.

- Are there areas of fragmented estuarine, aquatic, or wetland wildlife habitat within your region? Are there movement corridors for species to naturally migrate? Are there infrastructure projects planned that might preclude species movement?* NO
 - These ecosystems are particularly vulnerable to climate change.

VII. Hydropower

- Is hydropower a source of electricity in your region?* NO
 - As seasonal river flows shift, hydropower is expected to become less reliable in the future.

Are energy needs in your region expected to increase in the future? If so, are there future plans for hydropower generation facilities or conditions for hydropower generation in your region?

✓ 10/27
NO

- Energy needs are expected to increase in many locations as the climate warms. This increase in electricity demand may compound decreases in hydropower production, increasing its priority for a region.



Appendix I

Stakeholder Notification



March 31, 2016

City of Claremont
207 Harvard Avenue
Claremont, CA 91711

Attention: Tony Ramos, City Manager

Subject: Notification of the Preparation of a 2015 Urban Water Management Plan for the
City of La Verne

Dear Mr. Ramos:

The City of La Verne, pursuant to §10621(b) of the California Water Code, is hereby providing notification to the City of Claremont of the preparation of the 2015 Urban Water Management Plan (UWMP) in compliance with the Urban Water Management Planning Act.

This notification is intended to inform the City of Claremont of the opportunity to consult with, and submit comments for consideration by, City of La Verne regarding the UWMP during the review process.

The UWMP is being prepared by Civiltec Engineering. For more information, you can contact Greg Ripperger at (626) 357-0588 or gripperger@civiltec.com.

Sincerely,

Daniel W. Keesey
Director of Public Works



March 31, 2016

City of San Dimas
245 East Bonita Avenue
San Dimas CA 91773

Attention: Blaine Michaelis, City Manager

Subject: Notification of the Preparation of a 2015 Urban Water Management Plan for the
City of La Verne

Dear Mr. Michaelis:

The City of La Verne, pursuant to §10621(b) of the California Water Code, is hereby providing notification to the City of San Dimas of the preparation of the 2015 Urban Water Management Plan (UWMP) in compliance with the Urban Water Management Planning Act.

This notification is intended to inform the City of San Dimas of the opportunity to consult with, and submit comments for consideration by, City of La Verne regarding the UWMP during the review process.

The UWMP is being prepared by Civiltec Engineering. For more information, you can contact Greg Ripperger at (626) 357-0588 or gripperger@civiltec.com.

Sincerely,

Daniel W. Keesey
Director of Public Works



March 31, 2016

Golden State Water Company
630 E. Foothill Blvd.
San Dimas CA 91773

Attention: Ronald Moore, Regulatory Affairs

Subject: Notification of the Preparation of a 2015 Urban Water Management Plan for the City of La Verne

Dear Mr. Moore:

The City of La Verne, pursuant to §10621(b) of the California Water Code, is hereby providing notification to the Golden State Water Company of the preparation of the 2015 Urban Water Management Plan (UWMP) in compliance with the Urban Water Management Planning Act.

This notification is intended to inform the Golden State Water Company of the opportunity to consult with, and submit comments for consideration by, City of La Verne regarding the UWMP during the review process.

The UWMP is being prepared by Civiltec Engineering. For more information, you can contact Greg Ripperger at (626) 357-0588 or gripperger@civiltec.com.

Sincerely,

Daniel W. Keesey
Director of Public Works



March 31, 2016

Three Valleys Municipal Water District
1021 E. Miramar Avenue
Claremont, CA 91711-2052

Attention: Richard W. Hansen, General Manager

Subject: Notification of the Preparation of a 2015 Urban Water Management Plan for the
City of La Verne

Dear Mr. Hansen:

The City of La Verne, pursuant to §10621(b) of the California Water Code, is hereby providing notification to the Three Valleys Municipal Water District of the preparation of the 2015 Urban Water Management Plan (UWMP) in compliance with the Urban Water Management Planning Act.

This notification is intended to inform the Three Valleys Municipal Water District of the opportunity to consult with, and submit comments for consideration by, City of La Verne regarding the UWMP during the review process.

The UWMP is being prepared by Civiltec Engineering. For more information, you can contact Greg Ripperger at (626) 357-0588 or gripperger@civiltec.com.

Sincerely,

Daniel W. Keesey
Director of Public Works



March 31, 2016

County of Los Angeles
Chief Executive Office
Kenneth Han Hall of Administration
500 W. Temple Street, Room 713
Los Angeles 90012

Attention: Chief Executive Office

Subject: Notification of the Preparation of a 2015 Urban Water Management Plan for the City of La Verne

Whom It May Concern:

The City of La Verne, pursuant to §10621(b) of the California Water Code, is hereby providing notification to the County of Los Angeles of the preparation of the 2015 Urban Water Management Plan (UWMP) in compliance with the Urban Water Management Planning Act.

This notification is intended to inform the County of the opportunity to consult with, and submit comments for consideration by, City of La Verne regarding the UWMP during the review process.

The UWMP is being prepared by Civiltec Engineering. For more information, you can contact Greg Ripperger at (626) 357-0588 or gripperger@civiltec.com.

Sincerely,

Daniel W. Keeseey
Director of Public Works



Appendix J

Notification of Public Review

NOTICE OF PUBLIC HEARING

Notice is hereby given of a public hearing to be held before the City of La Verne City Council on June 6, 2016 at 6:30 PM, at the La Verne City Hall Council Chambers, located at 3660 "D" Street, La Verne, on the following matter:

Adoption of the City of La Verne's 2015 Urban Water Management Plan

A copy of the draft Urban Water Management Plan is available for public review at the City of La Verne Public Works Department during regular business hours and online at [\[link to City website\]](#). Any person interested in the above proceedings may appear at the time and place indicated to testify in support of, or in opposition to, the item. Written comments will be accepted and should be received no later than May 27, 2016, and be addressed to the individual noted below. If you desire additional information or have any questions, please feel free to contact the Public Works Department at 909-596-8741.

Daniel W. Keeseey
Director of Public Works
3660 "D" Street
La Verne, CA 91750

DATED this 9 day
Of May, 2016



Appendix K

Resolution of Adoption
(will be provided)



Prepared By:

Celebrating
30*Years*
1986 - 2016



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