



CITY OF VERNON

2020 URBAN WATER MANAGEMENT PLAN

VOLUME 1 – FINAL REPORT



JUNE 15, 2021

Prepared by

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INTERNATIONAL

CITY OF VERNON
2020 URBAN WATER MANAGEMENT PLAN
VOLUME 1 – FINAL REPORT
June 15, 2021

PREPARED FOR
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UNDER THE SUPERVISION OF



Table of Contents

Table of Contents.....	i
List of Tables.....	vii
List of Figures.....	vii
Executive Summary	ES-1
Chapter 1 – Introduction and Overview	1-1
1.1 – Purpose.....	1-1
1.2 – UWMP Organization	1-2
1.2.1 – Organization of Content.....	1-2
1.2.2 – Standardized Forms, Tables, and Displays.....	1-3
1.3 – Urban Water Management Planning and the California Water Code	1-5
1.4 – UWMPs in Relation to Other Efforts	1-6
1.4.1 – Interagency Coordination	1-6
1.4.2 – Public Participation	1-7
1.5 – UWMPs and Grant or Loan Eligibility	1-8
Chapter 2 – Plan Preparation	2-1
2.1 – General Description	2-1
2.2 – Basis for Preparing a Plan.....	2-1
2.2.1 – Public Water Systems.....	2-2
2.3 – Individual or Regional Planning and Compliance.....	2-2
2.3.1 – Regional UWMP	2-2
2.3.2 – Regional Alliance	2-3
2.4 – Fiscal or Calendar Year and Units of Measure	2-4
2.4.1 – Fiscal or Calendar Year	2-4
2.4.2 – Reporting Complete 2020 Data	2-4
2.4.3 – Units of Measure.....	2-4
2.5 – Coordination and Outreach.....	2-4
2.5.1 – Wholesale and Retail Coordination	2-4

2.5.2 – Coordination with Other Agencies and the Community.....	2-5
2.5.3 – Notice to Cities and Counties.....	2-5
Chapter 3 – System Description	3-1
3.1 – General Description	3-1
3.2 – Historical Perspective	3-1
3.3 – Service Area Boundary Maps.....	3-2
3.4 – Service Area Climate	3-4
3.5 – Service Area Population and Demographics.....	3-5
3.5.1 – Service Area Population	3-5
3.5.2 – Other Social, Economic, and Demographic Factors.....	3-5
3.6 – Land Uses within Service Area.....	3-6
Chapter 4 – Customer Water Use	4-1
4.1 – General Description	4-1
4.2 – Non-Potable Versus Potable Water Use.....	4-1
4.3 – Past, Current, and Projected Water Use by Sector.....	4-2
4.3.1 – Water Use by Sector	4-3
4.3.2 – Past Water Use.....	4-4
4.3.3 – Distribution System Water Loss.....	4-5
4.3.4 – Current Water Use	4-5
4.3.5 – Projected Water Use.....	4-6
4.3.6 – Characteristic Five-Year Water Use	4-7
4.4 – Water Use for Lower Income Households	4-8
4.5 – Climate Change Considerations	4-9
4.5.1 – City’s Perspective	4-9
4.5.2 – Regional Perspective.....	4-10
Chapter 5 – Conservation Target Compliance.....	5-1
5.1 – General Description	5-1
5.2 – Updating Calculations from 2015 UWMP.....	5-2
5.2.1 – Update of Target Method	5-2
5.2.2 – Updating Baseline and Target GPCDs	5-2

5.2.3 – SB X7-7 Verification Form	5-2
5.3 – Baseline Periods	5-2
5.3.1 – Determining Baseline GPCD.....	5-3
5.3.2 – Determining Target Confirmation.....	5-4
5.4 – Service Area Population	5-5
5.5 – Gross Water Use.....	5-6
5.6 – 2020 Target	5-7
5.6.1 – Target Method Selection and Application	5-8
5.7 – Baselines and Targets Summary	5-10
5.8 – 2020 Compliance Daily Per-Capita Water Use (GPCD)	5-10
5.8.1 – Meeting the 2020 Target	5-10
5.8.2 – Adjustments to 2020 Gross Water Use.....	5-11
5.9 – Future Reporting of Water Use Compliance	5-11
5.9.1 – Statute and Regulation	5-12
5.9.2 – Economic Trends.....	5-16
 Chapter 6 – System Supplies	 6-1
6.1 – General Description	6-1
6.2 – Purchased or Imported Water	6-1
6.3 – Groundwater	6-2
6.3.1 – Basin Description	6-3
6.3.2 – Groundwater Management	6-4
<i>6.3.2.1 – Basin-Wide Management</i>	<i>6-4</i>
<i>6.3.2.2 – Local Management</i>	<i>6-5</i>
6.3.3 – Historical and Projected Pumping.....	6-6
6.4 – Surface Water.....	6-6
6.5 – Stormwater	6-6
6.6 – Wastewater and Recycled Water	6-7
6.6.1 – Recycled Water Coordination	6-8
6.6.2 – Wastewater Collection, Treatment and Disposal	6-9
6.6.3 – Recycled Water System Description	6-11
<i>6.6.3.1 – City-Level Description.....</i>	<i>6-11</i>
<i>6.6.3.2 – Regional Description</i>	<i>6-11</i>

6.6.4 – Potential, Current and Projected Recycled Water Uses	6-14
6.6.5 – Planned vs. Actual Recycled Water Use.....	6-15
6.6.6 – Actions to Encourage and Optimize Future Recycled Water Use.....	6-15
6.7 – Desalinated Water Opportunities.....	6-17
6.8 – Water Exchanges and Water Transfers	6-17
6.8.1 – Groundwater Exchanges	6-17
6.8.2 – Groundwater Transfers.....	6-18
6.9 – Future Water Projects.....	6-19
6.10 – Summary of Existing and Planned Sources of Water.....	6-24
6.11 – Special Conditions.....	6-25
6.11.1 – Climate Change Effects	6-25
6.11.2 – Gateway Water Management Authority	6-25
6.11.3 – Water Replenishment District of Southern California	6-26
6.12 – Energy Intensity.....	6-27
 Chapter 7 – Water System Reliability	 7-1
7.1 – General Description	7-1
7.2 – Water Service Reliability Assessment	7-1
7.2.1 – Constraints on Water Sources	7-1
<i>7.2.1.1 – Constraints on Imported Water</i>	<i>7-1</i>
<i>7.2.1.2 – Constraints on Groundwater.....</i>	<i>7-3</i>
<i>7.2.1.3 – Constraints on Recycled Water.....</i>	<i>7-3</i>
7.2.2 – Reliability by Year Type	7-3
7.2.3 – Water Service Reliability	7-4
<i>7.2.3.1 – Average Year.....</i>	<i>7-5</i>
<i>7.2.3.2 – Single Dry Year</i>	<i>7-5</i>
<i>7.2.3.3 – Five Consecutive Dry Years.....</i>	<i>7-6</i>
7.2.4 – Regional Supply Reliability	7-6
7.3 – Drought Risk Assessment	7-8
 Chapter 8 – Water Shortage Contingency Planning	 8-1
8.1 – General Description	8-1
8.2 – Water Supply Reliability Analysis	8-1
8.3 – Annual Water Supply and Demand Assessment Procedures.....	8-2

8.4 – Six Standard Water Shortage Levels	8-3
8.4.1 – Water Conservation Stage I	8-4
8.4.2 – Water Conservation Stage II	8-4
8.4.3 – Water Conservation Stage III	8-4
8.5 – Shortage Response Actions	8-5
8.5.1 – Supply Augmentation.....	8-5
8.5.2 – Demand Reduction	8-5
8.5.2.1 – General Prohibitions.....	8-6
8.5.2.2 – Water Conservation Stage I	8-7
8.5.2.3 – Water Conservation Stage II	8-7
8.5.2.4 – Water Conservation Stage III	8-9
8.5.3 – Operational Changes.....	8-10
8.5.4 – Additional Mandatory Restrictions	8-10
8.5.5 – Emergency Response Plan	8-10
8.5.6 – Seismic Risk Assessment and Mitigation Plan	8-11
8.5.7 – Shortage Response Action Effectiveness	8-12
8.6 – Communication Protocols	8-13
8.7 – Compliance and Enforcement	8-14
8.8 – Legal Authorities.....	8-14
8.9 – Financial Consequences of WSCP	8-16
8.10 – Monitoring and Reporting	8-16
8.11 – WSCP Refinement Procedures	8-17
8.12 – Special Water Feature Distinction.....	8-17
8.13 – Plan Adoption, Submittal, and Availability.....	8-17
Chapter 9 – Demand Management Measures	9-1
9.1 – General Description	9-1
9.2 – Demand Management Measures for Wholesale Suppliers	9-1
9.3 – Existing Demand Management Measures for Retail Suppliers	9-11
9.3.1 – Water Waste Prevention Ordinances	9-11
9.3.2 – Metering.....	9-13
9.3.3 – Conservation Pricing	9-13
9.3.4 – Public Education and Outreach.....	9-14

9.3.5 – Programs to Assess and Manage Distribution System Real Loss	9-14
9.3.6 – Water Conservation Program Coordination and Staffing Support	9-15
9.3.7 – Other Demand Management Measures	9-15
9.4 – Implementation over the Past Five Years.....	9-16
9.4.1 –Water Waste Prevention	9-16
9.4.2 – Meters.....	9-16
9.4.3 – Conservation Pricing	9-16
9.4.4 – Public Education and Outreach.....	9-16
9.4.5 – Programs to Assess and Manage Distribution System Real Loss	9-16
9.4.6 – Other Demand Management Measures	9-17
9.5 – Implementation to Achieve Water Use Targets.....	9-17
9.6 – Water Use Objectives (Future Requirements)	9-17
Chapter 10 – Plan Adoption, Submittal, and Implementation	10-1
10.1 – General Description	10-1
10.2 – Inclusion of All 2020 Data.....	10-1
10.3 – Notice of Public Hearing.....	10-1
10.3.1 – Notice to Cities and Counties.....	10-1
10.3.2 – Notice to the Public.....	10-2
10.4 – Public Hearing and Adoption	10-3
10.4.1 – Public Hearing	10-3
10.4.2 – Adoption	10-3
10.5 – Plan Submittal	10-4
10.5.1 – Electronic Data Submittal	10-4
10.6 – Public Availability	10-5
10.7 – Amending an Adopted UWMP or Water Shortage Contingency Plan	10-5
10.7.1 – Amending a UWMP.....	10-5
10.7.2 – Amending a Water Shortage Contingency Plan.....	10-5

List of Tables

Table 3.1 – Service Area Climate.....	3-4
Table 3.2 – Summary of Land Use Analysis.....	3-6
Table 4.1 – Potable Water Uses by Sector.....	4-3
Table 4.2 – Historical Water Losses	4-5
Table 4.3 – Lower Income Demand Projection.....	4-8
Table 5.1 – Summary of Baseline and Target Water Use Calculations	5-1
Table 5.2 – Baseline Per Capita Demand Calculation	5-3
Table 5.3 – Calculation of 5-Year Target.....	5-4
Table 5.4 – Baseline, Interim, and Target Water Use	5-7
Table 6.1 – Historical Pumping from the Central Basin	6-6
Table 6.2 – Estimated Sources of Supply	6-24
Table 6.3 – Summary of 2020 Energy Efficiency	6-27
Table 7.1 – Projected Demand.....	7-4
Table 7.2 – Average Year Supply and Demand Assessment	7-5
Table 7.3 – Single Dry Year Supply and Demand Assessment	7-5
Table 7.4 – Multiple Dry Year Supply and Demand Comparison.....	7-6
Table 7.5 –Sources of Drought Risk Assessment Supply.....	7-8
Table 8.1 – Relationship Between 2015 Shortage Levels and 2020 WSCP Mandated Shortage Levels	8-3

List of Figures

Figure 3.1 – Vicinity Map	3-2
Figure 3.2 – Water Service Areas in Vernon	3-3
Figure 4.1 – Total Usage by CBMWD Retail Agencies (2006-2018)	4-13
Figure 5.1 – Trends in Manufacturing Employment	5-16
Figure 6.1 – CBMWD Recycled Water System	6-12
Figure 6.2 – CBMWD Recycled Water System (City of Vernon Vicinity).....	6-13
Figure 6.3 – MWD’s Potential Full Scale Recycled Water Program	6-16

List of Appendices¹

- Appendix A – WUE and SB X7-7 Standardized Tables
- Appendix B – California Water Code – Urban Water Management Planning
- Appendix C – California Water Code – Sustainable Water Use and Demand Reduction (SB X7-7)
- Appendix D – Notification of Intent to Prepare the Urban Water Management Plan
- Appendix E – 2019 Consumer Confidence Report
- Appendix F – SCAG Demographic Profile
- Appendix G – Land Use Analysis
- Appendix H - Central Basin Adjudication
- Appendix I – CBMWD 2020 UWMP
- Appendix J – Water Audits
- Appendix K – Ordinance No. 995
- Appendix L – Ordinance No. 1115
- Appendix M – Ordinance No. 1161
- Appendix N – Notice of Phase 1 Water Supply Shortage
- Appendix O – Notice of Phase 2 Water Supply Shortage
- Appendix P – CII Water Audits
- Appendix Q – Notice of Public Hearing
- Appendix R – Resolution of Adoption
- Appendix S – DWR UWMP Checklist for Completeness
- Appendix T – Energy Intensity Analysis
- Appendix U – Natural Hazard Mitigation Plan
- Appendix V – WRD Groundwater Basin Update for May 2021
- Appendix W – WRD Technical Bulletin on Climate Change Effects

¹ Appendices are provided under separate cover as Volume 2 of this 2020 Urban Water Management Plan.

Executive Summary

Overview and Plan Preparation

This executive summary provides an overview of the content included in the City of Vernon's (City) 2020 Urban Water Management Plan (UWMP). This report was prepared in compliance with the California Water Code as set forth in the *Urban Water Management Plan Guidebook 2020* (referred to hereafter as Guidebook) established by the California Department of Water Resources (DWR).

Preparation of a UWMP is required by DWR for all urban water suppliers within the State of California. Urban water suppliers are defined as publicly or privately owned water suppliers that provide water for municipal purposes either directly or indirectly to more than 3,000 customers or supply more than 3,000 acre-feet (AF) of water annually. UWMPs must meet requirements established in the California Water Code and the Urban Water Management Planning Act.

This UWMP is organized as directed by DWR in the Guidebook including chapter topics and content, delineation of mandatory statutes, and standardized Water Use Efficiency (WUE) tables. Description and analysis is specific to the City's Water Service Area.

System Water Use

Water use within the Water Service Area consists primarily of commercial/industrial/institutional (CII) with very little water use in other sectors.

Water Conservation Baselines and Target

In accordance with the Water Conservation Act of 2009, the City calculated its baseline water use and its target for a 20% reduction in per capita water use by 2020 in terms of gallons per capita per day (GPCD). For purposes of per capita water use, the City's population was determined to be 100 for all historical, current, and future calculations per discussions with DWR. The City baseline per capita water use is 100,296 GPCD. The City's 2020 target per capita water use is 89,809 GPCD. The City has achieved a per capita water use of 59,814 GPCD during 2020, which exceeds its 2020 goals.

System Supplies

The City has a diverse water supply portfolio including imported water from Central Basin Municipal Water District (CBMWD), groundwater from the Central Basin, and recycled water for power generation from CBMWD.

Water Supply Reliability

Water supply reliability was assessed for projected normal years, single dry years, and five consecutive dry years. This means that projected supply was compared to projected demand under normal and drought conditions to verify adequacy of supply. All of the City's sources of supply are sustainably managed and are projected to meet demand through 2045. It should be noted that water demand in the City is not tied to weather or population growth; rather, fluctuation in water demand is most closely tied to the economic cycle. The projected water demand is a balance between historical high-intensity commercial and industrial activity, the 2020 water use target, and the impacts of ongoing water conservation efforts.

The projected water supply is a balance between groundwater water rights, access to additional groundwater through lease or agreement, access to purchased imported water, and access to recycled water. Although demands are projected to exceed the City's groundwater rights in the future, access to additional supply through its associations and partnerships is the basis for the City's water reliability.

In the event of a multi-year drought during the next five years, the City faces no risk of a water shortage.

Water Shortage Contingency Planning

The City has enacted water conservation ordinances in order to provide guidance and authority for responding to water supply shortages.

Demand Management Measures

Demand management measures (also known as water conservation best management practices) refer to water conservation projects and programs implemented by the City and in association with its partners to reduce water use or water loss. The City's water conservation partners include CBMWD, members of the Gateway Water Management Authority and members of the Southeast Water Coalition.

Adoption

A public hearing soliciting comments on the UWMP was held June 15, 2021. Following the public hearing, the UWMP was adopted by the City Council.

Chapter 1 – Introduction and Overview

In this introductory chapter, the importance and extent of the City’s water management planning efforts is presented.

1.1 – Purpose

The California Water Code requires urban water suppliers servicing 3,000 or more connections or supplying more than 3,000 acre-feet (AF) of water annually to prepare and adopt an Urban Water Management Plan (UWMP) for submission to the Department of Water Resources (DWR) every five years.

The 2020 UWMP is an update to the 2015 UWMP, which was used as a foundation for the current effort to promote consistency. In addition, new regulations and updated guidance from DWR per the Urban Water Management Plan Guidebook 2020 helped to shape the presentation and content of this document.

1.2 – UWMP Organization

1.2.1 – Organization of Content

The report is organized as requested by DWR in the following manner:

Executive Summary provide a lay description of the UWMP.

Chapter 1 - Introduction This chapter can be used to provide a discussion on fundamentals of the UWMP.

Chapter 2 - Plan Preparation This chapter provides information on the processes used for developing the UWMP, including efforts in coordination and outreach.

Chapter 3 - System Description This chapter describes the City’s system, including maps of the service area, an explanation of the service area and climate, and an overview of the City’s organizational structure and history.

Chapter 4 - Customer Water Use This chapter describes and quantifies the current and projected water uses within the City’s service area.

Chapter 5 – Conservation Target Compliance This chapter demonstrates compliance with the 2020 per-capita water conservation mandate.

Chapter 6 - System Supplies This chapter describes and quantifies the City’s current and projected potable and non-potable water supplies.

Chapter 7 - Water Supply Reliability This chapter describes the water system reliability through 2045, providing for normal year, single dry year, and five consecutive dry years. This chapter also includes the Drought Risk Assessment (DRA), or sustainability through a drought over the next five years.

Chapter 8 - Water Shortage Contingency Planning This chapter provides a structured plan for dealing with water shortages.

Chapter 9 - Demand Management Measures This chapter describes efforts taken by the City and in coordination with CBMWD to promote conservation and to reduce demand on the water supply.

Chapter 10 - Plan Adoption, Submittal, and Implementation This chapter document the steps taken to make the UWMP publicly available, and to adopt and submit the UWMP in accordance with the Water Code.

WUE Tables

Appendices

1.2.2 – Standardized Forms, Tables, and Displays

Standardized Water Use Efficiency (WUE) tables as submitted via the WUE portal are provided in Appendix A.

By convention, statutes related to meeting the minimum requirements of the Urban Water Management Planning Act are provided in the following format:

Water Code Section XXXXX

Pertinent language taken directly from the California Water Code or in reference thereto.

By convention, citation of public documents is provided in the following format:

Citations from ordinances, government codes, and government planning documents are provided in italics and offset one half inch from the right and left with respect to the general content of this plan.

By convention, the following acronyms and abbreviations appear in this report:

AB	Assembly Bill
AF	acre-feet
AFY	acre-feet per year
APA	Allowable Pumping Allocation
BMPs	best management practices
CAP	Conservation Awareness Program
CBMWD	Central Basin Municipal Water Agency
CEQA	California Environmental Quality Act
CII	Commercial, Industrial, and Institutional
City	City of Vernon
CPI	consumer price index
CPUC	California Public Utilities Commission
CUWCC	California Urban Water Conservation Council
CVP	Central Valley Project
CWC	California Water Code
DMMs	Demand Management Measures
DOE	California Department of Energy
DVL	Diamond Valley Lake
DWR	California Department of Water Resources
Eto	evapotranspiration
GPCD	gallons per capita per day
HET	high efficiency toilet
IRP	Integrated Regional Plan
JOS	Joint Outfall System
LACSD	Los Angeles County Sanitation Districts
LRP	Local Resources Program
MGD	millions of gallons per day
MWD	Metropolitan Water District of Southern California
RDM	Robust Decision Making
SB	Senate Bill
SCADA	Supervisory Control and Data Acquisition System
SCAG	Southern California Association of Governments
SWP	State Water Project
USBR	United States Bureau of Reclamation
UWMP	Urban Water Management Plan
WRP	water reclamation plant
WSAP	Water Supply Allocation Plan
WUCA	Water Utility Climate Alliance
WUE	Water Use Efficiency

1.3 – Urban Water Management Planning and the California Water Code

Following is a summary of the legislation that makes up Urban Water Management Planning:

- AB 1420: Requires implementation of demand management measures (DMMs)/best management practices (BMPs) to qualify for water management grants or loans.
- AB 1465: Requires water suppliers to describe opportunities related to reclaimed water use and stormwater recapture to offset potable water use.
- SB 6101, and SB 2212, which became effective beginning January 1, 2002, requires counties and cities to consider information relating to the availability of water to supply new large developments by mandating the preparation of further water supply planning and Water Supply Assessments.
- SB 1087: Requires water suppliers to report single family residential (SFR) and multi-family residential (MFR) projected water use for planned lower income units separately.
- SB 3185 requires the UWMP to describe the opportunities for development of desalinated water, including but not limited to, ocean water, brackish water, and groundwater, as long-term supply.
- AB 1056 requires urban water suppliers to submit their UWMPs to the California State Library.
- SB X7-7: Requires development and use of new methodologies for reporting population growth estimates, base per capita use, and water conservation, and requires meeting the developed water conservation targets in order to qualify for water management grants and loans. This water bill also extended the 2010 UWMP adoption deadline for retail agencies to July 1, 2011.
- SB 1478: This bill was signed on September 23, 2010 and extends the 2010 UWMP deadline for wholesale agencies, such as the Metropolitan Water District of Southern California (MWD), to July 1, 2011, as SB X7-7 did for retail agencies.
- AB 1668 and SB 606: These laws, enacted in 2018, lay out a new long-term water conservation framework for California to pick up where SB X7-7 left off.

1.4 – UWMPs in Relation to Other Efforts

The following documents were reviewed, cited, and incorporated by reference into this UWMP:

- CBMWD 2020 Draft UWMP
- MWD 2020 Draft UWMP
- Vernon 2015 UWMP
- Vernon General Plan (as amended in 2015)

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, and 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

1.4.1 – Interagency Coordination

The City coordinated directly on preparation of the UWMP with the local wholesaler, Central Basin Municipal Water District (CBMWD), and with the Gateway Water Management Authority (GWMA) who is preparing a UWMP as a regional alliance of which the City is a member. CBMWD provides imported water and recycled water services to the City. The City drew heavily upon CBMWD’s perspective and insight regarding regional water resources issues.

The following agencies were contacted directly regarding the opportunity to comment on the Draft UWMP:

- Los Angeles County
- Los Angeles County Sanitation Districts
- Water Replenishment District of Southern California
- Central Basin Municipal Water District
- Gateway Water Management Authority

No comments were received from these agencies.

1.4.2 – Public Participation

A public hearing to solicit comments on the Draft UWMP from the public was held on June 15, 2021. Notification of the opportunity to comment on the Draft UWMP was provided pursuant to CWC 10642. The Draft UWMP was made available via the City’s website and at City Hall. Abraham Alemu, the General Manager of Public Utilities for the City of Vernon, provided a detailed summary of the Draft UWMP at the Public Hearing. There were no comments from the public at the public hearing, and no written comments were received from the public by the City. (to be updated following the public hearing)

1.5 – UWMPs and Grant or Loan Eligibility

Water Code Section 10608.56

(a) On and after July 1, 2016, an urban retail water supplier is not eligible for a water grant or loan awarded or administered by the state unless the supplier complies with this part.

(c) Notwithstanding subdivision (a), the department shall determine that an urban retail water supplier is eligible for a water grant or loan even though the supplier has not met the per capita reductions required pursuant to Section 10608.24, if the urban retail water supplier has submitted to the department for approval a schedule, financing plan, and budget, to be included in the grant or loan agreement, for achieving the per capita reductions. The supplier may request grant or loan funds to achieve the per capita reductions to the extent the request is consistent with the eligibility requirements applicable to the water funds.

(e) Notwithstanding subdivision (a), the department shall determine that an urban retail water supplier is eligible for a water grant or loan even though the supplier has not met the per capita reductions required pursuant to Section 10608.24, if the urban retail water supplier has submitted to the department for approval documentation demonstrating that its entire service area qualifies as a disadvantaged community.

(f) The department shall not deny eligibility to an urban retail water supplier or agricultural water supplier in compliance with the requirements of this part and Part 2.8 (commencing with Section 10800), that is participating in a multiagency water project, or an integrated regional water management plan, developed pursuant to Section 75026 of the Public Resources Code, solely on the basis that one or more of the agencies participating in the project or plan is not implementing all of the requirements of this part or Part 2.8 (commencing with Section 10800).

Water Code Section 10656

An urban water supplier is not eligible for a water grant or loan awarded or administered by the state unless the urban water supplier complies with this part. California Code of Regulations Section 596.1 (b)(2) “disadvantaged community” means a community with a median household income that is less than 80 percent of the statewide annual median household income.

By submitting this Urban Water Management Plan by the specified deadline, the City of Vernon will continue to be eligible for state water grants and loans.

Per Data USA² and California Demographics³, the City’s 2019 annual median household income was approximately \$69,960. According to the United States Census Bureau⁴, the statewide median household income from 2015-2019 (in 2019 dollars) was \$75,235. The City’s annual median household income was 92% of the statewide annual median household income; thus, the City cannot be considered a disadvantaged community.

² Data USA: Vernon California (Accessed March 1, 2021): <https://datausa.io/profile/geo/vernon-ca>

³ California Demographics (Accessed May 20, 2021): <https://www.california-demographics.com/vernon-demographics>

⁴ United States Census Bureau (2015-2019): <https://www.census.gov/quickfacts/fact/table/CA/PST045219>

Chapter 2 – Plan Preparation

2.1 – General Description

Plan Preparation deals with protocols and documentation for notifications, inter-agency coordination, publication, and adoption. Adoption of the UWMP implies subsequent implementation by the adopting agency, and Plan Preparation drills down to the details of the adopting agency’s implementation strategy.

2.2 – Basis for Preparing a Plan

Water Code Section 10617

“Urban water supplier” means a supplier, either publicly or privately owned, providing water for municipal purposes either directly or indirectly to more than 3,000 customers or supplying more than 3,000 acre-feet of water annually. An urban water supplier includes a supplier or contractor for water, regardless of the basis of right, which distributes or sells for ultimate resale to customers. This part applies only to water supplied from public water systems.

Water Code Section 10620

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.

Water Code Section 10621

(a) Each urban water supplier shall update its plan at least once every five years on or before July 1, in years ending in six and one, incorporating updated and new information from the five years preceding each update.

The City provides municipal water service in excess of 3,000 AFY. This defines the City as an urban water supplier. Therefore, the City has prepared this Urban Water Management Plan update in compliance with CWC 10621(a).

2.2.1 – Public Water Systems

Water Code Section 10644

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

California Health and Safety Code 116275

(h) "Public Water System" means a system for the provision of water for human consumption through pipes or other constructed conveyances that has 15 or more service connections or regularly serves at least 25 individuals daily at least 60 days out of the year.

The City's Public Water System number is CA1910167.

Standardized WUE Tables are provided in Appendix A.

The layout of this report corresponds to preferences provided by DWR.

2.3 – Individual or Regional Planning and Compliance

The City is submitting an individual plan and is participating in a regional alliance.

2.3.1 – Regional UWMP

Water Code Section 10620

(d)(1) An urban water supplier may satisfy the requirements of this part by participation in area wide, regional, watershed, or basin wide urban water management planning where those plans will reduce preparation costs and contribute to the achievement of conservation and efficient water use.

The City is not participating in a Regional UWMP.

2.3.2 – Regional Alliance

Water Code Section 10608.20

(a)(1) ...Urban retail water suppliers may elect to determine and report progress toward achieving these targets on an individual or regional basis as provided in subdivision (a) of Section 10608.28...

Water Code Section 10608.28

(a) An urban retail water supplier may meet its urban water use target within its retail service area, or through mutual agreement by any of the following:

(1) Through an urban wholesale water supplier.

(2) Through a regional agency authorized to plan and implement water conservation, including, but not limited to, an agency established under the Bay Area Water Supply and Conservation Agency Act (Division 31 (commencing with Section 81300)).

(3) Through a regional water management group as defined in Section 10537.

(4) By an integrated regional water management funding area.

(5) By hydrologic region.

(6) Through other appropriate geographic scales for which computation methods have been developed by the department.

(b) A regional water management group, with the written consent of its member agencies, may undertake any or all planning, reporting, and implementation functions under this chapter for the member agencies that consent to those activities. Any data or reports shall provide information both for the regional water management group and separately for each consenting urban retail water supplier and urban wholesale water supplier.

The City is participating in the Gateway Regional Alliance. A copy of this UWMP and supporting data have been provided to the Gateway Regional Alliance to assist their planning efforts.

2.4 – Fiscal or Calendar Year and Units of Measure

2.4.1 – Fiscal or Calendar Year

Water Code Section 10608.20

(a)(1) Urban retail water suppliers...may determine the targets on a fiscal year or calendar year basis.

Water use is reported on a calendar year basis.

2.4.2 – Reporting Complete 2020 Data

Water use is reported on a calendar year basis. Water use and supply data for the entire calendar year 2020 are included in the 2020 UWMP.

2.4.3 – Units of Measure

Annual water use is reported as acre-feet per year (AFY).

Per capita water use is reported as gallon per capita per day (GPCD).

2.5 – Coordination and Outreach

Water Code Section 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).

2.5.1 – Wholesale and Retail Coordination

The City coordinated directly on preparation of the UWMP with the local wholesaler, CBMWD. CBMWD provides imported water and recycled water services to the City. The City drew heavily upon CBMWD's perspective and insight regarding regional water resources issues. In addition, the City provided CBMWD with water use projections as documented in Appendix I.

2.5.2 – Coordination with Other Agencies and the Community

Water Code Section 10620

(d)(3) 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.

Water Code Section 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...

The following agencies were contacted directly regarding the opportunity to comment on the Draft UWMP:

- Los Angeles County
- Los Angeles County Sanitation Districts
- Water Replenishment District of Southern California
- Central Basin Municipal Water District
- Gateway Water Management Authority
- The general public

No comments were received from these agencies or the public.

2.5.3 – Notice to Cities and Counties

Water Code Section 10621

(b) Every urban water supplier required to prepare a plan pursuant to this part shall, at least 60 days before the public hearing on the plan required by Section 10642, notify any city or county within which the supplier provides water supplies that the urban water supplier will be reviewing the plan and considering amendments or changes to the plan.

Pursuant to CWC 10621(b), Los Angeles County was notified of the opportunity to review the plan. See Appendix D for a copy of the notification.

Chapter 3 – System Description

Water Code Section 10631.

(a) Describe the service area of the supplier, including current and projected population, climate, and other social, economic, and demographic factors affecting the supplier's water management planning. 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. The description shall include the current and projected land uses within the existing or anticipated service area affecting the supplier's water management planning. Urban water suppliers shall coordinate with local or regional land use authorities to determine the most appropriate land use information, including, where appropriate, land use information obtained from local or regional land use authorities, as developed pursuant to Article 5 (commencing with Section 65300) of Chapter 3 of Division 1 of Title 7 of the Government Code.

System Description provides for demonstrating a deep understanding of the service area including the physical boundary, the associated current and projected population, and demographic and weather-related influences.

3.1 – General Description

The subsections that follow provide a detailed description of the City's water service area in terms of history, service area location, climate, population and demographics, and land uses.

3.2 – Historical Perspective

City founders recognized the significance of the three major railroads running through the area. The founders convinced railroad executives to run spur tracks off the main lines and later incorporated the adjacent three miles as an "exclusively industrial" city named after a dirt road, Vernon Avenue, crossing its center.

The first industry in the City dealt with livestock. Two giant stockyards with meat packing facilities became Vernon's signature industry. Twenty-seven slaughterhouses lined Vernon Avenue from Soto Street to Downey Road through the 1960s.

In the 1920s and 1930s, heavy industries proliferated including steel (U.S. and Bethlehem), aluminum (Alcoa), glass (Owens), can-making (American Can) and automobile production (Studebaker). In the 1940s and 1950s, more industries opened for business in Vernon including aerospace contractors (Norris Industries), box and paper manufacturers, drug companies (Brunswick), and food processors (General Mills, Kal Kan). A strong, unionized labor force contributed to excellent middle class incomes for thousands of families in the region.

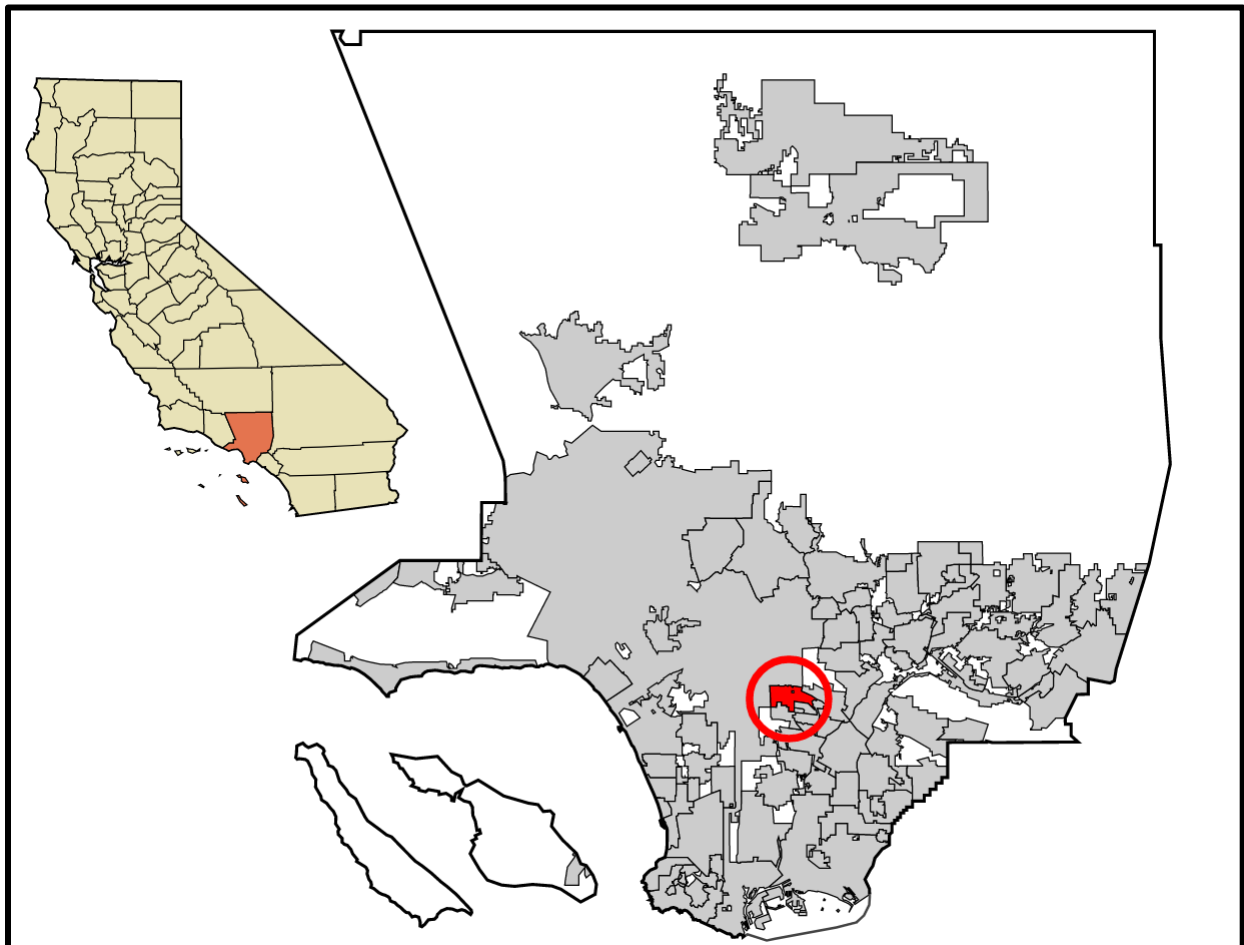
In 1932, a Vernon bond authorized the construction of the City's own Light & Power plant, which is still operational today. Low-cost power and water, along with low taxes, attracted businesses to Vernon.

Offering an environment uniquely friendly to business, Vernon is the home to industries including food and agriculture, apparel, steel, plastics, logistics and home furnishings. Vernon maintains strong philanthropic ties with the neighboring communities where much its workforce lives, providing significant financial support for public services like health care and education.

3.3 – Service Area Boundary Maps

The City of Vernon is located in the Los Angeles-Long Beach metro area, as shown in Figure 3.1.

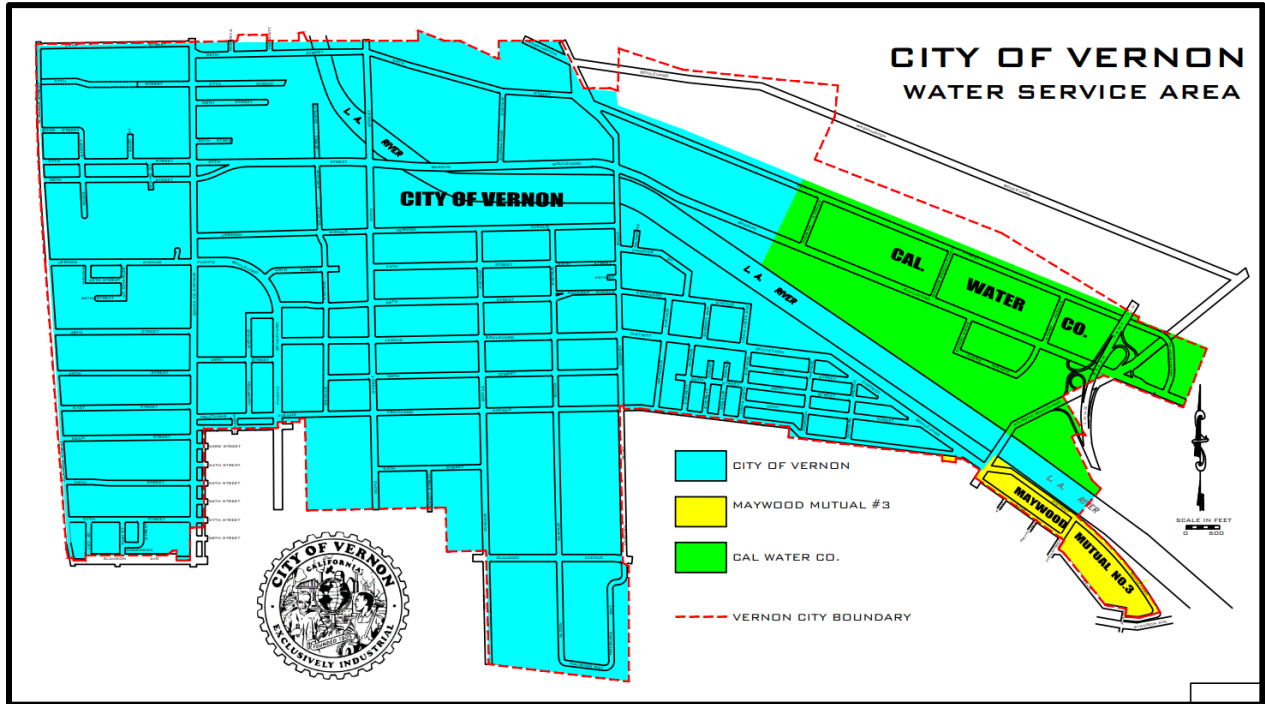
Figure 3.1 – Vicinity Map



The City is surrounded by the cities of Los Angeles, Huntington Park, Maywood, Bell, and Commerce.

Most of the geographical area of Vernon is supplied by the City. The California Water Service Company (East Los Angeles District, Commerce System) serves some of the northeast portion of the City, and a small portion of southeast Vernon is serviced by the Maywood Mutual Water Company Number 3. The service areas of the three water suppliers serving Vernon are shown in Figure 3.2.

Figure 3.2 – Water Service Areas in Vernon



All analyses and references in this plan refer to the City of Vernon Water Service Area, shown above.

3.4 – Service Area Climate

Water Code Section 10631(a)
A plan shall... Describe the service area of the supplier, including ... climate...

Water Code Section 10630.
It is the intention of the Legislature, in enacting this part, to permit levels of water management planning... while accounting for impacts of climate change.

Information on climate was provided by the Western Regional Climate Center website⁵ and based on continuous meteorological data collected at the USC Weather Station (approximately 4.4 miles from the City). Table 3.1 provides a benchmark of historical temperatures typical to the City, based on the period of record (1877 to 2021).

Table 3.1 – Service Area Climate

Month	Average Monthly High Temperature (degrees F)	Average Monthly Low Temperature (degrees F)	Average Monthly Temperature (degrees F)
January	66.3	47.5	56.9
February	67.1	48.7	57.9
March	68.5	50.3	59.4
April	71.0	52.7	61.9
May	72.9	55.8	64.4
June	77.2	59.0	68.1
July	82.3	62.4	72.4
August	83.2	63.1	73.2
September	82.0	61.7	71.8
October	77.6	57.7	67.6
November	72.9	52.3	62.6
December	67.4	48.4	57.9
Annual Average	74.0	55.0	64.5

The warmest month of the year is August with an average maximum temperature of 83.2 °F, while the coldest month of the year is January with an average minimum temperature of 47.5 °F. Temperature variations between night and day tend to be moderate during both summer and winter with an average difference that can reach over 20 °F.

The annual average precipitation is 14.4 inches. The wettest month of the year is February with an average rainfall of 3.2 inches.

⁵ <https://wrcc.dri.edu/cgi-bin/cliMAIN.pl?ca5115>

3.5 – Service Area Population and Demographics

3.5.1 – Service Area Population

Water Code Section 10631(a)

Describe the service area 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.

Approximately 100 people live in the Water Service Area, while approximately 34,500 people come to the City each day for work. That’s a ratio of employees to residents of about 345 to one.

For purposes of preparing this document, it was determined to impose a constant population of 100 for all calculations within the period 1990 to 2045. Note that only residents are included in the population projections. Additional explanation of the Water Service Area population is provided in Section 5.5.

3.5.2 – Other Social, Economic, and Demographic Factors

Water Code Section 10631

Describe the service area of the supplier, including... other social, economic and demographic factors affecting the supplier’s water management planning.

All of the Water Service Area, which is comprised predominately of commercial and industrial land uses, is built-out with almost no net increase in accounts anticipated in the future. Most new accounts would be attributed to industrial/commercial business turnover rate, rather than growth. Over the past 10 years, about 85% of all water was delivered to the commercial and industrial sectors, about 10% was dedicated to power generation, with the remaining 5% comprised of residential, losses and other uses.

The City has very little residential demand or landscaping demand. Residential demand accounts for about 0.1% of total demand. The irrigable area in the City is estimated at less than 16 acres, or about 0.7% of total area. As a result, the City does not follow the typical water demand patterns for water systems in California, which tend to vary relative to population and precipitation. Rather, demands on City resources, including water, respond to national and global economic trends.

Due to the nature of Vernon as a center of commercial and industrial activity, water demand within the City is linked to the impacts of the marketplace on the region and beyond. For this reason, there is still potential for increases in water demand despite being built-out. Water demand in the commercial and industrial sectors is linked more directly to economic intensity and productivity than to supporting the needs of the local population. Furthermore, Vernon’s infrastructure is designed to meet the needs of the commercial and industrial sectors in general whatever they may be, rather than being limited to the specific needs of its current customers. As such, the infrastructure is very robust and adaptable making it capable of meeting the changing requirements necessary to fulfill its mission of being an “ideal location for industry.”

Therefore, Vernon has an obligation to have a system in place capable of meeting the demands associated with high intensity and productivity in the commercial and industrial sectors, whenever those demands arise as dictated by economic factors that are largely outside of the City’s control.

Additional demographic data prepared by Southern California Association of Governments is provided in Appendix F.

3.6 – Land Uses within Service Area

Water Code Section 10631(a)

The description shall include the current and projected land uses within the existing or anticipated service area affecting the supplier’s water management planning. Urban water suppliers shall coordinate with local or regional land use authorities to determine the most appropriate land use information, including, where appropriate, land use information obtained from local or regional land use authorities...

A land use analysis was prepared using Southern California Association of Government land use data within the Water Service Area. It should be noted that the City historically transformed itself to meet ever-changing industrial and commercial needs. As an example, during the early years of the City, trains dominated the transportation of goods, but today there is a mixed transportation system. As a result, many parcels originally designated for rail transportation have been repurposed. Also, parcel boundaries are not necessarily consistent with the water service area boundary. Any parcel 50% or more within the Water Service Area was included in the analysis.

The complete analysis is provided in Appendix G. A summary of the analysis is provided in Table 3.2.

Table 3.2 – Summary of Land Use Analysis

Sector	Area (acres)	Percent of Total Area
Industrial	881.0	40.0%
Commercial, Wholesaling, and Warehousing	723.4	32.8%
Transportation	340.4	15.4%
Utilities	141.9	6.4%
Government	47.6	2.2%
All Others	69.2	3.2%
Totals	2,203.5	100.0%

Chapter 4 – Customer Water Use

4.1 – General Description

Customer Water Use involves organizing and reducing historical water demand data into pre-determined categories and timeframes. Standardized methodologies are employed to calculate a historical baseline for purposes of demonstrating achievement of water use reduction goals.

4.2 – Non-Potable Versus Potable Water Use

The City provides recycled water to one customer and potable water to all others. The City does not receive or deliver raw water. This chapter deals primarily with potable water. Recycled water is discussed in greater detail in Chapter 6.

4.3 – Past, Current, and Projected Water Use by Sector

Water Code Section 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 long-term total projected water use over the next 20 years, in five-year increments, for a normal water year, a single dry water year, and a drought lasting five consecutive 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.

Water Code Section 10631(d)

(1) For an urban retail water supplier, 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, based upon information developed pursuant to subdivision (a), identifying the uses among water use sectors, including, but not necessarily limited to, all of the following...

(2). The water use projections shall be in the same five-year increments described in subdivision (a).

(4)(A) Water use projections, where available, shall 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.

4.3.1 – Water Use by Sector

Water Code Section 10631(d)

(1) For an urban retail water supplier, 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, based upon information developed pursuant to subdivision (a), identifying the uses among water use sectors, including, but not necessarily limited to, all of the following:

(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.

(J) Distribution system water loss.

Historical, current, and projected potable water demand by sector is provided in Table 4.1.

Table 4.1 – Potable Water Uses by Sector

Year	Single-Family Residential	Multi-Family Residential	Commercial	Industrial	Other
2005	5	1	5,080	4,681	216
2010	7	1	5,037	2,139	30
2015	5	1	4,480	1,894	17
2020	6	2	5,045	1,234	11
2025	6	2	4,600	4,600	252
2030	6	2	4,600	4,600	252
2035	6	2	4,600	4,600	252
2040	6	2	4,600	4,600	252
2045	6	2	4,600	4,600	252

Historically, demand in the commercial and industrial sectors were comparable and dominated all other demand sectors. More recently, commercial activity has remained high but industrial activity has declined. The decline in industrial activity is attributed to the economic downturn of 2008.

The demand projections provided in Table 4.1 account for (1) a high level of intensity in the commercial and industrial sectors, (2) the implementation of CII water conservation activities, and (3) framing future demand in terms of compliance with the Water Conservation Act. More information on compliance with the Water Conservation Act is provided in Chapter 5.

4.3.2 – Past Water Use

Past water use is quantified in Table 4.1, above.

4.3.3 – Distribution System Water Loss

Water Code Section 10631(d)(1)

For an urban retail water supplier, 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, based upon information developed pursuant to subdivision (a), identifying the uses among water use sectors, including, but not necessarily limited to, all of the following...

(J) Distribution system water loss....

Water Code Section 10631(d)(3)

(A) The distribution system water loss shall be quantified for each of the five years preceding the plan update, in accordance with rules adopted pursuant to Section 10608.34

(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.

(C) In the plan due July 1, 2021, and in each update thereafter, data shall be included to show whether the urban retail water supplier met the distribution loss standards enacted by the board pursuant to Section 10608.34.

The FY 2019-2020 AWWA Water Audit is provided in Appendix J. Water losses for FY 2019-2020 were calculated at 249 AFY, or approximately 4% of total production.

Historical water losses are summarized below in Table 4.2.

Table 4.2 – Historical Water Losses

Year¹	Water Losses
2015-2016	N/A ²
2016-2017	555
2017-2018	512
2018-2019	505
2019-2020	249

¹ AWWA Water Audits are completed on a fiscal year schedule (July through June).

² The City's first AWWA Water Audit was completed starting FY 2016-2017.

4.3.4 – Current Water Use

Current water use is quantified in Table 4.1, above.

4.3.5 – Projected Water Use

Water Code Section 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 long-term total projected water use over the next 20 years, in five-year increments, for a normal water year, a single dry water year, and a drought lasting five consecutive 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.

Water Code Section 10631

(h) 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 (f). 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 (f).

Water Code Section 10631(d)(4)

(A) Water use projections, where available, shall 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.

Projected water use is quantified in Table 4.1.

4.3.6 – Characteristic Five-Year Water Use

Water Code Section 10635(b)

Every urban water supplier shall include, as part of its urban water management plan, a drought risk assessment for its water service to its customers as part of information considered in developing the demand management measures and water supply projects and programs to be included in the urban water management plan. The urban water supplier may conduct an interim update or updates to this drought risk assessment within the five-year cycle of its urban water management plan update. The drought risk assessment shall include each of the following...

(3) A comparison of the total water supply sources available to the water supplier with the total projected water use for the drought period. [Emphasis added]

(4) Considerations of the historical drought hydrology, plausible changes on projected supplies and demands under climate change conditions, anticipated regulatory changes, and other locally applicable criteria.

The City is built out and water use has stabilized since economic recovery from the 2008 recession at approximately 7,200 AFY. The City has access to 100% of its adjudicated pumping allocation in the Central Basin plus sufficient recycled water for cooling at the Malburg Power Plant, for a total of approximately 8,339 AFY. Pumping in excess of adjudicated rights is assumed to be unavailable during long-term drought. Given these conditions, the City has adequate available supply to meet water use requirements during an immediate five-year drought.

4.4 – Water Use for Lower Income Households

Water Code Section 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 Section 50079.5 (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.

Per the Vernon General Plan Housing Element, 25% of the residential population of Vernon is considered lower income. The population within the water service area is very small and essentially stagnant. There has been very modest growth within the City; however, most of the growth is outside of the City’s water service area in Maywood Mutual Water Company No. 3. Water demand for the entire residential sector is approximately 8 AFY, which is approximately 0.1% of total demand. Table 4.2 provides a projection of lower income demand.

Table 4.3 – Lower Income Demand Projection

Sector	2025	2030	2035	2040	2045
Single Family Residential	1.5	1.5	1.5	1.5	1.5
Multi-Family Residential	0.5	0.5	0.5	0.5	0.5

4.5 – Climate Change Considerations

Water Code Section 10630.

It is the intention of the Legislature, in enacting this part, to permit levels of water management planning commensurate with the numbers of customers served and the volume of water supplied, while accounting for impacts from climate change.

Water Code Section 10635(b)

Every urban water supplier shall include, as part of its urban water management plan, a drought risk assessment for its water service to its customers as part of information considered in developing the demand management measures and water supply projects and programs to be included in the urban water management plan. The urban water supplier may conduct an interim update or updates to this drought risk assessment within the five-year cycle of its urban water management plan update. The drought risk assessment shall include each of the following...

(4) Considerations of the historical drought hydrology, plausible changes on projected supplies and demands under climate change conditions, anticipated regulatory changes, and other locally applicable criteria.

4.5.1 – City’s Perspective

The City’s perspective on climate change does not impact water supply or demand. Per the Vernon General Plan:

In 2006, the California Legislature adopted AB 32, the Global Warming Solutions Act of 2006, to address concerns regarding the potential impact of climate change on the State’s economy and the environment. The legislation requires the California Air Resources Board to determine the level of greenhouse gases produced in 1990 and outline strategies to ensure that the level of emissions in 2020 do not exceed the 1990 level. The overall goal is to establish a comprehensive program of regulatory and market mechanisms to achieve real, quantifiable, cost-effective reductions of greenhouse gas emissions. Specifically, AB 32 (as codified in the California Health and Safety Code) requires the California Air Resources Board to:

- Establish a statewide greenhouse gas emissions cap for 2020, based on 1990 emissions*
- Adopt mandatory reporting rules for significant sources of greenhouse gases*
- Adopt a plan indicating how emission reductions will be achieved from significant greenhouse gas sources via regulations, market mechanisms, and other actions*
- Adopt regulations to achieve the maximum technologically feasible and cost-effective reductions in greenhouse gas, including provisions for using both market mechanisms and alternative compliance mechanisms*

SB 375, passed into law in 2008, has the goal of fostering development patterns—and more compact patterns in particular—that reduce the need to drive, thereby reducing air

pollution from car exhaust, conserving water, and protecting habitat, among other benefits. This law is designed to align regional land use, housing, and transportation plans with greenhouse gas reduction targets.

In Vernon, emissions are regulated by the Southern California Air Quality District, as well as State and federal agencies. The agencies have imposed regulations to reduce emissions from both stationary and vehicular sources. These actions have led to a substantial improvement in air quality in the Southern California air basin and presumably have had a concurrent effect on greenhouse gas emissions. Further reductions are anticipated as new requirements are imposed by current legislation and regulations.

The City of Vernon is a built out city, and the General Plan does not provide for any substantive increase in either square footage in industrial development or substantive increases in employment (see Table LU-1 in the Land Use Element). Future residential development is limited pursuant to the Land Use Element. This limited residential development will provide a new housing opportunity for local workers to live near places of employment in Vernon, furthering SB 375 goals. Given the limited changes anticipated as part of this General Plan, the issue of increased emissions resulting from growth is not a significant concern.

4.5.2 – Regional Perspective

A regional perspective on the impacts of climate change is provided by CBMWD in the following subsection, per the CBMWD 2020 Draft UWMP.

CLIMATE CHANGE

The rise of anthropogenic activities producing carbon dioxide in the world has changed the earth's climate by emitting greenhouse gasses responsible for global warming. This has resulted in extreme weather events occurring more frequently. The severity and frequency of climate change impacts on temperature and precipitation patterns can be difficult to forecast due to dramatic shifts in weather patterns as a result of increased concentrations of carbon dioxide in the atmosphere. While the precise timing, severity, and regional impacts of these temperature and precipitation changes are uncertain, climate researchers have identified several important issues of concern for water planners in California. The climate change impacts of concern are as follows:

Temperature Increases

- *More winter precipitation falling as rain rather than snow, leading to reduced snowpack water storage, reduced long term soil humidity, reduced groundwater and downstream flows, and reduced imported water deliveries*
- *Higher irrigation demands as temperatures alter evapotranspiration rates, and growing seasons become longer*
- *Exacerbated water quality issues associated with dissolved oxygen levels, increased algal blooms, and increased concentrations of salinity and other constituents*

- *Impacted habitats for temperature-sensitive fish and other life forms, and increased susceptibility of aquatic habitats to eutrophication*

Precipitation Pattern Changes

- *Increased flooding (both coastal and inland) caused by more intense storms*
- *Changes to growth and life cycle patterns caused by shifting weather patterns*
- *Threats to soil permeability, adding to increased flood threat and decreased water availability*
- *Reduced water supply caused by the inability to capture precipitation from more intense storms, and a projected progressive reduction in average annual runoff (though some models suggest that there may be some offset from tropical moisture patterns increasingly moving northward)*
- *Increased turbidity caused by more extreme storm events, leading to increased water treatment needs and impacts to habitat*
- *Increased wildfires with less frequent, but more intense rainfall, and possibly differently timed rainfall through the year, potentially resulting in vegetation cover changes*
- *Reduction in hydropower generation potential*

Sea Level Rise

- *Inundation and erosion of coastal areas (coastal bluffs in particular), including coastal infrastructure*
- *Saline intrusion of coastal aquifers*
- *Increased risk of storm surges and coastal flooding and erosion during and after storms*
- *Changes in near-shore protective biogeography such as loss of sand, tide pools, wetlands, and kelp beds*

Although the extent of these changes is uncertain, CBMWD, along with its member agencies, is already planning ahead to ensure long lasting reliability of its source for its retailers.

PROJECTED CLIMATE CHANGE IMPACTS

Extensive research has been done on the future impacts due to climate change on the State of California. The state released its latest research on climate, called the California's Fourth Climate Change Assessment (California Assessment), detailing the potential impacts of climate change that affects California such as temperature, sea level rise, droughts, and wildfires. The assessment utilizes historic data and the latest computer models to analyze these potential impacts. Alongside with the California Assessment, released regional assessments as well. The California Assessment for the Los Angeles Region detail the major impacts of climate change in Los Angeles County as well as Ventura, Orange, San Bernardino, and Riverside County. The LA Region report outlines the key projected climate change impacts:

- *Continued future warming over the LA region (max temperatures to increase by 4-5 °F by mid-century and 5-8 °F by late century)*
- *Extreme temperatures and number of extreme hot days is expected to increase*
- *Dry and wet extremes expected to increase*
- *Sea level projected to rise by 1-2 feet by mid-century and 8-10 feet by end of century based on most extreme projections*
- *Increased likelihood of wildfires throughout southern California*

TEMPERATURE

The LA Region report of the California Assessment anticipates temperatures to increase throughout southern California. Studies indicated that based on historic records from 1896 – 2015 from the National Oceanic and Atmospheric Administration (NOAA) shows a trend of annual average, maximum, and minimum temperature increase of around 0.16 °C per decade. In recent years, the top five warmest years in terms of annual average temperatures have occurred since 2012 where 2014 was the warmest followed by 2015, 2017, 2016, and 2012. Based on computer models (RCP4.5 and RCP8.5), the number of extremely hot days is expected to increase. For instance, historical records at the Los Angeles International Airport experiences nearly 15 days per year of temperatures equal to or greater than 90 °F. Models project that the number of days may increase to 50-90 of such days per year by the end of the century.

PRECIPITATION

Precipitation for the LA region is also impacted by climate change. Based on historical records, precipitation is flexible from year to year and only five storms are typically observed per year making up roughly 50 percent of the annual precipitation total. As a result, precipitation in the LA region shows no typical trend. Based on the LA Region report of the California Assessment, dry and wet extremes are both expected to increase in the future. Based on computer models (RCP8.5), some areas are expected to have increased precipitation by 25-30 percent. Similarly, computer models also project increased periods of extremely dry years by double or more by the end of the century. The extreme dry years can lead to prolonged drought periods, significantly impacting water supplies within the region.

CLIMATE CHANGE IMPACTS TO WATER SUPPLY

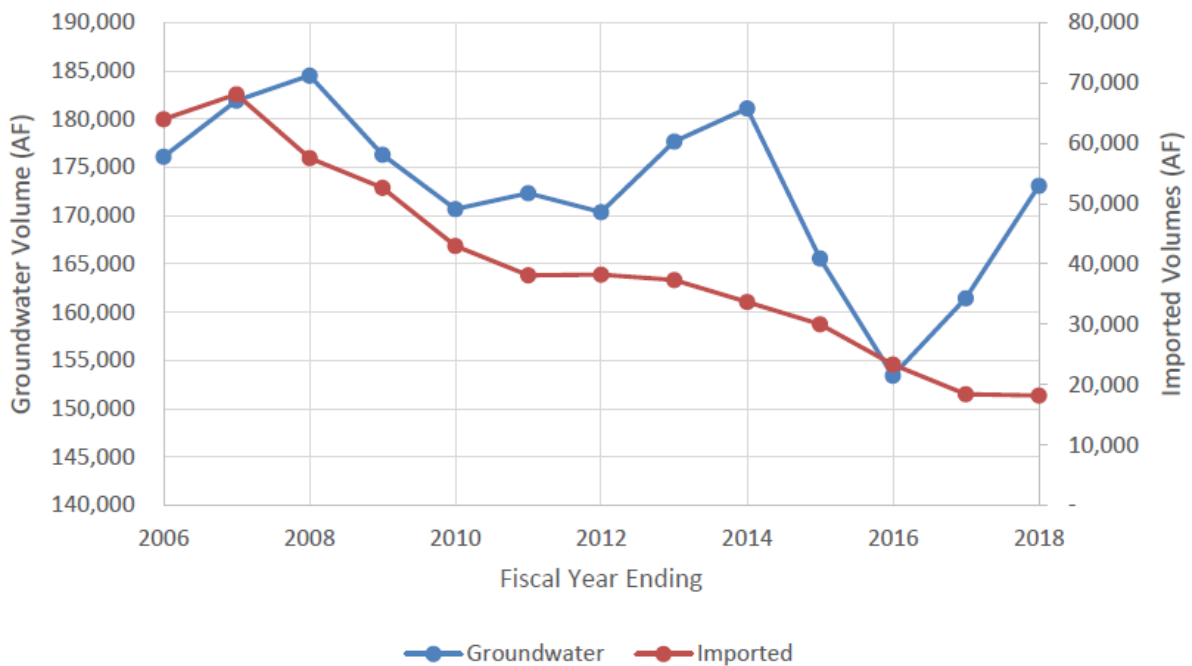
Climate data has been recorded in California since 1858. Since then, California has experienced several periods of severe drought: 1928-34, 1976-77, 1987-91, 2007-09, and most recently in 2012-15. California has also experienced several periods of less severe drought. The year 1977 is considered to be the driest year of record in the Four Rivers Basin by DWR. These rivers flow into the Delta and are the source of water for the SWP. Southern California sustained few adverse impacts from the 1976-77 drought, but the 1987-91 drought created considerably more concern.

The drought of 2007-09 resulted in significant impacts on the state's water supplies. SBx7-7 was signed into law by Governor Schwarzenegger that requires mandatory water conservation up to 20 percent by 2020. The recent drought in 2012-15 brought a significant hit to the state's water supplies. The drought strained reservoir levels all across the state. The majority of the state's reservoirs were all below average levels. To this day, California is still in a recovery stage from the recent droughts.

In January of 2014, Governor Brown declared a state of emergency and directed state officials to take all necessary actions to prepare for water shortages. As the drought prolonged into 2015, to help cope with the drought mitigation, Governor Brown issued an Executive Order in April 2015 that mandated a statewide 25 percent reduction in potable water use from a baseline year of 2013.

As a result, water demands with CBMWD's retail agencies has decreased as shown in Figure 4.1. Since 2006, water demands have dropped for both imported and groundwater. The severe low reservoir levels as well as groundwater levels caused water purveyors to mandate strict water usage guidelines in efforts to conserve water.

Figure 4.1 – Total Usage by CBMWD Retail Agencies (2006-2018)



Chapter 5 – Conservation Target Compliance

5.1 – General Description

Conservation Target Compliance involves evaluation of implementation of the California Water Conservation Act of 2009 and whether or not targets were met. Documentation on historical water usage to define a purveyor’s obligation to achieve water use reduction is required.

Water use baselines and targets are given in units of gallons per capita per day (GPCD). However, the City’s demographic character as “exclusively industrial” does not support the use of population as a reliable indicator of water use. Nonetheless, the City is constrained to report water use baselines and targets in units of GPCD. Note that historical, current, and future population is considered to be static at 100. This effectively eliminates population as an impact on water demand, since the change in population is zero. As a result, comparison of a water use target to actual water use is proportional to a volumetric comparison of associated production target and actual production. The City’s responsibility to achieve its 2020 target water use is the same as every other purveyor’s responsibility; however, the target water use itself will appear to be a statistical outlier compared to other purveyors.

It should be noted that the California Water Conservation Act of 2009 anticipated the complexities of including industrial water use in a per capita water use calculation for heavily industrialized water systems. Per CWC Section 10608.24(e):

When developing the urban water use target pursuant to Section 10608.20, an urban retail water supplier that has a substantial percentage of industrial water use in its service area, may exclude process water from the calculation of gross water use to avoid a disproportionate burden on another customer sector.

The Water Conservation Act of 2009 provides a number of methodologies for calculating baseline and target water use. All options were examined, and Method 4 was chosen. Table 5.1 provides a summary of the results of the various approaches to calculating baseline and target water use.

Table 5.1 – Summary of Baseline and Target Water Use Calculations

Approach	Baseline (GPCD)	2020 Target (GPCD)
Method 1	100,296	80,245
Method 1 (Excluding Process Wastewater)	55,699	47,759
Method 2	100,296	81,298
Method 2 (Excluding Process Wastewater)	55,699	44,761
Method 3	100,296	142
Method 4	100,296	89,809

The rest of this chapter provides supporting information regarding application of Method 4.

5.2 – Updating Calculations from 2015 UWMP

Water Code Section 10608.20 (g)

(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 City did elect to update its 2010 calculations for of the 2020 urban water use target.

5.2.1 – Update of Target Method

As discussed in Section 5.1, Method 4 was chosen for calculating baseline and target water use. No updates to this target method are required.

5.2.2 – Updating Baseline and Target GPCDs

No adjustments to the baseline or target water use are required.

5.2.3 – SB X7-7 Verification Form

The standardized tables in the SB X7-7 Verification Form have been completed as required and are included in Appendix A.

5.3 – Baseline Periods

Water Code Section 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.

(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).

Based on City supply and demand records known as NEAT Water System Statistics, the 2020 water use target was determined to be 100,296 GPCD.

5.3.1 – Determining Baseline GPCD

Water Code Section 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.

In 2008, 8.1% of retail water deliveries were recycled water. As a result, the baseline must be a continuous 10-year period. The City’s baseline period is a 10-year period ending in 2008, as shown in Table 5.2.

Table 5.2 – Baseline Per Capita Demand Calculation

Year	Population	Gross Water Use (AFY)	Per Capita Water Use (GPCD)
1999	100	11,877	106,033
2000	100	12,232	109,197
2001	100	11,976	106,919
2002	100	11,263	100,546
2003	100	11,296	100,844
2004	100	11,708	104,526
2005	100	10,596	94,593
2006	100	10,616	94,776
2007	100	10,742	95,900
2008	100	10,040	89,630
Average			100,296

Note that all qualifying 10-year periods for baseline per capita water use were calculated. The 10-year period shown in Table 5.2 provides the greatest advantage to the City in terms of its baseline calculation.

5.3.2 – Determining Target Confirmation

Water Code Section 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 5-year average per capita water for determining confirmation is calculated at 98,128 GPCD, as shown in Table 5.3.

Table 5.3 – Calculation of 5-Year Target

Year	Population	Gross Water Use (AFY)	Per Capita Water Use (GPCD)
2003	100	11,296	100,844
2004	100	11,708	104,526
2005	100	10,596	94,593
2006	100	10,616	94,776
2007	100	10,742	95,900
Average			98,128

Note that all qualifying 5-year periods for confirmation of the baseline per capita water use were calculated. The 5-year period shown in Table 5.3 provides the greatest advantage to the City in terms of confirming its target per capita water use.

5.4 – Service Area Population

Water Code Section 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.

(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.

Water Code Section 10644

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

Determining and projecting the Water Service Area population is a challenge for the following reasons:

- The Water Service Area was 100% built-out prior to 1990.
- There have been no changes to residential land use for many decades, and none are anticipated.
- Historical residential water use is less than 0.1% of total demand.
- Population growth is stagnant.
- The DWR population calculator produced inconsistent results for population within the service area boundary.

Given the City's nature as an "exclusively industrial" city, population is not a factor in the City's historical, current, or projected water use.

In order to avoid skewing the results of per capita demand calculations, a constant population of 100 was used for all periods. This concept has been discussed with and approved by DWR.

5.5 – Gross Water Use

Water Code Section 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.

Gross water use for each year in the baseline periods is shown in Table 5.2. Deducting process water did not result in an advantage for the City, as shown in Table 5.1.

5.6 – 2020 Target

Water Code Section 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)).

Water Code Section 10608.20

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

Per CWC 10608.20(g), the City updated the 2020 water use target in its 2015 UWMP using Method 4 as outlined in Section 5.6. The updated baseline water use, 2015 interim water use target and 2020 water use target are summarized in Table 5.4.

Table 5.4 – Baseline, Interim, and Target Water Use

Water Use	GPCD
Baseline	100,296
2015 Interim Target	95,053
2020 Target	89,809

5.6.1 – Target Method Selection and Application

Target Method 4 (Savings by Water Sector) involves a series of calculations based on a 10-year average per capita water use, and water deliveries for the fifth year of the 10-year average. The following application is based on data associated with the 10-year period ending in 2008 and the methodology provided in DWR's *Provisional Method 4 For Determining Water Use Targets* (February 2011).

Step 1. Baseline Water Use and Midpoint Year

Baseline Per Capita Water Use for 10-year period ending in 2008: 100,296 GPCD

CII Water use for midpoint year (2003): 93,598 GPCD

Average CII Water Use for 10-year period ending in 2008: 90,276 GPCD

Step 2. Metering Savings

All City accounts are metered. There are no savings associated with metering.

Step 3. Indoor Residential Savings

Alternative 2 (Default): Indoor Residential Savings is 15 GPCD.

Step 4. CII Savings (Equation 5)

$$\boxed{\begin{array}{c} \text{CII Savings,} \\ \text{GPCD} \end{array}} = \boxed{\begin{array}{c} \text{Average} \\ \text{Baseline CII} \\ \text{Water Use,} \\ \text{GPCD} \end{array}} \times \boxed{0.10}$$

$$\text{CII Savings} = (0.10)(90,276 \text{ GPCD}) \cong 9,028 \text{ GPCD}$$

Step 5. Landscape Irrigation and Water Loss Savings (Equations 2 and 6)

$$\boxed{\text{Landscape Irrigation and Water Loss Sector Use}} = \boxed{\text{Baseline Per Capita Water Use}} - \boxed{\text{Standard Indoor Residential Use}} - \boxed{\text{CII Water Use in 2004}}$$

$$\text{Landscape Irrigation and Water Loss Sector Use} = 100,296 - 70 - 93,598 = 6,683 \text{ GPCD}$$

$$\boxed{\text{Landscape Irrigation and Water Loss Savings}} = \boxed{\text{Landscape Irrigation and Water Loss Sector Use}} \times \boxed{0.216}$$

$$\text{Landscape Irrigation and Water Loss Savings} = (6,683)(0.216) \cong 1,444 \text{ GPCD}$$

Step 6. Total Savings (Equation 3)

$$\boxed{\text{Total Savings}} = \boxed{\text{Metering Savings}} + \boxed{\text{Standard Indoor Residential Savings}} + \boxed{\text{CII Savings}} + \boxed{\text{Landscape Irrigation and Water Loss Savings}}$$

$$\text{Total Savings} = 0 + 15 + 9,028 + 1,444 = 10,487 \text{ GPCD}$$

Step 7. 2020 Water Use Target (Equation 1)

$$\boxed{\text{2020 Water Use Target}} = \boxed{\text{Baseline Per Capita Water Use}} - \boxed{\text{Total Savings}}$$

$$\text{2020 Water Use Target} = 100,296 - 10,487 = 89,809 \text{ GPCD}$$

5.7 – Baselines and Targets Summary

The SB X7-7 verification tables, including detailed information about the baselines and targets, have been completed as required and are included in Appendix A.

5.8 – 2020 Compliance Daily Per-Capita Water Use (GPCD)

Water Code Section 10608.12

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

Water Code Section 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.

As shown in Table 5.4, the 2020 water use target is 89,809 GPCD.

5.8.1 – Meeting the 2020 Target

In 2020, the City’s per-capita water use was 59,814 GPCD, which was lower than its 2020 target of 89,809 GPCD. Therefore, the City has achieved its 2020 water use target and is in compliance with SB X7-7.

5.8.2 – Adjustments to 2020 Gross Water Use

Water Code Section 10608.24

(d)(1) When determining compliance daily per capita water use, an urban retail water supplier may consider the following factors:

(A) Differences in evapotranspiration and rainfall in the baseline period compared to the compliance reporting period.

(B) Substantial changes to commercial or industrial water use resulting from increased business output and economic development that have occurred during the reporting period.

(C) Substantial changes to institutional water use resulting from fire suppression services or other extraordinary events, or from new or expanded operations, that have occurred during the reporting period.

(2) If the urban retail water supplier elects to adjust its estimate of compliance daily per capita water use due to one or more of the factors described in paragraph (1), it shall provide the basis for, and data supporting, the adjustment in the report required by Section 10608.40.

Methodologies for Calculating Baseline and Compliance Urban Per Capita Water Use, Methodology 4 This section discusses adjustments to compliance-year GPCD because of changes in distribution area caused by mergers, annexation, and other scenarios that occur between the baseline and compliance years.

There were no adjustments to the 2020 target for extraordinary events, economic adjustment, or weather normalization.

5.9 – Future Reporting of Water Use Compliance

The City's water use is tied to the economic cycle. This UWMP provides a projection through 2045; during that time, the economic cycle will fluctuate independently of water conservation efforts, population growth and weather. This subsection is intended to provide guidance in demonstrating future water use compliance in the event of high water use intensity associated with a surge in economic activity.

Following are (1) provisions of the California Water Code and associated regulation that deal with adjusting compliance water use to account for changes in commercial and industrial activity, and (2) historical data that establish economic trends impacting the City's water use and implementation strategies.

5.9.1 – Statute and Regulation

In the event that water use exceeds the 2020 target of 10,860 GPCD due to increased commercial and industrial activity, the City will have an opportunity to adjust its per capita water use to account for the increase. Note that population for future reporting will remain constant at 100. Refer to Methodology 8 of *Methodologies for Calculating Baseline and Compliance Urban Per Capita Water Use* (February 2016) for details on preparing the adjustment.

CWC Section 10608.24 provides the following option relative to the City circumstances:

(1) When determining compliance daily per capita water use, an urban retail water supplier may consider the following factors:

(B) Substantial changes to commercial or industrial water use resulting from increased business output and economic development that have occurred during the reporting period.

(2) If the urban retail water supplier elects to adjust its estimate of compliance daily per capita water use due to one or more of the factors described in paragraph (1), it shall provide the basis for, and data supporting, the adjustment in the report required by Section 10608.40.

Water Code Section 10608.12(d) defines “Commercial water user” as “a water user that provides or distributes a product or service.”

Water Code Section 10608.12(h) defines “Industrial water user” as “a water user that is primarily a manufacturer or processor of materials as defined by the North American Industry Classification System code sectors 31 to 33, inclusive, or an entity that is a water user primarily engaged in research and development.”

The following option is the most appropriate for the City’s case:

Adjustments to institutional water use resulting from new or expanded operations and adjustments to commercial or industrial water use resulting from increased business output and economic development.

In the event the City's future water use exceeds the 2020 water use target, the following steps and calculations should be made (*Methodologies for Calculating Baseline and Compliance Urban Per Capita Water Use*, pp. 59-62):

Adjustment 2 accounts for substantial changes to commercial, industrial or institutional (CII) water use due to new or expanded institutional water use or increased commercial and/or industrial business output and economic development. The increase in water use due to economic activity should be as a result of factors outside of service area population growth. Therefore, any adjustment may primarily be driven by institutions and businesses that serve nonresident populations and customers. Examples include the expansion of a college or university that draws students from outside the service area, a regional mall, or a business making a product that is sold broadly.

To account for possible changes in water use between sectors (an industrial facility becoming a commercial facility) water suppliers must first document that the percentage reduction in CII water use between baseline years and the compliance year is less than the percent reduction from the baseline water use required to meet the supplier's water use target. Water suppliers whose CII percentage reduction is greater than the water use target percent reduction are not eligible for Adjustment 2.

Water suppliers must document that the increase in commercial, industrial or institutional water use proposed for adjustment has increased due to new or expanded institutions, or to increased business output and economic development. Water suppliers can document the increase through measures such as institutional enrollments, employment statistics, and statistics on business output or trade.

Step 1: Quantify CII Water Use Reduction

This step is intended to identify CII water use that may be eligible for adjustment. The calculations also separate the effect of changes in CII water use due to new or expanded institutions and economic development from that due to growth in population. Only the former may be eligible for this adjustment.

1.1. Calculate daily CII water use per capita for both the baseline period and the compliance year(s) using Methodology 7. Calculate the percentage reduction achieved in CII daily per capita water use for the compliance year(s) compared to the baseline period.

1.2. If the percentage reduction in CII daily per capita water use in the compliance year(s) (from Step 1.1) equals or exceeds the target percentage reduction in baseline GPCD, no economic adjustment can be made.

[Given that the City's population is static for the purpose of these calculations, all increases described in Step 1 will be due to economic development.]

Step 2: Documentation of Basis and Supporting Data for the Adjustment

Water suppliers making the economic adjustment must provide both a narrative description and numeric water use data to substantiate the adjustments. The data must illustrate the specific changes in commercial, industrial, or institutional water use by customer accounts where possible, between the baseline period and the compliance year(s).

2.1 For substantial changes to institutional water use from new or expanded operations:

2.1.1 Provide a narrative that identifies and documents new institutions or existing institutions with expanded operations within the service area that have caused institutional water use to increase significantly during the reporting period.

2.1.2 Calculate the change in the compliance year's institutional daily per capita water use compared to that in the baseline period.

2.2 For substantial changes to commercial or industrial water use from increased business output and economic development:

2.2.1 Provide a narrative that identifies and explains the increase in commercial and industrial water use within the service area due to increased business output and economic development.

2.2.2 Document the change in compliance year(s) daily commercial and/or industrial water use per capita compared to that in the baseline period.

Step 3: Correlation with Institutional or Economic Development Indicators

Demonstrate that the increase in commercial, industrial, or institutional water use is directly related to a net expansion in institutional operations, or a net increase in business output and economic development between the supplier's baseline period and compliance year(s). This step is necessary to prove that the increase in CII use is driven by economic factors and is not a result of service area population growth or change in water management.

3.1 Provide the institutional or economic development indicators that correlate with the increase in commercial, industrial, or institutional water use documented in Step 2. Institutional or economic indicators include:

- Employment statistics that show net increases in the specific commercial, industrial, or institutional sectors⁶.*
- Net increase in institutional enrollment, census, employment, or occupancy.*
- Net gain in measures of business output and economic development such as production volume, sales tax revenue, U.S. Department of Commerce measures of retail trade, or other indicators of manufacturing and wholesale activities⁷.*
- Net gain in measures of non-resident population such as hotel occupancy rates, or measures of consumer expenditures such as attendance at entertainment venues.*
- Net increase in commercial sector activities due to an extraordinary mega-event, such as hosting the Olympic Games or Super Bowl, during the compliance year.*
- Other economic indicators.*

3.2 Adjust any economic indicators measured in dollars for inflation by using the Consumer Price Index (CPI) (reference to specific CPI series, such as USACPIBLS).

Step 4: Document CII Water Use Reduction Programs and Efforts

Describe, in the demand management section of the supplier's urban water management plan or through the California Urban Water Conservation Council BMP reports submitted in lieu of the UWMP Demand Management Measures (DMM) section, the CII demand management measures the water supplier has implemented. Water suppliers not implementing CII DMMs are not eligible for the compliance year economic adjustment.

Step 5: Calculate the Economic Adjustments due to New or Expanded Institutions or Increased Business Output and Economic Development

To calculate the compliance daily per capita water use adjusted for economic activity, subtract the net change in commercial daily per capita water use, institutional daily per capita water use, or industrial daily per capita water use (from Step 2.1.2 or 2.2.2) from the unadjusted compliance year daily per capita water use.

⁶ Employment Development Department publishes monthly labor force data by county.

⁷ Board of Equalization publishes annual reports on local sales tax distribution by city.

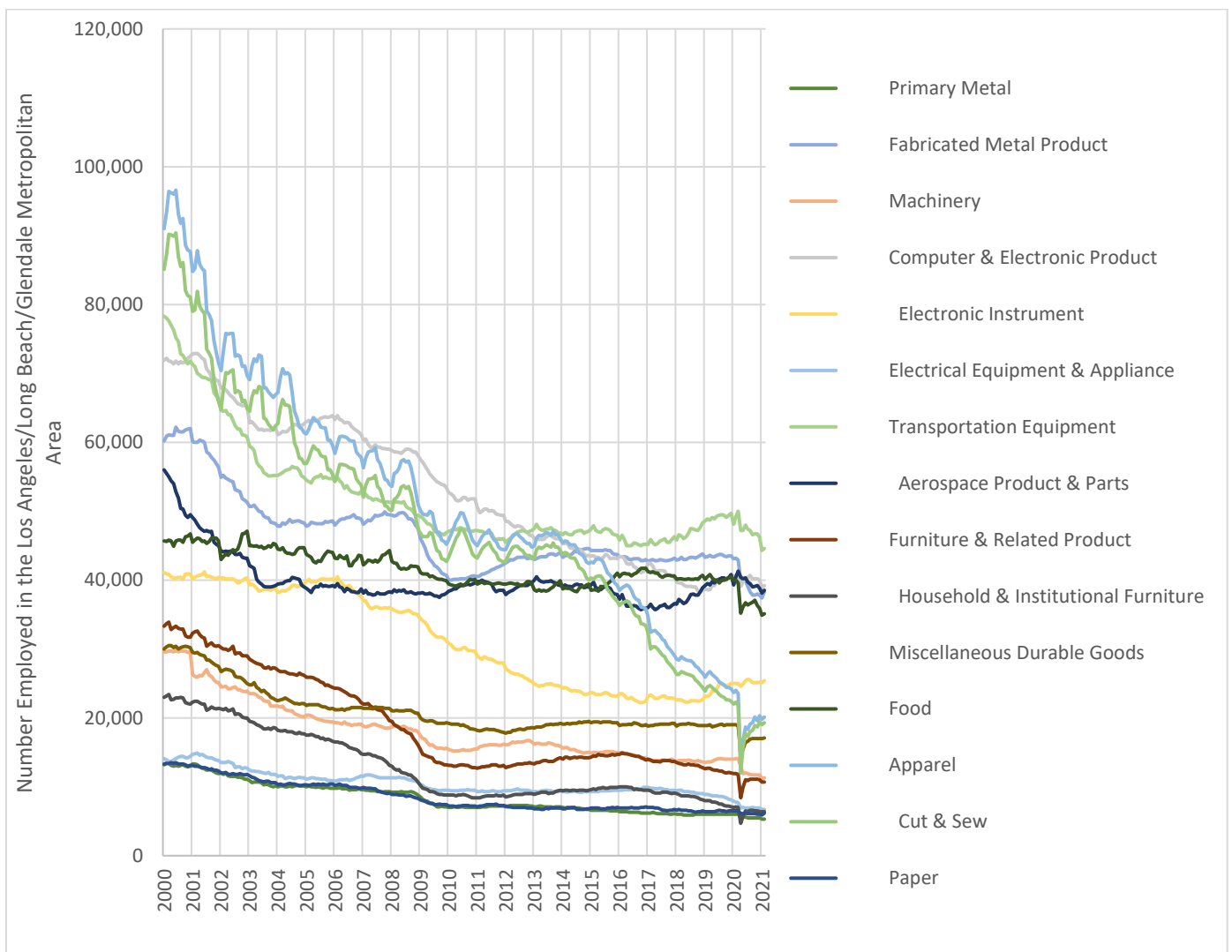
5.9.2 – Economic Trends

The economic trend that would support an adjustment to future water use compliance is manufacturing labor.

Detailed manufacturing labor trends by sector are provided by the Labor Market Information Division of the California Employment Development Department⁸. Given that the City’s small population is not a factor in labor trends, extending labor statics to the larger metropolitan area is appropriate as an indirect indicator of industrial activity.

Figure 5.1 provides manufacturing employment trends for a large number of sectors with a presence in the City.

Figure 5.1 – Trends in Manufacturing Employment



⁸ <https://www.labormarketinfo.edd.ca.gov/>

These data represent the Los Angeles/Long Beach/Glendale Metro Area. A large portion of the City's labor force is assumed to live in this area. The period is consistent with development of the City's baseline calculations for its water use target. In the event an adjustment to actual water use is required in the future to comply with the water use target, an uptick in any of these manufacturing labor trends should be evident in the data set for the subject compliance year. Cross-referencing manufacturing employment to high-intensity water users will serve to justify a future compliance water use adjustment.

It should be noted that mechanization is a common response to cost-reduction in recovering industrial markets. It is possible, even likely, that water use for industrial processes will increase as demand for manufacturing increases regardless of a corresponding increase in manufacturing labor. In such a case, the City will document equivalent labor performed by machines in addition to actual labor.

Chapter 6 – System Supplies

6.1 – General Description

Water Code Section 10631(b)

Identify and quantify, to the extent practicable, the existing and planned sources of water available to the supplier [in five-year increments to 20 years or as far as data is available] providing supporting and related information, including all of the following:

(1) A detailed discussion of anticipated supply availability under a normal water year, single dry year, and droughts lasting at least five years, as well as more frequent and severe periods of drought, as described in the drought risk assessment. For each source of water supply, consider any information pertinent to the reliability analysis conducted pursuant to Section 10635, including changes in supply due to climate change.

(2) When multiple sources of water supply are identified, a description of the management of each supply in correlation with the other identified supplies.

(3) For any planned sources of water supply, a description of the measures that are being undertaken to acquire and develop those water supplies.

Water Code Section 10631 (h)

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 (f). 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 (f).

System Supplies involve organizing and reducing historical water supply source data into pre-determined categories and discussing the availability and sustainability of each source. Documentation on rights, adjudications, agreements, and opportunities for current and projected sources are required.

Anticipated supply availability under a normal water year, single dry year, and droughts lasting at least five years, as well as more frequent and severe periods of drought, are discussed in Section 7.2.

6.2 – Purchased or Imported Water

The City is a member agency of the Central Basin Municipal Water District and has access to purchase imported water as needed.

6.3 – Groundwater

Water Code Section 10631(b)(4)

If groundwater is identified as an existing or planned source of water available to the supplier, all of the following information:

(A) The current version of any groundwater sustainability plan or alternative adopted pursuant to Part 2.74 (commencing with Section 10720), any groundwater management plan adopted by the urban water supplier, including plans adopted pursuant to Part 2.75 (commencing with Section 10750), or any other specific authorization for groundwater management for basins underlying the urban water supplier's service area.

(B) 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. For a basin that has not been adjudicated, information as to whether the department has identified the basin as a high- or medium-priority basin 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 coordinate with groundwater sustainability agencies or groundwater management agencies listed in subdivision (c) of Section 10723 to maintain or achieve sustainable groundwater conditions in accordance with a groundwater sustainability plan or alternative adopted pursuant to Part 2.74 (commencing with Section 10720).

(C) 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.

(D) 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.

The City overlies the Central Basin and is party to the Central Basin Third Amended Judgment. The City has an Allowed Pumping Allocation (APA) of 7,539 AFY.

6.3.1 – Basin Description

Per DWR (Bulletin 118), the Central Basin occupies a large portion of the southeastern part of the Coastal Plain of Los Angeles Groundwater Basin (Figure 3). The Central Basin is bounded on the north by a surface divide called the La Brea high, and on the northeast and east by emergent less permeable Tertiary rocks of the Elysian, Repetto, Merced, and Puente Hills. The southeast boundary between Central Basin and Orange County Groundwater Basin roughly follows Coyote Creek, which is a regional drainage province boundary. The southwest boundary is formed by the Newport Inglewood fault system and the associated folded rocks of the Newport Inglewood uplift. The Los Angeles and San Gabriel Rivers drain inland basins and pass across the surface of the Central Basin on their way to the Pacific Ocean.

Throughout the Central Basin, groundwater occurs in Holocene and Pleistocene age sediments at relatively shallow depths. The Central Basin is historically divided into forebay and pressure areas. The Los Angeles forebay is located in the northern part of the Central Basin where the Los Angeles River enters the Central Basin through the Los Angeles Narrows from the San Fernando Groundwater Basin. The Montebello forebay extends southward from the Whittier Narrows where the San Gabriel River encounters the Central Basin and is the most important area of recharge. Both forebays have unconfined groundwater conditions and relatively interconnected aquifers that extend up to 1,600 feet deep to provide recharge to the aquifer system. The Whittier area extends from the Puente Hills south and southwest to the axis of the Santa Fe Springs-Coyote Hills uplift and contains up to 1,000 feet of freshwater-bearing sediments. The Central Basin pressure area is the largest of the four divisions, and contains many aquifers of permeable sands and gravels separated by semi-permeable to impermeable sandy clay to clay, that extend to about 2,200 feet below the surface. Throughout much of the Central Basin, the aquifers are confined, but areas with semipermeable aquicludes allow some interaction between the aquifers.

The main productive freshwater-bearing sediments are contained within Holocene alluvium and the Pleistocene Lakewood and San Pedro Formations. Throughout most of the Central Basin, the near surface Bellflower aquiclude restricts vertical percolation into the Holocene age Gaspar aquifer and other underlying aquifers, and creates local semi-perched groundwater conditions. The main additional productive aquifers in the Central Basin are the Gardena and Gage aquifers within the Lakewood Formation and the Silverado, Lynwood, and Sunnyside aquifers within the San Pedro Formation. Historically, groundwater flow in the Central Basin has been from recharge areas in the northeast, toward the Pacific Ocean on the southwest. However, pumping has lowered the water level in the Central Basin and water levels in some aquifers are about equal on both sides of the Newport-Inglewood uplift, decreasing subsurface outflow to the West Coast Basin.

Many faults, folds, and uplifted basement areas affect the water-bearing rocks in the Central Basin. Most of these structures form minor restrictions to groundwater flow. The strongest effect on groundwater occurs along the southwest boundary to the Central Basin. The faults and folds of the Newport – Inglewood uplift are partial barriers to movement of groundwater from the Central Basin to the West Coast Basin. The La Brea high is a system of folded, uplifted and eroded Tertiary basement rocks. Because the San Pedro Formation is eroded from this area, subsurface flow southward from the Hollywood Basin is restricted to the Lakewood formation. The Whittier Narrows is an eroded gap through the Merced and Puente Hills that provides both surface and subsurface inflow to the Central Basin. The Rio Hondo, Pico, and Cemetery faults are northeast-trending faults that project into the gap and displace aquifers. The trend of these faults parallels the local groundwater flow and does not act as a significant barrier to groundwater flow.

The City draws its groundwater supply from the Central Groundwater Basin. This source annually supplies approximately 200,000 acre-feet of potable water to the area south of the Whittier Narrows to the Pacific Ocean and from the Orange County line to the city of Compton.

In 1959, the State Legislature enacted the Water Replenishment Act, enabling the formation of the Water Replenishment District of Southern California (WRD) as it is now known to be the permanent agency in charge of replenishing both the Central and West Basins. The State Legislature has vested in WRD the statutory responsibility to manage, regulate, replenish, and protect the quality of groundwater supplies within its boundaries, of which the City of Vernon is included.

6.3.2 – Groundwater Management

6.3.2.1 – Basin-Wide Management

Central Basin is adjudicated. A copy of the Central Basin Third Amended Judgment is provided in Appendix H.

Jurisdiction and authority over basin-wide groundwater management are the purview of the Water Replenishment District of Southern California (WRD), who is designated as Watermaster.

The City has adjudicated an Allowable Pumping Allocation (APA) of 7,539 AFY. As a member to the Judgment, the City has access to groundwater as follows:

§I.B.1

Each party...is enjoined and restrained in any Administrative Year commencing after the date this Judgment becomes final from extracting from Central Basin any quantity of Water greater than the party's Allowed Pumping Allocation as hereinafter set forth next to the name of the party in the tabulation appearing in Appendix 2 at the end of this Judgment, subject to further provisions of this Judgment... Each party adjudged and declared above not to be the owner of and not to have the right to extract groundwater from Central Basin is enjoined and restrained in any Administrative Year commencing after the date this Judgment becomes final from extracting any groundwater from Central Basin, except as may be hereinafter permitted to any such party under this Judgment.

§I.B.2

The total extraction right for each party includes a party's Allowed Pumping Allocation (to the extent not transferred by agreement or otherwise), any contractual right acquired through lease or other agreement to extract or use the rights of another party, and any right to extract Stored Water or Carryover as provided in this Judgment. No party may extract in excess of 140% of the sum of (i) the party's Allowed Pumping Allocation and (ii) the party's leased water, except upon prior approval by the applicable body of Watermaster as required pursuant to Section IV(J) as provided herein. Upon application, the body specified in Section IV(J) shall approve a party's request to extract water in excess of such limit, provided there is no Material Physical Harm. Requests to extract water in excess of such limit shall be reviewed and either approved or denied within thirty (30) days of such request.

6.3.2.2 – Local Management

With respect to local groundwater management options for the City, the following recommendations were published in the 2005 Hydrogeological Evaluation of the City of Vernon Groundwater Supplies:

- Due to the high potential for contamination being introduced into the groundwater from the many industries in the City, it is advisable to spread out the location of wells in order to lessen the risk of potential impacts. Wells that will be pumped simultaneously should be spaced at least 1,300 feet apart to prevent interference between wells; and wells not pumping simultaneously should be spaced at least 800 ft apart. Wells located too close to each other or a well that pumps excessively will cause a localized cone of depression to develop whereby groundwater gradients will be altered and ultimately groundwater will flow towards these wells.
- A Drinking Water Source Assessment Protection Program for City wells should be developed to inform the City's Health and Environmental Control Department as to the location of potential groundwater percolation capture zones. The City should ensure that the industries within these zones are aware that they have the potential to impact the City's groundwater supply.
- Historical data provided by the City showed evidence of pumping levels being recorded instead of true static levels. In order to obtain static levels, it is recommended that the well pump be turned off for at least six hours prior to a level being recorded. The amount of recovery time allowed before each measurement should also be recorded together with the depth to water.
- Installation of a permanent pressure transducer is recommended in each well where one does not already exist to collect groundwater level measurements. Access into the wells may be a problem in some instances where the pump base does not have port access for sounders. Possibilities to allow a pressure transducer to be installed into the wells include retrofitting the well with a dedicated sounding tube by strapping a PVC tube onto the pump column.
- To assist in groundwater management of the City's groundwater resources, a Groundwater Monitoring and Management Plan is an essential document that incorporates a standard methodology for the collection of data in sufficient quantities and of adequate quality to enable informed decisions regarding the management of the groundwater resources in the City's service area. The types of data to be collected include groundwater levels, groundwater production, and groundwater quality.
- For on-going groundwater management, a groundwater flow model could be developed for the City area. The model can be used to predict the actual interference effects between wells, evaluate groundwater flow direction changes due to pumping, groundwater level changes in response to various operational scenarios and potential movement of contaminants using particle tracking. The flow model could also be used to predict future groundwater conditions for up to 20 years into the future.

6.3.3 – Historical and Projected Pumping

Historical pumping from Central Basin for the past five years is provided in Table 6.1.

Table 6.1 – Historical Pumping from the Central Basin

Year	2016	2017	2018	2019	2020
Production (AFY)	6,098	6,566	6,569	5,852	6,127

Projected pumping from Central Basin in future years is estimated to be 7,539 AFY, which is equal to the City's APA.

6.4 – Surface Water

The City has no surface water supply.

6.5 – Stormwater

The City does not divert stormwater for capture purposes.

6.6 – Wastewater and Recycled Water

Water Code Section 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, and shall include all of the following:

(a) A description of 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) A description of 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) A description of 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) A description and quantification of 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) 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) A description of 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) 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.

Currently, all wastewater generated in the City is collected in local sewer lines and discharged into the regional sewer system maintained by the Los Angeles County Sanitation Districts (LACSD), where it is ultimately treated at a regional wastewater treatment plant in the City of Cerritos, and then sent back to the City in the form of reclaimed water.

6.6.1 – Recycled Water Coordination

Water Code Section 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...

It is the City's philosophy that recycled water shall be used within the jurisdiction wherever its use is economically justified, financially and technically feasible, and consistent with legal requirements, preservation of public health, safety, and welfare of the environment.

To that end, the City has previously completed the task, in coordination with CBMWD, of evaluating potential recycled water use within the service area as a precursor to continued development of the Southeast Water Reliability Project. Special care was taken to exclude potential recycled water use from various industrial processes involving food processing. Vernon is satisfied that CBMWD, who is the lead agency in the Central Basin for the development and distribution of recycled water, is aware of all potential recycled water use within the service and that CBMWD makes use of this knowledge in the justification for the expansion of the recycled water system, future rate structure and phasing of implementation.

6.6.2 – Wastewater Collection, Treatment and Disposal

Water Code Section 10633(a)

A description of 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.

Per the Vernon General Plan, the City owns its own sewage collection system which discharges into the system managed by the Los Angeles County Sanitation Districts (LACSD). The majority of the City lies within District 23, but also contains territory in Districts 1 and 2. These Districts, along with more than a dozen others, are signatories to the Joint Outfall System (JOS) which provides for the operation and maintenance of an interconnected system of wastewater collection, treatment, reuse, and disposal facilities across a large portion of the urban region.

The JOS includes the following water reclamation plants (WRP):

- The Joint Water Pollution Control Plant (Carson)
- Whittier Narrows WRP (South El Monte)
- Los Coyotes WRP (Cerritos)
- San Jose Creek WRP (Industry)
- Long Beach WRP (Long Beach)
- Pomona WRP (Pomona)
- La Cañada WRP (La Cañada-Flintridge)

The City generated an estimated 6,612 AFY of wastewater in 2020. Per the Fiscal Year 2018-19 Thirtieth Annual Status Report on Recycled Water Use prepared by the Los Angeles County Sanitation Districts, the JOS produced a total effluent of 434,335 AFY. Of that total, 135,523 AFY met Title 22 standards for recycled water and 87,003 AFY was reused.

Recycled water supply for the CBMWD distribution system originates at the San Jose Creek WRP and the Los Coyotes WRP. Per the CBMWD 2020 Draft UWMP:

CBMWD'S SOURCE WATER

The source of CBMWD's recycled water comes from LACSD treated wastewater. Central Basin does not collect or treat its municipal wastewater. LACSD operates six water reclamation plants (WRPs) in the Los Angeles Basin producing approximately 593 MGD of secondary effluent. Approximately one-third of the secondary effluent undergoes additional treatment for non-potable uses such as recycled water.

CBMWD purchases a portion of this recycled water from the Los Coyotes WRP and the San Jose Creek WRP. These plants provide approximately 137 MGD of Title 22 tertiary treated water for distribution. Under the March 11, 2015 Agreement for Purchase and Sale of Recycled Water with LACSD, CBMWD is allotted 20.54 MGD (23,000 AFY) of recycled water through 2017, but the allotment will decrease to 9.38 MGD (10,500 AFY) after 2017. CBMWD has never exceeded 5.27 MGD (5,900 AFY). LACSD looks to beneficially reuse all

of its recycled water and the Agreement with CBMWD reflects a reasonable growth margin to allow for increases in demand and new customers. A detailed description of the two WRP's are provided below.

San Jose Creek Water Reclamation Plant

The San Jose Creek WRP is located in unincorporated Los Angeles County adjacent to the City of Whittier. The San Jose Creek WRP was built in the early 1970's and serves a large residential population of approximately one million people. The WRP has a wastewater treatment capacity of 100 MGD and approximately 62.52 MGD of recycled water is produced for use at locations throughout the region. Over 130 sites are served that provide groundwater recharge at the San Gabriel River and Rio Hondo Spreading Grounds as well as irrigation of parks, schools and greenbelts. In FY 18 – 19, approximately 36 MGD of the recycled water from San Jose Creek WRP was sent to recharge the Central Basin groundwater aquifer.

Los Coyotes Water Reclamation Plant

The Los Coyotes WRP is located in Cerritos serving a population of 370,000 people. The WRP has a wastewater treatment capacity of 37.5 MGD and produces approximately 21.20 MGD of recycled water that is used at over 270 sites throughout the region. The recycled water provides irrigation for schools, golf courses, parks, nurseries and greenbelts as well as industrial use at local companies for carpet dyeing and concrete mixing. The amount of wastewater collected and treated by the two WRP's is expected to remain relatively consistent during the next 20 years despite population increases. According to LACSD analysis, population increases are not projected to be significant enough to make it economically feasible to expand the WRP's. Since 1999, LACSD's effluent has been decreasing annually due to conservation efforts and economic conditions. Based on LACSD's "FY 2018 - 19 Annual Report on Recycled Water", the San Jose Creek WRP is treating wastewater at approximately 56 percent below the plant capacity and the Los Coyotes WRP is treating wastewater at approximately 50 percent below its capacity. CBMWD does not directly treat or discharge any wastewater as they are a wholesaler.

Generally, CBMWD provides irrigation to parks, golf courses, schools, nurseries, freeway and street medians, slopes, and other greenbelt areas. Various industries, such as the Shaw- Tufted Carpet Mill use recycled water for carpet and textile dyeing, metal finishing, concrete mixing, cooling tower supply, and other process water use. Industrial uses include but are not limited to concrete mixing (Robertson's Ready-Mix in Paramount and Santa Fe Springs), sand mold manufacturing process (Pacific Alloy Castings in South Gate), cooling plant operations at co-gen facilities (Metropolitan State Hospital in Norwalk), and power plant cooling (Malburg Power Plant in Vernon).

6.6.3 – Recycled Water System Description

Water Code Section 10633 (c)

A description of the recycled water currently being used in the supplier's service area, including, but not limited to, the type, place, and quantity of use.

6.6.3.1 – City-Level Description

The City purchases recycled water from CBMWD for the on-site cooling towers of the Malburg Generation Station power plant. In order to provide this service, the City has constructed approximately 10,000 linear feet of recycled water pipeline, capable of supplying recycled water from CBMWD to the station. The City has entered into an agreement with CBMWD to provide recycled water to the station. In the event that the recycled water supply is interrupted, this agreement stipulates that CBMWD will increase the supply of Tier 2 imported potable water to compensate for any disruption of recycled water, regardless of the drought conditions in Central Basin. The Malburg station uses approximately 800 AFY.

6.6.3.2 – Regional Description

Per the CBMWD 2020 Draft UWMP:

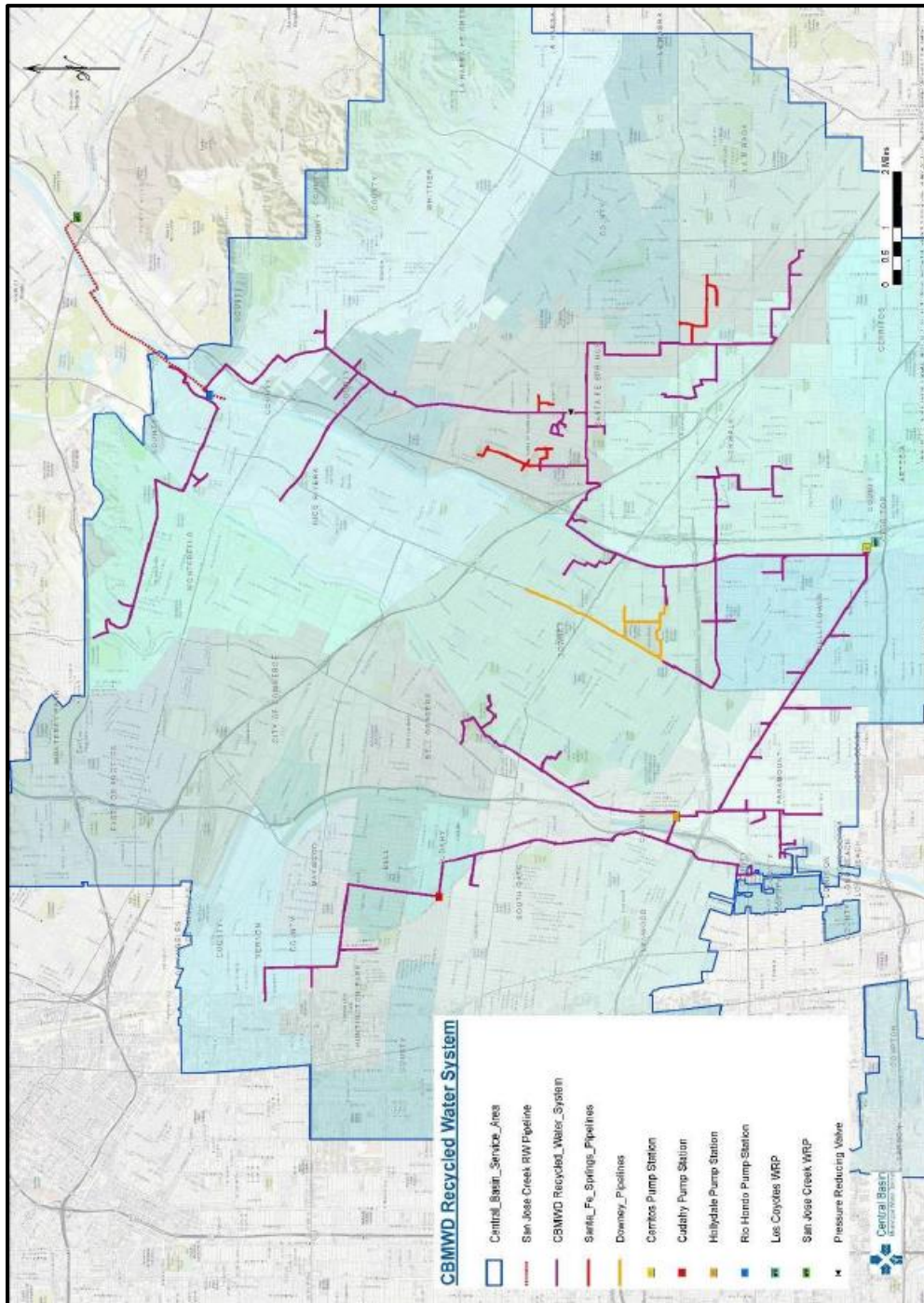
RECYCLED WATER SYSTEM

CENTURY / RIO HONDO SYSTEM

CBMWD's regional water recycling program is comprised of two distribution systems: E. Thornton Ibbetson Century Water Recycling Project (Century Distribution System) and the Esteban Torres Rio Hondo Water Recycling Project (Rio Hondo Distribution System). These distribution systems are interconnected to operate as one recycled water supply system to deliver recycled water for landscape irrigation, commercial, and industrial uses throughout the CBMWD service area.

CBMWD's recycled water system is comprised of over 80 miles of pipeline with diameters ranging from 4-inch to 48-inch pipelines, three pumping stations owned by CBMWD, one pump station owned by the City of Cerritos, and service laterals. Figure 6.1 shows a map of CBMWD's Recycled Water system.

Figure 6.1 – CBMWD Recycled Water System



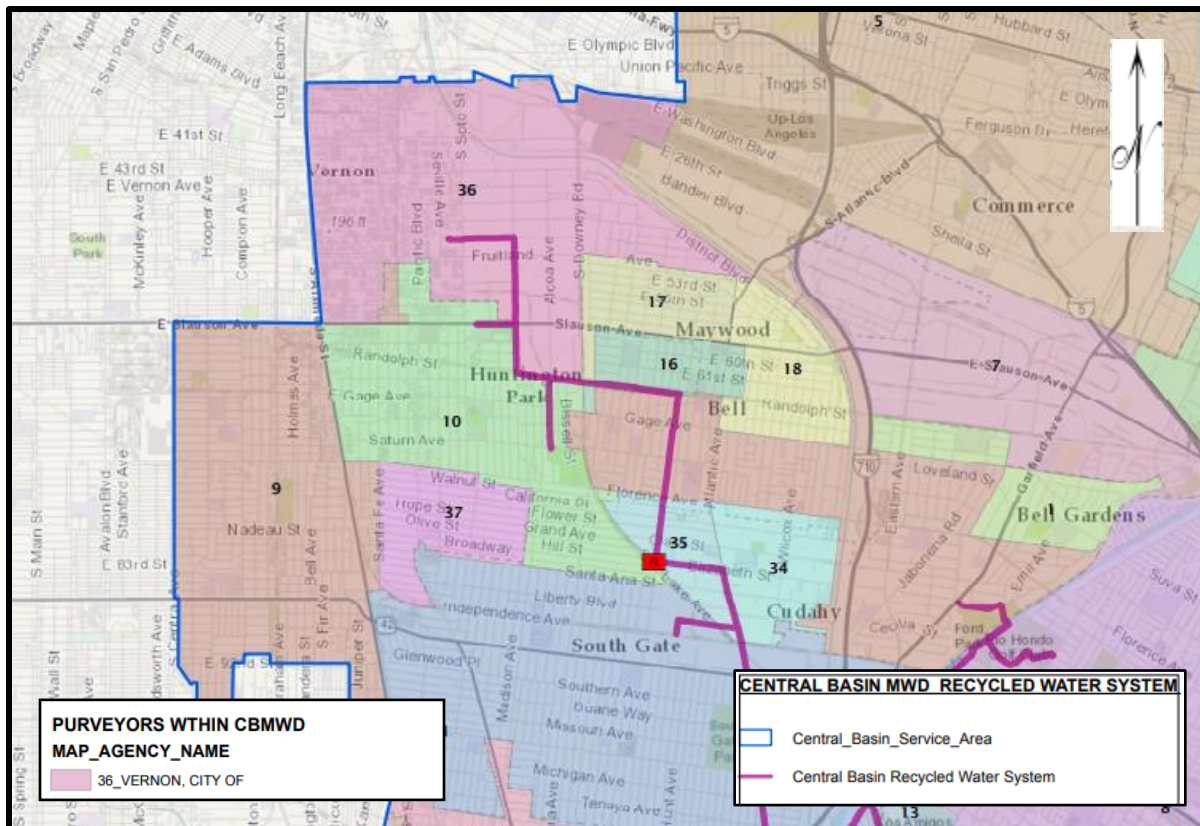
The Century Distribution System began delivering recycled water in 1992. The system currently delivers tertiary treated recycled water from LACSD’s Los Coyotes WRP and serves the Cities of Bell, Bellflower, Bell Gardens, Compton, Cudahy, Downey, Lakewood, Huntington Park, Lynwood, Norwalk, Paramount, Santa Fe Springs, South Gate, and Vernon.

In 1994, the Century Distribution System was extended into the northern portion of CBMWD’s service area. The extension, known as the Rio Hondo Distribution System, delivers tertiary treated recycled water from LACSD’s San Jose Creek WRP and serves the Cities of Pico Rivera and Whittier in addition to all cities by the Los Coyotes WRP.

In FY 2019-20, CBMWD’s recycled water system delivered approximately 4,492 AF of water for non- potable uses. Over the next 25 years it is anticipated that CBMWD will increase its sales with new connections. CBMWD works toward connecting new customers to its recycled water system every year to further reduce demands on imported potable water.

A map of the CBMWD recycled water system in the vicinity of the City is shown in Figure 6.2.

Figure 6.2 – CBMWD Recycled Water System (City of Vernon Vicinity)



6.6.4 – Potential, Current and Projected Recycled Water Uses

Water Code Section 10633

(b) A description of the quantity of treated wastewater that meets recycled water standards, is being discharged, and is otherwise available for use in a recycled water project.

(d) A description and quantification of 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) 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.

The City has one recycled water customer, the Malburg Power Plant.

Expansion of the recycled water system is the purview of CBMWD. There is no expansion planned within the City's Water Service Area at this time.

Per the CBMWD 2020 Draft UWMP:

RECYCLED WATER USE

Landscape irrigation constitutes about the majority of CBMWD's current recycled water use; therefore, water sales are highly impacted by rainfall in the region. The amount of recycled water supplied by CBMWD from FY 2005-20 has totaled more than 70,800 AF.

CBMWD anticipates recycled water sales to increase in the future as more customers switch from potable water to recycled water due to the supply reliability and the economic incentives associated with converting from potable to recycled water.

Recycled water sales peaked between FY 2006-08 and again between FY 2012-15. The FY 2012-15 peak took place during a multi-year drought; however, after the FY 2012-15 peak, Recycled water sales declined with a minor spike in FY 2018. CBMWD still anticipates large increases in sales over the next five to ten years with completion of capital improvement projects that expand the system along with connections to new customers throughout the service area.

POTENTIAL RECYCLED WATER USE

Recycled water use is expected to increase among cities, water agencies and businesses/industries. The increasing cost of imported water makes recycled water more desirable. CBMWD will continue to pursue cost effective projects within its service area and in partnership with neighboring agencies. Efforts are currently focused on expanding the existing regional system that CBMWD receives an incentive payment from MWD for every AF delivered up to 23,000 AFY through 2017.

Although there is potential to increase recycled water use in CBMWD, there are challenges and limitations to connect new customers. These challenges include proximity to recycled water pipelines, capacity and pressure required to serve each customer, and potable to

recycled water conversion costs. These challenges play a significant role in the growth of recycled water and the ability to connect new customers which dictates when and how much recycled water will be used in the future.

In 2012, the Master Plan identified and prioritized areas within CBMWD's service area where recycled water has the potential to expand. Although the Master Plan is currently being updated and could influence CBMWD's near and long-term projections, the goal to maximize recycled water use throughout the service area will not change. Partnerships with neighboring agencies have already resulted in projects that expand the CBMWD system and sales beyond its service area limits.

6.6.5 – Planned vs. Actual Recycled Water Use

The 2015 UWMP projected the City's recycled water use in 2020 at 800 AFY. The actual 2020 volume delivered was 773 AFY.

6.6.6 – Actions to Encourage and Optimize Future Recycled Water Use

Water Code Section 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... and shall include the following:

(g) 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.

CBMWD administers the recycled water program within its sphere of influence, which includes the City's Water Service Area. The City works cooperatively with CBMWD, but defers to the wholesaler regarding optimization of future recycled water use.

CBMWD is working with other wholesalers to increase access and distribution of recycled water on a regional basis. Per the CBMWD 2020 Draft UWMP:

CARSON ADVANCED WATER TREATMENT PLANT

With changing conditions in the CRA and SWP supplies, imported water has continued to be restricted. In order to maintain a sustainable water supply for Los Angeles and surrounding communities, MWD is determining the feasibility of advanced water treatment of wastewater to be used for groundwater recharge in order to offset a portion of MWD's imported water demand. MWD has partnered with LACSD since 2010 to determine the potential demands, technical and regulatory constraints of indirect potable reuse (IPR), and to estimate costs associated with the system (MWD Board of Directions

Special Committee on Desalination and Recycling, March 2010). LACSD’s “Status Report on Recycled Water from 2010-2011” presented the advanced water treatment concept as a 200 MGD (224,110 AFY) facility but has since been revised. Pilot scale testing of treatment systems for the demonstration facility went underway in 2010 with a \$33,000 grant from the United States Bureau of Reclamation at LACSD’s Joint Water Pollution Control Plant (JWPCP) in the city of Carson.

On September 21, 2015, MWD representatives presented the “Potential Regional Recycled Water Supply Program” to the Board’s Water Planning and Stewardship Committee. The presentation detailed the potential to develop a water supply to recharge groundwater basins and increase the regions water supply portfolio with IPR similar to the Orange County Water District’s Groundwater Replenishment System. The program would involve a multi-phased approach with an initial 1 MGD demonstration plant, feasibility studies for full scale facilities, and a financing plan followed by several incremental phases of full-scale facilities up to 150 MGD. The full-scale facility would produce up to 150 MGD of advanced treated water that would be injected into groundwater basins throughout the Los Angeles region, as shown on Figure 6.3

Figure 6.3 – MWD’s Potential Full Scale Recycled Water Program



6.7 – Desalinated Water Opportunities

Water Code Section 10631(g)

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

The City is landlocked and has no opportunity to develop desalinated ocean water, independently. There is no brackish water or groundwater underlying the City that would benefit from desalination.

As a member of the Gateway Regional Alliance, the Gateway Water Management Authority and the Southeast Water Coalition, there may be opportunities in the future to partner with purveyors who have access to these sources.

6.8 – Water Exchanges and Water Transfers

Water Code Section 10631(c)

Describe the opportunities for exchanges or transfers of water on a short-term or long-term basis.

As a member of the Gateway Regional Alliance, the Gateway Water Management Authority, and the Southeast Water Coalition, and as a party to the Central Basin Third Amended Judgment, there may be opportunities for exchanges or transfers with other member agencies and parties.

6.8.1 – Groundwater Exchanges

Per the Judgment:

§III.C.2.

Any party not having existing facilities for the taking of imported water as of the beginning of any Administrative Year, and any party having such facilities as of the beginning of any Administrative Year who is unable, without undue hardship, to obtain, take, and put to beneficial use, through its distribution system or systems existing as of the beginning of the particular Administrative Year, imported water in a quantity which, when added to its Allowed Pumping Allocation for that particular Administrative Year, will meet its estimated needs for that particular Administrative Year, may purchase water from the Exchange Pool, subject to the limitations contained in this Section III(C) (Subpart “C” hereinafter).

6.8.2 – Groundwater Transfers

Per the Judgment:

§I.B.4.

Any rights decreed and adjudicated herein may be transferred, assigned, licensed or leased by the owner thereof provided, however, that no such transfer shall be complete until compliance with the appropriate notice procedures established by Watermaster.

§IV.F.

Irrespective of the category of storage utilized, each party to this Judgment may not cumulatively have in storage at any time Stored Water totaling more than two hundred percent (200%) of that party's Allowed Pumping Allocation. Subject to the foregoing, the right to produce Stored Water may be freely transferred to another party to this Judgment, or as otherwise permitted herein.

§VI.B.

Subject to the other provision of this Judgment, and any rules and regulations of the Watermaster requiring reports relative thereto, nothing herein contained shall be deemed to prevent any party hereto from assigning, transferring, licensing or leasing all or any portion of such water rights as it may have with the same force and effect as would otherwise be permissible under applicable rules of law as exist from time to time.

6.9 – Future Water Projects

Water Code Section 10631 (f)

Include a description of all water supply projects and water supply programs that may be undertaken by the urban water supplier to meet the total projected water use, as established pursuant to subdivision (a) of Section 10635. 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 normal and single dry water years and for a period of drought lasting five consecutive 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.

The City has no independent future supply projects.

As a member of the Gateway Regional Alliance, the Gateway Water Management Authority, and the Southeast Water Coalition, as a party to the Central Basin Third Amended Judgment, and as a member agency of CBMWD, the City participates in regional supply projects.

At the wholesale level, CBMWD has plans to expand the recycled water system. Per the CBMWD 2020 Draft UWMP:

CURRENT RECYCLED WATER SUPPLY PROJECTS

West San Gabriel Recycled Water Expansion Project

CBMWD, Montebello Land Company, City of Montebello, San Gabriel Valley Water Company, and the City of Monterey Park are looking to construct a pipeline to bring recycled water supply into northern area of the City of Montebello, City of San Gabriel, and the City of Monterey Park.

The recycled water pipeline will extend from the existing CBMWD system in the City of Montebello. Currently, confirmed annual recycled water demand is estimated to be 800 AFY, including temporary irrigation estimated to be 200 AFY. Additional recycled water connections and demand estimated as 1,500 AFY are currently being investigated and will influence final pipe diameters and length. Final design diameter for the pipeline will be between 16 inches and 30 inches in diameter. The present design, for confirmed demands in the amount of 800 AFY, consist of 16-inch diameter piping for 20,500 (3.8 miles) linear feet. A pump station and master meter will also be constructed for this project.

Phase 1 and phase 2 will bring a 16-inch to 30-inch diameter pipeline approximately 7,500 linear feet up to points of connection for the Montebello Hills Specific Plan, Montebello Town Center, and the Shops at Montebello. Phase 3 will extend a 16-inch to 30-inch diameter pipeline north 5,500 linear feet to serve Resurrection Cemetery and additional sites currently being investigated. Phase 3 will extend the pipeline an additional 7,000 linear feet to serve additional sites out of CBMWD's service area. Additional pipeline alignments may be added to connect additional sites.

In early 2021, CBMWD connected the Montebello Hills project. For the rest of 2021, recycled water will be used for dust suppression at a flow of 1,200 to 1,800 gpm for 10 hours per day at 5 days per week. Once dust suppression is completed, that system will be utilized for irrigation of common space and parks.

La Mirada Recycled Water Expansion Project

It has been part of CBMWD's Capital Improvement Projects Plan and Five (5) Year Recycled Water Facilities Plan (Recycled Water Master Plan) to expand the existing recycled water distribution system. Current drought conditions, new regulations, and available funding through Proposition 1 have accelerated CBMWD's expansion efforts.

A recycled water project CBMWD is currently looking to fast-track is the La Mirada Recycled Water Expansion Project. CBMWD already has a willing city (La Mirada) and a willing retail water agency (Suburban Water Systems) to provide the support necessary to make the project viable.

CBMWD is planning to expand the existing recycled water distribution system in south Santa Fe Springs into La Mirada to pick up several large landscaped facilities including La Mirada Park, La Mirada Golf Course, La Mirada High School, Olive View Cemetery, Biola University, La Mirada City Buildings, Behringer Park, and many more recycled water sites that are currently being investigated. The number of potential recycled water customer connections is estimated to be around 24 sites. These sites are estimated to use a cumulative total of approximately 900 AFY of potable water for landscape irrigation. Facilities needed consist of approximately 9,100 linear feet of 8-inch diameter piping; 10,100 linear feet of 12-inch diameter piping; and 20,900 linear feet of 16-inch diameter piping. The recycled water expansion would start by connecting to CBMWD's existing recycled water pipelines at Bonavista Avenue, continue east on Gannet Street, go north on Valley View Avenue, and then continue east through the most cost-effective route. The design phase for this project has been completed, CBMWD is now looking for funding to begin construction.

Gateway Cities Recycled Water Expansion Project

CBMWD and the cities of South Gate, Bell Gardens, and Lynwood are looking into partnering to expand CBMWD's existing recycled water system into their cities to supply more sites with recycled water. Under a bundled project named the Gateway Cities project, submitted for Proposition 84 funding, the benefit will be providing 453 AFY of water savings and water quality improvement. This will be done by preparing planning, design, and environmental documentation for pipelines that will extend the CBMWD recycled water system. After completing this portion of the project, the partnering agencies plan to look to Proposition 1 funding for the design and construction of the project. The Project will provide 453 AFY of recycled water to irrigate 9 parks and schools, reducing the need for potable water supply at these facilities.

Bell Gardens

CBMWD and the City of Bell Gardens are looking to construct a pipeline to expand the recycled water supply into the city. The recycled water pipeline will extend from the existing CBMWD system located on Park Lane to sites located within the city. Currently, confirmed annual recycled water demand is estimated to be 90 AFY. CBMWD has an existing 16-inch pipeline on Park Lane before the cross section with Garfield Avenue. CBMWD plans to extend a 16-inch pipeline for approximately 2,950 linear feet along Garfield Avenue from Park Lane to Florence Place and a 12-inch pipeline for approximately 2,320 linear feet along Florence Place to Sudan Avenue to connect Suva Elementary School. The plan is to also add an 8-inch pipeline along Emil Avenue from Florence Place to connect Bell Gardens Park.

Lynwood

CBMWD and the City of Lynwood are looking into constructing a pipeline to expand the recycled water supply into the city. The recycled water pipeline will extend from the existing CBMWD system located on Wright road to sites located within the city. Currently, confirmed annual recycled water demand is estimated to be 206 AFY. CBMWD has an 8-inch pipeline along Wright Road. CBMWD plans to extend a 12-inch pipeline for approximately 6,120 linear feet along Fernwood Avenue from Wright Road to Bullis Road and a 12-inch pipeline for approximately 1,800 linear feet along Bullis Road to connect Lynwood City Park, Linear Park, and Lynwood City Hall Complex.

South Gate

Currently, confirmed annual recycled water demand is estimated to be 236 AFY. Final design diameter for the pipeline will be between 8-inch and 12-inches. The current design for confirmed demands of 236 AFY, consist of 12-inch diameter piping for 14,000 linear feet and 8-inch diameter piping for 1,860 linear feet. The City of South Gate Recycled Water Line Extension will start with a 12-inch line from Burke Avenue to Alameda Street and will serve Firestone Boulevard Medians, South Gate Middle School, San Gabriel Avenue Elementary, South Gate High School, Willow Elementary School, the East Los Angeles Community Education Center, and the Alameda Street Commercial Industrial Development Complex. There will be an 8-inch line along California Avenue from City Place to Southern Avenue that will serve South Gate City Hall and Cesar Chavez State Park. The design phase for this South Gate project has been completed, and CBMWD is now looking for funding to begin construction.

Pico Rivera Mines Avenue Recycled Water Expansion Project

CBMWD is looking to construct a pipeline to expand the recycled water supply within the City of Pico Rivera. The recycled water pipeline will extend from the existing CBMWD system located on Mines Avenue to sites located within the city. Previous capital projects implemented a 12-inch and 8-inch recycled water lateral in Mines Avenue. Several potential sites require additional expansion to be connected and supplied recycled water. This project will connect the identified sites with estimated recycled water use of 275 AFY. Additional construction needed for the previous Mains Avenue Phase 1B Project is a 6-inch to 8-inch diameter recycled water lateral extending from Mines Avenue for 5,700 linear feet.

City of Downey Recycled Water Expansion Project

CBMWD and the City of Downey are looking to construct a pipeline to expand the recycled water supply into the city. The recycled water pipeline will extend from the existing CBMWD system located on Garfield Avenue to sites located within the city. Currently, recycled water demand is estimated to be 125 AFY. CBMWD currently has a 12-inch pipeline along a public alley and Garfield Avenue. CBMWD plans to extend a 16-inch diameter pipeline for approximately 2,250 linear feet along south boundary of Los Amigos Golf Course and Quill Drive from Garfield Avenue and Gladys Street to Old River School Road in order to connect Rancho Los Amigos Medical Center. Subsequently, to connect Apollo Park, CBMWD plans to extend a 12-inch pipeline for approximately 2,810 linear feet along Quill Drive from Old River School Road to the east side of Apollo Park. Bundling this project with two other non-disadvantaged communities, such as the City of Pico Rivera and the City of Santa Fe Springs, for Proposition 1 grant funding is currently being investigated.

Pico Rivera North Recycled Water Expansion Project

This project expands the recycled water system into north of Pico Rivera. Water services within the City of Pico Rivera is served by three water purveyors: 1) City of Pico Rivera; 2) Pico Water District; and, 3) The San Gabriel Valley Water Company. Water is additionally conveyed to the Rio Hondo Spreading Grounds and San Gabriel Spreading Grounds in Pico Rivera. Recycled water demand is approximately 150 AFY. The expansion on the Northern portion of the service area consists of approximately 3,000 linear feet of pipeline construction. Project costs are estimated at \$875,000 for the 3,000 linear feet of pipeline construction. Planning, Design, Environmental, and Project/Construction Management are estimated at 2.5 percent, 7 percent, 2 percent and 6.5 percent of construction cost respectively.

Pico Rivera South Recycled Water Expansion Project

This project expands the recycled water system into south Pico Rivera. Water services within the City of Pico Rivera is served by three water purveyors: 1) City of Pico Rivera; 2) Pico Water District; and, 3) The San Gabriel Valley Water Company. Water is additionally conveyed to the Rio Hondo Spreading Grounds and San Gabriel Spreading Grounds in Pico Rivera. The expansion on the Southern portion of the service area consists of approximately 7,000 linear feet of pipeline construction. Project costs are estimated at \$2,024,000 for the 7,000 linear feet of pipeline construction. Planning, Design, Environmental, and Project/Construction Management are estimated at 2.5 percent, 7 percent, 2 percent and 6.5 percent of construction cost respectively. Recycled water demand is approximately 200 AFY.

FUTURE RECYCLED WATER SUPPLY PROJECTS

AltAir Paramount Connection Project

CBMWD expects a large industrial customer (AltAir) to be connecting to their recycled water system in the summer of 2023. AltAir/World Energy operates out of the Paramount Refinery in the city of Paramount and has proposed to complete a conversion of the refinery to manufacture only renewable fuels. Such a conversion would eliminate the refining of crude oil at the facility, which is located at 14700 Downey Avenue. The demand

for AltAir will be approximately 2.24 MGD. The supply would be provided from Los Coyotes WRP that is owned and operated by Los Angeles County Sanitation District.

City of Monterey Park Recycled Water Expansion Project

This project expands the recycled water system into the City of Monterey Park. Water services within the city is served by the City of Monterey Park, California Water Service Company and San Gabriel Water Company. The expansion consists of approximately 11,500 linear feet of pipeline construction. Project costs are estimated at \$3,675,000 for the 11,500 linear feet of pipeline construction. Planning, Design, Environmental, and Project/Construction Management are estimated at 2.5 percent, 7 percent, 2 percent and 6.5 percent of construction cost, respectively. Recycled water demand is approximately 750 AFY.

Central Basin Municipal Water District Recycled Water Distribution System Storage Project

The existing CBMWD recycled water system is divided into three pressure zones. Zone 1 in the north is supplied from the Rio Hondo Pump Station. To the south is Zone 2, which can receive water from Zone 1 through a pressure-reducing valve or from the Cerritos Pump Station through variable frequency drives currently set to maintain system pressures. Zone 3 lies in the western portion of the service area and is supplied through the Hollydale Pump Station from Zone 2. All three pressure zones make a hydraulically closed system with no storage to buffer customer demands. Since water can be fed from Zone 1 into Zone 2, but not completely in the opposite manner, Rio Hondo Pump Station needs to be operational whenever there are demands in Zone 1 downstream of the pump station in the Pico Rivera and Montebello areas. Operation of the recycled water system cannot be evaluated with an isolated view of only new customers due to the movement of water from one pressure zone to another and with two water sources. Hydraulic analysis encompasses all aspects of the recycled water system from pressure-reducing valve settings to pumping station operations. System expansion, customer changes in operations and demands can significantly alter system conditions experienced without storage.

In addition, recycled water supply is defined by a contract agreement with the Los Angeles Sanitation Districts for two recycled water sources. CBMWD's two recycled water supply sources are the San Jose Creek Water Reclamation Plant and the Los Coyotes Water Reclamation Plant. Overall volume limits can be increased over time and will need to be considered for future expansion. In the future, storage will help prevent supply shortages and balance demands from supply sources. Prospective expansion projects and demands are emerging due to potable water conservation measures being implemented by the State of California, and locally within CBMWD's service area. To ensure a reliable regional recycled water supply to offset potable water demands; CBMWD is looking to implement storage in the form of storage tanks. The number, type, size, and locations for storage tanks is yet to be determined. Piping and pumping needs are also to be determined. CBMWD is looking to complete an in depth storage study that will include the additional demands currently being developed under related expansion projects.

6.10 – Summary of Existing and Planned Sources of Water

Water Code Section 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), providing supporting and related information, including all of the following...

(b)(2) When multiple sources of water supply are identified, a description of the management of each supply in correlation with the other identified supplies.

(h) 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 (f). 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 (f).

The City has access to groundwater from Central Basin, imported water from Central Basin Municipal Water District and recycled water from Central Basin Municipal Water District.

This mix of sources is anticipated to break down roughly as shown in Table 6.2.

Table 6.2 – Estimated Sources of Supply

Source	2020	2025	2030	2035	2040	2045
Central Basin Groundwater	6,127	7,539	7,539	7,539	7,539	7,539
CBMWD Imported Water	573	305	305	305	305	305
CBMWD Recycled Water	773	800	800	800	800	800
Total Supply	7,473	8,644	8,644	8,644	8,644	8,644

Projected groundwater supply is equal to the Central Basin Allowable Pumping Allocation.

Projected imported water supply is the amount needed to meet future requirements.

Projected recycled water supply is equal to the estimated demand at the Malburg Power Plant.

6.11 – Special Conditions

6.11.1 – Climate Change Effects

The City and regional perspectives on climate change and impacts to water supply are discussed in Section 4.5. Currently, no changes in supply due to climate change are anticipated.

6.11.2 – Gateway Water Management Authority

Per the GWMA 2013 Integrated Regional Water Management Plan⁹ (IRWMP):

(pp. 11-14/15)

The climate change analysis of the Gateway Region has evaluated projected changes in seasonal precipitation, maximum and minimum temperature, wind speed, evapotranspiration, runoff, cooling and heating degree days, and in days with precipitation exceeding 1 inch under three climate scenarios. A summary of projections available in the scientific literature for sea level rise along the Los Angeles coastal, the California, and global seas for mid-21st century have also been compiled and presented.

Based on the change analysis, four key water system vulnerabilities have prioritized for the region including coastal aquifers, water supply, ecological functions and flooding. The broad portfolio of projects developed in the region has been qualitatively evaluated to assess how well each project contributes towards climate change adaptation, mitigating greenhouse gas emissions and greater reliance on renewable energy. The greenhouse contributions of water-related operations of each proposed project has also been quantitatively evaluated, and projects with demonstrable GHG emissions-reduction impacts have been identified and ranked. Other projects were identified as having possible emissions-reduction or emissions-increase impacts but the net impact could not be computed because the water saving have not been quantified. Some projects have no measurable water savings or in changes emissions from water operations.

GWMA works collectively with its members to identify, prioritize and implement projects that address climate change impacts and other regional issues. The IRWMP recommended one project in the City of Vernon, potentially impacting access to groundwater supply: improvements to Production Well 22.

⁹ Gateway Regional Integrated Water Management Plan (2013)
https://gatewaywater.org/download/irwmp_general_documents/gateway-irwm-plan/Gateway-IRWMP-Report-Final.pdf

6.11.3 – Water Replenishment District of Southern California

The Water Replenishment District of Southern California (WRD) publishes monthly updates on the status of the Central Basin. The update for May 2021 is provided in Appendix V. These updates are part of a data collection effort to help reduce uncertainty related to climate change impacts on the Central Basin. Per a Technical Bulletin¹⁰ published by WRD on climate change effects on local groundwater supply:

Impact on Groundwater Resources

A report¹¹ by the DWR (2006) provides an excellent discussion on the potential impacts of warming on our state's water supply.

But, will climate change affect the groundwater supplies in the Central and West Coast Basins, which provides about 40% of the total water demand for this area? Very simply, no one knows for sure, but close monitoring, planning, and responses to changes will likely be necessary. Warmer summers may cause drought, an increase in water demand, and a decrease in water supply. Warmer winters may result in precipitation falling as rain instead of snow, reducing the snow pack that is a natural reservoir for spring and summer snow melt, and may increase the intensity of storm runoff that may overflow stream channels, cause flooding, and cause more runoff losses to the oceans.

Northern California sea level rises may threaten the Bay Delta freshwater supplies, reducing our imported water availability in Southern California. And, sea level rises down here could threaten the Central and West Coast Basins with increased salt water intrusion.

So What Do We Do About It?

Water managers, water providers, and elected officials at the local, state, and federal level are working together towards solutions. Additional scientific information and modeling is needed to reduce the climate change uncertainties so that planning can be performed to implement the necessary projects to meet future water needs. The importance of maintaining and expanding the use of the Central and West Coast Basins as water supply reservoirs is crucial. New and improved spreading grounds and conservation pools will help capture as much storm water as possible to ensure a local supply of replenishment water. Finding ways to decrease our reliance on imported water, increasing the use of recycled water, maximizing groundwater storage, conserving water, and protecting the basins from contamination due to salt water intrusion or other pollutants will ensure a reliable supply of locally-derived groundwater. As the groundwater steward for the Central and West Coast Basins, WRD is committed to working with others to find practical and optimum solutions to ensure the future reliability of the local groundwater supplies in the face of climate change.

The Technical Bulletin is provided in Appendix W.

¹⁰ WRD. (2007). *Technical Bulletin: Will Climate Change Affect Groundwater in the Central and West Coast Basins?* Volume 10: Winter 2007.

https://www.wrd.org/sites/pr/files/TB10%20-%20Climate%20Change%20and%20Groundwater%20in%20the%20Central%20and%20West%20Coast%20Basins_0.pdf

¹¹ California Department of Water Resources. (July 2006). *Technical Memorandum Report: Progress on Incorporating Climate Change into Management of California's Water Resources.*

6.12 – Energy Intensity

Water Code Section 10631.2. (a)

In addition to the requirements of Section 10631, an urban water management plan shall include any of the following information that the urban water supplier can readily obtain:

- (1) An estimate of the amount of energy used to extract or divert water supplies.*
- (2) An estimate of the amount of energy used to convey water supplies to the water treatment plants or distribution systems.*
- (3) An estimate of the amount of energy used to treat water supplies.*
- (4) An estimate of the amount of energy used to distribute water supplies through its distribution systems.*
- (5) An estimate of the amount of energy used for treated water supplies in comparison to the amount used for nontreated water supplies.*
- (6) An estimate of the amount of energy used to place water into or withdraw from storage.*
- (7) Any other energy-related information the urban water supplier deems appropriate.*

Energy use in the water system falls into two categories: groundwater production and distribution.

Wells discharge directly into the system with a portion of production used to fill storage. Water is pumped from storage into the system by booster pumps.

A summary of energy efficiency is provided in Table 6.3.

Table 6.3 – Summary of 2020 Energy Efficiency

Usage	AF	KWH	KWH/AF
Production	6,687	167,440,408	25,040
Distribution	4,266	6,160,880	1,444

See Appendix T for more detail.

Chapter 7 – Water System Reliability

7.1 – General Description

Water Shortage Reliability deals with establishing local authority to impose water use constraints on end users in order to assure sustainability under stressful emergency and long-term water shortage conditions.

7.2 – Water Service Reliability Assessment

7.2.1 – Constraints on Water Sources

Water Code section 10631 (b)(1)

A detailed discussion of anticipated supply availability under a normal water year, single dry year, and droughts lasting at least five years, as well as more frequent and severe periods of drought, as described in the drought risk assessment. For each source of water supply, consider any information pertinent to the reliability analysis conducted pursuant to Section 10635, including changes in supply due to climate change.

7.2.1.1 – Constraints on Imported Water

CBMWD is sustainably managed. However, as member of Metropolitan they are subject to constraints on supplies available via the State Water Project and the Colorado River Aqueduct. Per the CBMWD 2020 Draft UWMP:

IMPORTED WATER RELIABILITY (CBMWD TOTAL POTABLE SUPPLY)

MWD participates in the development of groundwater, groundwater recovery, recycled water systems, desalination opportunities, and collection of urban return flows to augment the reliability of the imported water system. There are various factors that may impact reliability of supplies, such as legal, environmental, water quality, and climatic, which are discussed below. MWD projects water supplies to meet full-service demands; MWD's 2020 UWMP finds that MWD is able to meet with existing supplies all full service demands of its member agencies starting in 2025 through 2045 during normal years, single dry year, and multiple dry years.

MWD's 2015 Integrated Water Resources Plan (IRP) update describes the core resource strategy used to meet full-service retail demands under all foreseeable hydrologic conditions from 2020 through 2040. The foundation of MWD's resource strategy for achieving regional water supply reliability consists of developing and implementing water resources programs and activities through its IRP preferred resource mix. This preferred resource mix includes conservation, local resources, such as water recycling and groundwater recovery, Colorado River supplies and transfers, SWP supplies and transfers, in-region surface reservoir storage, in-region groundwater storage, out-of-region banking, treatment, conveyance and infrastructure improvements. CBMWD is reliant on

MWD for all of its imported water. With the addition of planned supplies under development, MWD's 2020 UWMP finds that MWD will be able to meet full-service demands from 2025 through 2045, even under a repeat of the worst drought. MWD's five-consecutive dry years is based on from 1988 to 1992, which represents as the driest five consecutive year historic sequence for MWD's water supply. In addition to meeting full-service demands from 2025 through 2045, MWD projects reserve and replenishment supplies to refill system storage. CBMWD's supply reliability for base average, single dry, and multiple-dry years are identical to that of MWD's.

FACTORS IMPACTING RELIABILITY

The UWMP Act requires a description of the reliability of the water supply and vulnerability to seasonal or climatic shortage. The following are some of the factors identified by MWD that may have an impact on the reliability of MWD supplies.

Environment – Endangered species protection needs in the Sacramento-San Joaquin River Delta result in operational constraints to the SWP system. The Bay-Delta's declining ecosystem caused by agricultural runoff, operation of water pumps and other factors led to historical restrictions in SWP supply deliveries. SWP and CVP delivery restrictions due to the biological opinions have reduced SWP and CVP supplies by approximately 5.2 MAF since in 2008.

Legal – Listings of additional species under the Endangered Species Act and new regulatory requirements could further impact SWP operations by requiring additional export reductions, releases of additional water from storage, or other operational changes impacting water supply operations. Additionally, any challenges to the QSA in the court systems may have impacts on the Imperial Irrigation District and San Diego County Water Authority transfer. If there are negative impacts, San Diego could become more dependent on the MWD supplies. One such challenge was settled in 2013 upholding the validity of the QSA.

Water Quality – Water imported from the CRA contains a high level of salts. The operational constraint is that this water needs blending with SWP supplies to meet the target salinity of 500 mg/L of TDS. Another water quality concern relates to the quagga mussel. Controlling the spread and impacts of quagga mussels within the CRA requires extensive maintenance and results in reduced operational flexibility.

Climate Change – Changing climate patterns may shift precipitation patterns and affect water supply. Unpredictable weather patterns make water supply planning even more challenging. The areas of concern for California include the reduction in Sierra Nevada snowpack, increased intensity and frequency of extreme weather events, and rising sea levels causing increased risk of levee failure.

Legal, environmental, and water quality issues may impact MWD supplies. It is felt, however, that climatic factors would have more of an impact. Climatic conditions have been projected based on historical patterns; however, severe pattern changes may occur in the future.

MWD's 2020 UWMP anticipates supplies meeting demand for all climatic conditions through 2045.

7.2.1.2 – Constraints on Groundwater

Central Basin is sustainably managed by WRD. The basin has a large storage capacity. The basin is reliant on imported water, regional stormwater capture and recycled water for replenishment. Each of these sources has its own constraints; however, WRD’s diversified supply portfolio tends to reduce those constraints.

7.2.1.3 – Constraints on Recycled Water

There is an oversupply of recycled water in Central Basin. However, there is currently insufficient distribution infrastructure to reach all potential recycled water customers.

7.2.2 – Reliability by Year Type

As a party to the Central Basin Third Amended Judgment and as a member agency of CBMWD, the City has the means to acquire the quantities of water necessary to support the anticipated commercial and industrial activities within the Water Service Area under all demand conditions.

7.2.3 – Water Service Reliability

Water Code Section 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 long-term total projected water use over the next 20 years, in five-year increments, for a normal water year, a single dry water year, and a drought lasting five consecutive 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.

It is not the City’s objective to predict the demand in a given year in the future. This is due to the unpredictable nature of the economic cycle which the City must respond to. Rather, the City is prepared to provide adequate supply as needed to support robust commercial and industrial activity within the Water Service Area.

With this in mind, the City has a goal of achieving water reliability consistent with (1) a high level of water use intensity in the commercial and industrials sectors, (2) the implementation of water conservation activities, and (3) framing future demand in terms of compliance with the Water Conservation Act.

The City acknowledges that its primary goal is to support commercial and industrial activity with a secondary goal of working toward compliance with its per capita water use target. Combining these goals leads to a water use projection for any given year in the future as shown in Table 7.1.

Table 7.1 – Projected Demand

Source	AFY
Single Family Residential	6
Multi-Family Residential	2
Commercial	4,600
Industrial	4,600
Other	252
Losses	600
Energy Production (Recycled Water)	800
Total Supply	10,860

Achieving the demand projection shown in Table 7.1 is consistent with the City’s water use target:

$$\left(\frac{89,909 \text{ gallons}}{\text{person} \cdot \text{day}}\right) (100 \text{ persons}) \left(\frac{\text{AF}}{325,851 \text{ gallons}}\right) \left(\frac{365 \text{ days}}{\text{year}}\right) \cong 10,060 \text{ AFY}$$

$$\text{Potable Water} + \text{Recycled Water} = 10,060 \text{ AFY} + 800 \text{ AFY} = 10,860 \text{ AFY}$$

Note that the demand for potable water is higher than the City’s Allowable Pumping Rights of 7,539 AFY. This means that the City will acquire only as much additional supply as needed to meet demand during those years when potable water demand exceeds groundwater rights. Sources for the additional supply include imported water from CBMWD and excess pumping from the Central Basin (the Central Basin Adjudication allows members to pump up to 140% of their Allowable Pumping Rights).

7.2.3.1 – Average Year

Under all average years through 2045, projected water demand is 10,860 AFY and projected water supply is 10,860 AFY, as shown in Table 7.2. There is no projected surplus or shortage.

Table 7.2 – Average Year Supply and Demand Assessment

Year	2025	2030	2035	2040	2045
Projected Average Year Supply	10,860	10,860	10,860	10,860	10,860
Projected Average Year Demand	10,860	10,860	10,860	10,860	10,860
Surplus	0	0	0	0	0

7.2.3.2 – Single Dry Year

Under all single dry years through 2045, projected water demand is 10,860 AFY and projected water supply is 10,860 AFY, as shown in Table 7.3. There is no projected surplus or shortage.

Table 7.3 – Single Dry Year Supply and Demand Assessment

Year	2025	2030	2035	2040	2045
Projected Single Dry Year Supply	10,860	10,860	10,860	10,860	10,860
Projected Single Dry Year Demand	10,860	10,860	10,860	10,860	10,860
Surplus	0	0	0	0	0

7.2.3.3 – Five Consecutive Dry Years

During the multiple dry year period from 2012 to 2016, the City declared a Phase II Water Supply Shortage in Year 4 aimed at reducing water demand by 2%. In the event of a similar multi-year drought, the City would anticipate implementing a Phase II Water Supply Shortage in Year 4 resulting a 2% reduction.

Supply and demand projections associated with multiple dry years is provided in Table 7.4. There is no projected surplus or shortage.

Table 7.4 – Multiple Dry Year Supply and Demand Comparison

Dry Year		2025	2030	2035	2040	2045
First Year	Supply	10,860	10,860	10,860	10,860	10,860
	Demand	10,860	10,860	10,860	10,860	10,860
	Surplus	0	0	0	0	0
Second Year	Supply	10,860	10,860	10,860	10,860	10,860
	Demand	10,860	10,860	10,860	10,860	10,860
	Surplus	0	0	0	0	0
Third Year	Supply	10,860	10,860	10,860	10,860	10,860
	Demand	10,860	10,860	10,860	10,860	10,860
	Surplus	0	0	0	0	0
Fourth Year	Supply	10,643	10,643	10,643	10,643	10,643
	Demand	10,643	10,643	10,643	10,643	10,643
	Surplus	0	0	0	0	0
Fifth Year	Supply	10,860	10,860	10,860	10,860	10,860
	Demand	10,860	10,860	10,860	10,860	10,860
	Surplus	0	0	0	0	0

7.2.4 – Regional Supply Reliability

Water Code Section 10620(f)

An urban water supplier shall describe in the plan water management tools and options used by that entity that will maximize resources and minimize the need to import water from other regions.

The City is a member of the Gateway Regional Alliance, the Gateway Water Management Authority and Southeast Water Coalition, and a member agency of CBMWD. These affiliates work collectively to maximize the resources of the Central Basin.

7.3 – Drought Risk Assessment

Water Code Section 10635(b)

Every urban water supplier shall include, as part of its urban water management plan, a drought risk assessment for its water service to its customers as part of information considered in developing the demand management measures and water supply projects and programs to be included in the urban water management plan. The urban water supplier may conduct an interim update or updates to this drought risk assessment within the five-year cycle of its urban water management plan update. The drought risk assessment shall include each of the following:

(1) A description of the data, methodology, and basis for one or more supply shortage conditions that are necessary to conduct a drought risk assessment for a drought period that lasts five consecutive water years, starting from the year following when the assessment is conducted.

(2) A determination of the reliability of each source of supply under a variety of water shortage conditions. This may include a determination that a particular source of water supply is fully reliable under most, if not all, conditions.

(3) A comparison of the total water supply sources available to the water supplier with the total projected water use for the drought period.

(4) Considerations of the historical drought hydrology, plausible changes on projected supplies and demands under climate change conditions, anticipated regulatory changes, and other locally applicable criteria.

The City is built out and water use has stabilized since economic recovery from the 2008 recession at approximately 7,200 AFY. The City has continuous access to 100% of its adjudicated pumping allocation in the Central Basin (7,539 AFY) plus sufficient recycled water for cooling at the Malburg Power Plant, for a total of approximately 8,339 AFY. Pumping in excess of adjudicated rights is assumed to be unavailable during long-term drought. Given these conditions, the City has adequate available supply to meet water use requirements during an immediate five-year drought.

The Drought Risk Assessment is shown in Table 7.5.

Table 7.5 –Sources of Drought Risk Assessment Supply

Source	Year 1	Year 2	Year 3	Year 4	Year 5
DRA Water Supply	8,339	8,339	8,339	8,339	8,339
DRA Water Use	7,200	7,200	7,200	7,200	7,200
Surplus Supply	1,139	1,139	1,139	1,139	1,139

The City has sufficient sources of supply to meet anticipated demand during an immediate five-year drought.

Chapter 8 – Water Shortage Contingency Planning

8.1 – General Description

Water Shortage Contingency Planning deals with the imposition of water use constraints on end users in order to assure sustainability under stressful emergency and long-term water shortage conditions.

8.2 – Water Supply Reliability Analysis

Water Code Section 10632(a)(1)

The analysis of water supply reliability conducted pursuant to Section 10635.

The Water Service Reliability Assessment is discussed in Section 7.2.

The City of Vernon adopted Ordinance No. 995 in 1991 (Appendix K), which enacted Article VI of Chapter 25 of the Code of the City of Vernon, “Water Conservation”, containing Code Sections 25.100 through 25.111. Minimum requirements were outlined in this Ordinance to protect the water supplies and to establish standards for reductions in the use of water in the City of Vernon. The City’s “Water Conservation” code was further amended in 2006 through the adoption of City Ordinance No. 1115 (Appendix L). Continuing the City’s proactive approach to water conservation, the City adopted Ordinance No. 1161 (Appendix M) in October 2009, which further expanded the City’s water conservation efforts by amending Article VI of Chapter 25 of the Code of the City of Vernon. This Ordinance established general water waste provisions, as well as conservation measures for Phase I, Phase II and Phase III water shortages. These shortages equate to water supply deficiencies of 20%, 30% and 50% and greater, respectively. The City has developed a three stage rationing plan to invoke during declared water shortages, in addition to specific water waste provisions mandated regardless of supply conditions. The rationing plan includes mandatory rationing in order to obtain the associated customer reduction goal.

Citation from the City Code related to Water Conservation are provided throughout this chapter in italicized print.

8.3 – Annual Water Supply and Demand Assessment Procedures

Water Code Section 10632(a)(2)

The procedures used in conducting an annual water supply and demand assessment that include, at a minimum, both of the following:

(A) The written decision-making process that an urban water supplier will use each year to determine its water supply reliability.

(B) The key data inputs and assessment methodology used to evaluate the urban water supplier's water supply reliability for the current year and one dry year, including all of the following:

(i) Current year unconstrained demand, considering weather, growth, and other influencing factors, such as policies to manage current supplies to meet demand objectives in future years, as applicable.

(ii) Current year available supply, considering hydrological and regulatory conditions in the current year and one dry year. The annual supply and demand assessment may consider more than one dry year solely at the discretion of the urban water supplier.

(iii) Existing infrastructure capabilities and plausible constraints.

(iv) A defined set of locally applicable evaluation criteria that are consistently relied upon for each annual water supply and demand assessment.

(v) A description and quantification of each source of water supply.

Water Code Section 10632.1.

An urban water supplier shall conduct an annual water supply and demand assessment pursuant to subdivision (a) of Section 10632 and, on or before July 1 of each year, submit an annual water shortage assessment report to the department with information for anticipated shortage, triggered shortage response actions, compliance and enforcement actions, and communication actions consistent with the supplier's water shortage contingency plan. An urban water supplier that relies on imported water from the State Water Project or the Bureau of Reclamation shall submit its annual water supply and demand assessment within 14 days of receiving its final allocations, or by July 1 of each year, whichever is later.

The City communicates continuously with WRD to verify availability of groundwater from the Central Basin. The City conducts regular maintenance of its wells and initiates improvements as needed.

The City uses a 3-year by month average to project current demand.

8.4 – Six Standard Water Shortage Levels

Water Code Section 10632(a)(3)

(A) Six standard water shortage levels corresponding to progressive ranges of up to 10, 20, 30, 40, and 50 percent shortages and greater than 50 percent shortage. Urban water suppliers shall define these shortage levels based on the suppliers' water supply conditions, including percentage reductions in water supply, changes in groundwater levels, changes in surface elevation or level of subsidence, or other changes in hydrological or other local conditions indicative of the water supply available for use. Shortage levels shall also apply to catastrophic interruption of water supplies, including, but not limited to, a regional power outage, an earthquake, and other potential emergency events.

(B) An urban water supplier with an existing water shortage contingency plan that uses different water shortage levels may comply with the requirement in subparagraph (A) by developing and including a cross-reference relating its existing categories to the six standard water shortage levels.

The City has developed three (3) Water Conservation Stages to address potential water shortage levels, as identified in the 2015 UWMP. These correspond to the six standard water shortage levels mandated for 2020 as summarized in Table 8.1.

Table 8.1 – Relationship Between 2015 Shortage Levels and 2020 WSCP Mandated Shortage Levels

2015 UWMP Stage	Shortage Level	2020 WSCP Level	Shortage Level
Water Conservation Stage I	< 20% (at discretion of City) 20 - 30% (mandatory)	1	≤ 10%
		2	10 - 20%
		3	20 - 30%
Water Conservation Stage II	30 - 50% (mandatory)	4	30 - 40%
		5	40 - 50%
Water Conservation Stage III (Emergency Condition)	> 50% (mandatory)	6	> 50%

The following subsection present the Water Conservation Stages outlined in the City Code.

8.4.1 – Water Conservation Stage I

A Phase I water supply shortage may be declared when the City Council determines it is likely that the City of Vernon will suffer a shortage in City water supplies up to 20%, but shall become mandatory when the City Council determines that the City will suffer a water shortage in excess of 20% of its normal water supplies.

8.4.2 – Water Conservation Stage II

A Phase II Water Supply Shortage exists when the City Council determines, in its sole discretion, that due to drought or other water supply conditions, a water supply shortage or threatened shortage exists and a consumer demand reduction is necessary to make more efficient use of water and appropriately respond to existing water conditions, except that a phase II Water Supply Shortage shall become mandatory when the City Council determines that the City will suffer a water shortage in excess of 30% of its normal water supplies. Upon the declaration by the city of a Phase II Water Supply Shortage condition, the city will implement the mandatory Phase II conservation measures.

8.4.3 – Water Conservation Stage III

A Phase III Water Supply Shortage condition is also referred to as an "Emergency" condition. A Phase III condition exists when the City of Vernon declares a water shortage emergency or when the City Council determines that the City will suffer a shortage of more than 50% of its normal water supplies. Upon the declaration of a Phase III Water Supply Shortage condition, the City shall notify its residents and businesses that a significant reduction in consumer demand is necessary to maintain sufficient water supplies for public health and safety and shall implement the mandatory Phase III conservation measures.

8.5 – Shortage Response Actions

Water Code Section 10632 (a)(4)

Shortage response actions that align with the defined shortage levels and include, at a minimum, all of the following:

(A) Locally appropriate supply augmentation actions.

(B) Locally appropriate demand reduction actions to adequately respond to shortages.

(C) Locally appropriate operational changes.

(D) Additional, mandatory prohibitions against specific water use practices that are in addition to state-mandated prohibitions and appropriate to the local conditions.

(E) For each action, an estimate of the extent to which the gap between supplies and demand will be reduced by implementation of the action.

8.5.1 – Supply Augmentation

At a minimum for the next five years, the City will have access to 140% of its Allowable Pumping Allocation in Central Basin at 10,555 AFY in accordance with the Third Amended Judgment, and sufficient recycled water to operate the Malburg Generation Station at 800 AFY. Thus, no supply augmentation actions are proposed to be included in the shortage response actions at this time.

8.5.2 – Demand Reduction

The majority of the City's shortage response actions are aimed at reducing demand throughout the WSA. The following are the consumption reductions methods related generally to water conservation and specifically to the three (3) Water Conservation Stages.

8.5.2.1 – General Prohibitions

City of Vernon Municipal Code Section 25.101:

No customer of the City of Vernon shall make, cause, use or permit the use of city water in a manner contrary to any provision of this article or in an amount which exceeds that permitted pursuant to action taken by the city council in accordance with the provisions of this article.

In addition, the following water conservation requirements are effective at all times and are permanent. Violations of this section will be considered waste and an unreasonable use of water.

- a. **Limits on Watering Hours:** *Watering or irrigating of lawn, landscape or other vegetated area with potable water is prohibited between the hours of 10:00 a.m. and 5:00 p.m. on any day, except by use of a hand-held bucket or similar container, a hand-held hose equipped with a positive self-closing water shut-off nozzle or device, or for very short periods of time for the express purpose of adjusting or repairing an irrigation system.*
- b. **Limit on Watering Duration:** *Watering or irrigating of lawn, landscape or other vegetated area with potable water using a landscape irrigation system or a watering device that is not continuously attended is limited to no more than fifteen (15) minutes watering per day per station. This subsection does not apply to landscape irrigation systems that exclusively use very low-flow drip type irrigation systems when no emitter produces more than two (2) gallons of water per hour and weather based controllers or stream rotor sprinklers that meet a seventy percent (70%) efficiency standard.*
- c. **No Excessive Water Flow or Runoff:** *Watering or irrigating of any lawn, landscape or other vegetated area in a manner that causes or allows excessive water flow or runoff onto an adjoining sidewalk, driveway, street, alley, gutter or ditch is prohibited.*
- d. **No Washing Down Hard or Paved Surfaces:** *Washing down hard or exterior paved surfaces, including but not limited to sidewalks, walkways, driveways, parking areas, patios or alleys, is prohibited except when necessary to alleviate safety or sanitary hazards, and then only by use of a hand-held bucket or similar container, a hand-held hose equipped with a positive self-closing water shut-off device, a low-volume, high-pressure cleaning machine equipped to recycle any water used, or a low-volume high-pressure water broom.*
- e. **Obligation to Fix Leaks, Breaks or Malfunctions:** *Excessive use, loss or escape of water through breaks, leaks or other malfunctions in the water user's plumbing or distribution system for any period of time after such escape of water should have reasonably been discovered is prohibited and shall be repaired as soon as reasonably practicable.*
- f. **Re-circulating Water Required for Water Fountains and Decorative Water Features:** *Operating a water fountain or other decorative water feature that does not use re-circulated water is prohibited.*

- g. **Limits on Washing Vehicles:** Using water to wash or clean a vehicle, including but not limited to any automobile, truck, van, bus, motorcycle, boat or trailer, whether motorized or not is prohibited, except by use of a hand-held bucket or similar container or a hand-held hose equipped with a positive self-closing water shut-off nozzle or device. This subsection does not apply to any commercial vehicle washing facility.*
- h. **Drinking Water Served Upon Request Only:** Eating or drinking establishments, including but not limited to a restaurant, hotel, cafe, cafeteria, bar, or other public place where food or drinks are sold, served, or offered for sale, are prohibited from providing drinking water to any person unless expressly requested.*
- i. **No Installation of Single Pass Cooling Systems:** Installation of single pass cooling systems is prohibited in buildings requesting new water service.*
- j. **Limits on Commercial Car Wash and Laundry Systems:** Installation of non-recirculating water systems is prohibited in new commercial conveyor car wash and new commercial laundry systems.*

8.5.2.2 – Water Conservation Stage I

City of Vernon Municipal Code Section 25.103:

In addition to the prohibited uses of water identified in Section 25.101, the following water conservation requirements apply during a declared Phase I Water Supply Shortage:

- a. **Limits on Watering Days:** Watering or irrigating of lawn, landscape or other vegetated area with potable water is limited to three (3) days per week on a schedule established and posted by the City. Watering or irrigating of lawn, landscape or other vegetated area with potable water is prohibited between the hours of 6:00 a.m. and 6:00 p.m. Pacific Standard Time. This provision does not apply to landscape irrigation zones that exclusively use very low flow drip type irrigation systems when no emitter produces more than two (2) gallons of water per hour. This provision also does not apply to watering or irrigating by use of a hand-held bucket or similar container, a hand-held hose equipped with a positive self-closing water shut-off nozzle or device, or for very short periods of time for the express purpose of adjusting or repairing an irrigation system.*
- b. **Obligation to Fix Leaks, Breaks or Malfunctions:** All leaks, breaks, or other malfunctions in the water user's plumbing or distribution system must be repaired within seventy-two (72) hours of notification by the city unless other arrangements are made with the city.*

8.5.2.3 – Water Conservation Stage II

City of Vernon Municipal Code Section 25.104:

In addition to the prohibited uses of water identified in Sections 25.101 and 25.103, the following additional water conservation requirements apply during a declared Level II Water Supply Shortage:

- a. **Watering Days:** Watering or irrigating of lawn, landscape or other vegetated area with potable water is limited to two (2) days per week on a schedule established*

and posted by the city. During the months of November through March, watering or irrigating of lawn, landscape or other vegetated area with potable water is limited to no more than one (1) day per week on a schedule established and posted by the city. This provision does not apply to landscape irrigation zones that exclusively use very low flow drip type irrigation systems when no emitter produces more than two (2) gallons of water per hour. This provision also does not apply to watering or irrigating by use of a hand-held bucket or similar container, a hand-held hose equipped with a positive self-closing water shut-off nozzle or device, or for very short periods of time for the express purpose of adjusting or repairing an irrigation system.

- b. **Obligation to Fix Leaks, Breaks or Malfunctions:** All leaks, breaks, or other malfunctions in the water user's plumbing or distribution system must be repaired within forty-eight (48) hours of notification by the city unless other arrangements are made with the city.*
- c. **Limits on Filling Ornamental Lakes or Ponds:** Filling or re-filling ornamental lakes or ponds is prohibited, except to the extent needed to sustain aquatic life, provided that such animals are of significant value and have been actively managed within the water feature prior to declaration of a supply shortage level under this article.*
- d. **Limits on Washing Vehicles:** Using water to wash or clean a vehicle, including but not limited to, any automobile, truck, van, bus, motorcycle, boat or trailer, whether motorized or not, is prohibited except by use of a hand-held bucket or similar container, a hand-held hose equipped with a positive self-closing water shut-off nozzle or device, by high pressure/low volume wash systems, or at a commercial car washing facility that utilizes a re-circulating water system to capture or reuse water.*
- e. **Limits on Filling Residential Swimming Pools & Spas:** Re-filling of more than one (1) foot and initial filling of residential swimming pools or outdoor spas with potable water is prohibited.*
- f. **Commercial Nurseries Watering Limitations:** Commercial Nurseries shall be prohibited from watering lawn, landscaped or other turf areas more often than every other day and shall be prohibited from watering between the hours of 10:00 a.m. and 4:00 p.m.*
- g. **Mandatory Water Restrictions:** No customer shall make, cause, use or permit the use of city water for any purpose in excess of eighty-five percent (85%) of the amount used the same corresponding monthly billing period two (2) years preceding the city council declaring a Phase I Water Supply Shortage. In the case of a newly established business, no restriction shall be required until such time that the business has been established for one (1) year, at which time the preceding year's corresponding monthly billing shall be used to determine the businesses monthly water consumption.*

8.5.2.4 – Water Conservation Stage III

City of Vernon Municipal Code Section 25.105:

In addition to the prohibited uses of water identified in Sections 25.101, 25.103 and 25.104, the following water conservation requirements apply during a declared Phase III Water Supply Shortage Emergency:

- a. **No Watering or Irrigating:** *Watering or irrigating of lawn, landscape or other vegetated area with potable water is prohibited. This restriction does not apply to the following categories of use, unless the city has determined that recycled water is available and may be applied to the use:*
 1. *Maintenance of vegetation, including trees and shrubs, that are watered using a hand-held bucket or similar container, hand-held hose equipped with a positive self-closing water shut-off nozzle or device;*
 2. *Maintenance of existing landscape necessary for fire protection;*
 3. *Maintenance of existing landscape for soil erosion control;*
 4. *Maintenance of plant materials identified to be rare or essential to the well-being of protected species;*
 5. *Maintenance of landscape within active public playing fields and school grounds, provided that such irrigation does not exceed two (2) days per week according to the schedule established in Section 25.104(a) and the time restrictions as established in section 25.103(a);*
 6. *Actively irrigated environmental mitigation projects.*
- b. **Obligation to Fix Leaks, Breaks or Malfunctions:** *All leaks, breaks, or other malfunctions in the water user's plumbing or distribution system must be repaired within twenty four (24) hours of notification by the city unless other arrangements are made with the city.*
- c. **Commercial Nurseries Watering Limitations:** *Commercial Nurseries shall be prohibited from watering lawn, landscaped or other turf areas more often than every third (3rd) day and shall be prohibited from watering between the hours of 6:00 a.m. and 6:00 p.m.*
- d. **Mandatory Water Restrictions:** *No customer shall make, cause, use or permit the use of city water for any purpose in excess of seventy-five percent (75%) of the amount used the same corresponding monthly billing period two (2) years preceding the city council declaring a Phase I Water Supply Shortage. In the case of a newly established business, no restriction shall be required until such time that the business has been established for one (1) year, at which time the preceding year's corresponding monthly billing period shall be used to determine the businesses monthly water consumption.*
- e. **Fire Hydrant Use:** *The use of water from a fire hydrant shall be limited to fire fighting and related activities. Other uses of city water for municipal purposes*

shall be limited to activities necessary to maintain the public health, safety and welfare.

- f. **Customer Water Conservation Report:** The city may, by written request, require all commercial and industrial customers using 100 acre feet or more per year of potable water to submit a water conservation plan and quarterly progress reports on such plan. The conservation plan shall include recommendations for increased water savings, including increased water recycling based on feasibility. The quarterly report shall include progress to date on implementation of such recommendations.*

8.5.3 – Operational Changes

Operational changes are related to demand reduction as discussed in Section 8.5.2.

8.5.4 – Additional Mandatory Restrictions

Mandatory restrictions are related to demand reduction as discussed in Section 8.5.2.

8.5.5 – Emergency Response Plan

The City will implement Water Conservation Stage I, II or III as appropriate for the loss of supply associated with a catastrophic supply interruption.

8.5.6 – Seismic Risk Assessment and Mitigation Plan

Water Code Section 10632.5.(a)

In addition to the requirements of paragraph (3) of subdivision (a) of Section 10632, beginning January 1, 2020, the plan shall include a seismic risk assessment and mitigation plan to assess the vulnerability of each of the various facilities of a water system and mitigate those vulnerabilities.

(b) An urban water supplier shall update the seismic risk assessment and mitigation plan when updating its urban water management plan as required by Section 10621.

(c) An urban water supplier may comply with this section by submitting, pursuant to Section 10644, a copy of the most recent adopted local hazard mitigation plan or multihazard mitigation plan under the federal Disaster Mitigation Act of 2000 (Public Law 106-390) if the local hazard mitigation plan or multihazard mitigation plan addresses seismic risk.

The City's Natural Hazard Mitigation Plan (NHMP) (Appendix U) addresses seismic risk and associated mitigation actions. Per the NHMP:

City of Vernon, like most of the Los Angeles Basin, lie over the area of one or more known earthquake faults, and potentially many more unknown faults, particularly so-called lateral or blind thrust faults.

The major faults that have the potential to affect the greater Los Angeles Basin, and therefore the City of Vernon are the:

*San Andreas
Newport Inglewood
Palos Verdes and
Whittier Narrows*

Per Section 5 of the NHMP:

The effects of earthquakes span a large area, and large earthquakes occurring in many parts of the Southern California region would probably be felt throughout the region. However, the degree to which the earthquakes are felt, and the damages associated with them may vary. At risk from earthquake damage are large stocks of old buildings and bridges; many high tech and hazardous materials facilities; extensive sewer, water, and natural gas pipelines; earth dams; petroleum pipelines; and other critical facilities and private property located in the county. The relative or secondary earthquake hazards, which are liquefaction, ground shaking, amplification, and earthquake-induced landslides, can be just as devastating as the earthquake...

Damage to Lifelines

Lifelines are the connections between communities and outside services. They include water and gas lines, transportation systems, electricity, and communication networks. Ground shaking and amplification can cause pipes to break open, power lines to fall, roads and railways to crack or move, and radio and telephone communication to cease. Disruption to transportation makes it especially difficult to bring in supplies or services. Lifelines need to be usable after an (sic) earthquake to allow for rescue, recovery, and rebuilding efforts and to relay important information to the public.

Ongoing mitigation actions identified in the NHMP related to earthquakes include encouraging seismic strength evaluations of critical facilities in the City to identify vulnerabilities for mitigation of public infrastructure and critical facilities to meet current seismic standards, and retrofitting critical facilities to minimize earthquake damage.

8.5.7 – Shortage Response Action Effectiveness

During Stage I, irrigation limitations and mandatory repairs to leaks will have a noticeable impact on water demand reduction.

During Stage II, the City will reach out to its water use intensive customers to identify any opportunities to reduce water loss or excessive use. This is a relatively small number of customers and the impact is expected to be significant and immediate once communication is opened up.

During Stage III, the City will reach out to (1) all of its customers to identify any opportunities to reduce water loss or excessive use, and (2) its water use intensive customers to submit monthly reports on water conservation plan implementation. The impact of these additional steps is expected to be significant and immediate once communication is opened up.

8.6 – Communication Protocols

Water Code Section 10632 (a)(5)

Communication protocols and procedures to inform customers, the public, interested parties, and local, regional, and state governments, regarding, at a minimum, all of the following:

(A) Any current or predicted shortages as determined by the annual water supply and demand assessment described pursuant to Section 10632.1.

(B) Any shortage response actions triggered or anticipated to be triggered by the annual water supply and demand assessment described pursuant to Section 10632.1.

(C) Any other relevant communications

Under Water Conservation Stage III, the City may require high commercial and industrial water users to submit a water conservation plan and subsequent quarterly progress reports.

On August 5, 2014, the City issued a Notice of Phase 1 Water Supply Shortage (see Appendix N). In addition to prohibitions and limitation on irrigation, the Notice included the following consumption reduction methods:

Obligation to fix leaks, breaks or malfunctions: All leaks, breaks, or other malfunctions in the water user's plumbing or distribution system must be repaired within 72 hours of notification by the City unless other arrangements are made with the City.

On June 4, 2015, the City issued a Notice of Phase 2 Water Supply Shortage (see Appendix O). In addition to prohibitions and limitation on irrigation, the Notice included the following consumption reduction methods:

Obligation to fix leaks, breaks or malfunctions: All leaks, breaks, or other malfunctions in the water user's plumbing or distribution system must be repaired within 48 hours of notification by the City unless other arrangements are made with the City.

8.7 – Compliance and Enforcement

Water Code Section 10632 (a)(6)

For an urban retail water supplier, customer compliance, enforcement, appeal, and exemption procedures for triggered shortage response actions as determined pursuant to Section 10632.2.

For each violation by any customer of the water use curtailment provision of Sec. 25.104(g), a surcharge shall be imposed in an amount equal to fifty percent (50%) of the portions of the water bill that exceeds the respective percentages set in said section. For each violation by any customer of the water use curtailment provision of Sec. 25.105(d), a surcharge shall be imposed in an amount equal to one hundred percent (100%) of the portions of the water bill that exceeds the respective percentages set in said section.

8.8 – Legal Authorities

Water Code Section 10632 (a)(7)

(A) A description of the legal authorities that empower the urban water supplier to implement and enforce its shortage response actions specified in paragraph (4) that may include, but are not limited to, statutory authorities, ordinances, resolutions, and contract provisions.

(B) A statement that an urban water supplier shall declare a water shortage emergency in accordance with Chapter 3 (commencing with Section 350) of Division 1. [see below]

(C) A statement that an urban water supplier shall coordinate with any city or county within which it provides water supply services for the possible proclamation of a local emergency, as defined in Section 8558 of the Government Code.

Water Code Section Division 1, Section 350

Declaration of water shortage emergency condition. The governing body of a distributor of a public water supply, whether publicly or privately owned and including a mutual water company, shall declare a water shortage emergency condition to prevail within the area served by such distributor whenever it finds and determines that the ordinary demands and requirements of water consumers cannot be satisfied without depleting the water supply of the distributor to the extent that there would be insufficient water for human consumption, sanitation, and fire protection.

Per Ordinance No. 1161:

WHEREAS, the City of Vernon is a municipal corporation and a chartered city of the State of California organized and existing under its Charter and the Constitution of the State of California; and

WHEREAS, due to drought and other environmental conditions the establishment of water conservation measures to assure reasonable and beneficial uses of water, to prevent waste of water and maximize the efficient use of water is appropriate; and

WHEREAS, by adoption of Ordinance No. 995 and Ordinance No. 1115, the City Council of the City enacted water conservation restrictions, which are codified in Article VI of Chapter 25 of the Vernon City Code; and

WHEREAS, the Metropolitan Water District Board of Directors adopted a policy requiring cities to have a water conservation ordinance, as a prerequisite of funding through the Public Sector Program and the Enhanced Conservation Program; and

WHEREAS, the MWD policy also applies to any future state or federal funding opportunities; and

WHEREAS, in order to qualify under the new MWD policy, a water conservation ordinance must include the prohibition of certain outdoor water uses by residences and busines, including: regulating outdoor irrigation practice, penalties for violation and a public communications mechanism to allow customers to report any perceived water wasting violations; and

WHEREAS, the Department of Water Resources, based on legislative directives, is requiring cities to adopt a model water efficiency landscape ordinance, or its equivalent, which allows a city to adopt an ordinance developed by another agency that has received certification compliance for DWR; and

WHEREAS, if the city opts not to take any action in terms of developing a water conservation ordinance, the DWR model ordinance shall be adopted by statute; and

WHEREAS, Section 4.5 of the Charter of the City of Vernon provides that regulations pertaining to any subject, model codes, and codifications of ordinances of other public agencies may be adopted by reference, in their original form or with amendments, with the same effect as an ordinance; and

WHEREAS, the Director of Community Services and Water has reviewed the Vernon City Code and has recommended that the City adopt by reference the Model Water Efficiency Landscape Ordinance of the Department of Water Resources; and

WHEREAS, the City Council gave a first reading on this ordinance and the title of said code and standards, and gave a second reading for consideration of adoption of the Model Water Efficiency Landscape Ordinance of the Department of Water Resources in its entirety; and

WHEREAS, the Director of Community Services and Water has recommended that the City Council make a finding that the adoption of this ordinance is exempt pursuant to Guideline 15061(b)(3) and Guideline 15308 of CEQA because the adoption of this ordinance will not have a significant effect on the environment as it has the effect of limiting rather than authorizing the use of water supplies and resources, and also constitutes an action by the City to ensure the maintenance, enhancement, and protection of the environment through the conservation of water resources, and

WHEREAS, the City Council finds and determines that it is in the interest of the public health, safety and welfare of the City of Vernon, its residents, businesses and employees to implement the recommendation of the Director of Community Services and Water, as set forth in this Ordinance.

8.9 – Financial Consequences of WSCP

Water Code Section 10632(a)(8)

A description of the financial consequences of, and responses for, drought conditions, including, but not limited to, all of the following:

(A) A description of potential revenue reductions and expense increases associated with activated shortage response actions described in paragraph (4).

(B) A description of mitigation actions needed to address revenue reductions and expense increases associated with activated shortage response actions described in paragraph (4).

(C) A description of the cost of compliance with Chapter 3.3 (commencing with Section 365) of Division 1.

As an industrial City, few of the actions related to discretionary water use reduction will impact revenue or expenditures, given the small associated demands. However, Mandatory Water Restrictions of 85% of historical use under Water Conservation Stage II and 75% of historical use under Water Conservation Stage III may pose a short-term drop in revenue. It should be noted that revenue associated with commodity rates for water service are not a significant portion of the City's operating budget; therefore, even the impact of a Mandatory Water Restriction will be minimal. Furthermore, the City may change its rate structure as necessary to account for a revenue shortfall.

8.10 – Monitoring and Reporting

Water Code Section 10632(a)(9)

For an urban retail water supplier, monitoring and reporting requirements and procedures that ensure appropriate data is collected, tracked, and analyzed for purposes of monitoring customer compliance and to meet state reporting requirements.

The City regularly monitors and reports its water production and consumption to Watermaster (WRD). This database would be used to collect, track, and analyze data to monitor customer compliance and to meet state reporting requirements.

8.11 – WSCP Refinement Procedures

Water Code Section 10632 (a)(10)

Reevaluation and improvement procedures for systematically monitoring and evaluating the functionality of the water shortage contingency plan in order to ensure shortage risk tolerance is adequate and appropriate water shortage mitigation strategies are implemented as needed.

The City reevaluates its WSCP every five years to coincide with the update to the UWMP.

8.12 – Special Water Feature Distinction

Water Code Section 10632 (b)

For purposes of developing the water shortage contingency plan pursuant to subdivision (a), an 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.

As a general prohibition:

Re-circulating Water Required for Water Fountains and Decorative Water Features:
Operating a water fountain or other decorative water feature that does not use re-circulated water is prohibited.

Upon declaration of a Water Conservation Stage II or III:

Limits on Filling Ornamental Lakes or Ponds:
Filling or re-filling ornamental lakes or ponds is prohibited, except to the extent needed to sustain aquatic life, provided that such animals are of significant value and have been actively managed within the water feature prior to declaration of a supply shortage level under this article.

The City is unaware of any water features within the Water Service Area. Therefore, implementation of the above restriction will have a negligible impact.

8.13 – Plan Adoption, Submittal, and Availability

Water Code Section 10632 (a)(c)

The urban water supplier shall make available the water shortage contingency plan prepared pursuant to this article to its customers and any city or county within which it provides water supplies no later than 30 days after adoption of the water shortage contingency plan.

The 2020 UWMP, including the WSCP, will be made available to customers, the City, and Los Angeles County no later than 30 days after plan adoption.

Chapter 9 – Demand Management Measures

9.1 – General Description

Demand Management Measures (DMMs) are established methods and practices for water use reduction. DWR requires implementation of all DMMs through a coordinated effort at the wholesale and retail levels. However, DWR acknowledges that there may be local influences on the viability of individual DMMs and makes allowances for non-implementation.

9.2 – Demand Management Measures for Wholesale Suppliers

Water Code Section 10631

(e) Provide a description of the (wholesale) supplier's water demand management measures. This description shall include all of the following:

(1)(B) The narrative pursuant to this paragraph shall include descriptions of the following water demand management measures:

(ii) Metering.

(iv) Public education and outreach.

(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.

(2) For an urban wholesale water supplier, as defined in Section 10608.12, (provide) a narrative description of the items in clauses (ii), (iv), (vi), and (vii) of subparagraph (B) of paragraph (1), and a narrative description of its distribution system asset management and wholesale supplier assistance programs.

The City works closely with CBMWD and its member agencies to effectively implement demand management measures by encouraging its customers to participate in and take advantage of wholesaler programs. Per the CBMWD 2020 Draft UWMP:

CBMWD CONSERVATION PROGRAMS

CBMWD recognizes the importance of water conservation and water use efficiency as an integral part of water use planning. CBMWD is a signatory to the CalWEP MOU. As a member of CalWEP, CBMWD commits itself to use good-faith efforts to implement all applicable BMPs and submits annual reports to the CalWEP that document the implementation of each BMP. CBMWD actively implements all recommended measures with good-faith effort by maintaining staff support, funding, and in general, the priority levels necessary to achieve the level of activity called for in each BMP's definition as described in the MOU.

CBMWD plays an active role in promoting water use efficiency in its service area. To this end, in 2006, conservation efforts were heightened with the adoption of CBMWD's 5-year Water Conservation Master Plan. The plan evaluated current and future water savings potential and outlined a cost-effective conservation strategy in CBMWD's service area. It has since been updated in 2015 as Board Resolution No. 3-15-860, which is referred to as the Conservation Monitoring Program. Moreover, as the wholesale supplier to the region, CBMWD assists its retail agencies by administering various MWD rebate programs for its retail agencies and providing assistance to the retail agencies in other water use efficiency, education, and public information programs.

BMP 1: UTILITY OPERATIONS

This BMP deals with water waste prohibitions, water efficiency ordinances, metering, conservation pricing, and other items related to managing water use.

WATER WASTE PROHIBITION ORDINANCE AND AMENDMENT

Beginning 2006, CBMWD Board of Directors adopted a 5-year Water Conservation Master Plan, and revised in 2015 (Board Resolution No. 3-15-860), to prevent water waste in its service area. Updates to the District's plan considers elements that adhere to reduced supply conditions in addition to the following areas: fairness based on consumptive use needs, considers actions demonstrated by retail agencies of reducing water demands, applies to all agencies with a connection to MWD's imported water supply, and incorporates recent adjustments adopted under MWD's plan. The retail agencies that CBMWD wholesales water to have established conservation measures for their customers and those measures can be found in their UWMPs.

DROUGHT RESPONSE PLAN

In June 2015, CBMWD developed a Drought Response Plan along with a Drought Response Tool in order to assist retail agencies with responding to the SWRCB regulations and conservation mandates. The Drought Response Tool assists retail agencies with evaluating baseline water use by sector, identifying customer sectors and major end uses to target for water savings, evaluating drought response actions and associated water savings potential and tracking progress against water conservation standards mandated by the SWRCB. With the mandated water use reductions implemented by the State Water Resources Control Board, CBMWD sought to provide additional resources to its retail water agencies to assist them in meeting their specific targets. These efforts included providing drought training for its retail water agencies, where CBMWD staff educated retail water agency staff on conservation rebates available and how to respond to constituent inquiries regarding the drought. CBMWD also developed a drought training manual that was provided to each participant as a resource to have the most up to date information on current conditions. CBMWD prepared a comprehensive Drought Response Plan and Tool for agencies to identify water use and evaluate drought response programs.

METERING

Metering is not applicable to wholesalers; however, all water deliveries by CBMWD are metered and utilize standard commodity rate components based on rates and charges schedules developed by CBMWD. All water deliveries by retail agencies are metered to the end user.

CONSERVATION PRICING

Although the conservation pricing BMP refers to the rate structure of a retail water agency to encourage a reduction of water use, CBMWD, as a wholesale agency, employs a water budget structure for its retail agencies based on a two tier rate structure. Retail agencies that exclusively provide groundwater to their customers, tend to have water rates that are lower than those that serve a mix of groundwater and imported water. Imported water purchased from CBMWD and provided by MWD carries not only the cost of acquiring importing, purifying (treating), and distributing the commodity throughout the region but also a long-term action plan for ensuring adequate supplies to meet growing demands through conservation, education, and new locally produced supplies.

CBMWD's Capacity Charge is intended to encourage customers to reduce peak day demands during the summer months, which will result in more efficient use of MWD's existing infrastructure. CBMWD has passed through this MWD charge to its customer agencies by applying MWD's methodology. Each customer's Capacity Charge is determined from their highest daily average usage (per cfs) for the past three completed summer periods of May 1 through September 30; however, because MWD assesses CBMWD on the coincident daily peak of all the connections and aggregate of all its customers' daily peak as the non-coincident peak, CBMWD is able to keep the Capacity Charge rate lower than the MWD rate for its customers.

BMP 2: PUBLIC EDUCATION & OUTREACH

This BMP deals with outreach efforts including emails, newsletters, advertisements, presentations, promotions, etc., related to outreach and education.

SCHOOL PROGRAMS

Think Earth! It's Magic (Grades K-5)

A collaborative program between CBMWD and the Think Earth Environmental Education Foundation to stage free, environmental magic shows for elementary schools. Each year, this traveling magic show visits schools throughout the region to teach students about the importance of applying environmentally friendly practices around their homes and schools. This program is the only program in the state to combine an award-winning, grade appropriate classroom curriculum with an environmental magic show assembly.

Think Water! It's Magic (Afterschool Program for Grades K-5)

An adaptation of CBMWD's popular Think Earth! It's Magic program, Think Water! Its Magic brings the educational environmental magic shows to extended day care and after school programs throughout the service area. The magic shows cover such topics as the water cycle, water quality, water recycling, and the importance of conservation.

Think Watershed (Grades 4-6)

Think Watershed is a partnership of environmental stakeholders in southern California interested in creating and implementing a watershed education program for grades 4 to 6 using the Los Angeles County Office of Education's Floating Lab. Components of the program include a classroom watershed curriculum focused on the San Gabriel River Watershed and then a field trip on board the Floating Lab, a modern marine science research vessel docked in Rainbow Harbor, Long Beach.

Water Squad Investigations (Grades 4-12)

Successfully launched in fall 2006, Water Squad Investigations is a collaborative water program between CBMWD, Los Angeles County Sanitation District (LACSD) and the Los Angeles County Department of Parks and Recreation. Through the program, students go on a one-day field trip to the San Jose Creek WRP and the Whittier Narrows Nature Center. By day's end, students will have gained a greater understanding of how water recycling can help conserve drinking water and simple ways to conserve water around their homes.

Water Wanderings (Grades 4-5)

A classroom visitation program between CBMWD and the S.E.A. Lab in Redondo Beach. This hands-on program takes fourth and fifth-graders on a 2 1/2 -hour journey through California's water system. Students participate in activities that include "Touring Tide Pool," a van outfitted with touch-tanks, enabling students to touch live marine creatures and plants. Water Wanderings meets many of the fourth grade and fifth grade state standards for social science and science. By participating in this free program, students learn to appreciate California's water as a scarce, valuable resource.

Water Is Life Poster Contest (Grades 4-8)

As part of CBMWD's annual recognition of Water Awareness Month each May, the "Water Is Life" Poster Contest is a collaborative arts program between CBMWD and MWD. Through the contest, students are encouraged to create posters that creatively depict various water uses and/or water use. CBMWD then selects a grand-prize winner who is awarded a fully-loaded laptop computer or tablet device. The winning poster is also submitted to MWD to be included in the annual calendar and featured on water bottles and other promotional items.

Conservation Connection: Water and Energy in Southern California (Grades 6-8)

This action-based curriculum provides students with the opportunity to look critically at important environmental issues and take responsibility for finding solutions. After learning about the vital role that water and energy play in our lives, students will have the opportunity to survey their family's water and energy use and survey water and energy use in their school. From there, they will develop, implement, and monitor plans to decrease water and energy use.

Waterlogged (Grades 9-12)

A high school visitation program between CBMWD and the Roundhouse Marine Studies Lab and Aquarium, an oceanographic teaching station. The program offers local high schools five exciting curriculum programs, each aligned to the California State Science Content Standards. Through specimen dissections, examples of current aquatic/marine science research, and practical hands-on activities, students learn about the scientific method, the ecology of the Pacific Ocean, and the unintended impact of human life on the aquatic/marine environment.

Solar Cup (Grades 9-12)

A partnership between CBMWD and MWD, Solar Cup is a hands-on education program in which high school teams throughout southern California learn about water conservation and renewable energy by building and racing solar powered boats. Four CBMWD teams, along with other teams throughout southern California, compete against each other in both sprint and endurance races at Lake Skinner, in Temecula. As part of the seven-month long program, teams also research and complete various technical reports and create a water-related public service announcement. The culminating Solar Cup races take place each year in May.

Conservation Connection Water & Energy in Southern California (Grades 5-8)

Where do we get the water and energy that we use? Will we always have enough to meet our needs? Conservation Connection answers these questions, showing the connections between California, water and energy supply, and people. But providing information is only part of Conservation Connection. The goal of the curriculum is to get students actively involved – in their homes and at school – in conserving water and energy. Within the program, students have the opportunity to survey their family’s water and energy use and survey water and energy use at their school. After gathering data, analyzing their findings, and reviewing recommendations, students make, implement, and monitor plans to decrease water and energy use. By participating in this action-based curriculum, students will learn to look critically at important environmental issues and take responsibility for finding solutions.

Sewer Science (Grades 9-12)

Sewer Science is an award-winning, hands-on laboratory program that will teach high school students in CBMWD's service area about wastewater treatment. During a weeklong lab course, students will create fake wastewater and employ physical, biological and chemical treatment methods and procedures to test its quality. The lab will be facilitated by biologists and chemists from LACSD, allowing students the opportunity to learn firsthand from experienced science professionals. The program meets California State Content Standards in the high school sciences for chemistry, physics, and microbiology.

GENERAL PUBLIC OUTREACH (CONSERVATION COORDINATOR)

As the regional wholesaler, CBMWD employs one full-time Management Analyst who works throughout CBMWD's service area to promote water conservation. The Management Analyst also works with cities and water agencies to foster consumer behavioral change and implement various conservation programs that result in significant reduction in overall retail water use. The current Management Analyst is Jeremy Melendez, who can be reached at 323-201-5510 or jeremym@centralbasin.org. Sources of funding for CBMWD's water conservation program in the last five years include: Department of Energy grant, DWR grant, MWD Member Agency Conservation Program Allocation, water retail agency partnerships, and through its own fiscal budget.

GENERAL PUBLIC INFORMATION (BROCHURES, MAILINGS, WEBSITE, ETC.)

CBMWD's public information efforts consist of a variety of programs and practices that are used to educate the public about water conservation. Conservation literature is provided to the public at various one-day programs and at community events. CBMWD also provides the community with a Speakers Bureau through which CBMWD's Board of Directors and staff work with local civic organizations and service clubs to provide information on a variety of programs and projects that promote conservation. Additionally, CBMWD provides education through our website, an interactive Blog, and various publication materials.

CBMWD has continued to engage its community through outreach and public education programs by integrating social marketing strategies with existing programs. CBMWD uses a variety of social media platforms to disseminate information through websites such as Twitter, Facebook, Instagram, Pinterest, LinkedIn and YouTube. CBMWD has realized many campaign successes of increased community involvement, which is reflective in the upward curve of its website traffic.

By using technology, CBMWD is connected with residents and businesses in a new and exciting way to promote the benefits and importance of water conservation. CBMWD's social media strategy is tailored to meet the needs of the local community. Additional Public Information and Outreach programs include:

MWD Inspection Trips

As an MWD Member Agency, CBMWD has two representatives on the MWD Board of Directors. Inspection trips are a key part of MWD's efforts to educate community leaders on water issues and the statewide water delivery system. The tours offered include: State Water Project Inspection Trip, Colorado River Aqueduct Inspection Trip and Diamond Valley Lake Inspection Trip. These tours are available throughout the year.

Water Education Tours (W.E.T.)

CBMWD offers one-day tours of the water delivery system to members of their community. Through participation in the tours, community members are educated on the key water issues facing our region and are able to visit recycled water pump stations, waste water treatment facilities, drought demonstration gardens, and a recycled water customer.

Max the Water Dog

In an effort to engage the whole family on water issues, CBMWD has introduced Max the Water Dog mascot as the latest edition to CBMWD's outreach programs. Max is a water conservation super hero that was introduced to provide a fun approach on learning about water. Max the Water Dog appears at community events and interacts with the public.

Community Outreach Booths

Another aspect of CBMWD's community engagement efforts is Community Outreach Booths. Throughout the year, CBMWD hosts community outreach booths at a variety of community events. District representatives are on-hand to talk with members of the community about vital water issues and provide information on resources available.

BMP 3: RESIDENTIAL PROGRAMS

This BMP deals with showerheads, faucets, toilets, and leak detection surveys related to residential water use. This BMP is not applicable to wholesalers. CBMWD, as a wholesaler, does not provide direct service to the public, but does provide wholesale deliveries to local retail agencies.

As the region's wholesale supplier, CBMWD administers MWD's landscape programs for its retail agencies. These programs aim to help residential and commercial customers to be water efficient. Current landscape programs include rebates for Weather-Based Irrigation Controllers, Rotating Sprinkler Nozzles, Rain Barrels & Cisterns, Soil Moisture Sensor Systems, and Turf Removal, as described below:

RESIDENTIAL PROGRAMS

Water Survey Assistance - CBMWD provides available support to local agencies in coordinating commercial water audits. The District helps coordinate surveys conducted by MWD of large homeowners associations (HOAs), nurseries, and public gardens within its service area.

Rain Barrels & Cisterns Program – Residential and commercial customers can receive rebates for installing rain barrels and/or cisterns to collect rainwater for re-use for watering their landscapes. Customers may receive rebates starting at \$35 per barrel or \$250 per cistern. The barrels and cisterns must adhere to specified design guidelines.

Weather-Based Irrigation Controllers Program - This program, previously called the "Smart Timer Rebate Program," started in FY 2004-2005. Under this regional program, residential and small commercial properties are eligible for a rebate when they purchase and install a weather-based irrigation controller, which has the potential to save 13,500 gallons a year per residence. Rebates start at \$80 per controller for landscapes less than 1 acre in area and \$35 per station for more than 1 acre.

Rotating Nozzle Rebate Program - This rebate program started in 2007 and is offered to both residential and commercial customers. Through this program, site owners will purchase and install rotary nozzles, which can use up to 20 percent less water than conventional fan spray nozzles, in existing irrigation systems. Rebates for this program start at \$2 per nozzle.

Soil Moisture Sensor System Program - For large residential sites, a soil moisture sensor, which measures soil moisture content in the active root zone, can be installed to receive rebates starting at \$80 or \$35 per irrigation controller station. The sensor must be connected to a compatible irrigation system controller.

Turf Removal Program - Through this program, residential and small commercial customers of participating retail water agencies are eligible to receive a minimum of \$2 per square foot (up to 5,000 square feet) of turf removed for qualifying projects.

RESIDENTIAL PLUMBING RETROFIT

This particular item is not applicable to wholesalers; however, CBMWD participates in the distribution of showerheads, aerators, and toilet tank leak detection tablets at all times. CBMWD and its retail agencies implemented an agreement with MWD for participation in a residential ultralow-flush toilet (ULFT) retrofit and a CII retrofit incentive program that lasted through May 2010. The ULFT rebate program was replaced with a high efficiency toilet (HET) rebate program, which has been recently replaced, as of November 2015, with a premium high-efficiency toilet (PHET) rebate program. Premium high-efficiency toilets use 1.1 gallons per flush or less and use almost 20 percent less water than the WaterSense standard. As of April 2021, CBMWD is rebating \$40 per toilet for premium high-efficiency toilets through MWD funds.

HIGH-EFFICIENCY WASHING MACHINE REBATES

This BMP is not applicable to wholesalers; however, CBMWD implemented an agreement with MWD for participation in a high efficiency clothes washer incentive program. Through CBMWD, MWD refunds \$85 per high efficiency clothes washer (HECW). Participants must be willing to allow an inspection of the installed machine for verification of program compliance. Machines must have a water factor of 4.0 or less and must meet or exceed the CEE Tier 1 standard. Depending on use, these machines can save about 14 gallons of water a day. Participants are encouraged to contact their local gas and/or electric utility since additional rebates may be available.

BMP 4: COMMERCIAL, INDUSTRIAL, & INSTITUTIONAL PROGRAMS

This BMP deals with toilets, urinals, steamers, cooling towers, food/restaurant equipment, medical equipment, and items related to commercial, institutional, and industrial water use. CBMWD participates in MWD's "SoCal Water\$mart" rebate program. Through MWD's SoCal Water\$mart, commercial, industrial, and institutional customers are eligible for rebates to help encourage water efficiency and conservation. The SoCal Water\$mart program offers cash rebates on a wide variety of water-saving technologies.

SoCal Water\$mart CII Program – MWD launched this program on July 1, 2008 and offers rebates to assist CII customers in replacing high-flow plumbing fixtures with low-flow fixtures. Rebates are available only on those devices listed in Table 4.1 and must replace higher water use devices. Installation of devices is the responsibility of each participant. Participants may purchase and install as many of the water saving devices as are applicable to their site.

CII customers represent a small portion of customers within the CBMWD service area. The majority of rebates given out under this program have been for PHETs, HETs, ULFTs, and landscape devices.

BMP 5: LANDSCAPE PROGRAMS

This BMP deals with establishing parameters for large landscapes, including measurements, budgets, audits, prohibitions, incentives, etc. related to large landscapes. This BMP is not applicable to wholesalers; however, CBMWD administers MWD's landscape programs for its retail agencies. These landscape programs target both residential and commercial customers.

Smart Gardening Workshops

CBMWD continues a partnership with the Los Angeles County Department of Public Works to bring free, educational gardening workshops to local residents. The workshops, which are offered in English and Spanish, provide information on California native plants, composting and gardening tips for residents, business owners, and local landscapers.

These partnerships have proven to be diverse in nature and valuable in strengthening the conservation efforts within CBMWD's service area, particularly within the more disadvantaged areas.

Drought Outreach Training

CBMWD conducted Drought Outreach Training for member agency city staff members as part of its outreach efforts to help the service area meet their mandated conservation goals. Cities that serve as water retailers are the first in line of contact with residents when paying water bills and dealing with water related concerns. A handbook was designed for these city staff members to provide the latest information on the drought, water efficient rebates, and other conservation information. CBMWD staff provided copies of the handbook and provided training to member agency city staff members on how to best respond to water conservation questions.

Drought Gardening Classes

With the increased interest in removing lawns to conserve water, CBMWD partnered with MWD to host Drought Gardening Classes throughout the service area. These three-hour classes provide information and the tools on how to create drought tolerant landscaping. Residents are taught by a landscape professional. Each resident leaves the class with a better understanding on how water flows outside their home and how to best capture and use it for irrigation.

OTHER CBMWD CONSERVATION MEASURES WHOLESALE AGENCY PROGRAMS

CBMWD provides financial incentives or equivalent resources, as appropriate and beneficial to retail agencies, to advance water conservation efforts and effectiveness. Incentives have thus far been in the form of rebates offered by MWD through its SoCal WaterSmart Program for residential and commercial customers. In addition to rebate programs, CBMWD continues to participate in other MWD water use efficiency programs, such as its California Friendly Landscape and Gardening classes.

Conservation Information Working Group

On a monthly basis, CBMWD meets with its purveyors to discuss various topics pertaining to water conservation and public outreach. Guest speakers are also invited to provide insight on new water efficient technologies and programs available.

SCADA Integrated Asset Management Program

The Integrated Asset Management Program is a customized computer software program that manages assets by identifying operating and maintenance inefficiencies followed by alarming operators of equipment failures. The software is unique because it uses Supervisory Control and Data Acquisition System (SCADA) data to monitor the assets and by doing so, it streamlines processes for asset maintenance and has paved the way for energy reduction.

CBMWD is currently budgeting approximately \$53,000 per year for its conservation programs. CBMWD also receives additional funding from MWD. In FY 2020-2021, CBMWD's conservation programs include a rebate program support, landscaping classes, and various outreach and education programs.

9.3 – Existing Demand Management Measures for Retail Suppliers

Water Code Section 10631

(e) Provide a description of the supplier's water demand management measures. This description shall include all of the following:

(1)(A) 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 measure that the supplier plans to implement to achieve its water use targets pursuant to Section 10608.20.

(B) 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.

9.3.1 – Water Waste Prevention Ordinances

The City adopted Ordinance No. 1161 (Appendix M) in October 2009, which further expanded the City's water conservation efforts by amending Article VI of Chapter 25 of the Code of the City of Vernon. This Ordinance established general water waste provisions, as well as conservation measures for Phase I, Phase II and Phase III water shortages. The water waste provisions apply regardless of supply conditions, and include:

- **Limits on Watering Hours:** Watering or irrigating of lawn, landscape or other vegetated area with potable water is prohibited between the hours of 10:00 a.m. and 5:00 p.m. on any day, except by use of a hand-held bucket or similar container, a hand-held hose equipped with a positive self-closing water shut-off nozzle or device, or for very short periods of time for the express purpose of adjusting or repairing an irrigation system.
- **Limit on Watering Duration:** Watering or irrigating of lawn, landscape or other vegetated area with potable water using a landscape irrigation system or a watering device that is not continuously attended is limited to no more than fifteen (15) minutes watering per day per station. This subsection does not apply to landscape irrigation systems that exclusively use very low-flow drip type irrigation systems when no emitter produces more than two (2) gallons of water per hour and weather based controllers or stream rotor sprinklers that meet a seventy percent (70%) efficiency standard.

- No Excessive Water Flow or Runoff: Watering or irrigating of any lawn, landscape or other vegetated area in a manner that causes or allows excessive water flow or runoff onto an adjoining sidewalk, driveway, street, alley, gutter or ditch is prohibited.
- No Washing Down Hard or Paved Surfaces: Washing down hard or exterior paved surfaces, including but not limited to sidewalks, walkways, driveways, parking areas, patios or alleys, is prohibited except when necessary to alleviate safety or sanitary hazards, and then only by use of a hand-held bucket or similar container, a hand-held hose equipped with a positive self-closing water shut-off device, a low-volume, high-pressure cleaning machine equipped to recycle any water used, or a low-volume high-pressure water broom.
- Obligation to Fix Leaks, Breaks or Malfunctions: Excessive use, loss or escape of water through breaks, leaks or other malfunctions in the water user's plumbing or distribution system for any period of time after such escape of water should have reasonably been discovered is prohibited and shall be repaired as soon as reasonably practicable.
- Re-circulating Water Required for Water Fountains and Decorative Water Features: Operating a water fountain or other decorative water feature that does not use re-circulated water is prohibited.
- Limits on Washing Vehicles: Using water to wash or clean a vehicle, including but not limited to any automobile, truck, van, bus, motorcycle, boat or trailer, whether motorized or not is prohibited, except by use of a hand-held bucket or similar container or a hand-held hose equipped with a positive self-closing water shut-off nozzle or device. This subsection does not apply to any commercial vehicle washing facility.
- Drinking Water Served Upon Request Only: Eating or drinking establishments, including but not limited to a restaurant, hotel, cafe, cafeteria, bar, or other public place where food or drinks are sold, served, or offered for sale, are prohibited from providing drinking water to any person unless expressly requested.
- No Installation of Single Pass Cooling Systems: Installation of single pass cooling systems is prohibited in buildings requesting new water service.
- Limits on Commercial Car Wash and Laundry Systems: Installation of non-recirculating water systems is prohibited in new commercial conveyor car wash and new commercial laundry systems.

City crews have been trained in the areas of water waste and actively monitor the City for water waste activities. The Water Division staff currently tracks total City water demands through billing meter data. These data are used to evaluate the effectiveness of the water waste prohibitions.

9.3.2 – Metering

Water Code Section 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.

Water Code section 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.

All existing and new City service connections are metered ensuring proper billing by volume. The City has recently started a Meter Replacement Program with the end goal to replace all meters with AMI meters, generally beginning with the largest customers. The City is also in the process of commencing a contract to check all customer meters for accuracy.

There is no large landscape irrigation in the Water Service Area and therefore no need for conversion of mixed use accounts to multiple meters including a dedicated landscape meter.

9.3.3 – Conservation Pricing

The City does not use conservation pricing for water use reduction. To promote its “exclusively industrial” nature, the City provides water service at some of the lowest rates in the region to attract commercial and industrial customers.

The City’s commodity rate for water is the same for all use types (i.e. commercial, industrial, and residential). Water use in the City, which is primarily commercial and industrial, is more closely linked to market trends than to the habits of consumers. As a result, the established rate structure provides local businesses with the security and assurance of availability they need to make daily operational decisions.

Research shows that price elasticity of demand for water among commercial, institutional, and industrial (CII) customers varies widely depending the end use. Domestic uses (e.g. toilet flushing, food preparation, general cleaning, etc.) respond in a similar fashion to residential uses, which tend to have a relatively low price elasticity of approximately -0.2. Water-dependent industrial processes where a high quality source is required (e.g. food and beverage processing, chemical manufacturing, etc.) tend to have a very low price elasticity. Industrial processes where a substitute for high quality water exists (e.g. cooling, irrigation, truck washing, etc.) tend to have a moderate price elasticity.

Given the large volume of water dedicated to CII customers for industrial processes, conservation pricing has been determined to have a negligible effect on water savings and a negative effect on attracting commercial and industrial customers to the City.

9.3.4 – Public Education and Outreach

The City continues to operate a strong outreach program, as it has for the past several decades. Public information about the City and its mission, programs, and events are constantly disseminated to numerous interested parties in order to promote water conservation. The City provides information for customers at the Customer Service Counter and maintains a strong link with the local news media through press releases of important subjects reinforcing the water conservation message. The City uses numerous printed materials to send information to the community. The publication includes articles on water quality, conservation, and infrastructure improvement information. In addition, the Public Utilities Department publishes an annual water quality report, which provides quality information, and promotes water conservation. The annual water quality report is electronically delivered by posting on the City website; notice of availability is mailed to every service address. Customers can request a hard copy be mailed to them free of charge; hard copies are also available over the counter at Customer Service. Publications are also available for download on the City's website at www.cityofvernon.org.

In coordination with CBMWD, the City provides water conservation information and links to wholesaler programs on its website.

The City is almost entirely industrial and commercial, with a very small residential population. The City has only one school within its Water Service Area, which is the Vernon City Elementary School. The City's Water Division staff gives presentations at the School, which highlight efficient use of resources and water conservation.

Expansion of the school education program with Vernon Elementary School is underway. The City plans to create a poster contest to promote water conservation with the school children. The program is anticipated to consist of providing each age appropriate class with poster paper and a water conservation related giveaway. The winning posters in three age categories may be displayed in the Customer Service lobby. The students will also receive information on water supply and simple water conservation tips, which meet state educational requirements, typically part of the presentations at the school. The City will track the number of classes which participate to track the effectiveness of the School Education Program.

9.3.5 – Programs to Assess and Manage Distribution System Real Loss

The City's Water Division reads over one thousand water service meters each month. Meter readers inspect each service meter for leaks or damage that may adversely impact the functionality or accuracy. The City's automated billing system flags high and low meter readings. This information is sent electronically to maintenance crews who then perform inspections of suspect service meters in an expedient fashion. The City's in-house construction crews make water system repairs in an efficient and productive fashion, providing for significant reduction in water loss. Vernon has a complex database system that meticulously quantifies water consumption, water production and net water loss for the entire water distribution system. This allows Vernon staff to continuously monitor water consumption and water loss in order to ensure that no system failures have occurred and to conserve precious water supplies. The Water Division has contracted a consultant to prepare a Master Plan, which will include Demand Management recommendations.

The City has a comprehensive work order system that is used to monitor repairs and maintenance activities to the water distribution system. This allows staff to quantify problem areas and address potential failures in a proactive fashion to prevent water loss through large-scale transmission leaks.

9.3.6 – Water Conservation Program Coordination and Staffing Support

The City's designated Water Conservation Coordinator is the Water Superintendent. This senior management position spends approximately five percent of the time managing the provisions in the water conservation program, implementing the public information program, and planning the school education program. During periods of declared drought, the time allocated to conservation duties increases. The City's conservation coordinator often represents the City at regional and statewide workshops and organizations. In addition, the conservation coordinator also seeks Federal, State, and local funding to develop new programs that promote water conservation throughout the City's Water Service Area.

9.3.7 – Other Demand Management Measures

The construction of new development is limited in the City of Vernon due to the lack of vacant or underutilized land within the service area. All new Commercial, Industrial, and Institutional development proceeds as follows:

- Building plans must be submitted to the City's Building Section for review and approval.
- Water saving appurtenances and fixtures are a requirement of the approval process and documentation regarding the implementation of such devices is required to obtain a permit.
- A water consumption review is performed based upon the Building Section's estimated water use.
- An appropriately sized water meter is selected in order to ensure that all consumption is billed by volume, which in turn provides a financial incentive to encourage water conservation.

The City works in coordination with CBMWD as a member agency in the implementation of conservation programs to promote CII conservation. CBMWD participates in MWD's "Save A Buck" region-wide CII rebate program and helps promote these rebates for use by businesses, schools, and other qualifying facilities throughout the City's service area.

Rebates are offered for commercial clothes washers, water brooms, cooling tower conductivity controllers, x-ray machine recirculating devices, water free urinals, high efficiency toilets, weather-based irrigation controllers, pre-rinse spray valves, nozzles, and various industrial pressure devices.

In 2002, the California Urban Water Conservation Council (CUWCC) pursued and received a \$2.3 million grant from the California Public Utilities Commission (CPUC) to purchase and install restaurant pre-rinse spray nozzle valves. The new nozzles use 1.6 gpm compared to 2 to 6 gpm valves. These valves conserve water, reduce heating costs and reduce waste-water discharge. CBMWD supported CUWCC's efforts in marketing the program. The nozzles and installations were provided free of charge to several food services customers in the City's Water Service Area.

9.4 – Implementation over the Past Five Years

Water Code Section 10631

(e) Provide a description of the supplier's water demand management measures. This description shall include all of the following:

(1)(A) ...a narrative description that addresses the nature and extent of each water demand management measure implemented over the past five years.

The City worked closely with its affiliates to fund and promote regional water conservation programs. These affiliates include the Gateway Water Management Authority, the Southeast Water Coalition, and CBMWD.

9.4.1 –Water Waste Prevention

Note that water waste is commonly associated with irrigation. There is extremely limited irrigation in the City, primarily trees; therefore, there is little opportunity for water waste.

Note that as an industrial city, water represents an expense to running an efficient enterprise. As a result of the economic downturn, commercial customers in the City have reduced all forms of waste, including water waste in response to market conditions.

9.4.2 – Meters

The City has purchased some AMI meters as part of a new Meter Replacement Program. The end goal is to replace all meters with AMI meters. There is an annual budgeted amount for this purpose.

9.4.3 – Conservation Pricing

Conservation pricing is in contrast to the City's economic model, and was not implemented.

9.4.4 – Public Education and Outreach

The City issued mailers to its customers encouraging water conservation and providing links to water conservation programs.

The City's website provides links to CBMWD conservation programs and Metropolitan rebate programs.

The City issues a consumer confidence report annually which includes information of water conservation.

9.4.5 – Programs to Assess and Manage Distribution System Real Loss

The Water Division has contracted a consultant to prepare a Master Plan, which will include Demand Management recommendations.

The City maintained its work order system to monitor water system repairs and maintenance activities.

The City reconciled its production and deliveries annually to estimate water loss.

9.4.6 – Other Demand Management Measures

The City initiated a new CII water audit program in 2015. A notice was issued to the top water users in the City inviting their participation in the program (see Appendix P).

9.5 – Implementation to Achieve Water Use Targets

Water Code Section 10631

(f)(1)(A) 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 measure that the supplier plans to implement to achieve its water use targets pursuant to Section 10608.20.

As discussed in Section 5.8, the City has achieved its 2020 water use target and is in compliance with SB X7-7.

The City will continue to work closely with its regional partners to implement water conservation projects and programs. These partners include CBMWD, the Gateway Water Management Authority, and the Southeast Water Coalition.

The primary focus of the City will continue to be water conservation programs aimed at CII customers including water audits, high efficiency toilets, retrofit of industrial water fixtures, and conversion of industrial processes to recycled water.

Given that residential water demand is around 0.1% of total demand, a number of programs associated with residential water conservation will not be implemented at the City level. These include Interior and Exterior Water Audits for Single and Multi-Family Customers, Residential Plumbing Retrofit, Large Landscape Conservation Programs and Incentives, High-efficiency Washing Machine Rebate Programs, and Residential Ultra-low-flush Toilet Replacement Program. City residents are still eligible for these programs through CBMWD and MWD.

9.6 – Water Use Objectives (Future Requirements)

The Water Code requires development of new water use objectives based on specific standards for certain water use sectors in 2023. These new water use objectives have not yet been developed.

Chapter 10 – Plan Adoption, Submittal, and Implementation

10.1 – General Description

Plan Adoption, Submittal, and Implementation describe the steps taken to adopt and submit the UWMP and to make it publicly available. Implementation of the UWMP will proceed following submittal to the state.

10.2 – Inclusion of All 2020 Data

All required 2020 data were included in this report.

10.3 – Notice of Public Hearing

10.3.1 – Notice to Cities and Counties

Water Code Section 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.

Water Code Section 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...

Los Angeles County was notified of the intent to prepare an UWMP and of the opportunity to comment on the Draft UWMP. See Appendix D for documentation of the notification to Los Angeles County.

10.3.2 – Notice to the Public

Water Code Section 10642

...Prior to adopting either [the plan or water shortage contingency plan], the urban water supplier shall make both the plan and the water shortage contingency plan available for public inspection and shall hold a public hearing or hearings thereon. Prior to any of these hearings, notice of the time and place of the hearing shall be published within the jurisdiction of the publicly owned water supplier pursuant to Section 6066 of the Government Code [see below]. The urban water supplier shall provide notice of the time and place of a hearing to any city or county within which the supplier provides water supplies.

Government Code section 6066

Publication of notice pursuant to this section shall be once a week for two successive weeks. Two publications in a newspaper published once a week or oftener, with at least five days intervening between the respective publication dates not counting such publication dates, are sufficient. The period of notice commences upon the first day of publication and terminates at the end of the fourteenth day, including therein the first day.

The public was notified of the opportunity to comment on the Draft UWMP via publication in the local newspaper and via the City website. See Appendix Q for documentation of the notice to the public.

10.4 – Public Hearing and Adoption

Water Code Section 10642

...Prior to adopting either [the plan or water shortage contingency plan], the urban water supplier shall make both the plan and the water shortage contingency plan available for public inspection and shall hold a public hearing or hearings thereon. Prior to any of these hearings, notice of the time and place of the hearing shall be published within the jurisdiction of the publicly owned water supplier pursuant to Section 6066 of the Government Code [see below]. The urban water supplier shall provide notice of the time and place of a hearing to any city or county within which the supplier provides water supplies.

Government Code section 6066

Publication of notice pursuant to this section shall be once a week for two successive weeks. Two publications in a newspaper published once a week or oftener, with at least five days intervening between the respective publication dates not counting such publication dates, are sufficient. The period of notice commences upon the first day of publication and terminates at the end of the fourteenth day, including therein the first day.

10.4.1 – Public Hearing

The public hearing was conducted on June 15, 2021. See Appendix Q for documentation on the public hearing.

10.4.2 – Adoption

Water Code Section 10642

...After the hearing or hearings, the plan or water shortage contingency plan shall be adopted as prepared or as modified after the hearing.

The UWMP was adopted on June 15, 2021. See Appendix R for a copy of the resolution of adoption.

10.5 – Plan Submittal

Water Code Section 10621

(e) Each urban water supplier shall update and submit its 2020 plan to the department by July 1, 2021...

Water Code Section 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.

Water Code Section 10635

(c) 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.

The 2020 UWMP was submitted to the State prior to the deadline of July 1, 2021. A CD or hard copy of the adopted 2020 UWMP will be submitted to the California State Library within 30 days of adoption. There have been no updates to the City's Water Shortage Contingency Plan during the past five years. Submittal of the 2010 UWMP to Los Angeles County satisfies CWC 10635(c).

10.5.1 – Electronic Data Submittal

Water Code Section 10644 (a)(2)

The plan, or amendments to the plan, submitted to the department ... shall be submitted electronically and shall include any standardized forms, tables, or displays specified by the department.

The 2020 UWMP, including the WSCP, and associated data and other information were electronically submitted to the State prior to the deadline of July 1, 2021.

10.6 – Public Availability

Water Code Section 10645

(a) 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.

(b) Not later than 30 days after filing a copy of its water shortage contingency plan with the department, the urban water supplier and the department shall make the plan available for public review during normal business hours.

The adopted UWMP and WSCP will be made available to the public on the City website and the DWR website within 30 days of submittal to the State.

10.7 – Amending an Adopted UWMP or Water Shortage Contingency Plan

Water Code Section 10621

(d) The amendments to, or changes in, the plan shall be adopted and filed in the manner set forth in Article 3 (commencing with Section 10640).

Water Code Section 10644

(a)(1) Copies of amendments or changes to the plans shall be submitted to the department, the California State Library, and any city or county within which the supplier provides water supplies within 30 days after adoption.

10.7.1 – Amending a UWMP

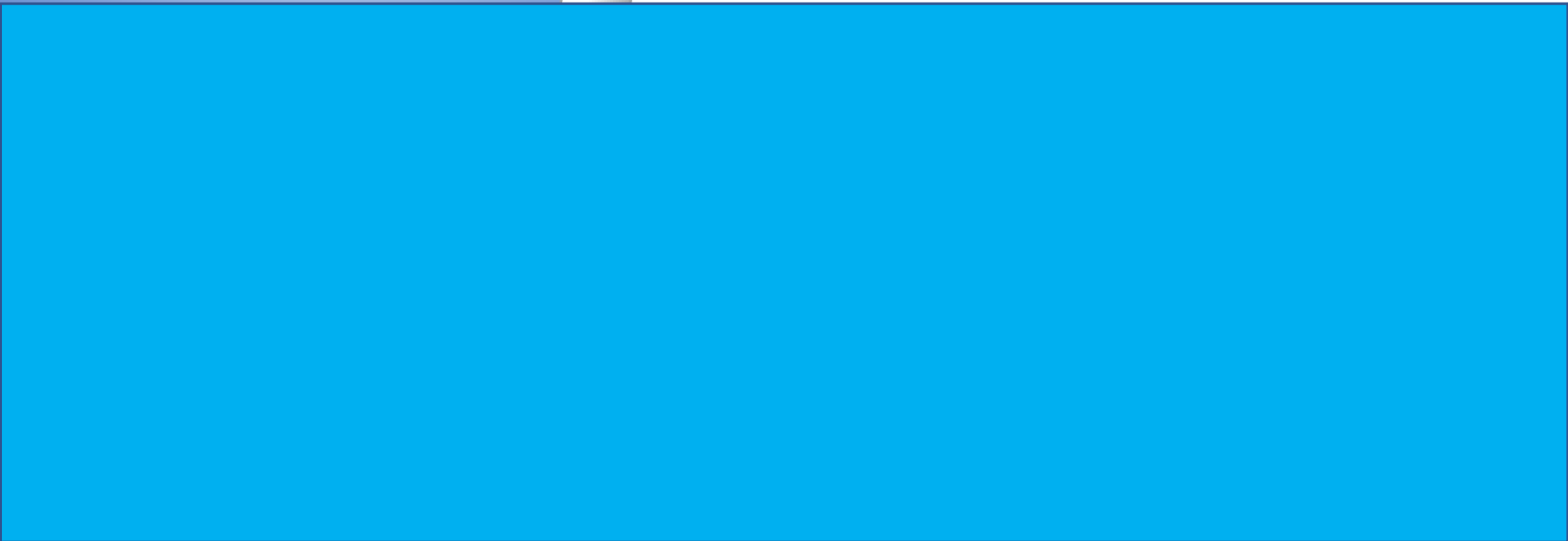
In the event the UWMP is amended in the future, the City will meet all established requirements for the amendment process.

10.7.2 – Amending a Water Shortage Contingency Plan

Water Code Section 10644 (b)

If an urban water supplier revises its water shortage contingency plan, the supplier shall submit to the department a copy of its water shortage contingency plan prepared...no later than 30 days after adoption, in accordance with protocols for submission and using electronic reporting tools developed by the department.

In the event the WSCP is amended in the future, the City will meet all established requirements for the amendment process.



Michael Baker
INTERNATIONAL