City of Glendale 2020 Urban Water Management Plan

City of Glendale Water & Power

Your Trusted Community Utility

2020

Urban Water Management Plan

City of Glendale

City of Glendale Water & Power
141 N Glendale Ave
Glendale, CA 91206

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List of Acronyms and Abbreviations

ACFT	Acre-Feet
Act	Urban Water Management Act
ADU	Accessory Dwelling Unit
AF	Acre-Feet
AFY	acre-feet per year
AMI	Advanced Metering Infrastructure
BMPs	Best Management Practices
CalWEP	California Water Efficiency Partnership
CBSC	California Building Standards Commission
CC	Customer Charge
CCR	California Code of Regulations
CEQA	California Environmental Quality Act
CIMIS	California Irrigation Management Information System
City	City of Glendale (Water Utility)
Code	California Water Code
COMM	Commercial
CPC	California Plumbing Code
CRA	Colorado River Aqueduct
CrVI	Hexavalent Chromium
CUWCC	California Urban Water Conservation Council
CVWD	Crescenta Valley Water District
CWP	California Water Plan
DCR	State Water Project Delivery Capability Report
DEVOTE	Dedicated Employees Volunteering Their Time and Energy
DMM	Demand Management Measures
DOF	Department of Finance
DRA	Drought Risk Assessment
du	Dwelling Units
DVL	Diamond Valley Lake
DWR	Department of Water Resources
ESP	Energy Sustainability Plan
°F	Degrees Fahrenheit
GAC	Granular Activated Carbon
GIS	Geographical Information System
GLAC IRWM	Greater Los Angeles County Integrated Regional Water Management Group
GOU	Glendale Operable Unit
GPCD	gallons per capita per day
GWP	Glendale Water & Power
GWTP	Glendale Water Treatment Plant
HCD	California Department of Housing and Community Development
HCF	hundred cubic feet
IPR	Indirect Potable Reuse
IRR	Irrigation

LAGWRP	Los Angeles-Glendale Water Reclamation Plant
L2L	Laundry to Landscape Greywater System Program
MAF	million acre-feet
MFR	Multi-Family Residential
mgd	million gallons per day
MOU	Memorandum of Understanding
MUNI	Municipal
MWCP	Mandatory Water Conservation Phase
MWD	Metropolitan Water District of Southern California
NAICS	North American Industry Classification System
NOAA	National Oceanographic and Atmospheric Agency
NOS	North Outfall Sewer
OTHR	other
PCE	Tetrachlorethylene (Perchloroethylene)
PFAS	Per- and Polyfluoroalkyl Substances
PIO	Public Information Officer
PWSID	Public Water System Identification Number
RTP	Regional Transportation Plan
RUWMP	Regional Urban Water Management Plan
SBX7-7	Water Conservation Bill of 2009
SCADA	Supervisory Control and Data Acquisition
SCAG	Southern California Association of Governments
SCS	Sustainable Communities Strategy
SFB	San Fernando Basin
SFR	Single Family Residential
SWP	State Water Project
SWRCB	State Water Resources Control Board
TCE	trichloroethylene
TWC	Total Water Charge
ULARA	Upper Los Angeles River Area
USEPA	United States Environmental Protection Agency
UWMP	Urban Water Management Plan
UWS	Urban Water Supplier
VOCs	Volatile Organic Compounds
WDR	Water Discharge Requirements
WSAP	Water Supply Allocation Plan
WSCP	Water Shortage Contingency Plan
WMP	Water Master Plan
WRP	Water Reclamation Plant
WVC	Water Variable Charge

LAY DESCRIPTION

Glendale Water & Power

2020 URBAN WATER MANAGEMENT PLAN

Lay Description

Urban Water Management Plans (UWMPs) are prepared by urban water suppliers every five years. These plans support the suppliers' long-term resource planning to ensure that adequate water supplies are available to meet existing and future water needs.

The requirements for UWMPs are found in two sections of California Water Code, §10610-10656 and §10608. Every urban water supplier that either provides over 3,000 acre-feet of water annually, or serves more than 3,000 urban connections is required to submit an UWMP.

Within UWMPs, urban water suppliers must:

- Report progress toward meeting a targeted 20 percent reduction in per-capita (per-person) urban water consumption by the year 2020
- Assess the reliability of water sources over a 20-year planning time frame
- Describe demand management measures and water shortage contingency plans
- Discuss the use and planned use of recycled water

The information collected from the submitted UWMPs is useful for local, regional, and statewide water planning.

This Lay Description is a new statutory requirement for suppliers to include in their 2020 UWMP to summarize its fundamental determinations, especially regarding water service reliability, challenges ahead, and strategies for managing reliability risks. These determinations are contained mainly in Chapters 4 through 9 of this report. Other chapters of the report that are not a part of the analytical determinations such as Plan Preparation (Chapter 2), System Description (Chapter 3), and Plan Adoption (Chapter 10) will not be repeated here.

- **20% Reduction (Chapter 5)**

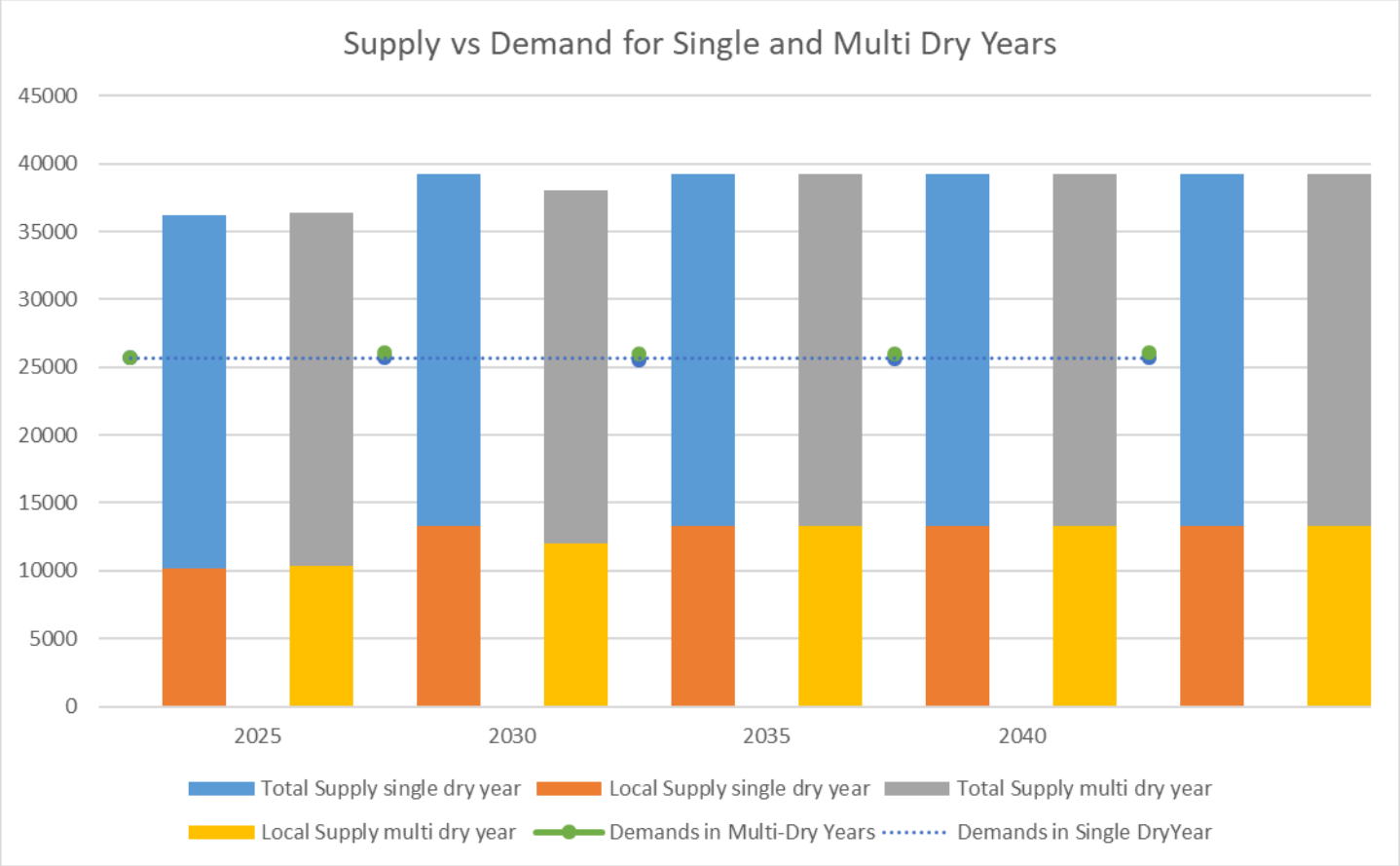
With the adoption of the Water Conservation Act of 2009, also known as SB X7-7, the State of California was required to reduce urban per capita water use by 20 percent by the year 2020 (aka 20 by 2020). Each retail supplier preparing a 2020 UWMP must demonstrate whether it has achieved its 2020 water use target

In the 2010 UWMP, Glendale's 2020 water use target was determined to be 137 gallons per capita per day (GPCD). Glendale's 2020 water use was 104 GPCD, far outperforming the required target.

- **Water Service Reliability Assessment and Drought Risk Assessment (Chapters 4, 6, 7)**

Water service reliability reflects the supplier's ability to meet the water needs of its customers with water supplies under varying conditions, i.e. water supply will exceed water demand. Every supplier must provide their expected water service reliability for a normal year, single dry year, and five consecutive dry years' projections for 2025, 2030, 2035, and at least through 2040.

Typically, 60% to 70% of Glendale's water supply comes from imported water provided by Metropolitan Water District (MWD) via the Colorado River Aqueduct and the State Water Project, which imports water from the Sacramento Delta. The remainder of Glendale's supply comes from local groundwater and recycled water. The Water Service Reliability Assessment determined that both the MWD sources and the local sources could meet Glendale's future projected water demand for the required single dry year and five consecutive dry years during the UWMP's 25 year planning horizon as shown in the graph below.



Notes: 1.) Data is from Tables 7-3 and 7-4 in UWMP, which is provided by MWD after hydrologic and conservation modelling.
2.) Total supply = local supply + 26,000 AFY available from MWD (Tier 1).
3.) Supply increases in 2030 due to projected increased use of recycled water, principally for direct potable reuse (DPR).
4.) Demand decreases slightly through 2035 due to increased conservation, which offsets increased population use.
5.) Difference in local supply and demand each year is made up by imported water from MWD.

The Drought Risk Assessment (DRA) is similar to the Water Service Reliability Assessment but is more focused in that the DRA is done by characterizing the expected quantity of each water

supply source for each year of the five-year drought, which is assumed to be the five years following 2020; i.e. 2021 through 2025.

The Glendale DRA determined that during the five-year drought, any shortfall in local supply to meet demand can be made up with an ample supply of imported water from MWD.

Even so, GWP is committed to increasing its local supply by maintaining the supply from the San Fernando Groundwater Basin over the next 25 years and utilizing the City's full water rights in the Verdugo Groundwater Basin by rehabilitating existing wells to increase their yield (Foothill Well most recently) and adding new wells (new Well 7 is planned for approximately 2025), which will further increase our local supply and decrease our dependence on imported water. Also, GWP has plans to continue to significantly expand its use of recycled water as described below.

- **Water Shortage Contingency Plan and Demand Management (Chapters 8 and 9)**

The Water Shortage Contingency Plan (WSCP), in Chapter 8, is mandated to be a stand-alone document to be approved separately from the UWMP by City Council. The purpose of the WSCP is essentially to identify what actions the City can take in the event of a water shortage or emergency.

Chapter 9 goes on to describe several demand management measures available to the City to reduce demand if needed. These include:

- Water waste prevention City ordinances, which include five stages for limiting irrigation
- Conservation pricing in water rates
- Public outreach and education
    - The Source Newsletter
    - WaterSmart – Home Water Reports
    - Rain Barrel Program
    - Turf removal classes
    - Laundry to Landscape Greywater System Program
- Managing Distribution System Real Losses
- Recycled Water

Glendale has been using recycled water from the Los Angeles-Glendale Water Reclamation Plant (LAGWRP) since the 1990s, currently providing 7% of Glendale's water supply. Glendale owns and operates LAGWRP jointly with the City of Los Angeles and is entitled to 50% of the recycled water the plant produces. GWP has plans to continue to significantly expand its use of recycled water to new customers, thereby further reducing its reliance on imported water. Glendale currently uses about 2,000 acre-feet per year (AFY) of the 6,000 to 8,000 AFY of the recycled water it is entitled to. The major planned use of recycled water in the future is for direct potable reuse (DPR) in the amount of about 2,900 AFY around 2030.

SECTION 1
INTRODUCTION AND OVERVIEW

Glendale Water & Power

2020 URBAN WATER MANAGEMENT PLAN

1.0 Urban Water Management Plan Introduction and Overview

1.1 UWMP PURPOSE AND SUMMARY

The City of Glendale (City) is an urban water supplier (UWS) and therefore must comply with the Urban Water Management Planning Act (Act). This 2020 Urban Water Management Plan (UWMP) has been prepared to comply with the 2020 UWMP requirements as defined in the California Water Code. The intent of an UWMP is to ensure that the City has adequate water supplies to meet future water demands projected over the next 20-25 years. The City's 2020 UWMP evolves from the City's Water Master Plan, completed in 2016 and the 2015 UWMPs. This chapter discusses the purpose and requirements of an UWMP and summarizes the content of the 2020 UWMP document.

As part of the Act, the legislature declared that waters of the state are a limited and renewable resource subject to ever increasing demands; that the conservation and efficient use of urban water supplies are of statewide concern; that successful implementation of plans is best accomplished at the local level; that conservation and efficient use of water shall be actively pursued to protect both the people of the state and their water resources; that conservation and efficient use of urban water supplies shall be a guiding criterion in public decisions; and that urban water suppliers shall be required to develop water management plans to achieve conservation and efficient use.

The Act has been amended on several occasions since its initial passage in 1983. New requirements of the Act due to SBx7-7 state that per capita water use within an urban water supplier's service area must decrease by 20 percent by the year 2020 in order to receive grants or loans administered by DWR or other state agencies. The legislation sets an overall goal of reducing per capita urban water use by 20 percent by December 31, 2020. The state shall make incremental progress towards this goal by reducing per capita water use by at least 10 percent by December 31, 2015. Effective 2016, urban retail water suppliers who do not meet the water conservation requirements established by this bill are not eligible for state water grants or loans.

1.2 NEW UPDATES AND REQUIREMENTS

A number of major updates have occurred since Glendale prepared its 2015 UWMP:

- The historic multi dry year period in California which started in 2012, continued through 2016 and ended with record precipitation in 2017.
- Glendale saw a 23% decrease in water use through recycled water, conservation, and water use efficiency.

- In July 2020, California Governor Gavin Newsom's Water Resilience Portfolio was issued. The portfolio outlined goals and actions for the state to address its water challenges. The portfolio focused on three priorities:
    - maintaining access to safe and clean drinking water,
    - establishing voluntary agreements to collaboratively manage water resources and protect fish and wildlife, and
    - advancing the Delta Conveyance Project

New Requirements

There are numerous additional requirements passed by the Legislature for 2020 UWMPs, updating the 2015 UWMP guidance. Although individual sections of this UWMP Guidebook will detail these changes, major new requirements include:

- ***Five Consecutive Dry-Year Water Reliability Assessment*** The Legislature modified the dry-year water reliability planning from a "multiyear" time period to a "drought lasting five consecutive water years" designation. This statutory change requires a Supplier to analyze the reliability of its water supplies to meet its water use over an extended drought period. This Guidebook provides in-depth recommendations for addressing this requirement change in the Water Use assessment presented in Chapter 4, the Water Supply analysis presented in Chapter 6, and the Water Reliability determinations in Chapter 7.
- ***Drought Risk Assessment*** California Legislature created a new UWMP requirement for drought planning in part because of the significant duration of recent California droughts and the predictions about hydrological variability attributable to climate change. The Drought Risk Assessment (DRA) requires a Supplier to assess water supply reliability over a five-year period from 2021 to 2025 that examines water supplies, water uses, and the resulting water supply reliability under a reasonable prediction for five consecutive dry years. Chapter 7 provides guidance on completing the DRA based on the Water Use information in Chapter 4, Water Supply analysis in Chapter 6, and the Water Reliability determinations in Chapter 7.
- ***Seismic Risk*** The California Water Code now requires Suppliers to specifically address seismic risk to various water system facilities and to have a mitigation plan (see Chapter 8). An important aspect of this provision is the intersection of water supply infrastructure planning

with a county or regional hazard mitigation plan.

- ***Water Shortage Contingency Plan*** In 2018, the Legislature modified the UWMP laws to require a Water Shortage Contingency Plan (WSCP) with specific elements. The WSCP is a document that provides a Supplier with an action plan for a drought or catastrophic water supply shortage. Although the new requirements are more prescriptive than previous versions, many of these elements have long been included in WSCPs, other sections of UWMPs, or as part of a Supplier's standard procedures and response actions (see Chapter 8). Many of these actions were implemented by Suppliers during the last drought, to successfully meet changing local water supply challenges. The WSCP will also have statewide utility for DWR, the State Water Board, and the Legislature in addressing extreme drought conditions or statewide calamities that impact water supply availability.
- ***Groundwater Supplies Coordination*** In 2014, the Legislature enacted the Sustainable Groundwater Management Act to address groundwater conditions throughout California. Water Code now requires Suppliers' 2020 UWMPs to be consistent with Groundwater Sustainability Plans, in areas where those plans have been completed by Groundwater Sustainability Agencies.
- ***Lay Description*** The Legislature included a new statutory requirement for Suppliers to include a lay description of the fundamental determinations of the UWMP, especially regarding water service reliability, challenges ahead, and strategies for managing reliability risks. This section of the UWMP could be viewed as a go-to synopsis for new staff, new governing members, customers, and the media, and it can ensure a consistent representation of the Supplier's detailed analysis.

1.3 2020 UWMP ORGANIZATION

Chapter 1 – UWMP Introduction and Lay Description. This chapter provides a discussion on fundamentals of the UWMP and provides the newly required lay description.

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 Glendale Water system. This description includes maps of the service area, an explanation of the service area and climate,

detail on their public water system(s), and an overview of the Glendale's Water organizational structure and history.

Chapter 4 – Customer Water Use. This chapter describes and quantifies the current and projected water uses within the Glendale's service area.

Chapter 5 – Conservation Target Compliance. This chapter describes Glendale compliance with the 2020 per-capita water conservation mandate. Suppliers can show their 2020 per-capita target value that was adopted in their 2015 UWMP, and their compliance value based upon actual 2020 customer water use.

Chapter 6 – System Supplies. This chapter describes and quantifies the Glendale current and projected potable and non-potable water supplies. It also provides a narrative description of each supply source and quantifies the supply availability for each supply source identified.

Chapter 7 – Water System Reliability. This chapter describes the Glendale water system reliability through at least a 20-year planning horizon. This description provides for normal, single dry year, and five consecutive dry years. This chapter also includes the DRA. The water system reliability differs from the DRA by allowing a different basis for characterizing the five consecutive dry years.

Chapter 8 – Water Shortage Contingency Planning. This chapter provides a structured plan for dealing with water shortages, incorporating prescriptive information and standardized action levels, along with implementation actions in the event of a catastrophic supply interruption.

Chapter 9 – Demand Management Measures. Suppliers are encouraged to use this chapter to communicate their efforts to promote conservation and to reduce demand on their water supply; specifically including a narrative describing efforts to implement several demand management measures.

Chapter 10 – Plan Adoption, Submittal, and Implementation. Suppliers may use this section to describe and document the steps taken to make its UWMP publicly available, as well as the steps taken to adopt and submit its UWMP in accordance with the Water Code.

Appendices – Each Supplier may have information that is best appended to the 2020 UWMP, to support and further clarify information included in the main chapters. Providing additional information as appendices strengthens the plan and offers a complete and well-supported planning document.

1.4 PLAN COORDINATION

In preparing the 2020 Plan, the City has encouraged broad community participation. Copies of the City's draft plan were made available for public review at Glendale Water & Power Administration Office, the Glendale Central Library, and the Glendale City Clerk Office. The City issued a notice for public hearing to review and accept comments on the draft plan with

more than two weeks in advance of the hearing. The notice of the public hearing was published in the local press and the City's website and mailed to the City Clerk. On June 8, 2021, the City held a noticed public hearing to review and accept comments on the draft plan.

Table 1.1

Coordination and Public Involvement

	Participated In Plan Preparation	Contacted for Assistance	Commented on Draft	Notified of Public Hearing	Attended Public Hearing
City Water & Power Department	x	x	x	x	x
City Planning and Public Works Department		x	x	x	x
City Manager's Office				x	x
Glendale City Council				x	x
The Metropolitan Water District of Southern California		x			
CA Dept. of Water Resources				x	
LADWP				x	
LACDPW				x	
City of Burbank Water & Power				x	
City of Pasadena Water & Power				x	
Crescenta Valley Water District				x	
Foothill Municipal Water District				x	
Valley Water Company				x	
Interested General Public			x	x	x

1.5 EFFECTS OF CLIMATE CHANGE

Extended periods of drought and fierce, unpredictable rainfall are a few of the challenges that climate change is presenting California; due to its potential long term impacts on California's future water supplies.

Climate change models have predicted that potential effects from climate changes will result in increased temperature, early snow melt, and a rise in sea level.

DWR's California Water Plan Update 2013 considers how climate change may affect water availability, water use, water quality, and the ecosystem. In the 2013 update of the DWR California Water Plan, the implications of future climate conditions are evaluated. These changing hydrological conditions could affect future planning efforts, which are typically based on historic conditions. The California Water Plan identifies the following probable impacts due to change in temperature and precipitation:

- More winter runoff and less spring/summer runoff due to warmer temperatures.
- Greater extremes in flooding, droughts, and wildfires
- Greater water demand for irrigation and landscape water due to increased temperatures and their impacts on plant water needs.
- Increased sea level rise, increased threat of coastal flooding, and saltwater intrusion into coastal groundwater aquifers.

Volume 1, Chapter 5 of the California Water Plan, "Managing an Uncertain Future," evaluated three different scenarios of future water demand based on alternative but plausible assumptions on population growth, land use changes, water conservation, and the effects climate change might have on future water demands. Future updates will test different response packages, or combinations of resource management strategies, for each future scenario. These responses packages help decision-makers, water managers, and planners develop integrated water management plans that provide for resources sustainability and investments in actions with more sustainable outcomes.

The California Office of Environmental Health Hazard Assessment published the 2018 Indicators of Climate Change in California Report. This report identified several climate change impacts that are hazardous to human health, including:

- Increasing annual average air temperatures.
- Extremely hot days and nights
- Increasing drought periods

Temperatures are currently rising at a faster rate of 1.3 degrees Fahrenheit per year. Temperatures at night have increased more than during the day and have increased at a rate of 2.3 degrees Fahrenheit per year. Warmer air temperatures alter precipitation and runoff patterns, affecting the availability of freshwater supplies. Warmer temperatures also increase the risk of severe weather events and can increase water demand. Extreme heat days and nights have also increased in frequency. Periods of extremely high temperatures have significant public health, ecological, and economic impacts, including increased water demand.

The implications of future climate conditions are evaluated. These changing hydrological conditions could affect future planning efforts, which are typically based on historic conditions. The "California's Fourth Climate Change Assessment" report projected changes in the region's climate and identified the following probable impacts due to changes in temperature, precipitation, evaporative demand, and other variables:

- Increases in both maximum and minimum temperatures and heat extremes
- More intense precipitation focused during the winter season
- Increased evapotranspiration
- Increased drought risk
- Potential for longer wildfire season with more ignitions as population growth continues
- Reduced marine stratus
- Reduction in Sierra Nevada snowpack
- Longer duration of storms and more intense atmospheric rivers

In its 2019 State Water Project Delivery Capability Report (DCR), DWR included the potential effects of climate change in its analysis of imported delivery reliability under future conditions.

The reliability of water from the delta is uncertain. Complications induced by climate change, pose the threat of droughts and projected sea level rise. Higher ocean levels could result in more frequent water quality degradation in the Delta channels, requiring additional flow from the Delta to maintain water quality, which could result in reduced delivery capability.

Even without population changes, all climate change indicators listed above could increase water demand. Extreme weather events can increase water demand in indoor settings.

Precipitation and temperature influence water demand for outdoor landscaping and irrigated agriculture. Outdoor water use is a large component of water demands in Glendale's service area. Lower spring rainfall increases the need to apply irrigation water.

City's Water Shortage Contingency Plan

Due to increasing strain caused by more frequent and extreme drought, the City must be prepared for potential constraints on its local and imported water supply. The City′s WSCP provides the plan in the event of a declared water emergency or enactment of more stringent restrictions on water use. The WSCP details five potential levels of water shortage and the specific actions the City would take to reduce water use and increase additional supplies to address the water shortage. A plan for communicating water use mandates to the public is also presented within the document. The WSCP is included in Chapter 8.

SECTION 2
PLAN PREPARATION

Glendale Water & Power

2020 URBAN WATER MANAGEMENT PLAN

2.0 Plan Preparation

As described below and elsewhere in this Plan, in accordance with the Water Code, suppliers with 3,000 or more service connections, or those supplying 3,000 or more acre-feet of water per year, are required to prepare an UWMP every five years. This chapter provides information on the processes used for developing the UWMP, including efforts in coordination and outreach.

2.1 PLAN PREPARATION APPROACH

GWP relied heavily on the California Department of Water Resources (DWR) *Urban Water Management Plan Guidebook 2020* to complete their UWMP. This Guidebook was initially scheduled to be released in mid-2020, but the final version was not released until March 2021, which resulted in a slight delay in GWP commencing work on their UWMP. GWP also relied on their 2015 UWMP, which was written by the consulting company SA Associates, as a template to complete the 2020 UWMP.

A planning team was designated to complete the UWMP. The team consisted of Michael De Ghetto, Chief Assistant General Manager, Raja Takidin, Senior Civil Engineer, Graciela Zapata, Associate Civil Engineer, Leo Chan, Senior Civil Engineer, and Richard Ruyle, Water Services Administrator. Team members were assigned specific chapters to research and complete, which were then compiled and reviewed by the team. As described below, input on the draft plan was solicited from the public and from specific stakeholders.

2.2 BASIS FOR PREPARING A PLAN

The basis for preparing a UWMP is identified in the Water Code:

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

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.

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.

Public water systems are the distribution systems that provide drinking water for human consumption. All public water systems are given a unique Public Water System Identification Number (PWSID).

These systems are regulated by the State Water Board's Division of Drinking Water.

The California Health and Safety Code defines a public water system as described above.

Some suppliers in the state have more than one public water system within their service area, however this is not the case for GWP. It is possible that individually, the public water systems of a supplier would not meet the UWMP reporting threshold but taken collectively they would meet the threshold. The name and PWSID of Glendale's public water system is listed in Table 2-1R.

2.3 REGIONAL PLANNING

In support of regional UWMPs and regional water conservation targets, the UWMP portion of the Water Code provides mechanisms for participating in area-wide, regional, watershed, or basin-wide urban water management planning:

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, efficient water use, and improved local drought resilience.

2.4 INDIVIDUAL OR REGIONAL PLANNING AND COMPLIANCE

GWP did not pursue a Regional Urban Water Management Plan (RUWMP) but rather, is submitting an individual UWMP for its service area. Other than the City of Los Angeles for the San Fernando Basin, GWP does not share local water resources, i.e. groundwater basins with other urban water suppliers, hence there is no obvious basis for creating a meaningful RUWMP. GWP did, however, collaborate with Metropolitan Water District (MWD), the wholesaler that provides imported water to GWP from the Bay Delta and the Colorado River. Data provided by MWD to GWP represents the most current and available planning projections of supply capability and demand forecasts developed through a collaborative process with MWD member agencies, which, of course, includes Glendale.

2.5 FISCAL OR CALENDAR YEAR AND UNITS OF MEASURE

2.5.1 Fiscal or Calendar Year

Suppliers may report water data and assessments on a fiscal year or calendar year basis. GWP is reporting on a calendar year basis, specifically for calendar year 2020. This is consistent with how GWP reports for their annual Water Audit for The Department of Water Resources DWR. In addition, DWR prefers that Suppliers report on a calendar year basis.

2.5.2 Units of measure

Suppliers may use various units of measure when reporting water volumes, such as acre-feet, million gallons, or hundred cubic feet. GWP is reporting in acre-feet throughout the UWMP. Table 2-3R lists the type of supplier, the reporting year, and the reporting units of measure for GWP.

2.6 COORDINATION AND OUTREACH

2.6.1 Wholesale and Retail Coordination

When a Supplier relies upon a wholesale Supplier for a water supply (as GWP does with MWD), the Water Code requires that both provide each other with information regarding projected water supply and demand as described below:

> *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).*

As required, GWP has provided MWD with their projected water demand from each local source in five-year increments for 20 years as shown in Table 2-4R.

2.6.2 Coordination with Other Agencies and the Community

Suppliers must coordinate the preparation of their UWMP with other appropriate agencies in the area, to the extent practicable:

> *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.* And:
>
> *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.*

The City encouraged public participation in the development of this 2020 UWMP and provided opportunities for public review and comment in the interest of soliciting local participation in the UWMP and to satisfy the Water Code requirements. In April 2021, GWP sent letters to the cities and county served by GWP's water supply as well as surrounding water districts to solicit input and give notice for the required public hearing. A list of those agencies contacted for participation are included in Tables 1-1 and 10-1R and here:

- CA Dept. of Water Resources
- Los Angeles Dept. of Water & Power
- Los Angeles County Dept. of Public Works
- City of Burbank Water & Power
- City of Pasadena Water & Power

- Crescenta Valley Water District
- Foothill Municipal Water District
- Valley Water Company

SECTION 3
SYSTEM DESCRIPTION

Glendale Water & Power

2020 URBAN WATER MANAGEMENT PLAN

3.0 System Description

3.1 GENERAL DESCRIPTION

Glendale was incorporated in 1906 and spans approximately 30.6 square miles with a current population of approximately 200,000 residents and is the fourth most populous city in Los Angeles County.

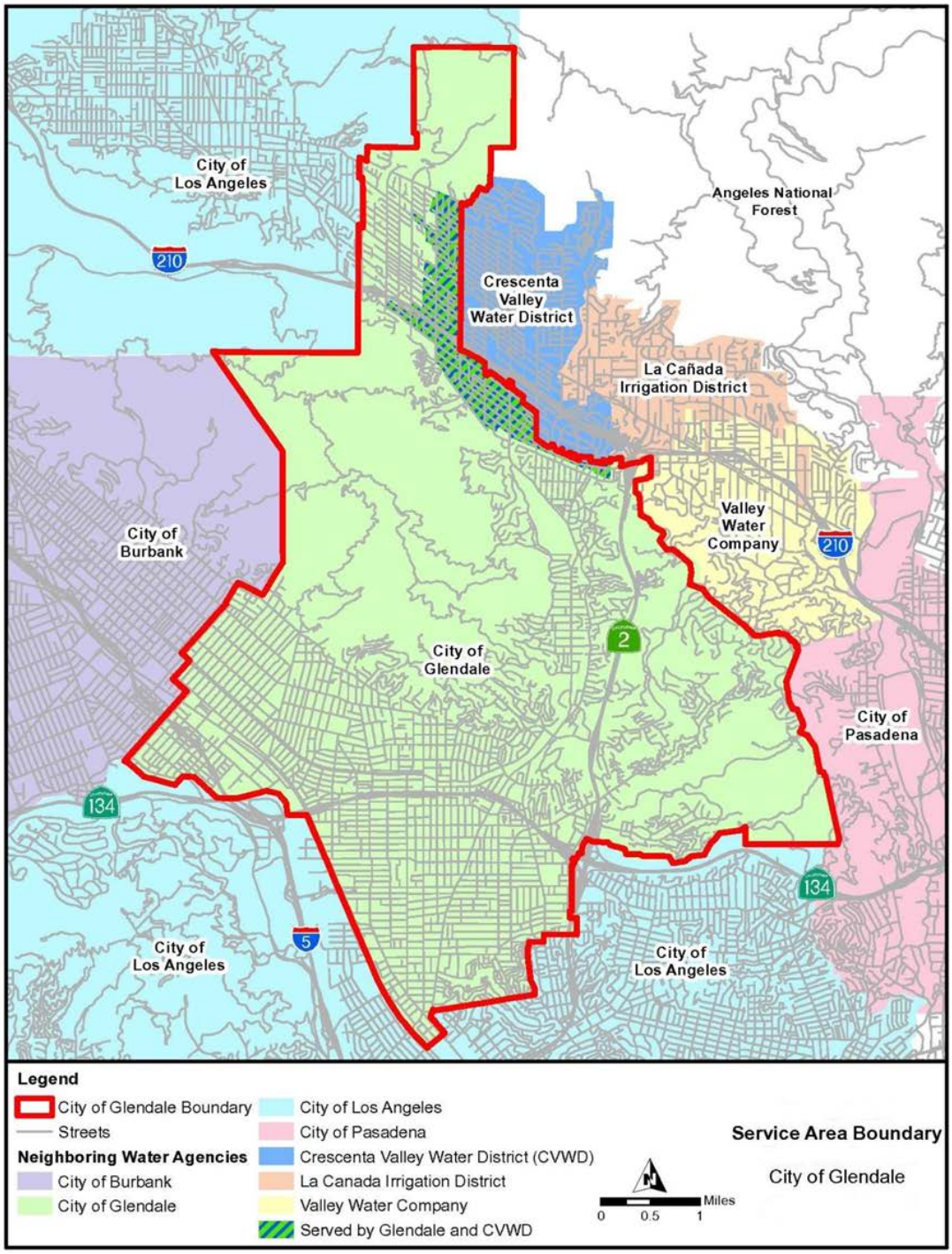
Glendale has approximately 34,000 potable and recycled water service connections. Glendale has one of the highest percentages of multi-family units in Southern California. The total number of dwelling units is above 69,000 individual units. A large percentage of Glendale's service area includes Disadvantaged and Severely Disadvantaged Community Block Groups and Tracts as compiled by the California Department of Water Resources. Glendale is part of the Greater Los Angeles County Integrated Regional Water Management Group (GLAC IRWM). Glendale's average residential use for 2016/2017 was 79.6 R-GPCD.

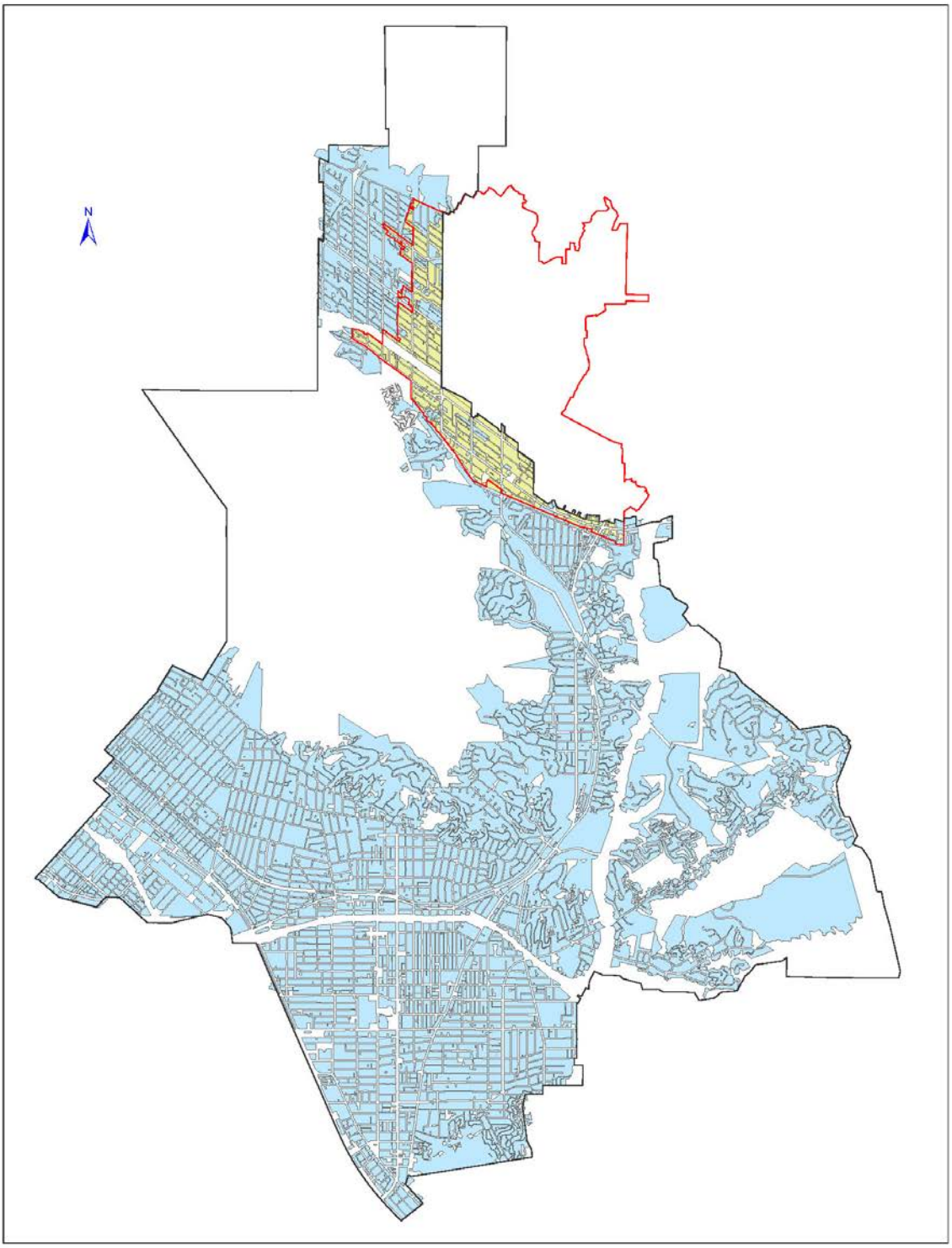
> *Water Code Section 10631*
>
> *Describe the service area of the supplier, including current and projected population, climate, and other social, economic, and demographic factors affecting the supplier's water management planning. The projected population estimates shall be based upon data from the 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.*

Glendale's potable and recycled water service area closely coincides with the City boundary, bordered by the City of Los Angeles to the north and south, and the City of Burbank to the west. On the eastern side, the City's service area is bounded by Crescenta Valley Water District (CVWD), La Cañada Irrigation District, Valley Water Company, and the City of Pasadena. A portion of the northern side, within the City boundary, is served by both Glendale and CVWD.

The availability of water has significantly contributed towards the economic development of the City. Glendale Water and Power (GWP) has supported the City's need for water resources as it has developed from a town with a population of approximately 30,000 residents in 1902, into the County's fourth largest city with over 200,000 residents, encompassing a 30.6-square mile area. GWP provides safe, reliable, and cost-effective water and Power to the City residents.

3.2 SERVICE AREA BOUNDARY MAPS





Crescenta Valley & Glendale Service Area Overlap

3.3 SERVICE AREA CLIMATE

The City has a mild climate with an average temperature of 75 degrees Fahrenheit (°F). Summer temperatures are commonly above 85°F and may exceed 100°F for several consecutive days. In winter, temperature could go as low as the 30's °F. Annual average rainfall was approximately 15 inches annually.

As the State of California and the LA region has undergone a several-year drought, rainfall has been much lower in the City.

Statewide, more investment is needed in projects to capture and store water when it is available, such as the Delta Conveyance Project, which would more sustainably move water across the Sacramento San Joaquin Bay-Delta. Such efforts are critical to help the state adapt to the emerging impacts of climate change, where average snowpack will be dramatically reduced and precipitation will fall in increasing large rainstorms.

Greater investment is also needed to drought-proof local water supplies, such as Glendale's Recycled water system expansion projects.

Climate information can be obtained from several sources, including, but not limited to, the following:

- California Irrigation Management Information System (CIMIS) http://www.cimis.water.ca.gov
- Western Regional Climate Information Center
- Weather stations in the service area
- National Oceanographic and Atmospheric Agency (NOAA)

3.4 SERVICE AREA POPULATION AND DEMOGRAPHICS

3.4.1 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.*

The Water Code does not require a specific methodology for projecting future populations, but it does require that the estimates of future population be based upon data from state, regional, or local service agency population projections.

The City's water service area covers 98.75% of the City's municipal boundary, therefore the population only reflects the population serviced by the City. The remaining portion of the City is served by Crescenta Valley Water District (CVWD). Several planning documents were reviewed to determine the appropriate population estimate and growth rate to use for the UWMP 2020 update. The following planning documents included proposed population estimates for the City through 2045:

- City of Glendale Water Master Plan (last Updated 2016) with a 2040 population estimate of 212,973 and average annual growth rate of 0.3%
- Southern California Association of Governments (SCAG) Local Housing Data Report (August 2020) with a 2040 total population estimate of 214,000 and average annual growth rate of 0.3%.

The 2020 population estimate was based on Department of Finance (DOF) E-4 Population Estimates for Cities, Counties, and State 2011-2020 with 2010 Benchmark. For the 2025-2040 population, projections were extracted from Association of Southern California Governments (SCAG) Plan Los Angeles County 2040 Forecast – Population and Demographics. To estimate the future population through 2045 a growth rate of 0.2% was applied, which is consistent with the growth rate established in the SCAG RTP/SCS 2020 Growth forecast. **Table 3-1** provides the projected City population from 2020 to 2045.

Table 3.1
Glendale Population – Current and Projected

Population Served	2020	2025	2030	2035	2040	2045
	202,831	204,859	206,908	208,977	211,067	213,177

NOTES:
1. 2020 Population based on Department of Finance (DOF) E-4 Population Estimates for Cities, Counties, and State 2011-2020 with 2010 Benchmark (https://www.dof.ca.gov/Forecasting/Demographics/Estimates/e-4/2010-20/)
2. 2025 – 2040 population projections extracted from Association of Southern California Governments (SCAG) Plan Los Angeles County 2040 Forecast - Population and Demographics

3.5 LAND USES WITHIN SERVICE AREA

Glendale's Land use is primarily dominated by retail and service industries and has one of the highest percentages of multi-family units in Southern California. There has been a substantial growth in new development in the City consisting of mixed-use buildings and new multi-family housing, such as apartments and condominiums. There are only a small number of new single-family development projects occurring in the City consisting primarily of infilling and small subdivisions. For planning purposes, only major developments that were defined as at least 50 dwelling units (du) or 10,000 square feet were considered to have a significant impact on the City's water demand and were included as part of the demand forecasting. Twenty-seven known near-term developments were identified that result in 4,002 new residential units, 95 hotel rooms,

and 412,447 square feet of commercial space. The City's existing land use designation is based on the South Glendale Community Plan that was most recently updated in 2015.

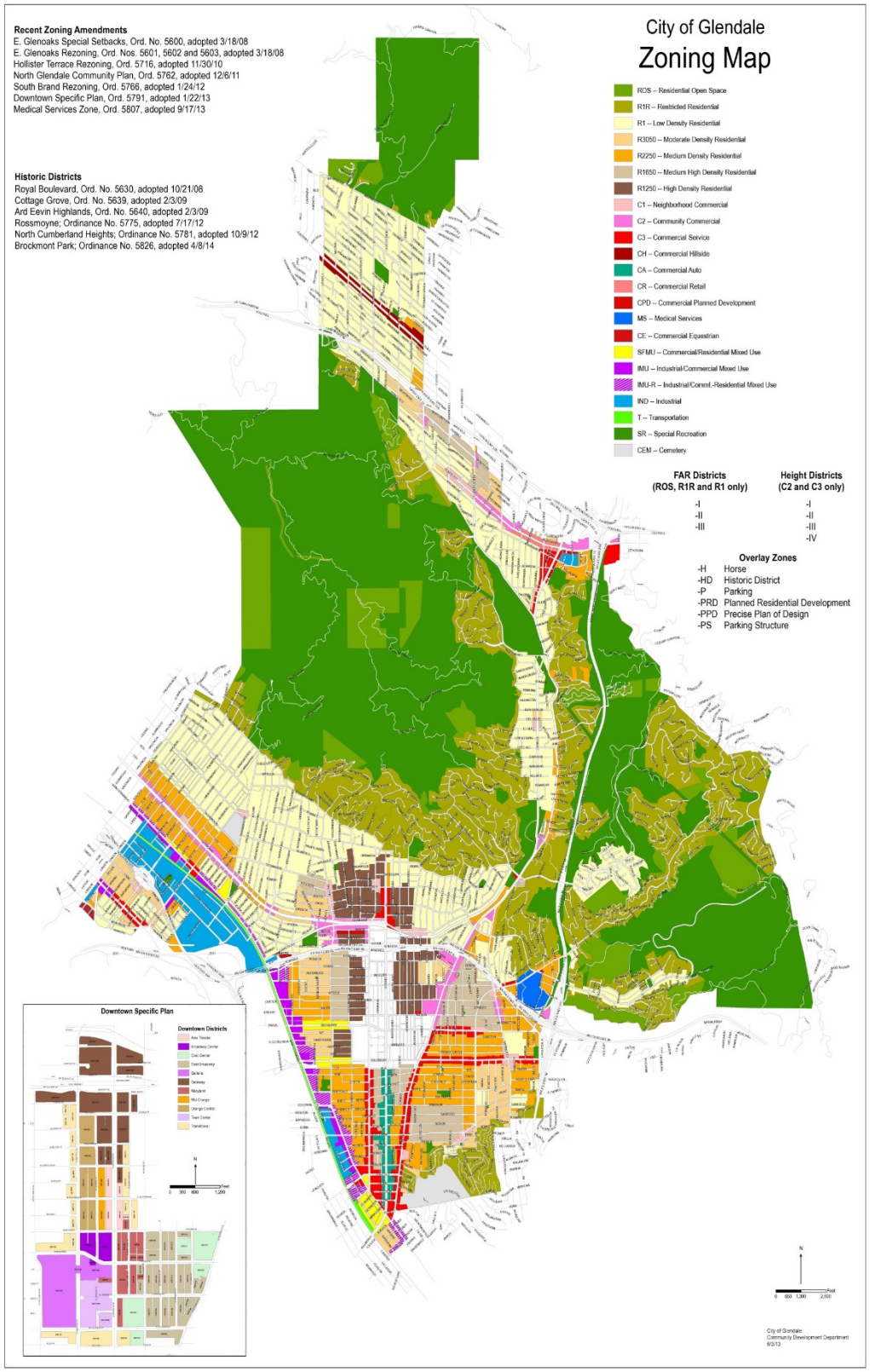
The City's climate is Mediterranean to semiarid with cycles of multi- year droughts. Historical average rainfall amounts do not provide adequate local water supplies for the City; water demands currently require that approximately sixty percent (60%) of its water be imported from outside of the region.

At approximately 30.6 square miles, the City has varying topography ranging from downtown flat area to inland mountain areas, each with its own distinct microclimate. This varied geography and semiarid climate require sophisticated and innovative water and recycled water systems.

For more than 100 years, the City has continually and proactively invested in its water supply system to maintain a reliable water supply for residents and businesses.

Glendale has taken numerous steps to decrease its overall water demands by increasing its water conservation efforts, including adopting water waste prohibition ordinances, installing a complete Advanced Metering Infrastructure (AMI) system, also referred to as "smart-meters," providing multiple customer tools to use the AMI data including online and application based tools to monitor and control their water usage, and automated leak alerts which notify a customer of a potential leak on their premises, rebates for water-saving plumbing fixtures, rain barrels, and drought tolerant landscaping training classes and information.

With respect to climate change, the City has not conducted an official climate change vulnerability or risk assessment for the existing water service area. However, climate change considerations for the City's imported water supply were incorporated into MWD's 2020 Energy Sustainability Plan (ESP) included in Appendix K. The ESP notes the possibility of potential climate change impacts on the Colorado River's flow and storage and is working with federal agencies and other entities to address these issues.


Recent Zoning Amendments
E. Glenoaks Special Setbacks, Ord. No. 5600, adopted 3/18/08
E. Glenoaks Rezoning, Ord. Nos. 5601, 5602 and 5603, adopted 3/18/08
Hollister Terrace Rezoning, Ord. 5716, adopted 11/30/10
North Glendale Community Plan, Ord. 5762, adopted 12/6/11
South Brand Rezoning, Ord. 5766, adopted 1/24/12
Downtown Specific Plan, Ord. 5791, adopted 1/22/13
Medical Services Zone, Ord. 5807, adopted 9/17/13
Historic Districts
Royal Boulevard, Ord. No. 5630, adopted 10/21/08
Cottage Grove, Ord. No. 5639, adopted 2/3/09
Ard Eevin Highlands, Ord. No. 5640, adopted 2/3/09
Rossmoyne; Ordinance No. 5775, adopted 7/17/12
North Cumberland Heights; Ordinance No. 5781, adopted 10/9/12
Brockmont Park; Ordinance No. 5826, adopted 4/8/14
City of Glendale
Zoning Map
ROS -- Residential Open Space
R1R -- Restricted Residential
R1 -- Low Density Residential
R3050 -- Moderate Density Residential
R2250 -- Medium Density Residential
R1650 -- Medium High Density Residential
R1250 -- High Density Residential
C1 -- Neighborhood Commercial
C2 -- Community Commercial
C3 -- Commercial Service
CH -- Commercial Hillside
CA -- Commercial Auto
CR -- Commercial Retail
CPD -- Commercial Planned Development
MS -- Medical Services
CE -- Commercial Equestrian
SFMU -- Commercial/Residential Mixed Use
IMU -- Industrial/Commercial Mixed Use
IMU-R -- Industrial/Commrl.-Residential Mixed Use
IND -- Industrial
T -- Transportation
SR -- Special Recreation
CEM -- Cemetery
FAR Districts (ROS, R1R and R1 only)
-I
-II
-III
Height Districts (C2 and C3 only)
-I
-II
-III
-IV
Overlay Zones
-H Horse
-HD Historic District
-P Parking
-PRD Planned Residential Development
-PPD Precise Plan of Design
-PS Parking Structure
Downtown Specific Plan
Downtown Districts
City of Glendale
Community Development Department
9/3/13

SECTION 4
WATER USE CHARACTERIZATION

Glendale Water & Power

2020 URBAN WATER MANAGEMENT PLAN

4.0 Water Use Characterization

This chapter quantifies and describes Glendale's past, current, and future water use projections through the year 2040, to the extent that records are available.

The remainder of this chapter is divided into the following subsections:

4.1 Non-Potable Versus Potable Water Use

4.2 Past, Current, and Projected Water Use by Sector

4.2.1 Water Use Sectors Listed in Water Code

4.2.2 Water Use Sectors in Addition to Those Listed in Water Code

4.2.3 Past Water Use

4.2.4 Distribution System Water Losses

4.2.5 Current Water Use

4.2.6 Projected Water Use

4.2.7 Characteristic Five-Year Water Use

4.3 Worksheets and Reporting Tables

4.3.1 Optional Planning Tool Use Analysis Worksheet

4.3.2 DWR 2020 UWMP Submittal Tables

4.4 Water Use for Lower Income Households

4.5 Climate Change Considerations

4.1 NON-POTABLE VERSUS POTABLE WATER USE

The Water Code requires a description and quantification of water uses in GWP's service area. The Code also requires that recycled water use and potential use be described and quantified. In order to demonstrate consistency with recycled water reporting, prescriptive Submittal Tables have been provided by the State to quantify recycled water use and total potable plus other non-potable water use separately from recycled water use.

However, information from this chapter and Chapter 6 was used to prepare the reliability assessments in Chapter 7. In many cases, potable and non-potable (including recycled water) water supplies cannot be used interchangeably.

Potable water uses are served by potable water sources (sources that comply with Title 22 Drinking Water Standards). Non-potable water uses are served by non-potable water sources such as recycled water. The non-potable water use is served from a water distribution system that is separate from the potable water distribution system.

4.2. PAST, CURRENT, AND PROJECTED WATER USE BY SECTOR

State Guidance

Quotations form the UWMP Guidebook developed by DWR are noted below. These paragraphs are in Section 4.2 of the Guidebook covering development of this UWMP.

> *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.

4.2.1 Water Use Sectors Listed in Water Code

Quotations form the UWMP Guidebook developed by DWR are noted below. These paragraphs are in Section 4.2.1 of the Guidebook covering development of this UWMP.

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

4.2.1.1 Single-Family Residential

A single-family dwelling unit. A lot with a free-standing building containing one dwelling unit that may include a detached secondary dwelling. This is a retail demand. Note that with the large number of accessory dwelling units (ADU's) being built in Glendale, the historical definition of "Single-Family Residential" (SFR) will be changing over time. State guidance has not "caught up" with these changes.

4.2.1.2 Multi-Family

Multiple dwelling units contained within one building or several buildings within one complex. This is a retail demand. In general, an apartment building or a condominium complex would be considered Multi-Family Residential dwelling units or (MFR).

4.2.1.3 Commercial

A water user that provides or distributes a product or service. This is a retail demand. [Water Code Section 10608.12(e)]. The City of Glendale has one rate for Commercial and Industrial Uses and tracks the demand as (COMM).

4.2.1.4 Industrial

A water user that is primarily a manufacturer or processor of materials as defined by the North American Industry Classification System (NAICS) code sectors 31 to 33, inclusive, or an entity that is a water user primarily engaged in research and development. Water Code Section 10608.12(i). The following link is to the NAICS website: http://www.census.gov/cgi-bin/sssd/naics/naicsrch. This is a retail demand. The City of Glendale has one rate for Commercial and Industrial Uses and tracks the demand as (COMM).

4.2.1.5 Institutional (and Governmental)

A water user dedicated to public service. This type of user includes, among other users, higher-education institutions, schools, courts, churches, hospitals, government facilities, and nonprofit research institutions. Water Code Section 10608.12(j). This is a retail demand. The City of Glendale does not include educational institutions, churches or hospitals, or nonprofit institutions in its Municipal Rate (MUNI).

4.2.1.6 Landscape

Water connections supplying water solely for landscape irrigation. Such landscapes may be associated with multi-family, commercial, industrial, or institutional/governmental sites, but are considered a separate water use sector if the connection is solely for landscape irrigation. This is a retail demand. Irrigation (IRR) only accounts in Glendale can be either potable or recycled water accounts.

4.2.1.7 Sales to Other Agencies

The UWMP guidebook states: “These are water sales made to another agency (referred to here as water Supplier). Projected sales may be based on projected demand provided by the receiving water Supplier. There is inherent uncertainty in future projections, therefore, any projected sales reported in the UWMP are for planning purposes only and are not considered a commitment on the part of the seller. This is a wholesale demand. Water suppliers will determine whether their demands are considered sales, transfers, or exchanges; reporting in the UWMPs will reflect the Suppliers’ determination of these water demands. Some Retail Suppliers also supply water to other Suppliers. This is considered a wholesale demand.”

GWP does not sell water to other agencies. GWP does have emergency interconnections with Crescenta Valley Water District, and Valley Water Company and any sales through these connections are not considered part of Glendale's demands. In fact, these sales are to Foothill Municipal Water District, which is the MWD wholesale district that serves these two agencies. Additionally, Glendale and Burbank also have emergency interconnections, and similarly, these are not considered demands on Glendale's or Burbank's system because both agencies are MWD member agencies and pay MWD directly for the water.

4.2.1.8 Conjunctive Use

The UWMP guidebook states that conjunctive us is: "A management strategy where surface water is managed in conjunction with an underground aquifer. For purposes of the UMWP, conjunctive use is seen as a management strategy rather than as a water use. Do not use the sector conjunctive use as a water use. This type of water use would best be reported as groundwater recharge or as Other."

Glendale does not participate in conjunctive use projects for several reasons. The main reason is that Glendale's water supply in the San Fernando Basin is treated as part of an EPA Superfund clean-up project called the Glendale Operable Unit. As such, this project operates under a consent decree where the pumping rate is fixed, meaning that the City could not turn off the project in a wet year to store groundwater for use in a dry year.

4.2.1.9 Groundwater Recharge

The UWMP guidebook states: "The managed and intentional replenishment of natural groundwater supplies using man-made conveyances such as infiltration basins or injection wells. Water used for groundwater banking or storage may also be reported using this sector. If all, or a portion of, the groundwater recharge water is subsequently pumped out of the basin in the same year, that water will be reported by the Supplier as a supply from groundwater. This may be either a wholesale or retail demand."

The City of Glendale does not have access to untreated surface water supplies to use for groundwater recharge. Additionally, Glendale does not have access to a spreading ground to conduct groundwater recharge operations.

4.2.1.10 Saline Water Intrusion Barriers

The UWMP guidebook states: "Injection of water into a freshwater aquifer to prevent the intrusion of saltwater. This may be either a wholesale or retail demand."

Glendale is located inland form the ocean and does not have saltwater intrusion issues either in the San Fernando Basin or the Verdugo Basin.

4.2.1.11 Agricultural

The UWMP guidebook states: "Water used for commercial agricultural irrigation. Note that water used for processing agricultural products (e.g., food, beverage, or textile manufacturing) may be considered industrial process water, rather than an agricultural water use. Industrial process water may be excluded from gross water use for SB X7-7 calculations (see Chapter 5). To be classified as industrial process water, the water use must fall under Sector 31, 32, or 33 of NAICS code (search the 2017 NAICS Manual for additional information: https://www.census.gov/eos/www/naics/). This may be either a wholesale or retail demand."There are more than one "urban farms" located in Glendale. Water to these farms is accounted for as "irrigation" because it is served through dedicated irrigation meters.

4.2.1.12 Distribution System Losses

Reporting distribution system losses is required by the Water Code. See Section 4.2.4 and Appendix H for details. This is a retail demand.

The State considers water loss a retail demand. This approach is misguided. The idea behind it is that if the retail cost of water is assigned to water losses, this would somehow provide revenue to make system improvements that reduce water loss. The error with this logic is that water agencies, especially municipally owned water agencies like GWP, perform a Cost of Service Analysis (COSA) that is used to set water rates to provide revenue that pays for the expenses of the water utility. In order to raise revenue to make improvements to the water system, water rates need to be increased. There is no revenue generated form water losses.

GWP is required to submit an annual water loss audit report meeting the requirements of California Code of Regulations Title 23, Division 2, Chapter 7 and the California Water Code Section 10608.34 to the State Water Resources Control Board (SWRCB). This information is also reported in the Electronic Annual Report submitted to SWRB, and it is included here in the UWMP which is being submitted to DWR.

In addition to the erroneous assignment of retail water costs to water loss, the guidance for the external auditors of the standardized water loss audit report is also flawed. Like the guidance for the UWMP, the auditing procedures are designed for every type of water agency regardless of sophistication. Glendale has a fully implemented AMI system, SCADA system with continuous monitoring of system pressures, and very accurate retails meters that were installed less than 8 years ago, as well as an active large meter test program and diligent reporting of water use during system flushing and hydrant testing operations. Despite this, the annual audit indicates that GWP's water audit has a low validity score.

GWP's water loss is less than 5% per year. Indications that the loss is greater than this is due to apparent losses caused by the need to estimate many customer meter reads due to early failures

of the AMI endpoints supplied by their manufacturer. This introduces errors both in quantities, but more importantly in the timing of the read used in the calculation of the water loss as it is compared to the production meters.

4.2.2 Water Use Sectors in Addition to Those Listed in Water Code

The water use sectors described below are not specifically listed in, nor required by the Water Code. These sectors may help some Suppliers, especially a Wholesale Supplier, account for the entirety of its water uses. Water use in these sectors is to be reported as appropriate and as records are available. GWP is not a wholesale supplier.

4.2.2.1 Exchanges

The City of Glendale and the City of Burbank may exchange recycled water, per agreement, at their recycled water interconnection. The agreement is structured so that exchanged water is returned at the same amount, when the receiving agency is able to return it. So, this not a demand for planning purposes.

4.2.2.2 Surface Water Augmentation

The planned placement of recycled water into a surface water reservoir that is used as a source of domestic drinking water supply (see Chapter 6, Section 6.2.5 Recycled Water). This is also referred to as Reservoir Water Augmentation in Tables 6-4 and 6-5 and in Appendix M of the UWMP Guidebook.

The 60% to 70% of Glendale's water supply is provided by MWD. Glendale only buys treated water from MWD. This is treated surface water, treated at one of MWD's surface water treatment plants. Prior to the end of the planning horizon for this UWMP, MWD may engage in surface water augmentation. This "demand" would be included in MWD's UWMP.

4.2.2.3 Transfers

The Water Code defines a water transfer as a temporary or long-term change in the point of diversion, place of use, or purpose of use due to a transfer, sale, lease, or exchange of water or water rights. Since member agencies of MWD cannot sell MWD water to other MWD member agencies, whenever Glendale supplies water to Crescenta Valley Water District or Valley Water Company, it is essentially a transfer to Foothill Municipal Water District. Foothill and GWP account for these transfers as use within Foothills service area, so these transfers are not part of GWP's planning process.

4.2.2.4 Wetlands or Wildlife Habitat

Water used for a managed environmental use to improve an environmental condition. This may be a wholesale or retail demand.

The City of Glendale has been a pioneer in the use of recycled water. The City is co-owner of the Los Angeles-Glendale Water Reclamation Plant (LAGWRP) that is the source of Glendale's recycled water. Recently, the City attempted to use more recycled water and had to file a "1211 Wastewater Change Petition" with the SWRCB Division of Water Rights. The attempt to increase the use of recycled water and reduce imported water was protested by the City of Los Angeles and a non-governmental organization. The City of Los Angeles subsequently helped fund a "LA River Flow Study" with the SWRCB to "help determine how much water, including Glendale's water, needs to remain in the LA River". Ultimately the City of Glendale was granted permission to increase recycled water use, but the order granting this contains a "re-opener" that essentially states that the SWRCB may revoke this permission at any time so that Glendale's water would remain in the LA River.

Since Glendale's residents pay MWD to import water from the Colorado River and the Feather River through the Bay Delta, then treat it, then they pay to treat it again after they use it and it becomes wastewater, any water that Glendale is forced to leave in the LA River to ultimately dump into the ocean, should be considered a retail demand. A major issue with this, is that there is no one to pay for this demand, other than the residents and businesses of Glendale through their water and sewer rates.

4.2.2.5 Other

The UWMP Guidebook states: Any water demand that is not adequately described by the water sectors defined above. When using the Other category as a water use sector, the agency is required to briefly describe the water uses reported in this category (e.g., firefighting). Examples include:

The Supplier combines commercial, industrial, and institutional into one sector called CII. 'CII water use' is defined in Water Code Section 10608.12(d). Glendale combines commercial and industrial water use in this category.

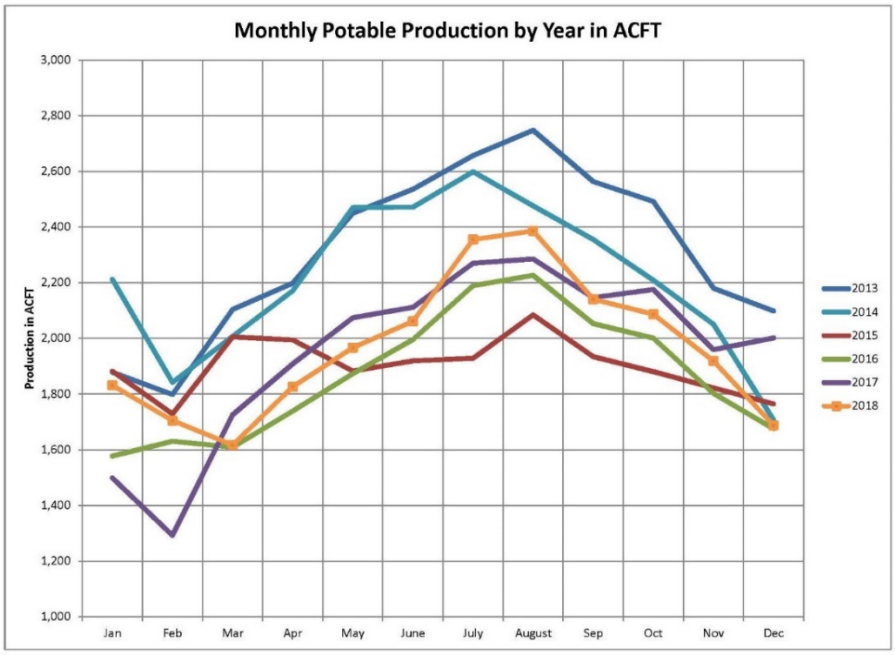
4.2.3 Past Water Use

The UWMP Guidebook states "While not part of the DWR UWMP Reporting Tables, the Water Code requires Retail Suppliers to quantify past water use". Water use in 2020 is past water use, and this is shown in reporting Table 4-1, in Section 4.2.5 and is labeled as "current water use". This might be considered "recent water use".

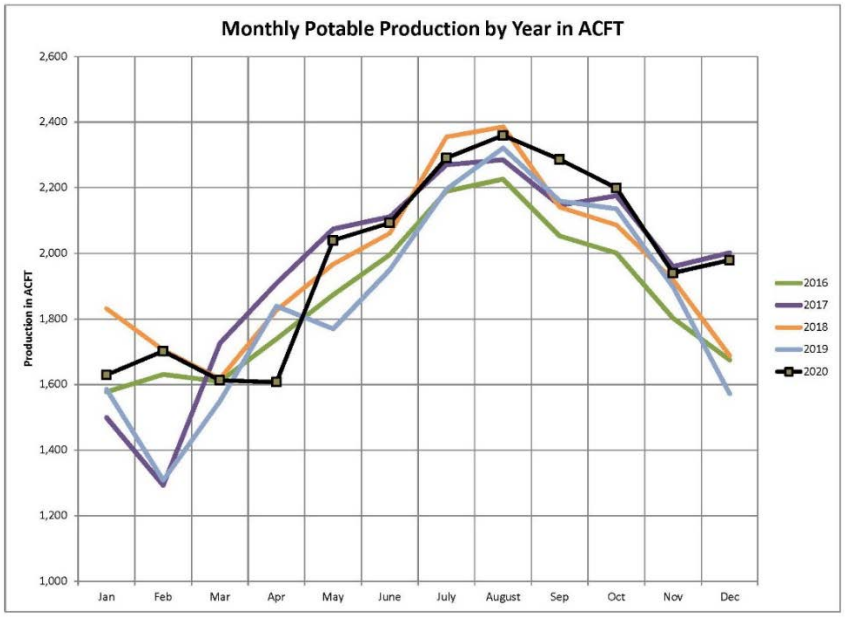
Potable water use in Glendale is grouped into two distinct patterns. The years prior to the water shortage of 2015 and the years after the mandatory watering restrictions in 2015. The years since 2015 provide a reliable estimating tool for estimating future water use since the use has stabilized and since the City of Glendale is "built-out" or "developed" with the major development work being completed is primarily redevelopment.

The first chart below shows Glendale's total water production for the years 2013 through 2018. As can be seen in this chart, 2013 and 2014 are grouped together, with 2015 being an outlier.

Then 2016 through 2018 began to be very similar, with the only differences being driven by precipitation during the winter months.



The second chart below expands on the first chart showing the grouping of water production uniformly from 2016 through 2020.



Similarly, the differences in production due to "wet" February's in 2017 and 2019. The other difference to note is the flat line of production in April of 2020. This was due to stay at home orders during the pandemic and drop in commercial demands with demands rebounding again during the warmer weather in May.

A portion of the re-normalizing of demands at a lower level after the water supply shortage of 2015 is due to changes in landscaping in the service area. Another driver is due to sprinkler control system being left at "lower" frequency settings and remaining there after mandatory conservation. A third driver is more public awareness to turn off sprinkler system during and for a few days after rain events.

4.2.4 Distribution System Water Loss

Quotations form the UWMP Guidebook developed by DWR are noted below.

> *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.*

Per the guidebook, distribution system water losses are the physical potable water losses from the pressurized water distribution system and the Supplier's storage facilities up to the point of delivery to the customer's system (e.g., up to the residential water meter) calculated using the

American Water Works Association Method (Title 23 CCR Section 638.1 et seq.). This is the sum of American Water Works Association Method real losses and apparent losses.

- Retail Suppliers must report their distribution system water loss for each of the five years preceding the plan update [Water Code Section 10631(d)(3)] in accordance with the rules adopted pursuant to Water Code Section 10608.34.

- Pursuant to Water Code Section 10631 (d)(3)(C), Suppliers are required to provide data demonstrating whether the supplier will meet its State Water Board water loss performance standard. Although the standard has not yet been implemented and may not go into effect until the future, the data needs to be in the 2020 UWMPs per the Water Code. Inclusion of water loss audit reports, descriptions of programs to reduce water losses, and downward trends in water loss in the 2020 UWMP could be used to provide the required information demonstrating whether the Supplier will meet its standard when it is established.

Water loss data will be reported in Submittal Table 4-4 (R or W, as appropriate), presented later in this chapter (see Section 4.3 – Worksheets and Reporting Tables) and the Water Loss Standard will be described in the narrative, as applicable.

Since 2016, Glendale has been required to quantify its distribution system losses in accordance with CCR Section 638.1 et seq. An electronic copy of the audit in Excel format has been submitted to DWR by October 1 of each year, using DWR's online submittal tool pursuant to CCR Section 638.5. As such, it may be that insufficient Water Loss Audit data, pursuant to the rules adopted under Water Code Section 10608.34, are available. So, Glendale has provided the water loss information that is has been accurately tracking based on "water production" vs. "water sales" for decades prior to 2016 as part of the normal management of a water utility.

Per the guidebook projected water losses, reported in five-year increments for at least 20 years, must also be included in the UWMP to effectively evaluate water service reliability, and it is one of the water use sectors that requires reporting per Water Code Section 10631(d)(1). Estimated losses for 2020 can be included in the Planning Tool Use Worksheet, to facilitate analysis of projected water use. Submittal Table 4-1 R provides the option to select water loss as a category to report on. If appropriate, a Supplier can select water loss for multiple rows, such as in cases where the Supplier accounts for both potable and non-potable water loss separately. This table allows for a description of the category selected.

Note, this section on reporting distribution system water loss differs from the discussion of distribution system real loss required by Water Code Section 10631(e)(1)(B) under Demand Management Measures discussed in Chapter 9 the Guidebook. This section requires estimation of water loss, whereas the DMM in Chapter 9 requires retail water suppliers to discuss how they will address water loss.

4.2.5 Current Water Use

Per the guidebook, current water use may be ascertained by analyzing information generally managed by the Supplier (e.g., meter data, billing records, and others) or any monthly reports submitted to the State Water Board. Current water use is entered into the DWR UWMP Submittal Table 4-1 (R or W, as appropriate) provided to record current water use, not including recycled water use; recycled water use is detailed in Chapter 6 and summarized in Submittal Table 4-3 (R or W, as appropriate) for total water use calculations.

Current 2020 water use will also be used in calculations to demonstrate the Retail Supplier's compliance with its 2020 per- capita water use target adopted in its 2015 UWMP, pursuant to Water Code Section 10608.24(b) (see Chapter 5).

Submittal Table 4-1 Retail: Demands for Potable and Non-Potable Water – Actual, is included in Section 4.3.2.1 below. Utilizing AMI data to determine a percent by customer class, this percent is applied to Glendale's total potable production for 2020 minus the water loss percentage from 2019. The reason for not using AMI data directly, as noted in previous sections, is due to the failure rate of the AMI endpoints and the need to estimate billing data.

4.2.5.1 Optional Planning Tool – Current Use

Current 2020 water use was entered into the Optional Planning Tool and is summarized below.

Use Category	M1	M2	M3	M4	M5	M6	M7	M8	M9	M10	M11	M12
	545.9	845.0	535.8	939.7	513.7	1032.	527.4	1039.	506.6	948.3	526.1	
	244.0	244.4	246.0	180.6	180.1	207.0	226.8	281.1	205.4	228.3	196.1	
	36.6	41.8	42.3	29.9	31.8	35.7	37.5	45.2	39.6	39.3	36.4	
	9.33	22.55	25.81	14.25	26.67	43.94	31.34	53.03	72.46	69.67	58.21	
	13.42	22.05	26.49	14.90	28.35	41.36	50.73	41.75	45.83	32.34	42.13	
	1.45	3.09	1.81	2.91	2.91	10.76	3.33	18.66	1.14	1.05	2.78	
	1,423	**1,669**	**1,521**	**1,688**	**1,467**	**2,091**	**1,848**	**2,248**	**1,829**	**1,957**	**1,801**	
	1,423	**1,669**	**1,521**	**1,688**	**1,467**	**2,091**	**1,848**	**2,248**	**1,829**	**1,957**	**1,801**	

*Units: AF

4.2.6 Projected Water Use

Quotations form the UWMP Guidebook developed by DWR are noted below.

> *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 included in Table 4-2: Water Use by Sector – Projected, in Section 4.3.2.2 below.

4.2.6.1 20-Year Planning Horizon

Quotations from the UWMP Guidebook developed by DWR are noted below.

In accordance with Water Code Section 10635(a), all Suppliers will need to report their projected water use, in five-year increments through 2040. Additionally, in accordance with Water Code Section 10603(d)(2), Retail Suppliers must report their projections for each of the water use sectors identified in Section 4.2.1.

If a Retail Supplier receives water from a Wholesale Supplier, the Retail Supplier must provide their projected use of that supply to the Wholesale Supplier. As a Member Agency of MWD, which is a supply system, GWP staff report water use projections to MWD and actively participate in the development of MWD's UWMP and Integrated Resource Plan.

4.2.6.2 Water Year Types

Quotations form the UWMP Guidebook developed by DWR are noted below.

"For the water service reliability assessment, Suppliers will need to characterize the normal water use for estimating normal water supply reliability and reliability in the event of a single dry year. Suppliers may choose to characterize the normal year water use in whatever manner makes the best planning sense. Both normal year and single dry year data is reported in Submittal Tables 7-1, 7-2, and 7-3. Suppliers will also have to characterize a five-consecutive-year drought which is addressed in Section 4.2.7."

4.2.6.3 Codes and Other Considerations Used in Projections

Quotations from the UWMP Guidebook developed by DWR are noted below.

"If available, water use projections must display and account for the water savings estimated to result from adopted codes, standards, ordinances, or transportation and land use plans identified. If future codes, ordinances, or standards are known, it is recommended to include those are part of the water savings estimates as well."

Code induced savings are incremental in nature and difficult to quantify in a projection. A more conservative approach, from a water supply planning perspective, would be to ensure sufficient water supply is available, regardless of specific code changes.

Additionally, code changes enacted by the State Legislature regarding accessory dwelling units, or ADU's may actually increase water use. Water suppliers are prohibited from requiring

separate services and meters for each ADU. So, in this case, water use is projected to increase due to a code change.

4.2.6.4 Optional Planning Tool – Projected Use

The optional tool was not used for this analysis.

4.2.7 Characteristic Five-Year Water Use

Quotations from the UWMP Guidebook developed by DWR are noted below.

> *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 drought risk assessment is included in Chapter 7.

4.3 WORKSHEETS AND REPORTING TABLES

4.3.1 Optional Planning Tool Use Analysis Worksheet

The optional tool was not used for this analysis.

4.3.2 DWR 2020 UWMP Submittal Tables

The tables below quantify the items discussed in the previous sections and are the tables submitted to DWR electronically so they can compile the information from all of the water suppliers to make a statewide report.

4.3.2.1 Submittal Table 4-1: Total Water by Sector - 2020

Submittal Table 4 1 Retail: Demands for Potable and Non Potable[1] Water - Actual			
Use Type	2020 Actual		
Drop down list May select each use multiple times These are the only Use Types that will be recognized by the WUEdata online submittal tool	Additional Description (as needed)	Level of Treatment When Delivered Drop down list	Volume[2]
Add additional rows as needed			
Single Family		Drinking Water	8,470
Multi-Family		Drinking Water	8,912
Commercial		Drinking Water	2,622
Industrial		Drinking Water	452
Other Potable	Municipal	Drinking Water	460
Landscape	Irrigation	Drinking Water	381
Other Potable	Public Authority	Drinking Water	74
		TOTAL	21,372

[1] *Recycled water demands are NOT reported in this table. Recycled water demands are reported in Table 6-4.*

[2] *Units of measure (AF, CCF, MG) must remain consistent throughout the UWMP as reported in Table 2-3.*

4.3.2.2 Submittal Table 4-2: Water Use by Sector – Projected

Submittal Table 4-2 Retail: Use for Potable and Non-Potable[1] Water Projected						
Use Type	Additional Description (as needed)	Projected Water Use[2] *Report To the Extent that Records are Available*				
Drop down list May select each use multiple times These are the only Use Types that will be recognized by the WUEdata online submittal tool		2025	2030	2035	2040	2045 (opt)
Add additional rows as needed						
Single Family		8,487	8,504	8,521	8,538	8,555
Multi-Family		8,930	8,948	8,966	8,984	9,001
Commercial		2,627	2,632	2,638	2,643	2,648
Industrial		453	454	455	456	457
Other Potable	Municipal	461	462	463	464	465
Landscape	Irrigation	382	383	383	384	385
Other Potable	Public Authority	74	74	74	75	75
TOTAL		21,414	21,457	21,499	21,542	21,586

4.3.2.3 Submittal Table 4-3: Total Water Use (Potable and Non-Potable)

Submittal Table 4-3 Retail: Total Water Use (Potable and Non Potable)						
	2020	2025	2030	2035	2040	2045 (opt)
Potable Water, Raw, Other Non-potable *From Tables 4-1R and 4-2 R*	21,372	21,414	21,457	21,499	21,542	21,586
Recycled Water Demand[1] *From Table 6-4*	0	260	300	300	300	0
Optional Deduction of Recycled Water Put Into Long-Term Storage[2]						
TOTAL WATER USE	21,372	21,674	21,757	21,799	21,842	21,586

4.3.2.4 Submittal Table 4-4: Preceding Five-Year Water Loss Audit Reporting

Submittal Table 4-4 Retail: Last Five Years of Water Loss Audit Reporting	
Reporting Period Start Date (mm/yyyy)	Volume of Water Loss [1,2]
01/2015	667.131
01/2016	301.247
01/2017	1010.237
01/2018	890.262
01/2019	328.618

4.4 WATER USE FOR LOWER INCOME HOUSEHOLDS

The UWMP Guided books quotes the following section of the Water Code.

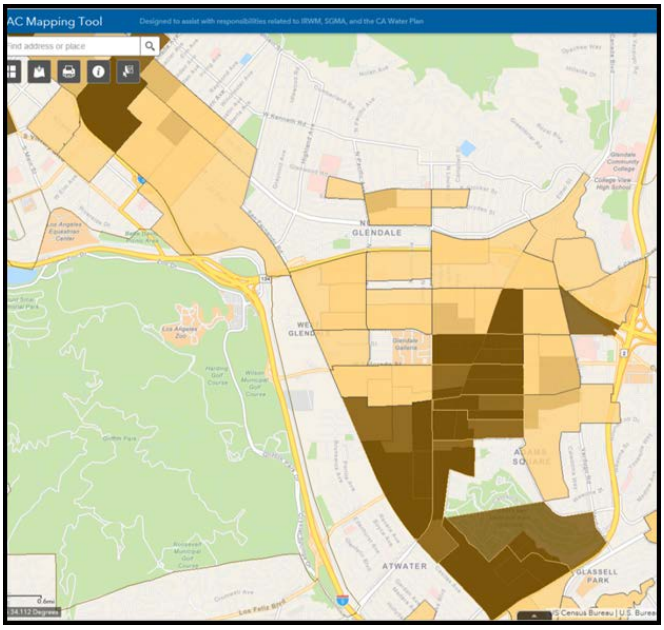
Water Code Section 10631.1.

(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.

The City of Glendale's water system is one contiguous system. So, all projections for water supply and water use are for the whole system. These projections include projected uses and supplies in the tracts defined by DWR as disadvantaged and severely disadvantaged as shown from DWR's mapping tool as show in the shaded areas below. This represents more than half of GWP's physical service area.



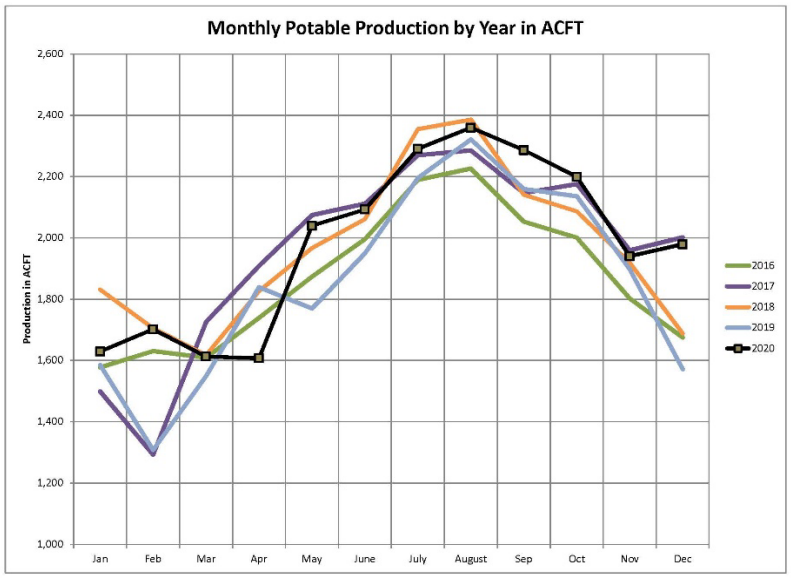
4.5 CLIMATE CHANGE CONSIDERATIONS

The UWMP Guided books quotes the following section of the Water Code.

> *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.*

The Drought Risk Assessment is included in Chapter 7. Climate change will impact demands primarily due to outdoor water use. As local dry seasons become longer, the duration of higher outdoor water use will extend, thus increasing the total water demand for any given year, regardless of type or efficiency of landscaping used. Similarly, when precipitation events are shorter and more intense, this will not reduce total annual demands because the duration of the rainy periods will be shorter, meaning the avoidance of the use of irrigation will be shorter, again, increasing total annual demand.

To visualize this, the second chart for Section 4.2.3 is shown again below. The average annual total production for the five- year period of 2016 through 2020 is 18,336 ACFT. If climate change were to cause the December demands to track like the warm Decembers of 2017 and 2020 for the full five years, this would increase the average annual demands by an additional 300 ACFT for three of the years leading to a new annual average demand of 18,516 ACFT. This would represent a 2% increase in demands, or the need to produce 2% more water to meet demands.


Monthly Potable Production by Year in ACFT
Production in ACFT
2,600
2,400
2,200
2,000
1,800
1,600
1,400
1,200
1,000
Jan
Feb
Mar
Apr
May
June
July
August
Sep
Oct
Nov
Dec
2016
2017
2018
2019
2020

SECTION 5
SBX7-7 BASELINE AND TARGETS

Glendale Water & Power

2020 URBAN WATER MANAGEMENT PLAN

5.0 SBX7-7 Baselines, Targets, and 2020 Compliance

With the adoption of the Water Conservation Act of 2009, also known as SB X7-7, the State of California is required to reduce urban per capita water use by 20 percent by the year 2020 (aka 20 x 2020). Water Code Section 10608.16(a) states:

The state shall achieve a 20 percent reduction in urban per capita water use in California on or before December 31, 2020.

In order to achieve this statewide objective, the Legislature required each Retail Supplier subject to the Act to develop an urban water use target to help the state collectively achieve a 20 percent reduction. The Legislature stated that the cumulative results of each Retail Supplier's reduction would meet the statewide legislative requirement.

5.1 2020 COMPLIANCE

The goal of this SBX7-7 Baseline, Targets, and 2020 Compliance chapter is to allow GWP as the retail supplier to demonstrate its compliance with its 2020 targeted water-use reduction, as required in the Water Conservation Act of 2009. Each retail supplier preparing a 2020 UWMP must demonstrate whether it has achieved its 2020 water use target (referred to as "2020 Target")

SBX7-7 required that 2010 UWMPs calculate an acceptable 2020 Target and a 2015 Interim Target, which was essentially the half way point to achieving the 2020 Target. These targets could be calculated using one of four acceptable methods. The basic options included a minimum reduction requirement of five percent, a five percent reduction of the South Coast Hydrologic Region Regional target, or a strict 20 percent reduction.

These options were established in order to avoid any undue hardship on water agencies that have already been implementing water conservation measures for some time, a category into which Glendale feasibly falls.

It is worth noting that because SBX7-7 calls for Retail Suppliers in the state to "collectively" achieve a 20% reduction, it is conceivable that some suppliers may have less than a 20% reduction while other may have more.

5.2 BASELINES

It is evident that any reduction in per capita water use must be in relation to a defined historical baseline. For a retail supplier that prepared a 2015 UWMP, the retail supplier must use the baseline and target identified in its 2015 UWMP in order to determine whether the retail supplier met its per-capita water reduction obligation.

Water use in gallons per capita per day (gpcd) must be calculated and reported for two baseline periods: the 10- or 15-year baseline (Baseline GPCD) and the 5-year baseline (Target Confirmation). The 10 or 15-year baseline line periods must end between 2004 and 2010 and the 5-year baseline period must end between 2007 and 2010. GWP chose to use a 10-year Baseline GPCD for the period from 2000 to 2009. To calculate this baseline, for each year in the period, the gross water use for that year is divided by the population served during the year. The yearly average for that period is then used as the Baseline GPCD. As shown in the 2010 and 2015 UWMPs, Glendale's Baseline GPCD was 144. The 5-year baseline (Target Confirmation) period was for the years 2004 to 2008 and it also turned out to have an annual average of 144 gpcd.

5.3 HITTING THE TARGET

To determine its 2020 Target, GWP initially used the so called Target Method 3, which is 95% of a hydrologic region Regional target. Glendale is in the South Coast Hydrologic Region. That region had developed a 2020 Regional target of 149 gpcd. The acceptable per capita reduction is ninety-five percent of that number, which is 142 gpcd. But the Water Code also has a provision on acceptable minimum per capita water use:

> *Water Code Section 10608.22*
>
> *Notwithstanding the method adopted by an urban retail water supplier pursuant to Section 10608.20, an urban retail water supplier's per capita daily water use reduction shall be no less than 5 percent of base daily per capita water use as defined…by the five-year baseline; i.e. Target Confirmation.*

In other words, the acceptable per capita reduction must be at least as much as 5% of the calculated five-year baseline. Ninety-five percent of the 144 gpcd baseline is 137 gpcd. So, the 2010 UWMP went with 137 rather than 142 as the 2020 target. The 2015 Interim Target was essentially half of the difference between the two or 140 gpcd.

5.3.1 SBX7-7 Verification Forms

The required SBX7-7 tables (referred to as SBX7-7 Verification Forms) that demonstrate these numbers and calculations are in the 2015 UWMP and are not required to be repeated in the 2020 UWMP. However, as recommended by DWR, they are included in this report for reference and are in Appendix A.

5.3.2 SBX7-7 2020 Compliance Forms

Glendale's actual per capita water use was 104 gpcd in 2015 and 104 gpcd in 2020. The required 2020 SBX7-7 tables that show these numbers and are used to verify compliance with the 2020 target (referred to as SBX7-7 Compliance Forms) are contained in Appendix M. Standardized Tables 5-1 (baseline and target summary) and 5-2 (2020 compliance summary),

shown below, summarize the findings in the 2020 SBX7-7 Compliance Forms. Interestingly, the results show that in 2015 (and replicated in 2020), Glendale had already not only met and far outperformed its 2015 Interim Target of 140 gpcd but also its 2020 Target 137 gpcd.

Submittal Table 5 1 Baselines and Targets Summary
From SB X7 7 Verification Form
Retail Supplier or Regional Alliance Only

Baseline Period	Start Year *	End Year *	Average Baseline GPCD*	Confirmed 2020 Target*
10-15 year	*2000*	*2009*	*144*	*137*
5 Year	*2004*	*2008*	*144*	

**All cells in this table should be populated manually from the supplier's SBX7-7 Verification Form and reported in Gallons per Capita per Day (GPCD)*

NOTES: Required gpcd of 137 based on 5% reduction of 5-year baseline.

Submittal Table 5 2: 2020 Compliance
From SB X7 7 2020 Compliance Form
Retail Supplier or Regional Alliance Only

2020 GPCD			2020 Confirmed Target GPCD*	Did Supplier Achieve Targeted Reduction for 2020? Y/N
Actual 2020 GPCD*	2020 TOTAL Adjustments*	Adjusted 2020 GPCD* *(Adjusted if applicable)*		
104	*0*	*104*	*137*	*Y*

**All cells in this table should be populated manually from the supplier's SBX7-7 2020 Compliance Form and reported in Gallons per Capita per Day (GPCD)*

Notably, if Glendale has used the strict 20% reduction of their 10-year Baseline GPCD for their 2020 Target, resulting in a Target of 115 gpcd, they still would have outperformed this Target with a 104 gpcd.

The reasons for this overachievement are varied and challenging to quantify, but it is apparent that the City has seen an overall increase in water efficiency from 2005-2015. This is due in part to the success of conservation measures, including water-saving plumbing fixtures and overall water conservation awareness. In addition, Governor Brown's April 2015 25% water reduction mandate further intensified conservation efforts.

5.4 CALCULATING POPULATION AND GROSS WATER USE

In order to correctly calculate baseline and compliance water use in GPCD, Retail Suppliers must determine the population that they serve in the baseline and compliance years:

> *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.*

5.4.1 Department of Finance (DOF)

The methodology for estimating a Retail Supplier's population is provided in Methodology 2 of the DWR *Methodologies* document, which essentially says that if a Supplier has a service area boundary that corresponds by 95 percent or more with the boundaries of an incorporated city, the Supplier will be able to use population data directly from the DOF population tables.

The California Department of Finance (DOF) uses United Stated (U.S.) Census Bureau data as a foundation for estimating population for incorporated cities, as well as counties and the entire State of California.

Population is reported in SB X7-7 Table 3 for both the baseline period (SB X7-7 Verification Form) and for 2020 Compliance (SB X7-7 2020 Compliance Form).

5.5 GROSS WATER USE

Gross Water Use is a measure of water that enters the distribution system of the Supplier over a 12-month period (either fiscal year or calendar year) with certain allowable exclusions:

> *Water Code Section 10608.12*
>
> *(h) "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 1 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 and all allowable exclusions and deductions are reported in SB X7-7 Table 4 for both the baseline period (SB X7-7 Verification Form) and 2020 Compliance (SB X7-7 2020 Compliance Form). GWP did not utilize an exclusion for industrial process water or other possible exclusion or adjustments because they were not applicable and/or were not needed to achieve the 2020 Target.

SECTION 6
WATER SUPPLY CHARACTERIZATION

Glendale Water & Power

2020 URBAN WATER MANAGEMENT PLAN

6.0 Water Supply Characterization

6.1 WATER SUPPLY ANALYSIS OVERVIEW

The City's water supply consists of imported water purchased from the Metropolitan Water District (MWD), groundwater produced from the Verdugo and San Fernando Basins, and recycled water produced at the Los Angeles-Glendale Water Reclamation Plant (LAGWRP) facility. The entry points in the Glendale Water system for the various supplies are shown in **Figure 6.1** on page 6-3, as well as the location of the "out of the area" water sources which includes all interconnections with other agencies.

6.2 NARRATIVE SECTIONS FOR SUPPLIER'S UWMP WATER SUPPLY CHARACTERIZATION

6.2.1 Purchased or Imported Water

The City has access to imported MWD water from the Colorado River and the Sacramento-San Joaquin River Delta in Northern California through the State Water Project (SWP). MWD has a SWP concentrated entitlement of approximately 2 million acre-feet (MAF) of water annually.

The Colorado River supplies California with 4.4 MAF annually for agricultural and urban uses with approximately 3.85 MAF used for agriculture in Imperial and Riverside Counties. The remaining unused portion (600,000 – 800,000 AF) is used for urban purposes in MWD's service area.

In addition to the Colorado River, the Sacramento-San Joaquin River Delta provides a significant amount of supply annually to Southern California. The Delta is located at the confluence of the Sacramento and San Joaquin Rivers east of the San Francisco Bay and is the West Coast's largest estuary. The Delta supplies Southern California with over 1 MAF of water annually.

The use of water from the Colorado River and the Sacramento-San Joaquin Delta continues to be a critical issue. In particular, Colorado River water allotments have been debated among the seven basin states and various regional water agencies at both the federal and state levels. The use of Delta water has been debated as competing uses for water supply and ecological habitat have jeopardized the Delta's ability to meet either need and have threatened the estuary's ecosystem.

In order to provide the City with imported water, MWD utilizes two separate aqueduct systems (one for each source of supply) to obtain its supplies. These two aqueduct systems convey water from each source into two separate reservoirs whereupon MWD pumps the water to one of its five treatment facilities. One of these aqueduct systems is known as the Colorado River Aqueduct (CRA). The CRA was constructed as a first order of business shortly after MWD's incorporation

In addition to the CRA, MWD receives water from northern California via the California Aqueduct. Also known as the State Water Project, the California Aqueduct is 444 miles long and carries water from the Delta to Southern California and is operated by the Department of Water Resources.

The previously mentioned aqueducts supply Southern California with a significant amount of its water and are crucial to its sustainability. In addition to these two water systems, there are also many other aqueducts that are vital to the State. The major aqueducts in California are shown in **Figure 6.2**.

As a wholesale agency, MWD distributes imported water to its 26 member agencies throughout Southern California as shown in **Figure 6.3**. The City is a member agency of MWD and therefore beneficiary of their water management plans. Glendale receives imported water through three service connections G-1, G-2, G-3 with a capacity of 31 mgd, 6.5 mgd, and 12.9 mgd, respectively. Imported water from MWD accounts for the majority of the City's potable supplies.

Table 6.1 presents the City's recent five-year imported water purchases from 2016 to 2020.

The City's Tier 1 limit from MWD is approximately 26,222 AFY. As indicated by **Table 6.1**, the City's imported water purchases are well under the limit during each of the past five years thanks to conservation efforts.

Table 6.1
Five-Year Imported Water Supply
(Purchases from MWD)

Year	Purchases (AF)
2020	15,476
2019	13,795
2018	15,924
2017	15,148
2016	14,743
2015	14,726
Average:	**14,969**
2010-2015 Average:	**17,550**

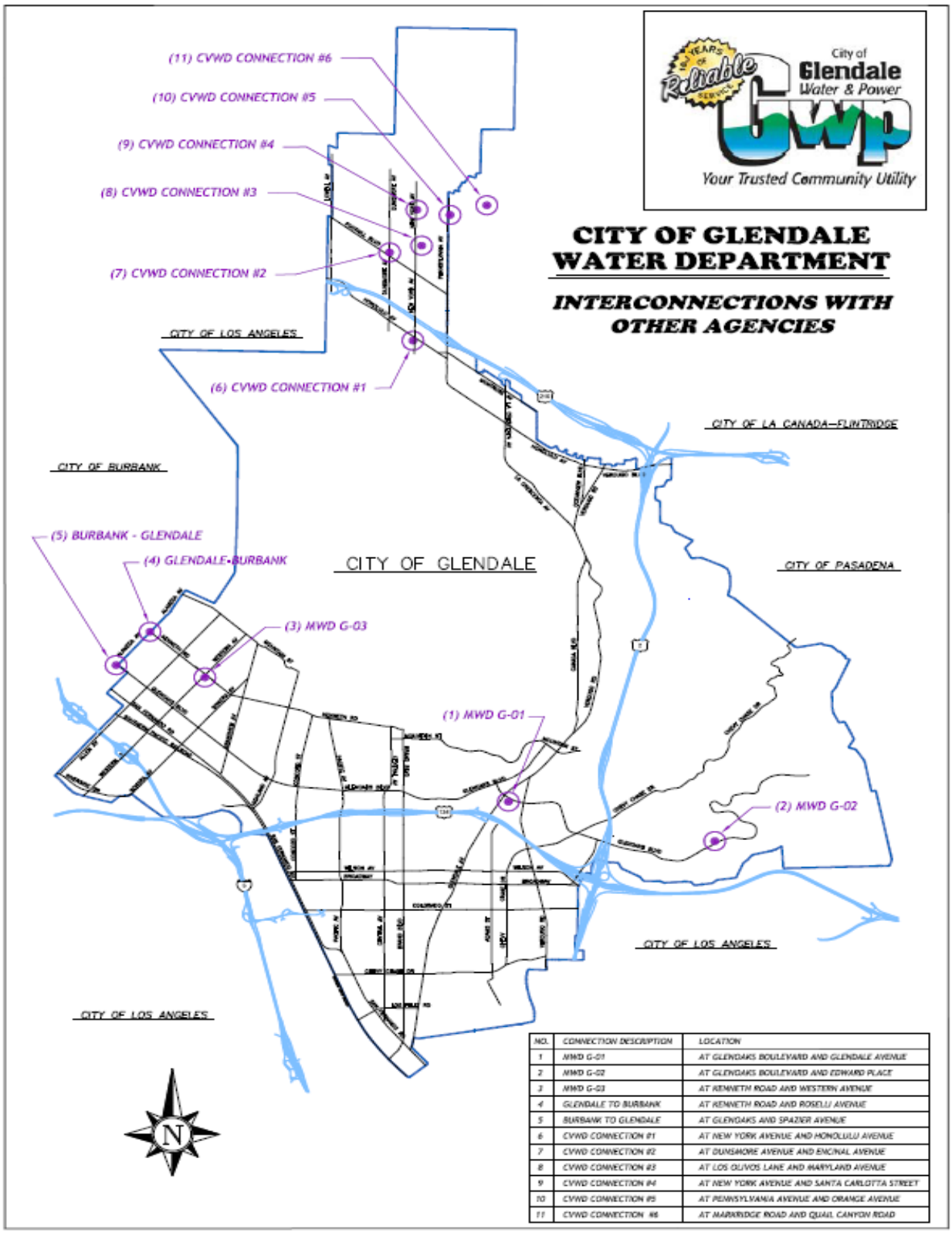


Figure 6.1: Glendale Interconnections with Other Agencies

Figure 6.2: Aqueduct Systems in California

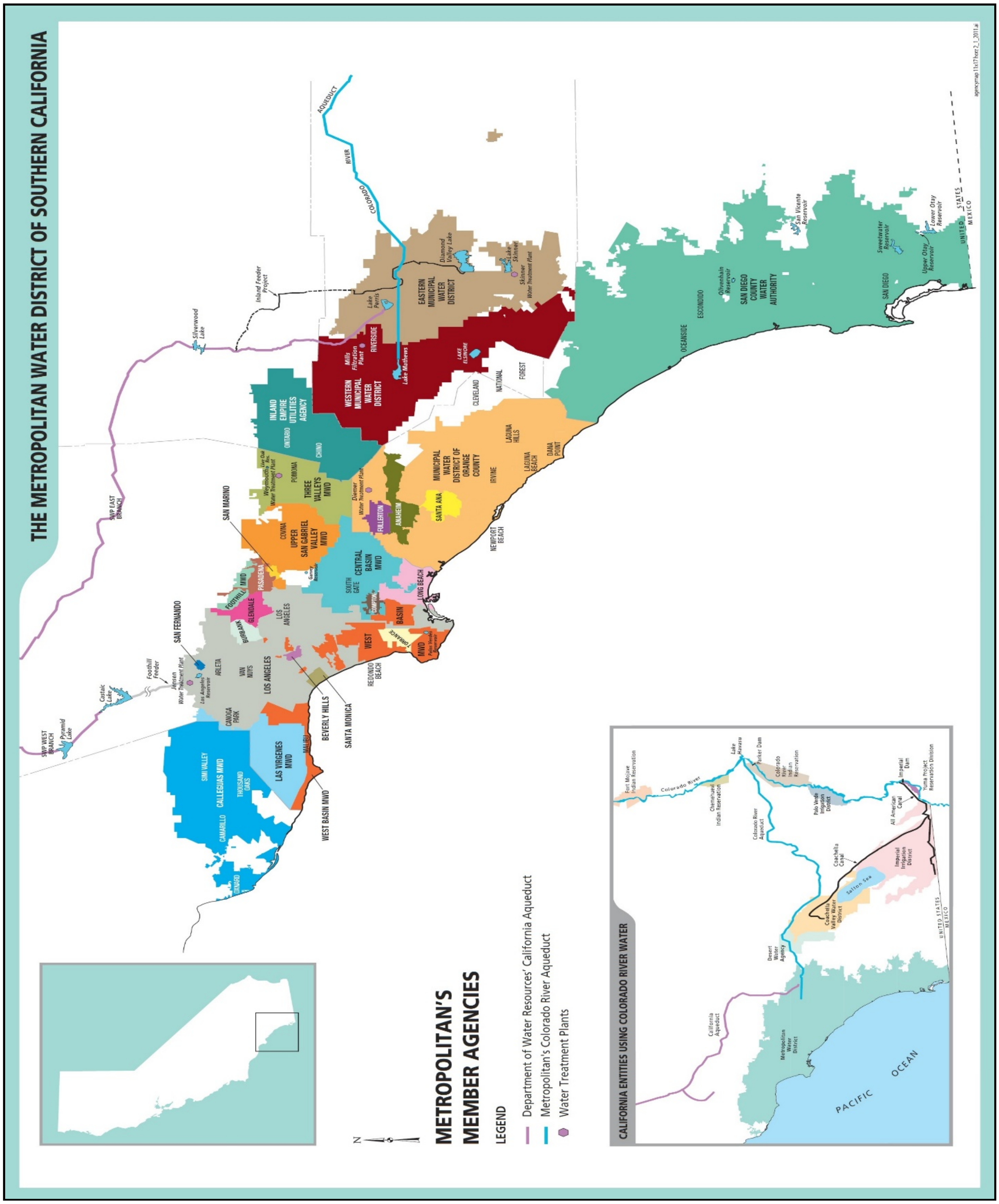


Figure 6.3: MWD Service Area Map

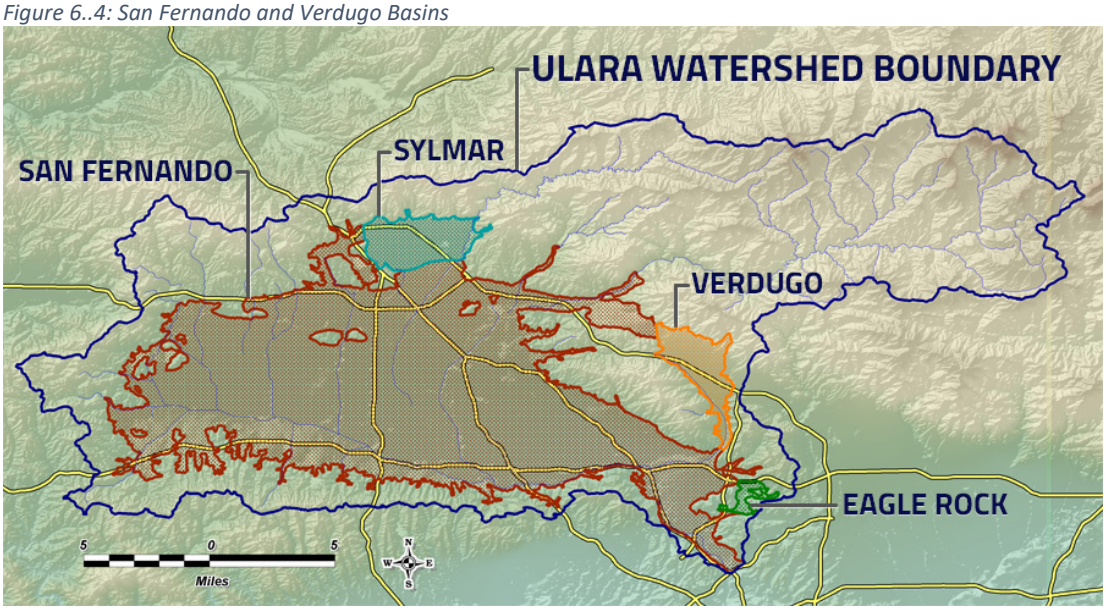
6.2.2 Groundwater

The City obtains its groundwater from the San Fernando and Verdugo Basins. The San Fernando basin consists of 112,000 acres and it is bounded on the east and northeast by the San Rafael Hills, Verdugo Mountains, and San Gabriel Mountains; on the north by the San Gabriel Mountains and the eroded south limb of the little Tujunga Syncline which separates Sylmar Basin; on the northwest and west by the Santa Susan Mountains and Simi Hills; and on the south by the Santa Monica Mountains.

Ground water from the San Fernando Basin generally flows from the edges of the basin toward the middle of the basin, then beneath the Los Angeles River narrows into the Central Sub-basin of the Coastal Plain of Los Angeles Basin. In the northeastern part of the basin, groundwater moves from the La Crescenta area southward beneath the surface of Verdugo Canyon toward the Los Angeles river near Glendale, whereas the groundwater in the Tujunga area flows west following the Tujunga Wash around the Verdugo Mountains to join groundwater flowing from the west following the course of the Los Angeles River near Glendale. The total storage capacity of the San Fernando Basin is calculated at 3.67 million acre-feet (MAF).

The Verdugo basin, north and east of the Verdugo Mountains, consists of 4,400 acres. It is bounded on the north by the San Gabriel Mountains; on the northwest by a groundwater divide, which separates it from the San Fernando Basin; on the east by a groundwater divide separating it from the Monk Hill Subarea of the Raymond Basin; on the southeast by the San Rafael Hills; and on the south and southwest by the Verdugo Mountains. All the surface water channels feed into the Verdugo Wash, which is located along the west side of the basin. The groundwater storage capacity of the Verdugo Basin is approximately 160,000 AF. The City of Glendale has rights to extract 3,856 acre-feet per year (AFY).

Figure 6..4: San Fernando and Verdugo Basins



The San Fernando and Verdugo Basins are managed by the Upper Los Angeles River Area (ULARA) which encompasses all the watershed and tributaries of the Los Angeles River and four groundwater basins as shown above in **Figure 2.4**.

The water supply of the basins are separate and are replenished by deep percolation from rainfall, surface runoff and from a portion of the municipal-supply water that is delivered for use within these basins. Precipitation in the San Fernando Valley ranges from 15 to 23 inches per year and averages about 17 inches.

Groundwater Production

As late as 1940, groundwater from the San Fernando and Verdugo Basins were the only sources of water in the City. The city's water right to San Fernando Basin supplies was adjudicated in 1979 and is defined by the judgment (See Appendix C) entitled "Court Judgement on Groundwater rights in the San Fernando and Verdugo Basins". While the judgment awarded the native water rights to Los Angeles, it did allow a return flow credit (a water right based on a percentage of water used in the City that is returned to the groundwater basin). The City was also allowed to accumulate these credits if its water rights are not used.

There is a right to produce water beyond the city's credits subject to a payment obligation to the City of Los Angeles based primarily on the cost of MWD alternative supplies. This right to produce water in excess of the return flow credit and the accumulated credits are significant to the operation of the Glendale Water Treatment Plant (GWTP), which is part of a U.S. Environmental Protection Agency (EPA) Superfund clean-up project in Glendale. The project is of a 5,000 gallon-per-minute (gpm) facility and delivers approximately 7,800 AFY to the City. Further discussion of this can be found later in this report. The various San Fernando Basin supplies are:

Return Flow Credit – Glendale is entitled to a return flow credit of 20 percent of all delivered water (including recycled water) in the San Fernando Basin and its tributary hill and mountain area. It is calculated by determining the amount of total water used in the City less 105 percent of total sales by Glendale to Verdugo Basin and its tributary hills. This credit ranges from about 5,000 AFY to 5,400 AFY depending on actual water use. This is the City's primary water right in the San Fernando Basin.

Physical Solution Water – Glendale has an agreement to extract excess water chargeable against the rights of the City of Los Angeles upon payment of specified charges generally tied to MWD's water rates. Glendale's physical solution right is 5,500 AFY.

Pumping for Groundwater Cleanup – Section 2.5 of the Upper Los Angeles River Area's Policies and Procedures, dated July, 1993, provides for the unlimited extraction of basin water for SUPERFUND activities, subject to payment of specified charges similar to physical solution water. This right became a significant factor with the completion of the Glendale Water Treatment Plant (GWTP) in 2000 shown below in **Figure 6.5.**

Figure 6.5: Glendale Water Treatment Plant

In the 1970s, with the detection of high concentrations of industrial solvents, referred to as volatile organic compounds (VOCs), in the San Fernando Basin, Glendale lost the ability to use groundwater from this area. In the 1980s and 1990s, under the Federal Superfund regulations, industries responsible for the contamination were identified and a group of potentially responsible parties was formed to pay for the installation and operation of facilities to treat the groundwater. This treatment facility is referred to as the Glendale Operable Unit (GOU) and was completed in 1999.

The Glendale Water Treatment Plant was established to remove the VOCs in ground water supplies with the most prevalent being VOCs from trichloroethylene (TCE) and tetrachloroethylene (PCE). The GOU has nine extraction wells located to concentrate and remove the contaminant plumes and raw water transmission mains to the treatment facility. The nine wells are: GN-1,2,3,4, and GS-1,2,3,4, &5; GS-5 began operation in October 2016.

After treatment the water is delivered to the City's Grandview facility for blending and conversion to a chloramine disinfectant residual. The GWTP operates at a rate of up to 5,250 gpm and delivers all of San Fernando Basin water used by the City.

Prior to the setting of a Cr6 MCL by the State of California, the City of Glendale began treating for Chromium through a series of demonstration-scale removal facilities as part of various research studies that were ultimately used in setting the MCL. These studies were completed in 2015 and the permanent treatment facility began operation in 2016.

The Glendale Water Treatment Plant continues to be an important and successful project for maintaining and protecting Glendale's local water supply, even as new contaminants are discovered.

Carry-over extractions – In addition to current extractions of return flow water and stored water, Glendale may, in any one year, extract from the San Fernando Basin an amount not to exceed 10 percent of its last annual credit for import return water, subject to an obligation to replace such

over-extraction by reduced extraction during the next water year. This provides an important year-to-year flexibility in meeting water demands.

For the San Fernando Basin, the rights described above give the City the right to extract from a practical point of view, subject to certain conditions and payment in some cases, any quantity of water anticipated to be needed for the City's future water resource program. Each water right used to produce from the San Fernando Basin has its own costs and availability considerations.

Historically, groundwater supplies from the Verdugo Basin contributed a portion of the City's water supplies. This has been from wells and an underground water infiltration system. The Judgment in the Los Angeles lawsuit gave Glendale the right to extract 3,856 AFY from the Verdugo Basin. Crescenta Valley Water District (CVWD) also has water rights to extract 3,294 AFY and is the only other entity allowed to extract water from the Verdugo Basin.

Due to the Verdugo's Basin physical characteristics and declining precipitation in the area, groundwater levels have been declining for decades. Glendale has been actively trying to identify possible new water well sites to increase its groundwater production capacity from this basin. To help address this issue, Glendale invested over $1 million and constructed the Rockhaven Well as an additional point of diversion in the Verdugo Basin. After construction, it was discovered that the nitrate levels in the well would require treatment prior to use. As a result, Glendale entered into a mutually beneficial lease agreement with the CVWD wherein lease payments offset Glendale's capital costs of construction and pay for CVWD's use of Glendale's water rights when the well is pumped. Since 2016, this arrangement has allowed Glendale to utilize its available water rights. CVWD pumps the water from Rockhaven Well to an existing CVWD nitrate removal treatment plant in the CVWD system, further reducing Glendale's need to purchase imported water.

Currently, a majority of Glendale's groundwater extractions are from its nine GOU wells in SFB, making up approximately 35% of Glendale's potable water. In October 2007, Glendale initiated the rehabilitation of its Foothill Well and this work was completed in 2010. In its initial years following the rehabilitation, the Foothill well was producing groundwater at a rate of approximately 150-180 gpm. In 2017, there was noticeable decline in the well's discharge rate, decreasing down to approximately 100 gpm and lowering even further in recent years, to a discharge rate of 70 to 80 gpm. In 2020, the City decided to initiate a second rehabilitation of its Foothill Well with a projected completion date of April 2021.

The three existing wells referred to as Glorietta Wells 3, 4, and 6 alone will not utilize the City's entire water rights to the Verdugo Basin supplies and additional extraction capacity in the Verdugo Basin will be required to reach the water right capacity. The existing wells produce have a capacity of 800 gpm.

At present the City extracts groundwater from thirteen (13) active groundwater wells with a combined production capacity of 5,900 gpm. The City's groundwater well statistics are listed below in **Table 6.2**.

Table 6.2
City Groundwater Wells

Well Name/No.	Basin	Capacity (gpm)
Wells		
Foothill Well	Verdugo	
Glorietta Wells # 3, 4, & 6	Verdugo	
Total Capacity:		

All of the City's wells are equipped with flowmeters to measure water production, and treated as appropriate with wellhead treatment or at treatment facilities before being sent into the distribution system. Water production is recorded monthly by City water staff and reported annually to the Department of Water Resources (DWR). Over the past five years, groundwater extraction has ranged from 7,631 AF to 8,484 AF (average of 8,066 AF). **Table 2.3** displays the City's groundwater supplies for the past five years:

Table 6.3
Five-Year Groundwater Production
(All Wells)

Year	*Production (AF)
2020	8,260
2019	8,484
2018	7,657
2017	8,300
2016	7,631
Average:	**8,066**
2010-2015 Average:	**8,578**

Groundwater includes San Fernando and Verdugo Basins.

6.2.3 Surface Water

The City of Glendale does not have water from streams, lakes, or reservoirs considered a surface water supply.

6.2.4 Stormwater

While many communities are increasing implementation opportunities to beneficially use stormwater to meet local water supply demands, the City of Glendale has yet to fully embrace such source but has recently partnered with MWD to provide residents with rain barrels to capture rain water which can be used to supplement household use. This is elaborated on in Chapter 9 of the UWMP.

6.2.5 Wastewater and Recycled Water

Recycled water accounts for 7% of Glendale's current water supply. In the near future, recycled water us is approved to increase by 400 AFY, which will reduce imported water use by the same amount

In the long term, as direct-potable re-use regulations and treatment procedure are established and approved by the State, Glendale could use its remaining share of water produced at Los Angeles-Glendale Water Reclamation Plant (LAGWRP). Subject to approval by the State Water Resources Control Board for further reductions in flow to the LA River, this could more than double the amount of recycled water used to offset imported supplies.

For each acre-foot of recycled water that Glendale uses, Glendale reduces the quantity of imported wtaer supplies that it must purchase from MWD by an acre-foot. Meaning, Glendale's use of reycled water provides a direct offset to its imprtation of water from Feathe River through the San Joaquin River Delta and the State Water Project and from the Colorado River, through the Colorado Aqueduct.

Glendale is co-owner of the LAGWRP with the city of Los Angeles. LAGWRP is part of an integrated network of facilities, known as the North Outfall Sewer (NOS), which includes four wastewater treatment plants (WRPs). The upstream treatment plants (TillmanWRP, LAGWRP, and Burbank WRP) discharge solids to the Hyperion WRP. This system also allows biosolids, solids, and excess flows to be diverted from the upstream plants to the Hyperion WRP for treatment and disposal.

LAGWRP produces disinfected "tertiary treated" wastewater effluent that meets or exceeds the water quality standards, codified in the California Code of Regulations, Title 22, Division 4, Chapter 3, for recycled water for non-potable uses permitted by the State of California, such as landscape irrigation and industrial processing.

As co-owner, Glendale is responsible for 50% of the cost of operation and is entitled to 50% of the treated wastewater effluent produced by LAGWRP. The amount of treated wastewater effluent produced varies depending on the quantity of sewage delivered to and processed by the

plant. In very dry years, when water usage by Glendale customers is reduced, inflow to the plant is also reduced. LAGWRP has a treatment capacity of 20 million gallons per day (mgd), or 22,400 AFY. Accordingly, Glendale has a right of up to 11,200 AFY of the resulting highly treated wastewater effluent. However, on average, LAGWRP produces approximately 12,000 to 14,000 AFY of treated effluent. Of this , Glendale receives between 6,000 to 8,000 AFY.

The sludge generated at LAGWRP is sent back to the sewer, which conveys the sludge downstream to the Hyperion Treatment Plant. Excess tertiary water is discharged to the Los Angeles River.

The most recent permit for LAGWRP's discharge of treated effluent to the Los Angeles River is Waste Discharge Requirements (WDR) Order No. R4-2017-0063 (LAGWDR WDR Permit). The LAGWDR WDR Permit specifically indicates that Glendale, as co-owner of LAGWRP, may petition the State Board directly for any proposed change in point of diversion or place of use of its wastewater discharges as require to increase its use of recycled water. (AR 5285).

Table 6.4 below lists the total production of recycled water for the past five years.

Table 6.4
Five-Year Recycled Water Production

Year	Production (AF)
2020	1,811
2019	1,536
2018	1,470
2017	1,700
2016	1,627
Average:	**1,629**
2010-2015 Average:	**1,650**

Potential and Projected Recycled Water Uses

Currently, Glendale has 78 recycled water meters, 21 miles of recycled water mains. 6 revycled water pump station, and 5 recycled water storage tanks. Since many of Glendale's recycled water assets have been in service since the 1990s, Glendale has already begun major rehabilitation projects including re-coating of its recycled water tanks, upgrades of controls and SCADA equipment at its recycled water pump stations, and other work necessary to maintain the long term efficient operation of the system.

Glendale's planned recycled water projects include connection to Pasadena and completion of the recycled water system expansions. Glendale's recycled water system currently serves many Glendale Unified School District facilities for outdoor irrigation, irrigation of Glendale and Cal-Trans medians and embankments, many Glendale Parks, and service to dual plumbed buildings

at Glendale City College, several office buildings as well as several facilities at the Disney campus in Glendale, and the cooling towers at the City's Grayson Power Plant.

The planned expansions include service to Hoover High School, Toll Middle School, and Keppel Elementary School through a main extension. The "Glendale T" project will loop the recycled system through the major commercial area of Glendale providing the ability to connect to existing dual plumbed office buildings. The Chevy Oaks, Camino San Rafael Homes, and the Chevy Chase Golf Course expansions, via a pump station, tank, and main extensions will offset large irrigation customers in the Chevy Chase Canyon area, which currently does not have a connection to the recycled water system.

In addition to the planned expansion projects noted above, Glendale also continues to upgrade its wastewater collection system in order to deliver even more of its wastewater to LAGWRP for beneficial use in the area. The Chevy Chase Sewer Diversion Project involves installing nearly one mile of sewer pipe to divert the wastewater flow from the Hyperion WRP to LAGWRP by intercepting an existing sewer main that connects to the NOS downstream of LAGWRP and redirecting the flow to LAGWRP. This project was completed in 2018.

Glendale is also working with Los Angeles to continually upgrade LAGWRP. Glendale is working with Los Angeles to install a 5-million-gallon equalization tank at LAGWRP to maximize treatment of wastewater for more reclaimed use, by storing peak flows during the day to then treat them at night during low flow periods. This will increase net recycled water production from the plant on daily basis getting total output closer to the rated capacity of 20 mgd. This will also help balance recycled water demands with recycled water availability.

The City's existing recycled water system is depicted in **Figure 6.6**, on the following page.

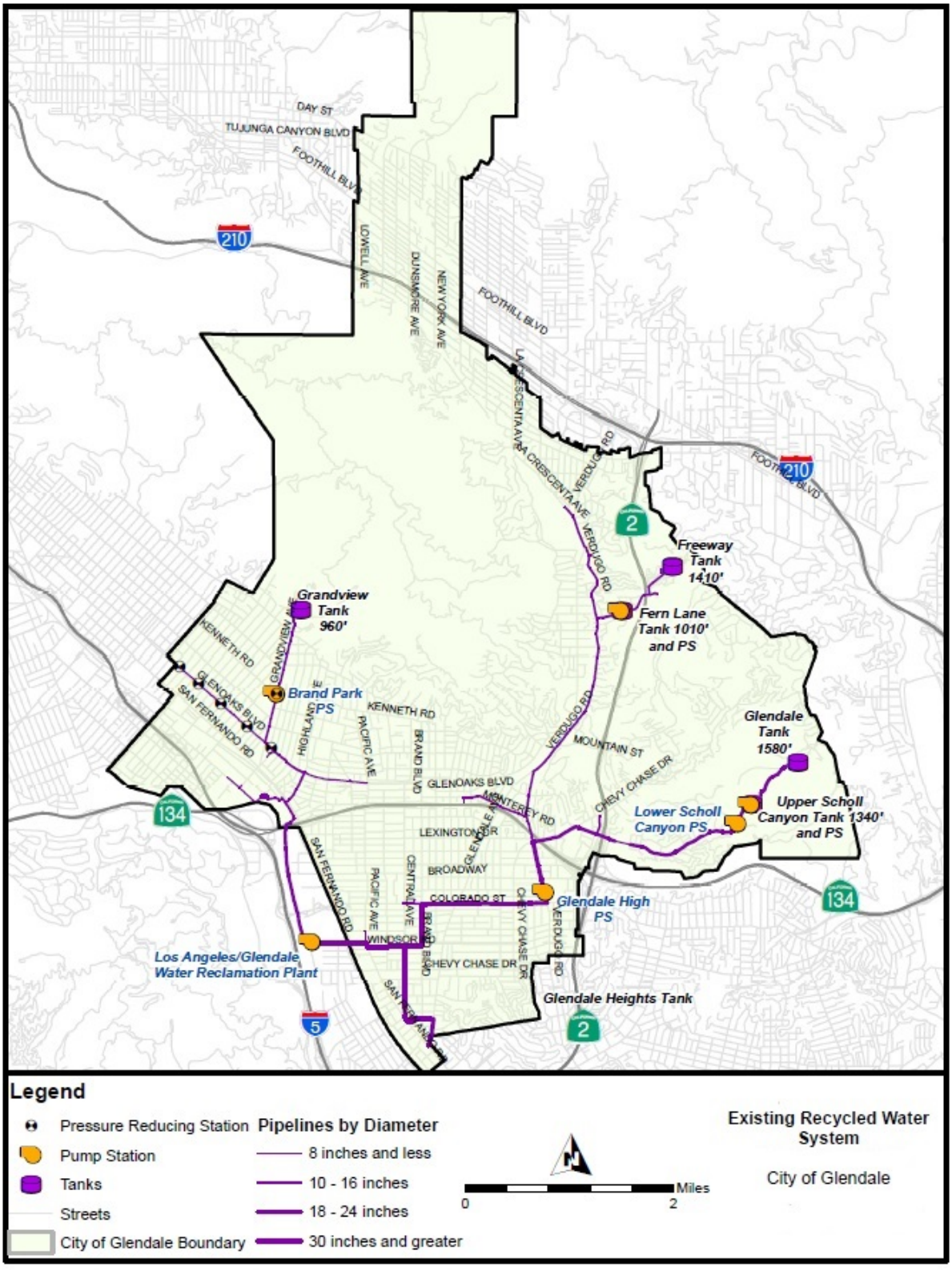


Figure 6.6: Glendale – Existing Recycled Water System

6.2.6 Desalinated Water Opportunities

The City of Glendale has determined that for the time being and within the planning horizon, there are no opportunities nor considerations for desalinated water as a water supply. The economics of building and operating a desalinization plant would be prohibited based on the City's distance from the ocean. In addition, Glendale does not have adequate perched brackish water and energy availability to encourage the construction of brackish desalinzation plants.

6.2.7 Water Exchanges and Transfers

Glendale's water system has interconnections with the City of Burbank and Cresenta Valley Water District for short-term emergency water service (**Figure 6.1**). When the need arises, these connections can be opened to deliver water into the Glendale distribution system to supplement demands, and vice-versa. These should be viewed as only short-term transfer of water.

For the long term, MWD is engaged in"out of area" dry transfer and exhanges to improve local water supply reliability. Glendale does not have the basic capability to implement these types of programs and relies on MWD to perform these activites.

6.2.8 Future Water Projects

The City of Glendale will supply the majority of its potable water via its imported water from MWD. The remainder of its supply will be provided by groundwater from the San Fernando and Verdugo Basins. In the future the City Water Master Plan identified future improvement projects, including replacing aging Cast Iron water mains and upsizing transmission mains to accommodate pump station upgrades, repair and rehabilitation of distribution system pipelines, storage reservoirs, treatment, and wells with the objective to continue improving system reliability, water quality, and reduce the City's dependence on imported water.

6.2.9 Summary of Existing and Planned Sources of Water

As population and land-use densities increase, the City understands the need to discover and support local water supply projects to augment imported supplies. The objective of the City's Water Resource Plan, first prepared in 1985, is to develop more local supplies and identify the facilities to increase the use of local resources thereby reducing the need for imported water.

Glendale foresees very little change in available sources and the amount of water supply needed to meet water demands. In the next 25 years, we expect the same amount of supply from the San Fernando Basin. On the other hand, we will be utilizing the City's full water rights in the Verdugo Basin with the addition of new wells which will further increase our supply.

The City will continue to rely on imported water from MWD who has taken extensive measures to secure a reliable water source by way of new developments such as Diamond Valley Lake, and more flexible storage in Lake Mead.

Imported water from MWD shows that the region can provide reliable water supplies under both the single driest year and the multiple dry year hydrologies. Projected imported water supply represents supply available to the City, if needed, based on the City's MWD Tier 1 Limit of 26,222 AF. The City will also benefit indirectly from regional conservation efforts and also through MWD's continued efforts to augment its supplies and improve storage capacities.

Indirect Potable Reuse (IPR)

Glendale is looking at further diversifying its portfolio of water sources to supplement variable rainfall and meet the demands of population growth using a process known as Indirect Potable Reuse (IPR). IPR is one of the water recycling applications that has developed, largely as a result of advances in treatment technology that enables the production of high quality recycled water at increasingly reasonable costs and reduced energy inputs. This high quality recycled water then will be allowed to percolate into the groundwater basins with the intent of augmenting drinking water supplies. Percolation is considered a world's best practice since the ground between the percolation system and the aquifer acts as environmental buffer to further purify water.

There are numerous advantages associated with IPR. Possibly the most attractive is that IPR allows the supply of potable water to increase with population size. When population increases, the amount of wastewater generated also increases. The more wastewater is generated; the more water is available for recycling using IPR system. IPR therefore has the potential to provide a stable, constant source of potable water in the face of droughts or contamination.

Publicly-owned open spaces and parks provide excellent groundwater recharge areas such as the natural green belt form on the north side of Glendale around the Crescenta Valley. The will of the community to preserve these open spaces along with desire to limit new hillside developments allow the City to maintain natural beauty, preserve habitats, protect areas for groundwater recharge, and keep consistent City growth policy.

Rainwater Harvesting

Rainwater harvesting water supply reduces potable water demand while reducing the amount of polluted storm water runoff from entering the Los Angeles River. The City actively promotes the use of rainwater for landscape irrigation through numerous free workshops for professionals and homeowners.

As discussed in Chapter 9, Glendale has partnered with MWD in promoting the use of barrels as rain water collectors.

Greywater

Greywater has been used as an alternate source of water in California since its adoption in 1995 and on January 12, 2010, the California Building Standards Commission (CBSC) adopted provision into Title-24, California Code of Regulations (CCR) pertaining to the acceptance of plumbing systems for the use and distribution of greywater. Such provisions have been adopted into Part 5 of Title-24, which is commonly referred to as the California Plumbing Code (CPC). As

a result of the adoption of greywater plumbing regulations into the CPC, use of greywater systems are possible throughout the City of Glendale.

The California Department of Housing and Community Development (HCD) took steps to ensure that the greywater standards are simplified to facilitate installation of small-scale greywater systems by individual homeowners. The standards will maintain an acceptable level of public safety, while simplifying the standards for residential greywater systems.

In fact, these standards allow single-family homeowners to install a basic graywater system without requiring a building/plumbing permit, provided the system utilizes only a single domestic clothes washing machine and does not require cutting of any existing plumbing pipes. Other residential greywater systems, which exceed the scope of a simple clothes-washer system, may also be considered, but a permit would be required and additional regulation would apply.

Greywater is used as irrigation water in order to reduce potable water use. The City has promoted its use actively via free workshops for professionals and homeowners.

6.2.10 Special Conditions

Though there are many variables that may contribute to changes in the City's water supply, Glendale is well prepared to meet any challenge. Currently, the City receives between 50-70 % of its supply from MWD. And while many may consider such reliance as a weakness, the effort put into place by MWD to ensure a reliable supply is reassuring.

Aside from projects such as the Colorado River Basin, and the State Water Project, the City of Glendale has helped fund the construction of Diamond Valley Lake which provides an emergency supply of water to the Southern Califonia region, in the instance that a major earthquake were to strike and disable access to the Colorado River Aqueduct of the State Water Project. To ensure that the water will last an emergency scenario such as that, all local agencies would implement the most restrictive level of their Water Conservation Ordinance, as outlined in Chapter 8 and Chapter 9.
It should also be stated that 100% of the City's annual water demand can be met by the City's MWD connections alone. The fact that we have other supplies available to us as well, shows the wide range of options the City has to ensure its residents that they can depend on the City to meet their water needs regardless of changes in climate. With the help of its residents and their conservation efforts, Glendale can, and has, exceeded the States mandated conservation levels, when necessary.

6.3 SUBMITTAL TABLES COMPLETION USING THE OPTIONAL PLANNING TOOL

6.3.1 Submittal Table 6-1: Groundwater Volume Pumped

Submittal Table 6 1 Retail: Groundwater Volume Pumped						
☐	Supplier does not pump groundwater. The supplier will not complete the table below.					
☐	All or part of the groundwater described below is desalinated.					
Groundwater Type ***Drop Down List*** *May use each category multiple times*	Location or Basin Name	2016*	2017*	2018*	2019*	2020*
Add additional rows as needed						
Alluvial Basin	San Fernando Basin	6771.48	7366.72	6801.15	7678.44	7485.68
Alluvial Basin	Verdugo Basin(Wells 3, 4, 6 and Foothill)	859.89	932.74	855.29	805.84	774.68
	TOTAL	7,631	8,299	7,656	8,484	8,260

6.3.2 Submittal Table 6-2: Wastewater Collected Within Service Area in 2020

Submittal Table 6 2 Retail: Wastewater Collected Within Service Area in 2020						
☐	There is no wastewater collection system. The supplier will not complete the table below.					
100%	Percentage of 2020 service area covered by wastewater collection system *(optional)*					
100%	Percentage of 2020 service area population covered by wastewater collection system *(optional)*					
Wastewater Collection			**Recipient of Collected Wastewater**			
Name of Wastewater Collection Agency	Wastewater Volume Metered or Estimated? *Drop Down List*	Volume of Wastewater Collected from UWMP Service Area 2020 *	Name of Wastewater Treatment Agency Receiving Collected Wastewater	Treatment Plant Name	Is WWTP Located Within UWMP Area? *Drop Down List*	Is WWTP Operation Contracted to a Third Party? *(optional)* *Drop Down List*
Glendale Dept of Public Works	Metered	6,024	LA Sanitation	Los Angeles-Glendale Water Reclamation Plant	Yes	No
Total Wastewater Collected from Service Area in 2020:		6,024				

6.3.3 Submittal Table 6-3: Wastewater Treatment and Discharge Within Service Area

Submittal Table 6 3 Retail: Wastewater Treatment and Discharge Within Service Area in 2020											
☐	No wastewater is treated or disposed of within the UWMP service area. The supplier will not complete the table below.										
Wastewater Treatment Plant Name	Discharge Location Name or Identifier	Discharge Location Description	Wastewater Discharge ID Number *(optional)* [2]	Method of Disposal *Drop down list*	Does This Plant Treat Wastewater Generated Outside the Service Area? *Drop down list*	Treatment Level *Drop down list*	2020 volumes [1]				
							Wastewater Treated	Discharged Treated Wastewater	Recycled Within Service Area	Recycled Outside of Service Area	Instream Flow Permit Requirement
LAGWRP	NPDES No.	LA River		River or	No	Tertiary	4,882	3,278	1,605	2,805	TBD
						Total	4,882	3,278	1,605	2,805	0

6.3.4 Submittal Table 6-4: Recycled Water in Service Area

Submittal Table 6 4 Retail: Recycled Water Direct Beneficial Uses Within Service Area											
☐	Recycled water is not used and is not planned for use within the service area of the supplier. The supplier will not complete the table below.										
Name of Supplier Producing (Treating) the Recycled Water:	Glendale (1358.25 AF) and the City of Los Angeles (452.75 AF)										
Name of Supplier Operating the Recycled Water Distribution System:	Glendale (1358.25 AF) and the City of Los Angeles (452.75 AF)										
Supplemental Water Added in 2020 (volume) *Include units*	0										
Source of 2020 Supplemental Water	N/A										
Beneficial Use Type *Insert additional rows if needed.*	**Potential** Beneficial Uses of Recycled Water (Describe)	Amount of **Potential** Uses of Recycled Water (Quantity) *Include volume units* [1]	General Description of 2020 Uses	Level of Treatment *Drop down list*	2020 [1]	2025 [1]	2030 [1]	2035 [1]	2040 [1]	2045 [1] (opt)	
Agricultural irrigation											
Landscape irrigation (exc golf courses)	Camino San Rafael/Glenoaks Median	379	No additional info	Tertiary	289	379	379	379	379	379	
Golf course irrigation	Irrigation for Chevy Chase Golf Course	477	No additional info	Tertiary	407	407	477	477	477	477	
Commercial use	Grandview Direct Potable Reuse	3,619	No additional info	Tertiary	719	719	3,619	3,619	3,619	3,619	
Industrial use	Cooling towers for Power Plant	251	No additional info	Tertiary	241	251	0	0	0		
Geothermal and other energy production											
Seawater intrusion barrier											
Recreational impoundment											
Wetlands or wildlife habitat											
Groundwater recharge (IPR)											
Reservoir water augmentation (IPR)											
Direct potable reuse											
Other (Description Required)	Dust Control/Soil Compaction/Street Cleaning	155			155	155	155	155	155	155	
				Total:	1,811	1,912	4,630	4,630	4,630	4,630	
				2020 Internal Reuse							

[1] ***Units of measure (AF, CCF, MG)*** *must remain consistent throughout the UWMP as reported in Table 2-3.*

NOTES: Units of Measurement - AF/Y;
Current Usage - [2020] Current Use consists of all recycled water use currently being used within the City. It is made up of multiple accounts.
Potential/Planned Use Landscape consists of: Camino San Rafael (80 AF/Y) beginning 2026 + Glenoaks Median (10AF/Y) beginning 2027; Golf Course Irrigation consists of: CC Golf Course (70AF/Y) beginning 2028; Commercial consists of: Grandview DPR (2900AF/Y) beginning 2030; Industrial Use consists of: Grayson Power Plant Cooling Towers (10 AF/Y).
THE TOTAL VALUES IN COLUMNS 2025-2040 CONSISTS OF CURRENT + POTENTIAL/PLANNED (AS DESCRIBED ABOVE)

6.3.5 Submittal Table 6-5: 2015 Recycled Water Use Projection Compared to 2020 Actual

See Appendix E.

6.3.6 Submittal Table 6-6: Methods to Expand Future Recycled Water Use

See Appendix E.

6.3.7 Submittal Table 6-7: Expected Future Water Supply Projects or Programs

Submittal Table 6 7 Retail: Expected Future Water Supply Projects or Programs						
☐	No expected future water supply projects or programs that provide a quantifiable increase to the agency's water supply. Supplier will not complete the table below.					
☐	Some or all of the supplier's future water supply projects or programs are not compatible with this table and are described in a narrative format.					
	Provide page location of narrative in the UWMP					
Name of Future Projects or Programs	Joint Project with other suppliers?		Description (if needed)	Planned Implementation Year	Planned for Use in Year Type *Drop Down List*	Expected Increase in Water Supply to Supplier* *This may be a range*
	Drop Down List (y/n)	*If Yes, Supplier Name*				
Add additional rows as needed						
Glorietta Well 7	No			2022	All Year Types	500-600
Foothill Well	No			2021	All Year Types	170-210

6.3.8 Submittal Table 6-8: Water Supplies – Actual

Submittal Table 6-8 Retail: Water Supplies — Actual				
Water Supply	Additional Detail on Water Supply	2020		
Drop down list May use each category multiple times.These are the only water supply categories that will be recognized by the WUEdata online submittal tool		Actual Volume*	Water Quality Drop Down List	Total Right or Safe Yield* (optional)
Add additional rows as needed				
Groundwater (not desalinated)	Verdugo Basin	775	Drinking Water	
Groundwater (not desalinated)	San Fernando Basin	7,486	Drinking Water	
Purchased or Imported Water	MWD	15,476	Drinking Water	
Recycled Water	LAGWRP	2,441	Recycled Water	
	Total	26,178		0

6.3.9 Submittal Table 6-9: Water Supplies – Projected

Submittal Table 6 9 Retail: Water Supplies Projected												
Water Supply		Projected Water Supply * Report To the Extent Practicable										
Drop down list May use each category multiple times. These are the only water supply categories that will be recognized by the WUEdata online submittal tool	Additional Detail on Water Supply	2025		2030		2035		2040		2045 (opt)	
		Reasonably Available Volume	Total Right or Safe Yield (optional)	Reasonably Available Volume	Total Right or Safe Yield (optional)	Reasonably Available Volume	Total Right or Safe Yield (optional)	Reasonably Available Volume	Total Right or Safe Yield (optional)	Reasonably Available Volume	Total Right or Safe Yield (optional)
Add additional rows as needed											
Recycled Water	LAGWRP	9,490		9,490		9,490		9,490			
Purchased or Imported Water	MWD	26,000		26,000		26,000		26,000			
Groundwater (not desalinated)	San Fernando Basin		5,500		5,500		5,500		5,500		
Groundwater (not desalinated)	Verdugo Basin	3,856		3,856		3,856		3,856			
	Total	39,346	5,500	39,346	5,500	39,346	5,500	39,346	5,500	0	0

6.4 ENERGY INTENSITY

A new requirement for 2020 UWMPs is to include information on the energy intensity of their water service expressed as energy used per volume of water; i.e. kWh/AF.

The calculated amount of energy to distribute potable water supplies through Glendale's distribution system in 2020 is shown in table O1-A in Appendix E as 384.70 kWh/AF.

The volume of water entering the distribution process is based on the total production volume from all sources (i.e. groundwater extraction wells and MWD purchased water) minus the net surplus in storage between 1/1/2020 12AM and 1/1/2021 12AM using SCADA data. Energy consumed related to the distribution process is the total pumping cost (in kWh) from all potable water pump stations and the Verdugo Basin wells. The cost of operating the San Fernando Basin wells as part of the GOU, is an expense paid by a third party, not Glendale, and is not included in this analysis.

Similarly, the calculated amount of energy to treat recycled water supplies water in Glendale's system in 2020 is shown in table O-2 in Appendix E as 150.50 kWh/AF.

The volume of recycled water entering the treatment process is based on the influent volume to the Los Angeles-Glendale Water Reclamation Plant reported by LADWP. The data on recycled water energy consumed for treatment is taken from the electric utility statements provided by LADWP/Billings and Projects Accounting Division.

GWP's water management processes for energy consumption include a menu of TOU (Time of Use) Pumping Programs to shift pumping to off-peak hours depending what the hours set by the electric utility are. GWP also hires a professional contractor to test the efficiency of our pumping units at least every other year in order to determine which pumping units to replace due to low efficiency. Finally, GWP also modified its operations to receive water at the purchased

water connections with a higher HGL in order to minimize energy use when pumping to higher zones.

Any energy embedded in GWP's water supply by an upstream water supplier (such as a water wholesaler like MWD) is not intended to be included in the energy intensity reported here.

SECTION 7
WATER SERVICE RELIABILITY AND DROUGHT RISK ASSESSMENT

Glendale Water & Power

2020 URBAN WATER MANAGEMENT PLAN

7.0 Water Service Reliability and Drought Risk Assessment

7.1 INTRODUCTION

Assessing water service reliability is the fundamental purpose for a Supplier to prepare a UWMP. Water service reliability reflects the Supplier's ability to meet the water needs of its customers, including end-use customers and Retail Suppliers, with water supplies under varying conditions. A Supplier's UWMP will consider the reliability of meeting customer water use by analyzing plausible hydrological variability, regulatory variability, climate conditions, and other factors that affect a Supplier's water supply and its customers' water uses. This analysis looks beyond Glendale's past experience and considers what could be reasonably foreseen in the future. This chapter provides a rational basis for future decision-making related to supply management, demand management, and project development. In addition, this updated chapter includes a new requirement for a drought risk assessment (DRA) that enables a Supplier to evaluate its risk under a severe drought period lasting for the next five consecutive years

These analyses characterize the Supplier's water uses and supplies under varying hydrological and development conditions through at least a 20-year time horizon. The Suppliers are required to analyze their water supplies and water uses under normal hydrological conditions, a single dry year condition, and at least five consecutive years of drought, and then project what conditions will look like for the next 20 years.

The water service reliability assessment is the Supplier's final methodical outcome of assessing supplies and water uses that helps direct management actions, funding allocations, and project prioritization, and can help Suppliers forecast and begin planning for additional project development. The reliability assessment highlights the incongruences, if any, between a Supplier's supplies and customer water use, and influences the development of the Supplier's DRA and the WSCP

Ideally, the water supply and use analyses fully represent projected variances that occur in both supply sources and customer use under changed conditions, which include both short-term and long-term hydrological, regulatory, and development variables.

7.2 WATER SERVICE RELIABILITY ASSESSMENT

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.*

Every Supplier must provide their expected water service reliability for a normal year, single dry year, and five consecutive dry years projections for 2025, 2030, 2035, and at least through 2040. The analysis of five consecutive dry years is a new requirement as opposed to the 2015 UWMP, which only required analysis of three consecutive dry years. Submittal Tables 7-1 through 7-4 in Appendix E are utilized to perform and summarize the reliability assessment, which combines and assesses information and data form Chapter 4 (water use/demand) and Chapter 6 (water supply).

Submittal Table 7-1 is used to report the characteristics of water supplies during the year types required for the water service reliability assessment.

There are three Year Types that must be included in the water service reliability assessment:

- Normal Year. This condition represents the water supplies a Supplier considers available during normal conditions. This could be a single year or averaged range of years that most closely represents the average water supply available to the Supplier.

- Single Dry Year. As defined in the 2015 UWMP Guidebook, the single dry year is recommended to be the year that represents the lowest water supply available to the Supplier.

- Five-Consecutive-Year Drought. The five-consecutive year drought for the Drought Risk Assessment (DRA) would be the driest five-year historical sequence for the Supplier (Water Code Section 10612).

MWD provided data and methodologies to their retail agencies to aide in this effort. MWD selected normal, single dry, and five consecutive dry years based on the 96 years of data available to them to estimate future demand and supplies from local supplies as well as MWD sources. The average of data from 1922 to 2017 was used for the normal year, 1977 was selected as the single driest year, and 1988 to 1992 are the five consecutive driest years. The MWD UWMP states:

Metropolitan developed estimates of future demands and supplies from local sources and from Metropolitan sources based on 96 years (1922-2017) of historic hydrologic conditions. The 96-year period starting in 1922 was chosen because the CalSimII model used in the 2019 SWP Delivery Capability Report began in 1922. Supply and demand analyses for the single-dry and multiple-dry year cases were based on conditions affecting the SWP as this supply availability fluctuates the most among Metropolitan's sources of supply. Using the same 96-year period of

the SWP supply availability, 1977 is the single driest year, and 1988 through 1992 are the 5 consecutive driest years for SWP supplies to Metropolitan.

MWD developed a model to forecast retail demands and supplies on a per member agency basis based on hydrologic conditions for the above cited normal and dry years:

In determining demands for imported water, Metropolitan developed its Sales Model to calculate the difference between total forecasted retail demands and local supply projections on a per member agency basis. The balance is the demand on Metropolitan's imported water supply. The Sales Model calculates the difference between forecasted demands and projected local supplies after factoring in climate impacts to both demand and local supply. The Sales Model employs a modeling method using historical hydrologic conditions from 1922 to 2017 to simulate the expected demands on Metropolitan supplies based on hydrologic conditions.

The normal and dry years selected by MWD are used in the Base Year column in Table 7-1. The "Volume Available" in the table comes from four different sources: the San Fernando and Verdugo groundwater basins, which are discussed in detail in Chapter 8 and elsewhere in this report, local recycled water from LAGWRP, and MWD imported water. The starting volume available for the selected single dry year of 2021 and five-year span of 2021 to 2025 in the table is based on the maximum yield or water right from the various sources for 2020: 26,000 AFY from MWD, 7,660 AF from San Fernando Basin, 3,856 AF from Verdugo Basin, and 7,492 AF of recycled water. We can see that applying MWD's hydrologic assessment to the selected single year and five-year span starting volume, does not result in any decrease in available local groundwater, MWD imported water, or recycled water during the spans.

This matches GWP's assessment and review of historical data, which shows that because of the groundwater basins' specific hydrogeology, the local groundwater capacity is not impacted significantly by dry weather, at least for a five-year span. Similarly, MWD has assessed that their water sources can withstand five consecutive dry years and still meet the local demand of member agencies. Their 2020 UWMP states:

Metropolitan has evaluated its water shortage risk and determined that it has supply capabilities sufficient for a drought period that lasts five consecutive water years based on driest five-year historic sequence for Metropolitan's water supply. This Drought Risk Assessment was completed starting from the year following when the assessment is conducted (2021 through 2025).

7.2.1 Normal/Average Year

Table 7-2 in Appendix E is used to summarize the water supply reliability for a normal (average) year for 2025, 2030, 2035, and 2040, with 2045 included as an option. In the table, the total available supply of 45,008 AFY, which includes all sources (local potable, imported, and recycled water) and is used in Table 7-1 and described above, remains constant for the reasons previously described. The demand, which also includes both potable and recycled water, increases over the years due to population increase but particularly increases beginning in 2030

due to a planned increase in use of recycled water. What we learn, for a normal year, is supply far outpaces demand over the 20 or 25 year planning horizon. This is shown in the "Difference" row in Table 7-2, which is the surplus water available. As mentioned, the total surplus water begins to decrease in 2030 because of projected increased recycled water use.

7.2.2 Single Dry Year

Table 7-3 in Appendix E is used to summarize the water supply reliability for a single dry year for 2025, 2030, 2035, and 2040, with 2045 included as an option. Unlike table 7-2, table 7-3 assesses potable local supply and demand only. This table utilizes the data supplied by MWD (which is based on local data GWP provided to MWD) that accounts for the hydrological influence of a single dry year on local demands and supplies. The MWD projections show, once again, that potable local supplies remain constant for the 20-year planning horizon for a single dry year or even increase due to the projected increased use of recycled water. The table also shows demand decreasing slightly through 2035 due to projected increased conservation measures, which outpace increased population. The "difference" in table 7-3 shows the difference between supply and demand and results in a deficit. This deficit is the amount made up by MWD imported water each year. We can see the size of the deficit decreases going forward due to the planned increased use of recycled water, which frees up more local potable supply.

7.2.3 Five Consecutive Dry Years

The five consecutive dry year scenario is a new requirement for the 2020 UWMP, as opposed to the 2015 Plan, which only required evaluation of three consecutive dry years.

Table 7-4 in Appendix E is used to summarize the water supply reliability for five consecutive dry years for each of the year spans beginning with 2025, 2030, 2035, and 2040, with 2045 included as an option. Again, this table only assesses local supply and demand, with the 'differences" in the table (negative numbers) representing the amount of potable water to made up by MWD.

The table shows that even for five consecutive dry years, supply remains constant or increases slightly due to increased recycled water use. Demand remains relatively constant as conservation measures keep pace with increased population. The net result is dependence on imported MWD water has a slight downward trend over the planning horizon even for this 5 consecutive dry year scenario.

The tables that contain the data provided by MWD that show the hydrologic effect of normal year, single dry year, and five consecutive dry years on local supplies and demands are included for reference below:

City of Glendale

Normal Year

(Average of 1922-2017 Hydrology)

Demographics[1]	2025	2030	2035	2040	2045
Population	191,128	193,334	195,679	198,077	200,629
Occupied Housing Units	72,057	73,409	74,715	75,970	77,334
Single Family	27,566	27,869	27,552	27,846	27,712
Multi-Family	44,492	45,539	47,163	48,125	49,622
Persons Per Household	2.64	2.62	2.60	2.59	2.58
Urban Employment	113,683	114,763	115,901	118,042	119,484

Conservation	2025	2030	2035	2040	2045
Conservation[2]	7,957	8,269	8,555	9,074	9,320
Installed Active Device Through FY2019/20	779	524	336	317	12
Code-Based and Price-Effect Savings	7,178	7,744	8,220	8,757	9,308

Total Demands After Conservation	2025	2030	2035	2040	2045
Total Demand	25,809	25,771	25,598	25,720	25,797
Retail Municipal and Industrial[3]	25,809	25,771	25,598	25,720	25,797
Retail Agricultural	0	0	0	0	0
Seawater Barrier	0	0	0	0	0
Groundwater Replenishment	0	0	0	0	0

Local Supplies	2025	2030	2035	2040	2045
Total Local Supplies	10,210	13,270	13,270	13,270	13,270
Groundwater Production	980	980	980	980	980
Surface Production	0	0	0	0	0
Los Angeles Aqueduct	0	0	0	0	0
Seawater Desalination	0	0	0	0	0
Groundwater Recovery	7,660	7,660	7,660	7,660	7,660
Recycling	1,570	4,630	4,630	4,630	4,630
M&I and Agricultural	1,570	4,630	4,630	4,630	4,630
Groundwater Replenishment	0	0	0	0	0
Seawater Barrier	0	0	0	0	0
Other Non-Metropolitan Imports	0	0	0	0	0

Demands on Metropolitan	2025	2030	2035	2040	2045
Total Metropolitan Demands	15,599	12,501	12,328	12,450	12,527
Consumptive Use	15,599	12,501	12,328	12,450	12,527
Seawater Barrier	0	0	0	0	0
Replenishment Water[4]	0	0	0	0	0

All units are acre-feet except in Demographics Section.

1. Growth projections are based on SCAG 2020 Regional Transportation Plan and SANDAG Series 14 Forecast (Version 17).
2. Includes code-based, price-effect and existing active savings through fiscal year 2019/20.
   Does not include future active conservation savings. Conservation is 1990 base year. Pre-1990 add 250,000 acre-feet.
3. Retail M&I projections include conservation.
4. Replenishment Water include direct and in-lieu replenishment.

City of Glendale

Single Dry-Year
(Repeat of 1977 Hydrology)

Demographics[1]	2025	2030	2035	2040	2045
Population	191,128	193,334	195,679	198,077	200,629
Occupied Housing Units	72,057	73,409	74,715	75,970	77,334
Single Family	27,566	27,869	27,552	27,846	27,712
Multi-Family	44,492	45,539	47,163	48,125	49,622
Persons Per Household	2.64	2.62	2.60	2.59	2.58
Urban Employment	113,683	114,763	115,901	118,042	119,484

Conservation	2025	2030	2035	2040	2045
Conservation[2]	7,957	8,269	8,555	9,074	9,320
Installed Active Device Through FY2019/20	779	524	336	317	12
Code-Based and Price-Effect Savings	7,178	7,744	8,220	8,757	9,308

Total Demands After Conservation	2025	2030	2035	2040	2045
Total Demand	25,708	25,671	25,499	25,620	25,697
Retail Municipal and Industrial[3]	25,708	25,671	25,499	25,620	25,697
Retail Agricultural	0	0	0	0	0
Seawater Barrier	0	0	0	0	0
Groundwater Replenishment	0	0	0	0	0

Local Supplies	2025	2030	2035	2040	2045
Total Local Supplies	10,210	13,270	13,270	13,270	13,270
Groundwater Production	980	980	980	980	980
Surface Production	0	0	0	0	0
Los Angeles Aqueduct	0	0	0	0	0
Seawater Desalination	0	0	0	0	0
Groundwater Recovery	7,660	7,660	7,660	7,660	7,660
Recycling	1,570	4,630	4,630	4,630	4,630
M&I and Agricultural	1,570	4,630	4,630	4,630	4,630
Groundwater Replenishment	0	0	0	0	0
Seawater Barrier	0	0	0	0	0
Other Non-Metropolitan Imports	0	0	0	0	0

Demands on Metropolitan	2025	2030	2035	2040	2045
Total Metropolitan Demands	15,498	12,401	12,229	12,350	12,427
Consumptive Use	15,498	12,401	12,229	12,350	12,427
Seawater Barrier	0	0	0	0	0
Replenishment Water[4]	0	0	0	0	0

All units are acre-feet except in Demographics Section.

1. Growth projections are based on SCAG 2020 Regional Transportation Plan and SANDAG Series 14 Forecast (Version 17).
2. Includes code-based, price-effect and existing active savings through fiscal year 2019/20.
   Does not include future active conservation savings. Conservation is 1990 base year. Pre-1990 add 250,000 acre-feet.
3. Retail M&I projections include conservation.
4. Replenishment Water include direct and in-lieu replenishment.

City of Glendale

5-Consecutive Drought Years
(Repeat of 1988-1992 Hydrology)

Demographics[1]	2025	2030	2035	2040	2045
Population	191,128	193,334	195,679	198,077	200,629
Occupied Housing Units	72,057	73,409	74,715	75,970	77,334
Single Family	27,566	27,869	27,552	27,846	27,712
Multi-Family	44,492	45,539	47,163	48,125	49,622
Persons Per Household	2.64	2.62	2.60	2.59	2.58
Urban Employment	113,683	114,763	115,901	118,042	119,484

Conservation	2025	2030	2035	2040	2045
Conservation[2]	7,957	8,269	8,555	9,074	9,320
Installed Active Device Through FY2019/20	779	524	336	317	12
Code-Based and Price-Effect Savings	7,178	7,744	8,220	8,757	9,308

Total Demands After Conservation	2025	2030	2035	2040	2045
Total Demand	25,743	26,069	25,950	25,953	26,049
Retail Municipal and Industrial[3]	25,743	26,069	25,950	25,953	26,049
Retail Agricultural	0	0	0	0	0
Seawater Barrier	0	0	0	0	0
Groundwater Replenishment	0	0	0	0	0

Local Supplies	2025	2030	2035	2040	2045
Total Local Supplies	10,340	12,046	13,270	13,270	13,270
Groundwater Production	960	980	980	980	980
Surface Production	0	0	0	0	0
Los Angeles Aqueduct	0	0	0	0	0
Seawater Desalination	0	0	0	0	0
Groundwater Recovery	7,660	7,660	7,660	7,660	7,660
Recycling	1,720	3,406	4,630	4,630	4,630
M&I and Agricultural	1,720	3,406	4,630	4,630	4,630
Groundwater Replenishment	0	0	0	0	0
Seawater Barrier	0	0	0	0	0
Other Non-Metropolitan Imports	0	0	0	0	0

Demands on Metropolitan	2025	2030	2035	2040	2045
Total Metropolitan Demands	15,403	14,023	12,680	12,683	12,779
Consumptive Use	15,403	14,023	12,680	12,683	12,779
Seawater Barrier	0	0	0	0	0
Replenishment Water[4]	0	0	0	0	0

All units are acre-feet except in Demographics Section.

1. Growth projections are based on SCAG 2020 Regional Transportation Plan and SANDAG Series 14 Forecast (Version 17).
2. Includes code-based, price-effect and existing active savings through fiscal year 2019/20.
   Does not include future active conservation savings. Conservation is 1990 base year. Pre-1990 add 250,000 acre-feet.
3. Retail M&I projections include conservation.
4. Replenishment Water include direct and in-lieu replenishment.

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 (DRA) reliability assessment is done by characterizing the expected quantity of each water supply source for each year of the five-year drought, which is assumed to be the five years following 2020. Table 7-5 in Appendix __ is used for the DRA total water supply and use comparison for each of the five years.

The projected Total Water Use in Table 7-5 is based on the actual water use for 2020 recorded in Table 4-1R, which is then increased by 0.2% for each successive year for the projected population increase as discussed previously in Chapter 4 – Use Characterization. For the Total Supplies in the Table, 2021, (as instructed in the Guidebook) is taken as the actual volume supplied in 2020, shown in Table 8-6R, and which includes imported water. The difference between supply and use in 2021 results in a surplus for that year as shown in Table 7-5. For successive years, beginning with 2022, Total Supplies is taken to mean total local supplies available using existing infrastructure; e.g. wells and piping, without building any new infrastructure. Imported water is also excluded from this Total Supply number. The Total Supply number then, includes 980 AF from Verdugo Basin, 7,660 AF from San Fernando Basin, and 2,441 AF from recycled water for a total of 10,876 AF. This number holds constant in future years because, as discussed previously, the local water sources are effectively drought resistant, at least for a five-year drought.

Table 7-5 calculates the difference between supply and use and except for 2021, we see that there is a shortfall each year, which is slowly increasing. MWD has adequate water supply to make up this shortfall in local supplies each year. While Glendale has many demand management procedures they could put in place, as described in the WSCP in Chapter 8, demand management is not really needed to ensure adequate water supply considering the supply of imported water available `to Glendale. Rather, there is a financial incentive to demand management resulting in less reliance on imported water, which is significantly more expensive than locally supplied water.

For the purposes of addressing the shortfalls in Table 7-5, it was assumed that Phase II of Glendale's watering restriction ordinance, as described in the WSCP, would be activated. Phase II limits watering to three days a week and saves an estimated 20% of supplied water. Inserting this number into Table 7-5 for the "WSCP – use reduction savings benefit" shows the remaining

shortfall that would be made up by imported water or the “WSCP – supply augmentation benefit” as the table calls it.

SECTION 8
WATER SHORTAGE CONTINGENCY PLAN

Glendale Water & Power

2020 URBAN WATER MANAGEMENT PLAN

City of Glendale Water Shortage Contingency Plan

2020

By:

Michael E. De Ghetto, P.E.

Chief Assistant General Manager - Water

April 2021

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Introduction

Plan Formatting

In California, State drinking water policy and regulations generally follow three levels of government interaction for publically owned water systems, like Glendale's water system. These are State laws enacted by the legislature and signed by the Governor, regulations established by State agencies, and local laws, for Glendale these local laws are part of the Glendale Municipal Code. There are two primary State agencies that regulate drinking water, the State Water Resources Control Board (SWRCB), and the California Department of Water Resources (DWR). A broad description of the roles of the two State agencies would be that the SWRCB focuses on water quality and water rights all the way down to an individual water agency level, and DWR focuses on water supply and water use at the statewide level.

One way to budget or plan for statewide water use is to add-up all the planned use at an individual water agency level. So, DWR is historically the agency that oversees the completion of UWMP's. DWR is delegated this authority by the State Legislature. The State Legislature has enacted and updated drinking water regulations significantly since the water supply shortage of 2015. Many of these updates are prescriptive in nature, both regarding the content and format of the UWMP. DWR staff worked to translate the legislature's directions into guidance for water agencies to use when preparing the UWMP's. DWR also prepared and publicly posted an UWMP Guidebook, which also includes guidance on the contents of the WSCP. The quotation below is from the guidebook and references the portion of State laws referred to as the "Water Code".

> *Water Code Section 10632.3*
>
> *It is the intent of the Legislature that, upon proclamation by the Governor of a state of emergency under the California Emergency Services Act (Chapter 7 (commencing with Section 8550) of Division 1 of Title 2 of the Government Code) based on drought conditions, the board defer to implementation of locally adopted water shortage contingency plans to the extent practicable.*

A new requirement for the 2021 UWMP is the inclusion of a Water Shortage Contingency Plan (WSCP), and the separate adoption of the WSCP by the local agencies governing body as a standalone document. To achieve these dual purposes, this document is formatted starting at Chapter 8. Chapter 8 of the UWMP is the WSCP. This formatting choice for Glendale's standalone WSCP will keep the numbering of the sections consistent with the section numbering in the UWMP.

8.1. Water Supply Reliability Analysis

Chapter 6&7 of the UWMP

There are two components related to a water system's ability to provide water. One is the amount of water needed by customers, referred to as demand, and one is the supply of water available. This section is an analysis of Glendale's water supply.

As noted in the introductory comments, the sections of the WSCP and the UWMP are prescriptive in nature as set by the State Legislature and DWR. There is a detailed water supply characterization of Glendale's water supply in Chapter's 6 and 7 of the 2021 UWMP, that contain the information below in various tables and subsections in those chapters.

Water Supply Reliability Analysis

The City of Glendale has five sources of water. The term sources have different connotations and in this context refer to groundwater basins, surface water supplies, and a recycled water supply, as opposed to a specific number of wells or a specific number of interconnections. The five sources are: the San Fernando Basin, the Verdugo Basin, the Upper and Lower Sierra Nevada watershed, and the Colorado River Basin. This diversity of supplies, and the prudent investments made to develop them, has helped provide Glendale with a robust and resilient water system.

San Fernando Basin

In the late 1950's the City of Los Angeles sued multiple parties inclusive of the Cities of San Fernando, Burbank, Glendale and others in an effort to force them to stop pumping water in the San Fernando Basin. After more than a decade of legal battles, the State Supreme Court ruled that the City of Los Angeles has exclusive rights to all "native waters" (meaning surface and groundwater water from precipitation in the basin) in the Los Angeles River and its tributaries and surrounding watershed, and in the San Fernando Basin. As a result, the 1979 court judgment in the matter of City of Los Angeles v. City of San Fernando, et al. (Judgment) the Upper Los Angeles River Area (ULARA) Watermaster was created and the Judgement allotted the City of Glendale a "return flow credit" for pumping groundwater of 20% of its water sales in the San Fernando Basin. As a result of the Judgement, Glendale's ability to generate more local supplies from the San Fernando Basin is limited. Glendale does use more than its return flow credit and, per the Judgement, must pay the Los Angeles Department of Water & Power a "physical solution" charge for this excess pumping as defined in the Judgement.

The primary reason that Glendale produces more than its return flow credit in the San Fernando Basin is that Glendale has been at the forefront in groundwater clean-up in the area. Glendale voluntarily consented to be a party to the consent decree entered in the matter of United State of America, and State of California v. ITT Industries, Inc., Lockheed Martin Corporation, et al. ("Consent Decree"). As a party, Glendale is bound by all of the provisions of the Consent Decree, including operating the Glendale Water Treatment Plant at a volume above Glendale's

return flow credit water right. Since the year 2000, Glendale has been operating the Glendale Water Treatment Plant (GWTP) to remove VOC's from the San Fernando Basin as part of the USEPA SUPERFUND program in the Glendale North and South Operable Units. Glendale has also worked with national and State sponsored pilot programs and demonstration scale research on Hexavalent Chromium removal in the Glendale Chromium Operable Unit area. This research was begun in the early 2000's and was completed in 2015, resulting in a permanent CrVI removal facility being built and operated at the GWTP in 2016.

The wells used to concentrate and extract the contaminated groundwater prior to treatment are shallow extraction wells. There are four wells in the Glendale North Operable Unit, and five wells in the Glendale South Operable Unit. The wells are arranged essentially in a perpendicular fashion to the LA River and act as a barrier to contamination moving further south through the basin. These wells, and the Glendale Water Treatment Plant, are primarily intended to clean-up the groundwater, and are not intended to be a primary source of water. As such, during an earthquake these wells and the treatment plant may become inoperable, either physically, or due to prolonged power outages. So, the San Fernando Basin source is not a robust source of water during a catastrophic event like an earthquake, but it is a significant source of water during a prolonged drought.

The Glendale Operable Unit wells are located in a portion of the San Fernando Basin referred to as the "Narrows". This area is near the southern portion of the basin in an area upstream of the point where subsurface flows leave the basin. The subsurface geology in this area is formed in a way where water tends to rise up prior to leaving the basin. This makes changing groundwater levels within the basin as whole have less of an impact on these wells. Due to this, these wells have provided a steady source of water during droughts, and during the water supply shortage of 2015 the production from these wells were not affected by changing groundwater levels.

Glendale's wells in the San Fernando Basin are also less prone to contamination issues, because they are already routed through a groundwater clean-up treatment plant. Fortunately, the technology employed at the Glendale Water Treatment has also protected the City's water supply from emerging contaminates prior to it being known these contaminates were an issue. The most recent example being PFAS. The granular activated carbon (GAC) treatment train at the Glendale Water Treatment Plant was removing PFAS before PFAS had become a known contaminate.

Since Glendale does not have rights to the natural recharge of the San Fernando Basin, climate change mitigations for this basin are primarily the responsibility of the City of Los Angeles. The City of Los Angeles has partnered with the Los Angeles County Flood Control District to enhance natural percolation and storm water retention at several spreading basins upstream of the Narrows area of the basin. As noted above, this area of the basin is impacted less by water levels throughout the basin as a whole.

Water from the San Fernando Basin, cleaned at the Glendale Water Treatment Plant, accounts for approximately 20% of the City's water supply. This percentage increases or decreases

depending on customer demands. During a water supply shortage like 2015, this percentage would increase. After an earthquake, this supply may not be available for an extended period and the City would increase its use of imported water from the Metropolitan Water District of Southern California.

Verdugo Basin

A very early water supply for the City of Glendale was the Verdugo Basin. This supply included a dam with an underground infiltration gallery and wells. Due to this early use, the City was able to prevail in a part of the 1979 court judgment in the matter of City of Los Angeles v. City of San Fernando, et al. (Judgment) forming the Upper Los Angeles River Area (ULARA). This portion of the judgement granted Glendale a prescriptive right of 3,500 ACFT of water, per year from the Verdugo Basin. When the Verdugo Wash was lined to increase flow for flood control purposes, the dam near the infiltration gallery was removed, and less water was available from this system. Additionally, as homes in this area were moved from septic systems to the sewer system, and farm land was converted to homes, less groundwater recharge occurred. Additionally, with a long trend of lower precipitation in the watershed, groundwater levels in the basin have continually declined.

Currently, the City is able to produce about half of its adjudicated right in the basin, accounting for between 5% and 7% of the City's water supply. To help alleviate this, the City did drill the Rockhaven Well, which has nitrates, and leased this well to the Crescenta Valley Water District, in order to recover some of the cost of unused water rights. GWP is also working with the Glendale Public Works Department to plan and assist with "green street" type projects in this area to enhance natural recharge of the basin.

Metropolitan Water District of Southern California

The City of Glendale was a pioneer in regional cooperation in the development of a robust and resilient water supply for the Southern California region when the City became one of the founding Member Agencies of the Metropolitan Water District of Southern California, almost 80 years ago. Since that time, Glendale's investments have helped to bring water from the watershed of the Colorado River Basin to the region through the building of the Colorado River Aqueduct, and the building of Lake Mead. The City helped to build the State Water Project providing access to naturally desalinated water, using the sun to evaporate water from the Pacific Ocean that falls as precipitation in the watersheds in the Upper and Lower Sierra Nevada Mountains.

In addition to these investments, Glendale helped to fund the construction of Diamond Valley Lake (DVL). DVL provides a flexible storage location for water in Southern California and it provides an emergency supply of water for the region if a major earthquake damages the Colorado River Aqueduct of the State Water Project. This storage reservoir is intended to provide enough storage to last while either of the aqueducts is repaired. To ensure the stored

water will last, water agencies, like Glendale, in the region will need to implement the most restrictive level of their WSCP's.

As a result of this foresight, and these investments the City is now able to better mitigate the ongoing issues related to climate change. As warm and dry seasons extend and become hotter, and wet seasons become shorter and more intense, it is important to be able to move and store precipitation when it happens. Diamond Valley Lake has provided an additional reservoir to store water during wet years. In addition to this, MWD has been able to negotiate more flexible storage in Lake Mead that will be available for withdrawal even when the lake is in a shortage level. This additional storage flexibility allowed MWD to store water during the previous two years when there were higher than normal precipitation events in the Sierra Nevada Mountains, in its storage account in Lake Mead. Thus ensuring a stable water supply for Glendale even if there are several drier than normal years in a row over the next few years.

In addition to the overall supply outlook for MWD, the City of Glendale is also well prepared to use water from MWD. Typically, between 50% and 70% of Glendale's water supply is provided by MWD. The percentage varies depending primarily on customer demands. The City's MWD connections can provide 100% of the City's annual water demand. In fact, in the early 1980's, near the time the ULARA adjudication was completed, groundwater contamination was discovered in the San Fernando Basin, and Glendale was almost 100% reliant on water from MWD.

During the water supply shortage of 2015, that was the result of over six dry years in row, MWD's allocation program was triggered. MWD has a robust methodology for determining when to issue an allocation to its Member Agencies. The allocation was set at a 15% cutback prior to the Governor issuing an emergency order Statewide. After this allocation, the City implemented its established WSCP and restricted outdoor watering to 3-days per week. The cutback ordered by the State for Glendale was initially 25%, then it was adjusted to 20%, and finally it was adjusted to 18%. After the initial 25% cutback, the City moved its watering restrictions to the next level, which was 2-days per week. Ultimately, the City exceeded the States mandated conservation levels due to the extraordinary conservation efforts of its residents and businesses.

8.2. Annual Water Supply and Demand Assessment Procedures

State Guidance

Quotations form the UWMP Guidebook developed by DWR are noted below. These paragraphs are in Section 8.2 of the Guidebook covering development of this WSCP.

"Beginning by July 1, 2022, each Supplier shall prepare and submit their annual water supply and demand assessment (referred to in this Guidebook as an Annual Assessment). The Annual Assessment will be due by July 1 of every year, as required by Water Code Section 10632.1. The Annual Assessment and associated reporting are to be conducted based on the Supplier's procedures detailed in the WSCP."

"While the first Annual Assessment is not required to be submitted to DWR until July 1, 2022, Suppliers are encouraged to use the procedures documented in its WSCP to prepare and include the outcome of an Annual Assessment for 2021, and to present the results in their UWMP as an example."

As discussed in this WSCP, many of the new rules and guidelines related to are still under development by the State, both by DWR and the SWRCB. So, it is premature to estimate the "Annual Assessment" for 2021, since many of the actual guidelines and tools are not developed or available to use to make an assessment at this time.

Generally, the Annual Assessment is derived from the part of the California Code of Regulations (CCR) referred to as "Making Water Conservation a California Way of Life". This law prescribes an amount of water each agency is allowed to use every year, regardless of the supply of water, and water rights, that an agency has. The annual amount is based on "efficient" use of water within the water agency's service area and the amount of water available. If it is estimated that there will be more demand for water than water that is available, the agency needs to implement cutbacks described in the WSCP.

To calculate the allowed efficient use of water, several steps need to be completed. The first is to add up 55 gallons per person per day based on the population within the water agencies service area. Then, a calculation needs to be made based on the irrigated and irrigable area within the service area. The final procedures for completing this task have not been finalized by DWR. There are outstanding questions regarding the work that an agency has done to reduce water use already and if this will count against agencies that have been efficient and in the forefront of conservation. There is also procedures and information needed for the allotment of water that will be granted by the State for each type of business within a water agencies service area. Once all of these procedures are finalized, the aggregate total amount of water that the City of Glendale can use in a year can be estimated for the "demand" assessment portion of the overall annual assessment.

8.3. Six Standard Water Shortage Stages

Prescriptive Water Shortage Stages Set by Legislature

The State Legislature enacted a prescriptive set of water shortage stages as part of the following legislation. However, the code does allow for agencies with existing water shortage stages to continue to use those as long as this WSCP has a graphic that shows how the stages overlap so the regulators can understand them. The City of Glendale has a very effective set of water shortage stages already in place that are discussed in the next section.

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.

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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.

The intent of enacting prescriptive water shortage stages in 10% increments makes sense academically, but the actual percentages that and agency will be able to conserve depends on the types of actions taken, and the mix of customer types and their water uses. Each water agency has a different mix of businesses, home, apartments, and other water users.

Ability to Continue Use of Local Ordinances

The City of Glendale was prepared well for the water supply shortage of 2015 and had already enacted water shortage sages as part of the Glendale Municipal Code and had already been activated by the time the Governor had declared a Statewide emergency. In fact, conservation by Glendale's water users exceeded expectations.

The text below is quoted from Glendale's Municipal Code section covering water shortage stages:

Chapter 13.36 WATER CONSERVATION

13.36.010 Established.

There is established a city mandatory water conservation plan. (Prior code § 9-150)

13.36.020 Policy.

It is declared that, because of the conditions prevailing in the city and in the areas of this state and elsewhere from which the city obtains its water supplies, because water needs are projected to increase in the future and while water is a renewable resource, it is a finite one, the general welfare requires that the water resources available to the city be put to the maximum beneficial use to the extent to which they are capable, and that the waste or unreasonable use or unreasonable method of use of water be prevented, and the conservation of such waters is to be exercised with a view to the reasonable and beneficial use thereof in the interests of the people of the city and for the public welfare. (Ord. 5112 § 61, 1996: prior code § 9-151)

13.36.030 Purpose.

The purpose of this chapter is to provide a mandatory water conservation plan to minimize the effect of a shortage of water to the customers of the city and, by means of this chapter, to adopt provisions that will significantly reduce the consumption of water over an extended period of time thereby extending the available water required for the customers of the city, to protect basic human health, safety and quality of life, to share the impacts caused by the water shortage in accord with the severity of the water shortage, and to minimize the hardship to the city and the general public to the greatest extent possible. (Ord. 5112 § 62, 1996: prior code § 9-153)

13.36.040 Definitions.

The following words and phrases, whenever used in this chapter, shall be construed as defined in this section unless from the context a different meaning is intended or unless a different meaning is specifically defined within individual sections of this chapter:

"California-friendly plantings" or "California-friendly landscaping" means those landscape plantings, including, but not limited to, trees, shrubs, perennials, groundcovers, ornamental grasses and California-native plants, that require low water use for maintenance and that are included in the Metropolitan Water

District's California Friendly Garden Guide catalogue, available at http://www.bewaterwise.com.

"Dining establishment" means a catering business or a restaurant, hotel, café, cafeteria or other public place where food or drink is sold, served or offered for sale.

"Low income individual" means any individual that is eligible for participation in the division's public benefit charge low-income program.

"Potable water" shall be defined as set forth in Section 13.28.020 of this code.

"Process water" means water used to manufacture, alter, convert, clean, heat or cool a product, or the equipment used for such purpose; water used for plant and equipment washing and for transporting the raw materials and products; and water used to grow and maintain trees and plants for sale or installation. Process water does not include water used in the preparation of food or drinks.

"Recycled water" shall be defined as set forth in Section 13.38.020 of this code. (Ord. 5854 § 1, 2015; Ord. 5660 § 3, 2009; Ord. 5112 § 63, 1996; prior code § 9-154)

13.36.050 Scope.

The provisions of this chapter shall apply to all water customers and property served water by the department wherever situated, and shall also apply to all property and facilities owned, maintained, operated or under the jurisdiction of the various officers, boards, departments or agencies of the city. (Ord. 5660 § 4, 2009; prior code § 9-156)

13.36.060 No water waste policy.

There is in effect at all times in the city a "no water waste" policy as set forth herein. Except as otherwise provided in this chapter, at no time shall any person make, cause, use, or permit the use of water from the department for residential, commercial, industrial, agricultural, governmental, or any other purpose in a manner contrary to any provision of this chapter or in an amount in excess of that use permitted by the conservation phase then in effect pursuant to action taken by the city council in accordance with the provisions of this chapter.

A. Water Use Restrictions.

1. Hose Washing. Potable water shall not be used for hose washing of sidewalks, walkways, driveways, or parking areas, tennis courts, patios, porches

or other paved areas, except: (a) where necessary to alleviate safety or sanitary hazards, and then only by use of a handheld bucket or similar container or a hand-held hose equipped with a water shut-off device; (b) when using a low-volume high-pressure cleaning machine; or (c) that flammable or other dangerous substances may be disposed of by direct hose flushing by public safety officers for the benefit of public health and safety.

2. Overspray or Runoff. There shall be no use of water for any purpose which results in overspray, runoff in flooding or runoff onto hardscape, driveways, streets, adjacent lands or into gutters.

3. Decorative Fountains. Except for water play features in city parks, no water shall be used to clean, fill or maintain levels in decorative fountains or similar structures unless such water is part of a recirculation system or unless such water is recycled water, which must be clearly posted.

4. Leaks. No water customer of the department shall permit water to leak from any facility on his or her premises; failure to effect the repair of any leak, within seventy-two (72) hours after the customer is notified of or discovers the leak, shall subject said customer to all penalties provided herein for waste of water.

5. Irrigation Times.

a. No landscaped or vegetated areas, whether or not such areas include California-friendly plantings and including, but not limited to, grass, lawn, groundcover, shrubbery, annual and perennial plants, crops, and trees, including in golf courses, cemeteries, parks and school areas, shall be watered, sprinkled, or irrigated between the hours of 9:00 a.m. and 6:00 p.m., except for very short periods of time for the express purpose of adjusting or repairing an irrigation system. Irrigation using recycled water is exempt from this limitation provided such usage is permitted by law and is clearly posted.

b. No landscaped or vegetated areas, whether or not such areas include California-friendly plantings, shall be watered, sprinkled or irrigated on days when the wind is blowing causing overspray and on days when it is raining, or within forty-eight (48) hours after it rains.

6. Vehicle Washing. The washing of commercial and noncommercial privately owned automobiles, trucks, trailers, motor homes, boats, buses, airplanes and other types of vehicles is restricted to use of a hand-held bucket and quick rinses using a hose with a positive shutoff nozzle. Exceptions: the use of wash water which is on the immediate premises of a commercial car wash or commercial service station; or where health, safety and welfare of the public is

contingent upon frequent vehicle cleaning, such as garbage trucks and vehicles which transport food and perishables.

7. Commercial Car Wash and Laundry Systems. The installation of a nonrecirculating water system for any new commercial conveyor car wash system or new commercial laundry system is prohibited. Effective July 1, 2014, no commercial conveyor car wash may use a nonrecirculating water system in its operation.

8. Water for Construction Purposes. Water for construction purposes including, but not limited to, debrushing of vacant land, compaction of fills and pads, trench backfill and other construction uses, shall only be used in an efficient manner which will not result in runoff. Recycled water shall be used whenever it is an available and feasible alternative source of water.

9. Fire Hydrants. Unless a permit has been obtained in accordance with Section 13.04.080 of this code, the use of potable water from fire hydrants shall be limited to firefighting, related activities or other activities immediately necessary to maintain the health, safety and welfare of the residents of the city.

10. Dining Establishments.

a. No dining establishment shall serve drinking water to any customer unless expressly requested by the customer.

b. Effective January 1, 2010, dining establishments are prohibited from using nonwater-conserving pre-rinse dishwashing spray valves.

11. Conservation Notices. Dining establishments, hotels, motels and other commercial lodging establishments are required to post notices informing their guests about the city's "no water waste policy" and urging guests to conserve water.

12. Laundry Service. Hotels, motels and other commercial lodging establishments are required to post notices giving their guests the option of not laundering towels and linens daily.

13. Single Pass Cooling Systems. The installation of a single pass cooling system is prohibited in any building requesting new or expanded water service from the department.

14. Process Water. Process water shall be recycled to the greatest extent possible.

B. The water use restrictions set forth in subsection A of this section shall be in effect at all times, except that in the event that the city council declares the need for conservation as set forth in Section 13.36.080, the water use restrictions

shall be amended and the use of water shall be further restricted as required by the phase of conservation then in effect, as described in Section 13.36.070. (Ord. 5854 § 2, 2015; Ord. 5675 § 1, 2009; Ord. 5660 § 5, 2009; Ord. 5112 § 64, 1996)

13.36.070 Phases.

A. Phase I.

1. Water Use Restrictions.

a. No use of water may be made contrary to the provisions of the no water waste policy set forth in Section 13.36.060(A)(1) through (14). During conservation phase I, the division of parks, recreation and community services will review its irrigation system for possible efficiencies.

B. Phase II.

1. Water Use Restrictions.

a. No use of water may be made contrary to the no water waste policy set forth in Section 13.36.060(A)(1) through (14).

b. During conservation phase II, the following additional water use restrictions shall also be in effect:

i. Landscape Irrigation Days and Durations. The use of potable water to irrigate any landscaped or vegetated areas shall only be permitted on Tuesdays, Thursdays and Saturdays, for no more than ten (10) minutes per watering station per permitted irrigation day.

(a) Exceptions.

(1) The director of parks, recreation and community services may establish different irrigation days for any or all city park land, provided that such irrigation shall be limited to three (3) days per week and ten (10) minutes per watering station per permitted irrigation day, unless otherwise exempted by this chapter.

(2) Irrigation by a drip irrigation system or with low-flow sprinkler heads that require additional watering time are exempt from the ten (10) minute time limitation, but such irrigation shall be limited to the permitted irrigation days and times of day.

(3) Irrigation with a hand-held bucket or similar container, or a hand-held hose equipped with a water shut off nozzle or device are exempt from the ten (10) minute time limitation and from the restriction on landscape irrigation days

set forth in subsection (B)(1)(b)(i) of this section, provided that such irrigation occurs before 9:00 a.m. or after 6:00 p.m.

(4) The restriction on landscape irrigation days and durations shall not apply to: (a) an area designated by the fire chief or city engineer as an area that must be watered for fire prevention or for erosion control; (b) commercial nurseries and commercial growers that water to the extent necessary to sustain plants, trees, shrubs, crops or other vegetation intended for lawful commercial sale; (c) watering to the extent necessary to maintain vegetation, including fruit trees and shrubs, intended for consumption; (d) watering to the extent necessary to establish newly-planted landscaping, during the first two (2) weeks after such landscaping has been planted; and (e) irrigation with recycled water in a manner that complies with all applicable laws.

ii. Landscaping Projects. Except for California-friendly landscaping, there shall be a deferral of all new or retrofit landscaping or turf planting requiring potable water service for irrigation. However, the deferral shall not be required for any new or retrofit landscaping plans that have been approved in accordance with Chapter 30.47 of the code prior to the date of adoption of a resolution implementing conservation phase II, III, IV or V, as applicable.

iii. New and Retrofit City and Agency Landscapes. Except for California-friendly landscaping, there shall be a deferral of all new and retrofit landscape and turf planting which requires potable water service for irrigation, on any property owned, controlled or maintained by the city or the redevelopment agency. However, the deferral shall not be required for any new or retrofit landscaping plans that have been approved in accordance with Chapter 30.47 of the code prior to the date of adoption of a resolution implementing conservation phase II, III, IV or V, as applicable.

C. Phase III.

1. Water Use Restrictions.

a. Except as further restricted or as amended by this subsection C, no use of water may be made contrary to the provisions of the no water waste policy set forth in Section 13.36.060(A)(1) through (14) and conservation phase II as set forth in subsection B of this section.

b. During conservation phase III, the following additional water use restrictions shall also be in effect:

i. Water play features. The operation of city-owned water play features such as splash fountains in children's playgrounds, but not including swimming pools or wading pools, shall be limited to no more than five (5) hours per day.

ii. Landscape irrigation days and durations. The use of potable water to irrigate any landscaped or vegetated areas shall only be permitted on Tuesdays and Saturdays, for no more than ten (10) minutes per watering station per permitted irrigation day.

(a) Exceptions.

(1) The director of parks and recreational services may establish different irrigation days for any or all city park land, provided that such irrigation shall be limited to three (3) days per week and ten (10) minutes per watering station per permitted irrigation day, unless otherwise exempted by this chapter.

(2) Irrigation by a drip irrigation system or with low-flow sprinkler heads that require additional watering time are exempt from the time limitation, but such irrigation shall be limited to the permitted irrigation days and times of day.

(3) Irrigation with a hand-held bucket or similar container, or a hand-held hose equipped with a water shut off nozzle or device are exempt from the ten (10) minute time limitation, but shall be limited to the permitted irrigation days and times of day.

(4) The restriction on landscape irrigation days and durations shall not apply to: (a) an area designated by the fire chief or city engineer as an area that must be watered for fire prevention or for erosion control; (b) commercial nurseries and commercial growers that water to the extent necessary to sustain plants, trees, shrubs, crops or other vegetation intended for lawful commercial sale; (c) watering to the extent necessary to maintain vegetation, including fruit trees and shrubs, intended for consumption; (d) watering to the extent necessary to establish newly-planted landscaping, during the first two (2) weeks after such landscaping has been planted; and (e) irrigation with recycled water in a manner that complies with all applicable laws.

D. Phase IV.

1. Water Use Restrictions.

a. Except as further restricted or as amended by this subsection D, no use of water may be made contrary to the provisions of Sections 13.36.060(A)(1) through (14) and conservation phases II and III as set forth in subsections B and C of this section.

b. During conservation phase IV, the following additional water use restriction shall also be in effect:

i. Decorative Fountains. The use of potable water to clean, fill or maintain levels in decorative exterior fountains or similar exterior structures is prohibited.

ii. Lakes or Ponds. The use of potable water to fill decorative lakes or ponds is prohibited, except to the extent necessary to maintain aquatic life.

iii. Landscape Irrigation Days and Durations. The use of potable water to irrigate any landscaped or vegetated areas shall only be permitted on Saturdays, for no more than fifteen (15) minutes per watering station.

(a) Exceptions.

(1) The director of parks, recreation and community services may establish different irrigation days for any or all city park land, provided that such irrigation shall be limited to three (3) days per week and ten (10) minutes per watering station per permitted irrigation day, unless otherwise exempted by this chapter.

(2) Irrigation by a drip irrigation system or with low-flow sprinkler heads that require additional watering time are exempt from the time limitation, but such irrigation shall be limited to the permitted irrigation days and times of day.

(3) Irrigation with a hand-held bucket or similar container, or a hand-held hose equipped with an automatic shut off nozzle or device are exempt from the fifteen (15) minute time limitation, but shall be limited to the permitted irrigation days and times of day.

(4) The restriction on landscape irrigation days and durations shall not apply to: (a) an area designated by the fire chief or city engineer as an area that must be watered for fire prevention or for erosion control; (b) commercial nurseries and commercial growers that water to the extent necessary to sustain plants, trees, shrubs, crops or other vegetation intended for lawful commercial sale; (c) watering to the extent necessary to maintain vegetation, including fruit trees and shrubs, intended for consumption; and (d) irrigation with recycled water in a manner that complies with all applicable laws.

E. Phase V.

1. Water Use Restrictions.

a. Except as further restricted or as amended by this subsection E, no use of water may be made contrary to the provisions of the no water waste policy set forth in Section 13.36.060(A)(1) through (14) and conservation phases II, III, and IV as set forth in subsections B, C and D of this section.

b. During conservation phase V, the following additional water use restriction shall also be in effect:

i. Decorative Fountains. The use of potable water to clean, fill or maintain levels in decorative fountains or similar structures, whether such fountains or structures are on the interior or exterior of a site, is prohibited.

ii. Water Play Features. The operation of city-owned water play features such as splash fountains in children's playgrounds, but not including swimming pools or wading pools, shall be limited to no more than four (4) hours per day.

iii. Landscape Irrigation Days and Durations. The use of potable water to irrigate any landscaped or vegetated areas shall only be permitted on the first and third Saturdays of each month. Irrigation is limited to the deep irrigation of trees and shrubs for no more than twenty (20) minutes per permitted watering station per irrigation day.

(a) Exceptions.

(1) The director of parks, recreation and community services may establish different irrigation days for any or all city park land, provided that such irrigation shall be limited to three (3) days per week and ten (10) minutes per watering station per permitted irrigation day, unless otherwise exempted by this chapter. Irrigation of city park land shall not be limited to the deep irrigation of trees and shrubs.

(2) Irrigation by a drip irrigation system that requires additional watering time is exempt from the time limitation, but such irrigation shall be limited to the permitted irrigation days and times of day.

(3) Irrigation of trees or shrubs with a hand-held bucket or similar container, or a hand-held hose equipped with an automatic shut off nozzle or device are exempt from the twenty (20) minute time limitation, but shall be limited to the permitted irrigation days and times of day.

(4) The restriction on landscape irrigation days and durations shall not apply to: (a) an area designated by the fire chief or city engineer as an area that must be watered for fire prevention or for erosion control; (b) commercial nurseries and commercial growers that water to the extent necessary to sustain plants, trees, shrubs, crops or other vegetation intended for lawful commercial sale; (c) watering to the extent necessary to maintain vegetation, including fruit trees and shrubs, intended for consumption; and (d) irrigation with recycled water in a manner that complies with all applicable laws.

iv. Vehicle Washing. There shall be no washing of any commercial or noncommercial privately-owned automobile, truck, trailer, motor home, boat, bus, airplane or other types of vehicles, except by the use of wash water which is on the immediate premises of a commercial car wash or commercial service

station; or where health, safety and welfare of the public is contingent upon frequent vehicle cleaning, such as garbage trucks and vehicles which transport food and perishables.

F. Exception. The prohibited use of water from the department provided for by Section 13.36.060(A)(1) through (14) and subsections (A)(1), (B)(1), (C)(1), (D)(1) and (E)(1) of this section are not applicable to that use of water necessary to preserve the public health and safety or for essential government services such as police, fire, and other similar emergency services. (Ord. 5675 § 2, 2009; Ord. 5660 § 6, 2009; Ord. 5112 § 65, 1996; prior code § 9-157)

13.36.080 Phase implementation and exemptions.

A. The department shall monitor and evaluate the projected supply and demand for water by its customers monthly, and shall recommend to the city manager the extent of the conservation required by the customers of the department in order for the department to prudently plan for and supply water to its customers. The city manager shall, in turn, notify and recommend to the city council the appropriate phase of water conservation to be implemented. Such phase implementation shall be made by council resolution. Any such resolution shall include such findings or other determinations as may be required to comply with the California Environmental Quality Act. Such phase implementation and the water use restrictions for the declared conservation phase shall become operable immediately upon the effective date of the resolution of the council and shall be published once in a daily newspaper of general circulation. Each new customer of the department shall be provided with a copy of said prohibited use provisions at the time of application for service.

B. Any customer of the department may prospectively apply to the general manager for a modification of, or an exemption from, the water use restrictions set forth in this chapter based upon the unique needs and circumstances of the customer or his or her premises. The general manager may grant such modifications or exemptions, provided that such modifications or exemptions are consistent with the purpose and intent of this chapter. (Ord. 5675 § 3, 2009; Ord. 5660 § 7, 2009; Ord. 5112 § 66, 1996; prior code § 9-158)

13.36.090 Enforcement.

A. Penalties. It is unlawful for any customer of the department to fail to comply with any of the provisions of this chapter. The penalties set forth in this section shall be additional to those penalties provided in any other section of this code. The penalties for failure to comply with any of the provisions of this chapter shall be as follows:

1. For the first observed or reported violation of any of the provisions of subsection (A)(1) through (14) of Section 13.36.060 and subsections (A)(1), (B)(1), (C)(1), (D)(1) or (E)(1) of Section 13.36.070, in accordance with the applicable water conservation phase in effect at the time of the violation, the department shall issue a written warning notice of the fact of such violation to the customer and a written copy of Chapter 13.36 of this title.

2. Any subsequent violation of any of the provisions of subsections (A)(1) through (14) of Section 13.36.060 and subsections (A)(1), (B)(1), (C)(1), (D)(1) or (E)(1) of Section 13.36.070, in accordance with the applicable water conservation phase in effect at the time of the violation, shall be punishable as an infraction in accordance with Chapter 1.20 and Chapter 1.24 of the code.

3. In addition to the penalties set forth in Chapter 1.20 and Chapter 1.24 of the code, the city may pursue any available civil remedies and criminal penalties, including, but not limited to, seek a court order permitting the installation of a flow-restricting device and/or disconnection of water service on the service of the customer at the premises at which the violation occurred or is occurring, together with any and all costs incurred by the city as a result of the waste of water, including, but not limited to, attorneys' fees, the costs of installation and removal of said flow restrictor and the cost of disconnection and restoration of service.

B. The general manager, or designee, may enter into a written agreement to resolve any violation provided that such agreement is consistent with the purpose and intent of this chapter.

C. Reservation of Rights. The rights of the department hereunder shall be cumulative to any other rights of the department, including, but not limited to, its right to discontinue service. (Ord. 5854 § 3, 2015; Ord. 5660 §§ 8, 9, 2009; Ord. 5112 § 67, 1996: prior code § 9-159)

13.36.100 Reports.

A. All commercial and industrial customers of the department using twenty-five thousand (25,000) billing units per year or more shall submit a water conservation plan to the city manager's office and the general manager. These users shall submit quarterly to the city manager's office and the general manager a report on the progress of their conservation plans.

B. All city departments shall submit to the city manager and the general manager an annual public report on their water conservation efforts. The reports are to present the level of performance compared to their water conservation plans. (Ord. 5660 §§ 10, 11, 2009; Ord. 5112 § 68, 1996; prior code § 9-160)

13.36.110 Rules and regulations.

The general manager shall have the power to establish rules and regulations consistent with the provisions of this chapter for the administration of the provisions of this chapter. (Ord. 5660 § 12, 2009)

As Noted in Section 13.36.070 Phases, there are five phases, or stages in Glendale's Municipal Code related to watering restrictions.

The table below is a "cross-walk" for State regulatory staff to use to understand how Glendale's phases coincide with the prescriptive six phases enacted by the State.

Glendale Municipal Code Chapter 13.36 WATER CONSERVATION	Curtailment Target	State 2020 WSCP Level	Shortage Level
Phase I	No Water Waste	1	≤ 10%
Phase II	Three Days Per Week Watering (20% Curtailment)	2	10 – 20%
Phase III	Two Days Per Week Watering, Restricted Hours for City Water Play Features (30% Curtailment)	3	20 – 30%
Phase IV	Use of water for to fill exterior fountains and ponds restricted, One Day Per Week Watering (Curtailment 40%)	4	30 – 40%
Phase V	Use of water to fill interior fountains and ponds restricted, Two Day Per Month Watering, City Owned Water Play Feature Hours further restricted, (Curtailment 50%)	5	40 – 50%
		6	≥ 50%

8.4. Shortage Response Actions

Water Code

The UWMP Guided books quotes the following section of the Water Code.

> *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.*

Alignment with Water Shortage Levels

The previous section describes how demand reduction actions coincide with water shortage levels. As noted, these sections are formatted in a prescriptive manner by the State and may be repetitive in nature. There are also tables below which have prescriptive drop-down inputs developed by the State, so where needed, and allowed, explanatory notes are included in the "free form" sections of the tables.

8.4.1 Demand Reduction

Table 8-2 is a table formatted by the State with limited ability to enter information. The "Demand Reduction Actions" column is composed of cells formatted with a drop-down list. In general, the available choices include actions already in place as standard practice for GWP, and items that have been adopted as part of the water shortage levels already noted in the previous section. An important consideration when reading this table is that the State is attempting to "compartmentalize" water use patterns by customers in different regions served by different water utilities in a way that makes it easier to report on at a Statewide level. Water supply and water use is different by region because of geography and local weather patterns, as well as the type of developments in the local area. Also, the level of sophistication of water districts throughout the State vary widely. For instance, many water service areas in the State still do not

have water meters, and customers pay a flat rate for water, with no incentive to conserve. So, the spreadsheets required for completion of the WSCP and UWMP apply to all water suppliers regardless of sophistication and resources.

Additionally, Table 8-2 has a column titled "How much is this going to reduce the shortage gap?". From a purely theoretical perspective, an amount could be assigned to each action and added up provide a total reduction. This is not how actual demand reduction actions work in practice. When shortage levels are triggered and demand reduction actions are put in place, the actual amount of demand that is reduced is entirely dependent on customer actions. Prior to the Governor's Emergency Order in 2015, Glendale had implemented 3-day per week watering restrictions and there was very little change in demand. After the Governor made a very convincing argument by standing on a barren site that should have been deep in snow, customers immediately began reducing their demands, even prior to implementing 2-day per week watering restrictions.

Since many of the demand reduction actions in Table 8-2 are already in effect, the amount of reduction listed for these items is 0%. Many of the actions are listed as separate actions that are not implemented as separate actions. For instance, when watering days are limited, watering times are also specified. Also, there are multiple levels of actions available in Glendale's Municipal Code for each of the "actions" listed in the table. So, the percentage reductions shown are a range that coincides with the ranges in the code.

Another important note regarding Table 8-2 is that percentage reductions are dependent on the time of year that they are implemented. Irrigation is a large driver of demands, and almost the entire reduction for irrigation restrictions occurs during the summer months. So, the percent reductions shown in Table 8-2 are the percentage reductions over an entire year. If there was a short-term emergency during the winter, there already would be lower demands, so it would be difficult to reduce demands even further. This is why the DWR and MWD schedule major maintenance outages in the winter. After the Governor's emergency conservation orders in 2015, there was ongoing confusion about conservation efforts as the weather cooled and reduction percentages were being derived by comparing current demands to demands in prior years during the same winter months when demands were historically low. The phrase "backsliding" was used in some cases with no basis on actual conservation efforts that were occurring.

8.4.2 Supply Augmentation

The term "supply augmentation" can have multiple meanings and isn't really a phrase that most retail water utilities would use when planning for water shortages. Table 8-4 is included in the appendix and lists some of the items discussed below in an abbreviated format required with the submittal of the UWMP and WSCP to the DWR.

For long term reduction of imported water and reliance on the Bay Delta, Glendale has developed and built a recycled water system within the City that meets approximately 7% of the

City's water supply needs. Planning for construction of the reclamation plant began in the mid-1960's and the first use of recycled water was in the 1978. Construction and extension of the recycled water system continues through today. The most recent challenges related to increasing recycled water use is need to apply for a 1211 Wastewater Change Petition because of efforts by other agencies to use water purchased and imported by Glendale residents to provide recreational uses in the Los Angeles River without any reimbursement to Glendale, or acknowledgement that the water originated in the Feather River prior to entering the State Water Project or the Colorado River prior to entering the Colorado River Aqueduct.

Also, the City of Glendale has been cleaning up groundwater in the San Fernando Basin for over 20 years. This supply currently accounts for about 20% of the City's water needs. There isn't an opportunity to increase this supply further since the volume being treated is by a consent decree and the treatment costs are paid by the Glendale Respondents Group. Additionally, as noted earlier, Glendale's ability to pump from the San Fernando Basin is limited due to the judgement which gave the native groundwater rights to the City of Los Angeles.

GWP has continued to work to increase supply from the Verdugo Basin including rehabilitating and restarting the Foothill Well, drilling the Rockhaven Well and working to plan and install the Glorietta Well 7. Glorietta Well 7 is multi-year projects that requires an easement on private property, a CEQA analysis, design, and construction, so its intent would be to reduce imported water supplies and maximize the use of Glendale's water right in the Verdugo Basin.

Glendale does have emergency interconnections with the Crescenta Valley Water District and with the City of Burbank. These connections are for emergency use and are limited in the areas that they would be used. These connections would primarily be used for short duration emergencies.

Similarly, Glendale has an emergency recycled water connection with the City of Burbank that can be used for short durations as needed. This connection is primarily used to supply sections of Glendale's recycled water system which has customers with dual-flush only restrooms, when LAGWRP is out of service.

The City of Glendale has three connections to MWD. One connection provides up to 6.5 mgd. One connection provides up to 13 mgd. The final connection can provide up to 31 mgd. Glendale has a total reservoir and tank storage capacity of 143 million gallons, and maintains one maximum day demand of storage during the summer months of 31 million gallons. Glendale's average annual daily demand has been 16 mgd over the last five years. So, in addition to two days of average demand being in storage, Glendale can meet its average day demand with its largest source of supply out of service, with no mandatory demand reduction actions in place because of the investments made by Glendale's residents in their water system, and the prudent investments made by MWD using the water charges paid by Glendale residents to MWD.

The major "supply augmentation" actions remaining for Glendale regard supporting MWD's efforts. Installation of a conveyance system around the Bay Delta will improve habitat by

preventing the reverse flow situation on the San Joaquin River and it will improve the quality of water delivered to Glendale's residents by reducing the amount of dissolved organic matter in State Water Project Water. Additionally, support for MWD's Regional Recycled Water Project will help to stabilize MWD's water supply with locally recycled water and it will further leverage the intentionally created storage of water in Lake Mead that MWD has been able to "bank" on Glendale's behalf for use during dry years, by reducing the need to draw out of Lake Mead during wet years on the State Water Project.

8.4.3 Operational Changes

Glendale Water & Power has a team of licensed water professionals that monitor and adjust the operation of the water system 24 hour per day, 365 days per year. In addition to making changes on an hourly basis as needed for planned and unplanned outages, this team will make adjustments and changes during a water supply shortage. This may include increasing flow from MWD, working to restore any well that may be out of service, turning on an emergency connection with a neighboring agency where an interconnection exists, or repairing pipes of equipment that may be damaged. The table below list the number and level of water certifications held by GWP's staff.

Cert. Level	No. of Certs
D-5	16
D-4	9
D-3	5
D-2	14
Sub-Total (D)	*44*
T-5	2
T-4	3
T-3	9
T-2	17
T-1	1
Sub-Total (T)	*32*
Grand Total	**76**

8.4.4 Additional Mandatory Restrictions

As noted earlier, Glendale's established Mandatory Conservation Levels do not include a complete prohibition on outdoor watering. Depending on the severity of the crisis, a complete prohibition can be implemented with emergency City Council action.

8.4.5 Emergency Response Plan

If there is a catastrophic water shortage, the GWP management team will work with the City Manager to have the City Council immediately implement Phase V of the mandatory water conservation ordinance to immediately reduce water demands. As part of the City's emergency

response team which operates under a unified command structure, GWP water staff members will staff the GWP Desk at the City's Emergency Operations Center if the EOC is opened. GWP field personnel can then request resources directly from the Incident Commander. Additionally, GWP staff who have a regulatory obligation to communicated directly with Governor's Office of Emergency Services, the Division of Safety of Dams, and Division of Drinking Water will notify the GWP Desk of those communications to inform the Incident Commander.

GWP's Water Division staff update and maintain an emergency response plan for the water system annually and perform a table top exercise annually to review all updates and train new staff members.

To prevent use of the emergency response plan, the introduction section of the plan has the following statement for staff reference: "To prevent access to the plan from groups looking to commit malevolent acts, do not share this plan outside of City staff who need it. Do not photocopy or scan the plan. Keep your copy of the plan in a secure location that is accessible during an emergency." So, a copy of the plan is not included here, because the WSCP is a public document.

8.4.6 Seismic Risk Mitigation Plan

The UWMP Guided books quotes the following section of the Water Code.

> *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.*

As a Department within the City, GWP is able to leverage its position by providing input to the City's local hazard mitigation plan. Glendale's local Hazard Mitigation Plan was update din 2018, and is 323 pages in length. The plan is referenced here and can be accessed via this web link,

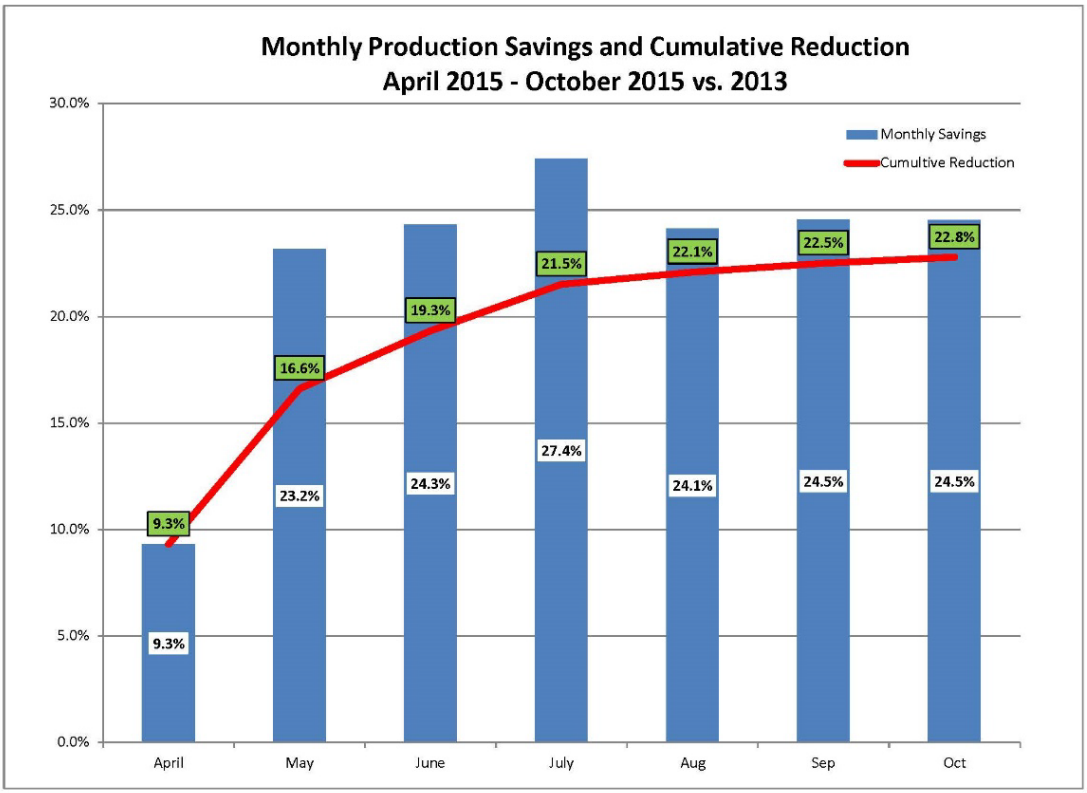
https://www.glendaleca.gov/Home/ShowDocument?id=48978.

To comply with the requirements of the State noted above, the plan will be submitted to DWR when submitting the WSCP and UWMP, but is not included here as an appendix due to its size and ease of downloading form the City's website.

8.4.7 Shortage Response Action Effectiveness

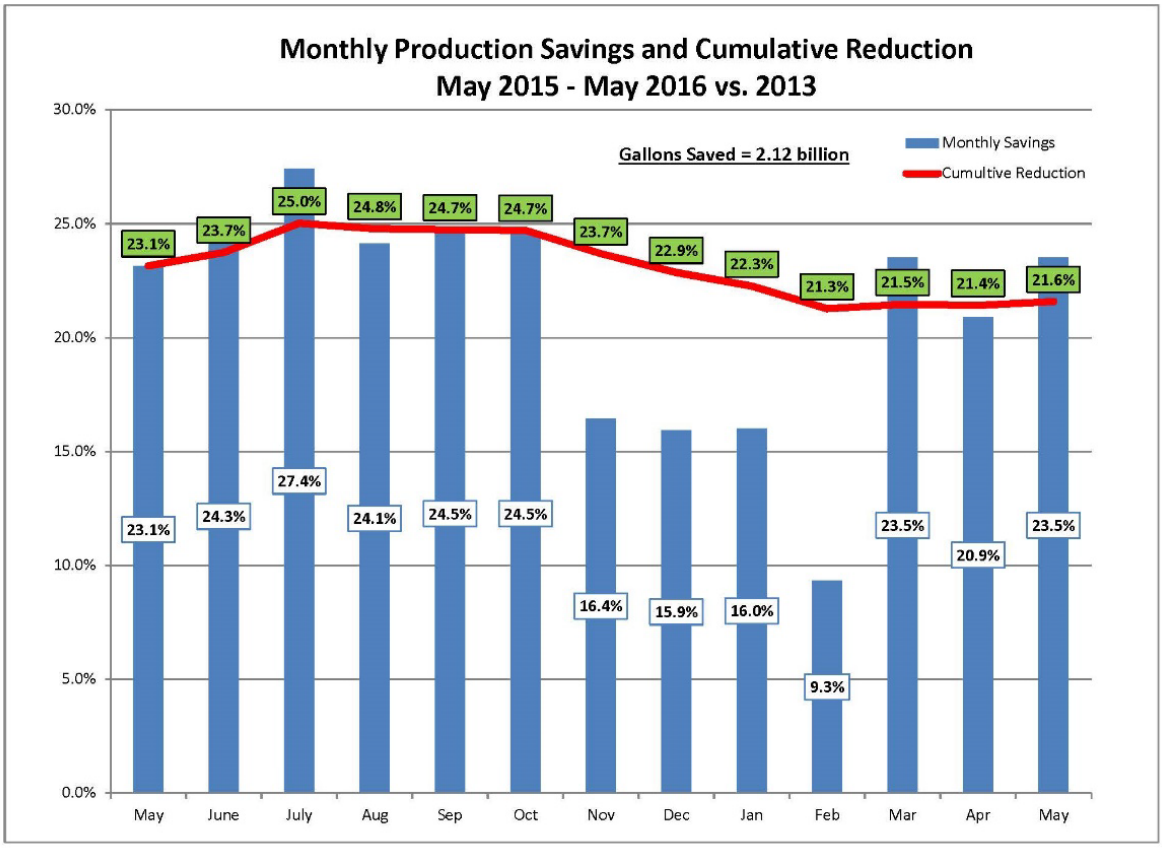
As noted in earlier sections, demand reductions actions will have differing impacts on a month to month basis. For instance, outdoor watering restrictions will have less impact during winter months than during summer months. Since implemented full Automated Metering Infrastructure (AMI) in starting in 2012, GWP has hourly water meter reads for every customer broken down by customer type. This information provides an exact amount of water savings both by demand response actions and by temperature and weather as shown in the charts below.

The first chart shows the percent decrease in water demand from April to May of 20165after the City Council implemented Phase III of City's Mandatory Water Conservation Ordinance limited outdoor watering to two days per week.

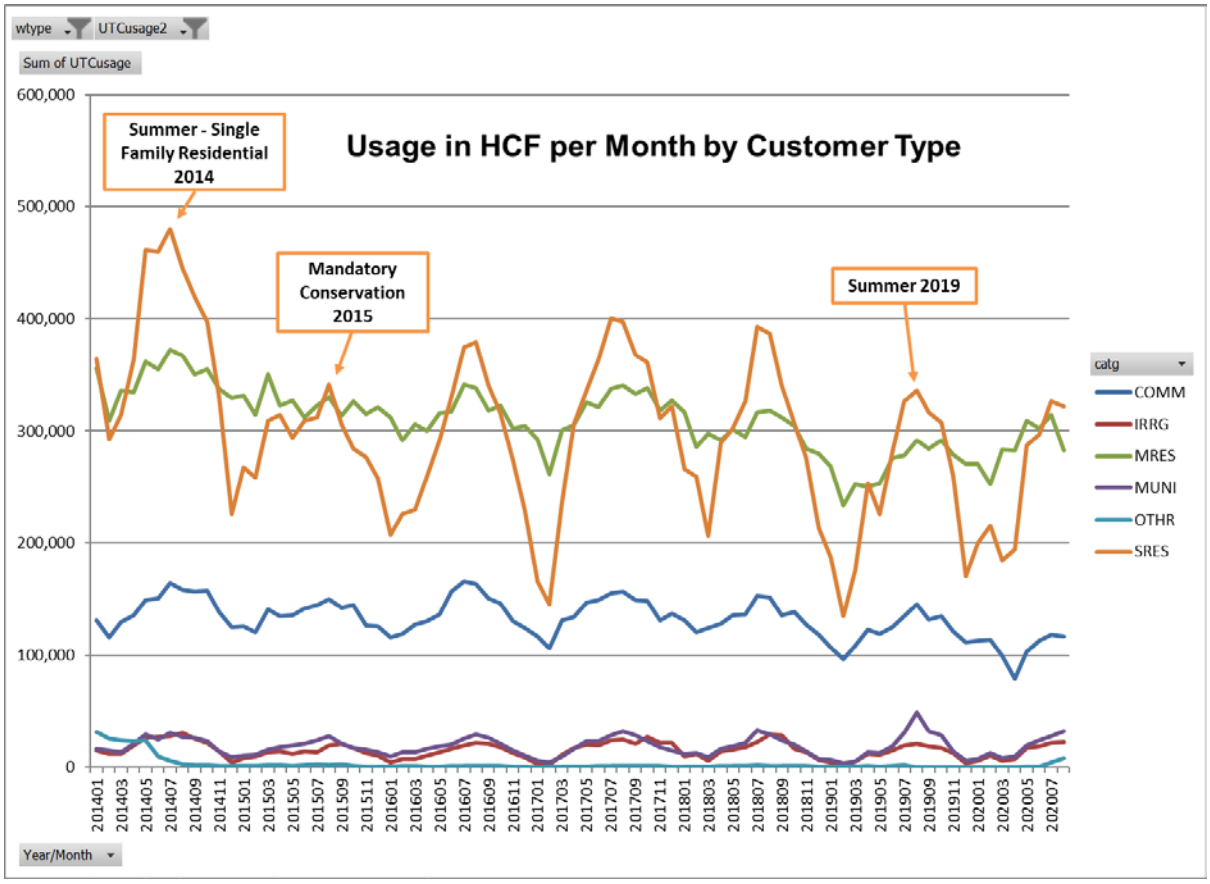


The table below shows one year of savings percentage while in Phase III of City's Mandatory Water Conservation Ordinance limited outdoor watering to two days per week,

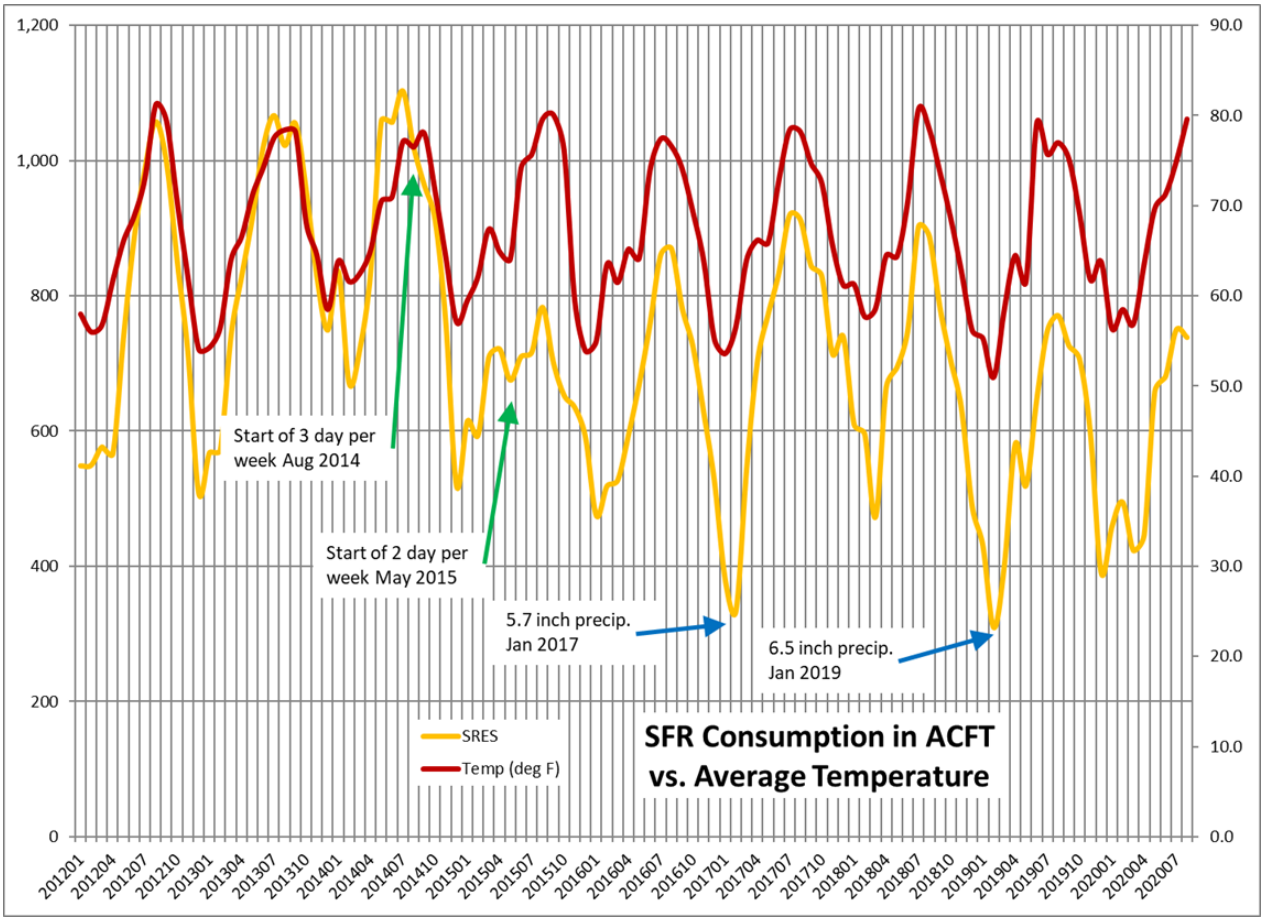
indicated that there is a lower percentage month-to-month in savings but a consistent cumulative effect.



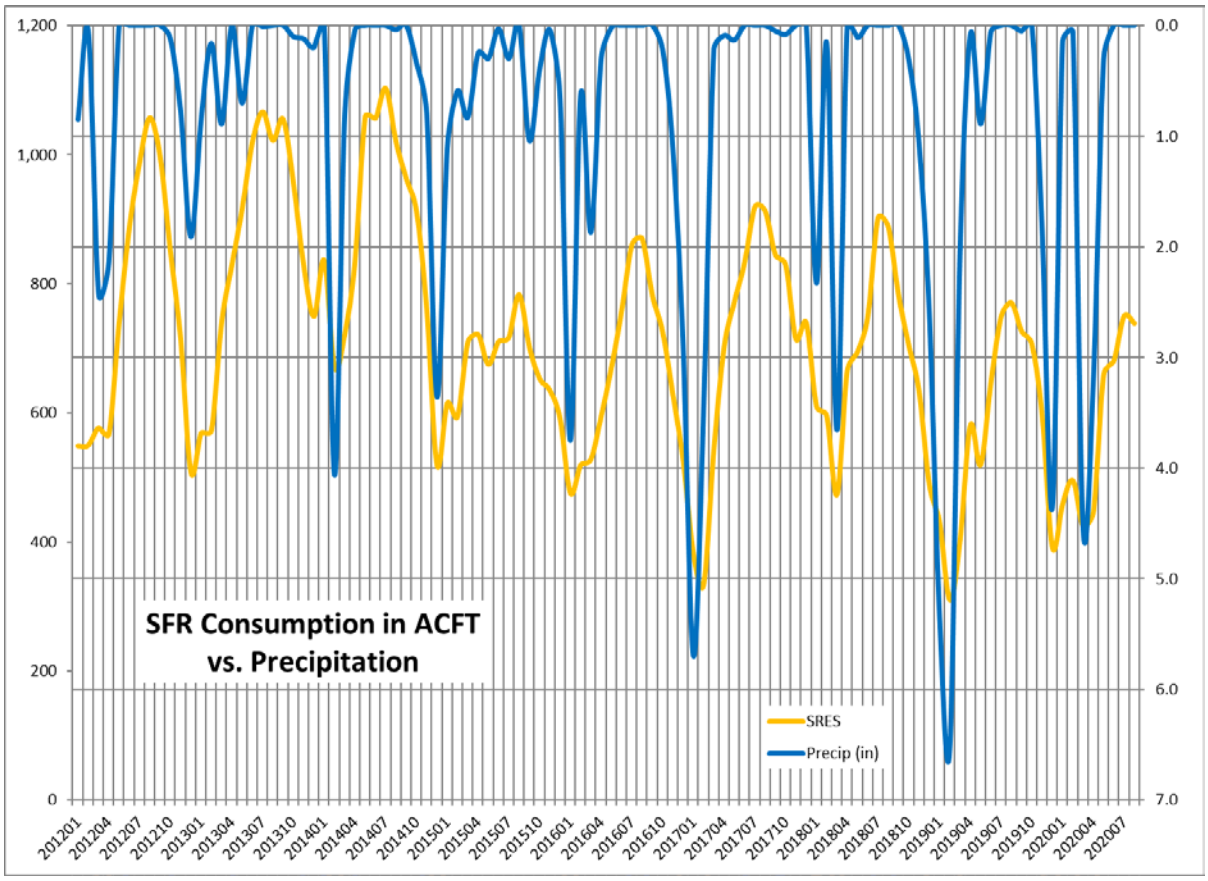
This trend is further verified when analyzing the use of water by type of customer. Glendale's water customer usage is tracked by Single Family Residential (SFR), Multi-Family Residential (MFR), Commercial (COMM), Municipal (MUNI), dedicated irrigation (IRRG), and Other (OTHR) which weren't categorized until after full implementation of the AMI system.


wtype
UTCusage2
Sum of UTCusage
Usage in HCF per Month by Customer Type
Summer - Single Family Residential 2014
Mandatory Conservation 2015
Summer 2019
600,000
500,000
400,000
300,000
200,000
100,000
0
201401
201403
201405
201407
201409
201411
201501
201503
201505
201507
201509
201511
201601
201603
201605
201607
201609
201611
201701
201703
201705
201707
201709
201711
201801
201803
201805
201807
201809
201811
201901
201903
201905
201907
201909
201911
202001
202003
202005
202007
Year/Month
catg
COMM
IRRG
MRES
MUNI
OTHR
SRES

The chart below indicates the effect of temperature on water use by SFR customers.



The chart below shows further reduction in water use by the SFR customer classification during large precipitation events. Note that increasing precipitation is indicated "going down" on the chart.



All of this direct evidence from prior events in the City of Glendale support the use of outdoor watering restrictions as an effective and proven method of demand response actions during a water shortage.

8.5. Communication Protocols

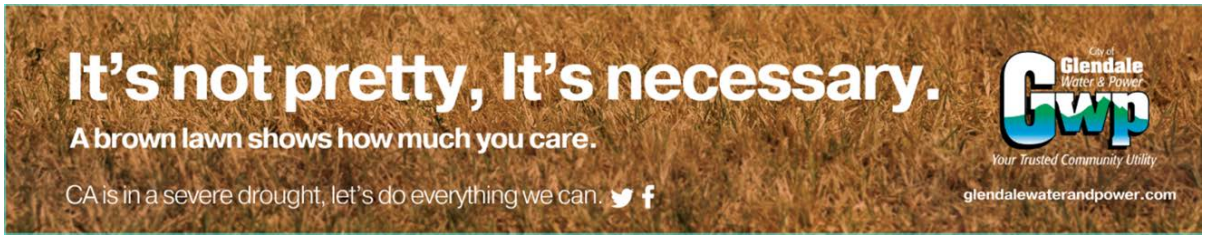
The UWMP Guided books quotes the following section of the Water Code.

> *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*

GWP is a Department within the City of Glendale. Glendale has a Council – City Manager form of government. The GWP General Manager is the Department Head and reports to the City Manager who is the "chief executive" of the City. The City Manager and General Manager routinely report inform the City Council regarding all aspects of operations of the City's water system.

The "annual water supply assessment" is a newly legislated mandate whereby GWP Water Engineering staff will calculate Glendale's available water supply, its "prescribed allotment of water" that can be used by Glendale's residents and businesses according to the legislation referred to as "making water conservation a California way of life" on an annual basis and report it to the State. Prior to any this calculation, Glendale's Water Engineering staff will have already been briefed by MWD on the water supply situation for the region, and will have been notified if MWD will implement actions according to its Water Supply Allocation Plan (WSAP). During the water supply shortage of 2015, MWD implemented its WSAP requiring a 15% curtailment from each member agency. Glendale implemented Phase II of its mandatory conservation program at this time, prior to the emergency order issued by the Governor.

In either case, GWP's Water Engineering team is briefed by MWD on implementation of MWD's WSAP, and also prepares the "annual water supply assessment" and communicates this information to the General Manager who communicates to the City Manager and the City Council to implement any mandatory water conservation actions if needed. Additionally, the General Manager works with GWP's internal communications team and the City's PIO to communicate the City Council's direction via GWP's web page, the City's web page, and various social media platforms. Additional outreach such as billboards, bus stop signs, signs on buses, etc. are utilized as needed. An example of two of the many outreach signs used during the water supply shortage of 2015 are shown below.


It's not pretty, It's necessary.
A brown lawn shows how much you care.
CA is in a severe drought, let's do everything we can.
City of Glendale Water & Power
Your Trusted Community Utility
glendalewaterandpower.com


Less water doesn't mean less lovely.
Make your garden a beautiful California friendly garden with drought tolerant plants.
City of Glendale Water & Power
Your Trusted Community Utility
Every drop counts, let's do everything we can.

8.6. Compliance and Enforcement

The UWMP Guided books quotes the following section of the Water Code.

> *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.*

The section of Glendale's municipal code regarding the enforcement of mandatory conservation restrictions is repeated below.

> **13.36.090 Enforcement.**
>
> A. Penalties. It is unlawful for any customer of the department to fail to comply with any of the provisions of this chapter. The penalties set forth in this section shall be additional to those penalties provided in any other section of this code. The penalties for failure to comply with any of the provisions of this chapter shall be as follows:
>
> 1. For the first observed or reported violation of any of the provisions of subsection (A)(1) through (14) of Section 13.36.060 and subsections (A)(1), (B)(1), (C)(1), (D)(1) or (E)(1) of Section 13.36.070, in accordance with the applicable water conservation phase in effect at the time of the violation, the department shall issue a written warning notice of the fact of such violation to the customer and a written copy of Chapter 13.36 of this title.
>
> 2. Any subsequent violation of any of the provisions of subsections (A)(1) through (14) of Section 13.36.060 and subsections (A)(1), (B)(1), (C)(1), (D)(1) or (E)(1) of Section 13.36.070, in accordance with the applicable water conservation phase in effect at the time of the violation, shall be punishable as an infraction in accordance with Chapter 1.20 and Chapter 1.24 of the code.
>
> 3. In addition to the penalties set forth in Chapter 1.20 and Chapter 1.24 of the code, the city may pursue any available civil remedies and criminal penalties, including, but not limited to, seek a court order permitting the installation of a flow-restricting device and/or disconnection of water service on the service of the customer at the premises at which the violation occurred or is occurring, together with any and all costs incurred by the city as a result of the waste of water, including, but not limited to, attorneys' fees, the costs of installation and removal of said flow restrictor and the cost of disconnection and restoration of service.

B. The general manager, or designee, may enter into a written agreement to resolve any violation provided that such agreement is consistent with the purpose and intent of this chapter.

C. Reservation of Rights. The rights of the department hereunder shall be cumulative to any other rights of the department, including, but not limited to, its right to discontinue service. (Ord. 5854 § 3, 2015; Ord. 5660 §§ 8, 9, 2009; Ord. 5112 § 67, 1996: prior code § 9-159)

Chapter 1.24 Administrative Code Remedies from the Glendale Municipal Code is presented below.

Chapter 1.24 ADMINISTRATIVE CODE ENFORCEMENT REMEDIES

1.24.010 Statement of purpose and intent.

A. The city council has determined that the enforcement of the Glendale Municipal Code throughout the city is an important public service and is vital to the protection of the public's health, safety and quality of life. The city council further finds that enforcement of the provisions of the Glendale Municipal Code is a municipal affair, as well as a matter of purely local concern to the citizens of Glendale. The city council has determined a need for alternative methods of code enforcement and that a comprehensive code enforcement system uses a combination of judicial and administrative remedies to gain compliance with code regulations. The city council further finds that an appropriate method of enforcement is the imposition of administrative penalties as independently authorized by both California Constitution Article XI, Section 7, and California Government Code Section 53069.4. The city council finds a need to draft precise regulations that can be effectively applied in judicial and administrative proceedings and further finds that there is a need to establish uniform procedures for the proper application of administrative code enforcement remedies and administrative hearings to resolve administrative code enforcement cases and appeals.

B. It is the purpose and intent of the city council to afford due process of law to any person who is directly affected by an administrative enforcement action. Due process of law includes adequate notice of the violation and enforcement remedy chosen by the city, an adequate explanation of the reasons justifying the administrative enforcement action taken by the city, and an opportunity to participate in the appropriate administrative enforcement or appeal hearing. These procedures are also intended to establish a forum to efficiently, expeditiously and fairly resolve issues raised by any administrative enforcement action.

C. The city manager, or the designated representative thereof, is authorized to develop and implement policies and procedures relating to the qualifications, appointment, hiring and compensation of administrative hearing officers; the powers of administrative hearing officers; and all other matters relating to conducting administrative hearings as provided in this code. (Ord. 5801, § 3, 6-25-2013)

1.24.020 General provisions.

Sections 1.24.020 through 1.24.180 shall be deemed the general provisions of this chapter. These sections shall apply to both the administrative citation and administrative civil penalties processes, each of which constitute separate remedies, as set forth in this chapter; and to other provisions of this code where incorporated therein by reference. (Ord. 5801, § 3, 6-25-2013)

1.24.030 Definitions.

The following definitions shall apply in interpretation and enforcement of this chapter:

"Administrative costs" means all costs incurred by or on behalf of the city from the first discovery of the violation of the Glendale Municipal Code through the appeal process and until compliance is achieved, including but not limited to: staff time in investigating the violation, inspecting the property where the violation occurred, preparing investigation reports, sending notices, preparing for and attending any appeal hearing, attorneys' fees, and fees paid to the administrative hearing officer. "Administrative costs" shall not mean the administrative citation fines and the administrative civil penalties assessed pursuant to this chapter. "Administrative costs" shall not mean late payment charges that accrue, or collection costs incurred, as a result of unpaid administrative citation fines.

"Administrative code enforcement remedies" means administrative abatement, summary abatement, administrative citations, and administrative civil penalties as provided in this code; and recordation of any notice, including notice of pendency of administrative proceeding, to the property owner and all other interested parties of violations of any provisions contained in the Glendale Municipal Code.

"Administrative hearing officer" means any person appointed or selected by the city manager to preside at administrative hearings.

"City manager" means the city manager of the City of Glendale and his or her designee.

"Enforcement officer" means any city employee or agent of the city with the authority to enforce any provision of this code, state statutes or regulations that the city is authorized to enforce.

"Glendale Municipal Code" and "this code" shall mean the Municipal Code of the City of Glendale, California, 1995, including all pertinent provisions of state codes as adopted therein, enacted by the city council of the City of Glendale acting pursuant to authority granted under the City Charter or other applicable law.

"Responsible party" means each person committing the violation or causing a condition on a parcel of real property located within the city to violate the Glendale Municipal Code; each person who has an ownership interest in that property; and each person who although not an owner, nevertheless has a legal right or a legal obligation to exercise possession and control over that property. In the event the person who commits the violation or causes the violating condition is a minor, then the minor's parents or legal guardian shall be deemed the responsible party. In the event the violation or violating condition is most reasonably attributable to a business and not to an employee, then that business, to the extent it is a legal entity such that it can sue and be sued in its own name, and each person who is an owner of that business shall each be deemed responsible parties. (Ord. 5801, § 3, 6-25-2013)

1.24.040 General enforcement authority.

Notwithstanding any other provision of the Glendale Municipal Code, an enforcement officer shall have the power to use the provisions of this chapter to enforce any and all provisions of this code and to use whatever judicial and administrative remedies are available under this code. (Ord. 5801, § 3, 6-25-2013)

1.24.050 Service of notice.

A. Notwithstanding any other provision of this code, any notice required to be given under the Glendale Municipal Code may be served by any of the following methods:

1. Personal service;

2. Proof of mail, and first class mail to each responsible party at his or her last known address as it appears on the public records related to title or ownership of the property that is the subject of an administrative enforcement action; or

3. As to only those responsible parties who reside at or occupy the property that is the subject of an administrative enforcement action, as determined through diligent investigation; by posting the notice conspicuously on or in front of the subject property and mailing a copy of the notice to them by first class mail.

B. Service by proof of mail or first class mail in the manner described above shall be effective on the date of mailing.

C. The failure of any responsible party or other person with a legal or equitable interest in the property to receive any notice served in accordance with this section shall not affect the validity of any proceedings taken under this code. (Ord. 5801, § 3, 6-25-2013)

1.24.060 Authority to inspect.

Enforcement officers are authorized to enter upon any property or premises within the city to ascertain whether the property or premises is in compliance with the Glendale Municipal Code, and to make any inspection as may be necessary in the performance of their enforcement duties. These inspections may include the taking of photographs, samples or other physical evidence, and the making of video and/or audio recordings. All such entries and inspections shall be done in a reasonable manner. If an owner, lawful occupant, or the respective agent thereof refuses permission to enter and/or inspect, the enforcement officer may seek an administrative inspection warrant pursuant to the procedures provided by California Code of Civil Procedure Section 1822.50 through 1822.59, as may be amended from time to time, or the successor provisions thereto. (Ord. 5801, § 3, 6-25-2013)

1.24.070 Notice of pending administrative enforcement action.

For the purposes of this chapter:

A. The enforcement officer may record with the county recorder's office a notice against a property that is the subject of an administrative enforcement action pending with the city.

B. A "notice of pendency" or other notice of pending administrative action shall use a form approved by the city manager or his/her designee and shall describe the nature of the administrative action and refer to the applicable provisions of the Glendale Municipal Code governing the pending administrative action. (Ord. 5801, § 3, 6-25-2013)

1.24.080 Administrative code enforcement remedies not exclusive.

The procedures established in this chapter for the use of administrative citations and the administrative civil penalties process, and the procedures established in other chapters of this code for administrative abatement and summary abatement, as means for addressing violations of this code shall be in addition to criminal, civil or other legal or equitable remedies established by law that may be pursued to address violations of this code and the use of this chapter shall be at the sole discretion of the city. (Ord. 5801, § 3, 6-25-2013)

1.24.090 Continuing violations.

Each day a violation of this code continues to exist shall constitute a new, separate, and distinct violation. (Ord. 5801, § 3, 6-25-2013)

1.24.100 Collection of unpaid fines, penalties and related costs.

A. Unpaid fines or penalties and their related costs, arising from administrative citations, administrative civil penalties actions or other administrative enforcement actions as provided by this code shall be a debt to the city and subject to all remedies for debt collection as allowed by law. The city shall be entitled to interest from the date the order becomes final or thirty (30) days after the first billing whichever date is later.

B. When a violation involves real property and the fines, penalties, and related costs are not paid within the prescribed time, the amount of those fines, penalties, and their related costs may be recorded as a lien upon and against the real property without further hearing, subject to notice of the lien as required by law.

C. The notice of lien shall be substantially in this form:

NOTICE OF LIEN

Claim of the City of Glendale, California.

Pursuant to the authority vested by Section 1.24.100 of the Glendale Municipal Code, the amount of uncollected fines, penalties, and related costs may be recorded as a lien upon and against the real property where the violation of law occurred and which is the subject of the administrative enforcement action(s) resulting in the award, imposition, or assessment of a fine, penalty and all costs associated therewith.

On (date) an administrative hearing officer conducted (as an evidentiary proceeding) an administrative hearing, pursuant to the applicable provisions of the Glendale Municipal Code. Following the presentation of evidence and the issuance of a ruling in the matter, the administrative hearing officer upheld a fine or awarded, imposed, or assessed a monetary penalty in the amount of _____ and assessed administrative costs in the amount of _____ as set forth in the (type of administrative hearing order) issued on (date). Whereby the City of Glendale does hereby claim a lien for these sums as yet unpaid in the amount of _____ and this sum shall be a lien upon the parcel of real property identified herein until that principal sum, and the sum of any interest upon that principal as may be allowed by law and calculated at the then existing legal rate, has been paid in full and discharged of record.

The real property upon which this lien is claimed is that certain parcel of land, the structures thereon and any appurtenances connected thereto and located within the City of Glendale, County of Los Angeles, State of California, and particularly described as follows:

(Legal Description)

(Street address, if any)

(Assessor's Parcel Number)

Further, the City of Glendale gives NOTICE that this Notice of Lien shall not be deemed or construed to prohibit the City of Glendale from making additional claims and giving and recording one or more Notices of Lien thereon as may be required in those cases where the principal sum claimed, as a fine or penalty awarded, imposed, or assessed, is subject to a cumulative accrual at a fixed daily rate until the date the violations are corrected in full to the satisfaction of the city, or the legal maximum limit (cap) of that penalty has been reached, or the total amount of the lien has been paid in full.

DATED this _____ day of _____, (year).

City Clerk of the City of Glendale, California.

D. Alternatively, unpaid fines or penalties and their related costs, arising from administrative citations, administrative civil penalties actions or other administrative enforcement actions as provided by this code, involving real property may also constitute assessment liens and be collected as special assessments by the Los Angeles County Treasurer-Tax Collector as set forth in chapter 8.30 of the Glendale Municipal Code. (Ord. 5801, § 3, 6-25-2013)

1.24.110 Administrative enforcement and appeal hearings.

A. There shall be two (2) general types of administrative hearings: the enforcement hearing and the appeal hearing, in order to effect a proper enforcement of the Glendale Municipal Code and provide for the procedural and substantive due process rights of all persons subject to enforcement of this code through the application of its administrative code enforcement remedies.

B. Where this code requires the city to seek an administrative hearing as the means of enforcing this code through the imposition of an administrative penalty for a responsible party's failure or refusal to comply with the appropriate notice for his violation of the Code, the hearing shall be an administrative enforcement hearing.

C. Where an aggrieved, responsible party seeks to appeal from an administrative decision, or an administrative enforcement action not requiring an administrative enforcement hearing, the hearing shall be an administrative appeal hearing. Both types of hearings shall provide for judicial review. The procedures set forth at section 1.24.140 apply to both administrative

enforcement and appeal hearings conducted pursuant to this code. (Ord. 5801, § 3, 6-25-2013)

1.24.120 Procedures for notification of administrative enforcement hearing.

A. Where the action or proceeding for an administrative code enforcement remedy authorized by this chapter, or elsewhere in this code, provides for or requires an administrative enforcement hearing; the city manager or his designee shall schedule the date, time, and place for that hearing before an administrative hearing officer when so required by the particular remedy involved.

B. A written notice of the administrative enforcement hearing setting forth the date, time, and place of that hearing shall be served on the responsible party at least ten (10) calendar days prior to the date set for that hearing.

C. The notice of hearing shall be served by any of the methods of services listed in section 1.24.050 of this chapter.

D. The notice of hearing shall include an itemized statement of administrative costs which the city seeks to be assessed in addition to the amount of administrative civil penalties the city seeks to be assessed by the administrative hearing officer, (Ord. 5801, § 3, 6-25-2013)

1.24.130 Procedure for requesting an administrative appeal hearing.

A. Right of Appeal. Every administrative code enforcement action initiated pursuant to this code is subject to appeal according to the procedures governing the particular administrative code enforcement remedy used, as identified below.

B. Administrative Citation. The appeal process is set forth at section 1.24.260 of this chapter.

C. Administrative Civil Penalties Enforcement Order. The “appeal” process is a petition for judicial review pursuant to California Code of Civil Procedure Section 1094.6 as set forth at section 1.24.380 of this chapter.

D. Administrative Hearing to Confirm Administrative Costs or Fees. The appeal process is a petition for judicial review pursuant to California Code of Civil Procedure Section 1094.6 as set forth at subsection 2.90.060.E. of chapter 2.90

E. Notice to Abate. The appeal process for a notice to abate a public nuisance pursuant to chapter 8.30 is set forth at section 8.30.070

F. Notice of Intention to Abate and Remove an Abandoned, Wrecked, Dismantled or Inoperative vehicle or Parts Thereof as a Public Nuisance. The appeal process for a notice to abate and remove an abandoned, wrecked, dismantled or inoperative vehicle or parts pursuant to chapter 10.48 is set forth in section 10.48.120

G. Other Administrative Action. The appeal process for any other administrative action not otherwise listed in this chapter or which is listed elsewhere in this code, is the process provided for in the applicable chapter or section that discusses the administrative action. If the appeal process for such an administrative action is not specifically set forth in the applicable chapter or section discussing the administrative action, it shall be the appeal process set forth in chapter 2.88, titled "Uniform Appeal Procedure." (Ord. 5801, § 3, 6-25-2013)

1.24.140 General procedures for all administrative hearings.

A. Administrative hearings are intended to be informal in nature. Formal rules of evidence and discovery do not apply. Other than copies of citations, notices, notice and orders, and inspection reports served on the responsible parties as part of the enforcement action giving rise to the hearing, no pre-hearing discovery of the city's evidence shall be permitted.

B. The city bears the burden of proof at an administrative hearing to establish the existence of a violation of this code.

C. A preponderance of the evidence shall be the standard of proof used by the administrative hearing officer in deciding the issues at an administrative hearing.

D. Each party shall have the opportunity to cross-examine witnesses and present evidence in support of his or her case.

E. The only evidence that shall be permitted at the hearing and considered by the administrative hearing officer in reaching a decision is that evidence that is relevant to the proof or disproof of:

1. Ownership of the subject property, when applicable;

2. Whether a person noticed by the city as a responsible party is, in fact, a responsible party;

3. Whether a violation of this code occurred and/or continues to occur on the date or dates specified in the citation, notice, or notice and order;

4. Whether the responsible party has caused, maintained or permitted a violation of this code on the date or dates specified in the citation, notice, or notice and order; and in the event of an administrative enforcement hearing on an administrative civil penalties notice and order, whether the amount of civil penalties proposed by the enforcement officer to be assessed pursuant to the procedures and criteria set forth in this chapter are reasonable. (Ord. 5801, § 3, 6-25-2013)

1.24.150 Failure to attend administrative hearing.

Any responsible party whose property or actions are the subject of an administrative hearing and who fails to appear at the hearing shall be deemed to have waived the right to a hearing; the adjudication of the issues related to the hearing, any and all rights afforded under this code; and shall be deemed to have failed to exhaust their administrative remedies, provided that proper notice of the hearing as required by this or other applicable chapter of this code has been served. (Ord. 5801, § 3, 6-25-2013)

1.24.160 Administrative hearing order.

The written decision of the administrative bearing officer setting forth the findings and ruling in a particular case shall be entitled “administrative hearing order,” unless a different title is imposed by this or other applicable chapter of this code, and conform to the requirements set forth therein. (Ord. 5801, § 3, 6-25-2013)

1.24.170 Administrative hearing officer.

A. Qualifications. The city manager or the designated representative thereof shall promulgate rules and procedures as are necessary to contract with qualified persons capable of acting as administrative hearing officers.

B. Independent Authority. The employment, performance evaluation, compensation and benefits of the administrative hearing officer shall not be directly or indirectly conditioned upon the amount of the administrative fines or penalties upheld, awarded, imposed, or assessed by the administrative hearing officer.

C. Disqualification. Any person designated to serve as an administrative hearing officer is subject to disqualification for bias, prejudice, interest, or for other reason for which a judge may be disqualified in a court of law. Rules and

procedures for the disqualification of an administrative hearing officer based upon a showing of actual bias, prejudice, interest, or other reason shall be promulgated by the city manager or the city manager's designee.

D. Powers. The administrative hearing officer shall have the power to:

1. Conduct administrative enforcement hearings and administrative appeal hearings as provided under the authority of this code;

2. Continue a hearing based on good cause shown by one of the parties to the hearing or upon his own independent determination that due process has not been adequately afforded to a responsible party;

3. Exercise continuing jurisdiction over the subject matter of an administrative enforcement hearing for the purposes of granting a continuance, ensuring compliance with an administrative civil penalties enforcement order, modifying an administrative civil penalties enforcement order, or where extraordinary circumstances exist, granting a new administrative enforcement hearing;

4. Require and direct a responsible party to post a performance bond to ensure compliance with an administrative civil penalties enforcement order;

5. Rule upon the merits of an administrative appeal hearing or an administrative enforcement hearing upon consideration of the evidence submitted and issue a written decision resolving the case;

6. Uphold, award, impose, assess, or deny a fine or penalty authorized under this code;

7. Assess administrative costs according to proof;

8. Set, increase, or decrease, according to proof, the amount of fine or penalty or the daily rate of such fine or penalty sought by the city to be awarded, imposed, or assessed in those cases where the fine or penalty is not fixed but is subject to a range as otherwise established by this code;

9. In those cases where the fine or penalty is not fixed but is subject to a range as otherwise established by this code, determine the date certain upon which the assessment of civil penalties shall begin; and, where the corrections are subsequently completed to the city's satisfaction, the date certain upon which the assessment of civil penalties shall end. If the violations have not been so corrected, the daily accrual of the penalties assessed shall continue until the violations are corrected or the legal maximum limit is reached; and

10. Where appropriate in administrative enforcement actions arising from the issuance of an administrative civil penalties notice and order and as a

condition of compliance in correcting the violations at issue; require each responsible party to cease violating this code and to make all necessary corrections as specified by the city. (Ord. 5801, § 3, 6-25-2013)

1.24.180 Liability of responsible parties.

For the purposes of this chapter, each responsible party shall be jointly and severally liable for any and all administrative fines, administrative civil penalties, and related administrative costs awarded, upheld, assessed, or imposed under this chapter. (Ord. 5801, § 3, 6-25-2013)

1.24.190 Administrative citations.

For the purposes of this chapter:

A. Any person violating any provision of this code may be issued an administrative citation by an enforcement officer as provided for in this chapter.

B. A citation fine shall be assessed by means of an administrative citation issued by the enforcement officer and shall be payable directly to the city.

C. Fines assessed by means of an administrative citation shall be collected in accordance with the procedures specified in this chapter. (Ord. 5801, § 3, 6-25-2013)

1.24.200 Administrative citation procedures.

A. Upon discovering a violation of this code, an enforcement officer may issue an administrative citation to a responsible party in the manner prescribed in this chapter. The administrative citation shall be issued on a form approved by the city manager. At the discretion of the enforcement officer, or as established by city administrative procedures, a responsible party may be given a warning notice prior to the issuance of an administrative citation. Such warning notice may contain a time frame within which to remedy the violation. Except in the case of a violation creating an immediate danger to health or safety, the enforcement officer shall issue at minimum a 72-hour warning notice of violation to the responsible party for a continuing violation pertaining to building, plumbing, electrical or other similar structural or zoning issues, prior to issuance of an administrative citation. Any warning notice shall be posted at the property or personally served on the responsible party at the time of issuance.

B. If the responsible party is a business, the enforcement officer shall attempt to locate the owner and issue the owner an administrative citation. If the enforcement officer can only locate the manager or on-site supervisor or employee, the administrative citation may be issued in the name of the business and given to the manager or on-site supervisor or employee. A copy of the administrative citation shall also be mailed to the owner in the manner prescribed in section 1.24.050 of this chapter.

C. Once the responsible party is located, the enforcement officer shall attempt to obtain the signature of that person on the administrative citation. If the responsible party refuses or fails to sign the administrative citation, the failure or refusal to sign shall not affect the validity of the citation and subsequent proceedings.

D. If the enforcement officer is unable to locate the responsible party for the violation at the property where the violation exists, then the administrative citation shall be mailed to the responsible party in the manner prescribed in section 1.24.050 of this chapter, and posted in a conspicuous place on or near the property.

E. The administrative citation shall also contain the printed name, identification number and phone extension of the enforcement officer.

F. The failure of any person with an ownership interest in the property to receive notice shall not affect the validity of any proceedings taken under this chapter. (Ord. 5801, § 3, 6-25-2013)

1.24.210 Contents of citation.

A. The administrative citation shall refer to the date and location of the violations and the approximate time, if applicable, that the violations were observed.

B. The administrative citation shall identify each violation by the applicable section number of this code and by either the section's title or a brief descriptive caption.

C. The administrative citation may describe the action required to correct the violations.

D. The administrative citation shall require the responsible party to correct the violations within the time stated in the citation and shall explain the consequences of failure to correct the violations.

E. The administrative citation shall state the amount of the fine imposed for the violations.

F. The administrative citation shall explain how the fine shall be paid and the time period by which it shall be paid, and the consequences of failure to pay the fine.

G. The administrative citation shall identify all appeal rights.

H. The administrative citation shall contain the printed name, identification number, and phone extension of the enforcement officer and the signature of the responsible party, if he/she can be located. If the responsible party refuses to sign the administrative citation, then the enforcement officer shall write "refused" on the signature line for the responsible party. (Ord. 5801, § 3, 6-25-2013)

1.24.220 Administrative citation fines; assessment and amounts.

A. The amount of fine to be assessed by means of an administrative citation shall be established by resolution of the city council.

B. All fines assessed shall be payable to the city within thirty (30) calendar days from the date of the administrative citation.

C. Any person who fails to pay to the city any fine imposed pursuant to the provisions of this chapter on or before the date that the fine is due shall also be liable for the payment of any applicable late payment charges set forth in the schedules of fines.

D. The city may collect any past due administrative citation fine or late payment charge by use of any available legal means. The city may also recover its collection and processing costs.

E. Any administrative citation fine paid pursuant to subsection A. shall be refunded if it is determined, after a hearing, that the person charged in the administrative citation was not responsible for the violation or that there was no violation as charged in the administrative citation.

F. Payment of the fine shall not excuse the failure to correct the violations nor shall it bar further enforcement action by the city.

G. If the responsible party fails to correct the violation, subsequent administrative citations may be issued for the same violations. The amount of the fine shall increase at a rate specified by resolution of the city council. (Ord. 5801, § 3, 6-25-2013)

1.24.230 Administrative citation fines higher for specific violations.

Due to the significant risks posed by certain violations to public health, safety and welfare, the amount of fine to be imposed for certain violations of this code and assessed by means of an administrative citation shall be of greater amounts than others and shall be established by resolution of the city council. (Ord. 5801, § 3, 6-25-2013)

1.24.240 Failure to pay administrative citation fines.

The failure of any person to pay the fines assessed by an administrative citation within the time specified on the citation may result in the city filing a claim with the Superior Court of California, County of Los Angeles, Small Claims Division or other appropriate division. Alternatively, the city may pursue any other legal remedy to collect the citation fines including, but not limited to, criminal prosecution. (Ord. 5801, § 3, 6-25-2013)

1.24.250 Failure to comply with an administrative citation.

The failure to comply with an administrative citation, including any failure to pay an administrative fine, is a misdemeanor. The filing of a criminal misdemeanor action does not preclude the city from using any other legal remedy available to gain compliance with the administrative citation. (Ord. 5801, § 3, 6-25-2013)

1.24.260 Appeal of administrative citation.

A. Any recipient of an administrative citation may contest the citation by completing a request for hearing form and returning it to the city or its authorized designee within thirty (30) calendar days from the date of the administrative citation, together with an advance deposit of the fine or notice that a request for advance deposit hardship waiver has been filed pursuant to subsection D. of this section.

B. A request for hearing form may be obtained from the department or entity specified on the administrative citation.

C. The person requesting the hearing shall be notified of the time and place set for the hearing at least ten (10) days prior to the date of the hearing.

D. Advance Deposit Hardship Waiver.

1. Any person who intends to request a hearing to contest that there was a violation of the Code or that he or she is the responsible party and who is financially unable to make the advance deposit of the fine as required may file a request for an advance deposit hardship waiver.

2. The request shall be filed with the department specified on the administrative citation on an advance deposit hardship waiver application form available from the department or entity specified on the administrative citation, within ten (10) days of the date of the administrative citation.

3. The requirement of depositing the full amount of the fine as required shall be stayed unless or until the designee of the department specified on the administrative citation makes a determination not to issue the advance deposit hardship waiver.

4. The designee of the department specified on the administrative citation may waive the requirement of an advance deposit and issue the advance deposit hardship waiver only if the cited party submits to the department specified on the administrative citation a sworn affidavit, together with any supporting documents or materials, demonstrating to the satisfaction of the designee of the department specified on the administrative citation the person's actual financial inability to deposit with the city the full amount of the fine in advance of the hearing.

5. If the designee of the department specified on the administrative citation determines not to issue an advance deposit hardship waiver, the person shall remit the deposit to the city within ten (10) days of the date of that decision or thirty (30) days from the date of the administrative citation, whichever is later.

6. The designee of the department specified in the administrative citation shall issue a written determination listing the reasons for the determination to issue or not issue the advance deposit hardship waiver. The written determination of the designee of the department specified in the administrative citation shall be final.

7. The written determination of the designee of the department specified on the administrative citation shall be served upon the person who applied for the advance deposit hardship waiver. (Ord. 5801, § 3, 6-25-2013)

1.24.270 Administrative citation appeal hearing procedures.

A. No hearing to contest an administrative citation before an administrative hearing officer shall be held unless the fine has been deposited in advance or an advance deposit hardship waiver has been issued.

B. Subject to the limitation imposed by subsection A. above, a hearing before the administrative hearing officer shall be set for a date that is not less than fifteen (15) days and not more than sixty (60) days from the date that the request for hearing is filed.

C. At the hearing, the party contesting the administrative citation shall be given the opportunity to testify and to present evidence concerning the administrative citation.

D. The failure of any responsible party who is subject to an administrative citation to appear at the appeal hearing shall constitute a forfeiture of the citation fine and a failure to exhaust his administrative remedies.

E. The administrative citation and any additional report submitted by the enforcement officer shall constitute prima facie evidence of the respective facts contained in those documents.

F. The administrative hearing officer may continue the hearing and request additional information from the enforcement officer or the recipient of the administrative citation prior to issuing a written decision. (Ord. 5801, § 3, 6-25-2013)

1.24.280 Administrative citation appeal ruling.

A. After considering all of the testimony and evidence submitted at the hearing, the administrative hearing officer shall issue a written decision ("administrative citation appeal ruling") to uphold or cancel the administrative citation and shall list in the decision the reasons for that decision.

B. If the administrative hearing officer determines that the administrative citation should be upheld, then the amount of the fine set forth in the citation shall not be reduced or waived for any reason.

C. If the administrative hearing officer determines that the administrative citation should be upheld, then the fine amount on deposit with the city shall be retained by the city.

D. If the administrative hearing officer determines that the administrative citation should be upheld and the fine has not been deposited pursuant to an advance deposit hardship waiver, the administrative hearing officer shall set forth in the decision a payment schedule for the fine.

E. If the administrative hearing officer determines that the administrative citation should be canceled and the fine was deposited with the city, then the city shall promptly refund the amount of the deposited fine.

F. The recipient of the administrative citation shall be served with a copy of the administrative hearing officer's written decision.

G. The administrative hearing officer's written decision shall become final on the date of mailing of the notice of decision. (Ord. 5801, § 3, 6-25-2013)

1.24.290 Judicial review of administrative citation appeal ruling.

Once the administrative hearing officer's written decision becomes final as provided in this chapter, the time in which judicial review of the order must be sought shall be governed by California Government Code Section 53069.4, as that section may be amended from time to time, or the successor provision thereto. (Ord. 5801, § 3, 6-25-2013)

1.24.300 Administrative civil penalties; authority.

A. The process for the assessment of administrative civil penalties established in this chapter is in addition to any other administrative or judicial remedy established by law that may be pursued to address violations of the Glendale Municipal Code.

B. Any person violating any provision of this code may be subject to the assessment of administrative civil penalties and related administrative costs pursuant to the procedures set forth in this chapter. In addition, every person who applies for and receives a permit, license, land use approval (e.g. subdivision map, conditional use permit, variance, parking reduction permit) or any other approval required of the city shall comply with all conditions imposed upon the issuance of such permit, license or approval or shall be subject to the assessment of administrative civil penalties and related administrative costs pursuance to the procedures set forth in this chapter.

C. Administrative civil penalties, if awarded, assessed, or imposed; shall be assessed at a daily rate, the amount of which shall be determined by the administrative hearing officer and set forth in an administrative civil penalties enforcement order following the presentation of evidence at an administrative enforcement hearing according to the procedures established in this chapter.

D. The maximum legal rate for administrative civil penalties shall be one thousand dollars ($1,000.00) per day, per violation. The maximum legal amount

of administrative civil penalties shall be one hundred thousand dollars ($100,000.00), plus interest on unpaid penalties as provided in section 1.24.100, per parcel of real property, including any structures located thereon, for all violations of this code, including continuing violations, existing at the time the administrative civil penalties notice and order is issued by the department responsible for code enforcement or other authorized city department. Violations first occurring after the issuance of an administrative civil penalties notice and order shall be subject to enforcement through the issuance of a separate administrative civil penalties notice and order. (Ord. 5801, § 3, 6-25-2013)

1.24.310 Administrative civil penalties notice and order; contents and procedures.

A. Whenever an enforcement officer determines that a violation of one or more provisions of the Glendale Municipal Code has occurred or continues to exist, a written administrative civil penalties notice and order may be issued to each responsible party.

B. The administrative civil penalties notice and order shall specify all of the following, required information:

1. Date of mailing by certified and first class mail.

2. Identification by name and last known mailing address of each responsible party.

3. Identification of the parcel or parcels of real property subject to the administrative civil penalties notice and order by street address and assessor parcel number (i.e., “APN”) for improved parcels and by APN for unimproved parcels not assigned a street address.

4. Notice, in boldface type, that this chapter authorizes the imposition or assessment of administrative civil penalties up to one thousand dollars ($1,000.00) per day, per violation of any section of the Glendale Municipal Code.

5. Notice that the subject property is in violation of one or more sections of the Glendale Municipal Code as described in the inspection report(s) attached to the administrative civil penalties notice and order. The inspection report shall identify each violation by the applicable section number and by either the section’s title or a brief descriptive caption; specifically indicate where on the subject property or structure the violation occurred; the date(s) of occurrence; a brief description of how each section was violated; a brief description of the

remedial or corrective action required to permanently correct the violation(s); and a compliance deadline date for the completion of all required corrections.

6. A demand and order to cease and desist from further action causing the violations and to permanently correct the violations by completing the action(s) specified in the inspection report(s) attached to the administrative civil penalties notice and order by a calendar date certain (the compliance deadline).

7. Notice that each responsible party is subject to an order requiring the payment of administrative civil penalties for each violation not corrected by the compliance deadline, in an amount determined by the administrative hearing officer.

8. A list of each violation identified by the applicable section number and the daily amount of administrative civil penalties proposed for each violation.

9. Identification of the specific factors that were used to determine the proposed daily amount of administrative civil penalties, pursuant to the criteria in section 1.24.320 of this chapter, to be sought by the city in the event the corrective action required is not completed prior to the compliance deadline.

10. Notice of the date the amount of administrative civil penalties sought shall begin to accrue, and that any administrative civil penalties subsequently assessed shall continue on a daily basis at the daily assessed rate until the violations have been permanently corrected as determined by the city or the maximum amount has been reached.

11. Notice that administrative costs, in addition to any administrative civil penalties that may be imposed, may also be assessed by the administrative hearing officer.

12. Notice and a brief description of the consequences of a responsible party's failure or refusal to appear at an administrative enforcement hearing on the administrative civil penalties notice and order, and a responsible party's failure or refusal to pay the assessed administrative civil penalties and costs as provided in this chapter.

13. Notice and a brief description of any other consequences arising from a responsible party's failure or refusal to comply with the terms and deadlines as prescribed in the administrative civil penalties notice and order.

14. Notice and a brief description of the administrative enforcement hearing procedures as set forth in this chapter.

15. Notice that a responsible party may seek judicial review of the administrative civil penalties enforcement order pursuant to California Code of Civil Procedure Section 1094.6.

C. The administrative civil penalties notice and order shall be served upon each responsible party in the manner required under this chapter.

D. More than one (1) administrative civil penalties notice and order may be issued against the same responsible party if each such subsequent notice and order concerns different dates, different violations, or different locations. (Ord. 5801, § 3, 6-25-2013)

1.24.320 Determination of administrative civil penalties; accrual and amount.

A. In determining the date when administrative civil penalties start to accrue, an enforcement officer may consider the date when the city first discovered the violation as evidenced by the issuance of an administrative citation, administrative civil penalties notice and order, or any other written notice or correspondence to any responsible party.

B. In determining the amount of administrative civil penalties to be assessed on a daily rate, an enforcement officer may consider some or all of the following factors:

1. The duration of the violation.
2. The frequency of recurrence of the violation.
3. The seriousness of the violation.
4. The history of the violation.
5. The responsible party's conduct after issuance of the notice and order.
6. The good faith effort by the responsible party to comply.
7. The economic impact of the penalty on the responsible party.
8. The impact of the violation upon the community.
9. Any other factors that justice may require.

B. The city manager, or the designated representative thereof, shall have the authority, but not the obligation, to establish a penalty schedule for administrative hearing officers to use as a guideline in determining the amount

C. of administrative civil penalties in appropriate cases; and to establish procedures for the use of this penalty schedule. (Ord. 5801, § 3, 6-25-2013)

1.24.330 Administrative costs.

Notwithstanding procedures set forth in section 2.90.060 for an administrative hearing to confirm administrative costs or fees, the administrative hearing officer is authorized to assess any reasonable administrative costs as set forth in an itemized statement of administrative costs presented at the administrative enforcement hearing on the administrative civil penalties notice and order. (Ord. 5801, § 3, 6-25-2013)

1.24.340 Failure to comply with an administrative civil penalties notice and order; administrative enforcement hearing.

When the responsible party fails to comply with the terms of the administrative civil penalties notice and order by correcting the violation(s) and bringing the property into compliance with this code, an enforcement officer may schedule an administrative enforcement hearing as provided in this chapter. (Ord. 5801, § 3, 6-25-2013)

1.24.350 Administrative civil penalties enforcement order.

A. Within fifteen (15) calendar days of the completion of the administrative enforcement hearing on an administrative civil penalties notice and order, the administrative hearing officer shall exercise the powers conferred under section 1.24.170 and issue an administrative civil penalties enforcement order.

B. The administrative civil penalties enforcement order shall contain the following information:

1. Date of administrative enforcement hearing.

2. Identification by name of each enforcement officer, responsible party, and all other witnesses attending the hearing.

3. Determination of sufficiency of notice for due process purposes.

4. Summary of evidence presented by each witness, including exhibits.

5. Findings of fact, analysis of applicable sections of the Glendale Municipal Code, and conclusions of law as to the issues specified at section 1.24.140 of this chapter.

6. Determination and assessment of administrative civil penalties and costs to be awarded to the city, if any.

7. Notice of appeal rights and judicial review pursuant to Code of Civil Procedure 1094.6.

8. Signature of the administrative hearing officer and the signature date.

C. The administrative civil penalties enforcement order shall become final and take effect on the date it is signed by the administrative hearing officer.

D. The administrative civil penalties enforcement order shall be served on all responsible parties in the manner required under section 1.24.050 of this chapter. (Ord. 5801, § 3, 6-25-2013)

1.24.360 Failure to comply with the administrative civil penalties enforcement order.

Upon the failure of the responsible party to comply with terms and deadlines set forth in the administrative civil penalties enforcement order, the enforcement officer may use all appropriate legal means to recover the administrative civil penalties and administrative costs assessed and obtain compliance with the administrative civil penalties enforcement order. (Ord. 5801, § 3, 6-25-2013)

1.24.370 Duty to verify correction and compliance.

After the administrative hearing officer issues an administrative civil penalties enforcement order, the enforcement officer shall periodically and regularly inspect the subject property to determine whether the subject property has been brought into compliance with the administrative civil penalties enforcement order. (Ord. 5801, § 3, 6-25-2013)

1.24.380 Judicial review of an administrative civil penalties enforcement order.

Any responsible party aggrieved by an administrative civil penalties enforcement order may obtain judicial review of that order by filing a petition

for review with the Los Angeles County Superior Court in accordance with the timelines and provisions set forth in California Code of Civil Procedure Section 1094.6. (Ord. 5801, § 3, 6-25-2013)

1.24.390 Failure to comply with an administrative civil penalties enforcement order; alternative remedies.

A. It is unlawful for a responsible party who has been served with a copy of the final administrative enforcement order pursuant to this chapter to fail to comply with that order.

B. Failure to comply with a final administrative enforcement order may be prosecuted as an infraction or misdemeanor at the discretion of the city attorney.

C. Failure to comply with a final administrative enforcement order may result in alternative remedies, such as civil injunction, abatement, receivership or any other legal remedy. (Ord. 5801, § 3, 6-25-2013)

Chapter 1.20 general penalties and other remedies of the Glendale Municipal Code is presented below.

Chapter 1.20 GENERAL PENALTY; OTHER REMEDIES

Note

* For charter provisions as to penalty, see Charter, Art. XXIII, §27. As to authority of city to establish municipal court, see Charter, Art. XXIII, §29.

1.20.010 Penalties and punishment for code violations.

A. Except as provided in subsection B, C, or D, of this section, whenever in this code any act is prohibited or declared unlawful, or the doing of any act is required, or the failure to do any act is declared to be unlawful, it shall be a misdemeanor. Unless a specific penalty is provided, and person convicted of such misdemeanor shall be punished by a fine not to exceed one thousand dollars ($1,000.00), or imprisonment for a term not to exceed six (6) months, or by both such fine and imprisonment.

B. With the exception of Title 10 of this code, any other provision of this code where the specific penalty of infraction is provided shall be deemed an infraction punishable as follows:

1. A fine not exceeding one hundred dollars ($100.00) for a first violation;

2. A fine not exceeding two hundred dollars ($200.00) for a second violation within one (1) year;

3. A fine not exceeding five hundred dollars ($500.00) for each additional violation within one (1) year.

C. A violation of any provision of Title 10, with the exception of Chapter 10.56, unless otherwise specifically provided, shall be deemed an infraction. An infraction under Title 10, except Chapter 10.56, is punishable by a fine which shall be established by resolution of the city council, either for a specific section under Title 10 or pursuant to a bail or fine schedule applicable to numerous sections thereunder. Any such bail or fine shall not exceed the sum of five hundred dollars ($500.00) for each violation.

D. A violation of the following Glendale Municipal Code sections shall be deemed an infraction punishable as provided in subsection B of this section, except that all violations after three (3) convictions or nolo contendere pleas, or any combination totaling three (3), within one (1) year shall be misdemeanors punishable pursuant to subsection A of this section:
Sections 8.32.030, 8.32.050, 8.44.050(D), 8.44.170, 8.52.040(A), 8.52.050, 8.52.060, 8.52.070, 8.52.080, 8.52.090(A), 8.52.090(B), 8.52.090(C), 8.52.100, 8.52.210(B), 8.52.210(C), 8.52.210(D), 9.04.040(B), 9.04.040(C), 13.42.030(A), 13.42.030(B),13.42.030(C), 13.42.030(D), 13.42.040(A), 13.42.040(B), 13.42.050(A), 13.42.050(B), 13.42.050(C), 13.42.060, 13.43.030(A), 13.43.040(C), 13.43.040(D), 13.43.050(C), 13.43.050(D), 13.43.060(B), 13.43.070(A), 13.43.070(B), 30.11.070(A)(4), 30.11.070(B)(5), 30.11.070(C)(4), 30.12.040(A)(1)(a), 30.12.040(A)(2)(a), 30.12.050(A)(2), 30.12.050(B)(2), 30.13.040(A)(1), 30.13.050(A)(2), 30.14.040(A)(1), 30.14.050(A)(2), 30.14.060(A)(3), 30.14.050(B)(2), 30.14.060(B)(2), 30.15.040(A), 30.15.050(A)(2), 30.15.050(B)(2), 30.31.010(A), 30.31.010(B), 30.31.010(D), 30.31.020(A)(1), 30.31.030(A), 30.31.030(B)(1), 30.32.040(B)(1), 30.32.040(B)(2), 30.32.040(C), 30.32.040(D), 30.32.040(E), 30.32.100, 30.32.130(G)(1), 30.32.130(G)(2), 30.32.130(G)(7), 30.32.160(F), 30.33.040, 30.33.050, 30.33.110(A), 30.33.200, 30.33.210(B)(1), 30.33.210(B)(2), 30.33.210(B)(3), 30.33.210(H), 30.33.210(I), 30.34.020(F), 30.34.020(K), 30.34.030(B)(8), 30.34.030(D), 30.34.040(B), 30.34.140(A), 30.34.140(G), 30.34.150(A), and the following sections from the South Brand Boulevard Specific Plan: X. Implementation, B. Zoning, Sections 405(a), 505(a), 705(a), and 805(a).

E. Whenever in this code any act or omission is made unlawful it shall include causing, permitting, aiding, abetting, suffering or concealing the fact of the act or omission. Each person shall be guilty of a separate offense for each and every day during any portion of which any violation of any provision of this code is committed, continued or permitted by that person, and shall be punishable accordingly.

F. Notwithstanding the above provisions, the criminal penalties provided for in this section shall not apply to Chapter 5.35 of this code relating to sidewalk vendors. (Ord. 5936 § 4, 2019; Ord. 5857 § 1, 2015; Ord. 5707 § 2, 2010; Ord. 5686 § 24, 2010; Ord. 5684 § 2, 2010; Ord. 5660 § 1, 2009; Ord. 5645 § 1, 2009; Ord. 5628 § 24, 2008; Ord. 5464 § 3, 2005; Ord. 5399 § 26, 2004; Ord. 5385 § 1, 2004; Ord. 5293 § 1, 2001; Ord. 5256 § 7, 2000; Ord. 5253 § 3, 2000; Ord. 5220 § 1, 1999; Ord. 5148 § 1, 1996; Ord. 501 § 1, 1993; prior code § 1-36)

1.20.020 Authority to issue citations for code violations.

Neighborhood services supervisors, neighborhood services inspectors, or building inspectors, who have successfully completed a course and a written examination, through California's Commission on Peace Officer Standards and Training, on the laws and powers of arrest under California Penal Code Section 832 or any successor legislation, have the power, authority, and immunity of a California peace officer to issue infraction citations for a violation of a code section listed in Section 1.20.010(D) of this chapter. However, because these individuals are nonsworn personnel and are not peace officers, they shall not make custodial arrests, or carry or use a firearm within the scope and course of their employment, or both. (Ord. 5464 § 4, 2005; Ord. 5148 § 2, 1996)

1.20.030 Violation as public nuisance; authority to abate.

In addition to any other remedy or penalty provided by this code, any violation of any provision of this code is declared to be a public nuisance and may be abated by the city or by the city attorney on behalf of the people of the state of California as a nuisance by means of a restraining order, injunction or any other order or judgment in law or equity issued by a court of competent jurisdiction. In addition to any other remedy or penalty provided by this code, the city or the city attorney, on behalf of the people of the state of California, may seek injunctive relief to enjoin any violation of any provision of this code, or to compel compliance with the provisions of this code, or to seek any other relief or remedy available at law or equity. As part of any civil action, the court may require posting a performance bond to ensure compliance with this code, applicable state codes, court order or judgment. (Ord. 5707 § 3, 2010)

1.20.040 Civil action; attorneys' fees.

A. The city attorney may institute an action in any court of competent jurisdiction to restrain, enjoin or abate any condition(s) found to be in violation of the provisions of this code, as provided by law.

B. In any civil action commenced by the city to abate a nuisance, to enjoin a violation of any provision of this code or any provision of any code adopted by reference by this code, to collect a civil penalty imposed either by this code or by state or federal law, or to collect a civil debt owing to the city, the prevailing party shall be entitled to recover in any such action reasonable attorneys' fees and costs of suit. Pursuant to Government Code Section 38773.5(b), the recovery of attorneys' fees by the prevailing party is limited to individual actions or proceedings in which the city elects, at the initiation of that individual action or proceeding, to seek recovery of its own attorneys' fees. In no action or special proceeding shall an award of attorneys' fees to a prevailing party exceed the amount of reasonable attorneys' fees incurred by the city in the action or proceeding. (Ord. 5801 § 1, 2013; Ord. 5745 § 2, 2011)

1.20.050 Civil penalties for violation of Code.

Any person who violates any provision or fails to comply with any requirement or provision of this code heretofore or hereafter enacted or any provision of any code adopted by reference by this code shall be liable for a civil penalty not to exceed one thousand dollars ($1,000.00) for each violation. Where the conduct constituting a violation is of a continuing nature, each day of such conduct is a separate and distinct violation. In determining the amount of the civil penalty, the court shall consider all relevant circumstances, including, but not limited to, the extent of harm caused by the conduct constituting a violation, the nature and persistence of such conduct, the length of time over which the conduct occurred, the assets, liabilities and net worth of the person, whether corporate or individual, and any corrective action taken by the defendant. The civil penalty prescribed by this subsection shall be assessed and recovered in a civil action brought by the city attorney in any court of competent jurisdiction. The civil penalty prescribed by this subsection may be sought in addition to injunctive relief, specific performance or any other remedy, provided, however, that a civil penalty shall not be sought for any violation for which a criminal prosecution has been commenced. (Ord. 5801 § 2, 2013)

8.7. Legal Authorities

The UWMP Guided books quotes the following section of the Water Code.

> *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.*

During the water supply shortage of 2015 State Water Resources Control Board staff were surprised to find that the State Board could not simply direct water agencies to take specific demand reduction actions because most water agencies are either special districts that operate within various municipalities or investor owned utilities that have limited legal authorities and which operate under control of the California Public Utilities Commission. The residents and businesses of the City of Glendale are fortunate to be served by GWP which is a municipally owned utility, meaning that it is part of the City as a City Department. The portion of the City Charter identifying the City's authority is quoted below.

> **Sec. 1. Powers as municipal corporation generally.**
>
> The City of Glendale, a municipal corporation, shall after the adoption of this Charter, continue its existence as such municipal corporation, and under the corporate name, CITY OF GLENDALE, shall have, possess and exercise all powers and rights vested in said City of Glendale, under this Charter and the

Constitution of California and the laws of the state, and all powers which a municipal corporation may lawfully possess or exercise under the Constitution of this State. The City of Glendale shall have the right and power to make and enforce all laws and regulations in respect to municipal affairs, subject only to the restrictions and limitations provided in this* Charter; provided, that nothing herein shall be construed to prevent or restrict the city from exercising or consenting to, and the city is hereby authorized to exercise any and all rights, powers and privileges heretofore or hereafter granted or prescribed by the general laws of the state; provided, also, that where the general laws of the state provide a procedure for the carrying out and enforcement of any rights or powers belonging to the city, said procedure shall control and be followed unless a different procedure shall have been provided in this Charter or by ordinance.

* In the case of Smith v. City of Glendale et al., 1 Cal. App. (2d) 463, 36 P. (2d) 1083, which cited the first thirty-four words of the second sentence of this section together with subdivisions 5, 6 and 8 of section 2 of article III and section 4 of article VI of this Charter, it was held that the charter of a city giving it the right to control its municipal affairs is the supreme law of the city and that the powers are derived from the state constitution and not from the legislature. It was also held that the city has the power to purchase stock in a private water company to furnish a water supply to its citizens.

Sec. 2. Enumeration of particular powers.

Without in any way or to any extent limiting or curtailing the powers hereinbefore conferred or mentioned, and for the purpose of removing all doubt concerning the exercise of powers hereinafter expressly mentioned, the City of Glendale shall have power:

1. Corporate Seal. To have and use a corporate seal;

2. Actions and Proceedings in Court. To sue or be sued in all courts in all actions and proceedings;

3. Taxes and License Taxes. To levy and collect taxes, and to levy and collect license taxes for both regulation and revenue;

4. Borrowing Money, Issuing Bonds, etc. To borrow money, incur municipal indebtedness, and issue bonds or other evidence of such indebtedness;

5. Acquisition of Property Generally.* To acquire by purchase, bequest, devise, gift, condemnation or other manner sanctioned by law, within and

without the limits of said city, property of every kind and nature for all purposes;

6. Telephone or Telegraph Systems, Street Railways, etc., Warehouses, Markets, Waterworks, etc.* To acquire by said means, and to establish, maintain, equip, own and operate, either within or outside of the city, telephone and telegraph systems, street railways, or other means of transportation, warehouses, free markets, waterworks, filtration plants, gas works, electric light, heat and power works, underground or overhead conduit systems or any other works necessary to a public utility; and to join with any other city or cities or county in the acquisition, construction and maintenance of same;

7. Streams and Channels. To improve the streams and channels flowing through the city or adjoining the same, to widen, straighten and deepen the channels thereof, and remove obstructions therefrom, to construct and maintain embankments and other works to protect the city from overflow and storm waters;

8. Furnishing Public Utility Service, etc.* To furnish the city or its inhabitants or persons without the city, any public utility service or commodity whatsoever;

9. Lease, Sale, etc., of Certain Property. To lease, sell, convey and dispose of any and all property herein mentioned for the common benefit;

10. Parks, Playgrounds, Auditoriums, Museums, Gymnasiums, etc. To acquire, construct, operate and maintain parks, playgrounds, markets, baths, public halls, auditoriums, libraries, museums, art galleries, gymnasiums and any and all buildings, establishments, institutions and places whether situated inside or outside of the city limits, which are necessary or convenient for the transaction of public business or for promoting the health, morals, education, care of the indigent or welfare of the inhabitants of the city or for their amusement, recreation, entertainment, or benefit;

11. Plants for Disposition of Sewage, Garbage and Waste. To acquire, construct and maintain all works necessary for the disposition of sewage, garbage and waste, to construct, own, maintain and operate incinerating or garbage reduction plants, and to join with any other city or cities or county in the acquisition, construction and maintenance of any such works or plant;

12. Nuisances. To define and abate nuisances;

13. Care of Indigent. To provide for the care of the indigent;

14. Boulevards. To establish boulevards and regulate traffic thereon;

15. Fire Department; Fire Prevention. To equip and maintain a fire department and to make all necessary regulations for the prevention of fires;

16. Permits for Use of Streets, etc. To grant permits to use the streets or public property revocable at any time without notice;

17. Rates for Services Rendered Under Franchises, etc. To regulate and establish rates and charges to be imposed and collected by any person or corporation for commodities or services rendered under or in connection with any franchise, permit, or license heretofore or hereafter granted by the city, or other authority; provided, that the same is not inconsistent with the Constitution of the State of California;

18. Devises, Bequests, Gifts and Donations. To receive devises, bequests, gifts and donations of all kinds of property, in fee simple, or in trust, for charitable or other purposes and to do all acts necessary to carry out the purposes of such devises, bequests, gifts and donations with power to manage, sell, lease, or otherwise dispose of the same in accordance with the terms of the devise, bequest, gift or donation or absolutely in case such devise, bequest or trust be unconditional;

19. Regulation of Buildings and Lot Area.** To regulate and limit the height and bulk of buildings hereafter erected, and to regulate and determine the area of yards, courts and other open spaces and for said purposes to divide the city into districts. Such regulations shall be uniform for each class of buildings throughout any district, but the regulations in one (1) or more districts may differ from those in other districts. Such regulations shall be designed to secure safety from fire and other dangers, and to promote the public health and welfare, including, so far as conditions may permit, provisions for adequate light, air and convenience of access, and shall be made with reasonable regard to the character of the buildings erected in each district, the value of land and the use to which it may be put, to the end that such regulations may promote the public health, safety and welfare;

20. Regulation of Location of Trades, Industries, etc.** To regulate and restrict the location of trades and industries and the location of buildings designed for specified uses, and for said purposes to divide the city into districts and to specify for each such district the trades and industries which shall be excluded or subjected to special regulations and the uses for which buildings may not be erected or altered. Such regulations shall be designed to promote the public health, safety and welfare and shall be made with reasonable consideration; among other things, to the character of the district and to its peculiar suitability for particular uses.

* Attention is called to the footnote on page C-5.

** For Charter provision as to amendment, etc., of regulations adopted pursuant to this subdivision, see Charter, Art. XV, § 2.

Sec. 5. Department of Glendale Water and Power.

The department of Glendale Water and Power shall have charge of the construction, maintenance and operation of all public utilities owned or operated by the city. (Res. No. 04-238 § 1, 2004)

* For similar Charter provisions, see Charter, Art. XXII, § 1.

Additionally, the Charter also enumerates the authority of the City Council with relevel sections included below.

Article VI. The Council Generally.

Sec. 4. General powers of the council.

Subject to the provisions and restrictions in this Charter contained, and the valid delegation by this Charter of any powers to any person, officer, board or committee, which delegation of power, if any, shall control, the council shall have the power, in the name of the city, to do and perform all acts and things appropriate to a municipal corporation and the general welfare of its inhabitants and which are not specifically forbidden by the Constitution of the state or which now or hereafter it would be competent for this Charter specifically to enumerate. No enumeration or specific statement herein of any particular powers shall be held to be exclusive of, or a limitation of, the foregoing general grant of powers.

* Attention is called to the footnote at the end of Sec. 1 of Art. III.

Sec. 5. Certain powers and duties enumerated.

The council shall:

1. Qualifications of Members and Election Returns. Judge the qualifications of its members and all election returns;

2. Rules of Proceedings. Establish rules for its proceedings;

3. Record of Proceedings. Cause a correct record of its proceedings to be kept. The ayes and noes shall on demand of any member, be taken and entered therein, and they shall be recorded on all votes passing any ordinance or appointing or dismissing or confirming the appointment or dismissal of any officer, or authorizing the execution of contracts, or the appropriation or payment of money;

4. Mayor Generally. Choose one (1) of its members as presiding officer, to be called mayor. The mayor shall preside over the sessions of the council, shall sign official documents when the signature of the council or mayor is required by law, and he shall act as the official head of the city on public and ceremonial occasions. He shall have power to administer oaths and affirmations. When the mayor is absent from any meeting of the council, the mayor pro tem shall be selected monthly by alphabetical rotation. The mayor pro tem shall act as mayor if the mayor is absent or unavailable;

5. Appointment of Certain Officers. Appoint a city assessor, which office may be combined with that of the city clerk, a city tax collector, a city attorney, and city manager;

6. Supervision of Public Utilities. Exercise general supervision and direction over all persons, firms, companies and corporations owning, controlling or operating public utilities, in so far as any of them are subject to municipal control. This provision is subject to other Charter provisions relative to such public utilities as now are or may hereafter be owned by the city. (1921; 1947; 1953.) (Res. No. 04-238 § 1, 2004)

Editor's Note: The subcatchlines given to the numbered subdivisions of this section are unofficial.

Sec. 6. Ordinances generally.

The enacting clause of every ordinance passed by the council shall be: "Be it ordained by the council of the City of Glendale." The enacting clause of every ordinance initiated by the people shall be: "Be it ordained by the people of the City of Glendale." At least five (5) days must elapse between the introduction and the final passage of any ordinance; provided, that amendment germane to the subject of any proposed ordinance may be made when it is brought up for final passage; and provided further, that in case of an extraordinary epidemic or any disaster, such as flood, fire or earthquake, requiring immediate action on the part of any public authorities, an emergency ordinance may be introduced and

passed at either a regular or special meeting without any intervention of time between introduction and final passage. A final vote on any ordinance or any vote on any appropriation must be taken only at a regular or adjourned regular meeting. Every ordinance must be signed by the mayor and attested by the clerk. Notice thereof shall be published once in a newspaper of general circulation. Any ordinance granting any franchise or privilege shall be published at the expense of the applicant therefor.

In the publication of every ordinance the advertisement shall contain a statement of the title, number and date of the ordinance, a brief statement of the nature of the ordinance, and a reference to a copy of the ordinance which shall be on file and available for public inspection at all reasonable times in the office of the city clerk. (1969.)

Editor's Note: The catchline of this section originally read as follows: "Ordinances."

Sec. 7. When ordinances go into effect.

Except as herein provided, no penal ordinance, or measure passed by the council granting any franchise or privilege, shall go into effect in less than thirty (30) days after its final passage. But ordinances declared by the council to be necessary as emergency measures for the immediate preservation of the public peace, health or safety, containing a statement of the reasons for their urgency and passed by a four-fifths (4/5) vote of the whole council, ordinances ordering or otherwise relating to elections, and ordinances relating to public improvements, the cost of which is to be borne wholly or in part by special assessments, may go into effect at the will of the council.

8.8. Financial Consequences of WSCP

Drought Charges

The City of Glendale prepared ahead of time when adopting its water shortage restriction stages by adopting Drought Charges when completing its Proposition 218 compliant Cost of Service Analysis (COSA). These charges were in place prior the water supply shortage of 2015. The charges were reanalyzed and updated during the most recent COSA and adopted by the City Council.

The text below is from the Glendale Municipal Code.

13.08.170 Drought rates.

A. When the city council declares mandatory water conservation as provided in Chapter 13.36 including Section 13.36.070, drought rates corresponding to phase II, III, IV and/or V of the city's mandatory water conservation plan shall be billed to each customer as established by resolution of the City Council. The drought rates as established by resolution of the city council shall immediately apply and take effect upon the declaration by city council of each of the phase II, III, IV and/or V of the city's mandatory water conservation plan. The drought rate so effectuated shall remain in effect until such time that the specified phase of the mandatory conservation is lifted.

B. During phase II the drought rate specified under stage one shall apply; during phase III the drought rate specified under stage two shall apply; during phase IV the drought rate specified under stage three shall apply; and during phase V the drought rate specified under stage four shall apply.

C. In accordance with the provisions of Chapter 13.36, and where the city council implements phases II, III, IV and V of the city's mandatory conservation plan and "no water waste" policy set forth in Section 13.36.070, in order to achieve a targeted reduction in water consumption, as well as to maintain the required revenue resulting from the mandated curtailment in water usage, during each of the different implemented phases in order to continue to operate and maintain the city's water system reliably, drought rates for consumption, shall be as established by resolution of the City Council.

D. Drought rates shall not apply to recycled water. (Ord. 5835, § 21, 7-29-2014)

Having these charges in place, prior to the 2015 water supply shortage, allowed the utility to continue to function without needed an emergency rate increase. These charges allow for GWP to collect the portion of the fixed expenditures to operate the water utility that are collected in the

volumetric portion of the water rate. In practice, this charge did not increase the overall bills of customer's who reduced their water use.

The current drought charges that are in place if needed are shown in the table below copied from the GWP water rates web page.

Mandatory Conservation Phase	Phase I	Phase II	Phase III	Phase IV	Phase V
Corresponding Drought Rate Stage	N/A	Stage 1	Stage 2	Stage 3	Stage 4
Drought Charge Per HCF Sold	N/A	$0.30	$0.45	$0.60	$0.75
Curtailment Target	N/A	20%	30%	40%	50%

8.9. Monitoring and Reporting

The UWMP Guided book quotes the following section of the Water Code.

> *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 Water Engineering Section of GWP monitors and reports to the State water use, water conservation, and mandatory conservation restrictions and enforcement when such restrictions are in place. The Water Engineering Section gathers and collates water production information from the Water Operations Section, and enforcement of "customer compliance" actions, when mandatory conservation is in place, from the Customer Service Section. When new State requirements are implemented, the Water Engineering Section may consult with the City Attorney's Office as needed to ensure reporting compliance.

8.10. WSCP Refinement Procedures

The UWMP Guided book quotes the following section of the Water Code.

> *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.*

From an academic perspective, the WSCP may be useful to State staff who do not have hands on practical knowledge of how Glendale's water system works, or what restrictions the City has to adhere to related to its water rights and water supplies. From a practical perspective, GWP staff work to increase water production from to at least produce its full prescriptive right in the Verdugo Basin and to maintain production from the Glendale Operable Unit per the consent decree that governs it. Additionally, GWP staff work to increase the use of recycled water in the City despite limitations due to the 1211 wastewater change petition process and active resistance by local agencies and organizations to prevent the use of this water.

As a founding member of MWD, Glendale's water supply future depends on improving delta conveyance in order to fully utilize the State Water Project infrastructure the Glendale residents and businesses have invested in for decades, and in supporting MWD's efforts to build a regional recycled water project. This project will help firm-up Glendale's water supply by providing a steady supply that can be used in conjunction with the ability to store from the Colorado River Basin water during wet years on the State Water Project by reducing pumping from Lake Mead. These investments have allowed MWD to pull from storage during 2021 and meet Glendale's needs, even with dry conditions in the Sierra Nevada Mountains.

Additional improvements for the WSCP would be predicated on improvements in the State's process. The final versions of the UWMP guidebooks were published in the first week of April of 2021. The guidebook itself is 238 pages in length with 18 separate appendices. The UWMP and WSCP are to be adopted by July 1st of 2021. A legislative requirement that the UWMP and WSCP are due one year after DWR publishes final guidance on their creation would improve the quality of both documents.

Additional improvements would include removing sections that are not pertinent to water shortage actions. For instance, the required sections pertaining to the water agencies legal authorities may be helpful information to State staff, they have no relevance on actions that can be taken to ensure an adequate water supply.

8.11. Special Water Feature Distinction

The UWMP Guided book quotes the following section of the Water Code.

> *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.*

The sections of the Glendale Municipal Code differentiating the type of water features that are artificially supplied with water is repeated below:

> **13.36.030 Purpose.**
>
> The purpose of this chapter is to provide a mandatory water conservation plan to minimize the effect of a shortage of water to the customers of the city and, by means of this chapter, to adopt provisions that will significantly reduce the consumption of water over an extended period of time thereby extending the available water required for the customers of the city, to protect basic human health, safety and quality of life, to share the impacts caused by the water shortage in accord with the severity of the water shortage, and to minimize the hardship to the city and the general public to the greatest extent possible. (Ord. 5112 § 62, 1996: prior code § 9-153)
>
> **13.36.040 Definitions.**
>
> The following words and phrases, whenever used in this chapter, shall be construed as defined in this section unless from the context a different meaning is intended or unless a different meaning is specifically defined within individual sections of this chapter:
>
> "California-friendly plantings" or "California-friendly landscaping" means those landscape plantings, including, but not limited to, trees, shrubs, perennials, groundcovers, ornamental grasses and California-native plants, that require low water use for maintenance and that are included in the Metropolitan Water District's California Friendly
> Garden Guide catalogue, available at http://www.bewaterwise.com.
>
> "Dining establishment" means a catering business or a restaurant, hotel, café, cafeteria or other public place where food or drink is sold, served or offered for sale.

"Low income individual" means any individual that is eligible for participation in the division's public benefit charge low-income program.

"Potable water" shall be defined as set forth in Section 13.28.020 of this code.

"Process water" means water used to manufacture, alter, convert, clean, heat or cool a product, or the equipment used for such purpose; water used for plant and equipment washing and for transporting the raw materials and products; and water used to grow and maintain trees and plants for sale or installation. Process water does not include water used in the preparation of food or drinks.

"Recycled water" shall be defined as set forth in Section 13.38.020 of this code. (Ord. 5854 § 1, 2015; Ord. 5660 § 3, 2009; Ord. 5112 § 63, 1996; prior code § 9-154)

13.36.050 Scope.

The provisions of this chapter shall apply to all water customers and property served water by the department wherever situated, and shall also apply to all property and facilities owned, maintained, operated or under the jurisdiction of the various officers, boards, departments or agencies of the city. (Ord. 5660 § 4, 2009; prior code § 9-156)

13.36.060 No water waste policy.

There is in effect at all times in the city a "no water waste" policy as set forth herein. Except as otherwise provided in this chapter, at no time shall any person make, cause, use, or permit the use of water from the department for residential, commercial, industrial, agricultural, governmental, or any other purpose in a manner contrary to any provision of this chapter or in an amount in excess of that use permitted by the conservation phase then in effect pursuant to action taken by the city council in accordance with the provisions of this chapter.

A. Water Use Restrictions.

1. Hose Washing. Potable water shall not be used for hose washing of sidewalks, walkways, driveways, or parking areas, tennis courts, patios, porches or other paved areas, except: (a) where necessary to alleviate safety or sanitary hazards, and then only by use of a handheld bucket or similar container or a hand-held hose equipped with a water shut-off device; (b) when using a low-volume high-pressure cleaning machine; or (c) that flammable or other dangerous substances may be disposed of by direct hose flushing by public safety officers for the benefit of public health and safety.

2. Overspray or Runoff. There shall be no use of water for any purpose which results in overspray, runoff in flooding or runoff onto hardscape, driveways, streets, adjacent lands or into gutters.

3. Decorative Fountains. Except for water play features in city parks, no water shall be used to clean, fill or maintain levels in decorative fountains or similar structures unless such water is part of a recirculation system or unless such water is recycled water, which must be clearly posted.

8.12. Plan Adoption, Submittal, and Availability

The UWMP Guided book quotes the following section of the Water Code.

> *Water Code Section 10632 (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.*

After this plan is adopted by the City Council, the adopted version will be posted on the GWP website within 30 days.

SECTION 9
DEMAND MANAGEMENT MEASURES

Glendale Water & Power

2020 URBAN WATER MANAGEMENT PLAN

9.0 Demand Management Measures

9.2 EXISTING DEMAND MANAGEMENT MEASURES FOR RETAIL SUPPLIERS

With the intent of making water conservation a way of daily life, the City, along with the entire state of California, knows the critical role conservation plays in its sustainability. With changing climate patterns and limited supplies, water uncertainty is quickly becoming a motivating factor for the City to implement efficient water practices in its current and future water planning and operations policies.

In an effort to save more than one million gallons of water through conservation efforts, a goal put in place by the State Water Resources Control Board, many water agencies and various other stakeholders came together as the California Urban Water Conservation Council (CUWCC) to help implement changes. They signed a Memorandum of Understanding (MOU) which established the Best Management Practices (BMPs) which consist of policies, program, rules, regulations, or ordinances that result in water conservation.

As a member of CUWCC, the City was required to submit Bi-Annual reports that documented the implementation of each BMP, but in 2018 the CUWCC was relaunched as the California Water Efficiency Partnership, or CalWEP, and with the name change came a few other changes, one being that the bi-annual report submissions were no longer required.

In 2015, as with previous UWMPs, agencies that are members of the CUWCC and who submitted annual reports are exempt from having to provide a description of each DMM, provide data on recent implementation, and provide plans for future implementation in the UWMP. Since this is no longer the case, this year we will be providing all the data pertaining to the seven items making up the list of Demand Management Measures (DMM).

Existing Demand Management Measures

- Water waste prevention ordinances
- Metering
- Conservation pricing
- Public education and outreach
- Programs to assess and manage distribution system real loss
- Water conservation program coordination and staffing support
- 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

9.2.1 Water Waste Prevention Ordinances

The City of Glendale's Water Conservation Ordinance (Chapter 13.36 of the Glendale Municipal Code) contains a section entitled "No Water Waste Policy." This policy consists of 14 water use restrictions that are in effect at all times. Non-compliance with these provisions are treated as municipal code violations. Violations are subject to code enforcement which could result in criminal penalties ranging from $100 to $1,000, installation of a flow restrictor, or water shut off.

A summary of the water use restrictions in the "No Water Waste Policy" are:

- No hose washing of paved areas
- No overspray or runoff of water at any time
- Decorative fountains must have a water recirculation system
- Water leaks must be repaired within 72 hours
- Timed irrigation
- Hand washing of commercial and non-commercial privately owned vehicles must be done using a handheld bucket and quick rinses using a hose with a positive shutoff nozzle
- Commercial Car Wash and Laundry Regulations
- Construction water will not result in runoff and recycled water is to be used when available
- Fire hydrants are to be used only for firefighting unless a permit has been obtained
- Dining Establishment Regulations
- Commercial lodging establishments are required to post water conservation notices giving guests the option of no daily laundry service
- Single pass cooling systems prohibited in new buildings or in buildings expanding water service
- Process water for business and industrial use shall be recycled to the greatest extent possible

Due to the conditions prevailing in the City and in the area from which the City obtains its water supplies, and because water needs are projected to increase with population growth, the City feels it is in the best interest of the people of the City and for the public welfare, to implement such an ordinance in the hopes that it will regulate water use.

The ordinance is in place at all times and is not dependent on a water shortage for implementation. However, there are numerous phases that include increasingly restrictive measures that may be enforced in times of water shortages.

The City's Water Conservation Ordinance in its full form can be found in Appendix D.

9.2.2 Metering

The City of Glendale is fully metered and therefore requires metering for all residential and commercial connections, existing and new.

A majority of our residential accounts have mixed use meters. There are a small number with dedicated landscape meters. Most large commercial and industrial accounts have dedicated meters, one for inside use and another for outside (landscape) use.

In 2012, the City installed Advanced Metering Infrastructure (AMI) meters and began billing bi-monthly on metered connections in 2013. Typically, meters are read on an analog meter on a bi-monthly basis. With the installation of AMI meters (also known as smart meters), the City was able to improve the accuracy of the meter reads to understand the diurnal patterns on how the system operates. In addition, the City is able to reduce staff time required for manual reads and is able to receive hourly meter reads that are reported daily instead of bi-monthly.

The City also has an extensive recycled water system. Since recycled water is used for irrigation of landscape, our recycled water accounts have dedicated landscape meters. All new commercial buildings in our downtown area are required to include a dual plumbing system in their construction, to enable them to use recycled water when our system is expanded in the future.

9.2.3 Conservation Pricing

The City of Glendale maintains three Water Rates for Residential and Business Customers:

- Standard Water Service Rate
- Private Fire Line Water Service Rate
- Recycled Water Service Rate

The billing unit for water usage in the City bill is hundred cubic feet (HCF), which is equal to 748 gallons.

Standard Water Service Rate

This is the rate that applies to all regular water services in Glendale, residential and business.

Water Variable Charge (WVC) is assessed when water is used through the meter and Customer Charge (CC) is assessed regardless of usage. The Total Water Charges (TWC) = CC + WVC.

The water variable charge is based on the amount of water used during a billing period.

The customer charge is based on the size of the water meter (the majority of residential water services have meters of 1 inch or smaller). This charge is applied on a per-meter basis and covers the cost of meter support, customer service, and maintenance of the account. **Table 9.1** below outlines how the water usage is billed on progressively higher tiers.

Table 9.1
Monthly Water Variable Charges
(Consumption Blocks)

Single Family (WSF)		Cost per HCF
Tier 1	0-8 hcf	$2.64
Tier 2	8-15 hcf	$3.88
Tier 3	over 15 hcf	$4.03

Multi Family (WMF)		Cost per HCF
Tier 1	# of units X 6 hcf	$2.64
Tier 2	All additional hcf	$3.88

Commercial (WMC)	Cost per HCF
All Units	$2.64
Irrigation	**Cost per HCF**
All Units	$3.95

Drought Charge

In June 2018, the City Council adopted a new water rate fee structure effective July 1, 2018. In anticipation of possible drought conditions in California, the new-rate structure also included an additional fee, or Drought Charge. The Drought Charge is specific to drought conditions and would go into effect upon the approval by the City Council of any of the four phases of our mandatory water conservation ordinance.

The purpose of the Drought Charge is to recover the portion of fixed expenses that are recovered in the volumetric rates. The charge is designed such that customers who meet the curtailment target will likely not experience an increase in their total bill. **Table 9.2** below shows the various Drought Charges by Mandatory Water Conservation Phase (MWCP) and Drought Charge Stage.

Table 9.2
Drought Charges by Mandatory Water Conservation Phase & Drought Charge Stage

Mandatory Conservation Phase	Phase 1	Phase 2	Phase 3	Phase 4	Phase 5
Corresponding Drought Rate Stage	N/A	Stage 1	Stage2	Stage 3	Stage 4
Drought Charge per HCF Sold	N/A	$0.30	$0.45	$0.60	$0.75
Curtailment Target	N/A	20%	30%	40%	50%

These Drought Charges are to be imposed immediately upon the declaration of Mandatory Water Conservation Phase 1, 2, 3, 4, or 5 by the City Council, and remain in effect until the MWCP is lifted.

9.2.4 Public Education and Outreach

The City of Glendale funds a number of water conservation programs and activities. Glendale Water & Power (GWP) public education coordinators work directly with other City divisions, community-based organizations, non-profits, and service clubs on a variety of levels to disseminate information and increase awareness of water-related issues.

The Source Newsletter

The GWP Communications Coordinator is the editor of a bi-monthly newsletter, "The Source". It is mailed directly to every customer who receives a water and/or electric utility billing from GWP – residential, commercial, institutional and industrial, with an electronic version also now available. This publication has been received well by the residents and has become a major source of information for them, as it provides information on conservation programs, and GWP news and services. This newsletter is also displayed on all City Departments' public counters and past issues can be viewed on the GWP site.

WaterSmart – Home Water Reports

Glendale Water & Power has launched a program to encourage more water conservation among residential customers. The program includes WaterSmart's bi-monthly Home Water Report designed to provide customers with an understanding of their water consumption, and help drive conservation among residents.

The water report helps the customer to:

- View and understand their water use in gallons and how it compares to similar, nearby households

- Find easy and effective tips to save water and money, with step-by-step advice
- Keep up-to-date on GWP water news and events
- Have access to receive e-mail alerts if water usage indicates a possible leak

Laundry to Landscape Greywater System Program

The Laundry to Landscape (L2L) Greywater System program offers a rebate of up to $500 For residential customers who install a L2L greywater system that does not require a City permit. These systems are designed to reuse the water from a washing machine to water irrigate the landscape.

Residents must follow the guidelines found in The California greywater code, CPC Title 24, Part 5, Chapter 16, with the minimum requirements outlined on the City's site.

Rain Barrel Program

GWP has partnered with the Metropolitan Water District (MWD) in promoting the use of barrels as rain water collectors. By collecting and re-using rainwater for things such as watering lawns and gardens, washing cars, etc., we help reduce water usage and help minimize water from flowing into our storm drains.

Rain barrels help to:

- Protect our creeks, rivers, and ocean. By capturing rainwater that falls on the rook, we are reducing the amount of storm water that would otherwise make its way into our local waterways. This helps keep urban pollutants like pesticides, fertilizers, automotive fluids out of the Pacific Ocean.
- Conserve water. A large portion of potable water in the City of Glendale is used for landscaping. Using rainwater instead of potable is a great way to conserve and to save money.
- Save energy. A great amount of power is used in the treatment of water. Using less water means using less power.
- Recharge underground aquifers. One of Glendale's goals is to reduce its dependence on imported water. When rainwater infiltrates into permeable surfaces like a lawn or garden, the local groundwater gets replenished.
- Savings for the consumer.

Rebates start at $35 per Barrel. More information can be found at socalwatersmart.com

Utility Day

Utility day is an annual event that takes place on-site at the City's Utility Operations Center, during the first week of October (the event did not take place in 2020 due to Covid-19). The

event is open to Glendale Unified School District children who come in groups to learn about water distribution, water quality, how power is created, and anything pertaining to water and power. The event then opens up to all residents in the afternoon.

GWP's D.E.V.O.T.E

Glendale Water & Power employees are making a difference in the Glendale community through the D.E.V.O.T.E employee volunteer program, which stands for "Dedicated Employees Volunteering Their Time and Energy", by volunteering their time from home to be guest readers for the Glendale Library.

Staff have taken this opportunity to read stories themed around water, gardening, and conservation. By doing so, children learn the importance of water in the environment and a to learn to appreciate reading and books.

Turf Removal Class

In early 2020, GWP invited the Metropolitan Water District to visit and host an educational landscape class teaching residents how to have more efficient and water friendly garden. The turnout was great and a follow-up class was requested. The class teaches residents turf replacement methods, how to replace their lawns with California friendly plants, and what incentives are given for the transformation on behalf of the MWD.

Drought Tolerant Demonstration Garden

To demonstrate techniques to achieve water use efficiency, GWP constructed a water-saving demonstration garden at the Downtown Central Library. The garden demonstrates the potential for water-saving landscaping by using water-wise plant and low-water using irrigation. To educate both business leaders and the public, the garden has themed signage identifying plant names, plant requirements, and irrigation techniques. The plants used in the garden design are available at local nurseries so that visitors can take what they've learned during their visit and replicate it in their own yards.

The City continues to introduce new ways for residents to become informed and involved via tips and services. There are plenty of more resources that can be found on the City's website at, https://www.glendaleca.gov/water-saving-tips.

9.2.5 Programs to Assess and Manage Distribution System Real Loss

Glendale Water & Power has an active Pipeline Management Program to pro-actively replace and rehabilitate water mains within its system. The Pipeline Management Program is based on a thorough analysis done as part of GWP"s 2016 Water Master Plan. The master plan built upon a long history of proactive pipeline replacement and rehabilitation projects at the City. Additionally, GWP has a fully implemented an Asset Management Program that includes a Geographical Information System (GIS) where water main and service line breaks and

replacements are tracked for future planning purposes, as well as a hydraulic model, InfoWater by Innovyze.

InfoWater, a hydraulic model, can be used to assist with pinpointing areas where there may be water main leaks. Comparison between live data and the hydraulic model can point to any deviation in the system using simulated values. There is a leakage locator tool built in to the software which has the capability to run multiple simulations based on possible leak locations by looking at pressures across the part of the network being analyzed, and compares the results with telemetry readings. This in turn results in the leak location. The tool can predict leaks to within 20m accuracy.

In order to prevent real water loss before it starts, GWP implemented a full Automated Metering Infrastructure Project (AMI) for water. In 2010, the program included the installation of Itron Mlogonline Leak Water System, approximately every 5 meters throughout the City, that effectively monitors and manages distribution leaks within a water distribution network. After 11 years the leak detection system is still in place with 2,780 active devices. Itron's acoustic leak sensors placed throughout a water distribution network allows for detecting existing or newly emerging leaks.

Additionally, as part of the AMI implementation, the smart meters are coupled with advances software and algorithms via the WaterSmart software, that sends out automatic leak alerts to residential customers to notify them if there is a leak in their home. This system has been very successful in preventing real water loss, even on the customer's side of the meter.

9.2.6 Water Conservation Program Coordination and Staffing Support

There are various marketing personnel that conduct conservation efforts for the City but there is not a designated group for water conservation.

9.3 IMPLEMENTATION OVER THE PAST FIVE YEARS

All Demand Management Measures (DMM) that have been implemented in the last five years have been thoroughly discussed in sections 9.1 through 9.6. Water waste ordinances, Metering, Conservation Pricing, Public Education and Outreach, Programs to assess and manage distribution system real loss, and Water Conservation Program Coordination and Staffing Support, have all been elaborated on, in detail, as they relate to the City of Glendale.

9.4 IMPLEMENTATION TO ACHIEVE WATER USE TARGETS

The 2020 Water Targets were achieved through implementation of the watering schedule presented in the City's Water Conservation Ordinance.

There are currently no further plans to expand on the DMM's.

9.5 WATER USE OBJECTIVES (FUTURE REQUIREMENTS)

Water Code requires that Suppliers develop new water use objectives that are based on specific standards for certain water use sectors. These water use objectives will not be developed until 2023, and the first report will require information on what DMMs Suppliers will implement to meet their objectives. As such, each Supplier is encouraged to consider aligning conservation management actions and the changing urban use patterns in order to consider these future obligations.

SECTION 10
PLAN ADOPTION, SUBMITTAL, AND IMPLEMENTATION

Glendale Water & Power

2020 URBAN WATER MANAGEMENT PLAN

10.0 Plan Adoption Submittal and Implementation

This chapter provides guidance for addressing the Water Code requirements for a public hearing, the UWMP and WSCP adoption process, submitting an adopted UWMP and WSCP and making these plans available to the public, plan implementation, and the process for amending an adopted UWMP and WSCP.

The Water Code lays out several notification and other processes required to prepare and adopt the UWMP and the WSCP. The UWMP to be submitted on July 1, 2021 must include the WSCP, but the WSCP must be treated as a standalone plan for the public hearing and adoption procedures. This separate treatment allows for the WSCP to be revised and re-adopted on a shorter timeline than the rest of the UWMP, in cases where a Supplier chooses to do so. Each process is described in this chapter below and includes the following steps for both the UWMP and WSCP:

- Notification of public hearing
    - Notify cities, counties, and public that the Supplier will be reviewing its plan and considering changes or amendments
    - At least 60 days prior to public hearing
- Notification to the public
    - At least two notifications
    - Published in a local newspaper at least once a week for two successive weeks.
- Public hearing and optional adoption
    - Should allow for community input, considering economic impacts, and adopting a method for determining its urban water use target
    - Can be combined with the adoption meeting as long as the public hearing is on the agenda before the adoption
- Adoption
    - The adoption hearing is for the governing body of the Supplier to formally adopt the plan.
    - The adoption resolution may be included as part of the UWMP (referring to web address or included as an attachment).

- Plan submittal

  - Each Supplier must update and submit its 2020 plan (including the WSCP as part of the UWMP) to DWR by July 1, 2021.

- Plan availability

  - No later than 30 days after adoption

  - Suppliers must submit the UWMP and WSCP to the California State Library and all cities and counties within which the Supplier provides water.

- Amending an adopted UWMP and/or Water Shortage

10.1 NOTICE OF PUBLIC HEARING AND SOLICITATION OF INPUT

Suppliers must hold a public hearing prior to adopting the Plan. The public hearing provides an opportunity for the public to provide input to the plan before it is adopted. The governing body shall consider all public input.

There are two audiences to be notified for the public hearing: cities and counties, and the general public.

The Supplier is required to provide notice of the time and place of the public hearing to any city or county within which the Supplier provides water.

In addition, The Water Code states that cities and counties must be notified that the Supplier will be reviewing the UWMP and considering amendments to the Plan. This notice must be sent at least 60 days prior to the public hearing. Table 10-1 in Appendix E lists the agencies that were notified. And Appendix J contains the actual 60-day notice letters that were mailed announcing the public hearing and that the GWP would be reviewing its plan and considering changes or amendments. Those agencies, also listed here, in addition to cities and counties for which GWP supplies water, included neighboring water districts with which we have overlapping service areas and/or interties.

- CA Dept. of Water Resources
- Los Angeles Dept. of Water & Power
- Los Angeles County Dept. of Public Works
- City of Burbank Water & Power
- City of Pasadena Water & Power
- Crescenta Valley Water District

- Foothill Municipal Water District
- Valley Water Company

10.2 NOTICE TO THE PUBLIC

Both the UWMP and the WSCP must have a public hearing. The public hearing must be noticed in a local newspaper for two successive weeks (14 calendar days), at least two times, with at least five days between publication dates. This notice must include time and place of hearing, as well as the location where the plan is available for public inspection.

Appendix L contains verification of the newspaper ad placed in the Glendale News Press for two weeks announcing the public hearing held on June 8, 2021 and that copies of the draft UWMP and WSCP were available for review on the GWP website and at the engineering counter in the Perkins building, the City Clerk's office in City Hall, and at the Central Library. In addition, the GWP website contained the same announcement.

10.3 PUBLIC HEARING AND ADOPTION

> *Water Code Section 10608.26:*
>
> *(a) In complying with this part, an urban retail water supplier shall conduct at least one public hearing to accomplish all of the following:*
>
> *(1) Allow community input regarding the urban retail water supplier's implementation plan for complying with this part.*
>
> *(2) Consider the economic impacts of the urban retail water supplier's implementation plan for complying with this part.*
>
> *(3) Adopt a method, pursuant to subdivision (b) of Section 10608.20 for determining its urban water use target.*

For the UWMP and/or the WSCP, the adoption hearing of the governing body may be combined with the public hearing; however, the public hearing portion must take place before the adoption portion. This allows the governing body the opportunity to modify the UWMP and/or the WSCP in response to public input before adoption. Before submitting the UWMP and/or WSCP to DWR, the governing body must formally adopt the plan (UWMP and/or WSCP). The public hearing and adoption were scheduled for the same City Council meeting on June 8, 2021. The City Council adoption resolutions, one each for the UWMP and WSCP, are in Appendix I.

10.4 PLAN SUBMITTAL

The Water Code requires that an urban water supplier submit to DWR, 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.

10.5 PUBLIC AVAILABILITY

The Water Code also requires that not later than 30 days after filing a copy of its UWMP and WSCP with the DWR, the urban water supplier and the DWR shall make the plan available for public review during normal business hours.

10.6 AMENDING AN ADOPTED UWMP OR WSCP

If a Supplier amends an adopted UWMP or WSCP, each of the steps for notification, public hearing, adoption, and submittal must also be followed for the amended plan.

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