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CITY OF EL MONTE

2020 URBAN WATER MANAGEMENT PLAN

VOLUME 1 – FINAL REPORT

August 2022

Prepared by

Michael K. Nunley and Associates, Inc.

CITY OF EL MONTE

2020 URBAN WATER MANAGEMENT PLAN

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August 2022

PREPARED FOR

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UNDER THE SUPERVISION OF

78205

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Abbreviations and Acronyms

The following abbreviations and acronyms are used throughout the UWMP:

AF	acre-feet
AFY	acre-feet per year
Central Basin	Central Basin Municipal Water District
CIMIS	California Irrigation Management Information System
Corps of Engineers	US Army Corps of Engineers
DPW	Los Angeles County Department of Public Works
DRA	Drought Risk Assessment
DRINC	Drinking Water Information Clearinghouse
DWR	Department of Water Resources
EMOU	El Monte Operable Unit
EOC	emergency operations center
EPA	US Environmental Protection Agency
ERP	Emergency Response Plan
Eto	evapotranspiration index
FY	fiscal year
GAC	granulated activated carbon
GCM	General Circulation Model
GIS	geographic information system
GPCD	gallons per capita per day
gpm	gallons per minute
IRRP	Indirect Reuse Replenishment Project
LACSD	Los Angeles County Sanitation Districts
Main Basin	Main San Gabriel Groundwater Basin
MG	millions of gallons
MGD	millions of gallons per day
MSL	mean sea level
RCP	Representative Concentration Pathway
RDA	Water Resource Development Assessment
RDM	Robust Decision Making
RRWP	Regional Recycled Water Program
SGVWC	San Gabriel Valley Water Company
SJCWRP	San Jose Creek Water Reclamation Plant
Upper District	Upper San Gabriel Valley Municipal Water District
UWMP	Urban Water Management Plan
Watermaster	Main San Gabriel Basin Watermaster
WNWRP	Whittier Narrows Water Reclamation Plan
WQA	San Gabriel Basin Water Quality Authority
WSCP	Water Shortage Contingency Plan
WUCA	Water Utility Climate Alliance

Executive Summary

Introduction

Pursuant to California Water Code §10617, the City of El Monte (City) meets the requirements to prepare an Urban Water Management Plan (UWMP).

UWMPs are prepared every five years to assist the Department of Water Resources (DWR) in assessing the status of the state's water supplies and to demonstrate the reliability of each purveyor's water supplies projected 20 years into the future.

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

By submitting this UWMP, the City of El Monte will continue to be eligible for state water grants and loans. The City of El Monte is designated by DWR as an economically disadvantage community for purposes of grant funding.

Coordination

The City of El monte 2020 UWMP is an individual UWMP. The City did not participate in a regional planning group or alliance as a condition of compliance with the water code.

To promote inter-agency coordination, the City notified the following agencies of the plan's preparation:

- Upper San Gabriel Valley Municipal Water District
- Los Angeles County
- Main San Gabriel Basin Watermaster
- California-American Water Company
- Golden State Water Company
- San Gabriel Valley Water Company
- Del Rio Mutual Water Company
- Hemlock Mutual Water Company
- Sterling Mutual Water Company
- Members of the El Monte Operable Unit
- San Gabriel Basin Water Quality Authority
- US Environmental Protection Agency

The agencies were encouraged to submit written comments prior to the public hearing.

System Description

The City is located in the south-central portion of Los Angeles County in Southern California. It is bordered to the north by the City of Arcadia and the City of Temple City, to the west by the City of Rosemead, to the east by the San Gabriel River and to the south by the City of South El Monte. The City occupies an area of 9.69 square miles. The City's water service area is about 17 percent of the City's total area, and the remainder is served by other purveyors.

The City's customers are a mix of primarily single and multi-family residential with numerous commercial, industrial and institutional services. Water service is provided to customers for domestic, irrigation, fire protection and manufacturing process use.

The City's water department delivers potable water through a pressurized distribution system, which has approximately 40 miles of pipeline ranging from 2 inches to 12 inches in diameter. Other components of the City's water system include a one-million-gallon storage tank with three booster pumps, a 200,000-gallon elevated storage tank, nine wells with sodium hypochlorite disinfection, and three emergency connections with neighboring water purveyors. Groundwater is treated with granulated activated carbon (GAC) filtration to remove volatile organic compounds (VOC).

The water service area population in 2020 was estimated at 20,300 and the water service area population is anticipated to increase to 23,400 by 2045.

Customer Water Use

Water use in 2020 breaks down as shown in the table below.

Sector	2020 Demand (Acre-feet)	% of Total
Single Family Residential	833	36.6%
Multi-Family Residential	362	15.9%
Commercial/Institutional	695	30.5%
Industrial	10	0.4%
Landscape Irrigation	63	2.8%
Losses	314	13.8%
Total	2,277	100.0%

By 2045, water use is anticipated to increase by about 10% to 2,752 acre-feet.

Water Use Efficiency Compliance

Per the Water Conservation Act of 2009, purveyors were required to reduce per capita water use from a historical baseline by 20% by 2020.

As stated in the 2015 UWMP, the City's per capita water use goal for 2020 was calculated at 134 gallons per person per day.

Correlating total water use to population in 2020 yields a per capita water use of 100 gallons per person per day, which is more efficient than the City's per capita water use goal.

Therefore, the City has achieved its goal for water use efficiency and is compliant with the Water Conservation Act of 2009.

System Supplies

The City relies exclusively on local groundwater and does not purchase imported water.

Management of local groundwater is the purview of the Main San Gabriel Basin Watermaster in accordance with the Main San Gabriel Basin Adjudication. Per the Main San Gabriel Basin Watermaster 2020-2021 Annual Report, the City is identified as a pumper in the Main San Gabriel Groundwater Basin (Main Basin) with annual pumping rights of 1.40888% of the Operating Safe Yield (OSY), the volume of water that can pumped from the basin without compromising sustainability. The current OSY is 150,000 acre-feet per year (AFY) and is anticipated to remain at this level through 2045. Under these conditions, the City's groundwater rights are 2,113 AFY. Per Watermaster, producers may pump in excess of annual pumping rights but must pay for supplemental untreated imported water to replenish the Main Basin. As such, the City will first exercise its pumping rights and then pump only as much additional water as is required to meet demand.

Water Supply Reliability

Water supply reliability is a stress test to determine the adequacy of the City's water supplies to meet future demand requirements under a series of drought conditions.

Drought conditions are projected at 5-year increments into the future through 2045 and include the following:

- Normal Year
- Single Dry Year
- Five Consecutives Dry Years

In addition, the City must demonstrate supply reliability for an immediate 5-year drought. This requirement is known as the Drought Risk Assessment.

The City has sufficient water supply reliability to satisfy all of these stress tests.

Water Shortage Contingency Plan

In the event of a loss of water supply, the Water Shortage Contingency Plan (WSCP) provides a mechanism to quantify the shortage and to impose appropriate water use constraints on end users.

City Ordinance No. 2861 codifies the authority and methodology to implement a Shortage Response Action. The ordinance describes in detail voluntary and mandatory water use constraints for each stage of its Drought Response Conservation Plan. The plan was developed in parallel with the stages of water shortage monitoring used in the Main Basin so there is consistency between communication with Watermaster and implementation of an appropriate shortage response.

Beginning this year (as of July 1, 2022) and annually thereafter, the City must issue to DWR an Annual Water Supply and Demand Assessment detailing the City's opinion of the reliability of its supplies to meet demands for the following year.

Demand Management Measures

Demand Management Measures (DMMs) are established methods and practices for water use reduction. DWR requires implementation of all DMMs listed in the UWMP Guidebook through coordinated effort at the wholesale and retail levels.

In coordination with Upper San Gabriel Valley Municipal Water District (Upper District), the City implements the following DMMs:

- *Water Waste Prevention Ordinance*

  Water waste prevention is covered under Stage 1 of City Ordinance No. 2861.

- *Metering*

  The City is fully metered.

- *Conservation Pricing*

  Included in the City's water rate schedule is a tiered commodity rate for water based upon volumetric use. Water use above 125 units (100 gallon units) per bi-monthly billing period is charged at a higher rate. Users thereby have a financial incentive to conserve water.

- *Public Education and Outreach*

  Upper District is active in creating public awareness about recent water shortages and the necessity of water conservation and makes staff available as speakers, upon request, for presentations at schools, clubs and civic organizations within its service area.

- *Programs to Assess and Manage Distribution System Real Loss*

  The City prepares annual water loss audits.

  City crews generally repair known water leaks shortly after they are discovered. The City closely monitors its water production and consumption to calculate water loss. Water loss is calculated by subtracting the amount of water sold to its customers for consumption from the amount of water produced from the City's wells. The City's water loss has historically averaged about 5 percent of the City's water production. If the City notices an increase in unaccountable water loss, the City will investigate the cause and make modifications as necessary.

  The City has a computerized billing system that, along with its AMR meters, monitors customer's water use and flags unusual variations in consumption. When a customer's bill is flagged for high consumption, a customer can make a request to have a service representative inspect their system. If a problem is found within its customer's water system, the City will recommend the customer make the necessary repairs. If a problem is found within the City's water system, the City will make the necessary repairs.

- *Water Conservation Program Coordination*

  The City participates in public information programs sponsored by local and regional wholesalers. Region-wide water conservation is promoted through various public information programs organized by Upper District, including but not limited to conservation brochures and posters, activity booklets, public outreach displays, oral presentations, and workshops to inform the public of conservation efforts. The City, as a member agency of Upper District, also raises awareness about the water conservation through paid advertising, press releases, news ads, media events, and the Speaker's Bureau. Upper District hosts an annual water awareness festival (Water Fest) to raise public awareness about water conservation, water quality and other water-related issues.

Adoption, Submittal, and Implementation

All required notifications were made regarding the opportunity to review and submit written comments for the City's consideration concerning the content of this UWMP.

No comments were received from the agencies previously contacted.

A public hearing for the 2020 UWMP was held at City Hall on August 11, 2022. The 2020 UWMP was adopted following the public hearing.

The 2020 UWMP and associated data and materials were submitted electronically to DWR. An electronic copy of the 2020 UWMP was submitted to the State Library and to Los Angeles County in accordance with statute.

A copy of the 2020 UWMP is available for public review at City Hall and via the DWR UWMP portal[1].

[1] California Department of Water Resources, Water Use Efficiency Data – 2020 Urban Water Management Plans https://wuedata.water.ca.gov/uwmp_plans.asp?cmd=2020

Chapter 1 – Introduction

1.1 – Purpose

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

The City of El Monte (City) meets the requirements to prepare an UWMP.

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

1.2 – UWMP Organization

Executive Summary provide a lay description of the UWMP.

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

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

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

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

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

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

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

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

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

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

WUE Tables

Appendices

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

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

> *Water Code Section XXXXX*
>
> *Pertinent language taken directly from the California Water Code or in reference thereto.*

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

> *Citations from ordinances, government codes, and government planning documents are provided in italics and offset one half inch from the right and left margins.*

1.3 – UWMPs in Relation to Other Efforts

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

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

1.4 – UWMPs and Grant or Loan Eligibility

Water Code Section 10608.56

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

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

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

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

Water Code Section 10656

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

By submitting this Urban Water Management Plan, the City of El Monte will continue to be eligible for state water grants and loans.

1.5 – Demonstration of Consistency with the Delta Plan for Participants in Covered Actions

The City relies entirely on groundwater and is not a participant in any covered action related to the Sacramento-San Joaquin Delta Plan.

Chapter 2 – Plan Preparation

2.1 – General Description

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

2.2 – Plan Preparation

This chapter includes information about the following elements required for the City's 2020 UWMP update:

- Basis for Preparing a Plan
- Regional Planning
- Individual or Regional Planning and Compliance
- Fiscal or Calendar Year and Units of Measure
- Coordination and Outreach

2.3 – Basis for Preparing a Plan

Water Code Section 10617

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

Water Code Section 10620

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

Water Code Section 10621

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

The City meets the definition of an urban water supplier pursuant to CWC § 10617 and is obligated to make this UWMP update pursuant to CWC § 10621.

2.3.1 – Public Water Systems

> *Water Code Section 10644*
>
> *(a)(2) The plan, or amendments to the plan, submitted to the department … shall include any standardized forms, tables, or displays specified by the department.*
>
> *California Health and Safety Code 116275*
>
> *(h) "Public Water System" means a system for the provision of water for human consumption through pipes or other constructed conveyances that has 15 or more service connections or regularly serves at least 25 individuals daily at least 60 days out of the year.*

The City operates Public Water System Number CA19140038, referred to as the City of El Monte Water Department.

2.4 – Regional Planning

The City is not part of a regional planning group for purposes of 2020 UWMP compliance.

2.5 – Individual or Regional Planning and Compliance

The City has prepared an individual 2020 UWMP.

2.6 – Fiscal or Calendar Year and Units of Measure

2.6.1 – Fiscal or Calendar Year

> *Water Code Section 10608.20*
>
> *(a)(1) Urban retail water suppliers…may determine the targets on a fiscal year or calendar year basis.*

The 2020 UWMP is prepared on a calendar year basis.

2.6.2 – Reporting Complete 2020 Data

Complete 2020 data were used in the preparation of this 2020 UWMP.

2.6.3 – Units of Measure

Water is measured in units of acre-feet per (AF).

2.7 – Coordination and Outreach

Water Code Section 10631

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

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

- Upper San Gabriel Valley Municipal Water District
- Los Angeles County
- Main San Gabriel Basin Watermaster
- California-American Water Company
- Golden State Water Company
- San Gabriel Valley Water Company
- Del Rio Mutual Water Company
- Hemlock Mutual Water Company
- Sterling Mutual Water Company
- San Gabriel Basin Water Quality Authority
- US Environmental Protection Agency

The above agencies did not submit any questions or comments prior to the Public Hearing.

2.7.1 – Wholesale and Retail Coordination

The City has provided the Upper San Gabriel Valley Municipal Valley Municipal Water District (Upper District), a regional water wholesaler, with projected water demands in five-year increments through 2045.

2.7.2 – Coordination with Other Agencies and the Community

> *Water Code Section 10620*
>
> *(d)(3) Each urban water supplier shall coordinate the preparation of its plan with other appropriate agencies in the area, including other water suppliers that share a common source, water management agencies, and relevant public agencies, to the extent practicable.*
>
> *Water Code Section 10642*
>
> *Each urban water supplier shall encourage the active involvement of diverse social, cultural, and economic elements of the population within the service area prior to and during the preparation of the plan...*

The agencies and cities previously mentioned were notified of the opportunity to review the plan and were invited to attend the Stakeholder and Agency Coordination Meeting. See Appendix L for a copy of the invitation.

2.7.3 – Notice to Cities and Counties

> *Water Code Section 10621*
>
> *(b) Every urban water supplier required to prepare a plan pursuant to this part shall, at least 60 days before the public hearing on the plan required by Section 10642, notify any city or county within which the supplier provides water supplies that the urban water supplier will be reviewing the plan and considering amendments or changes to the plan.*

The City has notified Los Angeles County of its intent to update the UWMP. See Appendix C for a copy of the notification.

Chapter 3 – System Description

Water Code Section 10631.

(a) Describe the service area of the supplier, including current and projected population, climate, and other social, economic, and demographic factors affecting the supplier's water management planning. The projected population estimates shall be based upon data from the state, regional, or local service agency population projections within the service area of the urban water supplier and shall be in five-year increments to 20 years or as far as data is available. The description shall include the current and projected land uses within the existing or anticipated service area affecting the supplier's water management planning. Urban water suppliers shall coordinate with local or regional land use authorities to determine the most appropriate land use information, including, where appropriate, land use information obtained from local or regional land use authorities, as developed pursuant to Article 5 (commencing with Section 65300) of Chapter 3 of Division 1 of Title 7 of the Government Code.

3.1 – General Description

The City of El Monte (City) is located in the south-central portion of Los Angeles County in Southern California. It is bordered to the north by the City of Arcadia and the City of Temple City, to the west by the City of Rosemead, to the east by the San Gabriel River and to the south by the City of South El Monte. The City occupies an area of 9.69 square miles. The City's water service area is about 17 percent of the City's total area, and the remainder is served by other purveyors.

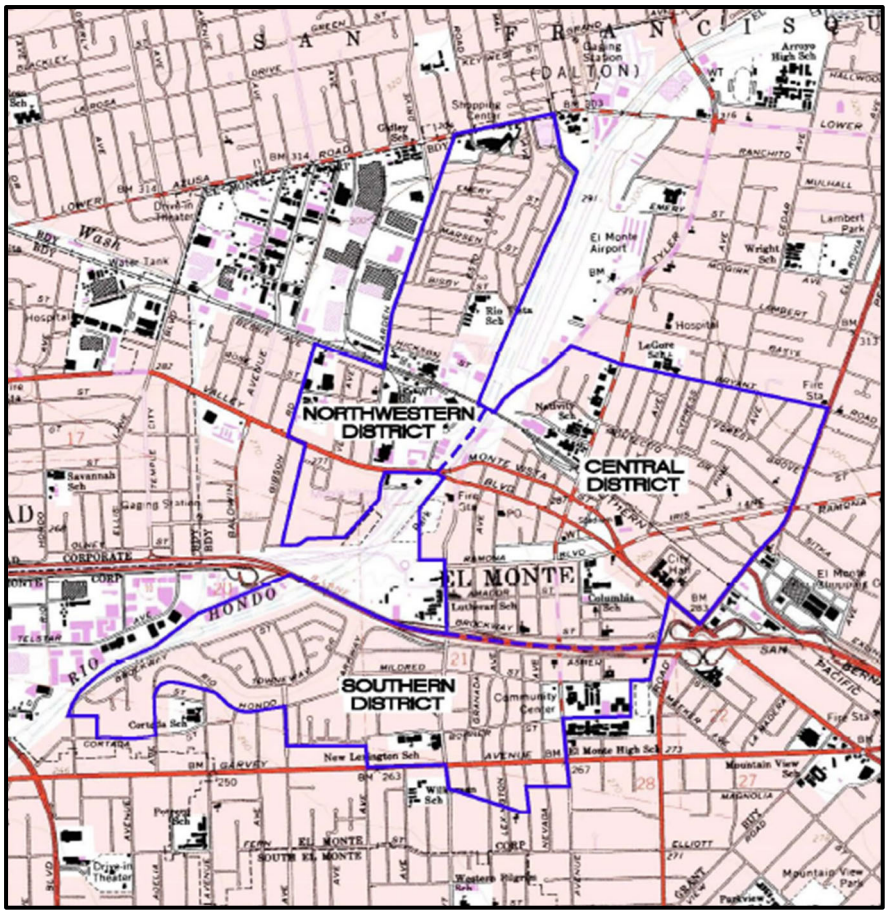
The City's customers are a mix of primarily single and multi-family residential with numerous commercial, industrial and institutional services. Water service is provided to customers for domestic, irrigation, fire protection and manufacturing process use.

The City's water department delivers potable water through a pressurized distribution system, which has approximately 40 miles of pipeline ranging from 2 inches to 12 inches in diameter. Other components of the City's water system include a one-million-gallon storage tank with three booster pumps, a 200,000-gallon elevated storage tank, nine wells with sodium hypochlorite disinfection, and three emergency connections with neighboring water purveyors. Groundwater is treated with granulated activated carbon (GAC) filtration to remove volatile organic compounds (VOC).

3.2 – Service Area Boundary Maps

The water service area is divided into three districts: the Central District, the Northwestern District, and the Southern District, as shown in Figure 3.1.

Figure 3.1 – Water Service Area



The Central District lies north of the San Bernardino Freeway, east of the Rio Hondo Channel and contains the principal business and shopping areas. The Northwestern District lies west of the Rio Hondo Channel and contains the heavier industries. The Southern District, which lies south of the San Bernardino Freeway, is predominantly residential.

3.3 – Service Area Climate

Water Code Section 10631(a)

A plan shall… Describe the service area of the supplier, including … climate…/block text

Water Code Section 10630.

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

The monthly historical average temperatures, monthly historical average rainfall, and the monthly evapotranspiration index (ET_0) in the vicinity of water service area is summarized in Table 3.1.

Table 3.1 – Climate Data

Month	Average Temperature (degrees F)	Average Total Precipitation (inches)	ET_0 (inches)
January	55.6	3.69	2.20
February	57.0	3.92	2.41
March	58.9	2.99	3.71
April	62.1	1.21	4.36
May	65.7	0.27	5.29
June	69.9	0.09	5.78
July	74.9	0.02	6.55
August	75.6	0.13	6.02
September	73.9	0.34	4.87
October	68.2	0.57	3.40
November	61.0	1.65	2.38
December	55.9	2.33	1.90
Annual	64.7	17.20	48.87

Source: CIMIS Weather Station Number 159 (Monrovia)

Historical climate information was obtained from DWR's California Irrigation Management Information System (CIMIS).

3.4 – Service Area Population and Demographics

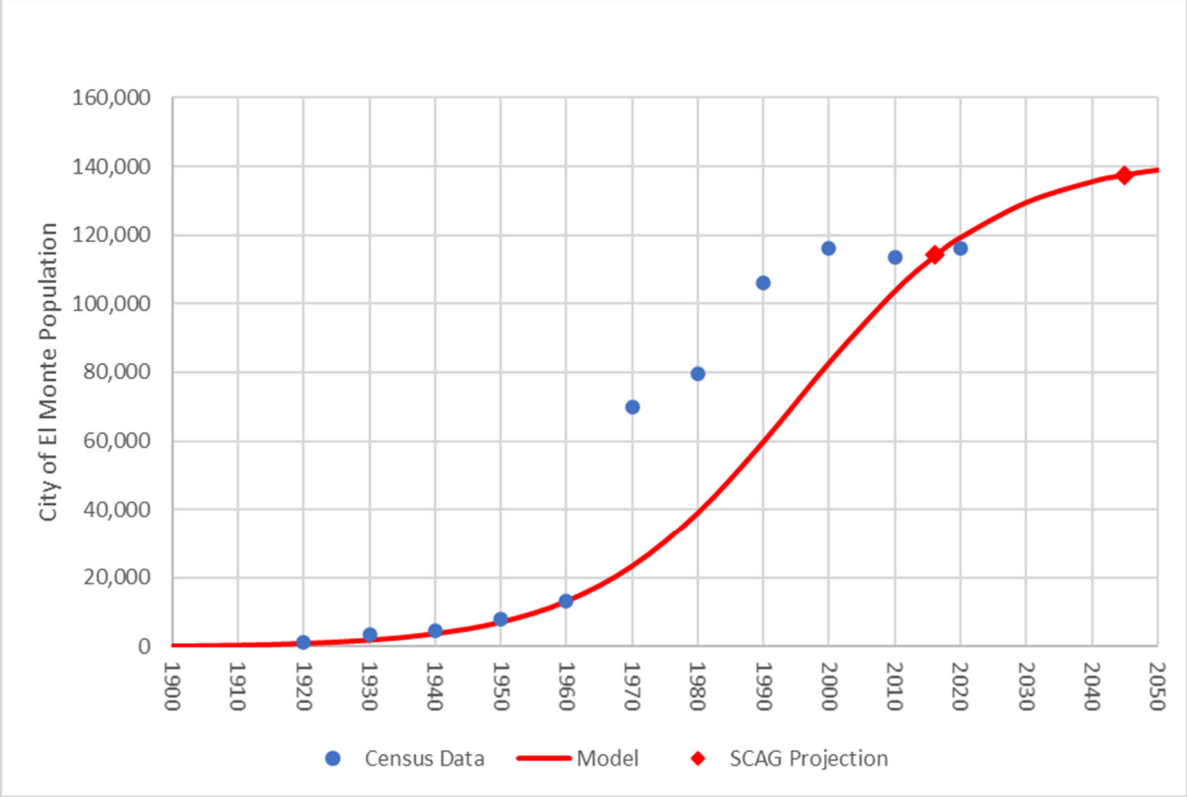
3.4.1 – Service Area Population

> *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.*

Population within the water service area is estimated based on historical US Census data for the City and the SCAG population growth forecast[2] for the City, and is proportionate to the area served at 17 percent of the City's total area.

A model for the City's population projection is provided in Figure 3.2.

Figure 3.2 – Population Model



[2] Southern California Association of Governments. (2020). *Demographics and Growth Forecast.* Table 14: Jurisdiction-Level Growth Forecast. https://scag.ca.gov/sites/main/files/file-attachments/0903fconnectsocal_demographics-and-growth-forecast.pdf?1606001579

The population projection model is defined as:

$$P(t) = \frac{P_{max}}{1 + e^{-c(t-t_0)}} = \frac{143{,}000}{1 + e^{-0.065(t-1995)}}$$

Where:

$P(t)$ is the population in year t

P_{max} is the population at build-out

c is the population growth rate

t_0 is the year when the curve passes through the point of inflection

Applying the population projection model to the study period of this plan and assuming 17 percent of the City's population resides within the water service area, current and projected population estimates are provided in Table 3.2.

Table 3.2 – Water Service Area Population

Year	Population
2020	20,300
2025	21,280
2030	22,040
2035	22,630
2040	23,070
2045	23,400

The current population is estimated 20,300.

3.4.2 – Other Social, Economic, and Demographic Factors

The City's water service area is essentially built out. Modest development in the vicinity of the El Monte Metrolink Station is anticipated.

The City of El Monte is designated by the Department of Water Resources as an economically disadvantage community for purposes related to the California Water Plan, Integrated Regional Water Management and Sustainable Groundwater Management.

3.5 – Land Uses within Service Area

Water Code Section 10631(a)

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

Table 3.1 provide a summary of designated land uses within the water Service area per the City's current General Plan in terms of number of individual parcels and total area.

Table 3.3 – Designated Land Uses

Category	General Plan Designation	Parcels	Area (acres)
Residential	High Density Residential	2	3.7
	Medium Density Residential	401	96.0
	Medium Low Density Residential	23	5.0
	Low Density Residential	2,164	361.6
	Mixed/Multiuse	114	28.7
Commercial Industrial Institutional	Neighborhood Commercial	36	24.4
	Retail Commercial	84	28.7
	General Commercial	18	12.7
	Office Commercial	15	7.2
	Industrial Business Park	137	131.6
	Public Facilities	52	145.2
Open Space	Open Space	6	10.3
Transportation	Railroad	13	17.2
Specific Plan	Downtown Core	573	147.6
	El Monte Gateway	29	56.1
Totals		**3,667**	**1075.9**

Chapter 4 – Customer Water Use

4.1 – General Description

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

4.2 – Non-Potable Versus Potable Water Use

The City delivers only potable water to its customers.

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

Water Code Section 10635.

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

Water Code Section 10631(d)

(1) For an urban retail water supplier, quantify, to the extent records are available, past and current water use, over the same five-year increments described in subdivision (a), and projected water use, based upon information developed pursuant to subdivision (a), identifying the uses among water use sectors, including, but not necessarily limited to, all of the following…

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

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

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

4.3.1 – Water Use Sectors Listed in Water Code

Water Code Section 10631(d)

(1) For an urban retail water supplier, quantify, to the extent records are available, past and current water use, over the same five-year increments described in subdivision (a), and projected water use, based upon information developed pursuant to subdivision (a), identifying the uses among water use sectors, including, but not necessarily limited to, all of the following:

(A) Single-family residential.

(B) Multifamily.

(C) Commercial.

(D) Industrial.

(E) Institutional and governmental.

(F) Landscape.

(G) Sales to other agencies.

(H) Saline water intrusion barriers, groundwater recharge, or conjunctive use, or any combination thereof.

(I) Agricultural.

(J) Distribution system water loss.

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

Table 4.1 – Historical, Current and Projected Potable Water Demands (AFY)

Sector	2015	2020	2025	2030	2035	2040	2045
Single Family Residential	832	833	915	948	973	992	1,006
Multi-Family Residential	344	362	398	412	423	431	437
Commercial/Institutional	657	695	764	791	812	828	840
Industrial	9	10	11	12	12	12	13
Landscape Irrigation	43	63	69	71	73	75	76
Losses	252	314	345	358	367	374	380
Total	**2,137**	**2,277**	**2,502**	**2,592**	**2,660**	**2,712**	**2,752**

Water demand projections were scaled based on projected population growth assuming a continuation of the 10-year average per capita demand 105 gallons per capita per day (GPCD). Demand by sector is proportional to the average demand by sector for 2016 through 2020. This demand projection incorporates water savings achieved through implementation of Ordinance No. 2861.

4.3.2 – Past Water Use

Past water use is quantified in Table 4.1, above.

4.3.3 – Distribution System Water Loss

Water Code Section 10631(d)(1)

For an urban retail water supplier, quantify, to the extent records are available, past and current water use, over the same five-year increments described in subdivision (a), and projected water use, based upon information developed pursuant to subdivision (a), identifying the uses among water use sectors, including, but not necessarily limited to, all of the following…

(J) Distribution system water loss….

Water Code Section 10631(d)(3)

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

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

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

Historical water losses per recent Water Audits are summarized in Table 4.2.

Table 4.2 – Documentation of Historical Water Losses

Fiscal Year	Water Supplied (AFY)	Water Losses (AFY)	Water Losses (% of supply)
2016	Water Audit not available		
2017	2,303	338	14.7%
2018	2,340	288	12.3%
2019	2,158	324	15.0%
2020	2,230	212	9.5%

The Water Audits referenced above are provided in Appendix G.

4.3.4 – Current Water Use

Current water use is quantified in Table 4.1.

4.3.5 – Projected Water Use

Water Code Section 10635 (a).

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

Water Code Section 10631

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

Water Code Section 10631(d)(4)

(A) Water use projections, where available, shall display and account for the water savings estimated to result from adopted codes, standards, ordinances, or transportation and land use plans identified by the urban water supplier, as applicable to the service area.

(B) To the extent that an urban water supplier reports the information described in subparagraph (A), an urban water supplier shall do both of the following:

(i) Provide citations of the various codes, standards, ordinances, or transportation and land use plans utilized in making the projections.

(ii) Indicate the extent that the water use projections consider savings from codes, standards, ordinances, or transportation and land use plans. Water use projections that do not account for these water savings shall be noted of that fact.

Projected water use is quantified in Table 4.1.

The City has achieved its water use efficiency goals in part through implementation of Ordinance No. 2861.

4.3.6 – Characteristic Five-Year Water Use

Characteristics five-year water use is described in detail in the Drought Risk Assessment in Chapter 7.

4.4 – Water Use for Lower Income Households

Water Code Section 10631.1.

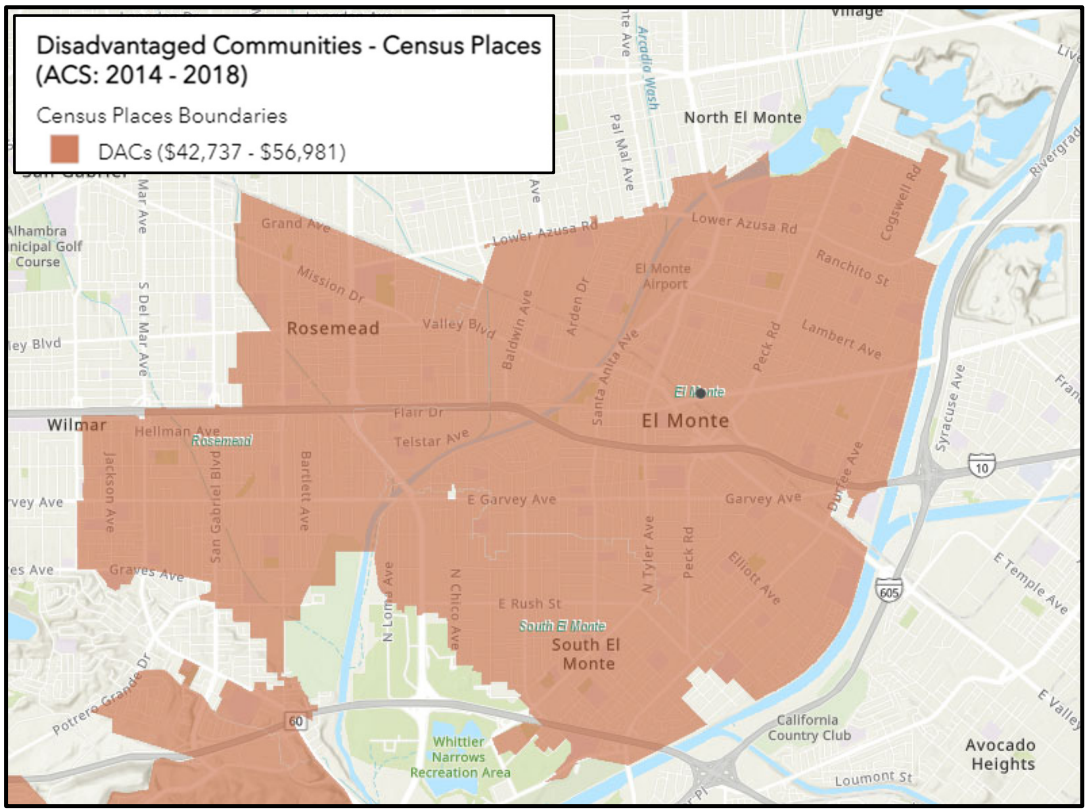
(a) *The water use projections required by Section 10631 shall include projected water use for single-family and multifamily residential housing needed for lower income households, as defined in Section 50079.5 of the Health and Safety Code, as identified in the housing element of any city, county, or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

California Health and Safety Code Section 50079.5 (a)

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

The City of El Monte is identified as a Disadvantages Community per the Department of Water Resources. An excerpt from the Disadvantages Communities GIS map[3] is provided in Figure 4.1.

Figure 4.1 – Disadvantage Community GIS Map of the City



[3] DAC Mapping Tool: Disadvantages Communities Census Places (ACS: 2014-2018) https://gis.water.ca.gov/app/dacs/

Current and projected water use by low-income households is provided in Table 4.3.

Table 4.3 – Current and Projected Water Use by Low-Income Households (AFY)

Sector	2020	2025	2030	2035	2040	2045
Single Family Residential	873	915	948	973	992	1,006
Multi-Family Residential	379	398	412	423	431	437

4.5 – Climate Change Considerations

Water Code Section 10630.

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

Water Code Section 10635(b)

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

Are Future Water Savings Included in Projections? (Refer to Appendix K of UWMP Guidebook) Drop down list (y/n)

If "Yes" to above, state the section or page number, in the cell to the right, where citations of the codes, ordinances, etc… utilized in demand projections are found.

Are Lower Income Residential Demands Included In Projections? Drop down list (y/n)

Submittal Table 4-5 Retail Only: Inclusion in Water Use Projections

NOTES:

DRAFT

Water Use Characterization

UWMP 2020 Draft 4-39

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

The City's demands are not influenced by climate change. A regional perspective of the impacts of climate change is provided by the Upper District in the following subsection, per the Upper District 2020 UWMP:

> *Climate is defined as "the average course or condition of the weather at a place usually over a period of years as exhibited by temperature, wind velocity and precipitation1". A change in the climate which produces a greater amount of precipitation (i.e. more runoff and/or snowpack) and lower temperatures is generally a benefit to water supplies. However, drought conditions which may result in decreased precipitation, decreased runoff, and increased temperature may adversely affect an urban water supplier's ability to meet demands by potentially impacting supplies. Consequently, the focus of impacts of climate change is on these adverse consequences.*

Imported Water Supplies

Upper District receives treated imported water as discussed in Section 6.2.1 and relies on the Watermaster to manage the groundwater supplies of the Main Basin through the replenishment of untreated imported water. Consequently, Upper District directly and/or indirectly relies on the Metropolitan for those imported water supplies. Metropolitan has prepared a Regional 2020 Urban Water Management Plan which includes a discussion (Section 2.6 in Metropolitan 's 2020 UWMP) of the reliability of its water supplies and the impacts of climate change and is incorporated by reference in this Plan. The following is a brief summary of Metropolitan 's efforts:

<u>Resource Planning</u>

- *Metropolitan has established the Robust Decision Making (RDM) approach to identify vulnerabilities to its water supplies. Climate change information was applied to Metropolitan 's simulated water supply scenarios to demonstrate the vulnerability of water supplies to climate change.*
- *Metropolitan altered the inflow hydrology scenarios on the Colorado River simulation model to reflect modified inflow to Metropolitan 's Colorado River aqueduct. research papers on climate change.*

<u>Knowledge Sharing and Research Support</u>

- *Metropolitan is an active and founding member of the Water Utility Climate Alliance (WUCA) which includes 12 nationwide partners collaborating on climate change considerations. As such, Metropolitan shares agency actions on climate change and adaptation. WUCA has also released numerous research papers on climate change.*

<u>Quantification of Current Research</u>

- *Metropolitan incorporates current climate change science into its planning efforts and attempts to explicitly reflect uncertainty.*

<u>Implementation of Programs and Policies</u>

- *Metropolitan's programs include the use of solar energy, use of ride share programs, and reduction of greenhouse emissions. Collectively these actions are intended to impact the effects of climate change.*

Groundwater Supplies

Although Upper District does not produce groundwater, its member agencies rely on groundwater produced from the Main San Gabriel Basin (Main Basin) to meet their demands. The Main Basin (which is included as a subbasin of the San Gabriel Valley Basin, Basin Number 4-13 pursuant to DWR Bulletin 118) has been identified by DWR as a very low-priority groundwater basin partially due to the fact it is adjudicated. In that regard, the Main Basin is actively managed by the Main Basin Watermaster.

Recognizing the potential impacts of climate change on the Main Basin groundwater supplies (decreased local runoff and replenishment, along with increased groundwater production, may lead to decreased groundwater levels), Upper District has used climate tools available on the California' Energy Commission's Cal-Adapt website (https://caladapt.org/) to identify potential future climate change cycles for the Main Basin. The Cal-Adapt website has been developed by the Geospatial Innovation Facility at the University of California, Berkeley with funding and advisory oversight by the California Energy Commission and California Strategic Growth Council.

To address the uncertainty in future greenhouse gas emissions, Cal-Adapt has developed a Representative Concentration Pathway 4.5 (RCP 4.5) scenario and a Representative Concentration Pathway 8.5 (RCP 8.5) scenario. RCP 4.5 represents a scenario in which greenhouse gas emissions peak around 2040, then decline and stabilize. RCP 8.5 represents a scenario in which emissions continue to strongly rise through 2050 and plateau around 2100. RCP 4.5 is a "medium" emissions scenario that models a future in which there is an effort made by societies to reduce greenhouse gas emissions, whereas RCP 8.5 is a "business-as-usual" scenario. For Upper District's climate change analysis, the RCP 4.5 scenario was selected.

The Cal-Adapt climate tools also incorporate several General Circulation Models (GCMs), which represent physical processes in the atmosphere, ocean, and land surface. These GCMs projected future climates under conditions such as warm/dry, cooler/wetter, and average simulations. For Upper District's climate change analysis, the average condition GCM (CanESM2) was selected.

The climate tools available on the Cal-Adapt website were used to simulate projected annual precipitation and annual average maximum temperature in the Main Basin. An electronic boundary of the Main Basin was submitted online through the Cal-Adapt website in a "KML" file format (i.e. Google Earth format) and data using several of the available climate tools was generated.

Based on the data generated by the Cal-Adapt simulations, the average annual rainfall in the Main Basin is projected to be 20.06 inches over the next 25 years (through 2045), compared to historical average of 18.53 inches (from 1950 through 2019).

In addition, the average maximum temperature is projected to be 82.0 degrees Fahrenheit compared to a historical average of 78.5 degrees Fahrenheit. Although there may be more precipitation in the future, it may be more likely to fall as rainfall compared to snowfall. The simulations do not denote the duration or intensity of storms contributing to the annual precipitation. Notwithstanding, the San Gabriel River watershed includes a complex and interconnected series of dams, reservoirs and replenishment basins to capture stormwater runoff. In an average to below average year of precipitation, over 95 percent of the precipitation in the watershed is retained within the watershed and is not lost to the ocean. Consequently, most if not all precipitation (whether it is rain or snowfall) likely will be captured for use in the Main Basin area and not adversely impacted by a potentially higher average annual temperature.

Recognizing these potential impacts to local hydrology resulting from climate change and the resultant impacts to the groundwater supplies, the Watermaster has taken (and may reinstate as needed) the following proactive actions to anticipate and circumvent the potential impacts of climate change.

Judgment Amendments

Since FY 2011-12 the Watermaster has become more pro-active by implementing provisions of the Judgment, and developing and instituting new studies, programs and plans to address the drought conditions as they progressively worsened. As a direct result of a multiple-year drought (from 2006 to 2009), the 2012 Judgment Amendments provided Watermaster with increased management flexibility and adaptability; and provided more discretion in making Basin management decisions. A key component of the Judgment Amendments was the new Water Resource Development Assessment (RDA) to be levied on all production. The RDA was designed to help address the potential future unavailability of imported replenishment water supplies, by allowing the Watermaster to collect RDA funds and purchase replenishment water for storage in the Basin to offset a future Replacement Water obligation.

Storm Water Capture

During FY 2011-12, the Watermaster convened an Ad Hoc Committee on storm water capture to help address the local drought conditions that resulted in the historic low Key Well (representing groundwater elevation in the Main Basin) elevation in 2009. The Ad Hoc Committee performed extensive research and coordinated closely with the Los Angeles County, Department of Public Works (DPW) to identify and prioritize several potential new and enhanced storm water capture projects.

Reduce Operating Safe Yield

The adjudicated water rights in the Main Basin are approximately 200,000 AF. Through adoption of an annual Operating Safe Yield the Main Basin Watermaster has the ability to reduce the amount of water rights available to Producers before they must pay an assessment for expensive imported water. The Operating Safe Yield has previously been set at 150,000 AF which has been about 75 percent of the adjudicated total. This action provides producers with an economic incentive to reduce demands.

Cyclic Storage

Cyclic Storage allows a producer who anticipates a Replacement Water obligation to also pre-purchase imported water and store it in the Main Basin to meet its future Replacement Water obligation. The use of Cyclic Storage helps increase groundwater levels, however, wet Replacement Water deliveries are deferred. Consequently, Cyclic Storage water will be applied to Replacement Water obligations for the short-term (one to three years), significantly reducing actual deliveries of Replacement Water. Therefore, with significant amounts of water stored in Cyclic Storage, setting "lower" Operating Safe Yields will have almost no short-term impacts on Basin water levels/supplies.

Conservation

Watermaster passed Resolution No. 03-14-260 declaring "drought conditions" and encouraged all Basin water producers to adopt reduced pumping and water conservation activities at the retail level. Due to conservation efforts in the Main Basin, production decreased from 242,900 AF in FY 2012-13 to 182,800 AF in FY 2015-16, a total of 60,100 AF. Groundwater production was 192,600 AF in FY 2019-20. With less water being pumped from the Main Basin, this has helped maintain groundwater levels in the Main Basin.

Recycled Water for Replenishment

The Main Basin Watermaster has declared its support for a new recycled water supply project for Main Basin replenishment. When completed, the project could supply up to 100 percent of the overall imported replenishment water requirements.

Basin-wide Low Water Vulnerability Assessment

During FY 2013-14, the Main Basin Watermaster initiated an evaluation of the potential impacts to groundwater production wells and local potable water supplies. The Watermaster also updated the basinwide information on water purveyor inter-connections in the event water supply from groundwater wells are reduced.

In-Lieu Program

During FY 2014-15, the Main Basin Watermaster re-instated the In-Lieu Program, where Watermaster funded a Producer's cost difference to take direct delivery of Metropolitan imported water "in-lieu" of pumping from its groundwater wells. The In-Lieu Program provided imported water to the Basin, and preserved groundwater supply in the Basin.

Stormwater Augmentation Program

During FY 2015-16, the Main Basin Watermaster evaluated other ways to help manage the Main Basin water supplies. While Southern California remained in extreme drought, northern California received above-average precipitation. As a result, replenishment water was made available. The Watermaster determined that during the previous five consecutive year drought from FY 2011-12 through 2015-16, nearly 400,000 acre-feet had been pumped from the Basin and not replaced by local rainfall and local runoff replenishment.

The Water Resource Development Assessment for Stormwater Augmentation Program was developed by the Main Basin Watermaster to help manage Main Basin water supplies under the perceived "worst case" hydrologic conditions, which was assumed to be two additional consecutive five-year droughts, using the same hydrologic conditions as the recent FY 2011-12 through 2015-16 severe drought. Based upon ten (10) additional consecutive years of drought, the new Program is intended to purchase imported replenishment water (when available), for stormwater augmentation, to maintain the Baldwin Park Key Well (Key Well) elevation above 180 feet by the end of the tenth year. This Key Well elevation essentially ensures continued Main Basin water supply to the Main Basin Producers under a worst case, 15-year sustained drought. The Program has an assessment of $140 per AF on all FY 2019-20 production and is planned to increase to $175 per AF on all FY 2020-21 production. Main Basin Watermaster will use the funds to purchase untreated imported water to replenish the Basin for the "general benefit" of all Producers within the Main Basin. The untreated imported water will supplement local stormwater replenishment, enhance overall Main Basin conditions, and have "no right of recovery" using a water right, by any Main Basin producer.

Funding for the Program is based on the current year's production. For example, assessments on FY 2019-20 production were levied in August 2020 and received by Watermaster by September 20, 2020. Main Basin Watermaster has adopted a plan to purchase a minimum of 31,000 acre-feet in December 2020; 33,551 acre-feet in December 2021; 27,800 acre-feet in December 2022; and 30,000 acre-feet in December 2023, under a Metropolitan Letter Agreement which includes Upper District and Three Valleys District. This pre-delivered Metropolitan water is purchased out of Metropolitan's Cyclic Storage account, and will be paid for by the Main Basin Watermaster, primarily using funds from the Resource Development Assessments from Upper District and Three Valleys District producers.

Chapter 5 – Conservation Target Compliance

5.1 – General Description

This section demonstrates compliance in achieving the 2020 water use efficiency goal as stated in the 2015 UWMP.

5.2 – Updating Calculations from 2015 UWMP

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

The City makes no update to its 2015 UWMP conservation target compliance calculations.

5.3 – Service Area Population

> *Water Code Section 10608.20*
>
> *(e) An urban retail water supplier shall include in its urban water management plan due in 2010…the baseline per capita water use…along with the bases for determining those estimates, including references to supporting data.*
>
> *(f) When calculating per capita values for the purposes of this chapter, an urban retail water supplier shall determine population using federal, state, and local population reports and projections.*
>
> *Water Code Section 10644*
>
> *(a)(2) The plan…shall include any standardized forms, tables or displays specified by the department.*

The City makes no changes to its historical service area population calculations.

5.4 – Gross Water Use

Water Code Section 10608.12

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

(1) Recycled water that is delivered within the service area of an urban retail water supplier or its urban wholesale water supplier

(2) The net volume of water that the urban retail water supplier places into long term storage

(3) The volume of water the urban retail water supplier conveys for use by another urban water supplier

(4) The volume of water delivered for agricultural use, except as otherwise provided in subdivision (f) of Section 10608.24.

California Code of Regulations Title 23 Division 2 Chapter 5.1 Article

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

The City makes no changes to its historical gross water use calculations.

5.5 – Baselines and Targets Summary

The City makes no changes to baselines described in the 2015 UWMP. Per the 2015 UWMP, the 2020 water use efficiency goal is 134 GPCD.

5.6 – 2020 Compliance Daily Per-Capita Water Use (GPCD)

Water Code Section 10608.12

(e) "Compliance daily per-capita water use" means the gross water use during the final year of the reporting period…

Water Code Section 10608.20

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

5.6.1 – Meeting the 2020 Target

Table 5.1 summarizes the City's water use efficiency for 2020.

Table 5.1 – 2020 Water Use Efficiency

Gross Water Use (AFY)	Population	Water Efficiency (GPCD)
2,277	20,300	100

The City has exceeded the water use efficiency target of 134 GPCD. The City is compliant with water use efficiency requirements.

5.6.2 – Adjustments to 2020 Gross Water Use

Water Code Section 10608.24

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

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

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

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

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

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

The City makes no adjustments to 2020 Gross Water Use.

Chapter 6 – System Supplies

6.1 – General Description

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

6.2 – Water Supply Analysis Overview

Water Code Section 10631(b)

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

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

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

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).

6.2.1 – Specific Analysis Applicable to All Water Supply Sources

The City relies exclusively on local groundwater and does not purchase imported water.

6.3 – Narrative Sections for Supplier's UWMP Water Supply Characterization

6.3.1 – Purchased or Imported Water

The City has no contracts or agreements to import water on a regular basis. The City has purchased imported water on an as-needed basis. In 2017, the City purchased 1.3 million gallons of imported water from California American Water Company.

The City relies exclusively on local groundwater and does not purchase imported water.

6.3.2 – Groundwater

Water Code Section 10631(b)(4)

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

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

(B) A description of any groundwater basin or basins from which the urban water supplier pumps groundwater. For basins that a court or the board has adjudicated the rights to pump groundwater, a copy of the order or decree adopted by the court or the board and a description of the amount of groundwater the urban water supplier has the legal right to pump under the order or decree. For a basin that has not been adjudicated, information as to whether the department has identified the basin as a high- or medium-priority basin in the most current official departmental bulletin that characterizes the condition of the groundwater basin, and a detailed description of the efforts being undertaken by the urban water supplier to coordinate with groundwater sustainability agencies or groundwater management agencies listed in subdivision (c) of Section 10723 to maintain or achieve sustainable groundwater conditions in accordance with a groundwater sustainability plan or alternative adopted pursuant to Part 2.74 (commencing with Section 10720).

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

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

6.3.2.1 – Groundwater Rights

Per the Main San Gabriel Basin Watermaster 2020-2021 Annual Report, the City is identified as a pumper in the Main San Gabriel Groundwater Basin (Main Basin) with annual pumping rights of 1.40888% of the Operating Safe Yield (OSY). The current OSY is 150,000 AFY and is anticipated to remain at this level through 2045. Under these conditions, the City's groundwater rights are 2,113 AFY.

Per Watermaster, producers may pump in excess of annual pumping rights but must pay for supplemental untreated imported water to replenish the Main Basin. As such, the City will first exercise its pumping rights and then pump only as much additional water as is required to meet demand.

6.3.2.2 – Last Five Years of Production

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

Table 6.1 – Historical Production

Year	2016	2017	2018	2019	2020
Production (AFY)	2,147	2,280	2,354	2,222	2,277

The City had access to sufficient water supply from the Main Basin.

6.3.2.3 – Basin Description

Per the Upper District 2020 UWMP:

> *The San Gabriel Valley is located in southeastern Los Angeles County and is bounded on the north by the San Gabriel Mountains; on the west by the San Rafael and Merced Hills, on the south by the Puente Hills and the San Jose Hills, and on the east by a low divide between the San Gabriel River system and the Upper Santa Ana River system.*
>
> *The San Gabriel River and its distributary, the Rio Hondo, drain an area of about 490 square miles upstream of Whittier narrows. Whittier Narrows is a low gap between the Merced and Puente Hills, just northwest of the City of Whittier, through which the San Gabriel River and Rio Hondo flow to the coastal plain of Los Angeles County. Whittier Narrows is a natural topographic divide and a subsurface restriction to the movement of groundwater between the Main San Gabriel Basin and the Coastal Plain. Of the approximately 490 square miles of drainage area upstream of Whittier Narrows, about 167 square miles are valley lands, and about 323 square miles are mountains and foothills.*
>
> *The Main Basin includes essentially the entire valley floor of San Gabriel Valley with the exception of the Raymond Basin and Puente Basin. The boundaries of the Main Basin are Raymond Basin on the northwest, the base of the San Gabriel Mountains on the north, the groundwater divide between San Dimas and La Verne and the lower boundary of the Puente Basin on the east, and the common boundaries between Upper District and Central Basin Municipal Water District through Whittier Narrows on the southwest. The common water supply of the Main Basin does not include the Raymond Basin, the area northerly of Raymond Hill Fault, which was adjudicated in the Pasadena v. Alhambra case, described above. The Puente Basin although tributary to the Main Basin, is not included in the Main Basin administered by the Watermaster.*
>
> *The Main Basin is a large groundwater basin replenished by stream runoff from the adjacent mountains and hills, by rainfall directly on the surface of the Valley floor, subsurface inflow from the Raymond Basin and Puente Basin, and by return flow from water applied for overlaying uses. Additionally, the Main Basin is replenished with imported water. The Main Basin serves as a natural storage reservoir, transmission system and filtering medium for wells constructed therein.*

Urbanization of the San Gabriel Valley began in the early part of the twentieth century, but until the 1940's, agricultural land use occupied more area than residential and commercial land use. After World War II agricultural areas tend to be located in the easterly portion of the Main Basin and along power transmission rights of way adjacent to the San Gabriel River. Agricultural plots are discontinuous and relatively small. There are several major industrial areas adjacent to the San Gabriel River and within other portions of the Valley. The greatest area of land use in the Valley is for residential and commercial purposes. The Department of Water Resources Bulletin 118 does not identity the Main Basin as being in overdraft.

6.3.2.4 – Geology

Per the Upper District 2020 UWMP:

The Main Basin consists of a roughly bowl-shaped depression in the bedrock, filled over millions of years with alluvial deposits. This bowl-shaped depression is relatively deep; the elevation of the base of the groundwater reservoir declines from about 800 feet above mean sea level (MSL) in the vicinity of San Dimas at the northeast corner of the Main Basin to about 2,200 feet below MSL in the vicinity of South El Monte.

Most of the alluvium deposited within this depression is debris from the San Gabriel Mountains, washed and blown from the side of the mountains over time. This process has also resulted in the materials within the Main Basin varying in size with relatively coarse gravel nearer the mountains. The principal water-bearing formations of the Main Basin are unconsolidated and semi-consolidated sediments which vary in size from coarse gravel to fine-grained sands. The interstices between these alluvial particles throughout the Main Basin fill with water and transmit water readily to wells. The thickness of the water-bearing materials in the Main Basin ranges from 200 to 300 feet in the northeaster portion of the Main Basin near the Mountains to nearly 4,000 feet in the South El Monte area.

The soils overlying the Main Basin average about 6 feet in depth. Soil depths are generally greater at the perimeter of the Valley and decrease toward the center along the San Gabriel River. These soils are residual, formed in place through chemical, mechanical and plant weathering processes. The infiltration rates of these soils are greater along the natural

channels and their adjacent flood plains. Lower infiltration rates are found in the perimeter areas of the Valley. Since the Valley is mostly urbanized, a significant portion of its area has been paved and many miles of stream channel have been lined for flood control purposes, thus decreasing infiltration of water through streambeds.

6.3.2.5 – Hydrogeology

Per the Upper District 2020 UWMP:

> *The total fresh water storage capacity of the Main Basin is estimated to be about 9.5 million acre-feet. Of that, about 1.1 million acre-feet has been used historically in Main Basin operations. The change in groundwater elevation at the Baldwin Park Key Well (Key Well) is representative of changes in groundwater in the Main Basin. One foot of elevation change at the Key Well is roughly the equivalent of about 8,000 acre-feet of water storage. The historic high groundwater elevation was recorded at over 329.1 feet in April 1916, at which time Main Basin storage was estimated to be about 8,700,000 acre-feet. The historic low was recorded in December 2004 at 195.5 feet, at which time Main Basin storage was estimated to be about 7,600,000 acre-feet.*
>
> *Generally, water movement in the Main Basin is from the San Gabriel Mountains on the north to Whittier Narrows of the southwest. Groundwater movement in the northern and northeastern regions of the Main Basin is affected by faulting. The Raymond Fault located in the north westerly portion of the Main Bain separates the Raymond Basin from the Main Basin, for example.*
>
> *The Main Basin is an unconfined aquifer. Although clay deposits appear mixed with the solid in several locations in the Main Basin and there are various clay lenses throughout the Main Basin, they do not coalesce to form a single impermeable barrier to the movement of subsurface water. The Main Basin therefore operates as a single, unconfined aquifer.*

6.3.2.6 – Hydrology

Per the Upper District 2020 UWMP:

> *The major sources of recharge to the Main Basin are direct penetration of rainfall on the Valley floor, percolation of runoff from the Mountains, percolation of imported water and return flow from applied water. Rainfall occurs predominately in the winter months and is more intense at higher elevations and closer to the San Gabriel Mountains. Rainfall can also be highly variable from year to year. In water year 1960-61 the total rainfall (four-station average) was less than 6 inches, while in 1982-83 the total rainfall (four-station average) was nearly 40 inches.*
>
> *The magnitude of annual recharge from direct penetration of local rainfall and return flow from applied water is not easily quantifiable. Percolation of runoff from the mountains and valley floor along with percolation of imported water has been estimated by San Gabriel River Watermaster. The DWP maintains records on the amount of local imported water conserved in water spreading facilities and stream channels.*
>
> *The Main Basin is bisected by the San Gabriel River. The San Gabriel River originates at the confluence of its west and east forks in the San Gabriel Mountains. It flows through the San Gabriel Canyon and enters the Main Basin at the mouth of the canyon north of the City of Azusa. The San Gabriel River flows southwesterly across the Valley to Whittier Narrows, a distance of about 15 miles. It exits the Valley at Whittier Narrows, and transverses the Coastal Plan in a southerly direction to reach the Pacific Ocean at Alamitos Bay near the City of Long Beach.*

The San Gabriel River is joined and fed by tributary creeks and washes. In the Main Basin these include: Big Dalton Wash, which originates in the San Gabriel Mountains; Walnut Creek, which originates at the northwest end of the San Jose Hills; and San Jose Creek, which originates in the San Gabriel Mountains, but which travels around the southerly side of the San Jose Hills through the Puente Narrows before joining the San Gabriel River just above Whittier Narrows.

The channel of the San Gabriel bifurcates in the upper middle portion of the Main Basin, forming a channel to the west of and parallel to the San Gabriel River, known as the Rio Hondo. The Rio Hondo is fed by tributaries draining the westerly portion of the Main Basin, including Sawpit Wash, Santa Anita Wash, Easton Canyon Wash, Rubio Wash and Alhambra Wash, all of which originate in the San Gabriel Mountains or the foothills. The Santa Anita Wash, Eaton Canyon Wash, Rubio Wash and Alhambra Wash all cross the Raymond Basin area before entering the Main Basin. The channel of the Rio Hondo passes through Whittier Narrows westerly of the San Gabriel River, and then flows southwesterly to join Los Angeles River on the Coastal Plain.

To protect residents of the San Gabriel Valley from flooding that can result during periods of intensive rainfall, the DPW and the U.S. Army Corps of Engineers (Corps of Engineers) have constructed an extensive system of dams, debris basins, reservoirs and flood control channels. The dams and reservoirs that control the flow of the San Gabriel River and the Rio Hondo include: Cogswell Reservoir on the west fork of the San Gabriel River, San Gabriel Reservoir at the confluence of the west and east forks of the San Gabriel River, Morris Reservoir near the mouth of the San Gabriel Canyon, Santa Fe Reservoir in the northerly portion of the Basin and Whittier Narrows Reservoir at the southwestern end of the Valley.

Many of the stream channels tributary to the San Gabriel River have been improved with concrete banks (wall) and concrete-lined bottoms. These stream channel improvements have significantly reduced the area of previous stream channels and reduced Main Basin recharge. A number of off-stream groundwater replenishment facilities have been established along these stream channels to offset such reductions in recharge. Some of these facilities are accessible to import water supplies, while some facilities receive only local runoff.

The paths of the surface streams are mirrored in the solid and in the direction of groundwater movement in the Main Basin. The tributary creeks and washes, carrying smaller mouths of water, generally flow toward the center of the Valley, while the direction of flow of the major streams, the San Gabriel River and the Rio Hondo, is from the mountains in the north to Whittier Narrows in the southwest. In similar fashion, the primary direction of groundwater movement in the Main Basin is from the north to the southwest, with contributing movement in the Main Basin is from the north to the center of the Main Basin. The greatest infiltration and transmissivity rates of solid in the Main Basin are form north to south, with the maximum rates found in the center of the Valley along the stream channels. Generally, the Main Basin directs groundwater to the southwest through Whittier Narrows.

6.3.3 – Groundwater Management

Per the Upper District 2020 UWMP:

> *Management of the water resources in the Main Basin is based upon Watermaster Services under two court judgements: San Gabriel River Watermaster (River Watermaster) and Main San Gabriel Basin Watermaster (Main Basin Watermaster). The City was a defendant in Long Beach Judgment and Main Basin Judgment and as such had participation.*
>
> *The City also participates in the Main Basin management described in the Main Basin Watermaster document entitled "Five year Water Quality and Supply Plan". These three basin management documents are described in the following sections.*

6.3.3.1 – Long Beach Judgment

Per the Upper District 2020 UWMP:

> *On May 12, 1959, the Board of Water Commissioners of the City of Long Beach, Central Basin Municipal Water District (Central Basin), and the City of Compton, as plaintiffs, filed an action against the San Gabriel Valley Water Company and 24 other producers of groundwater from San Gabriel Valley, including The City, as a defendant. This action sought a determination of the rights of the defendants in and to the waters of the San Gabriel Rivers system and to restrain the defendants from an alleged interference with the rights of plaintiffs and persons represented by the Central Basin Municipal in such waters. After six years of study and negotiation a Stipulation for Judgment was filed on February 10, 1965. Under the terms of the Long Beach Judgment, the water supply of the San Gabriel River system was divided at Whittier Narrows, the boundary between San Gabriel Valley upstream and the coastal plain of Los Angeles County downstream. A copy of the Long Beach Judgment is located in Appendix H.*
>
> *Under the terms of the Long Beach Judgment, the area downstream from Whittier Narrows (Lower Area), the plaintiffs and those they represent, are to receive a quantity of usable water annually from the San Gabriel River system comprised of usable surface flow, subsurface flow at Whittier Narrows and water exported to the Lower Area. This annual entitlement is guaranteed by the area upstream of Whittier Narrows (Upper Area), the defendants, and provision is made for the supply of Make-up Water by the Upper Area for years in which the guaranteed entitlement is not received by the Lower Area.*
>
> *Make-up water is imported water purchased by Main Basin Watermaster and delivered to agencies in Central Basin Municipal to satisfy obligations under the Long Beach judgment. The entitlement of the Lower Area varies annually, dependent upon the 10-year average annual rainfall in the Valley for the 10 years ending with the year for which entitlement is calculated.*

The detailed operations described in the Long Beach Judgment are complex and require continuous compilation of data so that annual determinations can be made to assure compliance with the Long Beach Judgment. In order to do this, a three-member Watermaster was appointed by the Court, one representing the Upper Area parties, including the City, nominated by and through Upper District, one representing the Lower Area partied nominated by and through Central Basin Municipal Water District (Central Basin Municipal), and one jointly nominated by Upper District and Central Basin Municipal. This three-member board is known as the San Gabriel River Watermaster (River Watermaster).

The River Watermaster meets periodically during the year to adopt a budget, to review activities affecting water supply in the San Gabriel River system area, to compile and review data, to make its determinations of usable water received by the Lower Area, and to prepare its annual report to the Court and to the parties. The River Watermaster has rendered annual reports for the water years 1963-64 through 2009-10 and operations of the river system under Long Beach Judgment and through the administration by the River Watermaster have been very satisfactory since its inception.

One major result of the Long Beach Judgment was to leave the Main Basin free to manage its water resources as long as it meets its downstream obligation to the Lower Area under the terms of the Long Beach Judgment.

6.3.3.2 – Main Basin Judgment

Per the Upper District 2020 UWMP:

The Upper Area then turned to the task of developing a water resources management plan to optimize the conservation of the natural water supplies of the area. Studies were made of various methods of management of the Main Basin as an adjudicated area and a report thereon was prepared for the Upper San Gabriel Valley Water Association, an association of water producers in the Main Basin, including the City. After consideration by the Association membership, Upper District was requested to file as plaintiff, and did file, an action on January 2, 1968, seeking an adjudication of the water rights of the Main Basin and its relevant Watershed. In addition, the City was included as a defendant. After several years of study (including verification of annual water production) and negotiations, a stipulation for entry of Judgment was approved by majority of the parties, by both the number of parties and the quantity of rights to be adjudicated. Trial was held in late 1972 and Judgment (Main Basin Judgment) was entered on January 4, 1973. A Copy of the Main Basin Judgment is located in Appendix I.

Under the terms of the Main Basin Judgment all rights to the diversion of surface water and production of groundwater within the Main Basin and its relevant Watershed were adjudicated. The Main Basin Judgment provides for the administration of the provisions of the Main Basin Judgment by nine-member Watermaster. Six of those members are nominated by water producers (producer members) and three members (public members) are nominated by Upper District and the San Gabriel Valley Municipal Water District which overlie most of the Main Basin. The nine-member board employs a staff, an attorney and a consulting engineer. The Main Basin Watermaster holds public meetings on a regular monthly basis through the year.

The Main Basin Judgment does not restrict the quantity of water which Parties may extract from the Main Basin. Rather, it provides a means for replacing with Supplemental Water

all annual extractions in excess of a Party's annual right to extract water. The Main Basin Watermaster annually established an Operating Safe Yield for the Main Basin which is then used to allocate to each Party its portion of the Operating Safe Yield which can be produced free of a Replacement Water Assessment.

If the City extracts water in excess of its rights under the annual Operating Safe Yield, it must pay an assessment for Replacement water, which is sufficient to purchase 1 acre-foot of Supplemental Water to be spread in the Main Basin for each acre-foot of excess production.

In addition to Replacement Water Assessments, the Main Basin Watermaster levies an Administration Assessment to fund the administration of the Main Basin management program under the Main Basin Judgment and a Make-up Obligation Assessment in order to fulfill the requirements for any Make-up Obligation under the Lind Beach Judgment and to supply 50 percent of the administration costs of the River Watermaster service. The Main Basin Watermaster levies an In-lieu Assessment and may levy special Administration Assessments.

Water rights under the Main Basin Judgment are transferable by lease or purchase as long as such transfers meet the requirements of the Main Basin Judgment. There is also provision for Cyclic Storage Agreements by which Parties and non-parties may store imported supplemental water in the Main Basin under such agreements with the Main Basin Watermaster pursuant to uniform rules and conditions and Court approval.

The Main Basin Judgment requires that the Main Basin Watermaster will not allow imported water to be spread in the main part of the Main Basin when the ground-water elevation at the Baldwin Park Key Well2 (Key Well) exceeds 250 feet; and that the Main Basin Watermaster will, insofar as practicable, spread imported water in the Main Basin to maintain the ground-water elevation at the Key Well above 200 feet. One of the principal reasons for the limitation on spreading imported water when the Key Well elevation exceeds 250 feet is to reserve ample storage space in the Main Basin to capture native surface water runoff when it occurs and to optimize the conservation of such local water. Under the terms of the Long Beach Judgment, any excess surface flows that pass through the Main Basin at Whittier Narrows to the Lower Area (which is then conserved in the Lower Area through percolation to groundwater storage) is credited to the Upper Area as Usable Surface Flow.

Through the Long Beach Judgment and the Main Basin Judgment, operations of the Main Basin are optimized to conserve local water to meet the needs of the parties of the Main Basin Judgment.

Typically, water producers within the Upper District rely upon groundwater from the Main Basin for their water supply. Imported water for groundwater replenishment is delivered to the flood control channels and diverted and spread at spreading grounds through Main Basin Watermaster's agreement with the Los Angeles County Department of Public Works (DPW). Groundwater replenishment, utilizing imported water, is Replacement Water under the terms of the Main Basin Judgment. It can be stored in the Main Basin through Cyclic Storage Agreements, authorized by terms of the Main Basin Judgment, but such stored water may be used only to supply Supplemental Water to the Main Basin Watermaster.

The Watermaster has entered into a Cyclic Storage Agreement with each of the three municipal water districts. One is with the Metropolitan and the Upper District, which permits Metropolitan to deliver and store imported water in the Main Basin in an amount not to exceed 100,000 acre-feet for future Replacement Water use. The second Cyclic Storage Agreement is with Three Valleys Municipal Water District and permits Metropolitan to deliver and store 40,000 acre-feet for future Replacement Water use. The third is with San Gabriel Valley Municipal Water District and contains generally the same conditions as the agreement with Metropolitan except that the stored quantity is not to exceed 40,000 acre-feet.

Imported Make-up Water is often delivered to lined stream channels and conveyed to the Lower Area. Make-up Water is required to be delivered to the Lower Area by the Upper Area when the Lower Area entitlement under the Long Beach Judgment exceeds the usable water received by the Lower Area. Imported water is used to fulfill the Make-up Water obligation when the amount of Make-up Water cannot be fulfilled by reimbursing the Lower Area interests for their purchase of recycled water. The amount of recycled water for which reimbursement may be made as a delivery of Make-up Water is limited by the terms of the Long Beach Judgment to the annual deficiency in Lower Area Entitlement water or to 14,735 acre-feet, whichever is the lesser quantity.

6.3.4 – Surface Water

The City has no surface water sources.

6.3.5 – Stormwater

The City has no stormwater sources.

6.3.6 – Wastewater and Recycled Water

Water Code Section 10633

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

(a) A description of the wastewater collection and treatment systems in the supplier's service area, including a quantification of the amount of wastewater collected and treated and the methods of wastewater disposal.

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

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

(d) A description and quantification of the potential uses of recycled water, including, but not limited to, agricultural irrigation, landscape irrigation, wildlife habitat enhancement, wetlands, industrial reuse, groundwater recharge, indirect potable reuse, and other appropriate uses, and a determination with regard to the technical and economic feasibility of serving those uses.

(e) The projected use of recycled water within the supplier's service area at the end of 5, 10, 15, and 20 years, and a description of the actual use of recycled water in comparison to uses previously projected pursuant to this subdivision.

(f) A description of actions, including financial incentives, which may be taken to encourage the use of recycled water, and the projected results of these actions in terms of acre-feet of recycled water used per year.

(g) A plan for optimizing the use of recycled water in the supplier's service area, including actions to facilitate the installation of dual distribution systems, to promote recirculating uses, to facilitate the increased use of treated wastewater that meets recycled water standards, and to overcome any obstacles to achieving that increased use.

The City does not currently use recycled water due to the lack of infrastructure and the cost to construct a pipeline from the treatment plants in the Whittier Narrows area to the City's service area. However, reclamation of wastewater in the Main Basin has been extensively reviewed in both local and regional studies. In 1976, San Gabriel District and Upper District completed a study entitled "Potential use of Reclaimed Water groundwater Replenishment in the Main San Gabriel Basin." This study was updated at the request of the Main Basin Wastermaster in 1980 and again in 1987. This study along with others, concluded water reuse in the Main Bain could be feasible, however, the cost of utilizing recycled water varies widely with the quantity to be used and the distance required diverting the water from the treatment plan to the point of use. Due to this finding, the City could not directly benefit from a large scale recycling project due to its distance from the source of supply. However, the City could receive indirect benefits from a large-scale recycling project through the reduction on groundwater pumping in the Main Basin.

The Los Angeles County Sanitation District (LACSD) has two reclamation plants, which can be utilized by the Main Basin as a recycled water supply. The Whittier Narrows Water Reclamation Plant (WNWRP), which began operation in 1962, currently has a capacity of 15 million gallons per day (mgd) and provides coagulated, filtered, and disinfected tertiary treatment. All of the WNWRP effluent is reused as recycled water. The San Jose Creek Reclamation Plant (SJCWRP), which began operation in 1971, currently has a treatment capacity of 100 mgd and provides coagulated, filtered, and disinfected tertiary effluent. Approximately 42% percent of the effluent is reused as recycled water. The balance of effluent is discharged to the San Gabriel River and eventually flows to the ocean. As stated earlier, reclaimed water used by the Lower Area for groundwater recharged may be used to fulfill a portion of the Upper Area's Make-Up Water obligation to the Lower Area under the terms of the Long Beach Judgment.

In 1984, the LACSD released a Health Effects Study on the proposed use of reclaimed water groundwater replenishment. That report recommended that existing quantities of reclaimed water allowed for groundwater replenishment be increased. As a result, increased uses of reclaimed water from the SJCWRP for groundwater replenishment are now being considered.

The City does not use recycled water as a source of supply.

The City owns and operates a wastewater collection system which discharges to the Los Angeles County Sanitation Districts (LACSD) for treatment.

The 2020 wastewater discharge from customers within the water service area is estimated as 40% of potable water use at 911 AFY.

6.3.6.1 – Recycled Water Coordination

Water Code Section 10633

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

The City defers to Upper District for recycled water coordination.

6.3.6.2 – Wastewater Collection, Treatment and Disposal

Water Code Section 10633(a)

A description of the wastewater collection and treatment systems in the supplier's service area, including a quantification of the amount of wastewater collected and treated and the methods of wastewater disposal.

Per the 2020 Upper District UWMP:

> *There are two water reclamation plants located within Upper District's service area; the Whittier Narrows Water Reclamation Plan (WNWRP) and the San Jose Creek Water Reclamation Plant (SJCWRP). LACSD operates both of these facilities. The location of these reclamation plants are shown on Figure 4. The method of disposal when treated recycled water is not used (non-recycled) is discharge to the San Gabriel River/Rio Hondo and eventually flows to the ocean.*
>
> *The WNWRP began operations in 1962 and has a treatment capacity of about 15 MGD. The WNWRP provides coagulated, filtered and disinfected tertiary effluent. All wastewater treated at the WNWRP meets recycled water standards. The WNWRP serves a population of approximately 150,000 people. During FY 2018-19, the total recycled water production from this plant was about 7,974 acre-feet.*
>
> *The SJCWRP began operations in 1973 and currently has a treatment capacity of about 100 MGD. The SJCWRP provides coagulated, filtered and disinfected tertiary effluent. The SJCWRP has room for an expansion of an additional 25 MGD, although there is no schedule for such an expansion. The SJCWRP plant serves a population of approximately 1 million people, largely a residential population. During FY 2018-19, the total recycled water production from this plant was about 49,045 acre-feet.*
>
> *Upper District does not provide supplemental treatment to recycled water produced from the WNWRP or the SJCWRP before delivery for direct use.*

6.3.6.3 – Recycled Water System Description

Water Code Section 10633 (c)

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

Per the 2020 Upper District UWMP:

> *Upper District's direct non-potable use recycled water program is part of Upper District's effort to reduce reliance on imported water supplies, provide an economic benefit as well as enhance local water supply reliability. Upper District's existing recycled water program includes pipelines and a recycled water reservoir to provide tertiary treated recycled water to customers in Upper District's service area. Upper District's existing recycled water program is divided into the following systems: Phase I, Phase IIA, and Phase IIB. The locations of Upper District's recycled water users are provided in Figure 5.*
>
> *In addition to the recycled water supplied by Upper District through its direct use recycled water system, other purveyors within Upper District's service area supply recycled water for irrigation use as well.*
>
> *<u>Phase I</u>*
>
> *Upper District's Phase I recycled water system provides service to various landscape irrigation customers in the City of Whittier. Recycled water from the SJCWRP is currently supplied to San Gabriel Valley Water Company (SGVWC) at a discounted recycled water rate. During FY 2019-20, the Phase I system delivered approximately 42 acre-feet of recycled water from the SJCWRP to Mills Elementary School, Rio Hondo College, and Gateway Pointe Industrial Park. Previously, part of the Rose Hills Memorial Park was serviced from the Phase I recycled water system and there were plans for Upper District to expand the system at Rose Hills Memorial Park. In 2016, Rose Hills Memorial Park recycled water distribution system was reconnected to another purveyor's recycled water system. Consequently, Phase I recycled water use has reduced since reported in the 2015 UWMP; however, overall recycled water use in Upper District's service area has increased.*
>
> *<u>Phase IIA – Whittier Narrows Project and Rosemead Extension</u>*
>
> *Upper District's Phase IIA recycled water system is divided into the Whittier Narrows Project and Rosemead Extension. Recycled Water from the WNWRP is currently supplied to SGVWC and Golden State Water Company to serve recycled water to various customers for landscape irrigation. During FY 2019-20, the Phase IIA recycled water system delivered approximately 1,239 acre-feet of recycled water from the WNWRP to parks, schools, medians, and commercial complexes. Upper District's Phase IIA was extended in 2019 to include the South El Monte Extension project.*

Phase IIB – Industry

Upper District's Phase IIB - Industry recycled water system provides service to customers in the City of West Covina. Recycled Water from the SJCWRP is currently supplied to Suburban Water System and Valencia Heights Water Company to serve recycled water to various customers for landscape irrigation. During FY 2019-20, the Phase IIB-Industry system delivered approximately 647 acre-feet of recycled water from the SJCWRP to parks, schools, and medians.

6.3.6.4 – Potential, Current and Projected Recycled Water Uses

Water Code Section 10633

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

(d) A description and quantification of the potential uses of recycled water, including, but not limited to, agricultural irrigation, landscape irrigation, wildlife habitat enhancement, wetlands, industrial reuse, groundwater recharge, indirect potable reuse, and other appropriate uses, and a determination with regard to the technical and economic feasibility of serving those uses.

(e) The projected use of recycled water within the supplier's service area at the end of 5, 10, 15, and 20 years, and a description of the actual use of recycled water in comparison to uses previously projected pursuant to this subdivision.

Per the 2020 Upper District UWMP:

Recycled water users within Upper District's service area include several schools, parks, and commercial areas. Recycled water is produced by LACSD's SJCWRP and WNWRP treatment plants. Use of recycled water allows Upper District's member agencies to reduce the amount of imported water purchases required and groundwater production required from the Main San Gabriel.

Current Uses

Upper District's existing recycled water program is divided into the following systems: Phase I, Phase IIA – Whittier Narrows Project and Rosemead

Extension, and Phase IIB – Industry Project.

In the Phase I system, SGVWC serves the recycled water to various customers for landscape irrigation. During FY 2019-20, the Phase I system delivered approximately 42 acre-feet of recycled water from the SJCWRP to Mills Elementary School, Rio Hondo College, and Gateway Pointe Industrial Park.

Upper District's Phase IIA recycled water system supplies recycled water from the WNWRP to SGVWC and Golden State Water Company to serve recycled water to various customers for landscape irrigation. During FY 2019-20, the Phase recycled water system delivered approximately 1,239 acre-feet of recycled water from the WNWRP to parks, schools, medians, and commercial complexes.

Upper District's Phase IIB - Industry recycled water system supplies recycled water to Suburban Water System and Valencia Heights Water Company to serve recycled water to various customers for landscape irrigation. During FY 2019-20, the Phase IIB-Industry system delivered approximately 647 acre-feet of recycled water from the SJCWRP to parks, schools, and medians.

The total projected FY 2020 recycled water demand in Upper District's service area was estimated in Upper District's 2015 Plan to be approximately 13,385 AFY. The projection was based on planning documents prepared by Upper District. The actual recycled water demand in 2020 was approximately 1,927 acre-feet.

Planned Uses

Upper District is currently expanding its direct use recycled water system with the addition of the La Puente Valley County Water District Recycled Water Project. Depending on the available supply of recycled water, the South El Monte expansion project may also be furthered expanded with additional phases for an ultimate yield of 660 AFY. SGVWC is a project partner and system operator of the South El Monte Recycled Water Expansion Project.

The proposed La Puente Valley County Water District Recycled Water Project is estimated to supply 360 AFY of recycled water to approximately 27 customers in the Cities of Industry and La Puente. The first phase of the La Puente Valley County Water District Recycled Water Project has been delayed and is now expected to come online by 2025 with an approximate yield of 55 AFY. La Puente Valley County Water District will be a project partner and eventual system operator of the project.

The expansions of both the La Puente Valley Count Water District Recycled Water Project and the South El Monte Expansion are subject to recycled water availability and regulatory compliance.

Upper District has suspended development of the Indirect Reuse Replenishment Project (IRRP) due to various physical and institutional constraints. The IRRP was intended provide up to 10,000 AFY of treated recycled water from the SJCWRP for groundwater replenishment at the Santa Fe Spreading Grounds to be used for indirect potable use. As a similar project, Metropolitan (and Upper District as a member agency) is currently developing the Regional Recycled Water Program (RRWP) in partnership with LACSD.

The RRWP would deliver advanced treated wastewater from LACSD's Joint Water Pollution Control Plant located in Carson, California (Carson Plant) through up to 60 miles of transmission pipelines to groundwater basins within MWD's service area, including the Main Basin. The advanced treated water would be used in various locations within MWD's service area for groundwater recharge, groundwater storage, and industrial facilities. For planning purposes in this Plan, it is estimated that the RRWP will provide 35,000 AFY of advanced treated recycled water for replenishment beginning in in year 2035. There is a potential for even greater recycled water deliveries between 60,000 and 80,000 AFY.

The total projected 2020 recycled water demand in Upper District's service area was estimated in Upper District's 2015 Plan to be approximately 13,385 AFY. The projection was based on planning documents prepared by Upper District. The actual recycled water demand in 2020 was approximately 1,927 AF. As discussed above, the discrepancy is based on Upper District suspending development of the Indirect Reuse Replenishment Project (IRRP) and the Rose Hills Memorial Park being connected to another recycled water system.

6.3.6.5 – Actions to Encourage and Optimize Future Recycled Water Use

Water Code Section 10633

The plan shall provide, to the extent available, information on recycled water and its potential for use as a water source in the service area of the urban water supplier… and shall include the following:

(g) A plan for optimizing the use of recycled water in the supplier's service area, including actions to facilitate the installation of dual distribution systems, to promote recirculating uses, to facilitate the increased use of treated wastewater that meets recycled water standards, and to overcome any obstacles to achieving that increased use.

Per the 2020 Upper District UWMP:

Upper District's current recycled water rates vary depending upon Upper District's actual cost of delivery to the end user. The recycled water rates are established through long-term contracts with the participating retail agency. The rates are set to create an economic incentive to maximize the use of recycled water for irrigation applications, while reducing demand on potable supplies, for irrigation applications.

6.3.7 – Desalinated Water Opportunities

Water Code Section 10631(g)

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

There are no opportunities to develop desalinated water.

6.3.8 – Water Exchanges and Water Transfers

Water Code Section 10631(c)

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

6.3.8.1 – Exchanges or Transfers

The City does no use exchanges or transfers to enhance its water supply

6.3.8.2 – Emergency Interties

The City maintains three emergency connections with neighboring water purveyors. See Section 8.5.5 for additional detail on the purveyors and the capacities of the interties.

6.3.9 – Future Water Projects

Water Code Section 10631 (f)

Include a description of all water supply projects and water supply programs that may be undertaken by the urban water supplier to meet the total projected water use, as established pursuant to subdivision (a) of Section 10635. The urban water supplier shall include a detailed description of expected future projects and programs that the urban water supplier may implement to increase the amount of the water supply available to the urban water supplier in normal and single dry water years and for a period of drought lasting five consecutive water years. The description shall identify specific projects and include a description of the increase in water supply that is expected to be available from each project. The description shall include an estimate with regard to the implementation timeline for each project or program.

The City is reviewing the economic feasibility of imported water from Upper Basin. In the event the City determines imported water is a feasible alternative or supplement to groundwater and initiates a future water project to receive imported water, this UWMP will be amended with a description of the project.

6.3.10 – Summary of Existing and Planned Sources of Water

Water Code 10631

(b) Identify and quantify, to the extent practicable, the existing and planned sources of water available to the supplier over the same five-year increments described in subdivision (a), providing supporting and related information, including all of the following…

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

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

The City's existing and planned sources of water only include groundwater from the Main Basin.

6.3.11 – Special Conditions

A portion of the City's groundwater supply is associated with the El Monte Operable Unit (EMOU). The City works in coordination with EPA and other EMOU participants to remediate regional groundwater quality. Production of drinking water is a beneficial use related to the EMOU remediation efforts. However, the EMOU does not impose a constraint on supply.

6.3.11.1 – Climate Change Effects

Per the 2020 Upper District UWMP:

> *Climate change has the possibility of impacting the availability of planned water supplies, particularly during a drought period. Section 4.5 of the 2020 Upper District UWMP provides a discussion regarding climate change effects on Upper District's various sources of supply.*
>
> *Metropolitan's 2020 UWMP states that "as a major steward of the region's water supply resources, Metropolitan is committed to performing its due diligence with respect to climate change". The impacts of climate change to Metropolitan's supplies are uncertain and pose challenges for long-term planning. However, Metropolitan benefits from having historic hydrological data dating back almost one hundred to use in supply and demand forecasting. Additional information regarding impacts of climate change and Metropolitan's related activities can be found in Metropolitan's 2020 UWMP Section 2.6.*

6.3.11.2 – Regulatory Conditions and Project Development

The City is a participant in the El Monte Operable Unit (EMOU). The City makes regular reports to EPA on remediation efforts.

6.3.11.3 – Other Locally Applicable Criteria

The City exercises its adjudicated rights to pump groundwater from the Main Basin whose management is under the authority of the Main San Gabriel Basin Watermaster.

6.4 – Energy Intensity

Water Code 10631.2. (a)

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

(1) An estimate of the amount of energy used to extract or divert water supplies.

(2) An estimate of the amount of energy used to convey water supplies to the water treatment plants or distribution systems.

(3) An estimate of the amount of energy used to treat water supplies.

(4) An estimate of the amount of energy used to distribute water supplies through its distribution systems.

(5) An estimate of the amount of energy used for treated water supplies in comparison to the amount used for nontreated water supplies.

(6) An estimate of the amount of energy used to place water into or withdraw from storage.

(7) Any other energy-related information the urban water supplier deems appropriate.

Details on the City's energy use related to water service are provided in Appendix F.

Chapter 7 – Water Supply Reliability

7.1 – General Description

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

7.2 – Water Service Reliability Assessment

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.

7.2.1 – Constraints on Water Sources

Water Code section 10631 (b)(1)

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

The City produces groundwater from the Main Basin. The Main Basin Watermaster has access to multiple sources of supply for replenishment, including deep percolation rainfall, stormwater capture, imported water, recycled water, cyclical storage, and the Resource Development Assessment (RDA) water, as well as conservation to reduce customer water use. Availability of groundwater is not a constraint on reliability.

The City produces groundwater through its nine active wells in the Main Basin. Groundwater is treated at six facilities. The City's groundwater production and treatment has surplus capacity and is highly redundant. The City's groundwater production and treatment infrastructure is not a constraint on reliability under normal, single dry year or five consecutive dry year conditions.

7.2.2 – Year Type Characterization

The City's water use has stabilized since 2011. The average year is the average per capita demand for the period 2011 to 2020, as shown in Table 7.1.

Table 7.1 – Average Year Per Capita Demand

Years	GPCD
2011-2020	105

The driest year since 2001 is 2013 at 6.0 inches of precipitation, which is about 48% of the 20-year average precipitation. The single dry year is the per capita demand for 2013, as shown in Table 7.2.

Table 7.2 – Single Dry Year Per Capita Demand

Year	GPCD
2013	113

The driest consecutive five since 2011 is 2012 through 2016. The average precipitation for this period was 8.8 inches, which is about 70% of the 20-year average precipitation. The five consecutive dry years per capita demand for this period is shown in Table 7.3.

Table 7.3 – Five Consecutive Dry Years Per Capita Demand

Year	GPCD
2012	114
2013	113
2014	105
2015	100
2016	99

For demand projection based on year type characterization, the associated per capita demand is applied to the projected population.

7.2.3 – Water Service Reliability

Water Code Section 10635(a)

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

Projected supply and demand comparison are shown in the following tables. Under conditions, the City will produce only as much supply as is needed to meet demand.

The normal year supply and demand comparison is shown in Table 7.4.

Table 7.4 – Normal Year Supply and Demand Comparison (AFY)

Year	2025	2030	2035	2040	2045
Projected Normal Year Supply	2,503	2,592	2,661	2,713	2,752
Projected Normal Year Demand	2,503	2,592	2,661	2,713	2,752
Surplus	0	0	0	0	0

The single dry year supply and demand comparison is shown in Table 7.5.

Table 7.5 – Single Dry Year Supply and Demand Comparison (AFY)

Year	2025	2030	2035	2040	2045
Projected Normal Year Supply	2,693	2,790	2,864	2,920	2,962
Projected Normal Year Demand	2,693	2,790	2,864	2,920	2,962
Surplus	0	0	0	0	0

The five consecutive dry years supply and demand comparison is shown in Table 7.6.

Table 7.6 – Five Consecutive Dry Years Supply and Demand Comparison (AFY)

Year		2025	2030	2035	2040	2045
Year 1	Supply	2,717	2,814	2,890	2,946	2,988
	Demand	2,717	2,814	2,890	2,946	2,988
	Surplus	0	0	0	0	0
Year 2	Supply	2,693	2,790	2,864	2,920	2,962
	Demand	2,693	2,790	2,864	2,920	2,962
	Surplus	0	0	0	0	0
Year 3	Supply	2,503	2,592	2,661	2,713	2,752
	Demand	2,503	2,592	2,661	2,713	2,752
	Surplus	0	0	0	0	0
Year 4	Supply	2,384	2,469	2,535	2,584	2,621
	Demand	2,384	2,469	2,535	2,584	2,621
	Surplus	0	0	0	0	0
Year 5	Supply	2,360	2,444	2,509	2,558	2,595
	Demand	2,360	2,444	2,509	2,558	2,595
	Surplus	0	0	0	0	0

7.2.4 – Description of Management Tools and Options

Water Code Section 10620(f)

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

The City will continue to work in coordination with the Main San Gabriel Watermaster, the Upper San Gabriel Valley Municipal Water District, and participating agencies in the El Monte Operable Unit to maximize resources and minimize demand. The City relies entirely on groundwater and does not anticipate importing water from other agencies.

7.3 – Drought Risk Assessment

Water Code Section 10635(b)

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

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

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

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

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

7.3.1 – Data, Methods, and Basis for Water Shortage Condition

Population was projected for 2021 through 2025 per the population model presented in Figure 3.2.

Demand variation for five consecutive dry years was applied to the population projection according to per capita demand in Table 7.3.

Demand condition s for the period 2021 through 2025 are provided in Table 7.7.

Table 7.7 – DRA Demand Conditions

Year	Population	Per Capita Water Use (GPCD)	Demand (AFY)
2021	20,500	114	2,618
2022	20,700	113	2,643
2023	20,900	105	2,669
2024	21,100	100	2,694
2025	21,300	99	2,720

7.3.2 – DRA Water Source Reliability

There are no reliability constraints on groundwater production from the Main San Gabriel Basin.

7.3.3 – Total Water Supply and Use Comparison

Table 7.8 summarizes the City's capacity to withstand an immediate five-year drought.

Table 7.8 – DRA Comparison of Supply and Demand (AFY)

Year	Supply	Demand	Surplus
2021	2,618	2,618	0
2022	2,643	2,643	0
2023	2,669	2,669	0
2024	2,694	2,694	0
2025	2,720	2,720	0

Chapter 8 – Water Shortage Contingency Plan

8.1 – General Description

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

8.2 – Water Supply Reliability Analysis

> *Water Code Section 10632(a)(1)*
>
> *The analysis of water supply reliability conducted pursuant to Section 10635.*

The Water Service Reliability Assessment is discussed in Section 7.2.

8.3 – Annual Water Supply and Demand Assessment Procedures

Water Code Section 10632(a)(2)

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

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

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

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

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

(iii) Existing infrastructure capabilities and plausible constraints.

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

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

Water Code Section 10632.1.

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

Commencing July 1, 2022, the City is required to submit an "Annual Water Supply and Demand Assessment" (Annual Assessment) in accordance with DWR's guidance and requirements. The Annual Assessment will include a review of the City's unconstrained water demands (i.e. water demands prior to any projected response actions the City may trigger under this Water Shortage Contingency Plan) for the current year and the upcoming (potential single dry) year. The City will also include information regarding anticipated shortages, triggered shortage response actions, compliance and enforcement actions, and communication actions consistent with the City's Water Shortage Contingency Plan.

For each Annual Assessment, the City plans to prepare a preliminary assessment which evaluates the adequacy of its water supplies for the current and upcoming years by April of each year. The preliminary assessment will include a review of water supplies for at least a single dry year.

8.3.1 – Decision-Making Process

The City produces groundwater from the Main Basin as its primary source of water supply and that basin is managed on a fiscal year basis. Consequently, during the third quarter of each fiscal year the City will review its water demands from the initial six months along with the current groundwater basin conditions and local hydrology. This information will be used to help develop the Annual Assessment. A draft of the Annual Assessment will be circulated internally within the City for peer review and comment. Based on comments received, a redraft will be prepared and provided to City managers during the Spring of each year. The draft will subsequently be provided to the Public Works and Utilities Director for final review. Subsequently, a final draft of the Annual Assessment will be provided to the City Council for review and included in the agenda as part of a regular City Council meeting such that it can be approved and any recommended specific shortage response actions may be enacted. The final Annual Assessment will be provided to DWR no later than July 1 of each year.

The Annual Assessments will be instrumental in providing guidance to the City for decisions regarding potential declarations of a water supply shortage and implementation of water reduction stages, instituting mandatory water restrictions, promoting water use efficiency and conservation programs, and the necessity of pursuing alternative water supplies. This process will help ensure adequate water supplies resources are available to the City.

8.3.2 – Data and Methodologies

The key data inputs and methodologies which will be evaluated by the City during the preparation of the preliminary assessment will include the following:

1) **Evaluation Criteria**

   The locally applicable evaluation criteria used to prepare the Annual Assessment will be identified. The evaluation criteria will include, but is not limited to, an analysis of current local hydrology (including rainfall and groundwater levels), current water demands, a review of water system improvement plans which may impact infrastructure availability, and water quality regulations which may impact groundwater availability.

2) **Water Supply**

   A description of each available water supply source will be provided. The descriptions will include a quantification of each available water supply source and will be based on review of current production capacities, historical production, Urban Water Management Plans, and prior water supply studies (including Water Supply Assessments and/or Master Plans).

3) **Unconstrained Water Demand**

   The potential unconstrained water demands during the current year and the upcoming (potential single dry) year will be reviewed. The review will include factors such as weather, existing and projected land uses and populations, actual customer consumption and water use factors, Urban Water Supplier Monthly Reports, existing water shortage levels (see Section 8.4), and Ordinance No. 2861.

4) Planned Water Use for Current Year Considering Dry Subsequent Year

The water supplies available to meet the demands during the current year and the upcoming (potential single dry) year will be considered and identified by each type of supply. The evaluation will include factors such as estimated water demands, weather, groundwater basin operating safe yields, water quality results, existing available pumping capacities, imported water allocations, contractual obligations, regulatory issues, use of emergency interconnections, and the costs associated with producing each water supply source.

5) Infrastructure Considerations

The City has surplus groundwater production capacity to meet demand through 2045. Available production capacities and distribution system water losses will be reviewed annually.

6) Other Factors

Additional local considerations, if any, which can affect the availability of water supplies will be described.

8.4 – Six Standard Water Shortage Levels

Water Code Section 10632(a)(3)

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

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

Table 8.1 summarizes the correlation between the City's Drought Response Stages and the required Water Shortage Contingency Plan levels, pursuant to City of El Monte Code of Ordinances, §14.02.010.B.

Table 8.1 – Correlation of Drought Response Stages to WSCP Levels

Drought Response Stage	Shortage Level	2020 WSCP Level	Shortage Level
Stage II	17% Watermaster OSY	1	≤ 10%
		2	10 – 20%
Stage III	24% OSY	3	20 – 30%
Stage IV	31% OSY	4	30 – 40%
Stage V	50% OSY	5	40 – 50%
		6	> 50%

The Drought Response Stages are described in detail in Section 8.5.2.

The Drought Response Stages are anticipated to reduce demand at a rate consistent with the Main Basin OSY shortage levels that guide administration of the basin adjudication.

8.5 – Shortage Response Actions

Water Code Section 10632 (a)(4)

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

(A) Locally appropriate supply augmentation actions.

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

(C) Locally appropriate operational changes.

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

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

8.5.1 – Supply Augmentation

The City maintains three emergency connections with neighboring water purveyors. These connections may be used to augment the City's water supply per the City's Emergency Response Plan discussed in Section 8.5.5.

8.5.2 – Demand Reduction

Demand reduction actions are codified in City of El Monte Code of Ordnances, Chapter 14.02 – Drought Response Conservation Plan, as follows:

Stage I

During Stage 1 voluntary drought preparedness conditions, all water customers of the El Monte Water Department as well as all other persons using water provided by the same shall be encouraged by the city to adhere to the following voluntary water conservation measures as applicable:

1. Automated sprinklers, automated drip irrigation systems and other automated irrigation systems and devices shall be adjusted and maintained to avoid overspray, runoff and/or waste. For purposes of this chapter, the phrase "other automated irrigation systems and devices" includes, but is not limited to, a garden hose or drip irrigation hose that is not being held in a persons hand during the irrigation process but which is nevertheless connected to an open water spigot and is being used to disburse potable water; and
2. Avoid watering in the hot part of the day and/or during morning and evening peak hours, and avoid watering on windy days; and
3. Install new landscaping, low-water using trees, plants and shrubs and install efficient irrigation systems; and
4. Install pool and spa covers to minimize water loss due to evaporation and keep pools and spas with covers covered when not in use; and
5. Retrofit indoor plumbing fixtures with low flow devices; and
6. Refrain from washing sidewalks, walkways, driveways, public and private parking areas and all other impervious hard surfaced areas by direct hosing when runoff water directly flows to a gutter or storm drain, except as may be necessary to properly dispose of flammable or other dangerous liquids or substances, wash away spills that present a trip and fall hazard, or to prevent or eliminate materials dangerous to the public health and safety (nothing in this subsection shall be interpreted to relieve property owners or their tenants of the obligation to keep sidewalks and parkways abutting the subject property in a clean condition, free of solid waste or other refuse or debris); and
7. Check faucets, toilets, and pipes, both indoor and outdoor for leaks and repair immediately.

Stage II

During Stage 2 drought watch conditions, all water customers of the El Monte Water Department as well as all other persons using water provided by the city shall comply with the following mandatory conservation measures:

1. Refrain from washing of sidewalks, walkways, driveways, public and private parking areas and all other impervious hard surfaced areas by direct hosing when runoff water directly flows to a gutter or storm drain, except as may be necessary to properly dispose of flammable or other dangerous liquids or substances, wash away spills that present a trip and fall hazard, or to prevent or eliminate materials dangerous to the public health and safety (nothing in this subsection shall be interpreted to relieve property owners or their tenants of the obligation to keep sidewalks and parkways abutting the subject property in a clean condition, free of solid waste or other refuse or debris); and

2. Stop water waste resulting from inefficient landscape irrigation practices, such as allowing excessive or unreasonable runoff, low head drainage or unreasonable over-spraying, etc. Similarly, stop water flows onto non-targeted areas, such as adjacent property, non-irrigated areas, hardscapes, roadways, or structures. Every customer is deemed to have his or her water system under control at all times, to know the manner and extent of this water use and any runoff, and to employ available alternatives to apply irrigation water in a reasonably efficient manner; and

3. Repair breaks and leaks within a customer's plumbing or private water distribution system to prevent the escape of water within seventy-two (72) hours after the customer discovers such a break or leak or receives notice from the city of a break or leak unless other arrangements are made with the Public Works Maintenance Superintendant;

4. In no event may landscaped areas be irrigated through the use of automated sprinklers, automated drip irrigation systems or other automated irrigation systems and devices, between the hours of 6:00 a.m. and 8:00 p.m. All persons are encouraged to avoid the use of such automated irrigation systems and devices on windy days. Except as otherwise prohibited under Section 14.02.015 of this chapter, manual irrigation by hand-held garden hose or by hand held bucket or other similar container containing potable water shall be permitted any time. In no event may any water used for irrigation purposes described in this subsection be permitted or undertaken in such a fashion as to cause water to run off into storm drains or onto streets, sidewalks, paved walkways, driveways, public or private parking areas or other impervious hard surface areas.

5. The washing of automobiles, trucks, trailers, boats, airplanes, and other types of equipment (mobile or otherwise) shall be prohibited unless done with a hand-held bucket or hand-held hose equipped with a positive shutoff nozzle for quick rinses. The nozzle shall be removed when the hose is not in use to ensure the water supply is shutoff. This subsection shall not apply to the washing of the above-listed vehicles or mobile equipment when conducted upon the premises of a commercial carwash; and

6. Eating and drinking establishments of all kind including, but not limited to, any restaurant, hotel, cafe, cafeteria, bar or club, whether public or private, shall not provide drinking water to any person unless it is expressly requested; and

7. Guests in hotels, motels, and other commercial lodging establishments shall be offered the option of not laundering towels and linens daily.

Exceptions. None of these restrictions shall apply to the following:

1. The routine and necessary use of water, other than for landscape irrigation, by a governmental entity in pursuit of its governmental functions for the benefit of the public, such as construction projects and for the cleaning of streets to prevent debris and harmful substances from entering water systems via storm drains; and

2. The reasonably necessary use of water for the routine maintenance and/or repair of (i) water distribution facilities; (ii) residential and commercial plumbing; or (iii) permanently installed landscaped irrigation systems.

Stage III

During Stage 3 drought alert conditions, all water customers of the El Monte Water Department as well as all other persons using water provided by the city shall comply with the mandatory conservation measures set forth under this section in addition to those measures required under Stage 2 conditions, except to the extent such Stage 2 measures conflict with the measures set forth under this section. The additional Stage 3 conservation measures shall include the following:

1. Irrigation

    a. Outdoor irrigation of landscaped areas by automated sprinklers, automated drip irrigation systems or other automated irrigation systems or devices shall be permitted as follows: (i) on even days of each month for those properties having a street address with an even last digit; and (ii) on odd days for each month for those properties having a street address with an odd last digit. In the event a street address ends in a digit which is a fraction, the street address will be considered an even address if the last whole digit in the address is an even number and the street address will be considered an odd address if the last whole digit in the address is an odd number. If two (2) or more properties with both even and odd numbered street addresses share one or more landscaped areas in common, such common landscaped areas may be irrigated on either an even or odd day of the week but in no event may such landscaped areas be irrigated for two (2) consecutive days in a row.

    b. Except as otherwise prohibited under Section 14.02.015 of this chapter, manual irrigation by hand-held garden hose or by hand held bucket or other similar container containing potable water shall be permitted on any day, subject to the hourly restrictions of paragraph c. of this subsection, below. In no event may any water used for irrigation purposes described in this subsection be permitted or undertaken in such a fashion as to cause water to run off into storm drains or onto streets, sidewalks, paved walkways, driveways, public or private parking areas or other impervious hard surface areas.

    c. Paragraphs a. and b. of this subsection notwithstanding, in no event may landscaped areas be irrigated, whether manually or through the use of automated irrigation systems or devices, between the hours of 6:00 a.m. and 8:00 p.m. In no event may any water used for irrigation purposes described in this subsection be permitted or undertaken in such a fashion as to cause water to run off into storm drains or onto sidewalks, paved walkways, driveways, public or private parking areas or other impervious hard surface areas.

2. Washing of Vehicles, Trailers, Boats, Airplanes and Mobile Equipment.

    a. The washing of automobiles, trucks, trailers, boats, airplanes and other types of equipment (mobile or otherwise) shall be prohibited between the hours of twelve midnight to twelve noon and sundown to twelve midnight, except on the designated outdoor water use times set forth under subsection (A)(1) of this section. Such washing, when allowed, shall be done with a hand-held bucket or hand-held hose equipped with a positive shutoff nozzle for quick rinses. The nozzle shall be removed when the hose is not in use to ensure the water supply is shutoff.

b. Washing trucks, trailers and other types of mobile equipment (such as solid waste collection vehicles, mobile solid waste containers, vehicles used to transport food and other perishables), when such washing is necessary in order to protect the health, safety and welfare of the public, shall be restricted to the hours of sundown to noon. Such washing, when allowed, shall be done with a hand-held bucket or hand-held hose equipped with a positive shutoff nozzle for quick rinses. The nozzle shall be removed when the hose is not in use; and

3. The refilling or adding of water to swimming pools is prohibited except on designated outdoor water use days, which shall be the same days as outdoor watering is permitted under subsection (A)(1) of this section; and

4. Stop operating ornamental fountains or similar decorative water features unless recycled water is used; and

5. The irrigation of golf course fairways is prohibited (this section shall not apply to the irrigation of any golf course solely with reclaimed wastewater); and

6. The use of water from fire hydrants shall be limited to firefighting and emergency-related activities and/or other activities necessary to maintain the health, safety, and welfare of El Monte residents and commercial establishments. This restriction shall not apply to businesses which pursuant to state or federal law or any city-issued permit require the use of water for land development and building construction processes.

Exceptions. None of the Stage 3 conservation measures shall apply to the following uses of water:

1. The routine and necessary use of water, other than for landscape irrigation, by a governmental entity in pursuit of its governmental functions for the benefit of the public, such as construction projects and for the cleaning of streets to prevent debris and harmful substances from entering water systems via storm drains; and

2. The routine and necessary use of water, other than for landscape irrigation, for land development (e.g., roadway base preparation, flushing of utility lines, dust control, concrete and asphalt work) or for building construction processes; and

3. The necessary use of water for the routine maintenance and/or repair, of water distribution facilities, residential and commercial plumbing and permanently installed landscape irrigation systems; and

4. The use of water necessary to irrigate large, landscaped areas in commercial and institutional establishments as authorized by the terms and conditions of an approved compliance agreement issued by the review board, as defined in Section 14.02.080; and

5. The use of water pursuant to the approved terms and conditions of a variance granted by the review board as defined in Section 14.02.080.

Stage IV

During Stage 4 drought critical conditions, all water customers of the El Monte Water Department as well as all other persons using water provided by the city shall comply with the mandatory conservation measures set forth under this section in addition to those measures required under Stage 3 conditions, except to the extent such Stage 3 measures conflict with the measures set forth under this section. The additional Stage 4 conservation measures shall include the following:

1. The washing of sidewalks, walkways, driveways, public and private parking areas and other impervious hard surfaced areas by direct hosing when runoff water directly flows to a gutter or storm drain, except as may be necessary to properly dispose of flammable or other dangerous liquids or substances, wash away spills that present a trip and fall hazard, or to prevent or eliminate materials dangerous to the public health and safety is prohibited (nothing in this subsection shall be interpreted to relieve property owners or their tenants of the obligation to keep sidewalks and parkways abutting the subject property in a clean condition, free of solid waste or other refuse or debris); and

2. Every water customer shall be responsible for the operation of his or her irrigation systems and devices and such systems and devices shall at all times be deemed to be under the supervision and control of the water customer, regardless of whether the customer is physically on the property being irrigated at the time such irrigation is underway. Every water customer shall be deemed to have knowledge and awareness of the manner and extent of his or her irrigation systems water consumption and usage and the occurrence of runoff occurrences prohibited under this chapter. Every water customer shall employ available alternatives to apply irrigation water in a reasonable efficient and non-wasteful manner;

3. Allowing, permitting or causing the escape of water through breaks or leaks within the customer's plumbing or private water distribution system for any substantial period of time within which such break or leak should reasonably have been discovered and corrected. It shall be presumed that a period of seventy-two (72) hours after the customer discovers such a break or leak or receives notice from the city of a break or leak, is a reasonable time within which to correct such break or leak, or, at a minimum, to stop the flow of water from such break or leak; and

4. Irrigation

    a. Except as otherwise prohibited under Section 14.02.015, above, outdoor irrigation of landscaped areas by automated sprinklers, automated drip irrigation systems or other automated irrigation systems or devices shall be permitted as follows: (i) on Monday and Thursday of each week for those properties having a street address with an even last digit; and (ii) on Tuesday and Friday of each week for those properties having a street address with an odd last digit. In the event a street address ends in a digit which is a fraction, the street address will be considered an even address if the last whole digit in the address is an even number and the street address will be considered an odd address if the last whole digit in the address is an odd number. Except as otherwise prohibited under Section 14.02.015, above, if two (2) or more properties with both even and odd numbered addresses share one or more landscaped areas in common, such common landscaped areas may be irrigated on Monday, Tuesday, Thursday or Friday of each week only but in no event may such common landscaped areas be irrigated for two (2) consecutive days in a row. No automated irrigation system shall be set for a duration greater than fifteen (15) minutes or used in such a manner as to cause any specific landscaped area to be irrigated for a period longer than fifteen (15) minutes on a particular day.

b. Manual irrigation, including but not limited to, irrigation by hand-held garden hose or hand-held bucket or similar container containing potable water shall also be subject to the same day restrictions as applied under paragraph a. of this subsection, above.

c. Paragraphs a. and b. of this subsection notwithstanding, in no event may landscaped areas be irrigated, whether manually or through the use of automated irrigation systems and devices, between the hours of 9:00 a.m. and 5:00 p.m. In no event may any water used for irrigation purposes described in this subsection be permitted or undertaken in such a fashion as to cause water to run off into storm drains or onto sidewalks, paved walkways, driveways, public or private parking areas or other impervious hard surface areas.

5. Pools and spas with covers shall be covered when not in use to minimize the loss of water due to evaporation.

Exceptions. None of the high shortage restrictions shall apply to the following uses of water, provided there is prior written approval by the review board as defined in Section 14.02.080:

- The routine and necessary use of water, other than for landscape irrigation, by a governmental entity in pursuit of its governmental functions for the benefit of the public, such as construction projects and for the cleaning of streets to prevent debris and harmful substances from entering water systems via storm drains; and
- The routine and necessary use of water, other than for landscape irrigation, for land development (e.g., roadway base preparation, flushing of utility lines, dust control, concrete and asphalt work) and for building construction processes; and
- The necessary use of water for the routine maintenance and/or repair of water distribution facilities, residential and commercial plumbing and permanently installed landscape irrigation systems; and
- The use of water necessary to irrigate large landscaped areas in commercial and institutional establishments as authorized by the terms and conditions of an approved compliance agreement issued by the review board, as defined in Section 14.02.080.

Stage V

During Stage 5 Drought Emergency Conditions, all water customers of the El Monte Water Department as well as all other persons using water provided by the city shall comply with the mandatory conservation measures set forth under this section in addition to those measures required under Stage 4 conditions, except to the extent such Stage 4 measures conflict with the measures set forth under this section. The additional Stage 5 conservation measures shall include the following:

1. Irrigation

    a. Except as otherwise prohibited under Section 14.02.015, above, outdoor irrigation of landscaped areas by automated sprinklers, automated drip irrigation systems or other automated irrigation systems or devices shall be permitted as follows: (i) on Monday of each week for those properties having a street address with an even last digit; and (ii) on Thursday of each week for those properties having a street address with an odd last digit. In the event a street address ends in a digit which is a fraction, the street address will be considered an even address if the last whole digit in the address is an even number and the street address will be considered an odd address if the last whole digit in the address is an odd number. If two (2) or more properties with both even and odd street addresses share one or more landscaped areas in common, such common landscaped areas may be irrigated on Monday or Thursday of each week only but in no event may such common landscaped areas be irrigated more than once in a week. No automated irrigation system shall be set for a duration greater than ten (10) minutes or used in such a manner as to cause any specific landscaped area to be irrigated for a period longer than ten (10) minutes on a particular day.

    b. Manual irrigation, including but not limited to, irrigation by hand-held garden hose or hand-held bucket or similar container containing potable water shall also be subject to the same day restrictions as applied under paragraph a. of this subsection, above.

    c. Paragraphs a. and b. of this subsection notwithstanding, in no event may landscaped areas be irrigated, whether manually or through the use of automated irrigation systems and devices, between the hours of 9:00 a.m. and 5:00 p.m. In no event may any water used for irrigation purposes described in this subsection be permitted or undertaken in such a fashion as to cause water to run off into storm drains or onto sidewalks, paved walkways, driveways, public or private parking areas or other impervious hard surface areas.

2. Washing of Vehicles, Trailers, Boats, Airplanes and Mobile Equipment .

    a. The washing of automobiles, trucks, trailers, boats, airplanes, and other types of equipment (mobile or otherwise) is prohibited except as provided elsewhere in this section.

    b. No individual, firm or business that regularly washes vehicles for remuneration or provides facilities for customers to do so through coin-operated machinery shall be permitted to operate such a business unless their place of business is equipped and operating to approved city standards with equipment to recycle water for use within their facility. Washing of vehicles in such facilities shall occur only between the hours of six a.m. and twelve noon.

8.5.3 – Operational Changes

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

8.5.4 – Additional Mandatory Restrictions

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

8.5.5 – Emergency Response Plan

The City of El Monte Water Department has an Emergency Response Plan (ERP) that includes an emergency responses communication network.

The City's ERP was developed and implemented in 1997 an updated in 2005, as shown in Appendix N. The key elements of the ERP have been identified as the following:

- Design and implement an effective emergency response communication system.
- Develop an interagency mutual aid program.
- Prepare an emergency response plan, which will include section on water supply, water quality, emergency response plan, which will include section on water supply, water quality, emergency operations center (EOC), and an information resource list, which will include telephone numbers and supplies.

Included in the ERP is information that defines the type of emergencies that initiate the Plan into action, define the procedures and protocol for communication, automatic notification procedures, EOC staffing, EOC supply lists, damage assessment procedures and boil water notification procedures.

The City may purchase water through three emergency interconnections with local water purveyors, if needed. The City's three emergency interconnections have a total capacity of 5,200 gpm.

- The City has an emergency interconnection with the San Gabriel Valley Water Company, which is a six-inch connection that has a capacity of 1,200 gpm.
- The City has an emergency interconnection with the California – American Water Company, which is an eight-inch connection that has a capacity of 2,000 gpm.
- The City has a two-way eight-inch connection with the Golden State Water Company, which has a capacity of 2,000 gpm.

8.5.6 – Seismic Risk Assessment and Mitigation Plan

Water Code Section 10632.5.(a)

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

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

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

A copy of the City of El Monte 2017 Hazard Mitigation Plan is provided in Appendix K.

8.5.7 – Shortage Response Action Effectiveness

A City Council resolution is required to implement any given stage of action.

The City activated Stage II in 2009 and then activated Stage IV in July of 2015 through Resolution in response groundwater basin management objectives.

8.6 – Communication Protocols

Water Code Section 10632 (a)(5)

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

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

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

(C) Any other relevant communications

The City communicates with customers via mail. An example of communication via mail related to implementation Water Conservation Stage IV in August 2015 is provided in Appendix O.

The City communicates regularly with the Main San Gabriel Basin Watermaster regarding administration of the adjudication.

The City is a regular attendee at the Upper District water conservation forum.

8.7 – Compliance and Enforcement

Water Code Section 10632 (a)(6)

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

Ordinance No. 2861 includes penalties of between $100 to $500 for the El Monte Water Department customers who knowingly use or permit the use of water contrary to the ordinance's provisions.

8.8 – Legal Authorities

Water Code Section 10632 (a)(7)

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

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

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

Water Code Section Division 1, Section 350

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

Pursuant to City of El Monte Code of Ordinances, §14.02.010.B:

> *Authorization. This chapter establishes water conservation measures to be applied citywide pursuant to the authority granted to the city under 23 CFR § 864 as well as separate water measures to be applied specifically to El Monte Water Department customers during times of declared water shortages, or declared water emergencies. As to the conservations measures to be applied to El Monte Water Department customers, this chapter establishes an escalating set of drought response actions to be implemented in times of shortage, with increasing restrictions on water use in response to worsening drought conditions and decreasing available supplies.*

8.9 – Financial Consequences of WSCP

Water Code Section 10632(a)(8)

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

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

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

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

The City of El Monte Water Department annual income comes from the sales of water to its customers. Customer billings make up over 94 percent of the Water Department's total revenue. Miscellaneous sources of income include interest, penalties, customer application charges and fees.

Reduced water sales due to water use reduction will have an immediate impact on revenues. However, a mechanism that helps offset revenue shortfalls is the "pass through" provision in the City's water rate structure. In the event the City exceeds its groundwater allocation from Watermaster and purchases replacement water, the cost of needed replacement water purchased from Watermaster can be passed on to rate payers.

The City currently has no drought surcharge in its rate structure to help offset decreased revenues during times of lower water consumption. The City will evaluate implementing drought surcharge in its next rate structure review.

8.10 – Monitoring and Reporting

Water Code Section 10632(a)(9)

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

All of the City's water production is metered at the well heads. Since June of 2015, the City has been required to report monthly water savings as compared to the City's 2013 water production to the Water Board. The City reports its monthly water production and savings to the Drinking Water Information Clearinghouse (DRINC) portal using the Urban Water Supplier Reporting Tool.

Essentially, all of the City's water consumption is metered and is compared monthly to the production from the wells.

8.11 – WSCP Refinement Procedures

Water Code Section 10632 (a)(10)

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

WSCP refinement is conducted every five years when the UWMP is updated.

8.12 – *Special* Water Feature Distinction

Water Code Section 10632 (b)

For purposes of developing the water shortage contingency plan pursuant to subdivision (a), an urban water supplier shall analyze and define water features that are artificially supplied with water, including ponds, lakes, waterfalls, and fountains, separately from swimming pools and spas, as defined in subdivision (a) of Section 115921 of the Health and Safety Code.

Ordinance No. 2861 includes provisions for special water features found in the City.

8.13 – Plan Adoption, Submittal, and Availability

Water Code Section 10632 (a)(c)

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

A copy of the WSCP will be made available to Los Angeles County within 30 days of adoption.

Chapter 9 – Demand Management Measures

9.1 – General Description

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

9.2 – Existing Demand Management Measures for Retail Suppliers

Water Code Section 10631

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

(1)(A) For an urban retail water supplier, as defined in Section 10608.12, a narrative description that addresses the nature and extent of each water demand management measure implemented over the past five years. The narrative shall describe the water demand management measure that the supplier plans to implement to achieve its water use targets pursuant to Section 10608.20.

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

(i) Water waste prevention ordinances.

(ii) Metering.

(iii) Conservation pricing.

(iv) Public education and outreach.

(v) Programs to assess and manage distribution system real loss.

(vi) Water conservation program coordination and staffing support.

(vii) Other demand management measures that have a significant impact on water use as measured in gallons per capita per day, including innovative measures, if implemented.

9.2.1 – Water Waste Prevention Ordinances

The following water usage prohibition provisions of Ordinance 2861, El Monte's Drought Response Conservation Plan, are in effect at all times throughout El Monte:

1. The application of potable water to outdoor landscapes in a manner that causes runoff such that water flows onto adjacent property, non-irrigated areas, private and public walkways, roadways, parking lots, or structures;
2. The use of a hose that dispenses potable water to wash a motor vehicle, except where the hose is fitted with a shut-off nozzle or device attached to it that causes it to cease dispensing water immediately when not in use;
3. The application of potable water to driveways and sidewalks;
4. The use of potable water in a fountain or other decorative water feature, except where the water is part of a recirculating system;

5. The application of potable water to outdoor landscapes during and up to forty-eight (48) hours after measurable rainfall; and
6. The serving of drinking water other than upon request in eating or drinking establishments, including but not limited to restaurants, hotels, cafes, cafeterias, bars, or other public places where food or drink are served and/or purchased.

9.2.2 – Metering

Water Code Section 526 (a)

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

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

Water Code section 527

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

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

The City is fully metered.

9.2.3 – Conservation Pricing

Included in the City's water rate schedule is a tiered commodity rate for water based upon volumetric use. Water use above 125 units (100 gallon units) per bi-monthly billing period is charged at a higher rate. Users thereby have a financial incentive to conserve water. The City's water rate schedule is in Appendix P.

9.2.4 – Public Education and Outreach

The City works in coordination with Upper District to disseminate information on water conservation. Upper District is active in creating public awareness about recent water shortages and the necessity of water conservation and makes staff available as speakers, upon request, for presentations at schools, clubs and civic organizations within its service area.

For implementation of the various stages of the City's Drought Response Conservation Plan (Ordinance 2861), the outreach has included individual mailers, signage and banners throughout the City, announcements in the City's quarterly newsletter, and public meetings.

City's staff reviews water usage bills to determine if "excessive water use" occurred and based on their review, the City can help each customer individually determine the reason for the excessive use. If a customer requests, the City will inform the customer of water-wise practices that help conserve water through habit changing and the retrofit of water fixtures. This program effectively informs the City's customer about its high consumption use in which the customer can evaluate its water use.

The City's largest landscaping services are Parks, Recreation and its Transportation division, consisting of eight parks, and some of the median planters and green belts at City-owned buildings. The city has implemented water audits on its irrigation as part of a large landscape water conservation program.

As a member agency of Upper District, the City's customers can participate in classes in landscape water management. Upper District's landscape management classes address:

1. Irrigation Principles,
2. Irrigation System Troubleshooting,
3. Controller Programming, and
4. Irrigation Scheduling.

9.2.5 – Programs to Assess and Manage Distribution System Real Loss

City crews generally repair known water leaks shortly after they are discovered. The City closely monitors its water production and consumption to calculate water loss. Water loss is calculated by subtracting the amount of water sold to its customers for consumption from the amount of water produced from the City's wells. The City's water loss has historically averaged about 5 percent of the City's water production. If the City notices an increase in unaccountable water loss, the City will investigate the cause and make modifications as necessary.

The City has a computerized billing system that, along with its AMR meters, monitors customer's water use and flags unusual variations in consumption. When a customer's bill is flagged for high consumption, a customer can make a request to have a service representative inspect their system. If a problem is found within its customer's water system, the City will recommend the customer make the necessary repairs. If a problem is found within the City's water system, the City will make the necessary repairs.

9.2.6 – Water Conservation Program Coordination and Staffing Support

The City of El Monte does not employ a specific position titled Water Conservation Coordinator; however, the City's Utility Manager currently handles most the duties of a Water Conservation Coordinator with assistance from other Public Works Department staff. In addition, as a member agency of Upper District, the City receives assistance on implementing conservation programs through Upper District's Water Conservation Coordinator.

The City participates in public information programs sponsored by local and regional wholesalers. Region-wide water conservation is promoted through various public information programs organized by Upper District, including but not limited to conservation brochures and posters, activity booklets, public outreach displays, oral presentations, and workshops to inform the public of conservation efforts. The City, as a member agency of Upper District, also raises awareness about the water conservation through paid advertising, press releases, news ads, media events, and the Speaker's Bureau. Upper District hosts an annual water awareness festival (Water Fest) to raise public awareness about water conservation, water quality and other water-related issues.

Additionally, through programs sponsored by Upper District and/or Metropolitan, City residences and businesses can receive rebates for high efficiency toilets, high efficiency clothes washers, weather-based irrigation controllers, soil moisture sensor systems, ultra-low flush urinals, flush valve kits, cooling tower conductivity controllers, coin or card operated high-efficiency clothes washers, automatic faucet shut-off valves and other devices.

9.3 – Implementation Over the Past Five Years

Water Code Section 10631

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

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

The City is a regular attendee at the Upper District water conservation forum. Upper District coordinates water conservation efforts with its member agencies, including the City. Coordination includes management of the SoCal Water Smart program, management of the Save Our Water program, and dissemination of literature related to water conservation and water waste prohibition.

9.4 – Implementation to Achieve Water Use Targets

Water Code Section 10631

(f)(1)(A) For an urban retail water supplier, as defined in Section 10608.12, a narrative description that addresses the nature and extent of each water demand management measure implemented over the past five years. The narrative shall describe the water demand management measure that the supplier plans to implement to achieve its water use targets pursuant to Section 10608.20.

The City has achieved its water use efficiency target thanks in part to the continuing implementation a comprehensive water conservation program. The City intends to continue to work with its rate payers and regional partners to maintain a compliant level of water use efficiency.

Chapter 10 – Plan Adoption, Submittal, and Implementation

10.1 – General Description

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

10.2 – Inclusion of All 2020 Data

All required 2020 data is included in this 2020 UWMP.

10.3 – Notice of Public Hearing

10.3.1 – Notice to Cities and Counties

> *Water Code Section 10621*
>
> *(b) Every urban water supplier required to prepare a plan shall…at least 60 days prior to the public hearing on the plan…notify any city or county within which the supplier provides waters supplies that the urban water supplier will be reviewing the plan and considering amendments or changes to the plan.*
>
> *Water Code Section 10642*
>
> *…The urban water supplier shall provide notice of the time and place of hearing to any city or county within which the supplier provides water supplies. A privately owned water supplier shall provide an equivalent notice within its service area…*

A notice of the intent to update the 2020 UWMP was issue to Los Angeles County. See Appendix C.

10.3.2 – Notice to the Public

Water Code Section 10642

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

Government Code section 6066

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

A notice to the public of the opportunity to review the public draft 2020 UWMP and to attend the public hearing was disseminated in the City's newspaper on July 25 and August 1, 2022. See Appendix D.

10.4 – Public Hearing and Adoption

Water Code Section 10642

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

Government Code section 6066

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

10.4.1 – Public Hearing

A public hearing for the 2020 UWMP was held on August 16, 2022.

10.4.2 – Adoption

Water Code Section 10642

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

This 2020 UWMP was adopted following the public hearing. The resolution of adoption is provided in Appendix E.

10.5 – Plan Submittal

Water Code Section 10621

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

Water Code Section 10644

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

Water Code Section 10635

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

10.5.1 – Submitting a UWMP and Water Shortage Contingency Plan to DWR

As directed in the Guidebook, an electronic copy of this 2020 UWMP and relevant supporting documentation will be submitted to the DWR within 30 days of adoption.

10.5.2 – Electronic Data Submittal

Water Code Section 10644 (a)(2)

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

As directed in the Guidebook, Water Use Efficiency data tables and supporting documentation will be uploaded to the DWR portal within 30 days of adoption.

10.5.3 – Submitting a UWMP to the California State Library

An electronic copy of this 2020 UWMP will be submitted to the state library within 30 days of adoption.

10.5.4 – Submitting a UWMP to Cities and Counties

An electronic copy of this 2020 UWMP will be submitting to Los Angeles County within 30 days of adoption.

10.6 – Public Availability

Water Code Section 10645

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

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

This 2020 UWMP and WSCP will be made available to the public via the City's website within 30 days of submittal to the state.

10.7 – Amending an Adopted UWMP or Water Shortage Contingency Plan

Water Code Section 10621

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

Water Code Section 10644

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

10.7.1 – Amending a UWMP

In the event the City opts to amend this UWMP, all requirements concerning adoption and submittal will be followed.

10.7.2 – Amending a Water Shortage Contingency Plan

Water Code Section 10644 (b)

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

In the event the City opts to amend this WSCP, all requirements concerning adoption and submittal will be followed.