CITY OF INGLEWOOD
2020 URBAN WATER MANAGEMENT PLAN
VOLUME 1 – REPORT
July 2021

PREPARED FOR
CITY OF INGLEWOOD
ONE MANCHESTER BOULEVARD
INGLEWOOD, CA 90301

PREPARED BY
Michael Baker INTERNATIONAL

UNDER THE SUPERVISION OF

ANTHONY M. HERDA, PE, MBA
P.E.

78205
RESOLUTION NO.: 21-108
A RESOLUTION OF THE CITY COUNCIL OF THE CITY
OF INGLEWOOD, CALIFORNIA MAKING FINDINGS
AND OVERRULING PROTESTS AND OBJECTIONS TO
ITS INTENT TO ADOPT THE CITY OF INGLEWOOD
2020 URBAN WATER MANAGEMENT PLAN.

WHEREAS, on July 20, 2021, a public hearing was held and all persons desiring to be
heard and all oral and written protests and objections, if any, were fully heard and the
Inglewood City Council gave all persons present and opportunity to hear and be heard with
respect to the adoption of the City of Inglewood 2020 Urban Water Management Plan
(hereinafter referred to as the “Plan”).

NOW THEREFORE, THE CITY COUNCIL OF THE CITY OF INGLEWOOD,
CALIFORNIA, DOES HEREBY RESOLVE AND DECLARE THAT:

SECTION 1. The above listed Recital is incorporated herein by this reference
as correct and true.

SECTION 2. Pursuant to California Water code Section 10610 et seq., the
Inglewood City Council on Jul 20, 2021, approves of and orders the adoption of the City of
Inglewood 2020 Urban Water Management Plan marked as Exhibit “A,” and incorporated
herein by this reference as if set forth in full.

SECTION 3. The Plan requires urban water suppliers providing water for
municipal purposes to more than 3,000 customers or supplying more than 3,000 acre feet of
water annually, to prepare and adopt an Urban Water Management Plan every 5 years in years
ending in five and zero.

SECTION 4. The City of Inglewood (hereinafter referred to as the “City”)
supplies water to a population of over 88,968.

SECTION 5. The conservation and efficient use of the City’s water supplies
are of citywide concern.

SECTION 6. A long-term, reliable supply of water is essential to protect the
health of the City's residential customers and the productivity of its businesses and economic climate.

SECTION 7. As part of its long-range planning activities, the city is making every effort to ensure that sufficient levels of reliable water service exists to meet the needs of its various categories of customers during normal, dry and multiple dry water years.

SECTION 8. In the event the City Council meeting of July 20, 2021, is not held, the aforementioned public hearing for interested persons to object to the proposed City of Inglewood 2020 Urban Water Management Plan shall be automatically rescheduled to occur at the next regularly scheduled City Council meeting at the same hour and location.

BE IT FURTHER RESOLVED, that the City Clerk shall certify to the adoption of this resolution and the same shall be in full force and effect immediately upon adoption.

Passed, approved, and adopted this 20th day of July, 2021.

James T. Butts, Jr.,
Mayor

ATTEST:

Aisha L. Thompson,
City Clerk
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1 Under separate cover: City of Inglewood 2020 Urban Water Management Plan Volume 2 – Appendices
Executive Summary

Overview and Plan Preparation

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

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

This UWMP is organized as directed by DWR in the Guidebook including chapter topics and content, delineation of mandatory statutes, and standardized Water Use Efficiency (WUE) tables. Description and analysis are specific to the Water Service Area which encompasses approximately 7.2 square miles or approximately 78% of the City’s area, which is 9.1 square miles.

Purpose

This Urban Water Management Plan serves multiple purposes.

At the state level, data associated with current and projected supply and demand conditions inform policy-makers of pending issues that may be addressed through legislation, regulation and allocation of resources. The state may allocate funding to address water supply issues uncovered during the planning process, and preparing the plan makes the City eligible to receive those funds.

At the regional level, coordination between adjacent and interdependent agencies assure consistency in projection and allocation of resources to support anticipated growth trends.

At the City level, documentation included in the UWMP is essential for the preparation of Water Supply Assessments and Water Supply Verifications to assist the City as the lead agency in evaluating and approving specific plans, environmental impact reports, construction permits for new development, and adoption of Tentative Tract Maps.

At the system level, the UWMP is a composite of data and information concerning the integration of potable water, recycled water, wastewater, groundwater, and surface water systems. This data and information is considered important for efficient operation and management of local water resources in terms of supply availability, reliability and sustainability.

System Water Use

Water use within the Water Service Area is associated primarily of residential, commercial and industrial land uses as well as the Hollywood Park Specific Plan and various open spaces. Projected water use is anticipated to stabilize over then 20 years as the City is essentially build-out.
**Compliance with Water Conservation Target**

In accordance with the Water Conservation Act of 2009 (aka SB X7-7), the City had previously calculated in the 2015 UWMP its baseline water use and its target for a 20% reduction in per capita water use by 2020 in terms of gallons per capita per day (GPCD). The City baseline per capita water use is 121 GPCD. The City’s 2020 target per capita water use is 112 GPCD. The City achieved a per capita water use of 92 GPCD in 2020. The City is compliant with the requirements of the Water Conservation Act.

**System Supplies**

The City has a diverse water supply portfolio including imported water from West Basin Municipal Water District (WBMWD), groundwater from the West Coast Groundwater Basin, and recycled water for landscape irrigation also from WBMWD.

**Water Supply Reliability**

Water supply reliability was assessed for normal years, single dry years, and five consecutive dry years projected through 2045. This means that projected supply was compared to projected demand under normal and drought conditions to verify adequacy of supply. All of the City’s sources of supply are sustainably managed and are projected to exceed demand through 2045.

In addition, a drought risk assessment was conducted to verify adequacy of supply under an immediate five consecutive year drought. The City has sufficient supply reliability to meet demand under these conditions.

**Water Shortage Contingency Planning**

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

**Demand Management Measures**

Demand management measures (aka water conservation best management practices) refer to water conservation projects and programs implemented by the City to reduce water use or water loss. In coordination with WBMWD, the City maintains a robust water conservation program. Consistent implementation of the water conservation program over the last ten years is largely responsible for the City achieving its water use efficiency goals.

**Review and Adoption**

A public hearing was held June 29, 2016 to solicit comments on the UWMP Draft. Three weeks prior to the public hearing, the UWMP was made available for public review and key stakeholders were notified directly of the opportunity to comment on the UWMP. No comments were received from stakeholders or the public. Immediately following the public hearing, the UWMP was adopted unanimously by the City Council.
Chapter 1 – Introduction and Overview

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

1.1 – Purpose

Water Code Section 10608.12

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

(r) "Urban wholesale water supplier," means a water supplier, either publicly or privately owned, that provides more than 3,000 acre-feet of water annually at wholesale for potable municipal purposes.

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.
1.2 – UWMP Organization

To facilitate review by DWR, the 2020 UWMP is organized according to the Guidebook, as follows:

- **Executive Summary** – This section provides the newly required lay description.
- **Chapter 1 – UWMP Introduction**. This chapter provides 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 provides a description of the existing system include maps of the service area and its regional context, an explanation of the service area, its climate, and demographics.
- **Chapter 4 – Customer Water Use**. This chapter describes and quantifies the current and projected water uses within the water service area.
- **Chapter 5 – Conservation Target Compliance**. This chapter provides achievement of the City water use efficiency goals as determined in the 2015 UWMP per compliance with the Water Conservation Act of 2009 (aka SB X7-7).
- **Chapter 6 – System Supplies**. This chapter describes and quantifies the current and projected supplies available to the City.
- **Chapter 7 – Water System Reliability**. This chapter reconciles projected supply and demand through 2045 under normal year, single dry year and five consecutive dry year conditions. In addition, this chapter includes the City’s Drought Risk Assessment.
- **Chapter 8 – Water Shortage Contingency Planning**. This chapter provides a structured plan for dealing with water shortages.
- **Chapter 9 – Demand Management Measures**. This chapter details the City’s effort to improve water use efficiency through the implementation of a water conservation program.
- **Chapter 10 – Plan Adoption, Submittal, and Implementation**. This chapter details to actions taken to demonstrate compliance with the Water Code.

**Appendices** – Mandatory and informational materials are provided in this section to facilitate use of the UWMP as a reference document for development planning, grant applications, water conservation opportunities, and similar water supply topics.

1.3 – UWMPs in Relation to Other Efforts

To the extent feasible, the 2020 UWMP is consistent with other planning efforts involving the City and its stakeholders. The subsections that follow describe current planning documents consulted and referenced herein.
1.3.1 – Urban Water Management Planning and the California Water Code

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

- AB 1420: Requires implementation of demand management measures (DMMs)/best management practices (BMPs) to qualify for water management grants or loans.
- AB 1465: Requires water suppliers to describe opportunities related to reclaimed water use and stormwater recapture to offset potable water use.
- SB 6101, and SB 2212, which became effective beginning January 1, 2002, requires counties and cities to consider information relating to the availability of water to supply new large developments by mandating the preparation of further water supply planning and Water Supply Assessments.
- SB 1087: Requires water suppliers to report single family residential (SFR) and multi-family residential (MFR) projected water use for planned lower income units separately.
- SB 3185 requires the UWMP to describe the opportunities for development of desalinated water, including but not limited to, ocean water, brackish water, and groundwater, as long-term supply.
- AB 1056 requires urban water suppliers to submit their UWMPs to the California State Library.
- SB X7-7: Requires development and use of new methodologies for reporting population growth estimates, base per capita use, and water conservation, and requires meeting the developed water conservation targets in order to qualify for water management grants and loans. This water bill also extended the 2010 UWMP adoption deadline for retail agencies to July 1, 2011.
- SB 1478: This bill was signed on September 23, 2010 and extends the 2010 UWMP deadline for wholesale agencies, such as the Metropolitan Water District of Southern California (MWD), to July 1, 2011, as SBx7-7 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 where SB X7-7 left off.

1.3.2 – General Plan

The City’s General Plan and Specific Plans are referenced in terms of identifying the locations, nature, and limitations of anticipated growth.

1.3.3 – Regional Context

The 2020 UWMP was prepared in coordination with WBMWD.

1.3.4 – Other Relevant Documents

The City’s Local Hazard Mitigation Plan was referenced as it relates to seismic vulnerability.

The City’s Climate Action Plan was referenced as it relates to anticipated impacts of climate change on water sustainability.
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 with Section 10800), that is participating in a multiagency water project, or an integrated regional water management plan, developed pursuant to Section 75026 of the Public Resources Code, solely on the basis that one or more of the agencies participating in the project or plan is not implementing all of the requirements of this part or Part 2.8 (commencing with Section 10800).

Water Code Section 10656

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

By virtue of preparing, adopting, and submitting a 2020 UWMP to the state by the July 1, 2021 deadline, the City will continue to be eligible for water grants and loans administered by DWR and other state funding mechanisms as determined by their administering agencies.

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

The City does not anticipate participating in covered actions related to policy concerning the Delta Plan such as a multi-year water transfers, conveyance facilities, or new diversions that involve transferring or using water in the Delta.
Chapter 2 – Plan Preparation

This chapter provides information on the processes used for developing the UWMP, including efforts in coordination and outreach.

2.1 – General Description

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

2.2 – Basis for Preparing a Plan

<table>
<thead>
<tr>
<th>Water Code Section 10617</th>
</tr>
</thead>
<tbody>
<tr>
<td>“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.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Water Code Section 10620</th>
</tr>
</thead>
<tbody>
<tr>
<td>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.</td>
</tr>
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<table>
<thead>
<tr>
<th>Water Code Section 10621</th>
</tr>
</thead>
<tbody>
<tr>
<td>(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.</td>
</tr>
</tbody>
</table>

Per CWC 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. The City of Inglewood is a public water supplier that meets the definition of an urban water supplier with over 15,000 connections and delivering about 9,000 acre-feet (AF) of water to its customers in 2020.
2.2.1 – Public Water Systems

Water Code Section 10644

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

California Health and Safety Code 116275

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

The City’s water service area is designated as Public Water System CA1910051.

Standardized Tables are provided in Appendix A.

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

2.2.2 – Suppliers Serving Multiple Service Areas/Public Water Systems

The City only has one public water system, as noted in the previous section. Therefore, this section does not apply.

2.3 – Regional Planning

The City is not part of a regional plan or regional alliance.

2.4 – Individual or Regional Planning and Compliance

The City has developed an individual UWMP that reports solely on its service area, addresses all associated requirements of the California Water Code (CWC), and notifies and coordinates with appropriate regional agencies and constituents.

2.5 – Annual Reporting Basis and Units of Measure

2.5.1 – 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 City of Inglewood is a water retailer. The City’s 2020 UWMP has been prepared using calendar years.
2.5.2 – Reporting Complete 2020 Data

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

2.5.3 – Units of Measure

Annual water use is reported as acre-feet per year (AFY).
Per capita water use is reported as gallons per capita per day (GPCD).

2.6 – Coordination and Outreach

Water Code Section 10631

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

2.6.1 – Wholesale and Retail Coordination

The City of Inglewood has provided West Basin Municipal Water District (WBMWD), the City’s water wholesaler, with projected water use in accordance with CWC 10631 and has relied upon water supply information provided by WBMWD, as well as from the Metropolitan Water District of Southern California (MWD) in preparing its 2020 UWMP.

2.6.2 – 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...
Table 2.1 lists the entities that the City coordinated with in the development of the City’s 2020 UWMP. The City’s water supply planning considers the programs of local and regional water agencies. This UWMP details the specifics as they relate to the City’s water service area and refers to MWD, WBMWD, the Water Replenishment District of Southern California (WRD) and other agencies throughout.

Table 2.1 – Coordination and Public Involvement

<table>
<thead>
<tr>
<th>Entity</th>
<th>Participated in UWMP Preparation</th>
<th>Used Agency Data as an Information Resource</th>
<th>Sent Draft UWMP and/or Available on City Website</th>
<th>Commented on Draft UWMP</th>
<th>Sent Notice of Public Hearing</th>
<th>Attended Public Hearing</th>
</tr>
</thead>
<tbody>
<tr>
<td>City Water Division</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>City Clerk</td>
<td></td>
<td></td>
<td>X</td>
<td>X</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>WBMWD</td>
<td></td>
<td></td>
<td>X</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>General Public</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>X</td>
</tr>
</tbody>
</table>

The City relies on MWD through WBMWD and WRD for its long-term water supply. Accordingly, the City’s water supply planning is partially based on the policies, rules, and regulations of these three water agencies. Development of the City’s UWMP was coordinated with WBMWD, which serves as the City’s wholesaler of potable water received from MWD, and recycled water it produces at its own treatment plant; WRD, which is responsible for managing, regulating, replenishing, and protecting the quality of the groundwater supplies within the region, and the Sanitation Districts of Los Angeles County (LACSD), which manages wastewater generated within the City.

The 2020 UWMP is intended to serve as a general, flexible, and open-ended document that is updated every five years (or more often if necessary) to reflect changes in the City’s water supply trends, and conservation and water use efficiency policies. The 2020 UWMP will be used by City staff to guide the water use and management efforts until the next UWMP is adopted in 2026.

2.6.3 – Notice to Cities and Counties

*Water Code Section 10621*

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

Pursuant to CWC 10621(b), Los Angeles County was notified of the opportunity to review the plan. See Appendix D for a copy of the notification.
Chapter 3 – System Description

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

3.1 – General Description

The City of Inglewood is located in southwest Los Angeles County approximately ten miles southwest of downtown Los Angeles, as shown on Figure 3.1.

Figure 3.1 – City of Inglewood Location Map
The City is bordered to the south by Hawthorne and to the east, north and west by portions of unincorporated Los Angeles County and the City of Los Angeles. The City encompasses approximately 9.14 square miles and is predominantly residential land use. Elevations in the City vary from approximately 65 to 200 feet above sea level.

The City has a five-member City Council comprised of the Mayor and four Council Members with members elected by registered voters to staggered four-year terms. The City Manager is appointed by the Mayor and City Council. Other City managerial positions are filled by the City Manager. The Public Works Director is responsible for the operation and management of the City’s water system.

The City was incorporated on February 8, 1908, but the first water system was established in 1888 by the Centinela- Inglewood Land Company. The City voted to acquire the water system from the Centinela- Inglewood Land Company in 1920, thereby creating a municipal water utility.

3.1.1 – City Water System Description

3.1.1.1 – Domestic (Potable) Water System

Early on and for many years after the City became a municipal water utility, the City’s only source of water supply was local groundwater produced by City owned and operated wells. A water treatment plant and a water quality laboratory were added to the system in 1975.

The City became a member of the newly formed WBMWD in 1947. As a member of MWD, WBMWD purchases wholesale potable water from MWD that is imported from the Colorado River and the State Water Project (SWP), for sale to local retail water agencies including the City. The imported water is provided, in part, to supplement existing regional groundwater supplies and to provide a barrier, through injection wells, to seawater intrusion into the West Coast Groundwater Basin (WCGB).

In 2020, the City purchased approximately 67% of its potable water supply from WBMWD and produced approximately 33% of its potable water supply from the local groundwater basin.

The City’s water system consists of the following major facilities and transmission/distribution piping:

- **Four Active Groundwater Wells**: Well Nos. 1, 2, 6 and 7
- **Raw Well Water Transmission Main**: Transmission main (12 inches to 18 inches to 27 inches in diameter) that transmits groundwater from the wells to the Sanford M. Anderson Water Treatment Plant
- **Sanford M. Anderson Water Treatment Plant**: Treats groundwater for the removal of iron and manganese with a treatment capacity of 8.64 mgd (6,000 gpm) and a clearwell capacity (to store treated water) of 500,000 gallons
- **Treatment Plant Effluent Pump Station**: One set of five vertical turbine pumps pump treated water into the Zone 3 or Zone 2 distribution systems or to the Morningside Reservoir Facility and a second set of five vertical turbine pumps pump treated water into the Zone 3 or Zone 2 distribution systems or to the North Inglewood Reservoir Facility
- **Treated Water Transmission Mains**: One 24-inch transmission main transmits treated water from the effluent pump station dedicated to the Morningside Reservoir Facility and a second 24-inch transmission main transmits treated water from the effluent pump station dedicated to the North Inglewood Reservoir Facility
- **North Inglewood Reservoir Facility**: 4.6 MG covered, underground, concrete water storage reservoir and associated pump station (with four pumps) to pump water from the reservoir into the Zone 1, Zone 2 and Zone 3 distribution systems

- **Morningside Reservoir Facility**: 16.0 MG above-ground, concrete, water storage reservoir and associated pump station (with 10 pumps) to pump water from the reservoir into the Zone 1, Zone 2 and Zone 3 distribution systems. The Morningside Reservoir Facility is currently out of service due to reservoir structural issues

- **Imported Water Connections**: MWD imported water is delivered to the City via service connections WB-17 and WB-38, each with a rated capacity of 4,400 gpm

- **Emergency Water Connections**: The City has six emergency water connections with Golden State Water Company (GSWC) and two emergency water connections with the Los Angeles Department of Water and Power (LADWP)

- **Transmission and Distribution Piping**: There are 156 miles of piping in the water system ranging in diameter from 2 to 42 inches

3.1.1.2 – Recycled (Non-Potable) Water System

The City purchases recycled water from WBMWD. The WBMWD recycling plant located in El Segundo, the Edward C. Little Water Recycling Facility (ECLWRF), provides tertiary treatment to secondary-treated wastewater received from the City of Los Angeles’ Hyperion Wastewater Treatment Plant to produce recycled water that meets California Title 22 treatment requirements.

The City currently has 35 service connections to the WBMWD recycled water system including Inglewood Park Cemetery (the City’s largest recycled water user), Centinela (Vincent) Park and other City parks, Hollywood Park, Inglewood Unified School District facilities, and Caltrans right-of-way. City purchases of recycled water have averaged 700 AFY since 2008.
3.2 – Service Area Boundary Maps

The City is served by three water purveyors. As shown on Figure 3.2, the City of Inglewood serves water to the largest area of the City; Golden State Water Company (GSWC) serves water to a portion of the City in the south; and Cal-America Water Company (CAWC) serves water to a small area in the northwest part of the City. The City’s water service area (WSA) comprises 4,608 acres, or approximately 78% of the City’s total area of 5,825 acres.

Figure 3.2 – Water Service Area
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 City has a Mediterranean climate with moderate, dry summers and cool winters that receive the majority of rainfall. The climate for the City is consistent with coastal Southern California. The general region lies in the semi-permanent high-pressure zone of the eastern Pacific. As a result, the climate is mild, tempered by cool sea breezes. The usually mild climatological pattern is interrupted infrequently by periods of extremely hot weather, winter storms, or Santa Ana winds.
As shown in Table 3.1, the average maximum temperature of 76.3°F occurs in August, and the average minimum temperature of 47.5 °F occurs in January. The average annual maximum temperature for the City is 70.1°F and the average annual minimum temperature is 55.3 °F. Approximately 93% of the City’s average annual rainfall of 12.02 inches occurs between November and March (5 month period).

Evapotranspiration (ET) is the loss of water to the atmosphere by the combined processes of evaporation (from soil and plant surfaces) and transpiration (from plant tissues). It is an indication of how much water crops, lawn, garden, and trees need for healthy growth and productivity.

Table 3.1 – Historical Average Climate Statistics

<table>
<thead>
<tr>
<th>Month</th>
<th>Average Precipitation¹ (inches)</th>
<th>Average Daily High Temperature¹ (°F)</th>
<th>Average Daily Low Temperature¹ (°F)</th>
<th>Average Evapotranspiration Index² (inches)</th>
</tr>
</thead>
<tbody>
<tr>
<td>January</td>
<td>2.65</td>
<td>65.2</td>
<td>47.5</td>
<td>2.31</td>
</tr>
<tr>
<td>February</td>
<td>2.67</td>
<td>65.3</td>
<td>48.9</td>
<td>2.59</td>
</tr>
<tr>
<td>March</td>
<td>1.85</td>
<td>65.3</td>
<td>50.5</td>
<td>3.80</td>
</tr>
<tr>
<td>April</td>
<td>0.77</td>
<td>67.4</td>
<td>53.0</td>
<td>4.80</td>
</tr>
<tr>
<td>May</td>
<td>0.17</td>
<td>69.1</td>
<td>56.4</td>
<td>5.10</td>
</tr>
<tr>
<td>June</td>
<td>0.05</td>
<td>71.9</td>
<td>59.7</td>
<td>5.23</td>
</tr>
<tr>
<td>July</td>
<td>0.02</td>
<td>75.1</td>
<td>62.9</td>
<td>5.72</td>
</tr>
<tr>
<td>August</td>
<td>0.07</td>
<td>76.3</td>
<td>63.8</td>
<td>5.63</td>
</tr>
<tr>
<td>September</td>
<td>0.16</td>
<td>76.0</td>
<td>62.6</td>
<td>4.40</td>
</tr>
<tr>
<td>October</td>
<td>0.39</td>
<td>73.6</td>
<td>58.5</td>
<td>3.53</td>
</tr>
<tr>
<td>November</td>
<td>1.40</td>
<td>70.2</td>
<td>52.3</td>
<td>2.57</td>
</tr>
<tr>
<td>December</td>
<td>1.82</td>
<td>65.9</td>
<td>47.9</td>
<td>2.19</td>
</tr>
<tr>
<td>Annual</td>
<td>12.02</td>
<td>70.1</td>
<td>55.3</td>
<td>47.87</td>
</tr>
</tbody>
</table>

¹ Data obtained from Western Regional Climate Center (WRCC), monitoring Station 045114 at Los Angeles International Airport: https://wrcc.dri.edu/cgi-bin/cliMAIN.pl?ca5114 (accessed March 26, 2021). Averages are for period of record (1/1/1936 through 6/9/2016).

² Data obtained from California Irrigation Management Information System (CIMIS) Station 99, Santa Monica, CA (accessed March 26, 2021). Average is for period of record (dates not specified).
3.4 – Service Area Population and Demographics

3.4.1 – Service Area Population

Water Code Section 10631(a)

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

The historical, current, and projected population within the City and within the City’s water service area is provided in Table 3.2 and Figure 3.3. The water service area population is estimated at 78% of the City population.

<table>
<thead>
<tr>
<th>Year</th>
<th>City Population</th>
<th>WSA Population</th>
</tr>
</thead>
<tbody>
<tr>
<td>2020</td>
<td>111,006</td>
<td>88,968</td>
</tr>
<tr>
<td>2025</td>
<td>114,353</td>
<td>89,195</td>
</tr>
<tr>
<td>2030</td>
<td>114,555</td>
<td>89,353</td>
</tr>
<tr>
<td>2035</td>
<td>114,694</td>
<td>89,461</td>
</tr>
<tr>
<td>2040</td>
<td>114,789</td>
<td>89,536</td>
</tr>
<tr>
<td>2045</td>
<td>114,855</td>
<td>89,587</td>
</tr>
</tbody>
</table>

Figure 3.3 – Population Model
The population model is a best-fit logistics curve based on historical US Census data for the City:

\[ P_{\text{City}} = \frac{P_{\text{max}}}{1 - e^{-ct}} = \frac{115,000}{1 - e^{-0.075(\text{year} - 1956)}} \]

\[ P_{\text{WSA}} = (0.78)P_{\text{City}} \]

3.4.2 – Other Social, Economic, and Demographic Factors

The City is essentially built out.

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...
Land use per the General Plan is shown in Figure 3.4.

Figure 3.4 – City Land Use
Land use within the water service area is delineated in Table 3.3.

<table>
<thead>
<tr>
<th>Type</th>
<th>Zoning Code</th>
<th>Description</th>
<th>Area (acres)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Residential</td>
<td>R-1</td>
<td>Single-Family Residential</td>
<td>848.5</td>
</tr>
<tr>
<td></td>
<td>R-1-5</td>
<td>Limited Two-Family Residential</td>
<td>4.0</td>
</tr>
<tr>
<td></td>
<td>R-1Z</td>
<td>One-Family Residential</td>
<td>5.5</td>
</tr>
<tr>
<td></td>
<td>R-2</td>
<td>Limited Multi-Family Residential</td>
<td>214.6</td>
</tr>
<tr>
<td></td>
<td>R-2A</td>
<td>Limited Multi-Family Residential</td>
<td>235.9</td>
</tr>
<tr>
<td></td>
<td>R-3</td>
<td>Multiple-Family Residential</td>
<td>651.5</td>
</tr>
<tr>
<td></td>
<td>R-4</td>
<td>Multiple-Family Residential</td>
<td>54.6</td>
</tr>
<tr>
<td></td>
<td>R-M</td>
<td>Residential Medical</td>
<td>77.8</td>
</tr>
<tr>
<td>Commercial</td>
<td>C-1</td>
<td>Limited Commercial</td>
<td>59.4</td>
</tr>
<tr>
<td></td>
<td>C-2</td>
<td>General Commercial</td>
<td>578.9</td>
</tr>
<tr>
<td></td>
<td>C-2A</td>
<td>Airport Commercial</td>
<td>12.1</td>
</tr>
<tr>
<td></td>
<td>C-3</td>
<td>Heavy Commercial</td>
<td>77.3</td>
</tr>
<tr>
<td></td>
<td>C-R</td>
<td>Commercial Recreation</td>
<td>176.0</td>
</tr>
<tr>
<td></td>
<td>C-S</td>
<td>Commercial Service</td>
<td>24.5</td>
</tr>
<tr>
<td></td>
<td>C-C</td>
<td>Civic Center</td>
<td>47.9</td>
</tr>
<tr>
<td>Industrial</td>
<td>M-1</td>
<td>Light Manufacturing</td>
<td>242.4</td>
</tr>
<tr>
<td></td>
<td>M-1L</td>
<td>Limited Manufacturing</td>
<td>20.3</td>
</tr>
<tr>
<td>Other</td>
<td>HPSP</td>
<td>Hollywood Park Specific Plan</td>
<td>237.7</td>
</tr>
<tr>
<td></td>
<td>O-S</td>
<td>Open Space</td>
<td>94.1</td>
</tr>
<tr>
<td></td>
<td>S-2</td>
<td>Special Cemetery</td>
<td>294.1</td>
</tr>
<tr>
<td></td>
<td>P-1</td>
<td>Parking</td>
<td>64.7</td>
</tr>
<tr>
<td></td>
<td>T-C</td>
<td>Transportation Corridor</td>
<td>18.8</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Other Transportation</td>
<td>567.4</td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td></td>
<td>4,608.0</td>
</tr>
</tbody>
</table>

The water service area is built out, but there are infill and re-development projects on-going and planned for the future. The major redevelopment project in the in the WSA is the Hollywood Park redevelopment project.

Approximately 45% of the land use within the water service area is residential, 21% is commercial, 6% is industrial, and the remaining 28% includes various open spaces and the Hollywood Park Specific Plan.
Chapter 4 – Customer Water Use

4.1 – General Description

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

4.2 – Non-Potable Versus Potable Water Use

The City currently has 35 service connections to the WBMWD recycled water system. Recycled water demand has averaged 721 AFY since 2005, which is approximately 6% of its total water supply.

The remaining demand is for potable water.

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.

The City tracks water sales by the following sectors:

- Residential
- Commercial
- Industrial
- Municipal
- Fire

Residential (single-family plus multi-family) connections account for approximately 85% of total water service connections.

Water loss is the difference between water production and the sum of water sales. The City makes annual Water Audits to further differentiate types of water loss.
4.3.2 – Past Water Use

Table 4.1 provides a summary of water sales for the last five years.

Table 4.1 – Summary of Past Water Use

<table>
<thead>
<tr>
<th>Sector</th>
<th>2016</th>
<th>2017</th>
<th>2018</th>
<th>2019</th>
<th>2020</th>
</tr>
</thead>
<tbody>
<tr>
<td>Residential</td>
<td>6,103</td>
<td>6,072</td>
<td>6,380</td>
<td>6,045</td>
<td>6,337</td>
</tr>
<tr>
<td>Commercial</td>
<td>2,219</td>
<td>2,170</td>
<td>2,274</td>
<td>2,216</td>
<td>2,343</td>
</tr>
<tr>
<td>Industrial</td>
<td>50</td>
<td>53</td>
<td>51</td>
<td>38</td>
<td>60</td>
</tr>
<tr>
<td>Municipal</td>
<td>89</td>
<td>90</td>
<td>140</td>
<td>116</td>
<td>113</td>
</tr>
<tr>
<td>Fire</td>
<td>3</td>
<td>8</td>
<td>7</td>
<td>7</td>
<td>4</td>
</tr>
<tr>
<td>Real &amp; Apparent Losses</td>
<td>68</td>
<td>554</td>
<td>298</td>
<td>181</td>
<td>275</td>
</tr>
<tr>
<td><strong>Total Water Use</strong></td>
<td><strong>8,532</strong></td>
<td><strong>8,947</strong></td>
<td><strong>9,150</strong></td>
<td><strong>8,603</strong></td>
<td><strong>9,132</strong></td>
</tr>
</tbody>
</table>

4.3.3 – Distribution System Water Loss

Water Code Section 10631(d)(1)

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

**(J) Distribution system water loss....**

Water Code Section 10631(d)(3)

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

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

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

The AWWA Water Audit worksheets for the years 2016-2020 are provided in Appendix G. Water losses for 2020 were estimated at 275 AFY, or 3.0% of total water use.
Table 4.2 provides a summary of water losses per Water Audits for the last five years.

<table>
<thead>
<tr>
<th>Type</th>
<th>2016</th>
<th>2017</th>
<th>2018</th>
<th>2019</th>
<th>2020²</th>
</tr>
</thead>
<tbody>
<tr>
<td>Apparent Loss</td>
<td>43</td>
<td>44</td>
<td>68</td>
<td>43</td>
<td>49</td>
</tr>
<tr>
<td>Real Loss</td>
<td>25</td>
<td>510</td>
<td>231</td>
<td>138</td>
<td>226</td>
</tr>
<tr>
<td>Total Loss</td>
<td>68</td>
<td>554</td>
<td>298</td>
<td>181</td>
<td>275</td>
</tr>
</tbody>
</table>

² At the time of this writing, the 2020 Water Audit was not complete. Losses were estimated as the average for the previous four years.
4.3.4 – Current and 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.
Current and projected water demand through 2045 are shown by water use sector in Table 4.3. Recycled water demands are discussed in Chapter 6.

### Table 4.3 – Summary of Current and Projected Water Use

<table>
<thead>
<tr>
<th>Sector</th>
<th>2020</th>
<th>2025</th>
<th>2030</th>
<th>2035</th>
<th>2040</th>
<th>2045</th>
</tr>
</thead>
<tbody>
<tr>
<td>Residential</td>
<td>6,337</td>
<td>6,818</td>
<td>6,872</td>
<td>6,943</td>
<td>7,026</td>
<td>7,120</td>
</tr>
<tr>
<td>Commercial</td>
<td>2,343</td>
<td>2,693</td>
<td>2,713</td>
<td>2,739</td>
<td>2,770</td>
<td>2,804</td>
</tr>
<tr>
<td>Industrial</td>
<td>60</td>
<td>61</td>
<td>61</td>
<td>62</td>
<td>63</td>
<td>64</td>
</tr>
<tr>
<td>Municipal</td>
<td>113</td>
<td>114</td>
<td>115</td>
<td>116</td>
<td>118</td>
<td>119</td>
</tr>
<tr>
<td>Fire</td>
<td>4</td>
<td>7</td>
<td>7</td>
<td>7</td>
<td>7</td>
<td>7</td>
</tr>
<tr>
<td>Real &amp; Apparent Losses</td>
<td>275</td>
<td>469</td>
<td>473</td>
<td>478</td>
<td>484</td>
<td>491</td>
</tr>
<tr>
<td><strong>Total Water Use</strong></td>
<td><strong>9,132</strong></td>
<td><strong>10,162</strong></td>
<td><strong>10,241</strong></td>
<td><strong>10,345</strong></td>
<td><strong>10,468</strong></td>
<td><strong>10,605</strong></td>
</tr>
</tbody>
</table>

Current water use is the actual demand from 2020.

Projected water use for residential, commercial, industrial, and municipal customers starts with a baseline of the average use for 2018, 2019 and 2020 and is then adjusted as follows:

- Residential, commercial, industrial, and municipal water use increases proportionally to population growth from the demand baseline in 2020
- Fire is static at 7 AFY
- Real & Apparent Losses are 5% of total production
- Redevelopment of Hollywood Park will be complete by 2025 adding 450 AFY in residential demand and 338 AFY in commercial demand. Note that efficient water use for new development has been incorporated in the Hollywood Park projected demand.
4.3.4.1 – Hollywood Park Water Demands

The proposed “New Project Alternative” for the Hollywood Park redevelopment (City of Champions Revitalization Project) is a mixed-use development that includes a stadium, performance venue, various commercial land uses, and both high and low-density residential land uses. Other than for single-family residential, irrigation water demands will be met with recycled water and not domestic water.

The development will include 890,000 square feet (sf) of regional and entertainment retail; 780,000 sf office space; a 300-room hotel; 2,123 apartments, 111 detached single-family homes; and 266 townhomes; and major infrastructure improvements, including 25 acres of improved public parks. A seating capacity of 80,000 is planned for the stadium. It is anticipated that the stadium will host approximately 10 NFL games annually and will be used for another eight large events and 20 medium events at seatings of 50,000 and 10,000, respectively. Estimated buildout annual potable water demand for Hollywood Park by land use category is shown in Table 4.4.

<table>
<thead>
<tr>
<th>Land Use</th>
<th>Annual Potable Water Demand (gpd)</th>
<th>Annual Potable Water Demand (AFY)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stadium</td>
<td>4,400</td>
<td>5</td>
</tr>
<tr>
<td>Performance Venue</td>
<td>7,800</td>
<td>9</td>
</tr>
<tr>
<td>Residential</td>
<td>401,665</td>
<td>450</td>
</tr>
<tr>
<td>Non-Residential</td>
<td>289,710</td>
<td>325</td>
</tr>
<tr>
<td>Total</td>
<td>703,575</td>
<td>789</td>
</tr>
</tbody>
</table>

Single-family residences will be irrigated with potable water, but all other development irrigation will be met with recycled water.

The site is still under construction and only the existing Pavilion/Casino gaming facility is in operation at this time. Most of the existing water use is for construction. It is estimated that Hollywood Park will be 70% developed by 2020 and 100% developed by 2025.
4.3.5 – Characteristic Five-Year Water Use

Demand projection for the next five years is estimated as the 2020 demand plus the total demand of the Hollywood Park redevelopment project adjusted for population growth and increased by 5% as a response to drought conditions.

<table>
<thead>
<tr>
<th>Year</th>
<th>2021</th>
<th>2022</th>
<th>2023</th>
<th>2024</th>
<th>2025</th>
</tr>
</thead>
<tbody>
<tr>
<td>Potable Water</td>
<td>10,377</td>
<td>10,440</td>
<td>10,504</td>
<td>10,567</td>
<td>10,630</td>
</tr>
<tr>
<td>Recycled Water</td>
<td>840</td>
<td>840</td>
<td>840</td>
<td>840</td>
<td>840</td>
</tr>
<tr>
<td>Total Demand</td>
<td>11,217</td>
<td>11,280</td>
<td>11,344</td>
<td>11,407</td>
<td>11,470</td>
</tr>
</tbody>
</table>
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.

State Housing Element law requires that a local jurisdiction accommodate a share of the region’s projected housing needs for the planning period. This share, called the Regional Housing Needs Allocation (RHNA), is important because State law mandates that a jurisdiction provide sufficient land to accommodate a variety of housing opportunities for all economic segments of the community. Compliance with this requirement is measured by the jurisdiction’s ability in providing adequate land with adequate density and appropriate development standards to accommodate the RHNA. The Southern California Association of Governments (SCAG), as the regional planning agency, is responsible for allocating the RHNA to individual jurisdictions within the region.

SCAG assigned a RHNA of 7,439 units to the City of Inglewood for the 6th Cycle (2021-2029) RHNA period, pending California Department of Housing and Community Development approval, in the following income distribution:

- Extremely Low/Very Low Income: 1,813 units
- Low Income: 955 units
- Moderate Income: 1,112 units
- Above Moderate Income: 3,559 units

Lower income households represent approximately 37.2% of the total residential population within the water service area. Table 4.6 provides a projection of lower income residential demand on that basis.

<table>
<thead>
<tr>
<th>Year</th>
<th>2025</th>
<th>2030</th>
<th>2035</th>
<th>2040</th>
<th>2045</th>
</tr>
</thead>
<tbody>
<tr>
<td>Demand</td>
<td>2,537</td>
<td>2,557</td>
<td>2,583</td>
<td>2,614</td>
<td>2,649</td>
</tr>
</tbody>
</table>

4.5 – Climate Change Considerations

**Water Code Section 10630.**

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

**Water Code Section 10635(b)**

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

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

4.5.1 – Local Considerations

The 2013 Inglewood Energy and Climate Action Plan⁴ (CAP) identifies energy used in the water sector as a small contributor to community-wide greenhouse gas (GHG) emissions and recommends water conservation to reduce the impact. Reduced water use will also assist in managing water availability, which may be impacted by the frequency and intensity of droughts and increased temperatures. Although the CAP outlines potential climate change-related impacts to the City’s water resources, impacts to water availability are not quantified.

The City has exceeded the 2020 water use efficiency goals established by SB X7-7 through an aggressive and continuing water conservation program.

4.5.2 – Regional Activities Related to Climate Change Concerns

Per the WBMWD 2020 Draft UWMP:

*As described in Metropolitan’s 2020 Urban Water Management Plan (UWMP) (Metropolitan Water District of Southern California, May 2021), climate change is having a profound impact on California’s water resources, as evidenced by changes in snowpack, sea level, and river flows. These changes are expected to continue in the future, as more of our precipitation will likely fall as rain instead of snow. This potential change in weather patterns will impact water storage, exacerbate flood risks, and add challenges to water supply reliability. Mountain snowpack provides as much as one-third of California’s water supply, accumulating snow during the wet winters and releasing it slowly when it is*

needed during the state’s dry springs and summers. Warmer temperatures will cause snowpack to melt faster and earlier, making it more difficult to store and use. By the end of this century, the Sierra snowpack is projected to experience a 48% to 65% loss from the historical April 1 average. This loss of snowpack means less water will be available for Californians to use.

Climate change is also expected to result in more variable weather patterns throughout California. More variability can lead to longer and more severe droughts. In addition, the sea level will continue to rise, threatening the sustainability of the Sacramento-San Joaquin Delta, the heart of the California water supply system and the source of water for 25 million Californians and millions of acres of prime farmland.

Within the past five years, drastic swings in hydrologic conditions proved challenging to urban water suppliers throughout California. In 2015, the dry conditions resulted in the lowest ever snowpack in the Northern Sierras. In 2017, the State Water Project (SWP) watershed saw the highest ever Sacramento River runoff, resulting in the highest SWP allocation since 2006. However, by 2020 dry conditions returned to most of the state, distinguished by the driest February in history, peak snowpack in April at 66% of the average April 1 measurement, and average runoff for the year at 52% of the average. Subsequently, Metropolitan only received 20% of contract SWP water supplies in 2020 and is expected to receive only 5% of contract SWP water supplies in 2021 (as of May 2021).

The uncertainty of continued climate impacts on the region stresses the need for flexibility and adaptability in planning for future water supplies. West Basin previously enacted its Drought Rationing Plan from 2009–2011 and 2014–2015 in response to Metropolitan’s implementation of its Water Supply Allocation Plan. With ongoing climate change expected to cause more frequent water rationing situations in future years, West Basin will continue to incorporate climate-based planning scenarios as part of its long-term water supply reliability strategic planning process.
Chapter 5 – Conservation Target Compliance

5.1 – General Description

Conservation Target Compliance involves demonstrating implementation of the California Water Conservation Act of 2009, or Senate Bill x7-7 (SBx7-7).

In preparing the 2010 UWMP, each urban retail water supplier was required to develop baseline daily per-capita water use, minimum baseline daily per-capita water use, and target daily per-capita water use for 2015 and 2020 that were to be 10% and 20% less, respectively, than the baseline daily per-capita water use based on utilizing one of four methods provided; with the target reduction for 2020 greater than the legislation’s minimum water use reduction requirement. The four methods are:

- Method 1: 80% of the water supplier’s baseline per capita water use
- Method 2: Per capita daily water use estimated using the sum of performance standards applied to indoor residential use; landscape area water use; and commercial, industrial, and institutional uses
- Method 3: 95% of the applicable state hydrologic region target as stated in the State’s April 30, 2009, draft 20x2020 Water Conservation Plan
- Method 4: A BMP Option based on standards that are consistent with the California Urban Water Conservation Council’s (CUWCC) best management practices (BMPs).

As part of the process, all four methods were evaluated to find the lowest 2020 SB X7-7 target for the City, which must be lower than the minimum 2020 SB X7-7 target allowed by DWR. Method 3 was found to have the lowest 2020 SB X7-7 target for the City (141.6 gpcd); however, this was greater than the minimum 2020 SB X7-7 target allowed for the City by DWR, and the minimum 2020 SB X7-7 target of 112.0 gpcd was substituted. Further detailed information on the evaluation leading to the derivation of this target is presented in Section 5.6.

Baseline daily per-capita water use is defined as a continuous 10 or 15 year base period (baseline) for water use ending no earlier than December 31, 2004 and no later than December 31, 2010.

If the average baseline daily per-capita water use is greater than 100 gpcd for a defined 5-year baseline period, the legislation’s minimum water use reduction requirement must also be met as set in Section 10608.22 of Senate Bill No. 7 SB X7-7. Per SB X7-7, the minimum water use reduction baseline period must end no earlier than December 31, 2007 and no later than December 31, 2010 and the minimum reduction shall be no less than 5% of this 5-year base daily per capita water use.

The following subsections re-iterate the City’s 2020 water use reduction goals as calculated in the 2015 UWMP, and the final subsection demonstrates achievement of those goals.
5.2 – Updating Calculations from 2010 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).

In the 2010 UWMP, water agencies calculated a 2020 Urban Water Use Target through the use of a selected target method. In 2015 UWMPs, water agencies had the ability to update their 2020 Target and may make this calculation using a different target method than was used in 2010.

DWR determined that significant discrepancies existed between State Department of Finance (DOF) projected populations for 2010 (based on 2000 U.S. Census data) and actual populations for 2010 based on 2010 U.S. Census data. The average difference between projected and actual was approximately 3%, but the difference for some cities was as high as 9%.

Therefore, if an agency did not use 2010 Census data for their baseline population calculations in the 2010 UWMP (the full census data set was not available until 2012) DWR determined that these agencies must recalculate their baseline population for the 2015 UWMPs using 2000 and 2010 Census data. Since the City’s 2010 UWMP did not use 2010 census data for its baseline population calculations, it was therefore recalculated in the 2015 UWMP in developing new SB X7-7 targets.
5.3 – Baseline Periods

City recycled water demand in 2008 was 683 AFY, which was 5.8% of the City's total 2008 retail water demand of 11,717 AFY. As this is less than 10%, a 10-year baseline period is used as opposed to a 15-year baseline period. The baseline period must end no earlier than December 31, 2004 and no later than December 31, 2010. The most advantageous sequence of years for calculating per-capita water use is the sequence that generates the highest per-capita water use, making subsequent water conservation easier to achieve. Accordingly, the 10-year period 1996 through 2005 was selected as the average per-capita water use baseline for the 2015 UWMP, which is the same baseline period used in the 2010 UWMP, as shown in Table 5.1.

<table>
<thead>
<tr>
<th>Sequence Year</th>
<th>Calendar Year</th>
<th>Water Service Area Population</th>
<th>Daily System Gross Water Use (AFY)</th>
<th>Annual Daily Per Capita Water Use (gpcd)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>1996</td>
<td>85,653</td>
<td>12,178</td>
<td>126.9</td>
</tr>
<tr>
<td>2</td>
<td>1997</td>
<td>86,012</td>
<td>12,942</td>
<td>134.3</td>
</tr>
<tr>
<td>3</td>
<td>1998</td>
<td>86,372</td>
<td>11,266</td>
<td>116.4</td>
</tr>
<tr>
<td>4</td>
<td>1999</td>
<td>86,731</td>
<td>11,603</td>
<td>119.4</td>
</tr>
<tr>
<td>5</td>
<td>2000</td>
<td>87,090</td>
<td>11,647</td>
<td>119.4</td>
</tr>
<tr>
<td>6</td>
<td>2001</td>
<td>86,891</td>
<td>11,626</td>
<td>119.4</td>
</tr>
<tr>
<td>7</td>
<td>2002</td>
<td>86,692</td>
<td>11,519</td>
<td>118.6</td>
</tr>
<tr>
<td>8</td>
<td>2003</td>
<td>86,493</td>
<td>11,610</td>
<td>119.8</td>
</tr>
<tr>
<td>9</td>
<td>2004</td>
<td>86,294</td>
<td>11,397</td>
<td>117.9</td>
</tr>
<tr>
<td>10</td>
<td>2005</td>
<td>86,095</td>
<td>11,488</td>
<td>119.1</td>
</tr>
</tbody>
</table>

Baseline Daily Per Capita Water Use: 121.1
Per SB X7-7, the minimum 5-year water use reduction baseline period must end no earlier than December 31, 2007 and no later than December 31, 2010. A 5-year minimum water use reduction baseline period between 2003 through 2007 was selected to calculate the most advantageous 5-year minimum water use reduction target as shown in Table 5.2. The minimum 5-year water use reduction baseline period is used to calculate the legislation’s minimum water use reduction requirement.

Table 5.2 – Minimum Baseline Daily Per-Capita Water Use

<table>
<thead>
<tr>
<th>Sequence Year</th>
<th>Calendar Year</th>
<th>Water Service Area Population</th>
<th>Daily System Gross Water Use (AFY)</th>
<th>Annual Daily Per Capita Water Use (gpcd)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2004</td>
<td>86,294</td>
<td>11,397</td>
<td>117.9</td>
</tr>
<tr>
<td>2</td>
<td>2005</td>
<td>86,095</td>
<td>11,488</td>
<td>119.1</td>
</tr>
<tr>
<td>3</td>
<td>2006</td>
<td>85,896</td>
<td>11,686</td>
<td>121.5</td>
</tr>
<tr>
<td>4</td>
<td>2007</td>
<td>85,697</td>
<td>11,234</td>
<td>117.0</td>
</tr>
<tr>
<td>5</td>
<td>2008</td>
<td>85,498</td>
<td>10,927</td>
<td>114.1</td>
</tr>
</tbody>
</table>

Minimum Baseline Daily Per Capita Water Use: 117.9
5.4 – Service Area Population

Water Code Section 10608.20

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

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

Water Code Section 10644

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

The City’s WSA comprises 78% of the City of Inglewood in terms of land area with GSWC and CAWC serving water to the remaining land area of the City. The City’s WSA, which is the subject of this UWMP, has a population that is less than the City’s population.

For the preparation of the 2015 UWMP, the DWR Population Tool was utilized to estimate the City’s water service area population from 1990 through 2010 and for 2015 based on inputting single-family and multi-family residential water service connections for the years 2010 and 2015, along with the water service area boundary in electronic (KML) format. The Population Tool utilizes US Census data and electronic maps of the agency’s service area. Using the number of agency residential service connections, the tool will calculate the population for the non-census years.
5.5 – Gross Water Use

Water Code Section 10608.12

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

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

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

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

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

California Code of Regulations Title 23 Division 2 Chapter 5.1 Article

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

For the baseline and minimum baseline periods, 56% and 63%, respectively, of City potable water use was supplied with MWD imported water and the remaining potable water demands were supplied by treated City groundwater production. Gross water use is treated imported water and treated groundwater from the City’s treatment plant entering the distribution system.

The City also purchases recycled water from WBMWD with recycled water accounting for approximately 6% of the City’s total water supply, which is not included as SB X7-7-defined gross water. The City has no indirect recycled water use; no water placed in long-term storage; no water delivered to another urban supplier; no water delivered for agricultural use; and no significant process water use. Gross water use for the baseline and minimum baseline periods are shown in Table 5.1 and Table 5.2, respectively.
5.6 – Baselines and Targets Summary

As shown in Table 5.1, the baseline per-capita water use is calculated to be 121.1 gpcd. As shown in Table 5.2, the minimum baseline per-capita water use is calculated to be 117.9 gpcd.

The minimum per capita water use target for 2020 must therefore be 112.0 gpcd (95% of 117.9). The calculations of the 2020 water use reduction target for the four methods are as follows:

- Method 1: Using a baseline per-capita average of 121.1 gpcd the City of Inglewood 2020 target would be 96.9 gpcd (80% of 121.1). Since the target water use for Method 1 is less than the one found using the legislation’s minimum requirement criteria (112.0), no further adjustments to this water use target would be required, if this method is selected.

- Method 2: The City does not currently maintain records of lot size, irrigated landscaped area for each parcel, reference evapotranspiration for each parcel, etc. to split its residential, commercial, industrial, or institutional uses into inside and outside (landscape irrigation) uses. The use of Method 2 to calculate conservation targets is therefore not feasible.

- Method 3: The City falls within the South Coast Hydrologic Region (Hydrologic Region 4). According to the State’s 20x2020 Water Conservation Plan, the 2020 Target for Hydrologic Region 4 is 149 gpcd. Using Method 3, the City’s 2020 water use target would be 141.6 gpcd (95% of 149). Since the target water use generated by Method 3 is greater than the one found using the minimum requirement, the minimum requirement would be used, if this method is selected.

- Method 4: DWR’s Target Method 4 Calculator was utilized to calculate 2020 target water use for the City under this method based on standards consistent with CUWCC BMPs. The City currently meters all water services, so there is no projected metering savings. A default indoor residential water savings of 15 gpcd was assumed. CII savings was calculated to be 3.0 gpcd; landscape irrigation and water loss savings was calculated to be 4.6 gpcd; and total savings was calculated to be 22.6 gpcd. Using Method 4, the City’s 2020 water use target would be 98.5 gpcd. Since the target water use generated by Method 4 is less than the one found using the minimum requirement, no further adjustments to this water use target would be required, if this method is selected.
The discussion and calculations on the preceding page are summarized in Table 5.3.

Table 5.3 – 2020 Targets by Method

<table>
<thead>
<tr>
<th>Method</th>
<th>2020 Target</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>96.9</td>
</tr>
<tr>
<td>2</td>
<td>Not Applicable</td>
</tr>
<tr>
<td>3</td>
<td>112.0</td>
</tr>
<tr>
<td>4</td>
<td>98.5</td>
</tr>
</tbody>
</table>

As shown in Table 5.3, Method 3 results in the most favorable 2020 water use target level for the City at 112.0 gpcd. These baselines and targets are summarized in Table 5.4.

Table 5.4 – Baselines and Targets Summary

<table>
<thead>
<tr>
<th>Baseline Period</th>
<th>Start Year</th>
<th>End Year</th>
<th>Average Baseline (gpcd)</th>
<th>Confirmed 2020 Target (gpcd)</th>
</tr>
</thead>
<tbody>
<tr>
<td>10-15 Year</td>
<td>1996</td>
<td>2005</td>
<td>121.1</td>
<td>112.0</td>
</tr>
<tr>
<td>5 Year</td>
<td>2004</td>
<td>2008</td>
<td>117.9</td>
<td></td>
</tr>
</tbody>
</table>
5.7 – 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.

5.7.1 – Meeting the 2020 Target

In 2020, the gross water use was 9,132 AFY within the water service area at a population of 88,968. This is equivalent to a per-capita water use of 91.6 gpcd, which was lower than its 2020 target of 112.0 gpcd. Therefore, the City has achieved its 2020 water use target and is in compliance with SB X7-7.

5.7.2 – Adjustments to 2020 Gross Water Use

Water Code Section 10608.24
(d)(1) When determining compliance daily per capita water use, an urban retail water supplier may consider the following factors:

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

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

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

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

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

There were no adjustments to the 2020 target for extraordinary events, economic adjustment, or weather normalization.
Chapter 6 – System Supplies

6.1 – General Description

System Supplies involve organizing and reducing historical water supply source data into predetermined 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.

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

Water Code Section 10631 (h)

An urban water supplier that relies upon a wholesale agency for a source of water shall provide the wholesale agency with water use projections from that agency for that source of water in five-year increments to 20 years or as far as data is available. The wholesale agency shall provide information to the urban water supplier for inclusion in the urban water supplier’s plan that identifies and quantifies, to the extent practicable, the existing and planned sources of water as required by subdivision (b), available from the wholesale agency to the urban water supplier over the same five-year increments, and during various water-year types in accordance with subdivision (f). An urban water supplier may rely upon water supply information provided by the wholesale agency in fulfilling the plan informational requirements of subdivisions (b) and (f).
The City obtains its water supply from three sources: treated imported surface water purchased from MWD through WBMWD; local groundwater produced from the WCGB via City-owned and operated wells; and recycled water purchased from WBMWD. There are no planned changes to these three sources of water supply for the City at this time.

Historical water supply from each of the three sources in units of AFY is summarized in Table 6.1.

<table>
<thead>
<tr>
<th>Source</th>
<th>2016</th>
<th>2017</th>
<th>2018</th>
<th>2019</th>
<th>2020</th>
</tr>
</thead>
<tbody>
<tr>
<td>Imported Water</td>
<td>6,457</td>
<td>6,690</td>
<td>7,626</td>
<td>6,119</td>
<td>5,972</td>
</tr>
<tr>
<td>Groundwater</td>
<td>2,312</td>
<td>2,385</td>
<td>1,608</td>
<td>2,535</td>
<td>3,062</td>
</tr>
<tr>
<td>Recycled Water</td>
<td>806</td>
<td>872</td>
<td>819</td>
<td>686</td>
<td>800</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>9,575</strong></td>
<td><strong>9,947</strong></td>
<td><strong>10,053</strong></td>
<td><strong>9,340</strong></td>
<td><strong>9,834</strong></td>
</tr>
</tbody>
</table>

6.3 – Purchased or Imported Water

Per the WBMWD 2020 Draft UWMP:

**General Description**

An innovative public agency, West Basin is a recognized leader in the production of recycled water, conservation, and educational programs. West Basin was established by a vote of the people in 1947 to help mitigate over pumping in the West Coast Basin by providing the growing region with imported water. West Basin became a member agency of the Metropolitan Water District of Southern California (Metropolitan) in 1948 to purchase, on a wholesale level, potable water imported from the Colorado River. Today, West Basin supplies wholesale potable water to three investor-owned utilities, four municipalities, one county waterworks district, and one groundwater agency as a means of supplementing local water resources. The relationship between West Basin and its retail agencies is illustrated in Figure 3-2.\(^5\)

\(^5\) Figure 3-2 from the WBMWD 2020 Draft UWMP is included as Figure 6.1 in this document.
Figure 6.1 – West Municipal Water District Service Area
West Basin and its retail agencies operating within West Basin’s service area develop local supplies, including groundwater, brackish desalination, and recycled water. In addition, a blend of recycled and imported water is injected into the West Coast Basin Barrier and the Dominguez Gap Barrier to protect local groundwater supplies from seawater contamination and replenish the aquifer.

West Basin is the fourth-largest member agency of Metropolitan, which makes its participation on the Metropolitan Board of Directors critical to representing the interests of West Basin’s retail agencies on regional water issues. West Basin’s Board of Directors appoints two representatives to serve on the 38-member Metropolitan Board of Directors.

Water Supply Overview

Since its formation in 1947, West Basin has fulfilled its responsibility of providing service area communities with supplemental water supplies to meet regional demands. Prior to West Basin, the typical retail water supplier operating within the area relied completely on groundwater. West Basin’s primary supply source has been imported water from Metropolitan. Imported water was initially delivered exclusively from the Colorado River until the 1970s, when the SWP began operating and West Basin received a combination of Colorado River water and SWP water. In the 1990s, West Basin began increasing its development of local supplies in response to the declining reliability of imported water. A combination of regulatory constraints on supplies from the Bay-Delta, the increasing frequency of cyclical droughts, and uncertainties surrounding climate change have justified the continued need to develop local supplies and aggressively pursue reducing water demand through conservation. West Basin has been able to support the diversification of supplies available to its retail agencies primarily through the development of recycled water supplies and conservation. Imported and recycled water supplies are served directly to West Basin’s retail agencies and indirectly as replenishment supplies necessary to maintain groundwater production.

Imported Water

West Basin’s imported water comes from the SWP and Colorado River via Metropolitan pipelines and aqueducts. Metropolitan’s primary purpose is to provide a supplemental supply of water for domestic and municipal uses at wholesale rates to its member agencies. Metropolitan’s planning strategy continues to balance available local and imported water resources and member agencies’ demands within Metropolitan’s service area.

Colorado River Supplies

The Colorado River was Metropolitan’s original source of water following its establishment in 1928. Metropolitan has a legal entitlement to receive water from the Colorado River under a permanent service contract with the United States Secretary of the Interior. The Colorado River Aqueduct, which has a capacity of 1.25 million acre-feet per year, is owned and operated by Metropolitan. It transports water from Lake Havasu, at the border of California and Arizona, approximately 242 miles west to its terminus at Lake
Mathews in Riverside County and Metropolitan’s service area. The Colorado River Aqueduct and its California water users are shown in Figure 6-3.⁶

**Figure 6.2 – Colorado River Aqueduct**

Over the years, Metropolitan has increased supply reliability of the Colorado River through programs that it helped fund and implement, including:

- Farm and irrigation district conservation programs
- Improved reservoir system operations
- Land management programs
- Water transfers and exchanges through arrangements with:
  - Agricultural water districts in southern California
  - Entities in Arizona and Nevada that use Colorado River water
  - US Department of the Interior, Bureau of Reclamation (USBR)

⁶ Figure 6-3 from the WBMWD 2020 Draft UWMP is included as Figure 6.2 in this document.
**State Water Project Supplies**

Metropolitan imports water from the SWP, owned by the State of California and operated by the California Department of Water Resources (DWR). This project transports Feather River water stored in and released from Oroville Dam and conveyed through the Bay-Delta, as well as unregulated flows diverted directly from the Bay-Delta, south via the California Aqueduct to four delivery points — one from the California Aqueduct’s West Branch at Castaic Lake and three from the East Branch along the northeastern portion of Metropolitan’s service area between Devil’s Canyon Power Plant and Lake Perris. The southern portion of the SWP is shown in Figure 6-4.7

**Figure 6.3 – State Water Project**

In 1960, Metropolitan signed a water supply contract with DWR for participation in the SWP. Metropolitan is one of 29 agencies that have long-term contracts with DWR and are participants in the SWP. It is the largest SWP agency in terms of the number of people it serves (19.2 million), the share of SWP water that it is allocated (approximately 46%), and the percentage of total annual payments made to DWR (approximately 53% in 2020).

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7 Figure 6-4 from the WBMWD 2020 Draft UWMP is included as Figure 6.3 in this document.
Supply Capabilities

The Metropolitan 2020 Urban Water Management Plan (UWMP) reports on Metropolitan’s water reliability and identifies projected supplies to meet the long-term demand within its service area. For the Metropolitan 2020 UWMP, supply capabilities were evaluated using the following assumptions for its imported supplies.

Colorado River Supplies

Colorado River supplies include Metropolitan’s basic Colorado River apportionment as well as supplies that result from existing and committed programs, including those from the Imperial Irrigation District System Conservation Program, the implementation of the Quantification Settlement Agreement, related agreements, and the exchange agreement with San Diego County Water Authority. Projections for Colorado River supplies for the 2020 UWMP are based on the USBR Colorado River Simulation System modeling developed in August 2020, which is the latest available at the time of production of this plan. USBR modeling is used to estimate Metropolitan’s basic apportionment and the availability of Quantification Settlement Agreement and other related programs.

In response to declining reservoir levels, the Lower Basin Drought Contingency Plan was signed in 2019. This agreement incentivizes storage in Lake Mead and requires that certain volumes of water be stored in Lake Mead under certain Lake Mead elevation levels through 2026. Once Lake Mead’s water level falls below an elevation of 1,045 feet, Metropolitan has agreed to store a specified volume of water in Lake Mead to create an intentional surplus for drought conditions as part of the Drought Contingency Plan. The goal of this agreement is to keep Lake Mead above critical elevations, and overall, it increases Metropolitan’s flexibility to store water in Lake Mead in greater volumes and to accept delivery of stored water to fill the Colorado River Aqueduct as needed.

State Water Project Supplies

State Water Project (SWP) supplies are estimated using the 2019 Delivery Capability Report (Department of Water Resources, August 2020). The 2019 SWP Delivery Capability Report presents DWR estimates of the amount of SWP deliveries for current (2020) conditions and SWP deliveries for 20 years in the future considering only currently operating and existing SWP facilities. Any changes in supply reliability that would result from new facilities proposed under the Delta Conveyance Project and Sites Reservoir are not included. These estimates incorporate restrictions on SWP and Central Valley Project operations in accordance with water quality objectives established by the State Water Resources Control Board, the biological opinions of the US Fish and Wildlife Service and National Marine Fisheries Service issued on October 21, 2019, and the Incidental Take Permit issued by the California Department of Fish and Wildlife on March 31, 2020. In addition, these estimates incorporate amendments to the Coordinated Operations Agreement between the SWP and Central Valley Project made in 2018. Under the 2019 SWP Delivery Capability Report - Existing Condition Scenario, the delivery estimates for the SWP for 2020 conditions as a percentage of Table A amounts are 58% under a long-term average condition.
In dry, below-normal conditions, Metropolitan has increased the supplies received from the California Aqueduct by developing flexible Central Valley/SWP storage and transfer programs. Over the years, under the pumping restrictions of the SWP, Metropolitan has collaborated with the other contractors to develop numerous voluntary Central Valley/SWP storage and transfer programs. The goal of these storage/transfer programs is to develop additional dry-year supplies that can be conveyed through the California Aqueduct during dry hydrologic conditions and to meet regulatory restrictions.

**Storage**

A key component of Metropolitan’s water supply capability is the amount of water in Metropolitan’s storage facilities. Over the past two decades, Metropolitan has developed a large regional storage portfolio that includes both dry-year and emergency storage capacity. Storage is a key component of water management and enables the capture of surplus amounts of water in both normal and wet climate and hydrologic conditions when it is plentiful for supply and environmental uses. Stored water can then be used in dry years and in conditions where augmented water supplies are needed to meet demands.

In developing the supply capabilities for the 2020 UWMP, Metropolitan assumed the current (2020) storage levels at the start of simulation and used the median storage levels going into each of the five-year increments based on the balances of supplies and demands. Under the median storage condition, there is an estimated 50% probability that storage levels would be higher than the assumption used, and a 50% probability that storage levels would be lower than the assumption used. All storage capability figures shown in Metropolitan’s 2020 UWMP reflect actual storage program conveyance constraints. It is important to note that under some conditions, Metropolitan may choose to implement its Water Supply Allocation Plan to preserve storage reserves for a future year instead of using the full supply capability. This can result in impacts at the retail level even under conditions where there may be adequate supply capabilities to meet demands.

**Imported Water Reliability**

Metropolitan developed estimates of future demands and supplies from local sources and from Metropolitan sources based on 96 years (1922–2017) of historic hydrologic conditions. The 96-year period starting in 1922 was chosen because the CalSim II model used in the 2019 SWP Delivery Capability Report began in 1922. Supply and demand analyses for the single-dry-year and five-year drought scenarios were based on conditions affecting the SWP, as this supply availability fluctuates the most among Metropolitan’s sources of supply. Using the same 96-year period of the SWP supply availability, 1977 is the single driest year, and 1988 through 1992 are the five consecutive driest years for SWP supplies to Metropolitan.

Metropolitan compared estimated demands for a normal water year, single dry year, and droughts lasting at least five years with projected supplies to meet these demands. The analysis showed that the region can provide reliable water supplies under both situations of the single driest year and a drought period lasting five consecutive years.
6.4 – 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.

City wells produce groundwater from the WCGB. Prior to 1961, up to 94,000 AFY was extracted from the underground aquifer, which led to a serious overdraft in the WCGB. This over-pumping, coupled with similar heavy groundwater extraction from the adjoining Central Basin, led to sea water intrusion into the WCGB. To mitigate these concerns, groundwater in the West Coast and Central Basins was adjudicated by court order (Judgment) to protect the underground water supply within the two basins.
6.4.1 – Basin Adjudication

In 1961, by order of the Los Angeles Superior Court, pumping in the WCGB was limited to 64,468.25 AF. While this Judgment resulted in significantly reduced pumping from the WCGB, the adjudicated pumping limits were set higher than the natural replenishment of groundwater, which continued to result in annual overdrafts. The City’s adjudicated share of that water right is 4,449.89 AF.

The amount of water member agencies are allowed to pump is set annually by the Water Replenishment District of Southern California (WRD), but the values remain fairly constant. The Judgment also allows water users to carry over and extract any unused water rights, which originally was up to 10% of such unused water right and up to 10% beyond their allowable pumping rights within a given year.

Beginning in the 2014-2015 Administrative Year for the WCGB Judgment (July 1 - June 30) and each year thereafter, the WCGB carryover is 100% of allotted pumping rights. The amount of carryover is reduced by the quantity of water held in a pumper’s storage account, but in no event is carryover less than 20% of the allotted pumping right (see Section 6.2.3 for a discussion on the new Court Judgement).

WRD tracks the amount of groundwater production (pumping) that occurs every year in the Central and West Coast groundwater basins to identify trends that may impact groundwater resources. As previously noted, the groundwater basins currently face overdraft every year because pumping exceeds natural groundwater replenishment. Sources of replenishment water to WRD include recycled water, imported water, and natural runoff captured in the regional spreading grounds.

6.4.2 – West Coast Groundwater Basin Aquifer

The WCGB is approximately 160 square miles and occupies 37 percent of the southwestern part of the Coastal Plain of the Los Angeles groundwater basin and has a total storage capacity of 6,500,000 AF (based on the Silverado Aquifer, the primary water producing aquifer).

The location of the WCGB and Central Basin within the greater Los Angeles metropolitan region is shown on Figure 6.4. On the north, the WCGB is bounded by the Ballona Escarpment, an abandoned erosional channel from the Los Angeles River. On the East, the Basin is bounded by the Newport-Inglewood fault zone. The WCGB is bounded on the south and west by the Pacific Ocean and by consolidated rocks of the Palos Verdes Hills. The surface of the WCGB is crossed in the south by the Los Angeles River through the Dominguez Gap, and the San Gabriel River through the Alamitos Gap, both then flowing into the San Pedro Bay.

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8 Per Water Replenishment District of Southern California website.
9 Inglewood’s original adjudicated right was for 4,382 AF; the City subsequently purchased an additional 67.89 AF in water rights from Frank Abell, Boise Cascade Building Company, Georgia Pacific Corporation, Kaufman, Leo and Sheldon Baer, and George R. Murdock.
10 July 21, 1961 Judgment, Section V
11 DWR, California’s Groundwater Bulletin 118, 2004
Water bearing formations include Holocene, Pleistocene, and Pliocene age sediments. The semi-perched aquifer of the Holocene age is unconfined. The groundwater in the underlying aquifers is confined throughout most of the WCGB; and the Gage and Gardena aquifers are unconfined where water levels have dropped below the Bellflower aquitard. These aquifers merge with adjacent aquifers, particularly near the Redondo Beach area. The Silverado aquifer, underlying most of the Basin, is the primary production aquifer and yields between 80 to 90 percent of the groundwater extracted from the WCGB.

Figure 6.4 – West Basin and Central Basin Location Map
6.4.3 – Overdraft

Per DWR, the West Coast Groundwater Basin is not a critically overdrafted basin.

6.4.4 – Recharge

Overdraft is controlled through a recharge management program. Natural groundwater replenishment through percolation of precipitation and irrigation waters is insufficient to sustain the groundwater pumping that takes place in the WCGB. WRD must therefore depend on artificial recharge programs to replace the annual overdraft. The amount of water available for recharge will vary from year to year. The various methods of recharging the Basin using imported and recycled water are described below:

- **Injection** – WRD recharges the WCGB by injecting water into it to prevent seawater intrusion. A barrier is formed by injection of recycled water or treated imported water from MWD in wells along the West Coast Barrier Project (between Redondo Beach and El Segundo) and the Dominguez Gap Barrier Project (east of Palos Verdes Peninsula).

- **In-lieu Replenishment Water** – The In-lieu program allows the natural recharge of the WCGB by offsetting groundwater production with the use of imported water. The reduction in pumping naturally recharges the WCGB.

- **Transfer from Central Groundwater Basin** – Although not well quantified, groundwater from the Central Groundwater Basin flows into the WCGB through the Newport Inglewood Uplift. This, along with natural percolation due to stormwater and irrigation, make up a small part of the overall recharge to the WCGB.
6.4.5 – City Groundwater Production

The City owns and operates wells that extract groundwater from the WCGB. The City’s adjudicated share of water rights is 4,449.89 AFY. The City also has carryover rights as described in Section 6.4.1. The City currently produces groundwater from the WCGB via four active groundwater wells, Well Nos. 1, 2, 6, and 7 that were constructed in 1974, 1974, 2003, and 2019, respectively. The City owns two other wells, Well Nos. 4 and 5, that are currently inactive. Historical production from these wells for the past five years is shown in Table 6.2.

<table>
<thead>
<tr>
<th>Source</th>
<th>2016</th>
<th>2017</th>
<th>2018</th>
<th>2019</th>
<th>2020</th>
</tr>
</thead>
<tbody>
<tr>
<td>Well No. 1</td>
<td>908</td>
<td>730</td>
<td>251</td>
<td>154</td>
<td>244</td>
</tr>
<tr>
<td>Well No. 2</td>
<td>210</td>
<td>685</td>
<td>583</td>
<td>500</td>
<td>409</td>
</tr>
<tr>
<td>Well No. 4</td>
<td>77</td>
<td>19</td>
<td>23</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Well No. 5</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Well No. 6</td>
<td>1,116</td>
<td>951</td>
<td>751</td>
<td>570</td>
<td>463</td>
</tr>
<tr>
<td>Well No. 7</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>1,311</td>
<td>1,947</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>2,312</strong></td>
<td><strong>2,385</strong></td>
<td><strong>1,608</strong></td>
<td><strong>2,535</strong></td>
<td><strong>3,062</strong></td>
</tr>
</tbody>
</table>

Raw groundwater from Wells 1, 2, 6, and 7 is conveyed to the City’s 8.5-mgd Sanford M. Anderson Treatment Plant for manganese and iron removal. Iron and manganese are secondary contaminants. The City’s groundwater production and treatment capacity exceeds its allowable pumping rights in the WCGB. Therefore, infrastructure is not a constraint on groundwater supply.

The City currently has sufficient pumping capacity to utilize its entire annual allocation of WCGB water rights and will continue to rehabilitate and replace wells as required to maintain a maximum groundwater supply of approximately 4,450 AFY. However, to account for redundancy, maintenance, and uncertainty in future water quality management, the City anticipates 2,200 AFY to be available through the end of the planning horizon.
6.4.6 – Sustainable Groundwater Management Act of 2014

The Sustainable Groundwater Management Act of 2014 (SGMA) consists of three legislative bills, Senate Bill SB 1168 (Pavley), Assembly Bill AB 1739 (Dickinson), and Senate Bill SB 1319 (Pavley) that provide a framework for long-term sustainable groundwater management across California. Under the legislation, local and regional authorities in medium and high priority groundwater basins will form Groundwater Sustainability Agencies (GSAs) that oversee the preparation and implementation of a local Groundwater Sustainability Plan (GSP). Groundwater in the WCGB is adjudicated by court order to protect the underground water supply within the basin. As such, the basin is exempt from SGMA.

6.4.7 – Groundwater Quality

City wells have historically produced and currently produce groundwater that meets Federal and State water quality standards. The water quality constituents of concern (COC) for groundwater produced by City wells are iron (Fe), manganese (Mn), and total dissolved solids (TDS). For information on current water quality, the most recent Consumer Confidence Report is provided in Appendix E.

Groundwater is treated at the City’s Sanford M. Anderson Water Treatment Plant to meet the secondary MCLs. As such, water quality is not a constraints on water availability.

6.5 – Surface Water

The City does not use surface water as part of its water supply at this time.

6.6 – Stormwater

The City does not use stormwater to meet local water supply demands at this time.
6.7 – 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.
6.7.1 – 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...

Since 1995, the City has purchased recycled water from WBMWD, produced at the Edward C. Little Water Recycling Facility (ECLWRF) located in El Segundo, California.

Per the WBMWD 2020 Draft UWMP:

Wastewater and Recycled Water

West Basin’s recycled water supply source is treated wastewater effluent from the City of Los Angeles’ Hyperion Water Reclamation Plant (Hyperion). The City of Los Angeles has operated Hyperion, located adjacent to West Basin’s service area, since 1894. Hyperion was initially built as a raw sewage discharge plant that has been upgraded over the years from partial secondary treatment in 1950 to full secondary treatment in the 1990s, improving treated wastewater discharge quality into the Santa Monica Bay. Hyperion has a maximum daily flow capacity of 450 million gallons per day (MGD) and a peak wet weather flow capacity of 800 MGD.

Over the past five years, West Basin has received an average of approximately 39,600 acre-feet per year of secondary-treated influent from Hyperion for further treatment at West Basin’s Edward C. Little Water Recycling Facility (ECLWRF). All other flows through Hyperion are treated and discharged into the Pacific Ocean; however, the City of Los Angeles Sanitation and Environment department has partnered with the Los Angeles Department of Water and Power in a shared vision to recycle 100% of flows through Hyperion by 2035.

West Basin opened ECLWRF, which is still the only recycled water plant of its kind in the nation, in 1995. This facility has a current annual capacity of 62,700 acre-feet, with its fifth expansion completed in 2014. Although the City of Los Angeles strives to provide West Basin with a consistent quality of secondary effluent, the ECLWRF must accommodate inevitable fluctuations in influent quality.

In 2002, West Basin’s ECLWRF was recognized by the National Water Research Institute as one of six National Centers for Water Treatment Technologies in the country. All of West Basin’s recycled water is treated to meet California Code of Regulations Title 22 (Title 22) disinfected tertiary recycled water standards, and a portion is treated to even higher quality levels for specific uses. Title 22 addresses specific treatment requirements for recycled water and lists approved uses. West Basin’s recycled water program is unique in that it provides a variety of recycled water qualities beyond basic tertiary Title 22 levels.
These five types of recycled product water are developed to meet specific customer needs as follows:

- **Disinfected Tertiary Water**: Secondary-treated wastewater meeting Title 22 regulations is produced for non-potable irrigation through a conventional treatment process of coagulation, flocculation, clarification, filtration, and disinfection. This water type is used mainly for landscape irrigation.

- **Advanced Treated Recycled Water**: This secondary-treated wastewater is pretreated by ozone and microfiltration followed by reverse osmosis (RO), ultraviolet light, and peroxide treatment, stabilization, and disinfection for groundwater recharge and seawater barrier replenishment.

- **Nitrified Water**: Disinfected tertiary water that is nitrified to remove ammonia is produced for use in refinery cooling towers.

- **Single-Pass Reverse Osmosis Water**: This is secondary-treated wastewater and tertiary disinfected recycled water that has undergone microfiltration and RO for low-pressure boiler feed water.

- **Double-Pass Reverse Osmosis Water**: This is secondary-treated wastewater and tertiary disinfected recycled water that has undergone microfiltration and two passes through RO for high-pressure boiler feed water.

In addition to providing recycled water for landscape, commercial, and industrial uses, West Basin produces advanced treated recycled water that WRD purchases for injection into the West Coast Basin Seawater Barrier. The groundwater replenishment water has the dual benefit of preventing seawater intrusion into the aquifers of the West Coast Basin and replenishing the water that is extracted by drinking water wells.
**Recycled Water System**

All recycled water is initially produced at ECLWRF as Title 22 water or advanced treated recycled water and is distributed to either end users or one of the three satellite facilities operated by West Basin. The satellite facilities treat the Title 22 water produced at the ECLWRF to customer-specific water needs (nitrified, single-pass reverse osmosis [RO], double-pass RO) to supply the different types of recycled product water to large customers that are often a longer distance from the ECLWRF. Figure 6-8 shows the existing recycled water pipelines and locations of the ECLWRF (in El Segundo) as well as the satellite treatment facilities: the Torrance Refinery Water Recycling Plant (in Torrance), the Chevron Nitrification Treatment Plant (in El Segundo), and the Juanita Millender-McDonald Carson Regional Water Recycling Plant (in Carson).

**Figure 6.5 – Recycled Water Distribution System**
As shown, West Basin’s recycled water system serves the cities of Carson, El Segundo, Gardena, Hawthorne, Hermosa Beach, Inglewood, Lawndale, Manhattan Beach, Redondo Beach, and unincorporated areas of Los Angeles County within its service area. In addition, West Basin delivers recycled water outside of its service area to the cities of Torrance and Los Angeles. The recycled water distribution infrastructure includes over 100 miles of pipelines and is separate from the potable drinking water system. All pipes, pumps, and other equipment used to transport recycled water are clearly identified as recycled water to distinguish them from the potable drinking water system.

Projected Recycled Water Uses

As part of the 2021 RWMP, a market assessment was conducted to identify potential future customers. New potential customers within a quarter mile and half mile of the existing system were identified as Tier 1 and 2 customers, respectively, that could be served with short lateral pipelines.

New potential customers that could be grouped and served through longer extensions of the existing system were also identified. The 2021 RWMP identified over 70,000 acre-feet per year (AFY) in new potential recycled water demands that could be served by West Basin.

The 2021 RWMP presents three distinct scenarios, each with a phased approach to maximize West Basin’s recycled water deliveries, and provides a roadmap to increase West Basin’s recycled water deliveries up to 65-70 million gallons per day by 2040.

The three 2021 RWMP scenarios are summarized below.

- **Scenario A: Title 22 and groundwater augmentation focus.** This scenario projects that retail recycled water within West Basin’s service area will double to 30,300 AFY by 2025 and 31,700 AFY by 2030. Additionally, recycled water use for the West Coast Basin Barrier and increased groundwater augmentation will be phased in to increase to an ultimate volume of 44,600 AFY in 2040.

- **Scenario B: Title 22 and refinery focus.** This scenario projects retail recycled water will triple within West Basin’s service area to 41,900 AFY by 2030 and continue increasing to 45,700 AFY by 2040. Recycled water use for the West Coast Seawater Barrier is assumed to increase to 19,000 AFY by 2025 and an ultimate 24,600 AFY by 2035.

- **Scenario C: LA Harbor/Long Beach Focus.** Much of the projected recycled water supply in this scenario would be delivered outside of West Basin’s service area to the LA Harbor and Long Beach. For retail recycled water use within West Basin’s service area, this scenario is similar to Scenario A through 2030, and then increases retail recycled water deliveries to 40,400 AFY by 2040. Recycled water use for the West Coast Basin Barrier is similar to Scenario B with an increased supply to 19,000 AFY by 2025 and 24,600 AFY by 2040.
6.7.2 – Wastewater Collection, Treatment and Disposal

LACSD manages the wastewater collection and treatment system within the City of Inglewood. Wastewater generated within the City is conveyed to the Joint Water Pollution Control Plant (JWPCP) in Carson, via LACSD interceptor sewers. The JWPCP has an advanced primary treatment with 60 percent secondary treatment.

The dry-weather, average-design treatment capacity of the JWPCP is 400 mgd and the dry-weather peak design capacity is 540 mgd. Treated wastewater from the JWPCP is conveyed to an ocean outfall that has a discharge two miles offshore from White Point on the Palos Verdes Peninsula. The depth of the discharge is approximately 200 feet below sea level.

Municipal wastewater is generated within the water service area from residential, commercial, industrial, and public/institutional land uses. Wastewater generation in 2020 is estimated at 5,479 AFY, which is 90% of estimated indoor potable water use in 2020.

Because the wastewater treated at the JWPCP is discharged to the ocean, none is available for reuse.

6.7.3 – Recycled Water System Description

The City currently has 35 connections to WBMWD’s recycled water system including service connections to Inglewood Park Cemetery, Hollywood Park Race Track, City parks, Inglewood Unified School District facilities, and Caltrans right-of-way. City recycled water use has averaged 694 AFY since 2008 (6.5% of total City water use) since 2008; and was 726 AFY in 2015 and 800 AFY in 2020.

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13 LACSD website: https://www.lacsd.org/services/wastewater/wwfacilities/wwtreatmentplant/jwpcp/wwtreatmentprocessjwpcp.asp
6.7.4 – Potential, Current and Projected Recycled Water Uses

Wastewater generated within the water service area is treated and discharged to the ocean; therefore, it is not available for reuse in the City.

Almost all recycled water use in the City is for landscaping irrigation with a very small amount of recycled water used for City yard fire hydrant street sweeping. Current and projected recycled direct beneficial uses within the City’s water service area are shown in Table 6.3. The City defers to WBMWD regarding expansion of the recycled water, as discussed in Section 6.7.1.

Table 6.3 – Summary of Reclaimed Water Demand

<table>
<thead>
<tr>
<th></th>
<th>2020</th>
<th>2025</th>
<th>2030</th>
<th>2035</th>
<th>2040</th>
<th>2045</th>
</tr>
</thead>
<tbody>
<tr>
<td>Recycled Water (AFY)</td>
<td>800</td>
<td>800</td>
<td>800</td>
<td>800</td>
<td>800</td>
<td>800</td>
</tr>
</tbody>
</table>

The 2015 UWMP projected reclaimed water use in 2020 at 1,060 AFY. The actual 2020 volume delivered was 800 AFY.
## 6.7.5 – Actions to Encourage and Optimize Future Recycled Water Use

<table>
<thead>
<tr>
<th>Water Code Section 10633</th>
</tr>
</thead>
<tbody>
<tr>
<td>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:</td>
</tr>
</tbody>
</table>

(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.

As a member agency of WBMWD, the City the supports the efforts of the wholesaler to identify potential recycled water demands and expand the system.

Per the WBMWD 2020 Draft UWMP:

**West Basin generates interest in recycled water by contacting potential customers and cities with sites meeting the following conditions:**

- Located near an existing recycled water main pipeline
- High water use potential
- Mandated to use recycled water and/or has expressed interest in using recycled water

*For commercial and industrial customers, West Basin emphasizes that recycled water is an important tool for businesses beyond the benefits of water conservation. West Basin markets recycled water as a resource that is:*

- Less expensive than potable water treated to similar quality standards
- More reliable than imported water
- Consistent with statewide goals for water supply and ecosystem improvement in the State Water Project and Colorado River systems

*Other financial incentives are used to encourage recycled water use aside from West Basin providing recycled water at lower cost than potable water.*

*Some potential recycled water customers do not have the financial capability to pay for onsite plumbing retrofits necessary to receive recycled water. In some of these situations, West Basin advances funds for retrofitting that can later be reimbursed through water billing.*
6.8 – Desalinated Water Opportunities

**Water Code Section 10631(g)**

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

The City has no plans to develop desalinated water.

Per the WBMWD 2020 Draft UWMP:

West Basin owns the C. Marvin Brewer Desalter Facility, which began operating in July 1993. The Desalter was built on a site owned by California Water Service (Cal Water) in Torrance, where it removes chloride from groundwater impacted by seawater intrusion in the West Coast Basin. The Desalter was initially intended to be a five-year pilot program to determine if brackish water could be economically treated to drinking water standards.

The Desalter originally used two wells to pump brackish water from a saline plume remaining within the West Coast Basin and treats the water using cartridge filters and reverse osmosis. The treated water from the Desalter is blended with potable water, stored on the Cal Water site in a 5-million-gallon storage reservoir, and then delivered to the distribution system. Under the terms of an agreement with Cal Water, West Basin reimburses Cal Water to operate and maintain the Desalter. In 2005, the original two wells were replaced with one more productive well that has the capability to pump 1,600 to 2,400 acre-feet per year.

In recent years, production from the Desalter has declined. West Basin is currently planning to divest the Desalter from its supply portfolio in the near term; therefore, West Basin’s projected supply from the Desalter by 2025 is zero. It is possible that the agency that purchases the Desalter facility will continue operation of it and may sell some of the water within West Basin’s service area, which would offset West Basin’s imported water demand.

6.9 – 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.

The City currently does not participate with other water agencies on water exchanges or transfers into or out of the City’s water service area and none are planned for the future at this time.
6.10 – 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 conducts routine maintenance and improvements of groundwater and imported production and treatment facilities on an as-needed basis.
6.11 – 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 obtains its potable water supply from imported surface water purchased from MWD through WBMWD, and local groundwater produced from the West Coast Groundwater Basin (WCGB) via City-owned and operated wells.

The City currently has 35 service connections to the WBMWD recycled water system, utilizing the Title 22 recycled water for irrigation. Recycled water purchases have been a fairly consistent percentage of the City’s total water supply, averaging about 8% over the past five years.

Table 6.4 provides a summary of existing and projected supplies discussed in the chapter.

Table 6.4 – Supply Summary

<table>
<thead>
<tr>
<th>Year</th>
<th>2020</th>
<th>2025</th>
<th>2030</th>
<th>2035</th>
<th>2040</th>
<th>2045</th>
</tr>
</thead>
<tbody>
<tr>
<td>Groundwater</td>
<td>3,062</td>
<td>2,200</td>
<td>2,200</td>
<td>2,200</td>
<td>2,200</td>
<td>2,200</td>
</tr>
<tr>
<td>Imported Water</td>
<td>5,972</td>
<td>9,000</td>
<td>9,000</td>
<td>9,000</td>
<td>9,000</td>
<td>9,000</td>
</tr>
<tr>
<td>Recycled</td>
<td>800</td>
<td>800</td>
<td>800</td>
<td>800</td>
<td>800</td>
<td>800</td>
</tr>
<tr>
<td>Total</td>
<td>9,834</td>
<td>12,000</td>
<td>12,000</td>
<td>12,000</td>
<td>12,000</td>
<td>12,000</td>
</tr>
</tbody>
</table>
6.12 – 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.

6.12.1 – Energy Used to Extract Water Supplies

The City keeps records of power consumption for its water supply production wells. Energy use (in kWh) associated with the extraction of water supplies from these wells for the past year (May 2020 through April 2021) is estimated in Table 6.5 based on electric meter readings. The City’s associated historical groundwater production is summarized in Table 6.2 (Section 6.4.5).

Table 6.5 – Historical Energy Use for Extraction

<table>
<thead>
<tr>
<th>Source</th>
<th>Energy (kWh)</th>
<th>Volume (AF)</th>
<th>Intensity (kWh/AF)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Well No. 1</td>
<td>111</td>
<td>93</td>
<td>1</td>
</tr>
<tr>
<td>Well No. 2</td>
<td>687</td>
<td>364</td>
<td>2</td>
</tr>
<tr>
<td>Well No. 4</td>
<td>6</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Well No. 6</td>
<td>8,222</td>
<td>326</td>
<td>25</td>
</tr>
<tr>
<td>Well No. 7</td>
<td>6,442</td>
<td>1898</td>
<td>3</td>
</tr>
<tr>
<td>Total</td>
<td>15,468</td>
<td>2,682</td>
<td>6</td>
</tr>
</tbody>
</table>
6.12.2 – Energy Used for Water Treatment

Energy use for treatment in the past year (May 2020 through April 2021) is estimated at 16,704 kWh for a total volume of 2,682 AFY.

6.12.3 – Energy Used for Water Supply Distribution

Energy use for distribution in the past year (May 2020 through April 2021) is estimated at 12,566 kWh for a total volume of 2,682 AFY.
Chapter 7 – Water System Reliability

7.1 – General Description

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 System Reliability provides a review of the reconciliation of projected supply and demand under normal years, single dry year, and five consecutive dry years conditions.

7.2 – 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.

Groundwater is constrained by the availability of replenishment water to WRD.

Imported water is constrained by the availability of surface from the State Water Project, and Colorado River Aqueduct and other sources at the WBWMD’s disposal.

There are no constraints on recycled water.

7.2.1 – Groundwater Constraints

The WCGB is managed by WRD. The basin is reliant on recycled water, imported water, and natural runoff captured in the regional spreading grounds for replenishment. Each of these sources has its own constraints; however, WRD’s diversified supply portfolio tends to reduce those constraints.
7.2.2 – Imported Surface Water

Per the WBMWD 2020 Draft UWMP:

On April 29, 2019, Governor Newsom issued Executive Order N-10-19 that directed the California Natural Resources Agency, the California Environmental Protection Agency, and the California Department of Food and Agriculture to prepare a water resilience portfolio that meets the needs of California’s communities, economy, and environment through the 21st century.

The agencies were directed to first inventory and assess:

- Existing demand for water on a statewide and regional basis and available water supply to address this demand
- Existing water quality of aquifers, rivers, lakes, and beaches
- Projected water needs in the coming decades for communities, economy, and environment
- Anticipated impacts of climate change to our water systems including growing drought and flood risks, and other challenges to water supply reliability
- Work underway to complete voluntary agreements for the Sacramento and San Joaquin river system regarding flows and habitat
- Current planning to modernize conveyance through the Bay-Delta with a new single tunnel project
- Expansion of the state’s drinking water program to ensure all communities have access to clean, safe, and affordable drinking water
- Existing water policies, programs, and investments within state government

The California Water Resilience Portfolio outlines goals and actions to help address the state’s water challenges through a broad and diversified approach.

The goals and actions are meant to be achieved region by region based on the unique challenges and opportunities in each area and are organized into four categories:

- Maintain and diversify water supplies — the state will continue to help regions reduce reliance on any one source of water supply and diversify water supplies to enable flexibility in the face of changing conditions.
- Protect and enhance natural ecosystems — the state will provide leadership in restoring the environmental health of our river systems through effective standard setting, continued investments, and more adaptive and holistic environmental management.
- Build connections — the state aims to improve infrastructure to store, move and share water more effectively, and to integrate water management through shared use of science, data, and technology.
• Be prepared — the state will provide guidance to support preparation, protective actions, and adaptive management of regions in the face of new threats and stresses due to climate change.

West Basin’s water resources planning philosophy aligns with the California Water Resilience Portfolio and emphasizes conservation and expanding reliable, local supplies, such as recycled water, groundwater augmentation, groundwater desalination, and ocean water desalination. Reliability within the West Basin service area is a composite of the reliability of each supply source and its overall percent contribution to the supply portfolio. The following subsections further explain some of the factors identified by West Basin that may have an impact on reliability.

Metropolitan described several challenges in providing adequate, reliable, and high-quality supplemental water supplies along with potential management measures in the Metropolitan 2020 Urban Water Management Plan (UWMP) (Metropolitan Water District of Southern California, May 2021), including:

• The Colorado River Basin has historically experienced large swings in annual hydrologic conditions; however, these swings have largely been buffered through a large volume of storage.

• Dramatic swings in annual hydrologic conditions have impacted water supplies available from the SWP over the last decade. Metropolitan’s efforts in building dry-year storage reserves, water banking, and transfers have helped manage the wide variability in SWP allocations.

• With approximately 30% of Metropolitan service area’s water supply transported across the Bay-Delta, its declining ecosystem has led to a reduction in water supply deliveries, even during normal precipitation years. Operational constraints will likely continue until a long-term solution to the problems in the Bay-Delta is identified and implemented.

• Water quality challenges, such as algae toxins, polyfluoroalkyl substances (PFAS), and the identification of constituents of emerging concern, have a significant impact on the region’s water supply conditions and underscore the importance of flexible and adaptive regional planning strategies.
Metropolitan described a variety of actions to address these water supply challenges to maintain water reliability within its service area. Metropolitan’s proactive measures include:

- Continuing water conservation by expanding outreach, adding devices, and increasing incentives to residents
- Increasing local resources by providing incentives for on-site recycled water hook-up and the Local Resources Program
- Augmenting water supplies through water transfers and exchanges
- Improving return capability of storage programs to effectively take delivery of water when needed
- Maintaining dry year and emergency storage for the region to remain reliable during periods of low supply and emergencies
- Modifying Metropolitan’s distribution system to enhance operational flexibility and efficient delivery of Colorado River, SWP, and in-region supplies within Metropolitan’s service area
- Implementing shortage response actions under the Metropolitan Water Shortage Contingency Plan and elements of the Metropolitan Water Surplus and Drought Management Plan and Water Supply Allocation Plan to distribute the limited imported supplies and preserve storage reserves
- Responding to water quality concerns by protecting the quality of the source water, developing water management programs that maintain and enhance water quality, and changing water treatment protocols or blending

To maintain a reliable source of imported water supply for its member agencies, Metropolitan has and will continue to contend with these considerable challenges. After learning from the droughts of 1977–78 and 1989–92, Metropolitan, in conjunction with its member agencies, instituted a resources planning process that is based on diversification of the region’s water supply portfolio and continued efficient water use. This integrated resource planning process has recognized that only through a mix of imported and member agency local supplies, along with aggressive implementation of water conservation, can the Metropolitan service area attain overall reliability of water supply.
This integrated planning effort has resulted in the following documents:

- **1996, 2004, 2010, 2015, and 2020 Integrated Resources Plans (IRP):** Metropolitan’s IRP process assesses potential future regional demand projections based upon anticipated population and economic growth as well as conservation potential. The IRP also includes regional supply strategies and implementation plans to better manage resources, meet anticipated demand, and increase overall system reliability. Metropolitan is currently preparing the 2020 IRP.

- **1999 Water Surplus and Drought Management (WSDM) Plan:** The WSDM Plan provides the policy guidance to manage the region’s water supplies by integrating the operating activities of supply surplus and shortage to achieve the reliability goals of the IRP.

- **2014 Water Supply Allocation Plan (WSAP):** The WSAP includes the specific formula for calculating member agency supply allocations and the key implementation elements needed for administering the allocation. The need for the WSAP arose after the 2008 Bay-Delta biological opinions and rulings that limited SWP supplies to its contractors including Metropolitan. The WSAP formula seeks to balance the impacts of a shortage at the retail level while maintaining equity on the wholesale level for shortages of Metropolitan supplies up to 50%.

All these planning documents recognize that the reliability of the Metropolitan service area is dependent on improving the reliability of imported supplies from the Colorado River and State Water Project, as well as the successful implementation of future local supplies and conservation. Metropolitan is a supplemental supplier of water to Southern California and that regional reliability cannot be achieved without successfully addressing challenges to imported water reliability, developing reliable local supplies, and water use efficiency. This dependence on an integrated approach to water reliability and diversification of supplies has been the foundation of DWR’s State Water Plan, through its last several updates and is the cornerstone of Governor Newsom’s California Water Resilience Portfolio. Some of the most significant factors affecting reliability for imported water supplies include legal, environmental, water quality, and climatic changes. As noted above, successful implementation of Metropolitan’s UWMP is dependent on the continued successful implementation by local agencies, such as West Basin, of local supply projects.
7.2.3 – Climate Change

Per WBMWD 2020 Draft UWMP:

As described in the Metropolitan 2020 UWMP, climate change adds its own uncertainties to the challenges of water resources planning. Imported water supplies are most vulnerable to climate change, followed by local groundwater (Metropolitan Water District of Southern California, May 2021). Metropolitan’s water supply planning has been fortunate to have almost 100 years of hydrological data regarding weather and water supply. This history of rainfall data has provided a sound foundation for forecasting both the frequency and the severity of future drought conditions, as well as the frequency and abundance of above-normal rainfall. But weather patterns can be expected to shift dramatically and unpredictably in a climate driven by increased concentrations of carbon dioxide in the atmosphere. These changes in weather significantly affect water supply planning, irrespective of any debate associated with the sources and cause of increasing concentrations of greenhouse gases. West Basin supports Metropolitan in its role as a major steward of the region’s water supply resources and its commitment to performing ongoing due diligence with respect to climate change.

While uncertainties remain regarding the exact timing, magnitude, and regional impacts of these temperature and precipitation changes, researchers have identified several areas of concern for California water planners. These include:

- **Reduction in Sierra Nevada snowpack**
- **Increased intensity and frequency of extreme weather events**
- **Prolonged drought periods**
- **Water quality issues associated with increase in wildfires**
- **Changes in runoff pattern and amount**
- **Rising sea levels resulting in:**
  - Impacts to coastal groundwater basins due to seawater intrusion
  - Increased risk of damage from storms, high-tide events, and the erosion of levees
  - Potential pumping cutbacks on the SWP and Central Valley Project
Other important issues of concern due to global climate change include:

- Effects on local supplies such as groundwater
- Changes in demand levels and patterns
- Increased evapotranspiration from higher temperatures
- Impacts to human health from water-borne pathogens and water quality degradation
- Declines in ecosystem health and function
- Alterations to power generation and pumping regimes
- Increases in ocean algal blooms affecting seawater desalination supplies

Metropolitan’s activities related to climate change concerns include: Resource Planning

Under the 2020 IRP, Metropolitan recognizes additional risks and uncertainties from a variety of sources:

- Water quality
- Climate change
- Regulatory and operational changes
- Project construction and implementation issues
- Infrastructure reliability and maintenance
- Demographic and growth uncertainty
Any of these risks and uncertainties, should they occur individually or collectively, may result in a negative impact to water supply reliability. While it is impossible to know how much risk and uncertainty to guard against, the region’s reliability will be more secure with a long-term plan that recognizes risk and provides resource development to offset that risk.

Knowledge Share and Research Support

Metropolitan is an active and founding member of the Water Utility Climate Alliance (WUCA). WUCA consists of 12 nationwide water providers collaborating on climate change adaptation.

Quantification of Current Research

Metropolitan continues to incorporate current climate change science into its planning efforts. A major component of the current IRP effort is to explicitly reflect uncertainty in Metropolitan’s future water management environment. This involves evaluating a wider range of water management strategies and seeking robust and adaptive plans that respond to uncertain conditions as they evolve over time, and that ultimately will perform adequately under a wide range of future conditions. The potential impacts and risks associated with climate change, as well as other major uncertainties and vulnerabilities, have been incorporated into the current IRP process.

Implementation of Programs and Policies

Metropolitan has made great efforts to implement greenhouse gas mitigation programs and policies for its facilities and operations. Similar to Metropolitan’s approach to managing water resources, effectively reducing greenhouse gas emissions requires a portfolio approach that looks at all sources and implements strategies to reduce emissions over time.
7.3 – Year Type Characterization

There are three Year Types included in the water service reliability assessment: Normal Year, Single Dry Year, Five-Consecutive-Year Drought.

**Normal Year.** The normal year are equivalent to 2020 supply and demand.

**Single Dry Year.** For consistency historical planning efforts, the single dry year is considered as 3% higher than a normal year.

**Five-Consecutive-Year Drought.** For consistency with historical planning efforts, each of a five-consecutive year drought is consider 5% higher than a normal year.

7.4 – 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 normal-year supply is shown in Table 6.4. Projected normal year demand is shown in Table 4.3. Under a single dry-year supply scenario, demand is estimated to increase by 3% over normal year demand. Under a five-consecutive dry-year supply scenario, demand in each year is estimated to increase by 5% over normal year demand.

Table 7.1 provides an assessment of projected normal year supply reliability.

<table>
<thead>
<tr>
<th>Year</th>
<th>2025</th>
<th>2030</th>
<th>2035</th>
<th>2040</th>
<th>2045</th>
</tr>
</thead>
<tbody>
<tr>
<td>Projected Average Year Supply</td>
<td>12,000</td>
<td>12,000</td>
<td>12,000</td>
<td>12,000</td>
<td>12,000</td>
</tr>
<tr>
<td>Projected Average Year Demand</td>
<td>10,962</td>
<td>11,041</td>
<td>11,145</td>
<td>11,268</td>
<td>11,405</td>
</tr>
<tr>
<td>Surplus</td>
<td>1,038</td>
<td>959</td>
<td>855</td>
<td>732</td>
<td>595</td>
</tr>
</tbody>
</table>
Table 7.2 provides an assessment of projected single dry year supply reliability.

**Table 7.2 – Single Dry Year Supply and Demand Assessment**

<table>
<thead>
<tr>
<th>Year</th>
<th>2025</th>
<th>2030</th>
<th>2035</th>
<th>2040</th>
<th>2045</th>
</tr>
</thead>
<tbody>
<tr>
<td>Projected Average Year Supply</td>
<td>12,000</td>
<td>12,000</td>
<td>12,000</td>
<td>12,000</td>
<td>12,000</td>
</tr>
<tr>
<td>Projected Average Year Demand</td>
<td>11,291</td>
<td>11,372</td>
<td>11,479</td>
<td>11,606</td>
<td>11,747</td>
</tr>
<tr>
<td>Surplus</td>
<td>709</td>
<td>628</td>
<td>521</td>
<td>394</td>
<td>253</td>
</tr>
</tbody>
</table>

Table 7.3 provides an assessment of projected five consecutive dry years supply reliability.

**Table 7.3 – Multiple Dry Year Supply and Demand Comparison**

<table>
<thead>
<tr>
<th>Dry Year</th>
<th>2025</th>
<th>2030</th>
<th>2035</th>
<th>2040</th>
<th>2045</th>
</tr>
</thead>
<tbody>
<tr>
<td>First Year</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Supply</td>
<td>12,000</td>
<td>12,000</td>
<td>12,000</td>
<td>12,000</td>
<td>12,000</td>
</tr>
<tr>
<td>Demand</td>
<td>11,510</td>
<td>11,593</td>
<td>11,702</td>
<td>11,831</td>
<td>11,975</td>
</tr>
<tr>
<td>Surplus</td>
<td>490</td>
<td>407</td>
<td>298</td>
<td>169</td>
<td>250</td>
</tr>
<tr>
<td>Second Year</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Supply</td>
<td>12,000</td>
<td>12,000</td>
<td>12,000</td>
<td>12,000</td>
<td>12,000</td>
</tr>
<tr>
<td>Demand</td>
<td>11,510</td>
<td>11,593</td>
<td>11,702</td>
<td>11,831</td>
<td>11,975</td>
</tr>
<tr>
<td>Surplus</td>
<td>490</td>
<td>407</td>
<td>298</td>
<td>169</td>
<td>250</td>
</tr>
<tr>
<td>Third Year</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Supply</td>
<td>12,000</td>
<td>12,000</td>
<td>12,000</td>
<td>12,000</td>
<td>12,000</td>
</tr>
<tr>
<td>Demand</td>
<td>11,510</td>
<td>11,593</td>
<td>11,702</td>
<td>11,831</td>
<td>11,975</td>
</tr>
<tr>
<td>Surplus</td>
<td>490</td>
<td>407</td>
<td>298</td>
<td>169</td>
<td>250</td>
</tr>
<tr>
<td>Fourth Year</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Supply</td>
<td>12,000</td>
<td>12,000</td>
<td>12,000</td>
<td>12,000</td>
<td>12,000</td>
</tr>
<tr>
<td>Demand</td>
<td>11,510</td>
<td>11,593</td>
<td>11,702</td>
<td>11,831</td>
<td>11,975</td>
</tr>
<tr>
<td>Surplus</td>
<td>490</td>
<td>407</td>
<td>298</td>
<td>169</td>
<td>250</td>
</tr>
<tr>
<td>Fifth Year</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Supply</td>
<td>12,000</td>
<td>12,000</td>
<td>12,000</td>
<td>12,000</td>
<td>12,000</td>
</tr>
<tr>
<td>Demand</td>
<td>11,510</td>
<td>11,593</td>
<td>11,702</td>
<td>11,831</td>
<td>11,975</td>
</tr>
<tr>
<td>Surplus</td>
<td>490</td>
<td>407</td>
<td>298</td>
<td>169</td>
<td>250</td>
</tr>
</tbody>
</table>

The City has sufficient supply to meet all reliability requirements.
7.5 – Regional Supply Reliability

Water Code Section 10620(f)

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

Regional supply reliability, specifically, the reliability of MWD’s imported water supply for the City and for Southern California, is detailed in Section 7.2.2 and Section 7.2.3 in conjunction with presenting the constraints on water supply sources and the response programs developed and being developed to eliminate or lessen these constraints. MWD, in conjunction with its member agencies, have taken appropriate steps to assure regional supply reliability.

Per the WBMWD 2020 Draft UWMP:

West Basin receives imported water from Metropolitan through connections to Metropolitan’s regional distribution system. Although pipeline and connected capacity do not guarantee the availability of water, they do guarantee the ability to convey water when it is available to the Metropolitan distribution system. This section presents West Basin’s expected water supply reliability for a normal year, single dry year, and five consecutive dry years, including projections for 2025, 2030, 2035, 2040, and 2045.

The primary constraint on the available of water supplies has been in extreme drought conditions. Metropolitan has made substantial investments to increase imported water supply reliability during periods of extended drought. As a result, Metropolitan projects the ability to meet projected West Basin imported water demands under normal, single-dry year, and multiple-dry year conditions.
7.6 – 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.
7.6.1 – Data, Methods, and Basis for Water Shortage Condition

**Supply**

The City has sufficient extraction and treatment capacity to maximize its adjudicated WCGB rights of 4,450 AFY. No constraints on exercising adjudicated rights are anticipated.

Imported water availability is set at 9,000 AFY. No constraints on imported water are anticipated.

Recycled water availability is limited only by the existing customer demand at 800 AFY.

**Demand**

Demand projection for the next five years is estimated as the 2020 demand plus the total demand of the Hollywood Park redevelopment project adjusted for population growth and increased by 5% as a response to drought conditions.

7.6.2 – Total Water Supply and Use Comparison

Table 7.4 provides a drought risk assessment per the conditions stated above.

<table>
<thead>
<tr>
<th>Year</th>
<th>2021</th>
<th>2022</th>
<th>2023</th>
<th>2024</th>
<th>2025</th>
</tr>
</thead>
<tbody>
<tr>
<td>Supply</td>
<td>14,250</td>
<td>14,250</td>
<td>14,250</td>
<td>14,250</td>
<td>14,250</td>
</tr>
<tr>
<td>Demand</td>
<td>11,217</td>
<td>11,280</td>
<td>11,344</td>
<td>11,407</td>
<td>11,470</td>
</tr>
<tr>
<td>Surplus</td>
<td>3,033</td>
<td>2,970</td>
<td>2,906</td>
<td>2,843</td>
<td>2,780</td>
</tr>
</tbody>
</table>

The City has adequate supply to meet demand during an immediate five-year drought.
Chapter 8 – Water Shortage Contingency Planning

8.1 – General Description

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

8.2 – Water Supply Reliability Analysis

Water Service Reliability Assessment is discussed in Chapter 7.

During water shortage emergencies, the City will implement water conservation stages of actions outlined in City Ordinance No. 15-0214, which serves as the City’s Water Shortage Contingency Plan (WSCP). See Appendix L.

The City has historically adopted municipal ordinances or resolutions relating to water conservation and water shortage contingency planning including:

- Resolution No. 03-13, “Resolution of the City Council of the City of Inglewood, California to Require Recycled Water to be used for Purposes Permitted by Regulatory Agencies,” adopted in February 11, 2003.
- Ordinance No. 15-02, “An Ordinance of the City of Inglewood, California Amending Section 5-110 of Article 7 of Chapter 5 and Adding an Article 19 to Chapter 10 (Public Works) to Establish a Water Conservation and Water Supply Shortage Program,” adopted on October 21, 2014.

14 Ordinance No. 15-02 was adopted on October 21, 2014: Emergency Ordinance of the City of Inglewood, California Amending Section 5-110 of Article 7 of Chapter 5 and Adding an Article 19 to Chapter 10 (Public Works) to Establish a Water Conservation and Water Supply Shortage Program
The initial 1990 Ordinance was a purely voluntary program, which encouraged a 10% reduction in water usage among residents and businesses in the City by discouraging:

- Hosing off walkways, driveways, parking areas, and other hard surfaces;
- Washing vehicles without use of a hose end shut-off, while encouraging bucket washes;
- Cleaning, filling, or refilling non-re-circulating decorative fountains;
- Watering lawns, landscape areas, parks and school grounds, between 7:00 a.m. and 7:00 p.m.; and
- Serving water in restaurants unless requested.

The voluntary program also encouraged the installation of water efficient plumbing fixtures and the use of drought-tolerant landscaping whenever possible. The Parks and Code Enforcement Department assisted water users in reducing water usage by disseminating information on water conservation techniques including customer conservation practices, low-flow toilets and the use of recycled water.

Beginning in 1991, a series of mandatory water conservation Ordinances were adopted, which made most of the practices addressed in the 1990 voluntary ordinance mandatory. Ordinances 91-6 and 93-20 establish mandatory provisions prohibiting or restricting the following water consumption activities:

- Restricting watering landscape with potable water between the hours of 4:00 p.m. and 10:00 a.m.; watering with recycled water is allowed at any time;
- Prohibiting exterior washing practices with hand-held hose unless equipped with positive shut-off nozzle;
- Prohibiting hosing off walkways, driveways, parking areas, and other hard surfaces;
- Prohibiting flushing water mains except as necessary to protect public health;
- Requiring all water leaks to be repaired within 24 hours;
- Requiring the preparation of new landscape plans for all new developments or remodels requiring a building permit; plans must include estimated water use, irrigation schedules, soils testing, use of recycled water unless an exemption has been issued; and
- Requiring conducting water audits every five years for landscaped areas in excess of one acre.

On February 11, 2003, the City Council adopted Resolution No. 03-13, which requires the use of recycled water for future development projects in the City “where feasible, appropriate and acceptable to all regulatory agencies.”

On October 21, 2014, the City adopted Ordinance No. 15-02, which serves as the City’s WSCP. The ordinance also establishes 13 practices that residents and businesses must implement to avoid unreasonable water use and waste, thereby also serving as the City’s Water Waste Prevention Ordinance as discussed in Section 9.2.1.
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.
WSCP procedures are reviewed every five years to coincide with the adoption of the UWMP. Below are procedures that apply to next five years.

Supply
The City has sufficient extraction and treatment capacity to maximize its adjudicated WCGB rights of 4,450 AFY.

Imported water availability is set at 9,000 AFY.
Recycled water availability is limited by the existing customer demand at 800 AFY.
The total supply is 14,250 AFY.

Demand
Normal year demand for 2025 is used for planning purposes: 10,162 AFY.
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.

8.4.1 – City Water Supply Shortage Stages (Levels)

Ordinance No. 15-02 authorizes the Mayor and City Council to declare a Level 1, 2, or 3 water supply shortage, depending on the severity of the shortage that describes actions the City water service area customers must initiate, above and beyond, the 13 water conservation practices normally prescribed (Water Waste Prevention). These three (3) levels correspond to the six standard water shortage levels mandated for 2020 as summarized in Table 8.1.

<table>
<thead>
<tr>
<th>2020 WSCP Level</th>
<th>% Supply Reduction</th>
<th>% Supply Shortfall</th>
<th>City Ordinance Shortage Level</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>10%</td>
<td>None</td>
<td>None</td>
</tr>
<tr>
<td>2</td>
<td>20%</td>
<td>None</td>
<td>None</td>
</tr>
<tr>
<td>3</td>
<td>30%</td>
<td>9%</td>
<td>1</td>
</tr>
<tr>
<td>4</td>
<td>40%</td>
<td>22%</td>
<td>2</td>
</tr>
<tr>
<td>5</td>
<td>50%</td>
<td>35%</td>
<td>3</td>
</tr>
<tr>
<td>6</td>
<td>More than 50%</td>
<td>More than 35%</td>
<td>3</td>
</tr>
</tbody>
</table>

The City has surplus supply and can withstand a reduction in supply in excess of 20% before a water shortage occurs.

A supply reduction of 30% (WSCP Level 3) will trigger a Level 1 declaration. This is equivalent to a loss of normal supply of 3,975 AFY.
A supply reduction of 40% (WSCP Level 4) will trigger a Level 2 declaration. This is equivalent to a loss of normal supply of 5,300 AFY.

A supply reduction of 50% or higher (WSCP Level 5 and Level 6) will trigger a Level 3 declaration. This is equivalent to a loss of normal supply in excess of 6,625 AFY.

**8.4.1.1 – Level 1 Water Supply Shortage**

A Level 1 declaration will address water shortages of up to 10% and will result in implementation of the following mandatory restrictions:

1. Implementation of all 13 normal water waste prevention practices as stated in Ordinance No. 15-02, Section 10-208 and presented in Section 9.2.1

2. All residential and commercial landscape irrigation (except commercial nurseries) will be limited to:
   a. No more than three days per week during the months of April through October, but no more than two days per week during the months of November through March
   b. All landscaped areas must be irrigated by use of water efficient devices

3. All leaks must be repaired within 72 hours

**8.4.1.2 – Level 2 Water Supply Shortage**

A Level 2 declaration will address water shortages of up to 20% and will result in implementation of the following mandatory restrictions:

1. Implementation of all 13 normal water waste prevention practices as stated in Ordinance No. 15-02, Section 10-208 and presented in Section 9.2.1

2. All residential and commercial landscape irrigation will be limited to no more than two days per week, but no more than one day per week during the months of November through March

3. All leaks must be repaired within 48 hours

4. Ornamental lakes or ponds can no longer be filled unless required to maintain actively managed aquatic life of significant value
8.4.1.3 – Level 3 Water Supply Shortage

A Level 3 declaration will address water shortages greater than 20% and up to and including 50% shortages. A Level 3 declaration will result in implementation of the following mandatory restrictions:

1. Implementation of all 13 normal water waste prevention practices as stated in Ordinance No. 15-02, Section 10-208 and presented in Section 9.2.1
2. Watering or irrigating of lawn, landscape or other vegetated areas is prohibited except for:
   a. Maintenance of vegetation, including trees and shrubs, that are watered using a hand-held bucket or similar container, hand held hose equipped with a positive self-closing water shutoff nozzle or device
   b. For fire protection
   c. To prevent soil erosion
   d. For maintenance of rare or essential protected species
   e. For maintenance of landscape in public parks, day care centers, golf course greens, and school grounds as long as it does not exceed two days per week
   f. Actively irrigated environmental mitigation projects
3. All leaks must be repaired in 24 hours
4. No new permanent or temporary potable water services will be provided
5. Discontinue the use of ornamental fountains or similar decorative devices unless recycled water is used
6. Filling of swimming pools and outdoor spas is prohibited
8.4.1.4 – Emergency Operations Plan

In addition to the previously described water shortage contingency measures, the City will also implement its Emergency Operations Plan (EOP) during significant periods of drought. The EOP is designed to prepare the City for a planned response to emergency situations associated not only with intentional acts, but also with natural disasters, technological incidents, and national security emergencies. It also includes provisions for notifying and receiving direction from WBMWD and MWD pertaining to imported water supply distribution. The key elements of the City’s EOP include:

- Implementing an effective emergency response communication system;
- Developing an interagency mutual aid program;
- Addressing water supply, water quality, emergency operations center (EOC), and providing an information resource list which includes contact information on key personnel; and
- Training of water personnel on emergency response procedures.

During emergency situations, both the City and WBMWD are responsible for maintaining communications between the utilities and with the MWD emergency response network. Good communications during emergencies will help facilitate requests for manpower and equipment, collect and process damage reports, coordinate available resources if and when MWD implements its water supply allocation plan.

Since MWD supplies a majority of the potable water to the City, it is important to understand the storage capability of MWD and the emergency storage requirements that MWD maintains.
8.4.1.5 – City Health and Safety Requirements

The primary goal of the City’s water system is to preserve the health and safety of its personnel and the public. Meeting this goal is a continuous function of the system – before, during and after a disaster or water shortage. Fire suppression capabilities will continue to be maintained during any water shortage contingency stage. Some water needs are more immediate than others. The following list of public health needs and the allowable time without potable water is a guideline and will depend on the magnitude of the water shortage:

- Hospitals – continuous need
- Emergency shelters – immediate need
- Kidney dialysis – 24 hours
- Personal hygiene, waste disposal – 72 hours

Based on commonly accepted estimates of interior residential water use in the United States, per-capita health and safety water use requirements are shown in Table 8.2. During the initial stage of a shortage, customers may adjust either interior and/or outdoor water use to meet the voluntary water reduction goal.

Table 8.2 – Per-Capita Health and Safety Water Use Requirements

<table>
<thead>
<tr>
<th>Type</th>
<th>Non-Conserving Fixtures</th>
<th>Habit Changes²</th>
<th>Conserving Fixtures³</th>
</tr>
</thead>
<tbody>
<tr>
<td>Toilet³</td>
<td>5 flushes x 5.5 gpf</td>
<td>27.5</td>
<td>3 flushes x 5.5 gpf</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Shower</td>
<td>5 min x 4.0 gpm</td>
<td>20.0</td>
<td>4 min x 3.0 gpm</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Washer</td>
<td>12.5 gpcd</td>
<td>12.5</td>
<td>11.5 gpcd</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Kitchen</td>
<td>4 gpcd</td>
<td>4.0</td>
<td>4 gpcd</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Other</td>
<td>4 gpcd</td>
<td>4.0</td>
<td>4 gpcd</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>68.0</strong></td>
<td><strong>--</strong></td>
<td><strong>48.0</strong></td>
</tr>
<tr>
<td><strong>CCF per capita per year</strong></td>
<td><strong>33.0</strong></td>
<td><strong>--</strong></td>
<td><strong>23.0</strong></td>
</tr>
</tbody>
</table>

¹ gpf = gallons per flush
² Reduced shower use from shorter time use and reduced flow. Reduced washer use from fuller loads.
³ Fixtures include ULF 1.28 gpf toilets, 2.5 gpm showerheads, and efficient clothes washers.
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

In the event of a loss of imported water, the City may augment its groundwater supply by through the use of its groundwater storage account or by over-pumping by up to 10% of its allowable pumping rights.

In the event of a loss of groundwater, the City may request additional surface water from WBMWD subject to availability.

8.5.2 – Demand Reduction

The majority of the City’s shortage response actions are aimed at reducing demand through prohibitions on end uses and consumption reduction methods.

8.5.2.1 – Prohibitions on End Uses

The prohibitions on end uses for City water supply shortage levels as defined in Ordinance No. 15-02 are discussed in Section 9.2.1.
8.5.2.2 – Consumption Reduction Methods

Consumption reduction methods are actions that are taken by a water agency to reduce water demand within its service area, whereas the prohibitions, addressed in Section 9.2.1, limit specific uses of water. Agencies make their own determination as to which consumption reduction methods, and which stages for employing the methods, are most appropriate for their service area. City of Inglewood consumption reduction methods by WSCP stage are summarized in Table 8.3.

Table 8.3 – Summary of WSCP Consumption Reduction Methods

<table>
<thead>
<tr>
<th>Stage</th>
<th>Consumption Reduction Method</th>
<th>Additional Explanation</th>
</tr>
</thead>
<tbody>
<tr>
<td>1, 2, 3</td>
<td>Expand Public Information Campaign</td>
<td>The City’s main website contains information on water conservation including: • Current status of the water conservation program • Links to the water conservation ordinances • Tips regarding water use and conservation • Links to other websites concerning water conservation, rebate programs, &amp; water saving ideas</td>
</tr>
<tr>
<td>1, 2, 3</td>
<td>Improve Customer Billing</td>
<td>The City has implemented a tiered rate structure which discourages increased water use.</td>
</tr>
<tr>
<td>1, 2, 3</td>
<td>Increase Frequency of Meter Reading</td>
<td>City monitors its water usage by water use category. Any changes in water demand patterns can be easily noticed and acted upon as required.</td>
</tr>
<tr>
<td>1, 2, 3</td>
<td>Provide Rebates on Plumbing Fixtures and Devices</td>
<td>City participates in several programs to encourage the retrofit of residential plumbing including: low flow showerheads, toilet dams, high-eff. toilets, high-eff. washing machines, &amp; SMART Irrigation Controllers.</td>
</tr>
<tr>
<td>1, 2, 3</td>
<td>Reduce System Water Loss</td>
<td>If, during routine inspection of the system, leaks are encountered or suspected, further evaluation is conducted, and if leaks are found, they are repaired.</td>
</tr>
</tbody>
</table>

8.5.3 – Emergency Response Plan

The City is preparing an emergency response plan per the America’s Water Infrastructure Act of 2018.
8.5.4 – 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.

Per the City of Inglewood 2010 Multi-Hazard Mitigation Plan, earthquakes are ranked as a high hazard. The Newport-Inglewood fault\(^\text{15}\) transects the City, as shown in Figure 8.1.

Figure 8.1 – Newport-Inglewood Fault Map

Since MWD supplies a majority of the potable water to the City, it is important to understand the storage capability of MWD and the emergency storage requirements that MWD maintains. The following is a synopsis of MWD’s Emergency Storage Requirements.

MWD’s criteria for determining emergency storage requirements were established in the October 1991 Final Environmental Impact Report for the Eastside Reservoir, which is now named Diamond Valley Lake. They were again discussed in Southern California’s 1996 Integrated Resources Plan. MWD’s Board has approved both of these documents.

Emergency storage requirements are based on the potential of a major earthquake damaging the aqueducts that transport Southern California’s imported water supplies (SWP, CRA, and Los Angeles Aqueduct). The adopted criteria assume that damage from such an event could render the aqueducts out of service for six months. MWD’s planning, therefore, is based on 100% reduction in its supplies for a period of six months.

MWD’s emergency planning is based on a greater shortage than required to safeguard the region from catastrophic loss of water supply, MWD has made substantial investments in emergency storage. The emergency plan outlines that under such a catastrophe, interruptible service deliveries would be suspended and firm supplies to member agencies would be restricted by a mandatory cutback of 25% from normal-year demand levels.

At the same time, water stored in surface reservoirs and groundwater basins under MWD’s interruptible program would be made available, and MWD would draw on its emergency storage, as well as other available storage. MWD has reserved approximately half of Diamond Valley Lake storage to meet such an emergency, while the remainder is available for dry-year and seasonal supplies. In addition, MWD has access to emergency storage at its other reservoirs, at the SWP terminal reservoirs, and in its groundwater conjunctive use storage accounts.

With few exceptions, MWD can deliver this emergency supply throughout its service area via gravity, thereby eliminating dependence on power sources that could also be disrupted by a major earthquake. The WSDM Plan (MWD, 1999) shortage stages will guide MWD’s management of available supplies and resources during the emergency to minimize the impacts of the catastrophe.

MWD has a long-standing policy to develop and maintain emergency storage reserves to ensure that Southern California has access to water during emergency conditions such as earthquakes and other disasters. MWD’s emergency storage planning criteria was codified in the 1991 Environmental Impact Report for Diamond Valley Lake. The emergency storage planning criteria defined that the region should maintain adequate surface storage reserves to serve 75% of the firm retail demands for a six-month period. Further, it defined that these surface storage reserves should reside inside of the major earthquake fault lines that cross the SWP, CRA and Los Angeles Aqueduct (LAA).
8.5.5 – Shortage Response Action Effectiveness

Implementation of restrictions for a Level 1 Water Supply Shortage is anticipated to yield a 10% reduction in demand. Level 1 primarily focuses on irrigation constraints and fixing leaks. Landscape irrigation is reduced to three days per week during the winter months and two days per week during the summer months.

Implementation of restrictions for a Level 2 Water Supply Shortage is anticipated to yield a 20% reduction in demand. Level 2 primarily focuses on irrigation constraints, fixing leaks and discontinuation of ornamental water features. Landscape irrigation is reduced to two days per week during the winter months and one day per week during the summer months.

Implementation of restrictions for a Level 3 Water Supply Shortage is anticipated to yield a 50% reduction in demand. Level 2 primarily focuses on irrigation prohibition, fixing leaks, discontinuation of ornamental water features and pools, no new water services permitted.

8.6 – Communication Protocols

<table>
<thead>
<tr>
<th>Water Code Section 10632 (a)(5)</th>
</tr>
</thead>
<tbody>
<tr>
<td>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:</td>
</tr>
<tr>
<td>(A) Any current or predicted shortages as determined by the annual water supply and demand assessment described pursuant to Section 10632.1.</td>
</tr>
<tr>
<td>(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.</td>
</tr>
<tr>
<td>(C) Any other relevant communications</td>
</tr>
</tbody>
</table>

The City communicates with its water customers through the City websites and billing inserts. Current or predicted water shortages and other relevant communications will be shared through this method, as well as through announcements on the City’s website.
8.7 – Compliance and Enforcement

As part of Ordinance No. 15-02, water use restrictions are set forth in Section 10-210 “Level of Water Shortage”, and penalties imposed for violation are described in Section 10-212 “Penalties and Violations”. The penalties are based upon the number and frequency of violations and are discussed below:

a. Any violation may be prosecuted as a misdemeanor punishable by imprisonment in the County jail for not more than thirty days or by fine not exceeding $1,000 or by both.

b. For the first violation a written notice will be given to the customer.

c. For the second violation within the preceding (12) twelve calendar months, a penalty of not to exceed one hundred dollars ($100.00) shall be imposed by written notice to the customer.

d. For the third violation within the preceding (12) twelve calendar months a penalty of not to exceed two hundred and fifty dollars ($250.00) shall be imposed by written notice to the customer.

e. For the fourth violation within the preceding twelve (12) calendar months, a penalty of not to exceed five hundred dollars ($500.00) shall be imposed by written notice to the customer.

The City may also give written notice to the customer indicating that it will install a flow restricting device of 1 GPM capacity for services up to one and one half inch meter size, and comparatively sized restrictors for larger services, on the service of the customer at the premises at which the violation occurred for a period of not less than forty-eight (48) hours. The charge for installing such a flow restricting device will be based upon the size of the meter and the actual cost of installation. The charge for removal of the flow restricting device and restoration of normal service shall be based on the actual cost involved.

f. In addition to any fines and the installation of a flow restrictor, the City may disconnect a customer’s water service for willful violations of mandatory restrictions.
8.8 – Legal Authorities

**Water Code Section 10632 (a)(7)**

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

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

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

**Water Code Section Division 1, Section 350**

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

Per Ordinance No. 15-02:

WHEREAS, the City receives its water supply from two sources: 80% from Metropolitan Water District, through the West Basin Municipal Water District (surface water from Colorado River and Northern California), and 20% from local groundwater produced from City wells; and

WHEREAS, both surface water and ground water supply is continuously depleting due to dry weather conditions requiring reduction in consumption; and

WHEREAS, City well production capacity has substantially depleted due to age of the four (4) existing wells (2 wells drilled in 1974 and one in 1990); and

WHEREAS, the City will be primarily dependent on surface water supply because it will be 2-3 years before the City drills two new wells and improves its local water supply; and

WHEREAS, on January 17, 2014, the Governor issued a proclamation of a state of emergency under the California Emergency Services Act based on drought conditions; and

WHEREAS, on April 25, 2014, the Governor issued a proclamation of a continued state of emergency under the California Emergency Services Act based on continued drought conditions; and

WHEREAS, the drought conditions that formed the basis of the Governor’s emergency proclamations continue to exist; and,

WHEREAS, the present year is critically dry and has been immediately preceded by two or more consecutive below normal, dry, or critically dry years; and,
WHEREAS, the drought conditions will likely continue for the foreseeable future and additional action by both the State Water Resources Control Board and local water suppliers will likely be necessary to further promote conservation; and,

WHEREAS, wasteful use of water is detrimental to the long-term water supplies of the City of Inglewood; and,

WHEREAS, the long-term health, safety, and prosperity of the community depends upon having a reliable long-term supply of potable water; and,

WHEREAS, the State Water Resources Control Board adopted Article X. Prohibition of Activities and Mandatory Actions During Drought Emergency at its July 15, 2014, meeting, which became effective August 1, 2014, whose Section X.1 prohibits certain activities in promotion of water conservation; and

WHEREAS, urban water suppliers that violate the mandatory actions approved by the State Water Resources Control Board could be subject to cease and desist orders for violating emergency regulations with fines up to $10,000 per day; and,

WHEREAS, the California Water Code Section 10632 requires that stages of action to be undertaken by the urban water supplier in response to water supply shortages, including up to a 50 percent reduction in water supply.

When necessary, the City will declare a water shortage emergency in accordance with CWC Chapter 3. The City will coordinate internally as well as with Los Angeles County for the possible proclamation of a local emergency.
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.

A reduction in supply availability during a drought period would impact revenues for potable water. The anticipated shortfall in net operating revenues could be dealt with in a variety of individual approaches or combinations thereof including:

1. Increasing water commodity and service charges to offset revenue shortfalls;
2. Reducing annual operating expenses; including salaries, benefits, maintenance and improvement programs, and the use of outside professional services;
3. Utilizing appropriated and unappropriated fund balances and reserves earmarked for long range capital improvements to offset the operating shortfall; and
4. Temporarily diverting General fund tax revenues earmarked for future capital improvements to offset net operating losses.

The most feasible, and least disruptive, alternative would be to divert general tax revenues from future capital improvements to operating expenses. Because of prolonged drought periods affecting City water customers in the early 1990’s as well as over the past few years, the City is prepared to implement both voluntary and mandatory conservation provisions when necessary. Conservation measures adopted during the two most recent drought periods proved effective. The City’s drought and emergency management measures are designed to deliver necessary water savings, while minimizing, to the extent possible, any negative effects on the lifestyles and economic basis of the City’s customers. The cost of purchase of potable and recycled water from WBMWD at continuously increasing higher rates also affects operational expenses.
8.10 – Monitoring and Reporting

In accordance with City Ordinance No. 15-02, water use reporting requirements will be adjusted to reflect the level of the declared shortage. Under normal water supply conditions, potable water production figures are recorded daily and totals are generally reported on a weekly basis.

During a declared water shortage, daily water production figures will be reported to applicable City staff. The water usage information will be compared to the target weekly production to verify that the reduction goal is being met. In the event targets are not being met, City staff will report that information to the City Manager. A monthly summary will be furnished to the City Council.

These modified reporting procedures will keep all levels of City government informed of water use during emergency water shortages so as to ensure responsive actions as required to protect public safety and provide essential water services.

8.11 – WSCP Refinement Procedures

The City reevaluates its WSCP procedures 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.*

Per Ordinance No. 15-02, operating a water fountain or other decorative water feature that does not use recirculated water is prohibited at any time.

Upon declaration of a Level 2 Water Supply Shortage, ornamental lakes or ponds can no longer be filled unless required to maintain actively managed aquatic life of significant value.

Upon declaration of a Level 3 Water Supply Shortage, the use of ornamental fountains or similar decorative devices must be discontinued unless recycled water is used. In addition, filling of swimming pools and outdoor spas is prohibited.

8.13 – Plan Adoption, Submittal, and Availability

*Water Code Section 10632 (a)(c)*

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

The WSCP will be provided 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 a coordinated effort at the wholesale and retail levels. However, DWR acknowledges that there may be local influences on the viability of individual DMMs and makes allowances for non-implementation.

9.2 – Existing Demand Management Measures for Retail Suppliers

Historically, the City implements a wide array of conservation measures to discourage water waste and encourage water use efficiency. Additionally, the City participates in water conservation programs developed and implemented by its regional imported water supplier WBMWD.

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

A water waste ordinance explicitly states that the waste of water is to be prohibited. The ordinance may prohibit specific actions that waste water, such as excessive runoff from landscape irrigation, or use of a hose outdoors without a shut off nozzle. A water waste prevention ordinance is in place at all times and is not dependent upon a water shortage for implementation. However, a water waste ordinance may include increasingly restrictive prohibitions that may be implemented in response to shortages.

On October 21, 2014, the City adopted Ordinance No. 15-02, “An Ordinance of the City of Inglewood, California Amending Section 5-110 of Article 7 of Chapter 5 and Adding an Article 19 to Chapter 10 (Public Works) to Establish a Water Conservation and Water Supply Shortage Program”. Section 10-208 of Ordinance No. 15-02 establishes permanent water conservation requirements in the form of thirteen practices residents and businesses must implement to avoid unreasonable water use and waste, thereby serving as the City’s Water Waste Prevention Ordinance.

Per Section 10-208 of Ordinance No. 15-02:

The following water conservation requirements are effective at all times and are permanent. Violations of this Article will be considered waste and an unreasonable use of water.

(1) Limits on Watering Hours: Watering or irrigating of lawn, landscape or other vegetated area with Potable Water is prohibited between the hours of 9:00 a.m. and 4:00 p.m. Pacific Standard Time, except by use of a hand-held bucket or similar container, a hand-held hose equipped with a positive self-closing water shutoff nozzle or device, or for very short periods of time for the express purpose of adjusting or repairing an irrigation system.

(2) Limit on Watering Duration: Watering or irrigating of lawn, landscape or other vegetated area with Potable Water using a landscape irrigation system or a watering device that is not continuously attended is limited to no more than fifteen (15) minutes watering per day per Station. This subsection does not apply to landscape irrigation systems that exclusively use very low-flow drip type irrigation systems when no Emitter produces more than two (2) gallons of water per hour and weather based controllers or stream rotor sprinklers that meet a 70% efficiency standard.

(3) No Excessive Water Flow or Runoff: Watering or irrigating of any lawn, landscape or other vegetated area in a manner that causes or allows excessive water flow or Runoff onto an adjoining sidewalk, driveway, street, alley, gutter, ditch or adjacent property is prohibited.

(4) No Washing Down Hard or Paved Surfaces: Washing down hard or paved surfaces, including but not limited to sidewalks, walkways, driveways, parking areas, tennis courts, patios or alleys, is prohibited except when necessary to alleviate safety or sanitary hazards, and then only by use of a hand-held bucket or similar container, a hand-held hose equipped with a positive self-closing water shut-off device, a low-volume, high-pressure cleaning machine equipped to recycle any water used, or a low-volume high-pressure water broom.

(5) Obligation to Fix Leaks, Breaks or Malfunctions: Excessive use, loss or escape of water through breaks, leaks or other malfunctions in the water user’s plumbing or distribution system for any period of time after such escape of water should have reasonably been
discovered and corrected and in no event more than three (3) days of receiving notice from the City of Inglewood, is prohibited.

(6) Recirculating Water Required for Water Fountains and Decorative Water Features: Operating a water fountain or other decorative water feature that does not use recirculated water is prohibited.

(7) Limits on Washing Vehicles: Using water to wash or clean a vehicle, including but not limited to any automobile, truck, van, bus, motorcycle, boat or trailer, whether motorized or not is prohibited, except by use of a hand-held bucket or similar container or a hand-held hose equipped with a positive self-closing water shut-off nozzle or device. This subsection does not apply to any commercial car washing facility.

(8) Drinking Water Served Upon Request Only: Eating or-drinking establishments, including but not limited to a restaurant, hotel, cafe, cafeteria, bar, or other public place where food or drinks are sold, served, or offered for sale, are prohibited from providing drinking water to any Person unless expressly requested.

(9) Commercial Lodging Establishments Must Provide Guests Option to Decline Daily Linen Services: Hotels, motels and other commercial lodging establishments must provide customers the option of not having towels and linen laundered daily. Commercial lodging establishments must prominently display notice of this option in each bathroom using clear and easily understood language.


(11) No Installation of Non-re-circulating Water Systems in Commercial Car Wash and Laundry Systems: Installation of non-re-circulating water systems is prohibited in new commercial conveyor car wash and new commercial laundry systems.

(12) Restaurants Required to Use Water Conserving Dish Wash Spray Valves: Food preparation establishments, such as restaurants or cafes, are prohibited from using non-water conserving dish wash spray valves.

(13) Commercial Car Wash Systems: Effective on September 1, 2015, all commercial conveyor car wash systems must have installed operational re-circulating water systems, or must have secured a waiver of this requirement from the City of Inglewood.
9.2.2 – Metering

<table>
<thead>
<tr>
<th>Water Code Section 526 (a)</th>
</tr>
</thead>
<tbody>
<tr>
<td>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:</td>
</tr>
<tr>
<td>(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.</td>
</tr>
</tbody>
</table>

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 meters all customers, including separate metering for residential, commercial, industrial, and municipal (governmental/institutional) facilities, and fire flow.

The City calibrates and replaces meters in the system as needed, as part of its ongoing operations and maintenance program. Large increases in water consumption within a short period of time on any account is noted and investigated. In addition, if any customer questions the water use within his/her own residence or facility, and so informs City staff, the City will investigate the matter to determine the cause.

9.2.3 – Conservation Pricing

In 1999, the City evaluated its water rate structure and modified it to include an increasing block rate structure. This structure was developed to discourage wasteful practices by increasing the unit cost of water as usage increased. The City adopted the increasing rate, in keeping with water conservation and good water system management and phased the new rates over a three-year period.

The City’s current water rates were adopted in 2019. They include three tiers for single family residential users in the potable rate structure based on usage, and a single tier for all other customers. Recycled water rates are charged at 80% of all other customers’ potable water rates to encourage recycled water use as a low cost alternative.

The City carefully considered the economic impact of conservation pricing and determined that this rate structure provides additional revenues needed to maintain the water system and water quality and provide a higher level of service to its customers, in addition to encouraging conservation. The City periodically evaluates the water rate schedules and make appropriate modifications when needed.
9.2.4 – Public Education and Outreach

The City has developed a public information program to educate the public on the benefits of water conservation. The program involves dissemination of information through literature provided at City Hall and other City facilities. Such information is also disseminated through articles published in the City newsletter, presented on local cable television and made available on the City’s website. The City periodically includes informational flyers with the water bills to address water conservation and other important matters.

The City participates in a variety of school education programs in concert with WBMWD and WRD. The Districts have invited children and their parents to the West Basin Water Recycling Facility in El Segundo and the WRD headquarters in Lakewood where they participated in a variety of games and obtained information on the District’s water conservation programs and recycling facilities.

The City will continue to support the school education programs to promote water conservation to that sector of the community. This will be done as a part of normal operation and administrative duties; no separate budget has been created for this program.

The City has participated in many programs to conserve water and educate the public to wise water use. The City increases its educational efforts during times of drought to reinforce the concept of practicing daily water conservation. The City may consider expanding the public education program on water conservation as the need arises, subject to the availability of funding.

9.2.5 – Programs to Assess and Manage Distribution System Real Loss

As a part of normal operation and maintenance of the water system, water division staff performs preventive maintenance on approximately 152 miles of water pipelines. This includes regular valve, meter, detector check, and pipeline maintenance. If, during routine inspection of the system, leaks are encountered or suspected, further evaluation is conducted, and if leaks are found, they are repaired. Additionally, City staff attend a monthly water audit meeting to evaluate and analyze water production, use and water losses that may impact water revenues.

The City conducts annual Water Audits to assess water loss.

9.2.6 – Water Conservation Program Coordination and Staffing Support

The City has assigned an individual to serve as water conservation coordinator and includes implementation of DMMs. The Cross-Connection Specialist will conduct water conservation activities throughout the year and will include public outreach, implementation of DMMs, and other various duties related to water conservation within the City.
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.

See Appendix N for documentation on the City’s recent water conservation activity.

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 been extremely successful in implementing an aggressive water conservation program over the last 10 years. This has resulted in the City achieving its water use target for 2020 in compliance with SB X7-7.
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. This chapter also includes a discussion of the implementation plan.

10.2 – Inclusion of All 2020 Data

The City included all required data for calendar year 2020.

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...

The City issued a notice to Los Angeles County more than 60 days prior to the public hearing. See Appendix D.
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.

Notice was provided to the public in advance of the public hearing. See Appendix I for documentation on the notice.
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 was held July 20, 2021.

10.4.2 – Adoption

Water Code Section 10642
...After the hearing or hearings, the plan or water shortage contingency plan shall be adopted as prepared or as modified after the hearing.

The plan was adopted July 20, 2021. See Appendix J for the Resolution of Adoption.
10.5 – Plan Submittal

Water Code Section 10621
(e) Each urban water supplier shall update and submit its 2020 plan to the department by July 1, 2021...

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

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

The plan will be submitted to the State Library and the Department of Water Resources within 30 days of adoption. A copy of the plan will be provided to Los Angeles County within 60 days of submission.

10.5.1 – Electronic Data Submittal

Water Code Section 10644 (a)(2)
The plan, or amendments to the plan, submitted to the department ... shall be submitted electronically and shall include any standardized forms, tables, or displays specified by the department.

The plan will be submitted to the Department of Water Resources Water Use Efficiency Portal 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.

The plan and water shortage contingency plan will be made available to the public via the City website and a hard copy will be made available at the City during normal business hours.
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 2020 UWMP is amended following adoption, the City will comply with all requirements regarding the amendment process.

10.7.2 – Amending a Water Shortage Contingency Plan

Water Code Section 10644 (b)
If an urban water supplier revises its water shortage contingency plan, the supplier shall submit to the department a copy of its water shortage contingency plan prepared...no later than 30 days after adoption, in accordance with protocols for submission and using electronic reporting tools developed by the department.

In the event the WSCP is amended following adoption, the City will comply with all requirements regarding the amendment process.
This volume is intended to accompany Volume 1 of the City of Inglewood 2020 Urban Water Management Plan (UWMP). Its purpose is to provide reference material cited in the UWMP as mandated by the California Urban Water Management Planning Act or in support thereof.

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Appendix F – WBMWD 2020 Urban Water Management Plan
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Appendix K – DWR Checklist
Appendix L – City Ordinances
Appendix M – Documentation on Seismic Mitigation
Appendix N – Documentation on Water Conservation Activity
References
References


Los Angeles County Sanitation Districts. (2020). *Wastewater Treatment Process at the JWPCP*.

Los Angeles Regional Water Quality Control Board. (2017). *Waste Discharge Requirements and National Pollutant Discharge Elimination System Permit for the Joint Water Pollution Control Plant*.


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WUE and SB X7-7 Standardized Tables
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Submittal Table 2-1 Retail Only: Public Water Systems

<table>
<thead>
<tr>
<th>Public Water System Number</th>
<th>Public Water System Name</th>
<th>Number of Municipal Connections 2020</th>
<th>Volume of Water Supplied 2020 *</th>
</tr>
</thead>
<tbody>
<tr>
<td>CA1910051</td>
<td>City of Inglewood</td>
<td>15,795</td>
<td>9,132</td>
</tr>
</tbody>
</table>

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

NOTES:
<table>
<thead>
<tr>
<th>Select Only One</th>
<th>Type of Plan</th>
<th>Name of RUWMP or Regional Alliance if applicable (select from drop down list)</th>
</tr>
</thead>
<tbody>
<tr>
<td>☑</td>
<td>Individual UWMP</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Water Supplier is also a member of a RUWMP</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Water Supplier is also a member of a Regional Alliance</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Regional Urban Water Management Plan (RUWMP)</td>
<td></td>
</tr>
</tbody>
</table>

NOTES:
<table>
<thead>
<tr>
<th>Submittal Table 2-3: Supplier Identification</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Type of Supplier (select one or both)</strong></td>
</tr>
<tr>
<td>☐  Supplier is a wholesaler</td>
</tr>
<tr>
<td>☑  Supplier is a retailer</td>
</tr>
<tr>
<td><strong>Fiscal or Calendar Year (select one)</strong></td>
</tr>
<tr>
<td>☑  UWMP Tables are in calendar years</td>
</tr>
<tr>
<td>☐  UWMP Tables are in fiscal years</td>
</tr>
<tr>
<td>If using fiscal years provide month and date that the fiscal year begins (mm/dd)</td>
</tr>
<tr>
<td><strong>Units of measure used in UWMP</strong> (select from drop down)</td>
</tr>
<tr>
<td>Unit AF</td>
</tr>
</tbody>
</table>

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

**NOTES:**
<table>
<thead>
<tr>
<th>Wholesale Water Supplier Name</th>
</tr>
</thead>
<tbody>
<tr>
<td>West Basin Municipal Water District</td>
</tr>
</tbody>
</table>

NOTES:
<table>
<thead>
<tr>
<th>Population Served</th>
<th>2020</th>
<th>2025</th>
<th>2030</th>
<th>2035</th>
<th>2040</th>
<th>2045((opt))</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>88,968</td>
<td>89,195</td>
<td>89,353</td>
<td>89,461</td>
<td>89,536</td>
<td>89,587</td>
</tr>
</tbody>
</table>

NOTES:
<table>
<thead>
<tr>
<th>Use Type</th>
<th>2020 Actual</th>
<th>Additional Description (as needed)</th>
<th>Level of Treatment When Delivered Drop down list</th>
<th>Volume</th>
</tr>
</thead>
<tbody>
<tr>
<td>Commercial</td>
<td>2,343</td>
<td>Commercial</td>
<td>Drinking Water</td>
<td></td>
</tr>
<tr>
<td>Industrial</td>
<td>60</td>
<td>Industrial</td>
<td>Drinking Water</td>
<td></td>
</tr>
<tr>
<td>Institutional/Governmental</td>
<td>113</td>
<td>Municipal</td>
<td>Drinking Water</td>
<td></td>
</tr>
<tr>
<td>Losses</td>
<td>275</td>
<td>Losses</td>
<td>Drinking Water</td>
<td></td>
</tr>
<tr>
<td>Other</td>
<td>6,337</td>
<td>Total Residential</td>
<td>Drinking Water</td>
<td></td>
</tr>
<tr>
<td>Other</td>
<td>4</td>
<td>Fire</td>
<td>Drinking Water</td>
<td></td>
</tr>
</tbody>
</table>

**NOTES:**

1. Recycled water demands are NOT reported in this table. Recycled water demands are reported in Table 6-4.
2. Units of measure (AF, CCF, MG) must remain consistent throughout the UWMP as reported in Table 2-3.
### Submittal Table 4-2 Retail: Use for Potable and Non-Potable Water - Projected

<table>
<thead>
<tr>
<th>Use Type</th>
<th>Additional Description (as needed)</th>
<th>Projected Water Use&lt;sup&gt;2&lt;/sup&gt;</th>
<th>2025</th>
<th>2030</th>
<th>2035</th>
<th>2040</th>
<th>2045 (opt)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Report To the Extent that Records are Available</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Residential</td>
<td></td>
<td></td>
<td>6,818</td>
<td>6,872</td>
<td>6,943</td>
<td>7,026</td>
<td>7,120</td>
</tr>
<tr>
<td>Commercial</td>
<td></td>
<td></td>
<td>2,693</td>
<td>2,713</td>
<td>2,739</td>
<td>2,770</td>
<td>2,804</td>
</tr>
<tr>
<td>Industrial</td>
<td></td>
<td></td>
<td>61</td>
<td>61</td>
<td>62</td>
<td>63</td>
<td>64</td>
</tr>
<tr>
<td>Municipal</td>
<td></td>
<td></td>
<td>114</td>
<td>115</td>
<td>116</td>
<td>118</td>
<td>119</td>
</tr>
<tr>
<td>Fire</td>
<td></td>
<td></td>
<td>7</td>
<td>7</td>
<td>7</td>
<td>7</td>
<td>7</td>
</tr>
<tr>
<td>Real &amp; Apparent Losses</td>
<td></td>
<td></td>
<td>469</td>
<td>473</td>
<td>478</td>
<td>484</td>
<td>491</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td></td>
<td></td>
<td>10,162</td>
<td>10,241</td>
<td>10,345</td>
<td>10,468</td>
<td>10,605</td>
</tr>
</tbody>
</table>

<sup>1</sup> Recycled water demands are NOT reported in this table. Recycled water demands are reported in Table 6-4.

<sup>2</sup> Units of measure (AF, CCF, MG) must remain consistent throughout the UWMP as reported in Table 2-3.

**NOTES:**

- Add additional rows as needed.
### Submittal Table 4-3 Retail: Total Water Use (Potable and Non-Potable)

<table>
<thead>
<tr>
<th></th>
<th>2020</th>
<th>2025</th>
<th>2030</th>
<th>2035</th>
<th>2040</th>
<th>2045 (opt)</th>
</tr>
</thead>
</table>
| Potable Water, Raw, Other Non-potable  
*From Tables 4-1R and 4-2 R* | 9,132 | 10,162 | 10,241 | 10,345 | 10,468 | 10,605     |
| Recycled Water Demand¹  
*From Table 6-4* | 800 | 800 | 800 | 800 | 800 | 800       |
| Optional Deduction of Recycled Water Put Into Long-Term Storage² |      |      |      |      |      |            |
| **TOTAL WATER USE**          | 9,932 | 10,962 | 11,041 | 11,145 | 11,268 | 11,405     |

¹ Recycled water demand fields will be blank until Table 6-4 is complete

² Long term storage means water placed into groundwater or surface storage that is not removed from storage in the same year. Supplier *may* deduct recycled water placed in long-term storage from their reported demand. This value is manually entered into Table 4-3.

**NOTES:**
### Submittal Table 4-4  Retail: Last Five Years of Water Loss Audit Reporting

<table>
<thead>
<tr>
<th>Reporting Period Start Date (mm/yyyy)</th>
<th>Volume of Water Loss</th>
</tr>
</thead>
<tbody>
<tr>
<td>01/2016</td>
<td>68</td>
</tr>
<tr>
<td>01/2017</td>
<td>554</td>
</tr>
<tr>
<td>01/2018</td>
<td>298</td>
</tr>
<tr>
<td>01/2019</td>
<td>181</td>
</tr>
<tr>
<td>01/2020</td>
<td>275</td>
</tr>
</tbody>
</table>

1. Taken from the field “Water Losses” (a combination of apparent losses and real losses) from the AWWA worksheet.
2. Units of measure (AF, CCF, MG) must remain consistent throughout the UWMP as reported in Table 2-3.

**NOTES:** At the time of this submittal, the 2020 Water Audit was not complete. Water losses for 2020 were estimated at 275 AFY, or 3.0% of total water use.
<table>
<thead>
<tr>
<th><strong>Submittal Table 4-5 Retail Only: Inclusion in Water Use Projections</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Are Future Water Savings Included in Projections?</strong></td>
</tr>
<tr>
<td>(Refer to Appendix K of UWMP Guidebook)</td>
</tr>
<tr>
<td><em>Drop down list (y/n)</em></td>
</tr>
<tr>
<td><strong>Yes</strong></td>
</tr>
<tr>
<td>If &quot;Yes&quot; to above, state the section or page number, in the</td>
</tr>
<tr>
<td>cell to the right, where citations of the codes, ordinances,</td>
</tr>
<tr>
<td>or otherwise are utilized in demand projections are found.</td>
</tr>
<tr>
<td><strong>Chapter 9, 2020 UWMP</strong></td>
</tr>
<tr>
<td><strong>Are Lower Income Residential Demands Included In Projections?</strong></td>
</tr>
<tr>
<td><em>Drop down list (y/n)</em></td>
</tr>
<tr>
<td><strong>Yes</strong></td>
</tr>
</tbody>
</table>

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

<table>
<thead>
<tr>
<th>Baseline Period</th>
<th>Start Year *</th>
<th>End Year *</th>
<th>Average Baseline GPCD*</th>
<th>Confirmed 2020 Target*</th>
</tr>
</thead>
<tbody>
<tr>
<td>10-15 year</td>
<td>1996</td>
<td>2005</td>
<td>121.1</td>
<td></td>
</tr>
<tr>
<td>5 Year</td>
<td>2004</td>
<td>2008</td>
<td>117.9</td>
<td>112</td>
</tr>
</tbody>
</table>

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

NOTES:
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>91.6</td>
<td>0</td>
<td>-</td>
<td>112</td>
<td>Y</td>
</tr>
</tbody>
</table>

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

NOTES:
### Submittal Table 6-1  Retail: Groundwater Volume Pumped

- **Supplier does not pump groundwater.**
  The supplier will not complete the table below.

- **All or part of the groundwater described below is desalinated.**

<table>
<thead>
<tr>
<th>Groundwater Type</th>
<th>Location or Basin Name</th>
<th>2016*</th>
<th>2017*</th>
<th>2018*</th>
<th>2019*</th>
<th>2020*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Alluvial Basin</td>
<td>West Coast Groundwater Basin</td>
<td>2312</td>
<td>2385</td>
<td>1608</td>
<td>2535</td>
<td>3062</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
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</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**TOTAL**

|       | 2,312 | 2,385 | 1,608 | 2,535 | 3,062 |

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

**NOTES:**
### Submittal Table 6-2 Retail: Wastewater Collected Within Service Area in 2020

There is no wastewater collection system. The supplier will not complete the table below.

<table>
<thead>
<tr>
<th>Wastewater Collection</th>
<th>Recipient of Collected Wastewater</th>
</tr>
</thead>
<tbody>
<tr>
<td>Name of Wastewater Collection Agency</td>
<td>Name of Wastewater Treatment Agency Receiving Collected Wastewater</td>
</tr>
<tr>
<td>Wastewater Volume Metered or Estimated? Drop Down List</td>
<td>Treatment Plant Name</td>
</tr>
<tr>
<td>Volume of Wastewater Collected from UWMP Service Area 2020 *</td>
<td>Is WWTP Located Within UWMP Area? Drop Down List</td>
</tr>
<tr>
<td>Is WWTP Operation Contracted to a Third Party? (optional) Drop Down List</td>
<td></td>
</tr>
</tbody>
</table>

| LACSD | Estimated | 5,479 | LACSD | Joint Water Pollution Control Plant | No |

| Total Wastewater Collected from Service Area in 2020: | 5,479 |

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

NOTES:
Submittal Table 6-3 Retail: Wastewater Treatment and Discharge Within Service Area in 2020

No wastewater is treated or disposed of within the UWMP service area. The supplier will not complete the table below.

<table>
<thead>
<tr>
<th>Wastewater Treatment Plant Name</th>
<th>Discharge Location Name or Identifier</th>
<th>Discharge Location Description</th>
<th>Wastewater Discharge ID Number (optional)</th>
<th>Method of Disposal</th>
<th>Does This Plant Treat Wastewater Generated Outside the Service Area?</th>
<th>Treatment Level</th>
<th>2020 volumes ¹</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Drop down list</td>
<td>Drop down list</td>
<td></td>
<td>Wastewater Treated</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Total 0 0 0 0 0 0

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

² If the Wastewater Discharge ID Number is not available to the UWMP preparer, access the SWRCB CIWQS regulated facility website at https://ciwqs.waterboards.ca.gov/ciwqs/readOnly/CiwqsReportServlet?inCommand=reset&reportName=RegulatedFacility

NOTES:
### Submittal Table 6-4 Retail: Recycled Water Direct Beneficial Uses Within Service Area

<table>
<thead>
<tr>
<th>Beneficial Use Type</th>
<th>Potential Beneficial Uses of Recycled Water (Describe)</th>
<th>Amount of Potential Uses of Recycled Water (Quantity)</th>
<th>General Description of 2020 Uses</th>
<th>Level of Treatment Drop down list</th>
<th>2020</th>
<th>2025</th>
<th>2030</th>
<th>2035</th>
<th>2040</th>
<th>2045 (opt)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Agricultural irrigation</td>
<td>Irrigation</td>
<td>Irrigation at Commercial and Municipal facilities</td>
<td>Tertiary</td>
<td>800</td>
<td>800</td>
<td>800</td>
<td>800</td>
<td>800</td>
<td>800</td>
<td></td>
</tr>
<tr>
<td>Golf course irrigation</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Commercial use</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Industrial use</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Geothermal and other energy production</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Seawater intrusion barrier</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Recreational impoundment</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Wetlands or wildlife habitat</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Groundwater recharge (IPR)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Reservoir water augmentation (IPR)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Direct potable reuse</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Other (Description Required)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Total:</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>800</td>
<td>800</td>
<td>800</td>
<td>800</td>
<td>800</td>
<td>800</td>
</tr>
</tbody>
</table>

**2020 Internal Reuse**: [Insert]

**NOTES:**

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

Recycled water is not used and is not planned for use within the service area of the supplier. The supplier will not complete the table below.

Name of Supplier Producing (Treating) the Recycled Water: WBMWD

Name of Supplier Operating the Recycled Water Distribution System: WBMWD

Supplemental Water Added in 2020 (volume) *Include units*
## Submittal Table 6-5 Retail: 2015 UWMP Recycled Water Use Projection Compared to 2020
### Actual

Recycled water was not used in 2015 nor projected for use in 2020. The supplier will not complete the table below. If recycled water was not used in 2020, and was not predicted to be in 2015, then check the box and do not complete the table.

### Beneficial Use Type

<table>
<thead>
<tr>
<th>Beneficial Use Type</th>
<th>2015 Projection for 2020</th>
<th>2020 Actual Use</th>
</tr>
</thead>
<tbody>
<tr>
<td>Agricultural irrigation</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Landscape irrigation (exc golf courses)</td>
<td>1,060</td>
<td>800</td>
</tr>
<tr>
<td>Golf course irrigation</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Commercial use</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Industrial use</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Geothermal and other energy production</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Seawater intrusion barrier</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Recreational impoundment</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Wetlands or wildlife habitat</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Groundwater recharge (IPR)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Reservoir water augmentation (IPR)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Direct potable reuse</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Other (Description Required)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Total: 1,060 800

---

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

**NOTE:**
### Submittal Table 6-6 Retail: Methods to Expand Future Recycled Water Use

Supplier does not plan to expand recycled water use in the future. Supplier will not complete the table below but will provide narrative explanation.

<table>
<thead>
<tr>
<th>Name of Action</th>
<th>Description</th>
<th>Planned Implementation Year</th>
<th>Expected Increase in Recycled Water Use *</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td></td>
<td></td>
<td>0</td>
</tr>
</tbody>
</table>

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

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

<table>
<thead>
<tr>
<th>Name of Future Projects or Programs</th>
<th>Joint Project with other suppliers?</th>
<th>Description (if needed)</th>
<th>Planned Implementation Year</th>
<th>Planned for Use in Year Type</th>
<th>Expected Increase in Water Supply to Supplier*</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Drop Down List (y/n)</td>
<td></td>
<td></td>
<td></td>
<td>This may be a range</td>
</tr>
<tr>
<td></td>
<td>If Yes, Supplier Name</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Add additional rows as needed</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

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

NOTES:
## Submittal Table 6-8  Retail: Water Supplies — Actual

**Water Supply** | **Additional Detail on Water Supply** | **2020** | **Water Quality Drop Down List** | **Total Right or Safe Yield* (optional)**
---|---|---|---|---
| | | Actual Volume* | | |

*Add additional rows as needed*

<table>
<thead>
<tr>
<th>Water Supply</th>
<th></th>
<th>Actual Volume*</th>
<th>Water Quality Drop Down List</th>
<th>Total Right or Safe Yield* (optional)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Groundwater (not desalinated)</td>
<td>WCGB</td>
<td>3,062</td>
<td>Drinking Water</td>
<td></td>
</tr>
<tr>
<td>Recycled Water</td>
<td>WBMWD</td>
<td>800</td>
<td>Recycled Water</td>
<td></td>
</tr>
<tr>
<td>Purchased or Imported Water</td>
<td>Treated Metropolitan water via WBMWD</td>
<td>5,972</td>
<td>Drinking Water</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Total** | 9,834 | 0 |

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

**NOTES:**
### Submittal Table 6-9 Retail: Water Supplies — Projected

<table>
<thead>
<tr>
<th>Water Supply</th>
<th>Additional Detail on Water Supply</th>
<th>2025</th>
<th>2030</th>
<th>2035</th>
<th>2040</th>
<th>2045 (opt)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Reasonably Available Volume</td>
<td>Total Right or Safe Yield (optional)</td>
<td>Reasonably Available Volume</td>
<td>Total Right or Safe Yield (optional)</td>
<td>Reasonably Available Volume</td>
</tr>
<tr>
<td>Groundwater (not desalinated)</td>
<td>WCGB</td>
<td>2,200</td>
<td>2,200</td>
<td>2,200</td>
<td>2,200</td>
<td>2,200</td>
</tr>
<tr>
<td>Purchased or Imported Water</td>
<td>WBMWD</td>
<td>9,000</td>
<td>9,000</td>
<td>9,000</td>
<td>9,000</td>
<td>9,000</td>
</tr>
<tr>
<td>Recycled Water</td>
<td>WBMWD</td>
<td>800</td>
<td>800</td>
<td>800</td>
<td>800</td>
<td>800</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td></td>
<td>12,000</td>
<td>0</td>
<td>12,000</td>
<td>0</td>
<td>12,000</td>
</tr>
</tbody>
</table>

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

**NOTES**

- May use each category multiple times.
- These are the only water supply categories that will be recognized by the WUEdata online submittal tool.
- Add additional rows as needed.
## Submittal Table 7-1 Retail: Basis of Water Year Data (Reliability Assessment)

<table>
<thead>
<tr>
<th>Year Type</th>
<th>Base Year</th>
<th>Available Supplies if Year Type Repeats</th>
</tr>
</thead>
<tbody>
<tr>
<td>Average Year</td>
<td>2019</td>
<td>Quantification of available supplies is not compatible with this table and is provided elsewhere in the UWMP.</td>
</tr>
<tr>
<td>Single-Dry Year</td>
<td>2006</td>
<td>Location</td>
</tr>
<tr>
<td>Consecutive Dry Years 1st Year</td>
<td>2012</td>
<td>Quantification of available supplies is provided in this table as either volume only, percent only, or both.</td>
</tr>
<tr>
<td>Consecutive Dry Years 2nd Year</td>
<td>2013</td>
<td></td>
</tr>
<tr>
<td>Consecutive Dry Years 3rd Year</td>
<td>2014</td>
<td></td>
</tr>
<tr>
<td>Consecutive Dry Years 4th Year</td>
<td>2015</td>
<td></td>
</tr>
<tr>
<td>Consecutive Dry Years 5th Year</td>
<td>2016</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Volume Available *</th>
<th>% of Average Supply</th>
</tr>
</thead>
<tbody>
<tr>
<td>Average Year</td>
<td>100%</td>
</tr>
<tr>
<td>Single-Dry Year</td>
<td>100%</td>
</tr>
<tr>
<td>Consecutive Dry Years 1st Year</td>
<td>100%</td>
</tr>
<tr>
<td>Consecutive Dry Years 2nd Year</td>
<td>100%</td>
</tr>
<tr>
<td>Consecutive Dry Years 3rd Year</td>
<td>100%</td>
</tr>
<tr>
<td>Consecutive Dry Years 4th Year</td>
<td>100%</td>
</tr>
<tr>
<td>Consecutive Dry Years 5th Year</td>
<td>100%</td>
</tr>
</tbody>
</table>

Supplier may use multiple versions of Table 7-1 if different water sources have different base years and the supplier chooses to report the base years for each water source separately. If a Supplier uses multiple versions of Table 7-1, in the "Note" section of each table, state that multiple versions of Table 7-1 are being used and identify the particular water source that is being reported in each table.

*Units of measure (AF, CCF, MG) must remain consistent throughout the UWMP as reported in Table 2-3.*
### Submittal Table 7-2 Retail: Normal Year Supply and Demand Comparison

<table>
<thead>
<tr>
<th></th>
<th>2025</th>
<th>2030</th>
<th>2035</th>
<th>2040</th>
<th>2045 (Opt)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Supply totals</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(autofill from Table 6-9)</td>
<td>12,000</td>
<td>12,000</td>
<td>12,000</td>
<td>12,000</td>
<td>12,000</td>
</tr>
<tr>
<td>Demand totals</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(autofill from Table 4-3)</td>
<td>10,962</td>
<td>11,041</td>
<td>11,145</td>
<td>11,268</td>
<td>11,405</td>
</tr>
<tr>
<td>Difference</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>1,038</td>
<td>959</td>
<td>855</td>
<td>732</td>
<td>595</td>
</tr>
</tbody>
</table>

NOTES:
### Submittal Table 7-3 Retail: Single Dry Year Supply and Demand Comparison

<table>
<thead>
<tr>
<th></th>
<th>2025</th>
<th>2030</th>
<th>2035</th>
<th>2040</th>
<th>2045 (Opt)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Supply totals*</td>
<td>12,000</td>
<td>12,000</td>
<td>12,000</td>
<td>12,000</td>
<td>12,000</td>
</tr>
<tr>
<td>Demand totals*</td>
<td>11,291</td>
<td>11,372</td>
<td>11,479</td>
<td>11,606</td>
<td>11,747</td>
</tr>
<tr>
<td>Difference</td>
<td>709</td>
<td>628</td>
<td>521</td>
<td>394</td>
<td>253</td>
</tr>
</tbody>
</table>

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

NOTES:
<table>
<thead>
<tr>
<th>Year</th>
<th>Supply totals</th>
<th>2025*</th>
<th>2030*</th>
<th>2035*</th>
<th>2040*</th>
<th>2045* (Opt)</th>
</tr>
</thead>
<tbody>
<tr>
<td>First year</td>
<td>Demand totals</td>
<td>11,510</td>
<td>11,593</td>
<td>11,702</td>
<td>11,831</td>
<td>11,975</td>
</tr>
<tr>
<td></td>
<td>Difference</td>
<td>490</td>
<td>407</td>
<td>298</td>
<td>169</td>
<td>25</td>
</tr>
<tr>
<td>Second year</td>
<td>Supply totals</td>
<td>12,000</td>
<td>12,000</td>
<td>12,000</td>
<td>12,000</td>
<td>12,000</td>
</tr>
<tr>
<td></td>
<td>Demand totals</td>
<td>11,510</td>
<td>11,593</td>
<td>11,702</td>
<td>11,831</td>
<td>11,975</td>
</tr>
<tr>
<td></td>
<td>Difference</td>
<td>490</td>
<td>407</td>
<td>298</td>
<td>169</td>
<td>25</td>
</tr>
<tr>
<td>Third year</td>
<td>Supply totals</td>
<td>12,000</td>
<td>12,000</td>
<td>12,000</td>
<td>12,000</td>
<td>12,000</td>
</tr>
<tr>
<td></td>
<td>Demand totals</td>
<td>11,510</td>
<td>11,593</td>
<td>11,702</td>
<td>11,831</td>
<td>11,975</td>
</tr>
<tr>
<td></td>
<td>Difference</td>
<td>490</td>
<td>407</td>
<td>298</td>
<td>169</td>
<td>25</td>
</tr>
<tr>
<td>Fourth year</td>
<td>Supply totals</td>
<td>12,000</td>
<td>12,000</td>
<td>12,000</td>
<td>12,000</td>
<td>12,000</td>
</tr>
<tr>
<td></td>
<td>Demand totals</td>
<td>11,510</td>
<td>11,593</td>
<td>11,702</td>
<td>11,831</td>
<td>11,975</td>
</tr>
<tr>
<td></td>
<td>Difference</td>
<td>490</td>
<td>407</td>
<td>298</td>
<td>169</td>
<td>25</td>
</tr>
<tr>
<td>Fifth year</td>
<td>Supply totals</td>
<td>12,000</td>
<td>12,000</td>
<td>12,000</td>
<td>12,000</td>
<td>12,000</td>
</tr>
<tr>
<td></td>
<td>Demand totals</td>
<td>11,510</td>
<td>11,593</td>
<td>11,702</td>
<td>11,831</td>
<td>11,975</td>
</tr>
<tr>
<td></td>
<td>Difference</td>
<td>490</td>
<td>407</td>
<td>298</td>
<td>169</td>
<td>25</td>
</tr>
<tr>
<td>Sixth year (optional)</td>
<td>Supply totals</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Demand totals</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Difference</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

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

NOTES:
### Submittal Table 7-5: Five-Year Drought Risk Assessment Tables to address Water Code Section 10635(b)

<table>
<thead>
<tr>
<th>Year</th>
<th>Total Water Use</th>
<th>Total Supplies</th>
<th>Surplus/Shortfall w/o WSCP Action</th>
<th>Planned WSCP Actions</th>
<th>Resulting % Use Reduction from WSCP action</th>
</tr>
</thead>
<tbody>
<tr>
<td>2021</td>
<td>11,217</td>
<td>14,250</td>
<td>3,033</td>
<td>WSCP - supply augmentation benefit</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>WSCP - use reduction savings benefit</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Revised Surplus/(shortfall)</td>
<td>3,033</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Resulting % Use Reduction from WSCP action</td>
<td>0%</td>
</tr>
<tr>
<td>2022</td>
<td>11,280</td>
<td>14,250</td>
<td>2,970</td>
<td>WSCP - supply augmentation benefit</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>WSCP - use reduction savings benefit</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Revised Surplus/(shortfall)</td>
<td>2,970</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Resulting % Use Reduction from WSCP action</td>
<td>0%</td>
</tr>
<tr>
<td>2023</td>
<td>11,344</td>
<td>14,250</td>
<td>2,906</td>
<td>WSCP - supply augmentation benefit</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>WSCP - use reduction savings benefit</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Revised Surplus/(shortfall)</td>
<td>2,906</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Resulting % Use Reduction from WSCP action</td>
<td>0%</td>
</tr>
<tr>
<td>2024</td>
<td>11,407</td>
<td>14,250</td>
<td>2,843</td>
<td>WSCP - supply augmentation benefit</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>WSCP - use reduction savings benefit</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Revised Surplus/(shortfall)</td>
<td>2,843</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Resulting % Use Reduction from WSCP action</td>
<td>0%</td>
</tr>
<tr>
<td></td>
<td>2025</td>
<td>Total</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>--------------------------------</td>
<td>---------------</td>
<td>-------</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total Water Use</td>
<td>11,470</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total Supplies</td>
<td>14,250</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Surplus/Shortfall w/o WSCP Action</td>
<td>2,780</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Planned WSCP Actions</strong> (use reduction and supply augmentation)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>WSCP - supply augmentation benefit</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>WSCP - use reduction savings benefit</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Revised Surplus/(shortfall)</td>
<td>2,780</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Resulting % Use Reduction from WSCP action</td>
<td>0%</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Shortage Level</td>
<td>Percent Shortage Range</td>
<td>Shortage Response Actions (Narrative description)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>---------------</td>
<td>------------------------</td>
<td>--------------------------------------------------</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>Up to 10%</td>
<td>None</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>Up to 20%</td>
<td>None</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>Up to 30%</td>
<td>Level 1 Water Supply Shortage</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>Up to 40%</td>
<td>Level 2 Water Supply Shortage</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>Up to 50%</td>
<td>Level 3 Water Supply Shortage</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>&gt;50%</td>
<td>Level 3 Water Supply Shortage</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

NOTES:
<table>
<thead>
<tr>
<th>Shortage Level</th>
<th>Demand Reduction Actions</th>
<th>How much is this going to reduce the shortage gap? (Include units used (volume type or percentage))</th>
<th>Additional Explanation or Reference (optional)</th>
<th>Penalty, Charge, or Other Enforcement?</th>
</tr>
</thead>
<tbody>
<tr>
<td>3</td>
<td>Other</td>
<td>1,096 AF</td>
<td>All 13 normal water waste prevention practices as stated in Ordinance No. 15-02, Section 10-208</td>
<td>Yes</td>
</tr>
<tr>
<td>3</td>
<td>Landscape - Limit landscape irrigation to specific days</td>
<td>1,096 AF</td>
<td>All 13 normal water waste prevention practices as stated in Ordinance No. 15-02, Section 10-208</td>
<td>Yes</td>
</tr>
<tr>
<td>3</td>
<td>Other - Customers must repair leaks, breaks, and malfunctions in a timely manner</td>
<td>1,096 AF</td>
<td>All 13 normal water waste prevention practices as stated in Ordinance No. 15-02, Section 10-208</td>
<td>Yes</td>
</tr>
<tr>
<td>4</td>
<td>Other</td>
<td>2,192 AF</td>
<td>All 13 normal water waste prevention practices as stated in Ordinance No. 15-02, Section 10-208</td>
<td>Yes</td>
</tr>
<tr>
<td>4</td>
<td>Landscape - Limit landscape irrigation to specific days</td>
<td>2,192 AF</td>
<td>All 13 normal water waste prevention practices as stated in Ordinance No. 15-02, Section 10-208</td>
<td>Yes</td>
</tr>
<tr>
<td>4</td>
<td>Other - Customers must repair leaks, breaks, and malfunctions in a timely manner</td>
<td>2,192 AF</td>
<td>All 13 normal water waste prevention practices as stated in Ordinance No. 15-02, Section 10-208</td>
<td>Yes</td>
</tr>
<tr>
<td>4</td>
<td>Water Features - Restrict water use for decorative water features, such as fountains</td>
<td>2,192 AF</td>
<td>All 13 normal water waste prevention practices as stated in Ordinance No. 15-02, Section 10-208</td>
<td>Yes</td>
</tr>
<tr>
<td>5</td>
<td>Other</td>
<td>5,481 AF</td>
<td>All 13 normal water waste prevention practices as stated in Ordinance No. 15-02, Section 10-208</td>
<td>Yes</td>
</tr>
<tr>
<td>5</td>
<td>Landscape - Prohibit certain types of landscape irrigation</td>
<td>5,481 AF</td>
<td>All 13 normal water waste prevention practices as stated in Ordinance No. 15-02, Section 10-208</td>
<td>Yes</td>
</tr>
<tr>
<td>5</td>
<td>Other - Customers must repair leaks, breaks, and malfunctions in a timely manner</td>
<td>5,481 AF</td>
<td>All 13 normal water waste prevention practices as stated in Ordinance No. 15-02, Section 10-208</td>
<td>Yes</td>
</tr>
<tr>
<td>5</td>
<td>Moratorium or Net Zero Demand Increase on New Connections</td>
<td>5,481 AF</td>
<td>All 13 normal water waste prevention practices as stated in Ordinance No. 15-02, Section 10-208</td>
<td>Yes</td>
</tr>
<tr>
<td>5</td>
<td>Water Features - Restrict water use for decorative water features, such as fountains</td>
<td>5,481 AF</td>
<td>All 13 normal water waste prevention practices as stated in Ordinance No. 15-02, Section 10-208</td>
<td>Yes</td>
</tr>
<tr>
<td>5</td>
<td>Other</td>
<td>5,481 AF</td>
<td>Filling pool prohibited</td>
<td>Yes</td>
</tr>
<tr>
<td>6</td>
<td>Other</td>
<td>5,481 AF</td>
<td>All 13 normal water waste prevention practices as stated in Ordinance No. 15-02, Section 10-208</td>
<td>Yes</td>
</tr>
<tr>
<td>6</td>
<td>Landscape - Prohibit certain types of landscape irrigation</td>
<td>5,481 AF</td>
<td>All 13 normal water waste prevention practices as stated in Ordinance No. 15-02, Section 10-208</td>
<td>Yes</td>
</tr>
<tr>
<td>6</td>
<td>Other - Customers must repair leaks, breaks, and malfunctions in a timely manner</td>
<td>5,481 AF</td>
<td>All 13 normal water waste prevention practices as stated in Ordinance No. 15-02, Section 10-208</td>
<td>Yes</td>
</tr>
<tr>
<td>6</td>
<td>Moratorium or Net Zero Demand Increase on New Connections</td>
<td>5,481 AF</td>
<td>All 13 normal water waste prevention practices as stated in Ordinance No. 15-02, Section 10-208</td>
<td>Yes</td>
</tr>
<tr>
<td>6</td>
<td>Water Features - Restrict water use for decorative water features, such as fountains</td>
<td>5,481 AF</td>
<td>All 13 normal water waste prevention practices as stated in Ordinance No. 15-02, Section 10-208</td>
<td>Yes</td>
</tr>
<tr>
<td>6</td>
<td>Other</td>
<td>5,481 AF</td>
<td>Filling pool prohibited</td>
<td>Yes</td>
</tr>
<tr>
<td>1</td>
<td>Other</td>
<td>0 AF</td>
<td>No reduction actions are required for shortage level 1</td>
<td>Yes</td>
</tr>
<tr>
<td>2</td>
<td>Other</td>
<td>0 AF</td>
<td>No reduction actions are required for shortage level 2</td>
<td>Yes</td>
</tr>
</tbody>
</table>

NOTES: No reduction actions are required for Shortage Levels 1 and 2. The reduced volume is estimated for the entire program at that shortage level, not a single action.
<table>
<thead>
<tr>
<th>Shortage Level</th>
<th>Supply Augmentation Methods and Other Actions by Water Supplier</th>
<th>How much is this going to reduce the shortage gap? Include units used (volume type or percentage)</th>
<th>Additional Explanation or Reference (optional)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Stored Emergency Supply</td>
<td>Varies by year</td>
<td>The City maintains a storage account with WCGB.</td>
</tr>
<tr>
<td>1</td>
<td>Other Actions (describe)</td>
<td>445 AFY</td>
<td>The City may exceed its allowable pumping allocation by 10%.</td>
</tr>
<tr>
<td>2</td>
<td>Stored Emergency Supply</td>
<td>Varies by year</td>
<td>The City maintains a storage account with WCGB.</td>
</tr>
<tr>
<td>2</td>
<td>Other Actions (describe)</td>
<td>445 AFY</td>
<td>The City may exceed its allowable pumping allocation by 10%.</td>
</tr>
<tr>
<td>3</td>
<td>Stored Emergency Supply</td>
<td>Varies by year</td>
<td>The City maintains a storage account with WCGB.</td>
</tr>
<tr>
<td>3</td>
<td>Other Actions (describe)</td>
<td>445 AFY</td>
<td>The City may exceed its allowable pumping allocation by 10%.</td>
</tr>
<tr>
<td>4</td>
<td>Stored Emergency Supply</td>
<td>Varies by year</td>
<td>The City maintains a storage account with WCGB.</td>
</tr>
<tr>
<td>4</td>
<td>Other Actions (describe)</td>
<td>445 AFY</td>
<td>The City may exceed its allowable pumping allocation by 10%.</td>
</tr>
<tr>
<td>5</td>
<td>Stored Emergency Supply</td>
<td>Varies by year</td>
<td>The City maintains a storage account with WCGB.</td>
</tr>
<tr>
<td>5</td>
<td>Other Actions (describe)</td>
<td>445 AFY</td>
<td>The City may exceed its allowable pumping allocation by 10%.</td>
</tr>
<tr>
<td>6</td>
<td>Stored Emergency Supply</td>
<td>Varies by year</td>
<td>The City maintains a storage account with WCGB.</td>
</tr>
<tr>
<td>6</td>
<td>Other Actions (describe)</td>
<td>445 AFY</td>
<td>The City may exceed its allowable pumping allocation by 10%.</td>
</tr>
</tbody>
</table>

NOTES:
### Submittal Table 10-1 Retail: Notification to Cities and Counties

<table>
<thead>
<tr>
<th>City Name</th>
<th>60 Day Notice</th>
<th>Notice of Public Hearing</th>
</tr>
</thead>
<tbody>
<tr>
<td>Inglewood</td>
<td>Yes</td>
<td>Yes</td>
</tr>
</tbody>
</table>

**NOTES:**

Add additional rows as needed

<table>
<thead>
<tr>
<th>County Name</th>
<th>60 Day Notice</th>
<th>Notice of Public Hearing</th>
</tr>
</thead>
<tbody>
<tr>
<td>Los Angeles County</td>
<td>Yes</td>
<td>Yes</td>
</tr>
</tbody>
</table>

**NOTES:**

Add additional rows as needed
<table>
<thead>
<tr>
<th>SB X7-7 Table 0: Units of Measure Used in 2020 UWMP*</th>
</tr>
</thead>
<tbody>
<tr>
<td><em>(select one from the drop down list)</em></td>
</tr>
<tr>
<td>------------------------------------------------</td>
</tr>
<tr>
<td>Acre Feet</td>
</tr>
</tbody>
</table>

*The unit of measure must be consistent throughout the UWMP, as reported in Submittal Table 2-3.*

NOTES:
### SB X7-7 Table 2: Method for 2020 Population Estimate

<table>
<thead>
<tr>
<th>Method Used to Determine 2020 Population (may check more than one)</th>
</tr>
</thead>
<tbody>
<tr>
<td>□ 1. Department of Finance (DOF) or American Community Survey (ACS)</td>
</tr>
<tr>
<td>□ 2. Persons-per-Connection Method</td>
</tr>
<tr>
<td>✔ 3. DWR Population Tool</td>
</tr>
<tr>
<td>□ 4. Other</td>
</tr>
<tr>
<td>DWR recommends pre-review</td>
</tr>
</tbody>
</table>

NOTES:
## SB X7-7 Table 3: 2020 Service Area Population

<table>
<thead>
<tr>
<th>2020 Compliance Year Population</th>
</tr>
</thead>
<tbody>
<tr>
<td>2020</td>
</tr>
</tbody>
</table>

NOTES:
<table>
<thead>
<tr>
<th>Compliance Year 2020</th>
<th>2020 Volume Into Distribution System</th>
<th>Exported Water *</th>
<th>Change in Dist. System Storage* (+/-)</th>
<th>Indirect Recycled Water</th>
<th>This column will remain blank until SB X7-7 Table 4-B is completed.</th>
<th>Water Delivered for Agricultural Use*</th>
<th>Process Water</th>
<th>2020 Gross Water Use</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>9,034</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td></td>
<td>-</td>
<td>-</td>
<td>9,034</td>
</tr>
</tbody>
</table>

* Units of measure (AF, MG, or CCF) must remain consistent throughout the UWMP, as reported in SB X7-7 Table 0 and Submittal Table 2-3.

NOTES:
<table>
<thead>
<tr>
<th>Compliance Year</th>
<th>Volume Entering Distribution System</th>
<th>Meter Error Adjustment</th>
<th>Corrected Volume Entering Distribution System</th>
</tr>
</thead>
<tbody>
<tr>
<td>2020</td>
<td>5,972</td>
<td>-</td>
<td>5,972</td>
</tr>
</tbody>
</table>

1 Units of measure (AF, MG, or CCF) must remain consistent throughout the UWMP, as reported in SB X7-7 Table 0 and Submittal Table 2-3.

2 Meter Error Adjustment - See guidance in Methodology 1, Step 3 of Methodologies Document.

NOTES:

<table>
<thead>
<tr>
<th>Compliance Year</th>
<th>Volume Entering Distribution System</th>
<th>Meter Error Adjustment</th>
<th>Corrected Volume Entering Distribution System</th>
</tr>
</thead>
<tbody>
<tr>
<td>2020</td>
<td>3,062</td>
<td>-</td>
<td>3,062</td>
</tr>
</tbody>
</table>

1 Units of measure (AF, MG, or CCF) must remain consistent throughout the UWMP, as reported in SB X7-7 Table 0 and Submittal Table 2-3.

2 Meter Error Adjustment - See guidance in Methodology 1, Step 3 of Methodologies Document.

NOTES:
### SB X7-7 Table 4-B: 2020 Indirect Recycled Water Use Deduction

*(For use only by agencies that are deducting indirect recycled water)*

<table>
<thead>
<tr>
<th>2020 Compliance Year</th>
<th>2020 Surface Reservoir Augmentation</th>
<th>2020 Groundwater Recharge</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Volume Discharged from Reservoir for Distribution System Delivery</td>
<td>Transmission/Treatment Loss¹</td>
</tr>
<tr>
<td></td>
<td>Percent Recycled Water</td>
<td>Recycled Water Delivered to Treatment Plant</td>
</tr>
<tr>
<td></td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>

¹ *Units of measure (AF, MG, or CCF) must remain consistent throughout the UWMP, as reported in SB X7-7 Table 0 and Submittal Table 2-3. Suppliers will provide supplemental sheets to document the calculation for their input into "Recycled Water Pumped by Utility". The volume reported in this cell must be less than total groundwater pumped - See Methodology 1, Step 8, section 2.c.*

**NOTES:** N/A
Suppliers will provide supplemental sheets to document the calculation for their input into "Recycled Water Pumped by Utility". The volume reported in this cell must be included in the Total Deductible Volume of Indirect Recycled Water Entering the Distribution System.
Criteria 1 - Industrial water use is equal to or greater than 12% of gross water use. Complete SB X7-7 Table 4-C.1

Criteria 2 - Industrial water use is equal to or greater than 15 GPCD. Complete SB X7-7 Table 4-C.2

Criteria 3 - Non-industrial use is equal to or less than 120 GPCD. Complete SB X7-7 Table 4-C.3

Criteria 4 - Disadvantaged Community. Complete SB X7-7 Table 4-C.4

NOTES: N/A
Data from this table will not be entered into WUEdata. Instead, the entire table will be uploaded to WUEdata as a separate upload in Excel format.

### SB X7-7 Table 4-C.1: 2020 Process Water Deduction Eligibility
*(For use only by agencies that are deducting process water using Criteria 1)*

**Criteria 1**  
Industrial water use is equal to or greater than 12% of gross water use

<table>
<thead>
<tr>
<th>2020 Compliance Year</th>
<th>2020 Gross Water Use Without Process Water Deduction</th>
<th>2020 Industrial Water Use</th>
<th>Percent Industrial Water</th>
<th>Eligible for Exclusion Y/N</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>9,034</td>
<td>0%</td>
<td>NO</td>
<td></td>
</tr>
</tbody>
</table>

**NOTES:** N/A
Data from this table will not be entered into WUEdata. Instead, the entire table will be uploaded to WUEdata as a separate upload in Excel format.

<table>
<thead>
<tr>
<th>SB X7-7 Table 4-C.2: 2020 Process Water Deduction Eligibility</th>
<th>(For use only by agencies that are deducting process water using Criteria 2)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Criteria 2</strong></td>
<td>Industrial water use is equal to or greater than 15 GPCD</td>
</tr>
<tr>
<td>2020 Compliance Year</td>
<td>2020 Industrial Use</td>
</tr>
<tr>
<td>-----------------------------------------------------------</td>
<td>-------------------</td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>

NOTES: N/A
Data from this table will not be entered into WUEdata. Instead, the entire table will be uploaded to WUEdata as a separate upload in Excel format.

### SB X7-7 Table 4-C.3: 2020 Process Water Deduction Eligibility

<table>
<thead>
<tr>
<th>Criteria 3</th>
<th>Non-industrial use is equal to or less than 120 GPCD</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>2020 Compliance Year</strong></td>
<td><strong>2020 Gross Water Use Without Process Water Deduction</strong></td>
</tr>
<tr>
<td></td>
<td>Fm SB X7-7 Table 4</td>
</tr>
<tr>
<td></td>
<td>9,034</td>
</tr>
</tbody>
</table>

NOTES: N/A
### SB X7-7 Table 4-C.4: 2020 Process Water Deduction Eligibility
(For use only by agencies that are deducting process water using Criteria 4)

**Criteria 4**
Disadvantaged Community. A “Disadvantaged Community” (DAC) is a community with a median household income less than 80 percent of the statewide average.

**SELECT ONE**
"Disadvantaged Community" status was determined using one of the methods listed below:

1. IRWM DAC Mapping tool [https://gis.water.ca.gov/app/dacs/](https://gis.water.ca.gov/app/dacs/)
   - If using the IRWM DAC Mapping Tool, include a screen shot from the tool showing that the service area is considered a DAC.

2. 2020 Median Income

<table>
<thead>
<tr>
<th>California Median Household Income*</th>
<th>Service Area Median Household Income</th>
<th>Percentage of Statewide Average</th>
<th>Eligible for Exclusion? Y/N</th>
</tr>
</thead>
<tbody>
<tr>
<td>2020 $75,235</td>
<td>0%</td>
<td>YES</td>
<td></td>
</tr>
</tbody>
</table>

*California median household income 2015-2019 as reported in US Census Bureau QuickFacts.

**NOTES:** N/A
Data from these tables will not be entered into WUEdata. Instead, the entire tables will be uploaded to WUEdata as a separate upload in Excel format.

This table(s) is only for Suppliers that deduct process water from their 2020 gross water use.

SB X7-7 Table 4-D: 2020 Process Water Deduction - Volume

Complete a separate table for each industrial customer with a process water exclusion

<table>
<thead>
<tr>
<th>Name of Industrial Customer</th>
<th>Enter Name of Industrial Customer 1</th>
</tr>
</thead>
<tbody>
<tr>
<td>Compliance Year 2020</td>
<td></td>
</tr>
<tr>
<td>Industrial Customer's Total Water Use *</td>
<td>Total Volume Provided by Supplier*</td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>

* Units of measure (AF, MG, or CCF) must remain consistent throughout the UWMP, as reported in SB X7-7 Table 0 and Submittal Table 2-3.

NOTES: N/A
### SB X7-7 Table 5: 2020 Gallons Per Capita Per Day (GPCD)

<table>
<thead>
<tr>
<th>2020 Gross Water Fm SB X7-7 Table 4</th>
<th>2020 Population Fm SB X7-7 Table 3</th>
<th>2020 GPCD</th>
</tr>
</thead>
<tbody>
<tr>
<td>9,034</td>
<td>88,968</td>
<td>91</td>
</tr>
</tbody>
</table>

NOTES:
## SB X7-7 Table 9: 2020 Compliance

<table>
<thead>
<tr>
<th>Actual 2020 GPCD&lt;sup&gt;1&lt;/sup&gt;</th>
<th>Optional Adjustments to 2020 GPCD</th>
<th>2020 Confirmed Target GPCD&lt;sup&gt;1, 2&lt;/sup&gt;</th>
<th>Did Supplier Achieve Targeted Reduction for 2020?</th>
</tr>
</thead>
<tbody>
<tr>
<td>Extraordinary Events&lt;sup&gt;1&lt;/sup&gt;</td>
<td>Weather Normalization&lt;sup&gt;1&lt;/sup&gt;</td>
<td>Economic Adjustment&lt;sup&gt;1&lt;/sup&gt;</td>
<td>TOTAL Adjustments&lt;sup&gt;1&lt;/sup&gt;</td>
</tr>
<tr>
<td>91</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>

<sup>1</sup> All values are reported in GPCD

<sup>2</sup> **2020 Confirmed Target GPCD** is taken from the Supplier's SB X7-7 Verification Form Table SB X7-7, 7-F.

NOTES:
Appendix B

California Water Code

Urban Water Management Planning
The following is Appendix A from the UWMP Guidebook 2020. This document presents updated sections of the Water Code as of January 1, 2020, as compiled by DWR staff, and focuses on the portions of code directly relevant to preparation of the urban water management plan.

This material is for informational purposes only and not to be used in place of official California Water Code (Water Code).

This document presents updated sections of Water Code as of January 1, 2020, as compiled by DWR staff. The selection focuses on the portions of code directly relevant to preparation of the urban water management plan and contextually relevant to urban water suppliers and the Department of Water Resources (DWR). This includes the Urban Water Management Planning Act and the Sustainable Water Use and Demand Reduction (SB X7-7), and more. Further legislative information is available on the California Legislative Information website at https://leginfo.legislature.ca.gov/.

The following Water Code sections are included in this appendix.

- **Sustainable Water Use and Demand Reduction (SB X7-7)**
  - Water Code Division 6, Part 2.55
    - **Chapter 1. General Declarations and Policy**, Sections 10608 – 10608.8
    - **Chapter 2. Definitions**, Section 10608.12
    - **Chapter 3. Urban Retail Water Suppliers**, Sections 10608.16 – 10608.44
    - **Chapter 4. Agricultural Water Suppliers**, Section 10608.48
    - **Chapter 5. Sustainable Water Management**, Section 10608.50
    - **Chapter 6. Standardized Data Collection**, Section 10608.52
    - **Chapter 7. Funding Provisions**, Sections 10608.56 – 10608.60
    - **Chapter 8. Quantifying Agricultural Water Use Efficiency**, Section 10608.64
• **Urban Water Management Planning Act**  
**Water Code Division 6, Part 2.6**

- **Chapter 1. General Declaration and Policy**, Sections 10610 – 10610.4
- **Chapter 2. Definitions**, Sections 10611 – 10618
- **Chapter 3. Urban Water Management Plans**
  - Article 2. Contents of Plans, Sections 10630 – 10634
  - Article 2.5. Water Service Reliability, Section 10635
  - Article 3. Adoption and Implementation of Plans, Sections 10640 – 10645
- **Chapter 4. Miscellaneous Provisions**, Sections 10650 – 10657

**PART 2.55. SUSTAINABLE WATER USE AND DEMAND REDUCTION**  
**CHAPTER 1. General Declaration and Policy [10608 – 10608.8]**

**10608.** The Legislature finds and declares all of the following:

(a) Water is a public resource that the California Constitution protects against waste and unreasonable use.

(b) Growing population, climate change, and the need to protect and grow California’s economy while protecting and restoring our fish and wildlife habitats make it essential that the state manage its water resources as efficiently as possible.

(c) Diverse regional water supply portfolios will increase water supply reliability and reduce dependence on the Delta.

(d) Reduced water use through conservation provides significant energy and environmental benefits, and can help protect water quality, improve streamflows, and reduce greenhouse gas emissions.

(e) The success of state and local water conservation programs to increase efficiency of water use is best determined on the basis of measurable outcomes related to water use or efficiency.

(f) Improvements in technology and management practices offer the potential for increasing water efficiency in California over time,
providing an essential water management tool to meet the need for water for urban, agricultural, and environmental uses.

(g) The Governor has called for a 20 percent per capita reduction in urban water use statewide by 2020.

(h) The factors used to formulate water use efficiency targets can vary significantly from location to location based on factors including weather, patterns of urban and suburban development, and past efforts to enhance water use efficiency.

(i) Per capita water use is a valid measure of a water provider’s efforts to reduce urban water use within its service area. However, per capita water use is less useful for measuring relative water use efficiency between different water providers. Differences in weather, historical patterns of urban and suburban development, and density of housing in a particular location need to be considered when assessing per capita water use as a measure of efficiency.

10608.4. It is the intent of the Legislature, by the enactment of this part, to do all of the following:

(a) Require all water suppliers to increase the efficiency of use of this essential resource.

(b) Establish a framework to meet the state targets for urban water conservation identified in this part and called for by the Governor.

(c) Measure increased efficiency of urban water use on a per capita basis.

(d) Establish a method or methods for urban retail water suppliers to determine targets for achieving increased water use efficiency by the year 2020, in accordance with the Governor’s goal of a 20-percent reduction.

(e) Establish consistent water use efficiency planning and implementation standards for urban water suppliers and agricultural water suppliers.

(f) Promote urban water conservation standards that are consistent with the California Urban Water Conservation Council’s adopted best management practices and the requirements for demand management in Section 10631.
(g) Establish standards that recognize and provide credit to water suppliers that made substantial capital investments in urban water conservation since the drought of the early 1990s.

(h) Recognize and account for the investment of urban retail water suppliers in providing recycled water for beneficial uses.

(i) Require implementation of specified efficient water management practices for agricultural water suppliers.

(j) Support the economic productivity of California’s agricultural, commercial, and industrial sectors.

(k) Advance regional water resources management.

10608.8. (a) (1) Water use efficiency measures adopted and implemented pursuant to this part or Part 2.8 (commencing with Section 10800) are water conservation measures subject to the protections provided under Section 1011.

(2) Because an urban agency is not required to meet its urban water use target until 2020 pursuant to subdivision (b) of Section 10608.24, an urban retail water supplier’s failure to meet those targets shall not establish a violation of law for purposes of any state administrative or judicial proceeding prior to January 1, 2021. Nothing in this paragraph limits the use of data reported to the department or the board in litigation or an administrative proceeding. This paragraph shall become inoperative on January 1, 2021.

(3) To the extent feasible, the department and the board shall provide for the use of water conservation reports required under this part to meet the requirements of Section 1011 for water conservation reporting.

(b) This part does not limit or otherwise affect the application of Chapter 3.5 commencing with Section 11340), Chapter 4 (commencing with Section 11370), Chapter 4.5 (commencing with Section 11400), and Chapter 5 (commencing with Section 11500) of Part 1 of Division 3 of Title 2 of the Government Code.

(c) This part does not require a reduction in the total water used in the agricultural or urban sectors, because other factors, including, but not limited to, changes in agricultural economics or population
growth may have greater effects on water use. This part does not limit the economic productivity of California’s agricultural, commercial, or industrial sectors.

(d) The requirements of this part do not apply to an agricultural water supplier that is a party to the Quantification Settlement Agreement, as defined in subdivision (a) of Section 1 of Chapter 617 of the Statutes of 2002, during the period within which the Quantification Settlement Agreement remains in effect. After the expiration of the Quantification Settlement Agreement, to the extent conservation water projects implemented as part of the Quantification Settlement Agreement remain in effect, the conserved water created as part of those projects shall be credited against the obligations of the agricultural water supplier pursuant to this part.

CHAPTER 2. Definitions [10608.12]

10608.12. Unless the context otherwise requires, the following definitions govern the construction of this part:

(a) “Agricultural water supplier” means a water supplier, either publicly or privately owned, providing water to 10,000 or more irrigated acres, excluding recycled water. “Agricultural water supplier” includes a supplier or contractor for water, regardless of the basis of right, that distributes or sells water for ultimate resale to customers. “Agricultural water supplier” does not include the department.

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

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

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

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

(c) “Baseline commercial, industrial, and institutional water use” means an urban retail water supplier’s base daily per capita water use for commercial, industrial, and institutional users.

(d) “CII water use” means water used by commercial water users, industrial water users, institutional water users, and large landscape water users.

(e) “Commercial water user” means a water user that provides or distributes a product or service.

(f) “Compliance daily per capita water use” means the gross water use during the final year of the reporting period, reported in gallons per capita per day.

(g) “Disadvantaged community” means a community with an annual median household income that is less than 80 percent of the statewide annual median household income.

(h) “Gross water use” means the total volume of water, whether treated or untreated, entering the distribution system of an urban retail water supplier, excluding all of the following:

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

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

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

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

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

(j) “Institutional water user” means a water user dedicated to public service. This type of user includes, among other users, higher education institutions, schools, courts, churches, hospitals, government facilities, and nonprofit research institutions.

(k) “Interim urban water use target” means the midpoint between the urban retail water supplier’s base daily per capita water use and the urban retail water supplier’s urban water use target for 2020.

(l) “Large landscape” means a nonresidential landscape as described in the performance measures for CII water use adopted pursuant to Section 10609.10.

(m) “Locally cost effective” means that the present value of the local benefits of implementing an agricultural efficiency water management practice is greater than or equal to the present value of the local cost of implementing that measure.

(n) “Performance measures” means actions to be taken by urban retail water suppliers that will result in increased water use efficiency by CII water users. Performance measures may include, but are not limited to, educating CII water users on best management practices, conducting water use audits, and preparing water management plans. Performance measures do not include process water.

(o) “Potable reuse” means direct potable reuse, indirect potable reuse for groundwater recharge, and reservoir water augmentation as those terms are defined in Section 13561.

(p) “Process water” means water used by industrial water users for producing a product or product content or water used for research and development. Process water includes, but is not limited to, continuous manufacturing processes, and water used for testing, cleaning, and maintaining equipment. Water used to cool machinery or buildings used in the manufacturing process or necessary to maintain product quality or chemical characteristics for product manufacturing or control rooms, data centers, laboratories, clean rooms, and other industrial facility units that
are integral to the manufacturing or research and development process is process water. Water used in the manufacturing process that is necessary for complying with local, state, and federal health and safety laws, and is not incidental water, is process water. Process water does not mean incidental water uses.

(q) “Recycled water” means recycled water, as defined in subdivision (n) of Section 13050.

(r) “Regional water resources management” means sources of supply resulting from watershed-based planning for sustainable local water reliability or any of the following alternative sources of water:

1. The capture and reuse of stormwater or rainwater.
2. The use of recycled water.
3. The desalination of brackish groundwater.
4. The conjunctive use of surface water and groundwater in a manner that is consistent with the safe yield of the groundwater basin.

(s) “Reporting period” means the years for which an urban retail water supplier reports compliance with the urban water use targets.

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

(u) “Urban water use objective” means an estimate of aggregate efficient water use for the previous year based on adopted water use efficiency standards and local service area characteristics for that year, as described in Section 10609.20.

(v) “Urban water use target” means the urban retail water supplier’s targeted future daily per capita water use.

(w) “Urban wholesale water supplier” means a water supplier, either publicly or privately owned, that provides more than 3,000 acre-feet of water annually at wholesale for potable municipal purposes.

CHAPTER 3. Urban Retail Water Suppliers [10608.16 – 10608.44]
10608.16. (a) The state shall achieve a 20-percent reduction in urban per capita water use in California on or before December 31, 2020.
   
   (1) The state shall make incremental progress towards the state target specified in subdivision (a) by reducing urban per capita water use by at least 10 percent on or before December 31, 2015.

10608.20. (a) (1) Each urban retail water supplier shall develop urban water use targets and an interim urban water use target by July 1, 2011. Urban retail water suppliers may elect to determine and report progress toward achieving these targets on an individual or regional basis, as provided in subdivision (a) of Section 10608.28, and may determine the targets on a fiscal year or calendar year basis.
   
   (2) It is the intent of the Legislature that the urban water use targets described in paragraph (1) cumulatively result in a 20-percent reduction from the baseline daily per capita water use by December 31, 2020.
   
   (b) An urban retail water supplier shall adopt one of the following methods for determining its urban water use target pursuant to subdivision (a):
   
   (1) Eighty percent of the urban retail water supplier's baseline per capita daily water use.
   
   (2) The per capita daily water use that is estimated using the sum of the following performance standards:
   
   (A) For indoor residential water use, 55 gallons per capita daily water use as a provisional standard. Upon completion of the department’s 2017 report to the Legislature pursuant to Section 10608.42, this standard may be adjusted by the Legislature by statute.
   
   (B) For landscape irrigated through dedicated or residential meters or connections, water efficiency equivalent to the standards of the Model Water Efficient Landscape Ordinance set forth in Chapter 2.7 (commencing with Section 490) of Division 2 of Title 23 of the California Code of Regulations, as in effect the later of the year of the landscape’s installation or 1992. An urban retail
water supplier using the approach specified in this subparagraph shall use satellite imagery, site visits, or other best available technology to develop an accurate estimate of landscaped areas.

(C) For commercial, industrial, and institutional uses, a 10-percent reduction in water use from the baseline commercial, industrial, and institutional water use by 2020.

(3) Ninety-five percent of the applicable state hydrologic region target, as set forth in the state’s draft 20x2020 Water Conservation Plan (dated April 30, 2009). If the service area of an urban water supplier includes more than one hydrologic region, the supplier shall apportion its service area to each region based on population or area.

(4) A method that shall be identified and developed by the department, through a public process, and reported to the Legislature no later than December 31, 2010. The method developed by the department shall identify per capita targets that cumulatively result in a statewide 20-percent reduction in urban daily per capita water use by December 31, 2020. In developing urban daily per capita water use targets, the department shall do all of the following:

(A) Consider climatic differences within the state.

(B) Consider population density differences within the state.

(C) Provide flexibility to communities and regions in meeting the targets.

(D) Consider different levels of per capita water use according to plant water needs in different regions.

(E) Consider different levels of commercial, industrial, and institutional water use in different regions of the state.

(F) Avoid placing an undue hardship on communities that have implemented conservation measures or taken actions to keep per capita water use low.

(c) If the department adopts a regulation pursuant to paragraph (4) of
subdivision (b) that results in a requirement that an urban retail water supplier achieve a reduction in daily per capita water use that is greater than 20 percent by December 31, 2020, an urban retail water supplier that adopted the method described in paragraph (4) of subdivision (b) may limit its urban water use target to a reduction of not more than 20 percent by December 31, 2020, by adopting the method described in paragraph (1) of subdivision (b).

(d) The department shall update the method described in paragraph (4) of subdivision (b) and report to the Legislature by December 31, 2014. An urban retail water supplier that adopted the method described in paragraph (4) of subdivision (b) may adopt a new urban daily per capita water use target pursuant to this updated method.

(e) An urban retail water supplier shall include in its urban water management plan due in 2010 pursuant to Part 2.6 (commencing with Section 10610) the baseline daily per capita water use, urban water use target, interim urban water use target, and compliance daily 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.

(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).

(h) (1) The department, through a public process and in consultation with the California Urban Water Conservation Council, shall develop technical methodologies and criteria for the consistent implementation of this part, including, but not limited to, both of the following:

(A) Methodologies for calculating base daily per capita water use, baseline commercial, industrial, and institutional water use, compliance daily per capita water use, gross water use, service area population, indoor residential water use, and landscaped area water use.
(B) Criteria for adjustments pursuant to subdivisions (d) and (e) of Section 10608.24.

(2) The department shall post the methodologies and criteria developed pursuant to this subdivision on its internet website, and make written copies available, by October 1, 2010. An urban retail water supplier shall use the methods developed by the department in compliance with this part.

(i) (1) The department shall adopt regulations for implementation of the provisions relating to process water in accordance with Section 10608.12, subdivision (e) of Section 10608.24, and subdivision (d) of Section 10608.26.

(2) The initial adoption of a regulation authorized by this subdivision is deemed to address an emergency, for purposes of Sections 11346.1 and 11349.6 of the Government Code, and the department is hereby exempted for that purpose from the requirements of subdivision (b) of Section 11346.1 of the Government Code. After the initial adoption of an emergency regulation pursuant to this subdivision, the department shall not request approval from the Office of Administrative Law to readopt the regulation as an emergency regulation pursuant to Section 11346.1 of the Government Code.

(j) (1) An urban retail water supplier is granted an extension to July 1, 2011, for adoption of an urban water management plan pursuant to Part 2.6 (commencing with Section 10610) due in 2010 to allow the use of technical methodologies developed by the department pursuant to paragraph (4) of subdivision (b) and subdivision (h). An urban retail water supplier that adopts an urban water management plan due in 2010 that does not use the methodologies developed by the department pursuant to subdivision (h) shall amend the plan by July 1, 2011, to comply with this part.

(2) An urban wholesale water supplier whose urban water management plan prepared pursuant to Part 2.6 (commencing with Section 10610) was due and not submitted in 2010 is granted an extension to July 1, 2011, to permit coordination between an urban wholesale water
supplier and urban retail water suppliers.

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

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

(b) Each urban retail water supplier shall meet its urban water use target by December 31, 2020.

(c) An urban retail water supplier’s compliance daily per capita water use shall be the measure of progress toward achievement of its urban water use target.

(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.

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

(f) (1) An urban retail water supplier that includes agricultural water use in an urban water management plan pursuant to Part 2.6 (commencing with Section 10610) may include the agricultural water use in determining gross water use. An urban retail water supplier that includes agricultural water use in determining gross water use and develops its urban water use target pursuant to paragraph (2) of subdivision (b) of Section 10608.20 shall use a water efficient standard for agricultural irrigation of 100 percent of reference evapotranspiration multiplied by the crop coefficient for irrigated acres.

(2) An urban retail water supplier, that is also an agricultural water supplier, is not subject to the requirements of Chapter 4 (commencing with Section 10608.48), if the agricultural water use is incorporated into its urban water use target pursuant to paragraph (1).

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

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

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

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

(b) In complying with this part, an urban retail water supplier may meet its urban water use target through efficiency improvements in any combination among its customer sectors. An urban retail water supplier shall avoid placing a disproportionate burden on any customer sector.

(c) For an urban retail water supplier that supplies water to a United States Department of Defense military installation, the urban retail water supplier’s implementation plan for complying with this part shall consider the conservation of that military installation under
(d) (1) Any ordinance or resolution adopted by an urban retail water supplier after the effective date of this section shall not require existing customers as of the effective date of this section, to undertake changes in product formulation, operations, or equipment that would reduce process water use, but may provide technical assistance and financial incentives to those customers to implement efficiency measures for process water. This section shall not limit an ordinance or resolution adopted pursuant to a declaration of drought emergency by an urban retail water supplier.

(2) This part shall not be construed or enforced so as to interfere with the requirements of Chapter 4 (commencing with Section 113980) to Chapter 13 (commencing with Section 114380), inclusive, of Part 7 of Division 104 of the Health and Safety Code, or any requirement or standard for the protection of public health, public safety, or worker safety established by federal, state, or local government or recommended by recognized standard setting organizations or trade associations.

10608.28. (a) An urban retail water supplier may meet its urban water use target within its retail service area, or through mutual agreement, by any of the following:

(1) Through an urban wholesale water supplier.

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

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

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

(5) By hydrologic region.

(6) Through other appropriate geographic scales for which computation methods have been developed by the
(b) A regional water management group, with the written consent of its member agencies, may undertake any or all planning, reporting, and implementation functions under this chapter for the member agencies that consent to those activities. Any data or reports shall provide information both for the regional water management group and separately for each consenting urban retail water supplier and urban wholesale water supplier.

10608.32. All costs incurred pursuant to this part by a water utility regulated by the Public Utilities Commission may be recoverable in rates subject to review and approval by the Public Utilities Commission, and may be recorded in a memorandum account and reviewed for reasonableness by the Public Utilities Commission.

10608.34. (a) (1) On or before January 1, 2017, the department shall adopt rules for all of the following:

(A) The conduct of standardized water loss audits by urban retail water suppliers in accordance with the method adopted by the American Water Works Association in the third edition of Water Audits and Loss Control Programs, Manual M36 and in the Free Water Audit Software, version 5.0.

(B) The process for validating a water loss audit report prior to submitting the report to the department. For the purposes of this section, “validating” is a process whereby an urban retail water supplier uses a technical expert to confirm the basis of all data entries in the urban retail water supplier’s water loss audit report and to appropriately characterize the quality of the reported data. The validation process shall follow the principles and terminology laid out by the American Water Works Association in the third edition of Water Audits and Loss Control Programs, Manual M36 and in the Free Water Audit Software, version 5.0. A validated water loss audit report shall include the name and technical qualifications of the person engaged for validation.

(C) The technical qualifications required of a person to
engage in validation, as described in subparagraph (B).

(D) The certification requirements for a person selected by an urban retail water supplier to provide validation of its own water loss audit report.

(E) The method of submitting a water loss audit report to the department.

(2) The department shall update rules adopted pursuant to paragraph (1) no later than six months after the release of subsequent editions of the American Water Works Association’s Water Audits and Loss Control Programs, Manual M36. Except as provided by the department, until the department adopts updated rules pursuant to this paragraph, an urban retail water supplier may rely upon a subsequent edition of the American Water Works Association’s Water Audits and Loss Control Programs, Manual M36 or the Free Water Audit Software.

(b) (1) On or before October 1 of each year until October 1, 2023, each urban retail water supplier reporting on a calendar year basis shall submit a completed and validated water loss audit report for the previous calendar year or the previous fiscal year as prescribed by the department pursuant to subdivision (a).

(2) On or before January 1 of each year until January 1, 2024, each urban retail water supplier reporting on a fiscal year basis shall submit a completed and validated water loss audit report for the previous fiscal year as prescribed by the department pursuant to subdivision (a).

(3) On or before January 1, 2024, and on or before January 1 of each year thereafter, each urban retail water supplier shall submit a completed and validated water loss audit report for the previous calendar year or previous fiscal year as part of the report submitted to the department pursuant to subdivision (a) of Section 10609.24 and as prescribed by the department pursuant to subdivision (a).

(4) Water loss audit reports submitted on or before October 1, 2017, may be completed and validated with assistance as described in subdivision (c).
(c) Using funds available for the 2016–17 fiscal year, the board shall contribute up to four hundred thousand dollars ($400,000) towards procuring water loss audit report validation assistance for urban retail water suppliers.

(d) Each water loss audit report submitted to the department shall be accompanied by information, in a form specified by the department, identifying steps taken in the preceding year to increase the validity of data entered into the final audit, reduce the volume of apparent losses, and reduce the volume of real losses.

(e) At least one of the following employees of an urban retail water supplier shall attest to each water loss audit report submitted to the department:

1. The chief financial officer.
2. The chief engineer.
3. The general manager.

(f) The department shall deem incomplete and return to the urban retail water supplier any final water loss audit report found by the department to be incomplete, not validated, unattested, or incongruent with known characteristics of water system operations. A water supplier shall resubmit a completed water loss audit report within 90 days of an audit being returned by the department.

(g) The department shall post all validated water loss audit reports on its internet website in a manner that allows for comparisons across water suppliers. The department shall make the validated water loss audit reports available for public viewing in a timely manner after their receipt.

(h) Using available funds, the department shall provide technical assistance to guide urban retail water suppliers’ water loss detection programs, including, but not limited to, metering techniques, pressure management techniques, condition-based assessment techniques for transmission and distribution pipelines, and utilization of portable and permanent water loss detection devices.

(i) No earlier than January 1, 2019, and no later than July 1, 2020, the board shall adopt rules requiring urban retail water suppliers to meet performance standards for the volume of water losses. In
adopting these rules, the board shall employ full life-cycle cost accounting to evaluate the costs of meeting the performance standards. The board may consider establishing a minimum allowable water loss threshold that, if reached and maintained by an urban water supplier, would exempt the urban water supplier from further water loss reduction requirements.

10608.35. (a) The department, in coordination with the board, shall conduct necessary studies and investigations and make a recommendation to the Legislature, by January 1, 2020, on the feasibility of developing and enacting water loss reporting requirements for urban wholesale water suppliers.

(b) The studies and investigations shall include an evaluation of the suitability of applying the processes and requirements of Section 10608.34 to urban wholesale water suppliers.

(c) In conducting necessary studies and investigations and developing its recommendation, the department shall solicit broad public participation from stakeholders and other interested persons.

10608.36. Urban wholesale water suppliers shall include in the urban water management plans required pursuant to Part 2.6 (commencing with Section 10610) an assessment of their present and proposed future measures, programs, and policies to help achieve the water use reductions required by this part.

10608.40. Urban water retail suppliers shall report to the department on their progress in meeting their urban water use targets as part of their urban water management plans submitted pursuant to Section 10631. The data shall be reported using a standardized form developed pursuant to Section 10608.52.

10608.42. (a) The department shall review the 2015 urban water management plans and report to the Legislature by July 1, 2017, on progress towards achieving a 20-percent reduction in urban water use by December 31, 2020. The report shall include recommendations on changes to water efficiency standards or urban water use targets to achieve the 20-percent reduction and to reflect updated efficiency information and technology changes.
(b) A report to be submitted pursuant to subdivision (a) shall be submitted in compliance with Section 9795 of the Government Code.

10608.43. The department, in conjunction with the California Urban Water Conservation Council, by April 1, 2010, shall convene a representative task force consisting of academic experts, urban retail water suppliers, environmental organizations, commercial water users, industrial water users, and institutional water users to develop alternative best management practices for commercial, industrial, and institutional users and an assessment of the potential statewide water use efficiency improvement in the commercial, industrial, and institutional sectors that would result from implementation of these best management practices. The taskforce, in conjunction with the department, shall submit a report to the Legislature by April 1, 2012, that shall include a review of multiple sectors within commercial, industrial, and institutional users and that shall recommend water use efficiency standards for commercial, industrial, and institutional users among various sectors of water use. The report shall include, but not be limited to, the following:

(a) Appropriate metrics for evaluating commercial, industrial, and institutional water use.
(b) Evaluation of water demands for manufacturing processes, goods, and cooling.
(c) Evaluation of public infrastructure necessary for delivery of recycled water to the commercial, industrial, and institutional sectors.
(d) Evaluation of institutional and economic barriers to increased recycled water use within the commercial, industrial, and institutional sectors.
(e) Identification of technical feasibility and cost of the best management practices to achieve more efficient water use statewide in the commercial, industrial, and institutional sectors that is consistent with the public interest and reflects past investments in water use efficiency.

10608.44. Each state agency shall reduce water use at facilities it operates to support urban retail water suppliers in meeting the target identified in
Section 10608.16.

**CHAPTER 4. Agricultural Water Suppliers [10608.48]**

**10608.48.** (a) On or before July 31, 2012, an agricultural water supplier shall implement efficient water management practices pursuant to subdivisions (b) and (c).

(b) Agricultural water suppliers shall implement both of the following critical efficient management practices:

1. Measure the volume of water delivered to customers with sufficient accuracy to comply with subdivision (a) of Section 531.10 and to implement paragraph (2).

2. Adopt a pricing structure for water customers based at least in part on quantity delivered.

(c) Agricultural water suppliers shall implement additional efficient management practices, including, but not limited to, practices to accomplish all of the following, if the measures are locally cost effective and technically feasible:

1. Facilitate alternative land use for lands with exceptionally high water duties or whose irrigation contributes to significant problems, including drainage.

2. Facilitate use of available recycled water that otherwise would not be used beneficially, meets all health and safety criteria, and does not harm crops or soils.

3. Facilitate the financing of capital improvements for on-farm irrigation systems.

4. Implement an incentive pricing structure that promotes one or more of the following goals:

   (A) More efficient water use at the farm level.

   (B) Conjunctive use of groundwater.

   (C) Appropriate increase of groundwater recharge.

   (D) Reduction in problem drainage.
(E) Improved management of environmental resources.

(F) Effective management of all water sources throughout the year by adjusting seasonal pricing structures based on current conditions.

(5) Expand line or pipe distribution systems, and construct regulatory reservoirs to increase distribution system flexibility and capacity, decrease maintenance, and reduce seepage.

(6) Increase flexibility in water ordering by, and delivery to, water customers within operational limits.

(7) Construct and operate supplier spill and tailwater recovery systems.

(8) Increase planned conjunctive use of surface water and groundwater within the supplier service area.

(9) Automate canal control structures.

(10) Facilitate or promote customer pump testing and evaluation.

(11) Designate a water conservation coordinator who will develop and implement the water management plan and prepare progress reports.

(12) Provide for the availability of water management services to water users. These services may include, but are not limited to, all of the following:

(A) On-farm irrigation and drainage system evaluations.

(B) Normal year and real-time irrigation scheduling and crop evapotranspiration information.

(C) Surface water, groundwater, and drainage water quantity and quality data.

(D) Agricultural water management educational programs and materials for farmers, staff, and the public.

(13) Evaluate the policies of agencies that provide the supplier with water to identify the potential for institutional changes to allow more flexible water deliveries and storage.

(14) Evaluate and improve the efficiencies of the supplier’s
pumps.

(d) Agricultural water suppliers shall include in the agricultural water management plans required pursuant to Part 2.8 (commencing with Section 10800) a report on which efficient water management practices have been implemented and are planned to be implemented, an estimate of the water use efficiency improvements that have occurred since the last report, and an estimate of the water use efficiency improvements estimated to occur five and 10 years in the future. If an agricultural water supplier determines that an efficient water management practice is not locally cost effective or technically feasible, the supplier shall submit information documenting that determination.

(e) The department shall require information about the implementation of efficient water management practices to be reported using a standardized form developed pursuant to Section 10608.52. (f) An agricultural water supplier may meet the requirements of subdivisions (d) and (e) by submitting to the department a water conservation plan submitted to the United States Bureau of Reclamation that meets the requirements described in Section 10828.

(f) On or before December 31, 2013, December 31, 2016, and December 31, 2021, the department, in consultation with the board, shall submit to the Legislature a report on the agricultural efficient water management practices that have been implemented and are planned to be implemented and an assessment of the manner in which the implementation of those efficient water management practices has affected and will affect agricultural operations, including estimated water use efficiency improvements, if any.

(g) The department may update the efficient water management practices required pursuant to subdivision (c), in consultation with the Agricultural Water Management Council, the United States Bureau of Reclamation, and the board. All efficient water management practices for agricultural water use pursuant to this chapter shall be adopted or revised by the department only after the department conducts public hearings to allow participation of the diverse geographical areas and interests of the state.
(h) (1) The department shall adopt regulations that provide for a range of options that agricultural water suppliers may use or implement to comply with the measurement requirement in paragraph (1) of subdivision (b).

(2) The initial adoption of a regulation authorized by this subdivision is deemed to address an emergency, for purposes of Sections 11346.1 and 11349.6 of the Government Code, and the department is hereby exempted for that purpose from the requirements of subdivision (b) of Section 11346.1 of the Government Code. After the initial adoption of an emergency regulation pursuant to this subdivision, the department shall not request approval from the Office of Administrative Law to readopt the regulation as an emergency regulation pursuant to Section 11346.1 of the Government Code.

CHAPTER 5. Sustainable Water Management [10608.50]

10608.50. (a) The department, in consultation with the board, shall promote implementation of regional water resources management practices through increased incentives and removal of barriers consistent with state and federal law. Potential changes may include, but are not limited to, all of the following:

(1) Revisions to the requirements for urban and agricultural water management plans.
(2) Revisions to the requirements for integrated regional water management plans.
(3) Revisions to the eligibility for state water management grants and loans.
(4) Revisions to state or local permitting requirements that increase water supply opportunities, but do not weaken water quality protection under state and federal law.
(5) Increased funding for research, feasibility studies, and project construction.
(6) Expanding technical and educational support for local land use and water management agencies.
(b) No later than January 1, 2011, and updated as part of the California Water Plan, the department, in consultation with the board, and with public input, shall propose new statewide targets, or review and update existing statewide targets, for regional water resources management practices, including, but not limited to, recycled water, brackish groundwater desalination, and infiltration and direct use of urban stormwater runoff.

CHAPTER 6. Standardized Data Collection [10608.52]

10608.52. (a) The department, in consultation with the board, the California Bay-Delta Authority or its successor agency, the State Department of Public Health, and the Public Utilities Commission, shall develop a single standardized water use reporting form to meet the water use information needs of each agency, including the needs of urban water suppliers that elect to determine and report progress toward achieving targets on a regional basis as provided in subdivision (a) of Section 10608.28.

(b) At a minimum, the form shall be developed to accommodate information sufficient to assess an urban water supplier’s compliance with conservation targets pursuant to Section 10608.24 and an agricultural water supplier’s compliance with implementation of efficient water management practices pursuant to subdivision (a) of Section 10608.48. The form shall accommodate reporting by urban water suppliers on an individual or regional basis as provided in subdivision (a) of Section 10608.28.

CHAPTER 7. Funding Provisions [10608.56 – 10608.60]

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.

(b) On and after July 1, 2013, an agricultural 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.

(d) Notwithstanding subdivision (b), the department shall determine that an agricultural water supplier is eligible for a water grant or loan even though the supplier is not implementing all of the efficient water management practices described in Section 10608.48, if the agricultural 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 implementation of the efficient water management practices. The supplier may request grant or loan funds to implement the efficient water management practices to the extent the request is consistent with the eligibility requirements applicable to the water funds.

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

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

10608.60. (a) It is the intent of the Legislature that funds made available by Section 75026 of the Public Resources Code should be expended, consistent with Division 43 (commencing with Section 75001) of the Public
Resources Code and upon appropriation by the Legislature, for grants to implement this part. In the allocation of funding, it is the intent of the Legislature that the department give consideration to disadvantaged communities to assist in implementing the requirements of this part.

(b) It is the intent of the Legislature that funds made available by Section 75041 of the Public Resources Code, should be expended, consistent with Division 43 (commencing with Section 75001) of the Public Resources Code and upon appropriation by the Legislature, for direct expenditures to implement this part.

CHAPTER 8. Quantifying Agricultural Water Use Efficiency [10608.64]

10608.64. The department, in consultation with the Agricultural Water Management Council, academic experts, and other stakeholders, shall develop a methodology for quantifying the efficiency of agricultural water use. Alternatives to be assessed shall include, but not be limited to, determination of efficiency levels based on crop type or irrigation system distribution uniformity. On or before December 31, 2011, the department shall report to the Legislature on a proposed methodology and a plan for implementation. The plan shall include the estimated implementation costs and the types of data needed to support the methodology. Nothing in this section authorizes the department to implement a methodology established pursuant to this section.

PART 2.55. SUSTAINABLE WATER USE AND DEMAND REDUCTION [10608 – 10609.42]

CHAPTER 9. Urban Water Use Objectives and Water Use Reporting [10609 – 10609.38]

10609. (a) The Legislature finds and declares that this chapter establishes a method to estimate the aggregate amount of water that would have been delivered the previous year by an urban retail water supplier if all that water had been used efficiently. This estimated aggregate water use is the urban retail water supplier’s urban water use objective. The method is based on water use efficiency standards and local service area characteristics for that year. By comparing the amount of water actually used in the previous year with the urban water use objective, local urban water suppliers will be in a better position to help eliminate unnecessary use of water; that is, water used in excess of that needed to accomplish the intended beneficial use.
(b) The Legislature further finds and declares all of the following:

(1) This chapter establishes standards and practices for the following water uses:

(A) Indoor residential use.

(B) Outdoor residential use.

(C) CII water use.

(D) Water losses.

(E) Other unique local uses and situations that can have a material effect on an urban water supplier’s total water use.

(2) This chapter further does all of the following:

(A) Establishes a method to calculate each urban water use objective.

(B) Considers recycled water quality in establishing efficient irrigation standards.

(C) Requires the department to provide or otherwise identify data regarding the unique local conditions to support the calculation of an urban water use objective.

(D) Provides for the use of alternative sources of data if alternative sources are shown to be as accurate as, or more accurate than, the data provided by the department.

(E) Requires annual reporting of the previous year’s water use with the urban water use objective.

(F) Provides a bonus incentive for the amount of potable recycled water used the previous year when comparing the previous year’s water use with the urban water use objective, of up to 10 percent of the urban water use objective.

(3) This chapter requires the department and the board to solicit broad public participation from stakeholders and other interested persons in the development of the standards and the adoption of regulations pursuant to this chapter.
(4) This chapter preserves the Legislature’s authority over long-term water use efficiency target setting and ensures appropriate legislative oversight of the implementation of this chapter by doing all of the following:

(A) Requiring the Legislative Analyst to conduct a review of the implementation of this chapter, including compliance with the adopted standards and regulations, accuracy of the data, use of alternate data, and other issues the Legislative Analyst deems appropriate.

(B) Stating legislative intent that the director of the department and the chairperson of the board appear before the appropriate Senate and Assembly policy committees to report on progress in implementing this chapter.

(C) Providing one-time-only authority to the department and board to adopt water use efficiency standards, except as explicitly provided in this chapter. Authorization to update the standards shall require separate legislation.

(c) It is the intent of the Legislature that the following principles apply to the development and implementation of long-term standards and urban water use objectives:

(1) Local urban retail water suppliers should have primary responsibility for meeting standards-based water use targets, and they shall retain the flexibility to develop their water supply portfolios, design and implement water conservation strategies, educate their customers, and enforce their rules.

(2) Long-term standards and urban water use objectives should advance the state’s goals to mitigate and adapt to climate change.

(3) Long-term standards and urban water use objectives should acknowledge the shade, air quality, and heat-island reduction benefits provided to communities by trees through the support of water-efficient irrigation practices that keep trees healthy.
The state should identify opportunities for streamlined reporting, eliminate redundant data submissions, and incentivize open access to data collected by urban and agricultural water suppliers.

10609.2. (a) The board, in coordination with the department, shall adopt long-term standards for the efficient use of water pursuant to this chapter on or before June 30, 2022.

(b) Standards shall be adopted for all of the following:

(1) Outdoor residential water use.

(2) Outdoor irrigation of landscape areas with dedicated irrigation meters in connection with CII water use.

(3) A volume for water loss.

(c) When adopting the standards under this section, the board shall consider the policies of this chapter and the proposed efficiency standards’ effects on local wastewater management, developed and natural parklands, and urban tree health. The standards and potential effects shall be identified by May 30, 2022. The board shall allow for public comment on potential effects identified by the board under this subdivision.

(d) The long-term standards shall be set at a level designed so that the water use objectives, together with other demands excluded from the long-term standards such as CII indoor water use and CII outdoor water use not connected to a dedicated landscape meter, would exceed the statewide conservation targets required pursuant to Chapter 3 (commencing with Section 10608.16).

(e) The board, in coordination with the department, shall adopt by regulation variances recommended by the department pursuant to Section 10609.14 and guidelines and methodologies pertaining to the calculation of an urban retail water supplier’s urban water use objective recommended by the department pursuant to Section 10609.16.

10609.4. (a) (1) Until January 1, 2025, the standard for indoor residential water use shall be 55 gallons per capita daily.

(2) Beginning January 1, 2025, and until January 1, 2030, the
standard for indoor residential water use shall be the greater of 52.5 gallons per capita daily or a standard recommended pursuant to subdivision (b).

(3) Beginning January 1, 2030, the standard for indoor residential water use shall be the greater of 50 gallons per capita daily or a standard recommended pursuant to subdivision (b).

(b) (1) The department, in coordination with the board, shall conduct necessary studies and investigations and may jointly recommend to the Legislature a standard for indoor residential water use that more appropriately reflects best practices for indoor residential water use than the standard described in subdivision (a). A report on the results of the studies and investigations shall be made to the chairpersons of the relevant policy committees of each house of the Legislature by January 1, 2021, and shall include information necessary to support the recommended standard, if there is one. The studies and investigations shall also include an analysis of the benefits and impacts of how the changing standard for indoor residential water use will impact water and wastewater management, including potable water usage, wastewater, recycling and reuse systems, infrastructure, operations, and supplies.

(2) The studies, investigations, and report described in paragraph (1) shall include collaboration with, and input from, a broad group of stakeholders, including, but not limited to, environmental groups, experts in indoor plumbing, and water, wastewater, and recycled water agencies.

10609.6. (a) (1) The department, in coordination with the board, shall conduct necessary studies and investigations and recommend, no later than October 1, 2021, standards for outdoor residential use for adoption by the board in accordance with this chapter.

(2) (A) The standards shall incorporate the principles of the model water efficient landscape ordinance adopted by the department pursuant to the Water Conservation in Landscaping Act (Article 10.8 (commencing with Section 65591) of Chapter 3 of Division 1 of Title 7 of the Government Code).

(B) The standards shall apply to irrigable lands.
(C) The standards shall include provisions for swimming pools, spas, and other water features. Ornamental water features that are artificially supplied with water, including ponds, lakes, waterfalls, and fountains, shall be analyzed separately from swimming pools and spas.

(b) The department shall, by January 1, 2021, provide each urban retail water supplier with data regarding the area of residential irrigable lands in a manner that can reasonably be applied to the standards adopted pursuant to this section.

(c) The department shall not recommend standards pursuant to this section until it has conducted pilot projects or studies, or some combination of the two, to ensure that the data provided to local agencies are reasonably accurate for the data’s intended uses, taking into consideration California’s diverse landscapes and community characteristics.

10609.8. (a) The department, in coordination with the board, shall conduct necessary studies and investigations and recommend, no later than October 1, 2021, standards for outdoor irrigation of landscape areas with dedicated irrigation meters or other means of calculating outdoor irrigation use in connection with CII water use for adoption by the board in accordance with this chapter.

(b) The standards shall incorporate the principles of the model water efficient landscape ordinance adopted by the department pursuant to the Water Conservation in Landscaping Act (Article 10.8 (commencing with Section 65591) of Chapter 3 of Division 1 of Title 7 of the Government Code).

(c) The standards shall include an exclusion for water for commercial agricultural use meeting the definition of subdivision (b) of Section 51201 of the Government Code.

10609.9. For purposes of Sections 10609.6 and 10609.8, “principles of the model water efficient landscape ordinance” means those provisions of the model water efficient landscape ordinance applicable to the establishment or determination of the amount of water necessary to efficiently irrigate both new and existing landscapes. These provisions include, but are not limited to, all of the following:
(a) Evapotranspiration adjustment factors, as applicable.
(b) Landscape area.
(c) Maximum applied water allowance.
(d) Reference evapotranspiration.
(e) Special landscape areas, including provisions governing evapotranspiration adjustment factors for different types of water used for irrigating the landscape.

10609.10. (a) The department, in coordination with the board, shall conduct necessary studies and investigations and recommend, no later than October 1, 2021, performance measures for CII water use for adoption by the board in accordance with this chapter.

(b) Prior to recommending performance measures for CII water use, the department shall solicit broad public participation from stakeholders and other interested persons relating to all of the following:

   (1) Recommendations for a CII water use classification system for California that address significant uses of water.

   (2) Recommendations for setting minimum size thresholds for converting mixed CII meters to dedicated irrigation meters, and evaluation of, and recommendations for, technologies that could be used in lieu of requiring dedicated irrigation meters.

   (3) Recommendations for CII water use best management practices, which may include, but are not limited to, water audits and water management plans for those CII customers that exceed a recommended size, volume of water use, or other threshold.

(c) Recommendations of appropriate performance measures for CII water use shall be consistent with the October 21, 2013, report to the Legislature by the Commercial, Industrial, and Institutional Task Force entitled “Water Use Best Management Practices,” including the technical and financial feasibility recommendations provided in that report, and shall support the economic productivity of California’s commercial, industrial, and institutional sectors.
(d) (1) The board, in coordination with the department, shall adopt performance measures for CII water use on or before June 30, 2022.
(a) Each urban retail water supplier shall implement the performance measures adopted by the board pursuant to paragraph (1).

10609.12. The standards for water loss for urban retail water suppliers shall be the standards adopted by the board pursuant to subdivision (i) of Section 10608.34.

10609.14. (a) The department, in coordination with the board, shall conduct necessary studies and investigations and, no later than October 1, 2021, recommend for adoption by the board in accordance with this chapter appropriate variances for unique uses that can have a material effect on an urban retail water supplier’s urban water use objective.

(b) Appropriate variances may include, but are not limited to, allowances for the following:

(1) Significant use of evaporative coolers.

(2) Significant populations of horses and other livestock.

(3) Significant fluctuations in seasonal populations.

(4) Significant landscaped areas irrigated with recycled water having high levels of total dissolved solids.

(5) Significant use of water for soil compaction and dust control.

(6) Significant use of water to supplement ponds and lakes to sustain wildlife.

(7) Significant use of water to irrigate vegetation for fire protection.

(8) Significant use of water for commercial or noncommercial agricultural use.

(c) The department, in recommending variances for adoption by the board, shall also recommend a threshold of significance for each recommended variance.

(d) Before including any specific variance in calculating an urban retail water supplier’s water use objective, the urban retail water supplier shall request and receive approval by the board for the inclusion of that variance.

(e) The board shall post on its Internet Web site all of the following:
(1) A list of all urban retail water suppliers with approved variances.

(2) The specific variance or variances approved for each urban retail water supplier.

(3) The data supporting approval of each variance.

10609.15. To help streamline water data reporting, the department and the board shall do all of the following:

(a) Identify urban water reporting requirements shared by both agencies, and post on each agency’s Internet Web site how the data is used for planning, regulatory, or other purposes.

(b) Analyze opportunities for more efficient publication of urban water reporting requirements within each agency, and analyze how each agency can integrate various data sets in a publicly accessible location, identify priority actions, and implement priority actions identified in the analysis.

(c) Make appropriate data pertaining to the urban water reporting requirements that are collected by either agency available to the public according to the principles and requirements of the Open and Transparent Water Data Act (Part 4.9 (commencing with Section 12400)).

10609.16. The department, in coordination with the board, shall conduct necessary studies and investigations and recommend, no later than October 1, 2021, guidelines and methodologies for the board to adopt that identify how an urban retail water supplier calculates its urban water use objective. The guidelines and methodologies shall address, as necessary, all of the following:

(a) Determining the irrigable lands within the urban retail water supplier’s service area.

(b) Updating and revising methodologies described pursuant to subparagraph (A) of paragraph (1) of subdivision (h) of Section 10608.20, as appropriate, including methodologies for calculating the population in an urban retail water supplier’s service area.

(c) Using landscape area data provided by the department or alternative data.
(d) Incorporating precipitation data and climate data into estimates of a urban retail water supplier’s outdoor irrigation budget for its urban water use objective.

(e) Estimating changes in outdoor landscape area and population, and calculating the urban water use objective, for years when updated landscape imagery is not available from the department.

(f) Determining acceptable levels of accuracy for the supporting data, the urban water use objective, and compliance with the urban water use objective.

10609.18. The department and the board shall solicit broad public participation from stakeholders and other interested persons in the development of the standards and the adoption of regulations pursuant to this chapter. The board shall hold at least one public meeting before taking any action on any standard or variance recommended by the department.

10609.20. (a) Each urban retail water supplier shall calculate its urban water use objective no later than January 1, 2024, and by January 1 every year thereafter.

(b) The calculation shall be based on the urban retail water supplier’s water use conditions for the previous calendar or fiscal year.

(c) Each urban water supplier’s urban water use objective shall be composed of the sum of the following:

1. Aggregate estimated efficient indoor residential water use.
2. Aggregate estimated efficient outdoor residential water use.
3. Aggregate estimated efficient outdoor irrigation of landscape areas with dedicated irrigation meters or equivalent technology in connection with CII water use.
4. Aggregate estimated efficient water losses.
5. Aggregate estimated water use in accordance with variances, as appropriate.

(d) (1) An urban retail water supplier that delivers water from a groundwater basin, reservoir, or other source that is augmented by potable reuse water may adjust its urban water use objective by a bonus incentive calculated pursuant to this subdivision.
(2) The water use objective bonus incentive shall be the volume of its potable reuse delivered to residential water users and to landscape areas with dedicated irrigation meters in connection with CII water use, on an acre-foot basis.

(3) The bonus incentive pursuant to paragraph (1) shall be limited in accordance with one of the following:

   (A) The bonus incentive shall not exceed 15 percent of the urban water supplier’s water use objective for any potable reuse water produced at an existing facility.

   (B) The bonus incentive shall not exceed 10 percent of the urban water supplier’s water use objective for any potable reuse water produced at any facility that is not an existing facility.

(4) For purposes of this subdivision, “existing facility” means a facility that meets all of the following:

   (A) The facility has a certified environmental impact report, mitigated negative declaration, or negative declaration on or before January 1, 2019.

   (B) The facility begins producing and delivering potable reuse water on or before January 1, 2022.

   (C) The facility uses microfiltration and reverse osmosis technologies to produce the potable reuse water.

(e) (1) The calculation of the urban water use objective shall be made using landscape area and other data provided by the department and pursuant to the standards, guidelines, and methodologies adopted by the board. The department shall provide data to the urban water supplier at a level of detail sufficient to allow the urban water supplier to verify its accuracy at the parcel level.

(2) Notwithstanding paragraph (1), an urban retail water supplier may use alternative data in calculating the urban water use objective if the supplier demonstrates to the department that the alternative data are equivalent, or superior, in quality and accuracy to the data provided by the department. The department may provide technical assistance to an urban retail water supplier in evaluating whether the alternative data are appropriate for use in calculating the supplier’s urban water use objective.
10609.21. (a) For purposes of Section 10609.20, and notwithstanding paragraph (4) of subdivision (d) of Section 10609.20, “existing facility” also includes the North City Project, phase one of the Pure Water San Diego Program, for which an environmental impact report was certified on April 10, 2018.

(b) This section shall become operative on January 1, 2019.

10609.22. (a) An urban retail water supplier shall calculate its actual urban water use no later than January 1, 2024, and by January 1 every year thereafter.

(b) The calculation shall be based on the urban retail water supplier’s water use for the previous calendar or fiscal year.

(c) Each urban water supplier’s urban water use shall be composed of the sum of the following:

1. Aggregate residential water use.
2. Aggregate outdoor irrigation of landscape areas with dedicated irrigation meters in connection with CII water use.
3. Aggregate water losses.

10609.24. (a) An urban retail water supplier shall submit a report to the department no later than January 1, 2024, and by January 1 every year thereafter. The report shall include all of the following:

1. The urban water use objective calculated pursuant to Section 10609.20 along with relevant supporting data.
2. The actual urban water use calculated pursuant to Section 10609.22 along with relevant supporting data.
3. Documentation of the implementation of the performance measures for CII water use.
4. A description of the progress made towards meeting the urban water use objective.
5. The validated water loss audit report conducted pursuant to Section 10608.34.

(b) The department shall post the reports and information on its internet website.
(c) The board may issue an information order or conservation order to, or impose civil liability on, an entity or individual for failure to submit a report required by this section.

10609.25. As part of the first report submitted to the department by an urban retail water supplier no later than January 1, 2024, pursuant to subdivision (a) of Section 10609.24, each urban retail water supplier shall provide a narrative that describes the water demand management measures that the supplier plans to implement to achieve its urban water use objective by January 1, 2027.

10609.26. (a) (1) On and after January 1, 2024, the board may issue informational orders pertaining to water production, water use, and water conservation to an urban retail water supplier that does not meet its urban water use objective required by this chapter. Informational orders are intended to obtain information on supplier activities, water production, and conservation efforts in order to identify technical assistance needs and assist urban water suppliers in meeting their urban water use objectives.

(2) In determining whether to issue an informational order, the board shall consider the degree to which the urban retail water supplier is not meeting its urban water use objective, information provided in the report required by Section 10609.24, and actions the urban retail water supplier has implemented or will implement in order to help meet the urban water use objective.

(3) The board shall share information received pursuant to this subdivision with the department.

(4) An urban water supplier may request technical assistance from the department. The technical assistance may, to the extent available, include guidance documents, tools, and data.

(b) On and after January 1, 2025, the board may issue a written notice to an urban retail water supplier that does not meet its urban water use objective required by this chapter. The written notice may warn the urban retail water supplier that it is not meeting its urban water use objective described in Section 10609.20 and is not making adequate progress in meeting the urban water use objective, and may request that the urban retail water supplier
address areas of concern in its next annual report required by Section 10609.24. In deciding whether to issue a written notice, the board may consider whether the urban retail water supplier has received an informational order, the degree to which the urban retail water supplier is not meeting its urban water use objective, information provided in the report required by Section 10609.24, and actions the urban retail water supplier has implemented or will implement in order to help meet its urban water use objective.

(c) (1) On and after January 1, 2026, the board may issue a conservation order to an urban retail water supplier that does not meet its urban water use objective. A conservation order may consist of, but is not limited to, referral to the department for technical assistance, requirements for education and outreach, requirements for local enforcement, and other efforts to assist urban retail water suppliers in meeting their urban water use objective.

(2) In issuing a conservation order, the board shall identify specific deficiencies in an urban retail water supplier’s progress towards meeting its urban water use objective, and identify specific actions to address the deficiencies.

(3) The board may request that the department provide an urban retail water supplier with technical assistance to support the urban retail water supplier’s actions to remedy the deficiencies.

(d) A conservation order issued in accordance with this chapter may include requiring actions intended to increase water-use efficiency, but shall not curtail or otherwise limit the exercise of a water right, nor shall it require the imposition of civil liability pursuant to Section 377.

**10609.27.** Notwithstanding Section 10609.26, the board shall not issue an information order, written notice, or conservation order pursuant to Section 10609.26 if both of the following conditions are met:

(a) The board determines that the urban retail water supplier is not meeting its urban water use objective solely because the volume of water loss exceeds the urban retail water supplier’s standard for water loss.
(b) Pursuant to Section 10608.34, the board is taking enforcement action against the urban retail water supplier for not meeting the performance standards for the volume of water losses.

10609.28. The board may issue a regulation or informational order requiring a wholesale water supplier, an urban retail water supplier, or a distributor of a public water supply, as that term is used in Section 350, to provide a monthly report relating to water production, water use, or water conservation.

10609.30. On or before January 10, 2024, the Legislative Analyst shall provide to the appropriate policy committees of both houses of the Legislature and the public a report evaluating the implementation of the water use efficiency standards and water use reporting pursuant to this chapter. The board and the department shall provide the Legislative Analyst with the available data to complete this report.

(a) The report shall describe all of the following:

(1) The rate at which urban retail water users are complying with the standards, and factors that might facilitate or impede their compliance.

(2) The accuracy of the data and estimates being used to calculate urban water use objectives.

(3) Indications of the economic impacts, if any, of the implementation of this chapter on urban water suppliers and urban water users, including CII water users.

(4) The frequency of use of the bonus incentive, the volume of water associated with the bonus incentive, value to urban water suppliers of the bonus incentive, and any implications of the use of the bonus incentive on water use efficiency.

(5) The early indications of how implementing this chapter might impact the efficiency of statewide urban water use.

(6) Recommendations, if any, for improving statewide urban water use efficiency and the standards and practices described in this chapter.

(7) Any other issues the Legislative Analyst deems appropriate.
10609.32. It is the intent of the Legislature that the chairperson of the board and the director of the department appear before the appropriate policy committees of both houses of the Legislature on or around January 1, 2026, and report on the implementation of the water use efficiency standards and water use reporting pursuant to this chapter. It is the intent of the Legislature that the topics to be covered include all of the following:

(a) The rate at which urban retail water suppliers are complying with the standards, and factors that might facilitate or impede their compliance.

(b) What enforcement actions have been taken, if any.

(c) The accuracy of the data and estimates being used to calculate urban water use objectives.

(d) Indications of the economic impacts, if any, of the implementation of this chapter on urban water suppliers and urban water users, including CII water users.

(e) The frequency of use of the bonus incentive, the volume of water associated with the bonus incentive, value to urban water suppliers of the bonus incentive, and any implications of the use of the bonus incentive on water use efficiency.

(f) An assessment of how implementing this chapter is affecting the efficiency of statewide urban water use.

10609.34. Notwithstanding Section 15300.2 of Title 14 of the California Code of Regulations, an action of the board taken under this chapter shall be deemed to be a Class 8 action, within the meaning of Section 15308 of Title 14 of the California Code of Regulations, provided that the action does not involve relaxation of existing water conservation or water use standards.

10609.36. (a) Nothing in this chapter shall be construed to determine or alter water rights. Sections 1010 and 1011 apply to water conserved through implementation of this chapter.

(b) Nothing in this chapter shall be construed to authorize the board to update or revise water use efficiency standards authorized by this chapter except as explicitly provided in this chapter. Authorization to update the standards beyond that explicitly provided in this chapter shall require separate legislation.
(c) Nothing in this chapter shall be construed to limit or otherwise affect the use of recycled water as seawater barriers for groundwater salinity management.

10609.38. The board may waive the requirements of this chapter for a period of up to five years for any urban retail water supplier whose water deliveries are significantly affected by changes in water use as a result of damage from a disaster such as an earthquake or fire. In establishing the period of a waiver, the board shall take into consideration the breadth of the damage and the time necessary for the damaged areas to recover from the disaster.

PART 2.6. URBAN WATER MANAGEMENT PLANNING
CHAPTER 1. General Declaration and Policy [10610 – 10610.4]

10610. This part shall be known and may be cited as the "Urban Water Management Planning Act."

10610.2. (a) The Legislature finds and declares all of the following:

(1) The waters of the state are a limited and renewable resource subject to ever-increasing demands.

(2) The conservation and efficient use of urban water supplies are of statewide concern; however, the planning for that use and the implementation of those plans can best be accomplished at the local level.

(3) A long-term, reliable supply of water is essential to protect the productivity of California’s businesses and economic climate, and increasing long-term water conservation among Californians, improving water use efficiency within the state’s communities and agricultural production, and strengthening local and regional drought planning are critical to California’s resilience to drought and climate change.

(4) As part of its long-range planning activities, every urban water supplier should make every effort to ensure the appropriate level of reliability in its water service sufficient to meet the needs of its various categories of customers during normal, dry, and multiple dry water years now and into the
foreseeable future, and every urban water supplier should collaborate closely with local land-use authorities to ensure water demand forecasts are consistent with current land-use planning.

(5) Public health issues have been raised over a number of contaminants that have been identified in certain local and imported water supplies.

(6) Implementing effective water management strategies, including groundwater storage projects and recycled water projects, may require specific water quality and salinity targets for meeting groundwater basins water quality objectives and promoting beneficial use of recycled water.

(7) Water quality regulations are becoming an increasingly important factor in water agencies’ selection of raw water sources, treatment alternatives, and modifications to existing treatment facilities.

(8) Changes in drinking water quality standards may also impact the usefulness of water supplies and may ultimately impact supply reliability.

(9) The quality of source supplies can have a significant impact on water management strategies and supply reliability.

(b) This part is intended to provide assistance to water agencies in carrying out their long-term resource planning responsibilities to ensure adequate water supplies to meet existing and future demands for water.

10610.4. The Legislature finds and declares that it is the policy of the state as follows:

(a) The management of urban water demands and efficient use of water shall be actively pursued to protect both the people of the state and their water resources.

(b) The management of urban water demands and efficient use of urban water supplies shall be a guiding criterion in public decisions.

(c) Urban water suppliers shall be required to develop water management plans to achieve the efficient use of available supplies and strengthen local drought planning.
CHAPTER 2. Definitions [10611 – 10618]

10611. Unless the context otherwise requires, the definitions of this chapter govern the construction of this part.

10611.3. “Customer” means a purchaser of water from a water supplier who uses the water for municipal purposes, including residential, commercial, governmental, and industrial uses.

10611.5. “Demand management” means those water conservation measures, programs, and incentives that prevent the waste of water and promote the reasonable and efficient use and reuse of available supplies.

10612. “Drought risk assessment” means a method that examines water shortage risks based on the driest five-year historic sequence for the agency’s water supply, as described in subdivision (b) of Section 10635.

10613. “Efficient use” means those management measures that result in the most effective use of water so as to prevent its waste or unreasonable use or unreasonable method of use.

10614. “Person” means any individual, firm, association, organization, partnership, business, trust, corporation, company, public agency, or any agency of such an entity.

10615. “Plan” means an urban water management plan prepared pursuant to this part. A plan shall describe and evaluate sources of supply, reasonable and practical efficient uses, reclamation and demand management activities. The components of the plan may vary according to an individual community or area's characteristics and its capabilities to efficiently use and conserve water. The plan shall address measures for residential, commercial, governmental, and industrial water demand management as set forth in Article 2 (commencing with Section 10630) of Chapter 3. In addition, a strategy and time schedule for implementation shall be included in the plan.

10616. “Public agency” means any board, commission, county, city and county, city, regional agency, district, or other public entity.
10616.5. "Recycled water" means the reclamation and reuse of wastewater for beneficial use.

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 subject to Chapter 4 (commencing with Section 116275) of Part 12 of Division 104 of the Health and Safety Code.

10617.5. “Water shortage contingency plan” means a document that incorporates the provisions detailed in subdivision (a) of Section 10632 and is subsequently adopted by an urban water supplier pursuant to this article.

10618. “Water supply and demand assessment” means a method that looks at current year and one or more dry year supplies and demands for determining water shortage risks, as described in Section 10632.1.

CHAPTER 3. Urban Water Management Plans
ARTICLE 1. General Provisions [10620 – 10621]

10620. (a) Every urban water supplier shall prepare and adopt an urban water management plan in the manner set forth in Article 3 (commencing with Section 10640).

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

(c) An urban water supplier indirectly providing water shall not include planning elements in its water management plan as provided in Article 2 (commencing with Section 10630) that would be applicable to urban water suppliers or public agencies directly providing water, or to their customers, without the consent of those suppliers or public agencies.

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

(2) Notwithstanding paragraph (1), each urban water supplier shall develop its own water shortage contingency plan, but an urban water supplier may incorporate, collaborate, and otherwise share information with other urban water suppliers or other governing entities participating in an areawide, regional, watershed, or basinwide urban water management plan, an agricultural management plan, or groundwater sustainability plan development.

(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.

(e) The urban water supplier may prepare the plan with its own staff, by contract, or in cooperation with other governmental agencies.

(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.

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.

(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 urban water supplier may consult with, and obtain comments from, any city or county that receives notice pursuant to this subdivision.

(c) An urban water supplier regulated by the Public Utilities Commission shall include its most recent plan and water shortage
contingency plan as part of the supplier’s general rate case filings.

(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).

(e) Each urban water supplier shall update and submit its 2015 plan to the department by July 1, 2016.

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

CHAPTER 3. Urban Water Management Plans
ARTICLE 2. Contents of Plans [10630 – 10634]

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.

10630.5. Each plan shall include a simple lay description of how much water the agency has on a reliable basis, how much it needs for the foreseeable future, what the agency’s strategy is for meeting its water needs, the challenges facing the agency, and any other information necessary to provide a general understanding of the agency’s plan.

10631. A plan shall be adopted in accordance with this chapter that shall do all of the following:

(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.

(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:

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

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

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

(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.

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

(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.

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

(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.

(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.

(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 measures 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.

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

(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.

(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.

(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).
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.

(b) It is the intent of the Legislature that the identification of projected water use for single-family and multifamily residential housing for lower income households will assist a supplier in complying with the requirement under Section 65589.7 of the Government Code to grant a priority for the provision of service to housing units affordable to lower income households.

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.

(b) The department shall include in its guidance for the preparation of urban water management plans a methodology for the voluntary calculation or estimation of the energy intensity of urban water systems. The department may consider studies and calculations conducted by the Public Utilities Commission in developing the methodology.
(c) The Legislature finds and declares that energy use is only one factor in water supply planning and shall not be considered independently of other factors.

10632. (a) Every urban water supplier shall prepare and adopt a water shortage contingency plan as part of its urban water management plan that consists of each of the following elements:

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

(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.
(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.

(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.

(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.

(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.

(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.

(A) 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.

(B) 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.

(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.

(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.

(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.

(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.

(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.

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.

10632.2. An urban water supplier shall follow, where feasible and appropriate, the prescribed procedures and implement determined shortage response actions in its water shortage contingency plan, as identified in
subdivision (a) of Section 10632, or reasonable alternative actions, provided that descriptions of the alternative actions are submitted with the annual water shortage assessment report pursuant to Section 10632.1. Nothing in this section prohibits an urban water supplier from taking actions not specified in its water shortage contingency plan, if needed, without having to formally amend its urban water management plan or water shortage contingency plan.

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

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.

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.

10634. The plan shall include information, to the extent practicable, relating to the quality of existing sources of water available to the supplier over the same five-year increments as described in subdivision (a) of Section 10631, and the manner in which water quality affects water management strategies and supply reliability.
CHAPTER 3. Urban Water Management Plans

ARTICLE 2.5. Water Service Reliability [10635]

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.

(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.

(d) 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.

(e) Nothing in this article is intended to create a right or entitlement to water service or any specific level of water service.

(f) Nothing in this article is intended to change existing law concerning an urban water supplier’s obligation to provide water service to its existing customers or to any potential future customers.

CHAPTER 3. Urban Water Management Plans
ARTICLE 3. Adoption and Implementation of Plans [10640 – 10645]

10640. (a) Every urban water supplier required to prepare a plan pursuant to this part shall prepare its plan pursuant to Article 2 (commencing with Section 10630). The supplier shall likewise periodically review the plan as required by Section 10621, and any amendments or changes required as a result of that review shall be adopted pursuant to this article.

(b) Every urban water supplier required to prepare a water shortage contingency plan shall prepare a water shortage contingency plan pursuant to Section 10632. The supplier shall likewise periodically review the water shortage contingency plan as required by paragraph (10) of subdivision (a) of Section 10632 and any amendments or changes required as a result of that review shall be adopted pursuant to this article.
10641. An urban water supplier required to prepare a plan or a water shortage contingency plan may consult with, and obtain comments from, any public agency or state agency or any person who has special expertise with respect to water demand management methods and techniques.

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 both the plan and the water shortage contingency plan. Prior to adopting either, the urban water supplier shall make both the plan and the water shortage contingency plan available for public inspection and shall hold a public hearing or hearings thereon. Prior to any of these hearings, notice of the time and place of the hearing shall be published within the jurisdiction of the publicly owned water supplier pursuant to Section 6066 of the Government Code. 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. Notices by a local public agency pursuant to this section shall be provided pursuant to Chapter 17.5 (commencing with Section 7290) of Division 7 of Title 1 of the Government Code. A privately owned water supplier shall provide an equivalent notice within its service area. After the hearing or hearings, the plan or water shortage contingency plan shall be adopted as prepared or as modified after the hearing or hearings.

10643. An urban water supplier shall implement its plan adopted pursuant to this chapter in accordance with the schedule set forth in its plan.

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. 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. 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.

(2) The plan, or amendments to the plan, submitted to the department pursuant to paragraph (1) shall be submitted electronically and shall include any standardized forms, tables, or displays specified by the department.

(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 pursuant to subdivision (a) of Section 10632 no later than 30 days after adoption, in accordance with protocols for submission and using electronic reporting tools developed by the department.

(c) (1) (A) Notwithstanding Section 10231.5 of the Government Code, the department shall prepare and submit to the Legislature, on or before July 1, in the years ending in seven and two, a report summarizing the status of the plans and water shortage contingency plans adopted pursuant to this part. The report prepared by the department shall identify the exemplary elements of the individual plans and water shortage contingency plans. The department shall provide a copy of the report to each urban water supplier that has submitted its plan and water shortage contingency plan to the department. The department shall also prepare reports and provide data for any legislative hearings designed to consider the effectiveness of plans and water shortage contingency plans submitted pursuant to this part.

(B) The department shall prepare and submit to the board, on or before September 30 of each year, a report summarizing the submitted water supply and demand assessment results along with appropriate reported water shortage conditions and the regional and statewide analysis of water supply conditions developed by the department. As part of the report, the department shall provide a summary and, as appropriate, urban water supplier specific information regarding various shortage response actions implemented as a result of annual supplier-specific water supply and demand assessments performed pursuant to Section 10632.1.

(C) The department shall submit the report to the Legislature for the 2015 plans by July 1, 2017, and the report to the Legislature for the 2020 plans and water shortage contingency plans by July 1, 2022.

(2) A report to be submitted pursuant to subparagraph (A) of paragraph (1) shall be submitted in compliance with Section 9795 of the Government Code.
(d) The department shall make available to the public the standard the department will use to identify exemplary water demand management measures.

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.


10650. Any actions or proceedings, other than actions by the board, to attack, review, set aside, void, or annul the acts or decisions of an urban water supplier on the grounds of noncompliance with this part shall be commenced as follows:

(a) An action or proceeding alleging failure to adopt a plan or a water shortage contingency plan shall be commenced within 18 months after that adoption is required by this part.

(b) Any action or proceeding alleging that a plan or water shortage contingency plan, or action taken pursuant to either, does not comply with this part shall be commenced within 90 days after filing of the plan or water shortage contingency plan or an amendment to either pursuant to Section 10644 or the taking of that action.

10651. In any action or proceeding to attack, review, set aside, void, or annul a plan or a water shortage contingency plan, or an action taken pursuant to either by an urban water supplier on the grounds of noncompliance with this part, the inquiry shall extend only to whether there was a prejudicial abuse of discretion. Abuse of discretion is established if the supplier has not proceeded in a manner required by law or if the action by the water supplier is not supported by substantial evidence.

10652. The California Environmental Quality Act (Division 13 (commencing with Section 21000) of the Public Resources Code) does not apply to the
preparation and adoption of plans pursuant to this part or to the implementation of actions taken pursuant to Section 10632. Nothing in this part shall be interpreted as exempting from the California Environmental Quality Act any project that would significantly affect water supplies for fish and wildlife, or any project for implementation of the plan, other than projects implementing Section 10632, or any project for expanded or additional water supplies.

10653. The adoption of a plan shall satisfy any requirements of state law, regulation, or order, including those of the board and the Public Utilities Commission, for the preparation of water management plans, water shortage contingency plans, or conservation plans; provided, that if the board or the Public Utilities Commission requires additional information concerning water conservation, drought response measures, or financial conditions to implement its existing authority, nothing in this part shall be deemed to limit the board or the commission in obtaining that information. The requirements of this part shall be satisfied by any urban water demand management plan that complies with analogous federal laws or regulations after the effective date of this part, and which substantially meets the requirements of this part, or by any existing urban water management plan which includes the contents of a plan required under this part.

10654. An urban water supplier may recover in its rates the costs incurred in preparing its urban water management plan, its drought risk assessment, its water supply and demand assessment, and its water shortage contingency plan and implementing the reasonable water conservation measures included in either of the plans.

10655. If any provision of this part or the application thereof to any person or circumstances is held invalid, that invalidity shall not affect other provisions or applications of this part which can be given effect without the invalid provision or application thereof, and to this end the provisions of this part are severable.

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.
The department may adopt regulations regarding the definitions of water, water use, and reporting periods, and may adopt any other regulations deemed necessary or desirable to implement this part. In developing regulations pursuant to this section, the department shall solicit broad public participation from stakeholders and other interested persons.
Appendix C
California Water Code
Sustainable Water Use and Demand Reduction (SB X7-7)
This document presents the Water Code sections associated with the Sustainable Water Use and Demand Reduction (SB X7-7).
California Water Code
Sustainable Water Use and Demand Reduction

California Water Code Division 6, Part 2.55.

Chapter 1. General Declarations and Policy §10608-10608.8
Chapter 2. Definitions §10608.12
Chapter 3. Urban Retail Water Suppliers §10608.16-10608.44
Chapter 4. Agricultural Water Suppliers §10608.48
Chapter 5. Sustainable Water Management §10608.50
Chapter 6 Standardized Data Collection §10608.52
Chapter 7 Funding Provisions §10608.56-10608.60
Chapter 8 Quantifying Agricultural Water Use Efficiency §10608.64

Chapter 1. General Declarations and Policy

SECTION 10608-10608.8

10608. The Legislature finds and declares all of the following:

(a) Water is a public resource that the California Constitution protects against waste and unreasonable use.

(b) Growing population, climate change, and the need to protect and grow California’s economy while protecting and restoring our fish and wildlife habitats make it essential that the state manage its water resources as efficiently as possible.

(c) Diverse regional water supply portfolios will increase water supply reliability and reduce dependence on the Delta.

(d) Reduced water use through conservation provides significant energy and environmental benefits, and can help protect water quality, improve streamflows, and reduce greenhouse gas emissions.

(e) The success of state and local water conservation programs to increase efficiency of water use is best determined on the basis of measurable outcomes related to water use or efficiency.

(f) Improvements in technology and management practices offer the potential for increasing water efficiency in California over time, providing an essential water management tool to meet the need for water for urban, agricultural, and environmental uses.

(g) The Governor has called for a 20 percent per capita reduction in urban water use statewide by 2020.
(h) The factors used to formulate water use efficiency targets can vary significantly from location to location based on factors including weather, patterns of urban and suburban development, and past efforts to enhance water use efficiency.

(i) Per capita water use is a valid measure of a water provider's efforts to reduce urban water use within its service area. However, per capita water use is less useful for measuring relative water use efficiency between different water providers. Differences in weather, historical patterns of urban and suburban development, and density of housing in a particular location need to be considered when assessing per capita water use as a measure of efficiency.

10608.4. It is the intent of the Legislature, by the enactment of this part, to do all of the following:

(a) Require all water suppliers to increase the efficiency of use of this essential resource.

(b) Establish a framework to meet the state targets for urban water conservation identified in this part and called for by the Governor.

(c) Measure increased efficiency of urban water use on a per capita basis.

(d) Establish a method or methods for urban retail water suppliers to determine targets for achieving increased water use efficiency by the year 2020, in accordance with the Governor's goal of a 20-percent reduction.

(e) Establish consistent water use efficiency planning and implementation standards for urban water suppliers and agricultural water suppliers.

(f) Promote urban water conservation standards that are consistent with the California Urban Water Conservation Council's adopted best management practices and the requirements for demand management in Section 10631.

(g) Establish standards that recognize and provide credit to water suppliers that made substantial capital investments in urban water conservation since the drought of the early 1990s.

(h) Recognize and account for the investment of urban retail water suppliers in providing recycled water for beneficial uses.

(i) Require implementation of specified efficient water management practices for agricultural water suppliers.

(j) Support the economic productivity of California's agricultural, commercial, and industrial sectors.
(k) Advance regional water resources management.

10608.8. (a) (1) Water use efficiency measures adopted and implemented pursuant to this part or Part 2.8 (commencing with Section 10800) are water conservation measures subject to the protections provided under Section 1011.

(2) Because an urban agency is not required to meet its urban water use target until 2020 pursuant to subdivision (b) of Section 10608.24, an urban retail water supplier's failure to meet those targets shall not establish a violation of law for purposes of any state administrative or judicial proceeding prior to January 1, 2021. Nothing in this paragraph limits the use of data reported to the department or the board in litigation or an administrative proceeding. This paragraph shall become inoperative on January 1, 2021.

(3) To the extent feasible, the department and the board shall provide for the use of water conservation reports required under this part to meet the requirements of Section 1011 for water conservation reporting.

(b) This part does not limit or otherwise affect the application of Chapter 3.5 (commencing with Section 11340), Chapter 4 (commencing with Section 11370), Chapter 4.5 (commencing with Section 11400), and Chapter 5 (commencing with Section 11500) of Part 1 of Division 3 of Title 2 of the Government Code.

(c) This part does not require a reduction in the total water used in the agricultural or urban sectors, because other factors, including, but not limited to, changes in agricultural economics or population growth may have greater effects on water use. This part does not limit the economic productivity of California's agricultural, commercial, or industrial sectors.

(d) The requirements of this part do not apply to an agricultural water supplier that is a party to the Quantification Settlement Agreement, as defined in subdivision (a) of Section 1 of Chapter 617 of the Statutes of 2002, during the period within which the Quantification Settlement Agreement remains in effect. After the expiration of the Quantification Settlement Agreement, to the extent conservation water projects implemented as part of the Quantification Settlement Agreement remain in effect, the conserved water created as part of those projects shall be credited against the obligations of the agricultural water supplier pursuant to this part.

Chapter 2 Definitions

SECTION 10608.12

10608.12. Unless the context otherwise requires, the following definitions govern the construction of this part:
(a) "Agricultural water supplier" means a water supplier, either publicly or privately owned, providing water to 10,000 or more irrigated acres, excluding recycled water. "Agricultural water supplier" includes a supplier or contractor for water, regardless of the basis of right, that distributes or sells water for ultimate resale to customers. "Agricultural water supplier" does not include the department.

(b) "Base daily per capita water use" means any of the following:

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

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

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

(c) "Baseline commercial, industrial, and institutional water use" means an urban retail water supplier's base daily per capita water use for commercial, industrial, and institutional users.

(d) "Commercial water user" means a water user that provides or distributes a product or service.

(e) "Compliance daily per capita water use" means the gross water use during the final year of the reporting period, reported in gallons per capita per day.

(f) "Disadvantaged community" means a community with an annual median household income that is less than 80 percent of the statewide annual median household income.

(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.

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

(i) "Institutional water user" means a water user dedicated to public service. This type of user includes, among other users, higher education institutions, schools, courts, churches, hospitals, government facilities, and nonprofit research institutions.

(j) "Interim urban water use target" means the midpoint between the urban retail water supplier's base daily per capita water use and the urban retail water supplier's urban water use target for 2020.

(k) "Locally cost effective" means that the present value of the local benefits of implementing an agricultural efficiency water management practice is greater than or equal to the present value of the local cost of implementing that measure.

(l) "Process water" means water used for producing a product or product content or water used for research and development, including, but not limited to, continuous manufacturing processes, water used for testing and maintaining equipment used in producing a product or product content, and water used in combined heat and power facilities used in producing a product or product content. Process water does not mean incidental water uses not related to the production of a product or product content, including, but not limited to, water used for restrooms, landscaping, air conditioning, heating, kitchens, and laundry.

(m) "Recycled water" means recycled water, as defined in subdivision (n) of Section 13050, that is used to offset potable demand, including recycled water supplied for direct use and indirect potable reuse, that meets the following requirements, where applicable:

(1) For groundwater recharge, including recharge through spreading basins, water supplies that are all of the following:

   (A) Metered.

   (B) Developed through planned investment by the urban water supplier or a wastewater treatment agency.

   (C) Treated to a minimum tertiary level.
(D) Delivered within the service area of an urban retail water supplier or its urban wholesale water supplier that helps an urban retail water supplier meet its urban water use target.

(2) For reservoir augmentation, water supplies that meet the criteria of paragraph (1) and are conveyed through a distribution system constructed specifically for recycled water.

(j) "Regional water resources management" means sources of supply resulting from watershed-based planning for sustainable local water reliability or any of the following alternative sources of water:

(1) The capture and reuse of stormwater or rainwater.
(2) The use of recycled water.
(3) The desalination of brackish groundwater.
(4) The conjunctive use of surface water and groundwater in a manner that is consistent with the safe yield of the groundwater basin.

(k) "Reporting period" means the years for which an urban retail water supplier reports compliance with the urban water use targets.

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

(m) "Urban water use target" means the urban retail water supplier's targeted future daily per capita water use.

(n) "Urban wholesale water supplier," means a water supplier, either publicly or privately owned, that provides more than 3,000 acre-feet of water annually at wholesale for potable municipal purposes.

Chapter 3 Urban Retail Water Suppliers

SECTION 10608.16-10608.44

10608.16.(a) The state shall achieve a 20-percent reduction in urban per capita water use in California on or before December 31, 2020.

(b) The state shall make incremental progress towards the state target specified in subdivision (a) by reducing urban per capita water use by at least 10 percent on or before December 31, 2015.
10608.20.(a) (1) Each urban retail water supplier shall develop urban water use targets and an interim urban water use target by July 1, 2011. Urban retail water suppliers may elect to determine and report progress toward achieving these targets on an individual or regional basis, as provided in subdivision (a) of Section 10608.28, and may determine the targets on a fiscal year or calendar year basis.

(2) It is the intent of the Legislature that the urban water use targets described in paragraph (1) cumulatively result in a 20-percent reduction from the baseline daily per capita water use by December 31, 2020.

(b) An urban retail water supplier shall adopt one of the following methods for determining its urban water use target pursuant to subdivision (a):

(1) Eighty percent of the urban retail water supplier's baseline per capita daily water use.

(2) The per capita daily water use that is estimated using the sum of the following performance standards:

(A) For indoor residential water use, 55 gallons per capita daily water use as a provisional standard. Upon completion of the department's 2016 report to the Legislature pursuant to Section 10608.42, this standard may be adjusted by the Legislature by statute.

(B) For landscape irrigated through dedicated or residential meters or connections, water efficiency equivalent to the standards of the Model Water Efficient Landscape Ordinance set forth in Chapter 2.7 (commencing with Section 490) of Division 2 of Title 23 of the California Code of Regulations, as in effect the later of the year of the landscape's installation or 1992. An urban retail water supplier using the approach specified in this subparagraph shall use satellite imagery, site visits, or other best available technology to develop an accurate estimate of landscaped areas.

(C) For commercial, industrial, and institutional uses, a 10-percent reduction in water use from the baseline commercial, industrial, and institutional water use by 2020.

(3) Ninety-five percent of the applicable state hydrologic region target, as set forth in the state's draft 20x2020 Water Conservation Plan (dated April 30, 2009). If the service area of an urban water supplier includes more than one hydrologic region, the supplier shall apportion its service area to each region based on population or area.

(4) A method that shall be identified and developed by the department, through a public process, and reported to the Legislature no later than December 31, 2010. The method developed by the department shall identify per capita targets that cumulatively result in a statewide 20-percent reduction in urban daily per capita water use by December 31,
2020. In developing urban daily per capita water use targets, the department shall do all of the following:

(A) Consider climatic differences within the state.

(B) Consider population density differences within the state.

(C) Provide flexibility to communities and regions in meeting the targets.

(D) Consider different levels of per capita water use according to plant water needs in different regions.

(E) Consider different levels of commercial, industrial, and institutional water use in different regions of the state.

(F) Avoid placing an undue hardship on communities that have implemented conservation measures or taken actions to keep per capita water use low.

(c) If the department adopts a regulation pursuant to paragraph (4) of subdivision (b) that results in a requirement that an urban retail water supplier achieve a reduction in daily per capita water use that is greater than 20 percent by December 31, 2020, an urban retail water supplier that adopted the method described in paragraph (4) of subdivision (b) may limit its urban water use target to a reduction of not more than 20 percent by December 31, 2020, by adopting the method described in paragraph (1) of subdivision (b).

(d) The department shall update the method described in paragraph (4) of subdivision (b) and report to the Legislature by December 31, 2014. An urban retail water supplier that adopted the method described in paragraph (4) of subdivision (b) may adopt a new urban daily per capita water use target pursuant to this updated method.

(e) An urban retail water supplier shall include in its urban water management plan due in 2010 pursuant to Part 2.6 (commencing with Section 10610) the baseline daily per capita water use, urban water use target, interim urban water use target, and compliance daily 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.

(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).

(h) (1) The department, through a public process and in consultation with the California Urban Water Conservation Council, shall develop technical
methodologies and criteria for the consistent implementation of this part, including, but not limited to, both of the following:

(A) Methodologies for calculating base daily per capita water use, baseline commercial, industrial, and institutional water use, compliance daily per capita water use, gross water use, service area population, indoor residential water use, and landscaped area water use.

(B) Criteria for adjustments pursuant to subdivisions (d) and (e) of Section 10608.24.

(2) The department shall post the methodologies and criteria developed pursuant to this subdivision on its Internet Web site, and make written copies available, by October 1, 2010. An urban retail water supplier shall use the methods developed by the department in compliance with this part.

(i) (1) The department shall adopt regulations for implementation of the provisions relating to process water in accordance with subdivision (l) of Section 10608.12, subdivision (e) of Section 10608.24, and subdivision (d) of Section 10608.26.

(2) The initial adoption of a regulation authorized by this subdivision is deemed to address an emergency, for purposes of Sections 11346.1 and 11349.6 of the Government Code, and the department is hereby exempted for that purpose from the requirements of subdivision (b) of Section 11346.1 of the Government Code. After the initial adoption of an emergency regulation pursuant to this subdivision, the department shall not request approval from the Office of Administrative Law to readopt the regulation as an emergency regulation pursuant to Section 11346.1 of the Government Code.

(j) (1) An urban retail water supplier is granted an extension to July 1, 2011, for adoption of an urban water management plan pursuant to Part 2.6 (commencing with Section 10610) due in 2010 to allow the use of technical methodologies developed by the department pursuant to paragraph (4) of subdivision (b) and subdivision (h). An urban retail water supplier that adopts an urban water management plan due in 2010 that does not use the methodologies developed by the department pursuant to subdivision (h) shall amend the plan by July 1, 2011, to comply with this part.

(2) An urban wholesale water supplier whose urban water management plan prepared pursuant to Part 2.6 (commencing with Section 10610) was due and not submitted in 2010 is granted an extension to July 1, 2011, to permit coordination between an urban wholesale water supplier and urban retail water suppliers.

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

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

(b) Each urban retail water supplier shall meet its urban water use target by December 31, 2020.

(c) An urban retail water supplier's compliance daily per capita water use shall be the measure of progress toward achievement of its urban water use target.

(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.

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

(f) (1) An urban retail water supplier that includes agricultural water use in an urban water management plan pursuant to Part 2.6 (commencing with Section 10610) may include the agricultural water use in determining gross water use. An urban retail water supplier that includes agricultural water use in determining gross water use and develops its urban water use target pursuant to paragraph (2) of subdivision (b) of Section 10608.20 shall use a water efficient standard for agricultural irrigation of 100 percent of reference evapotranspiration multiplied by the crop coefficient for irrigated acres.

(2) An urban retail water supplier, that is also an agricultural water supplier, is not subject to the requirements of Chapter 4 (commencing with Section
10608.48), if the agricultural water use is incorporated into its urban water use target pursuant to paragraph (1).

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

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

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

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

(b) In complying with this part, an urban retail water supplier may meet its urban water use target through efficiency improvements in any combination among its customer sectors. An urban retail water supplier shall avoid placing a disproportionate burden on any customer sector.

(c) For an urban retail water supplier that supplies water to a United States Department of Defense military installation, the urban retail water supplier's implementation plan for complying with this part shall consider the conservation of that military installation under federal Executive Order 13514.

(d) (1) Any ordinance or resolution adopted by an urban retail water supplier after the effective date of this section shall not require existing customers as of the effective date of this section, to undertake changes in product formulation, operations, or equipment that would reduce process water use, but may provide technical assistance and financial incentives to those customers to implement efficiency measures for process water. This section shall not limit an ordinance or resolution adopted pursuant to a declaration of drought emergency by an urban retail water supplier.

(2) This part shall not be construed or enforced so as to interfere with the requirements of Chapter 4 (commencing with Section 113980) to Chapter 13 (commencing with Section 114380), inclusive, of Part 7 of Division 104 of the Health and Safety Code, or any requirement or standard for the protection of public health, public safety, or worker safety established by federal, state, or local government or recommended by recognized standard setting organizations or trade associations.

10608.28.(a) An urban retail water supplier may meet its urban water use target within its retail service area, or through mutual agreement, by any of the following:

(1) Through an urban wholesale water supplier.

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

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

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

(5) By hydrologic region.

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

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

10608.32. All costs incurred pursuant to this part by a water utility regulated by the Public Utilities Commission may be recoverable in rates subject to review and approval by the Public Utilities Commission, and may be recorded in a memorandum account and reviewed for reasonableness by the Public Utilities Commission.

10608.36. Urban wholesale water suppliers shall include in the urban water management plans required pursuant to Part 2.6 (commencing with Section 10610) an assessment of their present and proposed future measures, programs, and policies to help achieve the water use reductions required by this part.

10608.40. Urban water retail suppliers shall report to the department on their progress in meeting their urban water use targets as part of their urban water management plans submitted pursuant to Section 10631. The data shall be reported using a standardized form developed pursuant to Section 10608.52.

10608.42.(a) The department shall review the 2015 urban water management plans and report to the Legislature by July 1, 2017, on progress towards achieving a 20-percent reduction in urban water use by December 31, 2020. The report shall include recommendations on changes to water efficiency standards or urban water use targets to achieve the 20-percent reduction and to reflect updated efficiency information and technology changes.

(b) A report to be submitted pursuant to subdivision (a) shall be submitted in compliance with Section 9795 of the Government Code.

10608.43 The department, in conjunction with the California Urban Water Conservation Council, by April 1, 2010, shall convene a representative task force consisting of academic experts, urban retail water suppliers, environmental organizations, commercial water users, industrial water users, and institutional water users to develop alternative best management practices for commercial, industrial, and
in institutional users and an assessment of the potential statewide water use efficiency improvement in the commercial, industrial, and institutional sectors that would result from implementation of these best management practices. The taskforce, in conjunction with the department, shall submit a report to the Legislature by April 1, 2012, that shall include a review of multiple sectors within commercial, industrial, and institutional users and that shall recommend water use efficiency standards for commercial, industrial, and institutional users among various sectors of water use. The report shall include, but not be limited to, the following:

(a) Appropriate metrics for evaluating commercial, industrial, and institutional water use.

(b) Evaluation of water demands for manufacturing processes, goods, and cooling.

(c) Evaluation of public infrastructure necessary for delivery of recycled water to the commercial, industrial, and institutional sectors.

(d) Evaluation of institutional and economic barriers to increased recycled water use within the commercial, industrial, and institutional sectors.

(e) Identification of technical feasibility and cost of the best management practices to achieve more efficient water use statewide in the commercial, industrial, and institutional sectors that is consistent with the public interest and reflects past investments in water use efficiency.

10608.44. Each state agency shall reduce water use at facilities it operates to support urban retail water suppliers in meeting the target identified in Section 10608.16.

Chapter 4 Agricultural Water Suppliers

SECTION 10608.48

10608.48.(a) On or before July 31, 2012, an agricultural water supplier shall implement efficient water management practices pursuant to subdivisions (b) and (c).

(b) Agricultural water suppliers shall implement all of the following critical efficient management practices:

(1) Measure the volume of water delivered to customers with sufficient accuracy to comply with subdivision (a) of Section 531.10 and to implement paragraph (2).

(2) Adopt a pricing structure for water customers based at least in part on quantity delivered.

(c) Agricultural water suppliers shall implement additional efficient management
practices, including, but not limited to, practices to accomplish all of the following, if the measures are locally cost effective and technically feasible:

(1) Facilitate alternative land use for lands with exceptionally high water duties or whose irrigation contributes to significant problems, including drainage.

(2) Facilitate use of available recycled water that otherwise would not be used beneficially, meets all health and safety criteria, and does not harm crops or soils.

(3) Facilitate the financing of capital improvements for on-farm irrigation systems.

(4) Implement an incentive pricing structure that promotes one or more of the following goals:
   
   (A) More efficient water use at the farm level.
   
   (B) Conjunctive use of groundwater.
   
   (C) Appropriate increase of groundwater recharge.
   
   (D) Reduction in problem drainage.
   
   (E) Improved management of environmental resources.
   
   (F) Effective management of all water sources throughout the year by adjusting seasonal pricing structures based on current conditions.

(5) Expand line or pipe distribution systems, and construct regulatory reservoirs to increase distribution system flexibility and capacity, decrease maintenance, and reduce seepage.

(6) Increase flexibility in water ordering by, and delivery to, water customers within operational limits.

(7) Construct and operate supplier spill and tailwater recovery systems.

(8) Increase planned conjunctive use of surface water and groundwater within the supplier service area.

(9) Automate canal control structures.

(10) Facilitate or promote customer pump testing and evaluation.

(11) Designate a water conservation coordinator who will develop and implement the water management plan and prepare progress reports.

(12) Provide for the availability of water management services to water users.
These services may include, but are not limited to, all of the following:

(A) On-farm irrigation and drainage system evaluations.

(B) Normal year and real-time irrigation scheduling and crop evapotranspiration information.

(C) Surface water, groundwater, and drainage water quantity and quality data.

(D) Agricultural water management educational programs and materials for farmers, staff, and the public.

(13) Evaluate the policies of agencies that provide the supplier with water to identify the potential for institutional changes to allow more flexible water deliveries and storage.

(14) Evaluate and improve the efficiencies of the supplier's pumps.

(d) Agricultural water suppliers shall include in the agricultural water management plans required pursuant to Part 2.8 (commencing with Section 10800) a report on which efficient water management practices have been implemented and are planned to be implemented, an estimate of the water use efficiency improvements that have occurred since the last report, and an estimate of the water use efficiency improvements estimated to occur five and 10 years in the future. If an agricultural water supplier determines that an efficient water management practice is not locally cost effective or technically feasible, the supplier shall submit information documenting that determination.

(e) The data shall be reported using a standardized form developed pursuant to Section 10608.52.

(f) An agricultural water supplier may meet the requirements of subdivisions (d) and (e) by submitting to the department a water conservation plan submitted to the United States Bureau of Reclamation that meets the requirements described in Section 10828.

(g) On or before December 31, 2013, December 31, 2016, and December 31, 2021, the department, in consultation with the board, shall submit to the Legislature a report on the agricultural efficient water management practices that have been implemented and are planned to be implemented and an assessment of the manner in which the implementation of those efficient water management practices has affected and will affect agricultural operations, including estimated water use efficiency improvements, if any.

(h) The department may update the efficient water management practices required pursuant to subdivision (c), in consultation with the Agricultural Water Management Council, the United States Bureau of Reclamation, and the board. All efficient water management practices for agricultural water use pursuant to this chapter shall be adopted or revised by the department only after the
department conducts public hearings to allow participation of the diverse geographical areas and interests of the state.

(i) (1) The department shall adopt regulations that provide for a range of options that agricultural water suppliers may use or implement to comply with the measurement requirement in paragraph (1) of subdivision (b).

(2) The initial adoption of a regulation authorized by this subdivision is deemed to address an emergency, for purposes of Sections 11346.1 and 11349.6 of the Government Code, and the department is hereby exempted for that purpose from the requirements of subdivision (b) of Section 11346.1 of the Government Code. After the initial adoption of an emergency regulation pursuant to this subdivision, the department shall not request approval from the Office of Administrative Law to readopt the regulation as an emergency regulation pursuant to Section 11346.1 of the Government Code.

Chapter 5 Sustainable Water Management

Section 10608.50

10608.50.(a) The department, in consultation with the board, shall promote implementation of regional water resources management practices through increased incentives and removal of barriers consistent with state and federal law. Potential changes may include, but are not limited to, all of the following:

(1) Revisions to the requirements for urban and agricultural water management plans.

(2) Revisions to the requirements for integrated regional water management plans.

(3) Revisions to the eligibility for state water management grants and loans.

(4) Revisions to state or local permitting requirements that increase water supply opportunities, but do not weaken water quality protection under state and federal law.

(5) Increased funding for research, feasibility studies, and project construction.

(6) Expanding technical and educational support for local land use and water management agencies.

(b) No later than January 1, 2011, and updated as part of the California Water Plan, the department, in consultation with the board, and with public input, shall propose new statewide targets, or review and update existing statewide targets, for regional water resources management practices, including, but not limited to, recycled water, brackish groundwater desalination, and infiltration and direct use of urban stormwater runoff.
Chapter 6 Standardized Data Collection

SECTION 10608.52

10608.52.(a) The department, in consultation with the board, the California Bay-Delta Authority or its successor agency, the State Department of Public Health, and the Public Utilities Commission, shall develop a single standardized water use reporting form to meet the water use information needs of each agency, including the needs of urban water suppliers that elect to determine and report progress toward achieving targets on a regional basis as provided in subdivision (a) of Section 10608.28.

(b) At a minimum, the form shall be developed to accommodate information sufficient to assess an urban water supplier’s compliance with conservation targets pursuant to Section 10608.24 and an agricultural water supplier’s compliance with implementation of efficient water management practices pursuant to subdivision (a) of Section 10608.48. The form shall accommodate reporting by urban water suppliers on an individual or regional basis as provided in subdivision (a) of Section 10608.28.

Chapter 7 Funding Provisions

Section 10608.56-10608.60

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.

(b) On and after July 1, 2013, an agricultural 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.

(d) Notwithstanding subdivision (b), the department shall determine that an agricultural water supplier is eligible for a water grant or loan even though the supplier is not implementing all of the efficient water management practices described in Section 10608.48, if the agricultural 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 implementation of the efficient
water management practices. The supplier may request grant or loan funds to implement the efficient water management practices to the extent the request is consistent with the eligibility requirements applicable to the water funds.

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

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

10608.60.(a) It is the intent of the Legislature that funds made available by Section 75026 of the Public Resources Code should be expended, consistent with Division 43 (commencing with Section 75001) of the Public Resources Code and upon appropriation by the Legislature, for grants to implement this part. In the allocation of funding, it is the intent of the Legislature that the department give consideration to disadvantaged communities to assist in implementing the requirements of this part.

(b) It is the intent of the Legislature that funds made available by Section 75041 of the Public Resources Code, should be expended, consistent with Division 43 (commencing with Section 75001) of the Public Resources Code and upon appropriation by the Legislature, for direct expenditures to implement this part.

Chapter 8 Quantifying Agricultural Water Use Efficiency

SECTION 10608.64

The department, in consultation with the Agricultural Water Management Council, academic experts, and other stakeholders, shall develop a methodology for quantifying the efficiency of agricultural water use. Alternatives to be assessed shall include, but not be limited to, determination of efficiency levels based on crop type or irrigation system distribution uniformity. On or before December 31, 2011, the department shall report to the Legislature on a proposed methodology and a plan for implementation. The plan shall include the estimated implementation costs and the types of data needed to support the methodology. Nothing in this section authorizes the department to implement a methodology established pursuant to this section.
Appendix D

Notification of Intent to Prepare the Urban Water Management Plan
February 8, 2021

Chief Executive Office
County of Los Angeles
358 Kenneth Hahn Hall of Administration
500 W. Temple St., Los Angeles, CA 90012

RE: Notification to Prepare City of Inglewood 2020 Urban Water Management Plan

ATTN: Los Angeles County Administrator

Dear sirs:

Michael Baker International is preparing the City of Inglewood 2020 Urban Water Management Plan (UWMP).

Pursuant to California Water Code Section 10621(b), I am notifying Los Angeles County as their representative that the City will be reviewing its UWMP and considering amendments or changes to it.

\textit{Water Code Section 10621(b)}

\textit{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.}

Please contact me with any questions regarding this notification at Anthony.Herda@mbakerintl.com or (626) 660-4837.

Warm regards,

Michael Baker International, Inc.

Anthony Herda, PE, MBA
UWMP Preparer
Appendix E

2020 Consumer Confidence Report
Since 1991, California water utilities have been providing information on tap water served to its consumers. This report is a snapshot of the tap water quality that we provided last year. Included are details about where your water comes from, how it is tested, what is in it, and how it compares with state and federal limits. We strive to keep you informed about the quality of your water, and to provide a reliable and economic supply that meets all regulatory requirements.

Where Does My Tap Water Come From?

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

How is My Drinking Water Tested?

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

What Are Drinking Water Standards?

The U.S Environmental Protection Agency (USEPA) limits the amount of certain substances allowed in tap water. In California, the State Department of Public Health (Department) regulates tap water quality by enforcing limits that are at least as stringent as the USEPA’s. Historically, California limits are more
stringent than the Federal ones. There are two types of these limits, known as standards. Primary standards protect you from substances that could potentially affect your health. Secondary standards regulated substances that affect the aesthetic qualities of water. Regulations set a Maximum Contaminant Level (MCL) for each of the primary and secondary standards. The MCL is the highest level of a substance that is allowed in your drinking water. Public Health Goals (PHGs) are set by the California Environmental Protection Agency. PHGs provide more information on the quality of drinking water to customers, and are similar to their federal counterparts, Maximum Contaminant Level Goals (MCLGs). PHGs and MCLGs are advisory levels that are non-enforceable. Both PHGs and MCLGs are concentrations of a substance below which there are no known or expected health risk.

**How Do I Read the Water Quality Table?**

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

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

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

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

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

In order to ensure that tap water is safe to drink, the U.S. Environmental Protection Agency (USEPA) and the State Department of Public Health (Department) prescribe regulations that limit the amount of certain contaminants in water provided by public water systems. Department regulations also establish limits for contaminants in bottled water that must provide the same protection for public health.

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

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

Source Water Assessment

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

The City of Inglewood conducted an assessment of its groundwater supplies in 2003. Groundwater supplies are considered most vulnerable to airport maintenance/fueling areas, historic waste dumps/landfills, injection wells/dry wells/sumps, landfills/dumps, and confirmed leaking underground storage tanks. A copy of the approved assessment may be obtained by contacting the Utilities Department at (310) 412-5333.

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

City Council Meetings take place at 1 W Manchester Blvd, Council Chambers, Inglewood, CA 90302 every Tuesday at 6:30 pm.

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

If you have specific questions about your tap water quality, please contact Louis Atwell, Public Works Director at 310-412-5333.

California’s Drought Emergency is Over, but….

The outlook for the State’s water future is uncertain. While the drought emergency has been declared over, many of the restrictions on water use remain in place, and with the unpredictable weather patterns, California could end up back in a new drought as soon as next year. Water conservation is a way of life for southern California. You can continue to help conserve water with these no-cost and low-cost ideas:

- Install aerators on the kitchen faucet to reduce flows to less than 1 gallon per minute.
- Wash your fruits and vegetables in a pan of water instead of running water from the tap.
- Soak pots and pans instead of letting the water run while you scrape them clean.
- Don’t use running water to thaw food. Defrost food in the refrigerator.
- Keep a pitcher of drinking water in the refrigerator instead of running the tap.
- Turn water off when brushing teeth or shaving. Save up to 10 gallons a Day.
- Test your toilet for leaks at least once a year. Take advantage of high-efficiency toilet rebates. Save up to 19 gal per person per day.
- Take five-minute showers instead of 10 minute showers. Turn off the water while washing your hair. Install a low flow showerhead.
- Use the washing machine for full loads only.
- Use a broom to clean driveways, sidewalks and patios.
- Put a layer of mulch around trees and plants to reduce evaporation, keep the soil cool, and prevent weeds. Save: 20-30 gallons/each time you water/1,000 sq. ft.
- Water early in the morning or later in the evening when temperatures are cooler. Save: 25 gallons/each time you water

More water conservation tips and information at:

http://saveourwater.com/

Don’t forget to visit Inglewood’s website at: http://cityofinglewood.org !
## INGLEWOOD 2020 ANNUAL WATER QUALITY REPORT

Only detected results are shown, and are from the most recent testing performed in accordance with state and federal drinking water regulations

### SUBSTANCES MONITORED FOR PUBLIC HEALTH

<table>
<thead>
<tr>
<th>ORGANIC CHEMICALS</th>
<th>AVERAGE</th>
<th>RANGE</th>
<th>AVERAGE</th>
<th>RANGE</th>
<th>MCL</th>
<th>MCLG or PHG (a)</th>
<th>MAJOR SOURCES IN DRINKING WATER</th>
</tr>
</thead>
<tbody>
<tr>
<td>None</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### INORGANIC CHEMICALS (b)

<table>
<thead>
<tr>
<th>Substance</th>
<th>Average</th>
<th>Range</th>
<th>Average</th>
<th>Range</th>
<th>MCL</th>
<th>MCLG or PHG (a)</th>
<th>MAJOR SOURCES IN DRINKING WATER</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aluminum (µg/L)</td>
<td>4.8</td>
<td>ND-7.7</td>
<td>134</td>
<td>ND-260</td>
<td>1,000</td>
<td>600</td>
<td>Erosion of natural deposits; residue from surface water treatment processes</td>
</tr>
<tr>
<td>Barium (µg/L)</td>
<td>ND</td>
<td>ND-110</td>
<td>ND</td>
<td>ND-107</td>
<td>1,000</td>
<td>2,000</td>
<td>Oil drilling waste and metal refinery discharge; erosion of natural deposits</td>
</tr>
<tr>
<td>Fluoride (mg/L)</td>
<td>0.25</td>
<td>0.19-0.32</td>
<td>0.70</td>
<td>0.40-0.90</td>
<td>2</td>
<td>1</td>
<td>Erosion of natural deposits, water additive that promotes strong teeth</td>
</tr>
</tbody>
</table>

### RADIOLOGICAL (c)

<table>
<thead>
<tr>
<th>Substance</th>
<th>Average</th>
<th>Range</th>
<th>Average</th>
<th>Range</th>
<th>MCL</th>
<th>MCLG or PHG (a)</th>
<th>MAJOR SOURCES IN DRINKING WATER</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gross Alpha (pCi/L)</td>
<td>ND</td>
<td>ND-4.3</td>
<td>ND</td>
<td>ND-3</td>
<td>15</td>
<td>0</td>
<td>Erosion of natural deposits</td>
</tr>
<tr>
<td>Gross Beta (pCi/L)</td>
<td>NA</td>
<td>NA</td>
<td>ND</td>
<td>ND-7</td>
<td>50</td>
<td>0</td>
<td>Decay of natural and man-made deposits</td>
</tr>
<tr>
<td>Radium 228 (pCi/L)</td>
<td>ND</td>
<td>ND</td>
<td>ND</td>
<td>ND-2</td>
<td>0.019</td>
<td>Erosion of natural deposits</td>
<td></td>
</tr>
<tr>
<td>Uranium (pCi/L)</td>
<td>ND</td>
<td>ND</td>
<td>1.3</td>
<td>ND-3</td>
<td>20</td>
<td>0.43</td>
<td>Erosion of natural deposits</td>
</tr>
</tbody>
</table>

### MICROBIALS

<table>
<thead>
<tr>
<th>Substances Monitored for Public Health</th>
<th>Highest % Positive in a Month</th>
<th>Range % Positive</th>
<th>MCL (STATE/FEDERAL)</th>
<th>MCLG or PHG (a)</th>
<th>MAJOR SOURCES IN DRINKING WATER</th>
</tr>
</thead>
<tbody>
<tr>
<td>None</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### DISINFECTION RESIDUAL

<table>
<thead>
<tr>
<th>Substance</th>
<th>Average</th>
<th>Range</th>
<th>MRL</th>
<th>MRDLG</th>
<th>MAJOR SOURCES IN DRINKING WATER</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chlorine/chloramine Residual (mg/L as Cl₂)</td>
<td>1.2</td>
<td>0.3-1.6</td>
<td>4.0</td>
<td>4.0</td>
<td>Drinking water disinfectant added for treatment</td>
</tr>
</tbody>
</table>

### DISINFECTION BYPRODUCTS (d)

<table>
<thead>
<tr>
<th>Substance</th>
<th>Highest LRAA</th>
<th>Range of Results</th>
<th>MCL</th>
<th>MCLG or PHG (a)</th>
<th>MAJOR SOURCES IN DRINKING WATER</th>
</tr>
</thead>
<tbody>
<tr>
<td>Trihalomethanes-TTHMS (µg/L)</td>
<td>74</td>
<td>22-110</td>
<td>80</td>
<td>-</td>
<td>By-product of drinking water disinfection</td>
</tr>
<tr>
<td>Haloacetic Acids (µg/L)</td>
<td>12</td>
<td>3.3-15</td>
<td>60</td>
<td>-</td>
<td>By-product of drinking water disinfection</td>
</tr>
<tr>
<td>Bromate (µg/L) (e)</td>
<td>4.4</td>
<td>ND-6.0</td>
<td>10</td>
<td>0.1</td>
<td>By-product of drinking water disinfection</td>
</tr>
</tbody>
</table>

### INORGANICS

<table>
<thead>
<tr>
<th>Substance</th>
<th>Average</th>
<th>Range</th>
<th>MCL</th>
<th>MCLG or PHG (a)</th>
<th>MAJOR SOURCES IN DRINKING WATER</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fluoride (mg/L) (e)</td>
<td>0.7</td>
<td>0.4-0.9</td>
<td>2</td>
<td>1</td>
<td>Added to help prevent dental cavities in consumers.</td>
</tr>
</tbody>
</table>

### LEAD AND COPPER AT THE TAP

<table>
<thead>
<tr>
<th>Substance</th>
<th>90th Percentile</th>
<th>Sites Above AL</th>
<th>AL</th>
<th>MCLG or PHG (a)</th>
<th>MAJOR SOURCES IN DRINKING WATER</th>
</tr>
</thead>
<tbody>
<tr>
<td>Copper (mg/L)</td>
<td>0.36 (f)</td>
<td>0</td>
<td>1.3 AL</td>
<td>0.3</td>
<td>Internal corrosion of household plumbing, erosion of natural deposits</td>
</tr>
</tbody>
</table>
### Secondary Standards Monitored at the Source for Aesthetic Purposes

<table>
<thead>
<tr>
<th>Constituent (µg/L)</th>
<th>Groundwater</th>
<th>Surface Water</th>
<th>MCL</th>
<th>MCLG or PHG</th>
<th>Major Sources in Drinking Water</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aluminum (mg/L)</td>
<td>ND</td>
<td>134</td>
<td>ND-260</td>
<td>200</td>
<td>600 Erosion of natural deposits, surface water treatment process residue</td>
</tr>
<tr>
<td>Chloride (mg/L)</td>
<td>95</td>
<td>36-190</td>
<td>80</td>
<td>51-94</td>
<td>500 Runoff/leaching from natural deposits, seawater influence</td>
</tr>
<tr>
<td>Color (color units)</td>
<td>13</td>
<td>ND-25</td>
<td>1.3</td>
<td>1-3</td>
<td>15 Naturally-occurring organic materials</td>
</tr>
<tr>
<td>Conductivity (umhos/cm)</td>
<td>797</td>
<td>590-1100</td>
<td>799</td>
<td>451-975</td>
<td>1,600 Substances that form ions when in water, seawater influence</td>
</tr>
<tr>
<td>Odor (threshold odor number)</td>
<td>1</td>
<td>1</td>
<td>2</td>
<td>2</td>
<td>3 Naturally-occurring organic materials</td>
</tr>
<tr>
<td>Sulfate (mg/L)</td>
<td>24</td>
<td>4.1-64</td>
<td>161</td>
<td>53-217</td>
<td>500 Runoff/leaching from natural deposits, industrial wastes</td>
</tr>
<tr>
<td>Total Dissolved Solids (mg/L)</td>
<td>467</td>
<td>330-700</td>
<td>481</td>
<td>255-603</td>
<td>1,000 Runoff/leaching from natural deposits</td>
</tr>
<tr>
<td>Turbidity (NTU)</td>
<td>0.38</td>
<td>ND-0.7</td>
<td>ND</td>
<td>ND</td>
<td>5 Soil runoff</td>
</tr>
</tbody>
</table>

### Substances Monitored in the Distribution System—For Aesthetic Purposes

<table>
<thead>
<tr>
<th>Constituent</th>
<th>Distribution System</th>
<th>MCL</th>
<th>MCLG or PHG</th>
<th>Major Sources in Drinking Water</th>
</tr>
</thead>
<tbody>
<tr>
<td>Turbidity (NTU)</td>
<td>0.04</td>
<td>0</td>
<td>ND-0.12</td>
<td>Soil runoff</td>
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</table>

### Other Parameters

<table>
<thead>
<tr>
<th>Constituent (µg/L)</th>
<th>Groundwater</th>
<th>Surface Water</th>
<th>Notification Level or PHG</th>
<th>Major Sources in Drinking Water</th>
</tr>
</thead>
<tbody>
<tr>
<td>Alkalinity (mg/L)</td>
<td>253</td>
<td>210-290</td>
<td>106</td>
<td>79-120</td>
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<tr>
<td>Calcium (mg/L)</td>
<td>64</td>
<td>40-108</td>
<td>52</td>
<td>25-67</td>
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<tr>
<td>Magnesium (mg/L)</td>
<td>19</td>
<td>13-28</td>
<td>21</td>
<td>11-26</td>
</tr>
<tr>
<td>Potassium (mg/L)</td>
<td>7.6</td>
<td>7.2-8.0</td>
<td>3.9</td>
<td>2.5-4.7</td>
</tr>
<tr>
<td>Sodium (mg/L)</td>
<td>71</td>
<td>58-81</td>
<td>79</td>
<td>46-98</td>
</tr>
<tr>
<td>Total Hardness (mg/L)</td>
<td>237</td>
<td>155-384</td>
<td>212</td>
<td>107-269</td>
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</table>

### Substances with Notification Levels

<table>
<thead>
<tr>
<th>Constituent (µg/L)</th>
<th>Groundwater</th>
<th>Surface Water</th>
<th>Notification Level or PHG</th>
<th>Major Sources in Drinking Water</th>
</tr>
</thead>
<tbody>
<tr>
<td>Boron (µg/L)</td>
<td>NA</td>
<td>NA</td>
<td>143</td>
<td>130-170</td>
</tr>
<tr>
<td>Chlorate (µg/L)</td>
<td>NA</td>
<td>NA</td>
<td>57</td>
<td>27-76</td>
</tr>
<tr>
<td>N-Nitrosodimethylamine (ng/L)</td>
<td>NA</td>
<td>NA</td>
<td>ND-3.1</td>
<td>10</td>
</tr>
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### Miscellaneous

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<thead>
<tr>
<th>Constituent (µg/L)</th>
<th>Groundwater</th>
<th>Surface Water</th>
<th>Notification Level or PHG</th>
<th>Major Sources in Drinking Water</th>
</tr>
</thead>
<tbody>
<tr>
<td>Corrosivity (as saturation index) (i)</td>
<td>0.52</td>
<td>0.41-0.61</td>
<td>0.52</td>
<td>0.32-0.69</td>
</tr>
<tr>
<td>pH (standard unit)</td>
<td>7.8</td>
<td>7.6-7.9</td>
<td>8.2</td>
<td>8.1-8.4</td>
</tr>
</tbody>
</table>
DEFINITIONS

Location Running Annual Average (LRAA): Locational Running Annual Averages are calculated as an average of all samples collected within a 12-month period at a single site.

Maximum Contaminant Level (MCL): The highest level of a contaminant that is allowed in drinking water set by the State and the Environmental Protection Agency (EPA). Primary MCLs are set as close to the PHGs (or MCLGs) as is economically and technologically feasible. Secondary MCLs are set to protect odor, taste, and appearance of drinking water. MCLs are based on the most stringent value between State and EPA MCLs. A contaminant with no MCL but requires compliance with other drinking water regulations is designated as Treatment Technique (TT), Action Level (AL), or Notification Level (NL).

Maximum Contaminant Level Goal (MCLG): The level of a contaminant in drinking water below which there is no known or expected health risk. MCLGs are set by the U.S. EPA.

Maximum Residual Disinfectant Level (MRDL): The highest level of a disinfectant added allowed in drinking water. There is strong evidence that disinfectant additions are necessary for microbial control.

Maximum Residual Disinfectant Level Goal (MRDLG): The level of a disinfectant added for water treatment below which there is no known or expected risk to health. MRDLGs do not reflect the benefits of the use of disinfectants to control microbial contaminants.

Notification Level (NL): Notification levels are health-based advisory levels established by the Division of Drinking Water (DDW) for chemicals in drinking water that lack maximum contaminant levels (MCLs). When chemicals are found at concentrations greater than their notification levels, certain requirements and recommendations apply. The level at which DDW recommends removal of a drinking water source from service is the "response level."

Primary Drinking Water Standard (PDWS): MCLs and MRDLs for contaminants that affect health along with their monitoring and reporting requirements, and water treatment requirements.

Public Health Goal (PHG): The level of a contaminant in drinking water below which there is no known or expected risk to health. PHGs are set by the California Environmental Protection Agency.

Treatment Technique (TT): A required process intended to reduce the level of a contaminant in drinking water.

Regulatory Action Level (AL): The concentration of a contaminant which, if exceeded, triggers treatment or other requirements that a water system must follow.
CIUDAD DE INGLEWOOD INFORME ANUAL DE CALIDAD DEL AGUA 2020

Desde 1991, los servicios del agua potable de California han estado proporcionando información sobre el agua del grifo servida a sus consumidores. Este informe es una instantánea de la calidad del agua del grifo que proporcionamos el año pasado. Se incluyen detalles sobre dónde proviene su agua, pruebas de laboratorio, qué contiene y cómo se compara con los límites estatales y federales. Nos esforzamos por mantenerle informado sobre la calidad de su agua, y para proporcionar un suministro confiable y económico que cumpla con todas las normas y requisitos reglamentarios.

¿De dónde viene mi agua del grifo?

El agua del grifo proviene de 2 fuentes: Aguas subterráneas y aguas superficiales. Bombeamos agua subterránea de pozos profundos locales. También usamos el agua del Distrito Metropolitano de Agua del Sur de California (MWD) por sus siglas en Ingles, que proviene del Río Colorado y el Proyecto de Agua del Estado en el norte de California. Estas fuentes de agua suministran el agua del grifo. En este informe se presenta la calidad de las aguas subterráneas y de las fuentes de agua superficial de MWD.

¿Cómo se prueba mi agua potable?

Su agua potable es sometida a pruebas de laboratorio periódicamente para el monitoreo de niveles inseguros de sustancias químicas, radioactividad y bacterias en la fuente y en el red de distribución. La frecuencia de monitoreo es semanal, mensual, trimestral, y anualmente o con menos frecuencia dependiendo de la sustancia(s). Las leyes estatales y federales nos permiten examinar algunas sustancias menos de una vez al año porque los niveles no cambian frecuentemente. Todas las pruebas de calidad del agua son realizadas por técnicos especializados y capacitados en laboratorios certificados por el estado de California.

¿Qué son los Estándares de Agua Potable?

La Agencia de Protección Ambiental de los Estados Unidos (USEPA) por sus siglas en Ingles, limita la cantidad de ciertas sustancias permitidas en el agua del grifo. En California, el Departamento Estatal de Salud Pública
(Departamento) regula la calidad del agua potable imponiendo límites que son tan estrictos como los de la USEPA. Históricamente, los límites de California suelen ser más estrictos y rigorosos que los federales. Hay dos tipos de estos límites, conocidos como estándares. Las normas primarias le protegen de sustancias que podrían afectar su salud. Las normas secundarias regulan sustancias que afectan las cualidades estéticas del agua. Las Regulaciones establecen un Nivel Máximo de Contaminantes (MCL) por sus siglas en Ingles, para cada uno de los estándares primarios y secundarios. El MCL es el nivel más alto de una sustancia que se permite en su agua potable. Los objetivos de salud pública (PHGs) por sus siglas en Ingles, son establecidos por la Agencia de Protección Ambiental de California. Los PHG proporcionan más información sobre la calidad del agua potable a los clientes y son similares a sus homólogos federales, MCLG (Maximum Contaminant Level Goals). Los PHG y los MCLG son niveles de asesoramiento que no son aplicables. Ambos PHGs y MCLGs son concentraciones de una sustancia por debajo de la cual no hay riesgo de salud conocido o esperado.

¿Cómo interpretar la tabla de calidad del agua?

Aunque realizamos pruebas para más de 100 sustancias, las regulaciones nos obligan a reportar sólo las que se encuentran en su agua. La primera columna de la tabla de calidad del agua lista las sustancias detectadas en el agua. Las siguientes columnas enumeran la concentración promedio y el rango de concentraciones encontradas en su agua potable. A continuación se enumeran las columnas de MCL y PHG o MCLG, si es apropiado. La última columna describe las fuentes probables de estas sustancias en el agua potable.

Para revisar la calidad de su agua potable, compare la concentración más alta y el MCL. Compruebe si hay sustancias mayores que el MCL. El exceso de un MCL primario no suele constituir una amenaza inmediata para la salud. Por el contrario, requiere probar el agua de la fuente más frecuentemente por una corta duración. Si los resultados de las pruebas indican que el agua continúa excediendo el MCL, el agua debe ser tratada para eliminar la sustancia, o la fuente debe ser removida del servicio.

¿Por qué veo tanta cobertura en las noticias sobre la calidad del agua del grifo?

Las fuentes de agua potable (tanto el agua del grifo como el agua embotellada) incluyen ríos, lagos, arroyos, estanques, embalses, manantiales y pozos. A medida que el agua viaja sobre la superficie de la tierra o a través de la tierra, disuelve los minerales naturales y, en algunos casos, materiales radiactivos, y puede recoger sustancias resultantes de la presencia de animales o de la actividad humana. Los contaminantes que pueden estar presentes en el agua de origen incluyen:

- Contaminantes microbianos, incluyendo virus y bacterias, que pueden provenir de plantas de tratamiento de aguas residuales, sistemas sépticos, operaciones ganaderas agrícolas y vida silvestre;

- Los contaminantes inorgánicos, tales como sales y metales, que pueden ocurrir naturalmente o como resultado de la escorrentía de aguas pluviales urbano, aplicación agrícola, descargas de aguas residuales industriales o domésticas, producción de petróleo y gas, la minería o la agricultura;

- Plaguicidas y herbicidas, que pueden provenir de una variedad de fuentes tales como agricultura, escorrentía de aguas pluviales urbanas y usos residenciales;
• Los contaminantes orgánicos químicos, incluyendo químicos orgánicos sintéticos y volátiles, que son subproductos de procesos industriales y producción de petróleo, y también pueden provenir de gasolineras, escorrentía de aguas pluviales urbanas, aplicaciones agrícolas y sistemas sépticos;

• Contaminantes radiactivos, que pueden ser naturales o ser el resultado de la producción de petróleo y gas y actividades mineras.

Para asegurar que el agua del grifo es segura para beber, la Agencia de Protección Ambiental de los Estados Unidos (USEPA) y el Departamento de Salud Pública del Estado (Departamento) prescriben regulaciones que limitan la cantidad de ciertos contaminantes en el agua suministrada por los sistemas públicos de agua. Las regulaciones del Departamento también establecen límites para contaminantes en agua embotellada que deben proporcionar la misma protección para la salud pública.

Toda el agua potable, incluyendo el agua embotellada, puede razonablemente esperar que contenga por lo menos pequeñas cantidades de algunos contaminantes. La presencia de contaminantes no indica necesariamente que el agua represente un riesgo para la salud. Se puede obtener más información sobre los contaminantes y los efectos potenciales para la salud llamando a la línea directa de agua potable segura de la USEPA (1-800-426-4791). También puede obtener más información sobre el agua del grifo mediante el acceso a estos sitios web útiles:

• Beber agua sitio web de la EPA 's en http://water.epa.gov/drink/index.cfm
• California 's agua potable sitio web del programa en http://www.waterboards.ca.gov/drinking_water/programs/

¿Debería tomar precauciones adicionales?

Algunas personas pueden ser más vulnerables a los contaminantes en el agua potable que la población en general. Las personas inmunocomprometidas, como las personas con cáncer que se someten a quimioterapia, las personas que han sufrido trasplantes de órganos, las personas con VIH / SIDA u otros trastornos del sistema inmunológico, algunas personas mayores y los lactantes pueden estar particularmente expuestos a infecciones. Estas personas deben buscar consejo sobre el agua potable de sus proveedores de atención médica. La USEPA / Centros de Control de Enfermedades en medios apropiados para disminuir el riesgo de infección de Cryptosporidium y otros contaminantes microbianos están disponibles en línea directa de Agua Potable Segura de la USEPA (1-800-426-4791).

Evaluación del Agua Fuente

MWD completó una evaluación de sus suministros del Río Colorado y del Agua del Estado en 2002. Los suministros del Río Colorado se consideran más vulnerables a la recreación, escorrentío urbano / de aguas pluviales, urbanización creciente en la cuenca y aguas residuales. Los suministros del Proyecto de Agua del Estado se consideran más vulnerables a la escorrentía urbana / de aguas pluviales, la vida silvestre, la agricultura, la recreación y las aguas residuales. Se puede obtener una copia de la evaluación poniéndose en contacto con MWD al (213) 217-6850.

La ciudad de Inglewood llevó a cabo una evaluación de los suministros de aguas subterráneas en 2003. Los suministros de agua subterránea se consideran más vulnerables a las áreas de mantenimiento / abastecimiento de aeropuertos, vertederos / vertederos históricos, pozos de inyección / pozos secos / sumideros, Tanques Se puede obtener una copia de la evaluación aprobada poniéndose en contacto con el Departamento de Servicios Públicos al (310) 412-5333.
¿Cómo puedo participar en las decisiones sobre cuestiones de agua que me afectan?

Las Reuniones del Ayuntamiento tienen lugar cada Martes de la Semana a las 2:00 pm en One W Manchester Blvd., Council Chambers, Inglewood, CA 90302

¿Cómo puedo contactar a mi agencia de agua si tengo alguna pregunta sobre la calidad del agua?

Si tiene preguntas específicas sobre la calidad del agua del grifo, comuníquese con Louis Atwell, Director de Obras Públicas al 310-412-5333.

La emergencia de la sequía de California ha terminado, pero....

La perspectiva para el futuro del agua del estado es incierta. Mientras se ha declarado la emergencia de la sequía, muchas de las restricciones sobre el uso del agua siguen en su lugar, y con los patrones meteorológicos impredecibles, California podría terminar de nuevo en una nueva sequía tan pronto como el próximo año. La conservación del agua es una forma de vida para el sur de California. Puede seguir ayudando a conservar el agua con estas ideas sin costo y de bajo costo:

- Instale aireadores en el grifo de la cocina para reducir los caudales a menos de 1 galón por minuto.
- Lávese las frutas y verduras en un recipiente con agua en lugar de agua corriente del grifo.
- Remoje ollas y sartenes en lugar de dejar correr el agua mientras se les raspa y limpia.
- No use corriente de agua para descongelar alimentos. Descongele los alimentos en el refrigerador.
- Mantenga una jarra de agua potable en el refrigerador en lugar de correr el grifo.
- Apague el agua al cepillarse los dientes o al afeitarse. Ahorre hasta 10 galones de agua/ día.
- Pruebe su inodoro para detectar fugas al menos una vez al año. Aproveche los descuentos de los inodoros de alta eficiencia. Ahorre hasta 19 galones de agua/ persona/ día.
- Tome duchas de cinco minutos en lugar de duchas de 10 minutos. Apague el agua mientras se lava el cabello. Instale una ducha de flujo bajo.
- Use la lavadora sólo para cargas completas.
- Use una escoba para limpiar las calzadas, aceras y patios.
- Ponga una capa de mantillo alrededor de los árboles y plantas para reducir la evaporación, por lo que mantiene fresco, y previene las malas hierbas. Ahorre: 20-30 galones de agua/ 1.000 pies cuadrados
- Riegue temprano en la mañana o más tarde en la noche cuando las temperaturas son más bajas. Ahorre: 25 galones de agua

Más consejos e información sobre conservación de agua en:  
Http://saveourwater.com/

No se olvide de visitar la página web de Inglewood en:  http://cityofinglewood.org
Appendix F

WBMWD 2020 Urban Water Management Plan
WEST BASIN MUNICIPAL WATER DISTRICT

2020 Urban Water Management Plan

MAY 25, 2021

MESSAGE FROM THE BOARD OF DIRECTORS

For nearly 75 years, the West Basin Municipal Water District (West Basin) has dedicated itself to providing a cost-effective, safe, and reliable water supply to the coastal areas of Los Angeles County. Through the years, West Basin has strategically invested in projects and programs that have expanded and diversified its water supply portfolio to meet the ever-changing needs of the region’s diverse water users. West Basin continues to focus its efforts on meeting the region’s ongoing water demands through the District’s Water for Tomorrow Program. Water for Tomorrow — which aims to expand water recycling, maximize conservation, explore ocean water desalination, and research innovative technologies — will allow West Basin to continue building upon its local water resources to ensure a reliable supply of water for future generations.

The West Basin Board is pleased to submit this 2020 Urban Water Management Plan to the California Department of Water Resources. The plan provides a detailed summary of all current and projected water supplies and demands within West Basin’s service area. The Plan further demonstrates the water reliability of West Basin’s water supplies for the next 25 years and provides a comprehensive overview of West Basin’s short- and long-term programs, partnerships, and priorities.

West Basin Board of Directors

**Division I — Harold C. Williams**
Cities of Carson, Palos Verdes Estates, Rancho Palos Verdes, Rolling Hills Estates, and Rolling Hills, and unincorporated Los Angeles County area of Rancho Dominguez

**Division II — Gloria D. Gray**
City of Inglewood, and unincorporated Los Angeles County areas of Lennox, South Ladera Heights, West Athens, and Westmont

**Division III — Desi Alvarez**
Cities of Hermosa Beach, Lomita, Manhattan Beach, and Redondo Beach, and a portion of Torrance

**Division IV — Scott Houston**
Cities of Culver City, El Segundo, Malibu, and West Hollywood, and unincorporated Los Angeles County areas of Del Aire, Lennox, Marina del Rey, North Ladera Heights, Topanga, View Park, Windsor Hills, and Wiseburn

**Division V — Donald L. Dear**
Cities of Gardena, Hawthorne, and Lawndale, and unincorporated Los Angeles County area of El Camino Village
West Basin Mission Statement

To provide a safe and reliable supply of high-quality water to the communities we serve.
ACKNOWLEDGMENTS

The 2020 Urban Water Management Plan prepared by Water Systems Consulting, Inc. in conjunction with Maddaus Water Management, Inc. The primary authors are listed below.

Jeff Szytel, PE
Rob Morrow, PE
Heather Freed, PE
Lizzie Wiley, EIT

Lisa Maddaus, PE

Water Systems Consulting, Inc. would like to acknowledge the significant contributions of West Basin Municipal Water District, including the following staff.

Edward Caldwell
Matthew Veeh
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# ACRONYMS & ABBREVIATIONS

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<th>Description</th>
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<tbody>
<tr>
<td>°F</td>
<td>Degrees Fahrenheit</td>
</tr>
<tr>
<td>AB</td>
<td>Assembly Bill</td>
</tr>
<tr>
<td>AF</td>
<td>Acre Foot</td>
</tr>
<tr>
<td>AFY</td>
<td>Acre Feet per Year</td>
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<tr>
<td>AMI</td>
<td>Advanced Metering Infrastructure</td>
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<tr>
<td>CalWEPA</td>
<td>California Water Efficiency Partnership</td>
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<tr>
<td>CEQA</td>
<td>California Environmental Quality Act</td>
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<tr>
<td>CII</td>
<td>Commercial, Industrial, and Institutional</td>
</tr>
<tr>
<td>CIMIS</td>
<td>California Irrigation Management Irrigation System</td>
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<tr>
<td>CIP</td>
<td>Capital Improvement Plan</td>
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<tr>
<td>CWC</td>
<td>California Water Code</td>
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<tr>
<td>DDW</td>
<td>SWRCB Division of Drinking Water</td>
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<tr>
<td>DPR</td>
<td>Direct Potable Reuse</td>
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<tr>
<td>DRA</td>
<td>Drought Risk Assessment</td>
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<td>DWR</td>
<td>California Department of Water Resources</td>
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<tr>
<td>ECLWRF</td>
<td>Edward C. Little Water Recycling Facility</td>
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<tr>
<td>EIR</td>
<td>Environmental Impact Report</td>
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<tr>
<td>FY</td>
<td>Fiscal Year</td>
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<tr>
<td>GPCD</td>
<td>Gallons per Capita per Day</td>
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<tr>
<td>IPR</td>
<td>Indirect Potable Reuse</td>
</tr>
<tr>
<td>IRP</td>
<td>Integrated Resources Plan</td>
</tr>
<tr>
<td>kWh</td>
<td>Kilowatt-hour</td>
</tr>
<tr>
<td>LA</td>
<td>Los Angeles</td>
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<tr>
<td>LADWP</td>
<td>Los Angeles Department of Water and Power</td>
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<tr>
<td>LAX</td>
<td>Los Angeles International Airport</td>
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<tr>
<td>LIEP</td>
<td>Landscape Irrigation Efficiency Program</td>
</tr>
<tr>
<td>MF</td>
<td>Microfiltration</td>
</tr>
<tr>
<td>MGD</td>
<td>Million Gallons per Day</td>
</tr>
<tr>
<td>MWELO</td>
<td>Model Water Efficiency Landscape Ordinance</td>
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<tr>
<td>PFAS</td>
<td>polyfluoroalkyl substances</td>
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<tr>
<td>RHNA</td>
<td>Regional Housing Needs Assessment</td>
</tr>
<tr>
<td>RO</td>
<td>Reverse Osmosis</td>
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<tr>
<td>RW</td>
<td>Recycled Water</td>
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<tr>
<td>RWMP</td>
<td>Recycled Water Master Plan</td>
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<tr>
<td>SANDAG</td>
<td>San Diego Association of Governments</td>
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<tr>
<td>SBCCOG</td>
<td>South Bay Cities Council of Governments</td>
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<tr>
<td>Abbreviation</td>
<td>Full Form</td>
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<tr>
<td>SBESC</td>
<td>South Bay Environmental Services Center</td>
</tr>
<tr>
<td>SBX7-7</td>
<td>Senate Bill 7 of Special Extended Session 7</td>
</tr>
<tr>
<td>SCAG</td>
<td>Southern California Association of Governments</td>
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<tr>
<td>SWP</td>
<td>State Water Project</td>
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<tr>
<td>SWRCB</td>
<td>State Water Resources Control Board</td>
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<tr>
<td>TDS</td>
<td>Total Dissolved Solids</td>
</tr>
<tr>
<td>UF</td>
<td>Ultrafiltration</td>
</tr>
<tr>
<td>USBR</td>
<td>United States Bureau of Reclamation</td>
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<tr>
<td>USGS</td>
<td>United States Geological Survey</td>
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<tr>
<td>UWMP</td>
<td>Urban Water Management Plan</td>
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<tr>
<td>UWMP Act</td>
<td>Urban Water Management Planning Act</td>
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<tr>
<td>WBMWD</td>
<td>West Basin Municipal Water District</td>
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<tr>
<td>WIN</td>
<td>Water Independence Now</td>
</tr>
<tr>
<td>WPRD</td>
<td>Water Policy and Resources Development</td>
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<tr>
<td>WRD</td>
<td>Water Replenishment District</td>
</tr>
<tr>
<td>WSAP</td>
<td>Water Supply Allocation Plan</td>
</tr>
<tr>
<td>WSCP</td>
<td>Water Shortage Contingency Plan</td>
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<tr>
<td>WSDM</td>
<td>Water Surplus and Drought Management Plan</td>
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<tr>
<td>WUCA</td>
<td>Water Utility Climate Alliance</td>
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<tr>
<td>WUE</td>
<td>Water Use Efficiency</td>
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Executive Summary

This section summarizes the 2020 Urban Water Management Plan (UWMP) for the West Basin Municipal Water District (West Basin). This summary describes the fundamental purposes of the UWMP, including water service reliability, future challenges, and strategies for managing risks to water reliability.

West Basin was created in 1947 to reduce groundwater over-pumping and to make local water supplies more reliable through new sources of water — notably, providing imported water from the Metropolitan Water District of Southern California (Metropolitan) as replenishment supplies to local retail agencies.

To increase water supply reliability for its customers, West Basin has invested in the following programs:

- Recycled water supplies for irrigation, industrial use, and groundwater replenishment
- Cost-effective water efficiency and conservation
- Desalinated groundwater for potable use
- District-wide water education and outreach

West Basin is a recognized leader in the production of recycled water, conservation, and education programs.

This UWMP was prepared in compliance with California Water Code requirements for UWMPs following guidance from the California Department of Water Resources (DWR). This UWMP is intended to be the long-term water resources planning reference for West Basin.
Purpose and Organization of the Plan

This UWMP provides DWR with a detailed summary of present and future water resources and demands within West Basin’s service area. It also assesses West Basin’s water resource needs. Specifically, the UWMP provides water supply planning for a 25-year planning period in five-year increments and identifies water supplies needed to meet existing and future demands. The demand analysis identifies supply reliability under three hydrologic or rainfall conditions: an average (or normal) year, a single-dry year, and multiple-dry years.

West Basin previously prepared UWMPs for 2005, 2010, and 2015, according to the five-year planning cycle. This 2020 UWMP serves as an update to the 2015 UWMP and complies with new requirements and regulations. Figure ES-1 shows West Basin’s previous and ongoing planning efforts and their relation to the 2020 UWMP update.

These include:
- Recycled Water Master Plan Update
- Capital Improvement Program
- Infrastructure Rehabilitation and Replacement Program
- Long-Range Financial Plan
- Strategic Business Plan
- Water for Tomorrow Program
- Ocean Water Desalination Program
Service Area

West Basin serves nearly 900,000 residents in an approximately 185-square-mile service area in coastal, southwest Los Angeles County. The District provides wholesale potable water to 17 cities through three investor-owned utilities, four municipal water departments, and one county waterworks district. In addition, West Basin supplies recycled water to more than 450 metered connections for municipal, commercial, and industrial use, as well as for injection into the West Coast Basin Barrier to prevent seawater intrusion and replenish the West Coast Groundwater Basin.

West Basin is governed by an elected five-member Board of Directors, and each director serves a designated division of the District. The Board of Directors guides the mission and policy of West Basin. Each director serves a four-year term once elected. See Figure ES-2 for the District’s service area boundaries.
Outreach and Engagement

West Basin is a wholesale water agency that is fully dependent on Metropolitan for its imported water supplies. Therefore, West Basin has closely coordinated with Metropolitan during the preparation of its UWMP. West Basin attended multiple information and collaboration meetings with Metropolitan while preparing both Metropolitan’s and West Basin’s UWMPs.

West Basin recognized that working in close coordination with its retail agencies, Metropolitan, and other relevant stakeholders would be key to the development of its UWMP.

West Basin collaborated with many agencies throughout the process to develop and update this planning document. The District hosted a stakeholder workshop on March 4, 2021, prior to the Draft UWMP public review period. At the workshop, West Basin provided its retail agencies with consistent information for use in the development of their own 2020 UWMPs and supplied additional information upon request. Other meetings were held throughout the planning process with individual retailers and Metropolitan to align each UWMP. In addition, West Basin provided a public review period for the Draft UWMP and held a public hearing on June 10, 2021, to solicit input from stakeholders and other interested parties.
Water Demands

Total water use within West Basin’s service area includes direct retail demand from its retail agencies (retail demand) for potable and recycled water, as well as groundwater replenishment demand (replenishment demand) from the Water Replenishment District (WRD). Retail demand is defined as a population’s direct consumption, or all municipal (residential, firefighting, parks, etc.) and industrial uses. Replenishment demand is the supply needed to maintain the groundwater operations and seawater barriers in the West Coast Basin and is not used directly by residents, municipalities, or industries.
Retail Demands

Water use in the West Basin service area has been trending lower in recent years after decades of historical increases. This trend toward more efficient water use is due in large part to the continuous efforts by West Basin, its retail agencies, and residential and commercial customers to promote conservation and recycled water use.

West Basin’s retail demands can be grouped into three types:

1. **West Basin service area retail demand**: Total retail demand within the West Basin service area, including demands met by supplies that are not provided by West Basin, such as local groundwater.
2. **West Basin retail demand**: Retail demand within the West Basin service area that is met by West Basin supplies, excluding demands met by retailers’ groundwater supplies.
3. **West Basin potable demand**: West Basin retail demand met by West Basin potable water supplies, excluding demand met by recycled water.

As shown in Figure ES-3, West Basin service area retail demand is projected to increase slightly through 2025 and level off through 2045. Demand is expected to remain flat even during continued population growth due to ongoing water use efficiency and conservation efforts. West Basin retail demand, which excludes projected groundwater pumping from total service area retail demand, is expected to remain relatively flat, as local pumpers are projected to increase groundwater pumping to historical levels through 2030. West Basin potable demand is projected to decrease through 2030 and then level off given expansion of the West Basin recycled water program. Both groundwater and recycled water projections are discussed further in the next section. As shown in Figure ES-3, potable demands, which are predominantly met with imported water from Metropolitan, are projected to decrease from 75% of total service area retail demand in 2020 to 59% in 2030.

Figure ES-3: Demand Projections: Service Area Retail, West Basin Retail, and West Basin Potable
Replenishment Projections

West Basin currently delivers water to WRD for replenishment of the West Coast Groundwater Basin at two locations:

**West Coast Basin Barrier**
West Basin supplies advanced treated recycled water and imported water.

**Dominguez Gap Barrier**
West Basin supplies imported water only.

West Basin has delivered an average of approximately 19,200 acre-feet per year (AFY) of total replenishment water during the past decade and, as shown in Table ES-1, projects to substantially increase its replenishment supplies by 2045. This is aligned with WRD’s goals to expand replenishment activities in the West Coast Groundwater Basin through expanded injection at the West Coast Basin Barrier and new groundwater augmentation projects — all of which will be supplied exclusively with recycled water.

<table>
<thead>
<tr>
<th>REPLENISHMENT SUPPLY SOURCE</th>
<th>2020</th>
<th>2025</th>
<th>2030</th>
<th>2035</th>
<th>2040</th>
<th>2045</th>
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<tr>
<td>Imported Water</td>
<td>6,950</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Recycled Water</td>
<td>13,084</td>
<td>20,000</td>
<td>29,000</td>
<td>39,000</td>
<td>44,600</td>
<td>44,600</td>
</tr>
<tr>
<td>Total</td>
<td>20,034</td>
<td>20,000</td>
<td>29,000</td>
<td>39,000</td>
<td>44,600</td>
<td>44,600</td>
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Water Efficiency and Conservation

Since the severe drought of the early 1990s, West Basin has been a leader in implementing progressive water conservation programs to help limit water demand. West Basin’s eight retail agencies also maintain conservation programs to reduce water waste and manage customer demand. West Basin programs strongly emphasize education and the distribution of rebate incentives and water-saving devices. These proactive programs, in conjunction with passive conservation measures such as modifications to city ordinances, have resulted in significant reductions in retail water use within West Basin’s service area. This is demonstrated in 2020 per capita water use estimates.

The Water Conservation Bill of 2009 (Senate Bill [SB] X7-7) required individual retail water suppliers to set water conservation targets for 2020 to support an overall State goal of reducing urban potable per capita water use by 20% by 2020. As a regional wholesale water supply agency, West Basin is not required to report baseline or target demands. However, West Basin’s investments in water conservation have helped its retailers achieve their individual SB X7-7 water use reduction targets. The 2020 target for average per capita water use across all West Basin retail agencies, weighted by West Basin retail agency population, is roughly 200 gallons per capita per day (GPCD). This compares to the actual 2020 weighted average per capita water use of roughly 150 GPCD.

To promote conservation and reduce water supply demand, West Basin offers several water conservation programs, which together represent one form of the District’s demand management measures. These programs are in addition to permanent State-mandated restrictions that were implemented in response to the most recent statewide drought.
West Basin’s current water conservation programs are described in detail in Chapter 9.

<table>
<thead>
<tr>
<th>WEST BASIN’S CURRENT WATER CONSERVATION PROGRAMS</th>
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<tr>
<td><strong>Cash For Kitchens</strong></td>
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<tr>
<td>Conducted 146 water efficiency surveys and installed water efficient devices that will save over 4 million gallons of water during device lifetimes.</td>
</tr>
<tr>
<td><strong>Rain Barrel Distribution Programs</strong></td>
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<tr>
<td>Over 13,000 barrels distributed since 2013.</td>
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<tr>
<td><strong>Grass Removal Rebates</strong></td>
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<tr>
<td>Processed 2,782 applications for grass replacement projects since 2015.</td>
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In addition, West Basin has implemented extensive public education and outreach. Many programs were interrupted or adapted to online or virtual formats due to COVID-19 restrictions implemented in March 2020.

West Basin’s public education and outreach activities include:

**Water for Tomorrow campaign**
Launched in 2019; rebranding of the Water Reliability 2020 Program

**District newsletter**
20,000 unique views since 2015

**Media relations**
97 press releases since 2015

**Social media and website**
99,697 website users since 2018

**Speakers Bureau**
77 events since 2016

**Imported water supply tours**
Tours include State Water Project, Colorado River Aqueduct, and Diamond Valley Lake Reservoir

**Water Harvest Festival**
Up to 1,700 visitors each year

**Community events**
29 events from January to June 2019

**Water recycling tours**
1,267 tours since 2015

**Virtual community and school education programs:**
- **Know Your H2O webinar series**
- **Water use efficiency and conservation workshops and classes**
- **Fire-resistant landscape workshops**
- **Virtual field trips and online student resources**

**School education programs:**
- **Solar Cup**
  Recently sponsored four high schools
- **Water Is Life student art contest**
  Average of 500 students participate annually
- **Water treatment facility school tours**
  Average of 6,000 students tour annually
- **Water educators newsletter**
  Digital quarterly newsletter to educators since 2007
- **Water Star Program**
  Average of 4,000 students receive kits annually
- **Surfrider Foundation Teach and Test Program**
  Average of 100 students participate annually
- **Career training programs**
  Participates in the Annual Youth Business and Industry Job Shadow Day; offers high school internships
- **Water industry career presentations**
  Average of 100 students participate annually
Water Supplies

West Basin has been able to diversify the water supplies it provides to its retail agencies by ensuring access to imported water supplies from Metropolitan and by developing recycled water supplies and desalinated groundwater. West Basin directly supplies water to its retail agencies for potable and recycled water use, and it indirectly serves its retail agencies via replenishment supplies necessary to maintain their groundwater production. West Basin is also actively exploring the feasibility of adding ocean water desalination to its supply portfolio.

As shown in Figure ES-4, West Basin capital projects have allowed for increased delivery of recycled water and groundwater supplies to meet retail demands. The growth in these supplemental supplies is projected to be greater than the projected increase in demands in future years. As such, imported water from Metropolitan is expected to decrease from about 65% of the total service area supply in 2020 to 46% by 2045.

Figure ES-4: West Basin Service Area, Existing and Projected Water Supplies
Imported Water

West Basin’s imported water comes from the State Water Project (SWP) and Colorado River via Metropolitan pipelines and aqueducts. Metropolitan’s primary purpose is to provide a supplemental supply of water for domestic and municipal uses at wholesale rates to its member public agencies. Metropolitan’s planning strategy continues to balance available local and imported water resources and member agencies’ demands within Metropolitan’s service area. Metropolitan is projecting high reliability of its supplies through integrated use of Colorado River supplies, SWP supplies, and storage. Over the past two decades, Metropolitan has developed a large regional storage portfolio that includes both dry year and emergency storage capacity. Storage is a key component of water management and enables the capture of surplus water in normal and wet hydrologic conditions when it is plentiful for supply and environmental uses. Stored water can then be used in dry years and in conditions where augmented water supplies are needed to meet demands.
Recycled Water

Since planning and constructing its recycled water system in the early 1990s, West Basin has become an industry leader in water reuse. West Basin’s recycled water supply is sold to customers for non-potable applications such as landscape irrigation, commercial and industrial processes, and indirect potable uses through groundwater replenishment. In addition to offsetting imported water supplies, recycled water use reduces ocean discharge of partially treated wastewater into the Santa Monica Bay.

In Fiscal Year 2020, West Basin delivered 28,046 acre-feet of recycled water to sites inside its service area, saving enough potable water to serve 84,100 households. Recycled water use represents roughly 17% of total water supplies in the West Basin service area. Recycled water use within West Basin’s service area is projected to increase to 76,300 AFY by 2045, representing 39% of total supplies.
Desalination

West Basin began an ocean water desalination program in 2001 to explore the development of a new, drought-proof, locally controlled supply of drinking water. The District concluded a pilot study, demonstration facility, multiple technical studies, and most recently the certification of the Final Environmental Impact Report (EIR) for the potential Ocean Water Desalination Project. This potential project would produce approximately 20 million gallons per day of drinking water.

Currently, the Ocean Water Desalination Project is in an evaluation phase. The West Basin Board certified the project EIR in November 2019 and outlined five conditions that staff must satisfy before the project may proceed to any subsequent phase. The five conditions include: developing cost estimates, developing a financial evaluation and plan, completing a cost-benefit analysis, developing design and project delivery documents, and securing permits.

The potential project supply is not included in the projected supplies in this UWMP due to the project’s current status and West Basin’s supply reliability analysis (presented below). However, ocean water desalination improves supply reliability and could provide a regulated, drought-proof drinking water supply to the service area and region. Projected conditions in this UWMP may change in the future, and West Basin will continue to consider the role of ocean desalination in the District’s supply portfolio as new information is available.
Executive Summary

Groundwater

West Basin does not directly supply groundwater to its retail agencies; however, groundwater is an important local supply source for the region, and West Basin does supply highly purified recycled water that meets drinking water standards for groundwater replenishment that is required to maintain two seawater intrusion barriers and recharge the West Coast Basin aquifer. Groundwater from the West Coast Groundwater Basin and Central Groundwater Basin is an important local source that has historically represented 20% to 25% of the supply used to meet overall demand within West Basin’s service area. Within the last five years, groundwater production has declined to only 15% to 20% of total retail demand. Based on conversations with retail agencies, the decline in groundwater production was largely due to water quality concerns or inoperable groundwater infrastructure due to equipment failures and maintenance. Many retail agencies have ongoing or planned projects to increase their groundwater use, and the collective groundwater production in the West Basin service area is expected to return to historical
Water Supply Reliability

Every urban water supplier is required to assess the reliability of its water service to its retail agencies under normal year, single-dry year, and multiple-dry year hydrologic conditions. The assessment includes an evaluation of the drought risk over the next five years. Various factors may impact supply reliability, such as legal, environmental, water quality, and climatic factors, which are discussed below.

These factors can result in immediate (facility failures), near-term (SWP limitations), or long-term (climate change) impacts to reliability and must be considered in future planning.

The impacts of these factors on reliability increase under single-dry and multiple-dry year hydrologic patterns. West Basin’s Water for Tomorrow Program goal — to expand and further diversify its supply portfolio — is the most important step toward improving the reliability of supplies. West Basin has completed comprehensive water shortage contingency planning to provide reliability in the event of a water shortage. West Basin’s 2021 Water Shortage Contingency Plan is presented in Appendix C. Expected water supply reliability for normal conditions, single dry-year conditions, and multiple-dry year conditions through 2045 are discussed below, followed by a Drought Risk Assessment for 2021–2025.

Of the supplies in the West Basin service area, imported water from Metropolitan has the highest sensitivity to hydrologic conditions and is subject to reduced availability due to drought. Metropolitan has made substantial investments to increase imported water supply reliability during periods of extended drought.

Metropolitan projects the ability to meet projected West Basin imported water demands under normal year, single-dry year, and multiple-dry year conditions (Metropolitan Water District of Southern California, May 2021).

Groundwater in the West Coast Groundwater Basin and Central Groundwater Basin aquifers can be considered drought resistant as long as sufficient water supplies are available to maintain sustainable groundwater levels, which is WRD’s mission. Recycled water is similarly drought resistant, and available recycled water supplies far exceed demands. Therefore, recycled water is assumed to have the same yield in normal year, single-dry year, and multiple-dry year drought scenarios.

As shown in Figure ES-5 (total West Basin service area retail demand and supplies) and Figure ES-6 (total West Basin demand and supplies), West Basin projects to have sufficient supplies to meet demands under normal year supply and demand conditions as well as single-dry year conditions. West Basin also projects sufficient supplies to meet projected demands in multiple-dry years due to its diversified supply and conservation measures and Metropolitan’s supply reliability investments. As a result, there are no anticipated shortages under the single-dry year or multiple-dry year scenarios, and West Basin service area demands are assumed to be unconstrained in each reliability scenario.
Figure ES-5: West Basin Service Area Retail Supply Projections for Normal and Single-Dry Years

Note: Includes demand met by groundwater pumped by West Basin customers

Figure ES-6: West Basin Supply Projections for Normal and Single-Dry Years
Water Shortage Contingency Plan

West Basin has completed comprehensive water shortage contingency planning to provide reliability during shortage situations. West Basin’s water shortage contingency analysis includes Metropolitan’s Water Surplus and Drought Management (WSDM) Plan and Water Supply Allocation Plan (WSAP). The WSDM Plan provides Metropolitan with a sequence of resource management actions to execute during surpluses and shortages to minimize the probability of severe shortages and reduce the possibility of extreme shortages and shortage allocations. The WSAP provides Metropolitan with a method for determining imported water allocations for its member agencies, including West Basin, relative to the supplies available.

Metropolitan, in conjunction with its member agencies, conducts a water resources planning process based on diversification of the region’s water supply portfolio and continued efficient water use. This integrated resource planning process has recognized that only through a mix of imported and member agency local supplies — along with aggressive implementation of water conservation — can the Metropolitan service area attain overall reliability of water supply. The need for diversification and drought-resilient local supplies has only been reinforced in recent years, as California and Metropolitan’s service area have experienced two severe droughts, resulting in water shortages to Metropolitan and cutbacks in supplies to its member agencies.

During the most recent drought, SWP Table A Allocations were at record lows, with 5% of requested deliveries being met in 2014 and 20% of requested deliveries being met in 2015. Because of the challenges to imported water reliability and the likelihood of similar severe droughts and similar levels of Metropolitan cutbacks, West Basin will continue to reduce demands through conservation, public education, and the development of drought-resistant local supplies.

These new drought-resilient supplies will improve reliability for water users in West Basin’s service area by reducing the need for Metropolitan supplies, which will protect important storage reserves during future droughts to the benefit of the entire Metropolitan service area.

As part of its water shortage contingency planning, West Basin is moving forward with plans to expand its water use efficiency programs, further develop recycled water infrastructure, and continue exploring ocean water desalination as a future water source to improve the immediate, near-, and long-term reliability of its supplies.
This report presents West Basin Municipal Water District’s 2020 Urban Water Management Plan, which updates the plan from 2015 and complies with the new requirements and regulations.

West Basin Municipal Water District (West Basin) was established in 1947 to supplement groundwater supplies in the West Coast Groundwater Basin by providing imported water from the Metropolitan Water District of Southern California (Metropolitan). West Basin is a Metropolitan member agency that provides imported water supplies to meet potable water and groundwater recharge demands. It also produces five different types of recycled water for irrigation, industrial use, and groundwater barrier recharge to protect against seawater intrusion.

This Urban Water Management Plan (UWMP) provides the California Department of Water Resources (DWR) with a detailed summary of present and future water supplies and demands within West Basin’s service area and assesses West Basin’s water resource needs. Specifically, the UWMP provides water supply planning for a 25-year period in five-year increments and identifies water supplies needed to meet existing and future demands. West Basin’s 2020 UWMP updates the 2015 UWMP in compliance with requirements of the California Urban Water Management Planning Act (UWMP Act) and the California Water Code (CWC).
1.1 UWMP Purpose and Overview

CWC Sections 10610 through 10656 of the UWMP Act require every urban water supplier providing water for municipal purposes to more than 3,000 customers or supplying more than 3,000 acre-feet (AF) of water annually to prepare, adopt, and file a UWMP with DWR every five years in the years ending in zero and five.

The 2020 UWMP updates are due to DWR by July 1, 2021.

This UWMP includes:
- Evaluation of West Basin retail agency and groundwater replenishment demand
- Assessment of current and projected water supplies
- Evaluation of the reliability of water supplies
- Comparison of demand and supply projections
- Water Shortage Contingency Plan
- Description of water conservation and other demand management measures implemented by West Basin

Since its original passage in 1983, the UWMP Act has undergone significant expansion, and several amendments have been added.

Since 2015, the following requirements were added:
- Five-year drought risk assessment
- Layperson’s description of reliability
- Long-term forecast for each water supply source, including climate change and supporting information
- Seismic Risk Assessment and Mitigation Plan
- Energy analysis
- Five years of previous system water losses
- Water Shortage Contingency Plan with prescriptive elements

Prolonged droughts, groundwater overdraft, regulatory revisions, and changing climatic conditions affect the reliability of each water supplier as well as the statewide water reliability overseen by DWR, the State Water Resources Control Board (SWRCB), and the Legislature. Accordingly, the UWMP Act has grown to address changing conditions; the current requirements are found in Sections 10610–10656 and 10608 of the CWC. The 2020 UWMP was developed to incorporate these new requirements under the guidance of DWR’s 2020 UWMP Guidebook for Urban Water Suppliers. A checklist to document compliance of the 2020 UWMP with the UWMP Act and the CWC is provided in Appendix A. This UWMP includes all required DWR standardized tables for Chapters 1 through 10 compiled in Appendix B, and a selection of these tables is also provided in the body of this Plan as necessary to present supporting data.
1.2 UWMP Organization

The 2020 UWMP is organized into the following chapters:

Chapter 1
Introduction and Overview
This chapter discusses the purpose and content of the 2020 UWMP and the extent of West Basin’s water management planning efforts.

Chapter 2
Plan Preparation
This chapter provides information on West Basin’s development of the 2020 UWMP, including the basis for plan preparation, planning type, data format, and coordination and outreach to nearby agencies.

Chapter 3
System Description
This chapter describes West Basin’s service area, climate information, service area population and demographic information, and an overview of West Basin’s organizational structure and history.

Chapter 4
Water Use
This chapter explains West Basin’s historic, current, and projected water demand.

Chapter 5
Conservation Target
As a wholesale water supplier, West Basin is not required to develop a service area-wide 2020 per capita water use target. Therefore, this chapter includes a description of West Basin’s retail agency customers’ 2020 per capita water use targets and 2020 per capita use.

Chapter 6
System Supplies
This chapter examines West Basin’s existing supplies, including imported water, recycled water, and desalinated groundwater, and West Basin’s future water projects.

Chapter 7
Water Supply Reliability Assessment
This chapter describes the reliability of West Basin’s water supply through a 25-year planning horizon, including a supply and demand assessment for normal conditions, single dry year, and five consecutive dry years.

Chapter 8
Water Shortage Contingency Planning
This chapter outlines West Basin’s Water Shortage Contingency Plan (WSCP). The WSCP is a stand-alone document and is included as Appendix C.

Chapter 9
Demand Management Measures
This chapter reviews West Basin’s existing and historic efforts to promote water conservation and other demand management measures.

Chapter 10
Plan Adoption, Submittal, and Implementation
This chapter details the steps taken by West Basin to adopt and implement the 2020 UWMP in accordance with the CWC and make it available to the public.

Appendices
This includes any additional information to support and clarify any information included within the 2020 UWMP content.
1.3 UWMPs in Relation to Other Efforts
West Basin previously prepared UWMPs for the 2005, 2010, and 2015 planning years. The 2020 UWMP serves as an update to the 2015 UWMP and complies with new requirements and regulations. In addition to completing the 2020 UWMP, West Basin is presently updating its Recycled Water Master Plan (RWMP) and implementing its capital improvement program, rehabilitation and replacement (R&R) plan, long-range financial plan, strategic business plan, Water for Tomorrow Program, and ocean water desalination program. Figure 1-1 shows previous and ongoing planning efforts and their relation to the 2020 UWMP update.

West Basin hosted a stakeholder workshop on March 4, 2021, prior to the draft UWMP public review period. At the workshop, West Basin provided its retail agencies with consistent information for use in the development of their 2020 UWMPs and provided other information upon request.

West Basin is a wholesale water agency that is dependent on Metropolitan for its imported water supplies. Therefore, West Basin has closely coordinated with Metropolitan during the preparation of its UWMP and attended multiple information and collaboration meetings with Metropolitan over the course of both Metropolitan’s and West Basin’s UWMP preparation.

1.4 Demonstration of Consistency with the Delta Plan for Participants in Covered Actions
Under the Sacramento-San Joaquin Delta Reform Act of 2009, state and local public agencies proposing a covered action in the Sacramento-San Joaquin Delta (the Delta), prior to initiating the implementation of that action, must prepare a written certification of consistency. This certification, which includes detailed findings as to whether the covered action is consistent with applicable Delta Plan policies, must be submitted to the Delta Stewardship Council.

An urban water supplier that anticipates participating in or receiving water from a proposed covered action — such as a multiyear water transfer, conveyance facility, or new diversion that involves transferring water through, exporting water from, or using water in the Delta — should provide information in their 2015 and 2020 UWMPs. This information can then be used in the covered action process to demonstrate consistency with regulatory Delta Plan Policy WR P1, Reduce Reliance on the Delta Through Improved Regional Water Self-Reliance (WR P1).

SB X7-1, which was signed in 2009, reformed Delta policy and governance. The legislation requires the development, adoption, and implementation of a “Delta Plan.” It also establishes a statewide policy to reduce reliance on the Delta in meeting California’s future water supply needs through a statewide strategy of investing in improved regional supplies, conservation, and water use efficiency.

DWR does not review the analysis, demonstrating consistency with WR P1 as part of the UWMP approval process; therefore, this information has been prepared as a stand-alone document and is attached as Appendix D. The analysis and documentation provided in the appendix include the elements described in WR P1(c)(1) that need to be included in a water supplier’s UWMP to support a certification of consistency for a future covered action.
Figure 1-1. Previous and Ongoing Planning Efforts
West Basin Municipal Water District (West Basin) coordinated with its retail agencies and engaged with stakeholders and community members to develop this Urban Water Management Plan (UWMP). This Plan meets the requirements of the California Water Code (CWC) and plans for a resilient water future.

This Plan was prepared following guidance from the California Department of Water Resources’ (DWR) 2020 UWMP Guidebook and the 2020 UWMP DWR Checklist (Appendix A). West Basin’s Water Policy and Resources Division staff partnered with Water Systems Consulting, Inc. and Maddaus Water Management, Inc. to update the 2015 UWMP to conform to new state reporting requirements in the formation of this Plan. West Basin actively engaged with stakeholders (including cities, Los Angeles County, water agencies, and the public) to inform them of West Basin’s efforts and activities, gather high-quality data to develop this UWMP, and coordinate planning activities with related regional plans and initiatives. This chapter presents details regarding West Basin’s UWMP preparation, coordination, and outreach efforts.

Because West Basin is an urban water supplier indirectly serving more than 3,000 customers as a water wholesaler and more than 3,000 acre-feet for municipal purposes, it is required to prepare and submit a UWMP every five years on or before July 1 in years ending in six and one. West Basin is submitting an individual UWMP as a wholesale agency. West Basin’s 2020 UWMP was submitted to DWR by July 1, 2021. West Basin tracks and reports water supply based on fiscal year, and, as such, all years referenced in this plan correspond with the fiscal year beginning July 1 and ending June 30 unless otherwise mentioned.
2.1 Coordination and Outreach

Recognizing that close coordination with relevant public agencies is key to the success of its UWMP, West Basin worked closely with many other entities to develop and update this planning document. West Basin also provided a public review period for the Draft UWMP and held a public hearing on June 10, 2021, to further solicit input from stakeholders.

2.1.1 Wholesale and Retail Coordination

As a wholesale water provider, West Basin has informed its retail agencies of its water supplies in accordance with CWC section 10631.

**West Basin provides wholesale potable water to eight retail agencies and 12 water systems spanning multiple cities within Los Angeles County:**

**Cities**
- City of El Segundo
- City of Inglewood
- City of Lomita
- City of Manhattan Beach

**Investor-Owned Utilities**
- California American Water Company
- California Water Service
  - Dominguez System
  - Hawthorne System
  - Hermosa/Redondo System
  - Palos Verdes System
- Golden State Water Company
  - Southwest System
  - Culver City System

**County Water District**
- Los Angeles County Waterworks District No. 29

In addition to the retail agencies listed above, West Basin provides potable water to the Water Replenishment District (WRD) for groundwater replenishment at two seawater intrusion barriers.

As a wholesale water agency, West Basin is fully dependent on the Metropolitan Water District of Southern California (Metropolitan) for its imported water supplies. Therefore, West Basin also coordinated with Metropolitan during the preparation of this UWMP by providing data, comments, and other information to Metropolitan staff as needed.

2.1.2 Coordination with Other Agencies and the Community

CWC section 10620 requires urban water suppliers to coordinate their plans with other appropriate agencies within the area. On March 4, 2021, West Basin hosted a stakeholder workshop during the development of West Basin’s Draft UWMP and prior to the UWMP public review period. At the
workshop, West Basin provided its retail agencies with consistent information for use in the
development of their individual 2020 UWMPs and supplied additional information upon request. Other
meetings were held throughout the preparation process with individual retail agencies and Metropolitan
to align each UWMP.

West Basin encouraged public interest and community involvement through its public hearing and
inspection of the draft document, pursuant to CWC section 10642. The draft was submitted for public
review on May 25, 2021, and copies of the Draft Plan were made available for public inspection on
West Basin’s website at www.westbasin.org. Notices were published in local newspapers informing
the community of the upcoming public hearing on June 10, 2021. The hearing provided an opportunity
for all constituents in the service area to learn and ask questions about the 2020 UWMP, in addition to
West Basin’s plans for providing a reliable, safe, high-quality water supply. A copy of the published
Notice of Public Hearing is included in Appendix E.

Key planning documents that aided in the preparation of this UWMP include:

- Metropolitan’s 2020 WSCP
- Metropolitan’s 2020 UWMP
- Metropolitan’s 2020 Integrated Resources Plan (under development)
- West Basin’s Water Use Efficiency Study
- Central Basin Watermaster Report 2019
- West Basin Watermaster Report 2019
- WRD’s Engineering and Survey Report 2020
- West Basin’s 2015 Drought Rationing Plan
- West Basin’s Recycled Water Master Plan (2021 Draft)
- DWR’s 2019 State Water Project Delivery Capability Report
- WRD’s Regional Groundwater Monitoring Report Water Year 2019–2020

2.1.3 Notice to Cities and Counties

CWC section 10621(b) requires every urban water supplier — at least 60 days before the UWMP public
hearing — to notify the cities and counties within its service area that the UWMP is being reviewed and
updated. To comply with this requirement, West Basin sent Notice of Preparation letters for the 2020
UWMP to the relevant agencies on April 8, 2021. Copies of the 60-day notice letters are attached as
Appendix E. Table 2-1 summarizes the coordination among West Basin, its retail agencies, Los
Angeles County, cities within West Basin’s service area, and Metropolitan during the review of the Draft
UWMP.
### Table 2-1: Coordination with Appropriate Agencies

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*West Basin retail agency or customer

Highlighted column will be updated for Final UWMP
This chapter describes West Basin’s service area, climate, and customers, including area population and demographics.

West Basin Municipal Water District (West Basin) is a wholesale water agency in southwestern Los Angeles County that provides imported drinking water to 17 cities and unincorporated areas of Los Angeles County throughout its 185-square-mile service area.

In addition, West Basin supplies recycled water to more than 450 customer sites for municipal, commercial, and industrial use, as well as for injection into the West Coast Basin Seawater Barrier to protect against seawater intrusion and replenish the West Coast Groundwater Basin (West Coast Basin) aquifer.
3.1 General Description

An innovative public agency, West Basin is a recognized leader in the production of recycled water, conservation, and educational programs. West Basin was established by a vote of the people in 1947 to help mitigate over pumping in the West Coast Basin by providing the growing region with imported water. West Basin became a member agency of the Metropolitan Water District of Southern California (Metropolitan) in 1948 to purchase, on a wholesale level, potable water imported from the Colorado River. Today, West Basin supplies wholesale potable water to three investor-owned utilities, four municipalities, one county waterworks district, and one groundwater agency as a means of supplementing local water resources. The relationship between West Basin and its retail agencies is illustrated in Figure 3-2.

West Basin and its retail agencies operating within West Basin’s service area develop local supplies, including groundwater, brackish desalination, and recycled water. In addition, a blend of recycled and imported water is injected into the West Coast Basin Barrier and the Dominguez Gap Barrier to protect local groundwater supplies from seawater contamination and replenish the aquifer.

West Basin is the fourth-largest member agency of Metropolitan, which makes its participation on the Metropolitan Board of Directors critical to representing the interests of West Basin’s retail agencies on regional water issues. West Basin’s Board of Directors appoints two representatives to serve on the 38-member Metropolitan Board of Directors.

West Basin is governed by an elected, five-member Board of Directors, which guides the mission and policy of West Basin. Each director is elected to serve four-year terms and represent one of five divisions, totaling over 800,000 residents living in the West Basin service area. Current West Basin directors are shown in Figure 3-1, and the cities and communities within their associated divisions are described below. A map of West Basin’s service area as delineated by Director divisions is shown in Figure 3-3.

Figure 3-1. West Basin Board of Directors

Harold C. Williams  
Division I

Gloria D. Gray  
Division II

Desi Alvarez  
Division III

Scott Houston  
Division IV

Donald L. Dear  
Division V

**Division I:** Cities of Carson, Palos Verdes Estates, Rancho Palos Verdes, Rolling Hills Estates, Rolling Hills, and unincorporated Los Angeles County areas of Rancho Dominguez.

**Division II:** City of Inglewood and unincorporated Los Angeles County areas of Lennox, South Ladera Heights, West Athens, and Westmont.

**Division III:** Cities of Hermosa Beach, Lomita, Manhattan Beach, Redondo Beach, and a portion of Torrance.

**Division IV:** Cities of Culver City, El Segundo, Malibu, and West Hollywood, and unincorporated Los Angeles County areas of Del Aire, Lennox, Marina del Rey, North Ladera Heights, Topanga, View Park, Windsor Hills, and Wiseburn.

**Division V:** Cities of Gardena, Hawthorne, Lawndale, and unincorporated Los Angeles County area of El Camino Village.
Figure 3-2. West Basin Retail Agencies

Source: West Basin.
Figure 3-3. West Basin Service Area

Source: West Basin.
In the major drought of the late 1980s and early 1990s, West Basin’s visionary Board of Directors led the agency in developing new local water supplies, including wastewater recycling for irrigation and industrial use, and implementing effective conservation and water efficiency programs.

Today, West Basin’s Water for Tomorrow Program helps guide West Basin’s approach to ensuring the reliability of the region’s water future by focusing on the following principles:

- Protect West Basin’s existing water supply
- Diversify and augment the water supply portfolio
- Innovate to prepare for the future

West Basin continuously demonstrates its commitment to being an industry leader by exploring new methods and innovative technologies to enhance the region’s water supply, with the mission to “provide a safe and reliable supply of high-quality water to the communities we serve.” West Basin ensures water reliability for service area residents and businesses through balanced and affordable supply diversification: maximizing water recycling, expanding water efficiency and conservation efforts, desalting brackish groundwater, and evaluating desalinated ocean water.

West Basin is dedicated to serving all its communities by seeking increased reliability of imported water, more opportunities for groundwater projects, and additional exploration of alternative local water supplies such as both potable and non-potable water reuse and desalination.

West Basin currently manages a diverse water supply portfolio that includes imported water from Northern California and the Colorado River, locally produced recycled water, desalted groundwater, and conserved water. Additionally, West Basin is researching ocean water desalination as a potential future drought-proof supply of drinking water. The water supply types that West Basin provides to its retail agencies are detailed in Table 3-1 and discussed in greater detail in Chapter 6.

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Many of West Basin’s retail agencies also pump groundwater supplies from the West Coast Basin to help meet their demands. In addition, California Water Service delivers a small amount of water from West Basin’s C. Marvin Brewer Desalter, which treats brackish groundwater from the West Coast Basin for drinking water use.
3.2 Service Area Climate

West Basin’s service area lies in the heart of southern California’s coastal plain. It has a Mediterranean climate characterized by warm, dry summers and wet, cool winters with moderate precipitation. Southern California is vulnerable to droughts. Historically, West Basin has experienced patterns of multiple dry years that have resulted in severe drought periods in 1977–78, 1989–92, 1999–2004, 2007–09, and most recently 2012–16. Excessively dry conditions increase the local water demand because less precipitation is available to meet landscaping irrigation needs and water shortages often result.

West Basin’s service area spans a large portion of Los Angeles County, and the average temperature, precipitation, and evapotranspiration rates can vary significantly between and within the coastal and inland areas. Table 3-2 shows the average climate data representative of southwestern Los Angeles County. As shown, the average daily temperatures in West Basin’s service area in Los Angeles County range from an average low of close to 47.5 degrees Fahrenheit (°F) in December and January to an average high of about 76°F in August and September. The average annual precipitation is approximately 12 to 14 inches, although the region is subject to significant variations in monthly precipitation. The average evapotranspiration is 44 to 48 inches per year, which is three and a half times the annual average rainfall. This generates a high water demand for landscape irrigation for homes, commercial properties, parks, and golf courses.

Table 3-2. Monthly Average Climate Data in Los Angeles County

<table>
<thead>
<tr>
<th>PARAMETER</th>
<th>JAN</th>
<th>FEB</th>
<th>MAR</th>
<th>APR</th>
<th>MAY</th>
<th>JUN</th>
<th>JUL</th>
<th>AUG</th>
<th>SEP</th>
<th>OCT</th>
<th>NOV</th>
<th>DEC</th>
<th>ANNUAL</th>
</tr>
</thead>
<tbody>
<tr>
<td>Average Max. Temperature (°F)</td>
<td>65.2</td>
<td>65.3</td>
<td>65.3</td>
<td>67.4</td>
<td>69.1</td>
<td>71.9</td>
<td>75.1</td>
<td>76.3</td>
<td>76.0</td>
<td>73.6</td>
<td>70.2</td>
<td>65.9</td>
<td>70.1</td>
</tr>
<tr>
<td>Average Minimum Temperature (°F)</td>
<td>47.5</td>
<td>48.9</td>
<td>50.5</td>
<td>53.0</td>
<td>56.4</td>
<td>59.7</td>
<td>62.9</td>
<td>63.8</td>
<td>62.6</td>
<td>58.5</td>
<td>52.3</td>
<td>47.9</td>
<td>55.3</td>
</tr>
<tr>
<td>Average Total Precipitation (in)</td>
<td>2.65</td>
<td>2.67</td>
<td>1.85</td>
<td>0.77</td>
<td>0.17</td>
<td>0.05</td>
<td>0.02</td>
<td>0.07</td>
<td>0.16</td>
<td>0.39</td>
<td>1.40</td>
<td>1.82</td>
<td>12.02</td>
</tr>
<tr>
<td>Evapotranspiration (in)</td>
<td>2.34</td>
<td>2.91</td>
<td>3.34</td>
<td>4.06</td>
<td>5.96</td>
<td>5.26</td>
<td>6.62</td>
<td>6.31</td>
<td>4.66</td>
<td>3.51</td>
<td>2.44</td>
<td>2.22</td>
<td>44.38</td>
</tr>
</tbody>
</table>


3.2.1 Climate Change

As described in Metropolitan’s 2020 Urban Water Management Plan (UWMP) (Metropolitan Water District of Southern California, May 2021), climate change is having a profound impact on California’s water resources, as evidenced by changes in snowpack, sea level, and river flows. These changes are expected to continue in the future, as more of our precipitation will likely fall as rain instead of snow. This potential change in weather patterns will impact water storage, exacerbate flood risks, and add challenges to water supply reliability.

Mountain snowpack provides as much as one-third of California’s water supply, accumulating snow during the wet winters and releasing it slowly when it is needed during the state’s dry springs and summers. Warmer temperatures will cause snowpack to melt faster and earlier, making it more difficult to store and use. By the end of this century, the Sierra snowpack is projected to experience a 48% to 65% loss from the historical April 1 average (Climate Change and Water, 2021). This loss of snowpack means less water will be available for Californians to use.
Climate change is also expected to result in more variable weather patterns throughout California. More variability can lead to longer and more severe droughts. In addition, the sea level will continue to rise, threatening the sustainability of the Sacramento-San Joaquin Delta, the heart of the California water supply system and the source of water for 25 million Californians and millions of acres of prime farmland.

Within the past five years, drastic swings in hydrologic conditions proved challenging to urban water suppliers throughout California. In 2015, the dry conditions resulted in the lowest ever snowpack in the Northern Sierras. In 2017, the State Water Project (SWP) watershed saw the highest ever Sacramento River runoff, resulting in the highest SWP allocation since 2006. However, by 2020 dry conditions returned to most of the state, distinguished by the driest February in history, peak snowpack in April at 66% of the average April 1 measurement, and average runoff for the year at 52% of the average. Subsequently, Metropolitan only received 20% of contract SWP water supplies in 2020 and is expected to receive only 5% of contract SWP water supplies in 2021 (as of May 2021).

The uncertainty of continued climate impacts on the region stresses the need for flexibility and adaptability in planning for future water supplies. West Basin previously enacted its Drought Rationing Plan from 2009–2011 and 2014–2015 in response to Metropolitan’s implementation of its Water Supply Allocation Plan (West Basin Municipal Water District, 2021). With ongoing climate change expected to cause more frequent water rationing situations in future years, West Basin will continue to incorporate climate-based planning scenarios as part of its long-term water supply reliability strategic planning process. The potential for ongoing changes to the local climate and the resulting impacts on supplies are further discussed in Chapter 7. Planning for potential water shortages is discussed in the 2021 Water Shortage Contingency Plan in Appendix C.
3.3 Service Area Population and Demographics

West Basin provides water to incorporated and unincorporated areas in southwest Los Angeles County. The land uses within West Basin’s service area include single-family and multifamily residential, and commercial, industrial, and institutional (CII) land use types. Table 3-3 includes West Basin’s current and projected population, housing units, and employment projections. The demographic data is provided by Metropolitan in its 2020 UWMP and is based on best available data from the California Department of Finance, California Employment Development Department, and the Southern California Association of Governments (SCAG) 2020 Regional Transportation Plan/Sustainable Communities Strategy growth forecast (Metropolitan Water District of Southern California, May 2021).

Table 3-3. Current and Projected Demographics

<table>
<thead>
<tr>
<th>DEMOGRAPHICS</th>
<th>2020</th>
<th>2025</th>
<th>2030</th>
<th>2035</th>
<th>2040</th>
<th>2045</th>
</tr>
</thead>
<tbody>
<tr>
<td>Population</td>
<td>841,550</td>
<td>869,252</td>
<td>880,718</td>
<td>893,089</td>
<td>902,163</td>
<td>913,615</td>
</tr>
<tr>
<td>Occupied Housing Units</td>
<td>293,945</td>
<td>310,141</td>
<td>315,746</td>
<td>321,467</td>
<td>325,386</td>
<td>330,280</td>
</tr>
<tr>
<td>Single-Family</td>
<td>175,977</td>
<td>177,601</td>
<td>179,092</td>
<td>180,248</td>
<td>181,479</td>
<td></td>
</tr>
<tr>
<td>Multi-Family</td>
<td>134,165</td>
<td>138,145</td>
<td>142,375</td>
<td>145,138</td>
<td>148,801</td>
<td></td>
</tr>
<tr>
<td>Persons per Household</td>
<td>2.77</td>
<td>2.76</td>
<td>2.75</td>
<td>2.74</td>
<td>2.74</td>
<td></td>
</tr>
<tr>
<td>Urban Employment</td>
<td>402,534</td>
<td>435,002</td>
<td>441,195</td>
<td>447,647</td>
<td>457,457</td>
<td>465,331</td>
</tr>
</tbody>
</table>

Source: Metropolitan Water District of Southern California 2020 UWMP

Current projections show that population is expected to increase at a moderate growth rate between 2020 and 2025 (approximately 0.65% annual growth), and then continue at a 0.3% annual growth rate from 2025 through 2045. This projection results in nearly 914,000 people living in West Basin’s service area by 2045.

The number of households in West Basin’s service area is expected to increase by 12.4% in the next 25 years and urban employment in West Basin’s service area is expected to rise by 15.6% in the next 25 years. The projections assume a relatively high growth rate from 2020 to 2025 based on updated SCAG projections from March 2020 that incorporate the Regional Housing Needs Assessment (RHNA), which is mandated by State Housing Law as part of the periodic process of updating local housing elements of the General Plan. RHNA quantifies the need for housing within each jurisdiction during specified planning periods. The RHNA requirements cause the relatively high population and occupied housing unit increases shown in Table 3-3.

1  https://scag.ca.gov/rhna
3.3.1 Other Social, Economic, and Demographic Factors

The West Basin service area has experienced significant impacts due to the global pandemic caused by the COVID-19 virus. In March 2020, the State of California issued a stay-at-home order that forced many businesses to close and other businesses to require employees to continue working only from home to slow the spread of the virus. Additionally, the forced closure of many businesses caused a historic increase in unemployment across the country and a resulting economic recession. While all the impacts of COVID-19 are not entirely known at this time, it has likely caused an increase in residential water use and a decrease in commercial water use.

As a wholesaler, West Basin does not track water use by customer class. This shift in water use by customer class is expected to be temporary and return to previous levels once all stay-at-home orders are lifted and businesses can reopen. However, the economic recession could have longer-term impacts on the region.
This chapter summarizes West Basin Municipal Water District’s (West Basin) historical, current, and projected water demands in its service area and demands for West Basin supplies through 2045.

Total water use within West Basin’s service area consists of the following demands:

- Retail demand
  - Potable (drinking) water
    - Imported water
    - Groundwater production
  - Recycled water

- Groundwater replenishment demand
  - Imported water
  - Recycled water

Retail demand is defined as a population’s direct consumption, or all municipal (residential, firefighting, parks, etc.) and industrial uses. Replenishment demand is the supply needed to maintain local groundwater operations, including seawater intrusion barrier activities in the West Coast Groundwater Basin, and is not used directly by residents, municipalities, or industries.

West Basin is responsible for meeting the direct retail demand from its customer retail agencies through potable and recycled water supplies. Likewise, it currently meets groundwater replenishment demand from the Water Replenishment District (WRD) using a mix of imported and recycled water supplies.
4.1 Retail Demands

West Basin total retail demand is the service area retail demand minus the local groundwater supply. It includes recycled water and imported water demand. For West Basin to estimate retail demands on its supplies, it must first project total demand within its service area and then subtract retail agency projected local groundwater supplies. This section presents total service area demand projections, local supply projections, and net West Basin demands through 2045.

4.1.1 Past and Current Water Use

As shown in Figure 4-1, retail demand has declined by more than 25% over the last 20 years due to West Basin’s significant water conservation efforts and efforts by local, regional, and State agencies. Residents in West Basin’s service area display an ongoing commitment to reducing water use through water-efficient practices, which has helped maintain lower overall water demand in the years following the 2012-2016 drought (California Natural Resources Agency, March 2021).

On an annual basis, demand can fluctuate due to factors such as climate, economic development, longer drought cycles, and water use efficiency programs during a severe and prolonged drought. West Basin, along with much of California, has experienced the effects of two major droughts (2007–2009 and 2012–2016) within the last 15 years, both resulting in the water supply allocation of imported water supplies by the Metropolitan Water District of Southern California (Metropolitan). In years when supplies are constrained or when cutbacks from Metropolitan are triggered, demand reduction actions become more critical as a means of further reducing regional water demand. Drought-related water reductions coincided with changes in economic activity, such as the economic rebound following the end of the 2008-2011 recession, leading to more severe drought years in 2014 and 2015, and more recent economic impacts due to the COVID-19 pandemic beginning in 2020.

Figure 4-1: Historic West Basin Service Area Retail Demand

Note: West Basin retail demands are only the demands met by West Basin's supplies, including imported and recycled water. Total retail demand includes all retail demands in West Basin's service area, including West Basin supplies and local groundwater supplies from each retail agency.
4.1.2 Projected Service Area Demands

This Urban Water Management Plan (UWMP) provides insight into West Basin’s expected retail water demands for the next 25 years. Predicting water usage is an important element in planning future water supplies. In 2015, West Basin relied solely on Metropolitan’s projections for retail demand and water use efficiency. For this 2020 UWMP, West Basin developed a model to compare supply and demand under multiple scenarios. Scenario analysis allows West Basin to compare the benefits (and costs) of long-term water resources conditions and strategies. West Basin’s demand projections referenced three primary sources: Metropolitan’s Draft 2020 UWMP, demand projections provided by each West Basin retail agency, and recycled water projections developed in West Basin’s 2021 Recycled Water Master Plan (RWMP).

As noted by Metropolitan (Metropolitan Water District of Southern California, May 2021), demand projections face many uncertainties:

- Fluctuations in population and economic growth
- Uncertain location of growth
- Uncertain housing stock and density
- Potential COVID-19 impacts
- Changes in outdoor water use patterns
- Climate change impacts

While it is difficult to quantify and incorporate all uncertainties, West Basin has selected the higher demand scenario in its demand projections to be conservative for long-term planning purposes. A more conservative approach is prudent to help ensure adequate supply in the face of growing uncertainty in the future reliability of available water supplies. Of the numerous supply and demand scenarios that West Basin evaluated, only one was selected to present in this UWMP. The UWMP demand projection includes conservative assumptions for outdoor water use and near-term growth as required by the Regional Housing Needs Assessment (RHNA) based new housing projections described in Chapter 3.

The three biggest factors in Metropolitan’s demand projections are population and economic growth, “normal” demand, and conservation.
4.1.2.1 Growth

As described in Metropolitan’s 2020 UWMP (Metropolitan Water District of Southern California, May 2021), demographic and economic factors are the major drivers behind retail water demands. Demographic and economic data used in developing the West Basin projections for this UWMP were taken from the Southern California Association of Governments’ (SCAG) 2020–2045 Regional Transportation Plan/Sustainable Communities Strategy from the Connect SoCal report (as adopted on May 7, 2020). SCAG regional growth forecasts1 are the core assumptions that drive the estimating equations in Metropolitan’s Econometric Demand Model. West Basin’s demographic forecasts provided by Metropolitan are described in Chapter 3 and presented in Table 3-2. Of note is that the Metropolitan demand projections assume a relatively high growth rate from 2020 to 2025 based on updated SCAG projections from March 2020. These SCAG projections incorporate the RHNA that is mandated by State Housing Law as part of the periodic process of updating local housing elements of the General Plan.2 RHNA quantifies the need for housing within each jurisdiction during specified planning periods. The current SCAG planning period covers 2021 to 2029. Growth projections are associated with an estimated 4,550 acre-feet per year (AFY) of demand increase from 2020 to 2025.

4.1.2.2 “Normal” Demand

Metropolitan projects an estimated new “normal” demand, which is demand outside of drought restrictions and with average weather, based on average water use for 2014, 2016, 2017, and 2018. Average retail water use from these years was 151,800 AFY, which is an increase of approximately 10,500 AFY from 2020. Following the projected demand increase through 2025, Metropolitan projects that West Basin’s retail demands will remain flat through 2045.

4.1.2.3 Conservation

After the total retail demands are projected, Metropolitan projects future water savings from conservation based on water use factors and projected demographic and economic factors. These savings estimates are applied to reduce the total retail demand in the projections.

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1Per the Metropolitan 2020 UWMP (March 2021): “SCAG’s projections undergo extensive local review, incorporate zoning information from city and county general plans, and are backed by Environmental Impact Reports. SCAG prepares demographic forecasts based on land use data for their respective regions through extensive processes that emphasize input from local planners and are done in coordination with local or regional land use authorities, incorporating essential information to reflect anticipated future populations and land uses. These growth forecasts are used to guide development of regional plans and strategies mandated by federal and state governments. Met’s use of SCAG and SANDAG projections is consistent with CWC Section 10631’s requirement for suppliers to include current and projected land uses within the existing or anticipated service area affecting the supplier’s water management planning. Impacts of potential annexation are not included in the demand projections for the 2020 UWMP. However, Met’s Review of Annexation Procedures concluded that the impacts of annexation within the service area beyond 2020 would not exceed two percent of overall demands.”

2https://scag.ca.gov/rhna
Conservation savings in the Metropolitan demand projections (Metropolitan Water District of Southern California, March 2021) include:

**Code-based conservation**
Water savings resulting from plumbing and building codes and other institutionalized water efficiency measures. Sometimes referred to as “passive conservation,” this form of conservation would occur without any additional financial incentives from water agencies. In addition, a conservative assumption for water savings from the Model Water Efficiency Landscape Ordinance (MWELO) is assumed for 50% of new home construction, on the basis that the ordinance does not have a uniform effective enforcement mechanism for compliance for new homes and businesses and long-term maintenance at higher efficiency irrigation application rates or conversion to higher water use landscape (i.e., post construction conversion to a turf centric landscape). MWELO is also conservatively assumed not to affect water use projections for existing homes and businesses, given the tendency to have un-permitted landscape upgrades.

**Active conservation**
Water saved as a direct result of programs and practices directly funded by a water utility. Active conservation is unlikely to occur without agency action. Refer to Chapter 9 for more detail on the robust level of implementation of both Metropolitan’s and the West Basin Water Use Efficiency Program. In addition, local privately owned retail water suppliers (e.g., California American Water, California Water Service, and Golden State Water) are regulated by the California Public Utilities Commission to have robust active water use efficiency programs.

**Price effect conservation**
Reductions in customer use attributable to changes in the real (inflation-adjusted) cost of water. Because water has a positive price elasticity of demand, increases in water price will decrease the quantity of water demanded by the end use consumer.

**Pre-1990 savings**
Conservation savings are commonly estimated from a base-year water use profile. Beginning with the 1996 Integrated Resources Plan, Metropolitan identified 1980 as the base year for estimating conservation because it marked the effective date of a new plumbing code in California requiring toilets in new construction to be rated at 3.5 gallons per flush or less. Between 1980 and 1990, Metropolitan’s service area saved an estimated 250,000 AFY as the result of this 1980 plumbing code and unrelated water rate increases. Within Metropolitan’s planning framework, these savings are referred to as “pre-1990 savings.”

4.1.2.4 West Basin Retail Demand Projections
For the West Basin 2020 UWMP demand projection, West Basin applied the growth and conservation assumptions used by Metropolitan, but it selected a lower baseline of “normal” demand based on demand in the three years following the most recent statewide drought restrictions. West Basin’s demand projections are therefore based on average demand from 2016 to 2018 (146,970 AFY). Demand in 2014 was excluded due to relatively low precipitation; 2015 demand was excluded due to severe drought restrictions; and 2019 demand was excluded due to relatively high precipitation. West Basin’s 2020 UWMP retail demand projection, shown in Figure 4-2, is about 4,800 AFY lower than Metropolitan’s projection. Since Metropolitan used its own projections for its water reliability assessment and found its supplies to be highly reliable (as discussed in Chapter 7), West Basin projecting lower demands in its service area than Metropolitan provides a supply planning safety factor for West Basin.
4.1.2.5 Local Supply Projections

Most of the retail agencies in West Basin’s service area produce groundwater to meet a portion of their demands. West Basin supplies the remainder through imported water and/or recycled water. As described in Section 6.3 and shown in Figure 4-3, groundwater production in West Basin’s service area has varied substantially over the last 20 years and declined significantly in the last five years. In Fiscal Year (FY) 2019 and FY 2020, approximately 20,000 AFY of groundwater was pumped within West Basin’s service area, compared with over 30,000 AFY on average prior to FY 2016. West Basin consulted with each retail agency during the UWMP planning process to assess their future plans for groundwater production in the service area. Most retail agencies indicated that they plan to increase their groundwater production activities in the near term. Based on these projections, West Basin assumes that long-term groundwater supply will increase to approximately 30,000 AFY by 2030 and continue at this level through 2045.
As shown in **Figure 4-4**, West Basin’s retail recycled water deliveries within its service area have been relatively consistent over the past decade, averaging roughly 16,500 AFY over the last five years. West Basin expects to complete an updated RWMP in 2021 that which includes projections for recycled water for retail use and groundwater replenishment. Based on 2021 RWMP Scenario A, retail deliveries of recycled water are projected to increase from approximately 15,000 AFY in 2020 to 30,300 AFY by 2025 and 31,700 AFY by 2030. Increases in recycled water use is expected to offset potable demands.
4.1.3 Net West Basin Retail Demand Projections

Based on the total service area demand and local supply assumptions described above, West Basin projected net demand on the total service area through 2045. These projections are shown in Table 4-2.

### Table 4-1: 2020–2045 West Basin Demand Projections (AFY)

<table>
<thead>
<tr>
<th></th>
<th>2020</th>
<th>2025</th>
<th>2030</th>
<th>2035</th>
<th>2040</th>
<th>2045</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total West Basin Service Area Retail Demand</td>
<td>141,327</td>
<td>151,520</td>
<td>151,260</td>
<td>151,550</td>
<td>151,160</td>
<td>151,260</td>
</tr>
<tr>
<td>Local Groundwater Supplies</td>
<td>20,556</td>
<td>25,330</td>
<td>30,100</td>
<td>30,100</td>
<td>30,100</td>
<td>30,100</td>
</tr>
<tr>
<td>WEST BASIN NET RETAIL DEMAND(^1)</td>
<td>120,770</td>
<td>126,190</td>
<td>121,160</td>
<td>121,450</td>
<td>121,060</td>
<td>121,160</td>
</tr>
</tbody>
</table>

\(^1\)West Basin total retail demand is the service area retail demand minus the groundwater supply. It includes recycled water and imported water demand.
4.2 Groundwater Replenishment Demand

West Basin currently supplies advanced treated recycled water and imported water to WRD for injection at the West Coast Basin Seawater Barrier, operated by the Los Angeles County Department of Public Works. West Basin also supplies imported water to WRD for injection in the Dominguez Gap Barrier, while the Los Angeles Department of Water and Power (LADWP) supplies advanced treated recycled water. As shown in Figure 4-5, West Basin has averaged roughly 19,200 AFY of replenishment deliveries during the past decade.

Figure 4-5: Historic West Basin Replenishment Supplies

![Graph showing historic West Basin replenishment supplies]

Looking forward, both barriers are approved for injection using 100% advanced treated recycled water, but imported water has been used to meet the additional barrier water demand when recycled water is not available. A key assumption for ongoing replenishment demand is the recycled/imported supply mix, which reflects how much of total barrier demand is met with recycled water. The goal for each barrier project is to meet 100% of demand with recycled water.

West Basin considered a range of replenishment demand scenarios and chose to include Scenario A from the West Basin RWMP, which assumes that total replenishment increases to 44,600 AFY from an extra 10 million gallons per day (MGD) of recycled water flows to the West Coast Basin Barrier and another 18 MGD of new groundwater augmentation projects supplied entirely by recycled water. Scenario A is associated with the large increased replenishment activities in the West Coast Groundwater Basin described in WRD’s WIN 4 ALL program (Water Replenishment District, 2021).
Table 4-3 shows the projected groundwater replenishment supplies by West Basin through 2045. By 2025, all groundwater replenishment demand will be met with recycled water. West Basin’s projected groundwater replenishment supply will be used for expanded West Coast Basin Barrier injection and additional groundwater augmentation to build storage and bolster groundwater supplies. The projected groundwater replenishment supply corresponds with West Basin’s 2021 RWMP Scenario A. It is expected that West Basin will discontinue providing imported water to the Dominguez Gap Barrier within the next few years. Current plans indicate that the barrier will be maintained with 100% recycled water from LADWP.

<table>
<thead>
<tr>
<th>REPLENISHMENT SUPPLY SOURCE</th>
<th>2020</th>
<th>2025</th>
<th>2030</th>
<th>2035</th>
<th>2040</th>
<th>2045</th>
</tr>
</thead>
<tbody>
<tr>
<td>Imported Water</td>
<td>6,950</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Recycled Water</td>
<td>13,084</td>
<td>20,000</td>
<td>29,000</td>
<td>39,000</td>
<td>44,600</td>
<td>44,600</td>
</tr>
<tr>
<td>TOTAL:</td>
<td>20,034</td>
<td>20,000</td>
<td>29,000</td>
<td>39,000</td>
<td>44,600</td>
<td>44,600</td>
</tr>
</tbody>
</table>

4.3 Summary of West Basin Demand Projections

Based on the West Basin retail demand projections presented in Section 4.1 and groundwater replenishment demand projections presented in Section 4.2, West Basin’s total demand projections through 2045 are presented in Table 4-4. Note that these are not total service area demands, since some demands in the service area will be met with local supplies from retail agencies.

<table>
<thead>
<tr>
<th>RETAIL DEMANDS (from Table 4-2)</th>
<th>2020</th>
<th>2025</th>
<th>2030</th>
<th>2035</th>
<th>2040</th>
<th>2045</th>
</tr>
</thead>
<tbody>
<tr>
<td>Retail Demands</td>
<td>120,770</td>
<td>126,190</td>
<td>121,160</td>
<td>121,450</td>
<td>121,060</td>
<td>121,160</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>REPLENISHMENT DEMANDS (from Table 4-3)</th>
<th>2020</th>
<th>2025</th>
<th>2030</th>
<th>2035</th>
<th>2040</th>
<th>2045</th>
</tr>
</thead>
<tbody>
<tr>
<td>Replenishment Demands</td>
<td>20,034</td>
<td>20,000</td>
<td>29,000</td>
<td>39,000</td>
<td>44,600</td>
<td>44,600</td>
</tr>
<tr>
<td>TOTAL DEMANDS</td>
<td>140,804</td>
<td>146,190</td>
<td>150,160</td>
<td>160,450</td>
<td>165,660</td>
<td>165,760</td>
</tr>
</tbody>
</table>

Note: Total demand includes potable water and recycled water supplied by West Basin, but it does not reflect total service area demands, since some of these demands in the service area will be met with local supplies (i.e. groundwater) from retail agencies.
With the adoption of the Water Conservation Act of 2009, also known as SBX7-7, California is required to reduce urban per capita water use by 20% by the year 2020. This chapter summarizes the SBx7-7 water use reduction targets and 2020 compliance for West Basin’s retail agencies.

The Water Conservation Bill of 2009 (SBx7-7) requires individual retail water suppliers to set water conservation targets for 2020 to support an overall state goal of reducing urban potable per capita water use by 20% by 2020.

Individual supplier conservation targets must be determined using one of four methods with a baseline consumption that is calculated using the specific guidelines described in Department of Water Resources’ (DWR) Urban Water Management Plans (UMWP) Guidebook for Urban Water Suppliers (DWR Guidebook).

As a regional water supply wholesale agency, West Basin is not required to report baseline or target demands in keeping with the Water Conservation Act of 2009. However, West Basin’s investments in water conservation have helped its retail agencies achieve their individual SBx7-7 water use reduction targets through measures discussed in Chapter 9 (Demand Management Measures). West Basin has elected to use its 2020 UWMP to report on the successful efforts of West Basin and its retail agencies to achieve their respective 2020 per capita targets.

The information presented in this chapter compiles the individual retail agency per capita water demand data reported in each individual UWMP to provide an understanding of per capita water use across the West Basin service area.
5.1 SBX7-7 Baselines and Target Summary

For the 2010 and 2015 UWMPs, a group of West Basin retail agencies elected to use West Basin’s 2010 and 2015 UWMP as the reporting mechanism for a Regional Alliance to meet the per capita baseline and target reporting requirements of the Water Conservation Bill of 2009. Not all of West Basin’s retail agencies elected to participate in the Regional Alliance. Principally, the investor-owned companies (California American Water Company, California Water Service, and Golden State Water Company) decided not to participate because much of their jurisdictions are outside of West Basin’s service area and they prefer to report as individual companies for SBx7-7 compliance. The Regional Alliance agencies worked with West Basin to establish water use and conservation targets for 2015 and 2020 as an alliance that followed the DWR Guidebook. They also collaborated on implementing the recycled water and conservation programs and projects that were needed to meet these targets and to support California’s conservation as a way of life initiative.

For 2020 UWMPs, each retail agency has chosen to individually report compliance with the Water Conservation Bill of 2009 in each of their own 2020 UWMPs. To provide the per capita water use perspective for the entire West Basin service area, Table 5-1 presents the final per capita targets and actual per capita use for each retail agency as well as weighted values for the West Basin service area. To help meet each individual 2020 use target, West Basin collaborated with its retail agencies to implement their Water Use Efficiency Master Plan. Chapter 9 presents the water use efficiency measures that contributed to the success of meeting the SBx7-7 targets.

Table 5-1. West Basin Retail Agencies 2020 Population, Per-Capita Use and Per-Capita Targets

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
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<td>California American Water Company</td>
<td>149</td>
<td>187</td>
<td></td>
<td></td>
</tr>
<tr>
<td>California Water Service - Dominguez System</td>
<td>196</td>
<td>173</td>
<td></td>
<td></td>
</tr>
<tr>
<td>California Water Service - Hermosa/Redondo System</td>
<td>100</td>
<td>128</td>
<td></td>
<td></td>
</tr>
<tr>
<td>California Water Service - Palos Verdes System</td>
<td>213</td>
<td>223</td>
<td></td>
<td></td>
</tr>
<tr>
<td>City of El Segundo</td>
<td>391</td>
<td>411</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Golden State Water Company - Culver City System</td>
<td>122</td>
<td>142</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Golden State Water Company - Southwest System</td>
<td>89</td>
<td>121</td>
<td></td>
<td></td>
</tr>
<tr>
<td>City of Hawthorne (Cal Water)</td>
<td>82</td>
<td>94</td>
<td></td>
<td></td>
</tr>
<tr>
<td>City of Inglewood</td>
<td>90</td>
<td>112</td>
<td></td>
<td></td>
</tr>
<tr>
<td>City of Lomita</td>
<td>89</td>
<td>115</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Los Angeles County Waterworks District #29</td>
<td>288</td>
<td>237</td>
<td></td>
<td></td>
</tr>
<tr>
<td>City of Manhattan Beach</td>
<td>115</td>
<td>144</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**TOTAL**

**AVERAGE WEIGHTED BY POPULATION**

Note: Values are from each agency’s 2015 UWMP and the table will be updated pending receipt of each agency’s Draft 2020 UWMP.
This chapter provides an overview of the current and future water supplies needed to meet the expected demands and enhance reliability within the West Basin service area.

It is West Basin’s mission to provide a safe and reliable supply of high-quality water for the communities it serves. West Basin continues to further diversify its water supply portfolio in response to the continued challenges of imported water being impacted by climate change and the more frequent droughts associated with it. Increasing regulatory restrictions on State Water Project (SWP) exports through the Sacramento-San Joaquin Delta are also contributing to current challenges. West Basin’s diversification strategy consists of expanded recycled water production and distribution, increased conservation savings, and exploration of ocean water desalination supply development.

This section provides an overview of the current and future water supplies needed to meet the expected demands and enhance reliability within the West Basin service area. Although West Basin does not provide all the supplies needed to meet these demands, this 2020 Urban Water Management Plan provides a complete picture of the historical and projected supplies to be used by its retail agencies to meet the overall demand within West Basin’s service area.
### 6.1 Water Supply Overview

Since its formation in 1947, West Basin has fulfilled its responsibility of providing service area communities with supplemental water supplies to meet regional demands. Prior to West Basin, the typical retail water supplier operating within the area relied completely on groundwater.

West Basin’s primary supply source has been imported water from Metropolitan. Imported water was initially delivered exclusively from the Colorado River until the 1970s, when the SWP began operating and West Basin received a combination of Colorado River water and SWP water. In the 1990s, West Basin began increasing its development of local supplies in response to the declining reliability of imported water. A combination of regulatory constraints on supplies from the Bay-Delta, the increasing frequency of cyclical droughts, and uncertainties surrounding climate change have justified the continued need to develop local supplies and aggressively pursue reducing water demand through conservation. West Basin has been able to support the diversification of supplies available to its retail agencies primarily through the development of recycled water supplies and conservation. Imported and recycled water supplies are served directly to West Basin’s retail agencies and indirectly as replenishment supplies necessary to maintain groundwater production.

West Basin retail water supplies and groundwater use within West Basin’s service area over the past 20-plus years are shown in **Figure 6-1**, while **Figure 6-2** presents the volume of replenishment supplies provided by West Basin over the same time period. As shown in the figures, conservation and recycled water have enabled West Basin to improve the reliability of its supplies to its retail agencies by reducing imported water demand while supporting population and economic growth in the region.

**Figure 6-1. Historic West Basin Service Area Retail Demand by Water Type**

![Figure 6-1: Historic West Basin Service Area Retail Demand by Water Type](image-url)
Figure 6-2. Historic West Basin Replenishment Supplies

- **Recycled Water - West Coast Barrier**
- **Imported Water - West Coast Barrier**
- **Imported Water - Dominguez Gap Barrier**
6.2 Imported Water

West Basin’s imported water comes from the SWP and Colorado River via Metropolitan pipelines and aqueducts. Metropolitan’s primary purpose is to provide a supplemental supply of water for domestic and municipal uses at wholesale rates to its member agencies. Metropolitan’s planning strategy continues to balance available local and imported water resources and member agencies’ demands within Metropolitan’s service area.

This section describes Metropolitan’s Colorado River and SWP supplies based on the Draft Metropolitan 2020 Urban Water Management Plan (Metropolitan Water District of Southern California, March 2021).
6.2.1 Colorado River Supplies

The Colorado River was Metropolitan’s original source of water following its establishment in 1928. Metropolitan has a legal entitlement to receive water from the Colorado River under a permanent service contract with the United States Secretary of the Interior. The Colorado River Aqueduct, which has a capacity of 1.25 million acre-feet per year, is owned and operated by Metropolitan. It transports water from Lake Havasu, at the border of California and Arizona, approximately 242 miles west to its terminus at Lake Mathews in Riverside County and Metropolitan’s service area. The Colorado River Aqueduct and its California water users are shown in Figure 6-3.

Over the years, Metropolitan has increased supply reliability of the Colorado River through programs that it helped fund and implement, including:

- Farm and irrigation district conservation programs
- Improved reservoir system operations
- Land management programs
- Water transfers and exchanges through arrangements with:
  - Agricultural water districts in southern California
  - Entities in Arizona and Nevada that use Colorado River water
  - US Department of the Interior, Bureau of Reclamation (USBR)

Figure 6-3. Colorado River Aqueduct (Metropolitan Water District of Southern California, March 2021)
6.2.2 State Water Project Supplies

Metropolitan imports water from the SWP, owned by the State of California and operated by the California Department of Water Resources (DWR). This project transports Feather River water stored in and released from Oroville Dam and conveyed through the Bay-Delta, as well as unregulated flows diverted directly from the Bay-Delta, south via the California Aqueduct to four delivery points — one from the California Aqueduct’s West Branch at Castaic Lake and three from the East Branch along the northeastern portion of Metropolitan’s service area between Devil’s Canyon Power Plant and Lake Perris. The southern portion of the SWP is shown in Figure 6-4.

Figure 6-4. Southern Portion of the SWP (State Water Project, 2021)

In 1960, Metropolitan signed a water supply contract with DWR for participation in the SWP. Metropolitan is one of 29 agencies that have long-term contracts with DWR and are participants in the SWP. It is the largest SWP agency in terms of the number of people it serves (19.2 million), the share of SWP water that it is allocated (approximately 46%), and the percentage of total annual payments made to DWR (approximately 53% in 2020).

6.2.3 Supply Capabilities

The Metropolitan 2020 Urban Water Management Plan (UWMP) reports on Metropolitan’s water reliability and identifies projected supplies to meet the long-term demand within its service area. For the Metropolitan 2020 UWMP, supply capabilities were evaluated using the following assumptions for its imported supplies.

**Colorado River Supplies**

Colorado River supplies include Metropolitan’s basic Colorado River apportionment as well as supplies that result from existing and committed programs, including those from the Imperial Irrigation District System Conservation Program, the implementation of the Quantification Settlement Agreement, related agreements, and the exchange agreement with San Diego County Water Authority. Projections for Colorado River supplies for the 2020 UWMP are based on the USBR Colorado River Simulation System modeling developed in August 2020, which is the latest available at the time of production of this plan. USBR modeling is used to estimate Metropolitan’s basic apportionment and the availability of Quantification Settlement Agreement and other related programs.
In response to declining reservoir levels, the Lower Basin Drought Contingency Plan was signed in 2019. This agreement incentivizes storage in Lake Mead and requires that certain volumes of water be stored in Lake Mead under certain Lake Mead elevation levels through 2026. Once Lake Mead’s water level falls below an elevation of 1,045 feet, Metropolitan has agreed to store a specified volume of water in Lake Mead to create an intentional surplus for drought conditions as part of the Drought Contingency Plan. The goal of this agreement is to keep Lake Mead above critical elevations, and overall, it increases Metropolitan’s flexibility to store water in Lake Mead in greater volumes and to accept delivery of stored water to fill the Colorado River Aqueduct as needed.

State Water Project Supplies

State Water Project (SWP) supplies are estimated using the 2019 Delivery Capability Report (Department of Water Resources, August 2020). The 2019 SWP Delivery Capability Report presents DWR estimates of the amount of SWP deliveries for current (2020) conditions and SWP deliveries for 20 years in the future considering only currently operating and existing SWP facilities. Any changes in supply reliability that would result from new facilities proposed under the Delta Conveyance Project and Sites Reservoir are not included. These estimates incorporate restrictions on SWP and Central Valley Project operations in accordance with water quality objectives established by the State Water Resources Control Board, the biological opinions of the US Fish and Wildlife Service and National Marine Fisheries Service issued on October 21, 2019, and the Incidental Take Permit issued by the California Department of Fish and Wildlife on March 31, 2020. In addition, these estimates incorporate amendments to the Coordinated Operations Agreement between the SWP and Central Valley Project made in 2018. Under the 2019 SWP Delivery Capability Report - Existing Condition Scenario, the delivery estimates for the SWP for 2020 conditions as a percentage of Table A amounts are 58% under a long-term average condition.

In dry, below-normal conditions, Metropolitan has increased the supplies received from the California Aqueduct by developing flexible Central Valley/SWP storage and transfer programs. Over the years, under the pumping restrictions of the SWP, Metropolitan has collaborated with the other contractors to develop numerous voluntary Central Valley/SWP storage and transfer programs. The goal of these storage/transfer programs is to develop additional dry-year supplies that can be conveyed through the California Aqueduct during dry hydrologic conditions and to meet regulatory restrictions.

Storage

A key component of Metropolitan’s water supply capability is the amount of water in Metropolitan’s storage facilities. Over the past two decades, Metropolitan has developed a large regional storage portfolio that includes both dry-year and emergency storage capacity. Storage is a key component of water management and enables the capture of surplus amounts of water in both normal and wet climate and hydrologic conditions when it is plentiful for supply and environmental uses. Stored water can then be used in dry years and in conditions where augmented water supplies are needed to meet demands.

In developing the supply capabilities for the 2020 UWMP, Metropolitan assumed the current (2020) storage levels at the start of simulation and used the median storage levels going into each of the five-year increments based on the balances of supplies and demands. Under the median storage condition, there is an estimated 50% probability that storage levels would be higher than the assumption used, and a 50% probability that storage levels would be lower than the assumption used. All storage capability figures shown in Metropolitan’s 2020 UWMP reflect actual storage program conveyance constraints. It is important to note that under some conditions, Metropolitan may choose to implement its Water Supply Allocation Plan to preserve storage reserves for a future year instead of using the full supply capability. This can result in impacts at the retail level even under conditions where there may be adequate supply capabilities to meet demands.
6.2.4 Imported Water Reliability

Metropolitan developed estimates of future demands and supplies from local sources and from Metropolitan sources based on 96 years (1922–2017) of historic hydrologic conditions. The 96-year period starting in 1922 was chosen because the CalSim II model used in the 2019 SWP Delivery Capability Report began in 1922. Supply and demand analyses for the single-dry-year and five-year drought scenarios were based on conditions affecting the SWP, as this supply availability fluctuates the most among Metropolitan’s sources of supply. Using the same 96-year period of the SWP supply availability, 1977 is the single driest year, and 1988 through 1992 are the five consecutive driest years for SWP supplies to Metropolitan (Metropolitan Water District of Southern California, March 2021). Metropolitan compared estimated demands for a normal water year, single dry year, and droughts lasting at least five years with projected supplies to meet these demands.

The analysis showed that the region can provide reliable water supplies under both situations of the single driest year and a drought period lasting five consecutive years (Metropolitan Water District of Southern California, March 2021).

It should be noted that Metropolitan’s analysis assumed higher demands from West Basin than West Basin is projecting (in Chapter 4), so Metropolitan’s findings provide a supply reliability safety factor for West Basin.
6.3 Groundwater

West Basin does not supply groundwater to its retail agencies; however, groundwater is an important local supply source for the region, and West Basin does supply a significant portion of the water used for groundwater replenishment that is required to maintain two seawater intrusion barriers and replenish the groundwater basins. Groundwater from the West Coast Groundwater Basin (West Coast Basin) and Central Groundwater Basin (Central Basin) have historically represented 20–25% of the supply used to meet overall demand within West Basin’s service area. Within the last five years, however, groundwater production within West Basin’s service area has slowly declined and groundwater represented only 15–20% of total retail demand. Based on conversations with retail agencies, the decline in groundwater production was largely due to water quality concerns or inoperable groundwater infrastructure due to equipment failures and maintenance. Many retail agencies have ongoing or planned projects to increase their groundwater use, and the collective groundwater production is expected to return to historical levels.

A portion of West Basin’s water supply portfolio is desalinated brackish groundwater from the C. Marvin Brewer Desalter Facility (Desalter) and is discussed in Section 6.5.

6.3.1 Basin Description and Water Rights

West Basin’s service area overlies the adjudicated West Coast Basin and is the source of most of the pumping within West Basin’s service area. Both California American Water Company and California Water Service pump some groundwater from the Central Basin, which is adjacent to the West Coast Basin. The West Coast Basin covers approximately 160 square miles in the Southwest part of Los Angeles and is bounded on the north by the Baldwin Hills and the Ballona Escarpment, on the east by the Newport-Inglewood Uplift, on the south by San Pedro Bay and the Palos Verdes Hills, and on the west by Santa Monica Bay. Aquifers in the West Coast Basin are generally confined and receive the majority of their natural recharge from adjacent groundwater basins or from the Pacific Ocean (seawater intrusion). Figure 6-5 displays the location of the West Coast Basin and West Basin’s service area.

In the early 1940s, extensive over pumping of the West Coast Basin led to critically low groundwater levels, resulting in seawater intrusion along the coast and serious overdraft. Annual pumping prior to the adjudication of groundwater rights in the early 1960s reached levels as high as 94,100 acre-feet (AF). In 1961, the West Coast Basin was adjudicated. The adjudication limits the allowable annual extraction of groundwater per water rights holder within the West Coast Basin in order to prevent seawater intrusion and unhealthy groundwater levels. As part of the adjudication, the court appointed DWR to serve as Watermaster to account for all water rights and groundwater extraction amounts per year (West Coast Groundwater Basin, 2021). The adjudication for the West Coast Basin was set at 64,468.25 acre-feet per year (AFY). This amount was set higher than the natural replenishment amounts, creating an annual deficit known as the “Annual Overdraft.” To combat this Annual Overdraft, the Water Replenishment District (WRD) purchases and recharges additional water to make up for the overdraft.

In December 2014, the Superior Court granted a motion by WRD and other parties to amend the West Coast Basin Judgment to establish a legal framework for the storage and extraction of stored water in the West Coast Basin. The Judgment Amendment permits the storage of up to 120,000 AF, which is the available, safe storage capacity of that basin. The legal framework permits a groundwater pumper with adjudicated rights to store water and subsequently extract that stored water without the extraction counting against its water rights and without having to pay the replenishment assessment. The Judgment Amendment makes possible the storage of “surplus” imported water in the rare instances when it is available for use in the more frequent instances when it is not, further enhancing the region’s water supply reliability. Pursuant to the Judgment Amendment, WRD assumed administrative
Watermaster duties from DWR on July 1, 2015. Copies of the original court order Adjudication Judgement and 2014 Amended Judgment are provided in Appendix G.

Two of West Basin’s retail agencies, California American Water Company and California Water Service, also overlie the Central Basin and import Central Basin groundwater from outside the West Basin service area to meet their demand. Together, these agencies have rights to pump up to 8,655 AFY of groundwater in the Central Basin.

Table 6-1 lists the groundwater pumping rights within West Basin’s service area by pumper, which includes 42,195 AFY from the West Coast Basin and 8,655 AFY from the Central Basin.

Figure 6-5. West Coast Groundwater Basin
Table 6-1. Groundwater Pumping Rights within West Basin Service Area, AFY

<table>
<thead>
<tr>
<th>PUMPER</th>
<th>BASIN</th>
<th>ADJUDICATED RIGHTS</th>
</tr>
</thead>
<tbody>
<tr>
<td>California American Water Co.</td>
<td>Central Basin</td>
<td>2,175</td>
</tr>
<tr>
<td>California Water Service – Dominguez</td>
<td>Central Basin</td>
<td>6,480</td>
</tr>
<tr>
<td>California Water Service – Dominguez</td>
<td>West Coast Basin</td>
<td>10,417</td>
</tr>
<tr>
<td>California Water Service Co. – Hawthorne</td>
<td>West Coast Basin</td>
<td>1,882</td>
</tr>
<tr>
<td>California Water Service Co. – Hermosa/Redondo</td>
<td>West Coast Basin</td>
<td>4,070</td>
</tr>
<tr>
<td>Golden State Water Co.</td>
<td>West Coast Basin</td>
<td>7,502</td>
</tr>
<tr>
<td>City of El Segundo</td>
<td>West Coast Basin</td>
<td>953</td>
</tr>
<tr>
<td>City of Inglewood</td>
<td>West Coast Basin</td>
<td>4,450</td>
</tr>
<tr>
<td>City of Lomita</td>
<td>West Coast Basin</td>
<td>1,352</td>
</tr>
<tr>
<td>City of Manhattan Beach</td>
<td>West Coast Basin</td>
<td>1,131</td>
</tr>
<tr>
<td><strong>WEST BASIN RETAIL AGENCIES SUBTOTAL</strong></td>
<td></td>
<td><strong>40,415</strong></td>
</tr>
<tr>
<td>Non-Retail Water Pumpers, within West Basin Service Area</td>
<td>West Coast Basin</td>
<td>10,435</td>
</tr>
<tr>
<td><strong>WEST BASIN SERVICE AREA SUBTOTAL</strong></td>
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<td><strong>50,850</strong></td>
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</table>


WRD was formed in 1959 for the purposes of protecting the groundwater resources of the West Coast Basin and Central Basin. To maintain a balanced groundwater basin while limiting seawater intrusion, WRD purchases imported water and recycled water supplies for replenishment of seawater barriers, which are a series of coastal injection wells that form a barrier to ensure the groundwater level near the ocean stays high enough to keep seawater from seeping into a basin. These purchases of imported water and recycled water from West Basin are for injection at the West Coast and Dominguez Gap Seawater Intrusion barriers, shown on Figure 6-5. The West Coast Barrier has 153 injection wells, and the Dominguez Gap Barrier has 41 injection wells.

6.3.2 Historic and Current Groundwater Supply

The volume of groundwater pumped and used within West Basin’s service area by groundwater pumpers in each alluvial for the last five years is shown in Table 6-2. The total historic pumping since 1990 within West Basin’s service area and by its retail agencies compared to the pumping rights is shown in Figure 6-6. As evidenced in Figure 6-6, groundwater production has declined in the last five years and is currently less than half the volume of the pumping rights in the service area. This is due to strong water conservation efforts as a result of drought, short-term water quality problems with some retail agencies’ groundwater production systems, and a temporary tightening of the lease market that has reduced available rights. The reduction in pumping caused a rebound in groundwater levels in the West Coast Basin despite the lack of rainfall. However, many retail agencies plan to increase their groundwater production in the near term as they complete projects to construct treatment systems, rehabilitate production infrastructure, or use more stored groundwater as groundwater recharge is increased.
Table 6-2. Groundwater Volume Pumped (AFY) and Used in West Basin’s Service Area (DWR Table 6-1)

<table>
<thead>
<tr>
<th>GROUNDWATER TYPE</th>
<th>LOCATION OR BASIN NAME</th>
<th>2016</th>
<th>2017</th>
<th>2018</th>
<th>2019</th>
<th>2020</th>
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</thead>
<tbody>
<tr>
<td>Alluvial Basin</td>
<td>West Coast Basin</td>
<td>20,872</td>
<td>20,714</td>
<td>24,251</td>
<td>16,872</td>
<td>18,124</td>
</tr>
<tr>
<td>Alluvial Basin</td>
<td>Central Coast Basin</td>
<td>3,200</td>
<td>3,603</td>
<td>3,223</td>
<td>2,857</td>
<td>2,432</td>
</tr>
<tr>
<td><strong>TOTAL:</strong></td>
<td></td>
<td><strong>24,072</strong></td>
<td><strong>24,317</strong></td>
<td><strong>27,474</strong></td>
<td><strong>19,729</strong></td>
<td><strong>20,556</strong></td>
</tr>
</tbody>
</table>

Figure 6-6. Historic Groundwater Pumping in West Basin’s Service Area

6.3.3 Projected Groundwater Supply

As shown in Table 6-3, West Basin assumes that long-term groundwater supply will increase to about 30,000 acre-feet per year, which was the average production from FY11 to FY20, by 2030 and continue at this level through 2045. Table 6-3 lists the projected groundwater production within West Basin’s service area.

Table 6-3. Projected Groundwater Production (AFY) in West Basin’s Service Area

<table>
<thead>
<tr>
<th>BASIN</th>
<th>2025</th>
<th>2030</th>
<th>2035</th>
<th>2040</th>
<th>2045</th>
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<tr>
<td>West Coast Basin</td>
<td>23,114</td>
<td>26,056</td>
<td>26,056</td>
<td>26,056</td>
<td>26,056</td>
</tr>
<tr>
<td>Central Basin</td>
<td>3,554</td>
<td>4,044</td>
<td>4,044</td>
<td>4,044</td>
<td>4,044</td>
</tr>
<tr>
<td><strong>TOTAL:</strong></td>
<td><strong>26,667</strong></td>
<td><strong>30,100</strong></td>
<td><strong>30,100</strong></td>
<td><strong>30,100</strong></td>
<td><strong>30,100</strong></td>
</tr>
</tbody>
</table>
6.4 Wastewater and Recycled Water

West Basin’s recycled water supply source is treated wastewater effluent from the City of Los Angeles’ Hyperion Water Reclamation Plant (Hyperion). The City of Los Angeles has operated Hyperion, located adjacent to West Basin’s service area, since 1894. Hyperion was initially built as a raw sewage discharge plant that has been upgraded over the years from partial secondary treatment in 1950 to full secondary treatment in the 1990s, improving treated wastewater discharge quality into the Santa Monica Bay. Hyperion has a maximum daily flow capacity of 450 million gallons per day (MGD) and a peak wet weather flow capacity of 800 MGD.

Over the past five years, West Basin has received an average of approximately 39,600 acre-feet per year of secondary-treated influent from Hyperion for further treatment at West Basin’s Edward C. Little Water Recycling Facility (ECLWRF). All other flows through Hyperion are treated and discharged into the Pacific Ocean; however, the City of Los Angeles Sanitation and Environment department has partnered with the Los Angeles Department of Water and Power in a shared vision to recycle 100% of flows through Hyperion by 2035.

West Basin opened ECLWRF, which is still the only recycled water plant of its kind in the nation, in 1995. This facility has a current annual capacity of 62,700 acre-feet, with its fifth expansion completed in 2014. Although the City of Los Angeles strives to provide West Basin with a consistent quality of secondary effluent, the ECLWRF must accommodate inevitable fluctuations in influent quality.

In 2002, West Basin’s ECLWRF was recognized by the National Water Research Institute as one of six National Centers for Water Treatment Technologies in the country. All of West Basin’s recycled water is treated to meet California Code of Regulations Title 22 (Title 22) disinfected tertiary recycled water standards, and a portion is treated to even higher quality levels for specific uses. Title 22 addresses specific treatment requirements for recycled water and lists approved uses. West Basin’s recycled water program is unique in that it provides a variety of recycled water qualities beyond basic tertiary Title 22 levels.

These five types of recycled product water are developed to meet specific customer needs as follows:

- **Disinfected Tertiary Water**: Secondary-treated wastewater meeting Title 22 regulations is produced for non-potable irrigation through a conventional treatment process of coagulation, flocculation, clarification, filtration, and disinfection. This water type is used mainly for landscape irrigation.

- **Advanced Treated Recycled Water**: This secondary-treated wastewater is pretreated by ozone and microfiltration followed by reverse osmosis (RO), ultraviolet light, and peroxide treatment, stabilization, and disinfection for groundwater recharge and seawater barrier replenishment.

- **Nitrified Water**: Disinfected tertiary water that is nitrified to remove ammonia is produced for use in refinery cooling towers.

- **Single-Pass Reverse Osmosis Water**: This is secondary-treated wastewater and tertiary disinfected recycled water that has undergone microfiltration and RO for low-pressure boiler feed water.

- **Double-Pass Reverse Osmosis Water**: This is secondary-treated wastewater and tertiary disinfected recycled water that has undergone microfiltration and two passes through RO for high-pressure boiler feed water.

In addition to providing recycled water for landscape, commercial, and industrial uses, West Basin produces advanced treated recycled water that WRD purchases for injection into the West Coast Basin Seawater Barrier, as discussed in Section 6-3. The groundwater replenishment water has the dual benefit of preventing seawater intrusion into the aquifers of the West Coast Basin and replenishing the water that is extracted by drinking water wells.
6.4.1 Recycled Water System

All recycled water is initially produced at ECLWRF as Title 22 water or advanced treated recycled water and is distributed to either end users or one of the three satellite facilities operated by West Basin. The satellite facilities treat the Title 22 water produced at the ECLWRF to customer-specific water needs (nitrified, single-pass reverse osmosis [RO], double-pass RO) to supply the different types of recycled product water to large customers that are often a longer distance from the ECLWRF. Figure 6-8 shows the existing recycled water pipelines and locations of the ECLWRF (in El Segundo) as well as the satellite treatment facilities: the Torrance Refinery Water Recycling Plant (in Torrance), the Chevron Nitrification Treatment Plant (in El Segundo), and the Juanita Millender-McDonald Carson Regional Water Recycling Plant (in Carson).

As shown, West Basin’s recycled water system serves the cities of Carson, El Segundo, Gardena, Hawthorne, Hermosa Beach, Inglewood, Lawndale, Manhattan Beach, Redondo Beach, and unincorporated areas of Los Angeles County within its service area. In addition, West Basin delivers recycled water outside of its service area to the cities of Torrance and Los Angeles. The recycled water distribution infrastructure includes over 100 miles of pipelines and is separate from the potable drinking water system. All pipes, pumps, and other equipment used to transport recycled water are clearly identified as recycled water to distinguish them from the potable drinking water system.
Figure 6-8. Recycled Water Distribution System (Recycled Water Facilities Service Area Map, 2018)
6.4.2 Potential, Current, and Projected Recycled Water Uses

West Basin provides recycled water for a wide variety of uses, including:

- Groundwater Replenishment (Seawater Barrier)
- Industrial: Multi-Use and Nitrified, largely for refineries
- Irrigation: Cal-Trans, cemetery, colleges, golf courses, landscape, medians, multi-use, parks, and schools
- Construction
- Street Sweeping

According to West Basin’s 2015 Urban Water Management Plan (UWMP), deliveries of recycled water within the service area were projected to reach 45,285 acre-feet (AF) by 2020. As shown in Table 6-4, actual sales in FY20 (34,903 AF) were lower than projected in West Basin’s 2015 UWMP by approximately 10,400 AF. The difference is largely due to lower groundwater replenishment delivery and slower expansion of the recycled water distribution system than envisioned in the 2009 Recycled Water Capital Implementation Master Plan. Several of these projects have initiated design, implementation, and construction, and have been incorporated into the latest recycled water projections in the 2021 Recycled Water Master Plan (RWMP) (HDR, 2021).

Table 6-4. 2015 Recycled Water Use Projection Compared to 2020 Actual (DWR Table 6-5W)

<table>
<thead>
<tr>
<th>NAME OF RECEIVING SUPPLIER OR DIRECT USE BY WHOLESALER</th>
<th>2015 PROJECTION FOR 2020</th>
<th>2020 ACTUAL USE</th>
</tr>
</thead>
<tbody>
<tr>
<td>WBMWD Retail Agencies (Multiple)</td>
<td>21,894</td>
<td>14,961</td>
</tr>
<tr>
<td>WRD (Replenishment Use)</td>
<td>17,000</td>
<td>13,084</td>
</tr>
<tr>
<td>City of Torrance</td>
<td>5,421</td>
<td>5,424</td>
</tr>
<tr>
<td>City of Los Angeles</td>
<td>970</td>
<td>1,433</td>
</tr>
<tr>
<td>TOTAL:</td>
<td><strong>45,285</strong></td>
<td><strong>34,903</strong></td>
</tr>
</tbody>
</table>

As part of the 2021 RWMP, a market assessment was conducted to identify potential future customers. New potential customers within a quarter mile and half mile of the existing system were identified as Tier 1 and 2 customers, respectively, that could be served with short lateral pipelines.

New potential customers that could be grouped and served through longer extensions of the existing system were also identified. The 2021 RWMP identified over 70,000 acre-feet per year (AFY) in new potential recycled water demands that could be served by West Basin.

The 2021 RWMP presents three distinct scenarios, each with a phased approach to maximize West Basin’s recycled water deliveries, and provides a roadmap to increase West Basin’s recycled water deliveries up to 65-70 million gallons per day by 2040.
The three 2021 RWMP scenarios are summarized below.

- **Scenario A**: Title 22 and groundwater augmentation focus. This scenario projects that retail recycled water within West Basin’s service area will double to 30,300 AFY by 2025 and 31,700 AFY by 2030. Additionally, recycled water use for the West Coast Basin Barrier and increased groundwater augmentation will be phased in to increase to an ultimate volume of 44,600 AFY in 2040.

- **Scenario B**: Title 22 and refinery focus. This scenario projects retail recycled water will triple within West Basin’s service area to 41,900 AFY by 2030 and continue increasing to 45,700 AFY by 2040. Recycled water use for the West Coast Seawater Barrier is assumed to increase to 19,000 AFY by 2025 and an ultimate 24,600 AFY by 2035.

- **Scenario C**: LA Harbor/Long Beach Focus. Much of the projected recycled water supply in this scenario would be delivered outside of West Basin’s service area to the LA Harbor and Long Beach. For retail recycled water use within West Basin’s service area, this scenario is similar to Scenario A through 2030, and then increases retail recycled water deliveries to 40,400 AFY by 2040. Recycled water use for the West Coast Basin Barrier is similar to Scenario B with an increased supply to 19,000 AFY by 2025 and 24,600 AFY by 2040.

The 2021 RWMP does not select a preferred scenario since the implementation plan is dependent on factors outside of West Basin’s control; however, for this UWMP, the projected recycled water supply in West Basin’s service, shown in Table 6-5, is based on Scenario A.

### Table 6-5. Current and Projected Recycled Water Use within West Basin’s Service Area (DWR 6-4W)

<table>
<thead>
<tr>
<th>NAME OF RECEIVING SUPPLIER OR DIRECT USE BY WHOLESALER</th>
<th>CURRENT AND PROJECTED RECYCLED WATER, AFY</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>CURRENT AND PROJECTED RECYCLED WATER, AFY</td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td>NAME OF RECEIVING SUPPLIER OR DIRECT USE BY WHOLESALER</td>
<td>2020</td>
</tr>
<tr>
<td>Retail</td>
<td>14,961</td>
</tr>
<tr>
<td>Water Replenishment District of Southern California</td>
<td>13,084</td>
</tr>
<tr>
<td>TOTAL:</td>
<td>28,045</td>
</tr>
</tbody>
</table>

Note: Does not include retail recycled water use projections for outside of West Basin’s service area.

### 6.4.3 Actions to Exchange and Optimize Future Recycled Water Use

West Basin generates interest in recycled water by contacting potential customers and cities with sites meeting the following conditions:

- Located near an existing recycled water main pipeline
- High water use potential
- Mandated to use recycled water and/or has expressed interest in using recycled water

For commercial and industrial customers, West Basin emphasizes that recycled water is an important tool for businesses beyond the benefits of water conservation. West Basin markets recycled water as a resource that is:

- Less expensive than potable water treated to similar quality standards
- More reliable than imported water
- Consistent with statewide goals for water supply and ecosystem improvement in the State Water Project and Colorado River systems
Other financial incentives are used to encourage recycled water use aside from West Basin providing recycled water at lower cost than potable water.

Some potential recycled water customers do not have the financial capability to pay for onsite plumbing retrofits necessary to receive recycled water. In some of these situations, West Basin advances funds for retrofitting that can later be reimbursed through water billing.

6.4.4 Potable Reuse

West Basin is currently implementing indirect potable reuse (IPR) of recycled water through its deliveries to the Water Replenishment District for the West Coast Basin Barrier. IPR is the process whereby advanced treated recycled water is introduced into an environmental buffer, such as a groundwater basin or surface water body, before additional treatment for potable use. West Basin plans to increase IPR in the future through projects that will use advanced treated recycled water to replenish the groundwater basin. This water will be available to retail agencies for extraction using their existing groundwater production facilities.

Some of the potential opportunities for West Basin to expand IPR deliveries in the future include:

- Expanding recharge to the West Coast Barrier
- Expanding recharge to the Dominguez Gap Barrier
- New recharge locations in the West Coast Basin
- Recharge in the Santa Monica Basin

Direct potable reuse (DPR) is the reuse of purified recycled water in a water supply system without a sufficient environmental buffer to meet IPR regulations. DPR is not currently practiced or permitted in California. In 2017, the State Water Board’s Department of Drinking Water (DDW) was tasked with developing uniform water recycling criteria for DPR that is protective of public health on or before December 31, 2023. DDW released a Proposed Framework for Regulating DPR in California in 2018 as well as a second edition in 2019 and an addendum in March 2021.

The most common type of DPR that is being investigated by agencies such as Metropolitan and the Los Angeles Department of Water and Power is raw water augmentation where the purified recycled water is blended with untreated surface water and treated at a surface water treatment plant. West Basin has limited DPR options because it does not own or operate a surface water treatment plant. In addition, current recycled water use projections have identified beneficial use for West Basin’s contracted supply from the City of Los Angeles. However, West Basin’s history of purifying recycled water provides an opportunity for partnerships with other agencies pursuing DPR.
6.5 Desalinated Groundwater

West Basin owns the C. Marvin Brewer Desalter Facility, which began operating in July 1993. The Desalter was built on a site owned by California Water Service (Cal Water) in Torrance (shown in Figure 6-8), where it removes chloride from groundwater impacted by seawater intrusion in the West Coast Basin. The Desalter was initially intended to be a five-year pilot program to determine if brackish water could be economically treated to drinking water standards.

The Desalter originally used two wells to pump brackish water from a saline plume remaining within the West Coast Basin and treats the water using cartridge filters and reverse osmosis. The treated water from the Desalter is blended with potable water, stored on the Cal Water site in a 5 million gallon storage reservoir, and then delivered to the distribution system. Under the terms of an agreement with Cal Water, West Basin reimburses Cal Water to operate and maintain the Desalter. In 2005, the original two wells were replaced with one more productive well that has the capability to pump 1,600 to 2,400 acre-feet per year.

In recent years, production from the Desalter has declined. The volume of water produced at the Desalter from 2016 to 2020 is shown in Table 6-6. West Basin is currently planning to divest the Desalter from its supply portfolio in the near term; therefore, West Basin’s projected supply from the Desalter by 2025 is zero. It is possible that the agency that purchases the Desalter facility will continue operation of it and may sell some of the water within West Basin’s service area, which would offset West Basin’s imported water demand.

Table 6-6. Source Water Desalination (DWR Table 6-8DS)

The supplier will complete the table below.

<table>
<thead>
<tr>
<th>PLANT NAME OR WELL ID</th>
<th>PLANT CAPACITY</th>
<th>INTAKE TYPE</th>
<th>SOURCE WATER TYPE</th>
<th>INFLUENT TDS</th>
<th>BRINE DISCHARGE</th>
<th>VOLUME OF WATER DESALINATED IN AFY</th>
</tr>
</thead>
<tbody>
<tr>
<td>C. Marvin Brewer Desalter</td>
<td>1120 Vertical Well</td>
<td>Groundwater</td>
<td>3,300</td>
<td>Sewer</td>
<td>779 284 50 238 124</td>
<td></td>
</tr>
<tr>
<td>TOTAL:</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>779 284 50 238 124</td>
<td></td>
</tr>
</tbody>
</table>
6.6 Water Exchanges and Transfers

Water transfers and exchanges are management tools to address increased water needs in areas of limited supply. Although transfers and exchanges of water do not generate new supply, these management tools distribute water from where it is abundant to where it is limited.

Metropolitan has played an active role statewide in securing water transfers and exchanges as part of its planning goals. Because West Basin is a member agency of Metropolitan, West Basin doesn’t currently have the need or opportunity to directly pursue any water transfers. It is important to note that in the most recent historic drought, runoff in northern California watersheds in 2014 and 2015 were so low that virtually no transfer water was available, and Metropolitan was not able to use transfers from those sources to supplement available supplies. The lack of transfer water during very severe and prolonged droughts places greater dependence on stored water during shortages and illustrates the benefits of local supplies that reduce the demand on Metropolitan in dry years and times of shortage.

6.7 Stormwater

Stormwater is not currently used directly as a supply source, although precipitation helps replenish the unconfined aquifer of the Central Basin. In 2020, West Basin entered into a Stormwater Pilot Program between the City of Culver City and the Metropolitan Water District to include flow monitoring of excess stormwater runoff. Through this pilot study, the Culver Boulevard Stormwater Treatment Project is estimating to capture and treat stormwater from approximately 297 urban acres to offset up to 20 acre-feet of imported potable water supply.

In 2018, voters in Los Angeles County passed the Measure W “Safe Clean Water Program,” designed to improve water quality, increase local water supply, and enhance communities. This program enables Los Angeles County to assess 2.5 cents per square foot of impermeable areas. Revenues from this program provide funding to implement watershed-based projects, local and regional projects, and public education. As part of the Greater Los Angeles Area Integrated Regional Water Management, West Basin participates on the South Santa Monica Bay Subregion Committee to review proposed local infrastructure projects for their eligibility to receive funding support in an effort to eliminate wasteful stormwater runoff by capturing supplies for treatment and water reuse.

Additionally, West Basin currently offers programs to support and incentivize onsite water capture and reuse through various rainwater and graywater programs available to water customers, including rain barrel distribution events. It is currently piloting a rain barrel home delivery program. West Basin also provides educational materials for outdoor water savings and rainwater harvesting. This is discussed in greater detail in Chapter 9.
6.8 Future Ocean Water Desalination Project

Since the early 1990s, West Basin has been at the forefront of the development of reliable local supplies that are independent of weather-induced shortages and offset a need for less reliable imported water from the oversubscribed Colorado River and the environmentally sensitive Sacramento-San Joaquin Bay Delta. This has taken the form of large-scale implementation of non-potable reuse and cutting-edge industrial uses of recycled water along with potable reuse through groundwater recharge and brackish groundwater recovery. The West Basin Board of Directors is committed to a water reliability strategy based on supply diversification to manage future risk and uncertainty. As a coastal water agency with viable sites for locating an ocean desalination facility, West Basin’s Board has felt compelled to investigate how full-scale production can be accomplished in a cost-effective and environmentally responsible manner. As part of West Basin’s continued effort to diversify its sources of supply and improve the reliability of its customer agencies, the identification and planning for ocean water desalination has been a logical and anticipated next step in the diversification program.

West Basin, as a Metropolitan member agency, has been a part of long-term regional efforts by Metropolitan to develop an integrated and effective resources strategy that will improve supply reliability locally as well as benefit the entire Metropolitan service area. The foundation of the integrated strategy can be found in the responsibility that southern California water agencies share in developing local supplies. The Integrated Resources Plan (IRP) is Metropolitan’s long-term water reliability plan that is updated about every five years. As in previous IRPs, the 2015 IRP calls for a mix of imported and member agency local supply development and water use efficiency enhancements to meet future regional demands. In other words, the ability of Southern California to meet long-term demands for water is predicated in part on member and local agencies developing locally sourced water supplies not subject to the hydrologic variations that affect imported supplies.

Maintaining and diversifying water supplies is also a primary objective of the California 2020 Water Resilience Portfolio, the state’s guiding water policy document. The Water Resilience Portfolio was developed through Executive Order N-10-19 directing state agencies to develop a set of actions to meet California’s water needs through the 21st century. Like Metropolitan’s IRP, the Water Resilience Portfolio notes that water diversification takes many forms, including better water use efficiency and eliminating water waste, recycled water, using captured rain and stormwater, and brackish and seawater desalination (California Water Resilience Portfolio, 2020).

6.8.1 Ocean Water Desalination Process

Desalination is the process of removing salinity from ocean water to provide a consumable water supply. Typical salt content in ocean water is over 35,000 milligrams per liter (mg/L), and California Standards recommend drinking water salt levels to be below 500 mg/L.

Today’s ocean water desalination process removes salt, minerals, and impurities with cutting-edge membrane technologies and uses the following general process as described on West Basin’s website and shown in Figure 6-9:

a. Intake System

Ocean water is brought to the desalination facility through an intake system. Several different types of intake systems exist, including open ocean intakes, screened intakes, and subsurface intakes; some facilities also draw spent ocean water from a cooling system from an existing nearby power plant. The intakes are designed for marine protection and must be designed to inhibit growth that would clog the intake pipes or facility.
b. Media Filtration
Filter the raw water to remove coarse material such as shells, sand, particles, and red tide material that can damage or prohibit the desalination process from occurring downstream. Filters can include sand filters, plastic disk filters, and cloth filters.

c. Ultrafiltration (UF) / Microfiltration (MF)
Filtered water is passed through a membrane that has thousands of hollow strands with pores on the walls that are 5,000 times smaller than a pinhole to remove microscopic material. UF/MF are low-pressure membrane processes that are designed to remove turbidity-causing particles such as suspended solids, bacteria, colloidal matter, and proteins. The water is still very salty after this process and is not ready for human consumption.

d. Reverse Osmosis
UF/MF water then passes through RO membranes for separation of freshwater molecules from salt and other dissolved compounds. RO is a pressure-driven process where water passes through the molecular structure of a thin membrane that removes salts, minerals, and impurities resulting in 99.8% removal of dissolved compounds in ocean water. As RO requires high pressures, large pumps are required to drive the process and result in high energy costs. Figure 6-8 shows a diagram of the typical desalination process.

e. Post Treatment
After the UF/MF and RO processes, the water has to be re-mineralized and polished for human consumption, as all minerals have been removed that are needed for water stabilization. The water is run through a calcite filter or lime saturator followed by chlorine dosing for disinfection to meet drinking water standards.

f. Brine Disposal
The RO reject water, referred to as brine, must be disposed of. Brine consists of dissolved salt molecules and the concentration is twice as much as when the water was drawn into the facility.

Figure 6-9. Desalination Process (The West Basin Ocean Water Desalination Project, 2021)
6.8.2 West Basin’s Previous Efforts and Current Project Status

West Basin began a stepwise program to explore the systematic development of an environmentally responsible ocean water desalination facility in 2001. Table 6-7 provides a timeline of many of West Basin’s efforts exploring ocean desalination, including a pilot study, demonstration facility, multiple technical studies, and, most recently, the certification of the Final Environmental Impact Report (EIR) for the Ocean Water Desalination Project (Desalination Project).

Table 6-7. Timeline of West Basin’s Efforts to Explore and Develop an Ocean Water Desalination Facility

<table>
<thead>
<tr>
<th>YEAR &amp; PROJECT</th>
<th>DESCRIPTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>2001</td>
<td>West Basin begins exploring an ocean water desalination facility.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>YEAR &amp; PROJECT</th>
<th>DESCRIPTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>2002- 2009 DESALINATION PILOT STUDY</td>
<td>West Basin initiated a multi-phase pilot study program to desalinate ocean water and evaluate the potential to provide desalinated water as a viable drinking water supply for the region. The pilot plant was located at the El Segundo Power Generating Station in the city of El Segundo and expanded to test many types of pre-treatment technology over the course of its lifetime through mid-2009. The pilot study demonstrated the viability of ocean water desalination for West Basin, advanced the understanding of key process components on local ocean water conditions, and resulted in data that was not previously available. (SPI, September 2010)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>YEAR &amp; PROJECT</th>
<th>DESCRIPTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>2010 – 2014 OCEAN WATER DESALINATION DEMONSTRATION FACILITY</td>
<td>Following the pilot program, West Basin set up the Ocean Water Desalination Demonstration Facility (Desal Demo Facility) to evaluate several critical components of the ocean water desalination process. The Desal Demo Facility, located at the SEA Lab Marine Educational Facility in Redondo Beach, withdrew 500,000 gallons of ocean water per day to perform various research and testing activities. One hundred thousand gallons per day of intake was treated to produce 50,000 gallons per day of water meeting drinking water standards. (Malcolm Pirnie, Arcadis, January 2013) The results from the Desal Demo Facility provided a foundation for development of a full-scale design, permitting, and operations approach.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>YEAR &amp; PROJECT</th>
<th>DESCRIPTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>2013 OCEAN WATER DESALINATION PROGRAM MASTER PLAN</td>
<td>West Basin completed the Ocean Water Desalination Program Master Plan in 2013 to define the overall desalination program scope and key project components (intake, pretreatment, reverse osmosis desalination system, post-treatment and product delivery) in the form of a technical study that can be used for the California Environmental Quality Act (CEQA) / EIR process and to support the basis of design of the full-scale facility (Malcolm Pirnie, Arcadis, January 2013). The Program Master Plan included: Conceptual System Design and Program Requirements Power Supply Development Project Entitlements and Acquisition Environmental Review Plan Project Permitting Plan Facility Operations and Maintenance Plan Project Costs and Funding Plan</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>YEAR &amp; PROJECT</th>
<th>DESCRIPTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>2014 WATER QUALITY INTEGRATION STUDY</td>
<td>In 2014 West Basin partnered with Metropolitan to evaluate corrosion-related impacts of a new, desalinated ocean water source being introduced into a distribution system that has previously only been exposed to Metropolitan imported water and/or groundwater sources. The study used desalinated product water from West Basin’s Desal Demo Facility that was stabilized using calcite (calcium carbonate) in the pipe loops and bench-scale studies. The results indicate that desalinated ocean water can be successfully integrated into existing potable water distribution systems when stabilized and with management of initial chloramine decay. (Hazen and Sawyer, June 2014)</td>
</tr>
</tbody>
</table>
2015 SUBSURFACE INTAKE STUDY

West Basin completed a subsurface seawater intake study partially funded by the US Department of the Interior, Bureau of Reclamation to determine the feasibility of different intake options for a full-scale desalination facility in 2015. The subsurface seawater intake study developed a comprehensive, systematic procedure to evaluate the feasibility of seven subsurface intake technologies. The study determined that none of the seven subsurface seawater intake technologies are feasible for a design intake rate of 40 million gallons per day at the NRG Facility, and construction of subsurface seawater intakes outside of the NRG Facility would be subject to the same issues and challenges, making these technologies not feasible. (Geosyntec, November 2015)

Supplemental studies since the initial 2015 study present further evidence that confirms West Basin’s conclusions that subsurface intakes are not feasible for this Desalination Project given the physical conditions within Santa Monica Bay and that horizontal directional drilling above the coarse-grained sediment layer specifically is not feasible for the proposed project. (West Basin Municipal Water District, October 2019)

2016 BIOFOULING AND CORROSION STUDY

In 2016, West Basin completed an Intake Biofouling and Corrosion Study on the different screen materials and intake piping chemicals. When subsurface intake systems are impractical for a specific project, open intake systems are considered, which must minimize impingement and entrainment of sea life. The Desal Demo Facility demonstrated the effectiveness of the screens for reducing impingement and entrainment, and this study evaluated screen material selection and biofouling control strategies.

2018 DRAFT ENVIRONMENTAL IMPACT REPORT

In March 2018, West Basin completed the Draft EIR for the Ocean Water Desalination Project in accordance with the CEQA and CEQA Guidance. The EIR contains in-depth studies of potential impacts due to the project, measures to reduce or avoid those impacts, and an analysis of alternatives to the project.

2019 FINAL ENVIRONMENTAL IMPACT REPORT

In October 2019, West Basin completed the Final EIR for the Ocean Water Desalination Project and addressed the comments received on the Draft EIR. West Basin and its board certified the EIR for the project in November 2019.

The Desalination Project would produce approximately 20 million gallons per day of drinking water and could meet the needs of roughly 65,000 average households in a year. The primary location West Basin is considering for a desalination facility is in El Segundo, at the El Segundo Generating Station.

At present, the Desalination Project is in an evaluation phase. The West Basin Board certified the Desalination Project EIR in November 2019 and made the determination to adopt: (1) findings of fact, (2) a statement of overriding considerations, and (3) a mitigation monitoring and reporting program pursuant to CEQA and approved the project, subject to specific conditions identified.
The five conditions that must be addressed before the Desalination Project can progress include:

1. **Develop cost estimates.**
2. **Develop a financial evaluation plan.**
   - To evaluate funding mechanisms and rate impacts
3. **Complete a cost-benefit analysis.**
   - To include cost estimates and financial evaluation
4. **Develop design and project delivery documents.**
   - Conceptual design efforts have started; conceptual site plans will also help with cost estimates and permit applications.
   - Preliminary design, then project delivery documents would come next
5. **Secure permits.**
   - West Basin must secure 52 permits from 33 permitting agencies (as of April 6, 2021).
   - Additional studies may be required as part of the permitting process.
   - West Basin is assembling resources and has retained the services of a consultant to develop a permitting road map.
   - A library of past reports and studies is available.

The potential Desalination Project supply is not included in the projected supplies in this UWMP due to the project’s current status and Metropolitan’s supply reliability analysis (presented in Chapter 7). However, ocean desalination improves supply reliability and could provide up to 20% (21,500 acre-feet per year) of a new drought-proof supply to the region. Projected conditions in this UWMP may change in the future, and West Basin will continue to consider the role of ocean desalination in the West Basin supply portfolio as new information is available.
6.9 Supply Projections Summary

Table 6-8 presents the FY2020 supplies provided by West Basin and local groundwater supplies within West Basin’s service area. Based on information presented in the above sections, West Basin’s projected water supplies through 2045 is shown in Table 6-9 and Figure 6-10. As shown, West Basin projects demands will increase, but the amount of recycled water and local groundwater supplies will also be expanded to provide a greater portion of the demand in the future. As such, imported water from Metropolitan is expected to drop from about 65% of the total service area supply in 2020 to 46% by 2040 and 2045.

### Table 6-8. FY2020 Actual Water Supplies

<table>
<thead>
<tr>
<th>WATER QUALITY</th>
<th>ACTUAL VOLUME (AFY)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Imported Water from Metropolitan</td>
<td>Drinking Water</td>
</tr>
<tr>
<td>Desalinated Groundwater from Marvin C. Brewer Desalter</td>
<td>Drinking Water</td>
</tr>
<tr>
<td>Recycled Water (Non-Potable) within West Basin Service Area</td>
<td>Recycled Water</td>
</tr>
<tr>
<td><strong>RETAIL SUBTOTAL:</strong></td>
<td></td>
</tr>
<tr>
<td>Replenishment - Recycled Water</td>
<td>Recycled Water</td>
</tr>
<tr>
<td>Replenishment - Imported Water</td>
<td>Drinking Water</td>
</tr>
<tr>
<td><strong>REPLENISHMENT SUBTOTAL:</strong></td>
<td></td>
</tr>
<tr>
<td><strong>SUPPLY TOTAL:</strong></td>
<td></td>
</tr>
</tbody>
</table>

### Table 6-9. Projected Water Supplies (DWR 6-9W)

<table>
<thead>
<tr>
<th>WATER SUPPLY ADDITIONAL DETAIL ON WATER SUPPLY</th>
<th>PROJECTED WATER SUPPLY (AFY)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>2025</td>
</tr>
<tr>
<td>Purchased or Imported Water Direct Use</td>
<td></td>
</tr>
<tr>
<td>Recycled Water Delivery in the West Basin Service Area only</td>
<td></td>
</tr>
<tr>
<td>Recycled Water For Saltwater Barrier Replenishment</td>
<td></td>
</tr>
<tr>
<td><strong>WEST BASIN SUPPLY SUBTOTAL:</strong></td>
<td></td>
</tr>
<tr>
<td>Local Groundwater Total volume extracted within West Basin’s Service Area</td>
<td></td>
</tr>
<tr>
<td><strong>WEST BASIN SERVICE AREA SUPPLY TOTAL:</strong></td>
<td></td>
</tr>
</tbody>
</table>
6.10 Energy Intensity

Pursuant to California Water Code Section 10631.2(a), readily available information regarding energy intensity shall be reported in the 2020 UWMP. For West Basin, this includes the energy usage at West Basin’s ECLWRF and the Brewer Desalter facility. The energy intensity of West Basin’s primary water supply — imported water from Metropolitan — is reported in Metropolitan’s 2020 UWMP. Comprehensive energy use by the Brewer Desalter is based on the average monthly energy consumption of 200,000 kilowatt-hours (KWh) and average production of 72 AF, which translates to an energy intensity of roughly 2,800 kWh/AF. The ECLWRF energy intensity information from the past three fiscal years was compiled from electrical bills and water production data and is found in Table 6-10.

**Table 6-10. ECLWRF (Recycled Water) Energy Intensity**

<table>
<thead>
<tr>
<th>ECLWRF</th>
<th>FY17</th>
<th>FY18</th>
<th>FY19</th>
<th>TOTAL</th>
</tr>
</thead>
<tbody>
<tr>
<td>Electricity (kWh)</td>
<td>51,661,152</td>
<td>50,822,692</td>
<td>39,193,966</td>
<td>141,677,810</td>
</tr>
<tr>
<td>Treated Water Deliveries (AF)</td>
<td>21,549</td>
<td>22,094</td>
<td>18,320</td>
<td>61,963</td>
</tr>
<tr>
<td>Energy Intensity (kWh/AF)</td>
<td>2,397</td>
<td>2,300</td>
<td>2,139</td>
<td>2,286</td>
</tr>
</tbody>
</table>
This chapter describes the reliability of West Basin’s water supply. Water supply reliability reflects West Basin’s ability to meet the water needs of its customers with water supplies under varying conditions. The essential findings are that West Basin can reliably meet its service area demands with existing and future supply sources based on demand and supply projections.

Every urban water supplier is required to assess the reliability of its water service under normal, dry, and multiple-dry years, and must specifically assess the drought risk over the next five years. There are various factors that may impact reliability of supplies, such as legal, environmental, water quality, and climatic, which are discussed below. These factors can result in immediate (facility failures), near-term (SWP limitations), or long-term (climate change) impacts to reliability and must therefore be considered in future planning.

The impacts of these factors on reliability increase under single-dry and multiple-dry year hydrologic patterns. West Basin’s Water for Tomorrow Program goal to expand and further diversify its supply portfolio is the most important step toward improving the reliability of supplies. West Basin has completed comprehensive water shortage contingency planning to provide reliability in the event of a water shortage and West Basin’s 2021 Water Shortage Contingency Plan is presented in Appendix C. Expected water supply reliability for normal, single-dry year, and multiple-dry years through 2045 is discussed in this chapter followed by a drought risk assessment for 2021 to 2025.
7.1 Supply Reliability Challenges

On April 29, 2019, Governor Newsom issued Executive Order N-10-19 that directed the California Natural Resources Agency, the California Environmental Protection Agency, and the California Department of Food and Agriculture to prepare a water resilience portfolio that meets the needs of California’s communities, economy, and environment through the 21st century.

The agencies were directed to first inventory and assess:

- Existing demand for water on a statewide and regional basis and available water supply to address this demand
- Existing water quality of aquifers, rivers, lakes, and beaches
- Projected water needs in the coming decades for communities, economy, and environment
- Anticipated impacts of climate change to our water systems including growing drought and flood risks, and other challenges to water supply reliability
- Work underway to complete voluntary agreements for the Sacramento and San Joaquin river system regarding flows and habitat
- Current planning to modernize conveyance through the Bay-Delta with a new single tunnel project
- Expansion of the state’s drinking water program to ensure all communities have access to clean, safe, and affordable drinking water
- Existing water policies, programs, and investments within state government

The California Water Resilience Portfolio outlines goals and actions to help address the state’s water challenges through a broad and diversified approach.

The goals and actions are meant to be achieved region by region based on the unique challenges and opportunities in each area and are organized into four categories:

- Maintain and diversify water supplies — the state will continue to help regions reduce reliance on any one source of water supply and diversify water supplies to enable flexibility in the face of changing conditions.
- Protect and enhance natural ecosystems — the state will provide leadership in restoring the environmental health of our river systems through effective standard setting, continued investments, and more adaptive and holistic environmental management.
- Build connections — the state aims to improve infrastructure to store, move and share water more effectively, and to integrate water management through shared use of science, data, and technology.
- Be prepared — the state will provide guidance to support preparation, protective actions, and adaptive management of regions in the face of new threats and stresses due to climate change.

West Basin’s water resources planning philosophy aligns with the California Water Resilience Portfolio and emphasizes conservation and expanding reliable, local supplies, such as recycled water, groundwater augmentation, groundwater desalination, and ocean water desalination. Reliability within the West Basin service area is a composite of the reliability of each supply source and its overall percent contribution to the supply portfolio. The following subsections further explain some of the factors identified by West Basin that may have an impact on reliability.
7.1.1 Imported Water

Metropolitan described several challenges in providing adequate, reliable, and high-quality supplemental water supplies along with potential management measures in the Metropolitan 2020 Urban Water Management Plan (UWMP) (Metropolitan Water District of Southern California, May 2021), including:

- The Colorado River Basin has historically experienced large swings in annual hydrologic conditions; however, these swings have largely been buffered through a large volume of storage.
- Dramatic swings in annual hydrologic conditions have impacted water supplies available from the SWP over the last decade. Metropolitan’s efforts in building dry-year storage reserves, water banking, and transfers have helped manage the wide variability in SWP allocations.
- With approximately 30% of Metropolitan service area’s water supply transported across the Bay-Delta, its declining ecosystem has led to a reduction in water supply deliveries, even during normal precipitation years. Operational constraints will likely continue until a long-term solution to the problems in the Bay-Delta is identified and implemented.
- Water quality challenges, such as algae toxins, polyfluoroalkyl substances (PFAS), and the identification of constituents of emerging concern, have a significant impact on the region’s water supply conditions and underscore the importance of flexible and adaptive regional planning strategies.

Metropolitan described a variety of actions to address these water supply challenges to maintain water reliability within its service area. Metropolitan’s proactive measures include:

- Continuing water conservation by expanding outreach, adding devices, and increasing incentives to residents
- Increasing local resources by providing incentives for on-site recycled water hook-up and the Local Resources Program
- Augmenting water supplies through water transfers and exchanges
- Improving return capability of storage programs to effectively take delivery of water when needed
- Maintaining dry year and emergency storage for the region to remain reliable during periods of low supply and emergencies
- Modifying Metropolitan’s distribution system to enhance operational flexibility and efficient delivery of Colorado River, SWP, and in-region supplies within Metropolitan’s service area
- Implementing shortage response actions under the Metropolitan Water Shortage Contingency Plan and elements of the Metropolitan Water Surplus and Drought Management Plan and Water Supply Allocation Plan to distribute the limited imported supplies and preserve storage reserves
- Responding to water quality concerns by protecting the quality of the source water, developing water management programs that maintain and enhance water quality, and changing water treatment protocols or blending

To maintain a reliable source of imported water supply for its member agencies, Metropolitan has and will continue to contend with these considerable challenges. After learning from the droughts of 1977–78 and 1989–92, Metropolitan, in conjunction with its member agencies, instituted a resources planning process that is based on diversification of the region’s water supply portfolio and continued efficient water use. This integrated resource planning process has recognized that only through a mix of imported and member agency local supplies, along with aggressive implementation of water conservation, can the Metropolitan service area attain overall reliability of water supply.
This integrated planning effort has resulted in the following documents:

- 1996, 2004, 2010, 2015, and 2020 Integrated Resources Plans (IRP): Metropolitan’s IRP process assesses potential future regional demand projections based upon anticipated population and economic growth as well as conservation potential. The IRP also includes regional supply strategies and implementation plans to better manage resources, meet anticipated demand, and increase overall system reliability. Metropolitan is currently preparing the 2020 IRP.

- 1999 Water Surplus and Drought Management (WSDM) Plan: The WSDM Plan provides the policy guidance to manage the region’s water supplies by integrating the operating activities of supply surplus and shortage to achieve the reliability goals of the IRP.

- 2014 Water Supply Allocation Plan (WSAP): The WSAP includes the specific formula for calculating member agency supply allocations and the key implementation elements needed for administering the allocation. The need for the WSAP arose after the 2008 Bay-Delta biological opinions and rulings that limited SWP supplies to its contractors including Metropolitan. The WSAP formula seeks to balance the impacts of a shortage at the retail level while maintaining equity on the wholesale level for shortages of Metropolitan supplies up to 50%.

All these planning documents recognize that the reliability of the Metropolitan service area is dependent on improving the reliability of imported supplies from the Colorado River and State Water Project, as well as the successful implementation of future local supplies and conservation. Metropolitan is a supplemental supplier of water to Southern California and that regional reliability cannot be achieved without successfully addressing challenges to imported water reliability, developing reliable local supplies, and water use efficiency. This dependence on an integrated approach to water reliability and diversification of supplies has been the foundation of DWR’s State Water Plan, through its last several updates and is the cornerstone of Governor Newsom’s California Water Resilience Portfolio. Some of the most significant factors affecting reliability for imported water supplies include legal, environmental, water quality, and climatic changes. As noted above, successful implementation of Metropolitan’s UWMP is dependent on the continued successful implementation by local agencies, such as West Basin, of local supply projects.

### 7.1.2 Groundwater

The reliability of groundwater supplies dictates how much supplemental supply West Basin will need to provide its retail agencies to meet their demands. Groundwater is a highly reliable supply because it is not immediately susceptible to changes in climate and surface flows. However, the two main factors that impact the reliability of groundwater supplies are legal and water quality.

Because the West Coast Basin is an adjudicated basin, pumping limits are established for rights holders. However, changes to basin operations could result from reallocation of pumping rights, opportunities to utilize the West Coast Basin for storage, remediation of contaminated plumes, and pumping capacity for further extraction. The 2015 amendments to the existing court-ordered judgment allows opportunities to utilize the West Coast Basin for storage and increased pumping when utilizing stored groundwater. These changes are largely out of control of West Basin.

The Los Angeles County Department of Public Works owns and maintains the seawater barrier system and determines how much barrier injection water is required to protect the aquifer from seawater intrusion. Water Replenishment District (WRD) determines how much additional water is needed to replenish the West Coast Basin to support pumping beyond the injection water needed for seawater intrusion protection. West Basin supplies WRD with both recycled and imported water to meet these demands.
In past years, when groundwater pumping exceeded recharge and replenishment, seawater intruded into the West Coast Basin. Once the intrusion barrier projects were brought on-line, further intrusion was stopped, however a large plume of saline water has remained trapped within the West Coast Basin. The groundwater supply projections have already considered the presence of the plume and therefore anticipate no change in supply reliability as a result of its existence. Overall, the current groundwater quality in the West Coast Basin remains very good, with only some areas facing poor water quality from natural or anthropogenic sources that WRD continues to monitor closely to determine increasing or decreasing trends (Water Replenishment District of Southern California, 2021).

7.1.3 Recycled Water

Hydrologically dependent supplies, such as imported water from Metropolitan, present on-going challenges in terms of availability and reliability. As a result, West Basin’s goal continues to be to improve the reliability of its supply by expanding its supply portfolio with hydrologically independent supplies. Recycled water is a reliable water supply in the West Basin service area because there is a consistent source of water available for treatment. However, expansion of the recycled water program is dependent on factors outside of West Basin’s control, including partnerships with its retail agencies, WRD, and other agencies or industries that would purchase the recycled water. More information on recycled water expansion and reliability is discussed in Section 6.4.

7.1.4 Ocean Water Desalination

Similar to recycled water, ocean water desalination is a hydrologically independent water supply and is considered reliable because it will always have a constant supply source for treatment. As described in Chapter 6.8, West Basin certified the Ocean Water Desalination Project Final Environmental Impact Report in 2019 following an ocean water desalination pilot study and a demonstration facility to further determine environmental safeguards, energy, and cost savings potential prior to considering a full-scale project. At present, the project is still being considered as a potential future supply for West Basin.

7.1.5 Climate Change

As described in the Metropolitan 2020 UWMP, climate change adds its own uncertainties to the challenges of water resources planning. Imported water supplies are most vulnerable to climate change, followed by local groundwater (Metropolitan Water District of Southern California, May 2021). Metropolitan’s water supply planning has been fortunate to have almost 100 years of hydrological data regarding weather and water supply. This history of rainfall data has provided a sound foundation for forecasting both the frequency and the severity of future drought conditions, as well as the frequency and abundance of above-normal rainfall. But weather patterns can be expected to shift dramatically and unpredictably in a climate driven by increased concentrations of carbon dioxide in the atmosphere. These changes in weather significantly affect water supply planning, irrespective of any debate associated with the sources and cause of increasing concentrations of greenhouse gases. West Basin supports Metropolitan in its role as a major steward of the region’s water supply resources and its commitment to performing ongoing due diligence with respect to climate change.

While uncertainties remain regarding the exact timing, magnitude, and regional impacts of these temperature and precipitation changes, researchers have identified several areas of concern for California water planners. These include:

- Reduction in Sierra Nevada snowpack
- Increased intensity and frequency of extreme weather events
- Prolonged drought periods
Water quality issues associated with increase in wildfires
Changes in runoff pattern and amount
Rising sea levels resulting in:
  - Impacts to coastal groundwater basins due to seawater intrusion
  - Increased risk of damage from storms, high-tide events, and the erosion of levees
  - Potential pumping cutbacks on the SWP and Central Valley Project

Other important issues of concern due to global climate change include:
- Effects on local supplies such as groundwater
- Changes in demand levels and patterns
- Increased evapotranspiration from higher temperatures
- Impacts to human health from water-borne pathogens and water quality degradation
- Declines in ecosystem health and function
- Alterations to power generation and pumping regimes
- Increases in ocean algal blooms affecting seawater desalination supplies

Metropolitan’s activities related to climate change concerns include:

Resource Planning
Under the 2020 IRP, Metropolitan recognizes additional risks and uncertainties from a variety of sources:
- Water quality
- Climate change
- Regulatory and operational changes
- Project construction and implementation issues
- Infrastructure reliability and maintenance
- Demographic and growth uncertainty
Any of these risks and uncertainties, should they occur individually or collectively, may result in a negative impact to water supply reliability. While it is impossible to know how much risk and uncertainty to guard against, the region’s reliability will be more secure with a long-term plan that recognizes risk and provides resource development to offset that risk.

Quantification of Current Research
Metropolitan continues to incorporate current climate change science into its planning efforts. A major component of the current IRP effort is to explicitly reflect uncertainty in Metropolitan’s future water management environment. This involves evaluating a wider range of water management strategies and seeking robust and adaptive plans that respond to uncertain conditions as they evolve over time, and that ultimately will perform adequately under a wide range of future conditions. The potential impacts and risks associated with climate change, as well as other major uncertainties and vulnerabilities, have been incorporated into the current IRP process.

Implementation of Programs and Policies
Metropolitan has made great efforts to implement greenhouse gas mitigation programs and policies for its facilities and operations. Similar to Metropolitan’s approach to managing water resources, effectively reducing greenhouse gas emissions requires a portfolio approach that looks at all sources and implements strategies to reduce emissions over time.
7.1.6 Water Quality

Metropolitan’s 2020 UWMP considered water quality concerns for imported water supplies as well as local supplies, such as groundwater. Metropolitan anticipates no significant reductions in water supply availability from imported sources due to water quality concerns over the next five years (Metropolitan Water District of Southern California, May 2021).

Drinking water standards for contaminants, such as arsenic, chromium-6, 1,2,3-trichloropropane, and other emerging constituents, such as PFAS, may add costs to the use of groundwater storage and may affect the availability of local agency groundwater sources. This could affect demands on West Basin supplies if local agencies abandon impacted supplies in lieu of treatment options or use Metropolitan water to blend with their sources.

As the regional groundwater management agency for the West Coast Basin and Central Basin, WRD has several active programs to monitor, evaluate and mitigate water quality issues including:

Groundwater Quality Program
WRD continually evaluates current and proposed water quality compliance in agency production wells, monitoring wells, and recharge/injection waters of the West Coast Basin. If non-compliance is identified, WRD staff develops a recommended course of action and associated cost estimates to address the problem and to achieve compliance. WRD also evaluates the impacts of pending drinking water regulations and proposed legislation.

Regional Groundwater Monitoring Program
This program has a network of over 250 WRD and USGS-installed monitoring wells at nearly 50 locations throughout West Basin’s service area. Monitoring well data is supplemented with information from production wells to capture the most accurate data available. WRD staff, comprised of certified hydrogeologists and registered engineers, provides the in-house capability to collect, analyze and report groundwater data. This information is stored in WRD’s GIS database and supports a better understanding of the characteristics of the West Coast and Central Groundwater Basins.

Safe Drinking Water Program
This program promotes the cleanup of groundwater resources at specific well locations. By installing wellhead treatment facilities at existing production wells, WRD hopes to remove contaminants from the underground supply and deliver the extracted water for potable purposes. WRD works directly with well owners on the projects implemented through this program. It currently focuses on the removal of volatile organic compounds and offers financial assistance for the design of and equipment for the selected treatment facility.

WRD provides extensive information on groundwater quality in its Engineering and Survey Reports, as well as Regional Groundwater Monitoring Reports. Both reports have a section devoted solely to groundwater quality management and can be accessed through WRD’s website, www.wrd.org (Water Replenishment District of Southern California, 2021).
7.2 Water Service Reliability Assessment

West Basin receives imported water from Metropolitan through connections to Metropolitan’s regional distribution system. Although pipeline and connected capacity do not guarantee the availability of water, they do guarantee the ability to convey water when it is available to the Metropolitan distribution system. This section presents West Basin’s expected water supply reliability for a normal year, single-dry year, and five consecutive dry years, including projections for 2025, 2030, 2035, 2040, and 2045. West Basin’s water sources and their constraints are described in detail in Chapter 6. The primary constraint on the available of water supplies has been in extreme drought conditions. As described above, Metropolitan has made substantial investments to increase imported water supply reliability during periods of extended drought. As a result, Metropolitan projects the ability to meet projected West Basin imported water demands under normal, single-dry year, and multiple-dry year conditions (Metropolitan Water District of Southern California, May 2021). The basis of the reliability assessment is presented in this section.

7.2.1 Year Type Characterization

West Basin’s service area supplies considered in this assessment include:
- Imported water from West Basin to individual retail agencies via Metropolitan
- Groundwater produced from individual retail agencies
- Non-potable recycled water from West Basin to individual retail agencies

Metropolitan developed estimates of future demands and supplies from local sources and from Metropolitan sources based on 96 years (1922–2017) of historic hydrologic conditions. The 96-year period starting in 1922 was chosen because the CalSim II model used in the 2019 SWP Delivery Capability Report began in 1922. Supply and demand analyses for the single-dry year and five-year drought cases were based on conditions affecting the SWP as this supply availability fluctuates the most among Metropolitan’s sources of supply. Using the same 96-year period of the SWP supply availability, 1977 is the single driest year, and 1988 through 1992 are the five consecutive driest years for SWP supplies to Metropolitan.

The Metropolitan 2020 UWMP presents Metropolitan’s water reliability assessments through 2045 for three different year types and assumes the following hydrologic conditions:

**Normal Year**
The average of historic years 1922 to 2017 most closely represents the water supply conditions that Metropolitan considers available during a normal water year.

**Single-Dry Year**
The conditions for the year 1977 represent the lowest water supply available to Metropolitan.

**Five-Consecutive Year Drought**
The five consecutive years of 1988 to 1992 represent the driest five-consecutive year historical sequence for Metropolitan’s water supply. This five-year sequence was used as the basis for Metropolitan’s water service reliability and drought risk assessments.

Groundwater in the West Coast Basin and Central Basin is hydrology-independent as long as sufficient water is recharged to maintain adequate groundwater basin levels, which is WRD’s mission. WRD has made many investments to continue to fulfill its mission through its Water Independence Now (WIN) program and, more recently, its WIN 4 ALL program. Thus, groundwater is assumed to have the same yield in normal year, single-dry year, and multiple-dry year drought conditions. It should also be noted...
that projected annual groundwater use in West Basin’s service area is less than the annual West Coast Basin adjudicated pumping rights.

Similarly, recycled water is hydrology-independent and available recycled water supplies far exceed demands. Therefore, recycled water is assumed to have the same yield in normal year, single-dry year, and multiple-dry year drought conditions. Table 7-1 presents West Basin’s basis for water year data and supply reliability considering all supply sources.

### 7.2.2 Water Service Reliability

West Basin demand projections depend on projections for total retail demand in the West Basin service area and less local supplies projections. The basis for the service area projected demands was described in Chapter 4 and summarized in Figure 7-1 along with supplies. Figure 7-2 adds West Basin replenishment demands to the West Basin retail demand presented in Figure 7-1 for total West Basin supply and demand projections. Figure 7-2 represents normal year supply and demand conditions as well as single-dry year conditions. As shown in the figure, West Basin groundwater replenishment demands are anticipated to be met fully by recycled water beyond 2020.

As shown in Table 7-1, West Basin projects sufficient supplies to meet projected demands in multiple-dry years as well due to West Basin’s diversified supply and conservation measures and Metropolitan’s supply reliability investments. Metropolitan projects the ability to meet projected West Basin imported water demands under normal, single-dry year, and multiple-dry year conditions (Metropolitan Water District of Southern California, March 2021). As a result, there are no anticipated shortages under the single-dry year or multiple-dry year scenarios and West Basin service area demands are assumed to be unconstrained in each reliability scenario.

Figure 7-1. West Basin Service Area, Normal Year and Single-Dry Year Retail Demand and Supply Projections
Figure 7-2. West Basin Total Demand and Supply Projections, Normal Year and Single-Dry Year

Table 7-1. Multiple-Dry Years Supply and Demand Comparison (DWR Table 7-4W)

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7.3 2021–2025 Drought Risk Assessment

A new provision of the Water Code directs suppliers to prepare a drought risk assessment (DRA). The DRA considers a drought period lasting five consecutive years, starting from the year following the year in which the assessment is conducted. For this plan, the DRA considers five consecutive dry years from 2021 through 2025. West Basin may conduct an interim update or updates to this DRA within the five-year cycle of its UWMP update.

The DRA analysis allows West Basin to examine the management of its supplies during stressed hydrologic conditions and provides the supplier an opportunity to evaluate the functionality of its WSCP shortage response actions and understand the type and degree of response that is appropriate for managing water supplies. This evaluation can help the supplier to identify risks and take proactive steps before the next actual drought lasting at least five consecutive years.

7.3.1 Data, Methods, and Basis for Water Shortage Condition

For West Basin, the five consecutive years of 1988 to 1992 represent the driest five-consecutive year historic sequence for Metropolitan’s water supply. West Basin’s other supplies are reliable under all hydrological year types.

7.3.2 DRA Water Source Reliability

West Basin’s projected water sources include imported water from Metropolitan and recycled water. West Basin’s recycled water supply is considered reliable in all years. As described in Metropolitan’s 2020 UWMP and DRA, Metropolitan’s near-term assessment reveals that its supply capabilities are expected to exceed its projected water use for years 2022, 2024, and 2025. However, estimates of projected water supply and use reveals that there could be a possible shortfall of core supplies in 2021 and 2023. This shortfall is largely triggered by the assumed repeat of the historical 1988 and 1990 low supply conditions from the SWP to predict supply availability for 2021 and 2023. Actual supply conditions for 2021 and 2023 may prove different from historic supply conditions (Metropolitan Water District of Southern California, May 2021).

Metropolitan’s DRA illustrates its potential shortage response actions if such shortfall were to happen. As detailed in Metropolitan’s 2020 UWMP (Section 2.5 and Appendix 4), Metropolitan has in place a robust WSCP and comprehensive shortage response plan that includes demand reduction measures and supply augmentation actions. In Metropolitan’s DRA, years 2021 and 2023 are estimated to have shortage levels within 10% of water use, corresponding to its WSCP Level 1 Shortage. Metropolitan has a range of response actions that it can take in a Level 1 Shortage, including taking from storage, executing flexible supplies, implementing voluntary demand reductions, and implementing its WSAP. Metropolitan’s DRA anticipates taking from its storage during these shortfall years to augment its supply and meet its demand. As of January 1, 2021, Metropolitan has 3.2 million acre-feet in storage that may be used for dry-year needs within multiple reservoirs to mitigate any potential shortage in 2021 and 2023. In addition, Metropolitan may also take from its water banking programs in the Central Valley, draw from in-region conjunctive use programs, pursue additional supplies through SWP transfers, or exercise any combination of supply augmentation actions.

With a potential surplus estimated for years 2022, 2024, and 2025, no water service reliability concern is anticipated, and no shortfall mitigation measures are expected to be exercised. Metropolitan will periodically revisit its representation of both individual supply sources and of the gross water use estimated for each year and will revise its DRA if needed.

As shown in Figure 7-3, West Basin’s supplies are anticipated to be reliable, and no shortfalls are expected from 2021 to 2025, when assuming the next five years are similar to the corresponding driest five years scenario.
Figure 7-3. West Basin 2021–2025 Drought Risk Assessment
This chapter provides a summary of West Basin’s Water Shortage Contingency Plan, including shortage stages and shortage response actions. The stand-alone Water Shortage Contingency Plan is included in Appendix C.

The California Water Code Section 10632 requires that every urban water supplier that serves more than 3,000 acre-feet per year or has more than 3,000 connections to prepare and adopt a standalone Water Shortage Contingency Plan (WSCP) as part of its Urban Water Management Plan (UWMP). The WSCP is required to provide plans for a range of water shortage situations, including supply shortages of greater than 50%. The WSCP must be updated based on new requirements every five years and will be adopted as a current update for submission to the California Department of Water Resources by July 1, 2021.

The WSCP is a strategic plan that West Basin Municipal Water District uses to prepare for and respond to water shortages. A water shortage happens when the available water supply is insufficient to meet normally expected customer water use at a given point in time. Shortages may occur due to several reasons, such as water supply quality changes, climate change, drought, and catastrophic events (e.g., earthquakes). The West Basin WSCP provides an updated water supply availability assessment and structured steps designed to respond to actual conditions. This level of detailed planning and preparation will help maintain reliable supplies and reduce the impacts of future supply interruptions.
8.1 Water Shortage Contingency Plan Overview

As a wholesaler of Metropolitan’s treated imported water supply, West Basin has aligned its water shortage policies with Metropolitan to respond to events including catastrophic interruption and a reduction in water supply that may exceed 50%. During a water shortage that triggers Metropolitan’s Water Supply Allocation Plan, West Basin will be responsible for determining how imported water will be allocated to each of its own retail agencies, which will then inform the implementation of shortage actions in accordance with local ordinances.

The West Basin WSCP includes the steps to assess whether a water shortage is occurring or is expected to occur and what level of demand reduction actions is necessary to trigger the most appropriate response to the water shortage conditions. It serves as the operating manual that West Basin will use to prevent catastrophic service disruptions through proactive, rather than reactive, mitigation of water shortages. This WSCP will allow the West Basin Board, staff, and retail agencies to easily identify and efficiently implement predetermined processes and procedures to address a water shortage to the level appropriate for the anticipated water shortfall.

The WSCP also describes West Basin’s procedures for conducting an Annual Water Supply and Demand Assessment (Annual Assessment). The Annual Assessment is required by California Water Code Section 10632.1 and is to be submitted to the California Department of Water Resources (DWR) on or before July 1 of each year, or within 14 days of receiving final allocations from the State Water Project, whichever is later.

West Basin’s 2021 WSCP is included as Appendix C and will be submitted as a stand-alone planning document to DWR by July 1, 2021. This WSCP is created separately from West Basin’s 2020 UWMP and can be amended, as needed, without amending the UWMP. Furthermore, the water code does not prohibit an urban water supplier from taking actions not specified in its WSCP, if needed, without having to formally amend its UWMP or WSCP.

A WSCP has a number of prescriptive elements, including: an analysis of water supply reliability; the drought shortage actions for each of the six standard water shortage levels, corresponding to water shortage percentages that range from 10% to greater than 50%; an estimate of potential to close the supply gap for each measure; protocols and procedures to communicate identified actions for any current or predicted water shortage conditions; procedures for an annual water supply and demand assessment; identifying the financial impacts of implementing shortage response actions; and reevaluation and improvement procedures for evaluating the WSCP.

Figure 8-1 illustrates the interdependent relationship between the Metropolitan, West Basin, and retail agencies’ procedural documents related to planning for and responding to water shortages.

Figure 8-1. Wholesalers and Retailer Plans Inter-relationship
8.2 Water Shortage Contingency Plan Outline

West Basin’s WSCP is organized into three main sections, with Section 3 aligned with the California Water Code Section 10632 requirements.

Section 1: Introduction and WSCP Overview
Section 2: Background
Section 3: Water Shortage Contingency Plan

Section 3 includes 12 subsections:
1. Water Supply Reliability Analysis: Summarizes West Basin’s water supply analysis and reliability and identifies any key issues that may trigger a shortage condition.
2. Annual Water Supply and Demand Assessment Procedures: Describes the key data inputs, evaluation criteria, and methodology for assessing the system’s reliability for the coming year and the steps to formally declare any water shortage levels and response actions.
3. Standard Shortage Stages: Establishes water shortage levels to clearly identify and prepare for shortages. (Further described in Section 8.3).
4. Shortage Response Actions: Describes the response actions that may be implemented or considered for each stage to reduce gaps between supply and demand while minimizing social and economic impacts to the community.
5. Communication Protocols: Describes communication protocols under each stage to ensure customers, the public, and government agencies are informed of shortage conditions and requirements.
6. Compliance and Enforcement: This section is not applicable to wholesale water agencies such as West Basin.
7. Legal Authorities: Lists the legal ordinance(s) that grants West Basin the authority to declare a water shortage and implement and enforce response actions.
8. Financial Consequences of WSCP Implementation: Describes the anticipated financial impact of implementing water shortage stages and identifies mitigation strategies to offset financial burdens.
9. Monitoring and Reporting: This section is not applicable to wholesale water agencies such as West Basin.
10. WSCP Refinement Procedures: Describes the factors that may trigger updates to the WSCP and outlines how to complete an update.
11. Special Water Features Distinctions: This section is not applicable to wholesale water agencies such as West Basin.
12. Plan Adoption, Submittal, and Availability: Describes the process for the WSCP adoption, submittal, and availability after each revision.

Section 6, Section 9, and Section 11 are not required to be completed by wholesale water suppliers, but West Basin will provide ongoing support to its retail agencies in complying with these sections in their own individual WSCP documents. The WSCP is a stand-alone document that can be modified as needed and is included as Appendix C.
8.3 Shortage Levels

The West Basin WSCP is based on adequate details of demand reduction and supply augmentation measures that are structured to match varying degrees of shortage. This will ensure that retail water suppliers and other relevant stakeholders understand what to expect during a water shortage situation. West Basin has adopted water shortage levels consistent with the requirements identified in California Water Code Section 10632 (a)(3)(A) (Table 8-1).

Table 8-1. Water Shortage Levels

<table>
<thead>
<tr>
<th>SHORTAGE LEVEL</th>
<th>PERCENT SHORTAGE RANGE</th>
<th>SHORTAGE RESPONSE ACTIONS (NARRATIVE DESCRIPTION)</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>0% (Normal)</td>
<td>During non-shortage conditions, West Basin develops, implements, and provides cost-effective water efficiency and conservation programs to local communities in its service area to help save water and increase local water supply reliability. In addition, West Basin educates and engages the community about important water issues through its outreach and education programs. Together, these programs highlight the importance of adopting a “Making Water Conservation a California Way of Life” mindset as a means of supporting ongoing water supply reliability throughout the region.</td>
</tr>
</tbody>
</table>
| 1              | Up to 10%              | At this shortage level, West Basin will implement one or more of the following shortage response actions:  
- Call for voluntary retail agency water use reductions  
- Call for voluntary retail agency use of non-imported potable sources  
- Implement additional conservation/water efficiency programs  
- Deploy extraordinary public outreach and communications measures  
- Implement mandatory retail agency water use reductions (in West Basin’s Drought Rationing Plan) |
| 2              | 11% to 20%             | At this shortage level, West Basin will implement and expand one or more of the shortage response actions listed for Stage 1 to achieve demand reduction target of 20%. |
| 3              | 21% to 30%             | At this shortage level, West Basin will implement and expand one or more of the shortage response actions listed for Stage 1 to achieve demand reduction target of 30%. |
| 4              | 31% to 40%             | At this shortage level, West Basin will implement and expand one or more of the shortage response actions listed for Stage 1 to achieve demand reduction target of 40%. |
| 5              | 41% to 50%             | At this shortage level, West Basin will implement and expand one or more of the shortage response actions listed for Stage 1 to achieve demand reduction target of 50%. |
| 6              | >50%                   | At this shortage level, West Basin will implement and expand one or more of the shortage response actions listed for Stage 1 to achieve demand reduction target of greater than 50%. |

8.4 Next Steps

A complete draft of West Basin’s 2021 WSCP was made available to retail agencies and the public prior to West Basin’s June 10, 2021 public hearing. Final adoption of the WSCP occurred at the West Basin Board of Directors meeting on June 28, 2021.
Demand Management Measures

This chapter discusses West Basin’s demand management measures, including its public outreach and education programs, water conservation programs, asset management programs, and ongoing wholesaler supplier coordination efforts.

West Basin employs a suite of water efficiency programs, in excess of State-mandated water use restrictions, in order to promote California’s Conservation as a Way of Life ethic and to reduce water supply demand in its service area. The following sections provide a description of West Basin’s past and present Demand Management Measures, including the nature and extent of each.

IN THIS SECTION

- Public Education and Outreach
- Water Conservation Programs
- Wholesaler Supplier Coordination
9.1 Metering

As a wholesaler, West Basin does not directly meter customers’ potable water use. However, every water agency within West Basin’s service area bills its customers according to actual meter consumption. West Basin also encourages the installation of dedicated landscape meters, which will enable agencies to recommend the appropriate irrigation schedules through future landscape programs.

In addition, according to Metropolitan’s 2020 Draft Urban Water Management Plan (UWMP), it maintains over 400 service connections that meter water deliveries to all its member agencies, including West Basin. These meters are checked on a periodic basis to ensure accuracy and reliability.

9.2 Public Education and Outreach

9.2.1 West Basin Public Information and Education Programs

West Basin offers a variety of public information and education programs to inform the service area about its conservation, water efficiency, recycled water, desalination, and other water supply programs. All West Basin’s educational programs are free to the public, and West Basin prides itself on maintaining an active presence in each of the communities it serves. Most of the programs and initiatives summarized below have been in place since 2015 and continue to be assessed and refined annually to achieve maximum effectiveness and reach.

9.2.2 Water for Tomorrow Campaign

In 2019, West Basin rebranded its Water Reliability 2020 program and launched Water for Tomorrow, which explains West Basin’s approach to securing water reliability for the region.

**Water for Tomorrow has the following objectives:**
- Protect West Basin’s existing water supply
- Diversify and augment its water supply portfolio
- Innovate to prepare for the future

For West Basin to achieve its Water for Tomorrow goals, it will continue to build upon its water education programs. Many of the programs that support the objectives of Water for Tomorrow are described in more detail below.

9.2.3 West Basin Newsletter

Since 2010, West Basin has published a quarterly electronic newsletter that is distributed to approximately 4,000 community leaders and residents in its service area. The newsletter allows West Basin to communicate directly with an engaged group of citizens on a variety of topics, including conservation and water efficiency programs, recycled water projects, desalination, outreach and education programs, and more. West Basin consistently enjoys a high engagement rate with the recipients of its electronic newsletter. For fiscal years 2015–2020, West Basin’s newsletter has achieved approximately 20,000 unique views.
9.2.4 Media Relations

West Basin establishes and maintains professional relationships with local news media through press releases, social media, community events, one-on-one tours, and briefings and small group discussions to inform them about West Basin’s ongoing activities to provide safe and reliable water supplies to local communities. Conservation is one of the most frequently discussed topics on which West Basin engages the media. During periods of statewide drought and water shortages, West Basin works with media to promote conservation as a way of life and encourage the implementation of water-efficient technologies at home and work. Table 9-1 summarizes the number of media news releases West Basin issued during fiscal years 2015–2020.

Table 9-1. Media News Releases 2015–2020

<table>
<thead>
<tr>
<th>FISCAL YEAR</th>
<th>NUMBER OF PRESS RELEASES</th>
</tr>
</thead>
<tbody>
<tr>
<td>2015</td>
<td>13</td>
</tr>
<tr>
<td>2016</td>
<td>16</td>
</tr>
<tr>
<td>2017</td>
<td>12</td>
</tr>
<tr>
<td>2018</td>
<td>19</td>
</tr>
<tr>
<td>2019</td>
<td>19</td>
</tr>
<tr>
<td>2020</td>
<td>18</td>
</tr>
</tbody>
</table>

9.2.5 Social Media and Website

West Basin maintains an active and robust website and social media presence. West Basin’s recent digital outreach efforts are based on a comprehensive social media strategic plan that was developed in 2019 and which aims to develop and implement engaging tools and platforms that provide critical information to West Basin’s customers and members of the public. Total annual users of the West Basin website have remained consistent over the last few years, shown in Table 9-2.

Table 9-2. West Basin Website Users 2018-2020

<table>
<thead>
<tr>
<th>FISCAL YEAR</th>
<th>NUMBER OF WEBSITE USERS</th>
</tr>
</thead>
<tbody>
<tr>
<td>2018</td>
<td>33,552</td>
</tr>
<tr>
<td>2019</td>
<td>34,349</td>
</tr>
<tr>
<td>2020</td>
<td>31,796</td>
</tr>
</tbody>
</table>

Social media tools that West Basin utilizes to communicate with other stakeholders include Facebook, Twitter, Instagram, LinkedIn, and YouTube. Social media is used to support integrated media and marketing outreach efforts, and to act as a standalone outreach tool to promote and engage the West Basin’s growing number of social media savvy followers. West Basin publishes hundreds of regular and boosted posts throughout the year, with many of the posts related to conservation, water efficiency, water supply, and various other topics aimed at improving water supply reliability efforts throughout the service area. Currently, almost all of West Basin’s outreach efforts include some type of social media component.
The West Basin website (www.westbasin.org) serves as a hub for all West Basin’s programs, projects, and other pertinent information. There is a dedicated section of the website that provides information on all of West Basin’s water supply programs, including conservation and water efficiency. Visitors to the website can access valuable information that can help them save water at their home and/or business. The West Basin website and its social media accounts work hand in hand to communicate and provide vital information to thousands of people each year.

9.2.6 Speakers Bureau

For nearly a decade, West Basin has provided informational presentations to local government, community, business, and industry groups on a variety of West Basin and water-related topics. The presentations provide information on current and future water supply challenges and explain what West Basin is doing to meet those demands through its Water for Tomorrow Program. The goal of the Speakers Bureau program is to educate and empower water-minded community advocates who can speak to and garner support for West Basin’s various water reliability initiatives and projects. In 2016, West Basin conducted 22 Speakers Bureau events. In 2018, nearly 50 Speakers Bureau events were hosted, with many of them focused on West Basin’s ocean water desalination research program. To date, West Basin has been able to reach thousands of community members through this program.

9.2.7 Imported Water Supply Tours

In partnership with the Metropolitan Water District of Southern California (Metropolitan), West Basin provides inspection tours of the Colorado River Aqueduct and the State Water Project to legislators, local elected officials, retail water agency staff, and the general public at various times throughout the year. The purpose of the tours is to give local decision makers a better understanding and appreciation of the water supply issues impacting the region.

Between 2015 and 2020, West Basin hosted up to six tours per year of the following locations:

- Colorado River Aqueduct Inspection Trip
- State Water Project Inspection Trip
- Diamond Valley Lake Day Trip
9.2.8 Water Harvest Festival

In October 1999, West Basin hosted its first annual Water Harvest Festival in El Segundo. West Basin invites the community to learn about the value of water in a fun, family friendly atmosphere that includes informational booths, shows, games, tours, and contests. The event features local agencies, community groups, and water conservation vendors that provide the public with information about water-saving devices, rebates, and programs. West Basin provides free tours of its water recycling facility and demonstrates how wastewater is purified into usable recycled water. This free event attracts up to 1,700 visitors each year. The event was not held in 2020 due to COVID-19 health precautions but will return once in-person events are allowed to resume.

9.2.9 Community Events

Public events provide West Basin with unique opportunities to interact with members of the public on the availability and importance of its conservation programs. West Basin employees frequently staff booths at festivals, conferences, and other events. At these events, staff provides informational flyers, fact sheets, brochures, and other educational collateral. Staff is also able to answer questions directly from community members, which increases public awareness about West Basin’s many different programs and the overall status of statewide and local water supplies. An example of West Basin’s pre-COVID19 community outreach activities can be seen in Figure 9-1 below for January through June 2019.
### Figure 9-1. West Basin January through June 2019 Community Outreach Activities Snapshot

<table>
<thead>
<tr>
<th>January</th>
<th>February</th>
<th>March</th>
<th>April</th>
<th>May</th>
<th>May/June</th>
</tr>
</thead>
<tbody>
<tr>
<td>Inglewood Annual MLK Day Celebration</td>
<td>Manhattan Beach Chamber 2019 State of the City</td>
<td>Friends of the Sandy Segal Youth Health Center Gala</td>
<td>Wiseburn Education Foundation Rock Round the Block</td>
<td>Cinco de Mayo Scholarship &amp; Festival Committee</td>
<td>El Segundo Foundation Ed! Gala</td>
</tr>
<tr>
<td>Neptunian Woman’s Club 2019 Fashion Show</td>
<td>Lomita Sister City Association Annual Spaghetti Dinner</td>
<td>El Segundo Rotary Club 4th Annual Rubber Ducky Raffle</td>
<td>H.E.L.P Journey to Grand Adventures Gala Fundraiser</td>
<td>LA Council of Black Professional Engineers Awards &amp; Scholarships Banquet</td>
<td>Roundhouse Aquarium Fun Run for the Oceans</td>
</tr>
<tr>
<td>Pali Thirst Project for Water</td>
<td>City of Carson Earth Day Celebration</td>
<td>Inglewood Earth Day Music Festival</td>
<td>El Camino College Foundation Career and Majors Fair</td>
<td>Grayson’s Awareness Outreach 18th Annual Salute Awards Ceremony</td>
<td></td>
</tr>
<tr>
<td>EmpowHer Institute Girls to Greatness Teen Conference</td>
<td>Mychal’s Learning Plan’s Annual Luncheon</td>
<td>El Segundo PTA Run for Education</td>
<td>Ridgecrest Intermediate School Booster Club 5K Run</td>
<td>Hermosa Beach Chamber of Commerce Fiesta Hermosa</td>
<td></td>
</tr>
<tr>
<td>Dymally International Jazz &amp; Arts Festival</td>
<td>Ladera Senior Association Spa Day</td>
<td>Freedom4U Releasing Youth</td>
<td>Lomita Kiwanis 15th Annual Golden Apple Awards Dinner</td>
<td>South Bay Children’s Health Center Champions for Children Trail Run</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
9.2.10 Water Recycling Tours

Prior to the COVID-19 pandemic, West Basin offered monthly public tours of its water recycling processes at the Edward C. Little Water Recycling Facility (ECLWRF). Visitors learn about the water purification process at the only facility in the world that produces five customer-tailored recycled waters and watch the process of wastewater being purified to drinking water quality in 20 minutes. West Basin plans to resume in-person tours in the future once public health regulations allow for it to do so. Table 9-3 lists attendance at recycled water tours between 2015 and 2017.

Table 9-3. Recycled Water Tours 2015–2017

<table>
<thead>
<tr>
<th>FISCAL YEAR</th>
<th>NUMBER OF TOUR ATTENDEES</th>
</tr>
</thead>
<tbody>
<tr>
<td>2015</td>
<td>420</td>
</tr>
<tr>
<td>2016</td>
<td>378</td>
</tr>
<tr>
<td>2017</td>
<td>169</td>
</tr>
</tbody>
</table>

In 2018 and 2019, public tours at West Basin’s water recycling facility were postponed due to construction and renovation activities. The public tour program resumed in 2020 but was converted to a virtual/online format in order to accommodate COVID-19 protocols.

9.2.11 School Education Programs

For more than a decade, West Basin has provided free water education programs to students in elementary school through high school, in its service area. Program topics include the origin of our water supply, water conservation, and environmental issues. All education programs are grade specific and incorporate California’s Common Core Standards. The goal of these award-winning programs is to inspire students to become water ambassadors in our local communities. West Basin also partners with Metropolitan to provide additional water conservation educational opportunities for youth throughout the region.

All West Basin and Metropolitan education programs are offered for free to public and private schools in the service area. Descriptions of each program can be found in the following section.
Solar Cup
Solar Cup is an annual solar-powered boat building and racing competition held for high school students in Southern California. The goal of the seven-month program is to encourage students to learn about science, mathematics, water quality issues, conservation, and alternative energy and fuel sources. This year, due to COVID-19, Metropolitan, the lead sponsor of the program, adapted the engineering challenge event into a virtual online team competition.

West Basin sponsored teams include:
- Lawndale High School, Lawndale
- Mira Costa High School, Manhattan Beach
- Lennox Math, Science and Technology Academy, Lennox
- Palos Verdes Peninsula High School, Rolling Hills Estates

Water is Life Student Art Contest
This program encourages 3rd–12th grade students to learn about conservation, the environment, and water resources by designing a water conservation slogan illustrated with original artwork. Fifteen finalists are selected each year, with the winning students having the opportunity to compete in Metropolitan’s region-wide selection process.

In 2020, nearly 500 students competed in West Basin’s program. Since 2015, an average of 500 students have participated in the contest annually. In 2021, the program was adapted to allow for electronic and paper submissions to encourage continued student participation during the Covid-19 pandemic. Live online classroom art lessons are available to inspire and assist students with their art submissions. Local cities and media have provided ongoing support for this program, with news stories and television spots being utilized in recent years to promote the program and feature student winners.
Water Treatment Facility School Tours
West Basin offers a free field trip experience for 3rd–12th grade students at its Water Education Center in El Segundo. Through interactive games, a lively presentation, and walking tour through the plant, students explore the importance of our water supply and the fascinating water treatment process. The students are then transported to a local community aquarium to discover how local marine life is protected by West Basin’s environmentally sustainable water treatment processes. The facility welcomed an average of 4,500 students each year through its doors before COVID-19 put a pause on in-person gatherings.

In addition, when West Basin operated an ocean water desalination pilot project education center, thousands of members of the public, including students from local schools, visited the center. **Table 9-4** shows the number of students that visited the desalination water education center between 2015 and 2019.

**Table 9-4. Student Visits to the Desalination Water Education Center from 2015-2019**

<table>
<thead>
<tr>
<th>FISCAL YEAR</th>
<th>NUMBER OF STUDENTS SERVED</th>
</tr>
</thead>
<tbody>
<tr>
<td>2015</td>
<td>1,602</td>
</tr>
<tr>
<td>2016</td>
<td>998</td>
</tr>
<tr>
<td>2017</td>
<td>1,285</td>
</tr>
<tr>
<td>2018</td>
<td>2,629</td>
</tr>
<tr>
<td>2019</td>
<td>1,127</td>
</tr>
</tbody>
</table>
Water Educators Newsletter

Since 2007, West Basin has kept in touch with educators and administrators regarding its various education programs through its quarterly newsletter Waterworks, a publication that highlights the latest information about West Basin’s current and upcoming education programs. It is distributed by mail and online to an extensive database of teachers, school administrators, school district superintendents, community organizations, and homeschool networks.

Water Star Program

West Basin’s Water Star Program encourages students to save 20 gallons a day, reducing the region’s dependence on imported water and reducing runoff to the ocean. Students receive a water star conservation kit complete with fix-it tickets, a five-minute shower timer, and water saving tips. Between 2015 and 2018, 15,841 students received water star conservation kits. More than 10,000 additional students received Water Star kits during the 2013–2015 school years.

Surfrider Foundation Teach and Test Program

The Surfrider Foundation South Bay Chapter’s Teach and Test Program was founded in 2006 and is an exciting project pairing high school students with professional laboratory staff and community volunteers to monitor the water quality of our South Bay beaches. West Basin sponsors this ongoing effort to improve the water quality of Santa Monica Bay and introduce youth to water quality research and careers. Teams volunteer to collect water samples from 18 local beaches to then analyze and publish their results in an ongoing database. Students have participated from many schools within West Basin’s service area. For the years 2015–2018 approximately 100 students participated in the program each year.

Career Training Programs

West Basin partners with Suez Water to participate in the Inglewood/Airport Chamber of Commerce’s Annual Youth Business and Industry Job Shadow Day. West Basin serves as a business host and conducts a five-hour water career program and facility tour that accommodates ten students. Students are introduced to West Basin’s mission, water sustainability projects, agency organization and variety of job positions. Students then take a tour of the ECLWRF to see the results of the public/private partnership with Suez Water. Students are exposed to a wide range of careers in chemistry, biology, engineering, human resources, finance, water resource planning, public affairs, and operations and maintenance. West Basin also hosts high school summer internships in partnership with the South Bay Workforce Investment Board.

Water Industry Career Presentations

West Basin partners with different schools, agencies, and organizations throughout the school year to introduce students to careers in the water field. Programs can range from classroom presentations to staffing booths at campus STEAM Career Fairs to conducting live online professional guest panel question and answer sessions. During all programs, students are exposed to a wide range of careers in chemistry, biology, engineering, human resources, finance, water resource planning, public affairs, and operations and maintenance.

In 2020, West Basin partnered with the Water Replenishment District to offer a virtual career panel and series of informational career-focused videos for students. More than 100 students from local schools and community colleges attended the workshop.
9.2.12 Virtual Community and School Education Programs

In 2020, in response to the COVID-19 pandemic, West Basin adapted many of its public and school education programs by creating virtual opportunities that could continue serving the public despite stay-at-home orders that prevented in-person gatherings. These virtual programs have been a great success for West Basin, reaching members of the community that may have been unable to attend tours or education events in the past. Because of the value seen in these new class offerings, West Basin is planning to integrate virtual education as an ongoing piece of its overall outreach strategy.

West Basin offers a collection of free online classes and family friendly resources available to the community. All virtual webinars and facility tours are live-hosted by West Basin staff or in partnership with other subject-matter experts. Participants are given the opportunity to ask questions during and after each presentation.

Virtual opportunities that are currently offered include:

**Know Your H2O Webinar Series**
Participants have the opportunity to learn about one of four uniquely offered topics:
- Where Your Water Comes From
- Water Supply Diversity
- Conservation and Water Efficiency Topics
- Water Recycling Facility Virtual Tour

**Water Use Efficiency and Conservation Workshops and Classes**
In partnership with Metropolitan, a series of online landscape classes are held to educate West Basin residents on a variety of topics. West Basin also organizes its own conservation-focused offerings to educate the community and offer valuable resources.

- **California Friendly and Native Landscape Training**
  Learn what makes a landscape watershed wise and how to start planning a home garden project

- **Turf Removal and Garden Transformation Workshop**
  Learn how to remove grass and select climate-appropriate plants to maintain a beautiful garden year-round

- **Garden Design Workshops**
  An in-depth look at the critical steps needed to successfully design a watershed wise landscape

**Fire-Resistant Landscape Workshops**
A West Basin course that reviews plants and landscaping techniques that can help protect residential properties from fire. In 2020, West Basin hosted a firescaping workshop in the Malibu and Topanga area. Nearly 100 residents attended the workshop, asking more than 50 questions during the presentation. In April 2021, an additional workshop was held for residents in the Palos Verdes Peninsula, with nearly 200 people registering for the class. West Basin plans to offer additional online firescaping workshops in future years for different communities in its service area.
Virtual Field Trips and Online Student Resources
West Basin offers free, online water education programs that encourage 3rd–12th grade students to learn about the region’s precious water sources and how to be water stewards in their communities.

- **Virtual Field Trips**
  Live-hosted and intended as an alternative to in-person field trips. These events also support teachers conducting synchronous distance learning with their classrooms. For the combined 2019–2020 and 2020–2021 school years, approximately 70 tours have been conducted for more 1,700 students.

- **Drop in the Bucket Program**
  This is a classroom presentation program, offered in partnership with the Wildwoods Foundation, teaching students about Southern California’s water sources and practical ways to conserve water.

- **Water is Life Student Art Contest**
  Through creative slogans and supporting artwork, students use their voices to inspire their communities to value and conserve water. Live online classroom art lessons are offered to support student submission efforts.

- **Water Industry Career Presentations**
  Live online classroom presentations and guest speaker panel sessions introduce students to the professionals and career tracks in this rewarding field.

- **Games and Classroom Resources**
  A variety of online sources are offered on the West Basin website to engage and educate students of all ages.
9.3 Water Conservation Programs and Other Demand Management Measures

9.3.1 Introduction
Water Use Efficiency (WUE) and conservation continue to play a foundational role in West Basin’s water supply portfolio and long-term water demand management strategy.

In 2009, SB X7-7 was signed into law, which, among several new measures, mandated a 20% water reduction from urban water retailers by the year 2020. During the last UWMP reporting period of 2010–2015, the state of California experienced a severe drought that resulted in the declaration of a statewide emergency that further triggered mandatory water use reduction targets from all cities and retail water suppliers in California.

Between the years of 2015 and 2020, the state of California was coming out of a severe drought, and on May 31, 2018, the Governor of California signed two important pieces of legislation into law, SB 606 and AB 1668. These bills are part of the state’s over-arching mission of “Making Conservation a California Way of Life” and directs the State Water Resources Control Board (SWRCB) and the Department of Water Resources (DWR) to work with the water industry and other stakeholders to develop the programs and resources that will help both water retail agencies and wholesalers to achieve the requirements provided in the new laws. Water retail agencies will need to start reporting on these two laws in 2023.

In 2015, SB 555 was signed into law, requiring water retailers to report on their water system losses beginning in 2024.

All of these requirements have and will continue to impact how water providers ensure reliable water supplies for their service areas going forward. West Basin is committed to complying with all required regulations and will work with its retail partners and other stakeholders to ensure that a coordinated plan is implemented in its service area to incorporate the new requirements in as effective a manner as possible. In addition to implementing its current water efficiency programs, West Basin plans to research cost-effective strategies for supporting the efforts of its retail agencies to meet the new regulations.

This section of the UWMP provides West Basin’s:
- Programs and successes for the last five years
- Current programs
- New West Basin data study
- Study on under-served areas
- Partnerships

9.3.2 Past Five Years of Goals, Programs, and Successes
West Basin plays a key role in providing local water efficiency programs and technical support to its eight retail water agencies, which collectively serve residents in 17 cities and various unincorporated areas of Los Angeles County.

9.3.2.1 Water Use Efficiency Staffing
West Basin’s Water Policy and Resources Development (WPRD) Department has five budgeted positions, which includes two positions that focus specifically on water efficiency and conservation issues. A Senior Water Policy and Resources Analyst and a Water Policy and Resources Analyst II are
both full-time positions that dedicate 100% of their time to developing, implementing, and managing West Basin’s water efficiency programs. A second Senior Water Policy and Resources Analyst in the department also devotes time toward water efficiency issues by serving as a liaison between WPRD and West Basin’s Public Information and Education department, coordinating outreach and education activities.

The WPRD department works on broader water policy, planning, and legislative strategies, with the water efficiency positions mentioned above implementing the various programs described in this section. In addition to implementing programs, the water efficiency team is also involved with participating in federal, state, and local efforts to support and promote water use efficiency in the state of California.

In 1991, West Basin became a signatory to the 14 Best Management Practices with the California Urban Water Conservation Council, now called the California Water Efficiency Partnership (CalWEP). This organization works closely with DWR and the SWRCB to develop the guidebooks that will assist water suppliers in meeting the new regulations. West Basin has a seat on the Board of CalWEP and helps to direct the strategies and goals of the organization.

The West Basin WUE staff also works closely with Metropolitan, attending the monthly WUE Coordinators meeting and participating in the quarterly Project Advisory Committee meetings, where regional programs and strategies are developed. The monthly WUE meeting provides a great forum to share ideas and learn about other agency programs.

In addition to CalWEP and Metropolitan, staff participates in various water industry-related organizational events, meetings, and webinars in an effort to stay at the forefront of the water industry’s constantly evolving water efficiency requirements, best practices, and programs.

9.3.2.2 Outreach/Technical Assistance

In 2019 and 2020, West Basin hosted quarterly water efficiency meetings with its retail agencies, cities, and other stakeholders to inform and share pertinent water efficiency information. This forum was also used to include the local water retailers, cities, and other stakeholders with the development of West Basin’s Water Use Efficiency Data Study that was completed in Fiscal Year 2018–2019.

9.3.2.3 Current Programs

As the imported water wholesaler for eight retail water supply agencies, West Basin has collaborated with many important stakeholders and leveraged funding to develop and implement cost-effective programs that conserve water and energy, reduce runoff, and provide other important environmental benefits.

Listed below are the programs that were implemented between 2015 and 2020:

Cash for Kitchens

In 2017, West Basin was awarded water-energy grants from the DWR in the amount $294,125 and the United States Bureau of Reclamation (USBR) in the amount of $272,125 to enhance the program. This additional funding increased the incentives available for large devices, including air-cooled ice machines, connectionless steamers, and high-efficiency dishwashers.

West Basin continues to work with program partners to offer the Cash for Kitchens program. This program is available to restaurants and commercial kitchen facilities, and provides water efficiency surveys, free water saving devices, educational materials, and large appliance rebates.
As of December 31, 2020, the Cash for Kitchens program has conducted 146 water efficiency surveys across the service area. Additionally, this program distributed a total of 23 pre-rinse kitchen sink spray valves and 70 sink flow restrictors. A total of six ice machine rebate applications were processed for City of Carson park facilities in 2020 to increase their efficiency through air-cooled devices.

To date, the installation of these water efficiency devices will save 4,363,575 gallons of water during the device lifetime.

Rain Barrel Distribution Programs

In 2013, with financial support from Metropolitan, West Basin piloted its first rain barrel distribution event. The event was a huge success and in 2014, West Basin conducted five events, one in each of its five Divisions, in which 1,000 rain barrels were distributed to the public. In 2015, West Basin doubled the quantity to 2,000 rain barrels. The distributed rain barrels were re-purposed food barrels that were sterilized and converted to be functional and safe, so no new plastic was created.

Through 2020, West Basin has continued this popular program with over 13,000 rain barrels being distributed to local residents since program inception. The installation of rain barrels from this program will help to capture and reuse rainwater and reduce the amount of runoff from residential properties that contributes to pollution of local waterways and the ocean.

In 2021, West Basin is piloting a rain barrel home delivery program that will serve an additional 1,000 residents in the service area.
Change & Save Program

In 2017, West Basin was awarded a $506,500 water-energy funding grant from DWR and California Climate Investments to implement a program that provides residents located in underserved areas with a free residential water use assessment, a free conservation kit, and an opportunity to qualify for a $500 high-efficiency clothes washer rebate.

Table 9-5 lists the Change & Save Program goals achieved in 2020.

### Table 9-5. 2020 Change & Save Program Measures Provided

<table>
<thead>
<tr>
<th>MEASURE</th>
<th>CONDUCTED / PROVIDED</th>
</tr>
</thead>
<tbody>
<tr>
<td>On-Site and On-Line Water Efficiency Assessments</td>
<td>500</td>
</tr>
<tr>
<td>Water Efficiency Kits</td>
<td>500</td>
</tr>
<tr>
<td>$500 High-Efficiency Clothes Washer Rebates</td>
<td>50</td>
</tr>
</tbody>
</table>

Funding from DWR and Metropolitan extended West Basin’s administration of this program through June 30, 2021, allowing West Basin to provide an additional 500 surveys, 500 water-saving kits, and 350 high-efficiency clothes washer rebates.

In 2020, West Basin was selected to receive a Hermes award for its Change & Save program, for the effective and attractive use of various marketing and branding strategies to reach targeted populations living in underserved areas.

Malibu Smart and Topanga Smart

In 2017, West Basin formed an important collaboration with the City of Malibu and one of West Basin’s retail water agencies, the Los Angeles County Waterworks District #29. The partners applied for and received a $1,059,260 grant from DWR to implement a coordinated, multi-faceted water-efficiency program called Malibu Smart and Topanga Smart. West Basin worked with a consultant to help develop the program, program brand, marketing materials, and to develop relationships within the Malibu and Topanga communities.

Since then, West Basin has worked closely with its program partners to provide the following resources:

- Free on-site consultations with residents
- Increased rebates, including a $5 per square foot grass replacement rebate
- Increased incentives to residents and landscape contractors for the installation of water efficient equipment
- Free water efficiency and firescaping classes and webinars

During the period of 2015–2020, the program enjoyed many successes, but also weathered many challenges. In 2018, the City of Malibu was struck by the Woolsey Fire that destroyed over 450 homes and greatly impacted the area. In 2020, the COVID-19 pandemic provided additional obstacles for the program to overcome. Even with these challenges, West Basin and its partners were able to adjust the program to continue providing residents with cost-effective rebates and informational webinars. Table 9-6 lists the performance measures achieved between 2015 and 2020 through the Malibu and Topanga Smart programs.

Table 9-6. Malibu/Topanga Smart Program Performance Measures from 2015–2020

<table>
<thead>
<tr>
<th>MEASURE</th>
<th>PERFORMANCE METRIC</th>
</tr>
</thead>
<tbody>
<tr>
<td>Grass Replacement</td>
<td>41,599 Sq. ft. replaced</td>
</tr>
<tr>
<td>Weather Based Irrigation Controllers</td>
<td>67 installed</td>
</tr>
<tr>
<td>Sprinkler Nozzles</td>
<td>1,648 installed</td>
</tr>
<tr>
<td>Large Water Collection Cisterns</td>
<td>2 installed</td>
</tr>
<tr>
<td>Rain Barrels</td>
<td>152 installed</td>
</tr>
<tr>
<td>High-Efficiency Toilets</td>
<td>6 installed</td>
</tr>
<tr>
<td>High-Efficiency Clothes Washers</td>
<td>43 installed</td>
</tr>
<tr>
<td>Conduct Outdoor Landscape Surveys</td>
<td>55 completed</td>
</tr>
<tr>
<td>Firescaping Training and Workshops</td>
<td>4 conducted</td>
</tr>
<tr>
<td>Advanced Metering Infrastructure (AMI), also called smart meters</td>
<td>2,446 installed</td>
</tr>
<tr>
<td>Landscape Spray Heads</td>
<td>389 installed</td>
</tr>
<tr>
<td>Water Meter Flow Sensors</td>
<td>3 installed</td>
</tr>
<tr>
<td>Drip Irrigation</td>
<td>32,800 LF installed</td>
</tr>
</tbody>
</table>

The goal of the program was to conserve 28,479,465 gallons per year, and as of spring 2021, the partners reached 94% completion. The grant is set to expire in the summer of 2021. Although program activities have been greatly reduced by COVID-19, the partners continue to promote water efficiency device rebates, and Los Angeles County continues to install AMI meters. By continuing these efforts, the partners continue to work toward reaching 100% of the conservation goal by the end of the DWR contract agreement.

**Grass Removal Rebates**

In 2015, West Basin made the decision to provide additional rebate funding of $1 per square foot of grass removed to the Metropolitan incentive of $2 per square foot through a grant received by USBR.
The combined $3 per square foot rebate incentive for grass removal was a very successful program and funding only lasted for a few months.

Since the initial program, West Basin has continued to offer periodic supplemental funding for grass removal rebates throughout its service area. In doing so, the program continues to promote outdoor water efficiency through sustainable and climate-appropriate landscapes. In collaboration with Metropolitan, West Basin staff continue to promote this program and allocate supplemental funding from the West Basin budget each year. During periods when West Basin does not offer an additional $1 rebate, it continues to promote and educate the public about Metropolitan’s $2 per square foot grass removal rebate program.

Between 2015 and 2020, West Basin received 2,782 grass replacement rebate applications. Figure 9-2 shows participation and density rates in the West Basin service area for the grass removal rebate program for this period.

**Figure 9-2. West Basin Grass Removal Rebate Applications (2015-2020)**

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**Water-Efficient Device Rebates**

During this period, Metropolitan, with support from West Basin and local water retailers, provided rebates to encourage the public to purchase and install a variety of water efficient devices. Through the Change & Save program, increased marketing and outreach was conducted for high-efficiency clothes washers with a noted increase in application activity.

West Basin-led webinars promoted water efficient device rebates and savings through this campaign. Various forms of collateral were designed and shared across social media channels to encourage...
residents and businesses to apply for water efficiency rebates. Table 9-8 lists the conservation rebates West Basin provided between 2015 and 2020.

Table 9-7. Conservation Rebate Activity Summary (Metropolitan WaterSmart 2015-2020)

<table>
<thead>
<tr>
<th>DEVICE</th>
<th>NUMBER OF REBATES</th>
</tr>
</thead>
<tbody>
<tr>
<td>Single-Family Toilets</td>
<td>1,595</td>
</tr>
<tr>
<td>Single-Family Rotating Sprinkler Nozzles</td>
<td>2,801</td>
</tr>
<tr>
<td>Single-Family High-Efficiency Clothes Washers</td>
<td>2,938</td>
</tr>
<tr>
<td>Single-Family Weather-Based Irrigation Controllers</td>
<td>658</td>
</tr>
<tr>
<td>Multi-Family Toilets</td>
<td>7,686</td>
</tr>
<tr>
<td>Commercial Rotating Sprinkler Nozzles</td>
<td>9,683</td>
</tr>
<tr>
<td>Large Landscape Irrigation Controllers</td>
<td>563</td>
</tr>
</tbody>
</table>

Landscape Irrigation Efficiency Program

During the last five years, the Landscape Irrigation Efficiency Program (LIEP) provided residents and large landscape sites with free outdoor water evaluations. The LIEP included a site survey or evaluation, a list of recommended improvements and repairs, a recommended water budget and schedule, and water efficient rotating sprinkler nozzles. Table 9-9 lists the LIEP measures conducted from 2015 through 2020.

Table 9-8. LIEP Measures from 2015–2020

<table>
<thead>
<tr>
<th>MEASURE</th>
<th>QUANTITY</th>
</tr>
</thead>
<tbody>
<tr>
<td>Landscape Surveys</td>
<td>150</td>
</tr>
<tr>
<td>Sprinkler Nozzles Installed</td>
<td>2,414</td>
</tr>
</tbody>
</table>

Ocean-Friendly Demonstration Gardens Program

West Basin worked with its cities and local schools during 2015–2017 to construct additional gardens and complete 17 Ocean-Friendly Demonstration Gardens across the service area. These gardens provide great examples of how California-friendly landscapes can conserve water, reduce runoff, and provide benefits to local wildlife, birds, and insects. West Basin continues to maximize these resources to promote climate appropriate landscaping across the service area.
In late 2020, West Basin introduced Ocean-Friendly Garden webinars to support city and school staff in maintaining these sites through partner-created educational materials and content.

**California-Friendly Landscape Classes and “Hands-On-Workshops”**

During the period of 2010–2015, West Basin worked closely with the South Bay Cities Council of Governments (SBCCOG), as well as local cities and retail water agencies to implement over 30 California Friendly Landscape Classes and Ocean-Friendly Garden “Hands-on-Workshops” to teach residents how to construct a water-conserving garden. West Basin used the opportunity of constructing the gardens to also have a trained professional teach residents how to install the water conserving plants and drip irrigation system.

**California-Friendly Landscape Workshop Series**

West Basin, in collaboration with Metropolitan, has hosted California-Friendly Landscape classes across the service area. In-person classes have transitioned to a fully online resource for residents participating in the Grass Replacement Program. These classes are available through monthly webinars and include topics such as, California-Friendly Native Plant Landscape, Turf Removal and Garden Transformation, and a Garden Design Workshop. Residents benefit from additional online resources through Metropolitan’s BeWaterWise website, including the recently released *The Waterwise Garden Designed by Nature* handbook.

### 9.3.2.4 West Basin WUE Data Study

West Basin has long recognized the increasing need for supply reliability and growing emphasis on locally sourced water supplies. Over the last two decades, West Basin has taken a proactive approach to its WUE planning, with the development of its first Conservation Master Plan in 2006 and a subsequent WUE Master Plan in 2011.

In 2019, West Basin completed its WUE Data Study (Study). The Study provides West Basin with the data necessary for planning future programs. The objective of the Study is to provide a plan that articulates guiding principles and strategies for West Basin’s WUE programs to facilitate innovation and adaptability given California’s rapidly changing water resources landscape. West Basin plans to continue using the research and findings from the study to collaborate with its retail water suppliers in designing and implementing water efficiency programs that benefit the entire region.

### 9.3.2.5 Under-Served Areas Study

In 2019, West Basin partnered with Metropolitan to implement a study focused on the underserved communities within West Basin’s service area. The purpose of the study was to research how West
Basin could better promote and provide programs to this hard-to-reach sector. Historically, these communities have had lower participation rates in water efficiency and rebate programs.

**The study results provided the following conclusions:**

- Additional education and outreach programs are needed to reach these communities
- Bilingual information is also needed to better communicate with non-English speakers
- Further customer service assistance is required to help residents through the rebate process

The results of the study will help West Basin to develop more effective programs targeting residents in the under-served areas.

### 9.3.3 Future Programs

For 2021, West Basin plans to continue offering many of its programs to the communities it serves. West Basin has many popular and well branded programs that continue to receive broad community support. Unfortunately, in early 2020, COVID-19 struck the United States, and beginning in March 2020, West Basin staff began working from home.

To continue offering its usual slate of programs and rebates, West Basin staff moved quickly to adjust many of its programs. Staff developed virtual classes and modified its programs to make them contactless, to protect both staff and the public. Pending Board approval, the programs listed below will continue serving area residents and businesses through 2021.

#### Rain Barrel Home Delivery Pilot Program

In 2021, West Basin began piloting a new Rain Barrel Home Delivery Program. Through its partnership with the South Bay Environmental Services Center, residents can visit West Basin’s web site to order free rain barrels for home delivery. West Basin designed the program with safety in mind, and the rain barrels will be delivered directly to residential homes, contact free. West Basin plans to provide 1,000 rain barrels to qualifying residents on a first-come, first-served basis. As of late May 2021, nearly 900 of the 1,000 rain barrels offered through the delivery program had been reserved. Rain barrels continue to be very popular with the public and help to conserve water and reduce pollution runoff. Once COVID-19 restrictions have been largely lifted, West Basin will consider returning to in-person rain barrel distribution events or may move to a hybrid approach with both in-person and home delivery options.

#### Change & Save Program

West Basin’s Change & Save Program was offered from February 2020 through the summer of 2021. The program was developed with the help of a Water-Energy Grant from DWR, which allowed West Basin and its partners to develop a successful branded name, web site, videos, and attractive, award-winning marketing materials.

Although the grant expired in the summer of 2021, West Basin plans to use many of the branded materials to continue offering the program in future years in a reimagined way.
Pending Board approval, the new program could provide:

- Free online water efficiency assessments (on-site assessments may also be offered in the future)
- Free water efficiency kits
- Free water efficiency and leak detection webinars
- Potential combination of smart sprinkler controller giveaways, rebates, and educational webinars
- Dedicated website, social media, and newsletter resources

The program would continue to be offered to the underserved areas of West Basin, but could also be expanded to include additional West Basin communities.

Cash for Kitchens Program
West Basin’s Cash for Kitchens Program will continue to serve restaurants and commercial kitchens with virtual water efficiency surveys and additional resources. This cornerstone program supports West Basin’s mission in addressing water efficiency within the commercial, industrial, and institutional sector. Additional program elements were integrated with grant funding from DWR and USBR that will continue in the future program.

West Basin plans to continue serving this sector with free devices, water efficiency surveys, and increased appliance rebates through Metropolitan’s Member Agency Administered Incentive Program.

Malibu Smart and Topanga Smart Programs
These programs focus on providing residents and landscape contractors with rebates and incentives to install water efficient equipment to reduce outdoor water use. West Basin’s DWR grant was set to expire in the summer of 2021. However, similar to the Change & Save Program, West Basin and its partners developed a cohesive brand, web site, videos, and marketing materials that can continue to be utilized in the future.

West Basin will also continue building its partnership with the city of Malibu and Los Angeles County, to utilize the familiar branded program to provide available educational materials, rebates, incentives, and assistance to the residents of Malibu and Topanga.

Ocean-Friendly Garden Program
The Ocean-Friendly Garden Program will continue to support municipal and school staff managing the demonstration gardens built across the West Basin service area. Through collaboration with a local landscape maintenance company, West Basin will offer webinars, training resources, and on-call landscape maintenance visits.

West Basin will maximize its investments by continuing to promote the benefits of these climate appropriate gardens in conjunction with the existing grass replacement rebate.

9.3.4 Partnerships
In 2006, West Basin formed an important partnership with the region’s local SBCCOG. The SBCCOG is a joint power authority that is comprised of elected representatives for the 16 cities in the south bay area. This organization operates a program called the South Bay Environmental Services Center (SBESC). The SBESC has partnered with many companies such as SoCal Edison, the Gas Company, the Sanitation District, LADWP, WRD, West Basin and several others. Over the years, the partners have fostered important relationships with cities, businesses, energy, environment, and other entities. West Basin works closely with SBCCOG/SBESC to promote and educate the public on many of its programs.
9.4 Asset Management

West Basin allocates annual funds as part of its Capital Improvement Program for maintenance and repair of its recycled water distribution system and C. Marvin Brewer Desalter operations. West Basin has an asset management program for the recycled water distribution system and Desalter operations for maintenance and improvements. West Basin responds to needed repairs as they arise and via scheduled maintenance as identified through the Asset Management Program.

[Image: Recycled Water Pipelines]
9.5 Ongoing Wholesaler Supplier Coordination and Future Assistance Programs

9.5.1 Water Use Efficiency Survey

Given that a key focus of West Basin’s WUE programs is to meet the needs of its retail agencies and local cities, a comprehensive survey (i.e., the WUE Survey) was conducted to better quantify and understand: (1) Which WUE programs that retail water providers and customers are utilizing, (2) What drives the agencies’ and customers’ needs to increase WUE opportunities, and (3) What additional programs the agencies and customers may benefit from.

As indicated in Figure 9-3, the stakeholder survey showed that interest in future programs and partnerships remains strong.

Figure 9-3. Interest in Implementation of Potential Future Programs

Stakeholders expressed a broad desire to partner with West Basin for the implementation of many types of programs. In general, the programs that stakeholders expressed the highest interest for
partnership with West Basin were public engagement and marketing campaigns, public education (school-age and adult), and device and landscape replacement programs. West Basin plans on using the data from the study to develop effective programs that will help meet a variety of goals.

9.5.2 Quarterly Meetings

West Basin conducts quarterly WUE meetings with its retailers to discuss current programs, regulations, legislation, and other important topics. The meetings are a great opportunity for West Basin to build and maintain relationships with its retailers on various topics related to water efficiency and conservation.

9.5.3 Assistance with State Water Resources Control Board Water Use Regulations and Reporting Requirements

West Basin has long recognized the increasing need for supply reliability and investing in locally sourced water supplies. Over the last two decades, West Basin has taken a proactive approach to its WUE planning, with the development of its Conservation Master Plan in 2006 and its WUE Master Plan in 2011. In addition, West Basin supported its retail agencies with the development of eight individual WUE Master Plans in 2011.

As a continuation of its leadership and proactive planning for WUE, West Basin worked to develop a WUE Data Study in 2019. The objective of the WUE Data Study was to provide a plan that articulates guiding principles and strategies for West Basin’s WUE programs, while facilitating innovation and adaptability given California’s rapidly changing water resources landscape. West Basin worked with its eight water retailers, local cities, environmental groups, and other stakeholders to develop the data study.

In 2021, the SWRCB, DWR, CalWEP, and other agencies have been working to develop the data and guidebooks necessary to assist the water retailers and wholesalers with meeting the requirements of the new 2018 Water Conservation Legislation. The new legislation is directed to the urban retail water suppliers throughout the state and requires reporting on the Water Use Objective that is effectively calculated like a water budget for the water service, water loss performance standard and other measures, starting in 2024.

During 2021, West Basin will use the 2011 Conservation Master Plan and 2019 WUE Data Study to help its local water retailers participate in the studies being conducted by the Department of Water Resources of the pending new California “Conservation as a Way of Life” regulations. West Basin will continue offering the current conservation programs, while evaluating the cost-effectiveness and necessity of future programs aimed at assisting its retail water suppliers with meeting the new requirements once the 2018 Legislation has been formulated into new water conservation regulations. It is anticipated that the 2025 UWMP will incorporate West Basin’s adaptation of its program to best support the retail agency compliance with the new regulations.

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1 More information is available online: https://water.ca.gov/Programs/Water-Use-And-Efficiency/2018-Water-Conservation-Legislation
10 Plan Adoption, Submittal, and Implementation

This section describes the steps taken to adopt and submit the UWMP and to make it publicly available.

The 2020 Urban Water Management Plan (UWMP), 2021 Water Shortage Contingency Plan (WSCP), and 2015 UWMP addendum were prepared in a transparent manner, and West Basin actively engaged stakeholders, cities, counties, water agencies, and the public to both seek and distribute water use, supply, and reliability information to strengthen the region’s ability to assess and plan for the region’s water future. West Basin included all requisite 2020 data in the development of this UWMP.

IN THIS SECTION
- Public Hearing Notices
- Plan Adoption
- Public Availability
10.1 Notice of Public Hearing

California Water Code Section 10621(b) requires that suppliers notify the cities and counties in which they serve water that the UWMP and WSCP are being updated and reviewed. This notification must occur at least 60 days prior to the public hearing. To fulfill this requirement, West Basin sent notification letters to all cities and counties within the service area of its intent to update the UWMP more than 60 days prior to the public hearing. In addition, West Basin notified its retailers and other stakeholders, shown in Chapter 2, Table 2-1. A copy of the notification letters are included in Appendix E to this UWMP.

In addition to the notifications, West Basin actively engaged and coordinated with its retail agencies, Metropolitan, and other stakeholders throughout the preparation of this plan through a formal workshop and various meetings. More information on agency coordination is discussed in Section 2.1.

West Basin made the 2020 UWMP, 2021 WSCP, and 2015 UWMP addendum available for public review on May 25, 2021, and held a public hearing on June 10, 2021. The notice to the public was published once a week for two successive weeks. The public hearing was first noticed in five local newspapers in late May 2021, and noticed a second time in early June 2021, as shown in Table 10-1. The hearing notices are attached as Appendix E.

West Basin maintained a copy of the 2020 UWMP, 2021 WSCP, and 2015 UWMP addendum in its office prior to the public hearing for review and on the agency’s website at www.westbasin.org.

Table 10-1. Newspaper Public Notices

<table>
<thead>
<tr>
<th>PUBLICATION</th>
<th>FIRST PUBLISH DATE</th>
<th>SECOND PUBLISH DATE</th>
<th>LANGUAGE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Daily Breeze</td>
<td>May 25, 2021</td>
<td>June 1, 2021</td>
<td>English</td>
</tr>
<tr>
<td>Gardena Valley News</td>
<td>May 27, 2021</td>
<td>June 3, 2021</td>
<td>English</td>
</tr>
<tr>
<td>La Opinion</td>
<td>May 25, 2021</td>
<td>June 1, 2021</td>
<td>Spanish</td>
</tr>
<tr>
<td>Los Angeles Sentinel</td>
<td>May 27, 2021</td>
<td>June 3, 2021</td>
<td>English</td>
</tr>
<tr>
<td>Malibu Times</td>
<td>May 27, 2021</td>
<td>June 3, 2021</td>
<td>English</td>
</tr>
</tbody>
</table>

10.2 Public Hearing and Adoption

The 2020 UWMP, 2021 WSCP, and 2015 UWMP addendum were included as separate agenda items, noticed, and reviewed in a public hearing at a special Board of Directors meeting on June 10, 2021. This hearing provided cities, counties, and members of the public an opportunity to review the staff report and provide comments. The public hearing took place before the adoption, allowing the opportunity for the report to be modified in response to public input. The 2020 UWMP, 2021 WSCP, and 2015 UWMP addendum were adopted by West Basin’s Board of Directors at its regularly scheduled Board meeting on June 28, 2021. A copy of each Board Resolution of Plan Adoption is included as Appendix F.
10.3 Plan Submittal
The 2020 UWMP, 2021 WSCP, and 2015 UWMP addendum were submitted to the California Department of Water Resources (DWR) by July 1, 2021 (within 30 days of adoption), using the online DWR WUE Data Portal. The documents were also submitted to the California State Library and to all cities and counties within West Basin’s service area within 30 days of adoption.

10.4 Public Availability
Commencing no later than July 1, 2021, West Basin will make copies of the 2020 UWMP, 2021 WSCP, and 2015 UWMP addendum available for public review on the West Basin website at www.westbasin.org. Additional copies of these documents will also be available for review at the West Basin Administrative Office (see address below) during normal business hours once the building has been reopened following the lifting of COVID-19 restrictions.

West Basin Municipal Water District
Donald L. Dear Building
17140 South Avalon Blvd.
Carson, CA 90746-1296

10.5 Amending an Adopted UWMP or WSCP
Amendments to West Basin’s 2020 UWMP and 2021 WSCP will be made on an as-needed basis. Should West Basin need to amend the adopted 2020 UWMP or 2021 WSCP in the future, West Basin will hold a public hearing for review of the proposed amendments to the documents. West Basin will send a 60-day notification letter to all cities and counties within its service area and notify the public in the same manner as set forth in Chapter 2 of this UWMP. Once the amended document is adopted, a copy of the finalized version will be sent to the California State Library, DWR (electronically using the WUE data reporting tool), and all cities and counties within West Basin’s service area within 30 days of adoption. The updated version will be posted to the West Basin website and hard copies will be available for public review at West Basin’s Administrative Office during normal business hours.


Climate Change and Water. (2021). Retrieved from California Department of Water Resources: https://water.ca.gov/Programs/All-Programs/Climate-Change-Program/Climate-Change-and-Water


Hazen and Sawyer. (June 2014). Ocean Water Desalination Water Quality Integration Study.


State Water Project. (2021). Retrieved from California Department of Water Resources: https://water.ca.gov/Programs/State-Water-Project


Water Replenishment District . (2021). WIN 4 ALL. Retrieved from Water Replenishment District of Southern California: https://www.wrd.org/content/win-4-all


A

UWMP Checklist
<table>
<thead>
<tr>
<th>Subject</th>
<th>2020 Guidebook Location</th>
<th>Water Code Section</th>
<th>Summary as Applies to UWMP</th>
<th>2020 UWMP Location</th>
</tr>
</thead>
<tbody>
<tr>
<td>Introduction and Overview</td>
<td>Chapter 1</td>
<td>10615</td>
<td>A plan shall describe and evaluate sources of supply, reasonable and practical efficient uses, reclamation and demand management activities.</td>
<td>Section 1.1</td>
</tr>
<tr>
<td>Summary</td>
<td>Chapter 1</td>
<td>10630.5</td>
<td>Each plan shall include a simple description of the supplier’s plan including water availability, future requirements, a strategy for meeting needs, and other pertinent information. Additionally, a supplier may also choose to include a simple description at the beginning of each chapter.</td>
<td>Chapter 1 Intro page</td>
</tr>
<tr>
<td>Plan Preparation</td>
<td>Section 2.2</td>
<td>10620(b)</td>
<td>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.</td>
<td>N/A</td>
</tr>
<tr>
<td>Plan Preparation</td>
<td>Section 2.6</td>
<td>10620(d)(2)</td>
<td>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.</td>
<td>Section 2.1</td>
</tr>
<tr>
<td>Plan Preparation</td>
<td>Section 2.6.2</td>
<td>10642</td>
<td>Provide supporting documentation that the water supplier has encouraged active involvement of diverse social, cultural, and economic elements of the population within the service area prior to and during the preparation of the plan and contingency plan.</td>
<td>Appendix E</td>
</tr>
<tr>
<td>System Supplies</td>
<td>Section 2.6</td>
<td>10631(h)</td>
<td>Wholesale suppliers will include documentation that they have provided their urban water suppliers with identification and quantification of the existing and planned sources of water available from the wholesale to the urban supplier during various water year types.</td>
<td>Table 2-1 &amp; Appendix E</td>
</tr>
<tr>
<td>System Description</td>
<td>Section 3.1</td>
<td>10631(a)</td>
<td>Describe the water supplier service area.</td>
<td>Section 3.1, Figure 3-2</td>
</tr>
<tr>
<td>System Description</td>
<td>Section 3.3</td>
<td>10631(a)</td>
<td>Describe the climate of the service area of the supplier.</td>
<td>Section 3.2</td>
</tr>
<tr>
<td>System Description</td>
<td>Section 3.4</td>
<td>10631(a)</td>
<td>Provide population projections for 2025, 2030, 2035, 2040 and optionally 2045.</td>
<td>Section 3.3, Table 3-2</td>
</tr>
<tr>
<td>System Description</td>
<td>Section 3.4.2</td>
<td>10631(a)</td>
<td>Describe other social, economic, and demographic factors affecting the supplier’s water management planning.</td>
<td>Section 3.3.1</td>
</tr>
<tr>
<td>System Description and Baselines and Targets</td>
<td>Sections 3.4 and 5.4</td>
<td>10631(a)</td>
<td>Indicate the current population of the service area.</td>
<td>Section 3.3, Table 3-2</td>
</tr>
<tr>
<td>System Description</td>
<td>Section 3.5</td>
<td>10631(a)</td>
<td>Describe the land uses within the service area.</td>
<td>N/A</td>
</tr>
<tr>
<td>System Water Use</td>
<td>Section 4.2</td>
<td>10631(d)(1)</td>
<td>Quantify past, current, and projected water use, identifying the uses among water use sectors.</td>
<td>Section 4.1, Section 4.2</td>
</tr>
<tr>
<td>System Water Use</td>
<td>Section 4.2.6</td>
<td>10631(d)(4)(A)</td>
<td>In projected water use, include estimates of water savings from adopted codes, plans and other policies or laws.</td>
<td>Section 4.1.2: Conservation</td>
</tr>
<tr>
<td>System Water Use</td>
<td>Section 4.2.6</td>
<td>10631(d)(4)(B)</td>
<td>Provide citations of codes, standards, ordinances, or plans used to make water use projections.</td>
<td>Section 4.1.2</td>
</tr>
<tr>
<td>System Water Use</td>
<td>Section 4.5</td>
<td>10635(b)</td>
<td>Demands under climate change considerations must be included as part of the drought risk assessment.</td>
<td>Section 3.2.1</td>
</tr>
<tr>
<td>Subject</td>
<td>2020 Guidebook Location</td>
<td>Water Code Section</td>
<td>Summary as Applies to UWMP</td>
<td>2020 UWMP Location</td>
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<tr>
<td>Baselines and Targets</td>
<td>Section 5.1</td>
<td>10608.36</td>
<td>Wholesale suppliers shall include an assessment of present and proposed future measures, programs, and policies to help their retail water suppliers achieve targeted water use reductions.</td>
<td>Section 9.3</td>
</tr>
<tr>
<td>System Supplies</td>
<td>Sections 6.1 and 6.2</td>
<td>10631(b)(1)</td>
<td>Provide a discussion of anticipated supply availability under a normal, single dry year, and a drought lasting five years, as well as more frequent and severe periods of drought.</td>
<td>Section 7.2</td>
</tr>
<tr>
<td>System Supplies</td>
<td>Sections 6.1</td>
<td>10631(b)(1)</td>
<td>Provide a discussion of anticipated supply availability under a normal, single dry year, and a drought lasting five years, as well as more frequent and severe periods of drought, including changes in supply due to climate change.</td>
<td>Section 7.1.5</td>
</tr>
<tr>
<td>System Supplies</td>
<td>Section 6.1</td>
<td>10631(b)(2)</td>
<td>When multiple sources of water supply are identified, describe the management of each supply in relationship to other identified supplies.</td>
<td>Section 6.1</td>
</tr>
<tr>
<td>System Supplies</td>
<td>Section 6.1.1</td>
<td>10631(b)(3)</td>
<td>Describe measures taken to acquire and develop planned sources of water.</td>
<td>Section 6.8.2</td>
</tr>
<tr>
<td>System Supplies</td>
<td>Section 6.2.8</td>
<td>10631(b)</td>
<td>Identify and quantify the existing and planned sources of water available for 2020, 2025, 2030, 2035, 2040 and optionally 2045.</td>
<td>Section 6.9</td>
</tr>
<tr>
<td>System Supplies</td>
<td>Section 6.2</td>
<td>10631(b)</td>
<td>Indicate whether groundwater is an existing or planned source of water available to the supplier.</td>
<td>Section 6.3</td>
</tr>
<tr>
<td>System Supplies</td>
<td>Section 6.2.2</td>
<td>10631(b)(4)(A)</td>
<td>Indicate whether a groundwater sustainability plan or groundwater management plan has been adopted by the water supplier or if there is any other specific authorization for groundwater management. Include a copy of the plan or authorization.</td>
<td>N/A</td>
</tr>
<tr>
<td>System Supplies</td>
<td>Section 6.2.2</td>
<td>10631(b)(4)(B)</td>
<td>Describe the groundwater basin.</td>
<td>Section 6.3.1</td>
</tr>
<tr>
<td>System Supplies</td>
<td>Section 6.2.2.1</td>
<td>10631(b)(4)(B)</td>
<td>Indicate if the basin has been adjudicated and include a copy of the court order or decree and a description of the amount of water the supplier has the legal right to pump.</td>
<td>Appendix G</td>
</tr>
<tr>
<td>System Supplies</td>
<td>Section 6.2.2.2</td>
<td>10631(b)(4)(B)</td>
<td>For unadjudicated basins, indicate whether or not the department has identified the basin as a high or medium priority. Describe efforts by the supplier to coordinate with sustainability or groundwater agencies to achieve sustainable groundwater conditions.</td>
<td>N/A</td>
</tr>
<tr>
<td>System Supplies</td>
<td>Section 6.2.2.4</td>
<td>10631(b)(4)(C)</td>
<td>Provide a detailed description and analysis of the location, amount, and sufficiency of groundwater pumped by the urban water supplier for the past five years.</td>
<td>Section 6.3.2</td>
</tr>
<tr>
<td>System Supplies</td>
<td>Section 6.2.2</td>
<td>10631(b)(4)(D)</td>
<td>Provide a detailed description and analysis of the amount and location of groundwater that is projected to be pumped.</td>
<td>Section 6.3.3</td>
</tr>
<tr>
<td>System Supplies (Recycled Water)</td>
<td>Section 6.2.5</td>
<td>10633(b)</td>
<td>Describe the quantity of treated wastewater that meets recycled water standards, is being discharged, and is otherwise available for use in a recycled water project.</td>
<td>Section 6.4, Section 6.4.2</td>
</tr>
<tr>
<td>System Supplies (Recycled Water)</td>
<td>Section 6.2.5</td>
<td>10633(c)</td>
<td>Describe the recycled water currently being used in the supplier's service area.</td>
<td>Section 6.4, Section 6.4.1, Section 6.4.4</td>
</tr>
<tr>
<td>System Supplies (Recycled Water)</td>
<td>Section 6.2.5</td>
<td>10633(d)</td>
<td>Describe and quantify the potential uses of recycled water and provide a determination of the technical and economic feasibility of those uses.</td>
<td>Section 6.4.4</td>
</tr>
<tr>
<td>Subject</td>
<td>2020 Guidebook Location</td>
<td>Water Code Section</td>
<td>Summary as Applies to UWMP</td>
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<tr>
<td>System Supplies (Recycled Water)</td>
<td>Section 6.2.5</td>
<td>10633(e)</td>
<td>Describe the projected use of recycled water within the supplier's service area at the end of 5, 10, 15, and 20 years, and a description of the actual use of recycled water in comparison to uses previously projected.</td>
<td>Section 6.4.2</td>
</tr>
<tr>
<td>System Supplies (Recycled Water)</td>
<td>Section 6.2.5</td>
<td>10633(f)</td>
<td>Describe the actions which may be taken to encourage the use of recycled water and the projected results of these actions in terms of acre-feet of recycled water used per year.</td>
<td>Section 6.4.3</td>
</tr>
<tr>
<td>System Supplies (Recycled Water)</td>
<td>Section 6.2.5</td>
<td>10633(g)</td>
<td>Provide a plan for optimizing the use of recycled water in the supplier's service area.</td>
<td>Section 6.4.3</td>
</tr>
<tr>
<td>System Supplies</td>
<td>Section 6.2.6</td>
<td>10631(g)</td>
<td>Describe desalinated water project opportunities for long-term supply.</td>
<td>Section 6.5, 6.8</td>
</tr>
<tr>
<td>System Supplies (Recycled Water)</td>
<td>Section 6.2.5</td>
<td>10633(a)</td>
<td>Describe the wastewater collection and treatment systems in the supplier’s service area with quantified amount of collection and treatment and the disposal methods.</td>
<td>Section 6.4, 6.4.2</td>
</tr>
<tr>
<td>System Supplies</td>
<td>Section 6.2.8, Section 6.3.7</td>
<td>10631(f)</td>
<td>Describe the expected future water supply projects and programs that may be undertaken by the water supplier to address water supply reliability in average, single-dry, and for a period of drought lasting 5 consecutive water years.</td>
<td>Section 7.1.4</td>
</tr>
<tr>
<td>System Suppliers, Energy Intensity</td>
<td>Section 6.4 and Appendix O</td>
<td>10631.2(a)</td>
<td>The UWMP must include energy information, as stated in the code, that a supplier can readily obtain.</td>
<td>Section 6.10</td>
</tr>
<tr>
<td>Water Supply Reliability Assessment</td>
<td>Section 7.2</td>
<td>10634</td>
<td>Provide information on the quality of existing sources of water available to the supplier and the manner in which water quality affects water management strategies and supply reliability</td>
<td>Section 7.1.6</td>
</tr>
<tr>
<td>Water Supply Reliability Assessment</td>
<td>Section 7.2.4</td>
<td>10620(f)</td>
<td>Describe water management tools and options to maximize resources and minimize the need to import water from other regions.</td>
<td>Section 7.1</td>
</tr>
<tr>
<td>Water Supply Reliability Assessment</td>
<td>Section 7.3</td>
<td>10635(a)</td>
<td>Service Reliability Assessment: Assess the water supply reliability during normal, dry, and a drought lasting five consecutive water years by comparing the total water supply sources available to the water supplier with the total projected water use over the next 20 years.</td>
<td>Section 7.2.2</td>
</tr>
<tr>
<td>Water Supply Reliability Assessment</td>
<td>Section 7.3</td>
<td>10635(b)</td>
<td>Provide a drought risk assessment as part of information considered in developing the demand management measures and water supply projects.</td>
<td>Section 7.3</td>
</tr>
<tr>
<td>Water Supply Reliability Assessment</td>
<td>Section 7.3</td>
<td>10635(b)(1)</td>
<td>Include 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 5 consecutive years.</td>
<td>Section 7.3.1</td>
</tr>
<tr>
<td>Water Supply Reliability Assessment</td>
<td>Section 7.3</td>
<td>10635(b)(2)</td>
<td>Include a determination of the reliability of each source of supply under a variety of water shortage conditions.</td>
<td>Section 7.3.2</td>
</tr>
<tr>
<td>Subject</td>
<td>2020 Guidebook Location</td>
<td>Water Code Section</td>
<td>Summary as Applies to UWMP</td>
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<tr>
<td>Water Supply Reliability Assessment</td>
<td>Section 7.3</td>
<td>10635(b)(3)</td>
<td>Include a comparison of the total water supply sources available to the water supplier with the total projected water use for the drought period.</td>
<td>Section 7.1.6</td>
</tr>
<tr>
<td>Water Supply Reliability Assessment</td>
<td>Section 7.3</td>
<td>10635(b)(4)</td>
<td>Include 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.</td>
<td>Section 7.2.1</td>
</tr>
<tr>
<td>Water Shortage Contingency Planning</td>
<td>Chapter 8</td>
<td>10632(a)</td>
<td>Provide a water shortage contingency plan (WSCP) with specified elements below.</td>
<td>Appendix C</td>
</tr>
<tr>
<td>Water Shortage Contingency Planning</td>
<td>Chapter 8</td>
<td>10632(a)(1)</td>
<td>Provide the analysis of water supply reliability (from Chapter 7 of Guidebook) in the WSCP</td>
<td>Appendix C: Section C.1</td>
</tr>
<tr>
<td>Water Shortage Contingency Planning</td>
<td>Section 8.10</td>
<td>10632(a)(10)</td>
<td>Describe reevaluation and improvement procedures for monitoring and evaluation the water shortage contingency plan to ensure risk tolerance is adequate and appropriate water shortage mitigation strategies are implemented.</td>
<td>Appendix C: Section C.3</td>
</tr>
<tr>
<td>Water Shortage Contingency Planning</td>
<td>Section 8.2</td>
<td>10632(a)(2)(A)</td>
<td>Provide the written decision-making process and other methods that the supplier will use each year to determine its water reliability.</td>
<td>Appendix C: Section C.3.1</td>
</tr>
<tr>
<td>Water Shortage Contingency Planning</td>
<td>Section 8.2</td>
<td>10632(a)(2)(B)</td>
<td>Provide data and methodology to evaluate the supplier’s water reliability for the current year and one dry year pursuant to factors in the code.</td>
<td>Appendix C: Section C.3.2</td>
</tr>
<tr>
<td>Water Shortage Contingency Planning</td>
<td>Section 8.3</td>
<td>10632(a)(3)(A)</td>
<td>Define six standard water shortage levels of 10, 20, 30, 40, 50 percent shortage and greater than 50 percent shortage. These levels shall be based on supply conditions, including percent reductions in supply, changes in groundwater levels, changes in surface elevation, or other conditions. The shortage levels shall also apply to a catastrophic interruption of supply.</td>
<td>Appendix C: Section C.3.3</td>
</tr>
<tr>
<td>Water Shortage Contingency Planning</td>
<td>Section 8.3</td>
<td>10632(a)(3)(B)</td>
<td>Suppliers with an existing water shortage contingency plan that uses different water shortage levels must cross reference their categories with the six standard categories.</td>
<td>N/A</td>
</tr>
<tr>
<td>Water Shortage Contingency Planning</td>
<td>Section 8.4</td>
<td>10632(a)(4)(A)</td>
<td>Suppliers with water shortage contingency plans that align with the defined shortage levels must specify locally appropriate supply augmentation actions.</td>
<td>Appendix C: Section C.4.2</td>
</tr>
<tr>
<td>Water Shortage Contingency Planning</td>
<td>Section 8.4</td>
<td>10632(a)(4)(B)</td>
<td>Specify locally appropriate demand reduction actions to adequately respond to shortages.</td>
<td>Appendix C: Section C.4.1</td>
</tr>
<tr>
<td>Water Shortage Contingency Planning</td>
<td>Section 8.4</td>
<td>10632(a)(4)(C)</td>
<td>Specify locally appropriate operational changes.</td>
<td>Appendix C: Section C.4.3</td>
</tr>
<tr>
<td>Water Shortage Contingency Planning</td>
<td>Section 8.4</td>
<td>10632(a)(4)(D)</td>
<td>Specify additional mandatory prohibitions against specific water use practices that are in addition to state-mandated prohibitions are appropriate to local conditions.</td>
<td>Appendix C: Section C.4.4</td>
</tr>
<tr>
<td>Subject</td>
<td>2020 Guidebook Location</td>
<td>Water Code Section</td>
<td>Summary as Applies to UWMP</td>
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<tr>
<td>Water Shortage Contingency Planning</td>
<td>Section 8.4</td>
<td>10632(a)(4)(E)</td>
<td>Estimate the extent to which the gap between supplies and demand will be reduced by implementation of the action.</td>
<td>Appendix C: Section 3.4.6</td>
</tr>
<tr>
<td>Water Shortage Contingency Plan</td>
<td>Section 8.4.6</td>
<td>10632.5</td>
<td>The plan shall include a seismic risk assessment and mitigation plan.</td>
<td>Appendix C: Section 3.4.6</td>
</tr>
<tr>
<td>Water Shortage Contingency Planning</td>
<td>Section 8.5</td>
<td>10632(a)(5)(A)</td>
<td>Suppliers must describe that they will inform customers, the public and others regarding any current or predicted water shortages.</td>
<td>Appendix C: Section 3.5</td>
</tr>
<tr>
<td>Water Shortage Contingency Planning</td>
<td>Section 8.5 and 8.6</td>
<td>10632(a)(5)(B)-10632(a)(5)(C)</td>
<td>Suppliers must describe that they will inform customers, the public and others regarding any shortage response actions triggered or anticipated to be triggered and other relevant communications.</td>
<td>Appendix C: Section 3.5</td>
</tr>
<tr>
<td>Water Shortage Contingency Planning</td>
<td>Section 8.7</td>
<td>10632(a)(7)(B)</td>
<td>Provide a statement that the supplier will declare a water shortage emergency Water Code Chapter 3.</td>
<td>Appendix C: Section 3.7</td>
</tr>
<tr>
<td>Water Shortage Contingency Planning</td>
<td>Section 8.7</td>
<td>10632(a)(7)(C)</td>
<td>Provide a statement that the supplier will coordinate with any city or county within which it provides water for the possible proclamation of a local emergency.</td>
<td>Appendix C: Section 3.7</td>
</tr>
<tr>
<td>Water Shortage Contingency Planning</td>
<td>Section 8.8</td>
<td>10632(a)(8)(A)</td>
<td>Describe the potential revenue reductions and expense increases associated with activated shortage response actions.</td>
<td>Appendix C: Section 3.8</td>
</tr>
<tr>
<td>Water Shortage Contingency Planning</td>
<td>Section 8.8</td>
<td>10632(a)(8)(B)</td>
<td>Provide a description of mitigation actions needed to address revenue reductions and expense increases associated with activated shortage response actions.</td>
<td>Appendix C: Section 3.8</td>
</tr>
<tr>
<td>Plan Adoption, Submittal, and Implementation</td>
<td>Sections 8.12 and 10.4</td>
<td>10635(c)</td>
<td>Provide supporting documentation that Water Shortage Contingency Plan has been, or will be, provided to any city or county within which it provides water, no later than 30 days after the submission of the plan to DWR.</td>
<td>Appendix C: Section 3.12</td>
</tr>
<tr>
<td>Water Shortage Contingency Planning</td>
<td>Section 8.14</td>
<td>10632(c)</td>
<td>Make available the Water Shortage Contingency Plan to customers and any city or county where it provides water within 30 after adopted the plan.</td>
<td>Appendix C: Section 3.12</td>
</tr>
<tr>
<td>Demand Management Measures</td>
<td>Sections 9.1 and 9.3</td>
<td>10631(e)(2)</td>
<td>Wholesale suppliers shall describe specific demand management measures listed in code, their distribution system asset management program, and supplier assistance program.</td>
<td>Section 9.4, Section 9.5</td>
</tr>
<tr>
<td>Plan Adoption, Submittal, and Implementation</td>
<td>Section 10.2.1</td>
<td>10621(b)</td>
<td>Notify, at least 60 days prior to the public hearing, any city or county within which the supplier provides water that the urban water supplier will be reviewing the plan and considering amendments or changes to the plan.</td>
<td>Section 10.1, Section 10.3</td>
</tr>
<tr>
<td>Plan Adoption, Submittal, and Implementation</td>
<td>Section 10.4</td>
<td>10621(f)</td>
<td>Each urban water supplier shall update and submit its 2020 plan to the department by July 1, 2021.</td>
<td>Section 10.1</td>
</tr>
<tr>
<td>Subject</td>
<td>2020 Guidebook Location</td>
<td>Water Code Section</td>
<td>Summary as Applies to UWMP</td>
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<tr>
<td>Plan Adoption, Submittal, and Implementation</td>
<td>Sections 10.2.2, 10.3, and 10.5</td>
<td>10642</td>
<td>Provide supporting documentation that the urban water supplier made the plan and contingency plan available for public inspection, published notice of the public hearing, and held a public hearing about the plan and contingency plan.</td>
<td>Appendix E</td>
</tr>
<tr>
<td>Plan Adoption, Submittal, and Implementation</td>
<td>Section 10.2.2</td>
<td>10642</td>
<td>The water supplier is to provide the time and place of the hearing to any city or county within which the supplier provides water.</td>
<td>Section 10.1, Section 10.2</td>
</tr>
<tr>
<td>Plan Adoption, Submittal, and Implementation</td>
<td>Section 10.3.2</td>
<td>10642</td>
<td>Provide supporting documentation that the plan and contingency plan has been adopted as prepared or modified.</td>
<td>Appendix F</td>
</tr>
<tr>
<td>Plan Adoption, Submittal, and Implementation</td>
<td>Section 10.4</td>
<td>10644(a)</td>
<td>Provide supporting documentation that the urban water supplier has submitted this UWMP to the California State Library.</td>
<td>Section 10.3</td>
</tr>
<tr>
<td>Plan Adoption, Submittal, and Implementation</td>
<td>Section 10.4</td>
<td>10644(a)(1)</td>
<td>Provide supporting documentation that the urban water supplier has submitted this UWMP to any city or county within which the supplier provides water no later than 30 days after adoption.</td>
<td>Section 10.4</td>
</tr>
<tr>
<td>Plan Adoption, Submittal, and Implementation</td>
<td>Sections 10.4.1 and 10.4.2</td>
<td>10644(a)(2)</td>
<td>The plan, or amendments to the plan, submitted to the department shall be submitted electronically.</td>
<td>Section 10.3</td>
</tr>
<tr>
<td>Plan Adoption, Submittal, and Implementation</td>
<td>Section 10.5</td>
<td>10645(a)</td>
<td>Provide supporting documentation that, not later than 30 days after filing a copy of its plan with the department, the supplier has or will make the plan available for public review during normal business hours.</td>
<td>Section 10.4</td>
</tr>
<tr>
<td>Plan Adoption, Submittal, and Implementation</td>
<td>Section 10.5</td>
<td>10645(b)</td>
<td>Provide supporting documentation that, not later than 30 days after filing a copy of its water shortage contingency plan with the department, the supplier has or will make the plan available for public review during normal business hours.</td>
<td>Section 10.4</td>
</tr>
<tr>
<td>Plan Adoption, Submittal, and Implementation</td>
<td>Section 10.6</td>
<td>10621(c)</td>
<td>If supplier is regulated by the Public Utilities Commission, include its plan and contingency plan as part of its general rate case filings.</td>
<td>N/A</td>
</tr>
<tr>
<td>Plan Adoption, Submittal, and Implementation</td>
<td>Section 10.7.2</td>
<td>10644(b)</td>
<td>If revised, submit a copy of the water shortage contingency plan to DWR within 30 days of adoption.</td>
<td>Section 10.5</td>
</tr>
</tbody>
</table>
DWR Standardized Tables
## Public Water Systems

<table>
<thead>
<tr>
<th>Type of Plan</th>
<th>Member of RUWMP</th>
<th>Member of Regional Alliance</th>
<th>Name of RUWMP or Regional Alliance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Individual UWMP</td>
<td>No</td>
<td>No</td>
<td></td>
</tr>
</tbody>
</table>
### Agency Identification

<table>
<thead>
<tr>
<th>Type of Supplier</th>
<th>Year Type</th>
<th>First Day of Year</th>
<th>Unit Type</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wholesaler</td>
<td>Fiscal Years</td>
<td>DD: 1  MM: 7</td>
<td>Acre Feet (AF)</td>
</tr>
</tbody>
</table>

**Conversion to Gallons:** 325851  
**Conversion to Gallons per Day:** 892.7425
Supplier has informed more than 10 other water suppliers of water supplies available in accordance with Water Code Section 10631. Completion of the table below is optional.

If not completed, include a list of the water suppliers that were informed.

**Location of List:** Table 2-1 on page 2-3 of the Plan.
<table>
<thead>
<tr>
<th>Population Served</th>
<th>2020</th>
<th>2025</th>
<th>2030</th>
<th>2035</th>
<th>2040</th>
<th>2045</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total</td>
<td>829,000</td>
<td>869,252</td>
<td>880,718</td>
<td>893,089</td>
<td>902,163</td>
<td>913,615</td>
</tr>
</tbody>
</table>

Source: Metropolitan Water District of Southern California 2020 UWMP
### 4-1W | Actual Demands for Water

<table>
<thead>
<tr>
<th>Use Type</th>
<th>Additional Description</th>
<th>Level of Treatment When Delivered</th>
<th>2020 Volume</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sales/Transfers/Exchanges to Other Agencies</td>
<td>Sales - Imported Water</td>
<td>Drinking Water</td>
<td>105,686</td>
</tr>
<tr>
<td>Sales/Transfers/Exchanges to Other Agencies</td>
<td>Sales - Brackish Groundwater</td>
<td>Drinking Water</td>
<td>124</td>
</tr>
<tr>
<td>Saline Water Intrusion Barrier</td>
<td>Sales - Imported Water</td>
<td>Drinking Water</td>
<td>6,950</td>
</tr>
<tr>
<td><strong>Total:</strong></td>
<td></td>
<td></td>
<td><strong>112,760</strong></td>
</tr>
</tbody>
</table>

Note: 2020 volume excludes recycled water.
## Projected Demands for Water

<table>
<thead>
<tr>
<th>Use Type</th>
<th>Additional Description</th>
<th>Projected Water Use</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>2025</td>
</tr>
<tr>
<td>Sales/Transfers/Exchanges to Other Agencies</td>
<td>Sales - Imported Water</td>
<td>95,890</td>
</tr>
<tr>
<td><strong>Total:</strong></td>
<td></td>
<td>95,890</td>
</tr>
</tbody>
</table>

Note: Projections excludes recycled water.
# Total Water Use

<table>
<thead>
<tr>
<th></th>
<th>2020</th>
<th>2025</th>
<th>2030</th>
<th>2035</th>
<th>2040</th>
<th>2045</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Potable and Raw Water</strong>&lt;br&gt; From Table 4-1W and 4-2W</td>
<td>112,760</td>
<td>95,890</td>
<td>89,460</td>
<td>89,750</td>
<td>89,360</td>
<td>89,460</td>
</tr>
<tr>
<td><strong>Recycled Water Demand</strong>*&lt;br&gt; From Table 6-4W</td>
<td>28,045</td>
<td>50,300</td>
<td>60,700</td>
<td>70,700</td>
<td>76,300</td>
<td>76,300</td>
</tr>
<tr>
<td><strong>Total Water Demand:</strong></td>
<td>140,805</td>
<td>146,190</td>
<td>150,160</td>
<td>160,450</td>
<td>165,660</td>
<td>165,760</td>
</tr>
</tbody>
</table>
All or part of the groundwater described below is desalinated.

<table>
<thead>
<tr>
<th>Groundwater Type</th>
<th>Location or Basin Name</th>
<th>2016</th>
<th>2017</th>
<th>2018</th>
<th>2019</th>
<th>2020</th>
</tr>
</thead>
<tbody>
<tr>
<td>Alluvial Basin</td>
<td>West Coast Basin</td>
<td>779</td>
<td>284</td>
<td>50</td>
<td>238</td>
<td>124</td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>779</td>
<td>284</td>
<td>50</td>
<td>238</td>
<td>124</td>
</tr>
</tbody>
</table>
The supplier will complete the table.

<table>
<thead>
<tr>
<th>Wastewater Treatment Plant Name</th>
<th>Discharge Location Name or Identifier</th>
<th>Discharge Location Description</th>
<th>Wastewater Discharge ID Number</th>
<th>Method of Disposal</th>
<th>Plant Treats Wastewater Generated Outside the Service Area</th>
<th>Treatment Level</th>
<th>Treatment Level</th>
<th>2020 Volumes</th>
<th>2020 Volumes</th>
<th>2020 Volumes</th>
<th>Instream Flow Permit Requirement</th>
</tr>
</thead>
<tbody>
<tr>
<td>ELCWRF</td>
<td>Brine permit: NPDES #CA0063401</td>
<td>Brine is to the City of Los Angeles’ Hyperion WRF ocean outfall</td>
<td></td>
<td>Ocean outfall</td>
<td>Yes</td>
<td>Tertiary</td>
<td>34,903</td>
<td>-</td>
<td>28,046</td>
<td>6,857</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Total: 34,903</td>
<td>-</td>
<td>28,046</td>
<td>6,857</td>
<td></td>
</tr>
</tbody>
</table>

6-3W | Wastewater Treatment & Discharge Within Service Area in 2020
### Current & Projected Retailers Provided Recycled Water within Service Area

The supplier will complete the table.

<table>
<thead>
<tr>
<th>Name of Receiving Supplier or Direct Use by Wholesaler</th>
<th>Level of Treatment</th>
<th>2020</th>
<th>2025</th>
<th>2030</th>
<th>2035</th>
<th>2040</th>
<th>2045</th>
</tr>
</thead>
<tbody>
<tr>
<td>Retail Agencies</td>
<td>Tertiary and Advanced</td>
<td>14,961</td>
<td>30,300</td>
<td>31,700</td>
<td>31,700</td>
<td>31,700</td>
<td>31,700</td>
</tr>
<tr>
<td>Water Replenishment Dist. of So. California</td>
<td>Advanced</td>
<td>13,084</td>
<td>20,000</td>
<td>29,000</td>
<td>39,000</td>
<td>44,600</td>
<td>44,600</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td></td>
<td>28,045</td>
<td>50,300</td>
<td>60,700</td>
<td>70,700</td>
<td>76,300</td>
<td>76,300</td>
</tr>
</tbody>
</table>

*Note: All water to WRD is for the West Coast Barrier and additional groundwater augmentation.*
### 2015 Recycled Water Use Projection Compared to 2020 Actual Use

<table>
<thead>
<tr>
<th>Name of Receiving Supplier or Direct Use by Wholesaler</th>
<th>2015 Projection for 2020</th>
<th>2020 Actual Use</th>
</tr>
</thead>
<tbody>
<tr>
<td>WBMWD</td>
<td>21,894</td>
<td>14,961</td>
</tr>
<tr>
<td>WBMWD (IPR)</td>
<td>17,000</td>
<td>13,084</td>
</tr>
<tr>
<td>City of Torrance</td>
<td>5,421</td>
<td>5,424</td>
</tr>
<tr>
<td>City of Los Angeles</td>
<td>970</td>
<td>1,433</td>
</tr>
<tr>
<td><strong>Total:</strong></td>
<td><strong>45,285</strong></td>
<td><strong>34,903</strong></td>
</tr>
</tbody>
</table>

The supplier will complete the table.
Some or all of the supplier's future water supply projects or programs are not compatible with this table and are described in a narrative format.

<table>
<thead>
<tr>
<th>Name of Future Projects or Programs</th>
<th>Joint Project with Other Suppliers</th>
<th>Agency Name</th>
<th>Description</th>
<th>Planned Implementation Year</th>
<th>Planned for Use in Year Type</th>
<th>Expected Increase in Water Supply to Supplier</th>
</tr>
</thead>
<tbody>
<tr>
<td>Page Location for Narrative in UWMP:</td>
<td>Expanded recycled water use in Section 6.4.2 (page 6-14) and ocean desalination in Section 6.8 (page 6-17).</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Water Supply</td>
<td>Additional Detail on Water Supply</td>
<td>2020</td>
<td></td>
<td>Total Right or Safe Yield</td>
<td></td>
<td></td>
</tr>
<tr>
<td>------------------------------------</td>
<td>----------------------------------</td>
<td>------------</td>
<td>-------</td>
<td>---------------------------</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Actual</td>
<td>Water Quality</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Purchased or Imported Water</td>
<td>Direct Use</td>
<td>105,686</td>
<td>Drinking Water</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Purchased or Imported Water</td>
<td>Seawater Barrier Replenishment</td>
<td>6,950</td>
<td>Drinking Water</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Desalinated Water - Groundwater</td>
<td></td>
<td>124</td>
<td>Drinking Water</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Total:</strong></td>
<td></td>
<td><strong>112,760</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Note: Does not include recycled water deliveries for non-potable use or seawater barrier replenishment.
## 6-8DS | Source Water Desalination

The supplier will complete the table below.

<table>
<thead>
<tr>
<th>Plant Name or Well ID</th>
<th>Plant Capacity</th>
<th>Intake Type</th>
<th>Source Water Type</th>
<th>Influent TDS</th>
<th>Brine Discharge</th>
<th>Volume of Water Desalinated in AFY</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>2016</td>
</tr>
<tr>
<td>C. Marvin Brewer Desalter</td>
<td>1120</td>
<td>Vertical Well</td>
<td>Groundwater</td>
<td>3,300</td>
<td>Sewer</td>
<td>779</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Total:</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>779</td>
</tr>
</tbody>
</table>
## Projected Water Supplies

<table>
<thead>
<tr>
<th>Water Supply</th>
<th>Additional Detail on Water Supply</th>
<th>2025</th>
<th>2030</th>
<th>2035</th>
<th>2040</th>
<th>2045</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Reasonably Available Volume</td>
<td>Reasonably Available Volume</td>
<td>Reasonably Available Volume</td>
<td>Reasonably Available Volume</td>
<td>Reasonably Available Volume</td>
</tr>
<tr>
<td>Purchased or Imported Water</td>
<td>from Metropolitan</td>
<td>95,890</td>
<td>89,460</td>
<td>89,750</td>
<td>89,360</td>
<td>89,460</td>
</tr>
<tr>
<td>Recycled Water</td>
<td>For Delivery in the West Basin Service Area only</td>
<td>30,300</td>
<td>31,700</td>
<td>31,700</td>
<td>31,700</td>
<td>31,700</td>
</tr>
<tr>
<td>Recycled Water</td>
<td>For Saltwater Barrier Replenishment</td>
<td>20,000</td>
<td>29,000</td>
<td>39,000</td>
<td>44,600</td>
<td>44,600</td>
</tr>
<tr>
<td><strong>Total:</strong></td>
<td></td>
<td><strong>146,190</strong></td>
<td><strong>150,160</strong></td>
<td><strong>160,450</strong></td>
<td><strong>165,660</strong></td>
<td><strong>165,760</strong></td>
</tr>
<tr>
<td>Year Type</td>
<td>Base Year</td>
<td>Available Supply if Year Type Repeats</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>-----------------------------------</td>
<td>-----------</td>
<td>--------------------------------------</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Volume Available</td>
<td>Percent of Average Supply</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Average Year</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Single-Dry Year</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Consecutive Dry Years 1st Year</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Consecutive Dry Years 2nd Year</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Consecutive Dry Years 3rd Year</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Consecutive Dry Years 4th Year</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Consecutive Dry Years 5th Year</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
### Normal Year Supply and Demand Comparison

<table>
<thead>
<tr>
<th>Year</th>
<th>2025</th>
<th>2030</th>
<th>2035</th>
<th>2040</th>
<th>2045</th>
</tr>
</thead>
<tbody>
<tr>
<td>Supply Totals From Table 6-9W</td>
<td>146,190</td>
<td>150,160</td>
<td>160,450</td>
<td>165,660</td>
<td>165,760</td>
</tr>
<tr>
<td>Demand Totals From Table 4-3W</td>
<td>146,190</td>
<td>150,160</td>
<td>160,450</td>
<td>165,660</td>
<td>165,760</td>
</tr>
<tr>
<td>Difference:</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>
### 7-3W | Single Dry Year Supply & Demand Comparison

<table>
<thead>
<tr>
<th></th>
<th>2025</th>
<th>2030</th>
<th>2035</th>
<th>2040</th>
<th>2045</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Supply Totals</strong></td>
<td>146,190</td>
<td>150,160</td>
<td>160,450</td>
<td>165,660</td>
<td>165,760</td>
</tr>
<tr>
<td><strong>Demand Totals</strong></td>
<td>146,190</td>
<td>150,160</td>
<td>160,450</td>
<td>165,660</td>
<td>165,760</td>
</tr>
<tr>
<td><strong>Difference:</strong></td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Year</td>
<td>Supply Totals</td>
<td>Demand Totals</td>
<td>Difference</td>
<td></td>
<td></td>
</tr>
<tr>
<td>----------</td>
<td>---------------</td>
<td>---------------</td>
<td>------------</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>2025</td>
<td>2030</td>
<td>2035</td>
<td>2040</td>
<td>2045</td>
</tr>
<tr>
<td>First</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>146,190</td>
<td>150,160</td>
<td>160,450</td>
<td>165,660</td>
<td>165,760</td>
</tr>
<tr>
<td>Second</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>146,190</td>
<td>150,160</td>
<td>160,450</td>
<td>165,660</td>
<td>165,760</td>
</tr>
<tr>
<td>Third</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>146,190</td>
<td>150,160</td>
<td>160,450</td>
<td>165,660</td>
<td>165,760</td>
</tr>
<tr>
<td>Fourth</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>146,190</td>
<td>150,160</td>
<td>160,450</td>
<td>165,660</td>
<td>165,760</td>
</tr>
<tr>
<td>Fifth</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>146,190</td>
<td>150,160</td>
<td>160,450</td>
<td>165,660</td>
<td>165,760</td>
</tr>
</tbody>
</table>
### Five-Year Drought Risk Assessment Tables to Address Water Code Section 10635(b)

<table>
<thead>
<tr>
<th>Year</th>
<th>Gross Water Use</th>
<th>Total Supplies</th>
<th>Surplus/Shortfall without WSCP Action</th>
<th>Planned WSCP Actions (Use Reduction and Supply Augmentation)</th>
<th>Revised Surplus/Shortfall</th>
<th>Resulting Percent Use Reduction from WSCP Action</th>
</tr>
</thead>
<tbody>
<tr>
<td>2021</td>
<td>141,880</td>
<td>141,880</td>
<td>0</td>
<td>WSCP (Supply Augmentation Benefit)</td>
<td>0</td>
<td>0%</td>
</tr>
<tr>
<td>2022</td>
<td>142,960</td>
<td>142,960</td>
<td>0</td>
<td>WSCP (Supply Augmentation Benefit)</td>
<td>0</td>
<td>0%</td>
</tr>
<tr>
<td>2023</td>
<td>144,040</td>
<td>144,040</td>
<td>0</td>
<td>WSCP (Supply Augmentation Benefit)</td>
<td>0</td>
<td>0%</td>
</tr>
<tr>
<td>2024</td>
<td>145,120</td>
<td>145,120</td>
<td>0</td>
<td>WSCP (Supply Augmentation Benefit)</td>
<td>0</td>
<td>0%</td>
</tr>
<tr>
<td>2025</td>
<td>146,190</td>
<td>146,190</td>
<td>0</td>
<td>WSCP (Supply Augmentation Benefit)</td>
<td>0</td>
<td>0%</td>
</tr>
</tbody>
</table>
Supplier has notified more than 10 cities or counties in accordance with Water Code Sections 10621 (b) and 10642. Completion of the table is not required. Provide a separate list of the cities and counties that were notified.

| Page Location for List in UWMP: | Table 2-1 |
Water Shortage Contingency Plan
WEST BASIN MUNICIPAL WATER DISTRICT

Water Shortage Contingency Plan

MAY 25, 2021

ACKNOWLEDGMENTS

The 2021 Water Shortage Contingency Plan was prepared by Maddaus Water Management, Inc. in conjunction with Water Systems Consulting, Inc. The primary authors are listed below.

Lisa Maddaus, PE
License No. C60047

Jeff Szytel, PE
Rob Morrow, PE
Heather Freed, PE
Lizzie Wiley, EIT

The Project Team would like to acknowledge the significant contributions of West Basin Municipal Water District, including the following staff.

Edward Caldwell
Matthew Veeh
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<thead>
<tr>
<th>Acronym</th>
<th>Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>ACWA</td>
<td>Association of California Water Agencies</td>
</tr>
<tr>
<td>CWC</td>
<td>California Water Code</td>
</tr>
<tr>
<td>DRP</td>
<td>Drought Rationing Plan</td>
</tr>
<tr>
<td>DWR</td>
<td>California Department of Water Resources</td>
</tr>
<tr>
<td>IAWP</td>
<td>Interim Agricultural Water Program (Met)</td>
</tr>
<tr>
<td>Metropolitan</td>
<td>Metropolitan Water District of Southern California</td>
</tr>
<tr>
<td>UWMP</td>
<td>Urban Water Management Plan</td>
</tr>
<tr>
<td>WCGB</td>
<td>West Coast Groundwater Basin</td>
</tr>
<tr>
<td>WRD</td>
<td>Water Replenishment District</td>
</tr>
<tr>
<td>WSAP</td>
<td>Water Supply Allocation Plan</td>
</tr>
<tr>
<td>WSCP</td>
<td>Water Shortage Contingency Plan</td>
</tr>
<tr>
<td>WSDM</td>
<td>Water Shortage and Demand Management</td>
</tr>
<tr>
<td>WUE</td>
<td>Water Use Efficiency</td>
</tr>
<tr>
<td>West Basin</td>
<td>West Basin Municipal Water District</td>
</tr>
</tbody>
</table>
Introduction and WSCP Overview

The Water Shortage Contingency Plan (WSCP) is a strategic planning document designed to prepare for and respond to water shortages.

This WSCP complies with California Water Code (CWC) Section 10632, which requires that every urban water supplier prepare and adopt a WSCP as part of its urban water management plan (UWMP). This level of detailed planning and preparation is intended to help maintain reliable supplies and reduce the impacts of supply interruptions.

West Basin Municipal Water District (West Basin) uses its WSCP as an operating manual to prevent catastrophic service disruptions through proactive, rather than reactive, management. A water shortage — when water supply availability is insufficient to meet the normally expected customer water use at a given point in time — may occur because of a number of reasons, such as drought, climate change, or catastrophic events. This WSCP provides a structured guide for West Basin to deal with temporary water shortages, incorporating prescriptive information and standardized action levels along with implementation actions, in the event of a catastrophic supply interruption. This allows West Basin’s governing body, its staff, and retail agencies to easily identify and efficiently implement predetermined steps to manage a water shortage with predictability and accountability. A well-structured WSCP also allows for real-time water supply availability assessments and structured steps designed to respond to actual conditions.
The WSCP also describes West Basin’s procedures for conducting an Annual Water Supply and Demand Assessment (Annual Assessment), which is required by CWC Section 10632.1. Starting in 2022, the Annual Assessment is due to the California Department of Water Resources (DWR) on or before July 1 of each year or within 14 days of receiving final allocations from the State Water Project, whichever is later. West Basin’s 2021 WSCP is created as a separate plan, but is included as an attachment to its 2020 UWMP, which will be submitted to DWR by July 1, 2021 (West Basin Municipal Water District, June 2021). However, the 2021 WSCP can be amended, as needed, without amending the UWMP. It is important to note that the CWC does not prohibit an urban water supplier from taking actions not specified in its WSCP, if needed, without having to formally amend its UWMP or WSCP.

1.1 Water Shortage Contingency Plan Requirements and Organization

The WSCP provides the steps and water-shortage response actions to be taken in times of water-shortage conditions.

Each WSCP has prescriptive elements, such as:

- An analysis of water supply reliability
- The water-shortage response actions for each of the six standard water-shortage levels, which correspond to water-shortage percentages ranging from 10% to greater than 50%
- An estimate of potential demand reduction for each measure to close an anticipated water supply gap
- Protocols and procedures to communicate identified actions for any current or predicted water-shortage conditions
- Procedures for an Annual Water Supply and Demand Assessment
- Reevaluation and improvement procedures for evaluating the WSCP

This WSCP is organized into three main sections, with Section 3 aligned with the CWC Section 10632 requirements:

Section 1 Introduction and WSCP Overview – provides an overview of the WSCP fundamentals.

Section 2 Background Information – provides details on West Basin’s water service area, including a description and map of the service area and retail water agencies served by West Basin.

Section 3 Water Shortage Contingency Preparation and Response – provides significant details regarding water shortage preparation and response as outlined further in the Section 3 subsections.

- Section 3.1 Water Supply Reliability Analysis – provides a summary of the water supply analysis and water reliability findings from the 2020 UWMP.
- Section 3.2 Annual Water Supply and Demand Assessment Procedures – provides a description of procedures to conduct and approve the Annual Assessment.
- Section 3.3 Six Standard Water Shortage Levels – explains the WSCP’s six standard water-shortage levels, corresponding to progressive water-shortage ranges from up to 10% to more than 50%.
• **Section 3.4 Shortage Response Actions** – describes the WSCP’s shortage response actions that align with the defined shortage levels.

• **Section 3.5 Communication Protocols** – addresses communication protocols and procedures to inform retail agencies; the public; interested parties; and local, regional, and state governments regarding any current or predicted shortages and any resulting shortage response actions.

• **Section 3.6 Compliance and Enforcement** – is not required by wholesale water providers.

• **Section 3.7 Legal Authorities** – describes the legal authorities that enable West Basin to implement and enforce its shortage response actions.

• **Section 3.8 Financial Consequences of the WSCP** – provides a description of the financial consequences of and responses to drought conditions.

• **Section 3.9 Monitoring and Reporting** – is not required by wholesale water providers.

• **Section 3.10 WSCP Refinement Procedures** – addresses reevaluation and improvement procedures for monitoring and evaluating the functionality of the WSCP.

• **Section 3.11 Special Water Feature Distinction** – is not required by wholesale water providers.

• **Section 3.12 Plan Adoption, Submittal, and Implementation** – provides a record of the process West Basin followed to adopt and implement its WSCP.

**Section 3.6, Section 3.9, and Section 3.11** are not required to be completed by wholesale water suppliers like West Basin. However, West Basin will provide ongoing support to its retail agencies to comply with these sections in the agencies’ own individual WSCPs.

### 1.2 Integration with Other Planning Efforts

West Basin previously prepared UWMPs 2005, 2010, and 2015 to comply with the Urban Water Management Planning Act originally created in 1983. The 2020 UWMP and 2021 WSCP serve as an update to the most recently adopted 2015 UWMP and comply with new requirements and regulations. In addition to completing the 2020 UWMP and 2021 WSCP, West Basin is currently updating its Recycled Water Master Plan (RWMP) and implementing its Capital Improvement Program, Rehabilitation and Replacement (R&R) plan, Long-Range Financial Plan, Strategic Business Plan, Water for Tomorrow Program, and Ocean Water Desalination Program. **Figure 1-1** shows previous and ongoing planning efforts and their relation to the 2020 UWMP update and the 2021 WSCP.

---

1 The requirements for UWMPs are found in two sections of California Water Code, §10610-10656 and §10608. Every urban water supplier that either provides over 3,000 acre-feet of water annually, or serves more than 3,000 urban connections is required to submit an UWMP.
West Basin also relied on many key planning documents that aided in the preparation of this WSCP, including:

- Metropolitan’s 2020 WSCP
- Metropolitan’s Draft 2020 UWMP
- Metropolitan’s 2020 Integrated Resources Plan (under development)
- West Basin’s Water Use Efficiency Study
- Central Basin Watermaster Report 2019
- West Basin Watermaster Report 2019
- WRD’s Engineering and Survey Report 2020
- West Basin’s 2015 Drought Rationing Plan
- West Basin’s Draft 2021 Recycled Water Master Plan
- DWR’s 2019 State Water Project Delivery Capability Report
- WRD’s Regional Groundwater Monitoring Report Water Year 2019–2020

![Figure 1-1. Previous and Ongoing Planning Efforts](image)
This chapter discusses West Basin’s service area, water supplies, and its relationship with Metropolitan Water District of Southern California (Metropolitan).

West Basin is a wholesale water agency in southwestern Los Angeles County that provides imported drinking water to 17 cities and unincorporated areas of Los Angeles County throughout its 185-square-mile service area.

In addition, West Basin supplies recycled water to more than 450 customer sites for municipal, commercial, and industrial use, as well as for injection into the West Coast Basin Seawater Barrier to protect against seawater intrusion and replenish the West Coast Groundwater Basin (West Coast Basin). West Basin also supplies imported water to the Dominguez Gap Barrier to protect against seawater intrusion and replenish the West Coast Basin.
2.1 General Description

An innovative public agency, West Basin is a recognized leader in the production of recycled water, conservation, and educational programs. West Basin was established by a vote of the people in 1947 to help mitigate over pumping in the West Coast Basin by providing the growing region with imported water. West Basin became a member agency of Metropolitan in 1948 to purchase, on a wholesale level, potable water imported from the Colorado River. Today, West Basin supplies imported water to local municipalities, investor-owned utilities, and one county waterworks district as a means of supplementing local water resources.

West Basin and its retail agencies operating within West Basin’s service area develop local supplies, including groundwater, brackish desalination, and recycled water. In addition, a blend of recycled and imported water is injected into the West Coast Basin Barrier and the Dominguez Gap Barrier to protect local groundwater supplies from seawater contamination and replenish the aquifer.

West Basin is the fourth-largest member agency of Metropolitan, which makes its participation on the Metropolitan Board of Directors critical to representing the interests of West Basin’s retail agencies on regional water issues. West Basin’s Board of Directors appoints two representatives to serve on the 38-member Metropolitan Board of Directors.

West Basin is governed by an elected, five-member Board of Directors, which guides the mission and policy of West Basin. Each director is elected to serve four-year terms and represent one of five divisions, totaling over 800,000 residents living in the West Basin service area. Current West Basin directors are shown in Figure 2-1, and the cities and communities within their associated divisions are described below.

Figure 2-1. West Basin Board of Directors

<table>
<thead>
<tr>
<th>Director</th>
<th>Division</th>
</tr>
</thead>
<tbody>
<tr>
<td>Harold C. Williams</td>
<td>Division I</td>
</tr>
<tr>
<td>Gloria D. Gray</td>
<td>Division II</td>
</tr>
<tr>
<td>Desi Alvarez</td>
<td>Division III</td>
</tr>
<tr>
<td>Scott Houston</td>
<td>Division IV</td>
</tr>
<tr>
<td>Donald L. Dear</td>
<td>Division V</td>
</tr>
</tbody>
</table>

**Division I:** Cities of Carson, Palos Verdes Estates, Rancho Palos Verdes, Rolling Hills Estates, Rolling Hills, and unincorporated Los Angeles County areas of Rancho Dominguez.

**Division II:** City of Inglewood and unincorporated Los Angeles County areas of Lennox, South Ladera Heights, West Athens, and Westmont.

**Division III:** Cities of Hermosa Beach, Lomita, Manhattan Beach, Redondo Beach, and a portion of Torrance.

**Division IV:** Cities of Culver City, El Segundo, Malibu, and West Hollywood, and unincorporated Los Angeles County areas of Del Aire, Lennox, Marina del Rey, North Ladera Heights, Topanga, View Park, Windsor Hills, and Wiseburn.

**Division V:** Cities of Gardena, Hawthorne, Lawndale, and unincorporated Los Angeles County area of El Camino Village.

Today, West Basin provides wholesale potable water to three investor-owned utilities, four municipalities, one county waterworks district, and one groundwater agency. The relationship between West Basin and its retail agencies is illustrated in Figure 2-2. A map of West Basin’s service area as delineated by Director divisions is shown in Figure 2-3.
Figure 2-2. West Basin Retail Agencies

Source: West Basin.
Figure 2-3. West Basin Service Area

Source: West Basin.
In the major drought of the late 1980s and early 1990s, West Basin’s visionary Board of Directors led the agency in developing new local water supplies, including wastewater recycling for irrigation and industrial use, and implementing effective conservation and water efficiency programs.

**Today, West Basin’s Water for Tomorrow Program helps guide West Basin's approach to ensuring the reliability of the region’s water future by focusing on the following principles:**

- Protect West Basin’s existing water supply
- Diversify and augment the water supply portfolio
- Innovate to prepare for the future

West Basin continuously demonstrates its commitment to being an industry leader by exploring new methods and innovative technologies to enhance the region’s water supply, with the mission to “provide a safe and reliable supply of high-quality water to the communities we serve.” West Basin ensures water reliability for service area residents and businesses through balanced and affordable supply diversification: maximizing water recycling, expanding water efficiency and conservation efforts, desalting brackish groundwater, and evaluating desalinated ocean water.

West Basin is dedicated to serving all of its communities by seeking increased reliability of imported water, more opportunities for groundwater projects, and additional exploration of alternative local water supplies such as both potable and non-potable water reuse and desalination.

West Basin currently manages a diverse water supply portfolio that includes imported water from Northern California and the Colorado River, locally produced recycled water, desalted groundwater, and conserved water. Additionally, West Basin is researching ocean water desalination as a potential future drought-proof supply of drinking water. The water supply types that West Basin provides to its retail agencies are detailed in **Table 2-1**.

**Table 2-1. Types of Water Supplied to West Basin Retail Agencies**

<table>
<thead>
<tr>
<th>RETAIL AGENCY</th>
<th>POTABLE WATER</th>
<th>RECYCLED WATER</th>
<th>DESALTED GROUNDWATER</th>
</tr>
</thead>
<tbody>
<tr>
<td>City of El Segundo</td>
<td>✓</td>
<td></td>
<td>✓</td>
</tr>
<tr>
<td>City of Inglewood</td>
<td>✓</td>
<td></td>
<td>✓</td>
</tr>
<tr>
<td>City of Lomita</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>City of Manhattan Beach</td>
<td>✓</td>
<td></td>
<td>✓</td>
</tr>
<tr>
<td>LA County Waterworks District 29</td>
<td></td>
<td>✓</td>
<td></td>
</tr>
<tr>
<td>Cal American Water</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>California Water Service</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Golden State Water Company</td>
<td>✓</td>
<td></td>
<td>✓</td>
</tr>
<tr>
<td>Water Replenishment District</td>
<td>✓</td>
<td></td>
<td>✓</td>
</tr>
</tbody>
</table>

Many of West Basin’s retail agencies also pump groundwater supplies from the West Coast Basin to help meet their demands. In addition, California Water Service delivers a small amount of water from West Basin's C. Marvin Brewer Desalter, which treats brackish groundwater from the West Coast Basin for drinking water use.
Relationship to Metropolitan Water District of Southern California

Metropolitan is the largest water wholesaler for domestic and municipal uses in California, serving approximately 19 million customers. Metropolitan provides wholesale imported water supplies to 26 member-agency cities and water districts in six Southern California counties. Its service area covers the Southern California coastal plain, extending approximately 200 miles along the Pacific Ocean, from the City of Oxnard in the north to the international boundary with Mexico in the south. This encompasses 5,200 square miles and includes portions of Los Angeles, Orange, Riverside, San Bernardino, San Diego, and Ventura counties. Approximately 85% of the population from the aforementioned counties reside within Metropolitan's boundaries.

Metropolitan is governed by a Board of Directors composed of 38 appointed individuals, with a minimum of one representative from each of Metropolitan’s 26 member agencies. The allocation of directors and voting rights are determined by each agency’s assessed valuation. Each member of the Board is entitled to cast one vote for each $10 million of assessed valuation of property taxable for district purposes, in accordance with Section 55 of the Metropolitan Water District Act. Directors can be appointed through the chief executive officer of the member agency or by a majority vote of the governing board of the agency. Directors are not compensated by Metropolitan for their service.

Metropolitan is responsible for importing water into the region through its operation of the Colorado River Aqueduct and its contract with the State of California for State Water Project supplies. Major imported water aqueducts bringing water to Southern California. Member agencies receive water from Metropolitan through various delivery points and pay for service through a rate structure made up of volumetric rates, capacity charges, and readiness-to-serve charges. Every April, member agencies provide estimates of imported water demand to Metropolitan regarding the amount of water they anticipate they will need to meet their demands for the next five years. Metropolitan’s approach to addressing water shortages is described in Section 2.3, and Metropolitan’s Water Supply Allocation Plan (WSAP) is included in Metropolitan’s Water Shortage Contingency Plan (WSCP) presented in Attachment A.

2.1.1 Overview of West Basin and Metropolitan

In 1948, West Basin became a member agency of Metropolitan and, as such, began wholesaling imported water from the Colorado River. Today, West Basin is the fourth-largest member agency of Metropolitan and is allowed two representatives on the Metropolitan Board of Directors. In 2021, Gloria D. Gray and Harold C. Williams served as West Basin’s designated representatives to the Metropolitan Board, with Director Gray serving in the role of Metropolitan Board president. West Basin’s participation on the Metropolitan Board is critical to representing West Basin’s retail agency interests on regional water issues, especially with regard to imported water supplies. Figure 2-4 illustrates the relationship West Basin has with Metropolitan and its customer agencies to provide the region with diversified and integrated water supplies.

As a member agency of Metropolitan, West Basin works closely with Metropolitan and its other member agencies to plan and implement various water resources and water efficiency programs throughout the region. Metropolitan has long supported West Basin’s efforts to diversify its local water resources through the development of recycled water, groundwater augmentation, and conservation programs. Metropolitan’s investment in West Basin’s local programs has significantly increased the water supply reliability of coastal Los Angeles County by increasing sustainable water supplies and reducing demand on imported water supplies.

1 More information is available online: http://www.mwdh2o.com/WhoWeAre/MWDAct
2.2 Relationship with Metropolitan Water Shortage Planning

The WSCP is designed to be consistent with Metropolitan’s Water Shortage and Demand Management (WSDM) Plan, Metropolitan’s WSAP, West Basin’s Drought Rationing Plan, and other regional and local emergency response plans. West Basin’s DRP is available in Attachment B.

Metropolitan’s WSAP and West Basin’s DRP are integral to the WSCP’s shortage response strategy. Should Metropolitan determine that supply augmentation and demand reduction actions are insufficient to meet projected supply needs, it would declare a shortage exists and assign a water-shortage level needed to meet West Basin’s service area’s reduced demands. Likewise, West Basin would need to further assess the shortage conditions within its service area to meet retail agency demands and, as required, activate the West Basin DRP to invoke appropriate water shortage level conditions (described further in Section 2.2.3).

2.2.1 Metropolitan Water Surplus and Drought Management Plan

Annually, Metropolitan evaluates the levels of available supplies and water in storage to determine the appropriate management stage, as outlined in the WSDM Plan. Each stage is associated with specific resource management actions to avoid extreme shortages when possible and minimize adverse impacts to retail customers should an extreme shortage occur. The sequencing outlined in the WSDM Plan reflects anticipated responses to Metropolitan’s existing and expected resource mix.

Surplus stages occur when net annual deliveries can be made to water storage programs. Under the WSDM Plan, there are four surplus management stages that provide a framework for actions to take for surplus supplies. Deliveries in Diamond Valley Lake and in State Water Project terminal reservoirs continue through each surplus stage, provided there is available storage capacity. Withdrawals from Diamond Valley Lake for regulatory purposes or to meet seasonal demands may occur in any stage.

The WSDM Plan distinguishes between shortages, severe shortages, and extreme shortages, as defined below:

- **Shortage**: Metropolitan can meet full-service demands and partially meet or fully meet interruptible demands using stored water or water transfers as necessary (Stages 1, 2, and 3).
- **Severe Shortage**: Metropolitan can meet full-service demands only by using stored water, using transfers, and possibly calling for extraordinary conservation (Stages 4 and 5).
- **Extreme Shortage**: Metropolitan must allocate available supply to full-service customers (Stage 6).
There are six shortage management stages to guide resource management activities. These stages are defined by shortfalls in imported supply and water balances in Metropolitan’s storage programs. When Metropolitan must make net withdrawals from storage to meet demands, it is considered to be in a shortage condition. Figure 2-5 gives a summary of actions under each surplus and shortage stage when an allocation plan is necessary to enforce mandatory cutbacks. The goal of the WSDM Plan is to avoid Stage 6, an extreme shortage.

Figure 2-5. Surplus and Shortage Stages, Anticipated Actions, and Supply Declarations

Metropolitan’s Board of Directors adopted a Water Supply Condition Framework in June 2008 to communicate the urgency of the region’s water supply situation and the need for further water conservation practices (Metropolitan Water District of Southern California, June 2008). The framework has four conditions, each calling for increasing levels of conservation.

Descriptions of the four conditions are listed below:

- **Baseline Water Use Efficiency**: ongoing conservation, outreach, and recycling programs to achieve permanent reductions in water use and build storage reserves
- **Condition 1 Water Supply Watch**: local agency voluntary dry-year conservation measures and use of regional storage reserves
- **Condition 2 Water Supply Alert**: regional call for cities, counties, member agencies, and retail water agencies to implement extraordinary conservation through drought ordinances and other measures to mitigate use of storage reserves
- **Condition 3 Water Supply Allocation**: implementation of Metropolitan’s WSAP
As noted in Condition 3, should supplies become limited to the point where imported water demands cannot be met, Metropolitan would allocate water through the WSAP (Metropolitan Water District of Southern California, May 2021) (Metropolitan Water District of Southern California, May 2021).

2.2.2 Metropolitan Water Supply Allocation Plan

Metropolitan’s imported supplies have been impacted by a number of water supply challenges, as noted earlier. In the case of extreme water shortage within its service area, Metropolitan may determine it is necessary to implement its WSAP.

Metropolitan’s Board of Directors adopted the WSAP in February 2008 to fairly distribute a limited amount of water supply, applying it through a detailed method to reflect a range of local conditions and needs of the region’s retail water consumers. The WSAP includes the specific formula for calculating member agency supply allocations and the key implementation elements needed for administering an allocation. Metropolitan’s WSAP is the foundation for the urban water shortage contingency analysis required under CWC Section 10632 and is part of Metropolitan’s 2020 UWMP (Metropolitan Water District of Southern California, May 2021).

Metropolitan’s WSAP was developed in consideration of the principles and guidelines in Metropolitan’s 1999 WSDM Plan, with the core objective of creating an equitable “needs-based allocation.” (Metropolitan Water District of Southern California, August 1999) The WSAP’s formula seeks to balance the impacts of a shortage at the retail level while maintaining equity on the wholesale level for shortages of Metropolitan supplies up to 50%. The formula takes into account a number of factors, such as the impact on retail customers, growth in population, changes in supply conditions, investments in local resources, demand-hardening aspects of water conservation savings, recycled water, extraordinary storage and transfer actions, and groundwater imported water needs.

The formula is calculated in three steps—the first two steps involve standard computations, while the third step contains a specific method developed for the WSAP.

Step 1: Base Period Calculations

The first step in calculating a member agency’s water supply allocation is to estimate its water supply and demand using a historical base period with established water supply and delivery data. The base period for each of the different categories of supply and demand is calculated using data from the two most recent non-shortage years.

Step 2: Allocation Year Calculations

The next step in calculating the member agency’s water supply allocation is estimating water needs in the allocation year. This is done by adjusting the base period estimates of retail demand for population growth and changes in local supplies.

Step 3: Supply Allocation Calculations

The final step is calculating the water supply allocation for each member agency based on the allocation year water needs identified in Step 2.

Although Metropolitan’s 2020 UWMP forecasts that it will be able to meet projected imported water demands throughout the projected period from 2020 to 2045, uncertainty in supply conditions can result in Metropolitan needing to implement its WSAP to preserve dry-year storage and curtail demands (Metropolitan Water District of Southern California, May 2021).

To implement the WSAP, Metropolitan’s Board of Directors makes a determination on the level of the regional shortage, based on specific criteria. This typically happens in April. The criteria used by Metropolitan includes current levels of storage, estimated water supply conditions, and projected imported water demands. The allocations, if deemed necessary, go into effect in July of the same year.
and remain in effect for a 12-month period. The schedule is made at the discretion of Metropolitan’s Board of Directors.

### 2.2.3 West Basin Drought Rationing Plan

West Basin continues its water reliability strategy of increasing local control over its water supplies within its service territory by maximizing water use efficiency, the use of recycled water, and through public outreach and education programs. This successful effort has drastically reduced its demand on potable water, however, the region still relies on water from Northern California and the Colorado River for nearly two-thirds of our supply. This reliance on hydrologically-dependent supplies leaves the region vulnerable to drought and the long-term impacts of changing climate patterns as well as other types of emergency shortages, such as earthquake or water quality impacts to local groundwater supplies used by West Basin retail agencies.

Drought periods in Southern California are happening more frequently and with greater severity. While Metropolitan currently projects 100% supply reliability, when Metropolitan does not have access to the supplies necessary to meet total demands and has to allocate shortages in supplies to West Basin and its other member agencies, it enacts the Water Supply Allocation Plan as a demand management tool to extend the availability of storage reserves.

On March 23, 2015, the West Basin Board adopted an update to the “Water Shortage Allocation Plan” and changed the name to Drought Rationing Plan (DRP). When Metropolitan implements the WSAP, the Drought Rationing Plan is necessary for two primary reasons: 1) to help achieve MWD’s (and the Governor’s 2015) conservation goal; and 2) equitably recover any financial penalties from our customer agencies should West Basin fall short of the goal. The DRP includes a “regional penalty assessment” policy that only assesses financial penalties to West Basin’s customer agencies if West Basin itself incurs penalties.

As amended in 2018, and effective in 2019, the California Water Code requires urban water suppliers to adopt a water shortage contingency plan as part of its urban water management plan as specified (Section 10632). West Basin has primarily utilized the DRP to implement emergency conservation measures, and responses to drought and regional waters supply shortages. Through these efforts, West Basin’s retail agencies and the communities served by West Basin have relied on the DRP as a guiding document. West Basin may update the Drought Rationing Plan and it will always be accessible at www.westbasin.org.
Water Shortage Contingency Preparation and Response

West Basin’s Water Shortage Contingency Plan is a detailed guide of how West Basin intends to act in the case of an actual water-shortage condition.

The WSCP anticipates a water supply shortage and provides preplanned and prescribed guidance for managing and mitigating a shortage. Regardless of the reason for the shortage, the WSCP uses adequate details of demand reduction and supply augmentation actions that are structured to match varying degrees of shortage to ensure relevant stakeholders, including West Basin’s retail agencies, understand what to expect during a water shortage situation.

IN THIS SECTION
- Supply Reliability
- Annual Assessments
- Shortage Levels
- Shortage Response Actions
- Communications Protocol
- Compliance
- Legal Authorities
- Financial Consequences
- Monitoring and Reporting
- WSCP Refinement Procedures
- Plan Adoption
3.1 Water Supply Reliability Analysis

Per Water Code Section 10632 (a)(1), the WSCP shall provide an analysis of water supply reliability conducted pursuant to Water Code Section 10635 and an analysis of the key issues that may create a shortage condition when looking at West Basin’s water supply portfolio. Understanding water supply reliability, factors that could contribute to water supply constraints, availability of alternative supplies, and what effect these have on meeting customer demands provides West Basin with a solid basis on which to develop appropriate and feasible response actions in the event of a water shortage.

In the 2020 UWMP, West Basin conducted a Water Reliability Assessment to compare the total water supply sources available with long-term projected water use over the next 25 years, in five-year increments, for a normal water year, a single dry water year, and a drought lasting five consecutive water years. West Basin also conducted a Drought Risk Assessment to evaluate a drought period that lasts five consecutive water years, starting in 2021. An analysis of both assessments is presented in West Basin’s 2020 UWMP Chapter 7 – Water Service Reliability and Drought Risk Assessment (West Basin, 2021). The analysis concluded that sufficient supplies are available from Metropolitan under all scenarios considered.

West Basin receives imported water from Metropolitan through connections to Metropolitan’s regional distribution system. Although pipeline and connected capacity do not guarantee the availability of water, they do guarantee the ability to convey water when it is available to the Metropolitan distribution system. The primary constraint on the available of water supplies has been in severe and prolonged drought conditions. West Basin’s diversified supply and conservation measures combined with Metropolitan’s supply reliability investments enable West Basin to meet projected demands in multiple-dry years. Metropolitan projects the ability to meet projected West Basin imported water demands under normal, single-dry year, and multiple-dry year conditions (Metropolitan Water District of Southern California, March 2021). As a result, there are no anticipated shortages under the single-dry year or multiple-dry year scenarios and West Basin service area demands are assumed to be unconstrained in each reliability scenario.

3.2 Annual Water Supply and Demand Assessment Procedures

Per Water Code Section 10632.1, West Basin will conduct an Annual Assessment of Water Supply and Demand pursuant to subdivision (a) of Section 10632 and by July 1 of each year, beginning in 2022. West Basin will submit an annual water shortage assessment with information for anticipated shortage, triggered shortage response actions, compliance and enforcement actions, and communication actions consistent with West Basin’s WSCP.

This section documents the decision-making process required for formal approval of West Basin’s Annual Assessment of water supply reliability each year, the key data inputs, and the methods used to evaluate the water system reliability for the coming year, considering it would be a dry year.

3.2.1 Decision-Making Process

West Basin is currently developing a comprehensive demand forecasting model that will help inform its Annual Assessment. The model will consider a variety of local and regional conditions to assess overall water supply reliability and determine whether a shortage condition exists or is expected the following year.

As a wholesaler of imported water from Metropolitan, West Basin’s water supply reliability is tied directly to the reliability of Metropolitan’s imported supplies. Accordingly, West Basin will carefully consider information that is provided by Metropolitan in its Annual Assessment. The information West Basin receives from its municipal and private retail water suppliers on historical demand-side data and
projected annual demands for the upcoming year will be balanced based on Metropolitan’s projected supply-side data available to meet requested demands, as outlined in the WSDM Plan (Metropolitan Water District of Southern California, August 1999).

On a monthly basis, West Basin staff also provides the Board of Directors with a Metropolitan-generated report of current statewide water supply conditions. The report includes information on key water supply factors such as storage, precipitation, snowpack, and State Water Project allocations. The monthly report serves as an additional source of information for assessing the health of the region’s imported water supply.

The following decision-making process describes the steps that West Basin will take to formally approve the Annual Assessment determination of water supply reliability each year. Figure 3-1 below also illustrates the overall approach and basic timeline of the decision-making process.

1. West Basin staff and the Board of Directors will monitor statewide water supply conditions via Metropolitan’s monthly water supply report. Concurrently, West Basin staff will update the demand forecasting model with the most recent data received from its cities and private retail water agencies. As a water wholesaler, West Basin is dependent on its retailers to provide accurate demand estimates to determine water demands in the service area. The forecasting model will be revisited and updated throughout the year as needed. Any major changes to the model’s inputs or assumptions will be conveyed to West Basin’s executive team and Board members at committee or Board meetings for further discussion as needed.

2. According to Metropolitan’s Annual Assessment Decision-Making Timeline, Metropolitan staff will make a determination on its Assessment during April or May. Based on the results of that determination and in conjunction with West Basin’s ongoing demand modeling, West Basin staff will develop its own Annual Assessment determination and any associated shortage response actions that may be needed to address an anticipated shortage condition.

3. In June of each year, West Basin staff will provide an initial, updated Annual Assessment at its monthly Water Policy & Legislation Committee meeting. The staff presentation will provide an overview of current supply and demand conditions and will summarize whether the findings of the Assessment necessitate the implementation of new or updated shortage response actions. During the committee meeting, staff will answer questions and solicit feedback from Board members about the Annual Assessment determination.

4. Following the committee meeting, staff will consider all feedback received by the Board for incorporation into an updated version of the Annual Assessment. The updated Annual Assessment will then be presented to the full Board of Directors at its June Board meeting for final approval.

5. Once approved, West Basin staff will submit the Annual Assessment to DWR by the July 1 submission deadline each year, starting July 1, 2022.

More information on this decision-making process and the basis for the Annual Assessment prepared for 2021 is also available in West Basin’s 2020 UWMP Sections 4, 6, and 7.
3.2.2 Data and Methods

The following paragraphs document the key data inputs and methods that are used to evaluate the water system reliability for the coming year, while considering that the year to follow would be considered dry, as defined below:

**Evaluation Criteria**

In the 2020 UWMP, West Basin conducted 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 compares 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. This assessment was based on the West Basin service area, water sources, water supply reliability, and water use, as described in CWC Section 10631, including available data from state, regional, or local agency population, land use development, and climate change projections within the service area. This same locally applicable evaluation criteria will be relied on for completing the Annual Assessment.

**Water Supply**

West Basin supplies to be used to meet retail demands consist of imported water from Metropolitan and recycled water for non-potable uses. In addition, a majority of West Basin retail agencies pump groundwater to meet a portion of their demands. The amount of groundwater pumping is limited by available rights—adjudicated rights and other additional pumping rights defined in annual reports from the Water Replenishment District (WRD).
Unconstrained Customer Demand

The WSCP and Annual Assessment define unconstrained demand as expected water use before any projected shortage response actions that may be taken under the WSCP. Unconstrained demand is distinguished from observed demand, which may be constrained by preceding, ongoing, or future actions, such as emergency supply allocations during a multiyear drought. WSCP shortage response actions to constrain demand are inherently extraordinary; routine activities, such as ongoing conservation programs and regular operational adjustments are not considered constraints on demands.

To estimate unconstrained demands for 2022 and the following years as required by the CWC, West Basin would apply a similar method as described in West Basin’s 2020 UWMP Section 4.1, which considered “normal” retail demand across the West Basin service area (which adjusts for weather and drought restrictions), growth, conservation, and groundwater pumping.

Planned Water Use for Current Year Considering Dry Subsequent Year

Water Code Section 10632 (a)(2)(B)(ii) requires the Annual Assessment to determine “current year available supply, considering hydrological and regulatory conditions in the current year and one dry year.” The Annual Assessment will include two separate estimates of West Basin’s annual water supply and unconstrained demand using: 1) current-year conditions and 2) assumed dry-year conditions.

The “single dry year” is characterized to resemble a year in which conditions reflect the lowest water supply available to West Basin. West Basin would apply the same single-dry-year assumptions used in West Basin’s 2020 UWMP Section 7.2, which assumes:

- Imported water from Metropolitan can meet West Basin demands unless Metropolitan has implemented its WSAP. If the Metropolitan WSAP is implemented, West Basin would pass along the demand restrictions to its customers.
- Groundwater availability is based on adjudicated pumping rights and any carryover or other additional pumping rights defined in annual reports from the WRD.
- Recycled water deliveries would be similar to the previous year.

Infrastructure Considerations

Given that Metropolitan directly supplies water to West Basin retail agencies, the system improvements for supply reliability is the responsibility of Metropolitan. Plans for system upgrades are prepared, adopted, and constructed according to the Metropolitan Capital Investment Plan (Metropolitan Water District of Southern California, 2020). The Annual Assessment provided by Metropolitan to West Basin, and subsequently from West Basin to its retail agencies, will include consideration of any infrastructure issues that may pertain to near-term water supply reliability. This will include repairs, construction, and environmental mitigation measures that may temporarily constrain capabilities, as well as any new projects that may add to system capacity.

Other Factors

For the Annual Assessment provided by Metropolitan to West Basin and then West Basin to its retail agencies, any known issues related to water supply reliability (i.e., water quality impacts) would be considered for their potential effects.

3.3 Six Standard Water Shortage Levels

Per Water Code Section 10632 (a)(3)(A), West Basin must include the six standard water shortage levels defined at the state level, which represent shortages from the normal reliability as determined in the West Basin’s Annual Assessment. The shortage levels have been standardized to provide a consistent regional and statewide approach to conveying the relative severity of water supply shortage conditions. This is an outgrowth of the severe statewide drought of 2012–2016 and the widely
recognized public communication and state policy uncertainty associated with the many varied local definitions of water shortage.

The six levels correspond to progressively increasing estimated shortage conditions as compared to the normal reliability condition (0% shortage) and align with the response actions West Basin would implement to meet the severity of an impending shortage as outlined in West Basin’s 2015 Drought Rationing Plan.

**Table 3-1. Wholesaler: Water Shortage Contingency Plan Levels (DWR Table 8-1)**

<table>
<thead>
<tr>
<th>SHORTAGE LEVEL</th>
<th>PERCENT SHORTAGE RANGE</th>
<th>SHORTAGE RESPONSE ACTIONS (NARRATIVE DESCRIPTION)</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>0% (Normal)</td>
<td>During non-shortage conditions, West Basin develops, implements, and provides cost-effective water-efficiency and conservation programs to local communities in its service area to help save water and increase local water supply reliability. In addition, West Basin educates and engages its community about important water issues through outreach and education programs. Together, these programs highlight the importance of adopting a Water Conservation as a Way of Life mindset as a means of supporting ongoing water supply reliability throughout the region.</td>
</tr>
</tbody>
</table>
| 1              | Up to 10%              | At this shortage level, West Basin will implement one or more of the following shortage response actions:  
- Call for voluntary retailer water-use reductions  
- Call for voluntary retailer use of non-imported potable sources  
- Implement additional conservation/water-efficiency programs  
- Deploy public outreach and communications measures  
- Implement mandatory retailer water-use reductions (in West Basin’s DRP) |
| 2              | 11% to 20%             | At this shortage level, West Basin will implement and expand one or more of the shortage response actions listed for Stage 1 to achieve demand reduction target of 20%. |
| 3              | 21% to 30%             | At this shortage level, West Basin will implement and expand one or more of the shortage response actions listed for Stage 1 to achieve demand reduction target of 30%. |
| 4              | 31% to 40%             | At this shortage level, West Basin will implement and expand one or more of the shortage response actions listed for Stage 1 to achieve demand reduction target of 40%. |
| 5              | 41% to 50%             | At this shortage level, West Basin will implement and expand one or more of the shortage response actions listed for Stage 1 to achieve demand reduction target of 50%. |
| 6              | >50%                   | At this shortage level, West Basin will implement and expand one or more of the shortage response actions listed for Stage 1 to achieve demand reduction target of greater than 50% |

3.4 Shortage Response Actions

Water Code Section 10632 (a)(4) requires the WSCP to specify shortage response actions that align with the defined shortage levels. West Basin has defined specific shortage response actions that align with the defined shortage levels in Table 3-1 shown above and Table 3-2 presented below. These shortage response actions were developed with consideration for the customer-class or water use-specific demand reduction initiatives, and increasingly stringent water-use prohibitions, supply augmentation responses, and system infrastructure and operational changes.

3.4.1 Demand Reduction

The demand reduction actions that would be implemented to address shortage levels are described in Table 3-2 (DWR Table 8-2). This table indicates which actions align with specific defined shortage levels and estimates the extent to which that action would reduce the gap between supplies and demands. This demonstrates that the chosen suite of shortage response actions can be expected to deliver the outcomes necessary to meet the requirements of a given shortage level. This table also identifies the enforcement action, if any, associated with each demand reduction measure.
### Table 3-2. Demand Reduction Actions (DWR Table 8-2)

<table>
<thead>
<tr>
<th>Shortage Level</th>
<th>Demand Reduction Actions</th>
<th>How Much Is This Going To Reduce the Shortage Gap?</th>
<th>Additional Explanation</th>
<th>Penalty, Charge, or Other Enforcement?</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>Offer Water Use Surveys</td>
<td>Not applicable – No shortage gap at this level</td>
<td>West Basin currently offers water-efficiency surveys through several of its conservation programs.</td>
<td>No</td>
</tr>
<tr>
<td>0</td>
<td>Provide Rebates on Plumbing Fixtures and Devices</td>
<td>Not applicable – No shortage gap at this level</td>
<td>West Basin provides a variety of device and irrigation rebates to its service area.</td>
<td>No</td>
</tr>
<tr>
<td>0</td>
<td>Provide Rebates for Landscape Irrigation Efficiency</td>
<td>Not applicable – No shortage gap at this level</td>
<td>West Basin provides a variety of device and irrigation rebates to its service area.</td>
<td>No</td>
</tr>
<tr>
<td>0</td>
<td>Provide Rebates for Turf Replacement</td>
<td>Not applicable – No shortage gap at this level</td>
<td>West Basin provides grass removal rebates in its service area.</td>
<td>No</td>
</tr>
<tr>
<td>0</td>
<td>Other</td>
<td>Not applicable – No shortage gap at this level</td>
<td>West Basin conducts regular public outreach and education activities to highlight the importance of conservation and water efficiency.</td>
<td>No</td>
</tr>
<tr>
<td>0</td>
<td>Other</td>
<td>Not applicable – No shortage gap at this level</td>
<td>West Basin promotes awareness of permanent statewide water waste prohibitions.</td>
<td>No</td>
</tr>
<tr>
<td>1</td>
<td>Expand Public Information Campaign</td>
<td>0 to 100% of shortage gap</td>
<td>Expand public outreach and education efforts to encourage residents and industries to reduce their water usage.</td>
<td>No</td>
</tr>
<tr>
<td>1</td>
<td>Provide Rebates on Plumbing Fixtures and Devices</td>
<td>0 to 100% of shortage gap</td>
<td>Provide additional or higher-amount rebates.</td>
<td>No</td>
</tr>
<tr>
<td>1</td>
<td>Provide Rebates for Landscape Irrigation Efficiency</td>
<td>0 to 100% of shortage gap</td>
<td>Provide additional or higher-amount rebates.</td>
<td>No</td>
</tr>
<tr>
<td>1</td>
<td>Provide Rebates for Turf Replacement</td>
<td>0 to 100% of shortage gap</td>
<td>Provide additional or higher-amount rebates.</td>
<td>No</td>
</tr>
<tr>
<td>1</td>
<td>Other</td>
<td>0 to 100% of shortage gap</td>
<td>Implement new conservation and water-efficiency programs.</td>
<td>No</td>
</tr>
<tr>
<td>1</td>
<td>Other</td>
<td>0 to 100% of shortage gap</td>
<td>Call for voluntary retailer supply shift to non-imported potable sources.</td>
<td>No</td>
</tr>
<tr>
<td>1</td>
<td>Other</td>
<td>0 to 100% of shortage gap</td>
<td>Call for voluntary retailer water-use reductions.</td>
<td>No</td>
</tr>
<tr>
<td>1</td>
<td>Implement or Modify Shortage Allocation to Retailers</td>
<td>0 to 100% of shortage gap</td>
<td>Implement DRP and as appropriate Drought Rate Structure or Surcharge.</td>
<td>Yes</td>
</tr>
<tr>
<td>2</td>
<td>Not Applicable</td>
<td>0 to 100% of shortage gap</td>
<td>At this shortage level, West Basin will implement and expand one or more of the shortage response actions listed for Stage 1 to achieve demand reduction target of 20%.</td>
<td>Dependent on demand reduction action</td>
</tr>
</tbody>
</table>
### Table of Shortage Levels and Demand Reduction Actions

<table>
<thead>
<tr>
<th>SHORTAGE LEVEL</th>
<th>DEMAND REDUCTION ACTIONS</th>
<th>HOW MUCH IS THIS GOING TO REDUCE THE SHORTAGE GAP?</th>
<th>ADDITIONAL EXPLANATION</th>
<th>PENALTY, CHARGE, OR OTHER ENFORCEMENT?</th>
</tr>
</thead>
<tbody>
<tr>
<td>3</td>
<td>Not Applicable</td>
<td>0 to 100% of shortage gap</td>
<td>At this shortage level, West Basin will implement and expand one or more of the shortage response actions listed for Stage 1 to achieve demand reduction target of 30%.</td>
<td>Dependent on demand reduction action</td>
</tr>
<tr>
<td>4</td>
<td>Not Applicable</td>
<td>0 to 100% of shortage gap</td>
<td>At this shortage level, West Basin will implement and expand one or more of the shortage response actions listed for Stage 1 to achieve demand reduction target of 40%.</td>
<td>Dependent on demand reduction action</td>
</tr>
<tr>
<td>5</td>
<td>Not Applicable</td>
<td>0 to 100% of shortage gap</td>
<td>At this shortage level, West Basin will implement and expand one or more of the shortage response actions listed for Stage 1 to achieve demand reduction target of 50%.</td>
<td>Dependent on demand reduction action</td>
</tr>
<tr>
<td>6</td>
<td>Not Applicable</td>
<td>0 to 100% of shortage gap</td>
<td>At this shortage level, West Basin will implement and expand one or more of the shortage response actions listed for Stage 1 to achieve demand reduction target of greater than 50%</td>
<td>Dependent on demand reduction action</td>
</tr>
</tbody>
</table>

Note: One or more of the shortage response actions listed for Level 1 will be implement and expanded as the shortage levels increase.
3.4.2 Supply Augmentation
West Basin’s supply augmentation actions are described in **Table 3-3** (DWR Table 8-3). Metropolitan’s supply augmentation actions, described in Metropolitan’s 2020 WSCP, capture the supply augmentation actions that are relevant to West Basin. To the maximum extent possible, West Basin would coordinate with Metropolitan and its other member agencies on supply augmentation projects during normal and shortage periods to continue expanding water reliability for the entire region.

**Table 3-3. Supply Augmentation and Other Actions (DWR Table 8-3)**

<table>
<thead>
<tr>
<th>SHORTAGE LEVEL</th>
<th>SUPPLY AUGMENTATION METHODS AND OTHER ACTIONS BY WATER SUPPLIER</th>
<th>HOW MUCH IS THIS GOING TO REDUCE THE SHORTAGE GAP?</th>
<th>ADDITIONAL EXPLANATION OR REFERENCE</th>
</tr>
</thead>
<tbody>
<tr>
<td>1-6 Metropolitan Supply Augmentation</td>
<td>0 to 100% of shortage gap</td>
<td>Coordinate with Metropolitan and, if needed, purchase supplemental supplies from Metropolitan</td>
<td></td>
</tr>
</tbody>
</table>

3.4.3 Operational Changes
During water-shortage conditions, operations may be affected by supply augmentation or demand reduction responses undertaken by Metropolitan as the direct water supplier to West Basin retail agencies.

3.4.4 Additional Mandatory Restrictions
Water Code Section 10632 (a)(4)(D) calls for “additional, mandatory prohibitions against specific water-use practices that are in addition to state-mandated prohibitions and appropriate to the local conditions” to be included among the WSCP’s shortage response actions. West Basin has not specifically identified additional mandatory restrictions necessary at the time of this WSCP adoption. However, West Basin may deem additional restrictions, such as reducing water allocations in all categories to meet the available water supply beyond the DRP, as directed by the West Basin Board of Directors.

3.4.5 Emergency Response Plan (Hazard Mitigation Plan)
A catastrophic water shortage would be addressed according to the appropriate West Basin water-shortage level and response actions. It is likely that a catastrophic shortage would immediately trigger Shortage Level 6 response actions. West Basin would follow Metropolitan’s Emergency Response Plans in the event of a catastrophic supply interruption.

As described in Metropolitan’s 2020 Water Shortage Contingency Plan (Metropolitan Water District of Southern California, May 2021), Metropolitan has two Emergency Response Plans: 1) one dated March 2019 that has been in place long-term and is updated periodically, and 2) one dated September 2020 that was prepared pursuant to the requirements of the recently enacted America’s Water Infrastructure Act of 2018 (Metropolitan Water District of Southern California, 2020). The two plans work in conjunction. Together, Metropolitan’s Emergency Response Plans present Metropolitan’s organization and strategy for responding to emergencies caused by natural hazards, malevolent acts, or other unavoidable circumstances.

Metropolitan operates in accordance with the California Standardized Emergency Management System, the Incident Command System, and the National Incident Management System. The Emergency Response Plans describe the Emergency Response Organization and provide guidelines for evaluating and responding to an emergency situation and activating Incident Command Posts and the Emergency Operations Center. Although the plans provide a framework for emergency response,
they do not identify or discuss every potential situation or problem that may occur during an emergency. Metropolitan intends to continue updating the plans regularly.

### 3.4.6 Seismic Risk Assessment and Mitigation Plan

Per Water Code Section 10632.5, suppliers are required to assess seismic risk to water supplies as part of their WSCP. Since West Basin’s primary potable water supply is provided by Metropolitan, and West Basin does not exclusively own or operate any of the imported water delivery infrastructure, West Basin refers to Metropolitan’s seismic risk assessment and mitigation plan documented in Metropolitan’s 2020 UWMP Appendix 9: Seismic Risk Assessment and Mitigation (Metropolitan, March 2021).

### 3.4.7 Shortage Response Action Effectiveness

For each specific Shortage Response Action identified in the plan, the WSCP also estimates the extent to which that action will reduce the gap between supply and demand identified in Table 3-2 (DWR Table 8-2). To the extent feasible, West Basin has estimated percentage savings for the chosen suite of shortage response actions, which can be anticipated to deliver the expected outcomes necessary to meet the requirements of a given shortage level.

### 3.5 Communication Protocols

Prior to issuing a water shortage level declaration, West Basin would pursue outreach to inform cities and retail water providers in its service area of water shortage levels and definitions, targeted water savings for each drought stage, guidelines for retailers to follow during each stage, and sources of current information on West Basin supply and demand response status. Water savings guidelines are predicated on being equitable across the various water use sectors.

Timely and effective communication is a key element of the WSCP implementation. Per CWC Section 10632 (a)(5), West Basin has established communication protocols and procedures to inform customers, the public, interested parties, and local, regional, and state governments regarding any current or predicted shortages as determined by the Annual Assessment described pursuant to Section 10632.1; any shortage response actions triggered or anticipated to be triggered by the Assessment described pursuant to Section 10632.1; and any other relevant communications.

This section includes specific communication protocols that would be triggered to address each shortage level and the response actions implemented. This element focuses on communicating the water shortage contingency planning actions that can be derived from the results of the Annual Assessment. The Annual Assessment results would likely trigger a shortage based upon the decision-making process described in Section 3.2.1 of this WSCP and/or emergency communications protocols to address earthquakes, fires, infrastructure failures, civil unrest, and other catastrophic events. The type and degree of communication varies with each shortage level; thus, predefined and actionable communication protocols improve West Basin’s ability to message necessary events. These communication protocols and procedures are summarized below, categorized by shortage levels.

Public information and outreach are important elements of West Basin’s WSCP because the customer response to drought will ultimately dictate the amount of water savings achieved. West Basin’s Public Information and Education department would lead public outreach and communications efforts in close coordination with its retail water supply agencies, who have direct means of communications with residential, commercial, industrial, and institutional customers. West Basin would also collaborate with Metropolitan and other Metropolitan member agencies to develop and implement regional public outreach initiatives that seek to promote and achieve Conservation as a Way of Life goals. West Basin would share information publicly and provide guidance to its retail agencies, closely monitoring water
user responses and attitudes toward both voluntary and mandatory response actions. Consistent customer outreach activities are required to successfully achieve targeted water savings during each drought stage.

West Basin has outlined a flexible water shortage response approach centered on voluntary compliance and mandatory restrictions implemented throughout a range of shortage levels. West Basin will communicate information about drought stage, targeted water savings, and water-saving guidelines that customers are expected to practice. Example drought specific information and materials to support public outreach in times of water shortage are included in Attachment C. West Basin is currently updating its Drought Outreach Plan to align with the WSCP’s stated communication protocols.

Coordination with Retail Water Suppliers and Local Stakeholders
West Basin conveys critical information about droughts, water shortages, and other supply-related issues to its customer agencies, local governments, the general public, and other stakeholders in a number of ways. Regularly scheduled committee and partner meetings bring together representatives from retail agencies and other stakeholder organizations to discuss relevant topics and updates.

West Basin either leads or participates in stakeholder groups, including the following:

- Metropolitan Caucus Committee — monthly meetings
- West Basin Water Association — monthly meetings
- Water Use Efficiency Coordinators — quarterly meetings
- Public Information Officer Coordinators — quarterly meetings
- School/Education Coordination — regularly scheduled meetings
- Business/Industry Groups (e.g., Chambers of Commerce and other civic groups) — periodic meetings

Target Audiences
When communicating relevant information during critically dry or shortage periods, West Basin would focus its efforts on targeting the following stakeholder audiences in its service area:

- City staff
- Los Angeles County staff (for unincorporated areas served by West Basin)
- Elected officials and staff
- Investor-owned utilities
- Homeowners and renters
- Disadvantaged communities
- Property owners and managers
- Business owners
- Local industries
- School district administrators and teachers
- Environmental/public interest groups
- Local media
- General public

Communication During Non-Shortage Periods
West Basin continuously engages nearly 1 million people in its service area through ongoing outreach, education, and water-efficiency programs that seek to convey the importance of adopting a Conservation as a Way of Life mindset. In order to foster and sustain a long-term water conservation
West Basin primarily uses the following outreach methods to communicate with customer agencies, local government, and commercial/industrial water users the importance of conservation:

- Website
  - www.westbasin.org/conservation
- Social media
  - Facebook
  - Twitter
  - Instagram
  - LinkedIn
  - YouTube
- E-newsletter
  - Quarterly
  - Special editions
- Print and digital advertising/marketing
  - Annual advertising campaigns
- Community outreach
  - In-person and online classes, tours, and workshops
  - Speakers bureau for communicating with business, industry, and civic leaders
  - Community and public events
  - Annual Water Harvest Festival
  - West Basin’s existing conservation programs and rebates
  - Talking points
- School outreach/education
  - In-person and online classes and tours
  - Various on-site and remote learning opportunities
  - WaterStar conservation kits for students
- Media relations
  - Press releases and statements
  - Editorials
  - Interviews
- Sharing of collateral/co-branding partner kits through website and file-sharing sites (e.g., Dropbox, OneDrive)

Communication Protocols for Levels 1 & 2 Water Shortages (0–20%)
This section summarizes the communication protocols that West Basin would employ during a Level 1 or 2 water shortage, which includes shortage conditions up to and including 20%. During this type of shortage, West Basin would implement the following communications strategies. These actions would supplement West Basin communications efforts that occur during periods of non-shortage conditions.

- **Website**
  - Highlight water-shortage information on home page of website
  - Create a home page banner that drives users to a drought-specific landing page that provides up-to-date information about drought, water conditions, and any announced or expected shortage stages for West Basin water retailers and the general public
    - Embed U.S. Drought Monitor “widget” (California conditions map)
    - Link to local city and private retailer conservation/water-efficiency resources
    - Provide a Spanish translation feature for drought page
  - Post news stories and/or press releases about shortage conditions
- **Social media**
  - Distribute regularly scheduled posts that convey information about the shortage as well as helpful conservation and water-efficiency tips
  - Share retailer and other partner/stakeholder (Metropolitan, Association of California Water Agencies [ACWA], etc.) posts with important messages
  - Share current local, regional, and state news stories about conditions
  - Create and/or share Spanish language posts
  - Develop boosted posts in geo-targeted areas for increased presence
- **Print and digital advertising/marketing**
  - Evaluate direct-marketing opportunities and print and online advertising with broad community reach and market penetration
  - Seek out retailer partner funding support for outreach campaigns
  - Evaluate Spanish language outreach for targeted areas
- **Community outreach**
  - Include drought and water shortage-related content in public education and outreach efforts
  - Seek out additional opportunities to present information at public events
  - Increase frequency of speaker bureau presentations to chambers of commerce and other civic-based organizations
  - Audit efficient-fixture giveaway supplies to increase water-saving device inventory
- **School outreach/education**
  - Highlight drought-related content in school education programs
  - Add shortage-specific overviews to tours and classroom events
- **Media relations**
  - Distribute press releases to announce any water shortage declaration or other critical information
  - Hold press conferences or provide statements regarding declarations of water shortage
  - Update talking points based on shortage severity
Communication with cities, private retail water providers, and commercial/industrial water users
  - Seek out opportunities to present water shortage announcements at city council meetings, committee meetings, and other municipal settings
  - Provide water shortage overview and any associated voluntary/mandatory actions based on the shortage declaration to city/retailer leadership

Communication Protocols for Levels 3 & 4 Water Shortages (21–40%)
This section summarizes the communication protocols that West Basin would employ during a Level 3 or 4 water shortage, which includes shortage conditions from 21–40%. During this type of shortage, West Basin would increase the frequency and intensity of its communications efforts. The actions summarized below would supplement ongoing West Basin communications efforts already implemented during Levels 1 and 2 water shortages.

- Website
  - Build out and bring further exposure to water shortage landing page and website call-outs
  - Update theme and tone of online stories and/or press releases to be more serious in nature—revise language from voluntary (we “should” do this) to mandatory (we “must” do this) call to action
  - Evaluate local, city, and private-retailer conservation/water-efficiency website resources and offer additional support to ensure water users have access to relevant, updated shortage information
  - Invest more resources into Spanish language microsite to convey increased severity of messaging regarding shortage and the need to use less water
  - Create additional web page for mandatory water-use restrictions and/or drought rationing/allocation plan, if triggered in these stages

- Social media
  - Regularly schedule posts that convey more serious messages about the heightened shortage stages, moving from voluntary conservation and water-efficiency tips to mandatory conservation measures that trigger immediate and sustained water-use reductions.
    - Update cover art/imagery to reflect a serious tone in line with shortage severity
    - Continue to share retailer and other partner/stakeholder (Metropolitan, ACWA, etc.) posts but focus on the more serious and mandatory calls to action
    - Evaluate service area for additional geo-targeted advertising opportunities in languages other than English and Spanish
    - Repurpose targeted micro-community outreach messaging provided by Metropolitan to achieve cost savings

- Print and digital advertising/marketing
  - Increase direct-marketing opportunities for print and online publications by adding smaller publications to the established list of media outlet advertising
  - Continue to seek out additional retailer partner funding support for outreach campaigns
  - Develop a collateral piece with drought information and resources
  - Evaluate additional languages to supplement English and Spanish for outreach in targeted areas of West Basin
Consider other potential advertising forums, either self-funded or in partnership with other water providers, including
- Television
- Movie theaters
- Radio
- Billboards/bus shelters
- Guerilla or nontraditional marketing

Community outreach
- Continue to seek out targeted opportunities to present critical information at public, civic, and business/industry events concerning worsening water conditions and any mandatory water-use regulations/actions
  - Provide water-saving devices as giveaways
- Focus annual festival on water-use efficiency and drought-related matters

School outreach/education
- Refer to worsening water conditions and mandatory measures in school education programs, including classrooms and tour events
- Encourage students to engage with their families in conserving water at home

Media relations
- Additional press release to announce increased water shortage declaration
- Develop opinion pieces and letters to the editor from members of the Board regarding the severity of the water shortage and the necessary call to action for everyone to conserve
- Additional press conference or statement on more severe water-shortage stage as needed
- Talking points updated based on shortage severity

Communication with cities, private retail water providers, and commercial/industrial water users
- Host drought/water-shortage town hall meetings in all five Divisions of West Basin
- Host elected official forums
- Help distribute fact sheets, ordinances, and water-saving guidelines to municipalities and other major water-using sectors of the service area

Communication Protocols for Level 5 & 6 Water Shortages (41-50+%) 
West Basin considers a Level 5 or 6 water shortage to be a severe or critical/catastrophic shortage. This includes water-shortage conditions of 41% and higher. During this type of shortage, West Basin would significantly expand the frequency and intensity of its communications efforts, even from those actions taken during a Level 3 or 4 shortage. As the shortage exceeds 50%, West Basin would shift its communications focus to maintaining water use for health and safety purposes. Communications efforts at this stage will almost completely be focused on stressing immediate, mandatory actions, with voluntary conservation mostly being reserved for the lower shortage levels.

Website
- Increased focus on mandatory water-use restrictions and/or drought rationing/allocation plan in all targeted languages
- Update theme and tone of online stories and/or press releases to convey even more serious messaging/branding
− Ensure that city and private water provider websites are in sync with West Basin messaging to convey severity of water shortage

• Social Media
  − Increased focus on mandatory water-use restrictions and/or drought rationing/allocation plan in all targeted languages
  − Continue to share most serious messages and mandatory calls to action at the state, regional and local levels

• Print and Digital Advertising/Marketing
  − Implement comprehensive, robust marketing campaigns in partnership with local and regional agencies
    • English, Spanish, and other languages as needed
  − Increase frequency of advertising opportunities in the previously mentioned mediums
    • Television
    • Movie theaters
    • Radio
    • Billboards/bus shelters
    • Guerilla or non-traditional marketing
  − Record and distribute weekly or monthly video updates on the status of the water shortage and any ongoing water-use restrictions

• Community Outreach
  − Information provided at public, civic, and business/industry events would focus on critical/catastrophic nature of water shortage and clearly convey mandatory water-use regulations/actions

• School Outreach/Education
  − Continue ramping up messaging to students and school administrators regarding the severity of water shortage

• Media Relations
  − Continue series of opinion pieces and letters to the editor from members of the Board on the severity of the water shortage and the needed call to action for everyone to conserve
  − Additional press conferences as needed

• Communication with Cities, Private Retail Water Providers, and Commercial/Industrial Water Users
  − Host additional drought/water-shortage townhall meetings in all five of West Basin’s divisions as needed
  − Host additional elected official forums as needed
  − Increase efforts to distribute fact sheets, ordinances, and water-saving guidelines to municipalities and other major water-using sectors of the service area
  − Implement and/or participate in regional or local joint-information centers to communicate critical information to all water-use sectors
    • Ensure that Public Information Officer contact information for each and every retailer is updated and ready for coordinating activities once a severe/critical water shortage is triggered
3.6 Compliance and Enforcement
Per the Water Code Section 10632 (a)(6), as a wholesale water provider, West Basin is not responsible for compliance and enforcement of shortage response actions.

3.7 Legal Authorities
Per Water Code Section 10632 (a)(7)(A), West Basin, as formed under the Municipal Water District Law of 1911, shall have the legal authority to empower West Basin to implement and enforce its shortage response actions pursuant to California Water Code Sections 71640-71644, and may adopt any resolution or ordinance as needed to declare or respond to any water-shortage emergency.

Per Water Code Section 10632 (a)(7)(B), West Basin shall declare a water-shortage emergency condition to prevail within its service area whenever it finds and determines that the ordinary demands and requirements of water consumers cannot be satisfied without depleting the water supply to the extent that there would be insufficient water for human consumption, sanitation, and fire protection (Water Code Section 353).

Per Water Code Section 10632 (a)(7)(C), West Basin shall coordinate with any city or county for which it provides water supply services for the possible proclamation of a local emergency under California Government Code, California Emergency Services Act (Article 2, Section 8558). Along with developed coordination protocols, West Basin can facilitate compliance with this section of the Water Code in the event of a local emergency as defined in subpart (c) of Government Code Section 8558.

3.8 Financial Consequences of WSCP
Per Water Code Section 10632 (a)(8), West Basin must include a description of the overall anticipated financial consequences of implementing the WSCP. This description must include potential reductions in revenue and increased expenses associated with implementation of the shortage response actions. This should be coupled with an identification of the anticipated mitigation actions needed to address these financial impacts.

The water shortage response actions designed to address a range of water shortage conditions have the potential to impact West Basin’s revenues and expenditures. To assess these impacts, West Basin calculated the revenue impacts resulting from each shortage stage in terms of percent reduction in sales compared to an estimate of a normal year baseline. Other factors incorporated into the analysis included water losses, pricing structure, and avoided costs.

West Basin develops its annual budget and designated fund levels through careful consideration of many different factors to achieve its mission, strategic goals, and other priorities. West Basin’s annual budgeting process incorporates feedback from critical stakeholders, such as its retail water suppliers, to help guide West Basin in meeting its financial goals and objectives. As financial stewards of the West Basin service area, the Board of Directors is cognizant to set appropriate rates and charges to cover required program expenditures.

Nearly 90% of West Basin’s revenues are generated from volumetric sales to retail agencies. These retail water sales vary based on a variety of factors such as hydrologic conditions, water demand, and water supply availability. West Basin staff employs comprehensive analysis and forecasting strategies to determine sales assumptions for future years. Variability in water sales levels can have significant impacts on West Basin’s budget and overall financial health. Future water shortages are likely to result in financial impacts that affect the ability of West Basin to meet its ongoing goals and objectives.

West Basin’s options for shortage response actions include demand management measures, operational flexibility, and (to a lesser extent) supply augmentation. Employing any one or more of these actions could trigger a financial impact on West Basin’s budget and fiscal health.
Measures that reduce overall imported water use in its service area causes West Basin to purchase less water from Metropolitan and sell less water to its retailers. While this would result in both lower expenses and lower revenues, the net impact is a greater loss of water sales revenue than expenditure savings on reduced water purchases. The combination of lower water sales and increased expenditure levels that are needed to address water-shortage situations is likely to have some impact on West Basin’s budget, which could also affect its rates. To mitigate these impacts and provide additional fiscal stability, West Basin conducts annual and long-term financial planning. Long-term planning allows West Basin to better understand and anticipate its current and forecasted revenue streams and expenses, providing flexibility to plan for known conditions in the future. West Basin also employs an extensive annual budget and rate-setting process that includes a comprehensive evaluation of its designated funds. This process may be utilized to help buffer the financial impacts of water-shortage situations that lead to reduced revenues and increased costs.

As a result, when West Basin is impacted by short-term water shortages, it can look more critically at current operations to determine which programs and/or capital projects may need to be deferred or eliminated in order to manage a combination of higher costs and reduced water sales. Likewise, by implementing long-term planning strategies, West Basin can more easily weather a longer-lasting water-shortage crisis. Through this prudent and forward-looking planning and budgeting process, West Basin is more adequately prepared to manage the unexpected financial impacts that may occur due to future water shortages.

In addition to utilizing designated funds to buffer the financial impacts of future water shortages, West Basin may implement other cost-saving actions, including the following:
- Reduced operations and/or maintenance activities
- Organizational restructuring and streamlining
- Deferral of Capital Investment Plan projects
- Increasing rates and/or other charges

While the above actions are not preferred, they serve as potential tools to use as part of an overall strategy that allows West Basin to continue meeting its mission and objectives.

West Basin’s designated-fund policy provides for a minimum reserve requirement and target amount of unrestricted reserves on June 30 of each year. Funds in excess of the target amount can be utilized for capital expenditures in lieu of the issuance of additional debt or for the redemption, defeasance, or purchase of outstanding bonds or commercial paper as determined by the Board.

### 3.9 Monitoring and Reporting

Per Water Code Section 10632 (a)(9), since West Basin is a wholesale water supplier it is not required to provide a description of the monitoring and reporting requirements and procedures that have been implemented to ensure appropriate data is collected, tracked and analyzed for purposes of monitoring customer compliance and to meet state reporting requirements.

### 3.10 WSCP Refinement Procedures

Per Water Code Section 10632 (a)(10), West Basin must provide reevaluation and improvement procedures for systematically monitoring and evaluating the functionality of the WSCP. This ensures that shortage risk tolerance is adequate and appropriate water-shortage mitigation strategies are implemented as needed.

West Basin will regularly review and update its WSCP as needed. West Basin views the WSCP as a living document that should reflect the most recent conditions, including water supply and demand,
climate, policy, regulatory, or other operational conditions at a given point in time. Revisions to the WSCP may be implemented either during upcoming UWMP cycles or as standalone revisions that are needed to incorporate the most up-to-date information and requirements.

**Revisions to the WSCP may include, but are not limited to, the following:**
- Updates to shortage plan and stages
- Demand reduction actions
- Supply augmentation actions
- Operational changes
- Updates to communication protocols

In conjunction with preparing the Annual Assessment, West Basin staff will evaluate the efficacy of the overall WSCP and prepare recommendations for West Basin’s Board of Directors to consider should updates to the plan be deemed necessary.

West Basin will also collaborate with its retail agencies to explore the possibility of developing a regionally coordinated WSCP in future years. The implementation of such a plan could help to streamline information sharing among water providers and offer regular updates to the shortage response strategies and actions for all water suppliers in West Basin’s service area.

In addition to its retail agencies, West Basin will solicit feedback from the public and other interested stakeholders concerning any future modifications to the WSCP. Any feedback received will be carefully considered and evaluated by the West Basin Board of Directors and staff before making any revisions or refinements to the WSCP.

### 3.11 Special Water Feature Distinction

West Basin defines water features that are artificially supplied with water — including ponds, lakes, waterfalls and fountains — separately from swimming pools and spas, per subdivision (a) of Section 115921 of the Health and Safety Code.

### 3.12 Plan Adoption, Submittal, and Availability

West Basin met the required 60-day public hearing notification to stakeholders in its service area. Notification was sent to West Basin’s retail water suppliers and to cities and counties in the West Basin service area. The public notice provided a summary of West Basin’s intent to review and update the 2021 WSCP. Additional public notification was posted on the West Basin website on April 8, 2021. A copy of the 60-day public hearing notice is included in Attachment D.

Per Water Code Section 10632 (a)(c), West Basin provided notice of the availability of its draft 2021 WSCP and notice of the public hearing to consider adoption of the 2021 WSCP in accordance with CWC Sections 10621(b) and 10642 and Government Code Section 6066. The public review draft of the 2021 WSCP was posted prominently on West Basin’s website on May 25, 2021, ahead of the public hearing on June 10, 2021. The notice of availability of the documents was sent to West Basin’s retail agencies and to cities and counties in West Basin’s service area. In addition, a public notice advertising the public hearing was published in five local newspapers. Copies of the notification letter that were sent to West Basin’s retail agencies and cities and counties in West Basin’s service area, as well as copies of the public notice published in local newspapers, are included in Attachment D.

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3 [https://www.westbasin.org/](https://www.westbasin.org/)
West Basin held the public hearing for the draft 2021 WSCP on June 10, 2021, at the West Basin Board of Directors meeting. The meeting was conducted online due to ongoing COVID-19 precautions. As stated in Resolution [insert resolution number], the West Basin Board of Directors reviewed and adopted the 2021 WSCP at the Board’s June 28, 2021 meeting. Attachment E contains a copy of the adoption resolution.

Per Water Code Sections 10632 (c) and 10645 (a) and (b), the 2021 WSCP was posted on West Basin’s website on June 30, 2021, following its adoption by the West Basin Board of Directors. Copies were sent to West Basin’s retail agencies and to cities and counties in the service area. Copies were also submitted electronically to the California State Library. These actions satisfy the requirement to make the plan publicly available and identifiable to local government stakeholders in West Basin’s service area. The 2021 WSCP was also submitted electronically to the State of California through DWR’s Water Use Efficiency (WUE) data website on June 30, 2021.4

Based on DWR’s review of the WSCP, West Basin will make amendments to its adopted WSCP as required. If West Basin revises its WSCP after the 2020 UWMP is approved by DWR, then an electronic copy of the revised WSCP will be submitted to DWR within 30 days of its adoption.

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4 [https://wuedata.water.ca.gov/secure/](https://wuedata.water.ca.gov/secure/)
References

All links below were accessed in June 2021 unless otherwise indicated.

Metropolitan Water District of Southern California. (June 2008). Water Supply Condition Framework.
Attachment A: Metropolitan 2020 WSCP

Metropolitan Water District of Southern California, Water Shortage Contingency Plan (May 2021) is in the process of final review and adoption. Reference Metropolitan’s Final 2020 WSCP, when available online: http://www.mwdh2o.com/AboutYourWater/Planning/Planning-Documents
Attachment B: West Basin 2015 Drought Rationing Plan
West Basin Municipal Water District

Drought Rationing Plan
Allocation Year 2015

Adopted March 23, 2015
Declared April 27, 2015
Effective July 1, 2015
1. Introduction

West Basin Municipal Water District is a member public agency of the Metropolitan Water District of Southern California (MWD), and is responsible for the wholesale delivery of potable imported water by Metropolitan to eight retail water agencies and one groundwater replenishment agency, which collectively serve about 900,000 people within the West Basin service area.

West Basin is pursuing a water reliability strategy of increasing local control over its water supplies within its service territory by increasing water conservation and water recycling, expanding education programs and introducing ocean desalination to the water supply portfolio by the year 2022. Today, however, our region still relies on water from Northern California and the Colorado River for nearly two-thirds of our supply. This reliance on hydrologically-dependent supplies leaves our region vulnerable to drought and the long-term impacts of changing climate patterns.

Drought periods in Southern California are happening more frequently and with greater severity. When MWD does not have access to the supplies necessary to meet total demands and has to allocate shortages in supplies to West Basin and its other member agencies, it enacts the Water Supply Allocation Plan as a demand management tool to extend the availability of storage reserves.

On March 23, 2015, the West Basin Board adopted an update to the “Water Shortage Allocation Plan” and changed the name to Drought Rationing Plan (Plan). When MWD implements the WSAP, the Drought Rationing Plan is necessary for two primary reasons: 1) to help achieve MWD’s (and the Governor’s) conservation goal; and 2) equitably recover any financial penalties from our customer agencies should West Basin fall short of the goal. The Plan includes a “regional penalty assessment” policy that only assesses financial penalties to West Basin’s customer agencies if West Basin itself incurs penalties.

The current drought (2012 to present) has been unprecedented in terms of increasing average temperatures and the scarcity of snowpack in the Sierra Nevada. In 2014, MWD was forced to withdraw almost one-half of the available balance of the region’s collective stored water. Without a significant decrease in demand in 2015, MWD was projecting that another one-half of the remaining balance would need to be withdrawn. Governor Brown’s April 1, 2015 Executive Order required a statewide reduction in water use by 25% compared to 2013 and added urgency to MWD’s consideration of implementing the WSAP. Also in April 2015, the MWD Board of Directors approved enacting the WSAP at a Level 3, which targets a 15% reduction in demand (5% for each Level).

2. Metropolitan Water District’s Water Supply Allocation Plan

Metropolitan’s Board of Directors approved the first Water Supply Allocation Plan in February 2008 and updated its WSAP in December 2014. It is based on a guiding
principle developed over fifteen years prior as part of the Water Surplus and Drought Management (WSDM) Plan. The guiding principle states:

“Metropolitan will encourage storage of water during periods of surplus and work jointly with its member agencies to minimize the impacts of water shortages on the region’s retail consumers and economy during periods of shortage.”

Fairness in allocation and minimizing regional hardship to retail water consumers remained central themes in the development of a specific formula for allocating shortages across southern California. The formula uses different adjustments and credits to balance impacts of shortage at the retail level, where local supplies can vary dramatically, and provide equity on the wholesale level among member agencies. It also attempts to take into account; growth in demand, local investments, changes in local supply conditions, the reduction in potable water demand from recycled water, and the implementation of water conservation programs.

The WSAP was updated for the current period to reflect minimal changes in the formula and to address issues that arose as a result of the prior allocation. These changes are described below.

3. West Basin’s Shortage Allocation Methodology

Based closely on Metropolitan’s methodology, West Basin’s Plan model has five basic components in determining each customer agency’s share of West Basin’s allocation from Metropolitan, briefly described as follows.

A. Establishing Baseline Water Use

In order to project a customer agency’s retail demand and imported supply needs for the year in which an allocation occurs, it is necessary to first establish a historical base period for water supply and delivery data. The base period for local supplies (groundwater production and recovery) and imported water demand (full-service, seawater barrier, seasonal shift and in-lieu groundwater replenishment) are calculated using data from the previous two non-shortage fiscal years, 2012-2013 and 2013-2014. The sum of local supplies and imported water demand provides an estimate of the average retail demand for each customer agency over the base period. Non-potable recycled water is not included in this calculation due to its demand-hardening effect. Figure 1 provides an example of how the baseline water use is established.
B. Establishing Allocation Year Information

Base period retail demand is adjusted forward for growth using a factor that is based on the population increase from the base period to the year of allocation (a 2015 allocation is one year after the end of the base period). As Figure 2 shows, gains or losses are also added to the base period local supplies to more accurately estimate actual supplies in the allocation year. Gains in local supplies must be increases that are planned and scheduled, such as groundwater production that does not mine a basin, or a new brackish water treatment facility. Losses of local supplies due to hydrology or water quality are subtracted from the base period.

Figure 2. Example of Allocation Year Adjustments

C. Calculating Initial Minimum Allocation
After adjustments are made to *local supplies* to reflect allocation year conditions, and subtracted from *retail demand*, which has been adjusted for growth to the allocation year, the result is an agency’s estimated need for imported water from West Basin.

**Figure 3. Example of Allocation Year Imported Water Demand Projection**

As shown in Figure 4, the projected imported water demand is what is allocated according to the declared regional shortage level (Level 3 for the 2015 Allocation). The following concepts help explain the allocation further:

- **Regional Shortage Levels**: each level from one to ten represents a five percent increment of Regional Shortage Percentage from 5 to 50 percent.

- **Regional Shortage Percentage**: the percentage difference between available supplies and allocation year demands, in 5 percent increments from 5 to 50 percent.

- **Wholesale Minimum Allocation**: ensures that customer agencies will not experience shortages on the wholesale level (from West Basin) that are greater than one-and-a-half times the Regional Shortage Percentage, according to the following table:
### D. Minimum Allocation Adjustments and Credits

Unequal impacts of across-the-board allocation at the retail level can be dramatic depending primarily on the amount of local supplies, if any, held by each customer agency. That is why the allocation methodology assigns additional water supplies based on the following adjustments and credits:

- **Retail Impact Adjustment:** Used in Regional Shortage Level 3 and above to ensure that customer agencies with a high level of dependence on imported water do not experience disparate shortages at the retail level compared to other agencies. Agencies that are 100% dependent on imported water, for example,
are allocated at the Regional Shortage Percentage instead of the Wholesale Minimum Allocation.

- **Conservation Demand Hardening:** Based on each customer agency’s gallons per capita per day (GPCD) from a 10-year selected period’s highest average, ending in years between 2004 and 2010, as compared to the 2015 GPCD. The difference in GPCD was converted to acre-feet and the regional shortage percentage and GPCD percent reduction was applied for a resulting amount of additional water given back to the agency for conservation efforts. This is consistent with requirements for SBx7-7 “20x2020” reporting. The calculation for the credit is:

\[
\text{Credit} = \text{Conservation} \times (10\% + \text{RSL}\%) \times (1 + \text{Conservation}\% \times \text{Dependence on MWD}\%)
\]

\[\text{RSL} = \text{Regional Shortage Level}\]

**Figure 5. Example of Adjustments to Minimum Allocation at Level 3**

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**E. Total Allocation**

The total amount of imported water a customer agency will receive from West Basin at any given Regional Shortage Level, factoring in local supplies, wholesale minimum allocation, retail impact adjustment, and conservation.

**4. Plan Implementation**

**A. Declaration of Regional Shortage**
On April 14, 2015, Metropolitan’s Board of Directors declared a regional drought within their service territory, and triggered the implementation of their Water Supply Allocation Plan at a Regional Shortage Level 3, seeking at minimum a 15% reduction in regional water use. In order to pass through rationing down to the retail level, and assign any penalties to its customer agencies that West Basin may incur from exceeding its allocation from Metropolitan, the West Basin Board of Directors also approved implementing their Drought Allocation Plan at Level 3 on April 27, 2015.

B. Key Dates for Implementation

The generic allocation calendar below demonstrates that declarations of regional drought are typically made in April when hydrologic conditions statewide are sufficiently understood. To allow time for retail level agencies to adequately prepare their operations and customers for allocation conditions, the allocation effective period begins July 1 and runs 12 consecutive months through June 30 of the following year. Final accounting of customer agency imported water use and assessment of penalties, if applicable, occurs after the end of the allocation period, beginning in August of that year.
### Figure 6. Allocation Timeline

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### C. Allocation Adjustments

As a member agency of Metropolitan, West Basin is provided the opportunity to request changes to its allocation through an appeals process. Likewise, customer agencies of West Basin are provided the opportunity to appeal to their individual allocations from West Basin based on new or corrected information. Grounds for requesting a change can include, but are not limited to:

- Errors in historical data used in base period calculations
- Unforeseen losses or gains in local supplies
- Extraordinary increases in local supplies
- Adjustments in credits for conservation
In some cases, West Basin has no flexibility to change a customer agency’s allocation unless it results in a change to West Basin’s total allocation with Metropolitan. West Basin staff will, however, work with customer agencies to determine whether appeals to Metropolitan are warranted, and if so, to prepare an appeal for review by Metropolitan.

D. Tracking and Reporting

Subsequent to the implementation of its Plan, West Basin will produce monthly reports of each customer agency’s imported water use compared to its allocations based on monthly delivery patterns (historical averages) for the purposes of tracking and communicating potential underage/overage of an agency’s annual allocation.

E. Allocation Penalty Rates and Billing

Allocation Penalty Rates

West Basin will enforce customer agency allocations through a penalty rate structure similar to what West Basin is subject to in Metropolitan’s WSAP. Penalties will only be assessed to a West Basin retail customer agency if a retail customer agency exceeded its allocation under the Drought Rationing Plan AND West Basin exceeded its allocation with MWD under the Water Supply Allocation Plan. In such a case, West Basin’s total penalty will be assessed to each retail customer agency that exceeded its Drought Rationing Plan allocation on a pro-rata basis. No billing or assessment of penalty rates will take place until the end of the twelve-month allocation period. Penalty rates are in addition to the base rate of the water purchased.

Table 1 demonstrates that the penalty rate structure is an ascending block structure that provides a lower penalty for minor overuse of allocations and a higher penalty for major overuse of allocations.

Table 1. West Basin Allocation Penalty Rates

<table>
<thead>
<tr>
<th>Usage Above Allocation</th>
<th>Penalty Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>100% - 115%</td>
<td>$1,480/AF</td>
</tr>
<tr>
<td>Above 115%</td>
<td>$2,960/AF (2 x $1,480/AF)</td>
</tr>
</tbody>
</table>

- Based on turf removal costs
- Turf removal saves ~44 gallons per year per square foot for 10 years
- $2/sq. ft. program = $1,480 AF
- $4/sq. ft. program = $2,960 AF

Use of Penalty Revenues

According to the Drought Allocation Plan policy adopted by the West Basin Board of Directors, any penalty funds collected by West Basin from customer agencies will be applied to any penalty owed to Metropolitan.
**West Basin Billing**

During the allocation period, customer agency water bills from West Basin will remain the same. Only at the end of the twelve-month allocation period will West Basin calculate each customer agency’s potable water use (imported plus local supply) based on the local supply certification and the West Basin allocation model, and determine which agencies exceeded their annual allocation. West Basin will then apply the penalty rate structure discussed above to usage in excess of the annual allocation.

In recognition that penalties can be potentially significant to a customer agency, West Basin will allow payment of the total penalty for a customer agency to be spread evenly over three consecutive monthly billing periods, beginning in August following the allocation period.

**5. Water Reliability 2020**

West Basin is planning and investing in its WR 2020 program to reduce its dependence on imported water to mitigate future water shortages and allocation impacts on West Basin’s customers.

**6. West Basin Contact Information**

For questions directly related to West Basin’s Drought Allocation Plan, please contact the following staff:

Leighanne Kirk  
Senior Water Resources Analyst  
leighannek@westbasin.org  
310-660-6225

Fernando Paludi  
Associate General Manager  
fernandop@westbasin.org  
310-660-6214
Attachment C: Drought Outreach Information and Materials
West Basin Drought Outreach Plan

Problem

There will be confusion among our political leaders and public customers about the drought and the severe impact in Northern California (restrictions, allocations and cut offs) and the lack of any restrictions or allocations in Southern California. This situation provides a great opportunity to tell the reliability and conservation stories as well as the benefits of West Basin’s investment in local, reliable and drought-proof water supplies in the past and today. This plan will address this issue and provide guidance on how to communicate this important story to our stakeholders.

Situation Analysis

California is entering its third dry year. Southern California’s two main sources of imported water – the Colorado River and Northern California – continue to face dry conditions.

2013 was the driest year on record for the State of California.

Northern California reservoirs are low and dry conditions persist throughout the State.

Many Northern California cities, including Sacramento, are instituting mandatory conservation measures and rationing.

Last year’s snowpack was 17% of normal and this year’s snowpack is currently at 20% of water content or 7% of average.

State reservoirs that buffer the State from low rainfall are getting precariously low.

The State Department of Water Resource’s initial allocation was only 5% to contractors of state water supply in early 2014.

We still have a decline in State water reliability due to pumping restrictions at the Delta.
In 2013, Metropolitan Water District of Southern California (Met) lost nearly 300,000 acre feet of water that could be in storage, and that is enough water for 600,000 families. The Bay Delta Conservation Plan or BDCP will stabilize the Delta ecosystem and our future water deliveries.

Met has made significant investments in storage and infrastructure that are helping us today, including the large Diamond Valley Reservoir in Hemet, CA.

The Colorado River is in its 14th year of drought. Both of the major Colorado River reservoirs, Lake Mead and Powell, are less than 50% full. Along the Colorado River, a 2012 study identified a potential shortfall of up to 3.2 million acre feet of water in the Colorado River basin by 2060 due to increasing demands. Climate change studies also predict water shortages on the Colorado River due to changing weather patterns.

Met has reached an era of limits on the amount of water the district can import from Northern California and the Colorado River so they are exploring all options to expand local water resources.

Over the last couple of decades, Southern California water agencies, led by Met, have spent over $5 billion on local water projects, storage, water efficiency programs and other infrastructure. The result of this proactive investment is the fact that Met, West Basin and many other Southern California water agencies are not imposing water restrictions or allocating water. At the same time, all agencies are encouraging continued voluntary and heightened water efficiency and conservation where possible. Met is calling for increased voluntary conservation.

On 17 January, Governor Brown declared a drought State of Emergency and said; “We can’t make it rain, but we can be much better prepared for the terrible consequences that California’s drought now threatens, including dramatically less water for our farms and communities and increased fires in both urban and rural areas,” said Governor Brown. “I’ve declared this emergency and I’m calling all Californians to conserve water in every possible way.”

After sustaining previous droughts (1987-1992, 2000-2002, and 2007-2009), West Basin has pursued new programs and projects to maximize existing water supplies, and educate residents about the importance of water use efficiency.
These programs have included 1) water recycling projects, to replace the use of potable water, with treated recycled water; 2) water conservation initiatives including low flow toilet and shower head giveaways, rebate programs for grass turf removal, kitchen retrofit projects and ocean friendly garden installations; 3) administrative programs intended to reward customers who reduce their water usage (i.e. tiered rate structures); 4) a groundwater cleanup program: most recently researching ocean water desalination: and ongoing water efficiency programs for youth and adult audiences.

Accordingly, West Basin began planning for such dry conditions in the early 1990’s with the construction of the Edward C. Little Water Recycling Facility. Since then, we have expanded our facility four times, have become a leader in water use efficiency and conservation (on track to reach our state mandated 20% reduction by 2020 or before), and are currently exploring the responsible use of ocean water desalination to augment our future water supply portfolio.

West Basin has initiated a goal program called Water Reliability 2020 designed to reduce West Basin’s dependence on imported water from 66% then to 33% by 2020. This would be accomplished by doubling the recycling and conservation programs and adding 10% of the District’s future water supplies from ocean water desalination. To date, more than 10,000 residents have signed on to support West Basin’s Water Reliability 2020 Program.

Metropolitan Water District of Southern California and other Southern California water agencies are also developing questions and answers to support the current drought situation. These answers lie in how past investments in local water projects, storage and other water efficiency projects has allowed these agencies to deliver water during this dry period without restrictions or allocations.

Below are talking points for West Basin’s Board of Directors and staff to explain how our investment in local supplies is now providing great benefit to our customers. (FYI> Metropolitan Water District of Southern California’s current talking points are also attached).
Goal

The goal of this drought outreach plan is to inform key constituents and/or stakeholders of the fact that their support of our water reliability efforts is paying off. Due to this investment, West Basin is not issuing water restrictions or allocations during the current drought. Another goal of this plan is to use the current situation to encourage maximum voluntary conservation and water efficiency.

Strategy

Use the current drought environment to remind customers that West Basin’s Water Reliability Program is doing exactly was it was designed to: (1) Provide reliable water even during times of drought and water shortages and (2) also encourage conservation and water efficiency.

Target Audiences

The target audiences for this communications plan include: West Basin’s 17 cities and primary eight customers, recycled water customers, local state and federal elected officials, staff, media, SBESC, Chambers, and subscribers to our e-newsletter.

Proposed Talking Points and Tactics to Support the Plan

Drought Talking Points

1. We are not rationing water during the current drought because of West Basin’s investment in its Water Reliability 2020 program and Metropolitan Water District of Southern California’s (MWD) similar investment in storage and other water supply programs.

2. We will continue to expand our recycling and investigate ocean-water desalination, but we need your help now with water efficiency and conservation programs.
3. Now is the time to be most efficient with the water we have available and protect our current water in storage. Now is also the time to take advantage of West Basin’s free water conservation and efficiency programs.

4. Over the past twenty years, all of Southern California, through MWD, has invested more than $5 billion in storage, infrastructure and local water supply improvements to sustain the area during extremely dry periods.

5. Locally, West Basin has invested over $600 million in water recycling and conservation programs to provide reliable, drought-proof water supplies for its 17 cities and nearly 1 million customers.

**Channels of Communication and Tactics**

1. Send out a special drought-related e-newsletter explaining how West Basin’s investment in a locally-controlled and reliable water portfolio is paying great dividends and is why we are not rationing water.

2. Send letters from Board members to the cities they represent explaining the positive story of our proactive investment in reliable water supplies and as a result there will be no water rationing.

3. At the time of the next measurement of the snowpack, probably in February, consider holding a press conference at the Edward C. Little plant with one of our local State elected representatives.

4. Use the South Bay Environmental Service Center to help us reach city officials and businesses with redistribution of our e-newsletter article.

5. Mention of West Basin’s reliability efforts and the reasons we are not rationing water at our OFG’s, landscape classes, special events and Water 101 classes.
6. Consider issuing a drought press release/solicit coverage of ECL facility.

7. Revamp front page of web site to note drought and add tips for water efficiency.

8. Do an end of year Annual Report newspaper advertisement to: thank our customers, note our achievements and highlight the drought and the need to conserve.

**Measurement**

Plan will be considered successful if we reach all of our key audiences with our drought reliability and conservation messages.

Attachment:

Metropolitan Water District of Southern California’s current drought talking points
Attachment D: Public Notices
April 7, 2021


Dear Valued Customers and Stakeholders,

The West Basin Municipal Water District (West Basin) is in the process of preparing its 2020 Urban Water Management Plan (UWMP) and 2021 Water Shortage Contingency Plan (WSCP) in compliance with the Urban Water Management Planning Act. In addition, West Basin is preparing an appendix to both the 2015 UWMP and 2020 UWMP to demonstrate consistency with the Delta Plan Policy WR P1, Reduced Reliance on the Delta Through Improved Regional Water Self-Reliance (California Code Reg., tit.23, §5003). The 2015 UWMP is being amended only to report reduced reliance on the Delta and this action is separate from adoption of the 2020 UWMP and adoption of the 2021 WSCP.

West Basin is required to notify its retailers as well as cities and counties within its service area that it is preparing its 2020 UWMP, 2021 WSCP, and Appendix I of the 2015 UWMP updates at least 60 days prior to holding a public hearing. The public hearing is scheduled as part of a West Basin Board meeting on June 10, 2021 at 10:00 a.m. This meeting will be available virtually, and will be properly noticed on the West Basin website (www.westbasin.org).

This letter serves as West Basin’s official public hearing notice and intent to adopt the 2020 UWMP, 2021 WSCP, and Appendix I of the 2015 UWMP before the July 1, 2021 deadline. A copy of West Basin’s draft 2020 UWMP and WSCP will be available for review on the West Basin’s website (www.westbasin.org) by May 27, 2021. West Basin will distribute a public draft review notification on or before May 25, 2021 with information on how to access the draft documents. Until that time, if you have any questions, comments, or input, please contact E.J. Caldwell, Water Policy & Resources Development Manager, via email at edwardc@westbasin.org or by phone at (310) 660-6286.

Sincerely,

[Signature]

Patrick Sheilds
General Manager
West Basin Municipal Water District

BOARD OF DIRECTORS

Harold C. Williams
President

Donald L. Dear
Vice President

Scott Houston
Treasurer

Desi Alvarez
Secretary

Gloria D. Gray
Immediate Past President

GENERAL MANAGER: Patrick Sheilds
Dear Craig,

On behalf of West Basin Municipal Water District, I want to thank the City of Torrance, you, and your staff for your continued support for West Basin’s planning activities. As required by the Urban Water Management Planning Act, West Basin is in the process of preparing its 2020 Urban Water Management Plan (UWMP) and 2021 Water Shortage Contingency Plan (WSCP). In addition, WBMWD is preparing an appendix to both the 2015 UWMP and 2020 UWMP to demonstrate consistency with the Delta Plan Policy WR P1, Reduced Reliance on the Delta Through Improved Regional Water Self-Reliance (California Code Reg., tit.23, §5003). The 2015 UWMP is being amended only to report reduced reliance on the Delta and this action is separate from adoption of the 2020 UWMP and adoption of the 2021 WSCP.

Through this effort, your staff has provided great assistance, and we look forward to your continued participation. Attached, please find the Notice of Public Hearing for the West Basin Municipal Water District 2020 Urban Water Management Plan. The public hearing is scheduled as part of a WBMWD Board meeting on June 10, 2021 at 10:00 a.m. This meeting will be available virtually, and will be properly noticed on the West Basin website (www.westbasin.org).

If you or your staff have any questions, please feel free to give me a call.

Sincerely,

E.J. Caldwell, Esq.
Water Policy & Resources Development Manager
310.660.6286 Office
213.500.0379 Mobile
edwardc@westbasin.org
Dear Mr. Grammer,

On behalf of West Basin Municipal Water District, I want to thank the City of Rolling Hills Estates for your continued support for West Basin’s planning activities. As required by the Urban Water Management Planning Act, West Basin is in the process of preparing its 2020 Urban Water Management Plan (UWMP) and 2021 Water Shortage Contingency Plan (WSCP). In addition, WBMWD is preparing an appendix to both the 2015 UWMP and 2020 UWMP to demonstrate consistency with the Delta Plan Policy WR P1, Reduced Reliance on the Delta Through Improved Regional Water Self-Reliance (California Code Reg., tit.23, §5003). The 2015 UWMP is being amended only to report reduced reliance on the Delta and this action is separate from adoption of the 2020 UWMP and adoption of the 2021 WSCP.

Through this effort, we look forward to your participation. Attached, please find the Notice of Public Hearing for the West Basin Municipal Water District 2020 Urban Water Management Plan. The public hearing is scheduled as part of a WBMWD Board meeting on June 10, 2021 at 10:00 a.m. This meeting will be available virtually, and will be properly noticed on the West Basin website (www.westbasin.org).

If you or your staff have any questions, please feel free to give me a call.

Sincerely,

E.J. Caldwell, Esq.
Water Policy & Resources Development Manager
310.660.6286 Office
213.500.0379 Mobile
edwardc@westbasin.org
Dear Mr. Mihranian,

On behalf of West Basin Municipal Water District, I want to thank the City of Rancho Palos Verdes for your continued support for West Basin’s planning activities. As required by the Urban Water Management Planning Act, West Basin is in the process of preparing its 2020 Urban Water Management Plan (UWMP) and 2021 Water Shortage Contingency Plan (WSCP). In addition, WBMWD is preparing an appendix to both the 2015 UWMP and 2020 UWMP to demonstrate consistency with the Delta Plan Policy WR P1, Reduced Reliance on the Delta Through Improved Regional Water Self-Reliance (California Code Reg., tit.23, §5003). The 2015 UWMP is being amended only to report reduced reliance on the Delta and this action is separate from adoption of the 2020 UWMP and adoption of the 2021 WSCP.

Through this effort, we look forward to your participation. Attached, please find the Notice of Public Hearing for the West Basin Municipal Water District 2020 Urban Water Management Plan. **The public hearing is scheduled as part of a WBMWD Board meeting on June 10, 2021 at 10:00 a.m.** This meeting will be available virtually, and will be properly noticed on the West Basin website (www.westbasin.org).

If you or your staff have any questions, please feel free to give me a call.

Sincerely,

E.J. Caldwell, Esq.
Water Policy & Resources Development Manager
310.660.6286 Office
213.500.0379 Mobile
edwardc@westbasin.org
Dear Mr. Osorio,

On behalf of West Basin Municipal Water District, I want to thank the City of Gardena for your continued support for West Basin’s planning activities. As required by the Urban Water Management Planning Act, West Basin is in the process of preparing its 2020 Urban Water Management Plan (UWMP) and 2021 Water Shortage Contingency Plan (WSCP). In addition, WBMWD is preparing an appendix to both the 2015 UWMP and 2020 UWMP to demonstrate consistency with the Delta Plan Policy WR P1, Reduced Reliance on the Delta Through Improved Regional Water Self-Reliance (California Code Reg., tit.23, §5003). The 2015 UWMP is being amended only to report reduced reliance on the Delta and this action is separate from adoption of the 2020 UWMP and adoption of the 2021 WSCP.

Through this effort, we look forward to your participation. Attached, please find the Notice of Public Hearing for the West Basin Municipal Water District 2020 Urban Water Management Plan. The public hearing is scheduled as part of a WBMWD Board meeting on June 10, 2021 at 10:00 a.m. This meeting will be available virtually, and will be properly noticed on the West Basin website (www.westbasin.org).

If you or your staff have any questions, please feel free to give me a call.

Sincerely,

E.J. Caldwell, Esq.
Water Policy & Resources Development Manager
310.660.6286 Office
213.500.0379 Mobile
edwardc@westbasin.org
Dear Demetri and Carlos,

On behalf of West Basin Municipal Water District, I want to thank you and the MWD for your continued support for West Basin’s planning activities. As required by the Urban Water Management Planning Act, West Basin is in the process of preparing its 2020 Urban Water Management Plan (UWMP) and 2021 Water Shortage Contingency Plan (WSCP). In addition, WBMWD is preparing an appendix to both the 2015 UWMP and 2020 UWMP to demonstrate consistency with the Delta Plan Policy WR P1, Reduced Reliance on the Delta Through Improved Regional Water Self-Reliance (California Code Reg., tit.23, §5003). The 2015 UWMP is being amended only to report reduced reliance on the Delta and this action is separate from adoption of the 2020 UWMP and adoption of the 2021 WSCP.

Through this effort, you have been very helpful, and we look forward to your continued participation. Attached, please find the Notice of Public Hearing for the West Basin Municipal Water District 2020 Urban Water Management Plan. **The public hearing is scheduled as part of a WBMWD Board meeting on June 10, 2021 at 10:00 a.m.** This meeting will be available virtually, and will be properly noticed on the West Basin website (www.westbasin.org).

If you or your staff have any questions, please feel free to give me a call.

Sincerely,

E.J. Caldwell, Esq.
Water Policy & Resources Development Manager
310.660.6286 Office
213.500.0379 Mobile
edwardc@westbasin.org
Dear Craig,

On behalf of West Basin Municipal Water District, I want to thank you and Surfrider for your continued support for West Basin’s planning activities. As required by the Urban Water Management Planning Act, West Basin is in the process of preparing its 2020 Urban Water Management Plan (UWMP) and 2021 Water Shortage Contingency Plan (WSCP). In addition, WBMWD is preparing an appendix to both the 2015 UWMP and 2020 UWMP to demonstrate consistency with the Delta Plan Policy WR P1, Reduced Reliance on the Delta Through Improved Regional Water Self-Reliance (California Code Reg., tit.23, §5003). The 2015 UWMP is being amended only to report reduced reliance on the Delta and this action is separate from adoption of the 2020 UWMP and adoption of the 2021 WSCP.

Through this effort, we look forward to your continued participation. Attached, please find the Notice of Public Hearing for the West Basin Municipal Water District 2020 Urban Water Management Plan. **The public hearing is scheduled as part of a WBMWD Board meeting on June 10, 2021 at 10:00 a.m.** This meeting will be available virtually, and will be properly noticed on the West Basin website (www.westbasin.org).

If you or your staff have any questions, please feel free to give me a call.

Sincerely,

**E.J. Caldwell, Esq.**
Water Policy & Resources Development Manager
310.660.6286 Office
213.500.0379 Mobile
edwardc@westbasin.org
Dear Mr. Arevalo,

On behalf of West Basin Municipal Water District, I want to thank the City of West Hollywood for your continued support for West Basin’s planning activities. As required by the Urban Water Management Planning Act, West Basin is in the process of preparing its 2020 Urban Water Management Plan (UWMP) and 2021 Water Shortage Contingency Plan (WSCP). In addition, WBMWD is preparing an appendix to both the 2015 UWMP and 2020 UWMP to demonstrate consistency with the Delta Plan Policy WR P1, Reduced Reliance on the Delta Through Improved Regional Water Self-Reliance (California Code Reg., tit.23, §5003). The 2015 UWMP is being amended only to report reduced reliance on the Delta and this action is separate from adoption of the 2020 UWMP and adoption of the 2021 WSCP.

Through this effort, we look forward to your continued participation. Attached, please find the Notice of Public Hearing for the West Basin Municipal Water District 2020 Urban Water Management Plan. **The public hearing is scheduled as part of a WBMWD Board meeting on June 10, 2021 at 10:00 a.m.** This meeting will be available virtually, and will be properly noticed on the West Basin website (www.westbasin.org).

If you or your staff have any questions, please feel free to give me a call.

Sincerely,

E.J. Caldwell, Esq.
Water Policy & Resources Development Manager
310.660.6286 Office
213.500.0379 Mobile
edwardc@westbasin.org
Dear Ms. Jeng,

On behalf of West Basin Municipal Water District, I want to thank the City of Rolling Hills for your continued support for West Basin’s planning activities. As required by the Urban Water Management Planning Act, West Basin is in the process of preparing its 2020 Urban Water Management Plan (UWMP) and 2021 Water Shortage Contingency Plan (WSCP). In addition, WBMWD is preparing an appendix to both the 2015 UWMP and 2020 UWMP to demonstrate consistency with the Delta Plan Policy WR P1, Reduced Reliance on the Delta Through Improved Regional Water Self-Reliance (California Code Reg., tit.23, §5003). The 2015 UWMP is being amended only to report reduced reliance on the Delta and this action is separate from adoption of the 2020 UWMP and adoption of the 2021 WSCP.

Through this effort, we look forward to your participation. Attached, please find the Notice of Public Hearing for the West Basin Municipal Water District 2020 Urban Water Management Plan. The public hearing is scheduled as part of a WBMWD Board meeting on June 10, 2021 at 10:00 a.m. This meeting will be available virtually, and will be properly noticed on the West Basin website (www.westbasin.org).

If you or your staff have any questions, please feel free to give me a call.

Sincerely,

E.J. Caldwell, Esq.
Water Policy & Resources Development Manager
310.660.6286 Office
213.500.0379 Mobile
edwardc@westbasin.org
Dear Joe,

On behalf of West Basin Municipal Water District, I want to thank the City of Redondo Beach for your continued support for West Basin’s planning activities. As required by the Urban Water Management Planning Act, West Basin is in the process of preparing its 2020 Urban Water Management Plan (UWMP) and 2021 Water Shortage Contingency Plan (WSCP). In addition, WBMWD is preparing an appendix to both the 2015 UWMP and 2020 UWMP to demonstrate consistency with the Delta Plan Policy WR P1, Reduced Reliance on the Delta Through Improved Regional Water Self-Reliance (California Code Reg., tit.23, §5003). The 2015 UWMP is being amended only to report reduced reliance on the Delta and this action is separate from adoption of the 2020 UWMP and adoption of the 2021 WSCP.

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If you or your staff have any questions, please feel free to give me a call.

Sincerely,

E.J. Caldwell, Esq.
Water Policy & Resources Development Manager
310.660.6286 Office
213.500.0379 Mobile
edwardc@westbasin.org
Dear Ms. Guglielmo,

On behalf of West Basin Municipal Water District, I want to thank the City of Palos Verdes Estates for your continued support for West Basin’s planning activities. As required by the Urban Water Management Planning Act, West Basin is in the process of preparing its 2020 Urban Water Management Plan (UWMP) and 2021 Water Shortage Contingency Plan (WSCP). In addition, WBMWD is preparing an appendix to both the 2015 UWMP and 2020 UWMP to demonstrate consistency with the Delta Plan Policy WR P1, Reduced Reliance on the Delta Through Improved Regional Water Self-Reliance (California Code Reg., tit.23, §5003). The 2015 UWMP is being amended only to report reduced reliance on the Delta and this action is separate from adoption of the 2020 UWMP and adoption of the 2021 WSCP.

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If you or your staff have any questions, please feel free to give me a call.

Sincerely,

E.J. Caldwell, Esq.
Water Policy & Resources Development Manager
310.660.6286 Office
213.500.0379 Mobile
edwardc@westbasin.org
Dear Ms. Feldman,

On behalf of West Basin Municipal Water District, I want to thank the City of Malibu for your continued support for West Basin’s planning activities. As required by the Urban Water Management Planning Act, West Basin is in the process of preparing its 2020 Urban Water Management Plan (UWMP) and 2021 Water Shortage Contingency Plan (WSCP). In addition, WBMWD is preparing an appendix to both the 2015 UWMP and 2020 UWMP to demonstrate consistency with the Delta Plan Policy WR P1, Reduced Reliance on the Delta Through Improved Regional Water Self-Reliance (California Code Reg., tit.23, §5003). The 2015 UWMP is being amended only to report reduced reliance on the Delta and this action is separate from adoption of the 2020 UWMP and adoption of the 2021 WSCP.

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If you or your staff have any questions, please feel free to give me a call.

Sincerely,

E.J. Caldwell, Esq.
Water Policy & Resources Development Manager
310.660.6286 Office
213.500.0379 Mobile
edwardc@westbasin.org
Dear Mr. Chun,

On behalf of West Basin Municipal Water District, I want to thank the City of Lawndale for your continued support for West Basin’s planning activities. As required by the Urban Water Management Planning Act, West Basin is in the process of preparing its 2020 Urban Water Management Plan (UWMP) and 2021 Water Shortage Contingency Plan (WSCP). In addition, WBMWD is preparing an appendix to both the 2015 UWMP and 2020 UWMP to demonstrate consistency with the Delta Plan Policy WR P1, Reduced Reliance on the Delta Through Improved Regional Water Self-Reliance (California Code Reg., tit.23, §5003). The 2015 UWMP is being amended only to report reduced reliance on the Delta and this action is separate from adoption of the 2020 UWMP and adoption of the 2021 WSCP.

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If you or your staff have any questions, please feel free to give me a call.

Sincerely,

E.J. Caldwell, Esq.
Water Policy & Resources Development Manager
310.660.6286 Office
213.500.0379 Mobile
edwardc@westbasin.org
Dear Suja,

On behalf of West Basin Municipal Water District, I want to thank the City of Hermosa Beach for your continued support for West Basin’s planning activities. As required by the Urban Water Management Planning Act, West Basin is in the process of preparing its 2020 Urban Water Management Plan (UWMP) and 2021 Water Shortage Contingency Plan (WSCP). In addition, WBMWD is preparing an appendix to both the 2015 UWMP and 2020 UWMP to demonstrate consistency with the Delta Plan Policy WR P1, Reduced Reliance on the Delta Through Improved Regional Water Self-Reliance (California Code Reg., tit.23, §5003). The 2015 UWMP is being amended only to report reduced reliance on the Delta and this action is separate from adoption of the 2020 UWMP and adoption of the 2021 WSCP.

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If you or your staff have any questions, please feel free to give me a call.

Sincerely,

E.J. Caldwell, Esq.
Water Policy & Resources Development Manager
310.660.6286 Office
213.500.0379 Mobile
edwardc@westbasin.org
Dear Mr. Lee,

On behalf of West Basin Municipal Water District, I want to thank the City of Culver City for your continued support for West Basin’s planning activities. As required by the Urban Water Management Planning Act, West Basin is in the process of preparing its 2020 Urban Water Management Plan (UWMP) and 2021 Water Shortage Contingency Plan (WSCP). In addition, WBMWD is preparing an appendix to both the 2015 UWMP and 2020 UWMP to demonstrate consistency with the Delta Plan Policy WR P1, Reduced Reliance on the Delta Through Improved Regional Water Self-Reliance (California Code Reg., tit.23, §5003). The 2015 UWMP is being amended only to report reduced reliance on the Delta and this action is separate from adoption of the 2020 UWMP and adoption of the 2021 WSCP.

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If you or your staff have any questions, please feel free to give me a call.

Sincerely,

E.J. Caldwell, Esq.
Water Policy & Resources Development Manager
310.660.6286 Office
213.500.0379 Mobile
edwardc@westbasin.org
Dear Mr. Nachbar,
On behalf of West Basin Municipal Water District, I want to thank the City of Culver City for your continued support for West Basin’s planning activities. As required by the Urban Water Management Planning Act, West Basin is in the process of preparing its 2020 Urban Water Management Plan (UWMP) and 2021 Water Shortage Contingency Plan (WSCP). In addition, WBMWD is preparing an appendix to both the 2015 UWMP and 2020 UWMP to demonstrate consistency with the Delta Plan Policy WR P1, Reduced Reliance on the Delta Through Improved Regional Water Self-Reliance (California Code Reg., tit.23, §5003). The 2015 UWMP is being amended only to report reduced reliance on the Delta and this action is separate from adoption of the 2020 UWMP and adoption of the 2021 WSCP.

Through this effort, we look forward to your participation. Attached, please find the Notice of Public Hearing for the West Basin Municipal Water District 2020 Urban Water Management Plan. The public hearing is scheduled as part of a WBMWD Board meeting on June 10, 2021 at 10:00 a.m. This meeting will be available virtually, and will be properly noticed on the West Basin website (www.westbasin.org).

If you or your staff have any questions, please feel free to give me a call.

Sincerely,

E.J. Caldwell, Esq.
Water Policy & Resources Development Manager
310.660.6286 Office
213.500.0379 Mobile
edwardc@westbasin.org
Dear Ms. Landers,

On behalf of West Basin Municipal Water District, I want to thank the City of Carson for your continued support for West Basin’s planning activities. As required by the Urban Water Management Planning Act, West Basin is in the process of preparing its 2020 Urban Water Management Plan (UWMP) and 2021 Water Shortage Contingency Plan (WSCP). In addition, WBMWD is preparing an appendix to both the 2015 UWMP and 2020 UWMP to demonstrate consistency with the Delta Plan Policy WR P1, Reduced Reliance on the Delta Through Improved Regional Water Self-Reliance (California Code Reg., tit.23, §5003). The 2015 UWMP is being amended only to report reduced reliance on the Delta and this action is separate from adoption of the 2020 UWMP and adoption of the 2021 WSCP.

Through this effort, we look forward to your participation. Attached, please find the Notice of Public Hearing for the West Basin Municipal Water District 2020 Urban Water Management Plan. The public hearing is scheduled as part of a WBMWD Board meeting on June 10, 2021 at 10:00 a.m. This meeting will be available virtually, and will be properly noticed on the West Basin website (www.westbasin.org).

If you or your staff have any questions, please feel free to give me a call.

Sincerely,

E.J. Caldwell, Esq.
Water Policy & Resources Development Manager
310.660.6286 Office
213.500.0379 Mobile
edwardc@westbasin.org
Dear Rob,

On behalf of West Basin Municipal Water District, I want to thank you and your staff for your continued support for West Basin’s planning activities. As required by the Urban Water Management Planning Act, West Basin is in the process of preparing its 2020 Urban Water Management Plan (UWMP) and 2021 Water Shortage Contingency Plan (WSCP). In addition, WBMWD is preparing an appendix to both the 2015 UWMP and 2020 UWMP to demonstrate consistency with the Delta Plan Policy WR P1, Reduced Reliance on the Delta Through Improved Regional Water Self-Reliance (California Code Reg., tit.23, §5003). The 2015 UWMP is being amended only to report reduced reliance on the Delta and this action is separate from adoption of the 2020 UWMP and adoption of the 2021 WSCP.

Through this effort, your team has provided great assistance, and we look forward to your continued participation. Attached, please find the Notice of Public Hearing for the West Basin Municipal Water District 2020 Urban Water Management Plan. The public hearing is scheduled as part of a WBMWD Board meeting on June 10, 2021 at 10:00 a.m. This meeting will be available virtually, and will be properly noticed on the West Basin website (www.westbasin.org).

If you or your staff have any questions, please feel free to give me a call.

Sincerely,

E.J. Caldwell, Esq.
Water Policy & Resources Development Manager
310.660.6286 Office
213.500.0379 Mobile
edwardc@westbasin.org
Dear Russ,

On behalf of West Basin Municipal Water District, I want to thank you and your staff for your continued support for West Basin’s planning activities. As required by the Urban Water Management Planning Act, West Basin is in the process of preparing its 2020 Urban Water Management Plan (UWMP) and 2021 Water Shortage Contingency Plan (WSCP). In addition, WBMWD is preparing an appendix to both the 2015 UWMP and 2020 UWMP to demonstrate consistency with the Delta Plan Policy WR P1, Reduced Reliance on the Delta Through Improved Regional Water Self-Reliance (California Code Reg., tit.23, §5003). The 2015 UWMP is being amended only to report reduced reliance on the Delta and this action is separate from adoption of the 2020 UWMP and adoption of the 2021 WSCP.

Through this effort, your team has provided great assistance, and we look forward to your continued participation. Attached, please find the Notice of Public Hearing for the West Basin Municipal Water District 2020 Urban Water Management Plan. **The public hearing is scheduled as part of a WBMWD Board meeting on June 10, 2021 at 10:00 a.m.** This meeting will be available virtually, and will be properly noticed on the West Basin website (www.westbasin.org).

If you or your staff have any questions, please feel free to give me a call.

Sincerely,

E.J. Caldwell, Esq.
Water Policy & Resources Development Manager
310.660.6286 Office
213.500.0379 Mobile
edwardc@westbasin.org
Dear Kate,

On behalf of West Basin Municipal Water District, I want to thank Golden State Water, you, and your staff for your continued support for West Basin’s planning activities. As required by the Urban Water Management Planning Act, West Basin is in the process of preparing its 2020 Urban Water Management Plan (UWMP) and 2021 Water Shortage Contingency Plan (WSCP). In addition, WBMWD is preparing an appendix to both the 2015 UWMP and 2020 UWMP to demonstrate consistency with the Delta Plan Policy WR P1, Reduced Reliance on the Delta Through Improved Regional Water Self-Reliance (California Code Reg., tit.23, §5003). The 2015 UWMP is being amended only to report reduced reliance on the Delta and this action is separate from adoption of the 2020 UWMP and adoption of the 2021 WSCP.

Through this effort, your team has provided great assistance, and we look forward to your continued participation. Attached, please find the Notice of Public Hearing for the West Basin Municipal Water District 2020 Urban Water Management Plan. The public hearing is scheduled as part of a WBMWD Board meeting on June 10, 2021 at 10:00 a.m. This meeting will be available virtually, and will be properly noticed on the West Basin website (www.westbasin.org).

If you or your staff have any questions, please feel free to give me a call.

Sincerely,

E.J. Caldwell, Esq.
Water Policy & Resources Development Manager
310.660.6286 Office
213.500.0379 Mobile
edwardc@westbasin.org
Dear Carla,

On behalf of West Basin Municipal Water District, I want to thank the City of Lomita, you, and your staff for your continued support for West Basin’s planning activities. As required by the Urban Water Management Planning Act, West Basin is in the process of preparing its 2020 Urban Water Management Plan (UWMP) and 2021 Water Shortage Contingency Plan (WSCP). In addition, WBMWD is preparing an appendix to both the 2015 UWMP and 2020 UWMP to demonstrate consistency with the Delta Plan Policy WR P1, Reduced Reliance on the Delta Through Improved Regional Water Self-Reliance (California Code Reg., tit.23, §5003). The 2015 UWMP is being amended only to report reduced reliance on the Delta and this action is separate from adoption of the 2020 UWMP and adoption of the 2021 WSCP.

Through this effort, your staff has provided great assistance, and we look forward to your continued participation. Attached, please find the Notice of Public Hearing for the West Basin Municipal Water District 2020 Urban Water Management Plan. The public hearing is scheduled as part of a WBMWD Board meeting on June 10, 2021 at 10:00 a.m. This meeting will be available virtually, and will be properly noticed on the West Basin website (www.westbasin.org).

If you or your staff have any questions, please feel free to give me a call.

Sincerely,

E.J. Caldwell, Esq.
Water Policy & Resources Development Manager
310.660.6286 Office
213.500.0379 Mobile
edwardc@westbasin.org
Dear Mr. Atwell,

On behalf of West Basin Municipal Water District, I want to thank the City of Inglewood, you, and your staff for your continued support for West Basin’s planning activities. As required by the Urban Water Management Planning Act, West Basin is in the process of preparing its 2020 Urban Water Management Plan (UWMP) and 2021 Water Shortage Contingency Plan (WSCP). In addition, WBMWD is preparing an appendix to both the 2015 UWMP and 2020 UWMP to demonstrate consistency with the Delta Plan Policy WR P1, Reduced Reliance on the Delta Through Improved Regional Water Self-Reliance (California Code Reg., tit.23, §5003). The 2015 UWMP is being amended only to report reduced reliance on the Delta and this action is separate from adoption of the 2020 UWMP and adoption of the 2021 WSCP.

Through this effort, your staff has provided great assistance, and we look forward to your continued participation. Attached, please find the Notice of Public Hearing for the West Basin Municipal Water District 2020 Urban Water Management Plan. **The public hearing is scheduled as part of a WBMWD Board meeting on June 10, 2021 at 10:00 a.m.** This meeting will be available virtually, and will be properly noticed on the West Basin website ([www.westbasin.org](http://www.westbasin.org)).

If you or your staff have any questions, please feel free to give me a call.

Sincerely,

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**E.J. Caldwell, Esq.**  
**Water Policy & Resources Development Manager**  
310.660.6286 Office  
213.500.0379 Mobile  
[edwardc@westbasin.org](mailto:edwardc@westbasin.org)
Dear Mr. Mitnick,

On behalf of West Basin Municipal Water District, I want to thank the City of El Segundo, you, and your staff for your ongoing support for West Basin’s planning activities. As required by the Urban Water Management Planning Act, West Basin is in the process of preparing its 2020 Urban Water Management Plan (UWMP) and 2021 Water Shortage Contingency Plan (WSCP). In addition, WBMWD is preparing an appendix to both the 2015 UWMP and 2020 UWMP to demonstrate consistency with the Delta Plan Policy WR P1, Reduced Reliance on the Delta Through Improved Regional Water Self-Reliance (California Code Reg., tit.23, §5003). The 2015 UWMP is being amended only to report reduced reliance on the Delta and this action is separate from adoption of the 2020 UWMP and adoption of the 2021 WSCP.

Through this effort, your staff has provided great assistance, and we look forward to your continued participation. Attached, please find the Notice of Public Hearing for the West Basin Municipal Water District 2020 Urban Water Management Plan. The public hearing is scheduled as part of a WBMWD Board meeting on June 10, 2021 at 10:00 a.m. This meeting will be available virtually, and will be properly noticed on the West Basin website (www.westbasin.org).

If you or your staff have any questions, please feel free to give me a call.

Sincerely,

E.J. Caldwell, Esq.
Water Policy & Resources Development Manager
310.660.6286 Office
213.500.0379 Mobile
edwardc@westbasin.org
Dear Dan and Michael,

On behalf of West Basin Municipal Water District, I want to thank California Water Service for your ongoing support for West Basin’s planning activities. As required by the Urban Water Management Planning Act, West Basin is in the process of preparing its 2020 Urban Water Management Plan (UWMP) and 2021 Water Shortage Contingency Plan (WSCP). In addition, WBMWD is preparing an appendix to both the 2015 UWMP and 2020 UWMP to demonstrate consistency with the Delta Plan Policy WR P1, Reduced Reliance on the Delta Through Improved Regional Water Self-Reliance (California Code Reg., tit.23, §5003). The 2015 UWMP is being amended only to report reduced reliance on the Delta and this action is separate from adoption of the 2020 UWMP and adoption of the 2021 WSCP.

Through this effort, your team has provided great assistance, and we look forward to your continued participation. Attached, please find the Notice of Public Hearing for the West Basin Municipal Water District 2020 Urban Water Management Plan. The public hearing is scheduled as part of a WBMWD Board meeting on June 10, 2021 at 10:00 a.m. This meeting will be available virtually, and will be properly noticed on the West Basin website (www.westbasin.org).

If you or your staff have any questions, please feel free to give me a call.

Sincerely,

E.J. Caldwell, Esq.
Water Policy & Resources Development Manager
310.660.6286 Office
213.500.0379 Mobile
edwardc@westbasin.org
Dear Garry Hofer,

On behalf of West Basin Municipal Water District, I want to thank you and your staff for your ongoing support for West Basin’s planning activities. As required by the Urban Water Management Planning Act, West Basin is in the process of preparing its 2020 Urban Water Management Plan (UWMP) and 2021 Water Shortage Contingency Plan (WSCP). In addition, WBMWD is preparing an appendix to both the 2015 UWMP and 2020 UWMP to demonstrate consistency with the Delta Plan Policy WR P1, Reduced Reliance on the Delta Through Improved Regional Water Self-Reliance (California Code Reg., tit.23, §5003). The 2015 UWMP is being amended only to report reduced reliance on the Delta and this action is separate from adoption of the 2020 UWMP and adoption of the 2021 WSCP.

Through this effort, your staff has provided great assistance, and we look forward to your continued participation. Attached, please find the Notice of Public Hearing for the West Basin Municipal Water District 2020 Urban Water Management Plan. **The public hearing is scheduled as part of a WBMWD Board meeting on June 10, 2021 at 10:00 a.m.** This meeting will be available virtually, and will be properly noticed on the West Basin website [www.westbasin.org](http://www.westbasin.org).

If you or your staff have any questions, please feel free to give me a call.

Sincerely,

E.J. Caldwell, Esq.
Water Policy & Resources Development Manager
310.660.6286 Office
213.500.0379 Mobile
edwardc@westbasin.org
Dear Bruce Moe,

On behalf of West Basin Municipal Water District, I want to thank the City of Manhattan Beach, you, and your staff for your ongoing support for West Basin’s planning activities. As required by the Urban Water Management Planning Act, West Basin is in the process of preparing its 2020 Urban Water Management Plan (UWMP) and 2021 Water Shortage Contingency Plan (WSCP). In addition, WBMWD is preparing an appendix to both the 2015 UWMP and 2020 UWMP to demonstrate consistency with the Delta Plan Policy WR P1, Reduced Reliance on the Delta Through Improved Regional Water Self-Reliance (California Code Reg., tit.23, §5003). The 2015 UWMP is being amended only to report reduced reliance on the Delta and this action is separate from adoption of the 2020 UWMP and adoption of the 2021 WSCP.

Through this effort, your staff has provided great assistance, and we look forward to your continued participation. Attached, please find the Notice of Public Hearing for the West Basin Municipal Water District 2020 Urban Water Management Plan. The public hearing is scheduled as part of a WBMWD Board meeting on June 10, 2021 at 10:00 a.m. This meeting will be available virtually, and will be properly noticed on the West Basin website (www.westbasin.org).

If you or your staff have any questions, please feel free to give me a call.

Sincerely,

E.J. Caldwell, Esq.
Water Policy & Resources Development Manager
310.660.6286 Office
213.500.0379 Mobile
edwardc@westbasin.org
Dear Kelly,

On behalf of West Basin Municipal Water District, I want to thank you for your interest in West Basin’s planning activities. As required by the Urban Water Management Planning Act, West Basin is in the process of preparing its 2020 Urban Water Management Plan (UWMP) and 2021 Water Shortage Contingency Plan (WSCP). In addition, WBMWD is preparing an appendix to both the 2015 UWMP and 2020 UWMP to demonstrate consistency with the Delta Plan Policy WR P1, Reduced Reliance on the Delta Through Improved Regional Water Self-Reliance (California Code Reg., tit.23, §5003). The 2015 UWMP is being amended only to report reduced reliance on the Delta and this action is separate from adoption of the 2020 UWMP and adoption of the 2021 WSCP.

Through this effort, we look forward to your continued participation. Attached, please find the Notice of Public Hearing for the West Basin Municipal Water District 2020 Urban Water Management Plan. The public hearing is scheduled as part of a WBMWD Board meeting on June 10, 2021 at 10:00 a.m. This meeting will be available virtually, and will be properly noticed on the West Basin website (www.westbasin.org).

If you or your staff have any questions, please feel free to give me a call.

Sincerely,

E.J. Caldwell, Esq.
Water Policy & Resources Development Manager
310.660.6286 Office
213.500.0379 Mobile
edwardc@westbasin.org
Dear Mr. Lee,

I apologize for the error in the previous message sent moments ago. Please know that we are very grateful for all the support we receive from the City of Hawthorne! As noted, per the Urban Water Management Planning Act, West Basin is in the process of preparing its 2020 Urban Water Management Plan (UWMP) and 2021 Water Shortage Contingency Plan (WSCP). In addition, WBMWD is preparing an appendix to both the 2015 UWMP and 2020 UWMP to demonstrate consistency with the Delta Plan Policy WR P1, Reduced Reliance on the Delta Through Improved Regional Water Self-Reliance (California Code Reg., tit.23, §5003). The 2015 UWMP is being amended only to report reduced reliance on the Delta and this action is separate from adoption of the 2020 UWMP and adoption of the 2021 WSCP.

Through this effort, we look forward to your participation. Attached, please find the Notice of Public Hearing for the West Basin Municipal Water District 2020 Urban Water Management Plan. **The public hearing is scheduled as part of a WBMWD Board meeting on June 10, 2021 at 10:00 a.m.** This meeting will be available virtually, and will be properly noticed on the West Basin website (www.westbasin.org).

If you or your staff have any questions, please feel free to give me a call.

Sincerely,

E.J. Caldwell, Esq.
Water Policy & Resources Development Manager
310.660.6286 Office
213.500.0379 Mobile
edwardc@westbasin.org
COPY OF NOTICE

Notice Type: HRG NOTICE OF HEARING

Ad Description
DRAFT 2020 URBAN WATER MANAGEMENT PLAN DRAFT WATER SHORTAGE CONTINGENCY PLAN AND DRAFT APPENDIX 1 TO 2015 URBAN WATER MANAGEMENT PLAN

To the right is a copy of the notice you sent to us for publication in the LOS ANGELES SENTINEL. Please read this notice carefully and call us with any corrections. The Proof of Publication will be filed with the County Clerk, if required, and mailed to you after the last date below. Publication date(s) for this notice is (are):

05/27/2021, 06/03/2021

The charge(s) for this order is as follows. An invoice will be sent after the last date of publication. If you prepaid this order in full, you will not receive an invoice.

Publication $988.32
Total $988.32

CNS# 3473202
Notice of Public Hearing
DRAFT 2020 URBAN WATER MANAGEMENT PLAN, DRAFT WATER SHORTAGE CONTINGENCY PLAN, AND DRAFT APPENDIX 1 TO 2015 URBAN WATER MANAGEMENT PLAN

The West Basin Municipal Water District (West Basin) Board of Directors will hold a public hearing on Thursday, June 10, 2021 at 10:00 AM, to receive comments on the District's draft 2020 Urban Water Management Plan (UWMP), draft Water Shortage Contingency Plan (WSCP), and draft Appendix I as an addendum to its 2015 UWMP.

The public hearing will be conducted during a West Basin Special Board meeting. Pursuant to the Governor's Executive Orders of March 12, 2020, and March 19, 2020, this meeting will be hosted by teleconference, with no physical meeting location being provided. Meeting details are provided herein:

West Basin Board of Directors: Special Board Meeting
Thursday, June 10, 2021 at 10:00 AM
Teleconference Participation Only (GoToMeeting and Phone-In Number)

The public hearing will be live streamed through GoToMeeting and will also be recorded. The meeting may be accessed using the following link on the West Basin website: http://wbmwdca.igm2.com/Citizen/Default.aspx (Please check this website for additional details including final agenda and agenda packet).

The 2020 UWMP assesses West Basin's water resources portfolio, demands, and planning strategies over the next 25 years, as a requirement set forth by the California Department of Water Resources. The draft 2020 UWMP complies with state law requiring urban water suppliers to prepare and update urban water management plans every five years.

The draft WSCP describes how West Basin is prepared to respond to a variety of water shortage conditions. West Basin's draft WSCP satisfies the requirements of the California Water Code.

The draft Appendix I to the 2015 UWMP and draft Appendix D to the 2020 UWMP includes all of the elements described in Delta Plan Policy WR P1, Reduce Reliance on the Delta Through Improved Regional Water Self-Reliance (Cal. Code Regs. tit. 23, § 5003) which need to be included in a water supplier's UWMP to support a certification of consistency for a future covered action.

Final drafts of the 2020 UWMP, WSCP, and Appendix I to the 2015 UWMP may be viewed on the West Basin website at www.westbasin.org. Public input is welcomed and will be considered prior to finalizing the 2020 UWMP, WSCP, and Appendix I to the 2015 UWMP. All written comments must be received by 5:00 PM PDT on June 9, 2021.

For more information, or to provide comments on the draft 2020 UWMP, draft WSCP, and draft Appendix I to the 2015 UWMP, please contact E.J. Caldwell, Manager of Water Policy and Resources Development at edwardc@westbasin.org. 5/27, 6/3/21 CNS#3473202 LOS ANGELES SENTINEL
La Junta de Directores de West Basin Municipal Water District (West Basin) llevará a cabo una audiencia pública el jueves 10 de junio de 2021 a las 10:00 AM, para recibir comentarios sobre el borrador del Plan de Gestión del Agua Urbana (UWMP, por sus siglas en inglés), el borrador del Plan de Contingencia por Escasez del Agua (WSCP, por sus siglas en inglés) y el borrador del Apéndice I para el Plan de Gestión de Aguas Urbanas 2015.

La audiencia pública se llevará a cabo durante una reunión Especial de la Junta de West Basin. De conformidad con las Órdenes Ejecutivas del Gobernador del 12 de marzo de 2020, esta reunión será presentada por teleconferencia, sin que se proporcione una ubicación física para la reunión. Aquí se proporcionan los detalles de la reunión:

Junta de Directores de West Basin: Reunión Especial de la Junta
Jueves 10 de junio de 2021 a las 10:00 AM
Para Participar en la Teleconferencia (GoToMeeting y Número con Llamadas)

La audiencia pública será transmitida en vivo a través de GoToMeeting y también será grabada. Se puede acceder a la reunión utilizando el siguiente enlace en el sitio web de West Basin: http://wbmwdca.iqm2.com/Citizens/Default.aspx (Consulte este sitio web para detalles adicionales, incluyendo la agenda final y el paquete de la agenda).

El UWMP de 2020 evalúa la cartera de recursos hídricos de West Basin, y las estrategias de planificación durante los próximos 25 años, como un requisito establecido por el Departamento de Recursos Hídricos de California. El borrador del UWMP de 2020 cumple con la ley estatal que requiere que los proveedores de agua urbana preparen y actualicen los planes de gestión de agua urbana cada cinco años.

El borrador WSCP describe cómo el West Basin está preparado para responder a una variedad de condiciones de escasez de agua. El borrador WSCP de West Basin satisface los requisitos del Código de Aguas de California.

El borrador del Apéndice I al UWMP de 2015 y el borrador del Apéndice D al UWMP de 2020 incluye todos los elementos descritos en la Política del Plan Delta WR P1, Reducir la Dependencia Delta a Través de la Autosuficiencia Regional Mejorada del Agua (Código de Regs. De Cal. tít. 23, § 5003) que deben ser incluidos en un UWMP del proveedor de agua para respaldar una certificación de consistencia para una futura acción cubierta.

Los borradores finales del UWMP de 2020, WSCP, y el Apéndice I al UWMP de 2015 pueden ser vistos en el sitio web de West Basin en www.westbasin.org. Las aportaciones del público son bienvenidas y serán consideradas antes de finalizar el UWMP de 2020, WSCP, y el Apéndice I al UWMP de 2015.

Todos los comentarios escritos deben ser recibidos antes de las 5:00 PM PDT del 9 de junio de 2021.

Para obtener más información, o para proporcionar comentarios sobre el borrador UWMP de 2020, el borrador WSCP, y el borrador del Apéndice I al UWMP de 2015, comuníquese con E.J. Caldwell, Gerente de Desarrollo de Recursos y Políticas del Agua en edwardc@westbasin.org.
Notice of Public Hearing

DRAFT 2020 URBAN WATER MANAGEMENT PLAN, DRAFT WATER SHORTAGE CONTINGENCY PLAN, AND DRAFT APPENDIX I TO 2015 URBAN WATER MANAGEMENT PLAN

The West Basin Municipal Water District (West Basin) Board of Directors will hold a public hearing on Thursday, June 10, 2021 at 10:00 AM, to receive comments on the District’s draft 2020 Urban Water Management Plan (UWMP), draft Water Shortage Contingency Plan (WSCP), and draft Appendix I as an addendum to its 2015 UWMP.

The public hearing will be conducted during a West Basin Special Board meeting. Pursuant to the Governor’s Executive Orders of March 12, 2020, and March 19, 2020, this meeting will be hosted by teleconference, with no physical meeting location being provided. Meeting details are provided herein:

West Basin Board of Directors: Special Board Meeting
Thursday, June 10, 2021 at 10:00 AM
Television Participation Only (GoToMeeting and Phone-In Number)

The public hearing will be live streamed through GoToMeeting and will also be recorded. The meeting may be accessed using the following link on the West Basin website: http://wbmwca.igm.com/Citizens/Default.aspx. (Please check this website for additional details including final agenda and agenda packet).

The 2020 UWMP assesses West Basin’s water resources portfolio, demands, and planning strategies over the next 25 years, as a requirement set forth by the California Department of Water Resources. The draft 2020 UWMP complies with state law requiring urban water suppliers to prepare and update urban water management plans every five years.

The draft WSCP describes how West Basin is prepared to respond to a variety of water shortage conditions. West Basin’s draft WSCP satisfies the requirements of the California Water Code.

The draft Appendix I to the 2015 UWMP and draft Appendix D to the 2020 UWMP includes all of the elements described in Delta Plan Policy WR 1, Reduce Reliance on the Delta Through Improved Regional Water Self-Reliance (Cal. Code Regs. tit. 23, § 5003) which need to be included in a water supplier’s UWMP to support a certification of consistency for a future covered action.

Final drafts of the 2020 UWMP, WSCP, and Appendix I to the 2015 UWMP may be viewed on the West Basin website at www.westbasin.org. Public input is welcomed and will be considered prior to finalizing the 2020 UWMP, WSCP, and Appendix I to the 2015 UWMP. All written comments must be received by 5:00 PM PDT on June 9, 2021.

For more information, or to provide comments on the draft 2020 UWMP, draft WSCP, and draft Appendix I to the 2015 UWMP, please contact E.J. Caldwell, Manager of Water Policy and Resources Development at edwardc@westbasin.org.

Gardena Valley News 5/27,6/3/21-105922
Notice of Public Hearing

DRAFT 2020 URBAN WATER MANAGEMENT PLAN, DRAFT WATER SHORTAGE CONTINGENCY PLAN, AND DRAFT APPENDIX I TO 2013 URBAN WATER MANAGEMENT PLAN

The West Basin Municipal Water District (West Basin) Board of Directors will hold a public hearing on Thursday, June 10, 2021 at 10:00AM, to receive comments on the District’s draft 2020 Urban Water Management Plan (UWMP), draft Water Shortage Contingency Plan (WSCP), and draft Appendix I as an addendum to its 2013 UWMP.

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Thursday, June 10, 2021 at 10:00 AM
Teleconference Participation Only
(GoToMeeting and Phone-In Number)

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The 2020 UWMP assesses West Basin’s water resources portfolio, demands, and planning strategies over the next 25 years, as a requirement set forth by the California Department of Water Resources. The draft 2020 UWMP complies with state law requiring urban water suppliers to prepare and update urban water management plans every five years.

The draft WSCP describes how West Basin is prepared to respond to a variety of water shortage conditions. West Basin’s draft WSCP satisfies the requirements of the California Water Code.

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Final drafts of the 2020 UWMP, WSCP, and Appendix I to the 2015 UWMP may be viewed on the West Basin website at www.westbasin.org. Public input is welcomed and will be considered prior to finalizing the 2020 UWMP, WSCP, and Appendix I to the 2015 UWMP. All written comments must be received by 5:00 PM PDT on June 9, 2021.

For more information, or to provide comments on the draft 2020 UWMP, draft WSCP, and draft Appendix I to the 2015 UWMP, please contact E.J. Caldwell, Manager of Water Policy and Resources Development at edwardc@westbasin.org.

Pub May 25; June 1, 2021 (21) DB (11461578)
Order Charges:

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Amount Due: $1,107.32
Notice of Public Hearing

DRAFT 2020 URBAN WATER MANAGEMENT PLAN, DRAFT WATER SHORTAGE CONTINGENCY PLAN, AND DRAFT APPENDIX I TO 2015 URBAN WATER MANAGEMENT PLAN

The West Basin Municipal Water District (West Basin) Board of Directors will hold a public hearing on Thursday, June 10, 2021 at 10:00 AM, to receive comments on the District’s draft 2020 Urban Water Management Plan (UWMP), draft Water Shortage Contingency Plan (WSCP), and draft Appendix I as an addendum to its 2015 UWMP.

The public hearing will be conducted during a West Basin Special Board meeting. Pursuant to the Governor’s Executive Orders of March 12, 2020, and March 19, 2020, this meeting will be hosted by teleconference, with no physical meeting location being provided. Meeting details are provided herein:

West Basin Board of Directors: Special Board Meeting
Thursday, June 10, 2021 at 10:00 AM
Teleconference Participation Only (GoToMeeting and Phone-In Number)

The public hearing will be live streamed through GoToMeeting and will also be recorded. The meeting may be accessed using the following link on the West Basin website: http://wbmwdca.iqm2.com/Citizens/Default.aspx (Please check this website for additional details including final agenda and agenda packet).

The 2020 UWMP assesses West Basin’s water resources portfolio, demands, and planning strategies over the next 25 years, as a requirement set forth by the California Department of Water Resources. The draft 2020 UWMP complies with state law requiring urban water suppliers to prepare and update urban water management plans every five years.

The draft WSCP describes how West Basin is prepared to respond to a variety of water shortage conditions. West Basin’s draft WSCP satisfies the requirements of the California Water Code.

The draft Appendix I to the 2015 UWMP and draft Appendix D to the 2020 UWMP includes all of the elements described in Delta Plan Policy WR P1, Reduce Reliance on the Delta Through Improved Regional Water Self-Reliance (Cal. Code Regs. tit. 23, § 5003) which need to be included in a water supplier’s UWMP to support a certification of consistency for a future covered action.

Final drafts of the 2020 UWMP, WSCP, and Appendix I to the 2015 UWMP may be viewed on the West Basin website at www.westbasin.org. Public input is welcomed and will be considered prior to finalizing the 2020 UWMP, WSCP, and Appendix I to the 2015 UWMP. All written comments must be received by 5:00 PM PDT on June 9, 2021.

For more information, or to provide comments on the draft 2020 UWMP, draft WSCP, and draft Appendix I to the 2015 UWMP, please contact E.J. Caldwell, Manager of Water Policy and Resources Development at edwardc@westbasin.org.

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Attachment E: Adoption Resolution
Delta Reliance
1 Background

Under the Sacramento-San Joaquin Delta Reform Act of 2009, state and local public agencies proposing a covered action in the Delta, prior to initiating the implementation of that action, must prepare a written certification of consistency with detailed findings as to whether the covered action is consistent with applicable Delta Plan policies and submit that certification to the Delta Stewardship Council. Anyone may appeal a certification of consistency, and if the Delta Stewardship Council grants the appeal, the covered action may not be implemented until the agency proposing the covered action submits a revised certification of consistency, and either no appeal is filed, or the Delta Stewardship Council denies the subsequent appeal.

An urban water supplier that anticipates participating in or receiving water from a proposed covered action such as a multi-year water transfer, conveyance facility, or new diversion that involves transferring water through, exporting water from, or using water in the Delta should provide information in their 2015 and 2020 Urban Water Management Plans (UWMPs) that can then be used in the covered action process to demonstrate consistency with Delta Plan Policy WR P1, Reduce Reliance on the Delta Through Improved Regional Water Self-Reliance (WR P1).

WR P1 details what is needed for a covered action to demonstrate consistency with reduced reliance on the Delta and improved regional self-reliance. WR P1 subsection (a) states that:

\( (a) \) Water shall not be exported from, transferred through, or used in the Delta if all of the following apply:

\( (1) \) One or more water suppliers that would receive water as a result of the export, transfer, or use have failed to adequately contribute to reduced reliance on the Delta and improved regional self-reliance consistent with all of the requirements listed in paragraph (1) of subsection (c);

\( (2) \) That failure has significantly caused the need for the export, transfer, or use; and

\( (3) \) The export, transfer, or use would have a significant adverse environmental impact in the Delta.
WR P1 subsection (c)(1) further defines what adequately contributing to reduced reliance on the Delta means in terms of (a)(1) above.

\[
(c)(1) \text{ Water suppliers that have done all the following are contributing to reduced reliance on the Delta and improved regional self-reliance and are therefore consistent with this policy:}
\]

(A) Completed a current Urban or Agricultural Water Management Plan (Plan) which has been reviewed by the California Department of Water Resources for compliance with the applicable requirements of Water Code Division 6, Parts 2.55, 2.6, and 2.8;

(B) Identified, evaluated, and commenced implementation, consistent with the implementation schedule set forth in the Plan, of all programs and projects included in the Plan that are locally cost effective and technically feasible which reduce reliance on the Delta; and

(C) Included in the Plan, commencing in 2015, the expected outcome for measurable reduction in Delta reliance and improvement in regional self-reliance. The expected outcome for measurable reduction in Delta reliance and improvement in regional self-reliance shall be reported in the Plan as the reduction in the amount of water used, or in the percentage of water used, from the Delta watershed. For the purposes of reporting, water efficiency is considered a new source of water supply, consistent with Water Code section 1011(a).

The analysis and documentation provided below include all the elements described in WR P1(c)(1) that need to be included in a water supplier’s UWMP to support a certification of consistency for a future covered action.

2 Demonstration of Regional Self-Reliance

The methodology used to determine West Basin’s improved regional self-reliance is consistent with the approach detailed in DWR’s UWMP Guidebook Appendix C, including the use of narrative justifications for the accounting of supplies and the documentation of specific data sources. Some of the key assumptions underlying West Basin’s demonstration of reduced reliance include:

- All data were obtained from the current 2020 UWMP or previously adopted UWMPs and represent average or normal water year conditions.
- All analyses were conducted at the service area level, and all data reflect the total contributions of Metropolitan and its members as well as their customers.
- No projects or programs that are described in the UWMPs as “Projects Under Development” were included in the accounting of supplies.

Baseline and Expected Outcomes

In order to calculate the expected outcomes for measurable reduction in Delta reliance and improved regional self-reliance, a baseline is needed to compare against. This analysis uses a normal water year representation of 2010 as the baseline, which is consistent with the approach described in the Guidebook Appendix C. Data for the 2010 baseline were taken from West Basin’s 2005 UWMP as the UWMPs generally do not provide normal water year data for the year that they are adopted (i.e., 2005 UWMP forecasts begin in 2010, 2010 UWMP forecasts begin in 2015, and so on).
Consistent with the 2010 baseline data approach, the expected outcomes for reduced Delta reliance and improved regional self-reliance for 2015 and 2020 were taken from West Basin’s 2010 and 2015 UWMPs respectively. Expected outcomes for 2025-2045 are from the current 2020 UWMP. Documentation of the specific data sources and assumptions are included in the discussions below.

**Service Area Demands without Water Use Efficiency**

In alignment with the Guidebook Appendix C, this analysis uses normal water year demands, rather than normal water year supplies to calculate expected outcomes in terms of the percentage of water used. Using normal water year demands serves as a proxy for the amount of supplies that would be used in a normal water year, which helps alleviate issues associated with how supply capability is presented to fulfill requirements of the UWMP Act versus how supplies might be accounted for to demonstrate consistency with WR P1.

Because WR P1 considers water use efficiency savings a source of water supply, water suppliers such as West Basin that do not explicitly quantify water use efficiency savings in their UWMPs can calculate their embedded water use efficiency savings based on changes in forecasted per capita water use since the baseline.

Agencies that explicitly calculate and report water use efficiency savings in their UWMP will need to make an adjustment to properly reflect normal water year demands in the calculation of reduced reliance. As explained in the Guidebook Appendix C, water use efficiency savings must be added back to the normal year demands to represent demands without water use efficiency savings accounted for; otherwise the effect of water use efficiency savings on regional self-reliance would be overestimated. Table 1 shows the results of this adjustment for West Basin. Supporting narratives and documentation for all the data shown in Table 1 are provided below.

**Service Area Demands with Water Use Efficiency**

The service area demands shown in Table 1 represent the total water demands for West Basin’s service area, including: 1) municipal and industrial (M&I) demands; and 2) replenishment demands. The M&I demand data shown in Table 1 were collected from the following sources:

- Baseline (2010): West Basin 2005 UWMP, Table ES-1
- 2015: West Basin 2010 UWMP, Table ES-4
- 2020: West Basin 2015 UWMP, Table ES-3
- 2025-2045: West Basin 2020 UWMP, Figure ES-3

The replenishment demand data shown in Table 1 were collected from the following sources:

- Baseline (2010): West Basin 2005 UWMP, Table ES-1
- 2015: West Basin 2010 UWMP, Table 3-5
- 2020: West Basin 2015 UWMP, Table 4-7
- 2025-2045: West Basin 2020 UWMP, Table ES-1

**Non-Potable Water Demands**
The non-potable water demand data shown in Table 1 represent recycled water demand estimates from West Basin’s Edward C. Little Water Recycling Facility and its satellite facilities for use in West Basin’s service area collected from the following sources:

- Baseline (2010): West Basin 2005 UWMP, Table ES-1
- 2015: West Basin 2010 UWMP, Table ES-4
- 2020: West Basin 2015 UWMP, Table ES-3
- 2025-2045: West Basin 2020 UWMP, Figure ES-4

**Potable Service Area Demands with Water Use Efficiency**

Calculated by subtracting “Non-Potable Water Demands” from “Service Area Demands with Water Use Efficiency.”

**Service Area Population**

The population data shown in Table 1 were collected from the following sources:

- Baseline (2010): West Basin 2010 UWMP, Table 2-2
- 2015: West Basin 2015 UWMP, Table 2-1
- 2020-2045: West Basin 2020 UWMP, Table 3-3

**Estimated Water Use Efficiency Since Baseline**

Calculated using “Potable Service Area Demands with Water Use Efficiency” divided by “Service Area Population” and then calculating Estimated Water Use Efficiency Since Baseline by comparing with 2010 Per Capita Water Use.

**Service Area Water Demands without Water Use Efficiency**

Add “Service Area Demands with Water Use Efficiency” to Estimated Water Use Efficiency Since Baseline.”

**Supplies Contributing to Regional Self-Reliance**

For a covered action to demonstrate consistency with the Delta Plan, WR P1 subsection (c)(1)(C) states that water suppliers must report the expected outcomes for measurable improvement in regional self-reliance. Table 2 shows expected outcomes for supplies contributing to regional self-reliance both in amount and as a percentage. The numbers shown in Table 2 represent efforts to improve regional self-reliance for West Basin’s entire service area and include the total contributions of West Basin and its customers. Supporting narratives and documentation for all of the data shown in Table 2 are provided below.

The results shown in Table 2 demonstrate that West Basin’s service area is measurably improving its regional self-reliance. In the near-term (2025), the expected outcome for normal water year regional self-reliance is expected to increase by 44,000 AFY from the 2010 baseline; this represents an increase of about 17 percent of 2025 normal water year retail demands. In the long-term (2045), the expected outcome for normal water year regional self-reliance is expected to increase by more than 62,000 AFY from the 2010 baseline, this represents an increase of about 21 percent of 2045 normal water year retail demands (Table 2).
**Water Use Efficiency**

The water use efficiency information shown in Table 2 is taken directly from Table 1.

**Water Recycling**

The water recycling values shown in Table 2 are taken directly from the non-potable water demands in Table 1.

**Advanced Water Technologies**

The advanced water technologies data shown in Table 2 includes production from West Basin’s C. Marvin Brewer Desalter, as described in Chapter 6 of West Basin’s 2020 UWMP.

**Local and Regional Water Supply and Storage Programs**

The local and regional water supply and storage programs data shown in Table 2 represent groundwater pumping estimates by entities within West Basin’s service area and were estimated from the following sources:

- Baseline (2010): West Basin 2005 UWMP, Table ES-1
- 2015: West Basin 2010 UWMP, Table ES-4
- 2020: West Basin 2015 UWMP, Table ES-3
- 2025-2045: West Basin 2020 UWMP, Figure ES-4

**Other Programs and Projects that Contribute to Regional Self-Reliance**

Other programs and projects that contribute to regional self-reliance shown in Table 2 include West Basin deliveries of advanced treated recycled water to the West Coast Basin Barrier for injection into the West Coast Groundwater Basin. The use of recycled water offsets the use of imported water for replenishment. The recycled water replenishment estimates are from the following sources:

- Baseline (2010): West Basin 2005 UWMP, Table ES-1
- 2015: West Basin 2010 UWMP, Table 3-5
- 2020: West Basin 2015 UWMP, Table 4-7
- 2025-2045: West Basin 2020 UWMP, Table ES-1

### 3 Demonstration of Reduced Reliance on the Delta

Metropolitan’s service area, as a whole, reduces reliance on the Delta through investments in non-Delta water supplies, local water supplies, and regional and local demand management measures. Metropolitan’s member agencies coordinate reliance on the Delta through their membership in Metropolitan, a regional cooperative providing wholesale water service to its 26 member agencies. Accordingly, regional reliance on the Delta can only be measured regionally—not by individual Metropolitan member agencies and not by the customers of those member agencies.

Metropolitan’s member agencies, and those agencies’ customers, indirectly reduce reliance on the Delta through their collective efforts as a cooperative. Metropolitan’s member agencies do not control the amount of Delta water they receive from Metropolitan. Metropolitan manages a statewide integrated conveyance system.
consisting of its participation in the State Water Project (SWP), its Colorado River Aqueduct (CRA) including Colorado River water resources, programs and water exchanges, and its regional storage portfolio. Along with the SWP, CRA, storage programs, and Metropolitan’s conveyance and distribution facilities, demand management programs increase the future reliability of water resources for the region. In addition, demand management programs provide system-wide benefits by decreasing the demand for imported water, which helps to decrease the burden on the district’s infrastructure and reduce system costs, and free up conveyance capacity to the benefit of all member agencies.

Metropolitan’s costs are funded almost entirely from its service area, with the exception of grants and other assistance from government programs. Most of Metropolitan’s revenues are collected directly from its member agencies. Properties within Metropolitan’s service area pay a property tax that currently provides approximately 8 percent of the fiscal year 2021 annual budgeted revenues. The rest of Metropolitan’s costs are funded through rates and charges paid by Metropolitan’s member agencies for the wholesale services it provides to them.\(^1\) Thus, Metropolitan’s member agencies fund nearly all operations Metropolitan undertakes to reduce reliance on the Delta, including Colorado River Programs, storage facilities, Local Resources Programs and Conservation Programs within Metropolitan’s service area.

Because of the integrated nature of Metropolitan’s systems and operations, and the collective nature of Metropolitan’s regional efforts, it is infeasible to quantify each of Metropolitan member agencies’ individual reliance on the Delta. It is infeasible to attempt to segregate an entity and a system that were designed to work as an integrated regional cooperative.

In addition to the member agencies funding Metropolitan’s regional efforts, they also invest in their own local programs to reduce their reliance on any imported water. Moreover, the customers of those member agencies may also invest in their own local programs to reduce water demand. However, to the extent those efforts result in reduction of demands on Metropolitan, that reduction does not equate to a like reduction of reliance on the Delta. Demands on Metropolitan are not commensurate with demands on the Delta because most of Metropolitan member agencies receive blended resources from Metropolitan as determined by Metropolitan—not the individual member agency—and for most member agencies, the blend varies from month-to-month and year-to-year due to hydrology, operational constraints, use of storage and other factors.

Attachment 1 further addresses the infeasibility of accounting supplies from the delta watershed for metropolitan’s member agencies and their customers.

4 **Summary of Expected Outcomes for Reduced Reliance on the Delta**

As stated in WR P1(c)(1)(C), the policy requires that, commencing in 2015, UWMPs include expected outcomes for measurable reduction in Delta reliance and improved regional self-reliance. WR P1 further states that those

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\(^1\) A standby charge is collected from properties within the service areas of 21 of Metropolitan’s 26 member agencies, ranging from $5 to $14.20 per acre annually, or per parcel if smaller than an acre. Standby charges go towards those member agencies’ obligations to Metropolitan for the Readiness-to-Serve Charge. The total amount collected annually is approximately $43.8 million, approximately 2 percent of Metropolitan’s fiscal year 2021 annual budgeted revenues.
outcomes shall be reported in the UWMP as the reduction in the amount of water used, or in the percentage of water used, from the Delta.

The expected outcomes for West Basin Municipal Water District’s (West Basin’s) Delta reliance and regional self-reliance were developed using the approach and guidance described in Appendix C of DWR’s Urban Water Management Plan Guidebook 2020 (Guidebook Appendix C) issued in March 2020.

**Regional Self-Reliance**

For Regional Self-Reliance, the data used in this analysis represent the total regional efforts of West Basin and its customers and were developed in conjunction with Metropolitan as part of the UWMP coordination process. In accordance with UMWP requirements, West Basin’s customers also report demands and supplies for their service areas in their respective UWMPs. The data reported by those agencies are not additive to the regional totals shown in West Basin’s UWMP, rather their reporting represents subtotals of the regional total and should be considered as such for the purposes of determining regional self-reliance.

The following provides a summary of the near-term (2025) and long-term (2045) expected outcomes for West Basin’s regional self-reliance.

- **Near-term (2025)** – Normal water year regional self-reliance is expected to increase by 44,000 AFY from the 2010 baseline; this represents an increase of about 17 percent of 2025 normal water year retail demands (Table 2).
- **Long-term (2045)** – Normal water year regional self-reliance is expected to increase by more than 62,000 AFY from the 2010 baseline, this represents an increase of about 21 percent of 2045 normal water year retail demands (Table 2).

The results show that as a region, West Basin and its customers are measurably reducing reliance on the Delta and improving regional self-reliance, both as an amount of water used and as a percentage of water used.

**Reduced Reliance on Supplies from the Delta Watershed**

For reduced reliance on supplies from the Delta Watershed, the data used in this analysis represent the total regional efforts of Metropolitan and its member agencies (e.g., West Basin) and their customers (many of them retail agencies), and were developed in conjunction with West Basin and other Metropolitan member agencies as part of the UWMP coordination process (as described in Section 5 of Metropolitan’s 2020 UWMP). In accordance with UMWP requirements, Metropolitan’s member agencies and their customers (many of them retail agencies) also report demands and supplies for their service areas in their respective UWMPs. The data reported by those agencies are not additive to the regional totals shown in Metropolitan’s UWMP, rather their reporting represents subtotals of the regional total and should be considered as such for the purposes of determining reduced reliance on the Delta.

While the demands that Metropolitan’s member agencies and their customers report in their UWMP’s are a good reflection of the demands in their respective service areas, they do not adequately represent each water suppliers’ contributions to reduced reliance on the Delta. In order to calculate and report their reliance on water supplies from the Delta watershed, water suppliers that receive water from the Delta through other regional or wholesale water suppliers would need to determine the amount of Delta water that they receive from the regional or 5/25/2021
wholesale supplier. Two specific pieces of information are needed to accomplish this, first is the quantity of demands on the regional or wholesale water supplier that accurately reflect a supplier’s contributions to reduced reliance on the Delta and second is the quantity of a supplier’s demands on the regional or wholesale water supplier that are met by supplies from the Delta watershed.

For water suppliers that make investments in regional projects or programs it may be infeasible to quantify their demands on the regional or wholesale water supplier in a way that accurately reflects their individual contributions to reduced reliance on the Delta. Due to the extensive, long-standing and successful implementation of regional demand management and local resource incentive programs in Metropolitan’s service area, this infeasibility holds true for Metropolitan’s members as well their customers. For Metropolitan’s service area, reduced reliance on supplies from the Delta watershed can only be accurately accounted at the regional level. This is further discussed in Attachment 1.

The following provides a summary of the near-term (2025) and long-term (2045) expected outcomes for Metropolitan’s Delta reliance on supplies from the Delta watershed:

- Near-term (2025) – Normal water year reliance on supplies from the Delta watershed decreased by 301,000 AF from the 2010 baseline, this represents a decrease of 3 percent of 2025 normal water year retail demands (Table 3).
- Long-term (2045) – Normal water year reliance on supplies from the Delta watershed decreased by 314,000 TAF from the 2010 baseline, this represents a decrease of just over 5 percent of 2045 normal water year retail demands (Table 3).

The results show that as a region, Metropolitan and its members (including West Basin) as well as their customers are measurably reducing reliance on the Delta and improving regional self-reliance, both as an amount of water used and as a percentage of water used.

## 5 UWMP Implementation

In addition to the analysis and documentation described above, WR P1 subsection (c)(1)(B) requires that all programs and projects included in the UWMP that are locally cost-effective and technically feasible, which reduce reliance on the Delta, are identified, evaluated, and implemented consistent with the implementation schedule. WR P1 (c)(1)(B) states that:

(B) Identified, evaluated, and commenced implementation, consistent with the implementation schedule set forth in the Plan, of all programs and projects included in the Plan that are locally cost effective and technically feasible which reduce reliance on the Delta[.]

In accordance with Water Code Section 10631(f), water suppliers must already include in their UWMP a detailed description of expected future projects and programs that they may implement to increase the amount of water supply available to them in normal and single-dry water years and for a period of drought lasting five consecutive years. The UWMP description must also identify specific projects, include a description of the increase in water supply that is expected to be available from each project, and include an estimate regarding the implementation timeline for each project or program.
Chapter 6 of West Basin’s 2020 UWMP summarizes the implementation plan and continued progress in developing a diversified water portfolio to meet the region’s water needs.

6 2015 UWMP Appendix I

The information contained in this appendix is also intended to be a new Appendix I attached to West Basin’s 2015 UWMP consistent with WR P1 subsection (c)(1)(C) (Cal. Code Regs. tit. 23, § 5003). West Basin provided notice of the availability of the draft 2020 UWMP, 2021 WSCP, and a new Appendix I to the 2015 UWMP and the public hearing to consider adoption of the documents in accordance with CWC Sections 10621(b) and 10642, and Government Code Section 6066, and Chapter 17.5 (starting with Section 7290) of Division 7 of Title 1 of the Government Code. The public review drafts of the 2020 UWMP, Appendix I to the 2015 UWMP, and the 2021 WSCP were posted on West Basin’s website, westbasin.org, on April 6, 2021, more than 60 days in advance of the public hearing on June 10, 2021. The notice of availability of the documents was sent to West Basin’s customers, as well as cities and counties in West Basin’s service area. Copies of the notification letter sent to the customers and cities and counties in West Basin’s service area are included in the 2020 UWMP Appendix E. Thus, this Appendix D to West Basin’s 2020 UWMP, which was adopted with West Basin’s 2020 UWMP, will also be recognized and treated as Appendix I to West Basin’s 2015 UWMP.

West Basin held the public hearing for the draft 2020 UWMP, draft Appendix I to the 2015 UWMP, and draft 2021 WSCP on June 10, 2021, at a regular Board of Directors meeting, held online due to COVID-19 concerns. On June 28, 2021, West Basin’s Board of Directors determined that the 2020 UWMP and the 2021 WSCP accurately represent the water resources plan for West Basin’s service area. In addition, West Basin’s Board of Directors determined that Appendix I to both the 2015 UWMP and the 2020 UWMP includes all of the elements described in Delta Plan Policy WR P1, Reduce Reliance on the Delta Through Improved Regional Water Self-Reliance (Cal. Code Regs. tit. 23, § 5003), which need to be included in a water supplier’s UWMP to support a certification of consistency for a future covered action. As stated in Resolutions XXXX, XXXX, and XXXX, the West Basin Board of Directors adopted the 2020 UWMP, Appendix I to the 2015 UWMP, and the 2021 WSCP and authorized their submittal to the State of California. Copies of the resolutions are included in the 2020 UWMP Appendix F,
Table 1. Calculation of Service Area Water Demands without Water Use Efficiency (UWMP Table C-1 and Table C-2)

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<th>Table C-1: Optional Calculation of Water Use Efficiency -To be completed if Water Supplier does not specifically estimate Water Use Efficiency as a supply</th>
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<td>Service Area Water Demands with Water Use Efficiency Accounted For</td>
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<tr>
<td>Non-Potentable Water Demands</td>
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<th><strong>2020</strong></th>
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Table C-2: Calculation of Service Area Water Demands Without Water Use Efficiency

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5/25/2021
Table 2. Calculation of Supplies Contributing to Regional Self-Reliance (UWMP Table C-3)

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<tr>
<td>Advanced Water Technologies</td>
<td>500</td>
<td>1,000</td>
<td>1,000</td>
<td>-</td>
<td>-</td>
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<tr>
<td>Conjunctive Use Projects</td>
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<tr>
<td>Local and Regional Water Supply and Storage Projects</td>
<td>52,000</td>
<td>45,000</td>
<td>36,293</td>
<td>25,330</td>
<td>30,100</td>
<td>30,100</td>
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<tr>
<td>Other Programs and Projects the Contribute to Regional Self-Reliance</td>
<td>17,500</td>
<td>16,980</td>
<td>17,000</td>
<td>20,000</td>
<td>29,000</td>
<td>39,000</td>
<td>44,600</td>
<td>44,600</td>
</tr>
<tr>
<td>Water Supplies Contributing to Regional Self-Reliance</td>
<td>91,848</td>
<td>91,448</td>
<td>116,383</td>
<td>142,851</td>
<td>162,167</td>
<td>174,559</td>
<td>182,516</td>
<td>184,899</td>
</tr>
</tbody>
</table>

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</thead>
<tbody>
<tr>
<td>Service Area Water Demands without Water Use Efficiency Accounted For</td>
<td>224,348</td>
<td>209,595</td>
<td>218,609</td>
<td>238,741</td>
<td>251,627</td>
<td>264,309</td>
<td>271,876</td>
<td>274,359</td>
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</table>

<table>
<thead>
<tr>
<th>Change in Regional Self Reliance (Acre-Feet)</th>
<th>Baseline (2010)</th>
<th>2015</th>
<th>2020</th>
<th>2025</th>
<th>2030</th>
<th>2035</th>
<th>2040</th>
<th>2045 (Optional)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Water Supplies Contributing to Regional Self-Reliance</td>
<td>91,848</td>
<td>91,448</td>
<td>116,383</td>
<td>142,851</td>
<td>162,167</td>
<td>174,559</td>
<td>182,516</td>
<td>184,899</td>
</tr>
<tr>
<td>Change in Water Supplies Contributing to Regional Self-Reliance</td>
<td>(400)</td>
<td>24,535</td>
<td>51,003</td>
<td>70,319</td>
<td>82,711</td>
<td>90,668</td>
<td>93,051</td>
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</table>

<table>
<thead>
<tr>
<th>Percent Change in Regional Self Reliance (As Percent of Demand w/out WUE)</th>
<th>Baseline (2010)</th>
<th>2015</th>
<th>2020</th>
<th>2025</th>
<th>2030</th>
<th>2035</th>
<th>2040</th>
<th>2045 (Optional)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Percent of Water Supplies Contributing to Regional Self-Reliance</td>
<td>40.9%</td>
<td>43.6%</td>
<td>53.2%</td>
<td>59.8%</td>
<td>64.4%</td>
<td>66.0%</td>
<td>67.1%</td>
<td>67.4%</td>
</tr>
<tr>
<td>Change in Percent of Water Supplies Contributing to Regional Self-Reliance</td>
<td>2.7%</td>
<td>12.3%</td>
<td>18.9%</td>
<td>23.5%</td>
<td>25.1%</td>
<td>26.2%</td>
<td>26.5%</td>
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</tr>
</tbody>
</table>
Table 3. Reliance on Water Supplies from the Delta Watershed (Metropolitan UWMP Table A.11-3; UWMP Table C-4)

<table>
<thead>
<tr>
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</tr>
</thead>
<tbody>
<tr>
<td>CVP/SWP Contract Supplies</td>
<td>1,472,000</td>
<td>1,029,000</td>
<td>984,000</td>
<td>1,133,000</td>
<td>1,130,000</td>
<td>1,128,000</td>
<td>1,126,000</td>
<td>1,126,000</td>
</tr>
<tr>
<td>Delta/Delta Tributary Diversions</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Transfers and Exchanges of Supplies from the Delta Watershed</td>
<td>20,000</td>
<td>44,000</td>
<td>91,000</td>
<td>58,000</td>
<td>52,000</td>
<td>52,000</td>
<td>52,000</td>
<td>52,000</td>
</tr>
<tr>
<td>Other Water Supplies from the Delta Watershed</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Total Water Supplies from the Delta Watershed</td>
<td>1,492,000</td>
<td>1,073,000</td>
<td>1,075,000</td>
<td>1,191,000</td>
<td>1,182,000</td>
<td>1,180,000</td>
<td>1,178,000</td>
<td>1,178,000</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
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<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Service Area Demands without Water Use Efficiency Accounted For</td>
<td>5,493,000</td>
<td>5,499,000</td>
<td>5,219,000</td>
<td>4,938,000</td>
<td>5,019,000</td>
<td>5,143,000</td>
<td>5,248,000</td>
<td>5,361,000</td>
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<thead>
<tr>
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</tr>
</thead>
<tbody>
<tr>
<td>Water Supplies from the Delta Watershed</td>
<td>1,492,000</td>
<td>1,073,000</td>
<td>1,075,000</td>
<td>1,191,000</td>
<td>1,182,000</td>
<td>1,180,000</td>
<td>1,178,000</td>
<td>1,178,000</td>
</tr>
<tr>
<td>Change in Supplies from the Delta Watershed</td>
<td>NA</td>
<td>(419,000)</td>
<td>(417,000)</td>
<td>(301,000)</td>
<td>(310,000)</td>
<td>(312,000)</td>
<td>(314,000)</td>
<td>(314,000)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Percent Change in Supplies from the Delta Watershed (As a Percent of Demand w/out WUE)</th>
<th>Baseline (2010)</th>
<th>2015</th>
<th>2020</th>
<th>2025</th>
<th>2030</th>
<th>2035</th>
<th>2040</th>
<th>2045</th>
</tr>
</thead>
<tbody>
<tr>
<td>Percent of Supplies from the Delta Watershed</td>
<td>27.2%</td>
<td>19.5%</td>
<td>20.6%</td>
<td>24.1%</td>
<td>23.6%</td>
<td>22.9%</td>
<td>22.4%</td>
<td>22.0%</td>
</tr>
<tr>
<td>Change in Percent of Supplies from the Delta Watershed</td>
<td>NA</td>
<td>-7.6%</td>
<td>-6.6%</td>
<td>-3.0%</td>
<td>-3.6%</td>
<td>-4.2%</td>
<td>-4.7%</td>
<td>-5.2%</td>
</tr>
</tbody>
</table>
Attachment 1 - Infeasibility of Accounting Supplies from the Delta Watershed for Metropolitan’s Member Agencies and their Customers
Infeasibility of Accounting Supplies from the Delta Watershed for Metropolitan’s Member Agencies and their Customers

Metropolitan’s service area, as a whole, reduces reliance on the Delta through investments in non-Delta water supplies, local water supplies, and regional and local demand management measures. Metropolitan’s member agencies coordinate reliance on the Delta through their membership in Metropolitan, a regional cooperative providing wholesale water service to its 26 member agencies. Accordingly, regional reliance on the Delta can only be measured regionally—not by individual Metropolitan member agencies and not by the customers of those member agencies.

Metropolitan’s member agencies, and those agencies’ customers, indirectly reduce reliance on the Delta through their collective efforts as a cooperative. Metropolitan’s member agencies do not control the amount of Delta water they receive from Metropolitan. Metropolitan manages a statewide integrated conveyance system consisting of its participation in the State Water Project (SWP), its Colorado River Aqueduct (CRA) including Colorado River water resources, programs and water exchanges, and its regional storage portfolio. Along with the SWP, CRA, storage programs, and Metropolitan’s conveyance and distribution facilities, demand management programs increase the future reliability of water resources for the region. In addition, demand management programs provide system-wide benefits by decreasing the demand for imported water, which helps to decrease the burden on the district’s infrastructure and reduce system costs, and free up conveyance capacity to the benefit of all member agencies.

Metropolitan’s costs are funded almost entirely from its service area, with the exception of grants and other assistance from government programs. Most of Metropolitan’s revenues are collected directly from its member agencies. Properties within Metropolitan’s service area pay a property tax that currently provides approximately 8 percent of the fiscal year 2021 annual budgeted revenues. The rest of Metropolitan’s costs are funded through rates and charges paid by Metropolitan’s member agencies for the wholesale services it provides to them. Thus, Metropolitan’s member agencies fund nearly all operations Metropolitan undertakes to reduce reliance on the Delta, including Colorado River Programs, storage facilities, Local Resources Programs and Conservation Programs within Metropolitan’s service area.

Because of the integrated nature of Metropolitan’s systems and operations, and the collective nature of Metropolitan’s regional efforts, it is infeasible to quantify each of Metropolitan member agencies’ individual reliance on the Delta. It is infeasible to attempt to segregate an entity and a system that were designed to work as an integrated regional cooperative.

In addition to the member agencies funding Metropolitan’s regional efforts, they also invest in their own local programs to reduce their reliance on any imported water. Moreover, the customers of those member agencies may also invest in their own local programs to reduce water demand. However, to the extent those efforts result in reduction of demands on Metropolitan, that reduction does not equate to a like reduction of reliance on the Delta. Demands on Metropolitan are not commensurate with demands on the Delta because most of Metropolitan member agencies receive blended resources from

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1 A standby charge is collected from properties within the service areas of 21 of Metropolitan’s 26 member agencies, ranging from $5 to $14.20 per acre annually, or per parcel if smaller than an acre. Standby charges go towards those member agencies’ obligations to Metropolitan for the Readiness-to-Serve Charge. The total amount collected annually is approximately $43.8 million, approximately 2 percent of Metropolitan’s fiscal year 2021 annual budgeted revenues.
Metropolitan as determined by Metropolitan—not the individual member agency—and for most member agencies, the blend varies from month-to-month and year-to-year due to hydrology, operational constraints, use of storage and other factors.

**Colorado River Programs**

As a regional cooperative of member agencies, Metropolitan invests in programs to ensure the continued reliability and sustainability of Colorado River supplies. Metropolitan was established to obtain an allotment of Colorado River water, and its first mission was to construct and operate the CRA. The CRA consists of five pumping plants, 450 miles of high voltage power lines, one electric substation, four regulating reservoirs, and 242 miles of aqueducts, siphons, canals, conduits and pipelines terminating at Lake Mathews in Riverside County. Metropolitan owns, operates, and manages the CRA. Metropolitan is responsible for operating, maintaining, rehabilitating, and repairing the CRA, and is responsible for obtaining and scheduling energy resources adequate to power pumps at the CRA’s five pumping stations.

Colorado River supplies include Metropolitan’s basic Colorado River apportionment, along with supplies that result from existing and committed programs, including supplies from the Imperial Irrigation District (IID)-Metropolitan Conservation Program, the implementation of the Quantification Settlement Agreement (QSA) and related agreements, and the exchange agreement with San Diego County Water Authority (SDCWA). The QSA established the baseline water use for each of the agreement parties and facilitates the transfer of water from agricultural agencies to urban uses. Since the QSA, additional programs have been implemented to increase Metropolitan’s CRA supplies. These include the PVID Land Management, Crop Rotation, and Water Supply Program, as well as the Lower Colorado River Water Supply Project. The 2007 Interim Guidelines provided for the coordinated operation of Lake Powell and Lake Mead, as well as the Intentionally Created Surplus (ICS) program that allows Metropolitan to store water in Lake Mead.

**Storage Investments/Facilities**

Surface and groundwater storage are critical elements of Southern California’s water resources strategy and help Metropolitan reduce its reliance on the Delta. Because California experiences dramatic swings in weather and hydrology, storage is important to regulate those swings and mitigate possible supply shortages. Surface and groundwater storage provide a means of storing water during normal and wet years for later use during dry years, when imported supplies are limited. The Metropolitan system, for purposes of meeting demands during times of shortage, regulating system flows, and ensuring system reliability in the event of a system outage, provides over 1,000,000 acre-feet of system storage capacity. Diamond Valley Lake provides 810,000 acre-feet of that storage capacity, effectively doubling Southern California’s previous surface water storage capacity. Other existing imported water storage available to the region consists of Metropolitan’s raw water reservoirs, a share of the SWP’s raw water reservoirs in and near the service area, and the portion of the groundwater basins used for conjunctive-use storage.

Since the early twentieth century, DWR and Metropolitan have constructed surface water reservoirs to meet emergency, drought/seasonal, and regulatory water needs for Southern California. These reservoirs include Pyramid Lake, Castaic Lake, Elderberry Forebay, Silverwood Lake, Lake Perris, Lake Skinner, Lake Mathews, Live Oak Reservoir, Garvey Reservoir, Palos Verdes Reservoir, Orange County Reservoir, and Metropolitan’s Diamond Valley Lake (DVL). Some reservoirs such as Live Oak Reservoir, Garvey Reservoir, Palos Verdes Reservoir, and Orange County Reservoir, which have a total combined capacity of about 3,500 AF, are used solely for regulating purposes. The total gross storage capacity for
the larger remaining reservoirs is 1,757,600 AF. However, not all of the gross storage capacity is available to Metropolitan; dead storage and storage allocated to others reduce the amount of storage that is available to Metropolitan to 1,665,200 AF.

Conjunctive use of the aquifers offers another important source of dry year supplies. Unused storage in Southern California groundwater basins can be used to optimize imported water supplies, and the development of groundwater storage projects allows effective management and regulation of the region’s major imported supplies from the Colorado River and SWP. Over the years, Metropolitan has implemented conjunctive use through various programs in the service area; the following table lists the groundwater conjunctive use programs that have been developed in the region.

<table>
<thead>
<tr>
<th>Program</th>
<th>Metropolitan Agreement Partners</th>
<th>Program Term</th>
<th>Max Storage AF</th>
<th>Dry-Year Yield AF/Yr</th>
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</thead>
<tbody>
<tr>
<td>Long Beach Conjunctive Use Storage Project (Central Basin)</td>
<td>Long Beach</td>
<td>June 2002-2027</td>
<td>13,000</td>
<td>4,300</td>
</tr>
<tr>
<td>Foothill Area Groundwater Storage Program (Monkhill/ Raymond Basin)</td>
<td>Foothill MWD</td>
<td>February 2003-2028</td>
<td>9,000</td>
<td>3,000</td>
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<tr>
<td>Orange County Groundwater Conjunctive Use Program</td>
<td>MWDOC OCWD</td>
<td>June 2003-2028</td>
<td>66,000+</td>
<td>22,000</td>
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<td>Chino Basin Conjunctive Use Programs</td>
<td>IEUA TVMWD Watermaster</td>
<td>June 2003-2028</td>
<td>100,000</td>
<td>33,000</td>
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<tr>
<td>Live Oak Basin Conjunctive Use Project (Six Basins)</td>
<td>TVMWD City of La Verna</td>
<td>October 2002-2027</td>
<td>3,000</td>
<td>1,000</td>
</tr>
<tr>
<td>City of Compton Conjunctive Use Project (Central Basin)</td>
<td>Compton</td>
<td>February 2005-2030</td>
<td>2,289</td>
<td>763</td>
</tr>
<tr>
<td>Long Beach Conjunctive Use Program Expansion in Lakewood (Central Basin)</td>
<td>Long Beach</td>
<td>July 2005-2030</td>
<td>3,600</td>
<td>1,200</td>
</tr>
<tr>
<td>Upper Claremont Basin Groundwater Storage Program (Six Basins)</td>
<td>TVMWD</td>
<td>Sept. 2005-2030</td>
<td>3,000</td>
<td>1,000</td>
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<tr>
<td>Elsinore Basin Conjunctive Use Storage Program</td>
<td>Western MWD Elsinore Valley MWD</td>
<td>May 2008-2033</td>
<td>12,000</td>
<td>4,000</td>
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<tr>
<td><strong>TOTAL</strong></td>
<td></td>
<td></td>
<td><strong>211,889</strong></td>
<td><strong>70,263</strong></td>
</tr>
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</table>

**Metropolitan Demand Management Programs**

Demand management costs are Metropolitan’s expenditures for funding local water resource development programs and water conservation programs. These Demand Management Programs incentivize the development of local water supplies and the conservation of water to reduce the need to import water to deliver to Metropolitan’s member agencies. These programs are implemented below the delivery points between Metropolitan’s and its member agencies’ distribution systems and, as such, do not add any water to Metropolitan’s supplies. Rather, the effect of these downstream programs is to
produce a local supply of water for the local agencies and to reduce demands by member agencies for
water imported through Metropolitan’s system. The following discussions outline how Metropolitan
funds local resources and conservation programs for the benefit of all of its member agencies and the
entire Metropolitan service area. Notably, the history of demand management by Metropolitan’s
member agencies and the local agencies that purchase water from Metropolitan’s members has
spanned more than four decades. The significant history of the programs is another reason it would be
difficult to attempt to assign a portion of such funding to any one individual member agency.

Local Resources Programs

In 1982, Metropolitan began providing financial incentives to its member agencies to develop new local
supplies to assist in meeting the region’s water needs. Because of Metropolitan’s regional distribution
system, these programs benefit all member agencies regardless of project location because they help to
increase regional water supply reliability, reduce demands for imported water supplies, decrease the
burden on Metropolitan’s infrastructure, reduce system costs and free up conveyance capacity to the
benefit of all the agencies that rely on water from Metropolitan.

For example, the Groundwater Replenishment System (GWRS) operated by the Orange County Water
District is the world’s largest water purification system for indirect potable reuse. It was funded, in part,
by Metropolitan’s member agencies through the Local Resources Program. Annually, the GWRS
produces approximately 103,000 acre-feet of reliable, locally controlled, drought-proof supply of high-
quality water to recharge the Orange County Groundwater Basin and protect it from seawater intrusion.
The GWRS is a premier example of a regional project that significantly reduced the need to utilize
imported water for groundwater replenishment in Metropolitan’s service area, increasing regional and
local supply reliability and reducing the region’s reliance on imported supplies, including supplies from
the State Water Project.

Metropolitan’s local resource programs have evolved through the years to better assist Metropolitan’s
member agencies in increasing local supply production. The following is a description and history of the
local supply incentive programs.

Local Projects Program

In 1982, Metropolitan initiated the Local Projects Program (LPP), which provided funding to member
agencies to facilitate the development of recycled water projects. Under this approach, Metropolitan
contributed a negotiated up-front funding amount to help finance project capital costs. Participating
member agencies were obligated to reimburse Metropolitan over time. In 1986, the LPP was revised,
changing the up-front funding approach to an incentive-based approach. Metropolitan contributed an
amount equal to the avoided State Water Project pumping costs for each acre-foot of recycled water
delivered to end-use consumers. This funding incentive was based on the premise that local projects
resulted in the reduction of water imported from the Delta and the associated pumping cost. The
incentive amount varied from year to year depending on the actual variable power cost paid for State
Water Project imports. In 1990, Metropolitan’s Board increased the LPP contribution to a fixed rate of
$154 per acre-foot, which was calculated based on Metropolitan’s avoided capital and operational costs
to convey, treat, and distribute water, and included considerations of reliability and service area
demands.

Groundwater Recovery Program

The drought of the early 1990s sparked the need to develop additional local water resources, aside from
recycled water, to meet regional demand and increase regional water supply reliability. In 1991,
Metropolitan conducted the Brackish Groundwater Reclamation Study which determined that large
amounts of degraded groundwater in the region were not being utilized. Subsequently, the Groundwater Recovery Program (GRP) was established to assist the recovery of otherwise unusable groundwater degraded by minerals and other contaminants, provide access to the storage assets of the degraded groundwater, and maintain the quality of groundwater resources by reducing the spread of degraded plumes.

**Local Resources Program**

In 1995, Metropolitan’s Board adopted the Local Resources Program (LRP), which combined the LPP and GRP into one program. The Board allowed for existing LPP agreements with a fixed incentive rate to convert to the sliding scale up to $250 per acre-foot, similar to GRP incentive terms. Those agreements that were converted to LRP are known as “LRP Conversions.”

**Competitive Local Projects Program**

In 1998, the Competitive Local Resources Program (Competitive Program) was established. The Competitive Program encouraged the development of recycled water and recovered groundwater through a process that emphasized cost-efficiency to Metropolitan, timing new production according to regional need while minimizing program administration cost. Under the Competitive Program, agencies requested an incentive rate up to $250 per acre-foot of production over 25 years under a Request for Proposals (RFP) for the development of up to 53,000 acre-feet per year of new water recycling and groundwater recovery projects. In 2003, a second RFP was issued for the development of an additional 65,000 acre-feet of new recycled water and recovered groundwater projects through the LRP.

**Seawater Desalination Program**

Metropolitan established the Seawater Desalination Program (SDP) in 2001 to provide financial incentives to member agencies for the development of seawater desalination projects. In 2014, seawater desalination projects became eligible for funding under the LRP, and the SDP was ended.

**2007 Local Resources Program**

In 2006, a task force comprised of member agency representatives was formed to identify and recommend program improvements to the LRP. As a result of the task force process, the 2007 LRP was established with a goal of 174,000 acre-feet per year of additional local water resource development. The new program allowed for an open application process and eliminated the previous competitive process. This program offered sliding scale incentives of up to $250 per acre-foot, calculated annually based on a member agency’s actual local resource project costs exceeding Metropolitan’s prevailing water rate.

**2014 Local Resources Program**

A series of workgroup meetings with member agencies was held to identify the reasons why there was a lack of new LRP applications coming into the program. The main constraint identified by the member agencies was that the $250 per acre-foot was not providing enough of an incentive for developing new projects due to higher construction costs to meet water quality requirements and to develop the infrastructure to reach end-use consumers located further from treatment plants. As a result, in 2014, the Board authorized an increase in the maximum incentive amount, provided alternative payment structures, included onsite retrofit costs and reimbursable services as part of the LRP, and added eligibility for seawater desalination projects. The current LRP incentive payment options are structured as follows:

- **Option 1** – Sliding scale incentive up to $340/AF for a 25-year agreement term
- **Option 2** – Sliding scale incentive up to $475/AF for a 15-year agreement term
- **Option 3** – Fixed incentive up to $305/AF for a 25-year agreement term
**On-site Retrofit Programs**

In 2014, Metropolitan’s Board also approved the On-site Retrofit Pilot Program which provided financial incentives to public or private entities toward the cost of small-scale improvements to their existing irrigation and industrial systems to allow connection to existing recycled water pipelines. The On-site Retrofit Pilot Program helped reduce recycled water retrofit costs to the end-use consumer which is a key constraint that limited recycled water LRP projects from reaching full production capacity. The program incentive was equal to the actual eligible costs of the on-site retrofit, or $975 per acre-foot of up-front cost, which equates to $195 per acre-foot for an estimated five years of water savings ($195/AF x 5 years) multiplied by the average annual water use in previous three years, whichever is less. The Pilot Program lasted two years and was successful in meeting its goal of accelerating the use of recycled water.

In 2016, Metropolitan’s Board authorized the On-site Retrofit Program (ORP), with an additional budget of $10 million. This program encompassed lessons learned from the Pilot Program and feedback from member agencies to make the program more streamlined and improve its efficiency. As of fiscal year 2019/20, the ORP has successfully converted 440 sites, increasing the use of recycled water by 12,691 acre-feet per year.

**Stormwater Pilot Programs**

In 2019, Metropolitan’s Board authorized both the Stormwater for Direct Use Pilot Program and a Stormwater for Recharge Pilot Program to study the feasibility of reusing stormwater to help meet regional demands in Southern California. These pilot programs are intended to encourage the development, monitoring, and study of new and existing stormwater projects by providing financial incentives for their construction/retrofit and monitoring/reporting costs. These pilot programs will help evaluate the potential benefits delivered by stormwater capture projects and provide a basis for potential future funding approaches. Metropolitan’s Board authorized a total of $12.5 million for the stormwater pilot programs ($5 million for the District Use Pilot and $7.5 million for the Recharge Pilot).

**Current Status and Results of Metropolitan’s Local Resource Programs**

Today, nearly one-half of the total recycled water and groundwater recovery production in the region has been developed with an incentive from one or more of Metropolitan’s local resource programs. During fiscal year 2020, Metropolitan provided about $13 million for production of 71,000 acre-feet of recycled water for non-potable and indirect potable uses. Metropolitan provided about $4 million to support projects that produced about 50,000 acre-feet of recovered groundwater for municipal use. Since 1982, Metropolitan has invested $680 million to fund 85 recycled water projects and 27 groundwater recovery projects that have produced a cumulative total of about 4 million acre-feet.

**Conservation Programs**

Metropolitan’s regional conservation programs and approaches have a long history. Decades ago, Metropolitan recognized that demand management at the consumer level would be an important part of balancing regional supplies and demands. Water conservation efforts were seen as a way to reduce the need for imported supplies and offset the need to transport or store additional water into or within the Metropolitan service area. The actual conservation of water takes place at the retail consumer level. Regional conservation approaches have proven to be effective at reaching retail consumers throughout Metropolitan’s service area and successfully implementing water saving devices, programs and practices. Through the pooling of funding by Metropolitan’s member agencies, Metropolitan is able to engage in regional campaigns with wide-reaching impact. Regional investments in demand management programs, of which conservation is a key part along with local supply programs, benefit all member agencies regardless of project location. These programs help to increase regional water supply...
reliability, reduce demands for imported water supplies, decrease the burden on Metropolitan’s infrastructure, reduce system costs, and free up conveyance capacity to the benefit of all member agencies.

**Incentive-Based Conservation Programs**

**Conservation Credits Program**

In 1988, Metropolitan’s Board approved the Water Conservation Credits Program (Credits Program). The Credits Program is similar in concept to the Local Projects Program (LPP). The purpose of the Credits Program is to encourage local water agencies to implement effective water conservation projects through the use of financial incentives. The Credits Program provides financial assistance for water conservation projects that reduce demands on Metropolitan’s imported water supplies and require Metropolitan’s assistance to be financially feasible.

Initially, the Credits Program provided 50 percent of a member agency’s program cost, up to a maximum of $75 per acre-foot of estimated water savings. The $75 Base Conservation Rate was established based Metropolitan’s avoided cost of pumping SWP supplies. The Base Conservation Rate has been revisited by Metropolitan’s Board and revised twice since 1988, from $75 to $154 per acre-foot in 1990 and from $154 to $195 per acre-foot in 2005.

In fiscal year 2020 Metropolitan processed more than 30,400 rebate applications totaling $18.9 million.

**Member Agency Administered Program**

Some member agencies also have unique programs within their service areas that provide local rebates that may differ from Metropolitan’s regional program. Metropolitan continues to support these local efforts through a member agency administered funding program that adheres to the same funding guidelines as the Credits Program. The Member Agency Administered Program allows member agencies to receive funding for local conservation efforts that supplement, but do not duplicate, the rebates offered through Metropolitan’s regional rebate program.

**Water Savings Incentive Program**

There are numerous commercial entities and industries within Metropolitan’s service area that pursue unique savings opportunities that do not fall within the general rebate programs that Metropolitan provides. In 2012, Metropolitan designed the Water Savings Incentive Program (WSIP) to target these unique commercial and industrial projects. In addition to rebates for devices, under this program, Metropolitan provides financial incentives to businesses and industries that created their own custom water efficiency projects. Qualifying custom projects can receive funding for permanent water efficiency changes that result in reduced potable demand.

**Non-Incentive Conservation Programs**

In addition to its incentive-based conservation programs, Metropolitan also undertakes additional efforts throughout its service area that help achieve water savings without the use of rebates. Metropolitan’s non-incentive conservation efforts include:

- residential and professional water efficient landscape training classes
- water audits for large landscapes
- research, development and studies of new water saving technologies
- advertising and outreach campaigns
- community outreach and education programs
- advocacy for legislation, codes, and standards that lead to increased water savings
**Current Status and Results of Metropolitan’s Conservation Programs**

Since 1990, Metropolitan has invested $824 million in conservation rebates that have resulted in a cumulative savings of 3.27 million acre-feet of water. These investments include $450 million in turf removal and other rebates during the last drought which resulted in 175 million square feet of lawn turf removed. During fiscal year 2020, 1.06 million acre-feet of water is estimated to have been conserved. This annual total includes Metropolitan’s Conservation Credits Program; code-based conservation achieved through Metropolitan-sponsored legislation; building plumbing codes and ordinances; reduced consumption resulting from changes in water pricing; and pre-1990 device retrofits.

**Infeasibility of Accounting Regional Investments in Reduced Reliance Below the Regional Level**

The accounting of regional investments that contribute to reduced reliance on supplies from the Delta watershed is straightforward to calculate and report at the regional aggregate level. However, any similar accounting is infeasible for the individual member agencies or their customers. As described above, the region (through Metropolitan) makes significant investments in projects, programs and other resources that reduce reliance on the Delta. In fact, all of Metropolitan’s investments in Colorado River supplies, groundwater and surface storage, local resources development and demand management measures that reduce reliance on the Delta are collectively funded by revenues generated from the member agencies through rates and charges.

Metropolitan’s revenues cannot be matched to the demands or supply production history of an individual agency, or consistently across the agencies within the service area. Each project or program funded by the region has a different online date, useful life, incentive rate and structure, and production schedule. It is infeasible to account for all these things over the life of each project or program and provide a nexus to each member agency’s contributions to Metropolitan’s revenue stream over time. Accounting at the regional level allows for the incorporation of the local supplies and water use efficiency programs done by member agencies and their customers through both the regional programs and through their own specific local programs. As shown above, despite the infeasibility of accounting reduced Delta reliance below the regional level, Metropolitan’s member agencies and their customers have together made substantial contributions to the region’s reduced reliance.

**References**

http://www.mwdh2o.com/WhoWeAre/Board/Board-Meeting/Board%20Archives/2017/12-Dec/Reports/064863458.pdf

http://www.mwdh2o.com/PDF_About_Your_Water/Annual_Achievement_Report.pdf

http://www.mwdh2o.com/WhoWeAre/Board/Board-Meeting/Board%20Archives/2016/12-Dec/Reports/064845868.pdf

http://www.mwdh2o.com/WhoWeAre/Board/Board-Meeting/Board%20Archives/2012/05%20May/Letters/064774100.pdf

http://www.mwdh2o.com/WhoWeAre/Board/Board-Meeting/Board%20Archives/2020/10%20Oct/Letters/10132020%20BOD%209-3%20B-L.pdf

http://www.mwdh2o.com/WhoWeAre/Board/Board-Meeting/Board%20Archives/2001/10-October/Letters/003909849.pdf

**Link to Metropolitan’s 2020 UWMP once final**
Notifications
April 7, 2021


Dear Valued Customers and Stakeholders,

The West Basin Municipal Water District (West Basin) is in the process of preparing its 2020 Urban Water Management Plan (UWMP) and 2021 Water Shortage Contingency Plan (WSCP) in compliance with the Urban Water Management Planning Act. In addition, West Basin is preparing an appendix to both the 2015 UWMP and 2020 UWMP to demonstrate consistency with the Delta Plan Policy WR P1, Reduced Reliance on the Delta Through Improved Regional Water Self-Reliance (California Code Reg., tit.23, §5003). The 2015 UWMP is being amended only to report reduced reliance on the Delta and this action is separate from adoption of the 2020 UWMP and adoption of the 2021 WSCP.

West Basin is required to notify its retailers as well as cities and counties within its service area that it is preparing its 2020 UWMP, 2021 WSCP, and Appendix I of the 2015 UWMP updates at least 60 days prior to holding a public hearing. The public hearing is scheduled as part of a West Basin Board meeting on June 10, 2021 at 10:00 a.m. This meeting will be available virtually, and will be properly noticed on the West Basin website (www.westbasin.org).

This letter serves as West Basin's official public hearing notice and intent to adopt the 2020 UWMP, 2021 WSCP, and Appendix I of the 2015 UWMP before the July 1, 2021 deadline. A copy of West Basin's draft 2020 UWMP and WSCP will be available for review on the West Basin's website (www.westbasin.org) by May 27, 2021. West Basin will distribute a public draft review notification on or before May 25, 2021 with information on how to access the draft documents. Until that time, if you have any questions, comments, or input, please contact E.J. Caldwell, Water Policy & Resources Development Manager, via email at edwardc@westbasin.org or by phone at (310) 660-6286.

Sincerely,

Patrick Sheilds
General Manager
West Basin Municipal Water District

BOARD OF DIRECTORS
Harold C. Williams
President
Donald L. Dear
Vice President
Scott Houston
Treasurer
Desi Alvarez
Secretary
Gloria D. Gray
Immediate Past President

GENERAL MANAGER: Patrick Sheilds
Dear Craig,

On behalf of West Basin Municipal Water District, I want to thank the City of Torrance, you, and your staff for your continued support for West Basin’s planning activities. As required by the Urban Water Management Planning Act, West Basin is in the process of preparing its 2020 Urban Water Management Plan (UWMP) and 2021 Water Shortage Contingency Plan (WSCP). In addition, WBMWD is preparing an appendix to both the 2015 UWMP and 2020 UWMP to demonstrate consistency with the Delta Plan Policy WR P1, Reduced Reliance on the Delta Through Improved Regional Water Self-Reliance (California Code Reg., tit.23, §5003). The 2015 UWMP is being amended only to report reduced reliance on the Delta and this action is separate from adoption of the 2020 UWMP and adoption of the 2021 WSCP.

Through this effort, your staff has provided great assistance, and we look forward to your continued participation. Attached, please find the Notice of Public Hearing for the West Basin Municipal Water District 2020 Urban Water Management Plan. **The public hearing is scheduled as part of a WBMWD Board meeting on June 10, 2021 at 10:00 a.m.** This meeting will be available virtually, and will be properly noticed on the West Basin website ([www.westbasin.org](http://www.westbasin.org)).

If you or your staff have any questions, please feel free to give me a call.

Sincerely,

E.J. Caldwell, Esq.
Water Policy & Resources Development Manager
310.660.6286 Office
213.500.0379 Mobile
[edwardc@westbasin.org](mailto:edwardc@westbasin.org)
Dear Mr. Grammer,

On behalf of West Basin Municipal Water District, I want to thank the City of Rolling Hills Estates for your continued support for West Basin’s planning activities. As required by the Urban Water Management Planning Act, West Basin is in the process of preparing its 2020 Urban Water Management Plan (UWMP) and 2021 Water Shortage Contingency Plan (WSCP). In addition, WBMWD is preparing an appendix to both the 2015 UWMP and 2020 UWMP to demonstrate consistency with the Delta Plan Policy WR P1, Reduced Reliance on the Delta Through Improved Regional Water Self-Reliance (California Code Reg., tit.23, §5003). The 2015 UWMP is being amended only to report reduced reliance on the Delta and this action is separate from adoption of the 2020 UWMP and adoption of the 2021 WSCP.

Through this effort, we look forward to your participation. Attached, please find the Notice of Public Hearing for the West Basin Municipal Water District 2020 Urban Water Management Plan. The public hearing is scheduled as part of a WBMWD Board meeting on June 10, 2021 at 10:00 a.m. This meeting will be available virtually, and will be properly noticed on the West Basin website (www.westbasin.org).

If you or your staff have any questions, please feel free to give me a call.

Sincerely,

E.J. Caldwell, Esq.
Water Policy & Resources Development Manager
310.660.6286 Office
213.500.0379 Mobile
edwardc@westbasin.org
Dear Mr. Mihranian,

On behalf of West Basin Municipal Water District, I want to thank the City of Rancho Palos Verdes for your continued support for West Basin’s planning activities. As required by the Urban Water Management Planning Act, West Basin is in the process of preparing its 2020 Urban Water Management Plan (UWMP) and 2021 Water Shortage Contingency Plan (WSCP). In addition, WBMWD is preparing an appendix to both the 2015 UWMP and 2020 UWMP to demonstrate consistency with the Delta Plan Policy WR P1, Reduced Reliance on the Delta Through Improved Regional Water Self-Reliance (California Code Reg., tit.23, §5003). The 2015 UWMP is being amended only to report reduced reliance on the Delta and this action is separate from adoption of the 2020 UWMP and adoption of the 2021 WSCP.

Through this effort, we look forward to your participation. Attached, please find the Notice of Public Hearing for the West Basin Municipal Water District 2020 Urban Water Management Plan. The public hearing is scheduled as part of a WBMWD Board meeting on June 10, 2021 at 10:00 a.m. This meeting will be available virtually, and will be properly noticed on the West Basin website (www.westbasin.org).

If you or your staff have any questions, please feel free to give me a call.

Sincerely,

E.J. Caldwell, Esq.
Water Policy & Resources Development Manager
310.660.6286 Office
213.500.0379 Mobile
edwardc@westbasin.org
Dear Mr. Osorio,

On behalf of West Basin Municipal Water District, I want to thank the City of Gardena for your continued support for West Basin’s planning activities. As required by the Urban Water Management Planning Act, West Basin is in the process of preparing its 2020 Urban Water Management Plan (UWMP) and 2021 Water Shortage Contingency Plan (WSCP). In addition, WBMWD is preparing an appendix to both the 2015 UWMP and 2020 UWMP to demonstrate consistency with the Delta Plan Policy WR P1, Reduced Reliance on the Delta Through Improved Regional Water Self-Reliance (California Code Reg., tit.23, §5003). The 2015 UWMP is being amended only to report reduced reliance on the Delta and this action is separate from adoption of the 2020 UWMP and adoption of the 2021 WSCP.

Through this effort, we look forward to your participation. Attached, please find the Notice of Public Hearing for the West Basin Municipal Water District 2020 Urban Water Management Plan. **The public hearing is scheduled as part of a WBMWD Board meeting on June 10, 2021 at 10:00 a.m.** This meeting will be available virtually, and will be properly noticed on the West Basin website (www.westbasin.org).

If you or your staff have any questions, please feel free to give me a call.

Sincerely,

E.J. Caldwell, Esq.
Water Policy & Resources Development Manager
310.660.6286 Office
213.500.0379 Mobile
edwardc@westbasin.org
Dear Demetri and Carlos,

On behalf of West Basin Municipal Water District, I want to thank you and the MWD for your continued support for West Basin’s planning activities. As required by the Urban Water Management Planning Act, West Basin is in the process of preparing its 2020 Urban Water Management Plan (UWMP) and 2021 Water Shortage Contingency Plan (WSCP). In addition, WBMWD is preparing an appendix to both the 2015 UWMP and 2020 UWMP to demonstrate consistency with the Delta Plan Policy WR P1, Reduced Reliance on the Delta Through Improved Regional Water Self-Reliance (California Code Reg., tit.23, §5003). The 2015 UWMP is being amended only to report reduced reliance on the Delta and this action is separate from adoption of the 2020 UWMP and adoption of the 2021 WSCP.

Through this effort, you have been very helpful, and we look forward to your continued participation. Attached, please find the Notice of Public Hearing for the West Basin Municipal Water District 2020 Urban Water Management Plan. The public hearing is scheduled as part of a WBMWD Board meeting on June 10, 2021 at 10:00 a.m. This meeting will be available virtually, and will be properly noticed on the West Basin website (www.westbasin.org).

If you or your staff have any questions, please feel free to give me a call.

Sincerely,

E.J. Caldwell, Esq.
Water Policy & Resources Development Manager
310.660.6286 Office
213.500.0379 Mobile
edwardc@westbasin.org
Dear Craig,

On behalf of West Basin Municipal Water District, I want to thank you and Surfrider for your continued support for West Basin’s planning activities. As required by the Urban Water Management Planning Act, West Basin is in the process of preparing its 2020 Urban Water Management Plan (UWMP) and 2021 Water Shortage Contingency Plan (WSCP). In addition, WBMWD is preparing an appendix to both the 2015 UWMP and 2020 UWMP to demonstrate consistency with the Delta Plan Policy WR P1, Reduced Reliance on the Delta Through Improved Regional Water Self-Reliance (California Code Reg., tit.23, §5003). The 2015 UWMP is being amended only to report reduced reliance on the Delta and this action is separate from adoption of the 2020 UWMP and adoption of the 2021 WSCP.

Through this effort, we look forward to your continued participation. Attached, please find the Notice of Public Hearing for the West Basin Municipal Water District 2020 Urban Water Management Plan. **The public hearing is scheduled as part of a WBMWD Board meeting on June 10, 2021 at 10:00 a.m.** This meeting will be available virtually, and will be properly noticed on the West Basin website (www.westbasin.org).

If you or your staff have any questions, please feel free to give me a call.

Sincerely,

E.J. Caldwell, Esq.
Water Policy & Resources Development Manager
310.660.6286 Office
213.500.0379 Mobile
edwardc@westbasin.org
Dear Mr. Arevalo,

On behalf of West Basin Municipal Water District, I want to thank the City of West Hollywood for your continued support for West Basin’s planning activities. As required by the Urban Water Management Planning Act, West Basin is in the process of preparing its 2020 Urban Water Management Plan (UWMP) and 2021 Water Shortage Contingency Plan (WSCP). In addition, WBMWD is preparing an appendix to both the 2015 UWMP and 2020 UWMP to demonstrate consistency with the Delta Plan Policy WR P1, Reduced Reliance on the Delta Through Improved Regional Water Self-Reliance (California Code Reg., tit.23, §5003). The 2015 UWMP is being amended only to report reduced reliance on the Delta and this action is separate from adoption of the 2020 UWMP and adoption of the 2021 WSCP.

Through this effort, we look forward to your continued participation. Attached, please find the Notice of Public Hearing for the West Basin Municipal Water District 2020 Urban Water Management Plan. **The public hearing is scheduled as part of a WBMWD Board meeting on June 10, 2021 at 10:00 a.m.** This meeting will be available virtually, and will be properly noticed on the West Basin website (www.westbasin.org).

If you or your staff have any questions, please feel free to give me a call.

Sincerely,

E.J. Caldwell, Esq.
Water Policy & Resources Development Manager
310.660.6286 Office
213.500.0379 Mobile
edwardc@westbasin.org
Dear Ms. Jeng,

On behalf of West Basin Municipal Water District, I want to thank the City of Rolling Hills for your continued support for West Basin’s planning activities. As required by the Urban Water Management Planning Act, West Basin is in the process of preparing its 2020 Urban Water Management Plan (UWMP) and 2021 Water Shortage Contingency Plan (WSCP). In addition, WBMWD is preparing an appendix to both the 2015 UWMP and 2020 UWMP to demonstrate consistency with the Delta Plan Policy WR P1, Reduced Reliance on the Delta Through Improved Regional Water Self-Reliance (California Code Reg., tit.23, §5003). The 2015 UWMP is being amended only to report reduced reliance on the Delta and this action is separate from adoption of the 2020 UWMP and adoption of the 2021 WSCP.

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If you or your staff have any questions, please feel free to give me a call.

Sincerely,

E.J. Caldwell, Esq.
Water Policy & Resources Development Manager
310.660.6286 Office
213.500.0379 Mobile
edwardc@westbasin.org
Dear Joe,

On behalf of West Basin Municipal Water District, I want to thank the City of Redondo Beach for your continued support for West Basin’s planning activities. As required by the Urban Water Management Planning Act, West Basin is in the process of preparing its 2020 Urban Water Management Plan (UWMP) and 2021 Water Shortage Contingency Plan (WSCP). In addition, WBMWD is preparing an appendix to both the 2015 UWMP and 2020 UWMP to demonstrate consistency with the Delta Plan Policy WR P1, Reduced Reliance on the Delta Through Improved Regional Water Self-Reliance (California Code Reg., tit.23, §5003). The 2015 UWMP is being amended only to report reduced reliance on the Delta and this action is separate from adoption of the 2020 UWMP and adoption of the 2021 WSCP.

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If you or your staff have any questions, please feel free to give me a call.

Sincerely,

E.J. Caldwell, Esq.
Water Policy & Resources Development Manager
310.660.6286 Office
213.500.0379 Mobile
edwardc@westbasin.org
Dear Ms. Guglielmo,

On behalf of West Basin Municipal Water District, I want to thank the City of Palos Verdes Estates for your continued support for West Basin’s planning activities. As required by the Urban Water Management Planning Act, West Basin is in the process of preparing its 2020 Urban Water Management Plan (UWMP) and 2021 Water Shortage Contingency Plan (WSCP). In addition, WBMWD is preparing an appendix to both the 2015 UWMP and 2020 UWMP to demonstrate consistency with the Delta Plan Policy WR P1, Reduced Reliance on the Delta Through Improved Regional Water Self-Reliance (California Code Reg., tit.23, §5003). The 2015 UWMP is being amended only to report reduced reliance on the Delta and this action is separate from adoption of the 2020 UWMP and adoption of the 2021 WSCP.

Through this effort, we look forward to your participation. Attached, please find the Notice of Public Hearing for the West Basin Municipal Water District 2020 Urban Water Management Plan. **The public hearing is scheduled as part of a WBMWD Board meeting on June 10, 2021 at 10:00 a.m.** This meeting will be available virtually, and will be properly noticed on the West Basin website [www.westbasin.org](http://www.westbasin.org).

If you or your staff have any questions, please feel free to give me a call.

Sincerely,

E.J. Caldwell, Esq.
Water Policy & Resources Development Manager
310.660.6286 Office
213.500.0379 Mobile
edwardc@westbasin.org
Dear Ms. Feldman,

On behalf of West Basin Municipal Water District, I want to thank the City of Malibu for your continued support for West Basin’s planning activities. As required by the Urban Water Management Planning Act, West Basin is in the process of preparing its 2020 Urban Water Management Plan (UWMP) and 2021 Water Shortage Contingency Plan (WSCP). In addition, WBMWD is preparing an appendix to both the 2015 UWMP and 2020 UWMP to demonstrate consistency with the Delta Plan Policy WR P1, Reduced Reliance on the Delta Through Improved Regional Water Self-Reliance (California Code Reg., tit.23, §5003). The 2015 UWMP is being amended only to report reduced reliance on the Delta and this action is separate from adoption of the 2020 UWMP and adoption of the 2021 WSCP.

Through this effort, we look forward to your participation. Attached, please find the Notice of Public Hearing for the West Basin Municipal Water District 2020 Urban Water Management Plan. The public hearing is scheduled as part of a WBMWD Board meeting on June 10, 2021 at 10:00 a.m. This meeting will be available virtually, and will be properly noticed on the West Basin website (www.westbasin.org).

If you or your staff have any questions, please feel free to give me a call.

Sincerely,

E.J. Caldwell, Esq.
Water Policy & Resources Development Manager
310.660.6286 Office
213.500.0379 Mobile
edwardc@westbasin.org
Dear Mr. Chun,

On behalf of West Basin Municipal Water District, I want to thank the City of Lawndale for your continued support for West Basin’s planning activities. As required by the Urban Water Management Planning Act, West Basin is in the process of preparing its 2020 Urban Water Management Plan (UWMP) and 2021 Water Shortage Contingency Plan (WSCP). In addition, WBMWD is preparing an appendix to both the 2015 UWMP and 2020 UWMP to demonstrate consistency with the Delta Plan Policy WR P1, Reduced Reliance on the Delta Through Improved Regional Water Self-Reliance (California Code Reg., tit.23, §5003). The 2015 UWMP is being amended only to report reduced reliance on the Delta and this action is separate from adoption of the 2020 UWMP and adoption of the 2021 WSCP.

Through this effort, we look forward to your participation. Attached, please find the Notice of Public Hearing for the West Basin Municipal Water District 2020 Urban Water Management Plan. **The public hearing is scheduled as part of a WBMWD Board meeting on June 10, 2021 at 10:00 a.m.** This meeting will be available virtually, and will be properly noticed on the West Basin website (www.westbasin.org).

If you or your staff have any questions, please feel free to give me a call.

Sincerely,

E.J. Caldwell, Esq.
Water Policy & Resources Development Manager
310.660.6286 Office
213.500.0379 Mobile
edwardc@westbasin.org
Dear Suja,

On behalf of West Basin Municipal Water District, I want to thank the City of Hermosa Beach for your continued support for West Basin’s planning activities. As required by the Urban Water Management Planning Act, West Basin is in the process of preparing its 2020 Urban Water Management Plan (UWMP) and 2021 Water Shortage Contingency Plan (WSCP). In addition, WBMWD is preparing an appendix to both the 2015 UWMP and 2020 UWMP to demonstrate consistency with the Delta Plan Policy WR P1, Reduced Reliance on the Delta Through Improved Regional Water Self-Reliance (California Code Reg., tit.23, §5003). The 2015 UWMP is being amended only to report reduced reliance on the Delta and this action is separate from adoption of the 2020 UWMP and adoption of the 2021 WSCP.

Through this effort, we look forward to your participation. Attached, please find the Notice of Public Hearing for the West Basin Municipal Water District 2020 Urban Water Management Plan. The public hearing is scheduled as part of a WBMWD Board meeting on June 10, 2021 at 10:00 a.m. This meeting will be available virtually, and will be properly noticed on the West Basin website (www.westbasin.org).

If you or your staff have any questions, please feel free to give me a call.

Sincerely,

E.J. Caldwell, Esq.
Water Policy & Resources Development Manager
310.660.6286 Office
213.500.0379 Mobile
edwardc@westbasin.org
Dear Mr. Lee,

On behalf of West Basin Municipal Water District, I want to thank the City of Culver City for your continued support for West Basin’s planning activities. As required by the Urban Water Management Planning Act, West Basin is in the process of preparing its 2020 Urban Water Management Plan (UWMP) and 2021 Water Shortage Contingency Plan (WSCP). In addition, WBMWD is preparing an appendix to both the 2015 UWMP and 2020 UWMP to demonstrate consistency with the Delta Plan Policy WR P1, Reduced Reliance on the Delta Through Improved Regional Water Self-Reliance (California Code Reg., tit.23, §5003). The 2015 UWMP is being amended only to report reduced reliance on the Delta and this action is separate from adoption of the 2020 UWMP and adoption of the 2021 WSCP.

Through this effort, we look forward to your participation. Attached, please find the Notice of Public Hearing for the West Basin Municipal Water District 2020 Urban Water Management Plan. The public hearing is scheduled as part of a WBMWD Board meeting on June 10, 2021 at 10:00 a.m. This meeting will be available virtually, and will be properly noticed on the West Basin website (www.westbasin.org).

If you or your staff have any questions, please feel free to give me a call.

Sincerely,

E.J. Caldwell, Esq.
Water Policy & Resources Development Manager
310.660.6286 Office
213.500.0379 Mobile
edwardc@westbasin.org
Dear Mr. Nachbar,

On behalf of West Basin Municipal Water District, I want to thank the City of Culver City for your continued support for West Basin’s planning activities. As required by the Urban Water Management Planning Act, West Basin is in the process of preparing its 2020 Urban Water Management Plan (UWMP) and 2021 Water Shortage Contingency Plan (WSCP). In addition, WBMWD is preparing an appendix to both the 2015 UWMP and 2020 UWMP to demonstrate consistency with the Delta Plan Policy WR P1, Reduced Reliance on the Delta Through Improved Regional Water Self-Reliance (California Code Reg., tit.23, §5003). The 2015 UWMP is being amended only to report reduced reliance on the Delta and this action is separate from adoption of the 2020 UWMP and adoption of the 2021 WSCP.

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If you or your staff have any questions, please feel free to give me a call.

Sincerely,

E.J. Caldwell, Esq.
Water Policy & Resources Development Manager
310.660.6286 Office
213.500.0379 Mobile
edwardc@westbasin.org
Dear Ms. Landers,

On behalf of West Basin Municipal Water District, I want to thank the City of Carson for your continued support for West Basin’s planning activities. As required by the Urban Water Management Planning Act, West Basin is in the process of preparing its 2020 Urban Water Management Plan (UWMP) and 2021 Water Shortage Contingency Plan (WSCP). In addition, WBMWD is preparing an appendix to both the 2015 UWMP and 2020 UWMP to demonstrate consistency with the Delta Plan Policy WR P1, Reduced Reliance on the Delta Through Improved Regional Water Self-Reliance (California Code Reg., tit.23, §5003). The 2015 UWMP is being amended only to report reduced reliance on the Delta and this action is separate from adoption of the 2020 UWMP and adoption of the 2021 WSCP.

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If you or your staff have any questions, please feel free to give me a call.

Sincerely,

E.J. Caldwell, Esq.
Water Policy & Resources Development Manager
310.660.6286 Office
213.500.0379 Mobile
edwardc@westbasin.org
Dear Rob,

On behalf of West Basin Municipal Water District, I want to thank you and your staff for your continued support for West Basin’s planning activities. As required by the Urban Water Management Planning Act, West Basin is in the process of preparing its 2020 Urban Water Management Plan (UWMP) and 2021 Water Shortage Contingency Plan (WSCP). In addition, WBMWD is preparing an appendix to both the 2015 UWMP and 2020 UWMP to demonstrate consistency with the Delta Plan Policy WR P1, Reduced Reliance on the Delta Through Improved Regional Water Self-Reliance (California Code Reg., tit.23, §5003). The 2015 UWMP is being amended only to report reduced reliance on the Delta and this action is separate from adoption of the 2020 UWMP and adoption of the 2021 WSCP.

Through this effort, your team has provided great assistance, and we look forward to your continued participation. Attached, please find the Notice of Public Hearing for the West Basin Municipal Water District 2020 Urban Water Management Plan. **The public hearing is scheduled as part of a WBMWD Board meeting on June 10, 2021 at 10:00 a.m.** This meeting will be available virtually, and will be properly noticed on the West Basin website (www.westbasin.org).

If you or your staff have any questions, please feel free to give me a call.

Sincerely,

E.J. Caldwell, Esq.
Water Policy & Resources Development Manager
310.660.6286 Office
213.500.0379 Mobile
edwardc@westbasin.org
Dear Russ,

On behalf of West Basin Municipal Water District, I want to thank you and your staff for your continued support for West Basin’s planning activities. As required by the Urban Water Management Planning Act, West Basin is in the process of preparing its 2020 Urban Water Management Plan (UWMP) and 2021 Water Shortage Contingency Plan (WSCP). In addition, WBMWD is preparing an appendix to both the 2015 UWMP and 2020 UWMP to demonstrate consistency with the Delta Plan Policy WR P1, Reduced Reliance on the Delta Through Improved Regional Water Self-Reliance (California Code Reg., tit.23, §5003). The 2015 UWMP is being amended only to report reduced reliance on the Delta and this action is separate from adoption of the 2020 UWMP and adoption of the 2021 WSCP.

Through this effort, your team has provided great assistance, and we look forward to your continued participation. Attached, please find the Notice of Public Hearing for the West Basin Municipal Water District 2020 Urban Water Management Plan. The public hearing is scheduled as part of a WBMWD Board meeting on June 10, 2021 at 10:00 a.m. This meeting will be available virtually, and will be properly noticed on the West Basin website (www.westbasin.org).

If you or your staff have any questions, please feel free to give me a call.

Sincerely,

E.J. Caldwell, Esq.
Water Policy & Resources Development Manager
310.660.6286 Office
213.500.0379 Mobile
edwardc@westbasin.org
Dear Kate,

On behalf of West Basin Municipal Water District, I want to thank Golden State Water, you, and your staff for your continued support for West Basin’s planning activities. As required by the Urban Water Management Planning Act, West Basin is in the process of preparing its 2020 Urban Water Management Plan (UWMP) and 2021 Water Shortage Contingency Plan (WSCP). In addition, WBMWD is preparing an appendix to both the 2015 UWMP and 2020 UWMP to demonstrate consistency with the Delta Plan Policy WR P1, Reduced Reliance on the Delta Through Improved Regional Water Self-Reliance (California Code Reg., tit.23, §5003). The 2015 UWMP is being amended only to report reduced reliance on the Delta and this action is separate from adoption of the 2020 UWMP and adoption of the 2021 WSCP.

Through this effort, your team has provided great assistance, and we look forward to your continued participation. Attached, please find the Notice of Public Hearing for the West Basin Municipal Water District 2020 Urban Water Management Plan. The public hearing is scheduled as part of a WBMWD Board meeting on June 10, 2021 at 10:00 a.m. This meeting will be available virtually, and will be properly noticed on the West Basin website (www.westbasin.org).

If you or your staff have any questions, please feel free to give me a call.

Sincerely,

E.J. Caldwell, Esq.
Water Policy & Resources Development Manager
310.660.6286 Office
213.500.0379 Mobile
edwardc@westbasin.org
Dear Carla,

On behalf of West Basin Municipal Water District, I want to thank the City of Lomita, you, and your staff for your continued support for West Basin’s planning activities. As required by the Urban Water Management Planning Act, West Basin is in the process of preparing its 2020 Urban Water Management Plan (UWMP) and 2021 Water Shortage Contingency Plan (WSCP). In addition, WBMWD is preparing an appendix to both the 2015 UWMP and 2020 UWMP to demonstrate consistency with the Delta Plan Policy WR P1, Reduced Reliance on the Delta Through Improved Regional Water Self-Reliance (California Code Reg., tit.23, §5003). The 2015 UWMP is being amended only to report reduced reliance on the Delta and this action is separate from adoption of the 2020 UWMP and adoption of the 2021 WSCP.

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If you or your staff have any questions, please feel free to give me a call.

Sincerely,

E.J. Caldwell, Esq.
Water Policy & Resources Development Manager
310.660.6286 Office
213.500.0379 Mobile
edwardc@westbasin.org
Dear Mr. Atwell,

On behalf of West Basin Municipal Water District, I want to thank the City of Inglewood, you, and your staff for your continued support for West Basin’s planning activities. As required by the Urban Water Management Planning Act, West Basin is in the process of preparing its 2020 Urban Water Management Plan (UWMP) and 2021 Water Shortage Contingency Plan (WSCP). In addition, WBMWD is preparing an appendix to both the 2015 UWMP and 2020 UWMP to demonstrate consistency with the Delta Plan Policy WR P1, Reduced Reliance on the Delta Through Improved Regional Water Self-Reliance (California Code Reg., tit.23, §5003). The 2015 UWMP is being amended only to report reduced reliance on the Delta and this action is separate from adoption of the 2020 UWMP and adoption of the 2021 WSCP.

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If you or your staff have any questions, please feel free to give me a call.

Sincerely,

E.J. Caldwell, Esq.
Water Policy & Resources Development Manager
310.660.6286 Office
213.500.0379 Mobile
edwardc@westbasin.org
Dear Mr. Mitnick,

On behalf of West Basin Municipal Water District, I want to thank the City of El Segundo, you, and your staff for your ongoing support for West Basin’s planning activities. As required by the Urban Water Management Planning Act, West Basin is in the process of preparing its 2020 Urban Water Management Plan (UWMP) and 2021 Water Shortage Contingency Plan (WSCP). In addition, WBMWD is preparing an appendix to both the 2015 UWMP and 2020 UWMP to demonstrate consistency with the Delta Plan Policy WR P1, Reduced Reliance on the Delta Through Improved Regional Water Self-Reliance (California Code Reg., tit.23, §5003). The 2015 UWMP is being amended only to report reduced reliance on the Delta and this action is separate from adoption of the 2020 UWMP and adoption of the 2021 WSCP.

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If you or your staff have any questions, please feel free to give me a call.

Sincerely,

E.J. Caldwell, Esq.
Water Policy & Resources Development Manager
310.660.6286 Office
213.500.0379 Mobile
edwardc@westbasin.org
Dear Dan and Michael,

On behalf of West Basin Municipal Water District, I want to thank California Water Service for your ongoing support for West Basin’s planning activities. As required by the Urban Water Management Planning Act, West Basin is in the process of preparing its 2020 Urban Water Management Plan (UWMP) and 2021 Water Shortage Contingency Plan (WSCP). In addition, WBMWD is preparing an appendix to both the 2015 UWMP and 2020 UWMP to demonstrate consistency with the Delta Plan Policy WR P1, Reduced Reliance on the Delta Through Improved Regional Water Self-Reliance (California Code Reg., tit.23, §5003). The 2015 UWMP is being amended only to report reduced reliance on the Delta and this action is separate from adoption of the 2020 UWMP and adoption of the 2021 WSCP.

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If you or your staff have any questions, please feel free to give me a call.

Sincerely,

E.J. Caldwell, Esq.
Water Policy & Resources Development Manager
310.660.6286 Office
213.500.0379 Mobile
edwardc@westbasin.org
Dear Garry Hofer,

On behalf of West Basin Municipal Water District, I want to thank you and your staff for your ongoing support for West Basin’s planning activities. As required by the Urban Water Management Planning Act, West Basin is in the process of preparing its 2020 Urban Water Management Plan (UWMP) and 2021 Water Shortage Contingency Plan (WSCP). In addition, WBMWD is preparing an appendix to both the 2015 UWMP and 2020 UWMP to demonstrate consistency with the Delta Plan Policy WR P1, Reduced Reliance on the Delta Through Improved Regional Water Self-Reliance (California Code Reg., tit.23, §5003). The 2015 UWMP is being amended only to report reduced reliance on the Delta and this action is separate from adoption of the 2020 UWMP and adoption of the 2021 WSCP.

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If you or your staff have any questions, please feel free to give me a call.

Sincerely,

E.J. Caldwell, Esq.
Water Policy & Resources Development Manager
310.660.6286 Office
213.500.0379 Mobile
edwardc@westbasin.org
Dear Bruce Moe,

On behalf of West Basin Municipal Water District, I want to thank the City of Manhattan Beach, you, and your staff for your ongoing support for West Basin’s planning activities. As required by the Urban Water Management Planning Act, West Basin is in the process of preparing its 2020 Urban Water Management Plan (UWMP) and 2021 Water Shortage Contingency Plan (WSCP). In addition, WBMWD is preparing an appendix to both the 2015 UWMP and 2020 UWMP to demonstrate consistency with the Delta Plan Policy WR P1, Reduced Reliance on the Delta Through Improved Regional Water Self-Reliance (California Code Reg., tit.23, §5003). The 2015 UWMP is being amended only to report reduced reliance on the Delta and this action is separate from adoption of the 2020 UWMP and adoption of the 2021 WSCP.

Through this effort, your staff has provided great assistance, and we look forward to your continued participation. Attached, please find the Notice of Public Hearing for the West Basin Municipal Water District 2020 Urban Water Management Plan. **The public hearing is scheduled as part of a WBMWD Board meeting on June 10, 2021 at 10:00 a.m.** This meeting will be available virtually, and will be properly noticed on the West Basin website (www.westbasin.org).

If you or your staff have any questions, please feel free to give me a call.

Sincerely,

E.J. Caldwell, Esq.
Water Policy & Resources Development Manager
310.660.6286 Office
213.500.0379 Mobile
edwardc@westbasin.org
Dear Kelly,

On behalf of West Basin Municipal Water District, I want to thank you for your interest in West Basin’s planning activities. As required by the Urban Water Management Planning Act, West Basin is in the process of preparing its 2020 Urban Water Management Plan (UWMP) and 2021 Water Shortage Contingency Plan (WSCP). In addition, WBMWD is preparing an appendix to both the 2015 UWMP and 2020 UWMP to demonstrate consistency with the Delta Plan Policy WR P1, Reduced Reliance on the Delta Through Improved Regional Water Self-Reliance (California Code Reg., tit.23, §5003). The 2015 UWMP is being amended only to report reduced reliance on the Delta and this action is separate from adoption of the 2020 UWMP and adoption of the 2021 WSCP.

Through this effort, we look forward to your continued participation. Attached, please find the Notice of Public Hearing for the West Basin Municipal Water District 2020 Urban Water Management Plan. **The public hearing is scheduled as part of a WBMWD Board meeting on June 10, 2021 at 10:00 a.m.** This meeting will be available virtually, and will be properly noticed on the West Basin website (www.westbasin.org).

If you or your staff have any questions, please feel free to give me a call.

Sincerely,

E.J. Caldwell, Esq.
Water Policy & Resources Development Manager
310.660.6286 Office
213.500.0379 Mobile
edwardc@westbasin.org
Dear Mr. Lee,

I apologize for the error in the previous message sent moments ago. Please know that we are very grateful for all the support we receive from the City of Hawthorne! As noted, per the Urban Water Management Planning Act, West Basin is in the process of preparing its 2020 Urban Water Management Plan (UWMP) and 2021 Water Shortage Contingency Plan (WSCP). In addition, WBMWD is preparing an appendix to both the 2015 UWMP and 2020 UWMP to demonstrate consistency with the Delta Plan Policy WR P1, Reduced Reliance on the Delta Through Improved Regional Water Self-Reliance (California Code Reg., tit.23, §5003). The 2015 UWMP is being amended only to report reduced reliance on the Delta and this action is separate from adoption of the 2020 UWMP and adoption of the 2021 WSCP.

Through this effort, we look forward to your participation. Attached, please find the Notice of Public Hearing for the West Basin Municipal Water District 2020 Urban Water Management Plan. The public hearing is scheduled as part of a WBMWD Board meeting on June 10, 2021 at 10:00 a.m. This meeting will be available virtually, and will be properly noticed on the West Basin website (www.westbasin.org).

If you or your staff have any questions, please feel free to give me a call.

Sincerely,

E.J. Caldwell, Esq.  
Water Policy & Resources Development Manager  
310.660.6286 Office  
213.500.0379 Mobile  
edwardc@westbasin.org
The West Basin Municipal Water District (West Basin) Board of Directors will hold a public hearing on Thursday, June 10, 2021 at 10:00 AM, to receive comments on the District's draft 2020 Urban Water Management Plan (UWMP), draft Water Shortage Contingency Plan (WSCP), and draft Appendix I as an addendum to its 2015 UWMP.

The public hearing will be conducted during a West Basin Special Board meeting. Pursuant to the Governor's Executive Orders of March 12, 2020, and March 19, 2020, this meeting will be hosted by teleconference, with no physical meeting location being provided. Meeting details are provided herein:

**West Basin Board of Directors: Special Board Meeting**
Thursday, June 10, 2021 at 10:00 AM
Teleconference Participation Only (GoToMeeting and Phone-In Number)

The public hearing will be live streamed through GoToMeeting and will also be recorded. The meeting may be accessed using the following link on the West Basin website: [http://wbmwdca.iqm2.com/Citizens/Default.aspx](http://wbmwdca.iqm2.com/Citizens/Default.aspx) (Please check this Website for additional details including final agenda and agenda packet).

The 2020 UWMP assesses West Basin’s water resources portfolio, demands, and planning strategies over the next 25 years, as a requirement set forth by the California Department of Water Resources. The draft 2020 UWMP complies with state law requiring urban water suppliers to prepare and update urban water management plans every five years.

The draft WSCP describes how West Basin is prepared to respond to a variety of water shortage conditions. West Basin’s draft WSCP satisfies the requirements of the California Water Code.

The draft Appendix I to the 2015 UWMP and draft Appendix D to the 2020 UWMP includes all of the elements described in Delta Plan Policy WR P1, Reduce Reliance on the Delta Through Improved Regional Water Self-Reliance (Cal. Code Regs. tit. 23, § 5003) which need to be included in a water supplier’s UWMP to support a certification of consistency for a future covered action.

Final drafts of the 2020 UWMP, WSCP, and Appendix I to the 2015 UWMP may be viewed on the West Basin website at [www.westbasin.org](http://www.westbasin.org). Public input is welcomed and will be considered prior to finalizing the 2020 UWMP, WSCP, and Appendix I to the 2015 UWMP. All written comments must be received by 5:00 PM PDT on June 9, 2021.

For more information, or to provide comments on the draft 2020 UWMP, draft WSCP, and draft Appendix I to the 2015 UWMP, please contact E.J. Caldwell, Manager of Water Policy and Resources Development at edwardc@westbasin.org.
Aviso de Audiencia Pública

La Junta de Directores de West Basin Municipal Water District (West Basin) llevará a cabo una audiencia pública el jueves 10 de junio de 2021 a las 10:00 AM, para recibir comentarios sobre el borrador del Plan de Gestión del Agua Urbana (UWMP, por sus siglas en inglés) del Distrito, el borrador del Plan de Contingencia por Escasez de Agua (WSCP, por sus siglas en inglés) y el borrador del Apéndice I como un adendum a sus UWMP de 2015.

La audiencia pública se llevará a cabo durante una reunión Especial de la Junta de West Basin. De conformidad con las Órdenes Ejecutivas del Gobernador del 12 de marzo de 2020, esta reunión será similar a una teleconferencia y no se proporcionará una ubicación física para la reunión. La Junta tomará todas las decisiones en la reunión por voto telefónico.

Aquí se proporcionan los detalles de la reunión:

Junta de Directores de West Basin: Reunión Especial de la Junta
Jueves 10 de junio de 2021 a las 10:00 AM
Solo Participación en Teleconferencia (GoToMeeting y Número con Llamadas)

La audiencia pública será transmitida en vivo a través de GoToMeeting y también será grabada. Se puede acceder a la reunión utilizando el siguiente enlace en el sitio web de West Basin: http://wbmwdca.iqm2.com/Citizens/Default.aspx (Consulte este sitio web para detalles adicionales, incluyendo la agenda final y el paquete de la agenda).

El UWMP de 2020 evalúa la cartera de recursos hídricos de West Basin, y las estrategias de planificación durante los próximos 25 años como un requisito establecido por el Departamento de Recursos Hídricos de California. El borrador del UWMP de 2020 cumple con la ley estatal que requiere que los proveedores de agua urbana preparen y actualicen los planes de gestión de agua urbana cada cinco años.

El borrador WSCP describe cómo el West Basin está preparado para responder a una variedad de condiciones de escasez de agua. El borrador WSCP de West Basin satisface los requerimientos del Código de Aguas de California.

El borrador del Apéndice I al UWMP de 2015 y el borrador del Apéndice D al UWMP de 2020 incluye todos los elementos descritos en la Política del Plan Delta WR P1, Reducir la Dependencia Delta a Través de la Autosuficiencia Regional Mejorada del Agua (Código de Regl. De Cal. tít. 23, § 5003) que deben ser incluidos en un UWMP del proveedor de agua para respaldar una certificación de consistencia para una futura acción cubierta.

Los borradores finales del UWMP de 2020, WSCP, y el Apéndice I al UWMP de 2015 pueden ser vistos en el sitio web de West Basin en www.westbasin.org. Las aportaciones del público son bienvenidas y serán consideradas antes de finalizar el UWMP de 2020, WSCP, y el Apéndice I al UWMP de 2015.

Todos los comentarios escritos deben ser recibidos antes de las 5:00 PM PDT del 9 de junio de 2021.

Para obtener más información, o para proporcionar comentarios sobre el borrador UWMP de West Basin, se puede comunicarse con E.J. Caldwell, Gerente de Desarrollo de Recursos y Políticas del Agua en edwardc@westbasin.org.
Notice of Public Hearing

DRAFT 2020 URBAN WATER MANAGEMENT PLAN, DRAFT WATER SHORTAGE CONTINGENCY PLAN, AND DRAFT APPENDIX I TO 2015 URBAN WATER MANAGEMENT PLAN

The West Basin Municipal Water District (West Basin) Board of Directors will hold a public hearing on **Thursday, June 10, 2021 at 10:00 AM**, to receive comments on the District’s draft 2020 Urban Water Management Plan (UWMP), draft Water Shortage Contingency Plan (WSCP), and draft Appendix I as an addendum to its 2015 UWMP.

The public hearing will be conducted during a West Basin Special Board meeting. Pursuant to the Governor’s Executive Orders of March 12, 2020, and March 19, 2020, this meeting will be hosted by teleconference, with no physical meeting location being provided. Meeting details are provided herein:

**West Basin Board of Directors: Special Board Meeting**

**Thursday, June 10, 2021 at 10:00 AM**

**Teleconference Participation Only (GoToMeeting and Phone-In Number)**

The public hearing will be live streamed through GoToMeeting and will also be recorded. The meeting may be accessed using the following link on the West Basin website: http://wbmwdca.igm2.com/Citizens/Default.aspx

(Please check this website for additional details including final agenda and agenda packet).

The 2020 UWMP assesses West Basin’s water resources portfolio, demands, and planning strategies over the next 25 years, as a requirement set forth by the California Department of Water Resources. The draft 2020 UWMP complies with state law requiring urban water suppliers to prepare and update urban water management plans every five years.

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Final drafts of the 2020 UWMP, WSCP, and Appendix I to the 2015 UWMP may be viewed on the West Basin website at www.westbasin.org.

Public input is welcomed and will be considered prior to finalizing the 2020 UWMP, WSCP, and Appendix I to the 2015 UWMP. **All written comments must be received by 5:00 PM PDT on June 9, 2021.**

For more information, or to provide comments on the draft 2020 UWMP, draft WSCP, and draft Appendix I to the 2015 UWMP, please contact E.J. Caldwell, Manager of Water Policy and Resources Development at edwardc@westbasin.org.

Gardena Valley News 5/27,6/3/21-105922
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Notice of Public Hearing

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(GoToMeeting and Phone-In Number)

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The 2020 UWMP assesses West Basin’s water resources portfolio, demands, and planning strategies over the next 25 years, as a requirement set forth by the California Department of Water Resources. The draft 2020 UWMP complies with state law requiring urban water suppliers to prepare and update urban water management plans every five years.

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For more information, or to provide comments on the draft 2020 UWMP, draft WSCP, and draft Appendix I to the 2015 UWMP, please contact E.J. Caldwell, Manager of Water Policy and Resources Development at edwardc@westbasin.org.

Pub May 25; June 1, 2021 (21) DB (11461578)
Advertising Order Confirmation

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Notice of Public Hearing

DRAFT 2020 URBAN WATER MANAGEMENT PLAN, DRAFT WATER SHORTAGE CONTINGENCY PLAN, AND DRAFT APPENDIX I TO 2015 URBAN WATER MANAGEMENT PLAN

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The draft Appendix I to the 2015 UWMP and draft Appendix D to the 2020 UWMP includes all of the elements described in Delta Plan Policy WR P1, Reduce Reliance on the Delta Through Improved Regional Water Self-Reliance (Cal. Code Regs. tit. 23, § 5003) which need to be included in a water supplier’s UWMP to support a certification of consistency for a future covered action.

Final drafts of the 2020 UWMP, WSCP, and Appendix I to the 2015 UWMP may be viewed on the West Basin website at www.westbasin.org. Public input is welcomed and will be considered prior to finalizing the 2020 UWMP, WSCP, and Appendix I to the 2015 UWMP. All written comments must be received by 5:00 PM PDT on June 9, 2021.

For more information, or to provide comments on the draft 2020 UWMP, draft WSCP, and draft Appendix I to the 2015 UWMP, please contact E.J. Caldwell, Manager of Water Policy and Resources Development at edwardc@westbasin.org.

Published The Malibu Times 5/27, 6/3/21
Adoption Resolutions
West Coast Groundwater Basin Adjudication and Amendment
Judgment entered
August 22, 1961
Book 4291,
Page 62

IN THE SUPERIOR COURT OF THE STATE OF CALIFORNIA
IN AND FOR THE COUNTY OF LOS ANGELES

CALIFORNIA WATER SERVICE COMPANY, et al,
Plaintiffs.

vs.

CITY OF COMPTON, et al,
Defendants.

No. 506,806
JUDGMENT

The above-entitled matter came on regularly for further trial before the Honorable George Francis, Judge of the Superior Court of the State of California, assigned by the Chairman of the Judicial Council to sit in this case on Friday the 21st day of July, 1961. Thereupon plaintiffs filed a dismissal of the action as to certain defendants named in the Complaint, and in the amended Complaint herein who are not mentioned or referred to in Paragraph IV of this Judgment, and the further trial of the action proceeded in respect to the remaining parties.

Oral and documentary evidence was introduced, and the matter was submitted to the Court for decision. The Court having made and filed its Findings of Fact and Conclusions of Law:

NOW, THEREFORE, IT IS HEREBY ORDERED, ADJUDGED AND DECREED

AS FOLLOWS:
There exists in the County of Los Angeles, State of California, an underground water basin or reservoir known and hereinafter referred to as "West Coast Basin" or the "Basin," and the boundaries thereof are described as follows:

Commencing at a point in the Baldwin Hills about 1300 feet north and about 100 feet west of the intersection of Marvale Drive and Northridge Drive; thence through a point about 200 feet northeasterly along Northridge Drive from the intersection of Marvale and Northridge Drives to the base of the escarpment of the Potrero fault; thence along the base of the escarpment of the Potrero fault in a straight line passing through a point about 200 feet south of the intersection of Century and Crenshaw Boulevards and extending about 2650 feet beyond this point to the southerly end of the Potrero escarpment; thence from the southerly end of the Potrero escarpment in a line passing about 700 feet south of the intersection of Western Avenue and Imperial Boulevard and about 400 feet north of the intersection of El Segundo Boulevard and Vermont Avenue and about 1700 feet south of the intersection of El Segundo Boulevard and Figueras Street to the northerly end of the escarpment of the Avalon-Compton fault at a point on said fault about 700 feet west of the intersection of Avalon Boulevard and Rosecrans Avenue; thence along the escarpment of the Avalon-Compton fault to a point in the Dominguez Hills located about 1300 feet north and about 850 feet west of the intersection of Central Avenue and Victoria Street; thence along the crest of the Dominguez Hills in a straight line to a point on Alameda Street about 2900
feet north of Del Amo Boulevard as measured along Alameda Street; thence in a straight line extending through a point located on Del Amo Boulevard about 900 feet west of the Pacific Electric Railway to a point about 100 feet north and west of the intersection of Bixby Road and Del Mar Avenue; thence in a straight line to a point located about 750 feet west and about 730 feet south of the intersection of Wardlow Road and Long Beach Boulevard at the escarpment of the Cherry Hill fault; thence along the escarpment of the Cherry Hill fault through the intersection of Orange Avenue and Willow Street to a point about 400 feet east of the intersection of Walnut and Creston Avenues; thence to a point on Pacific Coast Highway about 300 feet west of its intersection with Obispo Avenue; thence along Pacific Coast Highway easterly to a point located about 650 feet west of the intersection of the center line of said Pacific Coast Highway with the intersection of the center line of Lakewood Boulevard; thence along the escarpment of the Reservoir Hill fault to a point about 650 feet north and about 700 feet east of the intersection of Anaheim Street and Ximeno Avenue; thence along the trace of said Reservoir Hill fault to a point on the Los Angeles - Orange County line about 1700 feet northeast of the Long Beach City limit measured along the County line; thence along said Los Angeles - Orange County line in a southwesterly direction to the shore line of the Pacific Ocean; thence in a northerly and westerly direction along the shore line of the Pacific Ocean to the intersection of said shore line with the southerly end of the drainage divide of the Palos Verdes Hills; thence along the drainage divide of the Palos Verdes Hills to
the intersection of the northerly end of said drainage
divide with the shore line of the Pacific Ocean; thence
northerly along the shore line of the Pacific Ocean to the
intersection of said shore line with the westerly projec-
tion of the crest of the Ballona escarpment; thence easterly
along the crest of the Ballona escarpment to the mouth of
Centinela Creek; thence easterly from the mouth of
Centinela Creek across the Baldwin Hills in a line encom-
passing the entire watershed of Centinela Creek to the
point of beginning.
The area included within the foregoing boundaries is approx-
imately 101,000 acres in extent.

II
A water year, as that term is used herein, is a twelve-
month period beginning October 1 and ending September 30.

III
The Watermaster shall be the Department of Water Resources
of the State of California, to serve at the pleasure of the Court,
and said Watermaster shall administer and enforce the provisions
of this judgment and the instructions and subsequent orders of
this Court, and shall have the powers and duties hereinafter set
forth. If any such provisions, instructions or orders of the
Court shall have been disobeyed and disregarded, said Watermaster
is hereby empowered to report to the Court such fact and the
circumstances connected therewith and leading thereto.

IV
Certain of the parties to this action have no right to
extract water from the Basin. The name of each of said parties
is listed below with a zero following his name, and the absence
of such right in said parties is hereby established and declared.
Certain of the parties to this action and/or their successors in
interest are the owners of rights to extract water from the Basin,
which rights are of the same legal force and effect and without priority with reference to each other, and the amount of such rights, stated in acre-feet per year, hereinafter referred to as "Adjudicated Rights" is listed below following such parties' names, and the rights of the last-mentioned parties are hereby declared and established accordingly. Provided, however, that the Adjudicated Rights so declared and established shall be subject to the condition that the water, when used, shall be put to beneficial use through reasonable methods of use and reasonable methods of diversion; and provided further that the exercise of all of said rights shall be subject to a pro rata reduction, if such reduction is required, to preserve said Basin as a common source of water supply. The parties hereinafter listed whose names are preceded by an asterisk (*) have approved the Exchange Pool Provisions contained in paragraphs 7 to 14, both inclusive, of the Agreement and Stipulation for Judgment filed herein.

<table>
<thead>
<tr>
<th>PARTY</th>
<th>ADJUDICATED RIGHT</th>
</tr>
</thead>
<tbody>
<tr>
<td>JOE ABBEGG</td>
<td>0</td>
</tr>
<tr>
<td>FRANK ABELL</td>
<td>1.8</td>
</tr>
<tr>
<td>ALEXANDER ABERCROMBY</td>
<td>0</td>
</tr>
<tr>
<td>Henry Abercromby</td>
<td></td>
</tr>
<tr>
<td>one Fred Roland Cooper</td>
<td></td>
</tr>
<tr>
<td>one Ted R. Cooper</td>
<td></td>
</tr>
<tr>
<td>one Roy F. Knapp</td>
<td></td>
</tr>
<tr>
<td>AIRWAYS WATER COMPANY (Incorporated)</td>
<td>0</td>
</tr>
<tr>
<td>H. A. ALLEN</td>
<td>0</td>
</tr>
<tr>
<td>ALLIED CHEMICAL CORPORATION, a corporation, formerly General Chemical Company</td>
<td>255.0</td>
</tr>
<tr>
<td>ALUMINUM COMPANY OF AMERICA</td>
<td>0</td>
</tr>
<tr>
<td>one U.S. Navy Department</td>
<td>1.7</td>
</tr>
<tr>
<td>AMERICAN RADIATOR &amp; STANDARD SANITARY CORPORATION, a corporation</td>
<td>0</td>
</tr>
</tbody>
</table>
*REMBERT C. ANDERSON
  *Allen W. Ashburn
  *Ann F. Ashburn
  *Martha D. Bingham
  *Laura Bonanno
  *Louise Casey also known as
  *Louise Casey Gibson
  *Ruby Deius sued as Jane Doe 19
  *Ruby F. Joel
  *Catherine Lass sued as Jane Doe 18
  *Catherine E. Maddox
  *Louisa Watson sued as Jane Doe 17
  *Hazel Parsons
  *J. W. Parsons
  *Myrtle Mae Parsons
  *Alexander Poggi
  *One Freda E. Poggi
  *Mary Richley sued as Jane Doe 16
  *Devises of Curney E. Newlin, deceased, to wit:
    *Helen Newlin Hastings
    *Robert Fuese Hastings
    *Thomas Newlin Hastings
    *Helen Hastings Schribner
    *Edith Hastings Murphy
    *George R. Bell, Jr.
    *Thomas Elwood Bell

KATHLEEN M. ASHBOURNE, formerly
  Kathleen M. Davies
  one J & E Investment Co.

ATCHISON, TOPEKA & SANTA FE RAILWAY
  COMPANY, (The), a corporation

AZEVEDO ESTATE COMPANY, a corporation

JOHN AZVEDO

WM. D. BAILEY
  Harry C. Cain
  Jesse E. Cain
  Dorothy Luther sued as Dorothy F. Luther
  Harold M. Luther

E. W. BALDWIN

FRANK A. BALMAN and ROSEMARY N. BALMAN

BANK OF AMERICA NATIONAL TRUST AND
  SAVINGS ASSOCIATION, as Trustee
  (under its Trust BI-100)

BANK OF AMERICA NATIONAL TRUST AND
  SAVINGS ASSOCIATION, as Trustee
  (under its Trust BI-51)

GEORGE W. BARNARD and JOSEPH A. BARNARD,
  as Trustees under the last will and testament of ANNIE E. BARNARD
  one Fritz B. Barnard.

MRS. ANNA T. BARNES
  one Alfred O. Barnes
1 CARL L. BROWN
2 EDA BUCKMASTER
   Rose Faure
   Frank X. Girard
   Julia Girard
3 John Oddoris
   Paul Oddoris
4 Marie Girard Seal sued as
   Marie Girard
5 one Frank Girard
6 BULTRY CORPORATION, a corporation
   one Paul E. Black
   One Ronald L. Black
7 E. D. BURKE, sued as
   E. W. Burke
8 *W. F. BURKE
9 Lois Price Burke, sued as Jane Doe 14
10 M. P. BUTTE
11 *CALIFORNIA WATER SERVICE COMPANY, a corporation
12 HUGH N. CAMERON
13 Ysaburo Mishima
   Satsuki Mishima
14 JACK C. CARLTON
15 DENTICE CARRELL
16 FRANK R. CARRELL, estate
   Tom Ware and James Blake,
   as co-executors of the last
   will & testament of Frank R. Carrell,
   deceased.
17 *CARSON ESTATE COMPANY
18 J. F. CAVANAUGH
19 CENTINELA VALLEY UNION HIGH SCHOOL DISTRICT
20 MARY RIOSEDA CHAMBERS, sued as
   Mary R. Chambers
21 MARY R. CHAMBERS AND
   DAN MURPHY COMPANY, a corporation
22 *CHANSLOR-CANFIELD MIDWAY OIL CO.
   Now Chanslor-Western Oil &
   Development Co.
23 CLEM CHRISTIE
24 CLEM CHRISTIE, DON C. FOHL AND
   LEON LARSON
25 As Trustees of the Wilmington
   Cemetery Association
   -8-
1 G. DIBLE 0
2 MRS. H. DIEGO 0
3 JOHN DIONNE 0
   one Eleanor G. Dreher
4 LEESA DOMBROWSKI 0
   one Dartmouth Homes, Inc.
5 *DOMINGUEZ ESTATE COMPANY 254.0
6 *DOMINGUEZ WATER CORPORATION 9477.8
7 MRS. RAY DONALD 0
   one Pauline H. Wilson
8 THE DOW CHEMICAL Co., a corporation 0
9 CRISTINA O. DRALE 0
10 O'Brien Z. Drale 0
11 CHAS. L. DRAFER, 0
   one James H. Allaman
12 one Flora M. Draper
   one Bernice Alleman
13 Bess M. Feder
14 Ben T. Johnston
15 Genevieve K. Miles
16 Ikuko Nakawatse
17 Frank Wirz
   one Alcoast Foundry 7.2
18 A. J. DURAND 0
19 DAISY EARLY 111.0
   H. J. Early and one Vickers, Inc.
20 EAST GARDENA WATER COMPANY 0
21 EDISON SECURITIES COMPANY, a corporation 46.7
   sued as Richard Roe Company 13
22 C. O. EDWARDS 0
23 W. J. Edwards 0
24 EL CAMINO JUNIOR COLLEGE DISTRICT 0
25 LATHEROP M. ELLINWOOD 0
   one Isamu Kita
26 one Kazuo Kita
   one Yoshi K. Kita 32.6
27 CLINTON C. ELLIOTT, sued as 0
28 C. O. Eliot
29 Julius C. Elliott
30 Georgia M. Elliott
31 Frank M. Elliott
32 *CITY OF EL SEGUNDO 953.0
33 EL SEGUNDO LAND & IMPROVEMENT COMPANY, 0
   a corporation
34
CAROLINA GIACOMAZZI, sued as
Mrs. C. Giacomazzi

ALBERT GIANNA

AMANDA L. GILLINGHAM, sued as
Jane Doe 20
Floyd W. Gillingham, sued as
(John Doe 24)
Josephine Gillingham, sued as
(Jane Doe 21)

FLORENCE R. GILLINGHAM
Thora Purache
Nellie P. Smith
Anna M. Porsche

MRS. MATEA GIMINEZ

LALLA D. GODDARD
Ralf Goddard

WM. H. GOLDSMITH
Cliff Ralph

FELIPE GONZALEZ
Gabriela Gonzales

T. B. GOOSSEN

WILLIAM W. GORDON, sued as
John Doe Gordon

BERTHA GOSS
one Property Management Corporation

GEORGE GRANDE

JOHN GRANT

ISABELA GRANZ
Andrew R. Joughin
Minnie Joughin
George Riley Murdock, successor
of Matilda J. Murdock
Lillian Murdock Sanborn, successor
of Matilda J. Murdock
Emma J. Osborn
Security-First National Bank, as
Trustee of Trust No. P 1734, sued as
Farmers & Merchants National Bank of
Los Angeles, as Trustee John Joughin Tuttle
(now Joughin Torrance Ranch)

EDWARD I. GREEN, sued as
E. J. Green
one Florence D. Green

PRICE W. GRESHAM
Walter G. Gresham
Comer J. Lewis
Voleta A. Lewis
BEATRICE S. GRIFFITH
W. P. Griffith
one Otto K. Olessen

B. M. GRIGGS
Olive W. Griggs

JOSEPH M. GROSS, sued as
Joseph Gross
Myron J. Glauber, sued as
John Doe 20,
Clarence L. Brown, sued as
John Doe 21, and Perfect
Properties Inc., a corporation
sued as Richard Roe Co. 20.

HENRY M. QUENGER
Sophia E. Quenger

DANIEL GUIDOTTI

CHAS. N. HAIGHT
One Grace P. Warden

RAYMOND R. HAILS

WALTER HAMMOND
one Contractor's Asphalt
Products Co.

HANCOCK CHEMICAL COMPANY, a corporation

HARBOR CITY DEVELOPMENT COMPANY

R. B. HARDING

ROY W. HARRIS

HARRIS PUMPING PLANT
Leesa Dombrowski
Carl G. Parsche
Anna M. Parsche
Harry Krundick
Anna Doherty
Mrs. Frank Cota
Holly Corporation, a corporation
Homer Bales and Ernest Haughton
dba and sued as Parsche Water Co.

W. HASEGAWA
one Kauffman, Milton, Construction
Company, successor)

C. R. HASKINS

FRED M. HAUT
one Ivy H. Haut

CITY OF HAWTHORNE
1882.0

CHARLES R. HAYES
one Robert W. Colby
one Fern M. Colby
BEATRICE M. HENDERSON
DAVID P. HEREDIA
E. N. HERMAN
JULIA HERMANSEN
AUGUST HERZOG
   one Martha Herzog
HILLSIDE MEMORIAL PARK, a corporation
MARY N. HILYARD, sued as Jane Doe 55
   Mrs. Monte Templeton, sued as
   Jane Doe 56
HENRY HIMMELPARB
   Wm. Firk
   one Western Air Compressor Company
T. E. HODNEFIELD
MARIE C. HOFFMAN
   Los Angeles City School District, successor
J. P. HOEPTNER
   Ida B. Hoeptner
   one Jack I. Gantz
   one Lillian H. Gantz
CLIFFORD HOLLIDAY
W. I. HOLLINGSWORTH
   one Julius L. Jenkins
   one Evelyn M. Jenkins
*HOLLYWOOD TURF CLUB, a corporation
WILBUR HORNSTRA
C. L. HUDSON
G. F. HUGHES-TOOLE COMPANY
ARTHUR C. HURT
   one Truman Enterprises, Inc.
DON C. HADLEY
   one D. W. Sleet
   one Virgie Sleet
*CITY OF INGLEWOOD
INGLEWOOD PARK CEMETERY ASSOCIATION, a
corporation sued as Inglewood Park
   Mortuary Assoc.
YOSHI INOSE
   one Seihiro Inose
F. C. IRVINE

-14-
FRED IWATA
John Iwata 0

J. B. D. HOLDING CORP., a
 corporation 0

*JOHNS-MANVILLE PRODUCTS CORPORATION 881.0

C. F. JOHNSON
one Kaoru Wada 0
one Satoru Wada 12.2

A. S. JOHNSTON DRILLING COMPANY, a
 corporation 11.9

O. T. JOHNSON CORPORATION 0

A. F. Johnson Company sued as,
 Richard Roe Company One 0

ANNA MAB JONES, successor to
Anne Taylor, deceased (sued
herein as Anna Taylor) 50.2

E. F. JONES 0

W. H. JONES
one Leon A. Carpenter and
Darline N. Carpenter, successors 0

JOSHUA-HENDY IRON WORKS 0

DORA A. KAHLER 0

OSCAR E. KARR 0
Sherley Karr 0

CHESTER L. KEHN 0

K. L. KELLOGG & SONS, a corporation 0

KELLY PIPE COMPANY, a corporation 49.0

LOUIS KELTON 0

W. G. KILLINGER
one Esther N. Lee 0

JEANETTE B. KINGSAID
one Fred P. Hoyt 0
one Yvonne A. Hoyt

SARAH S. KING
one Crawford Building Corporation 0

JOHN KRAUSS
Dan E. Vail and Barbara M. Vail 0

CHARLES KULL 0

GLADYS KURTZ 3.5

JOHN LAMPO 0
MAGNUS C. LARSEN, sued as M. Larsen
NEILS LAUTRUP
*JAMES K. LAWLER, Estate
LAWNDALE (CITY) SCHOOL DISTRICT OF LOS ANGELES COUNTY, sued as Richard Roe Company
ANNA LEACH
JOE LEONARDO
A. LERMENS
*EMMA L. LENZINGER, sued as Mrs. E. L. Leuzinger
LAWRENCE LISTON
PAT LIZZA
BEN LONGB
PERSILLA LONG, sued as Pricilla Long
JOHN LONG
CITY OF LONG BEACH
FRANK LOPEZ
MANUEL LOPEZ
one Rudolph E. Lopez
COUNTY OF LOS ANGELES
THE CITY OF LOS ANGELES
LOS ANGELES CITY SCHOOL DISTRICT
LOS ANGELES COUNTY FLOOD CONTROL DISTRICT
*LOS ANGELES COUNTY SANITATION DISTRICT No. 2, sued as Los Angeles County Sanitary District No. 2
LOS ANGELES COUNTY WATER WORKS, DISTRICT No. 1
LOS ANGELES COUNTY WATER WORKS, DISTRICT No. 13
LOS ANGELES COUNTY WATER WORKS, DISTRICT No. 22
LOS ANGELES EXTENSION COMPANY
LOS ANGELES INVESTMENT COMPANY
LOS MIELOS COMPANY, a corporation

LOYOLA UNIVERSITY FOUNDATION

LOYOLA UNIVERSITY OF LOS ANGELES, a corporation

LORENA MacLEAN
one Torrance Land Company

PETE MADRIGAL

S. W. MAGALLANES

MANCHESTER AVENUE COMPANY, a corporation
one Inglewood Golf Course, a partnership

*MANHATTAN BEACH, CITY OF

H. C. MARCH
one Victory Oil Company

P. T. MARTIN
one Arlington Garden Homes Company

HOWARD DOUGLAS MARTZ
James L. Martz
Louise H. Martz

RAY F. MATSON, sued as
R. F. Matson
Florence M. Nielsen

FRED MAU

*JAMES McCANDLESS

ETHEL McCLELLAN

G. A. McCrackin, sued as
G. A. McCracken

M. F. McCULLOUGH

J. J. McGRANAGHAN

IVAN J. McKERNON
one Doria E. Parks
one L. Kenneth Parks

AIMEE R. MEANS
one Prairie Company

PAUL MESPLOU

J. J. METZLER
one Kenji Yokoyama and
one Miyako Yokoyama

E. B. MILBURN
One M. Y. Yamane
CARL H. MILLER
MINNEAPOLIS-HONEYWELL REGULATOR COMPANY
APPLIANCE CONTROLS DIVISION
YSABURO MISHIMA and SATSKU MISHIMA
Hugh N. Cameron
C. MOEN
P. E. MOLINE
MONETA MUTUAL WATER COMPANY
JOE MONIZ JR., sued as
Joe Moniz
one Rose Moniz
B. R. MOODY
one Opal B. Edwards
J. B. MOORE
MAMIE S. MOORE
ALICE MORRISON
Ethel Morrison
A. H. MORE
one J. J. Lapidus
one B. C. Investment Co., Inc.
HAROLD C. MORTON, sued as
Harold Morton
one Allied Gardens Corporation
V. G. MOTT
ARNOLD W. MUELLER
Ruth Mueller
SUMIYE NAGAO
HIROSHIMA NAKAMURA
KIKUNO NAKANO
Ben Nakano
George Nakano
Nelen Nakano
Ken Nakano
Mary Nakano
Taka Nakano
Hisao Nakano Nakashima
NARBONNE RANCH WATER CO. No. 2
NARBONNE RANCH WATER CO. No. 3
NATIONAL ELECTRIC PRODUCTS CORP.
NATIONAL ROYALTIES, INC., a Corporation
1 T. C. NAVARRO
   one Hilario S. Alwag
   one Emma Alwag
   53.9
2
3 A. L. NELSON
   Olaf Nelson
   one George C. Orr
   0
4
5 EDWARD NICKEL
   0
6 HENRY W. NICKEN, sued as
   H. W. Nielsen
   one Kenneth D. Durian
   0
7
8 J. E. NORMINGTON
   0
9 NORTH AMERICAN AVIATION, INC.,
   a corporation
10
11 NORTHRUP AIRCRAFT INCORPORATED
   38.15
12 WARREN J. OGLE
   0
13 JACK GREATKOVICH
   Harold Walsh
   one Harold D. Walsh
   one Marie L. Walsh
   0
14
15 CHISHATO OTANI, sued as
   John Doe 57
   0
16
17 PACIFIC CREST CEMETERY COMPANY,
   Incorporated
   17.7
18 PACIFIC ELECTRIC RAILWAY COMPANY
   0
19 PACIFIC WESTERN OIL CORPORATION,
   a corporation
   0
20
21 PALISADES DEL REY WATER COMPANY
   (Included in City of Los Angeles)
   0
22 E. PALMER
   0
23*PALOS VERDES WATER COMPANY, a Corporation
   999.0
24 G. L. PARCELL and MARGARET PARCELL
   one Rosie L. Kent
   0
25
26 PAPA WATER COMPANY
   160.0
27 MRS. ZORAIDA PARKE
   1.8
28 WM. JOSEPH PASCHKE
   .02
29 ROY PATERSON
   0
30 JOHN PAULIC
   one John W. Taylor
   0
31 DAVE PEREZ
   Apuleyo Villagomez
   sued as A. Villagomez
   0
32 -19-
PERRY SCHOOL DISTRICT OF LOS ANGELES COUNTY

WM. C. PETERSON

A. E. PHILLEO

PIONEER DRILLING COMPANY, a corporation
one Southern Heater Corp.

EDWARD A. PITTS
one Clarence E. Harrison
one Martha E. Harrison

FRANK X. PRICE

CARL G. PURSCHE AND CARL P. PURSCHE
doing business as Pursche Pumping Plant
Carl G. Pursche
Thora Pursche
Anna M. Pursche
one Guarantee Development Co.

CHARLES H. QUANDT, sued as
Charles A. Quandt

RICHARD QUINN
Martha Quinn

JOE B. RAMOS

RANCHO MUTUAL WATER COMPANY

J. K. RAVEN
one Andrea S. Teran

ELIZABETH E. REED, sued and formerly
known as Elizabeth Edna Baker and
Josephine Rihers for whom
Dominguez Estate Company has
been substituted

FRANK RENOR
one Josephine P. Renor

LUCILLE G. REID
Ogden G. Reid

JEANETTE REIFSNYDER, also known as
Jeanette Avant, and also known as
Jeanette Heydenbeck
Calvin Wilson
Edward E. Wilson, Jr.
Harry R. Wilson
Harry R. Wilson and Jeanette
Reifsnnyder, also known as Jeanette
Avant, as executors of the estate
of Jeanette C. Wilson, deceased.
Harry R. Wilson and Jeanette
Reifsnnyder, also known as Jeanette
Avant, as executors of the estate
of Robert A. Wilson, deceased
A. D. SEABACK
Ruth Seaback 3.5

MARVIN SELOVER AND MARY ZWEITER
one Hitoshi Fujii 0
one Toshiye Fujii

SENSOUS HOLDING COMPANY 0

L. M. SEPULVEDA 0

LOUIS M. SEPULVEDA AND SECURITY-FIRST NATIONAL BANK, as Trustees under the
last will and testament of Roman D. Sepulveda, deceased 0.7

F. C. SERBIAN
Ruby H. Renfro 0

W. H. SEWARD
one R. A. Watt Construction Co. 0

JOHN SHAW
Phillip G. Shaw 0

*CLYDE L. SHEETS 5.5

*SHELL OIL COMPANY 4516.0

J. M. SHEPHERD 0

JAMES W. SHIPMAN
one Osie R. Shipman 0

SAM SHORT, sued as
Sam Sciolitino 0

EDISON B. SHURTLEFF
Marcelle Shurtleff 0
one Barrett Development Corporation

EDWARD ROY SIDEBOTHAM AND EDWARD SIDEBOTHAM & SON, INC., sued as
Edward Sidebotham 0

MRS. MARY SILVA
one Norman A. Leiman 0

JAMES SLOAN 0

A. H. SMITH
Sam Surber 9.7
Freda Smith, sued as Jane Doe

EUNICE F. SMITH 0

BOCONY MOBIL OIL COMPANY, INC. (Successor by merger to General
Petroleum Corporation) 2570.0

SOUTH BAY UNION HIGH SCHOOL OF LOS ANGELES
COUNTY, sued as Redondo Union High School 0
District
SOUTHERN CALIFORNIA EDISON COMPANY
SOUTHERN CALIFORNIA WATER COMPANY
*SOUTHERN PACIFIC COMPANY, sued as
Southern Pacific Railroad Co.
SOUTHWEST PROPERTIES, INC., a corporation
SOUTHWESTERN PORTLAND CEMENT COMPANY
a corporation
one Chandler's Palos Verdes Sand
and Gravel Corp.
SPANISH-AMERICAN INSTITUTE
*STANDARD OIL COMPANY OF CALIFORNIA
*STAUPEER CHEMICAL COMPANY
E. R. STEPHENSON, sued as
E. R. Stevenson
L. F. Stephenson
MRS. A. V. STEWART
CLYDE C. STRUBLE
one Ames L. Avers
one Clara Avers
SUNSET OIL COMPANY, a corporation
THE SUPERIOR OIL COMPANY
LOUISE A. SUTHERLAND, sued as
Bertha L. Sutherland
PEGGY SWICK
MARIE D. TAIX
Edith T. Viola, sued as
Edith T. Violi
TAKATOSHI TAMURA
one State of California, successor
GEORGE TAMAKA
Reiko Tanaka
one Susumu Katsuda
J. A. TEMPLETON
RUBY TERRY
one Reldon C. Pinney and
one Nellie B. Pinney
TEXACO INC., formerly
THE TEXAS COMPANY
RALPH THAXTER, sued as
R. F. Thaxter
-23-
THORSON HOMES, INC., a corporation
J. E. Investment Company, a corporation
Anaheim Construction Company, a corporation
TIDewater Oil Co., sued as
Tide Water Associated Oil Company
*CITY OF TORRANCE, a municipal corporation
TORMANCE UNIFIED SCHOOL DISTRICT
YING TOY
ALBERT A. TRAUB
Jane P. Traub
one Baron Traub
CLIFF A. TRIMBLE
one Mary E. Trimble
OSCAR E. TURNER
one Elizabeth Miller Kolf
*UNION OIL COMPANY OF CALIFORNIA
UNIVERSAL-CONSOLIDATED OIL COMPANY, a corporation
*UNITED STATES STEEL CORPORATION
Columbia-Geneva Steel Divn, successor by merger to Columbia Steel Company
JOSE URIBE
ANNA MAE USSEY and LAWRENCE USSEY
one Mike L. Harrback
one Rae Harrback
HENRY VALDEZ
A. VAN VLIET
one Jake Zwaagstra and
one Jessie M. Zwaagstra
VAN CAMP SEA FOOD COMPANY
WILLIAM VERBURG, sued as
Menlo Verburg and
Clara B. Verburg
MARY VETTER
ENRIQUE A. VILLAGOMEZ
Ysabel F. Villagomez
FRANK J. VOLLMER
EDWIN E. WAGNER
J. F. WAGNER
one Orville N. Crafts
JOSEPH F. WAGNER
E. J. WAIT
EARL C. WARD
DANIEL E. WARNER
JOSEPHINE WATKINSON
   one Matéz Tune et al
WATSON LAND CO, sued as
   Watson Estate Company
M. E. WEEKS
FRANK WESCOTT
WESTON INVESTMENT COMPANY, sued as
   Richard Roe Co. 2,
   one K. S. Sonness
   one Charles W. Shepard
BEN WESTON
A. K. WILSON LUMBER COMPANY, a corporation
   one Martin Bros. Box Company of
   California
FRANK WIRZ
WISEBURN SCHOOL DISTRICT
P. J. WITTSTROM
CORR B. WOOLLEY, sued as
   Cora B. Wooley
T. W. WOODLAND
WOODLAND CEMETERY ASSOCIATION
KATHERINE P. WOODMAN, sued as
   F. T. Woodman
HENRY S. WOOLLER
Minnie V. WREDEN
   one Golden Monroe Homes, Inc.
A. P. WRIGHT, sued as
   Paul Wright
MAXWELL ZIEGLER
MARY ZWELTER

Each of the parties hereto, their successors and assigns,
and each of their agents, employees, attorneys, and any and all
persons acting by, through, or under them or any of them, on
and after October 1, 1961, are and each of them is hereby
perpetually enjoined and restrained from pumping or otherwise
extracting from the Basin any water in excess of said party's
Adjudicated Rights, except as provided in paragraphs VI and VII
hereof.

VI

In order to add flexibility to the operation of this
judgment, each of the parties to this action who is adjudged
in paragraph IV hereof to have an Adjudicated Right and who,
during a water year, does not extract from the Basin all of
such party's Adjudicated Right, is permitted to carry over from
such water year the right to extract from the Basin in the next
succeeding water year an amount of Water equivalent to the
excess of his Adjudicated Right over his extraction during said
water year not to exceed, however, 10% of such party's
Adjudicated Right or two acre-feet, whichever is the larger.

In order to meet possible emergencies, each of the parties
to this action who is adjudged in paragraph IV hereof to have
an Adjudicated Right is permitted to extract from the Basin in
any water year for beneficial use an amount in excess of each
such party's Adjudicated Right not to exceed 2 acre-feet or ten
per cent (10%) of such party's Adjudicated Rights, whichever is
the larger, and in addition thereto, such greater amount as may
be approved by the Court. If such greater amount is recommended
by the Watermaster, such order of Court may be made ex parte.
Each such party so extracting water in excess of his Adjudicated
Rights shall be required to reduce his extractions below his
Adjudicated Rights by an equivalent amount in the water year
next following. Such requirement shall be subject to the
proviso that in the event the Court determines that such re-
duction will impose upon such a party, or others relying for
water service upon such party, an unreasonable hardship, the
Court may grant an extension of time within which such party may be required to reduce his extractions by the amount of the excess theretofore extracted by such party. If such extension of time is recommended by the Watermaster, such order of Court may be granted ex parte.

VII

The parties hereto whose names are preceded by an asterisk (*) in paragraph IV hereof are signatories to the Agreement and Stipulation for Judgment and have not specifically excepted to the Exchange Pool Provisions thereof. The provisions of this paragraph VII shall be binding upon and applicable to such signatory parties and to such other parties as may elect to be bound hereby, as hereinafter provided.

1. Not less than sixty (60) days prior to the beginning of each water year, each party having water available to him through then existing facilities, other than water which any such party has the right to extract hereunder, shall file with the Watermaster the offer of such party to release to the Exchange Pool the amount by which such party's Adjudicated Right exceeds one-half of the estimated total required use of water by such party during the ensuing water year, provided that the amount required to be so offered for release shall not exceed the amount such party can replace with water so available to him.

Such estimate of total required use and such mandatory offer shall be made in good faith and shall state the basis on which the offer is made, and shall be subject to review and redetermination by the Watermaster, who may take into consideration the prior use by such party for earlier water years and all other factors indicating the amount of such total required use and the availability of replacement water.
Any party filing an offer to release water under the mandatory provisions of this paragraph VII may also file a voluntary offer to release any part or all of any remaining amount of water which such party has the right under this judgment to pump or otherwise extract from the Basin, and any party who is not required to file an offer to release water may file a voluntary offer to release any part or all of the amount of water which such party has the right under this judgment to pump or otherwise extract from the Basin. All such voluntary offers shall be made not less than sixty (60) days prior to the beginning of each water year.

2. Each offer to release water under the foregoing subparagraph shall be at the price per acre-foot declared and determined at the time of the filing of such offer by the releasing party; provided:

(a) That such price per acre-foot shall not exceed the price which the releasing party would have to pay to obtain from others, in equal monthly amounts, through existing facilities, a quantity of water equal in amount to that offered to be released, or

(b) If any such releasing party has no existing facilities through which to obtain water from others, such price shall not exceed the sum of the price per acre-foot charged by The Metropolitan Water District of Southern California to West Basin Municipal Water District plus the additional amount per acre-foot charged by the latter to municipalities and public utilities for water received from The Metropolitan Water District of Southern California.

3. In the event of a dispute as to any price at which water is offered for release, any party affected thereby may, within thirty (30) days thereafter, by an objection in writing,
refer the matter to the Watermaster for determination. Within
thirty (30) days after such objection is filed the Watermaster
shall consider said objection and shall make his finding as to
the price at which said water should be offered for release and
notify all interested parties thereof. Any party to these
Exchange Pool Provisions may file with the Court, within thirty
(30) days thereafter, any objection to such finding or deter-
mination of the Watermaster and bring the same on for hearing
before the Court at such time as the Court may direct, after
first having served said objection upon each of the interested
parties. The Court may affirm, modify, amend or overrule such
finding or determination of the Watermaster. Pending such
determination if the water so offered has been allocated, the
party making the offer shall be paid the price declared in his
offer, subject to appropriate adjustment upon final determina-
tion. The costs of such determination shall be apportioned or
assessed by the Watermaster in his discretion between or to the
parties to such dispute, and the Watermaster shall have the
power to require, at any time prior to making such determina-
tion, any party or parties to such dispute to deposit with the
Watermaster funds sufficient to pay the cost of such determina-
tion, subject to final adjustment and review by the Court as
provided in this paragraph.

4. Not less than sixty (60) days prior to the beginning
of each water year any party whose estimated required use of
water during the ensuing water year exceeds the sum of the
quantity of water which such party has the right under this
judgment to extract from the Basin and the quantity available
to him through then existing facilities, may file with the
Watermaster a request for the release of water in the amount
that his said estimated use exceeds his said available supply.
Such request shall be made in good faith and shall state the
basis upon which the request is made, and shall be subject to
review and redetermination by the Watermaster. Within thirty
(30) days thereafter the Watermaster shall advise, in writing,
those requesting water of the estimated price thereof. Any
party desiring to amend his request by reducing the amount re-
quested may do so after the service of such notice. Prior to
the first day of each water year the Watermaster shall determine
if sufficient water has been offered to satisfy all requests.
If he determines that sufficient water has not been offered he
shall reduce such requests pro rata in the proportion that each
requests bears to the total of all requests. Thereupon, not
later than said first day of each water year, he shall advise
all parties offering to release water of the quantities to be
released by each and accepted in the Exchange Pool and the price
at which such water is offered. Simultaneously, he shall advise
all parties requesting water of the quantities of released water
allocated from the Exchange Pool and to be taken by each party
and the price to be paid therefor.

5. In allocating water which has been offered for release
to the Exchange Pool under subparagraph 1, the Watermaster shall
first allocate that water required to be offered for release and
which is offered at the lowest price pursuant to subparagraph 2,
and progressively thereafter at the next lowest price or prices.
If the aggregate quantity of water required to be released is
less than the aggregate quantity of all request for the release
of water made pursuant to subparagraph 4, he shall then allocate
water voluntarily offered for release and which is offered at the
lowest price and progressively thereafter at the next lowest price
or prices, provided that the total allocation of water shall not
exceed the aggregate of all requests for the release of water.

Any water offered for release under subparagraph 1 hereof
and not accepted in the Exchange Pool and not allocated therefrom
shall be deemed not to have been offered for release and may be
taxtracted from the Basin by the party offering such water for
release as if the offer had not been made.

Each party requesting the release of water for his use and
to whom released water is allocated from the Exchange Pool may
thereafter, subject to all of the provisions of this judgment,
extact such allocated amount of water from the Basin, in addition
to the amount such party is otherwise entitled to extract here-
under during the water year for which the allocation is made.

6. From and after the first day of each water year, all
water extracted from the Basin by any party requesting the re-
lease of water and to whom water is allocated shall be deemed
to have been water released until the full amount released for
use by him shall have been taken, and no such party shall be
deemed to have extracted from the Basin any water under his own
right so to do until said amount of released water shall have
been extracted. Water extracted from the Basin by parties
pursuant to their request for the release of water shall be
deemed to have been taken by the offerors of such water under
their own rights to extract water from the Basin.

7. All parties' allocated water under subparagraph 4 shall
pay a uniform price per acre-foot for such water, which price
shall be the weighted average of the prices at which the water
allocated was offered for release.

Each party shall pay to the Watermaster, in five equal
installments, an amount equal to the quantity of water allocated
to him multiplied by said uniform price. The Watermaster shall
bill each such party monthly for each such installment, the
first such billing to be made on or before the first day of
November of the water year involved, and payment therefor shall
be made to the Watermaster within thirty (30) days after the
service of each such statement. If such payment be not made
within said thirty (30) days such payment shall be delinquent
and a penalty shall be assessed thereon at the rate of 1% per
month until paid. Such delinquent payment, including penalty,
may be enforced against any party delinquent in payment by
execution or by suit commenced by the Watermaster or by any
party hereto for the benefit of the Watermaster.

Promptly upon receipt of such payment, the Watermaster shall
make payment for the water released and allocated, first, to the
party or parties which offered such water at the lowest price,
and then through successive higher offered prices up to the total
allocated.

8. Parties to this action who are not signatories to said
Agreement and Stipulation for Judgment, or who having signed
said Agreement have specifically excepted to the Exchange Pool
Provisions thereof, shall upon filing with this Court and with
the Watermaster their agreement to be bound by this paragraph VII,
be entitled to the benefits of and be obligated by the provisions
of this paragraph VII.

VIII

No taking of water under paragraph VII hereof, by any party
to this action shall constitute a taking adverse to any other
party; nor shall any party to this action have the right to plead
the statute of limitations or an estoppel against any other party
by reason of his said extracting of water from the Basin pursuant
to a request for the release of water; nor shall such release of
water to the Exchange Pool by any party constitute a forfeiture or
abandonment by such party of any part of his Adjudicated Right to
water; nor shall such release in anywise constitute a waiver of
such right, although such water, when released under the terms
of this judgment may be devoted to a public use; nor shall such
release of water by any such party in anywise obligate any party
so releasing to continue to release or furnish water to any other
party or his successor in interest, or to the public generally,
or to any part thereof, otherwise than as provided herein.

IX

In order to assist the Court in the administration and en-
forcement of the provisions of this judgment and to keep the
Court fully advised in the premises, the Watermaster shall have
the following duties in addition to those provided for elsewhere
herein:

1. The Watermaster may require each party, at such party's
own expense, to measure and record not more often than once a
month, the elevation of the static water level in such of his
wells in the Basin as are specified by the Watermaster.

2. The Watermaster may require any party hereto owning
any facilities for pumping or otherwise extracting water from
the Basin, at such party's own expense, to install and/or all times
maintain in good working order mechanical measuring devices
approved by the Watermaster, and keep records of water production
required by the Watermaster through the use of such devices.

However, if in the opinion of the Watermaster such mechanical
devices are not practicable or feasible, the Watermaster may
require such party to submit estimates of his water production,

22 together with such information and data as is used by such party
in making such estimate. Upon the failure of any party to install
such device or devices on or before the date the Watermaster shall
fix for such installation, or to provide the Watermaster with
estimates of water production and information on which such
estimates are based, the Watermaster may give the Court and the
party notice of such failure for proper action in the premises.

3. The Watermaster shall collect and assemble the records
and other data required of the parties hereto, and evaluate such
records and other data. Such records and other data shall be
open to inspection by any party hereto or his representative
during normal business hours.

4. The Watermaster shall prepare a tentative budget for each water year, stating the estimated expense for administering the provisions of this judgment. The Watermaster shall mail a copy of said tentative budget to each of the parties hereto having an Adjudicated Right at least sixty (60) days before the beginning of each water year. If any such party has any objection to said tentative budget or any suggestions with respect thereto, he shall present the same in writing to the Watermaster within fifteen (15) days after service of said tentative budget upon him. If no objections are received, the tentative budget shall become the final budget. If objections to said tentative budget are received, the Watermaster shall, within ten (10) days thereafter, consider such objections, prepare a final budget, and mail a copy thereof to each such party, together with a statement of the amount assessed to each such party, computed as provided in subparagraph 5 of this paragraph IX. Any such party whose objections to said tentative budget are denied in whole or in part by the Watermaster may, within fifteen (15) days after the service of the final budget upon him, make written objection thereto by filing his objection with the Court after first mailing a copy of such objection to each such party, and shall bring such objection on for hearing before the Court at such time as the Court may direct. If objection to such budget be filed with the Court as herein provided, then the said budget and any and all assessments made as herein provided may be adjusted by the Court.

5. The fees, compensation or other expenses of the Watermaster hereunder shall be borne by the parties hereto having Adjudicated Rights in the proportion that each such party's Adjudicated Right bears to the total Adjudicated Rights of all such parties, and the Court or Watermaster shall assess such costs -34-
to each such party accordingly.

Payment thereof, whether or not subject to adjustment by
the Court as provided in this paragraph IX, shall be made by
each such party, on or prior to the beginning of the water year
to which said final budget and statement of assessed costs is
applicable. If such payment by any party is not made on or be-
fore said date, the Watermaster shall add a penalty of 5% there-
of to such party's statement. Payment required of any party
hereunder may be enforced by execution issued out of the Court,
or as may be provided by any order hereinafter made by the Court,
or by other proceedings by the Watermaster or by any party hereto
on the Watermaster's behalf.

All such payments and penalties received by the Watermaster
shall be expended by him for the administration of this judgment.
Any money remaining at the end of any water year shall be avail-
able for use the following year.

6. The Watermaster shall prepare an annual report within
ninety (90) days after the end of each water year covering the
work of the Watermaster during the preceding water year and a
statement of his receipts and expenditures.

7. The Watermaster shall report separately, in said annual
report, all water extractions in the Basin by producers who have
no "Adjudicated Right."

8. The Watermaster shall perform such other duties as may
be provided by law.

X

Any party hereto having an Adjudicated Right who has object-
ion to any determination or finding made by the Watermaster,
other than as provided in paragraphs VII and IX hereof, may
make such objection in writing to the Watermaster within thirty
(30) days after the date the Watermaster gives written notice
of the making of such determination or finding, and within thirty
(30) days thereafter the Watermaster shall consider said objection and shall amend or affirm his finding or determination and shall give notice thereof to all parties hereto having Adjudicated Rights. Any such party may file with the Court within thirty (30) days from the date of said notice any objection to such final finding or determination of the Watermaster and bring the same on for hearing before the Court at such time as the Court may direct, after first having served said objection upon each of the parties hereto having an Adjudicated Right. The Court may affirm, modify, amend or overrule any such finding or determination of the Watermaster.

XI

The Court hereby reserves continuing jurisdiction and, upon application of any party hereto having an Adjudicated Right or upon its own motion, may review (1) its determination of the safe yield of the Basin, or, (2) the Adjudicated Rights, in the aggregate, of all of the parties as affected by the abandonment or forfeiture of any such rights, in whole or in part, and by the abandonment or forfeiture of any such rights by any other person or entity, and, in the event material change be found, to adjudge that the Adjudicated Right of each party shall be ratably changed; provided, however, that notice of such review shall be served on all parties hereto having Adjudicated Rights at least thirty (30) days prior thereto. Except as provided herein, and except as rights decreed herein may be abandoned or forfeited in whole or in part, each and every right decreed herein shall be fixed as of the date of the entry hereof.

XII

The Court further reserves jurisdiction so that at any time and from time to time, upon its own motion or upon application of any party hereto having an Adjudicated Right, and upon at least thirty (30) days notice to all such parties, to make such
modifications of or such additions to, the provisions of this
judgment, or make such further order or orders as may be nece-
sary or desirable for the adequate enforcement, protection or
preservation of the rights of such parties as herein determined.

XIII

The objections to the Report of Referee and to all supple-
mental Reports thereto, having been considered upon exceptions
thereto filed with the clerk of the Court in the manner of and
within the time allowed by law, are overruled.

XIV

All future notices, requests, demands, objections, reports,
and other papers and process in this cause shall be given, made
and/or served as follows:

1. Any party herein who, as hereafter provided, has
designated or who designates the person to whom and the address
at which all said future notices, papers and process in this
cause shall be given, shall be deemed to have been served there-
with when the same has been served by mail on such party’s
designee.

(a) All parties herein who have executed
and filed with the Court "Agreement and Stipulation
for Judgment" and have therein designated a person
thereafter to receive said notices, papers and/or
process, have therein and thereby made such designa-
tion for said purpose, and such designation shall
become effective upon the entry of this judgment.

(b) All other parties who desire to name a
designee for the aforesaid purpose, or any party
once having named a designee who desires to change
his designee shall file such designation or change
of designee with the clerk of this Court and shall
serve a copy thereof by mail on the Watermaster.
2. Parties hereto who have not entered their appearance or
whose default has been entered and who are adjudged herein to
have an Adjudicated Right, shall be served with all said future
notices, papers and process herein by publication of a copy of
such said notice, paper or process addressed to, "Parties to
the West Basin Adjudication"; said publication shall be made
once each week for two successive weeks in a newspaper of
general circulation, printed and published in the County of
Los Angeles, State of California, the last publication of which
shall be at least two weeks and not more than five weeks immedi-
ately preceding the event for which said notice is given or
immediately preceding the effective date of any order, paper
or process, in the event an effective date other than the date
of its execution is fixed by the Court in respect of any order,
paper or process, or said last publication shall be made not
more than five weeks following an event, the entry of an order
by the Court, or date of any paper or process with respect to
which notice is given.

3. All parties not specifically referred to in sub-
paragraphs 1 and 2 above who are required by law to be served
with future notices, papers and/or process in this cause shall
be served therewith in the manner provided by law.

XV.

None of the parties hereto shall recover his costs as
against any other party.

Dated: August 18, 1961       /s/ George Francis
Judge Assigned by the Chairman of
the Judicial Council to Sit in
This Case.
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RUSSELL M. McGLOTHLIN (State Bar No. 208826)
JONATHAN C. SANDLER (State Bar No. 227532)
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Attorneys for Defendant
GOLDEN STATE WATER COMPANY

SUPERIOR COURT OF THE STATE OF CALIFORNIA
FOR THE COUNTY OF LOS ANGELES

CALIFORNIA WATER SERVICE COMPANY, et al.,

Plaintiff,

vs.

CITY OF COMPTON, et al.,

Defendant.

Case No. C 506 806
[Related to Case No. C 786656]

Assigned for All Purposes to the
Honorable Kenneth R. Freeman (Dept. 310)

AMENDED JUDGMENT

Action Filed: 7/21/1945
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The original judgment in this action was entered on August 18, 1961 ("Judgment"). Pursuant to the reserved and continuing jurisdiction of the Court under the Judgment, certain amendments to the Judgment and temporary orders have heretofore been made and entered.

Continuing jurisdiction of the Court under the Judgment is currently assigned to the Honorable Richard Freeman.

The motion of Defendants the City of Inglewood, the City of Long Beach, the City of Los Angeles, the City of Manhattan Beach, the City of Torrance, the California Water Service Company, and the Golden State Water Company, and Intervenors the West Basin Municipal Water District and the Water Replenishment District of Southern California, for further amendments to the Judgment, notice thereof and of the hearing thereon having been duly and regularly given to all Parties, came for hearing in Department 310 of the above-entitled Court on December 9, 2014 at 9:00 a.m., before said Honorable Freeman.

This "Amended Judgment" incorporates prior amendments to the Judgment made pursuant to the following Court orders: (1) Order Authorizing Temporary Mining Of Basin entered on or about June 2, 1977, (2) Order Authorizing Temporary Mining Of Basin entered on or about September 29, 1977, (3) Order approving Intervention After Judgment Of Hughes Aircraft Company As A Party Defendant And Amending Amended Judgment Herein entered on or about September 24, 1981, (4) Order Amending Judgment entered on or about March 8, 1989, (5) Order entered on or about July 6, 1993, and (6) Order Amending Judgment To Provide Exclusion Zone entered on or about December 21, 1995 (the "Prior Amendment Orders"). To the extent this Amended Judgment is a restatement of the Judgment as heretofore amended, the Prior Amendment Orders are incorporated into this Amended Judgment for convenience and not as a re-adjudication of the matters encompassed in the Prior Amendment Orders.

NOW, THEREFORE, IT IS HEREBY ORDERED, ADJUDGED AND DECREED AS FOLLOWS:

AMENDED JUDGMENT
I. **EXISTENCE OF BASIN AND BOUNDARIES THEREOF**

There exists in the County of Los Angeles, State of California, an underground water basin or reservoir known and hereinafter referred to as “West Coast Basin,” “West Basin” or the “Basin,” and the boundaries thereof are described as follows:

Commencing at a point in the Baldwin Hills about 1300 feet north and about 100 feet west of the intersection of Marvale Drive and Northridge Drive; thence through a point about 200 feet northeasterly along Northridge Drive from the intersection of Marvale and Northridge Drives to the base of the escarpment of the Potrero fault; thence along the base of the escarpment of the Potrero fault in a straight line passing through a point about 200 feet south of the intersection of Century and Crenshaw Boulevards and extending about 2650 feet beyond this point to the southerly end of the Potrero escarpment; thence from the southerly end of the Potrero escarpment in a line passing about 700 feet south of the intersection of Western Avenue and Imperial Boulevard and about 400 feet north of the intersection of El Segundo Boulevard and Vermont Avenue and about 1700 feet south of the intersection of El Segundo Boulevard and Figueroa Street to the northerly end of the escarpment of the Avalon-Compton fault at a point on said fault about 700 feet west of the intersection of Avalon Boulevard and Rosecrans Avenue; thence along the escarpment of the Avalon-Compton fault to a point in the Dominguez Hills located about 1300 feet north and about 850 feet west of the intersection of Central Avenue and Victoria Street; thence along the crest of the Dominguez Hills in a straight line to a point on Alameda Street about 2900 feet north of Del Amo Boulevard as measured along Alameda Street; thence in a straight line extending through a point located on Del Amo Boulevard about 900 feet west of the Pacific Electric Railway to a point about 100 feet north and west of the intersection of Bixby Road and Del Mar Avenue; thence in a straight line to a point located about 750 feet west and about 730 feet south of the intersection of Wardlow Road and Long Beach Boulevard at the escarpment of the Cherry Hill fault; thence along the escarpment of the Cherry Hill fault through the intersection of Orange Avenue and Willow Street to a point about 400 feet east of the intersection of Walnut and Creston Avenues; thence to a point on Pacific Coast Highway about 300 feet west of its intersection with Obispo Avenue; thence along Pacific Coast Highway easterly to a point located about 650 feet west of the intersection of the center line of said Pacific Coast Highway with the intersection of the center line of Lakewood Boulevard; thence along the escarpment of the Reservoir Hill fault to a point about 650 feet north and about 700 feet east of the intersection of Anaheim Street and Ximeno Avenue; thence along the trace of said Reservoir Hill fault to a point on the Los Angeles - Orange County line about 1700 feet northeast of the Long Beach City limit measured along the County line; thence along said Los Angeles - Orange County line in a southwesterly direction to the shore line of the Pacific Ocean; thence in a northerly and westerly direction along the shore line of the Pacific Ocean to the intersection of said shore line with...
the southerly end of the drainage divide of the Palos Verdes Hills; thence along the drainage divide of the Palos Verdes Hills to the intersection of the northerly end of said drainage divide with the shore line of the Pacific Ocean; thence northerly along the shore line of the Pacific Ocean to the intersection of said shore line with the westerly projection of the crest of the Ballona escarpment; thence easterly along the crest of the Ballona escarpment to the mouth of Centinela Creek; thence easterly from the mouth of Centinela Creek across the Baldwin Hills in a line encompassing the entire watershed of Centinela Creek to the point of beginning.

All streets, railways and boundaries of Cities and Counties hereinabove are referred to as the same existed at 12:00 o’clock noon on August 20, 1961.

The area included within the foregoing boundaries is approximately 101,000 acres in extent.

II. DEFINITIONS

1. “Administrative Body” is defined in Section XI.2.A. The Administrative Body is one of the three bodies that comprises the Watermaster.

2. “Administrative Year” means the 12 (twelve) month period beginning July 1 and ending June 30.

3. “Adjudicated Right” means the right of a Party to produce groundwater in a quantity greater than 0 (zero) pursuant to the rights authorized under Section III of this Amended Judgment.

4. “Adjudicated Storage Capacity” means 70,900 acre-feet of the Available Dewatered Space, unless otherwise modified in accordance with Section V.1.A herein, which has been apportioned for use herein for Individual Storage Allocation, Community Storage Pool, and Regional Storage Allocation.

5. “Amended Judgment” means the Judgment, as amended to date.

6. “Available Dewatered Space” means up to 120,000 acre feet of dewatered space available to hold groundwater within the West Coast Basin that is allocated between Adjudicated Storage Capacity and Basin Operating Reserve.

7. “Basin,” “West Basin,” and “West Coast Basin” as these terms are interchangeably used herein, each means the ground water basin underlying the area described in Section I hereof.
8. “Basin Operating Reserve” means a total of 49,100 acre-feet of Available Dewatered Space, unless otherwise modified in accordance with Section V.1.A herein, available for Basin operations as provided in Section V.2. The Basin Operating Reserve added to the Adjudicated Storage Capacity equals the amount of Available Dewatered Space.

9. “Carryover” is defined in Section V.4.

10. “Carryover Conversion” means the process of converting water properly held as Carryover into Stored Water.

11. “CEQA” refers to the California Environmental Quality Act, Public Resources Code § 21000 et seq. and its implementing regulations set forth at California Code of Regulations, Title 14, Chapter 3, which regulations shall be referred to herein as the “CEQA Guidelines.”

12. “CEQA Review Document” means the final Environmental Impact Report, Negative Declaration or Mitigated Negative Declaration, prepared by or on behalf of the lead agency under CEQA.

13. “Community Storage Pool Allocation” is defined in Section V.6.A.

14. “Contributed Water” means a specified amount of Stored Water that the person or entity who stores water agrees to not recapture and to allow to remain in the Basin.

15. “Developed Water” includes Imported Water and other non-native water supplies.

16. “Existing Facilities” means those facilities described in Exhibit C to this Amended Judgment as well as completed New Storage Facilities approved in accordance with this Amended Judgment.

17. “Extraction,” “extractions,” “extracting,” “extracted,” and other variations of the same noun and verb in either initial capital or all lower case, mean pumping, taking, diverting or withdrawing groundwater by any manner or means whatsoever from the West Coast Basin.

18. “Individual Storage Allocation” is defined in Section V.5.

19. “Imported Water” means water brought into the West Coast Basin area from a non-tributary source by a Party, and any predecessors in interest.

20. “Majority Protest” means a written protest filed with the Administrative Body of
21. "Material Physical Harm" means material physical injury or an appreciable diminution in the quality or quantity of groundwater available within the Basin to support extractions pursuant to Adjudicated Rights or the right to extract Stored Water that is demonstrated to be attributable to the placement, recharge, injection, storage, transfer or recapture of Stored Water, including, but not limited to, degradation of water quality, liquefaction, land subsidence and other material physical injury caused by elevated or lowered groundwater levels. Material Physical Harm does not include "economic injury" that results from other than direct physical causes, including any adverse effect on water rates, lease rates, or demand for water. Once fully mitigated, physical injury shall no longer be considered to be material.

22. "MWD" means the Metropolitan Water District of Southern California.

23. "New Storage Facility" means a physical facility that can be used to introduce Stored Water or water from a Water Augmentation Project into the Basin, including but not limited to aquifer storage and recovery wells, injection wells, percolation ponds and spreading basins, that are not listed on Exhibit C to this Amended Judgment. Once completed and approved in accordance with this Amended Judgment, a New Storage Facility shall be deemed an Existing Facility for purposes of this Amended Judgment.

24. "Outgoing Watermaster" means the State of California, Department of Water Resources.

25. "Party" or "Parties" means a Party or Parties to this action.

26. "Person" or "persons" include individuals, partnerships, associations, governmental agencies and corporations, and any and all types of entities.

27. "Regional Benefit" means a contribution to or an advantage obtained by the Basin, the public, or the environment, including but not limited to (i) Contributed Water; (ii) additional infrastructure such as production wells or transmission pipelines that can be used by other Parties or WRD to enhance reliability of water supplies; or (iii) monetary payments. If the Regional Benefit is Contributed Water, the Contributed Water must be physical, "wet" water left in the Basin, which may be used by WRD as a source of Replenishment Water and thereby reduce the
otherwise applicable Replenishment Assessment. The value of the Contributed Water will be
determined by multiplying the amount of Contributed Water by the appropriate rate for Imported
Water purchased or acquired by WRD in the Basin.

28. “Regional Storage Project(s)” are defined in Section V.7.
29. “Regional Storage Allocation” is defined in Section V.7.
30. “Replenishment Assessment” means the replenishment assessment imposed by
WRD upon each acre-foot of groundwater extracted from the West Coast Basin pursuant to the
WRD Act and in compliance with all other laws of the State of California and any other
applicable laws. This Amended Judgment shall not determine nor affect the determination of
whether a Replenishment Assessment is valid or invalid in the event that any Replenishment
Assessment is challenged in a legal action.

31. “Replenishment Water” means water that, in accordance with the WRD Act, WRD
affirmatively captures or procures to replenish the Basin by percolating or injecting water into the
Basin or in-lieu by substituting surface water in-lieu of production and use of groundwater in
accordance with the WRD Act. To the extent WRD hereafter creates new means of capturing
naturally occurring water and causing such newly-captured water to replenish the West Coast
Basin, such newly-captured replenishment water shall also be considered “Replenishment
Water.”

32. “Space-Available Storage” is defined at Section V.10.
33. “Storage Panel” means a bicameral body that consists of the: (i) West Coast Basin
Water Rights Panel, and (ii) Board of Directors of WRD. The Storage Panel is one of three
bodies that comprise the Watermaster.

34. “Storage Project” means a Technically Feasible activity pertaining to the
placement, recharge, injection, storage, transfer or recapture of Stored Water in the Basin.
Storage Project(s) includes Regional Storage Projects.
35. “Stored Water” or “Store Water” means water held within any portion of the
Available Dewatered Space in the West Coast Basin as a result of spreading, injection, Carryover
Conversion or water from a Water Augmentation Project, where there is an intention to
subsequently withdraw the water for reasonable and beneficial use pursuant to the Amended
Judgment.

36. "Technically Feasible" means capable of being accomplished in a successful
manner within a reasonable period of time, taking into account environmental and technological
factors.

37. "Total Adjudicated Production Rights" means the sum of a Party's Adjudicated
Rights and any contractual right through lease or other agreement to extract and use the
Adjudicated Right of another Party.

38. "Water Augmentation Project" means pre-approved Technically Feasible physical
actions and management activities that are initiated after entry of this Amended Judgment that
provide demonstrated appreciable increases in long-term annual groundwater yield of the Basin.

39. "Watermaster" is comprised of the: (i) Administrative Body, (ii) Water Rights
Panel, and (iii) Storage Panel. The Watermaster is not a “public agency” or a “trustee agency”
within the meaning of CEQA and CEQA Guidelines 15379 and 15386.

40. "Water Purveyor" means a Party which sells water to the public, whether a
regulated public utility, mutual water company, or public entity, which has a connection or
connections for the taking of Imported Water through the MWD, through a MWD-member
agency, or access to such Imported Water through such connection, and which normally supplies
at least a part of its customers' water needs with such Imported Water.

41. "Water Rights Panel" means one of the three bodies that comprise the
Watermaster consisting of five (5) members from among representatives of the Parties holding
Adjudicated Rights. Three (3) of the members shall be the elected officers of president, vice-
president and treasurer of the West Basin Water Association and the remaining two (2) members
shall be selected by the Board of Directors of the West Basin Water Association in accordance
with Section XI.2.B of the Amended Judgment.

42. "Watermaster Rules" mean the Rules that the Watermaster shall adopt, subject to
Court approval, pursuant to Section XI.1.E of the Amended Judgment.

43. "WRD" means the Water Replenishment District of Southern California, a public
corporation of the State of California (Division 18, commencing with Section 60000 of the Water Code).

44. "WRD Act" means the Water Replenishment District Act, California Water Code Sections 60000 et seq.

III. DECLARATION OF RIGHTS - WATER RIGHTS ADJUDICATED

A. Certain of the Parties and/or their successors in interest are the owners of Adjudicated Rights to extract water from the Basin, which Adjudicated Rights are of the same legal force and effect and without priority with reference to each other. The amount of such Adjudicated Rights, stated in acre-feet per year, of each of these Parties, as of the date of this Amended Judgment, is set forth in Exhibit A to this Amended Judgment and is hereby declared and established accordingly. Provided, however, that the Adjudicated Rights so declared and established shall be subject to the condition that the water produced, when used, shall be put to beneficial use through reasonable methods of use and reasonable methods of diversion; and provided further that the exercise of all of said Adjudicated Rights shall be subject to a pro rata reduction, if such reduction is required, to preserve said Basin as a common source of water supply.

B. Certain of the Parties have no Adjudicated Rights to extract water from the Basin. The name of each of said Parties, as of the date of this Amended Judgment, is listed in Exhibit A with a zero following its name, and the absence of such Adjudicated Rights in said Parties is hereby established and declared.

C. As provided in Exhibit B to this Judgment, there is hereby established a “nonconsumptive water use right” in the Basin, which is subordinate to the Adjudicated Rights set forth in Section III hereof and which right is exercisable only on specifically defined lands and cannot be separately conveyed or transferred apart therefrom.

D. As further provided in Exhibit B to this Judgment, any party herein may petition the Administrative Body, acting on behalf of the Watermaster, for a non-consumptive water use permit as part of a project to recover old refined oil or other pollutants that has leaked into the underground aquifers of the Basin.
IV. TRANSFERABILITY OF RIGHTS

All Adjudicated Rights decreed and adjudicated herein, and the right to extract Stored Water stored within the Basin pursuant to the provisions herein, may be transferred, assigned, licensed or leased by the owner thereof provided, however, that no such transfer shall be complete until compliance with the appropriate notice procedures established by the Watermaster herein.

V. PHYSICAL SOLUTION — BASIN STORAGE, CARRYOVER, BASIN OPERATING RESERVE, AND EXCESS PRODUCTION

1. Determination of Available Dewatered Space

A. There exists within the Basin Available Dewatered Space which has not been optimally utilized for Basin management and storage of native water and Developed Water. The Court finds and determines that: (i) there is up to one hundred and twenty thousand (120,000) acre-feet of Available Dewatered Space in the Basin; (ii) use of the Available Dewatered Space will increase reasonable and beneficial use of the Basin by permitting the more efficient procurement and management of Replenishment Water and allowing Parties to have Stored Water in the Basin, thereby increasing the conservation of water and reliability of the water supply available to all Parties; and (iii) compliance with the terms, conditions and procedures set forth in this Amended Judgment is meant to prevent Material Physical Harm to the Basin associated with the use of the Available Dewatered Space for Stored Water. If the Court determines, pursuant to Section XIII of this Judgment, that the amount of Available Dewatered Space is more than or less than 120,000 acre-feet, then the Court shall equitably adjust the amount of the Basin Operating Reserve and Adjudicated Storage Capacity such that no more than 40.9% of the Available Dewatered Space is allocated to the Basin Operating Reserve. No Party shall Store Water in the Basin except in the Available Dewatered Space in conformity with this Amended Judgment.

B. It is essential that use of the Available Dewatered Space be undertaken for the greatest public benefit pursuant to uniform, certain and transparent regulation that encourages the conservation of water and reliability of the water supply, avoids Material Physical Harm, and promotes the reasonable and beneficial use of water. Accordingly, in the event the Watermaster becomes aware of the development of Material Physical Harm, or a reasonably foreseeable or
imminent threat of the development of Material Physical Harm, relating to the use of the Available Dewatered Space, the Watermaster shall (i) promptly take all reasonably necessary action to cease or avoid such harm as authorized under this Amended Judgment and the Watermaster Rules, and (ii) notice a hearing within thirty (30) days before the Court and concurrently file a report with the Court, served on all Parties, which shall explain the relevant facts then known by the Watermaster relating to the Material Physical Harm, or imminent threat thereof, including without limitation, the location of the occurrence, the source or cause, existing and potential physical impacts or consequences of the identified or threatened Material Physical Harm, all actions taken by the Watermaster to cease or avoid such harm, and any other recommendations to remediate the identified or threatened Material Physical Harm.

C. To fairly balance the needs of the divergent interests of Parties having Adjudicated Rights in the Basin, on the one hand, and the role of WRD on the other hand, and in consideration of the shared desire and public purpose of removing impediments to the voluntary conservation, storage, exchange and transfer of water, the Available Dewatered Space is apportioned into complementary classifications of forty-nine thousand one hundred (49,100) acre-feet of Basin Operating Reserve and seventy thousand nine hundred (70,900) acre-feet of Adjudicated Storage Capacity as set forth in this Section V. The apportionment contemplates flexible administration of storage capacity where use is apportioned among competing needs, while allowing Available Dewatered Space to be used from time to time as Space-Available Storage, subject to the priorities specified in this Amended Judgment.

2. Basin Operating Reserve

A. It is in the public interest for WRD to prudently exercise its discretion to purchase, spread, and inject water, to provide for in-lieu replenishment, and otherwise to fulfill its replenishment function within the Basin in accordance with the WRD Act. Accordingly, this Amended Judgment expressly recognizes that WRD may use the Basin Operating Reserve to manage available sources of water and otherwise fulfill its replenishment functions. WRD may allow naturally occurring water to occupy the Basin Operating Reserve, as needed and in its discretion, but cannot thereupon assert ownership, control or possession over naturally occurring
water as Replenishment Water or Stored Water. WRD’s priority right to use the Basin Operating Reserve is not intended to allow WRD to sell or lease Stored Water within that portion of the Available Dewatered Space.

B. WRD shall have forty-nine thousand, one hundred (49,100) acre-feet of Available Dewatered Space as the Basin Operating Reserve in accordance with the WRD Act.

C. WRD shall have a first priority right to use the Basin Operating Reserve in accordance with the WRD Act. WRD’s first priority right to the Basin Operating Reserve is absolute. To the extent that there is a conflict between WRD and any other Party regarding the availability of and desire to use any portion of the Basin Operating Reserve, the interests of WRD will prevail. Any dispute as to the use of any portion of the Basin Operating Reserve shall be heard directly by the Court, after notice of hearing served on all Parties.

D. To the extent WRD does not require the use of some or all of the Basin Operating Reserve, that portion of the Basin Operating Reserve that is not then being used shall be available for Space-Available Storage in accordance with Section V.10 of this Amended Judgment and provided that such Space-Available Storage will not impede WRD’s use of the Basin Operating Reserve. WRD’s failure to use any portion of the Basin Operating Reserve for any time will not cause forfeiture or limit WRD’s absolute right to make use of the Basin Operating Reserve in the future without compensation. Nothing herein shall permit WRD to limit or encumber its right to use the Basin Operating Reserve in accordance with the WRD Act.

3. Adjudicated Storage Capacity

The Adjudicated Storage Capacity is further allocated among the following classifications of Stored Water:

- Individual Storage Allocation: twenty-five thousand eight hundred (25,800) acre-feet.
- Community Storage Pool: thirty-five thousand five hundred (35,500) acre-feet.
- Regional Storage Allocation: nine thousand six hundred (9,600) acre-feet.

4. Carryover

A. In order to add flexibility to the operation of this Amended Judgment and to assist in a physical solution to meet the water requirements in the West Coast Basin, each of
the Parties who is adjudged to have an Adjudicated Right and who, by the end of an Administrative Year, does not extract from the Basin all of such Party's Total Adjudicated Production Right, is permitted to carry over from such Administrative Year the right to extract from the Basin in the immediately following Administrative Year an amount of water equivalent to the amount of its Total Adjudicated Production Right that exceeds the amount of its actual extraction during said Administrative Year of water pursuant to its Total Adjudicated Production Right (hereinafter referred to as "Carryover"). Carryover, as computed above for a Party, shall be reduced by the quantity of Stored Water then held in the Available Dewatered Space by that Party at the commencement of the immediately following Administrative Year, although such reduction shall not cause the amount of Carryover to be less than 20% of the Party's Total Adjudicated Production Right.

B. A Party having Carryover may, from time to time, elect to convert all or part of such Party's Carryover to Stored Water, as authorized herein, upon payment of the Replenishment Assessment to WRD. The WRD shall maintain, account and use the Replenishment Assessment paid for Carryover Conversion in accordance with the provisions of Section XI.2(A)(5) of this Amended Judgment. Such Stored Water shall be assigned to that Party's Individual Storage Allocation, if available, and otherwise to the Community Storage Pool, and thereafter to then existing excess capacity within other Individual Storage Allocation, the Regional Storage Allocation, and only then if all remaining space is fully occupied, to the Basin Operating Reserve for Space-Available Storage.

C. By reason of this Court's Orders dated June 2, 1977 and September 29, 1977, for the water years 1976-77 and 1977-78 any Party (including any successor in interest) can Carryover until utilized any Adjudicated Right (including any authorized Carryover from prior years) unexercised during said water years. This Amended Judgment shall not abrogate the rights of any additional Carryover of unused Adjudicated Rights of the Parties as may exist pursuant to the Orders filed as of June 2, 1977 and September 29, 1977.

5. Individual Storage Allocations

A. Up to twenty-five thousand eight hundred (25,800) acre-feet of Available
Dewatered Space is apportioned among the Parties as “Individual Storage Allocation” for the purpose of providing each Party holding an Adjudicated Right under the Amended Judgment with a first priority right to use an amount of that Available Dewatered Space equal to approximately forty percent (40%) of their respective Adjudicated Right. Water may be deposited into storage and assigned to an Individual Storage Allocation either through Carryover Conversion or by other means authorized under the Amended Judgment. The Individual Storage Allocation will be held in the name of the Party holding the Adjudicated Right upon notice to the Storage Panel. To the extent a Party does not require the use of some or all of its Individual Storage Allocation, that portion of the Individual Storage Allocation that is not then being used shall be available for Space-Available Storage as provided in Section V10.A.

B. A Party’s first priority right to its Individual Storage Allocation is absolute. To the extent that there is a conflict between a Party holding an Adjudicated Right and any other Party or WRD regarding the availability of and desire to use any portion of their Individual Storage Allocation, the interests of the Party with the Individual Storage Allocation will prevail. Any dispute as to the use of any portion of a Party’s Individual Storage Allocation shall be heard directly by the Court, after notice of hearing served on all Parties.

6. Community Storage Pool

A. Up to thirty-five thousand five hundred (35,500) acre-feet of Available Dewatered Space is apportioned for the use by all Parties to the Amended Judgment with Adjudicated Rights on a shared or community basis, hereafter referred to as the “Community Storage Pool.” A Party that has fully occupied its Individual Storage Allocation may, on a first-in time, first in right basis (subject to the limits expressed below) place water into storage in the Community Storage Pool upon notice to the Storage Panel. So long as there is available capacity in the Community Storage Pool, any Party may store water in the Community Storage Pool, through Carryover Conversion as provided herein or by any other means authorized under the Amended Judgment, provided such Party has first fully occupied that Party’s available Individual Storage Allocation.

B. So long as there is adequate storage capacity available within the
Community Storage Pool, any Party may store water through any authorized method up to the
prescribed limits of available capacity within the Community Storage Pool upon notice to the
Storage Panel.

C. After a Party effectively occupies Available Dewatered Space within the
Community Storage Pool and then withdraws water from the Community Storage Pool, that Party
shall be allowed a period of twenty-four (24) months to completely refill the vacated storage
capacity before the capacity will be determined abandoned and available for use by other Parties.
However, once the Basin’s Community Storage Pool has been filled (35,500 acre-feet in storage),
a Party may exercise its twenty-four (24) month refill priority only once, and thereafter only
provided there is then capacity available to permit that Party to refill the vacated space. Except as
to space subject to the refill right, as provided herein, all access to the Community Storage Pool
shall be made available pursuant to a basis of first in time, first in right.

D. A Party that has maintained Stored Water in the Community Storage Pool
for ten (10) consecutive years shall be subject to the following provisions whenever the
Community Storage Pool is at least twenty-five percent (25%) occupied with Stored Water based
on an aggregate of all Parties holding Adjudicated Rights who have Stored Water in the
Community Storage Pool: (i) the Party may elect to have that Stored Water deemed transferred to
Space-Available Storage in accordance with Section V.10 of this Amended Judgment, but if such
an election is not made or there is no Space-Available Storage, then (ii) the Stored Water shall be
deemed extracted first in advance of all other extraction rights in subsequent years
(notwithstanding the order of production set forth in Section IX.2) until the Party’s entire
Community Storage account has been extracted. After the Stored Water is either transferred to
Space Available Storage or extracted as provided herein, then said Party may thereafter make a
renewed use of Community Storage on terms equal to other Parties on a first in time, first in right,
and space-available basis.

7. Regional Storage Allocation

A. Up to nine thousand six hundred (9,600) acre feet of Available Dewatered
Space in the West Coast Basin (the “Regional Storage Allocation”) is designated for "Regional
Storage Project(s)” that: (i) do not constitute Water Augmentation Projects by enhancing the long-term reliable yield of the Basin; and (ii) require storage capacity in excess of Individual Storage Allocations and the Community Storage Pool.

B. Regional Storage Projects must be pre-approved by the Storage Panel of the Watermaster, as provided in Section V.12. The Storage Panel shall not approve a Regional Storage Project unless the applicant demonstrates (i) a proposed place of use and beneficial use for the water identified at the time of storage, and (ii) that the Regional Storage Project is Technically Feasible, will not cause Material Physical Harm and will confer a “Regional Benefit”.

C. It is anticipated that Regional Storage Projects will be the principal category of storage for potential Storage Projects sponsored by, or for the benefit of, entities that do not hold an Adjudicated Right, although any Party to the Judgment may also propose a Regional Storage Project. Any entity which is not a Party to the Judgment who receives approval of a Regional Storage Project shall intervene into the Judgment as a Party prior to commencing the Regional Storage Project. A Regional Storage Project approved by the Storage Panel that occupies space within the nine thousand six hundred (9,600) acre-feet of Available Dewatered Space shall have a priority right to occupy the Regional Storage Allocation over any other use being made on a space-available basis.

D. Regional Storage Projects may include in-lieu, Carryover Conversion, physical improvements, recharge of “wet water” by spreading or injection, reducing the overall cost for the WRD to perform its replenishment function, and other measures that propose to make beneficial use of the designated storage capacity.

E. Parties receiving a right to Store Water pursuant to an approved Regional Storage Project shall have the first priority right to Regional Storage Allocation. Stored Water held in the Regional Storage Allocation by a Party with an Adjudicated Right as Space-Available Storage is subject to the limits of an annual extraction of one hundred and twenty percent (120%) of the storing Party’s Total Adjudicated Production Right or as otherwise specified in accordance with Section IX.1 herein.
F. To the extent that some or all of the Regional Storage Allocation is unused, that portion of the Regional Storage Allocation that is not then being used shall be available for Space-Available Storage as provided in Section V10.A.

8. Limitations on Storage

A. Irrespective of the category of storage utilized, each Party with an Adjudicated Right shall not cumulatively have in storage in the Available Dewatered Space at any time Stored Water totaling more than two hundred percent (200%) of that Party’s Adjudicated Right. However, a Party with an Adjudicated Right less than 100 acre feet may store water in the Available Dewatered Space up to 200 acre feet.

B. Notwithstanding the foregoing, a Party with an Adjudicated Right may store additional water up to 50% of its Adjudicated Right in excess of the aforementioned limit of 200% of its Adjudicated Right in Space-Available Storage as provided in Section V.10 of this Amended Judgment for a cumulative total of up to 250% of the Party’s Adjudicated Right. Any Party with an Adjudicated Right seeking to store water in excess of 200% of its Adjudicated Right shall apply for additional storage from the Storage Panel, which shall determine whether additional storage space is available in light of the amount of storage space being utilized by all Parties and providing adequate protection for planned or anticipated storage projects by other Parties. The Storage Panel shall establish requirements as part of the Watermaster Rules including providing notice of such applications to all Parties, a means for objection, standards for granting or denying such requests, and promulgate requirements governing the extraction of the additional storage.

C. A Party without an Adjudicated Right who holds rights to store water in the Regional Storage Allocation by virtue of an approved Regional Storage Project shall comply with any extraction limits established by the Storage Panel in its approval of said Regional Storage Project. Subject to the foregoing, the right to extract Stored Water in the Basin may be freely transferred to another Party to this Amended Judgment, as permitted by Section IV.
9. **Extraction of Stored Water; Exemption from Replenishment Assessment**

The Court finds and declares that the extraction of Stored Water as permitted hereunder does not constitute "production of groundwater" within the meaning of Water Code Section 60317 and that no Replenishment Assessment shall be levied on the extraction of Stored Water. This determination reflects the practical application of certain provisions of this Amended Judgment concerning storage of water and extraction of Stored Water, including without limitation the following: (1) payment of the Replenishment Assessment is required upon Carryover Conversion, which allows WRD to replenish the Basin (as addressed under Section V.4(B); (2) Developed Water introduced into the Basin through spreading or injection for storage by or on behalf of a Party using Individual Storage Allocation or Community Storage Pool (as authorized under Sections V.5 and V.6), or pursuant to a Water Augmentation Project (as authorized under Section V.11), which needs not be replenished by WRD requiring payment of the Replenishment Assessment; and (3) with respect to Regional Storage Projects, a Regional Benefit must be established as a prerequisite of such a project, the water from which need not be replenished by WRD requiring payment of the Replenishment Assessment.

10. **Space-Available Storage, Relative Priority, and Dedication of Abandoned Water**

A. To balance the need to protect first priority uses of storage and to encourage the full utilization of the Adjudicated Storage Capacity and the Basin Operating Reserve within the Available Dewatered Space, any Party with an Adjudicated Right may make interim, temporary use of then currently unused Available Dewatered Space within (i) any category of Adjudicated Storage Capacity, and then (ii) if all Adjudicated Storage Capacity is being fully used for Stored Water, then within the Basin Operating Reserve ("Space-Available Storage"), subject to the following criteria:

   (1) Any Party with an Adjudicated Right may engage in Space-Available Storage without prior approval from the Storage Panel of the Watermaster provided that the storing Party or Parties with an Adjudicated Right shall assume all risks of waste and loss regardless of the hardship.
(2) No Party with an Adjudicated Right may use any portion of the Basin Operating Reserve for Space-Available Storage unless that Party with an Adjudicated Right has already maximized its allowed storage pursuant to its Individual Storage Allocation and all available Community Storage and Regional Storage is already in use.

(3) Space-Available Storage shall first utilize unused storage space within the Individual Storage Allocation category, subject to the provisions in this Amended Judgment, and the Regional Storage Allocation before utilizing any available unused storage space within Community Storage. No utilization of Community Storage under Space-Available Storage shall be counted in making determinations under Sections V.6.C. or V.6.D.

(4) Whenever the Administrative Body determines that a Party with an Adjudicated Right is making use of excess Available Dewatered Space for Space-Available Storage without prior approval from the Storage Panel, the Administrative Body shall issue written notice to the Party with an Adjudicated Right informing them of the risk of loss and inform that Party what space (Individual Allocation, Regional Storage, Community Pool or Basin Operating Reserve) it is occupying on a Space-Available basis.

(5) Use of Space-Available Storage shall be administered in accordance with the rule of first in time, first in right. The Party with an Adjudicated Right holding the lowest priority right in Space-Available Storage shall assume responsibility for evacuating their Stored Water as may be necessary to accommodate a Party with an Adjudicated Right holding superior priority right. Any dispute concerning Space-Available Storage priorities, except as to Basin Operating Reserve or the Individual Storage Allocation, shall be submitted first to the Storage Panel for hearing and determination. The Storage Panel's determination, or lack thereof, may be appealed by motion to the Court by any Party to the dispute. Any dispute concerning the Community Storage Pool Allocation or the Regional Storage Allocation shall be submitted first to the Storage Panel for hearing and determination. The Storage Panel's determination, or lack thereof, may be appealed by motion to the Court by any Party to the dispute.

(6) Whenever the Available Dewatered Space is needed to accom-
modate the priority use within a respective category of Adjudicated Storage Capacity, or WRD
seeks to make use of its priority right to the Basin Operating Reserve to fulfill its replenishment
function, the Storage Panel shall issue a notice to evacuate within ninety (90) days the respective
category of Adjudicated Storage Capacity or Basin Operating Reserve. Within sixty (60) days
after receipt of such a notice to evacuate, the Party with an Adjudicated Right receiving the notice
may provide a written election to the Storage Panel that it will store its Stored Water in any other
excess Available Dewatered Space first within the Adjudicated Storage Capacity, if available, and
then if all Adjudicated Storage Capacity is being fully used for Stored Water, then within the
Basin Operating Reserve, if available. The Party with an Adjudicated Right’s Stored Water shall
be deemed spilled and dedicated to the Basin in furtherance of replenishment of the Adjudicated
Rights without compensation if the Party with an Adjudicated Right does not make a timely
election or if there is no excess Available Dewatered Space. No Stored Water will be deemed so
dedicated unless the cumulative quantity of water held as Stored Water in the Available
Dewatered Space exceeds one hundred and twenty thousand (120,000) acre-feet in the West
Coast Basin. Any dispute as to Stored Water threatening to be spilled or dedicated to the Basin
shall be submitted to the Court pursuant to a motion by any Party to the dispute after to the
expiration of sixty (60) days of the ninety-day period in the notice to evacuate.

B. A Party with an Adjudicated Right that seeks to convert the Stored Water
held as Space-Available Storage to a more firm right, may in their discretion, contract for the use
of another Party with an Adjudicated Right’s Individual Storage Allocation, or may apply for
approval of its request as a Regional Storage Project, or may add such water to the Community
Storage Pool once space therein becomes available.

11. Water Augmentation

A. Physical and management actions of the Parties in consultation with WRD
shall add to the long-term reliable yield of the Basin. Innovations and improvements in
management practices that increase the conservation and maximization of the reasonable and
beneficial use of water should be promoted. To the extent that Parties to the Amended Judgment
in consultation with WRD implement a project that provides additional long-term reliable water
supply to the West Coast Basin, the annual extraction rights in the West Coast Basin will be
increased commensurately in an amount to be determined by the Storage Panel to reflect the
actual yield enhancement associated with the project. Augmented supplies of water resulting
from such a project may be extracted or stored as permitted in this Amended Judgment in the
same manner as other water.

B. Participation in any Water Augmentation Project shall be voluntary. The
terms of participation will be at the full discretion of the participating Parties. Parties who
propose a Water Augmentation Project ("Project Leads") may do so in their absolute discretion,
upon such terms as they may determine and with Storage Panel approval. All other Parties will
be offered a reasonable opportunity to participate in any Water Augmentation Project on
condition that they share proportionately in generally common costs and benefits, and assume the
obligation to bear exclusively the cost of any improvements that are required to accommodate
their individual or peculiar needs.

C. Advance written notice shall be provided which reasonably describes the
potential project and the proposed terms under which a Party may "opt-in." Parties shall be
afforded a reasonable time under the then prevailing circumstances for appropriate deliberation
and action by the Parties. Disputes as to the adequacy of the notice and the time for project
approval may be referred to the Storage Panel and then to the Court under its continuing
jurisdiction.

D. Parties may elect, in their discretion, to opt into a Water Augmentation
Project ("Project Participants") so long as they agree to offer customary written and legally
binding assurances that they will bear their proportionate share of all costs attributable to the
Water Augmentation Project or provide other valuable consideration that is deemed sufficient by
the Project Leads and Project Participants.

E. All Water Augmentation Projects must be pre-approved by the Storage
Panel, as provided in Section V.12. The Storage Panel shall determine the amount of additional
groundwater extraction authorized as a result of a Water Augmentation Project, which
determination shall be based upon substantial evidence. The amount of additional groundwater
extraction shall not exceed the amount by which the Water Augmentation Project will increase the long-term sustainable yield of the Basin. No extraction right shall be established and no extraction shall occur until new water has been actually introduced into the Basin as a result of the Water Augmentation Project. Any approval for a Water Augmentation Project shall include provisions: (i) requiring regular monitoring to determine the actual amount of such new water made available; (ii) requiring make up water or equivalent payment therefore to the extent that actual water supply augmentation does not meet projections; and (iii) adjusting water rights attributable to the Water Augmentation Project to match the actual water created. Any approval for a Water Augmentation Project shall be based on a finding the Water Augmentation Project is Technically Feasible and will not cause Material Physical Harm.

F. The right to extract augmented water from the Basin pursuant to a Water Augmentation Project shall be accounted for separately and shall not be added to a Party’s Adjudicated Right.

G. A Party that elects to participate and pays its full pro-rata share of costs associated with any Water Augmentation Project, and/or reaches an agreement with other participants based upon other valuable consideration acceptable to the Lead Parties and the remaining Project Participants, will receive a proportionate right to extract the water resulting from the Water Augmentation Project.

H. A Party that does not elect to participate (“Non-Participating Party”) will not receive a right to extract water resulting from to the Water Augmentation Project. Non-Participating Parties will not be required to pay any costs, fees or assessments of any kind attributable to the respective Water Augmentation Project including the fees required hereunder for the Watermaster duties or directly or indirectly as the WRD Replenishment Assessment.

I. Because water made available for Water Augmentation will be produced annually, fluctuations in groundwater levels will be temporary, nominal, and managed within the Basin Operating Reserve.

J. WRD shall not obtain any extraction right or other water right under the Amended Judgment by virtue of its consultation in any Water Augmentation Project.
12. **Storage Procedure**

**A. Storage Reporting and Monitoring**

The Administrative Body (defined below) shall: (i) prescribe forms and procedures for the orderly reporting of Stored Water and water from a Water Augmentation Project; (ii) maintain records of all water stored in the Basin; (iii) undertake the monitoring and modeling of Storage Projects, Water Augmentation Projects and New Storage Facilities required by this Judgment; and (iv) provide an accounting of Stored Water and/or water from a Water Augmentation Project within thirty (30) days of a written request by an Adjudicated Rights holder or a Party with rights to Stored Water. For purposes of Sections V.12 and V.13 of this Amended Judgment, Water Augmentation Project(s), New Storage Facilities and Storage Projects that require the approval of the Storage Panel shall collectively be referred to as “Projects.”

**B. Application and Notification Procedure**

(1) Nothing in this Amended Judgment shall alter a Party’s duty to comply with CEQA or any other applicable legal requirements as to any Project imposed by applicable law. Further, no action or approval under this Amended Judgment shall constitute a bar to a Party’s duty to comply with CEQA or any other legal requirements as to any Project imposed by applicable law. However, a Party to this Amended Judgment who is undertaking or engaging in CEQA review for a Project that requires approval by the Storage Panel shall provide to the Watermaster copies of the notices required under CEQA to be provided to the public within the time periods proscribed by CEQA.

(2) For Projects that require review and approval by the Storage Panel, as provided in Section V.13, the Administrative Body shall provide appropriate applications, and shall work with Project applicant(s) to complete the application documents for presentation to the Storage Panel.

(3) The Administrative Body shall conduct the groundwater modeling necessary to support a Party’s application for approval of a Project prior to the Storage Panel’s hearing on said Project. Upon receipt of a notice of a lead agency’s intention to prepare a CEQA Review Document, the Administrative Body shall conduct the modeling described in Section...
V.12 of this Amended Judgment and submit such modeling to the lead agency for inclusion in the
proposed or draft CEQA documentation and the CEQA Review Document, subject to the Party’s
payment of the costs of that modeling. Such modeling is not required to be conducted by the
Administrative Body if the Administrative Body and the Chair of the Water Rights Panel
determine in writing that (i) the likely rise in water levels from the proposed Project would be
minimal, (ii) other evidence (including any modeling prepared by the Project proponent)
demonstrates that the Project will not cause Material Physical Harm after consideration of the
factors outlined in Section V.13.B(3), and (iii) an Environmental Impact Report is not required
under CEQA. If the Administrative Body and the Chair of the Water Rights Panel make such a
determination, they shall promptly inform the entire Storage Panel. Such modeling shall
thereafter be conducted by the Administrative Body if either the Water Rights Panel or the Board
of Directors of WRD request that such modeling be conducted.

(4) The Party which is the proponent of a proposed Project shall bear
all costs associated with the Watermaster’s preparation and review of the application for approval
of the Project and all costs associated with its implementation, including reimbursement of fees
and costs incurred by the Administrative Body in conducting the necessary modeling and other
technical studies.

(5) Within 30 days of receipt of an application for a Project or any
notification(s) associated with the CEQA review for such Project, the Administrative Body shall
provide written notice (either by electronic mail or U.S. postal mail) and access to a copy of the
Project application and/or any available CEQA documentation, including the CEQA Review
Document, to all Parties to the Amended Judgment. Any Party to the Amended Judgment shall
be entitled to submit its own report related to the Project, and the Administrative Body shall
consider such report in its processing of the Project application.

(6) As part of the application process, the Administrative Body shall
cause the preparation of any study or analysis necessary to determine that the Project is
Technically Feasible and will not cause Material Physical Harm, including the appropriate
modeling of the cumulative effect of the particular Project on water levels in the West Basin. The
Administrative Body may rely on CEQA documentation, including the CEQA Review Document, for a Project for the information necessary to make a determination on Technical Feasibility and Material Physical Harm and not prepare any additional analyses if the CEQA documentation contains the necessary information for consideration of the Project including the groundwater modeling required by this Amended Judgment.

C. Notice Process

Within thirty (30) days after submission of the final and complete Project application documents (including the technical reports, CEQA Review Document and modeling results), the Administrative Body shall provide notice (either by electronic mail or U.S. postal mail), and access to copies of the final and complete application documents to all Parties to the Amended Judgment.

13. Review/Approval Process

A. Projects Subject to Review

(1) Storage Projects exempt from the review and approval process provided in this Section V.13 include:

- use of Total Adjudicated Production Rights, except for extraction above one hundred and twenty percent (120%) of a Party's extraction right, as set out in Section IX.1;
- replenishment of the Basin with Replenishment Water by WRD;
- WRD's operations within the Basin Operating Reserve;
- Carryover Conversion; and
- Use of Existing Facilities to store water in the Individual Storage Allocation or the Community Storage Pool.

(2) All other Projects shall be subject to review and approval, as provided in this Section V.13, including, but not limited to, those projects involving:

- material variances to substantive criteria governing projects exempt from the review and approval process;
- modifications to previously approved Projects and related agreements;
• a Party's proposal for Carryover Conversion in quantities greater than the express
  apportionment of Adjudicated Storage Capacity on a non-priority, space-available, interim
  basis, and
• any other means of storage not exempt by Section V.13.A(1).

B. Hearing and Approval Process for Watermaster Review

The following procedures shall be followed by the Watermaster where Storage Panel
review is required or permitted under this Amended Judgment.

(1) No later than thirty (30) days after notice has been issued in
  accordance with Section V.12, the matter shall be set for hearing before the Storage Panel. A
  staff report shall be submitted by the Administrative Body in conjunction with the completed
  application documents, which report shall include proposed conditions of approval if the
  recommendation in the staff report is to approve the Project. The Water Rights Panel may prepare
  a separate independent staff report, if it elects to do so. Any Party to the Amended Judgment
  shall be entitled to submit its own report, and such report shall be considered by the Storage Panel
  as part of its review; however, a Party shall not be entitled to raise issues to the Storage Panel that
  it failed to raise as part of any previously completed CEQA process for the Project under
  consideration by the Storage Panel.

(2) Whenever feasible, the WRD Board of Directors and the Water
  Rights Panel shall conduct a joint hearing (i.e., the presumption shall be in favor of joint
  hearings). If a joint hearing is not held, the Water Rights Panel hearing shall be conducted in the
  manner prescribed for public agency hearings under the Brown Act.

(3) Factors to be considered in reviewing a Project include (i) facilities
  in the vicinity of the Project; (ii) proximity to drinking water wells and depths at which such wells
  are screened; (iii) depth at which water will be added under the Project; (iv) resulting
  groundwater elevations from the Project based on groundwater modeling conducted by the
  Administrative Body and, if they elect to do so, the Project proponent, (v) existing contamination,
  if any, in the vicinity of the Project; (vi) preferential groundwater pathways; (vii) the source of the
  water for the Project; and (v) information provided by any Party.
The WRD Board of Directors and the Water Rights Panel shall each adopt written findings explaining their decision on the Project, although if both entities reach the same decision, they shall work together to adopt a uniform set of findings. The findings must include the evaluation of the factors identified in Section V.13.B(3) and a determination that the Project is Technically Feasible and will not cause Material Physical Harm.

The Storage Panel shall not be required to conduct a hearing on a Project if it (i) reviews the CEQA Review Document adopted by a lead agency; (ii) the CEQA Review Document includes the groundwater modeling required under this Amended Judgment; (iii) determines that the CEQA Review Document evaluated the factors identified in Section V.13.B(3); and (iv) determines that the CEQA Review Document demonstrates that the Project is Technically Feasible and will not cause Material Physical Harm.

Unless both the WRD Board of Directors and Water Rights Panel approve the Project, the application shall be deemed denied (a “Project Denial”), provided, however, that if either the WRD Board of Directors or the Water Rights Panel is unable to render a decision on the application due to a conflict of interest arising under Section V.13 (A)(8) of this Amended Judgment, then the application shall be deemed approved if the remaining body of the Storage Panel approves the application. If both the WRD Board of Directors and Water Rights Panel approve the Project, the Project shall be deemed approved (a “Project Approval”).

If the Storage Panel approves the Project, it may impose reasonable conditions of approval on matters relevant to the Project, which shall include mandatory conditions of approval including annual limits on the amount of Stored Water, annual extraction limits of Stored Water, and water quality standards. The WRD Board of Directors and the Water Rights Panel shall work together to adopt a uniform set of conditions of approval promulgated after adoption of the Rules pursuant to Section X.1(E) and following the same review and comment process set forth in Section XI.1(E).

Neither WRD nor any member of the Water Rights Panel shall render any decision on Projects subject to Watermaster review under Section V.13 of this Amendment Judgment if said entity has a conflict of interest under applicable law or the rules and
regulations promulgated pursuant to Section XI.1(E) with respect to said Project.

(9) Any factual determinations made by the Watermaster, or any constituent body thereof, pursuant to this section, shall be based on the substantial evidence test.

C. Trial Court Review

An applicant, Adjudicated Rights holder or a Party holding rights to Stored Water may seek the Storage Panel's reconsideration of a Project Denial or Project Approval. However, there shall be no process for mandatory reconsideration or mediation of a Project Approval or a Project Denial either before the Administrative Body or the Water Rights Panel. Any Party may file an appeal from a Project Approval or Project Denial with this Court, as further described in Section XI.4.D. The Trial Court shall review the decisions of the Watermaster, Storage Panel and Water Rights Panel in accordance with Section XI.4(D)

14. Excess Production

In order to meet possible emergencies, each of the Parties who is adjudged to have an Adjudicated Right and not possessing Stored Water, is permitted to extract from the Basin in any Administrative Year for beneficial use an amount in excess of each such Party's Total Adjudicated Production Rights not to exceed two (2) acre-feet or ten percent (10%) of such Party's Total Adjudicated Production Rights, whichever is the larger, and in addition thereto, such greater amount as may be approved by the Court. Notwithstanding Section XI.4 herein, if such greater amount is recommended by the Water Rights Panel, such order of Court may be made ex parte. Each such Party so extracting water in excess of its Total Adjudicated Production Rights shall be required to reduce its extractions below its Total Adjudicated Production Rights by an equivalent amount in the Administrative Year next following. Such requirement shall be subject to the proviso that in the event the Court determines that such reduction will impose upon such a Party, or others relying for water service upon such Party, an unreasonable hardship, the Court may grant an extension of time within which such Party may be required to reduce its extractions by the amount of the excess theretofore extracted by such Party.

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AMENDED JUDGMENT  September 2014
VI. PHYSICAL SOLUTION - EXCHANGE POOL

As a further part of said physical solution herein imposed:

1. Mandatory Offer to Exchange Pool

Not less than sixty (60) days prior to the beginning of each Administrative Year, each Party having supplemental water available to it through then existing facilities, other than water which any such Party has the right to extract hereunder, shall file with the Water Rights Panel the offer of such Party to release to the Exchange Pool the amount by which such Party’s Adjudicated Right exceeds one-half of the estimated total required use of water by such Party during the ensuing Administrative Year, provided that the amount required to be so offered for release shall not exceed the amount such Party can replace with supplemental water so available to it.

2. Basis of Offer to Exchange Pool; Redetermination of Offer by Water Rights Panel

Such estimate of total required use and such mandatory offer shall be made in good faith and shall state the basis on which the offer is made, and shall be subject to review and redetermination by the Water Rights Panel, who may take into consideration the prior use by such Party for earlier Administrative Years and all other factors indicating the amount of such total required use and the availability of replacement water.

3. Voluntary Offer to Exchange Pool

Any Party filing an offer to release water under the mandatory provisions of this Section VI may also file a voluntary offer to release any part or all of any remaining amount of water which such Party has the right under this Amended Judgment to pump or otherwise extract from the Basin, and any Party who is not required to file an offer to release water may file a voluntary offer to release any part or all of the amount of water which such Party has the right under this Amended Judgment to pump or otherwise extract from the basin. All such voluntary offers shall be made not less than sixty (60) days prior to the beginning of each Administrative Year.
4. **Price of Water Offered to Exchange Pool**

Each offer to release water pursuant to this Section VI shall be the price per acre-foot declared and determined at the time of the filing of such offer by the releasing Party; provided that:

(a) such price per acre-foot shall not exceed the price that the releasing Party would have to pay to obtain from others, in equal monthly amounts, through existing facilities, a quantity of supplemental water equal in amount to that offered to be released; or

(b) if any such releasing Party has no existing facilities through which to obtain water from others, such price shall not exceed the sum of the price per acre-foot charged by MWD and West Coast Basin Municipal Water District to municipalities and public utilities for water received from MWD.

5. **Price Dispute Objection - Water Rights Panel Determination**

A. In the event of a dispute as to any price at which water is offered for release, any Party affected thereby may, within thirty (30) days thereafter, by an objection in writing, refer the matter to the Water Rights Panel for determination. Within thirty (30) days after such objection is filed, the Water Rights Panel shall consider said objection and shall make its finding as to the price at which said water should be offered for release and notify all Parties.

B. The costs of such determination shall be apportioned or assessed by the Water Rights Panel in its discretion between or to the Parties to such dispute, and the Water Rights Panel shall have the power to require, at any time prior to making such determination, any Party or Parties to such dispute to deposit with the Water Rights Panel funds sufficient to pay the cost of such determination.

C. Any Party may appeal to the Court from a decision of the Water Rights Panel as provided in Section XI.4. Pending the Court’s determination if the water so offered has been allocated, the Party making the offer shall be paid the price declared in its offer, subject to appropriate adjustment upon final determination.

6. **Request for Water From Exchange Pool**

A. Not less than sixty (60) days prior to the beginning of each Administrative
Year, any Party whose estimated demand for water during the ensuing Administrative Year exceeds the sum of all of the Party’s supplies available to it from the Basin under this Amended Judgment, may file with the Water Rights Panel a request for the release of water in the amount that said estimated demand exceeds said available supply. Such request shall be made in good faith and shall state the basis upon which the request is made, and shall be subject to review and redetermination by the Water Rights Panel.

B. Within thirty (30) days thereafter, the Water Rights Panel shall advise, in writing, those Parties requesting water of the estimated price thereof. Any Party desiring to amend its request by reducing the amount requested may do so after the service of such notice.

C. Prior to the first day of each Administrative Year, the Water Rights Panel shall determine if sufficient water has been offered to satisfy all requests. If it determines that sufficient water has not been offered, it shall reduce such requests pro rata in the proportion that each request bears to the total of all requests.

D. Not later than the first day of each Administrative Year, the Water Rights Panel shall advise all Parties offering to release water of the quantities to be released by each and accepted in the Exchange Pool and the price at which such water is offered. Simultaneously, it shall advise all Parties requesting water of the quantities of released water allocated from the Exchange Pool and to be taken by each requesting Party and the price to be paid therefore.


A. In allocating water which has been offered for release to the Exchange Pool under Section VI.1, the Water Rights Panel shall first allocate that water required to be offered for release and which is offered at the lowest price, and progressively thereafter at the next lowest price or prices. If the aggregate quantity of water required to be released is less than the aggregate quantity of all requests for the release of water made pursuant to Section VI.6, the Water Rights Panel shall then allocate water voluntarily offered for release and which is offered at the lowest price and progressively thereafter at the next lowest price or prices, provided that the total allocation of water shall not exceed the aggregate of all such requests. Any water offered for release under Section VI and not accepted in the Exchange Pool, and not allocated therefrom,
shall be deemed not to have been offered for release and may be extracted from the Basin by the
Party offering the same as if such offer had not been made.

B. Each Party requesting the release of water for its use and to whom released
water is allocated from the Exchange Pool may thereafter, subject to all of the provisions of this
Amended Judgment, extract such allocated amount of water from the Basin, in addition to the
amount such Party is otherwise entitled to extract hereunder during the Administrative Year for
which the allocation is made.

8. Exchange Pool Water Pumped Before Pumper's Own Right

From and after the first day of each Administrative Year, all water extracted from the
Basin by any Party requesting the release of water and to whom such water is allocated shall be
deemed to have been water so released until the full amount released for use by it shall have been
taken, and no such Party shall be deemed to have extracted from the Basin any water under its
own right so to do until said amount of released water shall have been extracted. Water extracted
from the Basin by Parties pursuant to their request for the release of water shall be deemed to
have been taken by the offerors of such water under their own rights to extract water from the
Basin.

9. Price and Payment for Water Released for Exchange Pool

A. All Parties allocated water under Section VI.6 shall pay a uniform price per
acre-foot for such water, which price shall be the weighted average of the prices at which all the
water allocated was offered for release.

B. Each Party shall pay to the Water Rights Panel, in five equal monthly
installments during the applicable Administrative Year, an amount equal to the quantity of water
allocated to it multiplied by said uniform price. The Water Rights Panel shall bill each such Party
monthly for each such installment, the first such billing to be made on or before the first day of
the second month of the Administrative Year involved, and payment therefore shall be made to
the Water Rights Panel within thirty (30) days after the service of each such statement. If such
payment be not made within said thirty (30) days such payment shall be delinquent and a penalty
shall be assessed thereon at the rate of one percent (1%) per month until paid. Such delinquent
payment, including penalty, may be enforced against any Party delinquent in payment by execution or by suit commenced by the Water Rights Panel or by any Party hereto for the benefit of the Water Rights Panel.

C. Promptly upon receipt of such payment, the Water Rights Panel shall make payment for the water released and allocated, first, to the Party or Parties which offered such water at the lowest price, and then through successive higher offered prices up to the total allocated.

VII. ADDITIONAL PUMPING ALLOWED UNDER AGREEMENT WITH WRD DURING PERIODS OF EMERGENCY

A. WRD overlies the West Coast Basin and engages in activities of replenishing the groundwaters thereof with Replenishment Water. During an actual or threatened temporary shortage of the Imported Water supply to West Coast Basin, WRD may, by resolution, determine to subsequently replenish the Basin for any water produced in excess of a Party's Adjudicated Rights hereunder, within a reasonable period of time, pursuant to Over-Production Agreements with such Parties. Such Over-Production Agreements shall not exceed in the aggregate ten thousand (10,000) acre-feet (the "Initial Cumulative Over-Production Cap"). WRD may determine that a quantity of water is available for such agreements that exceed the Initial Cumulative Over-Production Cap (the "Supplemental Over-Production Water") based on a determination made after a public hearing and taking into account the water levels in the Basin and the availability of water to replenish the Basin other than Imported Water. Over-Production Agreements for Supplemental Over-Production Water shall be made available on an equal basis to all Parties with an Adjudicated Right who (i) possess no Carryover or Stored Water, (ii) have purchased Imported Water in the immediately preceding Administrative Year or will receive less water from a Water Purveyor due to the declared drought curtailing that Water Purveyor's available supplies, (iii) have exercised or contractually agreed to not exercise its rights under Section V.14 of this Amended Judgment, and (iv) provide important goods and services to the general public, provided, however, that WRD shall give priority to Parties meeting those criteria who have not entered into an Over-Production Agreement for an portion of the Initial Cumulative
Over-Production Cap. Over-Production Agreements for Supplemental Over-Production Water shall be on the same terms as required under Sections VII.D and E.

B. Notwithstanding any other provision of this Amended Judgment, any Party with Adjudicated Rights who is (i) Water Purveyors, (ii) possess no Carryover or Stored Water, and (iii) have exercised or contractually agreed to not exercise its rights under Section V.14 of this Amended Judgment, is authorized to enter into agreements with WRD under which such Water Purveyors may exceed their Adjudicated Rights for a particular Administrative Year (an "Over-Production Agreement") when the following conditions are met:

1. WRD is in receipt of a resolution of the Board of Directors of MWD stating there is an actual or immediately threatened temporary shortage of MWD’s Imported Water supply compared to MWD’s needs, or a temporary inability to deliver MWD’s Imported Water supply throughout its service area, which will be alleviated in part by over-pumping from West Coast Basin.

2. The Board of Directors of both WRD and the Water Rights Panel, by resolutions, concur in the resolution of MWD’s Board of Directors and each determine that the temporary overproduction in West Coast Basin will not adversely affect the integrity of the Basin or the sea water barrier maintained along the coast of the West Coast Basin. In said resolution, WRD’s Board of Directors shall set a public hearing, and notice the time, place and date thereof (which may be continued from time to time without further notice) and which said notice shall be given by First Class Mail to all Parties. Said notice shall be mailed at least ten (10) days before said scheduled hearing date. At said public hearing, Parties shall be given full opportunity to be heard, and at the conclusion thereof the Board of Directors of WRD by resolution (a “Drought Resolution”) decides to proceed with agreements under this Section VII.

C. If WRD has not entered into Over-Production Agreements with Water Purveyors for the entirety of the Initial Cumulative Over-Production Cap within thirty (30) days after the Drought Resolution, then WRD may enter into Over-Production Agreements with other Parties to this Judgment, although the amount of said Agreements shall not cause an exceedance of the Initial Cumulative Over-Production Cap. In considering such Agreements with other
Parties, WRD shall accord priority to Parties who provide important goods and services to the
general public.

D. All Over-Production Agreements with WRD shall be subject to the
following requirements, and such reasonable others as WRD’s Board of Directors shall require:

(1) The Over-Production Agreements shall be of uniform content
except as to the quantity involved, and any special provisions considered necessary or desirable
with respect to local hydrological conditions or good hydrologic practice.

(2) The Over-Production Agreements shall be offered to Water
Purveyors and Parties, excepting those which WRD’s Board of Directors determine should not
over-pump because such over-pumping would occur in undesirable proximity to a sea water
barrier project designed to forestall sea water intrusion, or within, or in undesirable proximity to,
an area within West Coast Basin wherein groundwater levels are at an elevation where over-
pumping is, under all the circumstances, undesirable.

(3) The maximum term of any such Over-Production Agreement shall
be four (4) months. All such Over-Production Agreements shall commence and end on the same
day (and which may be executed at any time within said four month period), unless an extension
thereof is authorized by the Court under this Amended Judgment.

(4) The Over-Production Agreements shall contain provisions that the
Water Purveyor or Party executing the agreement pay to WRD a price, in addition to the
applicable Replenishment Assessment, determined on the following formula: The price per acre-
foot of West Basin Municipal Water District’s treated domestic and municipal water for the
Administrative Year in which the agreement is to run, less the total of: (a) an amount per acre-
foot as an allowance on account of incremental cost of pumping, as determined by WRD’s Board
of Directors; and (b) the rate of the replenishment assessment of WRD for the same
Administrative Year. If the term of the Over-Production Agreement is for a period which will be
partially in one Administrative Year and partially in another, and a change in either or both the
price per acre-foot of West Basin Municipal Water District’s treated domestic and municipal
water and rate of the replenishment assessment of WRD is scheduled, the price formula shall be
determined by averaging the scheduled changes with the price and rate then in effect, based on
the number of months each will be in effect during the term of the Over-Production Agreement.
Any price for a partial acre-foot shall be computed pro rata. Payments shall be due and payable
on the principle that over-extractions under the Over-Production Agreement are the last water
pumped in the Administrative Year, and shall be payable as the Over-Production Agreement shall
provide.

(5) The Over-Production Agreements shall contain provisions that: (a)
All of such agreements (but not less than all) shall be subject to termination by WRD if, in the
judgment of WRD’s Board of Directors, the conditions or threatened conditions upon which they
were based have abated to the extent over-extractions are no longer considered necessary; and (b)
that any individual agreement or agreements may be terminated if the WRD’s Board of Directors
finds that Material Physical Harm has developed as a result of over-extractions by any Water
Purveyor or Party which have executed said Over-Production Agreements, or for any other reason
that WRD’s Board of Directors find good and sufficient.

E. Other matters applicable to such Over-Production Agreements and over-
pumping thereunder are as follows, and to the extent they would affect obligations of the WRD
they shall be anticipated in said Over-Production Agreements:

(1) The quantity of over-pumping permitted shall be additional to that
which the Water Purveyor or Party could otherwise over-pump under this Amended Judgment.

(2) The total quantity of permitted over-pumping under all said
agreements during said four months shall not exceed ten thousand (10,000) acre-feet, but the
individual Water Purveyor or Party shall not be responsible or affected by any violation of this
requirement. That total is additional to over-extractions otherwise permitted under this Amended
Judgment.

(3) Only one four-month period may be utilized by WRD in entering
into such Over-Production Agreements, as to any one emergency or continuation thereof declared
by MWD’s Board of Directors under Section VII.B(2) hereof.

(4) If any Party claims that it is being damaged or threatened with
damage by the over-extractions by any Party to such an Over-Production Agreement, the Water Rights Panel or any Party hereto may seek appropriate action of the Court for termination of any such Over-Production Agreement upon notice of hearing served on all Parties. Any such termination shall not affect the obligation of the Party having entered into an Over-Production Agreement pursuant to this Section to make payments under the Over-Production Agreement for over-extractions which previously occurred thereunder.

(5) WRD shall maintain separate accounting and a separate fund of the proceeds from payments made pursuant to agreements entered into under this Section. Said fund shall be utilized solely for purposes of replenishment and the replacement of waters in West Coast Basin. WRD shall, as soon as practicable, cause replenishment in West Coast Basin by the amounts to be over-extracted pursuant to this Section, whether through spreading, injection, or in-lieu agreements.

(6) Over-extractions made pursuant to the said Over-Production Agreements shall not be subject to the “make up” provisions provided in Section V.14, provided, that if any Party fails to make payments as required by the Over-Production Agreement, Water Rights Panel may require such “make up” under Section V.14.

(7) The Water Purveyor or Party under any such Over-Production Agreement may, and is encouraged to, enter into appropriate arrangements with customers who have Adjudicated Rights in West Coast Basin under or pursuant to this Amended Judgment, whereby the Water Purveyor or Party will be assisted in meeting the objectives of the agreement.

(8) Nothing in this Section VII limits the exercise of the reserved and continuing jurisdiction of the court as provided in Sections XII and XIII hereof.

VIII. INJUNCTION

Upon entry of this Amended Judgment, each of the Parties hereto, their successors and assigns, and each of their agents, employees, attorneys, and any and all persons acting by, through, or under them or any of them, are and each of them is hereby perpetually enjoined and restrained from pumping or otherwise extracting from the Basin any water in excess of said Party’s Adjudicated Rights, except as otherwise provided in this Amended Judgment. Consistent
with the Order Amending Judgment to Provide Exclusion Zone, dated December 21, 1995, no
person shall construct, operate or maintain a well for the production of groundwater within 2,000
feet of any seawater barrier injection well operated in connection with the West Coast Basin
Seawater Barrier Project.

IX. LIMITATIONS UPON EXTRACTION; ORDER OF PRODUCTION

1. Limits on Extractions

The total extraction right for an Administrative Year includes a Party’s Total Adjudicated
Production Right (to the extent not transferred by agreement or otherwise), and any right to
extract Stored Water or Carryover as provided in this Amended Judgment. Any Party who has
Carryover and/or Stored Water in the aggregate amount equal to or exceeding twenty percent
(20%) of the Party’s Total Adjudicated Production Right shall be allowed to extract, in any one
Administrative Year, up to one-hundred and twenty percent (120%) of the Party’s Total
Adjudicated Production Right, except upon prior approval by the Storage Panel, as provided
herein. Upon application, the Storage Panel shall approve a Party’s request to extract water in
excess of one hundred and twenty percent (120%) of such limitation consistent with Section
V.13.B. Requests to extract water in excess of one hundred and twenty percent (120%) of a
Party’s Total Adjudicated Production Right shall be reviewed and either approved or denied by
the Storage Panel in accordance with the procedure set forth in Section V.13 of this Amended
Judgment.

2. Prioritization of Production

Except as provided in Section V.6.D, unless a Party elects otherwise, production of water
from the Basin for the use or benefit of the Parties hereto shall be credited to each such Party in
the following order: (i) Exchange Pool production; (ii) production of Carryover Water (but
excluding the Carryover Water described in Section V.4.C, (iii) production of water pursuant to a
lease or other agreement of an Adjudicated Right; (iv) production of water pursuant to that
Party’s Adjudicated Right; (v) production of Stored Water; (vi) the production of the Carryover
Water described in Section V.4.C; and (vi) emergency production pursuant to an Over-Production
Agreement with WRD pursuant to Section VII.
X. LOSS OF DECREED RIGHTS

A. It is in the best interests of the Parties herein and the reasonable beneficial use of the Basin and its water supply that no Party be encouraged to take and use more water than is actually required. Failure to produce all of the water to which a Party is entitled hereunder shall not, in and of itself, be deemed or constitute an abandonment of such Party’s right in whole or in part.

B. No taking of water under Sections III, V, VI and VII hereof, by any Party to this action shall constitute a taking adverse to any other Party; nor shall any Party to this action have the right to plead the statute of limitations or an estoppel against any other Party by reason of its said extracting of water from the Basin pursuant to a request for the release of water; nor shall such release of water to the Exchange Pool by any Party constitute a forfeiture or abandonment by such Party of any part of its Adjudicated Right to water; nor shall such release in anywise constitute a waiver of such right although such water, when released under the terms of this Amended Judgment may be devoted to a public use; nor shall such release of water by any such Party in anywise obligate any Party so releasing to continue to release or furnish water to any other Party or its successor in interest, or to the public generally, or to any Party thereof, otherwise than as provided herein.

XI. WATERMASTER

1. Appointment

A. The constituent bodies specified below are, jointly, hereby appointed Watermaster to administer this Amended Judgment, for an indefinite term, but subject to removal by the Court. Collectively such bodies, which together shall constitute the “Watermaster,” shall have restricted powers, duties and responsibilities as specified herein, it being the Court’s intention that particular constituent bodies of the Watermaster have only limited and specified powers over certain aspects of the administration of this Amended Judgment.

B. The Outgoing Watermaster has agreed to exercise reasonable diligence in the complete transition of Watermaster duties and responsibilities within a reasonable time following entry of this order, and to make available to the new Watermaster all records.
concerning Watermaster activities.

C. Watermaster, and each of its constituent bodies, as designated below, exist as a special master pursuant to this Amended Judgment and serve at the pleasure of the Court. Nothing herein shall be construed as creating an independent designation of "Watermaster" as a public agency subject to the provisions of CEQA.

D. Chair of the Water Rights Panel (defined below) shall represent the Watermaster before the Court subject to the provisions of Sections XI.2(B)(1) of this Amended Judgment.

E. The Administrative Body and the Water Rights Panel, acting jointly as the Watermaster, shall adopt Watermaster Rules that are reasonably necessary to carry out this Amended Judgment and are consistent with this Amended Judgment. Said Rules shall also include provisions for the appropriate application of existing laws to actions by the Watermaster concerning conflicts of interests; limiting gifts and monies to individuals holding a position on or in any constituent body of Watermaster; hiring outside contractors and consultants; and use of fees and assessments paid to the Watermaster authorized under this Amended Judgment. Within ninety (90) days after entry of this Amended Judgment, the Watermaster shall issue draft Watermaster Rules. The Watermaster Rules and any subsequent amendments shall be subject to a 30 day review and comment period by the Adjudicated Rights holders. The Watermaster is required to respond to all comments received during the 30 day review and comment period within a reasonable amount of time. Thereafter, the Watermaster is required to hold a hearing on the final Watermaster Rules or any amendments before submittal to the Court for review. The Watermaster Rules, and any subsequent amendments thereto, shall be presented to the Court for review and approval upon a noticed motion in the manner set forth in Section XI.4.D herein.

2. Watermaster Constituents

A. Administrative Body

WRD is appointed the Administrative Body of the West Coast Basin Watermaster ("Administrative Body"). In order to assist the Court in the administration and enforcement of the provisions of this Amended Judgment and to keep the Court fully advised, the Administrative
Body shall have the following duties, powers and responsibilities in addition to those before or hereafter provided in this Judgment.

(1) **Require Reports, Information and Records**

In consultation with the Water Rights Panel, the Administrative Body shall require the Parties to furnish such reports, information and records as may be reasonably necessary to determine compliance or lack of compliance by any Party with the provisions of this Amended Judgment. The Administrative Body shall collect and assemble the records and other data required of the Parties hereto, and evaluate such records and other data as part of its duties herein. The Water Rights Panel shall make its records available to the Administrative Body for record-keeping. The Administrative Body shall maintain copies of all records prepared or received by each body of the Watermaster consistent with the Watermaster Rules. Subject to compliance with all applicable laws protecting the disclosure of a party’s confidential or proprietary information, the Administrative Body shall allow any Party or its representative to inspect and copy the Watermaster’s records and other data during normal business hours and in accordance with the rules and regulations promulgated by the Watermaster hereafter.

(2) **Notices by Watermaster**

The Administrative Body shall provide notice to all Parties of all material actions or determinations by the Watermaster or any constituent body thereof, which shall be defined or delineated in the Watermaster Rules, and as otherwise provided by this Amended Judgment. The Administrative Body shall set a regular meeting day per month where it can hold a meeting and is required to post the agenda and give notice per the Watermaster Rules. The Watermaster Rules shall identify the days of the month on which the Storage Panel shall hold noticed meetings when a meeting is necessary. If notice is required to be given per email, then the timing for the notice is 5 business days. If the notice is required to be given per U.S. mail, then the timing for the notice is 10 business days. No action or determination of the Watermaster or the constituent bodies thereof shall be valid unless the notice requirements are satisfied.
(3) Annual Groundwater Monitoring

The Administrative Body shall undertake at least one annual groundwater modeling event to evaluate the current condition of the Basin and determine that cumulatively, all Existing Facilities and New Storage Facilities do not pose actual or an imminent threat of Material Physical Harm. Said groundwater modeling shall incorporate the results of modeling conducted by the Administrative Body in accordance with Section V.12 of this Amended Judgment for the Storage Panel's review. The Administrative Body shall provide the Parties notice of and access to the results of the annual groundwater modeling, which notice may be by delivery of the Watermaster's annual report.

(4) Annual Report

On or before October 15 of every year, the Administrative Body shall prepare and deliver an annual report for the consideration of the Water Rights Panel. On or before December 15 of every year, the Watermaster shall report to the Court on the Basin and, for that purpose, may adopt the report of the Administrative Body, or separately may make its own report. Each annual report to the Court shall include, but not be limited to, the following:

- All water extractions in the Basin, including that by producers who have no Adjudicated Right;
- Storage accounts maintained by each Party, including Carryover Conversion;
- Proposed and ongoing Water Augmentation Projects;
- Proposed and ongoing Storage Projects;
- Proposed and constructed New Storage Facilities;
- The results of groundwater modeling conducted by the Administrative Body consistent with Section V.12 of this Amended Judgment during the preceding year, which modeling shall including modeling necessary to assess the cumulative effect on water levels in the Basin;
- Exchange Pool operation;
- Use of Developed Water, including Imported Water;
- Violations of the Amended Judgment and corrective action taken by the bodies of the Watermaster having jurisdiction as provided in this Amended Judgment;
• Change of ownership of Adjudicated Rights;
• Watermaster administration costs;
• Water spread or injected into the Basin, including water injected for seawater intrusion barriers;
• Development of Material Physical Harm, or imminent threat of the development of Material Physical Harm; and
• Recommendations, if any.

(5) Carryover Conversion Payment

All payments of the Replenishment Assessment received by WRD from a Party converting Carryover to Stored Water shall be maintained and accounted for by WRD separate from any other funds held by WRD, either in its capacity as the Administrative Body or in its statutory capacity under the WRD Act. WRD shall use said Replenishment Assessments solely for the purpose of securing Replenishment Water for causing replenishment of the West Basin. WRD shall provide an accounting of the monies received, how spent, and, if not spent within an Administrative Year, the total amount maintained by WRD and the reason for not utilizing the funds for that Administrative Year.

(6) Annual Budget and Appeal Procedure in Relation Thereto

(a) At all times, the Administrative Body shall maintain a separation in accounting between the expense for performing the administrative functions specified in this Amended Judgment (the “Administrative Budget”) and WRD’s Replenishment Assessment and operating budget. By April 1 of each Administrative Year, the Administrative Body shall prepare a tentative Administrative Budget for the subsequent year. The Administrative Body shall mail a copy of said tentative Administrative Budget to each of the Parties at least sixty (60) days before the beginning of each Administrative Year. For the first Administrative Year of operation under this Amended Judgment, if the Administrative Body is unable to meet the above time requirement, the Administrative Body shall mail said copies as soon as possible. The Administrative Budget mailed to the Parties shall provide sufficient detail in the Administrative Budget to demonstrate a separation in accounting between the Administrative Budget and WRD’s
Replenishment Assessment and operating budget.

(b) The first year that the Administrative Budget is prepared by the Administrative Body pursuant to this Amended Judgment, the amount of that budget shall not exceed an amount equal to fifty percent (50%) of the 2013-2014 charge for Watermaster service for the West Coast Basin collected from Parties by the Outgoing Watermaster (the “Base Budget Amount”). All increases in future budgets for the Administrative Body above the amount set forth above shall be subject to approval by the Water Rights Panel following a public meeting to be held prior to the beginning of the Administrative Year, provided that the approved budget shall not be less than the amount of the first-year budget for the Administrative Body, except upon further order of the Court. Any administrative function by WRD already paid for by the Replenishment Assessment shall not be added as an expense in the Administrative Budget. Any expense or cost attributable to performing the duties of the Administrative Body imposed by this Amended Judgment shall not be added to WRD’s operating budget, or otherwise added to the calculation of the Replenishment Assessment. WRD, operating under the WRD Act, acknowledges that it has been preparing and maintaining financial statements and budgets in accordance with generally accepted accounting principles for state and local governments (GAAP) and conducting audits in accordance with generally accepted government auditing standards (GAGAS). In order to fulfill those budget and accounting provisions of the Amended Judgment relating to WRD acting in its statutory capacity, WRD agrees, acting under the WRD Act, to (i) continue its practice of preparing and maintaining financial statements and budgets in accordance with GAAP and conducting audits in accordance with GAGAS and (ii) certify, each year after an audit is completed within three (3) months after end of the Administrative Year, that no expense in WRD’s operating budget or its Replenishment Assessment was charged or assessed contrary to the express provisions of Sections XI.2A5, 6 and 7 of the Amended Judgment. While WRD may approve the proposed Administrative Budget at the same meeting in which WRD adopts its annual Replenishment Assessment or annual budget, the Administrative Body’s budget shall be separate and distinct from the Replenishment Assessment imposed pursuant to Water Code § 60317 and WRD’s operating budget. If approval by the Water Rights Panel is required...
pursuant to the foregoing, the Water Rights Panel shall act upon the proposed budget within 15 calendar days after the public meeting. If the Water Rights Panel does not approve the budget prior to such deadline, the matter may be appealed to the Court within sixty (60) days.

(c) If any Party has any objection to the Administrative Budget, it shall present the same in writing to the Watermaster within fifteen (15) days after the date of mailing of said tentative budget by the Administrative Body. The Parties shall make the payments otherwise required of them to the Administrative Body even though an appeal of such budget may be pending. Upon any revision by the Court, the Administrative Body shall either remit to the Parties their pro rata portions of any reduction in the budget, or shall credit their accounts with respect to their budget assessments for the next ensuing Administrative Year, as the Court shall direct.

(d) The Administrative Body shall prepare and maintain financial statements and budgets in accordance with generally accepted accounting principles (GAAP) for state and local governments in order to meet this requirement. Audits will be conducted in accordance with generally accepted government auditing standards (GAGAS). The Administrative Body shall, each year after an audit is completed, certify within three (3) months after end of the Administrative Year that no expense was part of the budget or paid for by the budget contrary to the Amended Judgment.

(7) Administrative Budget as Parties' Costs

(a) The amount of the Administrative Budget to be assessed to each Party shall be determined as follows: If that portion of the final Administrative Budget to be assessed to the Parties holding an Adjudicated Right is equal to or less than twenty dollars ($20.00) per said Party then the cost shall be equally apportioned among said Parties. If that portion of the final Administrative Budget to be assessed to said Parties is greater than twenty dollars ($20.00) per said Party then each Party holding an Adjudicated Right shall be assessed a minimum of twenty dollars ($20.00), the amount of revenue expected to be received through the foregoing minimum assessments shall be deducted from that portion of the final Administrative Budget to be assessed to the Parties holding an Adjudicated Rights and the balance shall be
assessed to the Parties having Adjudicated Rights, such balance being divided among them proportionately in accordance with their respective Adjudicated Rights. As a condition of approving a Regional Storage Project or a Water Augmentation Project, the Storage Panel shall require any Party participating in such a Project who does not hold an Adjudicated Right to pay a portion of the Administrative Body's budget consistent with the amount of water that can be stored by the Regional Storage Project relative to the total amount of Adjudicated Rights.

(b) Payment of the assessment provided for herein, subject to adjustment by the Court as provided, shall be made by each such Party prior to beginning of the Administrative Year to which the assessment relates, or within forty (40) days after the mailing of the tentative Administrative Budget, whichever is later. If such payment by any Party is not made on or before said date, the Administrative Body shall add a penalty of five percent (5%) thereof to such Party's statement. Payment required of any Party hereunder may be enforced by execution issued out of the Court, or as may be provided by order hereinafter made by the Court, or by other proceedings by the Watermaster or by any Party hereto on the Watermaster's behalf.

(c) All such payments and penalties received by the Administrative Body shall be expended by it for the administration of this Amended Judgment. Any money remaining at the end of any Administrative Year shall be available for such use in the following Administrative Year. The Administrative Body shall maintain no reserves.

(8) Concerns About Material Physical Harm

Any Party shall raise concerns regarding actual or an imminent threat of Material Physical Harm to the Administrative Body or the Storage Panel prior to filing a motion with the Court unless the Party reasonably believes that irreparable harm to the Basin or itself is imminent if the Court does not order provisional relief. If reasonable concerns are raised to the Administrative Body, it shall promptly consider any such concerns including undertaking any investigation, modeling or other technical analysis necessary to address the concern. The Administrative Body shall provide written notice of its determination, and copy of its report, to all Parties by either electronic mail or U.S. postal mail. If a Party disagrees with the Administrative Body's conclusion, the Party may request a hearing before the Storage Panel. Any hearing before the
Storage Panel shall proceed as outlined in Section V.13.B. Any decision of the Storage Panel shall be reviewable by the Court in accordance with Section XI.4.

(9) Other Administrative Body Duties

The Administrative Body shall perform such other duties as directed by the Court and the Watermaster Rules.

B. The Water Rights Panel

The Water Rights Panel shall consist of five (5) members from among representatives of the Parties holding Adjudicated Rights under this Amended Judgment. Three (3) of the members shall be the elected officers of president, vice-president and treasurer of the West Basin Water Association and the remaining two (2) members shall be selected by the Board of Directors of the West Basin Water Association. At least one (1) member of the Water Rights Panel shall be a non-Water Purveyor Adjudicated Rights holder possessing at least 1% of the Adjudicated Rights in the Basin. Members of the Water Rights Panel shall serve without compensation. The Water Rights Panel shall take action by majority of its members. The Water Rights Panel shall have the following duties and responsibilities:

(1) Judicial Action Concerning Adjudicated Rights and Stored Water

As among the other bodies of the Watermaster, the Water Rights Panel shall (i) have exclusive authority to move the Court to take such action as may be necessary to enforce the terms of the Amended Judgment, including but not limited to matters involving the extraction and maintenance of Adjudicated Rights, provided, however, that in matters involving Stored Water, the Water Rights Panel and the WRD Board of Directors must concur in the decision to take judicial action, in which case the Chair of the Water Rights Panel shall represent the Storage Panel in such action. If the WRD Board of Directors does not concur in taking judicial action, any Party may file a motion with the Court concerning the matter in their status as Parties to the Judgment if permitted by Section XIII of this Amended Judgment. No Party to the Amended Judgment waives any rights to seek relief or review of the decisions of the Watermaster or any body thereof. The Water Rights Panel’s retention of legal counsel shall comply with the Watermaster Rules.
(2) Requirement of Measuring Devices

The Water Rights Panel shall require all parties owning or operating any facilities for the extraction of groundwater from West Basin to install and maintain at all times in good working order at such party’s own expense, appropriate measuring devices at such times and as often as may be reasonable under the circumstances and to calibrate or test such devices.

(3) Inspections by Watermaster

Subject to compliance with all applicable laws protecting the disclosure of a party’s confidential or proprietary information, the Water Rights Panel may make inspections of groundwater production facilities, including aquifer storage and recovery facilities, and measuring devices at such times and as often as may be reasonable under the circumstances and to calibrate or test such devices.

(4) Reports

The Water Rights Panel shall be responsible for reporting to the Court concerning Adjudicated Rights in the Basin, including any and all of the following:

- Groundwater extractions;
- Exchange Pool operation;
- Violations of this Amended Judgment and corrective action taken or sought;
- Change of ownership of an Adjudicated Right;
- Assessments made by the Water Rights Panel and any costs incurred;
- Development of Material Physical Harm, or imminent threat of the development of Material Physical Harm; and
- Recommendations, if any.

(5) Assessment

The Water Rights Panel shall assess holders of Adjudicated Rights within the West Coast Basin an annual amount not to exceed one dollar ($1.00) per acre-foot of Adjudicated Rights, by majority vote of the members of the Water Rights Panel. The Water Rights Panel may assess a higher amount, subject to being overruled by Majority Protest. If an assessment is assessed in excess of one dollar ($1.00) per acre-foot, the assessment shall only be applied for that
Administrative Year. The assessment is intended to cover any costs associated with any Amended Judgment enforcement action, the reporting to the Court pursuant to Section XI.2.B(1), and the review of Storage Projects as a component of the Storage Panel, as provided herein. It is anticipated that this body will rely on the Administrative Body’s staff for most functions, but the Water Rights Panel may engage its own staff if required in its reasonable judgment and in accordance with the Watermaster Rules. The Water Rights Panel shall prepare and maintain financial statements and budgets in accordance with generally accepted accounting principles (GAAP) for state and local governments in order to meet this requirement. Every other year, the Water Rights Panel shall cause a Review of its Financial Statements by a certified public accountant. The Water Rights Panel shall, each year after a review is completed, certify within three (3) months after end of the Administrative Year that no expense was part of the budget or paid for by the budget contrary to the Amended Judgment. As a condition of approving a Regional Storage Project or a Water Augmentation Project, the Storage Panel will require any Party participating in such a Project who does not hold an Adjudicated Right to pay a reasonable portion of the Water Rights Panel’s budget consistent with the amount of water that can be stored by the Regional Storage Project relative to the total amount of Adjudicated Rights.

(6) Notices

The Water Rights Panel shall, to the extent practical, hold regular meetings on a quarterly basis or more often as needed. Notices of meetings of the Water Rights Panel shall be provided as required under Section XI.2.A(2).

C. The Storage Panel

The Storage Panel of the Watermaster shall be a bicameral body consisting of (i) the West Coast Basin Water Rights Panel and (ii) the Board of Directors of WRD. Action by the Storage Panel shall require separate action by each of its constituent bodies provided, however, that action can be taken by each constituent body at a joint hearing. The Storage Panel shall have the duties and responsibilities specified with regard to the provisions for the storage and extraction of Stored Water as set forth in Section V and elsewhere within this Amended Judgment.
D. **Capacity As Court-Appointed Watermaster**

In performing any duty not required by any other law or regulation, specifically set forth within this Amended Judgment and in conformance with all requirements for said duty therein for the Administrative Body, the Water Rights Panel or the Storage Panel then those bodies shall be deemed to act solely as the Court’s appointed Watermaster and not in any other capacity.

3. **Limitations on Powers and Duties of the Watermaster and its Constituent Bodies**

A. **Use of Facilities and Data Collected by Other Governmental Agencies**

Where practicable, the three bodies constituting the Watermaster should not duplicate the collection of data relative to conditions of the West Coast Basin which is then being collected by one or more governmental agencies, but where necessary each constituent body of the Watermaster may collect supplemental data. Where it appears more economical to do so, the Watermaster and its constituent bodies are directed to use such facilities of other governmental agencies as are available to it at either no cost or cost agreements with respect to the data collection, receipt of reports, billings to Parties, mailings to Parties, and similar matters.

B. **Limitations on WRD’s Leasing Authority**

WRD shall not engage in a lease of Adjudicated Rights, Stored Water or any other water within the Basin to or from any Party or third party, provided, however, that the foregoing prohibition shall (i) not apply during any emergency declared pursuant to Section VII of this Judgment, (ii) not be interpreted to restrict WRD’s ability or authority to lease in water from any source or entity for purposes of replenishment of the Basin or for water quality activities, and (iii) not apply to any reclaimed, recycled or remediated water that may be developed by WRD pursuant to its replenishment authority under WRD’s enabling act (California Water Code Section 60000 et seq.).

C. **Wasted and Nonchargeable Production Authorized By Watermaster**

1. In the event there is a rapid increase in the salinity of water produced from a well within the Basin and the Party producing the water has reason to believe that such increased salinity is the result of or potentially relates to sea water intrusion into the Basin.
Basin, a Party may petition the Administrative Body, acting on behalf of the Watermaster, for its consent to make various changes in the operation of said well and waste the production therefrom during such changed conditions, in an effort to identify the reason for the rapid increase in salinity of the water produced from such well and to attempt to discover a method of operation for said well which will decrease the salinity of the water produced therefrom to such an extent that the well may be used in the future as part of the potable water supply of said Party.

(2) Upon receipt of such petition, the Administrative Body shall consult with the Los Angeles County Flood Control District and may consult with others, as needed, to determine whether such increased salinity in the water produced from said well potentially relates to sea water intrusion into the Basin. After such consultation, should the Administrative Body determine that the higher saline water produced from said well potentially relates to sea water intrusion, the Administrative Body may issue a written approval that authorizes the production and waste of water from said well in a manner which seeks to analyze and find a method of well operation for correction of the increased salinity of the water produced therefrom (a “Salinity Pumping Approval”). Such authorized water production and the waste thereof shall not be charged to the production right of such producing Party and shall be exempt from WRD’s Replenishment Assessment.

(3) Regardless of the number of applications therefor, the Administrative Body may authorize a maximum aggregate of 100 acre feet per fiscal year of pumping and water wasting activities authorized under Salinity Pumping Approvals.

(4) If, during such authorized water production and waste thereof, such produced water becomes potable or is used by such producer, the Administrative Body shall immediately issue an order terminating the Salinity Pumping Approval.

(5) The results of all such Salinity Pumping Approvals shall be made available to any party herein upon request therefor to the Watermaster.

D. Material Physical Harm

The Storage Panel shall consider any reasonable concern that a Storage Project, Water Augmentation Project or New Storage Facility either individually or cumulatively is causing or is
reasonably likely to cause an imminent threat of Material Physical Harm made pursuant to a report or request for hearing received pursuant to Section XI.2.A(8) of this Amended Judgment. The Storage Panel shall act on that matter in accordance with Section V,13(B) of this Amended Judgment. Any Party objecting to the Storage Panel’s decision may file a motion with the Court pursuant to Section XI.4.D of this Amended Judgment.

4. **Appeal from Watermaster Decisions Other Than With Respect to Budget**

   A. The provisions of this Section shall not apply to budgetary matters, as to which the appellate procedure is provided in Section XI.2.A(6).

   B. Any Party who objects to any rule, determination, order or finding made by the Watermaster, or any constituent body of the Watermaster, may, but is not required to, object in writing delivered to the Administrative Body within thirty (30) days after the date the constituent body of Watermaster mails written notice of the making of such rule, determination, order or finding.

   C. Within thirty (30) days after such delivery, the Watermaster, or the affected constituent body thereof, shall consider said objection and shall amend or affirm the ruling, determination, order or finding and shall give notice thereof to all Parties.

   D. Within sixty (60) days from the date of said notice of a final ruling, determination, order or finding of a constituent body of the Watermaster, any objecting Party may file with the Court its objection to such final rule, determination, order or finding, and may bring the same on for hearing before the Court at such time as the Court may direct, after first having served said objection upon all other Parties. The Court may affirm, modify, amend or overrule any such rule, determination, order or finding. Any factual determinations made by the Watermaster or any constituent body thereof, shall be reviewed by the Court based on substantial evidence in light of the whole record, and any questions of law shall be reviewed de novo.

   E. Any objection under this paragraph shall not stay the rule, determination, order or finding of a constituent body of the Watermaster. However, the Court, by ex parte order, may provide for a stay thereof on application of any interested Party on or after the date that any such Party delivers to the pertinent constituent body of the Watermaster any written objection.

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AMENDED JUDGMENT

September 2014
XII. RESERVED AND CONTINUING JURISDICTION OF COURT

The Court hereby reserves continuing jurisdiction and, upon application of any Party hereto having an Adjudicated Right or upon its own motion, may review: (1) its determination of the safe yield of the Basin, or (2) the Adjudicated Rights, in the aggregate, of all of the Parties as affected by the abandonment or forfeiture of any such rights, in whole or in part, and by the abandonment or forfeiture of any such rights by any other person or entity, and, in the event material change be found, to adjudge that the Adjudicated Right of each Party shall be ratably changed; provided, however, that notice of such review shall be served on all Parties hereto having Adjudicated Rights or any other right under this Amended Judgment to extract groundwater at least thirty (30) days prior thereto. Except as provided herein, and except as rights decreed herein may be abandoned or forfeited in whole or in part, each and every right decreed herein shall be fixed as of the date of the entry hereof.

XIII. JUDGMENT MODIFICATIONS AND FURTHER ORDERS OF COURT

A. The Court further reserves jurisdiction so that at any time, upon its own motion or upon application of any Party hereto having an Adjudicated Right, and upon at least thirty (30) days’ notice to all such Parties, to make such modifications of or such additions to, the provisions of this Amended Judgment, or make such further order or orders as may be necessary or desirable for the adequate enforcement, protection or preservation of the Basin and of the rights of the Parties as herein determined.

B. This Amended Judgment does not determine nor affect the determination of whether WRD’s adoption of a Replenishment Assessment complied with applicable laws in the event that any Replenishment Assessment is challenged in a legal action.

XIV. RESERVATION OF RIGHTS

All Parties retain all rights not specifically determined herein, including any right, by common law or otherwise, to seek compensation for damages arising out of any act or omission of any person. WRD retains any rights, powers or privileges that it may now have or may hereafter have by reason of provision of law, including but not limited to the WRD Act, provided that WRD shall perform any express duty or obligation specifically imposed on it, either in its
capacity as the Administrative Body or its statutory capacity, by this Amended Judgment.

Further, this Amended Judgment shall not excuse any Party from complying with any applicable law, regulation or order.

XV. **DESEINEES OF PARTIES FOR FUTURE NOTICE AND SERVICE**

A. Service of this Amended Judgment on those Parties who have executed and filed with the Court “Agreement and Stipulation for Judgment” or otherwise have named a designee, filed the same herein and have therein designated a person thereafter to receive notices, requests, demands, objections, reports, and all other papers and processes in this cause, shall be made by first class mail, postage prepaid, addressed to such designees (or their successors) and at the address designated for that purpose.

B. Each Party who has not heretofore made such a designation shall, within thirty (30) days after the Amended Judgment herein shall have been served upon that Party or its designee, file with the Court, with proof of service of a copy thereof upon the Watermaster, a written designation of the person to whom and the address at which all future notices, determinations, requests, demands, objections, reports and other papers and processes to be served upon that Party or delivered to that Party, are to be so served or delivered.

C. A later substitute or successor designation filed and served in the same manner by any Party shall be effective from the date of such filing as to the then future notices, determinations, requests, demands, objections, reports and other papers and processes to be served upon or delivered to that Party.

D. Delivery to or service upon any Party by the Watermaster, by any other Party, or by the Court, of any item required to be served upon or delivered to a Party under or pursuant to this Amended Judgment, may be by deposit in the mail, first class, postage prepaid, addressed to the latest designee and at the address in said latest designation filed by that Party.

E. Parties hereto who have not entered their appearance or whose default has been entered and who are adjudged herein to have an Adjudicated Right, and who have not named a designee for service herein, shall be served with all said future notices, papers and process herein, and service herein shall be accomplished, by publication of a copy of such said
notice, paper or process addressed to, "Parties to the West Coast Basin Adjudication"; said publication shall be made once each week for two successive weeks in a newspaper of general circulation, printed and published in the County of Los Angeles, State of California, and circulated within the West Coast Basin Area; the last publication of which shall be at least two weeks and not more than five weeks immediately preceding the event for which said notice is given or immediately preceding the effective date of any order, paper or process; in the event an effective date other than the date of its execution is fixed by the Court in respect of any order, paper or process, said last publication shall be made not more than five weeks following an event, the entry of an order by the Court, or date of any paper or process with respect to which such notice is given.

XVI. INTERVENTION OF SUCCESSORS IN INTEREST AND NEW PARTIES

Any person who is not a Party herein or successor to such Party and who proposes to produce or store and produce water from the Basin may seek to intervene in this Amended Judgment in accordance with applicable law, including, but not limited to, the California Code of Civil Procedure, or through a Stipulation for Intervention entered into with the Water Rights Panel. The Water Rights Panel may execute said Stipulation on behalf of the other Parties herein, but such Stipulation shall not preclude a Party from opposing such intervention at the time of the court hearing thereon. Said Stipulation for Intervention must thereupon be filed with the Court, which will consider an order confirming said intervention following thirty (30) days' notice thereof to the Parties, served as herein provided. Thereafter, if approved by the Court, such Intervenors shall be a Party herein, bound by this Amended Judgment and entitled to the rights and privileges accorded under the physical solution imposed herein.

XVII. JUDGMENT BINDING ON SUCCESSORS

Subject to the specific provisions hereinbefore contained, this Amended Judgment and all provisions thereof are applicable to, binding upon and inure to the benefit of not only the Parties, but as well to their respective heirs, executors, administrators, successors, assigns, lessees, licensees and to the agents, employees and attorneys-in-fact of any such persons.
THE CLERK WILL ENTER THIS AMENDED JUDGMENT FORTHWITH.

DATED:  

KENNETH R. FREEMAN  
Judge of the Superior Court
### ADJUDICATED RIGHTS

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West Coast Basin Total 64,468.25
EXHIBIT B
NONCONSUMPTIVE USE

1. Nonconsumptive Water Use Right:

ORDER APPROVING INTERVENTION AFTER JUDGMENT OF HUGHES AIRCRAFT COMPANY, AS A PARTY DEFENDANT, AND AMENDING AMENDED JUDGMENT HEREIN

(Filed September 24, 1981)

The Petition of Defendant, Dominguez Water Corporation, for the order set forth below duly and regularly came on for hearing on September 24, 1981. Helm, Budinger & Lemieux and Ralph B. Helm, appeared as attorneys for said defendant and proof being made to the satisfaction of the court, and good cause appearing:

IT IS ORDERED that Hughes Aircraft Company be, and it is, hereby, made a party defendant herein, bound and entitled to the burdens and benefits of the Judgment herein.

IT IS FURTHER ORDERED that the Amended Judgment herein be further amended in the following particulars:

That there be added to the Amended Judgment herein, Paragraph III-A to read as follows:

"III-A

There is hereby established a 'nonconsumptive water use right' in the Basin which is subordinate to the adjudicated rights set forth in Paragraph III hereof and which right is exercisable only on the hereinafter specifically defined lands and cannot be separately conveyed or transferred apart therefrom."
“Such right is exercisable without quantitative limit so long as Watermaster reasonably determines at the end of each fiscal year that the water produced from the Basin under such right is used in a closed system so that essentially all such produced water is returned without quality impairment, to the aquifer of the Basin from which the same was produced.

“Annually, during the first two weeks of June in each calendar year, such nonconsumptive water right producer shall submit to Watermaster a verified statement as to the amount and nature of the then current uses of said nonconsumptive right for the next ensuing fiscal year, whereupon Watermaster shall either affirm the nonconsumptive nature of such use or petition the Court for instructions or an injunction prohibiting the exercise of such nonconsumptive right by said nonconsumptive right producer.

“HUGHES AIRCRAFT COMPANY is the owner of a nonconsumptive water right use in the Basin.

“A nonconsumptive water right owner shall, at such party’s own expense, install and at all times maintain in good working order, mechanical measuring devices, approved by Watermaster, and keep records of water production and water returned to the Basin, as required by the Watermaster, through the use of such devices. The Watermaster may require such nonconsumptive use right party, at such party’s own expense, to measure and record not more often than once a month, the elevation of the static water level of his well.
“Any nonconsumptive production of a party herein shall be considered in the total adjudicated rights of all parties herein for the purpose of sharing Watermaster’s fees as parties’ costs.

“Payment of his proportionate share of Watermaster fees, whether or not subject to adjustment by the Court as provided in Paragraph XII of the Judgment herein, shall be made by each such party, on or prior to the beginning of the fiscal year to which such final budget and statement of assessed cost is applicable. If such payment by any party is not made on or before said date, the Watermaster shall add a penalty of 5 percent thereof to such party’s statement. Payment required of any party hereunder may be enforced by execution issued out of the Court, or as may be provided by any order hereinafter made by the Court, or by other proceedings by the Watermaster or by any party hereto on the Watermaster’s behalf.

“Each nonconsumptive water right owner, its officers, agents, employees, successors and assigns, IS ENJOINED AND RESTRAINED from materially changing said nonconsumptive use at any time without first notifying Watermaster of the intended change of use, in which event Watermaster shall promptly petition the Court for instructions concerning the future exercise of such nonconsumptive use right.

“Defendant owner of said nonconsumptive right shall comply with and be subject to the rules and regulations of Watermaster and within 60 days of the entry of this Order, confirm
with the Watermaster that the meters now installed on its existing
wells satisfactorily measure its water production and return to the
Basin. If such meters are not approved by Watermaster, Defendant
owner shall have meters of the type designated by Watermaster
installed within 60 days of Watermaster's said determination.

"The property upon which said nonconsumptive use wells
are located is situated in the County of Los Angeles, State of
California and is described as follows:

Parcel 1:

The surface and that portion of the subsurface lying above a plane 500 feet in depth, measured
vertically from the surface, as said surface existed on January 27, 1959 of that portion of that
certain parcel of land in the Rancho Los Palos Verdes, in the city of Torrance, county of Los
Angeles, state of California, allotted to Orin S. Weston by decree of distribution in the estate of B.
S. Weston, recorded in book 2838 page 230 of Deeds, in the office of that certain tract of land
marked "B.S. Weston 1898.4 Acres" on a map of partition of part of the Rancho Los Palos
Verdes, filed in Case No. 11575, of the Superior Court of said county, a copy of which map is
filed in book 1 page 3, of Record of Surveys, in said office of the county recorder, described as
follows:

Beginning at the southwest corner of that certain parcel of land conveyed to Standard Oil
Company by deed dated December 18, 1925, recorded in book 5494 page 188 of Official Records
of said Los Angeles County; thence South 62° 50' 50" East along the southerly boundary line of
said land conveyed to Standard Oil Company 2141.41 feet, to the southeasterly corner of the land
described in the deed to Pacific Semiconductors, Inc., a Delaware corporation, recorded January
3, 1963, as Instrument No. 2182, in book D 1872 page 433, Official Records, and the true point of
beginning of this description; thence northerly, parallel with the westerly boundary line of said
B.S. Weston Allotment to a point in the southwesterly boundary line of Lomita Boulevard,
formerly known as Wilmington and Salt Works Road, as described in deeds to the County of Los
Angeles, recorded in book 1135 page 101 of Deeds, and in book 754 page 171 of Deeds, records
of said Los Angeles County; thence southwesterly along the southwesterly boundary line of
Lomita Boulevard 422.81 feet; thence southerly parallel with the westerly boundary line of said
B.S. Weston allotment to a point in the southerly line of said land conveyed to Standard Oil
Company; thence North 62° 50' 50" West along said southerly line 422.81 feet to the true point of
beginning.

EXCEPT all oil gas, asphaltum and other hydrocarbon substances and other minerals in or under
said land or that may be produced there from, but with no right of en try upon or through the
surface of or that portion of the subsurface lying 500 feet vertically in depth below the surface
thereof, as reserved by H. J. Early and Daisy Lee Early, his wife, in deed recorded April 16, 1963.

Parcel 2:

The surface and that portion of the subsurface lying above a plane 500 feet in depth, measured
vertically from the surface, as said surface existed on January 27, 1959 of that portion of that
certain parcel of land in the Rancho Los Palos Verdes, in the city of Torrance, county of Los Angeles, state of California, allotted to Orin S. Weston by decree of distribution in the estate of B.S. Weston, recorded in book 2838 page 230 of Deeds, in the office of the county recorder of said county, and being the part of that certain tract of land marked "B.S. Weston 1898.4 Acres" on a map of partition of part of the Rancho Los Palos Verdes filed in Case No. 11575, of the Superior Court of said county, a copy of which map is filed in book 1 page 3, of Record of Surveys, in said office of the county recorder, described as follows:

Beginning at the southwest corner of that certain parcel of land conveyed to Standard Oil Company by deed dated December 18, 1925, recorded in book 5494 page 188 of Official Records of said Los Angeles County; thence South 62°50'50" East along the southerly boundary line of said land conveyed to Standard Oil Company 1718.60 feet, to the southeasterly corner of the land described in the deed to Pacific Semiconductors, Inc., a Delaware corporation, recorded May 1, 1961, as Instrument No. 1723, in book D 1206 page 131, Official Records, and the true point of beginning of this description; thence northerly, parallel with the westerly boundary line of said B.S. Weston Allotment to a point in the southerly boundary line of Lomita Boulevard, formerly known as Wilmington and Salt Works Road, as described in deeds to the county of Los Angeles, recorded in book 1135 page 101 of Deeds and in book 754 page 171 of Deeds, records of said Los Angeles county; thence southeasterly along the southerly boundary line of Lomita Boulevard 422.81 feet; thence southeasterly parallel with the westerly boundary line of said B.S. Weston allotment to a point in the southerly line of said land conveyed to Standard Oil Company; thence North 62° 50' 50" West along said southerly line, 422.81 feet to the true point of beginning.

EXCEPT all oil, gas, asphaltum and other hydrocarbon substances and other minerals in or under said land or that may be produced therefrom, but with no right of entry upon or through the surface of or that portion of the subsurface lying 500 feet vertically in depth below the surface thereof.

Dated: September 24, 1981

[Signature]

Judge

2. Nonconsumptive Use Practices:

ORDER AMENDING JUDGMENT

Filed with County Clerk on March 8, 1989

GOOD CAUSE APPEARING upon the duly-noticed Motion of West Basin Municipal Water District:

IT IS HEREBY ORDERED THAT THE JUDGMENT HEREFIN BE AMENDED AS FOLLOWS:

"NON-CONSUMPTIVE PRACTICES

1. Any party herein may petition the Watermaster for a non-consumptive water use permit as part of a project to recover old refined oil or other pollutants that has leaked into the

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AMENDED JUDGMENT

September 2014
underground aquifers of the Basin. If the petition is granted as set forth in this part, the petitioner may extract the groundwater covered by the petition without the production counting against the petitioner’s production rights.

2. If the Watermaster determines that there is a problem of groundwater contamination which the proposed project will remedy or ameliorate, an operator may make extractions of groundwater to remedy or ameliorate that problem if the water is not applied to beneficial surface use, its extractions are made in compliance with terms and conditions established by the Watermaster, and the Watermaster has determined either of the following:

   (a) The groundwater to be extracted is unusable and cannot be economically blended for use with other water.

   (b) The proposed program involves extraction of usable water in the same quantity as will be returned to the underground without degradation of quality.

3. The Watermaster may provide those terms and conditions the Watermaster deems appropriate, including, but not limited to, restrictions on the quantity of extractions to be so exempted, limitations on time, periodic reviews, requirement of submission of test results from a Watermaster-approved laboratory, and any other relevant terms or conditions.

4. The Watermaster shall conduct a public hearing on the petition and all parties herein and their representatives shall have an opportunity to be heard concerning the same.

5. The Watermaster shall, in its discretion, grant or deny the petition and fix a reasonable annual administrative fee to be paid to the Watermaster by the permittee. Within fifteen (15) days after the rendition of its decision, the Watermaster shall give written notice thereof to the designees of all parties herein.

6. After a noticed, public hearing, the Watermaster may, on the motion of any party herein or on its own motion, interrupt or stop a project for non-compliance with the terms of its permit or rescind or modify the terms of a permit to protect the integrity of the Basin of the Judgment herein. An order to interrupt or stop a project or to rescind or modify the terms of a permit shall apply to groundwater extractions occurring more than 10 days after the date of the order. The permit holder and the designees of all parties herein shall be given two weeks written
notice of any hearing to consider interrupting or stopping a permitted project or the rescission or modification of the terms of a permit. Notice will be deemed given when mailed by first-class mail or when personally delivered.

7. The Watermaster's decision to grant, deny, modify or revoke a permit or to interrupt or stop a permitted project may be appealed to this court within thirty (30) days of the notice thereof and upon thirty (30) days notice to the designees of all parties herein.

8. The Watermaster shall monitor and periodically inspect the project for compliance with the terms and conditions of the permit hereunder.

9. No party shall recover costs from any other party herein."

IT IS FURTHER ORDERED that the amendment to the judgment approved by the court on March 22, 1984 ("former amendment") is hereby repealed, provided, all permits issued by the Watermaster under the former amendment shall be deemed under the instant amendment.

Dated: March 8, 1989 [Signature]
Judge
EXHIBIT C
EXHIBIT C

The following facilities are the “Existing Facilities” as defined in Section II of the Amended Judgment. (The attached WRD District map also identifies these Existing Facilities.)

West Coast Barrier (WCB)
The West Coast Barrier, established in 1952-1953, is located on the west-facing coast of West Coast Basin, south of Los Angeles International Airport and in the cities of El Segundo, Manhattan Beach, Hermosa Beach, Redondo Beach, and Torrance.

The system is comprised of the following:
153 injection wells
73 are single injection wells
35 are dual injection wells (i.e., 70 wells total)
10 are composite wells, injecting into multiple aquifers
150 monitoring wells (150 well casings; many are nested locations)
100,000 feet of supply, distribution and disposal pipelines, ranging in size from 8 to 45 inches in diameter; composed of transite (asbestos/cement) pipe
Various blowoff valves, air relief valves, mainline valves (for clearing lines, isolating lines for maintenance work)
Pressure reducing station

Imported water is provided to the barrier through MWD connection WB-28 and recycled water is provided through a connection to WBMWD’s West Basin Water Recycling Facility)

The West Coast Barrier alignment is approximately 1 mile inland of and parallel to Pacific Ocean. All aquifers along WCB are essentially flat-lying and merged in various locations. The Palos Verdes Hills at south end of WCB is composed of relatively impermeable materials, creating natural no-flow boundary for groundwater.

Other major structural features along WCB alignment include stabilized sand dunes (e.g., El Segundo Sand Hills).

Injection occurs in the 200-Foot Sand, Silverado Aquifer, and Lower San Pedro Formation (these aquifers occur at varying depths along the WCB alignment, and are merged at various locations). Depths range from near sea level (200-Foot Sand) to ~600 feet below sea level (Lower San Pedro Formation).

The WCB wells have an average injection rate ~0.30 cfs (~0.60 AF/day) and total barrier injection of ~21,000 AF/yr.

Dominguez Gap Barrier (DGB)
The Dominguez Gap Barrier, established in 1970-71, is located on the south-facing coast of West Coast Basin, north of Terminal Island, in the cities of Los Angeles, Carson, and Long Beach.

The system is comprised of the following:
94 injection wells
Original number of wells = 41
New wells added in 2001 = 33 (at 17 locations, mostly along a new alignment along Spring Street) = “automated wells” (wells have “juttering” redevelopment systems, and SCADA systems)
New wells added in 2004 = 20 (at 10 locations along the existing barrier alignment to fill in the gaps)
Some are single injection wells, injecting into the 200-Foot Sand
Some are dual injection wells (i.e., 56 wells total), injecting into the Gaspur/200-Foot Sand and 400-Foot Gravel. At least one is a composite well, injecting into the Gaspur/200-Foot Sand and 400-Foot Gravel. 344 monitoring wells (i.e., well casings; most well locations are nested; including 12 nested wells added as part of eastern extension in Spring 2004). 31,000 feet of supply and distribution pipelines, ranging in size from 10 to 24 inches in diameter; composed of transite (asbestos/cement) pipe. Various blowoff valves, air relief valves, mainline valves (for clearing lines, isolating lines for maintenance work). Pressure reducing station.

Imported water is provided to the barrier through MWD connection WB-37 and recycled water is provided through a connection to LADWP’s Terminal Island Treatment Plant.

The DGB is constructed across Dominguez Gap, ancient (probably Late Pleistocene) course of Los Angeles and San Gabriel Rivers. All aquifers are essentially flat-lying with minor faulting and warping in the 400-Foot Gravel, Silverado and Pico units; the minor folding occurs along the northwest-trending anticlines and synclines between the Palos Verdes Fault Zone to the southwest and the Newport-Inglewood Uplift to the north.

The Gaspur/200-Foot Sand aquifers are in hydraulic continuity with San Pedro Bay, while aquifers deeper than the 400-Foot Gravel are protected from direct contact with seawater from DGB injection into 200-Foot Sand in east-west leg of barrier.

DGB injection occurs in 200-Foot Sand and 400-Foot Gravel in north-south leg of barrier. Depths range from ~30 to 40 feet below sea level (200-Foot Sand) to over 450 feet below sea level (400-Foot Sand).

The DGB wells have an average injection rate ~0.15 cfs (~0.30 AF/day) (Several factors have caused reduction in effectiveness of barrier: failure of clay cap caused surface leakage at some injection wells and required reductions in injection rates; western edge of barrier does not provide protection against seawater intrusion because it does not extend to the less permeable Palos Verdes Hills; historical seaward pumping for reinjection into oil wells lowered water levels seaward of barrier and enhanced barrier operations) Total injection at barrier ~8,000 AF/yr.
Appendix G

AWWA Water Audits
Water Audits for fiscal years 2016, 2017, 2018, and 2019 were prepared by the City using AWWA Free Water Audit Software v5.0. This audit includes a worksheet, water balance, performance indicators, and dashboard. At the time of this writing, the 2020 Water Audit was not complete.
**Water Audit Report for:** City of Inglewood  
**Reporting Year:** 2016  
**1/2016 - 12/2016**

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

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

### WATER SUPPLIED

| Volume from own sources: | 2,198.200 acre-ft/yr | Pcnt: 3 | Value: 0.00% acre-ft/yr |
| Water imported: | 6,442.300 acre-ft/yr | Pcnt: 4 | Value: 0.00% acre-ft/yr |
| Water exported: | 0.000 acre-ft/yr | Pcnt: 5 | Value: 0.00% acre-ft/yr |

**WATER SUPPLIED:** 8,640.500 acre-ft/yr

### AUTHORIZED CONSUMPTION

| Billed metered: | 6,464.500 acre-ft/yr | Pcnt: 3 |
| Billed unmetered: | 0.000 acre-ft/yr |
| Unbilled metered: | 0.000 acre-ft/yr |
| Unbilled unmetered: | 108.006 acre-ft/yr |

**AUTHORIZED CONSUMPTION:** 8,572.506 acre-ft/yr

### WATER LOSSES (Water Supplied - Authorized Consumption)

- **Apparent Losses**
  - Unauthorized consumption: 21.601 acre-ft/yr
  - Customer metering inaccuracies: 0.000 acre-ft/yr
  - Systematic data handling errors: 21.161 acre-ft/yr

**Apparent Losses:** 42.763 acre-ft/yr

**Real Losses (Current Annual Real Losses or CARL)**

**Real Losses = Water Losses - Apparent Losses:** 25.231 acre-ft/yr

### NON-REVENUE WATER

**NON-REVENUE WATER:** 176.000 acre-ft/yr

### SYSTEM DATA

- **Length of mains:** 156.0 miles
- **Number of active AND inactive service connections:** 15,841
- **Service connection density:** 102 conn./mile main
- **Average length of customer service line:** Yes (length of service line, beyond the property boundary, that is the responsibility of the utility)
- **Average operating pressure:** 85.0 psi

### COST DATA

- **Total annual cost of operating water system:** $20,368,281 /
- **Customer retail unit cost (applied to Apparent Losses):** $6.41 /1000 gallons (US)
- **Variable production cost (applied to Real Losses):** $1,247.00 /

### WATER AUDIT DATA VALIDITY SCORE:

**YOUR SCORE IS: 61 out of 100**

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

### PRIORITY AREAS FOR ATTENTION:

1. Billed metered
2. Water imported
3. Customer metering inaccuracies
Water Audit Report for: City of Inglewood
Reporting Year: 2016 1/2016 - 12/2016

System Attributes:

<table>
<thead>
<tr>
<th>Loss Type</th>
<th>Value (acre-ft/yr)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Apparent Losses</td>
<td>42.763</td>
</tr>
<tr>
<td>Real Losses</td>
<td>25.231</td>
</tr>
<tr>
<td>Total Water Losses</td>
<td>67.994</td>
</tr>
</tbody>
</table>

Unavoidable Annual Real Losses (UARL): 306.59 acre-ft/yr

Annual cost of Apparent Losses: $89,318
Annual cost of Real Losses: $52,701 Valued at Customer Retail Unit Cost

Performance Indicators:

- Non-revenue water as percent by volume of Water Supplied: 2.0%
- Non-revenue water as percent by cost of operating system: 1.8%
- Real Losses valued at Customer Retail Unit Cost
- Apparent Losses per service connection per day: 2.41 gallons/connection/day
- Real Losses per service connection per day: 1.42 gallons/connection/day
- Real Losses per length of main per day*: N/A

*** YOUR WATER AUDIT DATA VALIDITY SCORE IS: 61 out of 100 ***
Water Audit Report for: City of Inglewood
Reporting Year: 2016 1/2016 - 12/2016
Data Validity Score: 61

<table>
<thead>
<tr>
<th>Water Exported</th>
<th>Billed Water Exported</th>
</tr>
</thead>
<tbody>
<tr>
<td>Own Sources</td>
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<td>8,572.506</td>
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<tr>
<td></td>
<td>Billed Authorized Consumption</td>
</tr>
<tr>
<td></td>
<td>8,464.500</td>
</tr>
<tr>
<td></td>
<td>Billed Metered Consumption (water exported is removed)</td>
</tr>
<tr>
<td></td>
<td>8,464.500</td>
</tr>
<tr>
<td></td>
<td>Billed Unmetered Consumption</td>
</tr>
<tr>
<td></td>
<td>0.000</td>
</tr>
<tr>
<td></td>
<td>Unbilled Authorized Consumption</td>
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<td>108.006</td>
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<td></td>
<td>Unbilled Metered Consumption</td>
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<td>108.006</td>
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<td>Non-Revenue Water (NRW)</td>
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<td>Authorized Consumption</td>
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<td>Water Losses</td>
<td>Apparent Losses</td>
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<tr>
<td></td>
<td>42.763</td>
</tr>
<tr>
<td>Water Imported</td>
<td>Real Losses</td>
</tr>
<tr>
<td></td>
<td>25.231</td>
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<tr>
<td></td>
<td>Leakage on Transmission and/or Distribution Mains</td>
</tr>
<tr>
<td></td>
<td>Not broken down</td>
</tr>
<tr>
<td></td>
<td>Leakage and Overflows at Utility's Storage Tanks</td>
</tr>
<tr>
<td></td>
<td>Not broken down</td>
</tr>
<tr>
<td></td>
<td>Leakage on Service Connections</td>
</tr>
<tr>
<td></td>
<td>Not broken down</td>
</tr>
<tr>
<td></td>
<td>Non-Revenue Water (NRW)</td>
</tr>
<tr>
<td></td>
<td>176.000</td>
</tr>
<tr>
<td></td>
<td>Revenue Water</td>
</tr>
<tr>
<td></td>
<td>8,464.500</td>
</tr>
</tbody>
</table>

AWWA Free Water Audit Software: Water Balance

AWWA Free Water Audit Software v5.0
Water Balance
Water Audit Report for:
City of Inglewood
Reporting Year: 2016
Data Validity Score: 61

Total Cost of NRW = $552,402

- Unbilled metered (valued at Cust.Ret.Unit Cost)
- Unbilled unmetered (valued at Cust.Ret.Unit Cost)
- Unauth. consumption
- Cust. metering inaccuracies
- Syst. data handling errors
- Real losses (valued at Cust.Ret.Unit Cost)

The graphic below is a visual representation of the Water Balance with bar heights proportional to the volume of the audit components.
### Water Audit Report for: City of Inglewood (1910051)
#### Reporting Year: 2017

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

<table>
<thead>
<tr>
<th>WATER SUPPLIED</th>
</tr>
</thead>
<tbody>
<tr>
<td>Volume from own sources:</td>
</tr>
<tr>
<td>Water imported:</td>
</tr>
<tr>
<td>Water exported:</td>
</tr>
</tbody>
</table>

**WATER SUPPLIED:** 9,059.721 acre-ft/yr

<table>
<thead>
<tr>
<th>AUTHORIZED CONSUMPTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>Billed metered:</td>
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<tr>
<td>Billed unmetered:</td>
</tr>
<tr>
<td>Unbilled metered:</td>
</tr>
<tr>
<td>Unbilled unmetered:</td>
</tr>
</tbody>
</table>

**AUTHORIZED CONSUMPTION:** 8,506.009 acre-ft/yr

<table>
<thead>
<tr>
<th>WATER LOSSES (Water Supplied - Authorized Consumption)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Apparent Losses</td>
</tr>
<tr>
<td>Default option selected for Unbilled unmetered - a grading of 5 is applied but not displayed</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>NON-REVENUE WATER</th>
</tr>
</thead>
<tbody>
<tr>
<td>Non-revenue water:</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>SYSTEM DATA</th>
</tr>
</thead>
<tbody>
<tr>
<td>Length of mains:</td>
</tr>
<tr>
<td>Number of active AND inactive service connections:</td>
</tr>
<tr>
<td>Service connection density:</td>
</tr>
<tr>
<td>Average length of customer service line:</td>
</tr>
<tr>
<td>Average operating pressure:</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>COST DATA</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total annual cost of operating water system:</td>
</tr>
<tr>
<td>Customer retail unit cost (applied to Apparent Losses):</td>
</tr>
<tr>
<td>Variable production cost (applied to Real Losses):</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>WATER AUDIT DATA VALIDITY SCORE:</th>
</tr>
</thead>
<tbody>
<tr>
<td>*** YOUR SCORE IS: 61 out of 100 ***</td>
</tr>
</tbody>
</table>

**PRIORITY AREAS FOR ATTENTION:**

1: Billed metered
2: Water imported
3: Customer metering inaccuracies
**Water Audit Report for:** City of Inglewood (1910051)  
**Reporting Year:** 2017 | 1/2017 - 12/2017

### System Attributes:

- **Apparent Losses:** 43.631 acre-ft/yr
- **Real Losses:** 510.081 acre-ft/yr
  
  **Total Water Losses:** 553.712 acre-ft/yr

- **Unavoidable Annual Real Losses (UARL):** 306.98 acre-ft/yr

- **Annual cost of Apparent Losses:** $101,227
- **Annual cost of Real Losses:** $1,183,420

*Valued at Customer Retail Unit Cost*

### Performance Indicators:

- **Non-revenue water as percent by volume of Water Supplied:** 7.4%
- **Non-revenue water as percent by cost of operating system:** 7.9%

  *Real Losses valued at Customer Retail Unit Cost*

- **Apparent Losses per service connection per day:** 2.45 gallons/connection/day
- **Real Losses per service connection per day:** 28.70 gallons/connection/day
- **Real Losses per length of main per day:** N/A
- **Real Losses per service connection per day per psi pressure:** 0.34 gallons/connection/day/psi

*From Above, Real Losses = Current Annual Real Losses (CARL): 510.08 acre-feet/year*

**Infrastructure Leakage Index (ILI) [CARL/UARL]:** 1.66

*This performance indicator applies for systems with a low service connection density of less than 32 service connections/mile of pipeline*
<table>
<thead>
<tr>
<th>Water Audit Report for:</th>
<th>City of Inglewood (1910051)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reporting Year:</td>
<td>2017</td>
</tr>
<tr>
<td>Data Validity Score:</td>
<td>61</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Water Exported</th>
<th>Billed Water Exported</th>
</tr>
</thead>
<tbody>
<tr>
<td>12.059</td>
<td>Billed Authorized Consumption 8,392.762</td>
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<tr>
<td></td>
<td>Billed Unmetered Consumption 0.000</td>
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<tr>
<td></td>
<td>Unbilled Authorized Consumption 113.247</td>
</tr>
<tr>
<td></td>
<td>Unbilled Unmetered Consumption 113.247</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Revenue Water</th>
</tr>
</thead>
<tbody>
<tr>
<td>8,392.762</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Non-Revenue Water (NRW)</th>
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</thead>
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<td>666.959</td>
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<table>
<thead>
<tr>
<th>Water Supplied</th>
<th>Water Losses</th>
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</thead>
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<td>9,059.721</td>
<td>553.712</td>
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<tr>
<td></td>
<td>Real Losses 510.081</td>
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<tr>
<td></td>
<td>Leakage on Transmission and/or Distribution Mains Not broken down</td>
</tr>
<tr>
<td></td>
<td>Leakage and Overflows at Utility’s Storage Tanks Not broken down</td>
</tr>
<tr>
<td></td>
<td>Leakage on Service Connections Not broken down</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Own Sources (Adjusted for known errors)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2,381.780</td>
</tr>
</tbody>
</table>

| Water Imported | 6,690.000 |

AWWA Free Water Audit Software: Water Balance
Water Audit Report for:
City of Inglewood (1910051)
Reporting Year: 2017
Data Validity Score: 61

Total Cost of Non-Revenue Water = $1,756,813

The graphic below is a visual representation of the Water Balance with bar heights proportional to the volume of the audit components.
Water Audit Report for: **City of Inglewood** (1910051)  
Reporting Year: **2018** - **12/2018**

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

### WATER AUDIT DATA VALIDITY SCORE:

**YOUR SCORE IS: 65 out of 100**

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

#### PRIORITY AREAS FOR ATTENTION:

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

1. Water Imported
2. Billed metered
3. Customer metering inaccuracies

---

**WATER AUDITED**

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

**Water Audit Report for: City of Inglewood (1910051)**

**Reporting Year:** 2018 - 12/2018

**City of Inglewood (1910051)**

---

**WATER SUPPLIED**

- **Volume from own sources:** 1,608.500 acre-ft/yr
- **Water imported:** 7,625.900 acre-ft/yr
- **Water exported:** 71.436 acre-ft/yr

**Authorized Consumption**

- **Billed metered:** 8,852.710 acre-ft/yr
- **Billed unmetered:** 0.00 acre-ft/yr
- **Unbilled metered:** 71.436 acre-ft/yr
- **Unbilled unmetered:** 11.864 acre-ft/yr

**WATER LOSSES**

- **Total Water Losses:** 298.390 acre-ft/yr
- **Apparent Losses:** 23.086 acre-ft/yr
- **Real Losses (Current Annual Real Losses or CARL):** 230.806 acre-ft/yr

**Non-Revenue Water**

- **Total Non-Revenue Water:** 381.690 acre-ft/yr

**System Data**

- **Length of mains:** 156.0 miles
- **Number of active AND inactive service connections:** 15,899
- **Service connection density:** 102 complain/mile main

**Cost Data**

- **Total annual cost of operating water system:** $24,598,945/Year
- **Customer retail unit cost (applied to Apparent Losses):** $6.97/1000 gallons (US)
- **Variable production cost (applied to Real Losses):** $1,715.22/acre-ft

---

**Customer service line set to zero and a data grading score of 10 has been applied.**

**Recorded information is not valid.**

---

**AWWA Free Water Audit Software v5.0 Reporting Worksheet**  
**Water Audit Report for:** City of Inglewood (1910051)

**Reporting Year:** 2018 | 1/2018 - 12/2018

### System Attributes:

- **Apparent Losses:** 67.584 acre-ft/yr
- **Real Losses:** 230.806 acre-ft/yr
- **Water Losses:** 298.390 acre-ft/yr
- **Unavoidable Annual Real Losses (UARL):** 307.42 acre-ft/yr

**Annual cost of Apparent Losses:** $153,496
**Annual cost of Real Losses:** $524,203

Valued at **Customer Retail Unit Cost**

**Non-revenue water as percent by volume of Water Supplied:** 4.1%
**Non-revenue water as percent by cost of operating system:** 3.5%

**Real Losses valued at Customer Retail Unit Cost**

### Performance Indicators:

- **Apparent Losses per service connection per day:** 3.79 gallons/connection/day
- **Real Losses per service connection per day:** 12.96 gallons/connection/day
- **Real Losses per length of main per day:** N/A
- **Real Losses per service connection per day per psi pressure:** 0.15 gallons/connection/day/psi

From Above, **Real Losses = Current Annual Real Losses (CARL):** 230.81 acre-feet/year

**Infrastructure Leakage Index (ILI) [CARL/UARL]:** 0.75

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

**Water Audit Report for:**
- **City of Inglewood (1910051)**
- **Reporting Year:** 2018
- **Data Validity Score:** 65

### Water Exported
- **Water Exported:** 0.000

### Billed Water Exported
- **Billed Authorized Consumption:** 8,852.710
- **Billed Unmetered Consumption:** 0.000

### Revenue Water
- **Revenue Water:** 8,852.710

### Non-Revenue Water (NRW)
- **Non-Revenue Water:** 381.690

### Water Supplied
- **Water Supplied:** 9,234.400

### Authorized Consumption
- **Authorized Consumption:** 8,936.010

### Unbilled Authorized Consumption
- **Unbilled Authorized Consumption:** 83.300

### Unbilled Unmetered Consumption
- **Unbilled Unmetered Consumption:** 11.864

### Unbilled Metered Consumption
- **Unbilled Metered Consumption:** 71.436

### Unauthorized Consumption
- **Unauthorized Consumption:** 23.086

### Customer Metering Inaccuracies
- **Customer Metering Inaccuracies:** 22.366

### Systematic Data Handling Errors
- **Systematic Data Handling Errors:** 22.132

### Water Losses
- **Water Losses:** 67.584

### Apparent Losses
- **Apparent Losses:** 67.584

### Real Losses
- **Real Losses:** 230.806

### Leakage on Transmission and/or Distribution Mains
- **Leakage on Transmission and/or Distribution Mains:** Not broken down

### Leakage and Overflows at Utility’s Storage Tanks
- **Leakage and Overflows at Utility’s Storage Tanks:** Not broken down

### Leakage on Service Connections
- **Leakage on Service Connections:** Not broken down

### Water Imported
- **Water Imported:** 298.390

### Water Imported
- **Water Imported:** 7,625.900

### Overall Water Balance
- **Total Water Supplied:** 9,234.400
- **Total Water Exported:** 0.000
- **Total Water Losses:** 298.390
- **Total Water Imported:** 7,625.900
- **Total Water Balance:** 0.000
Water Audit Report for:
City of Inglewood (1910051)
Reporting Year: 2018
Data Validity Score: 65

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

Total Cost of NRW = $1,184,453
Water Audit Report for: City of Inglewood (1910051)
Reporting Year: 2019

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

WATER SUPPLIED

<table>
<thead>
<tr>
<th>Source</th>
<th>Volume</th>
<th>Pcnt</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Volume from own sources</td>
<td>2,456.100</td>
<td>5</td>
<td>8,711.900</td>
</tr>
<tr>
<td>Water imported</td>
<td>6,255.800</td>
<td>7</td>
<td>8,711.900</td>
</tr>
<tr>
<td>Water exported</td>
<td>0.000</td>
<td>7</td>
<td>8,711.900</td>
</tr>
</tbody>
</table>

Master Meter and Supply Error Adjustments

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

WATER SUPPLIED: 8,711.900 acre-ft/yr

AUTHORIZED CONSUMPTION

<table>
<thead>
<tr>
<th>Type</th>
<th>Volume</th>
<th>Pcnt</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Billed metered</td>
<td>8,422.420</td>
<td>3</td>
<td>8,531.319</td>
</tr>
<tr>
<td>Billed unmetered</td>
<td>0.000</td>
<td>10</td>
<td>8,531.319</td>
</tr>
<tr>
<td>Unbilled metered</td>
<td>0.000</td>
<td>10</td>
<td>8,531.319</td>
</tr>
<tr>
<td>Unbilled unmetered</td>
<td>108.899</td>
<td>5</td>
<td>8,531.319</td>
</tr>
</tbody>
</table>

AUTHORIZED CONSUMPTION: 8,531.319 acre-ft/yr

WATER LOSSES (Water Supplied - Authorized Consumption)

<table>
<thead>
<tr>
<th>Type</th>
<th>Volume</th>
<th>Pcnt</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Apparent Losses</td>
<td>180.581</td>
<td>7</td>
<td>180.581</td>
</tr>
<tr>
<td>Customer metering inaccuracies</td>
<td>0.000</td>
<td>3</td>
<td>0.000</td>
</tr>
<tr>
<td>Systematic data handling errors</td>
<td>21.056</td>
<td>5</td>
<td>24.156</td>
</tr>
</tbody>
</table>

Real Losses (Current Annual Real Losses or CARL)

Real Losses = Water Losses - Apparent Losses: 137.745 acre-ft/yr

WATER LOSSES: 180.581 acre-ft/yr

NON-REVENUE WATER

NON-REVENUE WATER: 289.480 acre-ft/yr

SYSTEM DATA

<table>
<thead>
<tr>
<th>Data</th>
<th>Value</th>
<th>Pcnt</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Length of mains</td>
<td>156.0</td>
<td>3</td>
<td>156.0</td>
</tr>
<tr>
<td>Number of active AND inactive service connections:</td>
<td>158.43</td>
<td>9</td>
<td>158.43</td>
</tr>
<tr>
<td>Service connection density:</td>
<td>102</td>
<td>7</td>
<td>102</td>
</tr>
<tr>
<td>Are customer meters typically located at the curbstop or property line?</td>
<td>Yes</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Average length of customer service line has been set to zero and a data grading score of 10 has been applied</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Average operating pressure:</td>
<td>85.0</td>
<td>9</td>
<td>85.0</td>
</tr>
</tbody>
</table>

COST DATA

<table>
<thead>
<tr>
<th>Cost</th>
<th>Value</th>
<th>Pcnt</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total annual cost of operating water system:</td>
<td>$9,574,702</td>
<td>9</td>
<td>$9,574,702</td>
</tr>
<tr>
<td>Customer retail unit cost (applied to Apparent Losses):</td>
<td>$6.64</td>
<td>9</td>
<td>$6.64</td>
</tr>
<tr>
<td>Variable production cost (applied to Real Losses):</td>
<td>$1,099.04</td>
<td>6</td>
<td>$1,099.04</td>
</tr>
</tbody>
</table>

WATER AUDIT DATA VALIDITY SCORE:

**YOUR SCORE IS: 61 out of 100**

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

PRIORITY AREAS FOR ATTENTION:

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

1: Billed metered
2: Water imported
3: Customer metering inaccuracies

AWWA Free Water Audit Software v5.0
Reporting Worksheet
1
### System Attributes:

- **Apparent Losses:** 42.836 acre-ft/yr
- **Real Losses:** 137.745 acre-ft/yr
- **Water Losses:** 180.581 acre-ft/yr
- **Unavoidable Annual Real Losses (UARL):** 306.62 acre-ft/yr

### Performance Indicators:

- **Non-revenue water as percent by volume of Water Supplied:** 3.3%
- **Non-revenue water as percent by cost of operating system:** 6.5%
- **Apparent Losses per service connection per day:** 2.41 gallons/connection/day
- **Real Losses per service connection per day:** 7.76 gallons/connection/day
- **Real Losses per length of main per day:** N/A
- **Real Losses per service connection per day per psi pressure:** 0.09 gallons/connection/day/psi

**From Above, Real Losses = Current Annual Real Losses (CARL):** 137.75 acre-feet/year

- **Infrastructure Leakage Index (ILI) [CARL/UARL]:** 0.45
# Water Audit Report

**City of Inglewood (1910051)**

### Reporting Year: 2019 1/2019 - 12/2019

**Data Validity Score:** 61

## Water Exported

- **0.000**

## Billed Water Exported

- **Revenue Water**
  - **8,422.420**

## Water Supplied

- **8,711.900**

## Water Losses

- **Apparent Losses**
  - **42.836**
- **Real Losses**
  - **137.745**

## Water Imported

- **6,255.800**

## Water Supplied

- **Own Sources**
  - (Adjusted for known errors)
  - **2,456.100**

## Water Losses

- **Real Losses**
  - **137.745**

## Water Balance

- **8,711.900**

## Revenue Water

- **8,422.420**

## Non-Revenue Water (NRW)

- **289.480**

## Not broken down

- **Leakage on Transmission and/or Distribution Mains**
- **Leakage and Overflows at Utility's Storage Tanks**
- **Leakage on Service Connections**
Water Audit Report for:

City of Inglewood (1910051)

Reporting Year: 1/2019 - 12/2019

Data Validity Score: 61

Show me the VOLUME of Non-Revenue Water

Show me the COST of Non-Revenue Water

Total Cost of NRW = $818,082
Appendix H

Energy Intensity Tables
**Urban Water Supplier:** City of Inglewood

**Water Delivery Product** (If delivering more than one type of product use Table O-1C)

**Retail Potable Deliveries**

**Table O-1A: Recommended Energy Reporting - Water Supply Process Approach**

<table>
<thead>
<tr>
<th>Enter Start Date for Reporting Period</th>
<th>Urban Water Supplier Operational Control</th>
</tr>
</thead>
<tbody>
<tr>
<td>5/1/2020</td>
<td>Urban Water Supplier Operational Control</td>
</tr>
<tr>
<td>End Date</td>
<td></td>
</tr>
<tr>
<td>4/30/2021</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Water Volume Units Used</th>
<th>Water Management Process</th>
<th>Non-Consequential Hydropower (if applicable)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Extract and Divert</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Place into Storage</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Conveyance</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Treatment</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Distribution</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Total Utility</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Hydropower</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Net Utility</td>
<td></td>
</tr>
</tbody>
</table>

| Volume of Water Entering Process | AF | 2,682 | 2,682 | 2,682 | 2,682 | 2,682 | 2,682 |
| Energy Consumed (kWh)           | N/A| 15,468| 16,704| 12,566| 44,738| 44,738|
| Energy Intensity (kWh/vol.)     | N/A| 5.8   | 0.0   | 0.0   | 6.2   | 4.7   | 16.7 |

**Data Quality** (Estimate, Metered Data, Combination of Estimates and Metered Data)

**Metered Data**

**Data Quality Narrative:**

All energy and water volume data are metered. A single energy meter records all energy consumption at the Sanford Anderson WTP; it was estimated that 45% of consumption at this facility was for booster pumps (distribution) and the remaining 55% was for water treatment processes.

**Narrative:**

Extraction includes energy use associated with groundwater pumping from the City of Inglewood wells. Treatment includes energy use associated with treatment processes at the Sanford Anderson WTP. Distribution includes booster pumps to distribution at the Sanford Anderson WTP, WB38 MWD connection and North Inglewood Reservoirs, and WB17 MWD connection.
### Urban Water Supplier:

#### City of Inglewood

#### Table O-2: Recommended Energy Reporting - Wastewater & Recycled Water

<table>
<thead>
<tr>
<th>Enter Start Date for Reporting Period</th>
<th>Urban Water Supplier Operational Control</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Water Management Process</td>
</tr>
<tr>
<td></td>
<td>Collection / Conveyance Treatment Discharge / Distribution Total</td>
</tr>
</tbody>
</table>

- **Is upstream embedded in the values reported?**

<table>
<thead>
<tr>
<th>Volume of Water Units Used</th>
<th>AF</th>
</tr>
</thead>
<tbody>
<tr>
<td>Volume of Wastewater Entering Process (volume units selected above)</td>
<td>0</td>
</tr>
<tr>
<td>Wastewater Energy Consumed (kWh)</td>
<td>0</td>
</tr>
<tr>
<td>Wastewater Energy Intensity (kWh/volume converted to MG)</td>
<td>0.0</td>
</tr>
<tr>
<td>Volume of Recycled Water Entering Process (volume units selected above)</td>
<td>0</td>
</tr>
<tr>
<td>Recycled Water Energy Consumed (kWh)</td>
<td>0</td>
</tr>
<tr>
<td>Recycled Water Energy Intensity (kWh/volume converted to MG)</td>
<td>0.0</td>
</tr>
</tbody>
</table>

**Quantity of Self-Generated Renewable Energy related to recycled water and wastewater operations**

kWh

**Data Quality (Estimate, Metered Data, Combination of Estimates and Metered Data)**

**Data Quality Narrative:**

N/A. Wastewater and recycled water within the City of Inglewood are handled by the Los Angeles County Sanitation Districts and WBMWD, respectively.
Appendix I

Notification of Public Hearing
Inside This Issue

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Lawndale ............................................... 4
Inglewood ............................................ 5
Legals .................................................. 6
Pets ...................................................... 8

Easier Travel Will Be Coming to South Bay with a People Mover

One of every touchscreen for the new LAX people mover trains to be built in the next two years. For more information see story below.

LAX CEO Justin Erbacci Discusses Airport Plans Ahead of the 2028 Olympics

By Kiersten Vannest

Tired of LAX traffic congestion? CEO of Los Angeles World Airports (LAWA) Justin Erbacci shares plans for a streamlined LAX ahead of the 2028 Olympics, as well as his experience managing an airport during a global pandemic.

Erbacci’s days are long and filled with everything from Covid related upkeep to ground communication with flights to construction projects underway and in development.

“The day starts early and goes long,” he laughs, trying to explain his day-to-day work. Erbacci was appointed interim CEO of LAWA in January of 2020, just before California went into lockdown because of the virus. Before that, he worked as the Chief Operations Officer, and he was officially appointed full-time CEO status in June of last year.

LAWA encompasses LAX, Van Nuys airport, and an aviation-related property in Palmdale. In order to operate a major airport, there are three major entities involved: the airport operator (in this case, LAWA), commercial air carriers and aviation businesses, and federal agencies like the Department of Homeland Security and the Department of Transportation.

With one of the largest metropolitan hubs in the world, including travel from around the globe, stepping into this leadership role would prove a challenge at any time for anyone. But for Erbacci, he took over leadership with all that entails in the wake of travel and airports becoming a significant point of focus associated with medical risks.

With the threat of Covid looming large, Erbacci didn’t miss a beat. Taking federal guidance and safety precautions into consideration, he created a Covid task force to handle everything from implementing new touchless technologies all over the facility to implementing new cleaning standards and training to keep every employee up to date and on the same page. This includes things like new UV light sterilized handrails on escalators and button on elevators. Many normal airport functions moved over to a format usable on a mobile phone. Erbacci worked in his office every day of the pandemic to ensure the safety of all essential workers still required to go to the airport and begin working on a health and recovery plan for the future.

As for what’s going on as we begin to exit the pandemic, some exciting new projects are underway. Erbacci explains some of the new plans he’s approved and is developing with the LAWA team.

“We have a $14.5 billion improvement program going on,” he says. The project he is most excited about is the construction of a people mover train that will transport travelers from and to the airport and all terminals, effectively mitigating the need for cars to be in the center of the airport.

The new people mover train will have three stations within the airport: a west stop near the Bradley International Terminal, a Central Terminal stop, and the third stop between terminals 1 and 7. From here, the train will continue eastward to a stop at an intermodal transportation facility. This will be a remote parking lot with about 4,300 spaces that will allow for parking, as well as ride pickups and drop-offs.

Continuing east, the people mover train will intersect with the Crenshaw metro line, allowing access by metro to the airport. Finally, the last station will be at the largest consolidated rental car facility in the United States.

“It will be the second-largest cement structure in the United States, second only to the Pentagon,” says Erbacci. The idea with all of this is that all rental car transactions will happen at this final station, residents will have an easier time accessing the airport sans car via the metro, and all cars and hotel shuttles can mostly use the remote parking lot, where guests can then enter the airport by train. With all of these measures, the flow of travel through LAX will be much more ergonomic for a city of this size.

See Justin Erbacci, page 4

Your Neighborhood Therapist

Dear Neighborhood Therapist,

I have just graduated from college and now I'm expected to embark on a "career." I did some internships and I did well, but I cannot seem to muster that passion for the business I was in that some of my colleagues do. It's not that I mind paying my dues or working hard. It's that I look at the people who are mid-career and I think, "I don't want to do that." I don't want to spend the next 15 years of my life dedicated to this work just so that I can get to where they are, which is a place I don't want to be. It doesn't seem worth it to me, and it's incredibly depressing.

Frustrated Recent Grad

Dear Frustrated Recent Grad,

I'm sure there is a school of thought that would say, "Hey, it's rough out there. Life isn't easy. Toughen up and get used to it." The thinking behind this is most likely something like, "Sure, it stinks, but it stinks for all of us, so don't think you are better than anyone else, or special."

I don't think that's a very helpful sentiment. It's like saying that because kids get too much vacation, adults should be happy they don't get enough. Of course you're not better than anyone else, but you don't have to like our system, which is roughly like this:

In school, we see continual progress. All you have to do is pass and you are "promoted" to the next grade. The grade levels keep going up, and then you have a big celebration. (And we should celebrate. School is hard. It's a big achievement to get through it.) But while everyone who passes gets to graduate, not everyone who does their job well gets to constantly move up and eventually be CEO. Of course not everyone is going to get promoted, so competition heats up. There just isn't room for everyone at the top of any organization, and so many people compete for it.

Why we protect our kids from the "real world" until we toss them head first into it is a topic for another time, but there is no question that the transition from the academic to the working world can cause real whirlpools. Especially if you think you may have been condemned to 30 years of misery in a profession you can't stand, it does truly feel like losing a lot of freedom. So how do you avoid this fate if you don’t even know what you “want” yet out of your working life?

First, give yourself some more time. Just because you haven’t seen a job that appeals to you doesn’t mean a good life doesn’t exist. You may not have been exposed to people who share your concerns, so how could you expect to have figured it out yet all on your own? In the meantime, do something: anything— that helps provide a service that people need or enjoy. Maybe it’s picking up trash. Maybe it’s selling warm bread in the morning, or

See Therapist, page 6
what fears are we running from, and what actions we take in an attempt to push those fears out of our minds. Censor is a film that will stick around and stir our inside minds.

At 84 minutes, Censor is perfect for casual nature audiences looking for a fun time with a horror movie, as well as for those more seasoned horror fans looking to indulge their appetites for the macabre and supernatural. *If you were wondering what a video store clerk's re-imagining of Midsommar and Mandy might look like, you might want to queue up Censor quickly.

84 minutes. Not rated. 'Censor' is now playing at The Landmark Westwood, Alamo Drafthouse and the Laemmle Glendale.

Therapist

[Image of therapist giving advice]

Brian Rea

from page 5

It is just a harder path, but perhaps one with better views along the way.

Please write to tom@simondrcounseling.com or text 310-376-3399 with any questions about handling what is affecting your life, family, the community or the world.

Tom Andre is a Licensed Marriage & Family Therapist (LMTFT19254). The information in this column is educational purposes only and nothing herein should be construed as professional advice or the formation of a therapeutic relationship.

from page 4

prevents eye strain and helps you work more efficiently. Good light can also help you look your best on video conferences if you’ll be meeting digital more often. A good overhead light is a must, so upgrade bulbs if need be. Natural light is also beneficial, by setting a desk up face to it, the light will illuminate your face, which is great for video. If no natural light is available, a desk lamp or other thoughts can be used. Also, gray or red glasses can help it create shadows on video and reflect off your computer to cause visual discomfort.

Improvement

Forget the uncomfortable kitchen chair or the too-comfortable bed - it’s worthwhile to invest in some ergonomic office equipment to support your well-being and streamline the work day. Some of the most beneficial include a comfortable yet supportive office chair and a hand-held headset for ease of communication. Be mindful how you type and interact with technology as well. Ergonomic navigation is essential, which is why LG enlarged the grant's keyboard and touchscreen for extended comfort and efficiency without compromising on convenience.

Set Some Rules

Working from home can come with many changes, from distractions and interruptions to the temptation to work through lunch and extend the work day into evening hours. Set some boundaries for everyone’s benefit, such as designating times for breaks and start/stop times on your digital calendar. To focus, add white noise or use noise-canceling headphones if necessary. Engage in work-related activities.

Talk with roommates or family members about respecting office hours and your workspace, and never underestimate the value of an old-fashioned do-not-disturb sign on the door.

Most people have excelled at working from home throughout the pandemic. With government shifts removing work-from-home policies, many are making updates like these to help them thrive in a remote working environment long term.

“*If you don’t go after what you want, you’ll never have it. If you don’t ask, the answer is always no. If you don’t step forward, you’re always in the same place.”* - NORA ROBERTS

PUBLIC NOTICES

PUBLISH YOUR PUBLIC NOTICES HERE

ABANDONMENTS: $125.00

ABC NOTICES: $25.00

DBA (Fictitious Business Name): $75.00

NAME CHANGE:

Other type of ad? Contact us and we can give you a price.

PUBLIC NOTICES

NOTICE OFPTS:

NOTICE OFPTS: O?HTS. OF THE LAWSOREGAL COUNTY BOARD OF INMATES, IN THE CRIMINAL COURT OF THE LAWSOREGAL COUNTY OF LOS ANGELES, which has reinstated a 310.000 thousand dollar fine and an additional 150.000 thousand dollar fine for past due costs, fees and assessments. The said fine and fees provided for in the above mentioned citation are due and are hereby ordered to be paid.

City of Englewood, Los Angeles County, California

Invitation to Quarantine Services:

City of Englewood, Los Angeles County, California

City of Englewood, Los Angeles County, California

City of Englewood, Los Angeles County, California

City of Englewood, Los Angeles County, California

City of Englewood, Los Angeles County, California

City of Englewood, Los Angeles County, California

City of Englewood, Los Angeles County, California

City of Englewood, Los Angeles County, California

City of Englewood, Los Angeles County, California
As a Thank You to the Inglewood Community, Hollywood Park is Throwing a Party and You Are Invited

HOLLYWOOD PARK

CITY OF CHAMPIONS

SUMMER

A Summer Bash at Hollywood Park will take place this Saturday, June 26 from 9 a.m. to 6 p.m. Event is free and all are welcome to explore the new grounds at Hollywood Park for the first time. The event will include free health screenings, a local business expo, health of fitness classes, a tour of Self-Storage, live activities for the entire family, food trucks and much more. More provided by RCD crew. Photo courtesy City of Inglewood.

Amber Meshack

Amber Meshack's work to put herself through Berkeley Law School.

The idea behind this initiative is to make sure this career opportunity is available across the board, providing a chance to build lucrative career, whether in construction or working in another capacity at the airport.

Meshack oversees business connections in very facet of the airport, from construction to food and stores inside the terminals to IT. She strives to hire local businesses to help improve the airport’s operation and to make sure that local businesses are hired by these businesses and the airport: LAX goes as far as to contract local photographers or graphic artists on a project-by-project basis. She encourages local businesses and entrepreneurs to present their ideas and get involved.

Monthly, Meshack meets with what she calls their Innovation Lab. Each month, her team invites vendors to present ideas for goods and services. “We’ve gotten some really innovative ideas and partnerships in that way.” Meshack lists things like apps, environmental upgrades, services, and design.

Meshack herself comes from a background of working for the city. When this department was created, she was working as a chief of staff for the new people mover train project. Meshack was sourced to get her current division up and running. Using her knowledge of the city and management experience, she set to work developing strategies for the airport to be more inclusive.

“Even diversity is from all walks of life, we do have an emphasis on heavy recruitment in the communities that are closest to the airport,” says Meshack. In addition, when she draws up a contract with a vendor for the airport, a clause almost always exists that ensures fair, diverse, and local hiring. For the businesses she strives to include, she says that the airport provides in-house recruitment teams, which makes the effort on the business to go through the time and labor-intensive process of hiring.

Meshack’s future goals for the airport and her division revolve around the continuation of her team’s efforts to increase inclusivity and expand diversity. “We want to continue to apply best practices for increasing diversity and equity in everything we do as an airport. Our CEO Justin Erbacci always says, ‘It’s not just what we do, it’s how we do it,’” she says.

On June 23rd, Meshack’s team will be holding a webinar intended to inform vendors about how to improve diversity and inclusion, as well as what the diverse LAX customer and workforce is looking for right now. For more information on the webinar, HireLAX, or VisitLAX, visit the Los Angeles World Airports (LAWA) career page or email businessandjobs@lawa.org.
YouTuber Theater Comes to Inglewood

Bryan Grijalva

Grijalva himself is certified and practices over two dozen healing modalities. This ranges from simply talking to a client, to analyzing chakra charts, to exercising reiki to free up blockages and increase chi flow.

Grijalva explains that we all have an essence of energy and life that flows through all of our bodies for those who don’t know what any of that means. This is the chi flow. Sometimes we have traumas, physical, emotional, or spiritual, resulting in illnesses, struggles, or just generally feeling “off.”

Chakras, he explains, are essentially different energy centers in your body that correlate to certain nerve bundles and organs. Healthy chakras are open and balanced. Reiki is a type of massage in which the massage therapist doesn’t actually touch the client, but channels energy through themselves and into the client. Clients report feeling warm or sometimes slight pressure when undergoing energy healing.

Despite his passion and experience, Grijalva was not always a spiritual healer. “I actually used to own an auto shop, and I was quite happy,” he laughs. During this time, his sister began to develop debilitating migraines. When medicine wasn’t working, and she felt at a loss, he felt helpless. So he signed himself up for massage school to see if he could alleviate any of her pain. Massage school led deeper into energy studies and eventually holistic healing. Fifteen years later, he teaches classes out of El Segundo and sees clients regularly.

Grijalva is also what he calls a medical intuitive. This essentially means that with meditation, through a process called synchronization, he can feel a client’s pain in his own body. This helps him to empathize with his client and better understand where blockages may be occurring. Thankfully, he says, this is something he has largely learned to manage so that he isn’t walking around feeling the pain of everyone around him in Los Angeles.

How does one know if this is a field they could enter? Grijalva says he believes these abilities are implicit in everyone, though some have to work harder at it than others. As for him, he describes feeling this from the time of childhood. “As a child, I was very sick all the time, but realizing it wasn’t mine. It took a while to get a hold of it, and I do see a lot of sensitive children experience it quite a bit,” he says. Part of his work is helping to teach children about empathy and helping adults sort out what pain is theirs and what is external. By realizing what is yours and what is not, he says, you can begin to open your mind and help others.

In the past year, a common issue he’s dealt with during his consultations has been everything related to the pandemic and the lockdown. From loneliness to loss, his spiritual healing has been focused often on anxiety and depression lately, though he says every client is completely different and is treated individually.

With his studio, Sacred Circles, opening up again soon, he hopes to resume a practice of a monthly sound bath, which works to bring vibrations into the body, and can quiet the mind or bring emotions to the forefront, depending on the kind of sound bath and individual reaction to different vibrations.

He says that taking a few other people’s pain and constantly working through roadblocks and struggles can be very physically and emotionally exhausting. But on days he feels burned out and is ready to throw in the towel, he’ll hear from a client who says that a huge problem they never thought they’d ever been able to deal with or cure is completely gone, and his dedication to the craft is renewed.

“That to me,” he says, “that’s worth more than all the money in the world: to hear how someone has healed themselves or to have helped facilitate their healing.”

Grijalva’s hopes that holistic healing will be more generally accepted in the future. “I’m not a doctor. I don’t pretend to be. But there are so many things that are not medical or physical in nature; they’re spiritual. That is what I’m trying to do: help people understand that we are spiritual creatures, and we can address our spiritual concerns in a safe and healthy way. Then we can really facilitate true healing.”
In both the retail and hospitality industries, the customer appetite for online commerce is here to stay. In fact, a recent study from Google showed that 61% of shoppers prefer an omni-channel experience that unifies the physical and online shopping experiences, giving the ability to order online at their convenience and shop in-person when they need an item immediately.

4. Diversify Revenue Streams and Shore Up Supply Chains

In an unpredictable economy, it’s important to make sure the entirety of your business is as resilient and flexible as possible. Many business owners have shifted their revenue models to include diversifying their new merchandise, subscription boxes, to-go beverages and gift cards, online classes and donation options to their online ordering menu. The ability to be successful in this new normal period has been a testament that restaurants powered by Lightspeed in economies such as Australia and New Zealand once again prove that the hunger for top-notch dining restaurants is enthusiastic but returned to indoor dining.

5. Leverage Social Media to Grow Community

Lightspeed believes that commerce ignites community and the company’s recent study also supports the notion that online commerce will increase their revenue by more than 100% in 2020 maintained a robust social media presence and marketing strategy to connect with local neighbors and build their following. Their restaurant owners found ways to give back, reward customer loyalty and partner with other local businesses.

For independent businesses, surviving - and thriving - despite daunting challenges requires agility, plus the know-how to leverage all available technology tools. •
The Inglewood Police Department Would Like to Congratulate Lieutenant Mejia on His Retirement

In 1983, Lieutenant Mejia started his law enforcement career as a police officer, was promoted to Sergeant in 2002 and rose to the rank of Lieutenant in 2013. He was an integral part of the community, spearheading the Police-Adolescent League and the year’s Safety Shop project. A true advocate for community involvement, the bold and energetic Mejia carried out his duties with commendation in Patrol, Field, Special Events, and anything that benefited the community. He served with distinction for 33 years, dedicated to service and duty. He is a true treasure of the Inglewood Police Department. Photo courtesy Inglewood Police Department.

Seniors

to speak to your physician often and openly about your daily lifestyle. That way, your physician can help personalize your treatment which may include NSAIDs or other types of pain management techniques," said Hasan Aved, MD, Anesthesiologist and Pain Management Specialist, Advanced Pain Management located in Timonium, Maryland.

If you take NSAIDs, it is important to talk to your healthcare professional because as many as one in four regular NSAID users are at risk to develop stomach ulcers - sores on the lining of the stomach caused by stomach acid. In addition to taking high doses of NSAIDs, other risk factors include taking NSAIDs with aspirin, or while taking corticosteroids or blood thinners, having had a stomach ulcer in the past and being older than 65 years of age. If you have more than two of these risk factors, you are considered at high risk for stomach ulcers.

Gastroprotection with NSAIDs

Can Help Lower the Risk of Stomach Ulcers

Over-the-counter and prescription NSAIDs come in many different forms. They are available topically, as a lotion or gel and can be taken by mouth. Some NSAIDs include a gastroprotective medicine to help reduce the risk of getting a stomach ulcer. Because every case of arthritis is different, it is important to talk to your physician about pain management and the potential risk of stomach ulcers if you take NSAIDs," said Dr. Aved. "If appropriate, your doctor may suggest you take a medicine that can lower the risk of getting a stomach ulcer when taking an NSAID."

For resources to help manage your OA or RA visit www.horizonconnectedhealth.com/patients.


Natalie Strong

from page 2

but also given her the chance to pursue her passions on the artistic side. So here are some of Strong’s contributions: Vice-chairperson, ES Arts and Cultural Advisory Council, Art teacher with the ES Parks and Recreation Department, private art teacher, with students ranging from ages four to thirteen, ES Art Walk participant, Administrator of the ‘Room of Requirement’ at the ES public library, part-timer at the El Segundo Museum of Art, columnist for the ‘El Segundo Scene’ magazine and published author in the ‘El Segundo Writes’ anthology.

And when she is not working for pay, volunteering her time, or supporting her husband and kids, Strong said she likes to quilt and knit. When asked why she is so passionate about participating in art-related projects, Strong said she sees a vital need for “everyone to express themselves. Some people do it with gardening, some with computer coding. Arts are an important way to enrich the community, make the world more beautiful.”

Strong has been working on the Arts and Culture Council for three years. She sees the council’s mandate as one that tries to continue bringing culture to our city, “lending a hand to existing projects,” as well as developing new endeavors. She is eagerly looking forward to, now that the COVID scare has decreased, the resumption of the Art Walk program, and other similar El Segundo cultural outreach activities.

As for her post with the Parks and Recreation department, which Strong said that she has manned for about five years, she is looking forward to working again with the youths of El Segundo. “I can’t wait for it to all come back,” she said while noting a tentative resumption date of programs this fall. “I never stop being inspired by the things kids think of.” she said. “Their brains work differently than ours.” she said.

She hopes her work with the El Segundo Museum of Art will continue soon. She is looking forward to teaching her ‘just draw’ class as soon as she gets the green light. “I love the museum,” she said. “The people over there are so interesting, and creative, and inspiring.”

So, the definition of an alcoholic, at least the first one that I conjured up, is a person who practices alchemy. Which is a useless definition, right? I learned a long time ago as I was studying journalism at the great Cal State Dominguez Hills campus, under the tutelage of the hopefully still milling around Mr. Davidson, was that you could not define a word by using that same word. Easy way out. So here is my second attempt to seek a definition of an alcoholic: “a person who transforms or creates something through a seemingly magical process.”

OK, that definition seems to encapsulate the efforts of Natalie Strong and her endeavors to make El Segundo a better place, striving to “create gold out of every day.”

from front page

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CITY OF INGLEWOOD UNVEILS CITYWIDE EVENT TRANSPORTATION AND NEIGHBORHOOD PROTECTION PLANS
Residential permit parking program and
FREE Document Shredding Event!!!
NO-CONTACT DRIVE THROUGH DROP OFF To comply with mandatory county regulations, this will be a no-contact event. Shredding material must be placed in rear of vehicle for removal. Additional Info...

2020 Urban Water Management Plan for Public Viewing
2020 Annual Water Quality Report
Additional Info...

Animal License Amnesty Program
Beginning April 15, 2021, the City of Inglewood, in conjunction with the Los Angeles County Department of Animal Care and Control (DACC), will be waiving late fees for residents renewing or buying a new license for their dog or cat through June 30, 2021. Additional Info...

Super Bowl Legacy Program
LOS ANGELES SUPER BOWL HOST COMMITTEE TO HONOR "UNSUNG HERO" ORGANIZATIONS MAKING POSITIVE IMPACT ACROSS L.A.
Tweets by @CityofInglewood

City of Inglewood @CityofInglewood

Today’s #MondayMotivation comes from author and social activist bell hooks, who reminds us to choose love. #InglewoodMotivation

“When we choose to love, we choose to move against fear, against alienation and separation. The choice to love is a choice to connect, to find ourselves in the other.”

- bell hooks
  Author, Professor, Feminist, and Social Activist

MONDAY MOTIVATION

Tweets by @ReadyInglewood

City of Inglewood Office of Emergency Services Retweeted

Harvard Health @HarvardHealth

7 ways to reduce stress in the age of #COVID19.

7 WAYS TO REDUCE STRESS IN THE AGE OF CORONAVIRUS

GET ENOUGH SLEEP

1. Inadequate or poor-quality sleep can negatively affect your mood, mental alertness, energy level, and physical health.

LEARN RELAXATION TECHNIQUES

2. Meditation, progressive muscle relaxation, guided imagery, deep breathing exercises, and yoga are powerful relaxation techniques and stress-busters.

STRENGTHEN YOUR SOCIAL NETWORK

3. Connect with others through social media, video calling, texting, or by joining a virtual book club, support group or watch party.

HONE YOUR TIME-MANAGEMENT SKILLS

4. The more efficiently you can juggle work and family demands, the less stress you’ll experience.

City of Inglewood Office of Emergency Services Retweeted

Los Angeles County @CountyofLA

Starting tonight 👇😷

https://twitter.com/CountyofLA/status/1415806202823385089

Jul 17, 2021
Omar Epps, Taye Diggs, and Richard T. Jones. What's your favorite scene from The Wood?

Jul 16, 2021

Today the City announced several transportation options to SoFi Stadium. The new Citywide Permit Parking Program is envisioned to be operational and enforced in key neighborhoods surrounding the stadium by Fall 2021. To learn more, visit cityofinglewood.org/CivicAlerts.as...

Jul 16, 2021

City of Inglewood Office of Emergency Services Retweeted

Los Angeles County
@CountyofLA

Due to increased #COVID19 transmission, LA County will be requiring masks indoors regardless of vaccination status, starting 11:59 PM on Saturday, July 17th. Wearing a mask when indoors with others reduces the risk of both getting and transmitting the virus.

Starting 11:59pm on Saturday, July 17th

For more information visit ph.lacounty.gov/coronavirus

Jul 15, 2021

City of Inglewood Office of Emergency Services Retweeted

American Red Cross
@RedCross

Some shortages are worse than others.

Make sure doctors have access to blood to help patients by making an appointment to give: rdcrss.org/3wDBzf1

Jul 15, 2021

Inglewood, CA
CITY OF INGLEWOOD UNVEILS CITYWIDE EVENT TRANSPORTATION MANAGEMENT AND NEIGHBORHOOD cityofinglewood.org

City of Inglewood
@CityofInglewood

Don't miss out! TOMORROW, Movies in The Park is returning to Ed Vincent Park, as a DRIVE-IN experience! When is the last time you
went to a drive-in, in Inglewood? Make sure you sign up today as spots are almost gone! For more information hit up the link in our bio!

City of Inglewood Office of Emergency Services Retweeted

CDC Environment @CDCEnvironment

#PrepYourHealth for an #earthquake. Gather emergency supplies, identify and reduce possible hazards in your home, and practice what to do during and after an earthquake. Learn more: bit.ly/317gJbU

City of Inglewood @CityofInglewood

Just posted a photo @ Inglewood, California
instagram.com/p/CRQZ4SSL0-K/

City of Inglewood @CityofInglewood

Ju...
We hope everyone enjoyed their extended 4th of July weekend! Here is #MondayMotivation quote to think about from Langston Hughes as we enter a new work week. #InglewoodMotivation

“I have discovered in life that there are ways of getting almost anywhere you want to go, if you really want to go.”

- Langston Hughes

Poet, Social Activist, Novelist, Playwright, and Columnist

City of Inglewood Office of Emergency Services Retweeted

American Red Cross @RedCross

On your next adventure, pack these five apps to keep you and your family safe  ↓  rdcrss.org/3xEAhSf

5 Must-Have Apps to Download This Summer - red cro...

This summer, stay safe and be prepared for wherever your adventures take you by having these 5 apps installed on redcrosschat.org

City of Inglewood Office of Emergency Services @ReadyInglewood

If you’ve already had COVID-19, you should still get vaccinated. We don’t know how long natural immunity lasts and the vaccines will protect you and those around you. For more info visit VaccinateLACounty.com

#readyinglewood

Any know where this auto shop is? Word on the street is that they'll finish in 3 hours and give you 18 months to pay! 😊

We see the La Tijera sign, can anyone identify the other cross street? Also what year is this based on the cars? We need help with this one! #tbt
This Friday at Monroe Middle School, there is a FREE FOOD Drive Thru Giveaway with Los Angeles County Supervisor Holly Mitchell! Line formation begins at 8:30am. See you all there! #LetsFeedLACounty

Friends, family, neighbors, etc. are often first on the scene in an #emergency. You are the help until professional help arrives. Having a well-stocked first-aid kit & the practical skills to use it can help you save a life. Learn more: ow.ly/QV5N50FrgtM #PrepYourHealth

Need a ride? Uber and Lyft are providing free rides to and from vaccination sites. Don't have the app? Call 833-540-0473 to book your ride. #readyinglewood
Jun 29, 2021

Code: 4731505# wait two seconds and press # again.

Jun 29, 2021

City of Inglewood
@CityofInglewood

Inglewood residents, please welcome the @youtubetheater to the City of Inglewood! (via @youtubetheater)

instagram.com/p/CQtiaaIDzER/…

Jun 29, 2021

City of Inglewood
@CityofInglewood

Today's #MondayMotivation comes from young gymnast that we are already calling the greatest of all time! Good luck to Simone Biles and Team USA in Tokyo!

What are you most excited for about the upcoming Olympics?

#InglewoodMotivation

Jul 3, 2021

Los Angeles County
@CountyofLA

City of Inglewood Office of Emergency Services Retweeted

Is your pet afraid of fireworks? Follow these tips to keep them calm this #July4th:

- Tire them out during the day
- Keep them indoors
- Provide a safe place for them to retreat
- Keep windows & curtains closed
- Make sure they're wearing ID tags (in case they get loose & run away)

City of Inglewood Office of Emergency Services
@ReadyInglewood

If you're planning to spend your long weekend at the beach, remember to:

- Stay hydrated and wear sunscreen.
- Beware of rip currents. Check beach advisories before going into the water.
- Dash inside if you see a flash!

#readyinglewood #readygov
Need some reading material to celebrate the 4th of July? Check out the City of Inglewood Public Library's reading list for the upcoming holiday! Check the link in our bio for more info.

Movies in the Park is back! We are bringing our beloved community event back to Ed Vincent Park as a DRIVE-IN experience! Don't miss out on the opportunity to watch movies under the stars. Sign up today as spots are limited. For more information hit up the link in our bio!

As the heat wave continues in SoCal, remember to stay hydrated by drinking plenty of water regularly and often, even if you do not feel thirsty. 
#readyinglewood

City of Inglewood Office of Emergency Services
@ReadyInglewood

How to have a Safe Fourth of July Holiday! @RedCross
#readyinglewood

City of Inglewood Office of Emergency Services
@ReadyInglewood

Heat Wave Safety Tips

01 Stay Hydrated

- Drink plenty of water regularly and often, even if you do not feel thirsty.
- Avoid drinks with caffeine or alcohol.

02 Limit Sun Exposure

- If you must be outside, be sure to wear a hat, use sunscreen, and dress in loose-fitting, lightweight, and light-colored clothing.

03 Safety Checks
The Cayton Children’s Museum has teamed up with the City of Inglewood to offer the Budding Artists premiere six-week visual arts program, Summer Exploration Program is designed for young children ages 3-5. The program is FREE to Inglewood residents, Register today!

City of Inglewood Office of Emergency Services @ReadyInglewood

If you’re pregnant, you can receive the COVID-19 vaccine. It can help protect pregnant people against an increased risk of severe illness. When you’re ready to take the next step and get vaccinated, we’re here to help. #readyinglewood

City of Inglewood Office of Emergency Services Retweeted

Follow these safety tips to avoid outdoor fires:

- Only use your grill outside and 10 feet away from anything it can burn.
- Build your campfire properly and make sure it is put out before you leave.
- Go to public firework displays instead of setting them off yourself.
The @PayByPhone_NA app is now available in the City of Inglewood! Pay for your parking in seconds, and extend your time from anywhere using just your mobile phone. Get the app today: bit.ly/3wzgnYy

Park with the PayByPhone app in Inglewood!

The Inglewood Public Library is has a summer reading program! Visit the link in our bio for more information!

Reminder: the #COVID19 vaccine is free to LA County residents, regardless of immigration status. For appointments and more info, visit: VaccinateLACounty.com
Join our Inglewood Public Library Summer Reading Program! For this week's challenge, you can win a fitness tracker watch! Follow Inglewood Public Library for more information. #inglewood #ipl #inglewoodpubliclibrary #summerreadingprogram
Appendix J

Resolution of Adoption
RESOLUTION NO.: 21-108

A RESOLUTION OF THE CITY COUNCIL OF THE CITY
OF INGLEWOOD, CALIFORNIA MAKING FINDINGS
AND OVERRULING PROTESTS AND OBJECTIONS TO
ITS INTENT TO ADOPT THE CITY OF INGLEWOOD
2020 URBAN WATER MANAGEMENT PLAN.

WHEREAS, on July 20, 2021, a public hearing was held and all persons desiring to be
heard and all oral and written protests and objections, if any, were fully heard and the
Inglewood City Council gave all persons present and opportunity to hear and be heard with
respect to the adoption of the City of Inglewood 2020 Urban Water Management Plan
(hereinafter referred to as the “Plan).

NOW THEREFORE, THE CITY COUNCIL OF THE CITY OF INGLEWOOD,
CALIFORNIA, DOES HEREBY RESOLVE AND DECLARE THAT:

SECTION 1. The above listed Recital is incorporated herein by this reference
as correct and true.

SECTION 2. Pursuant to California Water code Section 10610 et seq., the
Inglewood City Council on Jul 20, 2021, approves of and orders the adoption of the City of
Inglewood 2020 Urban Water Management Plan marked as Exhibit “A,” and incorporated
herein by this reference as if set forth in full.

SECTION 3. The Plan requires urban water suppliers providing water for
municipal purposes to more than 3,000 customers or supplying more than 3,000 acre feet of
water annually, to prepare and adopt an Urban Water Management Plan every 5 years in years
ending in five and zero.

SECTION 4. The City of Inglewood (hereinafter referred to as the “City”)
supplies water to a population of over 88,968.

SECTION 5. The conservation and efficient use of the City's water supplies
are of citywide concern.

SECTION 6. A long-term, reliable supply of water is essential to protect the
health of the City's residential customers and the productivity of its businesses and economic climate.

SECTION 7. As part of its long-range planning activities, the city is making every effort to ensure that sufficient levels of reliable water service exists to meet the needs of its various categories of customers during normal, dry and multiple dry water years.

SECTION 8. In the event the City Council meeting of July 20, 2021, is not held, the aforementioned public hearing for interested persons to object to the proposed City of Inglewood 2020 Urban Water Management Plan shall be automatically rescheduled to occur at the next regularly scheduled City Council meeting at the same hour and location.

BE IT FURTHER RESOLVED, that the City Clerk shall certify to the adoption of this resolution and the same shall be in full force and effect immediately upon adoption.

Passed, approved, and adopted this 20th day of July, 2021.

James T. Butts, Jr., Mayor

ATTEST:

Aisha L. Thompson,
City Clerk
Appendix K

DWR Checklist
# UWMP Checklist

<table>
<thead>
<tr>
<th>Retail</th>
<th>Wholesale</th>
<th>Guidebook Location</th>
<th>Water Code Section</th>
<th>Summary as Applies to UWMP</th>
<th>Subject</th>
<th>UWMP Location</th>
</tr>
</thead>
<tbody>
<tr>
<td>x</td>
<td>x</td>
<td>Chapter 1</td>
<td>10615</td>
<td>A plan shall describe and evaluate sources of supply, reasonable and practical efficient uses, reclamation and demand management activities.</td>
<td>Introduction and Overview</td>
<td>§1.2</td>
</tr>
<tr>
<td>x</td>
<td>x</td>
<td>Chapter 1</td>
<td>10630.5</td>
<td>Each plan shall include a simple description of the supplier’s plan including water availability, future requirements, a strategy for meeting needs, and other pertinent information. Additionally, a supplier may also choose to include a simple description at the beginning of each chapter.</td>
<td>Summary</td>
<td>Executive Summary</td>
</tr>
<tr>
<td>x</td>
<td>x</td>
<td>Section 2.2</td>
<td>10620(b)</td>
<td>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.</td>
<td>Plan Preparation</td>
<td>§2.2</td>
</tr>
</tbody>
</table>
## UWMP Checklist

<table>
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<tr>
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</tr>
</thead>
<tbody>
<tr>
<td>x</td>
<td>x</td>
<td>Section 2.6</td>
<td>10620(d)(2)</td>
<td>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.</td>
<td>Plan Preparation</td>
<td>§2.6</td>
</tr>
<tr>
<td>x</td>
<td>x</td>
<td>Section 2.6.2</td>
<td>10642</td>
<td>Provide supporting documentation that the water supplier has encouraged active involvement of diverse social, cultural, and economic elements of the population within the service area prior to and during the preparation of the plan and contingency plan.</td>
<td>Plan Preparation</td>
<td>§2.6 &amp; Appendix I</td>
</tr>
<tr>
<td>x</td>
<td></td>
<td>Section 2.6, Section 6.1</td>
<td>10631(h)</td>
<td>Retail suppliers will include documentation that they have provided their wholesale supplier(s) - if any - with water use projections from that source.</td>
<td>System Supplies</td>
<td>§2.6.1</td>
</tr>
</tbody>
</table>
## UWMP Checklist

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</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>x</td>
<td>x</td>
<td>Section 2.6</td>
<td>Wholesale suppliers will include documentation that they have provided their urban water suppliers with identification and quantification of the existing and planned sources of water available from the wholesale to the urban supplier during various water year types.</td>
<td>System Supplies</td>
<td>N/A</td>
</tr>
<tr>
<td>x</td>
<td>x</td>
<td>x</td>
<td>Section 3.1</td>
<td>Describe the water supplier service area.</td>
<td>System Description</td>
<td>§3.1 – §3.5</td>
</tr>
<tr>
<td>x</td>
<td>x</td>
<td>x</td>
<td>Section 3.3</td>
<td>Describe the climate of the service area of the supplier.</td>
<td>System Description</td>
<td>§3.3</td>
</tr>
<tr>
<td>x</td>
<td>x</td>
<td>x</td>
<td>Section 3.4</td>
<td>Provide population projections for 2025, 2030, 2035, 2040 and optionally 2045.</td>
<td>System Description</td>
<td>§3.4.1</td>
</tr>
<tr>
<td>x</td>
<td>x</td>
<td>x</td>
<td>Section 3.4.2</td>
<td>Describe other social, economic, and demographic factors affecting the supplier’s water management planning.</td>
<td>System Description</td>
<td>§3.4.2</td>
</tr>
<tr>
<td>x</td>
<td>x</td>
<td>Sections 3.4 and 5.4</td>
<td>10631(a)</td>
<td>Indicate the current population of the service area.</td>
<td>System Description and Baselines and Targets</td>
<td>§3.4.1</td>
</tr>
<tr>
<td>x</td>
<td>x</td>
<td>x</td>
<td>Section 3.5</td>
<td>Describe the land uses within the service area.</td>
<td>System Description</td>
<td>§3.5</td>
</tr>
<tr>
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<td>x</td>
<td>Section 4.2</td>
<td>10631(d)(1)</td>
<td>Quantify past, current, and projected water use, identifying the uses among water use sectors.</td>
<td>System Water Use</td>
<td>§4.3</td>
</tr>
<tr>
<td>x</td>
<td>x</td>
<td>Section 4.2.4</td>
<td>10631(d)(3)(C)</td>
<td>Retail suppliers shall provide data to show the distribution loss standards were met.</td>
<td>System Water Use</td>
<td>§4.3.3 &amp; Appendix G</td>
</tr>
<tr>
<td>x</td>
<td>x</td>
<td>Section 4.2.6</td>
<td>10631(d)(4)(A)</td>
<td>In projected water use, include estimates of water savings from adopted codes, plans, and other policies or laws.</td>
<td>System Water Use</td>
<td>§4.3.4</td>
</tr>
<tr>
<td>x</td>
<td>x</td>
<td>Section 4.2.6</td>
<td>10631(d)(4)(B)</td>
<td>Provide citations of codes, standards, ordinances, or plans used to make water use projections.</td>
<td>System Water Use</td>
<td>§4.3.4</td>
</tr>
<tr>
<td>x</td>
<td>optional</td>
<td>Section 4.3.2.4</td>
<td>10631(d)(3)(A)</td>
<td>Report the distribution system water loss for each of the 5 years preceding the plan update.</td>
<td>System Water Use</td>
<td>§4.3.3 &amp; Appendix G</td>
</tr>
<tr>
<td>x</td>
<td>optional</td>
<td>Section 4.4</td>
<td>10631.1(a)</td>
<td>Include projected water use needed for lower income housing projected in the service area of the supplier.</td>
<td>System Water Use</td>
<td>§4.4</td>
</tr>
<tr>
<td>x</td>
<td>x</td>
<td>Section 4.5</td>
<td>10635(b)</td>
<td>Demands under climate change considerations must be included as part of the drought risk assessment.</td>
<td>System Water Use</td>
<td>§4.5 &amp; §7.2.3</td>
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<tr>
<td>x</td>
<td></td>
<td>Chapter 5</td>
<td>10608.20(e)</td>
<td>Retail suppliers shall provide baseline daily per capita water use, urban water use target, interim urban water use target, and compliance daily per capita water use, along with the bases for determining those estimates, including references to supporting data.</td>
<td>Baselines and Targets</td>
<td>§5.3 – §5.7</td>
</tr>
<tr>
<td>x</td>
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<td>Chapter 5</td>
<td>10608.24(a)</td>
<td>Retail suppliers shall meet their water use target by December 31, 2020.</td>
<td>Baselines and Targets</td>
<td>§5.7.1</td>
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<td>x</td>
<td>Section 5.1</td>
<td>10608.36</td>
<td>Wholesale suppliers shall include an assessment of present and proposed future measures, programs, and policies to help their retail water suppliers achieve targeted water use reductions.</td>
<td>Baselines and Targets</td>
<td>N/A</td>
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<tr>
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<td>Section 5.2</td>
<td>10608.24(d)(2)</td>
<td>If the retail supplier adjusts its compliance GPCD using weather normalization, economic adjustment, or extraordinary events, it shall provide the basis for, and data supporting the adjustment.</td>
<td>Baselines and Targets</td>
<td>§5.7.2</td>
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<td>§5.6</td>
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<tr>
<td>Baselines and Targets</td>
<td>§5.7 &amp; Appendix A</td>
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<tr>
<td>System Supplies</td>
<td>§7.2, §7.3, &amp; §7.6</td>
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<td>System Supplies</td>
<td>§7.2, §7.3, §7.6, &amp; §7.2.3</td>
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</tbody>
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### Section 5.5
- **Water Code Section**: 10608.22
- **Summary as Applies to UWMP**: Retail suppliers’ per capita daily water use reduction shall be no less than 5 percent of base daily per capita water use of the 5-year baseline. This does not apply if the suppliers base GPCD is at or below 100.

### Section 5.5 and Appendix E
- **Water Code Section**: 10608.4
- **Summary as Applies to UWMP**: Retail suppliers shall report on their compliance in meeting their water use targets. The data shall be reported using a standardized form in the SBX7-7 2020 Compliance Form.

### Sections 6.1 and 6.2
- **Water Code Section**: 10631(b)(1)
- **Summary as Applies to UWMP**: Provide a discussion of anticipated supply availability under a normal, single dry year, and a drought lasting five years, as well as more frequent and severe periods of drought.

### Sections 6.1
- **Water Code Section**: 10631(b)(1)
- **Summary as Applies to UWMP**: Provide a discussion of anticipated supply availability under a normal, single dry year, and a drought lasting five years, as well as more frequent and severe periods of drought, including changes in supply due to climate change.
City of Inglewood 2020 UWMP Checklist for Completeness

**UWMP Checklist**

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<tr>
<td>x</td>
<td>x</td>
<td>Section 6.1</td>
<td>10631(b)(2)</td>
<td>When multiple sources of water supply are identified, describe the management of each supply in relationship to other identified supplies.</td>
<td>System Supplies</td>
<td>§6.2 – §6.9</td>
</tr>
<tr>
<td>x</td>
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<td>Section 6.1.1</td>
<td>10631(b)(3)</td>
<td>Describe measures taken to acquire and develop planned sources of water.</td>
<td>System Supplies</td>
<td>§6.2</td>
</tr>
<tr>
<td>x</td>
<td>x</td>
<td>Section 6.2.8</td>
<td>10631(b)</td>
<td>Identify and quantify the existing and planned sources of water available for 2020, 2025, 2030, 2035, 2040 and optionally 2045.</td>
<td>System Supplies</td>
<td>§6.11</td>
</tr>
<tr>
<td>x</td>
<td>x</td>
<td>Section 6.2</td>
<td>10631(b)</td>
<td>Indicate whether groundwater is an existing or planned source of water available to the supplier.</td>
<td>System Supplies</td>
<td>§6.4</td>
</tr>
<tr>
<td>x</td>
<td>x</td>
<td>Section 6.2.2</td>
<td>10631(b)(4)(A)</td>
<td>Indicate whether a groundwater sustainability plan or groundwater management plan has been adopted by the water supplier or if there is any other specific authorization for groundwater management. Include a copy of the plan or authorization.</td>
<td>System Supplies</td>
<td>§6.4.6</td>
</tr>
<tr>
<td>x</td>
<td>x</td>
<td>Section 6.2.2</td>
<td>10631(b)(4)(B)</td>
<td>Describe the groundwater basin.</td>
<td>System Supplies</td>
<td>§6.4.2</td>
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<tr>
<td>x</td>
<td>x</td>
<td>Section 6.2.2</td>
<td>10631(b)(4)(B)</td>
<td>Indicate if the basin has been adjudicated and include a copy of the court order or decree and a description of the amount of water the supplier has the legal right to pump.</td>
<td>System Supplies</td>
<td>§6.4.1</td>
</tr>
<tr>
<td>x</td>
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<td>Section 6.2.2.1</td>
<td>10631(b)(4)(B)</td>
<td>For unadjudicated basins, indicate whether or not the department has identified the basin as a high or medium priority. Describe efforts by the supplier to coordinate with sustainability or groundwater agencies to achieve sustainable groundwater conditions.</td>
<td>System Supplies</td>
<td>§6.4.1 &amp; §6.4.6</td>
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<tr>
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<td>Section 6.2.2.4</td>
<td>10631(b)(4)(C)</td>
<td>Provide a detailed description and analysis of the location, amount, and sufficiency of groundwater pumped by the urban water supplier for the past five years.</td>
<td>System Supplies</td>
<td>§6.4.5</td>
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<tr>
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<td>Section 6.2.2</td>
<td>10631(b)(4)(D)</td>
<td>Provide a detailed description and analysis of the amount and location of groundwater that is projected to be pumped.</td>
<td>System Supplies</td>
<td>§6.11</td>
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<tr>
<td>x</td>
<td>x</td>
<td>Section 6.2.7</td>
<td>10631(c)</td>
<td>Describe the opportunities for exchanges or transfers of water on a short-term or long-term basis.</td>
<td>System Supplies</td>
<td>§6.9</td>
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<td>x</td>
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<td>Section 6.2.5</td>
<td>10633(b)</td>
<td>Describe the quantity of treated wastewater that meets recycled water standards, is being discharged, and is otherwise available for use in a recycled water project.</td>
<td>System Supplies (Recycled Water)</td>
<td>§6.7.4</td>
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<tr>
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<td>Section 6.2.5</td>
<td>10633(c)</td>
<td>Describe the recycled water currently being used in the supplier's service area.</td>
<td>System Supplies (Recycled Water)</td>
<td>§6.7.3</td>
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<tr>
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<td>Section 6.2.5</td>
<td>10633(d)</td>
<td>Describe and quantify the potential uses of recycled water and provide a determination of the technical and economic feasibility of those uses.</td>
<td>System Supplies (Recycled Water)</td>
<td>§6.7.4</td>
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<tr>
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<td>Section 6.2.5</td>
<td>10633(e)</td>
<td>Describe the projected use of recycled water within the supplier's service area at the end of 5, 10, 15, and 20 years, and a description of the actual use of recycled water in comparison to uses previously projected.</td>
<td>System Supplies (Recycled Water)</td>
<td>§6.7.4</td>
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<tr>
<td>x</td>
<td>x</td>
<td>Section 6.2.5</td>
<td>10633(f)</td>
<td>Describe the actions which may be taken to encourage the use of recycled water and the projected results of these actions in terms of acre-feet of recycled water used per year.</td>
<td>System Supplies (Recycled Water)</td>
<td>§6.7.5</td>
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<tr>
<td>x</td>
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<td>Section 6.2.5</td>
<td>10633(g)</td>
<td>Provide a plan for optimizing the use of recycled water in the supplier's service area.</td>
<td>System Supplies (Recycled Water)</td>
<td>§6.7.5</td>
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<tr>
<td>x</td>
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<td>Section 6.2.6</td>
<td>10631(g)</td>
<td>Describe desalinated water project opportunities for long-term supply.</td>
<td>System Supplies</td>
<td>§6.8</td>
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<td>Section 6.2.5</td>
<td>10633(a)</td>
<td>Describe the wastewater collection and treatment systems in the supplier's service area with quantified amount of collection and treatment and the disposal methods.</td>
<td>System Supplies (Recycled Water)</td>
<td>§6.7.2</td>
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<tr>
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<td>Section 6.2.8, Section 6.3.7</td>
<td>10631(f)</td>
<td>Describe the expected future water supply projects and programs that may be undertaken by the water supplier to address water supply reliability in average, single-dry, and for a period of drought lasting 5 consecutive water years.</td>
<td>System Supplies</td>
<td>§6.10</td>
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<td>Section 6.4 and Appendix O</td>
<td>10631.2(a)</td>
<td>The UWMP must include energy information, as stated in the code, that a supplier can readily obtain.</td>
<td>System Suppliers, Energy Intensity</td>
<td>§6.12 &amp; Appendix H</td>
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<tr>
<td>x</td>
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<td>Section 7.2</td>
<td>10634</td>
<td>Provide information on the quality of existing sources of water available to the supplier and the manner in which water quality affects water management strategies and supply reliability</td>
<td>Water Supply Reliability Assessment</td>
<td>§6.4.7 &amp; §7.2</td>
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<tr>
<td>x</td>
<td>x</td>
<td>Section 7.2.4</td>
<td>10620(f)</td>
<td>Describe water management tools and options to maximize resources and minimize the need to import water from other regions.</td>
<td>Water Supply Reliability Assessment</td>
<td>§7.5</td>
</tr>
<tr>
<td>x</td>
<td>x</td>
<td>Section 7.3</td>
<td>10635(a)</td>
<td>Service Reliability Assessment: Assess the water supply reliability during normal, dry, and a drought lasting five consecutive water years by comparing the total water supply sources available to the water supplier with the total projected water use over the next 20 years.</td>
<td>Water Supply Reliability Assessment</td>
<td>§7.4</td>
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<tbody>
<tr>
<td>x</td>
<td>x</td>
<td>Section 7.3</td>
<td>10635(b)</td>
<td>Provide a drought risk assessment as part of information considered in developing the demand management measures and water supply projects.</td>
<td>Water Supply Reliability Assessment</td>
<td>§7.6</td>
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<tr>
<td>x</td>
<td>x</td>
<td>Section 7.3</td>
<td>10635(b)(1)</td>
<td>Include 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 5 consecutive years.</td>
<td>Water Supply Reliability Assessment</td>
<td>§7.6.1</td>
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<tr>
<td>x</td>
<td>x</td>
<td>Section 7.3</td>
<td>10635(b)(2)</td>
<td>Include a determination of the reliability of each source of supply under a variety of water shortage conditions.</td>
<td>Water Supply Reliability Assessment</td>
<td>§7.4 &amp; §7.6.2</td>
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<td>Section 7.3</td>
<td>10635(b)(3)</td>
<td>Include a comparison of the total water supply sources available to the water supplier with the total projected water use for the drought period.</td>
<td>Water Supply Reliability Assessment</td>
<td>§7.6.2</td>
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<td>Section 7.3</td>
<td>10635(b)(4)</td>
<td>Include 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.</td>
<td>Water Supply Reliability Assessment</td>
<td>§7.2.3</td>
</tr>
<tr>
<td>x</td>
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<td>Chapter 8</td>
<td>10632(a)</td>
<td>Provide a water shortage contingency plan (WSCP) with specified elements below.</td>
<td>Water Shortage Contingency Planning</td>
<td>Chapter 8 &amp; Appendix L</td>
</tr>
<tr>
<td>x</td>
<td>x</td>
<td>Chapter 8</td>
<td>10632(a)(1)</td>
<td>Provide the analysis of water supply reliability (from Chapter 7 of Guidebook) in the WSCP</td>
<td>Water Shortage Contingency Planning</td>
<td>§8.2</td>
</tr>
<tr>
<td>x</td>
<td>x</td>
<td>Section 8.10</td>
<td>10632(a)(10)</td>
<td>Describe reevaluation and improvement procedures for monitoring and evaluation the water shortage contingency plan to ensure risk tolerance is adequate and appropriate water shortage mitigation strategies are implemented.</td>
<td>Water Shortage Contingency Planning</td>
<td>§8.11</td>
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<td>Section 8.2</td>
<td>10632(a)(2)(A)</td>
<td>Provide the written decision-making process and other methods that the supplier will use each year to determine its water reliability.</td>
<td>Water Shortage Contingency Planning</td>
<td>§8.3</td>
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<tr>
<td>x</td>
<td>x</td>
<td>Section 8.2</td>
<td>10632(a)(2)(B)</td>
<td>Provide data and methodology to evaluate the supplier's water reliability for the current year and one dry year pursuant to factors in the code.</td>
<td>Water Shortage Contingency Planning</td>
<td>§8.3</td>
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<td>Section 8.3</td>
<td>10632(a)(3)(A)</td>
<td>Define six standard water shortage levels of 10, 20, 30, 40, 50 percent shortage and greater than 50 percent shortage. These levels shall be based on supply conditions, including percent reductions in supply, changes in groundwater levels, changes in surface elevation, or other conditions. The shortage levels shall also apply to a catastrophic interruption of supply.</td>
<td>Water Shortage Contingency Planning</td>
<td>§8.4</td>
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<td>Section 8.3</td>
<td>10632(a)(3)(B)</td>
<td>Suppliers with an existing water shortage contingency plan that uses different water shortage levels must cross reference their categories with the six standard categories.</td>
<td>Water Shortage Contingency Planning</td>
<td>§8.4.1</td>
</tr>
<tr>
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<td>Section 8.4</td>
<td>10632(a)(4)(A)</td>
<td>Suppliers with water shortage contingency plans that align with the defined shortage levels must specify locally appropriate supply augmentation actions.</td>
<td>Water Shortage Contingency Planning</td>
<td>§8.5.1</td>
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<tr>
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<td>x</td>
<td>Section 8.4</td>
<td>10632(a)(4)(B)</td>
<td>Specify locally appropriate demand reduction actions to adequately respond to shortages.</td>
<td>Water Shortage Contingency Planning</td>
<td>§8.5.2</td>
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<td>Section 8.4</td>
<td>10632(a)(4)(C)</td>
<td>Specify locally appropriate operational changes.</td>
<td>Water Shortage Contingency Planning</td>
<td>§8.5.2</td>
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<td>Section 8.4</td>
<td>10632(a)(4)(D)</td>
<td>Specify additional mandatory prohibitions against specific water use practices that are in addition to state-mandated prohibitions are appropriate to local conditions.</td>
<td>Water Shortage Contingency Planning</td>
<td>§8.5.2.1</td>
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<td>Section 8.4</td>
<td>10632(a)(4)(E)</td>
<td>Estimate the extent to which the gap between supplies and demand will be reduced by implementation of the action.</td>
<td>Water Shortage Contingency Planning</td>
<td>§8.5.5</td>
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<td>Section 8.4.6</td>
<td>10632.5</td>
<td>The plan shall include a seismic risk assessment and mitigation plan.</td>
<td>Water Shortage Contingency Plan</td>
<td>§8.5.4</td>
</tr>
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<td>Section 8.5</td>
<td>10632(a)(5)(A)</td>
<td>Suppliers must describe that they will inform customers, the public and others regarding any current or predicted water shortages.</td>
<td>Water Shortage Contingency Planning</td>
<td>§8.6</td>
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<td>Section 8.5 and 8.6</td>
<td>10632(a)(5)(B) 10632(a)(5)(C)</td>
<td>Suppliers must describe that they will inform customers, the public and others regarding any shortage response actions triggered or anticipated to be triggered and other relevant communications.</td>
<td>Water Shortage Contingency Planning</td>
<td>§8.6</td>
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<td>x</td>
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<td>Section 8.6</td>
<td>10632(a)(6)</td>
<td>Retail supplier must describe how it will ensure compliance with and enforce provisions of the WSCP.</td>
<td>Water Shortage Contingency Planning</td>
<td>§8.7</td>
</tr>
<tr>
<td>Retail</td>
<td>Wholesale</td>
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<td>Section 8.7</td>
<td>10632(a)(7)(A)</td>
<td>Describe the legal authority that empowers the supplier to enforce shortage response actions.</td>
<td>Water Shortage Contingency Planning</td>
<td>§8.8</td>
</tr>
<tr>
<td>x</td>
<td>x</td>
<td>Section 8.7</td>
<td>10632(a)(7)(B)</td>
<td>Provide a statement that the supplier will declare a water shortage emergency Water Code Chapter 3.</td>
<td>Water Shortage Contingency Planning</td>
<td>§8.8</td>
</tr>
<tr>
<td>x</td>
<td>x</td>
<td>Section 8.7</td>
<td>10632(a)(7)(C)</td>
<td>Provide a statement that the supplier will coordinate with any city or county within which it provides water for the possible proclamation of a local emergency.</td>
<td>Water Shortage Contingency Planning</td>
<td>§8.8</td>
</tr>
<tr>
<td>x</td>
<td>x</td>
<td>Section 8.8</td>
<td>10632(a)(8)(A)</td>
<td>Describe the potential revenue reductions and expense increases associated with activated shortage response actions.</td>
<td>Water Shortage Contingency Planning</td>
<td>§8.9</td>
</tr>
<tr>
<td>x</td>
<td>x</td>
<td>Section 8.8</td>
<td>10632(a)(8)(B)</td>
<td>Provide a description of mitigation actions needed to address revenue reductions and expense increases associated with activated shortage response actions.</td>
<td>Water Shortage Contingency Planning</td>
<td>§8.9</td>
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## UWMP Checklist

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<tr>
<td>x</td>
<td></td>
<td>Section 8.8</td>
<td>10632(a)(8)(C)</td>
<td>Retail suppliers must describe the cost of compliance with Water Code Chapter 3.3: Excessive Residential Water Use During Drought</td>
<td>Water Shortage Contingency Planning</td>
<td>§8.9</td>
</tr>
<tr>
<td>x</td>
<td></td>
<td>Section 8.9</td>
<td>10632(a)(9)</td>
<td>Retail suppliers must describe the monitoring and reporting requirements and procedures that ensure appropriate data is collected, tracked, and analyzed for purposes of monitoring customer compliance.</td>
<td>Water Shortage Contingency Planning</td>
<td>§8.10</td>
</tr>
<tr>
<td>x</td>
<td></td>
<td>Section 8.11</td>
<td>10632(b)</td>
<td>Analyze and define water features that are artificially supplied with water, including ponds, lakes, waterfalls, and fountains, separately from swimming pools and spas.</td>
<td>Water Shortage Contingency Planning</td>
<td>§8.12</td>
</tr>
<tr>
<td>x</td>
<td>x</td>
<td>Sections 8.12 and 10.4</td>
<td>10635(c)</td>
<td>Provide supporting documentation that Water Shortage Contingency Plan has been, or will be, provided to any city or county within which it provides water, no later than 30 days after the submission of the plan to DWR.</td>
<td>Plan Adoption, Submittal, and Implementation</td>
<td>§8.13 &amp; §10.5</td>
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<tr>
<td>x</td>
<td>x</td>
<td>Section 8.14</td>
<td>10632(c)</td>
<td>Make available the Water Shortage Contingency Plan to customers and any city or county where it provides water within 30 after adopted the plan.</td>
<td>Water Shortage Contingency Planning</td>
<td>§8.13 &amp; §10.6</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Sections 9.1 and 9.3</td>
<td>10631(e)(2)</td>
<td>Wholesale suppliers shall describe specific demand management measures listed in code, their distribution system asset management program, and supplier assistance program.</td>
<td>Demand Management Measures</td>
<td>N/A</td>
</tr>
<tr>
<td>x</td>
<td></td>
<td>Sections 9.2 and 9.3</td>
<td>10631(e)(1)</td>
<td>Retail suppliers shall provide a description of the nature and extent of each demand management measure implemented over the past five years. The description will address specific measures listed in code.</td>
<td>Demand Management Measures</td>
<td>§9.2, §9.3, &amp; Appendix N</td>
</tr>
<tr>
<td></td>
<td>x</td>
<td>Chapter 10</td>
<td>10608.26(a)</td>
<td>Retail suppliers shall conduct a public hearing to discuss adoption, implementation, and economic impact of water use targets (recommended to discuss compliance).</td>
<td>Plan Adoption, Submittal, and Implementation</td>
<td>§10.4</td>
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# UWMP Checklist

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<tr>
<td>x</td>
<td>x</td>
<td>Section 10.2.1</td>
<td>10621(b)</td>
<td>Notify, at least 60 days prior to the public hearing, any city or county within which the supplier provides water that the urban water supplier will be reviewing the plan and considering amendments or changes to the plan. Reported in Table 10-1.</td>
<td>Plan Adoption, Submittal, and Implementation</td>
<td>§10.3.1 &amp; Appendix D</td>
</tr>
<tr>
<td>x</td>
<td>x</td>
<td>Section 10.4</td>
<td>10621(f)</td>
<td>Each urban water supplier shall update and submit its 2020 plan to the department by July 1, 2021.</td>
<td>Plan Adoption, Submittal, and Implementation</td>
<td>§10.5</td>
</tr>
<tr>
<td>x</td>
<td>x</td>
<td>Sections 10.2.2, 10.3, and 10.5</td>
<td>10642</td>
<td>Provide supporting documentation that the urban water supplier made the plan and contingency plan available for public inspection, published notice of the public hearing, and held a public hearing about the plan and contingency plan.</td>
<td>Plan Adoption, Submittal, and Implementation</td>
<td>§10.3.2, §10.4, &amp; Appendix I</td>
</tr>
<tr>
<td>x</td>
<td>x</td>
<td>Section 10.2.2</td>
<td>10642</td>
<td>The water supplier is to provide the time and place of the hearing to any city or county within which the supplier provides water.</td>
<td>Plan Adoption, Submittal, and Implementation</td>
<td>§10.3.2 &amp; §10.4</td>
</tr>
<tr>
<td>x</td>
<td>x</td>
<td>Section 10.3.2</td>
<td>10642</td>
<td>Provide supporting documentation that the plan and contingency plan has been adopted as prepared or modified.</td>
<td>Plan Adoption, Submittal, and Implementation</td>
<td>§10.4.2 &amp; Appendix J</td>
</tr>
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<tr>
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<tr>
<td>x</td>
<td>x</td>
<td>Section 10.4</td>
<td>10644(a)</td>
<td>Provide supporting documentation that the urban water supplier has submitted this UWMP to the California State Library.</td>
<td>Plan Adoption, Submittal, and Implementation</td>
<td>§10.5</td>
</tr>
<tr>
<td>x</td>
<td>x</td>
<td>Section 10.4</td>
<td>10644(a)(1)</td>
<td>Provide supporting documentation that the urban water supplier has submitted this UWMP to any city or county within which the supplier provides water no later than 30 days after adoption.</td>
<td>Plan Adoption, Submittal, and Implementation</td>
<td>§10.5</td>
</tr>
<tr>
<td>x</td>
<td>x</td>
<td>Sections 10.4.1 and 10.4.2</td>
<td>10644(a)(2)</td>
<td>The plan, or amendments to the plan, submitted to the department shall be submitted electronically.</td>
<td>Plan Adoption, Submittal, and Implementation</td>
<td>§10.5.1</td>
</tr>
<tr>
<td>x</td>
<td>x</td>
<td>Section 10.5</td>
<td>10645(a)</td>
<td>Provide supporting documentation that, not later than 30 days after filing a copy of its plan with the department, the supplier has or will make the plan available for public review during normal business hours.</td>
<td>Plan Adoption, Submittal, and Implementation</td>
<td>§10.6</td>
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<tr>
<td>x</td>
<td>x</td>
<td>Section 10.5</td>
<td>10645(b)</td>
<td>Provide supporting documentation that, not later than 30 days after filing a copy of its water shortage contingency plan with the department, the supplier has or will make the plan available for public review during normal business hours.</td>
<td>Plan Adoption, Submittal, and Implementation</td>
<td>§10.6</td>
</tr>
<tr>
<td>x</td>
<td>x</td>
<td>Section 10.6</td>
<td>10621(c)</td>
<td>If supplier is regulated by the Public Utilities Commission, include its plan and contingency plan as part of its general rate case filings.</td>
<td>Plan Adoption, Submittal, and Implementation</td>
<td>N/A</td>
</tr>
<tr>
<td>x</td>
<td>x</td>
<td>Section 10.7.2</td>
<td>10644(b)</td>
<td>If revised, submit a copy of the water shortage contingency plan to DWR within 30 days of adoption.</td>
<td>Plan Adoption, Submittal, and Implementation</td>
<td>§10.7.2</td>
</tr>
</tbody>
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Appendix L

City Ordinances
ORDINANCE NO. 15-02

AN EMERGENCY ORDINANCE OF THE CITY OF INGLEWOOD, CALIFORNIA, AMENDING SECTION 5-110 OF ARTICLE 7 OF CHAPTER 5 AND ADDING AN ARTICLE 19 TO CHAPTER 10 (PUBLIC WORKS) TO ESTABLISH A WATER CONSERVATION AND WATER SUPPLY SHORTAGE PROGRAM

WHEREAS, the City receives its water supply from two sources: 80% from Metropolitan Water District, through the West Basin Municipal Water District (surface water from Colorado River and Northern California), and 20% from local groundwater produced from City wells; and

WHEREAS, both surface water and ground water supply is continuously depleting due to dry weather conditions requiring reduction in consumption; and

WHEREAS, City well production capacity has substantially depleted due to age of the four (4) existing wells (2 wells drilled in 1974 and one in 1990); and

WHEREAS, the City will be primarily dependent on surface water supply because it will be 2-3 years before the City drills two new wells and improves its local water supply; and

WHEREAS, on January 17, 2014, the Governor issued a proclamation of a state of emergency under the California Emergency Services Act based on drought conditions; and

WHEREAS, on April 25, 2014, the Governor issued a proclamation of a continued state of emergency under the California Emergency Services Act based on continued drought conditions; and

WHEREAS, the drought conditions that formed the basis of the Governor’s emergency proclamations continue to exist; and,

WHEREAS, the present year is critically dry and has been immediately preceded by two or more consecutive below normal, dry, or critically dry years; and,

WHEREAS, the drought conditions will likely continue for the foreseeable
future and additional action by both the State Water Resources Control Board and local water suppliers will likely be necessary to further promote conservation; and,  
WHEREAS, wasteful use of water is detrimental to the long-term water supplies of the City of Inglewood; and,  
WHEREAS, the long-term health, safety, and prosperity of the community depends upon having a reliable long-term supply of potable water; and,  
WHEREAS, the State Water Resources Control Board adopted Article X. Prohibition of Activities and Mandatory Actions During Drought Emergency at its July 15, 2014, meeting, which became effective August 1, 2014, whose Section X.1 prohibits certain activities in promotion of water conservation; and  
WHEREAS, urban water suppliers that violate the mandatory actions approved by the State Water Resources Control Board could be subject to cease and desist orders for violating emergency regulations with fines up to $10,000 per day; and,  
WHEREAS, the California Water Code Section 10632 requires that stages of action to be undertaken by the urban water supplier in response to water supply shortages, including up to a 50 percent reduction in water supply.  
NOW, THEREFORE, THE CITY COUNCIL OF THE CITY OF INGLEWOOD, CALIFORNIA, DOES HEREBY ORDAIN AS FOLLOWS:  
SECTION 1  
The City Council of the City of Inglewood finds that aforementioned recitals are true and incorporated herein. Furthermore, the Inglewood City Council finds that amending Section 5-110, of Article 7 of Chapter 5 and that creating Article 19 (Water Conservation and Water Supply Program) of Chapter 10 (Public Works) is hereby needed and therefore added to the Inglewood Municipal Code to read as follows:  
///  
///
Article 7. WATER CONSERVATION

Section 5-110, Use Restrictions, is deleted in its entirety and replaced with the following:

"Section 5-110, Use Restrictions.

It shall be unlawful for any person to violate the following restrictions concerning the use of water:

(a) With respect to irrigation practices:

(1) Except as provided below, lawn watering and landscape irrigation with potable water is permitted only as specified in Sections 10-208, 10-209 and 10-210.

(2) Irrigation with reclaimed water is permitted on any day in accordance with the water-efficient landscape criteria of Section 5-111 through 5-118."

Article 19. WATER CONSERVATION AND WATER SUPPLY SHORTAGE PROGRAM

This Article shall be entitled the "City of Inglewood Water Conservation and
Water Supply Shortage Program” and shall be known as such throughout this Code.

Section 10-205. Purpose and Intent:

(1) The purpose of this Article is to establish a water conservation and water supply shortage program that will reduce water consumption within the City of Inglewood through conservation, enable effective water supply planning, assure reasonable and beneficial use of water, prevent waste of water, and maximize the efficient use of water within the City of Inglewood to avoid and minimize the effects and hardship of water shortage to the greatest extent possible.

(2) This Article establishes permanent water conservation standards intended to alter behavior related to water use efficiency at all times and further establishes three levels of water supply shortage response actions to be implemented during times of declared water shortage or declared water shortage emergency, with increasing restrictions on water use in response to worsening drought or emergency conditions and decreasing supplies.

Section 10-206 Application

(1) The provisions of this Article apply to any Person in the use of any Potable Water provided by the City of Inglewood.

(2) The provisions of this Article do not apply to uses of water necessary to protect public health and safety or for essential government services, such as police, fire, and other similar emergency and water quality maintenance services.

(3) The provisions of this Article do not apply to the use of Recycled Water.

(4) The provisions of this Article do not apply to the use of water by commercial nurseries and commercial growers to sustain plants, trees, shrubs, crops or other vegetation intended for commercial sale.

(5) This Article is intended solely to further the conservation of Potable Water. It is not intended to implement any provision of Federal, State, or Local Statutes, Ordinances, or Regulations relating to protection of water quality or control of drainage or Runoff. Refer to the local jurisdiction or the Los Angeles
Regional Water Quality Control Board for information on any storm-water ordinances and storm water management plans.

Section 10-207 Definitions

The words used in this article have the meaning set forth below:

“Application rate” means the depth of water applied to a given area, usually measured in inches per hour.

“Emitter” means a drip irrigation emission device that delivers water slowly from the system to the soil.

“Infiltration Rate” means the rate of water entry into the soil expressed as a depth of water per unit of time (e.g., inches per hour).

“Local Water Purveyor” means any entity, including a public agency, city, county, or private water company that provides retail water service.

“Person” means any natural person or persons, corporation, public, or private entity, governmental agency or institution, including all agencies and departments of City of Inglewood, or any other user of water provided by the City or Local Water Purveyor.

“Potable Water” means water, which is suitable for drinking.

“Recycled Water or reclaimed water” means treated or recycled wastewater of a quality suitable for non-potable uses such as landscape irrigation and water features. This water is not intended for human consumption.

“Runoff” means water which is not absorbed by the soil or landscape to which it is applied and flows from the landscape area. For example, Runoff may result from water that is applied at too great a rate (Application Rate exceeds Infiltration Rate) or when there is a steep slope.

“Single Pass Cooling Systems” means equipment where water is circulated only once to cool equipment before being disposed.

“Station” means an area served by one valve or by a set of valves that operate simultaneously.
Section 10-208. Permanent Water Conservation Requirements

The following water conservation requirements are effective at all times and are permanent. Violations of this Article will be considered waste and an unreasonable use of water.

(1) Limits on Watering Hours: Watering or irrigating of lawn, landscape or other vegetated area with Potable Water is prohibited between the hours of 9:00 a.m. and 4:00 p.m. Pacific Standard Time, except by use of a hand-held bucket or similar container, a hand-held hose equipped with a positive self-closing water shut-off nozzle or device, or for very short periods of time for the express purpose of adjusting or repairing an irrigation system.

(2) Limit on Watering Duration: Watering or irrigating of lawn, landscape or other vegetated area with Potable Water using a landscape irrigation system or a watering device that is not continuously attended is limited to no more than fifteen (15) minutes watering per day per Station. This subsection does not apply to landscape irrigation systems that exclusively use very low-flow drip type irrigation systems when no Emitter produces more than two (2) gallons of water per hour and weather based controllers or stream rotor sprinklers that meet a 70% efficiency standard.

(3) No Excessive Water Flow or Runoff: Watering or irrigating of any lawn, landscape or other vegetated area in a manner that causes or allows excessive water flow or Runoff onto an adjoining sidewalk, driveway, street, alley, gutter, ditch or adjacent property is prohibited.

(4) No Washing Down Hard or Paved Surfaces: Washing down hard or paved surfaces, including but not limited to sidewalks, walkways, driveways, parking areas, tennis courts, patios or alleys, is prohibited except when necessary to alleviate safety or sanitary hazards, and then only by use of a hand-held bucket or similar container, a hand-held hose equipped with a positive self-closing water shut-
off device, a low-volume, high-pressure cleaning machine equipped to recycle any water used, or a low-volume high-pressure water broom.

(5) Obligation to Fix Leaks, Breaks or Malfunctions: Excessive use, loss or escape of water through breaks, leaks or other malfunctions in the water user's plumbing or distribution system for any period of time after such escape of water should have reasonably been discovered and corrected and in no event more than three (3) days of receiving notice from the City of Inglewood, is prohibited.

(6) Recirculating Water Required for Water Fountains and Decorative Water Features: Operating a water fountain or other decorative water feature that does not use recirculated water is prohibited.

(7) Limits on Washing Vehicles: Using water to wash or clean a vehicle, including but not limited to any automobile, truck, van, bus, motorcycle, boat or trailer, whether motorized or not is prohibited, except by use of a hand-held bucket or similar container or a hand-held hose equipped with a positive self-closing water shut-off nozzle or device. This subsection does not apply to any commercial car washing facility.

(8) Drinking Water Served Upon Request Only: Eating or drinking establishments, including but not limited to a restaurant, hotel, cafe, cafeteria, bar, or other public place where food or drinks are sold, served, or offered for sale, are prohibited from providing drinking water to any Person unless expressly requested.

(9) Commercial Lodging Establishments Must Provide Guests Option to Decline Daily Linen Services: Hotels, motels and other commercial lodging establishments must provide customers the option of not having towels and linen laundered daily. Commercial lodging establishments must prominently display notice of this option in each bathroom using clear and easily understood language.

(11) No Installation of Non-re-circulating Water Systems in Commercial Car Wash and Laundry Systems: Installation of non-re-circulating water systems is prohibited in new commercial conveyor car wash and new commercial laundry systems.

(12) Restaurants Required to Use Water Conserving Dish Wash Spray Valves: Food preparation establishments, such as restaurants or cafes, are prohibited from using non-water conserving dish wash spray valves.

(13) Commercial Car Wash Systems: Effective on September 1, 2015, all commercial conveyor car wash systems must have installed operational re-circulating water systems, or must have secured a waiver of this requirement from the City of Inglewood.

Section 10-209. Determination & Notification of Water Supply Shortage

Declaration and Notification of Water Supply Shortage: The existence of a Level 1, Level 2, or Level 3 Water Supply Shortage condition or the retraction of a Level 1, Level 2, or Level 3 Water Supply Shortage condition, may be declared by resolution of the City of Inglewood adopted at a regular or special public meeting held in accordance with State law. Such declared Level controls over any inconsistent, ambiguous or contrary language of Section 10-208. The mandatory conservation requirements applicable to Level 1, Level 2, or Level 3 conditions will take effect on the fifteenth (15) day after the date the shortage level is declared. Within seven (7) days following the declaration of a shortage level, the City of Inglewood must publish a copy of the resolution in a newspaper used for publication of official notices. If the City of Inglewood activates a water allocation process, it must provide notice of the activation by including it in the regular billing statement or by any other mailing to the address to which the City of Inglewood customarily mails the billing statement for fees or charges for on-going water service. A water allocation will be effective on the eighth day following the date of mailing or at such later date as specified in the notice. The retraction of mandatory conservation
requirements applicable to Level 1, Level 2, or Level 3 conditions will take effect immediately upon City Council action.

Section 10-210. Level of Water Shortage:

(1) Level 1 Water Supply Shortage

(a) A Level 1 Water Supply Shortage exists when the City of Inglewood determines, in its sole discretion, that due to drought or other water supply conditions, a water supply shortage or threatened shortage exists and a consumer demand reduction is necessary to make more efficient use of water and appropriately respond to existing water conditions. Upon the declaration by the City of Inglewood of a Level 1 Water Supply Shortage condition, the City of Inglewood will implement the mandatory Level 1 conservation measures identified in this section.

(b) Additional Water Conservation Measures: In addition to the prohibited uses of water identified in Section 10-208, the following water conservation requirements apply during a declared Level 1 Water Supply Shortage:

(i) Limits on Watering Days: Watering or irrigating of lawn, landscape or other vegetated area with Potable Water is limited to three (3) days per week during the months of April through October on a schedule established and posted by the City of Inglewood. During the months of November through March, watering or irrigating of lawn, landscape or other vegetated area with Potable Water is limited to no more than two (2) days per week on a schedule established and posted by the City of Inglewood. This provision does not apply to watering or irrigating by use of recycled, reclaimed or storm-water, landscape irrigation zones that exclusively use very low flow drip type irrigation systems when no Emitter produces more than two (2) gallons of water per hour. This provision also does not apply to watering or irrigating by use of a hand-held bucket or similar container, a hand-held hose equipped with a positive self-closing water shut-off nozzle or device, or for very short
periods of time for the express purpose of adjusting or repairing an irrigation system.

(ii) Obligation to Fix Leaks, Breaks or Malfunctions: All leaks, breaks, or other malfunctions in the plumbing or distribution system must be repaired within seventy-two (72) hours of notification by the City of Inglewood unless other arrangements are made with the City of Inglewood.

(2) Level 2 Water Supply Shortage
(a) A Level 2 Water Supply Shortage exists when the City of Inglewood determines, in its sole discretion, that due to drought or other water supply conditions, a higher level of water supply shortage or threatened shortage exists and a consumer demand reduction is necessary to make more efficient use of water and appropriately respond to existing water conditions. Upon the declaration by the City of Inglewood of a Level 2 Water Supply Shortage condition, the City of Inglewood will implement the mandatory Level 2 conservation measures identified in this section.

(b) Additional Conservation Measures: In addition to the prohibited uses of water identified in Section 10:208, the following additional water conservation requirements apply during a declared Level 2 Water Supply Shortage:

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

(ii) Obligation to Fix Leaks, Breaks or Malfunctions: All leaks, breaks, or other malfunctions in the plumbing or distribution system must be repaired within forty-eight (48) hours of notification by the City of Inglewood unless other arrangements are made with the City of Inglewood.

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

(3) Level 3 Water Supply Shortage

(a) A Level 3 condition exists when the City of Inglewood declares a water shortage emergency and notifies its residents and businesses that a significant reduction in consumer demand is necessary to maintain sufficient water supplies for public health and safety. Upon the declaration of a Level 3 Water Supply Shortage condition, the City of Inglewood will implement the mandatory Level 3 conservation measures identified in this section.

(b) Additional Conservation Measures: In addition to the prohibited uses of water identified in Section 10-208, the following water conservation requirements apply during a declared Level 3 Water Supply Shortage Emergency:

(i) No Watering or Irrigating: Watering or irrigating of lawn, landscape or other vegetated area with Potable Water is prohibited. This restriction does not apply to the following categories of use, unless the City of Inglewood has determined that Recycled Water is available and may be applied to the use:
Maintenance of vegetation, including trees and shrubs, that are watered using a hand-held bucket or similar container, hand-held hose equipped with a positive self-closing water shut-off nozzle or device:

* Maintenance of existing landscape necessary for fire protection:

* Maintenance of existing landscape for soil erosion control:

* Maintenance of plant materials identified to be rare or essential to the well-being of protected species:

* Maintenance of landscape within active public parks and playing fields, day care centers, golf course greens, and school grounds, provided that such irrigation does not exceed two (2) days per week according to the schedule and time restrictions established in this Article:

* Actively irrigated environmental mitigation projects.

(ii) Obligation to Fix Leaks, Breaks or Malfunctions: All leaks, breaks, or other malfunctions in the plumbing or distribution systems must be repaired within twenty-four (24) hours of notification by the City of Inglewood unless other arrangements are made with the City of Inglewood.

(iii) Limited Potable Water Service: Upon declaration of a Level 3 Water Supply Shortage, limited new Potable Water service will be provided, limited temporary meters or permanent meters will be provided, and no ability to serve or provide Potable Water service (such as, will-serve letters, certificates, or letters of availability) will be issued, except under the following circumstances:

- A valid, unexpired construction permit and/or building permit has been issued for the project; or

- The project is necessary to protect the public health, safety,
and welfare; or

- The applicant provides substantial evidence of an enforceable commitment that water demands for the project will be offset prior to the provision of a new water meter(s) to the satisfaction of the City of Inglewood.

This provision does not preclude the resetting or turn-on of meters to provide continuation of water service or the restoration of service that has been interrupted for a period of one year or less.

(iv) Discontinue use of ornamental fountains or similar decorative water features unless Recycled Water is used.

(v) Swimming Pools and Spas: Filling of swimming pools and outdoor spas is prohibited.

Section 10-211. Hardship Waiver.

(1) Undue and Disproportionate Hardship: If, due to unique circumstances, a specific requirement of this Article would result in undue hardship to a Person using water or to property upon which water is used, that is disproportionate to the impacts to water users generally or to similar property or classes of water users, then the Person may apply for a waiver to the requirements as provided in this section.

(2) Written Finding: The waiver may be granted or conditionally granted only upon a written finding of the existence of facts demonstrating an undue hardship to a Person using water or to property upon which water is used, that is disproportionate to the impacts to water users generally or to similar property or classes of water use due to specific and unique circumstances of the user or the user's property.
(a) Application: Application for a waiver must be on a form prescribed by the City of Inglewood and accompanied by a non-refundable processing fee in an amount set by City of Inglewood resolution.

(b) Supporting Documentation: The application must be accompanied by photographs, maps, drawings, and other information, including a written statement of the applicant.

(c) Required Findings for Waiver: An application for a waiver will be denied unless the Director of Public Works or his designee finds, based on the information provided in the application, supporting documents, or such additional information as may be requested, and on water use information for the property as shown by the records of the City of Inglewood or its Agent, all of the following:

i. That the waiver does not constitute a grant of special privilege inconsistent with the limitations upon other residents and businesses;

ii. That because of special circumstances applicable to the property or its use, the strict application of this Article would have a disproportionate impact on the property or use that exceeds the impacts to residents and businesses generally;

iii. That the authorizing of such waiver will not be of substantial detriment to adjacent properties, and will not materially affect the ability of the City of Inglewood to effectuate the purpose of this Article and will not be detrimental to the public interest; and

iv. That the condition or situation of the subject property or the intended use of the property for which the waiver is sought is not common, recurrent or general in nature.
(d) Approval Authority: The Director of Public Works or his designee must act upon any completed application no later than ten (10) days after submittal and may approve, conditionally approve, or deny the waiver. The applicant requesting the waiver must be promptly notified in writing of any action taken. Unless specified otherwise at the time a waiver is approved, the waiver will apply to the subject property during the period of the mandatory water supply shortage condition. The decision of the Director of Public Works or his designee shall be final.

Section 10-212 Penalties and Violations

(1) Misdemeanor. Any violation of this Article may be prosecuted as a misdemeanor punishable by imprisonment in the county jail for not more than thirty (30) days, or by a fine not exceeding one thousand dollars ($1,000), or by both.

(2) Penalties: Penalties for failure to comply with any provisions of the ordinance are as follows:

(a) First Violation: The City of Inglewood will issue a written warning.

(b) Second Violation: A second violation within the preceding twelve (12) calendar months is punishable by a fine not to exceed one hundred dollars ($100).

(c) Third Violation: A third violation within the preceding twelve (12) calendar months is punishable by a fine not to exceed two hundred and fifty dollars ($250).

(d) Fourth and Subsequent Violations: A fourth and any subsequent violation is punishable by a fine not to exceed five hundred ($500).

i. Water Flow Restrictor: In addition to any fines, the City of Inglewood may install a water flow restrictor device of approximately one gallon per minute capacity for services up to one and one-half inch size and comparatively sized restrictors.
for larger services after written notice of intent to install a flow restrictor for a minimum of forty eight (48) hours.

(ii) Discontinuing Service: In addition to any fines and the installation of a water flow restrictor, the City of Inglewood may disconnect a customer's water service for willful violations of mandatory restrictions in this Article.

(3) Cost of Flow Restrictor and Disconnecting Service: A Person or entity that violates this ordinance is responsible for payment of the City of Inglewood's charges for installing and/or removing any flow restricting device and for disconnecting and/or reconnecting service per the City of Inglewood's schedule of charges then in effect. The charge for installing and/or removing any flow restricting device must be paid to the City of Inglewood before the device is removed. Nonpayment will be subject to the same remedies as nonpayment of basic water rates.

(4) Separate Offenses: Each day that a violation of this ordinance occurs is a separate offense.

Section 213 Notice and Hearing

(1) The City of Inglewood will issue a Notice of Violation by mail or personal delivery at least ten (10) days before taking enforcement action. Such notice must describe the violation and the date by which corrective action must be taken. A customer may appeal the Notice of Violation by filing a written notice of appeal with the Director of Public Works no later than the close of business on the day before the date scheduled for enforcement action. Any Notice of Violation not timely appealed will be final. Upon receipt of a timely appeal, a hearing on the appeal will be scheduled before the Director of Public Works or his designee within twenty-one (21) calendar days, and the City of Inglewood will mail written notice of the hearing date to the customer at least ten (10) days before the date of the hearing.
(2) Pending receipt of a written appeal or pending a hearing pursuant to an appeal, the City of Inglewood may take appropriate steps to prevent the unauthorized use of water as appropriate to the nature and extent of the violations and the current declared water level condition.

Section 10-214 Authority to Issue Violation and Enforce the Code

The Public Works Department and Code Enforcement Division shall have the duties of investigation and enforcement of this article. They both shall have the authority to issue citations for water conservation and water efficient landscape violations, and disconnect/reconnect services upon findings.

SECTION 2. The City Council hereby declares this ordinance an emergency ordinance affecting the public peace, health, safety, comfort, convenience and general welfare of the City of Inglewood, its citizens and the general public and specifically finds:

(a) The City receives its water supply from two sources: 80% from Metropolitan Water District, through West Basin Municipal Water District (surface water from Colorado River and Northern California), and 20% from local groundwater produced from City wells; and

(b) Both surface water and groundwater supply is continuously depleting due to dry weather conditions requiring reduction in consumption; and

(c) City well production capacity has substantially depleted due to age of the four (4) existing wells (2 wells drilled in 1974 and one in 1990); and

(d) The City will be primarily dependent on surface water supply because it will be 2-3 years before the City drills two new wells and improves its local water supply; and
There is a need for water conservation and regulations because there is a limited supply of water available to serve the residents and businesses of the City; and

Careful water management that includes water conservation measures to ensure a reliable minimum supply of water to meet current and future water supply needs; and

Article X, Section 2 of the California Constitution declares that the general welfare requires that water resources be put to beneficial use, waste or unreasonable use of water should be prevented, and conservation of water should be fully exercised with a view to the reasonable and beneficial use thereof; and

Article XI, Section 7 of the California Constitution declares that a city or county may make and enforce within its limits all local, police, sanitary and other ordinances and regulations not in conflict with general laws; and

On January 17, 2014, the Governor issued a proclamation of a state of emergency under the California Emergency Services Act Based on drought conditions; and

On April 25, 2014, the Governor issued a proclamation of a continued state of emergency under the California Emergency Services Act based on continued drought conditions; and

The drought conditions that formed the basis of the Governor's emergency proclamations continue to exist; and

The present year is critically dry and has been immediately preceded by two or more consecutive below normal, dry, or critically dry years; and

The California State Water Resources Control Board adopted Article X. Prohibition of Activities and Mandatory Actions
During Drought Emergency at its July 15, 2014, meeting, which became effective August 1, 2014; and

(n) Urban water suppliers, like the City, that violate mandatory actions approved by the California State Water Resources Control Board could be subject to cease and desist orders for violating emergency regulations with fines up to $10,000 per day per violation. Or the matter could be referred to the Attorney General’s Office for further action; and

(o) The California Water Code, Section 10632 requires that stages of action be undertaken by urban water suppliers in response to water supply shortages, including up to a 50 percent reduction in water supply; and

(p) The adoption and enforcement of this emergency ordinance is necessary to manage the City’s Potable Water supply and to avoid or minimize the effects of drought and shortage within the City; and

(q) That this Ordinance and actions taken hereafter pursuant to it are exempt from the California Environmental Quality Act as specific actions necessary to prevent or mitigate an emergency pursuant to Public Resources Code Section 21080(b)(4) and the California Environmental Quality Act Guidelines Section 15269(c).

SECTION 3. The City Council hereby declares that the provisions of this Ordinance are severable, and if for any reason a court of competent jurisdiction shall hold any sentence, paragraph or section of this ordinance to be invalid, or if any provision of this ordinance be invalidated by the enactment of a state or federal statute, such judicial decision or statute enactment shall not affect the validity of the remaining parts of this ordinance.
SECTION 4. This ordinance shall take effect and be in full force immediately upon the final passage and adoption thereof, as provided in the Inglewood City Charter.

SECTION 5. The City Clerk shall certify to the passage and adoption of this ordinance and to its approval by the City Council and shall cause the same to be published in accordance with the City Charter.

Passed, approved and adopted this 21st day of October, 2014.

JAMES T. BUTTS, JR.

James T. Butts, Jr.,
Mayor

ATTEST:

YVONNE HORTON

Yvonne Horton
City Clerk
ORDINANCE NO. 91-6

AN ORDINANCE OF THE CITY OF INGLEWOOD,
CALIFORNIA DECLARING A WATER SHORTAGE AND
ADOPTING MANDATORY WATER CONSERVATION
PRACTICES

THE CITY COUNCIL OF THE CITY OF INGLEWOOD DOES HEREBY

ORDAIN AS FOLLOWS:

Section 1. Article 7, Sections 5-110 through 5-112 is
hereby added to the Inglewood Municipal Code to read as follows:

"Article 7. WATER CONSERVATION

Section 5-110. Use Restrictions.

It shall be unlawful for any person to violate the
following restrictions concerning the use of water:

(a) With respect to irrigation practices:

(1) Except as provided below, lawn watering and
landscape irrigation with potable water is
permitted only between the hours of 4:00 p.m. and
10:00 a.m. Parks, school grounds and recreational
fields may be irrigated with potable water on any
day.

(2) Irrigation with reclaimed water is permitted
on any day.

(3) Watering is permitted at any time if a hand-
held hose equipped with a positive shut-off nozzle
is used a hand-held faucet-filled bucket of five
(5) gallons or less is used, or a drip irrigation
system is used.

(b) With respect to exterior washing practices:

(1) Washing of buildings, facilities, equipment,
autos, trucks, trailers, boats, airplanes and other
types of mobile equipment is prohibited except
where a held-hand hose equipped with a positive
shut-off nozzles for quick rinses is used. Whenever possible, such as when washing vehicles, a bucket wash is encouraged.

(2) Washing is permitted at any time on the immediate premises of a commercial car wash.

(3) Washings are exempted from these regulations where the health, safety and welfare of the public is contingent upon frequent vehicle or other facility or equipment cleaning, such as garbage trucks and vehicles used to transport food and perishables.

(4) Water shall not be used to wash down sidewalks, driveways, parking areas, tennis courts, patios or other paved areas except to alleviate immediate fire, sanitation or health hazards.

(c) With respect to other uses:

(1) Water from fire hydrants shall be used only for fire fighting and public welfare activities.

(2) Flushing of water mains will not be permitted except as necessary to protect the public health.

(3) Restaurants shall not serve water to their customers unless specifically requested.

(d) Leaks must be repaired as soon as discovered and shall not be allowed to continue for more than 48 hours.

Section 5-111. Penalties.

Violation of this Ordinance shall be an infraction.

Section 5-112. Authorization of Nonsalaried Employees of City to Issue Notice of Water Use Violation.

The following employees shall have the authority to
issue water use citations:

(1) Employees of the Parks and Code Enforcement
    Department assigned to enforcement functions."

Section 2. The City Clerk shall certify to the passage
and adoption of this Ordinance and to its approval by the City
Council and shall cause the same to be published in accordance
with the City Charter; and thirty (30) days from the final
passage and adoption, this Ordinance shall be in full force and
effect.

Passed, approved and adopted this __________ day

\[Signature\]

MAYOR OF THE CITY OF INGLEWOOD,
CALIFORNIA

ATTEST:

\[Signature\]

CITY CLERK

\(\text{Seal}\)
ORDINANCE NO. 93-20

AN ORDINANCE OF THE CITY OF INGLEWOOD, CALIFORNIA, AMENDING THE INGLEWOOD MUNICIPAL CODE, CHAPTER 5, ARTICLE 7, WATER CONSERVATION PRACTICES, TO PROVIDE FOR WATER EFFICIENCY IN THE LANDSCAPE.

WHEREAS, the State Legislature has found that the limited supply of state waters is subject to ever increasing demands; and

WHEREAS, the health of the State of California's economy depends on adequate supplies of water; and,

WHEREAS, it is the policy of the State of California and the City of Inglewood to promote the conservation and efficient use of water; and,

WHEREAS, landscapes are essential to the quality of life in the State of California and the City of Inglewood by providing open space, recreation areas, cleaner air and water, protection from erosion, fire protection, and replacement of ecosystems displaced by development; and,

WHEREAS, landscape design, installation and maintenance can and should be water efficient; and,

WHEREAS, the State of California, in 1990, added Chapter 10.8, "Water Conservation in the Landscape Act" (Act), to the California Government Code; and,

WHEREAS, the State legislature by this Act required that each City which has not adopted a water efficient landscape ordinance by January 1, 1993 shall enforce the provisions of the State's model ordinance pursuant to subdivision (a) of Section 65594 of the Government Code; and,

WHEREAS, consistent with these legislative findings and the Act, this Ordinance has been developed with the purpose of superceding the State's model landscaping ordinance; and,

WHEREAS, Chapter 5, Article 7, Water Conservation, of the Inglewood Municipal Code was adopted by the City Council to restrict the use of water in a wasteful manner; and,

WHEREAS, Chapter 5 of the Inglewood Municipal Code contains requirements for
the conservation of water and Chapter 12 of the Inglewood Municipal Code contains
policies and procedures for the review and approval of new construction in the form of
design guidelines.

NOW, THEREFORE, THE CITY COUNCIL OF THE CITY OF INGLEWOOD,
CALIFORNIA, DOES HEREBY ORDAIN AS FOLLOWS:

SECTION 1. Chapter 5, Article 7, Section 5-110 of the Inglewood
Municipal Code is hereby amended to read as follows:

"Article 7. WATER CONSERVATION

Section 5-110. Use Restrictions.

It shall be unlawful for any person to violate the following restrictions
concerning the use of water:

(a) With respect to irrigation practices:

(1) Except as provided below, lawn watering and landscape irrigation
with potable water is permitted only between the hours of 4:00 p.m.
and 10:00 a.m.

(2) Irrigation with reclaimed water is permitted on any day in
accordance with the water efficient landscape criteria of Sections 5-
111 through 5-118.

(3) Watering is permitted at any time if a hand-held hose equipped with
a positive shut-off nozzle is used, a hand-held faucet-filled bucket of
five (5) gallons or less is used, or with a water-efficient landscape
system in accordance with Sections 5-111 through 5-118."

SECTION 2. Chapter 5, Article 7, Sections 5-111 through 5-112 are hereby amended to
read as follows:

"Section 5-111. Definitions.

The words used in this ordinance have the meaning set forth below:

(a) "Anti-drain valve" or "check valve" means a valve located under a sprinkler
head to hold water in the system so it minimizes drainage from the lower
elevation sprinkler heads."
(b) "Application rate" means the depth of water applied to a given area, usually measured in inches per hour.

(c) "Applied water" means the portion of water supplied by the irrigation system to the landscape.

(d) "Automatic controller" means the mechanical or solid state timer, capable of operating valve stations to set the days and length of time of a water application.

(e) "Backflow prevention device" means a safety device used to prevent pollution or contamination of the water supply due to the reverse flow of water from the irrigation system.

(f) "Conversion factor (0.62)" means a number that converts the maximum applied water allowance from acre-inches per acre per year to gallons per square foot per year. The conversion factor is calculated as follows:

\[
\frac{325,829 \text{ gallons}}{43,560 \text{ square feet}} = \frac{12 \text{ inches}}{1 \text{ acre}} = (0.62)
\]

325,829 gallons = one acre foot

43,560 square feet = one acre

12 inches = one foot

To convert gallons per year to 100-cubic feet per year, another common billing unit for water, divide gallons per year by 748 (748 gallons = 100 cubic feet).

(g) "Director" means the Director of Public Services or the Community Development and Housing Director who are authorized to issue required water improvement or development permits.

(h) "Ecological restoration project" means a project where the site is intentionally altered to establish a defined, indigenous, historic ecosystem.

(i) "Effective precipitation" or "usable rainfall" means the portion of total precipitation that is used by the plants. Precipitation is not a reliable source of water, but can contribute to some degree toward the water needs of the landscape.
(j) "Emitter" means a drip irrigation fitting that delivers water slowly from the system to the soil.

(k) "Established landscape" means the point at which plants in the landscape have developed roots into the soil adjacent to the root ball.

(l) "Establishment period" means the first year after installing the plant in the landscape.

(m) "Estimated Applied Water Use" means the portion of the Estimated Total Water Use that is derived from applied water. The Estimated Applied Water Use shall not exceed the Maximum Applied Water Allowance. Estimated Applied Water Use may be the sum of the water used on system components recommended through the irrigation schedule, as referenced in Section 5.113.

(n) "Estimated Total Water Use" means the annual total amount of water estimated to be needed to keep the plants in the landscaped area healthy. It is based upon such factors as the local evapotranspiration rate, the size of the landscaped area, the types of plants, and the efficiency of the irrigation system.

(o) "ET Adjustment factor" means a factor of 0.8 that, when applied to reference evapotranspiration, adjusts for plant factors and irrigation efficiency, two major influences upon the amount of water that needs to be applied to the landscape.

A combined plant mix with a site-wide average of 0.5 is the basis of the plant factor portion of this calculation. The irrigation efficiency for purposes of the ET Adjustment Factor is 0.625.

Therefore, the ET Adjustment Factor is (0.8) = (0.5/0.625).

(p) "Evapotranspiration" means the quantity of water evaporated from adjacent soil surfaces and transpired by plants during a specific time.

(q) "Flow rate" means the rate at which water flows through pipes and valves (gallons per minute or cubic feet per second).
(r) "Hydrozone" means a portion of the landscaped area having plants with similar water needs that are served by a valve or set of valves with the same schedule. A hydrozone may be irrigated or non-irrigated. For example, a naturalized area planted with native vegetation that will not need supplemental irrigation once established is a non-irrigated hydrozone. A hydropalette is a term applied to a selection of plants used within a hydrozone.

(s) "Infiltration rate" means the rate of water entry into the soil expressed as a depth of water per unit of time (inches per hour).

(t) "Irrigation efficiency" means the measurement of the amount of water beneficially used divided by the amount of water applied. Irrigation efficiency is derived from measurements and estimates of irrigation system characteristics and management practices. The minimum irrigation efficiency for purposes of this ordinance is 0.625. Greater irrigation efficiency can be expected from well designed and maintained systems.

(u) "Landscape irrigation audit" means a process to perform site inspections, evaluate irrigation systems, and develop efficient irrigation schedules.

(v) "Landscape area" means the entire parcel less the building footprint, driveways, non-irrigated portions or parking lots, hardscapes such as decks and patios, and other non-porous areas. Water features are included in the calculation of the landscaped area. Areas dedicated to edible plants, such as orchards or vegetable gardens are not included.

(w) "Lateral line" means the water delivery pipeline that supplies water to the emitters or sprinklers from the valve.

(x) "Main line" means the pressurized pipeline that delivers water from the water source to the valve or outlet.

(y) "Maximum Applied Water Allowance" means, for design purposes, the upper limit of annual applied water for the established landscaped area as specified in Section 5.113. It is based upon the area's reference
evapotranspiration, the ET Adjustment Factor, and the size of the landscaped area. The Estimated Applied Water Use shall not exceed the Maximum Applied Water Allowance.

(c) "Mined-and reclamation projects" means any surface mining operation with a reclamation plan approved in accordance with the Surface Mining and Reclamation Act of 1975.

(aa) "Mulch" means any material such as leaves, bark, straw or other materials left loose and applied to the soil surface to reduce evaporation.

(bb) "Operating pressure" means the pressure at which a system of sprinklers is designed to operate, usually indicated at the base of a sprinkler.

(cc) "Overspray" means the water which is delivered beyond the landscaped area, wetting pavements, walks, structures, or other non-landscaped areas.

(dd) "Plant factor" means a factor that when multiplied by reference evapotranspiration, estimates the amount of water used by plants. For purposes of this ordinance, the average plant factor of low water using plants ranges from 0.1 to 0.3; for average water using plants, the range is 0.4 to 0.6; and for high water using plants it is 0.7 to 1.0.

(ee) "Rain sensing device" means a system which automatically shuts off the irrigation system when it rains.

(ff) "Record drawing" or "as-built" means a set of reproducible drawings which show significant changes in the work made during construction and which are usually based on drawings marked up in the field and other data furnished by the contractor.

(gg) "Recreational area" means an area of active play or recreation such as sports field, school yard, picnic grounds, or other areas with intense foot traffic.

(hh) "Recycled water", "reclaimed water", or "treated sewage effluent water" means treated or recycled waste water of a quality suitable for nonpotable uses such as landscape irrigation and not intended for human consumption.
(ii) "Reference evapotranspiration" or "ET\text{\textsubscript{o}}" means a standard measure of environmental parameters which affect the water use of plants. ETo is given in inches per day, month or year. ETo is an estimate of the evapotranspiration of a large field of four to seven-inch tall, cool-season grass that is well watered. Reference evapotranspiration is used as the basis of determining the Maximum Applied Water Allowance so that regional differences in climate can be accommodated.

(jj) "Rehabilitated landscape" means any relandscaing project that requires a permit.

(kk) "Run-off" means water which is not absorbed by the soil or landscape to which it is applied, and flows from the area. For example, run-off may result from water that is applied at too great a rate (application rate exceeds infiltration rate) or when there is a severe slope.

(ll) "Soil moisture sensing device" means a device that measures the amount of water in the soil.

(mm) "Soil texture" means the classification of soil based on the percentage of sand, silt, and clay in the soil.

(nn) "Sprinkler head" means a device which sprays water through a nozzle.

(oo) "Static water pressure" means the pipeline or municipal water supply pressure when water is not flowing.

(pp) "Station" means an area served by one valve or by a set of valves that operate simultaneously.

(qq) "Turf" means a surface layer of earth containing mowed grass with its roots. Annual bluegrass, Kentucky bluegrass, Perennial ryegrass, Red fescue, and Tall fescue are cool-season grasses. Bermudagrass, Kikuyugrass, Seashore paspalum, St. Augustine grass, Zoysia grass, and Buffalo grass are warm season grasses.

(rr) "Valve" means a device used to control the flow of water in the irrigation system.
"Water conservation concept statement" means a one-page checklist and a narrative summary of the project. A sample shall be referenced in the Design Guidelines of Chapter 12.

Section 5.112. Water Efficiency in the Landscape

The purpose of this section is the promotion of the value and benefits of landscapes while recognizing the need to invest water and other resources as efficiently as possible; the establishment of a structure for designing, installing, and maintaining water efficient landscapes in new projects; and the establishment of provisions for water management practices and water waste prevention for established landscapes.

(a) Provisions of this section shall be applicable, except as provided in Section 5.112(b), to:

(1) all new and rehabilitated landscaping for public agency projects and private development projects that require a permit; and

(2) contractor or developer-installed landscaping in residential projects.

(3) New and rehabilitated projects subject to this section shall conform to the provisions in Sections 5.111 through 5.118.

(b) This section shall not apply to:

(1) homeowner-provided landscaping at single-family and multi-family projects of four (4) or fewer units if the landscaping is in accordance with the water-efficient landscape design guidelines contained in the Site Plan Review procedures of Chapter 12 of the Inglewood Municipal Code.

(2) any project with a landscaped area less than 2,500 square feet only if developed or rehabilitated in accordance with the water-efficient landscape design guidelines in Chapter 12, Site Plan Review Procedures.

(3) cemeteries;

(4) registered historical sites;

(5) ecological restoration projects that do not require a permanent
irrigation system;

(6) mined-land reclamation projects that do not require a permanent irrigation system;

(7) public lands except to the extent feasible of incorporating water efficient maintenance practices on a routine basis or a reclaimed water source is used as prescribed by Section 5.113.

(8) new subdivisions of up to 10 units if a model home or a demonstration garden is established in compliance with the adopted design guidelines of Chapter 12, Site Plan Review Procedures.

(9) planted areas of up to 5,000 square feet where site design and conditions permit a separate water meter to be installed and the planted areas are designed, installed, and maintained in accordance with the design guidelines of Chapter 12, Site Plan Review Procedures.

(10) exemptions granted by the Director authorized to issue the required permit to any of the design and improvement standards of this Chapter. Such exemptions may be granted if the Director finds that the proposed design or improvement is in substantial compliance with the purpose and intent of this Chapter."

SECTION 3. Article 7, Sections 5-113 through 5-118 are hereby added as follows:

"Section 5.113 Landscape Plan - Required

Landscape plans shall be prepared in accordance with the standards set forth herein and with any guidelines developed to implement the provisions of this Chapter. Such plans shall be submitted and approved prior to the issuance of building permits to comply with the requirements of this Chapter.

Section 5.113.1 Landscape Plan - Application

Prior to the issuance of a building permit, a Landscape Plan Application shall be submitted and reviewed in accordance with this Chapter, and those procedures found in Chapter 12, Site Plan Review. Applications for Landscape Plan approval
shall be filed by the owner of the affected property or the owner's agent, or by a public entity to which the provisions of this Chapter apply, on a form furnished by the Director of Community Development and Housing.

Section 5.113.2 Landscape Plan - Approval

No Landscape Plan Application shall be approved unless the Director of Community Development and Housing finds that the plan complements the design of the project; is consistent with the provisions of this chapter and applicable landscape guidelines; is compatible with adjacent existing or future public landscaped areas, and with the elevations and appearances of existing structures located upon lots within the immediate vicinity of the lot which is the subject of the application.

Section 5.113.3 Landscape Plan - Content

Each landscape plan shall consist of the elements described in this section and in accordance with applicable guidelines including, but not limited to the following:

(a) Water Conservation Concept Statement. Each landscape plan shall include a Concept Statement which serves as a checklist to verify that the elements of the landscape plan have been completed. It shall include a brief summary of the project. This statement shall include calculations of the project's:

   (1) Maximum Applied Water Allowance.

   (2) Estimated Applied Water Use.

(b) Portions of landscaped areas in public and private projects such as parks, playgrounds, sports fields, golf courses, or school yards where turf provides a playing surface or serves other recreational purposes may require water in addition to the Maximum Applied Water Allowance. A statement shall be included with the landscape design plan, designating areas to be used for such purposes and specifying any needed amount of additional water above the Maximum Applied Water Allowance.

(c) Planting Plan. The planting plan shall identify location, spacing, numbers,
and container sizes of all plant materials including common and botanical
names, drawn on project base sheets in a clear and legible fashion in
accordance with the guidelines established to implement the provisions of
this Chapter.

d) Irrigation Plan. The irrigation plan shall identify all components of the
irrigation system drawn on project base sheets in a clear and legible fashion
in accordance with the guidelines established to implement the provisions
of this Chapter.

e) Annual Irrigation Schedule. The annual irrigation schedule shall be
prepared with a minimum four-season water schedule, for both the plant
establishment period and established landscape. The irrigation schedule
shall include run time and frequency of irrigation for each station.

f) Recycled Water. The installation of recycled water irrigation systems (dual
distribution systems) shall be required to allow for the current and future
use of recycled water, unless an exemption has been granted as described
in the following section:

(1) Irrigation systems shall make use of recycled water unless a written
exemption has been granted by the local water agency, stating that recycled
water meeting all health standards is not available and will not be available
in the foreseeable future.

(2) The recycled water irrigation systems shall be designed and operated
in accordance with all local and state codes.

(g) Soils test. The landscape plan shall include a report of soils test which
includes information on soil infiltration rate, soil texture, and agricultural
suitability. No soil test shall be required if the soil type can be determined
by reference to resources available to the Director and the soil is amended
as required by the Director; provided, however, a soils test shall be required
if substantial amounts of soil are imported to the property.
Section 5.114. Water Features

Decorative water features such as pools, ponds, and waterfalls used in landscaped areas shall incorporate recycling of water, and shall be designed and operated to minimize water loss.

Section 5.115. Water Meters

Each landscape irrigation system shall be metered for water use, separately from domestic and other non-landscape uses except for single family homes or any project with a landscaped area of less than 5,000 square feet.

Section 5.116. Landscape Maintenance

The property owner shall permanently and continuously maintain all landscaping and irrigation in a neat, clean and healthy condition, including removal of weeds and litter, proper pruning, mowing of lawns, fertilizing, and watering; and replacement of diseased and/or dead plants and malfunctioning or missing irrigation system components.

Section 5.116.1 Landscape Irrigation Audit Schedules

A schedule of landscape irrigation audits, for all non-exempt projects, satisfying the following conditions shall be submitted to the Director as part of the Landscape Documentation Package.

(a) At a minimum, audits shall be in accordance with the State of California Landscape Water Management program as described in the "Landscape Irrigation Auditor Handbook", which is hereby incorporated by this reference. (Landscape Irrigation Auditor Handbook, June 1990, version 5.5 [formerly Master Auditor Training].)

(b) The schedule shall provide for landscape irrigation audits to be conducted by certified landscape irrigation auditors at least once every five years.

(c) Audits shall be reviewed by the City Water Services Division and maintained by the Planning Division.

Section 5.116.2 Certification

(a) Upon completing the installation of the landscaping and the irrigation
system, an irrigation audit shall be conducted by a certified landscape
irrigation auditor prior to the final field observation. (See "Landscape
Irrigation Auditor Handbook" referenced in Section 5.116.1.)

(b) A licensed landscape architect or contractor, certified irrigation designer, or
other licensed or certified professional in a related field shall conduct a
final field observation. The certificate shall specifically indicate that plants
were installed as specified, that the irrigation system was installed as
designed, and that an irrigation audit has been performed, along with a list
of any observed deficiencies.

(c) Certification shall be accomplished by a completed Certificate of Substantial
Completion to be delivered to the Planning Division, to the retail water
supplier, and to the Owner of Record. A sample of this form, which shall
be provided by the City, is contained in the Guidelines for Water Efficient
Landscapes of Chapter 12.

(d) Failure to comply with the above provisions shall be grounds for the
Director to withhold final approval of the project or utility service in
accordance with the authorized administrative policies and procedures of
the City of Inglewood.

Section 5.116.3 Public Education

(a) Information shall be maintained about designing, installing, and
maintaining water efficient landscapes in the Main Library and in the
Planning Division of the Community Development and Housing
Department.

(b) Model Homes. At least one model home that is landscaped in each project
consisting of 10 or more homes shall demonstrate via signs and information
the principles of water efficient landscape described in the Guidelines for
Water Efficient Landscapes in Chapter 12.

(1) Signs shall be used to identify the model as an example of a water
efficient landscape and featuring elements such as hydrozones,
irrigation equipment and others which contribute to the overall
water efficiency.

(2) Information shall be made available to prospective residents about
designing, installing and maintaining water efficient landscapes.

Section 5.116.4 PROVISIONS FOR EXISTING LANDSCAPES

Water Management. All existing landscaped areas to which the City
provides water that are one acre or more, including golf courses, green
belts, common areas, multi-family housing, schools, businesses, parks,
cemeteries, and publicly owned landscapes shall have a landscape irrigation
audit at least every five years. At a minimum the audit shall be in
accordance with the California Landscape Water Management program as
described in the "Landscape Irrigation Auditor Handbook", which is hereby
incorporated by this reference. (See "Landscape Irrigation Auditor
Handbook", Department of Water Resources, Water Conservation Office,
June 1990, version 5.5.)

(1) If the project's water bills indicate that water consumption is less
than or equal to the Maximum Applied Water Allowance for that
project site, an audit shall not be required. Reports and declarations
of compliance shall be reviewed by the Water Services Division.

(2) Recognition of projects that stay within the Maximum Applied Water
Allowance is encouraged.

Section 5.117 Penalties

Violation of the provisions of this article shall be considered an infraction.

Section 5.117.1 Authority to Issue Notice of Violation

The Department of Parks and Code Enforcement shall have the duties of
investigation and enforcement of this Article and shall have the authority to issue
citations for Water-Efficient Landscape violations.

Section 5.118. (RESERVED)*
SECTION 4. Section 1-18.1 of the Inglewood Municipal Code is hereby amended to add Section 5-117.

SECTION 5. Adoption and implementation of this Ordinance is exempt from the provisions of the California Environmental Quality Act pursuant to Sections 15307 and 15308 of the Public Resources Code, as a Class 7 and Class 8 Categorical Exemption.

SECTION 6. The City Clerk shall certify to the passage and adoption of this Ordinance and to its approval by the City Council and shall cause the same to be published in accordance with the City Charter; and thirty days from the final passage and adoption, this Ordinance shall be in full force and effect.

Passed, approved and adopted this 20th day of July 1993.

EDWARD VINCENT

Mayor of the City of Inglewood

ATTEST

HERMANITA V. HARRIS

City Clerk

(SEAL)
ORDINANCE NO. 15-04


WHEREAS, Government Code Section 50022.1, et seq., authorizes the adoption by reference of the Codes specified in the title of the Ordinance; and

WHEREAS, At least one copy of each of said Codes certified as full, true and correct by the City Clerk of the City of Inglewood have been filed in the Office of the City Clerk in accordance with the provisions of Government Code Section 50022.6; and

WHEREAS, A duly noticed public hearing, as required by California Government Code Section 50022.3, has been conducted and concluded prior to the adoption of this Ordinance; and

WHEREAS, All legal prerequisites to the adoption of this ordinance have occurred; and
NOW, THEREFORE, THE CITY COUNCIL OF THE CITY OF INGLEWOOD
DOES ORDAIN AS FOLLOWS:

SECTION 1: Articles 1, 2 and 5 of Chapter 11, Building Regulations, of the
Inglewood Municipal Code, are hereby amended as provided for herein, provided that
said amendments shall not apply to or excuse any violation thereof occurring prior to
the effective date of this Ordinance and provided further that the provisions of Chapter
11 as exist prior to the adoption of this ordinance shall continue to be applicable to
construction for which permits have been issued prior to the effective date of this
Ordinance.

SECTION 2: Chapter 11, Building Regulations, Article 1, Definitions, Sections
11-1.1, 11-1.2, 11-1.2.1 are hereby deleted in their entirety and replaced to read as
follows:

Section 11-1.1 Building Official.
Building Official shall mean the official in charge of Building Safety of the City of
Inglewood, or his or her authorized representative.

Section 11-1.2 California Building Code.
The California Building Code shall mean the 2013 California Building Code,
based on the 2012 Edition of the International Building Code, published by the
International Code Council, the 2013 California Mechanical Code, based on the 2012
Edition of the Uniform Mechanical Code, published by the International Association of
Plumbing And Mechanical Officials, the 2013 California Plumbing Code based on
2012 Edition of the Uniform Plumbing Code, published by the International Association
of Plumbing And Mechanical Officials, the 2013 California Electrical Code, based on
the 2011 Edition of the National Electrical Code, published by the National Fire
Protection Association, the 2013 California Residential Code, based on the 2012
International Residential Code, published by the International Code Council, the 2013
California Energy Code, published by the California Building Standards Commission,
the 2013 California Fire Code, based on the 2012 International Fire Code, published
by the International Code Council, with the 2014 County of Los Angeles Fire Code Amendments, the 2013 California Green Building Standards Code, published by the California Building Standards Commission, the 2013 California Administrative Code, published by the California Building Standards Commission, and the 2013 California Reference Standards Code, published by the California Building Standards Commission. All previous references to the Uniform Codes shall mean the California Codes.

Section 11-1.2.1 References to Prior Codes.

Unless superseded and expressly repealed references in City forms, documents and regulations to the chapters and sections of the former 2001 Title 24 Building Standards Code, shall be construed to apply to the corresponding provisions contained within the proposed 2013 Title 24 Building Standards Code and all its supplements, errata, amendments and revisions thereof. All ordinances or parts of ordinances in conflict herewith are hereby superseded and expressly repealed.

SECTION 3: Chapter 11, Building Regulations, Article 2, Building Code, Sections 11-2, 11-3, 11-4, 11-5 are hereby deleted in their entirety and replaced to read as follows:


Buildings, 1997 Edition, are on file in the office of the City Clerk, and shall be at all
times maintained by the City Clerk for use and examination by the public. Such
Uniform Code for the Abatement of Dangerous Buildings, 1997 Edition, are hereby
referred to, adopted and made a part hereof as if fully set forth herein at length, and
shall be designated, known and referred to as the "Building Code of and for the City of
Inglewood.

Section 11-3 California Building Codes - Additions.

Additions to the California Building Code are hereby established to read as
follows:

Section 109.7 Other Fees.

The fee for each permit, investigation, request for change of address, request
for verification, search of office records, copies, inspection, occupancy allowed and/or
device operated, shall be set forth by resolution of the City Council. The determination
of value or valuation under any of the provisions of this code shall be made by the
Building Official. The value to be used in computing the building permit and building
plan review fees shall be the total value of all construction work for which the permit is
issued as well as all finished work, painting, roofing, electrical, plumbing, heating, air
conditioning, elevators, fire-extinguishing systems and any other permanent
equipment.

Section 109.7.1 Appeal Fee.

An appeal fee to appeal a decision of the Building Official to the Construction
Appeals Board shall be set forth by resolution of the City Council. A written notice of
appeal shall be submitted at the same time as the appeal fee.

Section 109.7.2 Fire Code Permit, Plan Check Fees

When an application for permit is required to be submitted, a fire code permit
fee, a plan check fee and a permit issuance fee shall be as set forth by resolution of
the City Council.
Section 109.7.3  Grading Permit, Plan Check Fees
When an application for permit is required to be submitted, a grading permit fee, a plan check fee and a permit issuance fee shall be as set forth by resolution of the City Council.

Section 109.8  Investigation Fees: Work without a Permit
Investigation. Whenever any work for which a permit is required by this code has been commenced without first obtaining said permit, a special investigation shall be made before a permit may be issued for such work.
Fees. An investigation fee, in addition to the permit issuance fee shall be collected whether or not a permit is then or subsequently issued. The investigation fee shall be equal to the amount of the permit fee required by this code.
The minimal investigation fee shall be set forth by resolution of the City Council. The payment of such investigation fee shall not exempt any person from compliance with all other provisions of this code nor from any penalty prescribed by law.

Section 111.5  Disconnection of Utilities.
1. The Building Official may refuse to allow any or all of the public utilities to be connected to any building until a Certificate of Occupancy has been issued.
2. The Building Official may order the discontinuance of service of any utility to an existing building when there is violation to the Inglewood Municipal Code and/or California Building Standards Code, Title 24.

Section 117  Special Study Zone.
The construction of a building or structure that lies within the special study zone shall be permitted only after a seismic evaluation has been made in accordance with the requirements of the Alquist-Priolo Special Studies Zone Act, and this plan has been reviewed by a City appointed geologist at the expense of the prospective developer.
EXTERIOR SOUND TRANSMISSION CONTROLS

Section 1255    Purpose and Scope.

The purpose of this Section is to establish uniform minimum noise insulation performance standards to protect persons within new hotels, motels, dormitories, apartment houses and dwelling units, including detached single family dwellings, and other noise-sensitive occupancies as described in added Section 1256 of the California Building Code, from the effects of excessive noise, including, but not limited to, hearing loss or impairment and interference with speech and sleep.

Section 1256    Purpose and Scope.

(a) The purpose of these sections is to safeguard life, health, property and public welfare by establishing minimum requirements for the design, construction and modification of buildings in the vicinity of Los Angeles International Airport. These sections are not intended to abridge any safety or health requirements required under any other applicable codes or ordinances.

These sections define the procedures for implementing the sound insulation requirements set forth in the State Division of Aeronautics Noise Standards (Title 21, Subchapter 6), Noise Element of the General Plan for the City of Inglewood and the 2010 California Building Code (Part 2, Title 24, CCR, Section 1207). Based on these documents, acoustic insulation shall be provided within specified Community Noise Equivalent Level (CNEL) contours to ensure an interior CNEL (due to exterior noise) of 45 dB or less in all habitable rooms in both single and multifamily residential dwellings and in specified noise-sensitive nonresidential buildings.

(b) The provisions of the Chapter shall apply to all Group R buildings (single and multifamily residential dwellings), as defined by the California Building Code, that are located on parcels of land within the fourth quarter 1992 65dB CNEL noise contour map of Los Angeles International Airport published by the City of Los Angeles Department of Airports and to be specified nonresidential buildings within the 65 dB CNEL of the airport. Group R buildings are not allowed to be constructed in the 75 dB
CNEL or greater noise contour on the fourth quarter 1992 map. This chapter is intended to supplement the provisions of the California Building code and in the case of conflict between this chapter and any applicable codes, the more restrictive requirements shall be met.

(c) The provisions of this chapter are intended to supplement the standards of the California Building Code and not replace them.

Section 1257 Standards and Certifications

Prescriptive design/construction standards are provided for the sound insulation of new construction or modification of Group R buildings located within the fourth quarter 1992 dB CNEL contour.

Prescriptive design/construction standards are not provided for noise-sensitive nonresidential buildings (schools, churches and hospitals) that constitute incompatible land use within the 65 dB CNEL contour; however, a registered engineer whose primary occupation is acoustical engineering must provide certification that the planned construction or modifications will achieve the required noise environment.

Deviations from the specified Building Requirements (i.e., standards, materials and construction assemblies) provided in the Building Requirements herein are permissible only if all deviations are certified to comply with and achieve the 45 dB CNEL standard for every habitable room constructed or modified. All deviations require approval by the appropriate Building Official and certification by a registered engineer whose primary occupations is acoustical engineering. Acoustic measurements will be conducted by a registered engineer whose primary occupation is acoustical engineering to verify that the 45 dB CNEL standard is not exceeded for all habitable rooms incorporating deviations from the Building Requirements.

All new and modified residential construction within the 65 dB CNEL contour is subject to post-construction/pre-occupancy acoustic measurement at the discretion of the appropriate Building Official. Occupation of all habitable rooms not achieving the
required CNEL rating may be precluded until such time as acoustic modification of that
room achieves at least the 45 dB CNEL standard.

Section 1258 Application to Existing Buildings.

Addition or alteration of floor area may be made to existing Group R buildings
within the 65 dB CNEL noise zone but outside the 75 dB CNEL contour without
making the entire building comply with all the requirements of this chapter for new
construction unless the cost of improvements is 75 percent or more of the total
assessed values of the structure, in which case the entire building shall be made to
comply. No addition of habitable space shall be made to existing Group R buildings
inside the 75 dB CNEL contour unless the entire building is made to comply. All
additions of separable habitable rooms, and all separable habitable rooms or areas
that result from an expansion of the building, including both the newly expanded area
and the pre-existing room or area, shall fully comply with the design and construction
procedures and standards set forth in this code.

Section 1259 Non-Residential Buildings

(a) Non-Residential noise-sensitive buildings within the fourth quarter 1992
65dB CNEL contour that are incompatible land uses under the State Noise Standards
and described as schools, hospital, and convalescent homes, churches, synagogues,
temples, and other places of worship, and are proposed to be constructed or modified,
shall be designed to provide an interior CNEL due to aircraft of 45 dB or less.

(b) Additions to the buildings described in Sec. 1259 (a) shall comply with
the requirements of Sec. 1258.

BUILDING REQUIREMENTS FOR NEW
RESIDENTIAL CONSTRUCTION IN THE 70 dB
CNEL to 75 dB CNEL NOISE ZONE
Section 1260  Exterior Walls

New walls that form the exterior portion of habitable rooms shall be constructed as follows:

1. Studs shall be at least 4 inches in nominal depth.

2. Exterior finish shall be stucco, minimum 7/8" thickness, brick veneer, masonry, or any siding material allowed by this code. Wood or metal siding shall be installed over 1/2-inch solid sheathing.

3. Masonry walls with surface weight of less than 40 pounds per square foot will require an interior supporting stud wall that is finished as required by Section 1260 (6).

4. Wall insulation shall be at least R-11 glass fiber or mineral wool and shall be installed continuously throughout the stud space.

5. Exterior solid sheathing shall be covered with overlapping asphalt felt.

6. Interior wall finish shall be at least 5/8" thick gypsum wallboard or plaster.

Section 1261  Exterior Windows

(a) Openable Windows. All openable windows in the exterior walls of habitable rooms shall have a laboratory sound transmission class rating of at least STC 40 dB and shall have an air infiltration rate of no more than 0.5 cubic feet per minute when tested according to ASTM E-283.

(b) Fixed Windows. All fixed windows in the exterior walls of habitable rooms shall:

1. Have a sound transmission class rating of at least STC 40 dB, or

2. Shall be 5/8-inch laminated galls with STC rating of 40 dB and shall be set in non-hardening glazing materials.

3. Shall be glass block at least 3-1/2 inches thick.

(c) The total areas of glazing in rooms used for sleeping shall not exceed 20% of the floor area.
Section 1262  Exterior Doors

(a) Exterior hinged doors to habitable rooms that are directly exposed to aircraft noise and are facing the source of the noise shall be a door and edge seal assembly that has a laboratory sound transmission class of at least STC 40 dB.

(b) Exterior hinged doors to habitable rooms that are not directly exposed to aircraft noise and do not face the source of the noise shall have a minimum STC rating of 35 dB.

(c) Sliding glass doors at habitable rooms shall not be allowed in walls that are directly exposed to aircraft noise. Sliding glass doors in walls that are not directly exposed shall have an STC rating of at least 40 dB.

(d) Access doors from garage to habitable room shall have an STC rating of at least 30 dB.

Section 1263  Roof/Ceiling Construction

(a) Roof rafters shall have a minimum slope of 4:12 and shall be covered on their top surface with minimum ½ inch solid sheathing and any roof covering allowed by this code.

(b) Attic insulation shall be batt or blown-in glass fiber or mineral wool with a minimum R-30 rating applied between the ceiling joists.

(c) Attic ventilation shall be:

1. Gable vents or vents that penetrate the roof surface that are fitted with transfer ducts at least 6 feet in length that are insulating flexible ducting or metal ducts containing internal 1-inch thick coated fiberglass sound absorbing duct liner. Each duct shall have a lined 90-degree bend in the duct so that there is no direct line-of-straight from the exterior through the duct into the attic, or

2. Noise control louver vents, or

3. Eave vents that are located under the eave overhang.

(d) Ceilings shall be finished with gypsum board or plaster that is at least 5/8-inch thick. Ceiling materials shall be mounted on resilient channels.
(e) Skylights shall penetrate the ceiling by means of a completely enclosed light well that extends from the roof opening to the ceiling opening. A secondary openable glazing panel shall be mounted at the ceiling line or at any point that provides at least a 4-inch space between the skylight glazing and the secondary glazing and shall be glazed with at least 3/16-inch plastic or laminated glass. The weather-side skylight shall be any type that is permitted by the Building Code. The size of skylights shall be no more than 20 percent of the roof area of the room.

Section 1264 Floors

The floor of the lowest habitable rooms shall be concrete slab on grade. Wood framed floors for habitable rooms will be allowed when they are directly above another habitable room, a basement, garage, workshop, utility room or other non-habitable rooms that are completely enclosed with wall materials allowed by this code.

Section 1265 Ventilation

(a) A ventilation system shall be provided that will provide at least the minimum air circulation and fresh air supply requirements of this code in each habitable room without opening any window, door or other opening to the exterior. All concealed ductwork shall be insulated flexible glass fiber ducting that is at least 10 feet long between any two points of connection.

(b) Kitchen cook top vent hoods shall be the non-ducted recirculating type with no ducted connection to the exterior.

Section 1266 Fireplaces

Each fireplace shall be fitted with a damper at the top of the chimney that is operated from the firebox and shall have glass doors across the front of the firebox.

Section 1267 Wall and Ceiling Openings

Openings in the shell of the residence which degrade its ability to achieve and interior CNEL rating of 45 dB or less when all doors and windows are closed are prohibited unless access panels, pet doors, mail delivery drops, air-conditioning or
other openings are designed to maintain the 45 dB CNEL (or less) standard in the
room to which they provide access.

BUILDING REQUIREMENTS FOR
NEW RESIDENTIAL CONSTRUCTION IN THE
65 dB CNEL TO 70 dB CNEL NOISE ZONE

Section 1268   Exterior Walls

New walls that form the exterior portion of habitable rooms shall be constructed
as follows:

1.  Studs shall be at least 4 inches in nominal depth.

2.  Exterior finish shall be stucco, minimum 7/8" thickness, brick veneer, masonry, or any siding material allowed by this code. Wood or metal siding shall be installed over 1/2-inch solid sheathing.

3.  Masonry walls with a surface weight of less than 40 pounds per square foot will require an interior stud wall that is finished as required by Section 1260 (6).

4.  Wall insulation shall be at least R-11 glass fiber or mineral wool and shall be installed continuously throughout the stud space.

5.  Exterior solid sheathing shall be covered with overlapping asphalt felt.

6.  Interior wall finish shall be at least 5/8" thick gypsum wallboard or plaster.

Section 1269   Exterior Windows

(a)  Openable Windows. All openable windows in the exterior walls of habitable rooms shall have a laboratory sound transmission class rating of at least STC 35 dB and shall have air infiltration rate of no more than 0.5 cubic feet per minute when tested according to ASTM E-283.

(b)  Fixed Windows. All fixed windows in the exterior walls of habitable rooms shall be at least ¼-inch thick and shall be set in non-hardening glazing materials.
(c) The total area of glazing in rooms used for sleeping shall not exceed 20% of the floor area.

Section 1270 Exterior Doors

(a) Exterior hinged doors to habitable rooms that are directly exposed to aircraft noise and are facing the source of the noise shall be a door and edge seal assembly that has a laboratory sound transmission class of at least STC 35 dB.

(b) Exterior hinges doors to habitable rooms that are not directly exposed to aircraft noise and do not face the source of the noise shall have a minimum STC rating of 30 dB.

(c) Sliding glass at habitable rooms shall have glass that is 1/4-inch thick.

(d) Access doors from a garage to a habitable room shall have an STC rating of at least 30 dB.

Section 1271 Roof/Ceiling Construction

(a) Roof rafters shall have a minimum slope of 4:12 and shall be covered on their top surface with minimum 1/2-inch solid sheathing and any roof covering allowed by this code.

(b) Attic insulation shall be batt or blown glass fiber or mineral wool with a minimum R-30 rating applied between the ceiling joists.

(c) Attic Ventilation shall be:

1. Gable vents or vents that penetrate the roof surface that are fitted with transfer ducts at least 6 feet in length that are insulation flexible ducting or metal ducts contacting internal 1-inch thick coated fiberglass sound absorbing duct liner. Each duct shall have lined 90-degree bend in the duct so that there is no direct line-of-sight from the exterior through the duct into the attic, or

2. Noise control louver vents, or

3. Eave vents that are located under the eave overhang.

(d) Ceilings shall be finished with gypsum board or plaster that is at least 5/8-inch thick.
(e) Skylights shall penetrate the ceiling by means of a completely enclosed light well that extends from the roof opening to the ceiling opening. A secondary openable glazing panel shall be mounted at the ceiling line and shall be glazed with a least 3/16-inch plastic, tempered or laminated glass.

Section 1272  Floors

The floor of the lowest habitable rooms shall be concrete slab on grade or wood framed floors.

Section 1273  Ventilation

(a) A ventilation system shall be provided that will provide at least the minimum air circulation and fresh air supply requirements of this code in each habitable room without opening any window, door or other opening to the exterior. All concealed ductwork shall be insulated flexible glass fiber ducting that is a least 10 feet long between any two points of connection.

(b) Kitchen cook top vent hoods shall be the non-ducted recirculating type with no ducted connection to the exterior.

Section 1274  Fireplaces

Each fireplace shall be fitted with a damper at the top of the chimney that is operated from the firebox and shall have glass doors across the front of the firebox.

Section 1275  Wall and Ceiling Openings

Openings in the shell of the residence which degrade its ability to achieve an interior CNEL rating of 45 dB or less when all doors and windows are closed are prohibited. Any access panels, pet doors, mail delivery drops, air-conditioning, or other openings must be designed to maintain the 45 dB CNEL or less standard in the room to which they provide access.

MODIFICATION REQUIREMENTS FOR EXSITING RESIDENTIAL BUILDINGS IN THE 70 dB CNEL TO 75 dB CNEL NOISE ZONE
Section 1276    Exterior Walls

(a) Exterior walls of habitable rooms that are directly exposed to aircraft noise shall be modified as follows:

1. Wood frame walls with exterior wood siding or other lightweight exterior finish shall be provided with a secondary interior stud wall that is supported at the ceiling and the floor and is separated from the surface of the interior wall by a least 1/2-inch. The exposed surface of the secondary wall shall be finished with 5/8-inch gypsum wallboard or plaster.

2. Wood frame walls with an exterior finish of stucco, brick veneer or other similar materials and with an interior finish that is less than 1/2-inch thick shall be provided with an additional interior layer of 5/8-inch gypsum wallboard.

3. Wood frame walls with an exterior finish or stucco, brick veneer or other similar heavy materials and with interior finish that is at least 1/2-inch thick do not require modification.

4. Walls that are not directly exposed to aircraft noise or that are constructed principally of load bearing masonry will not require modifications.

Section 1277    Exterior Windows

(a) Openable windows in habitable rooms shall be replaced with an openable window that have a minimum laboratory sound transmission class of at least STC 40 dB and shall have an air infiltration rate of no more than 0.5 cubic feet per minute when tested according to ASTM E-283.

(b) Fixed windows in habitable rooms shall be modified by one of the following methods:

1. Replace the existing window with a window that has an acoustic rating of at least STC 40 dB, or

2. Replace the existing window with 5/8-inch laminated glass that has an acoustic rating of STC 40 dB.
3. Add secondary removable glazing at the interior or exterior of the existing window. The secondary glazing shall be at least 1/4-inch float glass or laminated glass. The space between the two panes of glass shall be at least 2 inches.

(c) Fixed windows in habitable rooms that do not face the source of aircraft noise shall be replaced with 3/8-inch laminated glass that has an acoustic rating of at least STC 36 dB.

(d) The joints between the wall opening and the new windows required in section 1277 (a) and (b) 1, shall be continuously filled with glass fiber insulation and the exterior cover trim shall be continuously caulked to seal the joint.

(e) Fixed glass shall be set in non-hardening glazing materials.

Section 1278 Exterior Doors

(a) Exterior doors to habitable rooms that directly exposed to aircraft noise shall be replaced with a door and seal that have a laboratory sound insulation transmission class rating of at least STC 40 dB. A new rabbed frame shall be provided for each new door to replace the existing frame.

(b) Exterior hinged doors to habitable rooms that are not directly exposed to aircraft noise shall be replaced with a door and seal that have a laboratory sound transmission class rating of at least STC 35 dB.

(c) Access doors from garage to a habitable room shall be replaced with a door and seal that have an STC rating of at least 30 dB.

(d) Sliding glass doors in habitable rooms shall be fitted with a secondary sliding glass door installed on the exterior of the existing door and trimmed on all exposed sides with wood trim that is at least 2 inches thick (nominal). Joints between the new door and the wall shall be continuously caulked.

(e) The joint between the wall opening and the new door frame required in Sec. 1278 (a) and (b) shall be continuously filled with glass fiber insulation and the exterior cover trim shall be continuously caulked to seal the joint.
Section 1279  Roofs

(a) Accessible attics shall be insulated to achieve and minimum R-30 insulation value.

(b) Attic vents shall be modified as follows:

1. Gable vents or vents that penetrate the roof surface shall be provided with noise control louver vents that meet the noise reduction levels shown in Table 12-A or transfer ducts that are at least 6 feet in length. The ducts shall be of flexible insulated ducting with a bend so that there is no direct line-of-sight from the exterior through the duct into the attic.

2. Eave vents do not require modification.

(c) Roofs with a slope of 2:12 or less and open beam ceilings shall be modified only if bearing walls are adequate to support the additional load stresses:

1. Existing roof covering shall be removed to expose sheathing.

2. 2 X 6 rafters at 24-inches on center shall be installed directly above the existing roof construction and supported by existing bearing walls, shall be insulated with R-19 fiberglass batts, and shall be covered with minimum ½-inch plywood sheathing.

3. New roofing shall be installed on the new construction that can be adequately supported by the new framing and existing bearing walls.

Section 1280  Floors

(a) Vent openings to under floor areas of wood framed floors shall be provided with acoustic vent baffles that meet noise reduction levels shown in Table 12-A. Vent baffles shall be fitted with ¼-inch mesh screen.

<table>
<thead>
<tr>
<th>Octave Band</th>
<th>Sound Transmission</th>
</tr>
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<tbody>
<tr>
<td>Center Frequency, Hz</td>
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<td>250</td>
<td>5</td>
</tr>
</tbody>
</table>

Table 12-A
(b) Under floor access doors shall be non-ventilated plywood or other weatherproof material.

Section 1281 Ventilation

(a) A ventilation system shall be provided that will provide at least the minimum air circulation and fresh air supply requirements of this code in each habitable room without opening any window, door or other opening to the exterior. All concealed ductwork shall be insulated flexible glass fiber ducting that is at least 10 feet long between the supply fan plenum and any room supply grille. Exposed ductwork may be sheet metal with 1-inch fiberglass duct liner and shall have a bend in the duct to avoid direct line-of-sight through the duct.

(b) Kitchen cook top vent hoods shall be replaced with non-ducted recirculating vent hoods with no ducted connection to the exterior.

Section 1282 Fireplaces

Each fireplace shall be fitted with a damper at the top of the chimney that is operated from the firebox and shall have non-combustible doors across the front of the firebox.

Section 1283 Wall and Ceiling Openings

Openings in the shell of the residence which degrade the ability to achieve an interior CNEL rating of 45 dB or less when all doors and windows are closed are prohibited. Any access panels, pet doors, mail drops, air conditioning, or other openings must be designed to maintain the 45 dB CNEL or less standard in the room to which they provide access.
MODIFICATION REQUIREMENTS FOR EXISTING RESIDENTIAL BUILDINGS IN THE 65 dB CNEL to 70 dB CNEL NOISE ZONE

Section 1284 Exterior Walls
Exterior walls in this noise zone do not require modifications.

Section 1285 Exterior Windows

(a) Openable wood frame windows in habitable rooms facing aircraft noise shall be replaced with new openable windows that have a minimum laboratory sound transmission class of at least STC 35 dB if the existing window has:
1. Missing or insecure glazing putty or other glazing materials, or
2. Broken or cracked glass, or
3. Operating sash that is not securely supported in its frame or does not close tightly against the frame.

(b) Openable wood frame windows that do not require replacement by Sec. 1285 (a) and that face aircraft noise shall be fitted with a secondary window that has an STC rating of at least 25 dB. The Secondary window may be mounted at the exterior or interior of the existing and shall be completely trimmed and caulked in place.

(c) Openable metal frame windows in habitable rooms facing aircraft noise shall be replaced with new openable windows that have a minimum laboratory sound transmission class of at least STC 35 dB if the existing window has:
1. Jalousie louvered glass sash, or
2. Missing or insecure glazing putty or other glazing materials, or
3. Broken or cracked glass, or
4. Operating sash that is not securely supported in its frame or does not close tightly against the frame.
(d) Openable metal frame windows in habitable rooms facing aircraft noise that do not require replacement by Sec.1285 (c) shall be fitted with a secondary window that has an STC rating of at least 25 dB with a space of at least 2 inches between the glass surfaces of the two windows. The secondary window may be mounted at the exterior or interior of the existing window and shall be completely trimmed and caulked in place.

(e) Fixed windows in habitable rooms facing aircraft noise shall be glazed with ¼-inch glass unless they are part of an acoustic window assembly.

(f) Openable windows in habitable rooms that do not face aircraft noise shall be modified as follows:

1. Jalousie louvered galls windows shall be replaced with windows that have laboratory sound transmission class of at least STC 35 dB.

2. Windows that are not jalousie shall be fitted with a secondary window that has an STC rating of at least 25 dB.

(g) Fixed glass windows in habitable rooms that do not face aircraft noise shall be glazed with ¼-inch glass.

Section 1286 Exterior Doors

(a) Exterior doors in habitable rooms that are directly exposed to aircraft noise shall be modified as follows:

1. Hollow core or lightweight doors and doors with glazed openings shall be replaced with doors that have minimum laboratory sound transmission class of at least STC 35 dB.

2. Solid core or heavy panel doors shall be fitted with a drop seal at the sill and vinyl bulb seals at the jambs and head.

(b) Exterior doors in habitable rooms that are not directly exposed to aircraft noise shall be modified as follows:
1. Hollow core or lightweight doors and doors with glazed openings shall be replaced with doors that have a minimum laboratory sound transmissions class of at least STC 30 dB.

2. Solid core or heavy panel doors that weigh at least 4 lbs. per sq. ft. or more shall be provided with weather-stripping at the sill, head, and jambs.

(c) Access doors from a garage to a habitable room shall be replaced with a door and seals that have an STC rating of at least 30 dB.

(d) Sliding glass floors in this noise zone do not required modification.

Section 1287 Roofs
(a) Accessible attics shall be insulated to achieve a minimum R-30 insulation value.

(b) Attic vents shall be modified as follows:
1. Gable vents or vents that penetrate the roof surface shall be provided with noise control louver vents that meet the noise reduction levels shown in Table 12-A, Section 1280 (a), or transfer ducts that are at least 6 feet in length. The ducts shall be flexible insulated ducting with a bend so that there is no direct line-of-sight front the exterior through the duct into the attic.

2. Eave vents do not require modification.

(c) Roofs with slope of 2:12 or less and open beam ceilings shall be modified only if bearing walls are adequate to support the additional load stresses:
1. Existing roof covering shall be removed to expose sheathing.
2. 2 x 6 rafters at 24-inches on center shall be installed directly above the existing roof construction and supported by existing bearing walls, shall be insulated with R-19 fiberglass batts, and shall be covered with 1/2-inch plywood sheathing.

3. New roofing shall be installed on the new construction that can be adequately supported by the new framing and existing bearing walls.

Section 1288 Floors
Floors in this noise zone do not require modification.
Section 1289  Ventilation

(a) A ventilation system shall be provided that will provide at least the minimum air circulation and fresh air supply requirements of this code in each habitable room without opening any window, door or other opening to the exterior. All concealed ductwork shall be insulated flexible glass fiber ducting that is at least 10 feet long between any two points of connection. Exposed ductwork may be sheet metal with 1-inch fiberglass duct liner and shall have a bend in the duct to avoid direct line-of-sight through the duct.

Section 1290  Fireplaces

Each fireplace shall be fitted with a damper at the top of the chimney that is operated from the firebox and shall have glass doors across the front of the firebox.

Section 1291  Wall and Ceiling Openings

Openings in the shell of the residence which degrade its ability to achieve an interior CNEL rating of 45 dB or less when all doors and windows are closed are prohibited. Any access panels, pet doors, mail delivery drops, air-conditioning, or other openings must be designed to maintain the 45 dB CNEL or less standard in the room to which they provide access.

Section 1503.4.4  Roof Drainage

The roof of every building shall be so designed that all storm and casual water will be effectively drained and conveyed from the roof to a storm drain, street gutter, or other location approved by the Building Official via non-corrosive device. In addition, all portions of the lot about a building shall be properly graded to provide drainage to a storm drain, street gutter, or other location approved by the Building Official. Unless specifically exempted by the Building Official all portions of lots shall have a minimum slope of .072" per lineal foot for asphaltic surfaces and 0.036" per lineal foot for concrete surfaces. A grading plan may be required by the Building Official. Said plan shall be prepared and signed by a Registered Professional Civil Engineer, or
CHAPTER 36 BUILDING SECURITY PROVISIONS.

3601 Purpose.

The purpose of this Chapter is to set forth minimum standards of construction for resistance to unlawful entry.

3602 Scope.

The provisions of this chapter shall apply to enclosed Groups, B, F, H, M, R and S occupancies. The provisions shall not apply to enclosed Group U-1 occupancies having no opening to an attached building or which are completely detached.

3603 Limitations.

No provisions of this Chapter shall require or be construed to require devices on exit doors contrary to the requirements specified in Chapter 10 of the California Building Code.


The provisions of this Chapter are not intended to prevent the use of any device or method of construction not specifically prescribed by this Chapter when such alternate provides equivalent security based upon a recommendation of the Building Official or his designee.

3605 Definitions.

For the purpose of this Chapter, certain terms used herein are defined as follows:

3605.1 Cylinder Guard.
Cylinder guard shall mean a hardened ring surrounding the exposed portion of
the lock cylinder or other device which is so fastened as to protect the cylinder from
wrenching, prying, cutting, or pulling by attack tools.

3605.2 Deadlocking Latch.
Deadlocking latch shall mean a latch in which the latch bolt is positively held in
the projected position by a guard bolt, plunger, or auxiliary mechanism.

3605.3 Dead Bolt.
Dead bolt shall mean a bolt which has no automatic spring action and which is
operated by a key cylinder, thumb-turn, or lever, and is positively held fast when in the
projected position.

3605.4 Latch.
Latch shall mean a device for automatically retaining the door in a closed
position upon its closing.

3606. Tests.
Sliding Glass Doors. Panels shall be closed and locked. Tests shall be
performed in the following order:
1. Test 'A'. With the panels in the normal position, a concentrated load of
300 pounds shall be applied separately to each vertical pull stile incorporating a
locking device, at a point on the stile within six inches of the locking device, in a
direction parallel to the plane of glass that would tend to open the door.
2. Test 'B'. Repeat Test 'A' while simultaneously adding a concentrated
load of 150 pounds to the same area of the same stile in a direction perpendicular to
the plane of glass toward the interior side or door.
3. Test 'C'. Repeat Test 'B' with the 150 pound force in the reverse
direction toward the exterior side of the door.

3607. Doors; General.
A door forming a part of the enclosure of a dwelling unit or of an area occupied
by one tenant of a building shall be constructed, installed, and secured as set forth in
this Section when such door is directly reachable or capable or being reached from a
street, highway, yard, court, passageway, corridor, balcony, patio, breezeway, private
garage, portion of the building which is available for use by the public or other tenants,
or similar area. A door enclosing a private garage with an interior opening leading
directly to a dwelling unit shall also comply with the provisions of this Section.

3607.1 Swinging Doors.

Swinging wooden doors, openable from the inside without the use of a key and
which are either of hollow core construction or less than 1-3/4 inches in thickness shall
be covered with screws at 6 inch maximum centers around the perimeter or
equivalent. Glazing in doors shall be as set forth in this Chapter.

3607.1.1 Bolts and Latches.

A single swinging door, the above leaf of a part of doors, and the bottom leaf of
Dutch doors shall be equipped with a dead bolt and dead locking latch. The dead bolt
and latch may be activated by one lock or by individual locks. Dead bolts shall
contain hardened inserts, or equivalent, so as to repel cutting tool attack. The lock or
locks shall be key operated from the exterior side of the door and engaged or
disengaged from the interior side of the door by a device not requiring a key or special
knowledge or effort.

3607.1.2 Deadbolt Specifications.

A straight dead bolt shall have a minimum throw of one inch and the
embedding shall be not less than 5/8 inch into the holding device receiving the
projected bolt, a hook space or expanding lug dead bolt shall have a minimum throw
of ¾ inch. All dead bolts of locks which automatically activate two or more dead bolts
shall embed at least ½ inch, but need not exceed ¾ inch into the holding device
regarding the projected bolts.

EXCEPTIONS:

1. The latch may be omitted from doors in Groups B, H, M, and S
occupancies.
2. Locks may be key, or otherwise, operated from the inside when not prohibited by Chapter 10 of the California Building Code or other laws and regulations.

3. A swinging door of width greater than five feet may be secured the same as overhead and sliding doors.

3067.1.3 Dutch Doors.

The inactive leaf of a pair of doors and the upper leaf of Dutch doors shall be equipped with a dead bolt or dead bolts as set forth in Section 3067.1.1.

EXCEPTIONS:
1. The bolt or bolts need not be key operated, but shall not be otherwise activated, from the exterior side of the door.

2. The bolt or bolts may be engaged or disengaged automatically with the dead bolt or by other device on the active leaf or lower leaf.

3. Manually operated hardened both at the top and bottom of the leaf and which embed a minimum of ½ inch into the projected bolt may be used when not prohibited by Chapter 10 of the California Building Code or other laws and regulations.

3067.1.4 Door Jambs.

Door stops on wooden jambs for in-swinging doors shall be one piece construction with the jamb or joined by a rabbet.

3067.1.5 Non-removable Pins.

Non-removable pins shall be used in pin type hinges which are accessible from the outside when the door is closed.

3067.1.6 Cylinder Guards.

Cylinder guards shall be installed on all mortise or rim type cylinder locks installed in hollow metal doors whenever the cylinder projects beyond the face of the door or is otherwise accessible to gripping tools.

3067.2 Sliding Glass Doors.

Sliding glass doors shall be equipped with locking device and shall be so installed that, when subjected to tests specified in this Chapter, remain intact and
engaged. Movable panels shall not be rendered easily operable or removable from
the frame during or after the tests. Cylinder guards shall be installed on all mortise or
rim type cylinder locks installed in hollow metal doors whenever the cylinder projects
beyond the face of the door or is otherwise accessible to gripping tools.

3607.2.1 Overhead and Sliding Doors.
1. Metal or wooden overhead and sliding doors shall be secured with a
cylinder lock, padlock with a hardened steel shackle, metal slide, bar, bolt or
equivalent when not otherwise locked by electric power operation.
2. Cylinder guards shall be installed on all mortise or rim type cylinder locks
installed in hollow metal doors whenever the cylinder projects beyond the face of the
door or is otherwise accessible to gripping tools.

3607.3 Metal Accordion Grate or Grille Type Doors.
Metal accordion grate or grille-type doors, when installed as the only method of
structure security, shall be equipped with metal guides at top and bottom, and a
cylinder lock or padlock and hardened steel shackle shall be provided. Cylinder
guards shall be installed on all mortise or rim type cylinder locks installed in hollow
metal doors whenever the cylinder projects beyond the face of the door or is otherwise
accessible to gripping tools.

3608. Lights. (Glazed Openings).
3608.1 Lights. General.
A window, skylight, or other light forming a part of the enclosure of a dwelling
unit or of an area occupied by one tenant of a building shall be constructed, installed
and secured as set forth in this Section when the bottom of such window, skylight or
light is not more than 16 feet above the grade of a street, highway, yard, court,
passageway, corridor, balcony, patio, breezeway, private garage, portion of the
building which is available for use by the public or other tenants, or similar area.
3608.2 Garage Windows.

A window enclosing a private garage with an interior opening leading directly to a dwelling unit shall also comply with the material and locking device requirements of this Section.

3608.3 Material.

Lights within 40 inches of a required locking device on a door when in the closed and locked position and openable from the inside without the use of a key, and lights with a least dimension greater than 6 inches, but less than 48 inches in B, H, M, and S occupancies, shall be fully tempered glass, approved burglary resistant material, or guarded by metal bars, screens, or grilles in an approved manner.

3608.4 Locking Devices.

3608.4.1 Sliding Window Locks.

Sliding glass windows shall be provided with locking devices that, when subjected to the tests specified in this Chapter, remain intact and engaged. Movable panels shall not be rendered easily openable or removable from the frame during or after the tests.

3608.4.2 Other Window Locks.

Other openable windows shall be provided with substantial locking devices which render the building as secure as the devices required by this Section. In Groups B, H, M, and S occupancies, such devices shall be a slide bar, bolt, cross bar, and/or padlock with hardened steel shackle.

3608.4.3 Special.

Louvered windows, except those above the first story in Group R occupancies which cannot be reached without a ladder, shall be of material or guarded as specified in this Section and individual panes shall be securely fastened by mechanical fasteners requiring a tool for removal and not accessible from the outside when the window is in the closed position.
3609. Other Openings.

3609.1 General.

Openings, other than doors or lights, which form a part of the enclosure, or portion thereof, housing a single occupant and the bottom of which is not more than 16 feet above the grade of a street, highway, yard, court, passageway, corridor, balcony, patio, breezeway, or similar area, or from private garage, or from a portion of the building which is occupied, used or available for use by the public or other tenants, or an opening enclosing a private garage attached to a dwelling unit with openings therein shall be constructed, installed and secured as set forth in the following paragraph.

3609.2 Hatchways, Scuttles and Similar Openings.

3609.2.1 Hatchways, Scuttles and Similar Openings. General.

Wooden hatchway covers, less than 1-3/4 inches thick solid wood, shall be covered on the inside with 16 gauge sheet metal attached with screws at 6 inch maximum centers around perimeter.

3609.2.2 Hatchway Covers.

The hatchway cover shall be secured from the inside with a slide bar, slide bolts, and/or padlock with a hardened steel shackle.

3609.2.3 Outside Pin-Type Hinges.

Outside pin-type hinges shall be provided with non-removable pins.

3609.2.4 Other Openings.

Other openings exceeding 96 square inches with a least dimension exceeding 8 inches shall be secured by metal bars, screens, or grilles in an approved manner.

3610. Emergency Egress or Rescue Windows.

Bars, grilles, grates or similar devices may be installed in an emergency egress or rescue windows or doors required by Section 1029 of the California Building Code, provided:
1. Such devices are equipped with approved release mechanisms which are operable from the inside without the use of a key or special knowledge or effort.

2. The building is equipped with smoke detectors installed in accordance with Section 907.2.11 of the California Building Code.

3. A permit has been obtained from the Building Official for the installation of such devices.

Section 11-4 California Building Codes - Deletions

1. Delete items 1 and 2 of Appendix Section J103.2

Section 11-5 California Building Codes – Amendments

Amendments to the California Building Code are hereby established to read as follows:

Section 105.1 Permits Required.

It shall be unlawful for any person to own, rent, lease, maintain, occupy, construct, enlarge, alter, repair, move, demolish, or change the occupancy of a building or structure, or to erect, install, enlarge, alter, repair, remove, convert, convert or replace any electrical, gas, mechanical or plumbing system, the installation of which is regulated by this code, or to cause any such work to be done, unless a separate permit for each building or structure has first been obtained from the Building Official.

Section 105.2 Work Exempt From Permit

Exemptions from permit requirements of this code shall not be deemed to grant authorization for any work to be done in any manner in violation of the provisions of this code or any other law or ordinance of the City of Inglewood. Items 1 and 7 of subsection 105.2 of said California Building Code are hereby amended to read as follows:

1. One-story detached accessory structure used as tool and storage sheds, playhouses and similar uses, provided the floor area does not exceed 120 square feet and 6 feet in maximum height, with the exception of temporary, portable, readily movable structures not exceeding 120 square feet and 10 feet in maximum height, as
long as the structure: (a) is not located in required setbacks as determined by the Planning Department; (b) does not have plumbing and/or electrical installations; and/or (c) is separated by a minimum of 10 feet from any similar accessory structure on the same property.

7. Painting, papering, carpeting and similar finish work.

Section 109.2 Schedule of Permit Fees

The fee for each permit shall be set forth by resolution of the City Council. The determination of value or valuation under any of the provisions of this Code shall be made by the Building Official. The valuation to be used in computing the permit and plan-check fees shall be the total value of all construction work for which the permit is issued, as well as all finish work, painting, roofing, electrical, plumbing, heating and air conditioning, elevators, fire-extinguishing systems and any other permanent work or permanent equipment.

Section 109.2.3 Permit Fee Remodels and Alterations

The permit fee for remodels, alterations and/or similar work shall be based on the following tables (as applicable) using the valuation as determined by the Building Official as set forth by resolution of the City Council.

<table>
<thead>
<tr>
<th>Extent of Alteration</th>
<th>% of Building Valuation</th>
<th>Definition (1)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Minor</td>
<td>25%</td>
<td>Cosmetic work—refinishing walls, ceilings, floors; minor mechanical, electrical, plumbing; only incidental structural work.</td>
</tr>
<tr>
<td>Medium</td>
<td>50%</td>
<td>Addition or removal of some walls or extensive construction of partitions; projects with more involved mechanical, electrical, plumbing work, such as residential additions or renovations of bathrooms and kitchens, commercial replacement of major HVAC components or of ceiling grids; refinishing of many existing walls, ceilings, floors; replacement of substantial portions of the glazing systems if a major portion of the project; moderate projects may...</td>
</tr>
<tr>
<td>Major</td>
<td>75%</td>
<td></td>
</tr>
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<td></td>
</tr>
<tr>
<td>Demolition of all nonstructural portions leaving a structural shell; installation of new or substantial replacement of electrical, mechanical systems in conjunction with significant changes in room configuration; significant structural upgrading to meet seismic requirements, or other substantial structural renovation, extensive structural repair.</td>
<td></td>
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</tbody>
</table>

**Section 109.2.4 Plan Review Fees**

1. When a plan or other data are required to be submitted, a plan review fee shall be paid at the time of submitting plans and specifications for review. Said plan review fee shall be established by resolution of the City Council.

2. Where plans are incomplete or changed so as to require additional plan review, an additional plan review fee shall be charged at the rate established by resolution of the City Council.

3. An energy plan checking fee is required for all plans submitted for the plan check of any building design regulated by the California Code Regulations, Title 4, Part 1, Section 10 – 103, Part 6: 100 – 150.2. An energy plan checking fee shall be charged at the rate established by resolution of the City Council.

4. When requested by the applicant, an expedited plan check fee shall be paid at the rate established by resolution of the City Council.

**Section 109.6 Refunds**

The Building Official may authorize the refunding of the plan review fee paid, less 20% of the plan review fee paid, when an application for a permit for which a plan review fee has been paid is withdrawn or canceled before any plan reviewing is done. However, the amount retained shall not be less than $35.00 nor more than $150.00. The Building Official shall not authorize the refunding of any fee paid except upon
written application filed by the original permittee not later than 180 days after the date of fee payment.

The Building Official may authorize the refunding of 100 percent (100%) of the permit fee paid, minus 20% of said fee, when such permit is canceled by the person obtaining the permit, provided that no portion of the work or construction covered by the permit shall have commenced. However, the amount retained shall not be less than $35.00 nor more than $150.00. The Building Official shall not authorize the refunding of any fee except upon written application filed by the original permittee not later than 180 days after the date of fee payment."

Section 111.1 Use and occupancy.

This section is amended by revising the Exception to read as follows:

Exception: Group U occupancies

Section 420.6.2.4 Power Supply

Carbon monoxide alarms shall receive their primary power from the building wiring where such wiring is served from a commercial source and shall be equipped with battery backup. Alarm wiring shall be directly connected to the permanent building wiring without a disconnection switch other than as required for overcurrent protection.

Exception: Single family dwellings and duplexes may be battery operated type.

Section 907.2.11.4 Power Source

Smoke alarms shall receive their primary power from the building wiring provided that such wiring is served from a commercial source and shall be equipped with a battery backup. Smoke alarms with integral strobes that are not equipped with a battery backup shall be connected to an emergency electrical system. Smoke alarms shall emit a signal when the batteries are low. Wiring shall be permanent and without a disconnecting switch other than as required for over current protection.

Exception: Single family dwellings and duplexes may be battery operated type.
SECTION 4: Chapter 11, Building Regulations, Article 4, Plumbing Code, Sections 11-11, 11-11.1, 11-11.2, 11-11.3 are hereby deleted in their entirety and replaced to read as follows:

Section 11-11 California Plumbing Code.

In accordance with the procedure designated in Sections 50001 et seq., of the Government Code of the State of California, and subject to particular additions, deletions and amendments hereinafter set forth in this Article, there is hereby adopted by reference that certain code entitled “California Plumbing Code, 2013 Edition,” based on the Uniform Plumbing Code, 2012 Edition, promulgated and published by the International Association of Plumbing and Mechanical Officials and the California Building Standards Commission, together with appendices A, B, C, D, G, I, J and K and Installation Standards therein contained. One full printed copy of said California Plumbing Code is filed in the office of the City Clerk and shall be at all times maintained by the City Clerk for use and examination by the public. Such “California Plumbing Code, 2013 Edition” is hereby referred to, adopted and made a part thereof as if fully set forth herein at length, and shall be designated, known and referred to as the “Plumbing Code of and for the City of Inglewood.

Section 11-11.1 Plumbing Code – Additions.

Additions to the California Plumbing Code are hereby established to read as follows:

103.3.5. Special Owner’s Permit.

The Building Official may issue a permit to only the owner of a single family dwelling used exclusively for living purposes, including the usual accessory buildings and quarters in connection with such buildings for any work regulated by this Code. Such person must be the bona fide owner of any such dwelling and accessory buildings and quarters and the same must be occupied by said owner. Said owner shall personally purchase all materials and shall personally perform all labor in connection therewith. If this or any other provision thereof shall be violated by the
holder of such special owner's permit, such permit shall be subject to immediate
cancellation by the Building Official, and the holder thereof shall be liable for the
penalty hereinafter provided for violation of this Code.

713.8   Residential Buildings - Separate and Individual Plumbing
Systems.

All residential buildings shall be provided with separate and individual plumbing
systems.

Exception: A common waste line may be allowed when located in a fully
accessible area and it is two sizes larger than the required riser size.

Section 11-11.2   Plumbing Code – Amendments.

Sections 103.1, 103.4, 103.4.1 of the California Plumbing Code are hereby
amended to read as follows:

103.1   Permits Required.

Except as specified in Section 103.1.1, it shall be unlawful for any person, firm
or corporation, to own, rent, lease, maintain, occupy, install, remodel, alter, repair, or
replace any plumbing system regulated by this Code, or to cause the same to be
done, without first obtaining a separate plumbing permit from the Building Official for
each separate building or structure.

103.4   Fees

When an application for Plumbing Permit is required to be submitted, the fee for
each permit shall be set forth by resolution of the City Council.

103.4.1   Plan Review Fees.

(1) When a plan or other data is required to be submitted, a plan review fee
shall be paid at the time of submitting plans and specifications for review. Said plan
review fee shall be established by resolution of the City Council.

(2) Where plans are incomplete or changed so as to require additional plan
review, an additional plan review fee shall be charged at the rate established by
resolution of the City Council.
(3) When requested by the applicant, an expedited plan check fee shall be
paid at the rate established by resolution of the City Council.

Section 11-11.3 Plumbing Code – Deletions.

Deletions to the California Plumbing Code are hereby established to read as
follows:

Delete Table 103.4 from Chapter 1 of said California Plumbing Code.

SECTION 5: Chapter 11, Building Regulations, Article 5, Electrical Code,
Sections 11-15, 11-16, 11-17, 11-18, 11-19, 11-20 and 11-34 are hereby deleted in
their entirety and replaced to read as follows:

Section 11-15 Electrical Code – Established.

In accordance with the procedure designated in Sections 50001 et seq., of the
Government Code of the State of California, and subject to particular additions,
deletions and amendments hereinafter set forth in this Article, there is hereby adopted
based on the National Electrical Code, 2011 Edition, as published by the National Fire
Protection Association (NFPA) and the California Building Standards Commission,
and the Uniform Administrative Code Provisions for the National Electrical Code, 1996
Edition, as published by the International Conference of Building Officials (ICBO). One
full printed copy of said California Electrical Code is on file in the office of the City
Clerk, and shall be at all times maintained by the City Clerk for use and examination
by the public. Said California Electrical Code is hereby referred to and adopted and
made a part hereof, as is fully set forth herein at length, and said Code shall be
designated, known and referred to as the “Electrical Code of and for the City of
Inglewood.

Section 11-16 Electrical Code – Additions.

Additions to the California Electrical Code are hereby established to read as
follows: NONE
Section 11-17   Electrical Code – Amendments.

Amendments to the California Electrical Code are hereby established to read as follows:

Section 301.1 of the Uniform Administrative Code Provisions for the Electrical Code is hereby amended as follows:

301.1    Permits Required.

Except as specified in Section 301.2, it shall be unlawful for any person, firm or corporation, to own, rent, lease, maintain, occupy, erect, construct, enlarge, alter, repair, remodel, improve, or convert any building or structure regulated by this code, or cause the same to be done, unless a separate electrical permit for each building or structure has first been obtained from the Building Official.

Section 11-18    Permit – Special Owner’s.

The Building Official may issue a permit to only the owner of a single family dwelling used exclusively for living purposes, including the usual accessory buildings and quarters in connection with such buildings for any work regulated by this Code. Such person must be the bona fide owner of any such dwelling and accessory buildings and quarters and the same must be occupied by said owner. Said owner shall personally purchase all materials and shall personally perform all labor in connection therewith. If this or any other provision thereof shall be violated by the holder of such special owner’s permit, such permit shall be subject to immediate cancellation by the Building Official, and the holder thereof shall be liable for the penalty hereinafter provided for violation of this Code.

Section 11-19    Electrical Fees.

When an application for Plumbing Permit is required to be submitted, the fee for each permit shall be set forth by resolution of the City Council.
Section 11-20  Electrical Plan Review Fees.

(1) When a plan or other data is required to be submitted, a plan review fee shall be paid at the time of submitting plans and specifications for review. Said plan review fee shall be established by resolution of the City Council.

(2) Where plans are incomplete or changed so as to require additional plan review, an additional plan review fee shall be charged at the rate established by resolution of the City Council.

(3) When requested by the applicant, an expedited plan check fee shall be paid at the rate established by resolution of the City Council.

Section 11-34  Electrical Code – Deletions.

Deletions to the California Electrical Code are hereby established to read as follows:

(1) Delete Table 3-A from the Uniform Administrative Code Provisions for the National Electrical Code.

(2) Delete items 3, 4, 7, 12 and 13 in Section 301.2 from the Uniform Administrative Code Provisions for the National Electrical Code.

SECTION 6:  Chapter 11, Building Regulations, Article 6, House Moving Regulations, Inglewood Municipal Code Sections 11-41 is hereby deleted in their entirety and replaced to read as follows:

Section 11-41  Relocation Permit – Bond Required.

(1) No relocation permit shall be issued unless the applicant therefore shall first post with the Street Superintendent a bond executed by the owner of the premises where the structure is to be located, as principal, and by a surety company authorized to do business in this State, as surety.

(2) The bond, which shall be, in form, joint and several, shall name the City as obligee and shall be in an amount equal to the cost, plus fifty percent (50%) of the work required to be done in order to comply with all the conditions of such relocation permit as estimated by an architect or engineer, registered by the State of California,
employed by the applicant; the amount of said bond to be approved by the Building
Official. In lieu of a surety bond, the applicant may post a bond executed by the said
owner, as principal, and which is secured by a deposit of cash in the amount named
above and conditioned as required in the case of a surety bond; such a bond as so
secured is hereinafter called a "cash bond" for the purposes of this Article.

(3) Every bond presented pursuant to this Article shall be conditioned as
follows:

(a) That each and all of the terms and conditions of the Relocation Permit
shall be complied with to the satisfaction of the Building Official and the Street
Superintendent;

(b) That all of the work required to be done pursuant to the conditions of the
Relocation Permit shall be fully performed and completed within a time limit specified
in the Relocation Permit; or, if no time limit is specified, within ninety days after the
date of the issuance by the Street Superintendent of the Relocation Permit. The time
limit herein specified, or the time limit specified in any permit, may be extended for
good and sufficient cause by the Building Official. No such extension of time shall be
valid unless written, and no such extension shall release any surety upon any bond.

SECTION 7: Chapter 11, Building Regulations, Article 8, Report of Building
Records and Code Violations, Inglewood Municipal Code Section 11-53, is hereby
deleted in their entirety and replaced to read as follows:

Section 11-53 Application for Report.

Upon application of the owner or his authorized agent and the payment to the
City, of a fee as specified in the Master Fee Schedule, the Building Official or his
authorized representative shall review pertinent City records, make an exterior
inspection of all buildings, make an interior inspection of all buildings if requested to do
so and deliver to the applicant a report which shall contain the following information so
far as it shall be available:

(1) The property address and legal description of subject property;
(2) The zone classification and authorization use of subject property;
(3) The number of legal units on the property;
(4) The building permit numbers and date of issuance;
(5) Notification that property lies within or out of the special study zone;
(6) Variances, exceptions, special use permits and other pertinent legislative acts of record;
(7) Any special zoning or general plan restrictions on use or development which may apply to the subject property;
(8) A list of all presently observed violations of this Code, if any; and
(9) The LAX impact levels and attenuating effect of any sound insulation programs provided at the property.

SECTION 8: Chapter 11, Building Regulations, Article 9, Swimming Pool Regulations, Inglewood Municipal Code Section 11-61, 11-63 and 11-64 is hereby deleted in their entirety and replaced to read as follows:

Section 11-61 Swimming Pool Regulations.
It shall be unlawful for any person, within the City, to construct, install or maintain in the City a swimming pool or excavation as hereinabove defined, unless the same is enclosed or protected from entrance thereto by the following protective facilities or by other facilities equally sufficient for the purpose of protecting the public, particularly children, from the hazards of swimming pools and excavations:

(1) All swimming pools and excavations shall be enclosed by a fence or wall not less than five feet in height above the underlying ground. There shall be no openings, holes or gaps more than two inches in any dimension; and, in the case of a picket fence, the distance between the palings, slats or boards shall not exceed two inches; provided that a dwelling house or accessory building may be used as a part of the enclosure.

(2) All gates or doors opening through the enclosures above referred to in subdivision (1) hereof, shall be equipped with an approved self-closing and self-
latching device located on the inside of the gate or door and all knobs or controls on
the outside of said gates or doors shall be at least four feet above grade and shall be
designed to keep, and shall be capable of keeping, such door or gate securely closed
at all times when not actually in use; provided, however, that the door of any occupied
dwelling and forming any part of the enclosure hereinabove required, shall comply
with Section 3109.1.8 in the 2013 California Building Code.

(3) The foregoing shall not apply to excavations made in connection with
public improvements for which a permit has been issued by the Public Works
Department of the City, or in connection with the construction of structures or buildings
for which a permit has been issued by the Building Division; provided, however, that in
such cases, the person making the excavation shall provide temporary barricades or
other devices which will provide reasonable protection against the hazards herein
referred to.

Section 11-63 Modifications.

(1) The Building Official may grant modifications upon a showing of good
cause, with respect to the height, nature or location of the fence, wall, gates or
latches, or the necessity therefore, provided the degree of protection required by this
Article is not reduced thereby.

(2) All pool installations, including equipment and material, shall be in
conformance with 2013 California Building Code and other applicable codes including
Los Angeles County, State of California, and Federal requirements.

Section 11-64 Appeal.

An applicant for a permit to construct a swimming pool or to make an
excavation may appeal any adverse determination of the Building Official to the
Construction Appeals Board.

SECTION 9: Chapter 11, Building Regulations, Article 10, Mechanical Code,
Sections 11-65, 11-66, 11-67 and 11-68 are hereby amended by substituting, adding
and/or deleting thereeto the following designated sections of the California Mechanical
Code to read as follows:

Section 11-65    Mechanical Code – Established.

In accordance with the procedure established in Sections 50001 et seq., of the
Government Code of the State of California, and subject to the particular additions,
deletions and amendments hereinafter set forth in this Ordinance there is hereby
adopted by reference that certain code, entitled “California Mechanical Code, 2013
published by the International Association of Plumbing and Mechanical Officials
(IAPMO), and the California Building Standards Commission, together with
appendices therein contained. One full printed copy of said California Mechanical
Code is filed in the office of the City Clerk, and shall be at all times maintained by the
City Clerk for use and examination by the Public. Said “California Mechanical Code,
2013 Edition” is hereby referred to, adopted and made a part thereof as if fully set
forth herein at length, and shall be designated, known and referred to as the
“Mechanical Code of and for the City of Inglewood.”

Section 11-66    Mechanical Codes – Additions.

Additions to the California Mechanical Code are hereby established to read as
follows:

113.1.5    Special Owner’s Permit

The Building Official may issue a permit to only the owner of a single family
dwelling used exclusively for living purposes, including the usual accessory buildings
and quarters in connection with such buildings for any work regulated by this Code.
Such person must be the bona fide owner of any such dwelling and accessory
buildings and quarters and the same must be occupied by said owner. Said owner
shall personally purchase all materials and shall personally perform all labor in
connection therewith. If this or any other provision thereof shall be violated by the
holder of such special owner’s permit, such permit shall be subject to immediate
cancellation by the Building Official, and the holder thereof shall be liable for the
penalty hereinafter provided for violation of this Code.

Section 11-67 Mechanical Codes – Amendments.
Sections 111.1, 114.2 and 114.3 of the California Mechanical Code are hereby
amended to read as follows:

111.1 Permits Required.
Except as permitted in Section, 111.2 it shall be unlawful for any person to
install, erect, construct, enlarge, alter, repair, move, or improve a mechanical system
regulated by this code, unless a separate mechanical permit for each building or
structure has first been obtained from the Building Official.

114.2 Permit Fees.
When an application for Mechanical Permit is required to be submitted, the fee
for each permit shall be set forth by resolution of the City Council.

114.3 Plan Review Fees.
(1) When a plan or other data is required to be submitted, a plan review fee
shall be paid at the time of submitting plans and specifications for review. Said plan
review fee shall be established by resolution of the City Council.
(2) Where plans are incomplete or changed so as to require additional plan
review, an additional plan review fee shall be charged at the rate established by
resolution of the City Council.
(3) When requested by the applicant, an expedited plan check fee shall be
paid at the rate established by resolution of the City Council.

Section 11-68 Mechanical Codes – Deletions.
Delete Table 114.1 from the “California Mechanical Code, 2013 Edition.

SECTION 10: Chapter 11, Building Regulations, is hereby amended by adding
Article 16, Residential Code to the Inglewood Municipal Code to read as follows:

ARTICLE 16. RESIDENTIAL CODE.

In accordance with the procedure designated in Sections 50001 et seq., of the Government Code of the State of California, and subject to particular additions, deletions and amendments hereinafter set forth in this Article, there is hereby adopted by reference those certain codes, entitled "California Residential Code, 2013 Edition," based on the International Residential Code, 2012 Edition, including the following Appendices, Appendix E and J" promulgated and published by the International Code Council and the California Building Standards Commission. One full printed copy each of said California Residential Code, 2013 Edition, are on file in the office of the City Clerk, and shall be at all times maintained by the City Clerk for use and examination by the public. Such California Residential Code, 2013 Edition, hereby referred to, adopted and made a part hereof as if fully set forth herein at length, and shall be designated, known and referred to as the "Residential Code of and for the City of Inglewood."

Section 11-164. Residential Code - Additions.

Additions to the Residential Code are hereby established to read as follows:

(1) Table R301.2(1) Climatic and Geographic Design Criteria required by Section R301.2 of the California Residential Code is hereby added as follows:

<table>
<thead>
<tr>
<th>TABLE R301.2(1)</th>
</tr>
</thead>
<tbody>
<tr>
<td>CLIMATIC AND GEOGRAPHIC DESIGN CRITERIA</td>
</tr>
<tr>
<td>Ground Snow Load</td>
</tr>
<tr>
<td>Wind Speed</td>
</tr>
<tr>
<td>Topographic Effects</td>
</tr>
<tr>
<td>Seismic Design Category</td>
</tr>
<tr>
<td>Subject To Damage From Weathering</td>
</tr>
<tr>
<td>Frost Line Depth</td>
</tr>
<tr>
<td>Termites</td>
</tr>
<tr>
<td>Winter Design Temperature</td>
</tr>
<tr>
<td>Ice Barrier Underlayment Required</td>
</tr>
</tbody>
</table>
Flood Hazards | No
---|---
Air Freezing Index | 0
Mean Annual Temperature (Fahrenheit) | 62.9 Degrees

**Section 11-165. Residential Code - Deletions.**

(1) Delete Building Item 10 from Section R105.2.
(2) Delete Electrical Items 1 through 5 from Section R105.2.
(3) Delete Gas Items 1 through 3 from Section R105.2.
(4) Delete Mechanical Items 1 through 8 from Section R105.2.

**Section 11-166. Residential Code - Amendments.**

Sections R102.7, R105.1, R105.2, items 1 and 6, R108.6 of the California Residential Code are hereby amended to read as follows:

**R102.7 Existing Structures.**

The legal occupancy of any structure existing on the date of adoption of this code shall be permitted to continue without change, except as is specifically covered in this code, the 1997 Uniform Housing Code or the California Fire Code, or as it is deemed necessary by the Building Official for the general safety and welfare of the occupants and the public.

**R105.1 Required.**

Except as specified in section R105.2, it shall be unlawful for any person to own, rent, lease, maintain, occupy, erect, construct, enlarge, alter, repair, move, improve, convert or demolish any building or structure regulated by this code unless a separate permit for each building or structure has first been obtained from the Building Official.

**R105.2 Work exempt from permit.**

1. One-story detached accessory structures used as tool and storage sheds, playhouses and similar uses provided:
a. It does not exceed 120 square feet in floor area nor 6 feet in overall height. EXCEPTION: Temporary, portable, readily movable structures not exceeding 120 square feet in floor area may be up to ten feet in overall height.

b. There are no plumbing or electrical installations.

c. It is separated by ten feet or more, from any similar accessory structure on the same property.

6. Painting, papering, carpeting and similar finish work.

R108.6 Work commencing before permit issuance.

Whenever any work for which a permit is required by this code has been commenced without first obtaining said permit, an investigation fee, in addition to the permit fee shall be collected. The investigation fee shall be equal to the amount of the permit fee required by this code. The payment of such investigation fee shall not exempt any person from compliance with all other provisions of this code nor from any penalty prescribed by law.

SECTION 11: Effective Date.

This ordinance shall become effective thirty (30) calendar days from and after its adoption.

SECTION 12.

The City Clerk shall certify to the passage and adoption of this ordinance and to its approval by four affirmative votes by the City Council and shall cause the same to be published in accordance with the City Charter; and thirty days from the final passage and adoption, this ordinance shall be in full force and effect.

INTRODUCED at a regular meeting of the City Council of the City of Inglewood, California, held on the ____ day of ____________, 2014, and thereafter,
PASSED AND ADOPTED at a regular meeting of the City Council of the City of Inglewood, California, held on the 25th day of November, 2014.

JAMES T. BUTTS, JR.

ATTEST:
YVONNE HORTON

James T. Butts, Mayor

Yvonne Horton, City Clerk
RESOLUTION NO. 03-13

RESOLUTION OF THE CITY COUNCIL OF THE
CITY OF INGLEWOOD, CALIFORNIA, TO REQUIRE
RECYCLED WATER TO BE USED FOR PURPOSES
PERMITTED BY REGULATORY AGENCIES

THE CITY COUNCIL OF THE CITY OF INGLEWOOD DOES HEREBY
RESOLVE AS FOLLOWS:

WHEREAS, the State Legislature, in Section 13550 of the California Water Code, states "...the use of potable domestic water for nonpotable uses, including, but not limited to, cemeteries, golf courses, parks, highway landscaped areas, and industrial and irrigation uses, is a waste or an unreasonable use of the water ...if recycled water is available..." as long as recycled water (1) is of adequate quality and available, (2) may be furnished at a reasonable cost, (3) will not be detrimental to public health, and (4) will not adversely affect downstream water rights, will not degrade water quality, and is not injurious to plantlife, fish and wildlife; and

WHEREAS, recent developments regarding potable water supplies from the Colorado River to Southern California dictate the more efficient management of available water resources including increased use of recycled water where feasible and allowed; and

WHEREAS, under the provisions of Title 22 of the California Code of Regulations, recycled water is approved for many non-potable applications; and

WHEREAS, there is a recycled water distribution system in the City, and West Basin Municipal Water District (WBMWD) is the recycled water provider; and

WHEREAS, there are many sites in Inglewood where recycled water is safely used for irrigation purposes including schools, parks, medians and cemetery; and

WHEREAS, the conversion from potable to recycled water must be in accordance with the uses permitted by the Los Angeles County Department of Health Services, the Los Angeles Regional Water Quality Control Board, and the State of California Department of Health Services; and

WHEREAS, all recycled water use sites are inspected annually by City staff to ensure that all forms of identification (signs and tags) remain in place and no cross-connections (possible connections between the potable and recycled water lines) have
been created. A 4-year re-inspection is also conducted at these sites jointly by the City staff and a representative of the Los Angeles County Department of Health Services. These inspections are required by law in order to ensure that no cross-connections are created and recycled water is not used for purposes other than as originally contemplated; and

WHEREAS, actions such as these help to reduce our region’s dependence upon expensive and limited imported water supplies and will help Inglewood to withstand future drought situations; and

WHEREAS, the cost of potable water is rising as well as its operating and maintenance costs and the cost of potable water is substantially more than the cost of recycled water.

NOW, THEREFORE, THE CITY COUNCIL OF THE CITY OF INGLEWOOD, DOES HEREBY FIND, DETERMINE AND RESOLVE AS FOLLOWS:

SECTION 1: It is declared to be the policy of the City to extend and enhance local water supplies by using recycled water where feasible, appropriate and acceptable to all regulatory agencies for the purpose of landscape irrigation, in new commercial buildings for toilet and urinal flushing, construction water, industrial process water or other uses permitted by the regulatory agencies.

SECTION 2: The City’s Public Works Director or designee and the WBMWD shall determine whether it is feasible to furnish the customer with recycled water. Each such usage of recycled water shall, in addition, be subject to the availability of facilities and the feasibility of making such facilities available now and in the future.

SECTION 3: If the use of recycled water is determined to be feasible at a site, and the facilities are available, the water customer shall make application for recycled water with the City as well as on-site accommodations to meet the regulations governing recycled water to coincide with timely delivery of recycled water.

SECTION 4: If the criteria stated in Section 3 are met, and the water customer does not comply with this resolution, the City, at its option, may pass along any fines, fees or surcharges levied on the City by WBMWD as specified in WBMWD’s Resolution of Rates for Recycled Water (adopted annually).

SECTION 5: The City Clerk shall certify to the adoption of this resolution.
PASSED, APPROVED AND ADOPTED by the City Council of the City of
Inglewood at its regular meeting held on the _11th_ day of _February_ , 2003,
in the City of Inglewood.

ROOSEVELT F. DORN
MAYOR OF THE CITY OF INGLEWOOD, CALIFORNIA

ATTEST:

Yvonne Horton
CITY CLERK

(PubWks-Reso-Recycled Water-EE-ehb 01/30/03 ver 900)
RESOLUTION NO. 90-45

A RESOLUTION OF THE CITY OF INGLEWOOD,
CALIFORNIA REQUESTING AND ENCOURAGING WATER
CONSERVATION PRACTICES BY ALL WATER USERS

WHEREAS, California is in the fourth conservative year
of below-normal precipitation; and

WHEREAS, precipitation for the current water year has
been substantially below normal in the watersheds of the imported
supplies serving Southern California; and

WHEREAS, precipitation in Southern California has also
been below average and water levels in many local groundwater
basins have declined over the last few years; and

WHEREAS, there is a need to reduce total demands on all
water supply entities within the Metropolitan Water District of
Southern California service area by 10 percent in 1990 as
compared to 1989, to reduce the potential for shortages for this
year and even more severe shortages next year.

NOW, THEREFORE, BE IT RESOLVED, that the CITY COUNCIL
declares that a water shortage exists and requests and encourages
all water users to reduce water usage by at least 10 percent, as
compared to 1989, to assist in the mitigation of the effects of
this drought during 1990 and to maintain as much as possible the
conserved water in storage in the West Coast Basin against the
possibility of even more severe shortages in 1991.

The following activities are hereby discouraged during
this period of voluntary conservation:

1. Hosing off walkways, driveways, parking areas, and
   other hard surfaces;

2. Washing of vehicles without use of a hose end
   shut-off; bucket washes are encouraged;

3. Cleaning, filling, or refilling non-recirculating
   decorative fountains;
4. Watering lawns, landscape areas, parks and school grounds, between 7:00 a.m. and 7:00 p.m.

5. Serving of water in restaurants unless requested; and

The City Council encourages the installation of water efficient plumbing fixtures and the use of drought-tolerant landscaping whenever possible.

BE IT FURTHER RESOLVED, that the Public Services Department shall assist water users in reducing water usage by disseminating information on water conservation techniques including: customer conservation practices, low-flow toilets and the use of reclaimed water.

BE IT FURTHER RESOLVED, that the City Clerk shall certify the adoption of this resolution and same shall be in full force and effect immediately upon adoption.

PASSED, APPROVED AND ADOPTED this 22nd day of May, 1990.

MAYOR OF THE CITY OF INGLEWOOD,
CALIFORNIA

ATTEST:

CITY CLERK

(Seal)
STATE OF CALIFORNIA  
COUNTY OF LOS ANGELES  
CITY OF INGLEWOOD  

I, HERMANITA V. HARRIS, City Clerk of the City of Inglewood, California, do hereby certify that the whole number of members of the City Council of said City is five; that the foregoing resolution, being Resolution No. 99-45, was passed and adopted by said City Council, approved and signed by the Mayor of said City and attested by the City Clerk of said City, all at a regular meeting of the said Council held on the 22nd day of May, 1990, and that the same was so passed and adopted by the following vote:

Ayes: Councilmen Tabor, Scarduzio, Fernandez, Hardeman

and Mayor Vincent:

Noes: None:

Absent: None:

Not Voting: None:

(SEAL)

City Clerk of the City of Inglewood, California
Appendix M

Documentation on Seismic Mitigation
RESOLUTION NO. 09-78
A RESOLUTION OF THE CITY COUNCIL OF THE CITY
OF INGLEWOOD, CALIFORNIA ADOPTING THE CITY
OF INGLEWOOD HAZARD MITIGATION PLAN

WHEREAS, the City of Inglewood having gathered information
and prepared the City of Inglewood Hazard Mitigation Plan to
reduce or eliminate the effects of hazards to the residents and
community; and

WHEREAS, the Plan has been prepared in compliance with the
Disaster Mitigation Act of 2000; and

WHEREAS, the Local Advisory Task Force comprised of
representatives from city departments, public service agencies
within Los Angeles County, and local for-profit and non-profit
organizations provided oversight of the plan development
process; and

WHEREAS, the Local Advisory Task Force has sought broad
public participation and the City Council of the City of
Inglewood conducted a final public hearing on Tuesday, August
10, 2009, affording community members an opportunity to comment
and provide input regarding the Plan and the actions defined
within; and

WHEREAS, the City Council of the City of Inglewood has
reviewed the Plan and affirms that City will seek to implement
the Plan, subject to available funding, and maintain the Plan as
required by relevant state and federal authorities.

///
///
NOW, THEREFORE, BE IT RESOLVED that the City Council of the City of Inglewood does hereby adopt this Hazard Mitigation Plan as approved by FEMA and as may be necessarily amended.

BE IT FURTHER RESOLVED that the FEMA approved Hazard Mitigation Plan is adopted into the safety element of the City's General Plan in compliance with AB 2140.

PASSED, APPROVED, and ADOPTED this 18th day of August, 2009.

[Signature]
Mayor of the City of Inglewood

Attest:

[Signature]
City Clerk
I, YVONNE HORTON, City Clerk of the City of Inglewood, California do hereby certify that the whole number of members of the CITY COUNCIL of said city is five; that the foregoing resolution, being Resolution No. 09-78 is the full, true and correct original of Resolution No. 09-78 of the said City of Inglewood, California entitled:

A RESOLUTION OF THE CITY COUNCIL OF THE CITY OF INGLEWOOD, CALIFORNIA, ADOPTING THE CITY OF INGLEWOOD HAZARD MITIGATION PLAN.

which was duly passed and adopted by the said City Council, approved and signed by the Mayor of said city, and attested by the City Clerk of said City, all at a regular meeting of said Council held on the 18th day of August, 2009, and that the same was so passed and adopted by the following vote:

Ayes: Council Members Morales, Tabor, Franklin, Dunlap and Mayor Dorn;

None: None;

Absent: None;

Not Voting: None.

I do hereby further certify that pursuant to the provisions of Section 6, of Article X, of the City Charter of said City, the said foregoing Resolution No. 09-78 and regularly published according to the California Crusader, a newspaper of general circulation, printed, published and circulated within the said City, and that the same was so published therein on the following date, to wit: August 18, 2009.

WITNESS my hand and the seal of said City the 18th day of August, 2009.

(SEAL)

City Clerk of the City of Inglewood
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Executive Summary

Hazard mitigation is defined as any sustained action taken to reduce or eliminate long-term risk to people and property from natural and man-made hazard events. The City of Inglewood developed this Local Hazard Mitigation Plan (LHMP) to make the City’s infrastructure and residents less vulnerable to future hazard events. This plan was prepared pursuant to the requirements of the Disaster Mitigation Act of 2000 so that the City of Inglewood would be eligible for the Federal Emergency Management Agency’s (FEMA) Pre-Disaster Mitigation and Hazard Mitigation Grant programs.

The City followed a planning process prescribed by FEMA, which began with the formation of a Local Planning Team (LPT) comprised of key City agency representatives. The LPT engaged a consultant, I.T. Crisis Services, Inc. (ITC), to develop this plan and created a Local Advisory Task Force (LATF) comprised of representatives of City and Los Angeles County agencies and representatives of local profit and non-profit organizations to provide oversight over the plan development.

A risk assessment was conducted to identify and profile natural and man-made hazards that pose a risk to the City of Inglewood, assess the City’s vulnerability to these hazards, and examine the capabilities in place to mitigate them. The City is vulnerable to several hazards that are identified, profiled, and analyzed in this plan. Earthquakes, hazmat releases, and human threat events/terrorism are among the hazards that are considered to be high risk and subsequently can have a significant impact on the City.

Based on the risk assessment, goals and objectives for reducing the City’s vulnerability to hazards were identified. The four goals of this multi-hazard mitigation plan are:

- Minimize loss of life and property from natural and man-made hazard events
- Protect public health and safety
- Increase public awareness of risk from natural and man-made hazards
- Enhance emergency services including warning systems

To meet identified goals and objectives, the plan recommends 44 mitigation measures, which are summarized in the table that follows. In addition to the mitigation measures, the table includes the lead agencies to carry out the measures, potential sources of funding, the timeline in which the measures will be addressed, and the priority of the measures. This plan has been formally adopted by the City and a schedule has been adopted to review and update the plan annually.
<table>
<thead>
<tr>
<th>Mitigation Measures</th>
<th>Lead Agencies</th>
<th>Funding Source(s)</th>
<th>Timeframe</th>
<th>Priority Ranking</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.1.1 - Reactivate the Disaster Council</td>
<td>Information Systems</td>
<td>General Fund</td>
<td>Short-term</td>
<td>Critical</td>
</tr>
<tr>
<td>1.1.2 - Continue the Advisory Task Force as a Council Board</td>
<td>Information Systems</td>
<td>General Fund</td>
<td>Short-term</td>
<td>Critical</td>
</tr>
<tr>
<td>1.1.3 - Create a position for a full-time, fully funded Emergency Preparedness Coordinator in Public Safety Systems Section of IT&amp;C</td>
<td>Information Systems</td>
<td>General Fund</td>
<td>Short-term</td>
<td>Critical</td>
</tr>
<tr>
<td>1.1.4 - Initiate and maintain comprehensive training programs for city personnel for ICS, etc, for both safety and non-safety personnel</td>
<td>Information Systems</td>
<td>General Fund Federal/State Grants</td>
<td>Short-term</td>
<td>Critical</td>
</tr>
<tr>
<td>1.1.5 - Create a functional Emergency Operations Center</td>
<td>Information Systems</td>
<td>General Fund Federal Grants (HMGP/PDM)</td>
<td>Short-term</td>
<td>Critical</td>
</tr>
<tr>
<td>2.1.1 – Conduct an evaluation of the existing warning system in City Hall to determine its efficacy in reaching all people within the building in the event of a hazmat release or potential terrorism event</td>
<td>Information Systems</td>
<td>General Fund Federal Grants</td>
<td>Short-term</td>
<td>Critical</td>
</tr>
<tr>
<td>2.2.1 – Assess evacuation plans for City Hall to consider the conditions under which evacuation will take place or when the building will be secured with everyone remaining inside</td>
<td>Information Systems</td>
<td>General Fund Federal Grants</td>
<td>Short-term</td>
<td>High</td>
</tr>
<tr>
<td>Mitigation Measures</td>
<td>Lead Agencies</td>
<td>Funding Source(s)</td>
<td>Timeframe</td>
<td>Priority Ranking</td>
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<tr>
<td>2.2.2 - Evaluate Buffer Zone or Evacuation Plans for public facilities and critical facilities (i.e. Water Treatment Plant)</td>
<td>Public Works</td>
<td>General Fund Federal Grants</td>
<td>Short-term</td>
<td>High</td>
</tr>
<tr>
<td>2.3.1 - Develop and sustain a reliable mass notification system</td>
<td>Information Systems</td>
<td>General Fund Federal Grants</td>
<td>Short-term</td>
<td>Moderate</td>
</tr>
<tr>
<td>3.1.1 – Create a website that includes detailed information and links to existing preparedness and mitigation resources addressing earthquake, hazmat release, and terrorism risks</td>
<td>Information Systems</td>
<td>General Fund</td>
<td>Short-term Ongoing</td>
<td>High</td>
</tr>
<tr>
<td>3.1.2 – Provide information in both English and Spanish</td>
<td>Information Systems</td>
<td>General Fund</td>
<td>Short-term Ongoing</td>
<td>High</td>
</tr>
<tr>
<td>3.2.1 – Develop a program to create and distribute written materials to educate the public about hazard risks facing the City</td>
<td>Information Systems</td>
<td>General Fund</td>
<td>Long-term Ongoing</td>
<td>Moderate</td>
</tr>
<tr>
<td>3.2.2 - Sponsor an annual Emergency Preparedness Fair</td>
<td>Information Systems</td>
<td>General Fund</td>
<td>Long-term Ongoing</td>
<td>Moderate</td>
</tr>
<tr>
<td>4.1.1 – Retain the Advisory Task Force as a permanent City fixture</td>
<td>Information Systems</td>
<td>General Fund</td>
<td>Short-term Ongoing</td>
<td>Moderate</td>
</tr>
<tr>
<td>4.1.2 – Enhance relationships with the local Chamber of Commerce, Partners for Progress, and local health clinics</td>
<td>Information Systems</td>
<td>General Fund</td>
<td>Short-term Ongoing</td>
<td>Moderate</td>
</tr>
<tr>
<td>Mitigation Measures</td>
<td>Lead Agencies</td>
<td>Funding Source(s)</td>
<td>Timeframe</td>
<td>Priority Ranking</td>
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<tr>
<td><strong>Earthquake</strong></td>
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<tr>
<td>5.1.1 – Develop a relocation plan or find an alternative facility for the Emergency</td>
<td>Information Systems</td>
<td>General Fund Federal Grants</td>
<td>Short-term</td>
<td>Critical</td>
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<td>Operations Center (EOC)</td>
<td></td>
<td>(HMGP/PDM)</td>
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<tr>
<td>5.1.2 – Develop a relocation plan or find an alternative facility for the City’s</td>
<td>Information Systems</td>
<td>General Fund Federal Grants</td>
<td>Short-term</td>
<td>Critical</td>
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<tr>
<td>data center</td>
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<tr>
<td>5.1.3 – Conduct a study to find a location outside the City to establish a back-up</td>
<td>Information Systems</td>
<td>General Fund Federal Grants</td>
<td>Short-term</td>
<td>Critical</td>
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<tr>
<td>to the City computer system</td>
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<tr>
<td>5.1.4 – Complete the program to remove the outdated computer aided dispatch (CAD)</td>
<td>Information Systems</td>
<td>General Fund</td>
<td>Short-term</td>
<td>Critical</td>
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<tr>
<td>system from an obsolete main frame computer</td>
<td></td>
<td>Ongoing</td>
<td></td>
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</tr>
<tr>
<td>6.1.1 - Ensure all new development and redevelopment is sited and constructed in</td>
<td>Building and Planning</td>
<td>General Fund</td>
<td>Long-term</td>
<td>High</td>
</tr>
<tr>
<td>accordance with the General Plan and zoning ordinances.</td>
<td></td>
<td></td>
<td>Ongoing</td>
<td></td>
</tr>
<tr>
<td>6.1.2 - Adopt, upon approval by the International Code Council (ICC) and the State</td>
<td>Building and Planning</td>
<td>General Fund</td>
<td>Long-term</td>
<td>High</td>
</tr>
<tr>
<td>of California, revisions to the California Building Code which increase seismic</td>
<td></td>
<td></td>
<td>Ongoing</td>
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<td>resistance of structures to ground shaking and other geologic hazards.</td>
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<tr>
<td>Mitigation Measures</td>
<td>Lead Agencies</td>
<td>Funding Source(s)</td>
<td>Timeframe</td>
<td>Priority Ranking</td>
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</tr>
<tr>
<td>7.1.1 – Conduct a geotechnical study to determine if the City Hall lies on the Newport-Inglewood fault</td>
<td>Public Works</td>
<td>General Fund Federal Grants (HMGP/PDM)</td>
<td>Short-term</td>
<td>Critical</td>
</tr>
<tr>
<td>7.1.2 – Conduct a risk assessment of the City’s water treatment plant and City reservoirs</td>
<td>Public Works</td>
<td>General Fund Federal/State Grants</td>
<td>Short-term</td>
<td>Critical</td>
</tr>
<tr>
<td>7.1.3 – Identify and acquire an acceptable site for the relocation of the Police Building out of the Newport-Inglewood fault zone</td>
<td>Police</td>
<td>General Fund HMGP/PDM</td>
<td>Short-term</td>
<td>Critical</td>
</tr>
<tr>
<td>7.1.4 – Establish a non-structural hazard evaluation and risk reduction program for city buildings and departments housing critical functions</td>
<td>Public Works</td>
<td>General Fund HMGP/PDM</td>
<td>Long-term</td>
<td>Critical</td>
</tr>
<tr>
<td>7.1.5 - Install seismic bracing on all critical IT equipment and back-up power sources.</td>
<td>Public Works</td>
<td>General Fund</td>
<td>Short-term</td>
<td>High</td>
</tr>
<tr>
<td>7.1.6 - Install seismic bracing bars on main branch library shelves to prevent collapse and public injury</td>
<td>Public Works</td>
<td>General Fund HMGP/PDM</td>
<td>Short-term</td>
<td>High</td>
</tr>
<tr>
<td>8.1.1 - Establish a methodology for developing a soft story building inventory</td>
<td>Building and Planning</td>
<td>General Fund</td>
<td>Long-term</td>
<td>Under Study</td>
</tr>
<tr>
<td>8.1.2 – Inventory privately owned soft story buildings in the City</td>
<td>Building and Planning</td>
<td>General Fund</td>
<td>Long-term</td>
<td>Under Study</td>
</tr>
<tr>
<td>8.1.3 – Inventory privately-owned tilt-up buildings in the City</td>
<td>Building and Planning</td>
<td>General Fund</td>
<td>Long-term</td>
<td>Under Study</td>
</tr>
<tr>
<td>Mitigation Measures</td>
<td>Lead Agencies</td>
<td>Funding Source(s)</td>
<td>Timeframe</td>
<td>Priority Ranking</td>
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<tr>
<td>8.2.1 – Support efforts to seismically retrofit Centinela Hospital to meet the requirements of SB 1953 (Alfred E. Alquist Hospital Seismic Safety Act of 1983)</td>
<td>Information Systems</td>
<td>General Fund</td>
<td>Short-term Ongoing</td>
<td>Critical</td>
</tr>
<tr>
<td>8.2.2 - Consider developing a tilt-up retrofit code to encourage retrofit of privately-owned tilt-up buildings</td>
<td>Building and Planning</td>
<td>General Fund</td>
<td>Long-term</td>
<td>Under Study</td>
</tr>
<tr>
<td>8.2.3 – Conduct a risk assessment of high occupancy buildings and all buildings currently listed as potential post-disaster shelters</td>
<td>Building and Planning</td>
<td>General Fund</td>
<td>Long-term</td>
<td>Under Study</td>
</tr>
<tr>
<td>8.2.4 - Encourage retrofit of single family homes including bolting to foundations, strengthening cripple walls, and removing or strengthening masonry chimneys</td>
<td>Building and Planning</td>
<td>General Fund Federal/State Grants (HMGP/PDM/CEA)</td>
<td>Long-term</td>
<td>Under Study</td>
</tr>
<tr>
<td>9.1.1 - Join the Southern California Earthquake Center (SCEC)</td>
<td>Information Systems</td>
<td>General Fund</td>
<td>Short-term</td>
<td>Under Study</td>
</tr>
<tr>
<td>9.2.1 – Develop and distribute information to citizens</td>
<td>Information Systems</td>
<td>General Fund</td>
<td>Short-term</td>
<td>Moderate</td>
</tr>
</tbody>
</table>

**Hazmat Releases**

<p>| 10.1.1 – Educate the public about the hazardous materials to which they may be exposed and how to identify them | Information Systems LA County Fire | General Fund | Long-term | Under Study |</p>
<table>
<thead>
<tr>
<th>Mitigation Measures</th>
<th>Lead Agencies</th>
<th>Funding Source(s)</th>
<th>Timeframe</th>
<th>Priority Ranking</th>
</tr>
</thead>
<tbody>
<tr>
<td>10.2.1 – Develop a list of preventive measures to protect the public</td>
<td>Information Systems LA County Fire</td>
<td>General Fund</td>
<td>Long-term</td>
<td>Under Study</td>
</tr>
<tr>
<td>10.2.2 – Encourage businesses that work with hazardous materials to install preventive measures that contain or limit hazmat releases</td>
<td>Information Systems LA County Fire</td>
<td>General Fund</td>
<td>Long-term</td>
<td>Under Study</td>
</tr>
<tr>
<td>10.2.3 – Encourage high occupancy and critical facilities to install preventive measures that re-circulate air and prevent outside air from entering the facilities</td>
<td>Information Systems LA County Fire</td>
<td>General Fund</td>
<td>Long-term</td>
<td>Under Study</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Human Threat Events/Terrorism</th>
<th></th>
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</tr>
</thead>
<tbody>
<tr>
<td>11.1.1 – Review and update city anti-terrorism plans and procedures with the Los Angeles Airport and Los Angeles City police and homeland security departments</td>
<td>Police</td>
<td>General Fund</td>
<td>Short-term Ongoing</td>
<td>Under Study</td>
</tr>
<tr>
<td>11.1.2 - Create an education program that mirrors the model developed by the Joint Regional Information Center (JRIC), to sensitize public safety employees and the general public to pre-incident indicators of terrorist activities</td>
<td>Police</td>
<td>General Fund</td>
<td>Short-term Ongoing</td>
<td>Moderate</td>
</tr>
<tr>
<td>Mitigation Measures</td>
<td>Lead Agencies</td>
<td>Funding Source(s)</td>
<td>Timeframe</td>
<td>Priority Ranking</td>
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<tr>
<td>11.1.3 - Incorporate terrorism awareness and prevention in ongoing Police training programs and day-to-day law enforcement activities</td>
<td>Police</td>
<td>General Fund</td>
<td>Short-term Ongoing</td>
<td>Moderate</td>
</tr>
<tr>
<td>11.1.4 - Develop a training program for line level Public Safety Employees to interdict in pre-incident indicators of terrorist activities.</td>
<td>Police</td>
<td>General Fund</td>
<td>Short-term Ongoing</td>
<td>Moderate</td>
</tr>
</tbody>
</table>

Table ES-1: Mitigation Measures - Summary
1.0 Introduction

1.1 Purpose of the Plan

This Plan analyses the risk posed to people and property in the City of Inglewood from natural and technological hazards, and presents a list of mitigation actions that the City can implement prior to such events to reduce the personal harm and property damage caused by them. This Plan represents the City’s commitment to pre-disaster mitigation, prevention and preparation. It helps fulfill the City’s regulatory obligations as established by law and serves as a guide for decision makers as they commit resources to reduce the impacts of such hazards. It also serves as the basis for the State and/or Federal government to provide technical and financial assistance for mitigation programs and projects.

Hazard Mitigation is defined as any sustained action taken to reduce or eliminate long-term risk to human life and property. Mitigation can reduce the enormous cost of disasters to property owners and all levels of government. In addition, it can protect critical community facilities, reduce exposure to liability, and minimize community disruption. In the past, emergency management has focused primarily on responding after the fact to disasters. Recent changes in Federal policy resulting from escalating disaster costs and passage of the Disaster Mitigation Act of 2000 (DMA 2000) have given new impetus to hazard mitigation planning. Under the DMA 2000, the City of Inglewood is required to have a FEMA-approved Local Hazard Mitigation Plan to be eligible for certain pre- and post-disaster mitigation funds.

This document fulfills FEMA requirements and provides direction and guidance on implementing hazard mitigation in the City of Inglewood. Adoption of the Plan by the City Council and approval by FEMA qualifies the City of Inglewood to obtain federal assistance for hazard mitigation. Recent legislation signed into law by Governor Schwarzenegger recognizes the importance of Local Hazard Mitigation Plans (LHMP), by providing additional state disaster assistance funding to those jurisdictions that append an approved LHMP to the Safety Element of their General Plan.

The primary purpose of this plan is to identify community policies, actions and tools for implementation over the long-term that will result in a reduction in risk and potential for future losses community wide. This is accomplished by using a systematic process of learning about the hazards that can affect the City, setting clear goals, identifying and implementing appropriate actions, and keeping the plan current. This plan is an integral part of the City’s multi-pronged approach to minimizing personal injury and property damage from natural and technological disasters, and it complements other planning documents and regulatory authorities governing pre-disaster land use planning and post-disaster response and recovery. It also acknowledges the numerous financial, regulatory and compliance issues government faces on a daily basis. It is intended to set the tone for the implementation of hazard mitigation practices that will build a disaster resistant and sustainable community.
1.2 Community Profile

1.2.1 Physical Setting

The City of Inglewood, one of eighty-eight incorporated cities is located within southwestern Los Angeles County. Generally, Inglewood is bordered to the north by the unincorporated Los Angeles County communities of Ladera Heights, Baldwin Hills, View Park and Windsor Hills as well as the City of Los Angeles, to the south by the City of Hawthorne and the unincorporated Los Angeles County community of Lennox, to the east by the City of Los Angeles, and to the west by the Los Angeles International Airport (LAX), the City of El Segundo and unincorporated portions of Los Angeles County. The location of the City of Inglewood within the Los Angeles Basin is shown in Figure 1-1 below.

![Figure 1-1: Regional Setting (Credit: Microsoft Virtual Earth)](image-url)
Situated within the Inglewood-Torrance coastal plain at the northern end of the Centinela Valley, the City encompasses approximately 8.9 square miles of land area. The majority of the City on average, is about 100 feet above sea level, with the highest points on the northeastern perimeter rising to about 250 feet above sea level.

During the Miocene and Pliocene periods (5 to 25 million years ago), the Los Angeles Basin and the surrounding mountains were submerged beneath the Pacific Ocean. However, movement and collision of tectonic plates during the Pleistocene (2 million years ago) elevated much of this area above sea level. This seismic activity eventually created the landforms that exist today. Due to intense north/south compression, the Transverse Range in this region is one of the most rapidly rising areas on earth.

The City is underlain by a thick (10,000 to 12,000 feet) section of Tertiary and Quaternary marine and continental sedimentary rocks deposited on an igneous-metamorphic basement complex within the Los Angeles sedimentary basin. The Tertiary rocks, consisting primarily of sandstone, siltstone, and shale, are almost entirely of marine origin and range in age from Eocene and Pliocene. The Quaternary rocks consist of shallow marine sandstone and siltstone and continental siltstone, mudstone, and gravels.\(^2\)

The City of Inglewood is located within the boundaries of three watersheds: Los Angeles, Ballona, and Dominguez. The Dominguez Watershed makes up the greatest portion of the City and covers approximately 3,900 acres or approximately 67 percent. The Ballona Watershed makes up 1,936 acres (33 percent) and the Los Angeles Watershed covers only one acre (0.02 percent) of the City. The City of Inglewood drainage system drains into the various tributaries of each watershed discussed above. Typically, these areas are predominately channelized and highly developed with both commercial and residential properties. Most of the drainage networks are controlled by structural flood control measures, including debris basins, storm drains, underground culverts, and open concrete channels.\(^3\)

Inglewood enjoys a moderate climate with seasonal high temperatures averaging in the upper 70's and seasonal lows in the upper 40's. On average, the coolest month is December and the warmest month is August. The highest recorded temperature was 110 degrees, which occurred in September 1963. The lowest recorded temperature was 27 degrees in January 1949. The rainy season generally begins in November and ends in April, with the maximum average precipitation occurring in February. Monthly average precipitation totals during the rainy season range from one to three inches per month.\(^4\)

1.2.2 History

Inglewood, like most Southern California communities began as an agricultural and ranching community and within a century transformed into an urban industrial community. Inglewood's roots lie in the Rancho Aguaje del Centinela, a 2,200-acre property named after the Centinela Spring around which it was located. The
headquarters of the ranch property, called the Centinela Adobe House, is considered to be the birthplace of Inglewood. The Centinela Adobe was completed in 1834 by Ignacio Machado, who owned it briefly. The property passed through many hands before finally being purchased in 1885 by Daniel Freeman, a Canadian attorney who had arrived in the area in 1873. By 1887, Freeman had become a partner in the Centinela-Inglewood Land Company. The stated purpose of this land company was to create a town near Centinela Springs.

The Inglewood City plan was divided into northern and southern sections by the California Central Railroad and it was completed in 1887. By 1888 Inglewood had a population of three hundred, a school with an enrollment of thirty-three students, several small businesses, including five real estate offices, a hotel and a railway station.

On February 14, 1908, Inglewood was incorporated as a city. The population had grown to 1,200. By then a Poultry Colony and the Inglewood Park Cemetery had been added along with a streetcar line.

Growth was slow and steady, with the 1920 census reporting a population of 3,248. A combination of events spurred growth in the 1920's and 1930's. Two earthquakes, the first on June 21, 1920 and the Long Beach earthquake in 1933 are both attributed as catalysts for development. Although the 1920 event caused only localized damage in Inglewood, local lore states that people flocked to the City to look at the damage, found the area to their liking and stayed permanently. This is borne out by the increase in population to 7,000, as reported in 1922 census figures. The widespread regional damage caused by the Long Beach earthquake also stimulated growth as southern California residents and businesses sought relocation. The advent of the automobile began to decentralize the residential development in Inglewood and by the end of the 1930's, Inglewood's economic base began to expand outside the core downtown area.

The Hollywood Park racing facility opened in 1938, making Inglewood the home of Southern California's racing season and made Inglewood a tourist destination. Perhaps of greater significance to Inglewood's future development was its proximity to Mines Field, an airstrip located to the southwest of the city. Mines Field, purchased by the City of Los Angeles in 1937, and renamed as Los Angeles Airport in 1946, directly affected Inglewood's development. Airplane manufacturers and related businesses located their factories in the area, and by the time of America's entry into the World War II, Los Angeles had become the nation's center for aircraft industry.

These developments directly affected Inglewood's growth. In 1938, the City had a population of 26,000; by 1956, the community had grown to 63,000. The downtown area began to lose its primacy as the city's shopping center. By the early 1960s, the city included four retail business areas, which, in addition to downtown, included North Inglewood, Morningside Park, and Crenshaw. The influx of defense-related industries, in addition to expanding retail areas, transformed the agriculturally oriented town into an urban industrial community, which ultimately brought Inglewood its present "urban look".
1.2.3 Demographics

According to the 2000 Federal Census of Population and Housing, the City of Inglewood had an estimated population of 112,580. The City also has a population density of 12,800 people per square mile. U.S. Census data provided in 2007 indicates an increase in population to 113,376.

The historical growth of the City is attributed primarily to annexations of developed tracts through the 1960 and 1970's. Demographic shifts since then have resulted in an increase in family size and ethnic diversity. Currently the predominant race/ethnic characteristic of the population consist of 46% Black and 46% Latino. 32% of the population is within the extremely low to low-income HUD defined income categories. 80% of the housing stock is older than 30 years. The total number of households in the City is over 36,000 with the tenancy of the housing stock being roughly 40% owner occupied and 60% rental occupancy. Of the total population, according to the 2000 Census, 7% are elderly. Nearly 17% of all households have a resident over the age of 65; and approximately 38% of these households or 6% of the total number or 2,300 households have an elderly person living alone. Over 12,000 persons in the City are considered handicapped or disabled with a quarter of these residents being elderly.

The City's population is projected to increase to 126,000 in 2010 according to the Southern California Association of Governments (SCAG) based on a presumed growth rate of 4.5%.

1.2.4 Existing Land Use

The City of Inglewood contains approximately 8.9 gross square miles of land area. A land use map is included as Figure 1-2 on the following page.
Figure 1-2: Existing Land Use (Source: City of Inglewood General Plan)
The following discussion pertains to the existing land uses in the City, as shown in Table 1-1 below. The land use data in this figure is based on data obtained by the City from the Los Angeles County Assessor’s office. Existing land uses fall under five general categories as follows:

**Residential**—Residential uses within the City include primarily single- and multifamily development. Other residential uses include mobile homes, elderly homes, and boarding houses.

**Commercial**—Includes uses that offer goods for retail sale to the public such as department stores, shopping centers, and supermarkets; and service uses such as restaurants, service stations, and beauty salons. Commercial land uses include businesses that serve local needs, such as restaurants, neighborhood markets and dry cleaners, and those that serve community or regional needs, such as auto dealers, furniture stores, hotels and motels.

**Office**—Includes professional and administrative office uses.

**Industrial**—Includes low- and high-intensity industrial and manufacturing uses (e.g. industrial, heavy industrial, light manufacturing, storage, warehouse, etc.).

**Public Facilities**—Includes civic and governmental buildings and institutional uses such as City Hall, the Courthouse, police and fire stations, libraries, churches, schools, hospitals, etc.

**Other**—Includes land uses which do not fall into one of the specific categories listed above. These uses include utilities, right-of-ways, parking lots, greenhouses, etc.

<table>
<thead>
<tr>
<th>Land Use</th>
<th>Acres</th>
<th>Percent of City</th>
</tr>
</thead>
<tbody>
<tr>
<td>Residential</td>
<td>3022.8</td>
<td>66.4</td>
</tr>
<tr>
<td>Commercial</td>
<td>296.9</td>
<td>6.5</td>
</tr>
<tr>
<td>Office</td>
<td>113.4</td>
<td>2.5</td>
</tr>
<tr>
<td>Industrial</td>
<td>191.7</td>
<td>4.2</td>
</tr>
<tr>
<td>Public Facilities</td>
<td>562.5</td>
<td>12.4</td>
</tr>
<tr>
<td>Parks</td>
<td>92.6</td>
<td>2.0</td>
</tr>
<tr>
<td>Other</td>
<td>253.9</td>
<td>5.6</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>4551.6</strong></td>
<td><strong>100.0</strong></td>
</tr>
</tbody>
</table>

**Table 1-1: Existing Land Use**

1.2.5 Development Trends

The City of Inglewood is a mature built-out city, with few opportunities for new development. Most new development will occur as a result of infill or redevelopment.
The Inglewood Redevelopment Agency was established in 1969 to revitalize blighted areas in the City that have been designated as Redevelopment Project Areas by the City Council. The overall goal of the Agency is to eliminate blight to promote new development and to enhance private sector investment within the Project Areas. The City currently has six Redevelopment Project Areas: In-Town, La Cienega, North Inglewood Industrial, Manchester-Prairie, Century, and Imperial Prairie. All future development/redevelopment projects will be constructed to current design standards and building codes, and are not expected to contribute to community vulnerability from natural or technological hazards.

---

1 City of Inglewood General Plan Update Technical Background Report (Section 1.3)
2 City of Inglewood General Plan Update Technical Background Report (Section 6.1-1, 6.1-2)
3 City of Inglewood General Plan Update Technical Background Report (Section 5.2-1)
4 http://www.weather.com/weather/wxclimatology/monthly/graph/90301?locid=90301
5 City of Inglewood Consolidated Plan 2001-2004
6 Ibid
7 South Bay Cities Infrastructure and Services Capacity Assessment, South Bay Cities Council of Governments, 2003
8 City of Inglewood General Plan Update Technical Background Report (Section 2.1-1)
9 City of Inglewood General Plan Update Technical Background Report (Section 2.1-24)
2.0 The Planning Process

The planning process began when the City Council supported the City Administrator’s Office request to apply for Pre-Disaster Mitigation Grant (PDM) funds from the Federal Emergency Management Agency (FEMA) to develop a Local Multi-Hazard Mitigation Plan for the City of Inglewood. The planning grant was awarded to the City by FEMA in 2007.

This Mitigation Plan is the product of a rational thought process that reviewed the hazards, estimated their risks to the community, identified alternative mitigation measures, and selected those that will work best for the City.

The City of Inglewood followed an eight-step planning process, based on the requirements outlined in the Disaster Mitigation Act of 2000 and written guidance published by FEMA and the California Emergency Management Agency (CalEMA) (formerly the California Office of Emergency Services). Resource documents accessed include the FEMA “How-to-Guides”, the “Local Hazard Mitigation Planning Guidance” issued by FEMA in July 2008, and the “Local Hazard Mitigation Plan Crosswalk”. The eight steps are described below. Additional documentation of the planning process can be found in the Project Quarterly Progress Reports, which are included in Appendix A.

2.1 Step One: Organize to Prepare the Plan
(April 2008 – May 2009)

The City Administrative Officer in conjunction with the Office of the Chief of Police designated the Police Department as the lead agency for the mitigation planning effort. Leadership, management and oversight for the plan development process was provided through the City established Local Planning Team. Team members were selected based on current emergency management responsibilities and familiarity with prior mitigation planning and programs. To supplement staff resources and secure the services of subject matter experts, the City issued a Request for Proposals (RFP) and retained a consultant team to work with the City to provide plan development and management assistance.

2.1.1 Local Planning Team

The Local Planning Team (LPT) met monthly, or more frequently as necessary, with the Consultant Team at City Hall or by conference call throughout the planning process to provide guidance, review progress, identify issues, and make arrangements for all Local Advisory Task Force and citizen stakeholder meetings. The LPT also provided background documents, facilitated data collection, reviewed all draft documents, and collaborated with the consultant team on all planning process decisions. The Local Planning Team (LPT) consists of five City employees. The members are:

- Martin Sissac, Captain, City of Inglewood Police Department, Project Manager
- Micah Herd, Grants Coordinator, City of Inglewood Police Department, Assistant Project Manager
2.1.2 Consultant Team

The contract for consulting services was awarded to I.T. Crisis Services, Inc. (ITC), based upon the extensive background and experience of the proposed team and their approach to completing the required tasks. The Consultant Team was responsible for facilitating the planning process, including all LPT and Advisory Task Force (LATF) meetings, acquiring all necessary data, performing the risk assessment, preparing draft mitigation goals, objectives, and strategies, conducting the review process, and producing all draft and final documents for submission to the California Office of Emergency Management (CalEMA) and the Federal Emergency Management Agency (FEMA). The ITC team assembled for this project includes:

- Elliott Mittler, Project Manager - responsible for overall project management and coordination and plan development
- Paula Schulz, Planner, Natural Hazards Mitigation - responsible for plan development and state and federal compliance
- Charles Huyck, Executive Vice President, & Shubharoop Ghosh, Vice President, ImageCat - responsible for hazard identification, vulnerability analysis, and loss estimation

2.1.3 Local Advisory Task Force

Oversight of the planning process was provided by a Local Advisory Task Force (LATF), which includes representatives of every City department that has a role in hazards protection, representatives of the County of Los Angeles Fire and Public Health Departments, and representatives of important for-profit and non-profit organizations in the City of Inglewood.

The LAFT met quarterly during the planning process to provide input, guidance, and critical feedback to the Local Planning Team and Consultant Team. The LATF played a critical role in identifying existing programs, plans, studies and data to support the planning effort, in identifying and prioritizing hazards to be addressed in the plan, in developing the overall goals and objectives and suggesting and prioritizing draft mitigation strategies for future implementation. A hazard mitigation planning survey was distributed to LATF members and other critical city departments to gather information about their hazard related concerns, on-going programs, and suggestions for future action. A copy of the survey and a summary of key results are included as Appendix B.

The Local Advisory Task Force consists of:

- Craig Bragg, Inspection Supervisor, Building Safety Department, City of Inglewood
- Gary D. Burden, Battalion Chief, Los Angeles County Fire Department
2.1.4 Data and Document Review

At the outset of the planning effort, the Consultant Team prepared a comprehensive list of plans, documents, and data sets that could support plan development. The Local Planning Team and Advisory Task Force members provided readily available documentation that was incorporated as appropriate into various sections of the draft plan, specifically the Risk and Capabilities Assessments. Individual meetings with departmental representatives were held to acquire specific data sets and to access digital files maintained in the City’s Geographic Information System. Additionally, the Consultant Team conducted document and web site research to access state-of-the-art hazard and mitigation resources. A reference list of documents reviewed and incorporated into the planning process is included in Section 7 of this Plan.

2.2 Step Two: Coordinate with Other Agencies and Organizations
(September 2008 – July 2009)

The primary mechanism for ensuring coordination with other agencies and organizations that could support mitigation plan development and implementation was the LATF. At the outset of the planning process, the LPT identified a number of agencies, organizations, businesses and non-governmental entities to be invited to participate in the plan development effort. These included key County agencies (Public Health, Fire, Emergency Services); the largest private sector employers (Los Angeles Worldwide Airport, the Forum, the Hagen Group, Marvin Engineering); critical facilities (Water Treatment Plant, Centinela Hospital); the Inglewood Unified School District; and non-governmental and community based organizations (American Red Cross; Faithful Central Bible Church, Neighborhood Block Groups). All of the organizations were contacted via letter or telephone and invited to participate as members of the Local Advisory Task Force. Those who responded positively were included in the LAFT. Additionally, a separate contact was made with the City of Inglewood Partners for
Progress, a public-private sector initiative whose membership includes: Hollywood Park Land Company, Hollywood Park Casino, Centinela Hospital Medical Center, City of Inglewood, the Forum, Inglewood/Airport Area Chamber of Commerce, Inglewood Park Cemetery and Los Angeles World Airports. Representatives of the Local Planning Team and Consultant Team subsequently made a presentation to the group to inform them of the mitigation planning effort and to solicit their input and concerns relative to natural and man-made hazards.

2.3 Step Three: Involve the Public  
(January 2009 – July 2009)

The Local Planning Team undertook a number of initiatives to inform the public of this effort and to solicit their input. The Planning Team discussed several alternatives to the public input process, including hosting a public workshop, a web-based survey, and targeted community-based stakeholder workshops. After extensive deliberations, the decision was made to hold a series of three community-based stakeholder workshops. The LPT believed this to be the mechanism that would be most successful in soliciting public input and was in keeping with the standard public input process used for similar projects in the City.

The three workshops were held at the Inglewood City Hall on February 20, February 21, and March 28, 2009. The LPT developed lists of invitees and mailed invitations to each person, then followed up with telephone calls. The first stakeholder meeting included members from the Inglewood business and professional communities. The second stakeholder meeting included citizens representing neighborhood groups and homeowner associations. The third stakeholder meeting included citizens who have been CERT trained. In all three workshops, the Consultant Team presented an overview of the local hazard mitigation planning process and a risk analysis of the natural and man-made hazards facing the City of Inglewood. The citizens then provided their input about their concerns about each hazard, what they are doing to prepare for and to mitigate high risk hazards and what activities the City should engage to prepare for, mitigate, and respond to the highest risk hazards. A list of invited participants and workshop materials are included in Appendix C.

Once completed, the draft Multi-Hazard Mitigation Plan was calendared for a Public Hearing at the August 18 City Council Meeting and posted at that time for public review on the City web page. Hard copies were available at the City Administrative Offices and the Library. The Public Hearing was held as scheduled and several members of the public offered comments. The City Council and the Local Planning Team determined how these public comments would be included in the draft plan prior to final publication. Following the public comment period, the City Council formally adopted the Multi-Hazard Mitigation Plan.

Table 2-1 below shows a list of all Local Planning Team, Local Advisory Task Force meetings, Stakeholder Workshops and their dates.
<table>
<thead>
<tr>
<th>Date</th>
<th>Activity</th>
</tr>
</thead>
<tbody>
<tr>
<td>July 30, 2008</td>
<td>Initial Local Planning Team (LPT) Kick-off meeting to overview the planning process, timelines and meeting schedules, and the roles of the LPT and the consultant</td>
</tr>
<tr>
<td>September 11, 2008</td>
<td>LPT meeting</td>
</tr>
<tr>
<td>October 9, 2008</td>
<td>LPT meeting</td>
</tr>
<tr>
<td>October 14, 2008</td>
<td>Partners for Progress Planning Meeting</td>
</tr>
<tr>
<td>October 15, 2008</td>
<td>Partners for Progress Presentation</td>
</tr>
<tr>
<td>October 30, 2008</td>
<td>LPT meeting</td>
</tr>
<tr>
<td>November 18, 2008</td>
<td>Initial Local Advisory Task Force (LATF) meeting to overview the planning process, timelines and meeting schedules, and the roles of the LATF. In addition, the LATF members were asked to review a preliminary risk evaluation and to provide the LPT with studies and other information related to mitigation activities. The mitigation planning survey was distributed at the meeting and made available electronically to all LATF members.</td>
</tr>
<tr>
<td>December 16, 2008</td>
<td>LPT meeting</td>
</tr>
<tr>
<td>January 9, 2008</td>
<td>LPT meeting</td>
</tr>
<tr>
<td>January 21, 2009</td>
<td>LPT meeting</td>
</tr>
<tr>
<td>February 10, 2009</td>
<td>LPT meeting</td>
</tr>
<tr>
<td>February 19, 2009</td>
<td>LATF meeting to provide a status report of the project. It included an analysis of information collected in the surveys previously distributed to ATF members and a presentation of an updated risk assessment.</td>
</tr>
<tr>
<td>February 20, 2009</td>
<td>First Community Stakeholder meeting composed of business and professional representatives.</td>
</tr>
<tr>
<td>February 21, 2009</td>
<td>Second Community Stakeholder meeting composed of neighborhood and housing representatives.</td>
</tr>
<tr>
<td>March 12, 2009</td>
<td>LPT meeting</td>
</tr>
<tr>
<td>March 28, 2009</td>
<td>Third Community Stakeholder meeting composed of Community Emergency Response Team (CERT) members.</td>
</tr>
<tr>
<td>April 16, 2009</td>
<td>LPT meeting</td>
</tr>
<tr>
<td>May 13, 2009</td>
<td>LATF meeting to discuss alternative mitigation activities the City could undertake and to collect suggestions for additional mitigation activities.</td>
</tr>
<tr>
<td>May 13, 2009</td>
<td>LPT meeting</td>
</tr>
<tr>
<td>July 9, 2009</td>
<td>LATF meeting to discuss and prioritize mitigation measures the City plans to initiate and complete in the next five years.</td>
</tr>
<tr>
<td>July 9, 2009</td>
<td>LPT meeting</td>
</tr>
<tr>
<td>August 18, 2009</td>
<td>Public Hearing and City Council Plan Adoption</td>
</tr>
</tbody>
</table>

Table 2-1: City of Inglewood Local Planning Team, Local Advisory Task Force Meetings, and Stakeholder Workshops
2.4 Step Four: Assess the Hazard
(September 2008 – April 2009)

In September 2008, the Consultant Team began identifying natural and man-made hazards that affect the City of Inglewood with the full cooperation of the Local Planning Team and agencies in the City of Inglewood. A comprehensive list of (13) natural and man-made hazards was considered for investigation.

Natural Hazards Considered:
- Dam Failure
- Flood/Winter Storms
- Tornado
- Wildfire
- Earthquake
- Hurricane Wind/Storm Surge
- Tsunami

Man-Made Hazards Considered:
- Airplane Crash
- Hazardous Material Release
- Nuclear Incident
- Civil Unrest
- Human Threat Events/Terrorism
- Train Derailment

These hazards were ranked as low, medium or high based upon the perceived threat to the City. The analysis of these hazards is described in Section 3 of this plan. Initial hazard ranks were developed and presented to the Local Planning Team in October 2008 and to the Local Advisory Task Force at the November 2008 LATF meeting. The ranks were adjusted based on input provided by the LPT and LATF members who reviewed the preliminary hazard assessment. A revised hazard assessment was presented at the three stakeholder meetings in February and March 2009 for citizen reactions. The LPT and LATF reached consensus on the final hazards to be included in this mitigation plan. The hazards with significant potential for damage to Inglewood are earthquake, hazardous materials release, and human threat event/terrorism.

2.5 Step Five: Set Goals
(May 2009 – August 2009)

Project and community hazard mitigation goals and objectives for the City of Inglewood were proposed by the Local Planning Team to guide the development of the plan. These were then commented on by the Local Advisory Task Force to refine the goals. At the last Local Advisory Task Force meeting, the Local Planning Team and the Local Advisory Task Force arrived at a consensus agreement.

2.6 Step Six: Review Possible Mitigation Measures
(May 2009 – August 2009)

A variety of mitigation measures that can affect hazards or the damage from hazards were examined. These mitigation activities are organized by hazard and fall within one of the following four categories (See Section 5 for a description of mitigation goals, objectives, and measures):
1. Public Information and Education – Outreach projects and technical assistance
2. Preventive Activities – Zoning, building codes
3. Structural and Property Protection Projects – Earthquake retrofit
4. Emergency Services – Warning, evacuation

2.7 **Step Seven: Draft a Multi-Hazard Mitigation Plan**
   (April 2009 – August 2009)

Following the stakeholder meetings and the third LATF meeting, a first draft of the final plan was written. It was then reviewed by the LPT and the LATF before a second draft was prepared for public review and forwarded to the City so it might be introduced on the City Council agenda.

2.8 **Step Eight: Adopt the Plan**
   (June 2009 – August 2009)

The Inglewood City Council formally adopted the Multi-Hazard Mitigation Plan following a Public Hearing at the August 18, 2009 City Council Meeting. Final recommended revisions were incorporated and the Plan was then submitted for courtesy review to the California Emergency Management Agency. Additional revisions were made based on recommendations by CalEMA. The plan was then formally submitted to CalEMA and the Federal Emergency Management Agency for final review and approval.
3.0 Risk Assessment

3.1 Introduction

This section discusses the risk assessment approach for the City of Inglewood’s Hazard Mitigation Plan. FEMA defines the risk assessment process as a multi-step effort in “Understanding Your Risks: Identifying Hazards and Estimating Losses (FEMA 2001).” The steps include: 1) identify and screen your hazards, 2) profile hazard events, 3) inventory assets, and 4) estimate losses (see Figure 3-1). The risk assessment approach for Inglewood is composed of these four steps, and each step is organized in a separate subsection of Chapter 3. Section 3.2 (step 1) includes hazard identification and screening. During this process, all reasonably possible hazards affecting the City are considered and ranked by the City of Inglewood stakeholders and the Advisory Task Force (ATF). Section 3.3 (step 2) provides a profile for each of the significant hazards identified during the screening process. In general, the hazard profiles are addressed on a regional level. Wherever possible the profile includes a discussion of local characteristics and possible impacts on the community. Section 3.4 (step 3) discusses the process of creating an inventory of the City’s assets. This step includes the comprehensive information gathering and prioritization process essential to perform the vulnerability assessment and loss estimation. Section 3.5 (step 4) presents the methodologies and results of loss estimation for the key hazards identified in step 2.

![Figure 3-1: 4-step risk assessment process (FEMA 386-2, August 2001)](image-url)
3.2 Hazard identification and screening

The first step in the risk assessment process is hazard identification and screening. The natural and manmade hazards considered for this plan are identified in Table 1. Information to compile this list was gathered from a combination of resources: i) FEMA 386-2, Chapter 1: Step One, Identify Hazards, ii) expert knowledge of Project Team members, iii) reports, historical records, articles and internet websites, and iv) talking to community members of Inglewood. After the list was complete, the severity of each hazard was assessed through the following screening process:

1. Natural and man-made hazards that have the potential to impact life and property in the City of Inglewood were identified. These included hazards that have occurred in the past or have a probability of occurring in the future.

2. Hazards were ranked as low, medium or high based upon the perceived threat to the city. A threat category of low designates hazards unlikely to occur. A hazard in the medium category has some likelihood of occurrence but does not pose a significant threat to the community. A designation of high is assigned to hazards when a significant threat is identified.

3. Initial hazard ranks were adjusted based on input provided by the Advisory Task Force (ATF) members (see Section 2.1.3 for ATF member list), who reviewed the preliminary hazard assessment and provided significant feedback, particularly in the area of civil unrest (downgraded) and hazardous materials (upgraded).

3.2.1 Hazard Screening Criteria

The initial threat assessment of each hazard is based upon the following sources:

1. Historic occurrence of the hazard- Assessment is based on frequency, magnitude and potential impact of the hazard.

2. Mitigation potential for the hazard- This criteria considers if there are mitigation or counter measures possible to prevent or alleviate the risk. For example, although Inglewood is located beneath the landing path of the Los Angeles International Airport (LAX) and there are significant concerns over an airplane crash, an airplane crash is not the sort of hazard for which mitigation plans have proved successful.

3. Expert opinion- Evaluation of threats includes a literature review and the expertise of the project team.

4. Published data and information- Assessment is based on data and/or information from credible publications or websites. (for example U.S. Geological Survey, California Geological Survey, National Weather Services, or academic publications)
Rankings used for the hazard screening are defined as follows:

**Low**- There has been no historic occurrences of the hazard in the community or region and experts feel that it is highly unlikely that the hazard will occur in the community. The citizens agree.

**Medium**- There may or may not have been a historic occurrence of the hazard in the community or region but experts feel that it is possible that the hazard could occur in the community. Citizens may feel that there is a likelihood of occurrence but the consequences will be negligible in terms of building damage and loss of life.

**High**- There may or may not have been historic occurrences of the hazard in the community or region but experts feel that it is likely that the hazard will occur in the community and the risk is significant. Citizens feel that there is a likelihood of occurrence and the consequences will be significant in terms of building damage and loss of life.

3.2.2 *Hazard Assessment Matrix*

The results of the screening process described above are presented as a hazard assessment matrix in Table 3.1 below. The matrix illustrates the nature and potential of threats from natural and manmade disasters to the City of Inglewood. The project team developed the preliminary matrix, which was reviewed and modified during the ATF meetings. As a part of the screening process, the project team developed a series of hazard maps from publicly available sources. (See Table 3-2 below and Appendix D for hazard screening maps and sources).

<table>
<thead>
<tr>
<th>Hazard</th>
<th>Historic Occurrence</th>
<th>Mitigation Potential</th>
<th>Low</th>
<th>Medium</th>
<th>High</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 Airplane Crash</td>
<td>Yes</td>
<td>No</td>
<td>X</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2 Civil Unrest</td>
<td>Yes</td>
<td>No</td>
<td></td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>3 Dam Failure</td>
<td>No</td>
<td>Yes</td>
<td></td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>4 Earthquake</td>
<td>Yes</td>
<td>Yes</td>
<td></td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>5 Flood / Winter Storms</td>
<td>No</td>
<td>Yes</td>
<td></td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>6 Hazmat Release</td>
<td>No</td>
<td>Yes</td>
<td></td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>7 Human Threat Events/Terrorism</td>
<td>No</td>
<td>Yes</td>
<td></td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>8 Hurricane Wind / Storm Surge</td>
<td>No</td>
<td>Yes</td>
<td></td>
<td></td>
<td>X</td>
</tr>
</tbody>
</table>
This section provides an explanation of the final rankings presented in the matrix and, where applicable, identifies the use of maps used during the ranking process. Table 3-2 provides lower resolution of maps provided in Appendix D, as well as data references.

1. **Airplane Crash** ranked medium hazard. Although the City of Inglewood is directly under the landing path of planes arriving at (LAX), since airplane crashes are infrequent and statistically improbable at a given location the project team and the ATF ranked the threat as medium. In addition, the ATF noted there are no obvious mitigation options for the city at this time, so a detailed risk study may not be warranted. Map 1 in Appendix D provides 65-decibel noise contours used as a proxy map to delineate the hazard.

2. **Civil Unrest** ranked medium hazard. Due to the civil unrest of 1992, the project team identified this as a potential hazard. However, the community observed that the city learned valuable lessons and that the threat was not as significant as other natural and manmade hazards. The general consensus is that this hazard, if occurring, will be limited to isolated areas and will not escalate to disastrous levels.

3. **Dam Failure** ranked low or insignificant hazard. Engineering studies of dams in the area indicate that a breech in any given Los Angeles county dam is not expected to inundate Inglewood. The dam inundation map in Appendix D, Map 2: Dam Inundation shows the inundation zone for all dams in the county, as provided by the California Emergency Management Agency (CalEMA).

4. **Earthquake** ranked high hazard. Earthquake hazard maps and the history of large, damaging earthquakes in the Southern California region indicate high risk for the City of Inglewood. Appendix D, Map 3: Alquist Priolo Fault Zones shows the Alquist Priolo fault zones intersecting the city while the Newport Inglewood fault transects the City of Inglewood. Map 4: Landslide and Liquefaction shows the potential landslide and liquefaction zones within the area. Although landslide is not a major local hazard, it has regional impacts. Some parts of the city are within the liquefaction zone.

<table>
<thead>
<tr>
<th>Hazard</th>
<th>Historic Occurrence</th>
<th>Mitigation Potential</th>
<th>Low</th>
<th>Medium</th>
<th>High</th>
</tr>
</thead>
<tbody>
<tr>
<td>9    Nuclear Incident</td>
<td>No</td>
<td>Yes</td>
<td></td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>10   Tornado</td>
<td>No</td>
<td>Yes</td>
<td></td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>11   Train Derailment</td>
<td>No</td>
<td>No</td>
<td></td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>12   Tsunami</td>
<td>No</td>
<td>Yes</td>
<td></td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>13   Wildfire</td>
<td>No</td>
<td>Yes</td>
<td></td>
<td></td>
<td>X</td>
</tr>
</tbody>
</table>

Table 3-1: Hazard Assessment Matrix
5. **Flood / Winter Storm** ranked low or insignificant hazard. Winter storm flooding occur in the city occasionally, but with little or no consequence to property or human life. Appendix D, *Map 5: Flood / Winter Storms* show the delineated flood zone in the region and it falls outside the city boundary.

6. **Hazardous Materials (Hazmat) Release** ranked high hazard. Hazardous materials release in areas of high seismic risk and densely populated and industrialized areas such as Inglewood is a significant threat. Given the risk of hazmat spill from train derailment accidents in the vicinity of Inglewood, major freeways transporting hazardous materials through the city as well as a high demand of such material for LAX and local businesses, the community perceived the release of hazardous material as a high threat. City of Inglewood records indicate there have been four releases reported since 2006. These were all transportation related accidents/spills. No serious consequences have been reported.

7. **Human Threat Events/ Terrorism** ranked high hazard. Due to the proximity of LAX, and several credible threats to this facility, the project team and ATF ranked this hazard as high.

8. **Hurricane Wind/Storm Surge** ranked low or insignificant hazards. Given the location of Inglewood, it is highly unlikely these hazards will affect the community.

9. **Nuclear Incident** ranked low or insignificant hazard. There are no nuclear facilities located in or near the city. The closest operating nuclear power plant is San Onofre, located 80 miles south of Inglewood. The prevailing wind patterns do not put the city within the projected impact area of a potential release. As such, the likelihood of occurrence is low.

10. **Tornado** ranked low or insignificant hazard. There are no occurrences of significant damage from tornados in Los Angeles County, and it is highly unlikely a tornado will affect the community.

11. **Train Derailment** ranked medium hazard. Between 1990 and 2009, several incidents of train derailment led to damaged property and loss of lives in the Los Angeles county region (Federal Railroad Database). However, the affect of such incidents were not disastrous. As such, the community perception is that this hazard is a medium threat to the city.

12. **Tsunami** ranked low or insignificant hazard. Given the location of Inglewood, which is a significant distance from the pacific coast, it is highly unlikely a tsunami will affect the community. See Appendix D, *Map 6: Tsunami* for the tsunami inundation zone.
13. **Wildfire** ranked low or insignificant hazard. Given a concrete landscape and a lack of vegetation, wildfire is an unlikely threat to the city. Although some areas of potential wildfire hazard exist in the region, these areas do not fall within the city boundary. See Appendix D, *Map 7: Wildfire* for Wildfire zones around Inglewood.

<table>
<thead>
<tr>
<th>Hazard Screening Maps</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Airplane crash</td>
<td><strong>Airplane crash</strong> ranked as a medium hazard. Appendix D, Map 1: 65 Decibel Noise Contours (shown in red) <em>(source: Los Angeles International Airport)</em> used to delineate the extent of this hazard.</td>
</tr>
<tr>
<td>Dam Failure</td>
<td><strong>Dam Failure</strong> ranked as a low/ insignificant hazard. Appendix D, Map 2: Dam Inundation shows that the inundation zone <em>(source: California Emergency Management Agency/CalEMA)</em> in case of a dam failure (shown in light blue) falls completely outside the city.</td>
</tr>
<tr>
<td>Earthquake</td>
<td><strong>Earthquake</strong> ranked as a high hazard. Appendix D, Map 3: Alquist Priolo Fault Zones <em>(source: California Geological Survey/ CGS)</em> shows the Alquist Priolo fault zones (shown in yellow) intersecting the city.</td>
</tr>
<tr>
<td>Hazard Screening Maps</td>
<td>Description</td>
</tr>
<tr>
<td>-----------------------</td>
<td>-------------</td>
</tr>
<tr>
<td>Earthquake</td>
<td>Equake ranked as a high hazard. Appendix D, Map 4: Landslide and Liquefaction (<em>source: California Geological Survey/CGS</em>) identifies area of concern in the area (shown in light blue).</td>
</tr>
<tr>
<td>Flood / Winter Storm</td>
<td>Flood / Winter Storm ranked as a low / insignificant hazard. Appendix D, Map 5: Flood/Winter Storms (<em>source: FEMA/DHS</em>) show the delineated flood zone in the region (shown in light blue) and it falls outside the city boundary.</td>
</tr>
<tr>
<td>Tsunami</td>
<td>Tsunami ranked as a low/ insignificant hazard. See Appendix D, Map 6: Tsunami for Tsunami inundation zone (<em>source: California Emergency Management Agency/CalEMA</em>) and note this is located several miles from the city boundary (shown in light blue).</td>
</tr>
<tr>
<td>Wildfire</td>
<td>Wildfire ranked as a low/ insignificant hazard. Appendix D, Map 7: Wildfire (<em>source: California department of forestry and fire protection</em>) shows Wildfire zones (shown in red) around Inglewood.</td>
</tr>
</tbody>
</table>

Table 3-2: Hazard Screening Maps
3.2.3 Final Hazard Selection

As shown in Table 3-1, there are three hazards that were given a high threat rating: earthquake, hazardous materials release, and human threat event/terrorism. The following sections profile these three hazards, (Section 3.3), inventory assets in the city (Section 3.4) and estimate losses or assess risk for significant events associated with these three hazards (Section 3.5).

3.3 Hazard Profiles

Profiling the selected hazards is the second step in the risk assessment process. As discussed in Section 3.2, the project team and the ATF members reached consensus on the hazards to be included in the City of Inglewood’s plan. The hazards with significant potential for damage in Inglewood are:

- Earthquake – High
- Hazmat Release – High
- Human Threat Events/ Terrorism – High

The information presented on each of the hazards in this section includes a description of their characteristics. For earthquakes, general information on the nature of the hazard is provided, with specific references to the local conditions in Inglewood. Historic occurrences and probabilistic ground shaking for the region are also presented. The extent of these events and measures are used to identify the vulnerable parts of the city and are used in the inventory development and loss estimation steps discussed in Section 3.4 and 3.5 respectively.

A general description of hazmat sources is provided, and areas of concern are highlighted. The profile includes information on local transportation routes and pipeline networks that deliver hazmat products to and from the city. Fixed site sources in Inglewood provided in a spreadsheet file by the Los Angeles County Fire Department are used as a part of the profiling process. This section also provides a review of the regulatory setting for hazmat release mitigation.

For human threat events/ terrorism, a discussion of the nature of the hazard is presented at the regional and local levels. The vulnerable sites in Inglewood and the surrounding region are identified and a qualitative risk assessment is presented in Section 3.5.

3.3.1 Earthquake

According to FEMA (2001), “An earthquake is a sudden motion or trembling that is caused by a release of strain accumulated within or along the edge of Earth’s tectonic plates. The severity of these effects is dependent on the amount of energy released from the fault or epicenter. The effects of an earthquake can be felt far beyond the site of its occurrence. They usually occur without warning and after just a few seconds can cause massive damage and extensive casualties. Common effects of earthquakes are
ground motion and shaking, surface fault ruptures, and ground failure.” This section presents the general characteristics and effects of earthquakes, including conditions specific to Inglewood.

3.3.1.1 Faults

According to the California Geological Survey (CGS), a fault is defined as “a fracture or zone of closely associated fractures along which rocks on one side have been displaced with respect to those on the other side (Bryant and Hart, 2007).” CGS describes faults and fault zones as follows: “Most faults are the result of repeated displacement that may have taken place suddenly and/or by slow creep. A fault is distinguished from those fractures or shears caused by landslides or other gravity-induced surface failures. A fault zone is an area of related faults that are commonly braided and subparallel, but may be branching and divergent. A fault zone has significant width (with respect to the scale at which the fault is being considered, portrayed, or investigated), ranging from a few feet to several miles (SP42, CGS 2007).”

The City of Inglewood contains both active and potentially active faults. Southern California is a seismically active region and commonly experiences ground shaking from earthquakes along active faults. The State Mining and Geology Board define an active fault as one which has “had surface displacement within Holocene time (about the last 11,000 years)”. Figure 3-2 on the following page and Map 3 in Appendix D show the location of faults and their fault zones in Inglewood and surrounding areas.

The most significant fault located in Inglewood is the Newport-Inglewood fault. This fault stretches across the Los Angeles basin in a northwest-southeast direction from Beverly Hills to Newport Beach. The faulting type is right-lateral with local reverse slip associated with fault steps. The Southern California Earthquake Center (SCEC) estimates the strongest ground motion that could be generated by this fault or the maximum probable magnitude on the Richter scale is between M6.0 - 7.4. The most recent major fault rupture occurred in March 10, 1933, with a magnitude of M6.4 (SCEC, 2009). There was no surface rupture associated with this earthquake. Most of the damaged buildings were unreinforced masonry. Many school buildings were destroyed, but being closed at the time, there were no casualties. On May 17, 2009, a magnitude 4.6 earthquake occurred with an epicenter in the nearby community of Lennox. It is still being determined whether this event was associated with the Newport-Inglewood fault.
3.3.1.2 Surface rupture

One of the major damaging effects of earthquakes is caused by sudden, large displacements of earth materials, also known as surface rupture (see Figure 3-3). During a seismic event, the ground may break along the surface trace of the fault if the intersection of the fault surface meets the earth’s surface. Generally, surface rupture is anticipated to occur along pre-existing faults. Since there are no preventive measures to stop surface rupture, faults are identified with the purpose of delineating zones over the surface tract of potentially hazardous faults where construction should be avoided.

Under the Alquist Priolo (AP) Earthquake Fault Zoning Act of 1972, the State Geologist (Chief of the California Geological Survey/CGS) is required to delineate "Earthquake Fault Zones" (EFZs) along known active faults in California. Cities and counties affected by the zones must regulate certain developments within the zones. They must withhold development permits for sites within the zones until geologic investigations demonstrate that the sites are not threatened by surface rupture from future faulting. Map of AP fault zones affecting the City of Inglewood is presented in Appendix D, Map 3 Alquist Priolo Fault Zones. A section of the Newport-Inglewood fault extends through the city, runs roughly parallel to the San Andreas system and lies partly under the Pacific Ocean. Maps show this section of the fault passes through the Inglewood Civic Center, south of Centinela Creek. Another section of the Newport-Inglewood fault traverses the eastern portion of the City, in a northwest-southeast direction. There has been no history of any major surface rupture on any of these fault zones.
3.3.1.3  Ground shaking

A major cause of structural damage from earthquakes is ground shaking. The amount of motion expected at a building site depends on the distance to the fault, magnitude and depth of the hypocenter, and the geologic condition at the site. Greater movement can be expected at sites located on weak soils such as alluvium or soil along riverbeds. Structures that are most vulnerable to strong ground shaking are bridges, freeway overpasses and unreinforced masonry buildings. Secondary hazards such as liquefaction, landslide, fire, and dam failure are also associated with strong ground motion.

Numerous scales and measures exist for describing the amount of shaking that goes on during an earthquake. The Modified Mercalli Intensity (MMI) scale is a subjective ranking scale that illustrates the relationship between shaking intensity and the potential damage to man-made structures (See Table 3-3). This scale is composed of 12 increasing levels of shaking intensity that range from imperceptible shaking to extreme, designated by Roman numerals. An objective scale for expression of ground shaking is through Peak Ground Acceleration or PGA. It refers to the highest ground acceleration measured in a particular location (horizontal) during an earthquake and is generally reported using the unit “g” (unit of gravitational force) or the percentage of g. Table 3-3 below details how the MMI scale correlates with PGA in terms of perceived shaking and potential damage. Spectral Acceleration measures the acceleration at various spectra. These are used to characterize damage to different types of building structures.
<table>
<thead>
<tr>
<th>MMI (PGA)</th>
<th>Perceived Shaking</th>
<th>Detailed Damage Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>I – III (&lt;0.01)</td>
<td>Not felt - felt indoors on upper floors of buildings, but many people do not recognize it as an earthquake</td>
<td>None</td>
</tr>
<tr>
<td>IV (0.01-0.04)</td>
<td>During the day felt indoors by many, outdoors by few. At night, some awakened.</td>
<td>None</td>
</tr>
<tr>
<td>V (0.04-0.09)</td>
<td>Felt by nearly everyone, many awakened</td>
<td>Very light—Some dishes and windows broken; cracked plaster in a few places; unstable objects overturned.</td>
</tr>
<tr>
<td>VI (0.09-0.18)</td>
<td>Felt by all, many frightened</td>
<td>Light—Some heavy furniture moved; a few instances of fallen plaster and damaged chimneys.</td>
</tr>
<tr>
<td>VII (0.18-0.34)</td>
<td>Very strong</td>
<td>Moderate—Damage negligible in buildings of good design and construction; slight to moderate in well-built ordinary structures; considerable in poorly built or badly designed structures; some chimneys broken.</td>
</tr>
<tr>
<td>VIII (0.34-0.65)</td>
<td>Severe- Persons driving cars disturbed.</td>
<td>Moderate to heavy—Damage slight in specially designed structures; considerable in ordinary substantial buildings with partial collapse; great in poorly built structures. Chimneys toppled.</td>
</tr>
<tr>
<td>IX (0.65-1.24)</td>
<td>Violent</td>
<td>Heavy— Damage considerable in specially designed structures; well-designed frame structures thrown out of plumb; great in substantial buildings, with partial collapse. Buildings shifted off foundations.</td>
</tr>
<tr>
<td>X (&gt;1.24)</td>
<td>Extreme</td>
<td>Very heavy—Some well-built wooden structures destroyed; most masonry and frame structures destroyed with foundations.</td>
</tr>
</tbody>
</table>
Seismic hazard maps for the United States show the levels of ground shaking in terms of PGA. Figure 3-4(a) shows the national Peak Ground Acceleration (PGA) values for the United States with a 10% chance of being exceeded over 50 years (USGS, 2008). This is a common earthquake measurement that shows three things: the geographic area affected (all colored areas on the map), the probability of an earthquake of each given level of severity (10% chance in 50 years), and the severity (the PGA is indicated by color).

According to the United States Geological Survey (USGS), “The National Seismic Hazard Maps are the basis for seismic design provisions of building codes, insurance rate structures, earthquake loss studies, retrofit priorities, and land-use planning. Incorporating these hazard maps into designs of buildings, bridges, highways, and critical infrastructure allows these structures to withstand earthquake shaking without collapse. Properly engineered designs not only save lives, but also reduce disruption to critical activities following a damaging event. By estimating the likely shaking for a given area, the maps also help engineers avoid costs from over-design in areas with unlikely levels of ground motion.”

Figure 3-4(b) shows the levels of horizontal shaking for California and Los Angeles basin. Colors on the maps indicate there is 10% probability in 50 years that PGA will exceed 0.3 – 0.4 g for the City of Inglewood. This represents shaking levels of VII or VIII intensity on the MMI scale (See Table 3-3 above).
Figure 3-4(a): PGA (expressed as % g) with 10% probability of Exceedance in 50 years for United States

WUS, PGA w/10%PE50Yr. 760 m/s Rock

Figure 3-4(b): USGS PGA (expressed as % g) with 10% probability of Exceedance in 50 years for Western United States
3.3.1.4  **Liquefaction**

Liquefaction refers to a phenomenon in which surface soils, generally alluvial soils, become saturated with water. Ground shaking causes the soil grains to consolidate, pushing the water towards the surface and lessening the strength of the soil. Liquefaction susceptibility depends on the depth of the water table as well as the age and compactness of soil sediments. Water wells act to lower the water table in Inglewood, making the city’s susceptibility to liquefaction low (see Appendix D, Map 4 and regional liquefaction map in Figure 3-5 below). The area surrounding Centinela Creek is the only area in the city which has a very high susceptibility rating. However, concrete culverts are in place to capture water runoff and, combined with the low water table of the area, help counteract the creek’s effect on the area’s liquefaction susceptibility level.

3.3.1.5  **Landslides**

Earthquake-induced landslide of a hillside slope is a concern in areas where the slopes are steep and unstable. Although not a major concern for the City of Inglewood (see Appendix D, Map 4 and regional landslide map in Figure 3-5), the hillside areas of the city are subject to landslide potential. Surface movements in the hillside area triggered by ground shaking could be exacerbated by rain, a breach in a reservoir, damage to potable water reservoirs or pumping facilities.
3.3.1.6 Historic Earthquake Events in the City of Inglewood and adjacent areas

This section summarizes the significant historic earthquake events that occurred in and around Inglewood. Since 1900, five earthquakes greater than M5.5 have occurred in the Los Angeles County region, resulting in fatalities. These are listed in Table 3-4 below including a 1920 event that affected Inglewood, followed by a brief discussion on each.

<table>
<thead>
<tr>
<th>Date</th>
<th>Magnitude (Mw) and Description</th>
<th>Fatalities</th>
</tr>
</thead>
<tbody>
<tr>
<td>1920-06-21</td>
<td>M 4.9 – Inglewood, California</td>
<td>0</td>
</tr>
<tr>
<td>1933-03-11</td>
<td>M 6.4 - Long Beach, California</td>
<td>120</td>
</tr>
<tr>
<td>1971-02-09</td>
<td>M 6.6 - San Fernando, California</td>
<td>65</td>
</tr>
<tr>
<td>1987-10-01</td>
<td>M 5.9 - Whittier Narrows, California</td>
<td>8</td>
</tr>
<tr>
<td>1991-06-28</td>
<td>M 5.6 - Sierra Madre, California</td>
<td>2</td>
</tr>
<tr>
<td>1994-01-17</td>
<td>M 6.7 - Northridge, California</td>
<td>60</td>
</tr>
</tbody>
</table>

Table 3-4: Significant earthquakes in the Los Angeles County area (last 80 years)

Note: Earthquake information presented in Table 3-4 above and discussion below is summarized from USGS archive of historical United States earthquake (USGS, 2009)
4.9 Inglewood Earthquake, 1920

In 1920, a relatively minor earthquake hit the City of Inglewood and resulted in some building damage. According to Taber (1920), "the damage to buildings was due to poor construction rather than to the intensity of the vibrations. Thin brick walls built as fronts to wooden buildings and not tied in properly, toppled outward into the street. Poorly built brick cornices and fire walls along the fronts of buildings were shaken off."

6.4 Long Beach Earthquake, 1933

The Long Beach earthquake occurred on March 11, 1933 and was caused by a rupture in the Newport-Inglewood fault. This earthquake caused serious damage to weak masonry structures on land fill from Los Angeles south to Laguna Beach. Property damage was estimated at $40 million 1933 dollars, and approximately 120 people died. The earthquake was felt in the 10 southern counties of California and at some points farther to the northwest and north in the Coast Range, the San Joaquin Valley, the Sierra Nevada, and the Owens Valley. Severe property damage occurred in Compton, Long Beach, and surrounding towns in the area. School buildings were among the most damaged structures due to this earthquake. As a result of this earthquake, the State Legislature passed the Field Act, which now regulates building-construction practices in California.

6.7 San Fernando Earthquake, 1971

This earthquake occurred on February 9, 1971 in a sparsely populated area of the San Gabriel Mountains, near the city of San Fernando. It lasted about 60 seconds, killing 65 people, injuring more than 2,000, and causing property damage estimated at $505 million. Major structures at the Olive View and the Veterans Administration Hospitals were severely damaged and freeway overpasses collapsed. Unreinforced masonry buildings collapsed at the Veterans Administration Hospital in San Fernando, killing 49 people. Many older buildings in the Alhambra, Beverly Hills, Burbank, and Glendale areas were damaged beyond repair and thousands of chimneys were damaged in the region. Public utilities and facilities of all kinds were damaged, both above and below ground.

5.9 Whittier Narrows, 1987

The Whittier Narrows earthquake occurred on October 1, 1987. It killed eight people, injured several hundred, and damaged property estimated at $358 million in the East Los Angeles area, mostly in the city of Whittier. Business structures in the old Whittier commercial district were the most severely damaged with 12 commercial buildings destroyed and another 20 buildings declared unsafe. Several single family houses and apartments in Los Angeles, Orange, and Ventura Counties sustained major to complete damage. Property damage on the California State University, Los Angles campus (about 10 km west of the epicenter) was estimated at more the $20 million.
**M5.6 Sierra Madre, 1991**

The 1991 Sierra Madre earthquake caused damage in the Arcadia, Monrovia, Pasadena, San Marino and Sierra Madre areas, estimated at 33.5 million dollars. One person was killed in Arcadia and one person died from a heart attack at Glendale. At least 100 people were injured although most injuries involved only minor cuts and bruises. Maximum intensity of MMI VII was recorded in Arcadia, Monrovia, Pasadena and Sierra Madre. Some rockslides occurred on mountain roads. The earthquake was felt strongly throughout much of southern California, from Santa Barbara to San Diego and east as far as the Palm Springs-Indio area.

**M6.7 Northridge, 1994**

The most recent and damaging earthquake to hit southern California was the Northridge earthquake which occurred on January 17, 1994. Sixty people were killed, more than 7,000 were injured, and 20,000 people were rendered homeless. More than 40,000 buildings were damaged in Los Angeles, Ventura, Orange and San Bernardino Counties. Severe damage occurred in the San Fernando Valley. Maximum intensities of MMI IX were observed in and near Northridge and in Sherman Oaks. Significant damage occurred at Fillmore, Glendale, Santa Clarita, Santa Monica, Simi Valley and in western and central Los Angeles. The Anaheim Baseball Stadium also sustained damage. Collapsed overpasses closed sections of the Santa Monica Freeway, the Antelope Valley Freeway, the Simi Valley Freeway and the Golden State Freeway. Fires caused additional damage in the San Fernando Valley and in Malibu and Venice. Estimates of damage have ranged between 24 and 44 billion dollars (Seligson and Eguchi, 2005).

### 3.3.2 Hazardous Materials Release

According to the US Department of Transportation, a hazardous material is “Any substance or material that is considered to have the capability to cause an unreasonable risk to human health or safety or the environment when transported in commerce, used incorrectly, or if not properly stored or contained is considered a hazardous material.” Hazardous materials include hazardous substances or wastes. They also include any material that a business or local agency reasonably believes would be injurious to the health and safety of persons or harmful to the environment if released. City businesses, public and private institutions and private households all use or generate hazardous materials. Federal, state, and local agency databases maintain comprehensive information on facilities that use large quantities of hazardous materials, as well as facilities that generate hazardous waste. Some of these facilities use certain classes of hazardous materials that require accidental release scenario modeling and risk management plans in order to protect surrounding land uses.

Hazardous materials are routinely manufactured, used, stored or transported in nearly every community in the US. Hundreds of hazmat release incidents occur annually and involve damage to human and wildlife, expensive cleanup costs and sometime loss of...
lives. Hazardous materials are often released as a result of transportation accidents during routine transfer via highways or pipelines (see Section 3.2.2.1: transportation of hazardous material and 3.2.2.2: Oil and gas pipelines). Hazmat release from fixed site sources (see Section 3.2.2.3: Fixed site facilities) as a secondary impact of earthquake hazard is a major threat for an industrialized and densely populated city such as Inglewood. Figure 3-6 below shows a hazardous materials release caused by the 1999 magnitude 7.4 Izmit, Turkey earthquake. The following sections provide information on hazardous materials use and potential release threats from various sources within the City of Inglewood.

![Figure 3-6](image)

**Figure 3-6:** Earthquake damage can cause releases of hazardous materials from refineries and other chemical storage and distribution systems, research and industrial laboratories, manufacturing plants, and railroad tank cars. Source: US Geological Survey

### 3.3.2.1 Transportation of hazardous materials

Major freeway routes, I-405 (north-south) and I-105 (east-west) and truck routes (Florence-La Cienega and Century-La-Cienega) traverse the city where hazardous materials are routinely transported. With the exception of high-level radioactive materials and certain poisons and explosives, all classes of hazardous materials can be transported on roadways in Inglewood (General Plan update, 2006). However, because Section 31303 of the California Vehicle Code and U.S. Department of Transportation regulations require that routes with the least overall travel time transport hazardous materials, many of the local streets in the city are not used for the transport of hazardous materials. In addition to the demand of hazardous materials within the city, significant amounts of hazardous materials are in transit through Inglewood to other destinations.

<table>
<thead>
<tr>
<th>Incidents</th>
<th>Accidents</th>
<th>Radioactive material related</th>
<th>Hazardous Waste</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total</td>
<td>148,257</td>
<td>3,122</td>
<td>74</td>
</tr>
<tr>
<td>Fatalities</td>
<td>120</td>
<td>95</td>
<td>1</td>
</tr>
<tr>
<td>Injuries</td>
<td>1,543</td>
<td>187</td>
<td>0</td>
</tr>
<tr>
<td>Damage ($)</td>
<td>457,768,531</td>
<td>347,342,582</td>
<td>2,130,179</td>
</tr>
</tbody>
</table>

(a) Highway incidents

<table>
<thead>
<tr>
<th>Incidents</th>
<th>Accidents</th>
<th>Radioactive material related</th>
<th>Hazardous Waste</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total</td>
<td>8,410</td>
<td>483</td>
<td>6</td>
</tr>
<tr>
<td>Fatalities</td>
<td>18</td>
<td>14</td>
<td>0</td>
</tr>
<tr>
<td>Injuries</td>
<td>1,121</td>
<td>743</td>
<td>0</td>
</tr>
<tr>
<td>Damage ($)</td>
<td>169,744,517</td>
<td>149,425,622</td>
<td>0</td>
</tr>
</tbody>
</table>

(b) Rail incidents

Table 3-5 above presents the national statistics for hazardous materials incidents on highways and railroad between 1999 and 2008. Of the 148,257 highway incidents reported, 3122 were vehicular accidents. 74 incidents were radioactive material related while 1,983 involved hazardous waste. There were 120 fatalities within this reporting period and a total damage cost of about $457.7 million. For railroad incidents, of the total 8,410 incidents reported 483 were accidents. 6 incidents were radioactive material related while 214 involved hazardous waste release. There were 18 fatalities within this reporting period and a total damage cost of about $ 170 million. Although these are national level numbers, the rate of fatalities and cost per incident may be used in conjunction with local factors such as railroad tracks or highway miles and frequency of trains and trucks to estimate risk of hazardous materials release.

Specifically for the City of Inglewood, the following incidents (Table 3-6) were logged in the hazmat materials safety online database: https://hazmatonline.phmsa.dot.gov/IncidentReportsSearch/Search.aspx. None of these events had any severe consequence.
<table>
<thead>
<tr>
<th>Date</th>
<th>Mode of transport</th>
<th>Carrier/Reporter</th>
<th>Shipper</th>
<th>Commodity</th>
<th>Release Qty (LGA)</th>
</tr>
</thead>
<tbody>
<tr>
<td>7/27/2003</td>
<td>Highway</td>
<td>WIDE</td>
<td>HONEYWELL INC</td>
<td>FLAMMABLE LIQUIDS, N.O.S.</td>
<td>0.066043</td>
</tr>
<tr>
<td>3/3/2004</td>
<td>Highway</td>
<td>ABF FREIGHT SYSTEM INC</td>
<td>ELDORADO CHEMICAL CO</td>
<td>CHROMIC ACID SOLUTION</td>
<td>0.039063</td>
</tr>
<tr>
<td>3/11/2005</td>
<td>Highway</td>
<td>MENLO WORLDWIDE FORWARDING - A UPS COMPANY</td>
<td>FREEMAN TRANS GROUND</td>
<td>AEROSOLS, FLAMMABLE, (each not exceeding 1L capacity)</td>
<td>N/A</td>
</tr>
</tbody>
</table>

Table 3-6: Hazmat release incidents in the City of Inglewood (1999-2008)

3.3.2.2 **Oil and Gas pipelines**

The only remaining active oil well site within the City of Inglewood is the seven-acre Brea Oil Company site at Eucalyptus Avenue and Hyde Park Boulevard. This site has multiple oil wells, however, any oil or gas extracted are not stored onsite, but are piped directly to refineries outside of the city.

Figure 3-7 below illustrates the major lifeline facilities and pipelines in the City of Inglewood. Two major crude oil pipelines pass through western Inglewood, one 12-inch pipe and one 16-inch pipe. These pipelines transport crude oil through the city to refineries located outside city boundaries. Virtually all streets within the city have buried gas pipeline underneath. The Public Utilities Commission (PUC) regulates Southern California Gas and is the default provider, required by State law, for natural gas delivery to Inglewood.

Damage to oil pipelines and facilities establishes a potential fire hazard. Fires may result from accidents or earthquakes.
3.3.2.3  Fixed site facilities

Hazardous materials are located throughout the City of Inglewood. Data and information on current or potential hazardous waste sites were compiled from several State and Federal databases (see Section 3.4 for detailed inventory of hazmat sites). The following sources of hazardous materials data for the City of Inglewood were used to evaluate the nature of and extent of the hazard:
1. Comprehensive Environmental Response, Compensation, and Liability Information System (CERCLIS). Under the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA) the United States Environmental Protection Agency (EPA) maintains a list, known as CERCLIS, of all contaminated sites in the nation that have in the past or are currently undergoing clean-up activities.

2. Cortese List. The Hazardous Waste and Substances Sites (Cortese) List is a tool used by the state and local agencies and developers to comply with the California Environmental Quality Act (CEQA) requirements in providing information about the location of hazardous materials release sites.

3. DTSC Site Mitigation and Brownsfield Reuse Program (“CalSites”) Database. The Site Mitigation and Brownsfield Reuse Program serves to cleanup and redevelop Brownfield sites for future use. Brownfields are properties that are contaminated, or thought to be contaminated, and are underutilized due to remediation costs and liability concerns. Often the remediation cost associated with a contaminated site serves as a major deterrent to any planned reuse of that site.

4. Regional Water Quality Control Board (RWQCB) Spills, Leaks, Investigations, and Cleanup (SLIC) List. The SLIC Program was established by the State Water Resources Control Board (SWRCB) to allow each of its nine Regional Boards to oversee the cleanup of illegal discharges, contaminated properties, and other unregulated releases adversely impacting the state’s waters. Sites managed within the SLIC Program include sites polluted as a result of recent or historic spills, subsurface releases (e.g., pipelines, sumps), complaint investigations, and all other unauthorized discharges that pollute or threaten to pollute surface and/or ground waters that come to the attention of the program.

5. Los Angeles Regional Water Quality Control Board’s (LARWQCB) Leaking Underground Fuel Tank (LUFT) database. The LARWQCB maintains an Underground Storage Tank Program (UST Program) that deals specifically with leaking fuel tanks.

6. Los Angeles County Fire Department database. The Los Angeles County Fire Department maintains a list of all the sites that use hazardous chemicals within the City of Inglewood. The LACFD provided the city with this information for use in this project.

3.3.2.4 Regulatory setting for hazmat release mitigation and prevention

Several regulatory programs exist at the federal, state, and local levels to regulate and manage hazardous materials for the City of Inglewood. These programs are summarized in this section to provide a high-level understanding of potential problems associated with hazardous materials.
At the federal level, the various agencies that administer such programs include the U.S. EPA, the Occupational Safety and Health Administration (OSHA), and the Department of Transportation (DOT). Applicable federal regulations are contained primarily in Titles 10, 29, 40, and 49 of the Code of Federal Regulations (CFR). The U.S. DOT has developed regulations pertaining to the transport of hazardous materials and hazardous wastes by all modes of transportation. The U.S. Postal Service (USPS) has developed additional regulations for the transport of hazardous materials by mail. DOT regulations specify packaging requirements for different types of materials. EPA has also promulgated regulations for the transport of hazardous wastes. These more stringent requirements include tracking shipments with manifests to ensure that wastes are delivered to their intended destinations.

In California, the state Environmental Protection Agency (Cal/EPA) has broad jurisdiction over hazardous materials management in the state. Within Cal/EPA, the Department of Toxic Substances Control (DTSC) has primary regulatory responsibility for hazardous waste management and cleanup. Enforcement of regulations has been delegated to local jurisdictions that enter into agreements with DTSC for the generation, transport, and disposal of hazardous materials under the authority of the Hazardous Waste Control Law. Along with the DTSC, the Regional Water Quality Control Board (RWQCB) is responsible for implementing regulations pertaining to management of soil and groundwater investigation and cleanup. RWQCB regulations are contained in Title 27 of the CCR. Additional state regulations applicable to hazardous materials are contained in Title 22 of the California Code of Regulations (CCR). Title 26 of the CCR is a compilation of those sections or titles of the CCR that are applicable to hazardous materials.

Several regional and local programs for hazmat release prevention and mitigation apply to the City of Inglewood. Among them are the Cal/EPA’s “Unified Hazardous Waste and Hazardous Materials Management Regulatory Program”, the California Accidental Release Prevention Program (CalARP), and programs related to transportation of hazardous materials, investigation and cleanup of contaminated sites, and the California Educational Code for siting schools. City of Inglewood’s general plan addresses all these programs in detail (City of Inglewood General Plan Update, 2006).

The California Highway Patrol (CHP) and California Department of Transportation (Caltrans) are the enforcement agencies for hazardous materials transportation regulations. Transporters of hazardous materials and waste are responsible for complying with all applicable packaging, labeling, and shipping regulations. The California Emergency Management Agency (CalEMA) also provides emergency response services involving hazardous materials incidents.

The Los Angeles County Fire Department’s (LACFD) Health Hazardous Material Division (HHMD) protects the public health and the environment throughout Los Angeles County, including Inglewood, from accidental releases and improper handling, storage, transportation, and disposal of hazardous materials and wastes. The LACFD does this through coordinated efforts of inspections, emergency response, enforcement,
and site mitigation oversight. The department provided the project team with the list of sites in the City of Inglewood using hazardous materials, including quantities and types. For the classes of chemicals and aggregate quantities see Table 3-11 in Section 3.4 Inventory Assets.

3.3.3 Human Threat Events/ Terrorism

The last decade has ushered in a heightened awareness of terrorism both internationally and nationally. The bombing of a Bali nightclub in 2002, the subway bombing in Spain in 2004, the subway and bus bombings London in 2005, as well as the bombing of the Oklahoma Federal Building in 1995 and the events of September 11, 2001 in our own nation have demonstrated the need for increased security in numerous arenas. The duty to protect our nation from both domestic and international terrorist threats falls on the shoulders of the federal government in the form of the Department of Homeland Security as well as state and local authorities.

3.3.3.1 Regional threats and targets

Los Angeles County is an economic powerhouse, encompassing many industries, from the ports of L.A. and Long Beach to the motion picture and television studios. This enormous economic influence, coupled with a population estimated to be close to ten million people, makes Los Angeles an attractive target for terrorists. Former Department of Homeland Security Tom Ridge warned, “…high-visibility, high-density urban areas may be at extra risk for terrorism, and therefore deserve extra protection.”

Public transportation has been a favorite target for terrorists globally. Addressing the U.S. House of Representatives Committee on Homeland Security, Subcommittee on Transportation Security and Infrastructure Protection, Thomas Lambert said, “…the fact that our transit systems are open to the public with many access points, and add the historical precedent of repeated attacks overseas on surface transit; one can clearly see that our transit systems, left unsecured, are viable and attractive targets for terrorists.” Los Angeles has a complex web of freeways, bus lines, light rail lines, subways, and commuter rail lines. The (MTA), which operates bus, light rail and subway services, averages 1.4 million transit trips per weekday.

Places where large crowds gather are vulnerable to attack. According to the Los Angeles Fire Department, “Sporting events, political conventions and other special events (are) appealing target (to terrorists)”. L.A. County is home to many large arenas, such as the Staples Center, the L.A. Convention center and the Rose Bowl. Similarly, “Since the WTC attack federal officials have issued specific warnings for elevated terrorism risk in shopping malls, banks, and multifamily housing.”

Los Angeles International Airport, which is adjacent to Inglewood, has been the intended target of terrorist plots in the past (discussed further in Section 3.3.3.2) and is regarded as one of Los Angeles County’s most vulnerable locations.
Water treatment plants and utilities are also of special concern for authorities. In 2003, The Congressional Research Service reported to Congress that “There is evidence that Al Qaeda is interested in the vulnerabilities of the U.S. public and private utilities.” The C.R.S. further explains that such an attack could be in the form of a cyber-attack on the utility control system or a physical attack, such as a bombing. A combination of both attacks together would cause the greatest damage to the community.

3.3.3.2 Local threats and targets

As a vital part of Los Angeles County, the City of Inglewood has numerous terrorism-related security issues to address. Inglewood has a fairly large population. The Census Bureau estimated the population of Inglewood to be 113,376 in 2007. The public transportation in the city includes light rail lines and bus routes and according to the City of Inglewood’s webpage, the city is “surrounded by Interstates 405, 105, 110, and 10” and is “served by Union Pacific & Burlington Northern Santa Fe rail lines.” These are all vulnerable to terrorist attack.

Public buildings and lifeline

The public utilities of the city that need to be safeguarded include water treatment plants, power lines and grids and natural gas lines. There are also areas in the city housing hazardous materials that are potential targets for attack or theft by terrorists. Government buildings of significance in Inglewood include City Hall and the Los Angeles Superior Courthouse.

High density population centers

The Forum, which features large concerts and sporting events and can seat up to 17,800 people is located in Inglewood. Hollywood Park horse racing track and Casino also draw large crowds and pose a security threat.

Los Angeles International Airport/ LAX

One of the greatest security concerns is Inglewood’s close proximity to Los Angeles International Airport. There have been numerous substantiated threats to LAX in the past. In 2000, Ahmed Ressam was intercepted with a trunk full of explosives. He was later “…convicted of conspiring to detonate the explosives at Los Angeles International Airport.” In a separate case, the Department of Justice said that documents of a domestic terrorist cell that was plotting an attack in Los Angeles revealed that they “….researched targets and prepared a document called ‘Modes of Attack.’” The document listed LAX among their intended targets. A terrorist attack in the airport could impact Inglewood directly. Inglewood is also a potential staging ground for an emergency response effort to such an attack.
3.4 Inventory Assets

Step three in the risk assessment process involves inventorying assets located in the community. Section 3.3 profiled the hazards in Inglewood. This information was used to identify the assets at risk from those hazards. Some hazards (such as earthquakes) may affect the entire community while some affect limited areas (hazmat release incidents). This section provides a description of the inventory development and prioritization process.

3.4.1 Collection of general inventory data

Table 3-7 provides a summary of the data sources used to develop the general inventory. The text in the table discusses how each data layer was used in the vulnerability assessment presented in Section 3.5.

<table>
<thead>
<tr>
<th>Data Source</th>
<th>Data Layers</th>
<th>How the data layers are used in the plan</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 City of Inglewood GIS</td>
<td>i. Contours</td>
<td>a. Buildings and School locations- Geographical location of the building (e.g., address and latitude/longitudinal coordinates of site)</td>
</tr>
<tr>
<td></td>
<td>ii. Neighborhoods</td>
<td></td>
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<td></td>
<td>iii. Building footprint</td>
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<td></td>
<td>iv. Public buildings</td>
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<td></td>
<td>v. Schools</td>
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<td></td>
<td>vi. Soil</td>
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<td></td>
<td>vii. Fault</td>
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<td>viii. Jurisdiction boundary</td>
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<tr>
<td></td>
<td>ix. Parcels</td>
<td></td>
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<td></td>
<td>x. Street Network</td>
<td></td>
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<tr>
<td></td>
<td>xi. Traffic diversion</td>
<td></td>
</tr>
</tbody>
</table>
3.4.2 Prioritization and collection of additional inventory data

Additional inventory data were collected to augment the initial list of general inventory presented in Table 3-6. The prioritization process to determine whether a particular inventory should be updated depended on the following three factors (see Figure 3-8):

1. Is the given asset a primary contributor to economic losses?
2. Is the general inventory for an asset complete and comprehensive?
3. Is there better data (more precise and/or robust) readily available for the community?

These elements were considered together when assessing update priority. This step in the risk assessment process presents a complex challenge, as it can stretch resources. However, using a quantitative tool such as HAZUS® (FEMA/DHS 2002) is elemental in creating meaningful level 2 loss estimates (discussed in section 3.5). The various building and lifeline components analyzed by HAZUS® vary in terms of the magnitude of their contribution to the total loss. For example, light rail tracks are unlikely to contribute significantly to the losses for most HAZUS® scenarios, and as such, the default data provided with HAZUS® is suitable for these purposes. However, building data, if not adequately reflected in the default building stock, can produce misleading losses depending on the event. An update to this type of default data produces more realistic results. As such the prioritization scheme discussed in this section was used to update the default building data in HAZUS® for Inglewood.

Figure 3-8: Prioritization steps to determine whether to collect additional inventory data
Based on the prioritization steps, the following additional data and reports were obtained to complete the asset inventory process and enable a comprehensive risk assessment in Section 3.5:

1. Building square footage data from County Tax Assessor’s files
2. List of Hazardous Materials Sites from Los Angeles County Fire Department
3. Unified School District School and enrollment information
4. Structural and Seismic Evaluation reports of City Hall and City Service Center
5. Sanford M. Anderson Treatment Plant Plume modeling report

Detailed descriptions of each asset type are presented in the following sections.

3.4.3 Population

The population statistics for the City of Inglewood are based on US Census data (2007). Inglewood has a total population of 113,376 and an average household size of 3.06. Approximately 29.5% of the population is under the age of 16 and 7.4% is over the age of 65. The median household income was $40,110 in 2007 with 20.3 percent of the population living below the poverty level.

Figure 3-9 illustrates the population growth for the City of Inglewood from 1970 to 2007; in this period of time, the average annualized growth rate was 0.7 percent.

![Population Chart]

<table>
<thead>
<tr>
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</tr>
</thead>
<tbody>
<tr>
<td>Population</td>
<td>89,985</td>
<td>89,900</td>
<td>94,162</td>
<td>103,500</td>
<td>109,602</td>
<td>110,900</td>
<td>112,580</td>
<td>113,376</td>
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</tbody>
</table>

Figure 3-9: Population Growth: 1970-2007 Source: US Census Bureau

As shown in the figure above, less growth occurred in the period from 1970 to 1980; the increase in population from 89,985 in 1970 to 94,162 in 1980 represents an increase of 4,177, or an average annualized growth rate of 0.46 percent. The most rapid rate of growth occurred in the 1980’s when the population grew from 94,162 in 1980 to 109,602
in 1990. This increase of over 15,000 represents more than 15 percent increase in the total population or an average annualized growth rate of 1.53 percent. The population growth leveled off considerably in the 1990’s and between 1990 and 2007 the population grew from 109,602 to 113,376 in 2007; this equates to an average annualized growth rate of only 0.2 percent. Given that there has not been geographic expansion of the city, land use planning is not a major concern. However, several development projects planned for the city such as Hollywood park and police department head quarters may need to consider the existing hazard zones identified in the plan.

The impacts of natural hazards in terms of ability to recover vary greatly among the population. As the events associated with the hurricane Katrina in the Gulf Coast have shown, vulnerable populations, including seniors, disabled citizens, women, and children, as well as those people living below the poverty level, are often disproportionately impacted by natural hazards. Inglewood is a densely populated city with a large, vulnerable population. The high unemployment rate along with the general lack of training and workforce development programs (City of Inglewood General Plan Update, 2006) create a population that generally has fewer resources to prepare their homes for a disaster or to take care of themselves without assistance after an event.

3.4.4 Buildings

The buildings identified in the inventory of assets for Inglewood include general and public buildings.

3.4.4.1 General building stock

HAZUS® default building inventory indicates there are about 27,000 buildings in the City of Inglewood, and a total estimated replacement value of buildings of $5.6 billion, excluding building contents. Approximately 87% of the buildings are residential, and 76% of the building value is associated with residential housing. The City of Inglewood has a relatively old housing stock compared with other neighboring cities in Los Angeles County. More than 50 percent of all occupied housing units were built prior to 1960. More than 80% of the structures are wood. Table 3-8(a) and (b) provide the building counts by occupancy and structure type for the City of Inglewood (HAZUS®).
Inglewood’s public buildings have civic, government, or institutional uses and include City Hall, the Los Angeles County Courthouse, the Senior Center, the City Service Center, libraries, and churches. The inventory of public buildings was created from data provided by the city and default HAZUS® database.

The Newport-Inglewood fault extends through the city, runs parallel to the San Andreas system and lies partly under the Pacific Ocean. The Newport-Inglewood fault runs under the Inglewood Civic Center (Figure 3-9) and in very close proximity to several other important city facilities. Tables 3-9(a) and (b) provide lists of Government facilities located in the fault and liquefaction zones respectively. A summary of the seismic evaluation of the city hall and the city center buildings is provided in Appendix E. The intent of the evaluation was to ensure that both the buildings meet the level of performance required to safeguard against major structural failure or loss of life. It was also to determine the need (2001 California Building Code and FEMA requirements) for seismic retrofit of structural members of the lateral force resisting systems. The evaluation concluded that the risk to life safety solely due to the threat of ground motion in both buildings is low. It is unknown whether there has been a geologic study to determine the threat of fault rupture to critical facilities. It is quite possible that a geologic study will determine fault conditions underneath City Hall that make structural mitigation critical to protect life safety.
Figure 3-9: The Newport-Inglewood passes through the Inglewood Civic Center and in very close proximity to several other important facilities in the city.

<table>
<thead>
<tr>
<th>PARCEL NO</th>
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<tr>
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<td></td>
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<td>STATE OF CALIF</td>
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<tr>
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<td>L A COUNTY</td>
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</tbody>
</table>

Table 3-9(a): Government buildings located in the AP fault zone (detailed attribute data maintained by the City of Inglewood)

<table>
<thead>
<tr>
<th>PARCEL NO</th>
<th>BUS ADDRESS</th>
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</tr>
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<tr>
<td>4017032910</td>
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<tr>
<td>4017032902</td>
<td>320 W BEACH AVE</td>
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</tr>
<tr>
<td>4017010146</td>
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<td>LINDO, MARTIN D</td>
</tr>
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</tr>
</tbody>
</table>
Critical infrastructure and critical facilities include hospitals, schools, police stations, fire stations, utility lifelines, hazmat sites and transportation systems.

### 3.4.5.1 Hospitals

Centinela Hospital, located at 555 East Hardy Street, is a 370 bed, full-service acute care medical center. Set up as a first receiver and a mass-casualty facility, the medical center and related support operations serve the City of Inglewood and its neighboring cities and facilities. Close proximity to Los Angeles International Airport (LAX) and several major freeways makes it a critical infrastructure in times of emergencies and response to disaster events. It is made even more critical by the fact that it is the only medical facility with an emergency room operating in the City of Inglewood. The nearest emergency rooms to Centinela Hospital are approximately ten miles away. These alternatives are the St. Francis Medical Center in Lynwood, the Ronald Reagan UCLA Medical Center in Los Angeles, and the Santa Monica UCLA Medical Center and Orthopedic Hospital in Santa Monica. In an emergency situation, the extra drive time to one of these other facilities, if even possible, would risk the lives of Inglewood residents.

### 3.4.5.2 Schools

The Inglewood Unified School District has thirteen elementary schools and six secondary schools, many of which are on a year-round schedule. The district serves approximately 17,750 students (in kindergarten through 12th grade). In addition, there is one preschool center with approximately 300 students and a community adult school with approximately 8,000 students. See Appendix F for City of Inglewood 2008-2009 Schools in the Inglewood Unified School District. None of the schools in the city are located in the liquefaction zone; however, the following five schools fall within fault zones (Table 3-10).
3.4.5.3 Police Stations

The Inglewood Police Department (IPD) operates one police station located at Manchester Boulevard next to the City Hall, three Police community centers and one Police substation (See Map 8 in Appendix D). The Law Enforcement Incident Command System, the Master Mutual Aid Plan, and the Standardized Emergency Management System are used to coordinate response to local and state emergencies (General Plan Update Aug-2006, pp 6.6-1-6.6-9).

3.4.5.4 Fire Stations

Since November 2000, the Los Angeles County Fire Department (LACFD) has provided protection and paramedic services for the City of Inglewood. LACFD currently provides the following emergency services: fire suppression, hazardous materials protection, emergency medical treatment including basic and advanced life support transportation, earthquake and fire safety planning, fire inspections and building plan reviews. The City of Inglewood is under the jurisdiction of Battalion 20 within Division 6 of the County of Los Angeles Consolidated Fire Protection District. Five of the six fire stations operated by Battalion 20 serve the City of Inglewood. Of these stations, four are located within the City of Inglewood, as shown in Map 8 in Appendix D and one is located within the unincorporated County territory of Lennox.

3.4.5.5 Utility Lifelines

Utility lifelines include potable water system, waste water system, electric power system, natural gas, oil, and telecommunication systems.

Potable Water System

Inglewood’s potable water system consists of 152 miles of pipe, three active wells, and a water treatment plant. The city has two reservoirs – North Inglewood and Morningside. The North Inglewood Reservoir was constructed in 1974 and has a total

<table>
<thead>
<tr>
<th>School</th>
<th>Address</th>
</tr>
</thead>
<tbody>
<tr>
<td>Child Development Center/Latchkey/Head</td>
<td>10409 10th Ave, Inglewood, CA 90302</td>
</tr>
<tr>
<td>Crozier Middle School (6-8)</td>
<td>120 W. Regent Street, Inglewood, CA 90301</td>
</tr>
<tr>
<td>Inglewood Adult School</td>
<td>106 E. Manchester Avenue, Inglewood, CA 90301</td>
</tr>
<tr>
<td>Inglewood High School (9-12)</td>
<td>231 S. Grevillea, Inglewood, CA 90301</td>
</tr>
<tr>
<td>Clyde Woodworth Elementary (K-5)</td>
<td>3200 W. 104th Street, Inglewood, CA 90303</td>
</tr>
</tbody>
</table>

Table 3-10: Schools falling within AP fault zone
capacity is 4.6 million gallons. The Morningside Reservoir was constructed in 1954, and has a total capacity of 16 million gallons.

The Sanford M. Anderson Treatment Plant (Anderson Treatment Plant), a three acre site, is located on the southwest corner of Eucalyptus Avenue and Beach Avenue, and was constructed to treat the city’s groundwater for iron and manganese. Currently, the Anderson Treatment Plant has a capacity of 8.64 million gallons per day (MGD) and a clear well capacity of 834,000 gallons.

**Waste Water System**

Sewer and wastewater service within the City of Inglewood is provided by the city and the Los Angeles County Sanitation District (LACSD). There are approximately 155 miles of sewer mains in the City of Inglewood, including 3,240 sewer manholes and 16,393 sewer lateral connections. The wastewater from the city primarily flows to the Joint Water Pollution Control Plant located in the City of Carson. The wastewater flow from the city to the LACSD treatment facility is estimated to be 10.6 million gallons per day (MGD).

**Electric Power**

Southern California Edison (SCE) supplies electrical energy to the City of Inglewood. SCE currently operates one (1) substation within the city, the Inglewood Substation, which provides power to the City of Inglewood through SCE infrastructure of conduits and overhead lines.

**Natural Gas**

Southern California Gas Company (SoCal Gas) is the supplier of natural gas to the City of Inglewood. Currently, SoCal Gas maintains transmission and distribution lines throughout the city. Most lines operate at a medium pressure of approximately 30 to 60 pounds per square inch (psi). Most Inglewood streets have SoCal Gas network pipelines running under them. The Public Utilities Commission (PUC) regulates SoCal Gas.

**Oil**

There is only one remaining active oil well site, the seven-acre Brea Oil Company site at Eucalyptus Avenue and Hyde Park Boulevard. This site has multiple oil wells; however, any oil or gas extracted are not stored onsite. Two major crude oil pipelines pass through western Inglewood, one 12-inch pipe and one 16-inch pipe. These pipelines transport crude oil through the city to refineries located outside of Inglewood.
Telecommunication

Local telephone service is provided by Southwestern Bell Communications (SBC—formerly Pacific Bell). Several providers, including SBC, provide long distance phone service to Inglewood and also provide internet access via DSL, cable modem, and dial-up features. City residents have a number of options for internet service, including service by Comcast, SBC and local ISPs. All major cellular phone service provider companies are licensed and monitored by the California Public Utilities Commission (CPUC). The Municipal Area Network (MAN) is a system of fiber-optic cables and electronic devices in host buildings that provide a gigabit high-speed protocol network serving few portions of the city.

3.4.5.6 Hazmat sites

Hazardous materials in the City of Inglewood are routinely used, stored, and transported in commercial and retail businesses as well as in educational facilities, hospitals, and households. Information on hazardous material use and sites was obtained from the Los Angeles County Fire Department (LACFD) and City of Inglewood General Plan update document. The following Table 3-11(a) from LACFD provides the classes of hazardous materials and corresponding quantities for the city. Tables 3-11(b) and (c) provide a list of hazardous material within liquefaction and AP fault zone.

<table>
<thead>
<tr>
<th>HAZAOURDOUS MATERIAL</th>
<th>QUANTITY</th>
<th>UNIT</th>
</tr>
</thead>
<tbody>
<tr>
<td>WASTE FLAMMABLE LIQUID</td>
<td>605923</td>
<td>Gallons</td>
</tr>
<tr>
<td>AMMONIA - SPENT ETCHANT</td>
<td>83250</td>
<td>Pounds</td>
</tr>
<tr>
<td>HAZARDOUS WASTE WATER/ WASTE HALOGENATED SOLVENTS</td>
<td>80000</td>
<td>Gallons</td>
</tr>
<tr>
<td>NEW RETAIL- BATTERY FLUID ACID</td>
<td>72800</td>
<td>Pounds</td>
</tr>
<tr>
<td>HAZARDOUS WASTE WATER/ WASTE HALOGENATED SOLVENTS #38</td>
<td>70000</td>
<td>Gallons</td>
</tr>
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<td>TOXIC LIQUID</td>
<td>67411</td>
<td>Pounds</td>
</tr>
<tr>
<td>FERTILIZERS &amp; PESTICIDES LOOSEPACK</td>
<td>61190</td>
<td>Pounds</td>
</tr>
<tr>
<td>HAZARDOUS WASTE WATER/ WASTE FLAMMABLE SOLVENTS</td>
<td>60000</td>
<td>Gallons</td>
</tr>
<tr>
<td>SPENT AMMONIA ETCH</td>
<td>49950</td>
<td>Pounds</td>
</tr>
<tr>
<td>WASTE ALKALINE</td>
<td>46687</td>
<td>Pounds</td>
</tr>
<tr>
<td>HYDROCHLORIC ACID</td>
<td>45244</td>
<td>Pounds</td>
</tr>
<tr>
<td>MIXED CHEMICALS</td>
<td>43408</td>
<td>Pounds</td>
</tr>
<tr>
<td>HAZAOURDOUS MATERIAL</td>
<td>QUANTITY</td>
<td>UNIT</td>
</tr>
<tr>
<td>----------------------------------------------------------</td>
<td>----------</td>
<td>-------</td>
</tr>
<tr>
<td>PETROLEUM DISTILLATES</td>
<td>43075</td>
<td>Pounds</td>
</tr>
<tr>
<td>NITRIC ACID</td>
<td>38881</td>
<td>Pounds</td>
</tr>
<tr>
<td>WASTE OIL</td>
<td>38700</td>
<td>Gallons</td>
</tr>
<tr>
<td>INKS &amp; SOLVENTS</td>
<td>35880</td>
<td>Pounds</td>
</tr>
<tr>
<td>WASTE VARIONS ACID</td>
<td>35135</td>
<td>Pounds</td>
</tr>
<tr>
<td>AEROSOL CANS/LABPACK/LOOSE PACK</td>
<td>31204</td>
<td>Pounds</td>
</tr>
<tr>
<td>SULFURIC ACID, BATTERY ELECTROLYTE</td>
<td>30600</td>
<td>Pounds</td>
</tr>
<tr>
<td>SPENT BATTERY FLUID ACID</td>
<td>30000</td>
<td>Pounds</td>
</tr>
<tr>
<td>PHOTO CHEMICAL COMPOUNDS</td>
<td>26404</td>
<td>Pounds</td>
</tr>
<tr>
<td>CHROME PLATING SOLUTION WASTE #71</td>
<td>24000</td>
<td>Pounds</td>
</tr>
<tr>
<td>USED OIL</td>
<td>22002</td>
<td>Gallons</td>
</tr>
<tr>
<td>WASTE MOTOR OIL</td>
<td>21710</td>
<td>Gallons</td>
</tr>
<tr>
<td>NON-RCRA WASTE WATER/WASTE FLAMMABLE SOLVENTS</td>
<td>20000</td>
<td>Gallons</td>
</tr>
<tr>
<td>NON-RCRA WASTE WATER/WASTE SOLVENTS</td>
<td>20000</td>
<td>Gallons</td>
</tr>
<tr>
<td>ACETONE WASTE (SPENT)</td>
<td>19794</td>
<td>Pounds</td>
</tr>
<tr>
<td>USED LEAD ACID BATTERIES</td>
<td>19380.48</td>
<td>Pounds</td>
</tr>
<tr>
<td>VARIOUS WASTE SOLVENTS</td>
<td>18644</td>
<td>Pounds</td>
</tr>
<tr>
<td>IPA</td>
<td>18517</td>
<td>Pounds</td>
</tr>
<tr>
<td>WASTE BATTERIES</td>
<td>18113</td>
<td>Pounds</td>
</tr>
<tr>
<td>WASTE PERC (PERCHLOROETHYLENE)</td>
<td>17353</td>
<td>Pounds</td>
</tr>
<tr>
<td>OXIDIZERS (LABPACK,LOOSE PACK)</td>
<td>16338</td>
<td>Pounds</td>
</tr>
<tr>
<td>USED MOTOR OIL</td>
<td>15667</td>
<td>Gallons</td>
</tr>
<tr>
<td>MINERAL SPIRITS &amp; SOLVENTS</td>
<td>15215</td>
<td>Pounds</td>
</tr>
<tr>
<td>MIXED ACIDS (INORGANIC/ORGANIC)</td>
<td>14350</td>
<td>Pounds</td>
</tr>
<tr>
<td>WASTE NYLON FILTERS</td>
<td>14000</td>
<td>Pounds</td>
</tr>
<tr>
<td>WASTE RAGS WITH FLAMMABLE SUBSTANCE</td>
<td>14000</td>
<td>Pounds</td>
</tr>
<tr>
<td>PETROLEUM CHEMICALS (BULK)</td>
<td>11050</td>
<td>Pounds</td>
</tr>
<tr>
<td>USED AUTOMOTIVE BATTERIES</td>
<td>10920</td>
<td>Pounds</td>
</tr>
</tbody>
</table>

HAZARDOUS MATERIAL | QUANTITY | UNIT
--- | --- | ---
WASTE ANTIFREEZE | 9838 | Pounds
BUFFERED FORMALIN | 9766 | Pounds
TRICHLOROETHYLENE | 9441 | Pounds
USED MOTOR OIL FILTERS | 7465 | Gallons
WASTE PAINT-RELATED MATERIALS | 7027 | Pounds
DEVELOPERS/FIXERS | 6982 | Pounds
EPOXY RESINS | 6736 | Pounds

Table 3-11(a) Hazardous materials and quantities reported by various facilities in Inglewood

Some of the sites with a significant potential impact on the city in case of hazmat release incidents include the Southern California Gas Company site, Marvin Engineering, the National Guard Armory, the Sanford M. Anderson Water treatment plant, the active oil well site of the Brea Oil Company, and several Leaking Underground Fuel Tanks (LUFTs) sites associated with neighborhood gasoline service stations. Some of these facilities use certain classes of hazardous materials that require accidental release scenario modeling and risk management plans to protect surrounding land uses. Section 3.5 on Vulnerability Assessment presents a summary of the chlorine gas release scenarios and dispersion analysis report for the Sanford M. Anderson water treatment plant.

<table>
<thead>
<tr>
<th>FACILITY</th>
<th>ADDRESS</th>
</tr>
</thead>
<tbody>
<tr>
<td>ANTHONY’S PAINT AND BODY SHOP</td>
<td>259 N LA BREA AVE</td>
</tr>
<tr>
<td>BUY LOW MARKET</td>
<td>250 N LA BREA AVE</td>
</tr>
<tr>
<td>FARRAR GRINDING CO INC</td>
<td>347 E BEACH AVE</td>
</tr>
<tr>
<td>FOREIGN CAR REPAIRS INC</td>
<td>1110 CENTINEL AVE</td>
</tr>
<tr>
<td>INGLEWOOD USD WAREHOUSE</td>
<td>546 N OAK ST</td>
</tr>
<tr>
<td>SUPREME PLATING CO</td>
<td>330 E BEACH AVE</td>
</tr>
</tbody>
</table>

Table 3-11(b): Hazardous materials site within liquefaction zone

<table>
<thead>
<tr>
<th>FACILITY</th>
<th>ADDRESS</th>
</tr>
</thead>
<tbody>
<tr>
<td>777 CLEANERS</td>
<td>113 E MANCHESTER BLVD</td>
</tr>
<tr>
<td>7-ELEVEN #33404</td>
<td>3311 W CENTURY BLVD</td>
</tr>
<tr>
<td>ANTHONY’S PAINT AND BODY SHOP</td>
<td>259 N LA BREA AVE</td>
</tr>
<tr>
<td>AT&amp;T (AZ104)</td>
<td>301 S LA BREA AVE</td>
</tr>
<tr>
<td>BUY LOW MARKET</td>
<td>250 N LA BREA AVE</td>
</tr>
<tr>
<td>CALIFORNIA SUPERIOR COURT LACO</td>
<td>1 E REGENT ST</td>
</tr>
<tr>
<td>FACILITY</td>
<td>ADDRESS</td>
</tr>
<tr>
<td>----------------------------------</td>
<td>--------------------------------</td>
</tr>
<tr>
<td>J&amp;F OIL CORPORATION #252900</td>
<td>9830 S CRENSHAW BLVD</td>
</tr>
<tr>
<td>JP CLEANERS</td>
<td>253 S LA BREA AVE</td>
</tr>
<tr>
<td>LIM’S GAS MART</td>
<td>145 E MANCHESTER BLVD</td>
</tr>
<tr>
<td>SPARKLING CLEANERS</td>
<td>320 S LA BREA AVE</td>
</tr>
<tr>
<td>WALGREENS</td>
<td>230 N LA BREA AVE</td>
</tr>
<tr>
<td>AUTOZONE #5395</td>
<td>433 N LA BREA AVE</td>
</tr>
<tr>
<td>DELGADO’S AUTOMOTIVE</td>
<td>300 N LA BREA AVE</td>
</tr>
<tr>
<td>EDUARD GAS MART INC</td>
<td>1430 N LA BREA AVE</td>
</tr>
<tr>
<td>FOREIGN CAR REPAIRS INC</td>
<td>1110 CENTINELA AVE</td>
</tr>
<tr>
<td>HALLMARK MOTORS INC</td>
<td>124 W BEACH AVE</td>
</tr>
<tr>
<td>HI-TECH CLEANERS</td>
<td>635 N LA BREA Ave</td>
</tr>
<tr>
<td>INGLEWOOD AUTO BODY &amp; Detail</td>
<td>624 N LA BREA Ave</td>
</tr>
<tr>
<td>INGLEWOOD FIELD MAINT SHOP 9</td>
<td>111 GROSVENOR ST</td>
</tr>
<tr>
<td>JOSE’S AUTO SERVICE</td>
<td>512 N LA BREA AVE</td>
</tr>
<tr>
<td>K &amp; S AUTO REPAIR</td>
<td>410 N LA BREA AVE</td>
</tr>
<tr>
<td>LA BREA VALERO</td>
<td>1007 N LABREA AVE</td>
</tr>
<tr>
<td>RADIATOR PLUS</td>
<td>310 N LA BREA AVE</td>
</tr>
<tr>
<td>RALPHS GROCERY COMPANY #277</td>
<td>950 N LA BREA AVE</td>
</tr>
<tr>
<td>TUNEUP MASTERS #27</td>
<td>1211 N LA BREA AVE</td>
</tr>
<tr>
<td>WHIZZZZ CLEANERS/COIN LAUNDRY</td>
<td>1217 N LA BREA AVE</td>
</tr>
<tr>
<td>MOBIL SERVICE STATION #APJ</td>
<td>3016 W CENTURY BLVD</td>
</tr>
<tr>
<td>SWAN CLEANERS</td>
<td>3240 W CENTURY BLVD</td>
</tr>
<tr>
<td>CENTURY PARK CLEANERS</td>
<td>3201 W CENTURY BLVD</td>
</tr>
</tbody>
</table>

Table 3-11(c): Hazardous materials site within AP fault zone

3.4.5.7 Transportation Systems

Transportation systems include highways, roads, bridges, railroads, light rail, and airports.

Highways, Roads and Bridges

Two freeways travel through or are immediately adjacent to the City of Inglewood. These are the San Diego Freeway (Interstate 405), a north/south route in the Inglewood area, and the Glenn Anderson Freeway (Interstate 105), an east/west route along the south edge of Inglewood. In addition, there are several arterials and collector streets that make up the city’s circulation system.

Caltrans maintains and operates several bridges on the highways and roads in and around the city. These bridges form the backbone of the transportation infrastructure of the City of Inglewood. Figure 3-10 shows their locations and Appendix G provides location and other attributes extracted from the National Bridge Inventory database.
Railroad

The only railroad facility in Inglewood is the former Burlington Northern & Santa Fe Railroad (BNSF) rail corridor, paralleling Florence Avenue. The right-of-way is owned by Metro for possible future use as a light rail or busway facility. It is currently utilized by oil refineries and other industrial uses located in the South Bay region.

Light Rail

Located along the median of the I-105 Freeway, the Metro Green Line is the closest rail transit facility to the City of Inglewood. The Crenshaw Boulevard/I-105 Station is the nearest station, located immediately south of the I-105 Freeway, just east of Crenshaw Boulevard.
Los Angeles International Airport (LAX), one of the busiest airports in terms of passenger and cargo movement worldwide, is located immediately to the west of the City of Inglewood and has significant impact on its land use, economy, and population.

### 3.5 Vulnerability Assessment

This section provides an assessment of vulnerability for the three hazards (earthquake, hazmat release, and human threat events / terrorism) that pose significant threats to the City of Inglewood. This is the final step in the four-step risk assessment process and utilizes data and information collected from the city and various external agencies. This approach is primarily based on a qualitative review of information with some quantitative analysis. It provides loss estimates and vulnerability of general buildings, key facilities with critical functions and governance relationships, and people living and working in the City of Inglewood. The vulnerability assessment provides a solid basis for analyzing the risk, the potential exposure, and consequences to city operations and safety.

#### 3.5.1 Methodology

To conduct the vulnerability assessment, a combination of quantitative and qualitative approaches was used. A quantitative assessment of earthquake risk was performed with city provided GIS data and FEMA's HAZUS® software. For hazardous materials release and human threat events/terrorism, a more qualitative analysis was performed using expert judgment, GIS information and reports available from the city and various other public sources.

##### 3.5.1.1 Quantitative methodology using HAZUS® for earthquake risk

For earthquake hazard, we primarily used a quantitative approach with HAZUS®. HAZUS® is a GIS-based regional loss estimation tool developed for FEMA. In addition we used BIRT (Building Inventory Replacement Tool) developed for the California Emergency Management Agency (CalEMA) by the consultant team.

Given an earthquake fault or epicenter, magnitude, and location as input, the HAZUS® earthquake module produces quantitative estimates of losses to buildings and lifeline infrastructure, estimates of impact on the functionality of facilities, and casualty and other population impacts. Alternatively, the users may import “user-supplied” hazard data, such as a ShakeMap generated by the USGS. Output from HAZUS includes several items. Losses are presented as direct economic losses from building and lifeline damage, as well as selected indirect economic losses. Functionality estimates are calculated in terms of restoration time for critical facilities, such as hospitals, highway bridges, water treatment plants, and electric power substations, and system restoration assessments for potable water and electrical power networks. Casualty estimates are provided as various levels of injury severity and death. The model also
estimates losses due to fire-following earthquake and the quantity of earthquake-related debris generated.

HAZUS® usually comes with default inventory data which allows a user to run a simplified or “Level 1” analysis without collecting additional data. However, the data is often less than optimal, which impacts the reliability of HAZUS® results. HAZUS analyses can be greatly improved with the input of various “user-supplied” data. An enhanced analysis is usually referred to as a “Level 2” analysis.

For the earthquake risk assessment for Inglewood, a Level 2 analysis was performed by updating the building square footage information from the county tax assessor files. Using BIRT (Building Inventory Replacement Tool) more accurate building square footage and count data was incorporated for the study region of analysis. Square footage per census tract is a key factor in determining losses with the HAZUS loss estimation system. Assessor data was also used to update cost estimates and the number of buildings. Also, a California Geological Survey liquefaction layer was imported into HAZUS® to characterize the local earthquake hazard.

**HAZUS-MH: Methodology**

![HAZUS-MH Methodology Diagram](image)

*Figure 3-11: HAZUS® Multi Hazard Methodology*
3.5.1.2 Qualitative methodology for hazmat release risk

For the hazmat release risk, we used a qualitative approach. GIS layers of hazmat sites were overlaid with earthquake hazard maps, namely AP fault, landslide and liquefaction, to screen the vulnerable sites. Additional data was collected from previous studies and national databases on this hazard to make an assessment of this risk.

3.5.1.3 Qualitative methodology for human threat events/terrorism risk

In absence of access to a terrorism modeling software tool, we used a qualitative approach to analyze the potential consequences of terrorism events. This approach involved identifying potential sites, and assessing threat level, criticality and vulnerability of each site. Based on these factors a risk score was assigned to the sites to assess mitigation options.

3.5.2 M6.9 Newport Inglewood Fault Earthquake Scenario

Using HAZUS® MH MR 2, we analyzed the impacts of a 6.9 magnitude earthquake scenario on the Newport-Inglewood fault. We used a typical 475-year event planning scenario. Although not an actual event, it provides the probable magnitude and location of a hypothetical earthquake on the Newport-Inglewood fault (Figure 3-12). It is important to remember that this roughly corresponds to the 475 year event given the recurrence interval. This is a typical time horizon used for planning purposes, but the Newport Inglewood could experience a Maximum Credible Event (MCE) of magnitude 7.4.

Figure 3-12: 6.9 Newport-Inglewood earthquake scenario ShakeMap
HAZUS® format GIS files of the earthquake scenario are available from the USGS scenario archive. These are peak ground acceleration (PGA), peak ground velocity (PGV) and spectral acceleration (Spectral Acceleration at 0.3 and 1.0 second) contour maps. The damage and losses are computed based on these maps. The findings of this scenario are summarized below.

A study region was created by aggregating the census tracts that fell within the Inglewood city boundary. Where the city transected the census tract boundaries, the tract was split and population distributed based on the percent area within the city. The geographical extent of the region covers about 11 square miles, consisting of 31 census tracts. There are over 42,000 households in this region, with a total population of 133,500 people (2000 Census).

The ShakeMap scenario has ground shaking of up to 0.38 g along the fault. The highest level of shaking may be experienced within a census tract in the north-east section of the city (See Figure 3-13(a) through 3-13(d)). Figures 3-13(a) through 3-13(d) are a series of figures showing the level of ground shaking mapped by census tract for peak ground acceleration (PGA), peak ground velocity (PGV) and spectral acceleration (Spectral Acceleration at 0.3 and 1.0 second).
3.5.2.1 Building damage

HAZUS® default building inventory indicates there are about 27,000 buildings in the City of Inglewood, with a total estimated replacement value of buildings of $5.6 billion, excluding building contents. Approximately 87% of the buildings are residential, and 76% of the building value is associated with residential housing.

HAZUS® calculates structural and nonstructural damage states in terms of one of four ranges of damage or “damage states”: Slight, Moderate, Extensive, and Complete. For example, the Slight damage state extends from the threshold of Slight damage up to the threshold of Moderate damage. General descriptions of these damage states are provided for all model building types with reference to observable damage incurred by structural and nonstructural building components in Appendix H. Damage predictions resulting from this physical damage estimation method are then expressed in terms of the probability of a building being in any of these four damage states.

HAZUS® estimates approximately 10,000 buildings will sustain moderate damage or higher. About 2,500 single family homes will be in or near a state of complete damage. 82% of all the structures damaged will be of wooden construction. Expected building damage by occupancy and building type is presented in Tables 3-12(a) and (b). These are based on HAZUS® default building counts. For each damage state in both tables, the percentage columns add up to 100%.
### Table 3-12(a): Expected Building Damage by Occupancy

<table>
<thead>
<tr>
<th>Occupancy</th>
<th>None Count</th>
<th>None (%)</th>
<th>Slight Count</th>
<th>Slight (%)</th>
<th>Moderate Count</th>
<th>Moderate (%)</th>
<th>Extensive Count</th>
<th>Extensive (%)</th>
<th>Complete Count</th>
<th>Complete (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Commercial</td>
<td>256</td>
<td>6.25</td>
<td>772</td>
<td>5.72</td>
<td>1,388</td>
<td>24.30</td>
<td>609</td>
<td>71.14</td>
<td>451</td>
<td>13.38</td>
</tr>
<tr>
<td>Government</td>
<td>2</td>
<td>0.04</td>
<td>3</td>
<td>0.02</td>
<td>3</td>
<td>0.05</td>
<td>1</td>
<td>0.14</td>
<td>1</td>
<td>0.03</td>
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<tr>
<td>Industrial</td>
<td>3</td>
<td>0.08</td>
<td>11</td>
<td>0.08</td>
<td>20</td>
<td>0.34</td>
<td>8</td>
<td>0.98</td>
<td>14</td>
<td>0.41</td>
</tr>
<tr>
<td>Other Residential</td>
<td>406</td>
<td>9.94</td>
<td>1,304</td>
<td>9.66</td>
<td>682</td>
<td>11.93</td>
<td>166</td>
<td>19.37</td>
<td>415</td>
<td>12.33</td>
</tr>
<tr>
<td>Religion</td>
<td>2</td>
<td>0.04</td>
<td>5</td>
<td>0.04</td>
<td>6</td>
<td>0.10</td>
<td>2</td>
<td>0.28</td>
<td>2</td>
<td>0.06</td>
</tr>
<tr>
<td>Single Family</td>
<td>3,418</td>
<td>83.65</td>
<td>11,405</td>
<td>84.48</td>
<td>3,614</td>
<td>63.26</td>
<td>69</td>
<td>8.08</td>
<td>2,485</td>
<td>73.78</td>
</tr>
<tr>
<td>Total</td>
<td>4,086</td>
<td></td>
<td>13,500</td>
<td></td>
<td>5,713</td>
<td></td>
<td>856</td>
<td></td>
<td>3,369</td>
<td></td>
</tr>
</tbody>
</table>

### Table 3-12(b): Expected Building Damage by Building Type (All Design Levels)

<table>
<thead>
<tr>
<th>Building Type</th>
<th>None Count</th>
<th>None (%)</th>
<th>Slight Count</th>
<th>Slight (%)</th>
<th>Moderate Count</th>
<th>Moderate (%)</th>
<th>Extensive Count</th>
<th>Extensive (%)</th>
<th>Complete Count</th>
<th>Complete (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wood</td>
<td>3,760</td>
<td>92.02</td>
<td>12572</td>
<td>93.12</td>
<td>3,935</td>
<td>68.88</td>
<td>62</td>
<td>7.23</td>
<td>2,769</td>
<td>82.21</td>
</tr>
<tr>
<td>Steel</td>
<td>64</td>
<td>1.57</td>
<td>245</td>
<td>1.82</td>
<td>568</td>
<td>9.95</td>
<td>260</td>
<td>30.38</td>
<td>192</td>
<td>5.70</td>
</tr>
<tr>
<td>Concrete</td>
<td>59</td>
<td>1.436</td>
<td>225</td>
<td>1.66</td>
<td>297</td>
<td>5.19</td>
<td>119</td>
<td>13.86</td>
<td>106</td>
<td>3.15</td>
</tr>
<tr>
<td>Precast</td>
<td>10</td>
<td>0.24</td>
<td>43</td>
<td>0.31</td>
<td>112</td>
<td>1.95</td>
<td>49</td>
<td>5.73</td>
<td>33</td>
<td>0.97</td>
</tr>
<tr>
<td>RM</td>
<td>188</td>
<td>4.59</td>
<td>363</td>
<td>2.69</td>
<td>576</td>
<td>10.09</td>
<td>217</td>
<td>25.38</td>
<td>180</td>
<td>5.35</td>
</tr>
<tr>
<td>URM</td>
<td>5</td>
<td>0.12</td>
<td>34</td>
<td>0.25</td>
<td>110</td>
<td>1.92</td>
<td>78</td>
<td>9.15</td>
<td>52</td>
<td>1.53</td>
</tr>
<tr>
<td>MH</td>
<td>1</td>
<td>0.03</td>
<td>19</td>
<td>0.14</td>
<td>116</td>
<td>2.02</td>
<td>71</td>
<td>8.28</td>
<td>37</td>
<td>1.08</td>
</tr>
<tr>
<td>Total</td>
<td>4,086</td>
<td></td>
<td>13,500</td>
<td></td>
<td>5,713</td>
<td></td>
<td>856</td>
<td></td>
<td>3,369</td>
<td></td>
</tr>
</tbody>
</table>

**Note:** RM- Reinforced masonry, URM- Unreinforced masonry, MH- Manufactured home

#### 3.5.2.2 Essential facility damage

Essential facilities are critical to the functioning of the city and include hospitals, schools, emergency operations centers, and police and fire stations. Figure 3-14 shows the spatial distribution of essential facilities overlaid on a ground motion (PGA) map for the M6.9 Newport Inglewood event. According to HAZUS® estimates for the 6.9 earthquake, severity of damage states for essential facilities (includes structural and non-structural damage), in general, will be less than moderate, but it is important to recognize that this does not take into account fault rupture, and no additional structural information was available for these facilities. For definition of HAZUS® damage states for building damage (structural and non-structural), please refer to Appendix H.
According to the estimates, there will be significant loss of functionality of the hospital and police stations immediately after the earthquake. The hospital will operate at only 48% of its capacity due to damage, whereas the total functional capacity of all four police stations at day 1 following the earthquake will be 18%. This provides a very rough estimate of the anticipated consequences, given the structural information available.

3.5.2.3 Transportation and utility lifeline damage

The replacement value of facilities represented in the default data for transportation and utility lifeline systems is estimated to be $779 million and $13 million, respectively. The damage to transportation systems from this event is expected to be low or insignificant. However, critical infrastructure such as bridges and major roadways namely, interstate 405 and 105, and several other arterial roads may be impacted by an earthquake of this magnitude.

The utility system may sustain moderate damage. Given that several utility pipelines traverse the Newport-Inglewood fault, there will be several leakages and breaks in the potable water, waste water, and natural gas pipelines. More than 50% of households will be without potable water service immediately after the event, although service will be restored within 3 days. Electric power and telecommunication will sustain insignificant damage. See Tables 3-13(a) and (b) for expected damage to utility system pipeline and potable water system performance.

<table>
<thead>
<tr>
<th>System</th>
<th>Total Pipelines Length (kms)</th>
<th>Number of Leaks</th>
<th>Number of Breaks</th>
</tr>
</thead>
<tbody>
<tr>
<td>Potable Water</td>
<td>326</td>
<td>256</td>
<td>64</td>
</tr>
<tr>
<td>Waste Water</td>
<td>196</td>
<td>202</td>
<td>51</td>
</tr>
<tr>
<td>Natural Gas</td>
<td>131</td>
<td>216</td>
<td>54</td>
</tr>
</tbody>
</table>

Table 3-13(a): Expected Utility System Pipeline Damage (Site Specific)

<table>
<thead>
<tr>
<th>System</th>
<th>Total # of Households</th>
<th>Number of Households without Service</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>At Day 1</td>
</tr>
<tr>
<td>Potable Water</td>
<td>42,689</td>
<td>24,833</td>
</tr>
<tr>
<td>Electric Power</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

Table 3-13(b): Expected Potable Water and Electric Power System Performance
3.5.2.4 **Post-earthquake fire, shelter requirements, and casualties**

HAZUS® estimates that there will be fire ignitions in six locations, which could burn out of control due to lack of water to fight the fires. The resulting impact of the earthquake on the utility pipelines, particularly potable water, the significant loss of functionality of the hospital, and an increased demand for services, will slow the recovery time to control post-event fires. This scenario considers default fire station information provided in HAZUS®.
HAZUS® estimates the number of households that are expected to be displaced from their homes due to the earthquake. In addition, it provides an estimated number of displaced people who will require temporary shelter. For this scenario, the model estimates about 6,500 households to be displaced and 2,100 people will require temporary shelter accommodation.

HAZUS® casualty estimates are based on the following injury classifications:
- **Severity 1**: Injuries requiring basic medical aid without requiring hospitalization.
- **Severity 2**: Injuries requiring a greater degree of medical care and hospitalization, but not expected to progress to a life-threatening status.
- **Severity 3**: Injuries which pose an immediate life-threatening condition if not treated adequately and expeditiously. The majority of these injuries are the result of structural collapse and subsequent entrapment or impairment of the occupants.
- **Severity 4**: Instantaneously killed or mortally injured.

HAZUS® estimates there will be 19 deaths due to this event (see Table 3-14). It is important to recognize, this figure may be quite low given structural information on specific high occupancy facilities. Casualty estimate maps are presented in Appendix I of this report.

<table>
<thead>
<tr>
<th>Severity 1</th>
<th>Severity 2</th>
<th>Severity 3</th>
<th>Severity 4</th>
</tr>
</thead>
<tbody>
<tr>
<td>628</td>
<td>241</td>
<td>35</td>
<td>19</td>
</tr>
</tbody>
</table>

*Table 3-14: Casualty Estimates*

### 3.5.2.5 Direct building related economic losses

The total economic loss estimated for the Newport-Inglewood scenario is $1.56 billion, which includes building and lifeline inventory losses. (See Table 3-15 below) The direct impact of the earthquake on buildings is the estimated cost of repairs and replacement of the buildings and their contents. The total building related losses are estimated to be 1.5 billion dollars. Damage to residential buildings contributed the largest amount to the total losses, making up over 67% of the total loss. Another component of the building losses is business interruption losses or losses associated with the inability to operate a business due to sustained damage. These include temporary living expenses for the people displaced from their homes because of the earthquake. 12% of the total losses are related to business interruption in the region. Table 3-15 presents the summary table of the losses associated with building damage. Maps are presented in Appendix I.
### Table 3-15: Building-Related Economic Loss Estimates (Millions of dollars)

<table>
<thead>
<tr>
<th>Category</th>
<th>Area</th>
<th>Single Family</th>
<th>Other Residential</th>
<th>Commercial</th>
<th>Industrial</th>
<th>Others</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Income Loses</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Wage</td>
<td></td>
<td>0.00</td>
<td>12.68</td>
<td>39.29</td>
<td>1.13</td>
<td>1.69</td>
<td>54.78</td>
</tr>
<tr>
<td>Capital-Related</td>
<td></td>
<td>0.00</td>
<td>5.74</td>
<td>43.51</td>
<td>0.69</td>
<td>0.37</td>
<td>50.30</td>
</tr>
<tr>
<td>Rental</td>
<td></td>
<td>9.91</td>
<td>52.83</td>
<td>17.32</td>
<td>1.03</td>
<td>1.07</td>
<td>82.16</td>
</tr>
<tr>
<td>Relocation</td>
<td></td>
<td>1.09</td>
<td>1.09</td>
<td>0.83</td>
<td>0.15</td>
<td>0.26</td>
<td>3.42</td>
</tr>
<tr>
<td>Subtotal</td>
<td></td>
<td><strong>11.00</strong></td>
<td><strong>72.34</strong></td>
<td><strong>100.95</strong></td>
<td><strong>2.99</strong></td>
<td><strong>3.39</strong></td>
<td><strong>190.67</strong></td>
</tr>
<tr>
<td>Capital Stock Loses</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Structural</td>
<td></td>
<td>56.41</td>
<td>73.41</td>
<td>55.79</td>
<td>10.72</td>
<td>6.54</td>
<td>202.86</td>
</tr>
<tr>
<td>Non-Structural</td>
<td></td>
<td>208.40</td>
<td>464.17</td>
<td>148.62</td>
<td>43.66</td>
<td>23.33</td>
<td>888.17</td>
</tr>
<tr>
<td>Content</td>
<td></td>
<td>55.77</td>
<td>105.02</td>
<td>66.76</td>
<td>29.47</td>
<td>10.25</td>
<td>267.26</td>
</tr>
<tr>
<td>Inventory</td>
<td></td>
<td>0.00</td>
<td>0.00</td>
<td>2.48</td>
<td>2.98</td>
<td>0.00</td>
<td>5.46</td>
</tr>
<tr>
<td>Subtotal</td>
<td></td>
<td><strong>320.57</strong></td>
<td><strong>642.59</strong></td>
<td><strong>273.65</strong></td>
<td><strong>86.82</strong></td>
<td><strong>40.13</strong></td>
<td><strong>1,363.76</strong></td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td><strong>331.57</strong></td>
<td><strong>714.93</strong></td>
<td><strong>374.60</strong></td>
<td><strong>89.81</strong></td>
<td><strong>43.52</strong></td>
<td><strong>1,554.43</strong></td>
</tr>
</tbody>
</table>

### 3.5.2.5 Transportation and utility lifeline losses

For the transportation and utility lifeline systems, HAZUS® computes direct repair costs for each component. Business interruption due to lifeline outages is not included in these estimates. The most vulnerable components in the City of Inglewood’s transportation and utility lifeline inventory are highway bridges, potable water and waste water distribution lines, natural gas distribution lines, and oil facilities. The total damage sustained by these components is estimated to be 6 million dollars. The major potable water and waste water distribution lines, and natural gas pipelines will sustain the most damage due to their location in relation to the Newport-Inglewood fault (see Figure 3-6 in Section 3.3.2.2 for utility map and Figure 3-10 in 3.4.5.7 for highway bridges map).

### 3.5.3 Hazmat Release

The risk assessment methodology implemented for assessing impacts from hazardous materials release in the City of Inglewood includes inventory development, a review of potential for release due to seismic hazard and other accidents or incidents, regional vulnerability assessment, and population risk. We have performed the vulnerability assessment quantitatively using local, regional and national level data and statistics for hazmat release incidents and accidents.
3.5.3.1  Hazmat release risk from fixed site sources

"Inventory of sites using hazardous materials was obtained from the Los Angeles County Fire Department (LACFD) and Leaking Underground Fuel Tanks (LUFTs) list from City of Inglewood General Plan Update (2006) document. Several hazardous materials sites in Inglewood are located within liquefaction and fault zones (See Tables 3-10(a) and (b) in Section 3.4.5.6). The list of LUFT sites is provided in Appendix J."

Based on two previous studies on hazardous materials release in areas of high seismic risk (Seligson et al and Eguchi et al), it is generally acknowledged that a major earthquake in an industrialized, densely populated area of the U.S. could lead to the release of hazardous chemicals. A large post-earthquake release would present a threat not only to residents in the immediate vicinity of the source, but also to those of surrounding communities. Affected areas would then face a range of emergency management problems. For example, a major earthquake is likely to seriously impair community emergency response capability, making it difficult to effectively deal with secondary emergencies such as hazardous materials releases and fires. Tasks which are normally problematic, such as warning the public about a toxic release and evacuating people from areas that are hazardous, would be much more difficult following a major earthquake. Further, communities are accustomed to responding to hazardous materials releases one at a time, while in an earthquake situation multiple accidents may occur simultaneously, greatly compounding resource problems.

Although there has never been a major incident involving hazardous materials as a result of a U.S. earthquake, smaller releases have occurred in events that were moderate in size. An example is an accident at a chlorine repackaging facility in the 1987 Whittier Narrows Earthquake, in which nearly one ton of chlorine gas was released (FEMA, 1987).

The impacts of hazardous materials release are expressed in terms of percent of population exposed. Here we present the findings from the 1996 report where three earthquake scenarios were studied (see Table 3-16). The study used data from 22 facilities using ammonia and /or chlorine within the Los Angeles County. The three earthquake scenarios that were considered in the report were:

- M7 earthquake on the Newport-Inglewood fault
- M8+ earthquake on the southern San Andreas fault – 300 kms of rupture along the Mojave, San Bernardino Mountain and Coachella Valley segments of the fault; and
- M5.9 earthquake on the Whittier-Elsinore fault – a re-creation of the 1987 Whittier Narrows earthquake.

In the M7 earthquake scenario on the Newport-Inglewood fault, as many as 133,000 people were exposed (2% of the total population in Los Angeles County) to hazardous materials released from 22 subject sites. As the population in Los Angeles County has grown (1.3 times according to US Census numbers) since the release of the Seligson et
al. (1996) study, we estimate that the total number of people that will be exposed to a hazardous materials release in a large Newport Inglewood event today would be around 173,000 in the Los Angeles County.

<table>
<thead>
<tr>
<th>County</th>
<th>Population Exposed</th>
<th>Total Population</th>
<th>Percent Exposed</th>
</tr>
</thead>
<tbody>
<tr>
<td>Scenario 1: M 7.0 Newport/Inglewood Event</td>
<td>Los Angeles 132,509</td>
<td>7,477,503</td>
<td>1.800%</td>
</tr>
<tr>
<td></td>
<td>Orange 491</td>
<td>1,932,709</td>
<td>0.030%</td>
</tr>
<tr>
<td></td>
<td>Riverside 0</td>
<td>663,166</td>
<td>n/a</td>
</tr>
<tr>
<td></td>
<td>San Bernardino 0</td>
<td>895,016</td>
<td>n/a</td>
</tr>
<tr>
<td></td>
<td>Ventura 0</td>
<td>529,174</td>
<td>n/a</td>
</tr>
<tr>
<td>Scenario 2: M 8.3 San Andrea Event</td>
<td>Los Angeles 20,546</td>
<td>7,477,503</td>
<td>0.300%</td>
</tr>
<tr>
<td></td>
<td>Orange 217</td>
<td>1,932,709</td>
<td>0.010%</td>
</tr>
<tr>
<td></td>
<td>Riverside 0</td>
<td>663,166</td>
<td>n/a</td>
</tr>
<tr>
<td></td>
<td>San Bernardino 0</td>
<td>895,016</td>
<td>n/a</td>
</tr>
<tr>
<td></td>
<td>Ventura 0</td>
<td>529,174</td>
<td>n/a</td>
</tr>
<tr>
<td>Scenario 3: M 5.9 Whittier/Narrows Earthquake</td>
<td>Los Angeles 6,503</td>
<td>7,477,503</td>
<td>0.090%</td>
</tr>
<tr>
<td></td>
<td>Orange 157</td>
<td>1,932,709</td>
<td>0.008%</td>
</tr>
<tr>
<td></td>
<td>Riverside 0</td>
<td>663,166</td>
<td>n/a</td>
</tr>
<tr>
<td></td>
<td>San Bernardino 0</td>
<td>895,016</td>
<td>n/a</td>
</tr>
<tr>
<td></td>
<td>Ventura 0</td>
<td>529,174</td>
<td>n/a</td>
</tr>
</tbody>
</table>

Table 3-16: Population Exposure to Hazardous Materials by County (Seligson et al., 1996)

Note: Only hazardous materials sites in Los Angeles County were considered in the Seligson et al. (1996) study.

Results of a plume modeling for Sanford M. Anderson water treatment plant provide an estimate of the population at risk for the community in case of a hazardous chemical release. Modeling was performed for a worst case scenario and two additional scenarios. Dispersion analysis of the three scenarios considered the following factors: i.) release quantity, ii.) release rate, iii.) topology, iv.) meteorological characteristics of the site. A summary of the dispersion analysis is presented in Table 3-17. The distance to the toxic endpoint was estimated for each scenario and the number of people exposed to chlorine gas was identified (Table 3-18). Several sensitive population centers (Table 3-19) such as, schools, parks, and senior centers were identified within a 0.5 mile radius of the water treatment plant facility. These fell within the zone with the potential of being exposed to toxic chlorine gas in the event of a chemical release due to an earthquake or other incidents.

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Worst-Case</th>
<th>ALT-1</th>
<th>ALT-2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Materials Released</td>
<td>Chlorine</td>
<td>Chlorine</td>
<td>Chlorine</td>
</tr>
<tr>
<td>Type of Material (liquid/gas/liquid under pressure/refrigerated liquid)</td>
<td>Liquid under pressure</td>
<td>Liquid under pressure</td>
<td>Liquid under pressure</td>
</tr>
<tr>
<td>Release Quantity (lb.)</td>
<td>2,000</td>
<td>2,000</td>
<td>2,000</td>
</tr>
<tr>
<td>Parameter</td>
<td>Worst-Case</td>
<td>ALT-1</td>
<td>ALT-2</td>
</tr>
<tr>
<td>-----------------------------------</td>
<td>------------</td>
<td>-------------</td>
<td>-------------</td>
</tr>
<tr>
<td>Type of Release (liquid/gas)</td>
<td>Liquid</td>
<td>Liquid</td>
<td>Liquid</td>
</tr>
<tr>
<td>Release Rate to Outside Air (lb./m)</td>
<td>110</td>
<td>82.5</td>
<td>10</td>
</tr>
<tr>
<td>Release Time</td>
<td>10 minutes</td>
<td>Until empty</td>
<td>Until Empty</td>
</tr>
<tr>
<td>Release Direction</td>
<td>Vertical</td>
<td>Vertical</td>
<td>Horizontal</td>
</tr>
<tr>
<td>Release Temperature (°F)</td>
<td>77</td>
<td>77</td>
<td>77</td>
</tr>
<tr>
<td>Release Pressure (atm)</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Height of release (ft) / (m)</td>
<td>0 / 0</td>
<td>8 / 2.4</td>
<td>0 / 0</td>
</tr>
<tr>
<td>Ambient Temperature (°F)</td>
<td>77</td>
<td>77</td>
<td>77</td>
</tr>
<tr>
<td>Ambient Pressure (atm)</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Relative Humidity</td>
<td>50%</td>
<td>50%</td>
<td>50%</td>
</tr>
<tr>
<td>Stability Class</td>
<td>F</td>
<td>D</td>
<td>D</td>
</tr>
<tr>
<td>Wind Speed (m/s)</td>
<td>1.5</td>
<td>3.0</td>
<td>3.0</td>
</tr>
<tr>
<td>Surface Roughness</td>
<td>Urban</td>
<td>Urban</td>
<td>Urban</td>
</tr>
<tr>
<td>Averaging Time (minute)</td>
<td>N.A.</td>
<td>N.A.</td>
<td>N.A.</td>
</tr>
<tr>
<td>Type of gas (dense/neutrally buoyant)</td>
<td>Dense</td>
<td>Dense</td>
<td>Dense</td>
</tr>
<tr>
<td>Toxic Endpoint Concent. (ppm) / (mg/l)</td>
<td>3 / 0.0087</td>
<td>3 / 0.0087</td>
<td>3 / 0.0087</td>
</tr>
<tr>
<td>Distance to Toxic Endpoint (mile) / (km)</td>
<td>0.9 / 1.4</td>
<td>0.2 / 0.3</td>
<td>0.1 / 0.2</td>
</tr>
</tbody>
</table>

Table 3-17: Dispersion Analysis Summary

<table>
<thead>
<tr>
<th>Scenario</th>
<th>Distance to Toxic Endpoint</th>
<th>Residential Population within the Circle</th>
</tr>
</thead>
<tbody>
<tr>
<td>Worst Case Release</td>
<td>0.9 miles</td>
<td>37,940</td>
</tr>
<tr>
<td>ALT-1: Fuse plug leak inside the building</td>
<td>0.2 miles</td>
<td>583</td>
</tr>
<tr>
<td>ALT-2: Valve leak outside the building</td>
<td>0.1 mile</td>
<td>1</td>
</tr>
</tbody>
</table>

Table 3-18: Estimated Population Data

<table>
<thead>
<tr>
<th>Population Receptor</th>
<th>Address</th>
<th>Type</th>
<th>Distance to Release Point</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hudnall Elementary School</td>
<td>331 W Olive St</td>
<td>School</td>
<td>0.4</td>
</tr>
<tr>
<td>Highland Elementary School</td>
<td>430 Venice Way</td>
<td>School</td>
<td>0.4</td>
</tr>
<tr>
<td>La Tijera Elementary School</td>
<td>1415 N La Tijera Blvd</td>
<td>School</td>
<td>0.5</td>
</tr>
<tr>
<td>Inglewood High School</td>
<td>231 S Grevillea Ave</td>
<td>School</td>
<td>0.4</td>
</tr>
<tr>
<td>George W. Crozier Middle School</td>
<td>151 N Grevillea Ave</td>
<td>School</td>
<td>0.3</td>
</tr>
<tr>
<td>Population Receptor</td>
<td>Address</td>
<td>Type</td>
<td>Distance to Release Point</td>
</tr>
<tr>
<td>---------------------------------------------</td>
<td>----------------------------------</td>
<td>-----------------------</td>
<td>---------------------------</td>
</tr>
<tr>
<td>Training Research Foundation</td>
<td>323 S Eucalyptus Ave</td>
<td>Preschool</td>
<td>0.4</td>
</tr>
<tr>
<td>First Lutheran Pre-School</td>
<td>600 W Queen St</td>
<td>Preschool</td>
<td>0.4</td>
</tr>
<tr>
<td>Village Preschool</td>
<td>434 S Grevillea Ave</td>
<td>Preschool</td>
<td>0.5</td>
</tr>
<tr>
<td>Training Research Foundation</td>
<td>400 W Beach Ave</td>
<td>Daycare</td>
<td>0.2</td>
</tr>
<tr>
<td>Jordan Day Care</td>
<td>200 W Queen St</td>
<td>Daycare</td>
<td>0.2</td>
</tr>
<tr>
<td>Inglewood Avenue Preschool</td>
<td>215 S Inglewood Ave</td>
<td>Daycare</td>
<td>0.3</td>
</tr>
<tr>
<td>Kid’s Castle Child Care Center</td>
<td>745 N La Brea Ave</td>
<td>Daycare</td>
<td>0.4</td>
</tr>
<tr>
<td>Sunshine Day Care Center</td>
<td>504 Edgewood St</td>
<td>Daycare</td>
<td>0.5</td>
</tr>
<tr>
<td>Youth &amp; Family Center Infant</td>
<td>401 S Inglewood Ave</td>
<td>Daycare</td>
<td>0.5</td>
</tr>
<tr>
<td>Village Preschool</td>
<td>434 S Grevillea Ave</td>
<td>Daycare</td>
<td>0.5</td>
</tr>
<tr>
<td>Westchester Villa Retirement</td>
<td>220 W Manchester Blvd</td>
<td>Long Term Health</td>
<td>0.3</td>
</tr>
<tr>
<td>Eucalyptus Park Apartments</td>
<td>811 N Eucalyptus Ave</td>
<td>Long Term Health</td>
<td>0.4</td>
</tr>
<tr>
<td>Wells Guest Home</td>
<td>111 S Oak St</td>
<td>Long Term Health</td>
<td>0.4</td>
</tr>
<tr>
<td>Regency Towers</td>
<td>151 N Locust St</td>
<td>Long Term Health</td>
<td>0.5</td>
</tr>
<tr>
<td>Inglewood Meadows</td>
<td>1 S Locust St</td>
<td>Long Term Health</td>
<td>0.5</td>
</tr>
<tr>
<td>Rogers Park</td>
<td>400 W Beach Ave</td>
<td>Park</td>
<td>0.1</td>
</tr>
<tr>
<td>Inglewood Recreation Park</td>
<td>1 W Manchester Blvd</td>
<td>Park</td>
<td>0.3</td>
</tr>
</tbody>
</table>

Table 3-19: Sensitive Population Receptors within 0.5-Mile Radius
3.5.3.2 Hazmat release risk from transportation accidents

According to national level data, HAZMAT transportation has the lowest probability of death per person exposed (The national probability of accidental death during HAZMAT transportation/shipment from Hazardous Materials Incident Data, Department of Transportation, Pipeline and Hazardous Materials Safety Administration is presented in Appendix K Table 1). Although the countywide study and national statistics on accidental death due to HAZMAT transportation does not specifically identify the impact on the City of Inglewood facilities, it does underscore the significance of a hazmat release incident, which has a potential to impair city operations, cause widespread resource problems and impede recovery from a disaster.

3.5.4 Human Threat Events/ Terrorism

The methodology for assessing vulnerability and calculating risk from human threats/terrorism events is based on a US Department of Justice report (2005) and involves the following tasks: critical infrastructure and key asset inventory, criticality assessment, threat assessment, vulnerability assessment, risk calculation and counter measure identification. A qualitative approach is taken to perform this assessment due to the subjective nature of some of the tasks. Assessments as such rely on the intimate knowledge of the City of Inglewood law enforcement and other agency professionals to gauge the importance of potential targets and consequences of an attack.

Based on our review of City of Inglewood’s profile, community input and discussion with ATF the following infrastructure were identified as critical assets of the community and deemed extremely important for public safety and health, national security, and retaining public confidence. As such, we analyze the threat level and vulnerability of each asset and provide some idea of consequences in case of a terrorism event.

3.5.4.1 High Density Population Targets

The Forum and the Hollywood Park Casino are locations that draw large crowds on a regular but not a daily basis. An essential part of the vulnerability assessment is considering the consequence of life loss or serious damage to important infrastructure systems and these are of paramount concern to law enforcement personnel. As such, these high density population locations are of extreme criticality. Although there have been no known credible threats against these particular locations, these are still considered vulnerable assets.

3.5.4.2 Lifeline Targets

Utility lifelines such as water storage tanks and water treatment plants are critical for sustaining households and businesses, but are less threatening to life safety if targeted by terrorists. There are health impacts if these are contaminated by biological agents. As such, these vulnerable assets need to be secured.
4.0 Capability Assessment

The City of Inglewood strives to protect and maintain the health, safety and welfare of the community on a day-to-day basis, and takes extra measures to reduce the impacts of natural or technological hazards. The City can use a variety of different tools, assets, and authorities to effectively prepare for, mitigate against, respond to and recover from emergencies and disasters. These include voluntary and mandatory measures; individual and community efforts; private and public actions; and preventive as well as responsive approaches. Example mitigation activities include educating citizens, enforcing building and development codes, constructing capital improvement projects, adopting plans, establishing incentive programs, and improving emergency preparedness and response.

The capabilities available to the City of Inglewood fall into the following broad categories: Agencies and People, Plans, Codes and Regulations, Programs and Mitigation Activities, and Financial Resources. Identifying and documenting these capabilities provides the basis for developing future mitigation opportunities and how they can be implemented within existing City programs.

4.1 Agencies and People

4.1.1 City of Inglewood

<table>
<thead>
<tr>
<th>Department</th>
<th>Role in Disaster Mitigation and Management</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mayor and City Council</td>
<td>• Adopts polices, codes and standards and approves plans.</td>
</tr>
<tr>
<td></td>
<td>• Comprise the Disaster Council</td>
</tr>
<tr>
<td>Civil Defense and Disaster Council</td>
<td>• Authorized by City Code, Chapter 2, Article 3</td>
</tr>
<tr>
<td></td>
<td>• Oversees the Emergency Operations Organization</td>
</tr>
<tr>
<td>City Administrator</td>
<td>• Director of the Civil Defense and Disaster Council</td>
</tr>
<tr>
<td>Emergency Operations Organization</td>
<td>• Includes all agencies of City government</td>
</tr>
<tr>
<td></td>
<td>• Integrates City departments into a response organization</td>
</tr>
<tr>
<td>Department</td>
<td>Role in Disaster Mitigation and Management</td>
</tr>
<tr>
<td>------------------</td>
<td>--------------------------------------------</td>
</tr>
</tbody>
</table>
| Police           | • Chief of Police is Assistant Director of Disaster Council  
|                  | • Assigned to Operations Section in EOC  
|                  | • Communications Section houses Communications Center and Emergency Operations Center  
|                  | • Administrative Services is Disaster Management Grant Coordinator  
|                  | • Coordinates CERT Program  
|                  | • Specially trained canines, enforcement units, forensics investigators, bike team, public relations, fiscal recruitment, vice and narcotics.  
|                  | • Maintains (2) mobile command centers  
|                  | • Back-up communications system, satellite communications, emergency cellular network  
|                  | • Mutual aid agreements  
| Public Works     | • Provides leadership, planning, and administration of all public works programs, including engineering for capital projects; traffic control and parking operations; maintenance of municipal buildings, public streets, sanitary sewers and storm drains; water treatment and transportation; maintenance of fixed and rolling equipment; and contract administration for all major facilities  
|                  | • Assigned to Operations & Logistics Sections in EOC  
|                  | • Public Works Director is the designated Floodplain Administrator  
|                  | • Provides earthquake tips on department webpage  
| Engineering      | • Issues road related construction and excavation permits  
|                  | • Reviews subdivision maps  
|                  | • Cleans, maintains and repairs public sewer mains  
| GIS              | • Collects, maintains and provides digital mapping services  
| Traffic & Transportation | • Operates and maintains traffic management center and intersection monitoring cameras, traffic signals, street closures and barricades, and emergency routes  
| Water Works      | • Provides potable water for consumption and fire protection; maintains reservoirs.  

<table>
<thead>
<tr>
<th>Department</th>
<th>Role in Disaster Mitigation and Management</th>
</tr>
</thead>
<tbody>
<tr>
<td>Residential Sound Insulation</td>
<td>• Responsible for the Aircraft Noise Mitigation Program which offers sound insulation at no cost to residents living in neighborhoods with a recorded Community Noise Equivalent Level (CNEL) of 65 decibels (dB) and higher.</td>
</tr>
<tr>
<td>Community Development</td>
<td>• The Community Development Department provides professional redevelopment services, administers the City's subsidized housing program, and offers a number of commercial and residential assistance programs.                                                                                                                                                                                                                   • Assigned to Planning &amp; Operations Sections in EOC</td>
</tr>
<tr>
<td>-Redevelopment</td>
<td>• revitalizes blighted sections of Inglewood that have been designated as &quot;Redevelopment Project Areas&quot;</td>
</tr>
<tr>
<td>-Planning</td>
<td>• General Plan, land use regulations, environmental assessments,</td>
</tr>
<tr>
<td>-Building and Safety</td>
<td>• regulates construction and occupancy of all residential, commercial and industrial buildings in order to ensure life, fire and health safety • conducts post-disaster safety assessments • coordinates mitigation programs                                                                                                                                                                                                                                  • manages housing assistance vouchers and rent subsidy programs, and ensures that contracted housing meets habitable standards</td>
</tr>
<tr>
<td>-Housing</td>
<td></td>
</tr>
<tr>
<td>Information Technology &amp; Communications</td>
<td>• Leads and supports the City of Inglewood in the appropriate application of existing and emerging information technologies. Proactively identifies and defines opportunities in technology that will enhance and automate operations, provides desktop technical support, systems analysis and implementation, telecommunication services and support, data center operations and support, and print shop services. • Assigned to Logistics Section in EOC</td>
</tr>
<tr>
<td>-Telecommunications Div.</td>
<td>• Responsible for all voice-related services for the City</td>
</tr>
<tr>
<td>Parks, Recreation &amp; Community Services</td>
<td>• Maintains city parks and organizes youth, adult and senior cultural programs • Assigned to Operations &amp; Logistics Sections in EOC • Responsible for Weed and Waste Abatement Program</td>
</tr>
</tbody>
</table>

Table 4-1: City Departments and Staff Involved in Disaster Management
4.1.2 Los Angeles County

Los Angeles County Fire Department

The City of Inglewood contracts with the Los Angeles County Fire Department for fire services including fire suppression, hazardous materials protection, emergency medical treatment, earthquake and fire safety planning, fire inspection and building plan review. The Los Angeles County Fire Department is designated as the Administering Agency for hazardous materials for the County. The Los Angeles County Fire Chief is designated as the Mutual Aid Region I Coordinator during major emergencies and is primarily responsible for the overall coordination and dispatch of mutual aid fire and rescue resources.

Los Angeles County Department of Health Services

Health services are provided to the City of Inglewood by the Los Angeles County Department of Health Services. The mission of the Department of Health Services (DHS) during disaster response conditions is to provide for the medical and health needs of the population of the Los Angeles County Operational Area by organizing, mobilizing, coordinating and directing public and private medical and health resources. The Director of Health Services, as the Operational Area Coordinator, is responsible for the countywide management and allocation of medical and health resources, both public and private. The Department also provides and coordinates public health services during disaster response conditions. Public health services may include preventive health services, including the control of communicable diseases, coordinating inspection of health hazards in damaged buildings, inspection of vital foodstuffs, water, drugs, and other consumables, mosquito and other vector control, and detection and identification of possible sources of contamination dangerous to the general physical and mental health of the community.  

4.1.3 Non-Governmental Organizations

Inglewood/Airport Area Chamber of Commerce

The Inglewood/Airport Area Chamber of Commerce's Team is made up of big business and small business people. Its roster includes representation from all sectors of the Inglewood/Airport Area business community. The Chamber of Commerce is an action agency designed to meet community or area needs. It is a voluntary organization of individuals and businesses who band together to advance the commercial, financial, industrial and civic interests of a community or area. Among other things it is a civic clearinghouse, a public relations counselor, legislative representative at the local, state and national levels of government, an information bureau, and a research and promotion medium. The Chamber holds monthly meetings, special events, and publishes a monthly
newsletter. These activities provide an opportunity for emergency management outreach and education. For example, a recent newsletter included an article on appropriate ways to dispose of hazardous waste and toxic materials.

**Partners for Progress**

Inglewood Partners for Progress is a non-profit marketing cooperative established in 1993 by the city and its largest employers. Its mission is to enhance Inglewood’s image as an exciting destination for shopping, sports and entertainment, and a world renowned center for medical services. Members include: Hollywood Park Land Company, Hollywood Park Casino, Centinela Hospital Medical Center, City of Inglewood, the Forum, Inglewood/Airport Area Chamber of Commerce, Inglewood Park Cemetery and Los Angeles World Airports.  

**American Red Cross of Greater Los Angeles**

Established on Oct. 2, 1916, the American Red Cross of Greater Los Angeles is the second largest chapter in the nation. Serving more than 36 cities and a number of unincorporated areas, covering more than 1,600 square miles, the Los Angeles Red Cross provides the following disaster related services: disaster response and disaster assistance; health and safety education; health and safety and disaster training classes. Their website provides a wealth of information related to preparing for, and responding to emergencies and disasters.  

**Faithful Central Bible Church**

The City of Inglewood partners with the Faithful Central Bible Church in several ways. The Forum, which is owned by the Church is a designated emergency shelter. The Church is also working with the City to hold an Emergency Preparedness Fair at the Forum, which will hopefully become an annual event.

**Homeowners Associations**

Homeowner associations can contribute significantly to reducing disaster risk. The City of Inglewood Police Department coordinates emergency preparedness activities with homeowner associations and neighborhood groups. Many homeowner associations and neighborhood block groups have participated in the CERT training and are working on developing their emergency response plans.

**4.2 Plans**

The City of Inglewood has numerous plans that address disaster management. These plans define important City policies and support the ordinances and activities described below. Some of them directly relate to hazard mitigation, such as the Public Safety Element of the General Plan. Others focus on different aspects of disaster management such as emergency response. Still others do
not focus directly on disaster issues but have implications that are relevant to hazard mitigation, such as plans related to spending on public facilities and storage of hazardous materials. This section reviews City plans and highlights the elements that are relevant to disaster mitigation and can support future implementation of mitigation actions identified in this plan.

4.2.1 The General Plan

All cities and counties in California are required to adopt a General Plan that lays out major policy goals. The General Plan includes elements, which are sections that address a variety of important topics. The element most closely related to this Hazard Mitigation Plan is the Safety Element, which focuses on reducing risks posed by natural and technological hazards and other human caused emergency events. Other elements also provide guidance relevant to mitigation, including the Land Use, Open Space, Conservation, Housing, Transportation, and Noise elements. For example, the Land Use Element restricts land uses and density in hazardous areas, thereby limiting the number of people and buildings exposed to hazards. The City of Inglewood is currently updating its General Plan.

4.2.2 The Public Safety Element

The aim of the Public Safety Element is to reduce the potential risk of death, injury, property damage, and economic and social dislocation resulting from fires, floods, earthquakes, landslides, and other hazards. The Safety Element identifies all significant hazards and risks in a community and defines policies to mitigate and respond to those risks. The Safety Element is currently being updated along with the City General Plan.

4.2.3 City of Inglewood Consolidated Plan

The Consolidated Plan is a three-year strategic implementation plan that identifies the housing and community development needs of the City of Inglewood and allocates resources to address the needs of very low- to moderate-income residents. It outlines an implementation strategy to address those needs and permits the targeting of funds received from the U.S. Department of Housing and Urban Development (HUD), such as Community Development Block Grants (CDBG), the Home Investment Partnership Act (HOME), and Emergency Shelter Grant (ESG) funds to mitigate identified needs. HUD's program goals include: removing slum and blighted conditions, serving the needs of very low to moderate income persons; and alleviating urgent needs in federally declared disaster areas.
4.2.4 Capital Improvement Program (CIP)

The CIP outlines the annual appropriations in the City's budget for capital improvement projects such as street or park improvements, building construction, and various kinds of major facility maintenance. Capital improvement projects are supported by a three-year expenditure plan, which details funding sources and expenditure amounts. They are often multi-year projects, which require funding beyond the one-year period of the annual budget. The 2008-2009 CIP includes several seismic retrofit projects for critical city-owned structures: City Hall, Police Department, and Library.

4.2.5 Urban Water Management Plan

The Inglewood City Council adopted the 2005 update of the Urban Water Management Plan on January 10, 2006. The purpose of the document is to review current and future water resources, and to establish and maintain water conservation programs.

4.2.6 Emergency Operations Plan

The City of Inglewood produced an Emergency Response Plan to comply with the Standardized Emergency Management System (SEMS) that was developed by the State of California, and the National Incident Management System (NIMS) that was developed by the Federal Emergency Management Agency. The plan includes information on the Emergency Operations Organization (EOO), the roles and responsibilities of each section, and includes operational checklists to guide response actions.

4.2.7 Mutual Aid Agreements

Inter-jurisdictional arrangements to assure public safety, protection and other assistance services today generally are in the form of “mutual aid” agreements. Mutual aid and other agreements provide for voluntary cooperative efforts and for provision or receipt of services and aid to or from other agencies or jurisdictions when local capabilities are exceeded by an emergency event. Through mutual aid agreements, the EOO and individual City agencies coordinate emergency response planning with adjacent cities, the County of Los Angeles, the State, federal agencies and other public and private organizations, such as the School Districts and the American Red Cross. The California Emergency Management Agency (CalEMA) is designated by law to provide coordination and State resources to regions or local areas that are declared disaster areas by the Governor. The City is in Area G of the Southern Region of the state Mutual Aid emergency management areas.
4.2.8 Terrorism Response Plan

The City of Inglewood does not have a stand-alone terrorism response plan, but rather coordinates and is assigned responsibilities under the Los Angeles County and the Los Angeles International Airport Terrorism Plans.

4.2.9 Inglewood Unified School District: Comprehensive Safety Plan

The IUSD board recognizes that students and staff have the right to a safe and secure campus where they are free from physical and psychological harm. Each principal or designee is responsible for the development of a site-level safety plan, in accordance with law, tailored to the specific concerns of each school. The plans take into account the school’s staff, available resources, and building design, as well as other factors unique to the site. The school safety plan is required to be reviewed and updated annually by March 1 of each year. New school campuses are required to develop a safety plan within one year of initiating operations.

4.3 Codes & Regulations

The City has adopted codes and regulations to govern development, construction and land use activities. They include construction standards, siting requirements, use limitations, study requirements and mitigation requirements which help directly or indirectly minimize the exposure of people and property to loss or injury resulting from disasters. As such, they are an effective tool and capability which the City may continue to use to reduce the amount of damage or harm arising from disasters. This plan provides an opportunity to review existing regulations to determine if they are effective or whether they need to be revised in certain areas to more adequately prevent loss or injury from disasters.

4.3.1 Zoning Regulations

Chapter 12, Article 1, Section 12-2, of the Municipal Code defines the use of land and buildings, the height, bulk, location of structures, the amount of open space and the density of population by establishing zone classifications.

4.3.2 Subdivision Regulations

The City subdivision regulations are outlined in Chapter 12, Article 22 of the Municipal Code. The ordinance establishes standards to regulate the division and merger of land, defines minimum lot sizes, densities and development standards, and regulates land use in hazardous areas.
4.3.3 Building Code


4.3.4 Earthquake Hazard Reduction in Existing Buildings

Chapter 11, Article 13, of the Municipal Code was adopted to comply with the requirements of Senate Bill 547, the Unreinforced Masonry Building Act. The purpose of the Article is to promote public safety and welfare by reducing the risk of death or injury that may result from the effects of earthquakes on unreinforced masonry bearing wall buildings constructed prior to 1934 or any unreinforced masonry building located in the City of Inglewood. Such buildings have been widely recognized for sustaining life-hazardous damage, including partial or complete collapse during moderate to strong earthquakes. This Article provides systematic procedures and standards for identification and classification of unreinforced masonry bearing wall buildings based on their present use. Priorities, time periods and standards are also established under which these buildings are required to be structurally analyzed and anchored. Where the analysis finds deficiencies, this Article requires the building to be strengthened or demolished. Qualified Historical Buildings shall comply with the State Historical Building Code (SHBC) established under Part 8, Title 4 of the California Administrative Code.

4.3.5 Los Angeles County Fire Code

Chapter 6, Article 1 of the Municipal Code adopts the Los Angeles 2000 Fire Code as the Fire Code of the City of Inglewood. Los Angeles County has adopted the 2007 Fire Code and the City of Inglewood is scheduled to adopt the updated code in the near future.

4.3.6 Hazardous Material Inventory and Emergency

Chapter 6, Article 2, Sections 6-5 of the Municipal Code designates the Fire Department of Los Angeles County as the administering agency for the implementation of the hazardous material inventory and emergency response program within the City of Inglewood. It requires the Fire Chief to enforce the provisions of the California Hazardous Materials Release Response Plans and Inventory Law; and prepare supplemental regulations from time to time to facilitate such enforcement.
4.3.7 Urban Runoff Pollution Control

Chapter 10, Article 16, Section 10-202 of the Municipal Code addresses water quality and stormwater runoff. The purpose of this Article is to protect and improve water quality of receiving waters by prohibiting illicit discharges to the municipal separate storm sewer system (MS4); detecting and eliminating illicit connections to the municipal storm water system; reducing pollutants in storm water discharges to the MS4 from sources, including but not limited to, construction sites, development and redevelopment projects, commercial establishments, industries, and any other source of storm water and non-storm water runoff pollution over which the City has control.

4.3.8 Floodplain Management Regulations

Although the City of Inglewood does not currently lie in any mapped floodplain areas as defined by the Federal Emergency Management Agency, the City has adopted floodplain management regulations in Chapter 10, Article 15 of the Municipal Code. The purpose of the article is to promote the public health, safety, and general welfare and to minimize public and private losses due to flood conditions in specific areas.

4.3.9 Civil Defense and Disaster Regulations

Chapter 2, Article 3, Section 2-47 of the Municipal Code establishes the Emergency Operations Organization. The code defines the Civil Defense and Disaster Organization of the City as (1) all officers and employees of the City; (2) all volunteer forces enrolled to aid them during a disaster; and (3) all groups, organizations and persons who may by agreement or operation of laws be charged with duties incident to the protection of life and property in the City during such disaster. Subsequent sections of the code define the organizational duties and functions of the EOO, and the responsibilities and emergency powers of its Director.

4.4 Mitigation Projects and Programs

4.4.1 City of Inglewood Home Page

The City’s Home Page Website maintains information on Emergency Preparedness and provides links to other organizations with additional information.

4.4.2 CERT

The CERT Program is designed to train residents to assist safety personnel and City staff in the event of a major disaster. Volunteers from the community are trained in first aid, light search and rescue, minor fire suppression, and other
skills that are critical in the first few hours of a disaster. The Inglewood Police Department is the City contact point for CERT training. Trainings are conducted by the Los Angeles County Fire Department.

### 4.4.3 Seismic Evaluation of Critical Facilities

The City of Inglewood has conducted seismic evaluations of the City Hall and the City Services Center to determine the level of seismic retrofit necessary to protect life and safety during an earthquake event. The reports recommend several areas of seismic retrofit required to meet Life Safety Building Performance Level 3-C as set forth in FEMA 386 (Pre-standard and Commentary for the Seismic Rehabilitation of Buildings). The evaluations are based on ground shaking criteria only and do not address damage that could be caused by fault rupture. Additional evaluations will address ground rupture.

### 4.4.4 Unreinforced Masonry Building Retrofit Program

In 1986, Senate Bill 547 was signed by the governor, requiring local jurisdictions to address the life safety risks posed by unreinforced masonry (URM) buildings that were constructed before the adoption of seismic-resistant buildings codes. Local governments were mandated to inventory the number of URM buildings in their jurisdiction, to notify owners regarding the expected performance of these buildings, and were urged to adopt programs to strengthen those buildings.

In response to the state mandate, the City created an inventory of 56 URM buildings that met the criteria outlined in the state legislation. The City adopted a mandatory strengthening program similar to Division 88 of the City of Los Angeles Code, and codified it by ordinance in the Municipal Code, Chapter 11, Section 11-2, Article 13. As an incentive to building owners to complete the mitigation projects, the City reimbursed up to $3,000 of the cost of engineering studies, 100% of plan check fees, permits and taxes, using redevelopment money. The 2006 report issued by the California Seismic Safety Commission on the status of the program indicates the City achieved a mitigation rate of 98%, with 51 buildings in compliance with the retrofit ordinance, 1 under construction, and 4 buildings demolished.

### 4.4.5 Tilt-up Retrofit Program

Although the City does not have a mandatory retrofit program for tilt-up buildings, it encourages owners to retrofit those buildings that do not meet current codes. The City estimates that 15% of the approximately 300 tilt-up buildings have been voluntarily retrofit.

### 4.4.6 Aircraft Noise Mitigation Program

The City of Inglewood's highly popular Residential Sound Insulation Program is making great strides in its campaign to reduce the impact of aircraft noise on
homes under the flight path of Los Angeles International Airport. This is achieved through the attainment, coordination and management of grant funds provided by the Federal Aviation Administration and Los Angeles World Airports and with these funds the implementation of the Aircraft Noise Mitigation Program.

4.4.7 Point of Dispensing Sites (POD)

In March 2008, City Council accepted Urban Area Security Initiative grant funds in the amount $30,000 for developing Point of Dispensing (POD) sites at various locations within the City. In the event of an incident that threatens public health, the sites will be opened for mass prophylaxis distribution. Five POD sites have been identified in the City: The Forum, Rogers Park, Veterans Memorial Center, Darby Park, and Morningside High School. If a site is opened, the Police Department will coordinate efforts with the L.A. County Department of Health Services. Each site is capable of distributing medication to at least 1000 people per hour.

4.5 Financial Resources

4.5.1 General Fund Sources

The City of Inglewood relies on several major revenue sources that account for approximately 90% of the General Fund budget, including: Utility User Taxes, Property Taxes, Sales Taxes, Motor Vehicle-in-Lieu Tax, Business License Tax, Vehicle Code Fines, Card Club License fees, Parking Fines, Transient Occupancy Tax, Permits and Fees, and the Pari-Mutuel Tax.15

Utility User Tax (UUT): Utility taxes of 10% are levied on consumption of electricity, gas, water, telephone and cable television services within the City of Inglewood.

Property Taxes: The County of Los Angeles levies a tax of 1% on the assessed valuation of property within the County. The City of Inglewood receives approximately a 14% share of this 1% levy for property located within the City limits.

Sales Taxes: The City of Inglewood receives a 1% share of all taxable sales generated within its borders. In addition to this 1% share, the City receives a portion of an additional Statewide voter-approved 1/2% sales tax amount, which is dedicated for public safety purposes.

Measure IT Sales Tax: A 2006 City of Inglewood voter approved special one-half cent use tax from sales for vital city services.

Motor Vehicle-In-Lieu Tax: The State Revenue and Taxation code imposes an annual license fee of 2% of the market value of motor vehicles in lieu of a local

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motor vehicle property tax. Each city's property tax in-lieu of Vehicle License Fees (VLF Adjustment Amount) grows at the same annual rate as the city's gross assessed property.

Business License Tax: Any business that requires Permits and Licensing Committee approval must obtain a Business License. The different types of businesses are grouped by categories and each category has a separate application fee, which must be paid yearly. Annual fees range from $25.00 to $2,500, depending on the category of business. Businesses involving potential safety hazards are charged at the $50.00 rate.

Card Club License Fees: A voter-approved card club opened at Hollywood Park in July of 1994. The City receives a percentage of the revenues generated by the card club, on a monthly basis.

Parking Fines: The City of Inglewood employs special enforcement officers to ensure adherence to City parking regulations. These officers issue citations for various parking violations. These violations can be paid directly to the City, paid at DMV renewal periods, collected through liens on state income tax refunds and received as a result of court action.

Transient Occupancy Tax: Transient occupancy taxes are assessed on hotel and motel room rentals within the City of Inglewood at a rate of 14%.

Vehicle Code and Related Fines: The City instituted a program of red light camera enforcement program fiscal year 2004 at selected city intersections. This revenue is combined with other vehicle code enforcement revenues.

Pari-Mutuel Tax: The City of Inglewood receives 1/3 of 1% of all pari-mutuel wagering revenue at Hollywood Park.

4.5.2 Permits & Fees City Services

The City of Inglewood currently issues permits and collects fees for services under the procedures in the State Constitution, and the laws enacted since Proposition 13 and Proposition 168 requiring votes of the electorate on new taxes. Fees and permits under this section are not taxes, and the amount collected cannot exceed the costs of those services.

4.5.3 Capital Improvement Plan

Several seismic retrofit projects are included in the City of Inglewood 2008-2009 Capital Improvement Plan.

City Hall Renovations - Civic Center Complex: This project will provide funds to upgrade the City Hall to meet American Disabilities Act (ADA) requirements,
perform seismic retrofitting, repair and/or replace elevators, enhance security, and various other design and aesthetic improvements. The project also includes some funding for improvements and retrofitting of Parking Structure #1 and the City Service Center. (Estimated Cost: $9,581,926)

Police Department Renovations - Civic Center Complex: This project will provide funding for necessary repairs and improvements required immediately to the existing Police Facility. Improvements include jail facility renovation, creation of additional useable space in the Police Department utilizing the patio area, roof repairs, air conditioning, lighting, flooring and electrical distribution upgrades. The project also includes funding for planning and specifications for a new Police Facility. (Estimated Cost: $1,000,000)

Library Building Renovations - Civic Center Complex: This project will provide funds to upgrade the Inglewood Main Library building to meet ADA requirements, perform seismic retrofitting, repair and / or replace elevators, and various other design improvements. (Estimated Cost: $1,000,000)

4.5.4 Special Assessment Districts

A special assessment district is a compulsory levy made against certain properties to defray all or part of the cost of a specific capital improvement or service deemed to benefit primarily those properties. The City currently has several special assessment districts including: lighting, Darby-Dixon, Morningside, and In-Town.

4.5.5 Federal Funding Sources

Hazard Mitigation Grant Program (HMGP): This FEMA administered program provides grants to states and local governments following a presidential disaster declaration. The funds can be used to implement long-term hazard mitigation measures. According to the Disaster Mitigation Act of 2000, communities must have a Local Hazard Mitigation Plan (LHMP) approved to receive HMGP funds after May 1, 2005. Funds will be granted only to projects that conform to local and state mitigation plans. Federal grant funds can provide 75% of a project’s total cost; other sources must provide 25% matching funds. After any federally declared disaster, up to 20% of the amount spent by FEMA on disaster response and relief costs is made available in the form of HMGP grants to communities in the affected state. The City of Inglewood applied for a grant to seismically retrofit City Hall and the Police Building under a special Statewide Program offered in 1998, however there were not enough funds in the program for these projects. The Inglewood Unified School District was awarded $1.7 million in HMGP funds following the Northridge Earthquake for the non-structural retrofit of ceilings and light fixtures.
Pre-Disaster Mitigation Program (PDM): FEMA developed the PDM program to coincide with the requirements of the Disaster Mitigation Act of 2000 that requires communities to prepare local hazard mitigation plans, such as this plan. Funds are authorized by Congress on an annual basis for PDM competitive grants, technical assistance and program support. FEMA grants can fund 75 percent of a project; other non-federal sources must provide 25 percent matching funds. Funds are only granted to communities with an approved LHMP, and supported projects must be identified in those plans. Preparation of this plan was aided by a PDM grant awarded to the City in 2007.

Community Development Block Grants: Block grants are administered by the Department of Housing and Urban Development to fund housing, economic development, public works, community facilities and public service activities serving lower income people. These funds can be used for mitigation works. CDBG funds are considered local funds once they are received, and thereby are eligible to provide the 25 percent local match required for receipt of the HMGP funds.

Assistance to Firefighter Grant Program: The purpose of these grants is to assist state, regional, national or local organizations to address fire prevention and safety. Funds can be used to purchase equipment or fund planning, vegetation management and other preparedness activities. These grants are administered by the Office for Domestic Preparedness and the U.S. Fire Administration, both part of the Department of Homeland Security. Communities must match the federal grant with a 30 percent contribution.

Emergency Operations Center Grant: The purpose of the Emergency Operations Center (EOC) Grant is to provide funding for construction (up to $1 million) or renovation (up to $250,000) of state, local or tribal level EOCs based on identified deficiencies and needs.

Hazardous Materials Emergency Preparedness Grant: U.S. Department of Transportation HMEP Grant for the development, improvement, and implementation of hazardous material emergency plans, as well as exercises that test the emergency plans, hazards analysis, response procedures for hazardous material emergencies.

There are other federal programs that support emergency and rebuilding costs in communities, such as FEMA’s Public and Individual Assistance Programs which are activated following federally declared disasters. These funds primarily support repair projects, but may also include the cost of code upgrades or other mitigation measures as part of the repair if they are cost effective.
4.5.6 State Funding Sources

The state has a variety of programs that can fund or subsidize local mitigation projects. Some important funding organizations and programs are listed below.

- CalTrans, for evaluating and strengthening local bridges
- Infrastructure State Revolving Fund, provides low-cost financing for some infrastructure projects
- Proposition 50 funds, administered by the Water Resources Control Board, for a variety of water projects
- Clean Water State Revolving Fund, low-interest loans related to water treatment

Seismic Safety New Construction Exclusions: The State Revenue and Taxation Code was amended in 2001 to provide property tax relief to property owners who undertake seismic retrofit projects. Sections 70(d) provides a 15-year new construction exclusion for improvements to unreinforced masonry buildings undertaken to comply with local ordinances on seismic safety. If the property changes ownership during the 15-year period, a new base value must be established and enrolled for the entire property. Section 74.5 provides a new construction exclusion for seismic retrofitting improvements and improvements utilizing earthquake hazard mitigation technologies for existing structures other than unreinforced masonry buildings. When a property changes ownership it must be reappraised at its current full cash value.\[^{16}\]

The new construction exclusion removes one of the financial disincentives for property owners to make seismic improvements to their buildings by allowing that portion of the construction or remodeling project to be exempt from a reappraisal and increase in property taxes for the specified period of time. This is critical to the successful implementation of locally mandated ordinances, where costly seismic retrofit projects will provide an increased measure of life safety, but not necessarily an increase in market value of the property.

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\[^{10}\] Los Angeles County All-Hazard Mitigation Plan
\[^{11}\] Inglewood Chamber of Commerce website: http://www.inglewoodchamber.com/about_chamber.asp
\[^{12}\] Partners for Progress website: http://www.inglewoodnow.com/home/index.htm
\[^{13}\] American Red Cross of Greater Los Angeles website: http://redcrossla.org/howwehelp/
\[^{14}\] City of Inglewood Consolidated Plan Executive Summary 2001-2004
\[^{15}\] City of Inglewood 2008-2009 Annual Budget
\[^{16}\] Chapter 330, Statutes of 2001, Revenue and Taxation Code section 70(d) and 74.5
5.0 Mitigation Strategies

The City of Inglewood mitigation strategy is derived from the in-depth review of the existing vulnerabilities and capabilities outlined in previous sections of this plan, combined with a vision for creating a disaster resistant and sustainable community for the future. This vision is based on informed assumptions, recognizes both mitigation challenges and opportunities, and is demonstrated by the goals and objectives outlined below. The mitigation measures identified under each objective are prioritized by the Local Planning Team and the Advisory Task Force and include an implementation plan for each measure. The measures were individually evaluated during discussions of mitigation alternatives using the elements of the STAPLEE components (Social, Technical, Administrative, Political, Legal, Economic, Environmental) and the conclusions used as input when priorities were decided (See Section 5.4 below). All priorities are based on consensus of the Local Planning Team and Advisory Task Force.

Mitigation measures are categorized generally for all hazards and specifically for the three high risk hazards facing the City that were extensively examined in the risk assessment section: earthquakes, hazmat releases, and human threat events/terrorism. Because mitigation strategies are required to include the community’s involvement in the National Flood Insurance Program (NFIP), that is discussed in Section 5.6 at the end of this section.

5.1 Assumptions, Challenges and Opportunities

5.1.1 Priority Hazards

The hazard identification and risk assessment process detailed in Section 3 of this Plan clearly identifies the earthquake risk as the single natural hazard that has the most potential for causing major damage and disruption to the City of Inglewood. Although other natural hazards, including flooding, wildland fire, and landslides were considered, none were found to pose a significant risk to the community. The City does not lie in a designated flood zone as mapped by the Federal Emergency Management Agency, nor does it lie in a mapped wildland/urban interface area or a high fire hazard severity zone as mapped by the California Department of Forestry and Fire Protection. Earthquakes present both the greatest challenge and the greatest opportunity for cost effective mitigation in the City of Inglewood.

The two other hazards identified through the hazard identification screening process as high priority hazards to be addressed in this Plan are man-made hazards. Hazmat releases, particularly the potential for multiple releases that could be triggered by a seismic event, the proximity to LAX and adjacent industrial areas, and the threat of a chlorine gas release from the water treatment plant led the community to perceive hazmat release as a high priority hazard. The potential for human threat/terrorism events, in light of 9/11, and the proximity to LAX which has received credible terrorism threats in the past made this a high priority hazard for the community. Because the City
of Inglewood does not have responsibility for or ownership of facilities that pose the threat, the opportunities for City initiated mitigation measures are limited. Therefore the mitigation measures included in this Plan focus on prevention and preparedness initiatives.

5.1.2 Buildings and Infrastructure

The cornerstone of mitigation in the City of Inglewood is to ensure all construction is properly sited and built. This is best accomplished through the City’s land use, zoning, and building code requirements. As outlined in the previous section, City codes for new construction are consistent with the state building code. Code upgrades triggered by remodeling and rehabilitation projects will gradually improve the existing building stock’s resilience to earthquakes, landslides, and/or fires. Implicit in this plan is the assumption that the City will continue to enforce the existing policies, plans, and codes, thus limiting vulnerability of new development and redevelopment.

The greatest challenge the City faces in mitigating the impacts of future natural hazard events lies in the vulnerability of its existing public and private buildings and infrastructure to the earthquake hazard. The City Administrative Center, including City Hall, which also houses the data center and Emergency Operations Center, the Police Building, and the Public Library, are all located within the Newport-Inglewood Alquist-Priolo Fault Zone. A large magnitude earthquake on this fault (estimated between M6.0-7.4) is expected to cause major disruption of city services. The City’s ability to respond to and recover from this event and/or other significant events occurring on other Southern California faults is dependent upon its facilities and personnel surviving the event. The age and construction type of City owned important buildings indicates these structures are particularly vulnerable to earthquake damage. Critical infrastructure and communication facilities also are exposed to the earthquake hazard. There is a need for a systematic technical assessment of all important City buildings and infrastructure in high hazard zones that requires outside engineering and geological expertise to identify their specific vulnerabilities and to identify cost effective mitigation solutions.

Private buildings are also vulnerable to the earthquake hazard in the City of Inglewood. The City does not currently have mandatory retrofit requirements for the most hazardous existing private buildings, such as non-ductile concrete or tilt-up buildings constructed prior to current codes. Additionally, although not posing a significant life safety threat, the age and construction of the city’s single family housing stock, if not retrofit, will result in significant damage and pose serious sheltering and housing recovery issues following a major earthquake. A successful seismic retrofit program for privately owned buildings will require a strong public education program coupled with financial incentives to achieve community support.
5.1.3 Emergency Preparedness

The City of Inglewood recognizes that effective mitigation is a long-term and incremental process. Therefore, it also must focus on those measures that improve the community’s ability to prepare for, respond to and recover from its most serious hazards which have been defined as earthquakes, hazmat releases, and human threat events/terrorism. To do this, the City of Inglewood must improve its emergency response capabilities, including developing a more robust and integrated emergency management organization, an operational, safe, and secure emergency operations center, improved warning and communications systems (internal and external), a comprehensive training program for city staff, and increased public information and education programs targeted to preparedness and mitigation for all-hazards.

5.1.4 Implementation Challenges

Finally, it must be recognized that increasing the disaster resiliency and sustainability of the City of Inglewood will require a substantial investment of resources. Improvements can continue to be made through traditional programs; however many of the mitigation objectives and actions included in this plan cannot be implemented without external funding sources. Implicit in this plan is the need for the City to maintain and augment internal budgeting mechanisms, aggressively pursue external state and federal grants, and develop financial incentives to encourage private sector support of mitigation activities.

5.2 The Research, Review, and Prioritization Process

During the development of the risk assessment for the City of Inglewood, the Local Planning Team and the Advisory Task Force proposed and discussed alternative mitigation goals, objectives, and specific mitigation measures that the City should undertake to reduce the risk from the three high risk hazards facing the City. Throughout the discussions, the participants focused on the mitigation aspects recommended by FEMA in STAPLEE (Social, Technical, Administrative, Political, Legal, Economic, Environmental) to arrive at their opinions. Stakeholders discussed alternative mitigation strategies and mitigation measures during workshops, provided their preferences, and also suggested additional mitigation measures that the City should consider. National literature and sources were researched by the consultant to identify best practices measures for each hazard considered by the City. These measures were discussed with the Local Planning Team and the Advisory Task Force. The Local Planning Team, with concurrence from the Advisory Task Force, reviewed the list of possible objectives and mitigation measures, made a final selection, and then prioritized the individual mitigation measures considered the most appropriate for Inglewood.

5.3 Mitigation Categories

For purposes of this Plan, the measures that communities and citizens can consider to protect themselves, or to mitigate the impacts of, natural and man-made hazards fall
into four categories: Public Information and Education, Preventive Activities, Structural and Property Protection Projects, and Emergency Services.

5.3.1 Public Information and Education

A public information and education program involves both the public and private sectors. Public information and education activities advise and educate citizens, property owners, renters, businesses, and local officials about hazards and ways to protect people and property from them. Public information activities are among the least expensive mitigation measures and often among the most effective things a community can do to save lives and protect property.

In evaluating various mitigation measures, the Planning Team and Advisory Task Force, as well as stakeholder groups identified public information and education as a critical and cost effective method for communicating and implementing community mitigation actions. Therefore this type of mitigation measure is incorporated into the mitigation objectives and mitigation measures included in the all hazards, earthquake, hazmat release and human threat events/terrorism presented in Sections 5.5.1, 5.5.2, 5.5.3, and 5.5.4 below.

5.3.2 Preventive Activities

Preventive measures are designed to keep certain conditions from occurring or getting worse. The objective is to ensure that new development does not make an existing hazard worse or increase the potential for property damage or loss of life. Preventive measures typically include planning, zoning, and building codes, which affect both public and privately owned buildings.

Primarily regulatory in nature, mitigation measures were identified by the Planning Team and Advisory Task Force to address the earthquake and hazmat release hazards in Sections 5.5.2 and 5.5.3 below.

5.3.3 Structural and Property Protection Projects

Structural and property protection projects are typically designed by engineers and architects, constructed by the public sector, and maintained and managed by governmental entities. Structural projects include the construction of new public buildings or the retrofit of existing public buildings to provide greater public safety and greater protection to maintain government services and functions.

In evaluating mitigation measures to be included in the plan, the Planning Team and Advisory Task Force proposed structural and property protection actions for earthquake and hazmat release hazards, which are found in Sections 5.5.2 and 5.5.3.
5.3.4 Emergency Services

Emergency services measures protect people during and after a hazard event. Locally, these include preparedness, threat recognition, warning, response, critical facilities protection, and post-disaster recovery and mitigation.

Because of the commitment to community safety the Planning Team and Advisory Task Force deemed Emergency Services and Preparedness measures to be a critical element of this mitigation plan. The desire for a comprehensive emergency management capability which includes preparedness, mitigation, response and recovery stimulated the inclusion of multiple measures from this category for all the hazards, earthquake, hazmat release and human threat events/terrorism portions outlined in Sections 5.5.1, 5.5.2, 5.5.3, and 5.5.4.

5.4 Mitigation Priorities

Multiple factors were considered to establish the mitigation priorities included in this plan. Highest priority rankings were assigned to those mitigation measures that met three primary criteria: 1) greatest potential for protecting life and property; 2) greatest potential for maintaining critical city functions and operability following a disaster; and 3) achievability in terms of community support, and cost effectiveness. All rankings were determined by the consensus of the Local Planning Team and the Advisory Task Force.

As described in the previous section on hazard and risk assessment, clearly earthquakes have the potential to affect the largest number of people, critical facilities, and buildings and to cause the greatest economic losses. This fact combined with the relatively high probability of an earthquake occurrence in the next several decades makes increasing disaster resistance and readiness to earthquakes a high priority.

Given the extreme importance of maintaining critical government functions in times of disaster and the large number of the population who depend and rely on government services and infrastructure, those mitigation measures that improve government disaster resistance, readiness, or recovery capacity are generally given higher priority than mitigation of privately owned buildings in which the loss or damage affects relatively few.

Earthquake, hazmat releases, and human threat events/terrorism mitigation actions are identified and assigned a priority according to their importance, cost, funding availability, to what degree project planning has been completed, and the anticipated time to implement the measures. Implementation times are either short-term (less than two years) or long-term (more than two years). These times were selected by the City to accommodate the expected six months that the Deputy City Administrator/CIO and newly created Emergency Preparedness Coordinator will need to ramp up the emergency management capabilities of the City.
Using the above rationale for establishing mitigation priorities, each mitigation measure is assigned a priority ranking as follows:

- **Critical** – Most important actions to be implemented by the City; may be short-term or long-term
- **High** – To be implemented by the City in the short-term future
- **Moderate** – To be implemented when funding and resources become available
- **Under Study** – Under consideration pending completion of formal assessment/study

### 5.5 Goals, Objectives, and Mitigation Measures

The City of Inglewood Local Planning Team and Advisory Task Force with the assistance of the Consultant Team have established four overall mitigation goals to guide the establishment and priorities of specific goals, objectives, and mitigation measures for each high risk hazard. These are:

- Minimize loss of life and property from natural hazard events
- Protect public health and safety
- Increase public awareness of risk from natural hazards
- Enhance emergency services including warning systems

When the City established its list of mitigation measures, some were determined to be applicable to two or more hazards. These are listed first under the category of “All Hazards”, which includes four goals. Five goals were identified for earthquake hazards, and one each for hazardous materials and human threat/terrorism events. At the end of this section, a summary table of all the mitigation measures is provided, including the priority ranking and proposed implementation strategy.

#### 5.5.1 All Hazards

The Local Planning Team and Advisory Task Force identified four goals that would address two or more of the priority hazards:

**Goal 1:** Increase the emergency management capability of the City of Inglewood
**Goal 2:** Improve safety in public buildings from all natural and man-made hazards
**Goal 3:** Increase public awareness of risks from all natural and man-made hazards
**Goal 4:** Improve coordination and communication with relevant community organizations.

The rationale for including each of these goals in the mitigation plan and specific objectives and mitigation measures to achieve each goal is outlined below.

**Goal 1:** Increase the emergency management capability of the City of Inglewood
Rationale: An effective Emergency Management Program requires a strong institutional framework to ensure adequate planning, organizational structure, and resources are allocated to all phases of disaster management. Responsibility for Emergency Management in the City of Inglewood lies primarily with the Police Department. Although the City has an Emergency Response Plan consistent with SEMS and NIMS requirements, no city departmental staff are assigned on a full time basis to direct and coordinate a comprehensive emergency management program that includes preparedness, mitigation, response and recovery for all hazards.

Actions: The City of Inglewood has recently tasked the Deputy City Administration/CIO with the responsibility for Emergency Preparedness and Disaster Planning. Subject to the approval of the City Council, within 6 months, the job of Emergency Preparedness Coordinator reporting to the Deputy City Administrator/CIO will be created and staffed. Within one year, these two people and the Police Department Commander for emergency response will reactivate the Disaster Council and develop a schedule of appropriate training programs comprised of four related subject areas:

1. Emergency related technical skills, i.e., NIMS, SIMS
2. Internal health and safety of employees
3. First responder skills
4. Oversight management

The City of Inglewood currently does not have an operational EOC. Within 9 months, the Deputy City Administrator/CIO will complete an investigation to explore options and visit newly installed EOCs in similarly sized cities to establish options. Within one year, he will evaluate the alternatives and make a recommendation to the City Council.

- Objective 1.1 - Create the institutional framework to provide critical emergency management capability.
  - Mitigation Measure 1.1.1 - Reactivate the Disaster Council (Priority = Critical)
  - Mitigation Measure 1.1.2 - Continue the Advisory Task Force as a Council Board (Priority = Critical)
  - Mitigation Measure 1.1.3 - Create a position for a full-time, fully funded Emergency Preparedness Coordinator in Public Safety Systems Section of IT&C (Priority = Critical)
  - Mitigation Measure 1.1.4 - Initiate and maintain comprehensive training programs for city personnel for ICS, etc, for both safety and non-safety personnel. (Priority = Critical)
  - Mitigation Measure 1.1.5 - Create a functional Emergency Operations Center (EOC) (Priority = Critical)

Goal 2: Improve safety in public buildings from all natural and man-made disasters

Rationale: Discussions at Local Planning Team and Advisory Task Force meetings indicated that internal warning systems, including fire alarms, at City Hall and other
public buildings do not reach all inhabitants of the buildings and need to be upgraded. The City is committed to the safety of all those who work at or are visiting these buildings and the Deputy City Administrator/CIO and Emergency Preparedness Coordinator will be responsible for the design and adoption of improvements to all warning systems and evacuation plans.

Actions: The Deputy City Administrator/CIO and the Public Works Department will conduct evaluations of buffer zones and evacuation plans of public facilities. Within one year, they will propose and implement improvements to warning systems and evacuation plans.

- Objective 2.1 – Upgrade warning systems in public buildings
  - Mitigation Measure 2.1.1 – Conduct an evaluation of the existing warning system in City Hall to determine its efficacy in reaching all people within the building in the event of a hazmat release or potential terrorism event (Priority = Critical)
- Objective 2.2 – Upgrade evacuation plans in public buildings
  - Mitigation Measure 2.2.1 – Assess evacuation plans for City Hall to consider the conditions under which evacuation will take place or when the building will be secured with everyone remaining inside (Priority = High)
  - Mitigation Measure 2.2.2 - Evaluate Buffer Zone or Evacuation Plans for public facilities and critical facilities (i.e. Water Treatment Plant) (Priority = High)
- Objective 2.3 - Upgrade existing general public notification systems
  - Mitigation Measure 2.3.1 - Develop and sustain a reliable mass notification system (Priority = Moderate)

Goal 3: Increase public awareness of risks from all natural and man-made disasters

Rationale: The City currently includes a small section on its website that is devoted to earthquake preparedness. It is the only public education mechanism used by the City to inform residents about potential disasters and what to do to mitigate them.

Actions: The Deputy City Administrator/CIO is currently managing the development of an expanded City website which will increase the amount of hazard mitigation information made available to the public. Within one year, the new website will be created and put on line. Information will be presented in both English and Spanish. Also within one year, the Deputy City Administrator/CIO and Emergency Preparedness Coordinator will investigate whether the City should join the Southern California Earthquake Center (SCEC) as a partner (See Mitigation Measure 6.1.1 below). As a partner, the City will be able to draw on the resources of SCEC, which permits the distribution of SCEC brochures describing the earthquake risk and what to do before an earthquake and also training programs for public officials. Finally, the City will Co-sponsor an initial Emergency Preparedness Fair and, following the event, evaluate whether to make this an annual event.
Objective 3.1 – Upgrade the City website concerning hazard risks facing the City
  • Mitigation Measure 3.1.1 – Create a website that includes detailed information and links to existing preparedness and mitigation resources addressing earthquake, hazmat release, and terrorism risks (Priority = High)
  • Mitigation Measure 3.1.2 – Provide information in both English and Spanish (Priority = High)

Objective 3.2 - Improve and expand public education programs
  • Mitigation Measure 3.2.1 – Develop a program to create and distribute written materials to educate the public about hazard risks facing the City (Priority = Moderate)
  • Mitigation Measure 3.2.2 - Sponsor an annual Emergency Preparedness Fair (Priority = Moderate)

Goal 4: Improve coordination and communication with relevant community organizations

Rationale: At all the stakeholder workshops, citizens recommended that the City establish long-term relationships among the business community, the health community, and emergency preparedness community. The first choice is to retain the Advisory Task Force as a Council Board. This assignment will satisfy Goals 1.1.2 and 1.1.3. The current capacity of the City to mitigate earthquake risk is limited and will be enhanced by expanding its partnerships with the Chamber of Commerce, local health clinics, CERT groups, and Partners for Progress. Representative of these groups all expressed interest in continuing to work with the City, to broaden such relationships.

Actions: The Deputy City Administrator/CIO and the Emergency Preparedness Coordinator will establish a set of alternative means of cooperation with community groups, determine and institute a method to evaluate these options with community groups and City Council, and make recommendations to the City Council to implement formal partnerships. The tasks will be completed within four years.

Objective 4.1 – Establish and maintain lasting partnerships
  • Mitigation Measure 4.1.1 – Retain the Advisory Task Force as a permanent City fixture (Priority = Moderate)
  • Mitigation Measure 4.1.2 – Enhance relationships with the local Chamber of Commerce, Partners for Progress, and local health clinics (Priority = Moderate)

5.5.2 Earthquake

The earthquake hazard was emphasized throughout the planning process as the highest priority hazard, and the only natural hazard of concern to the City of Inglewood. The next five goals are designed to ensure the City can effectively respond to and recover from a major earthquake event while simultaneously working on the long-term effort to mitigate the earthquake risk.
Goal 5: Continuity of government operations
Goal 6: Land use planning and building codes
Goal 7: Earthquake resistance and readiness of critical facilities
Goal 8: Earthquake resistance of privately-owned buildings in the City
Goal 9: Public awareness

The rationale for including each of these goals in the mitigation plan and specific objectives and mitigation measures to achieve each goal and the actions to achieve these goals are discussed below.

Goal 5: Continuity of government operations

Rationale: The City currently has not completed a Continuity of Operations Plan. The Local Planning Team realized that the City cannot complete benefit cost evaluations until it understands the impact an earthquake will have on City operations.

Actions: In the next fiscal year, beginning October 1, 2009, the Deputy City Administrator/CIO will award the development of a Continuity of Operations Plan to an outside consultant that will include a Business Impact Analysis related to scenario earthquakes and other high risk hazards facing the City. The final plan will include benefit cost analyses to evaluate options open to the City to address and mitigate risks facing critical facilities. The final plan will be completed within nine months of the award.

Rationale: The Deputy City Administrator/CIO and Police officials mentioned that many of the City’s current operations, including its data center and EOC, are inadequate to meet City needs, have outdated components, and are located in buildings with high earthquake risk. There currently is an ongoing Information Systems effort to upgrade the outdated computer programs but no steps have been taken to ultimately establish new EOC and data center facilities in more secure locations.

Actions: Before the Continuity of Operations Plan has been completed, the Deputy City Administrator/CIO will prepare short-term plans and then make recommendations to the City Council to establish back-up computer systems and locate a temporary EOC. This action will move critical facilities from risky buildings. Following the completion of the Continuity of Operations Plan, The Deputy City Administrator/CIO will initiate an investigation into cost beneficial alternatives to permanently relocate the EOC and back-up computer systems. Because the new location may be the new Police Building, the long-term implementation of the investigation will be completed within five years. Most of the funding will come from annual City budgets.

- Objective 5.1 – Assess the City’s ability to function after a major earthquake
  - Mitigation Measure 5.1.1 – Develop a relocation plan or find an alternative facility for the Emergency Operations Center (EOC) (Priority = Critical)
  - Mitigation Measure 5.1.2 – Develop a relocation plan or find an alternative facility for the City’s data center (Priority = Critical)
- Mitigation Measure 5.1.3 – Conduct a study to find a location outside the City to establish a back-up to the City computer system (Priority = Critical)
- Mitigation Measure 5.1.4 – Complete the program to remove the outdated computer aided dispatch (CAD) system from an obsolete main frame computer (Priority = Critical)

Goal 6: Land use, zoning and building codes

Rationale: Although the City of Inglewood is highly urban and built-out, there will continue to be opportunities for limited parcel development or redevelopment as well as modifications to existing structures that may trigger code upgrades. These circumstances will provide the opportunity to decrease the vulnerability of older buildings through seismic upgrades or to replace older, non-seismically resistant structures with new buildings that have been constructed to current code.

Action: The Building and Planning Department will continue to review all permit applications for new development and substantial improvements to ensure they are consistent with current codes and ordinances and are sited to minimize exposure to geologic hazards. All proposed redevelopment projects will be reviewed to ensure they are constructed to current code and are not constructed across active traces of the Newport-Inglewood Fault. This is an ongoing responsibility of the Building and Planning Department.

- Objective 6.1 – Update and enforce City codes to minimize the risks of earthquake hazards.
  - Mitigation Measure 6.1.1 – Ensure all new development and redevelopment is sited and constructed in accordance with the General Plan and zoning ordinances. (Priority = High)
  - Mitigation Measure 6.1.2 - Adopt, upon approval by the International Code Council (ICC) and the State of California, revisions to the California Building Code which increase seismic resistance of structures to ground shaking and other geologic hazards. (Priority = High)

Goal 7: Earthquake resistance and readiness of critical facilities

Rationale: Inglewood’s civic operations are dependent on the continuing functioning of City Hall. The City currently has plans to retrofit the City Hall, however, the existing structural analysis and recommended retrofit plans address the ground shaking hazard only. As yet, no geotechnical study has been done to determine whether or not the structure is located on the Newport-Inglewood Fault. If the building is on the fault, the ground beneath the building may move and affect the building in ways not considered in current structural evaluations. A complete assessment of the risk is required before the City can embark on the retrofit project.

Actions: Within one year, the Public Works Department will engage a geology engineering firm to perform a geotechnical study of City Hall to determine its earthquake
risk. Within one year following the completion of the geotechnical study, the Public Works Department will complete its plans to either retrofit City Hall or to start an investigation to find a less risky location for a new City Hall. The Public Works Department and the Deputy City Administrator/CIO will seek outside funds if the costs exceed City budgetary constraints.

Rationale: Inglewood’s drinking water is dependent on its water treatment plant and reservoirs. There has never been a seismic study of these facilities to withstand major earthquakes.

Actions: The Public Works Department will conduct a seismic evaluation of the water treatment plant within one year and a seismic evaluation of the reservoirs within three years. Funding will come from the department budget.

Rationale: The City currently has plans to construct a new Police Building. The City Council has authorized the process of indentifying a new site and it is currently in progress. The Police Department has identified several sites that meet the size requirements for the proposed facility and has completed a preliminary evaluation based on proximity to the Newport-Inglewood fault zone. However, additional geotechnical investigations will be required prior to site design and construction. Once constructed, the building will be considered as a new location for the EOC and other critical government facilities.

The City Planning Team and the Advisory Task Force both agreed that the relocation of the Police Building and the updating of the computer aided dispatch system were the top priorities of the City as the police are the most important post-disaster City agency to maintain order, protect lives and property, and coordinate the City response. Public safety is dependent on the police.

Actions: The Police Department will complete its study within one year, permitting the initiation of a process to design and construct the new Police Building. Most of the funding for the study and construction will come from the Police budget. The Police Department Grants Administrator will however locate funding sources and apply for funding to partially pay for the design and construction of the new building. That activity will be completed within three years. Because a significant amount of the funding may come from the City budget, the completion of this project may delay other critical and high priority mitigation items.

Rationale: The City Planning Team and the Advisory Task Force both support the establishment of a program to evaluate non-structural elements in critical public buildings and then incorporate relevant risk reduction measures to reduce future losses and increase the probability these buildings will remain functional following a major earthquake. Two priority areas for initial non-structural retrofit include bracing of library shelves in the main library and bracing/bolting of critical information technology equipment and backup power sources.
Actions: The Deputy City Administrator/CIO will create a Request for Proposal to hire an outside engineering firm to conduct the investigation. He will also seek outside funding. Upon receipt of outside funding, the RFP will be issued and the study undertaken. The process will take one year following the receipt of outside funding.

- Objective 7.1 – Conduct seismic studies of critical facilities
  - Mitigation Measure 7.1.1 – Conduct a geotechnical study to determine if the City Hall lies on the Newport-Inglewood fault. If so, develop and implement a seismic retrofit solution or seek to relocate critical functions. (Priority = Critical)
  - Mitigation Measure 7.1.2 – Conduct a risk assessment of the City’s water treatment plant and City reservoirs. Following the risk assessment, seek funding and implement the highest priority recommendations. (Priority = Critical)
  - Mitigation Measure 7.1.3 – Identify and acquire an acceptable site for the relocation of the Police Building out of the Newport-Inglewood fault zone. Ensure new construction meets essential services building requirements (Priority = Critical)
  - Mitigation Measure 7.1.4 – Establish a non-structural hazard evaluation and risk reduction program for city buildings and departments housing critical functions. (Priority = Critical)
  - Mitigation Measure 7.1.5 - Install seismic bracing on all critical IT equipment and back-up power sources. (Priority = High)
  - Mitigation Measure 7.1.6 - Install seismic bracing bars on main branch library shelves to prevent collapse and public injury. (Priority = High)

Goal 8: Earthquake resistance of privately-owned buildings in the City

Rationale: The City has a significant but unknown number of apartment buildings with soft first stories and industrial zones with a large number of tilt-up buildings constructed before 1972 used for commercial warehousing and shipping. The building inspection department in Building and Planning estimates that there are approximately 300 tilt-up buildings within the city limits and all of them should be retrofit. When buildings are sold, the building inspection department has encouraged buyers to retrofit them before occupying them. The department estimates that 15% of the tilt-up buildings have been voluntarily retrofit due to their recommendations.

Actions: Building and Planning will conduct a study to determine the number and location of apartment buildings with soft first stories and a second study to determine the number and location of tilt-up buildings to understand the scope of the earthquake risk to these buildings in the City. Part of the study will be an investigation of whether the City should adopt ordinances requiring retrofit of these buildings. Within one year, the department will determine the timing of the studies and how they will be conducted and paid for.
The building inspection department will continue to encourage buyers of tilt-up buildings to voluntarily retrofit their newly acquired buildings. The goal will be to have 30% of the stock of tilt-up buildings retrofit within five years.

Building and Planning will conduct an internal study that assesses earthquake risk in high occupancy buildings and how the City might encourage the voluntary retrofit of single family residences. The study will be completed within five years. Building and Planning will also complete studies determining whether the City should adopt ordinances requiring retrofit of these buildings. Because the social and economic impacts are large, the Local Planning Team and Advisory Task Force assessed these studies as medium priorities.

Rationale: In recent years, the City lost one of its two major hospitals, Daniel Freeman. Currently, the privately-owned Centinela Hospital is the only large, full-service hospital in the city. Citizens in the City will be dependent on the hospital following a large earthquake, and the City considers its functioning to be critical for public safety and recovery.

Actions: The Deputy City Administrator/CIO will investigate what the City may do to support efforts of Centinela Hospital to retrofit elements of the hospital that have not heretofore been retrofit. The investigation will involve hospital administrators and will be completed within three years. Results of the investigation will be presented to the City Council.

- Objective 8.1 – Conduct inventories
  - Mitigation Measure 8.1.1 - Establish a methodology for developing a soft story building inventory. (Priority = Under Study)
  - Mitigation Measure 8.1.2 – Inventory privately owned soft story buildings in the City and notify owners of the potential vulnerability and techniques for seismic retrofit. (Priority = Under Study)
  - Mitigation Measure 8.1.3 – Inventory privately-owned tilt-up buildings in the City and notify owners of their potential vulnerability and techniques for seismic retrofit. (Priority = Under Study)
- Objective 8.2 – Support seismic risk assessment and retrofit of privately-owned buildings
  - Mitigation Measure 8.2.1 – Support efforts to seismically retrofit Centinela Hospital to meet the requirements of SB 1953 (Alfred E. Alquist Hospital Seismic Safety Act of 1983) (Priority = Critical)
  - Mitigation Measure 8.2.2 - Consider developing a tilt-up retrofit ordinance to encourage retrofit of privately-owned tilt-up buildings (Priority = Under Study)
  - Mitigation Measure 8.2.3 – Conduct a risk assessment of high occupancy buildings and all buildings currently listed as potential post-disaster shelters (Priority = Under Study)
  - Mitigation Measure 8.2.4 - Encourage retrofit of single family homes including bolting to foundations, strengthening cripple walls, and removing or
strengthening masonry chimneys. Seek financial incentives, including state or federal grant programs. (Priority = Under Study)

Goal 9: Public awareness

Rationale: Information provided to the public by the City concerning earthquake risk and mitigation is limited to a short web page on the City’s website.

Actions: Information Systems (IS) will upgrade the website within one year. Within three years, IS will investigate and determine what written material to assemble and distribute to the public. One possibility is to become a partner of SCEC so city employees may take part in training exercises and the City may distribute earthquake brochures developed by SCEC.

• Objective 9.1: Increase education and training of public employees
  • Mitigation Measure 8.1.1 - Join the Southern California Earthquake Center (SCEC) (Priority = Under Study)
  • Objective 9.2 – Increase citizens’ awareness and knowledge of earthquake risk and mitigation
    • Mitigation Measure 8.2.1 – Develop and distribute information to citizens (Priority = Moderate)

5.5.3 Hazmat Releases

Prevention of hazmat releases was selected by the Local Planning Team and the Advisory Task Force as the most effective means of mitigation, which is reflected in the goal, rationale, actions and mitigation measures outlined below.

Goal 10: Preventive measures

Rationale: The main hazmat release threat was identified as a chlorine gas spill that would likely occur in the industrial area near the airport on the east side of I-405. The threat comes from privately owned businesses. There could also be a spill at the City water treatment plant but it was considered less likely.

Actions: The main means of dealing with such an event are to first educate the populace about such an event and what to do if they are located inside or outside the area of the potential plume that will move into the City if normal westerly winds are present. The Deputy City Administrator/CIO will consult with the Los Angeles County Fire Department, which is contracted to provide fire protection in the City, to establish a program dealing with hazmat releases. Within three years, an education program will be developed.

The Deputy City Administrator/CIO, with the advice of the Los Angeles County Fire Department, will develop a plan to encourage companies using chlorine gas to install measures that prevent the release of chlorine gas from their buildings. In addition, they
will encourage owners of commercial buildings located in the potential chlorine gas release plume to install air circulation systems that re-circulate inside air and prevent outside air from entering their premises. These plans will be completed within three years.

- Objective 10.1 – Develop public education program and materials
  - Mitigation Measure 10.1.1 – Educate the public about the hazardous materials to which they may be exposed and how to identify them (Priority = Under Study)
- Objective 10.2 – Develop program to minimize the effects of a hazmat release
  - Mitigation Measure 10.2.1 – Develop a list of preventive measures to protect the public (Priority = Under Study)
  - Mitigation Measure 10.2.2 – Encourage businesses that work with hazardous materials to install preventive measures that contain or limit hazmat releases (Priority = Under Study)
  - Mitigation Measure 10.2.3 – Encourage high occupancy and critical facilities to install preventive measures that re-circulate air and prevent outside air from entering the facilities (Priority = Under Study)

5.5.4  Human Threat Events/Terrorism

Goal 11: Improve anti-terrorism procedures

Rationale: The one significant terrorist threat to Inglewood was identified as a threat to the Los Angeles Airport, which lies outside the city limits to the west of Inglewood. The Inglewood police department currently cooperates with Los Angeles World Airports Police Department in planning for potential terrorist events.

Actions: There is an ongoing need to review and update anti-terrorism plans. The Police Department Commander for Emergency Response is tasked with improving anti-terrorism procedures and will introduce new items as they become accepted police procedures.

- Objective 11.1 – Periodically assess anti-terrorism plans
  - Mitigation Measure 11.1.1 – Review and update city anti-terrorism plans and procedures with the Los Angeles Airport and Los Angeles City police and homeland security departments (Priority = Under Study)
  - Mitigation Measure 11.1.2 - Create an education program that mirrors the model developed by the Joint Regional Information Center (JRIC), to sensitize public safety employees and the general public to pre-incident indicators of terrorist activities. (Priority = Moderate)
  - Mitigation Measure 11.1.3 - Incorporate terrorism awareness and prevention in on-going Police training programs and day-to-day law enforcement activities. (Priority = Moderate)
Mitigation Measure 11.1.4 - Develop a training program for line level Public Safety Employees to interdict in pre-incident indicators of terrorist activities. (Priority = Moderate)

5.6 The National Flood Insurance Program

The City of Inglewood joined the NFIP in 1979. It participates under the Regular Phase. Because the City has no land area designated as Special Flood Hazard Areas which are subject to a one percent chance or greater chance of flooding in any one year, the City of Inglewood is designated a Non-Special Flood Hazard Area. It is considered by the NFIP to have a low to medium probability of flooding and historically has experienced no flood events. In July 2006, the City Council adopted an updated ordinance that is in compliance with minimum regulatory standards issued by FEMA. To maintain its good standing in the NFIP, the Public Works Department monitors all new construction and building permits and annually evaluates the status of the City ordinance to ensure that it is in compliance with changes made to the federal law.

5.7 Implementation Strategy

An implementation strategy is the key to any successful planning effort. The implementation strategy identifies who has lead responsibility for the action, the estimated timeframe for completion, and potential funding source(s) to support implementation, and the priority ranking, defined as follows:
- Lead Agency: City Department and/or other agency assigned lead responsibility
- Timeframe: Short-term (less than 2 years); long-term (more than 2 years)
- Funding source(s): Potential internal and external funding source(s)
- Priority Ranking: Critical, High, Moderate or Understudy (as defined in Section 5.4)

<table>
<thead>
<tr>
<th>Mitigation Measures</th>
<th>Lead Agencies</th>
<th>Funding Source(s)</th>
<th>Timeframe</th>
<th>Priority Ranking</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.1.1 - Reactivate the Disaster Council</td>
<td>Information Systems</td>
<td>General Fund</td>
<td>Short-term</td>
<td>Critical</td>
</tr>
<tr>
<td>1.1.2 - Continue the Advisory Task Force as a Council Board</td>
<td>Information Systems</td>
<td>General Fund</td>
<td>Short-term</td>
<td>Critical</td>
</tr>
<tr>
<td>1.1.3 - Create a position for a full-time, fully funded Emergency Preparedness Coordinator in Public Safety Systems Section of IT&amp;C</td>
<td>Information Systems</td>
<td>General Fund</td>
<td>Short-term</td>
<td>Critical</td>
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<tr>
<td>1.1.4 - Initiate and maintain comprehensive training programs for city personnel for ICS, etc, for both safety and non-safety personnel</td>
<td>Information Systems</td>
<td>General Fund Federal/State Grants</td>
<td>Short-term</td>
<td>Critical</td>
</tr>
<tr>
<td>1.1.5 - Create a functional Emergency Operations Center</td>
<td>Information Systems</td>
<td>General Fund Federal Grants (HMGP/PDM)</td>
<td>Short-term</td>
<td>Critical</td>
</tr>
<tr>
<td>2.1.1 – Conduct an evaluation of the existing warning system in City Hall to determine its efficacy in reaching all people within the building in the event of a hazmat release or potential terrorism event</td>
<td>Information Systems</td>
<td>General Fund Federal Grants</td>
<td>Short-term</td>
<td>Critical</td>
</tr>
<tr>
<td>2.2.1 – Assess evacuation plans for City Hall to consider the conditions under which evacuation will take place or when the building will be secured with everyone remaining inside</td>
<td>Information Systems</td>
<td>General Fund Federal Grants</td>
<td>Short-term</td>
<td>High</td>
</tr>
<tr>
<td>2.2.2 - Evaluate Buffer Zone or Evacuation Plans for public facilities and critical facilities (i.e. Water Treatment Plant)</td>
<td>Public Works</td>
<td>General Fund Federal Grants</td>
<td>Short-term</td>
<td>High</td>
</tr>
<tr>
<td>2.3.1 - Develop and sustain a reliable mass notification system</td>
<td>Information Systems</td>
<td>General Fund Federal Grants</td>
<td>Short-term</td>
<td>Moderate</td>
</tr>
<tr>
<td>Mitigation Measures</td>
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<tr>
<td>3.1.1 – Create a website that includes detailed information and links to existing preparedness and mitigation resources addressing earthquake, hazmat release, and terrorism risks</td>
<td>Information Systems</td>
<td>General Fund</td>
<td>Short-term Ongoing</td>
<td>High</td>
</tr>
<tr>
<td>3.1.2 – Provide information in both English and Spanish</td>
<td>Information Systems</td>
<td>General Fund</td>
<td>Short-term Ongoing</td>
<td>High</td>
</tr>
<tr>
<td>3.2.1 – Develop a program to create and distribute written materials to educate the public about hazard risks facing the City</td>
<td>Information Systems</td>
<td>General Fund</td>
<td>Long-term Ongoing</td>
<td>Moderate</td>
</tr>
<tr>
<td>3.2.2 - Sponsor an annual Emergency Preparedness Fair</td>
<td>Information Systems</td>
<td>General Fund</td>
<td>Long-term Ongoing</td>
<td>Moderate</td>
</tr>
<tr>
<td>4.1.1 – Retain the Advisory Task Force as a permanent City fixture</td>
<td>Information Systems</td>
<td>General Fund</td>
<td>Short-term Ongoing</td>
<td>Moderate</td>
</tr>
<tr>
<td>4.1.2 – Enhance relationships with the local Chamber of Commerce, Partners for Progress, and local health clinics</td>
<td>Information Systems</td>
<td>General Fund</td>
<td>Short-term Ongoing</td>
<td>Moderate</td>
</tr>
</tbody>
</table>

**Earthquake**

<table>
<thead>
<tr>
<th>Mitigation Measures</th>
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<tbody>
<tr>
<td>5.1.1 – Develop a relocation plan or find an alternative facility for the Emergency Operations Center (EOC)</td>
<td>Information Systems</td>
<td>General Fund Federal Grants (HMGP/PDM)</td>
<td>Short-term</td>
<td>Critical</td>
</tr>
<tr>
<td>5.1.2 – Develop a relocation plan or find an alternative facility for the City’s data center</td>
<td>Information Systems</td>
<td>General Fund Federal Grants</td>
<td>Short-term</td>
<td>Critical</td>
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<tr>
<td>5.1.3 – Conduct a study to find a location outside the City to establish a back-up to the City computer system</td>
<td>Information Systems</td>
<td>General Fund Federal Grants</td>
<td>Short-term</td>
<td>Critical</td>
</tr>
<tr>
<td>5.1.4 – Complete the program to remove the outdated computer aided dispatch (CAD) system from an obsolete main frame computer</td>
<td>Information Systems</td>
<td>General Fund</td>
<td>Short-term Ongoing</td>
<td>Critical</td>
</tr>
<tr>
<td>6.1.1 - Ensure all new development and redevelopment is sited and constructed in accordance with the General Plan and zoning ordinances.</td>
<td>Building and Planning</td>
<td>General Fund</td>
<td>Long-term Ongoing</td>
<td>High</td>
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<td>6.1.2 - Adopt, upon approval by the International Code Council (ICC) and the State of California, revisions to the California Building Code which increase seismic resistance of structures to ground shaking and other geologic hazards.</td>
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<td>7.1.1 – Conduct a geotechnical study to determine if the City Hall lies on the Newport-Inglewood fault</td>
<td>Public Works</td>
<td>General Fund Federal Grants (HMGP/PDM)</td>
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<tr>
<td>7.1.2 – Conduct a risk assessment of the City’s water treatment plant and City reservoirs</td>
<td>Public Works</td>
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<td>7.1.3 – Identify and acquire an acceptable site for the relocation of the Police Building out of the Newport-Inglewood fault zone</td>
<td>Police</td>
<td>General Fund HMGP/PDM</td>
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<td>7.1.4 – Establish a non-structural hazard evaluation and risk reduction program for city buildings and departments housing critical functions</td>
<td>Public Works</td>
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<td>7.1.5 - Install seismic bracing on all critical IT equipment and back-up power sources.</td>
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<td>7.1.6 - Install seismic bracing bars on main branch library shelves to prevent collapse and public injury</td>
<td>Public Works</td>
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<tr>
<td>8.1.1 - Establish a methodology for developing a soft story building inventory</td>
<td>Building and Planning</td>
<td>General Fund</td>
<td>Long-term</td>
<td>Under Study</td>
</tr>
<tr>
<td>8.1.2 – Inventory privately owned soft story buildings in the City</td>
<td>Building and Planning</td>
<td>General Fund</td>
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<td>Under Study</td>
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<tr>
<td>8.1.3 – Inventory privately-owned tilt-up buildings in the City</td>
<td>Building and Planning</td>
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<td>8.2.1 – Support efforts to seismically retrofit Centinela Hospital to meet the requirements of SB 1953 (Alfred E. Alquist Hospital Seismic Safety Act of 1983)</td>
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<tr>
<td>8.2.2 - Consider developing a tilt-up retrofit code to encourage retrofit of privately-owned tilt-up buildings</td>
<td>Building and Planning</td>
<td>General Fund</td>
<td>Long-term</td>
<td>Under Study</td>
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<td>8.2.3 – Conduct a risk assessment of high occupancy buildings and all buildings currently listed as potential post-disaster shelters</td>
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<td>8.2.4 - Encourage retrofit of single family homes including bolting to foundations, strengthening cripple walls, and removing or strengthening masonry chimneys</td>
<td>Building and Planning</td>
<td>General Fund Federal/State Grants (HMGP/PDM/CEA)</td>
<td>Long-term</td>
<td>Under Study</td>
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<tr>
<td>9.1.1 - Join the Southern California Earthquake Center (SCEC)</td>
<td>Information Systems</td>
<td>General Fund</td>
<td>Short-term</td>
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<td>9.2.1 – Develop and distribute information to citizens</td>
<td>Information Systems</td>
<td>General Fund</td>
<td>Short-term</td>
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</tbody>
</table>

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<thead>
<tr>
<th>Hazmat Releases</th>
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</thead>
<tbody>
<tr>
<td>10.1.1 – Educate the public about the hazardous materials to which they may be exposed and how to identify them</td>
<td>Information Systems LA County Fire</td>
<td>General Fund</td>
<td>Long-term</td>
<td>Under Study</td>
</tr>
<tr>
<td>10.2.1 – Develop a list of preventive measures to protect the public</td>
<td>Information Systems LA County Fire</td>
<td>General Fund</td>
<td>Long-term</td>
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<td>10.2.2 – Encourage businesses that work with hazardous materials to install preventive measures that contain or limit hazmat releases</td>
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<td><strong>Human Threat Events/Terrorism</strong></td>
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<td>11.1.2 - Create an education program that mirrors the model developed by the Joint Regional Information Center (JRIC), to sensitize public safety employees and the general public to pre-incident indicators of terrorist activities</td>
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<td>Mitigation Measures</td>
<td>Lead Agencies</td>
<td>Funding Source(s)</td>
<td>Timeframe</td>
<td>Priority Ranking</td>
</tr>
<tr>
<td>---------------------</td>
<td>---------------</td>
<td>-------------------</td>
<td>-----------------</td>
<td>-----------------</td>
</tr>
<tr>
<td>11.1.4 - Develop a training program for line level Public Safety Employees to interdict in pre-incident indicators of terrorist activities.</td>
<td>Police</td>
<td>General Fund</td>
<td>Short-term Ongoing</td>
<td>Moderate</td>
</tr>
</tbody>
</table>

Table 5.1: Mitigation Measures - Summary
6.0 Plan Maintenance

Title 44 of the Code of Federal Regulations (CFR) Section 201.6(c)(4) requires a hazard mitigation plan that includes a description of the method and scheduling of monitoring, evaluating, and updating this mitigation plan within a 5-year cycle. The plan maintenance section of this document details the formal process that will ensure that the City of Inglewood local hazard mitigation plan remains an active and relevant document. The maintenance process includes a schedule for monitoring and evaluating the plan annually and producing an updated plan every 5 years. This section also describes how the City will integrate public participation throughout the plan maintenance and implementation process. Finally, this section explains how the City intends to append the mitigation strategies outlined in this plan onto the existing city general plan.

6.1 Plan Implementation

The effectiveness of the City’s local hazard mitigation plan depends on the implementation of the plan and incorporation of the proposed mitigation measures into existing City plans, policies, and programs. The local hazard mitigation plan includes a range of mitigation measures that, if implemented, would reduce loss from high risk hazard events in the City of Inglewood. Together, the mitigation measures in the plan provide the framework for activities that the City can choose to implement over the next 5 years. The Local Planning Team and the Local Advisory Task Force have prioritized the plan’s goals and identified measures to be implemented according to the Implementation Strategy outlined in Section 5 of this Plan. Integration with on-going City programs and processes is essential to the success of the Implementation Strategy. For example, appending this Plan to the Public Safety Element of the General Plan will ensure consistency between policies and programs designed to reduce future exposure to the hazards and risks identified in this mitigation plan. Additional mechanisms to support plan implementation include the annual budget process, the Capital Improvement Plan, Redevelopment Projects, and the zoning and building code update process.

The City of Inglewood Deputy City Administrator/CIO will be responsible for overseeing the plan’s implementation and maintenance and will be supported by the newly created Emergency Preparedness Coordinator, the existing Police Department Commander for emergency response, and the continuation of the Local Advisory Task Force, tentatively designated as the Emergency Preparedness Council Board. The Emergency Preparedness Coordinator will assume lead responsibility for facilitating plan implementation and maintenance meetings of the Council Board that will be tasked with oversight, review and update of the plan once the Board has been created by the City Council.
6.2 The Emergency Management Council Board

The Local Hazard Mitigation Plan recommends that the Local Advisory Task Force be retained as an oversight Council Board and an active participant in the maintenance strategy for the Local Hazard Mitigation Plan. The Board should include representation from the City, the citizens of Inglewood, and other stakeholders as it was constituted as a task force. The Board will convene quarterly to oversee the implementation of mitigation measures and will convene annually to conduct an annual review of the Local Hazard Mitigation Plan.

6.3 The Annual Review of the Local Hazard Mitigation Plan

The annual review will be an evaluation of progress of mitigation measures contained in the Local Hazard Mitigation Plan. This review will include the following:

- Summary of any hazard events that occurred during the prior year and their impact on the planning area
- Review of successful mitigation measures identified in the plan
- Brief discussion about why critical and high priority measures were not completed
- Re-evaluation of the goals and priorities to determine if priorities should be amended (such as changing a moderate priority measure to a high priority measure if funding becomes available to implement it)
- Recommendations for new mitigation measures
- Changes in or potential for new funding options (grant opportunities)
- Impact of any other planning programs or initiatives within the City that involve hazard mitigation

The Emergency Preparedness Coordinator will create a template to guide the Board in preparing a progress report. The Board will provide feedback to the coordinator on items included in the template. The Board will then prepare a formal annual report on the progress of the Local Hazard Mitigation Plan. This report will be:

- Posted on the City website
- Provided to the local media through a press release
- Presented in the form of a council report to the Inglewood City Council

In order for recommendations to be considered by the City in the budget process, the annual review will be completed and submitted to the City Council before August 1 of every calendar year.

6.4 Local Hazard Mitigation Plan Update

In accordance with federal requirements, the City of Inglewood intends to update its Local Hazard Mitigation Plan on a 5-year cycle from the date of the initial plan adoption.
The cycle may be accelerated to less than 5 years based on one of the following triggers:

- A Presidential Disaster Declaration that impacts the City of Inglewood
- A hazard event that causes loss of life
- A comprehensive update of the City of Inglewood general plan

It will not be the intent of this update process to start from scratch and develop a new complete hazard mitigation plan for the City of Inglewood. The update will be based on needs identified by the Deputy City Administrator/CIO with the advice of the Emergency Preparedness Council Board and will lead to a draft update that will be made available for City, citizen, and stakeholder review before being submitted to the City Council for adoption.

6.5 Continued Public Involvement

The public will continue to be apprised of Local Hazard Mitigation Plan actions through the City website and by distributing copies of the annual progress reports through the City of Inglewood Library system. All proposed changes to the plan will be subject to citizen review prior to City Council action. The City will follow its standard public input process, consistent with the process used in initial plan development which is described in Section 2 of this Plan.
7.0 REFERENCES

FEMA 386-2, August 2001, State and local mitigation planning, How-to guide, Identifying hazards and estimating losses


City of Inglewood, August 2006, General Plan Update, Final Technical Background Report


City of Inglewood, September 2004, Natural Hazard Mitigation Plan, Earthquake Hazards in Southern California.

City of Inglewood, February 1999, SEMS Multihazard Functional Plan.

City of Inglewood, July 2008, City Hall Seismic Evaluation Report

City of Inglewood, December 2007, City Service Center Seismic Evaluation Report

Appendix A: Quarterly Progress Reports

November 3, 2008

City of Inglewood and I.T. Crisis Services, Inc.
Development of the Local Hazard Mitigation Plan

First Quarterly report by Elliott Mittler, ITC Project Manager

Activities in the first quarter of this project have led to a successful ramp up of the project. Today, I.T. Crisis Services (ITC) has established an excellent working relationship with the City of Inglewood and both ITC and the City are working jointly to (1) establish a risk analysis of natural and man-made hazards impacting the City, (2) engage individual citizens and stakeholders to provide their input in order to participate in establishing priorities in hazard mitigation, and (3) plan for the development of a multi-hazard mitigation plan.

The initial planned tasks of this project were to hold a kick off meeting, finalize the project details, begin holding monthly meetings of the Planning Team, and to establish an Advisory Task Force. All but the latter have been completed, and the establishment of an Advisory Task Force is close to completion. Meetings were held at the City or by conference call and are shown in Table 1 below.

Table 1: Meetings with the City and ITC

<table>
<thead>
<tr>
<th>Meeting</th>
<th>Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>Kick-off Meeting</td>
<td>July 30, 2008</td>
</tr>
<tr>
<td>Planning Meeting</td>
<td>September 11, 2008</td>
</tr>
<tr>
<td>Planning Meeting</td>
<td>October 7, 2008</td>
</tr>
<tr>
<td>Partners for Progress Luncheon Presentation</td>
<td>October 14, 2008</td>
</tr>
<tr>
<td>Planning Meeting</td>
<td>October 15, 2008</td>
</tr>
<tr>
<td>Advisory Task Force Composition Discussion</td>
<td>October 29, 2008</td>
</tr>
<tr>
<td>Planning Meeting</td>
<td>October 30, 2008</td>
</tr>
<tr>
<td>GIS Data Meeting</td>
<td>October 30, 2008</td>
</tr>
</tbody>
</table>

Hazard identification was planned to start during this quarter. As of the end of this quarter, about 99% of the anticipated data has been received from the City GIS department. It is anticipated that ITC will at least be able to provide maps of the data with underlying supporting data for the first meeting of the Advisory Task Force on November 18. All other hazard identification and research based on the data received appears to be on schedule.
During this time, the City provided documents related to their earlier hazard mitigation plans and other mitigation activities they have conducted. ITC has begun evaluating these documents and will integrate their findings with the results of risk and vulnerability analyses.

While the project has gotten off to a slower than expected start, the delays have permitted ITC and City staff to develop an excellent working relationship, leading to an expectation that the project will be able to meet all overall project goals and complete this project on schedule.

Next Steps:

At the start of the upcoming quarter, the members of the Advisory Task Force will be named and they will meet on November 18, 2008. Following the Advisory Task Force Meeting, ITC will meet with the City to finalize stakeholder participants who will gather in January and possibly February to provide input to an early draft of the Hazard Mitigation Plan that ITC will prepare by the start of the meetings. By the end of the quarter, the majority of the input to prepare the Hazard Mitigation Plan will have been collected so a draft can be prepared for City discussion.

***End of Report***

February 5, 2009

City of Inglewood and I.T. Crisis Services, Inc.
Development of the Local Hazard Mitigation Plan

Second Quarterly report by Elliott Mittler, ITC Project Manager

Activities in the second quarter of this project have concentrated on the development of future stakeholder meetings and the active involvement of the Advisory Task Force (ATF) in the development of the City’s hazard mitigation plan. I.T. Crisis Services (ITC) and the City planning team have worked jointly on these tasks and were successful in involving representatives of the City’s most significant organizations and companies on the ATF.

The planned tasks of this project for this time period were to engage the Advisory Task Force, establish a preliminary identification of natural and man-made hazards affecting the City, identify potential stakeholders for future stakeholder meetings, and prepare agendas and content of stakeholder meetings. All of these tasks have been either completed or will be in the first part of the next quarter when stakeholder meetings will be held. To accomplish these tasks, meetings were held at the City or by conference call and are shown in Table 1 below.
A preliminary hazard assessment for the city of Inglewood was completed and presented to the ATF during the first quarterly meeting on November 18, 2008. Using a risk ranking matrix, hazards were identified as low, medium or high threat to the city. One of the objectives of the ATF meeting was to use this preliminary hazard list to achieve a consensus on hazards to be included in the plan. In the course of the discussion with various task force members, the following hazards were identified as potential threat to the community:

- Earthquake – High
- Hazmat Release – High
- Human Threat Events/ Terrorism – High
- Train Derailment – High
- Airplane Crash – Medium
- Civil Unrest – Medium

An additional request for data and study reports was made to the various ATF members to enable a more complete risk assessment. The following have been received and assessed by ITC team:

- A report on chlorine gas release scenarios and dispersion analysis for the Sanford M. Anderson water treatment plant

Progress has been made in collecting data on critical infrastructure, public buildings and general building stock (residential, industrial, and commercial) for the city. FEMA defines the risk assessment process as a multi-step effort in “Understanding Your Risks: Identifying Hazards and Estimating Losses (FEMA 2001)“. The steps include: Identify and screen your hazards, profile hazards, inventory assets, estimate losses, and indentify future risks. Using this approach, we have identified and screened the hazards for the city and we are in the process of developing profiles of the identified hazards. These profiles will include basic information about the hazard to help one understand its nature and the subsequent loss estimation that will be performed as a part of the project. Also, included in the profile will be information on past occurrences in the city, and the potential for future occurrence. Preliminary results of earthquake loss estimation using FEMA’s HAZUS® software has been completed for the 6.9 magnitude Newport Inglewood scenario (USGS).

A hazard mitigation planning survey was distributed at the Advisory Task Force meeting, and subsequently emailed to all ATF members and distributed at the Inglewood Executive
Staff Meeting. Five responses were received and the results tallied. Additional responses received during the next quarter will be incorporated in the summary.

The Planning Team finalized the list of participants and agreed upon draft agendas for the two stakeholder workshops scheduled for February. The City targeted January 28 for preparing and sending out the invitation letters with a requested RSVP date of February 13.

Next Steps:

At the start of the upcoming quarter, the members of the Advisory Task Force will meet for their second quarterly meeting on February 19. On the following two days, there will be the first two stakeholder meetings. A third stakeholder meeting is scheduled for March. ITC will work with the City to finalize the agenda, presentation materials, and discussion questions for the first two workshops, and finalize the date, participants, and preparations for the third workshop. By the end of the quarter, the stakeholder meetings will have been held, information from the meetings will have been used to assist in framing the Hazard Mitigation Plan, and the assessment of hazards facing the City will be completed.

***End of Report***

May 12, 2009

City of Inglewood and I.T. Crisis Services, Inc.
Development of the Local Hazard Mitigation Plan

Third Quarterly report by Elliott Mittler, ITC Project Manager

Activities in the third quarter of this project were dominated by the completion of three stakeholder workshops and the continued active involvement of the Advisory Task Force (ATF) in the development of the City's hazard mitigation plan. I.T. Crisis Services (ITC) and the City Planning Team have worked jointly on these tasks and held successful stakeholder workshops with small but enthusiastic audiences. In addition, ITC has incorporated the information generated from the workshops and planning meetings in its development of a first draft of the local hazard mitigation plan. At the end of the quarter, ITC has completed its assessment of risks facing the City.

The planned tasks of this project involving the City for this time period were to engage the Advisory Task Force in the development of a risk assessment of natural and man-made hazards affecting the City, work with the Planning Team to identify potential stakeholders for stakeholder workshops, prepare and modify agendas and content of stakeholder workshops, conduct stakeholder workshops, and evaluate the results of stakeholder workshops in order to incorporate stakeholder views into the local hazard mitigation plan. All of these tasks, including the assessment of risks, have been completed. To accomplish these tasks, meetings were held at the City or by conference call and are shown in Table 1 below. Stakeholder workshops, which were conducted at Inglewood City Hall, are shown in Table 2 below.
Table 1: Meetings with the City and ITC

<table>
<thead>
<tr>
<th>Meeting</th>
<th>Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>Planning Meeting</td>
<td>February 10, 2009</td>
</tr>
<tr>
<td>Advisory Task Force Second Quarterly Meeting</td>
<td>February 19, 2009</td>
</tr>
<tr>
<td>Planning Meeting</td>
<td>March 12, 2009</td>
</tr>
<tr>
<td>Planning Meeting</td>
<td>April 16, 2009</td>
</tr>
</tbody>
</table>

Table 2: Stakeholder Workshops

<table>
<thead>
<tr>
<th>Workshop</th>
<th>Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>First Workshop composed of local business and professional representatives</td>
<td>February 20, 2009</td>
</tr>
<tr>
<td>Second Workshop composed of neighborhood and homeowner association representatives</td>
<td>February 21, 2009</td>
</tr>
<tr>
<td>Third Workshop composed of Community Emergency Response Team (CERT) members</td>
<td>March 28, 2009</td>
</tr>
</tbody>
</table>

At the second ATF quarterly meeting, held on February 19, ATF members who had returned completed surveys were thanked and others were asked to submit a completed survey. The preliminary results generated from the surveys received to date indicated that earthquakes were singled out as the hazard of most concern. ATF members identified several potential hazard mitigation activities, including the need for continued preparedness efforts such as training and exercises, the need for redundancy and strengthening of utility, infrastructure, communications and information technology, and the seismic vulnerability of the Civic Center and Police Building which are located on the Newport-Inglewood Fault.

Public Works reported that the seismic study of the Civic Center Building and the Service Center are in progress. There was also a discussion led by the Police Department of the options being considered for the relocation of the Police Building.

Additional discussion following the presentation focused on the lack of a dedicated Emergency Management Coordinator for the City or dedicated emergency management staff within individual City departments. At the time of this meeting, there was no single individual responsible for citywide preparedness, response, recovery and mitigation. Individuals in various departments are assigned emergency management responsibilities in addition to their day-to-day full time duties. Suggestions for how to remedy the situation included reprioritizing funding decisions, allowing staff to volunteer their time, and establishing a dedicated core team.

At the second Stakeholder workshop, Mike Falkow reported that the City Council had approved a proposal to appoint one of the Assistant City Administrators to oversee the City’s emergency management activities and that this function would be incorporated into his job. He also reported that the City has acquired a new mobile satellite communications system that is expected to be functional in the event of a severe earthquake.
ITC conducted three stakeholder workshops during this quarter. Please see the attached summaries for topics discussed.

Next Steps:

At the start of the upcoming quarter, the members of the Advisory Task Force will meet for their third quarterly meeting on May 13. The focus of the meeting will be to discuss mitigation goals and activities; and then priorities. Following this meeting, ITC will work with the City Planning Team to finalize the draft of mitigation goals, a prioritized list of mitigation activities that it will undertake in the next few years, and a tentative schedule for the timing of the review process that will include the Planning Team, the ATF, the public, and the City Council. The tentative schedule will define the work to be completed during this quarter.

***End of Report***

August 10, 2009

City of Inglewood and I.T. Crisis Services, Inc. (ITC)
Development of the Local Hazard Mitigation Plan

Fourth Quarterly report by Elliott Mittler, ITC Project Manager

Activities in the fourth quarter of this project were dominated by the submission of the first draft of the Local Hazard Mitigation Plan to the City of Inglewood and the completion of the revised first or “final” draft of the plan. I.T. Crisis Services (ITC) and the City Planning Team (PT) have worked jointly on these tasks with the continued active involvement of the Advisory Task Force (ATF). On July 21, 2009, the plan was placed on the City Council agenda and calendared for a public hearing on August 18, 2009.

The planned tasks of this project involving the City for this time-period were to have the City Planning Team and the Advisory Task Force comment on the first draft of the plan and to discuss mitigation measures that the City might include in the plan. The PT and ATF met on May 13, 2009 and July 9, 2009 at the Inglewood City Hall and the Police Building respectively specifically to discuss mitigation measures the City should include in the plan and to assign priorities of the mitigation measures. (See Table 1 below) Following the July 9, 2009 meeting, Elliott Mittler, the ITC Project Manager, met with Michael Falkow and Lt. James Madia one-on-one to get further input on mitigation measures and priorities. By the end of this quarter, ITC had submitted a first draft of the plan that was sent to the Planning Team and ATF for comment and a revised first or “final” draft that will be posted on the Internet for public review at the beginning of August.
Table 1: Meetings with the City and ITC

<table>
<thead>
<tr>
<th>Meeting</th>
<th>Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>Planning Meeting</td>
<td>May 13, 2009</td>
</tr>
<tr>
<td>Advisory Task Force Third Quarterly Meeting</td>
<td>May 13, 2009</td>
</tr>
<tr>
<td>Planning Meeting</td>
<td>July 9, 2009</td>
</tr>
<tr>
<td>Advisory Task Force Fourth Quarterly Meeting</td>
<td>July 9, 2009</td>
</tr>
</tbody>
</table>

At the third ATF quarterly meeting, held on May 13, 2009, the Planning Team and ATF members discussed both structural and non-structural mitigation measures that might be included in the local hazard mitigation plan. Topics ranged from the retrofit of City Hall to home retrofit programs and financial incentives and funding opportunities for homeowners to voluntarily retrofit their houses. Michael Falkow described the state of information technology in the City and efforts to get the current system updated and moved to a more earthquake safe location. He further said that critical functions of the City (finance, public works, building and planning, parks and recreation, and housing and code) were all located in City Hall and therefore at risk from a major earthquake on the Newport Inglewood Fault. Both Michael Falkow and Lt. James Madia agreed that the evacuation plans in City Hall are inadequate, some locations in the building are isolated from fire alarm horns, and there is a critical need to establish a warning system in City Hall. Others suggested that warning systems in all City-owned buildings be evaluated and updated if needed. Because of the earthquake threat, there was a recommendation that the city complete an evaluation of possible alternative sites for an Emergency Operations Center (EOC) if City Hall collapses or the building is declared unsafe. The current plan is to use Parks and Recreation facilities.

Both the Planning Team and ATF concurred that the number one priority of the City is to relocate the Police Building, which would also include an alternate EOC. Other critical items were the need for a geotechnical study of City Hall to determine if it lies on the Newport Inglewood Fault and a risk analysis for the Water Treatment Plant. Finally, the group said that preliminary studies need to be conducted of high-rise senior housing (non-ductile concrete structures constructed around 1977) and buildings identified as shelter locations.

At the end of the meeting, Craig Bragg reported that the City does not have an inventory of soft-story buildings or tilt-up buildings. He said there are about 300 tilt-up buildings and the City asks new owners at the time of sale to voluntarily retrofit them. So far, about 15% of the owners have voluntarily complied. Following his comments, the group recommended that these efforts be supported and included as mitigation measures.

At the fourth ATF meeting held on July 9, 2009, the only topic was the review of Section 5 of the first draft of the City Local Hazard Mitigation Plan focusing on mitigation measures. Every item in the first draft was discussed and a consensus was reached on the priority for each mitigation measure. During the discussion, a few additional measures were suggested.
to be included in the revision of the first draft. It was decided at this meeting that priorities be divided into four categories:

- Critical – most important actions to be implemented by the City
- High – to be implemented by the City in short-term future
- Medium – to be implemented when funding and resources become available
- Under Study – under consideration pending completion of formal assessment/study

ITC incorporated all comments from the Planning Team and ATF into a revised first or “final” draft of the Local Hazard Mitigation Plan. This draft was completed by the end of July.

Many mitigation discussions centered around the location of City Hall in the Newport Inglewood AP Fault zone. The point was raised that the already planned mitigation for the facility did not appear to take into account fault rupture, which could be a problem if in fact the facility did lie on the fault. The difference in having the structure next to an active fault and having the building transecting the active fault will have a tremendous impact in determining the City’s ability to respond to the needs of citizens when an earthquake occurs on the segment. It was strongly recommended that a geotechnical study proceed to determine the exact location of the fault with respect to City Hall. Charles Huyck agreed to obtain a preliminary quote from URS and did so prior the end of this quarter.

This quote was provided by URS, who noted that the school that is just to the west of City Hall is planning to expand and, according to state law, would be required to have a trenching study as part of its application for expansion. The City should contact Beverly Pye at the Inglewood School District to get the results of their trenching study if it has been completed or get the application number from Ms. Pye to examine the data filed with the state. The school district trenching study is not a substitute for one conducted for City Hall but it will provide additional information concerning the location of the fault.

Next Steps:

At the start of the upcoming quarter, the final draft of the plan will be submitted to the City so that it may be posted on the City Internet site for public review and comment. On August 18, the City Council will meet, hold a public hearing on the plan, and vote on adopting the plan. During this time, ITC will informally submit a copy of the plan to CalEMA to get their comments and recommendations for change that can be incorporated before the plan is formally sent to CalEMA and FEMA for review and approval. The final goal is to have the City Council adopt the plan and then have FEMA approve the plan in the next few months.

***End of Report***
Appendix B: ATF Survey

City Of Inglewood Hazard Mitigation Plan
Advisory Task Force Survey

This survey will assist the City of Inglewood and its consultant team to prepare the Hazard Mitigation Plan. Please take a few moments to fill it in and return by email to Paula Schulz at Paula@itcrisis.com by December 15, 2008. Please note that because of the diverse participation on the Advisory Task Force, we have used the term “agency” as an umbrella designation that includes agencies, departments, organizations, and private sector participants. Use additional sheets and attach documents as needed. If you need assistance, please feel free to contact Paula at (707) 939-8963. Thank you for your participation.

Name:  ____________________________________________

Position: __________________________________________

Agency: ___________________________________________

Address:  __________________________________________

__________________________________________________

Phone: _______________ Fax: _________________

Email: ____________________________________________

1. What natural or technological hazards concern you most from the standpoint of your agency or organization responsibilities? (Please mark [X] all that apply, and underline the hazard that concerns you the most)

[ ] Airplane Crash
[ ] Civil Unrest
[ ] Dam Failure
[ ] Earthquake
[ ] Flood/Winter Storms
[ ] Hazardous Materials Release
[ ] Human Threat/Terrorism
[ ] Hurricane Wind/Storm Surge
[ ] Nuclear Incident
[ ] Tornado
[ ] Train Derailment
[ ] Tsunami
[ ] Wildfire
[ ] Other (please write in) ________________________________

Page 138
2. Does your agency own, operate or provide community services that you believe may be at risk from natural or technological hazards? [ ] Yes [ ] No (please describe below)

________________________________________________________________________

________________________________________________________________________

________________________________________________________________________

________________________________________________________________________

3. What are you most concerned about in terms of being able to provide services in the event of a natural or technological hazard event?

________________________________________________________________________

________________________________________________________________________

________________________________________________________________________

________________________________________________________________________

4. Have steps been taken by your agency to reduce the risks to your facilities or operations that may be posed by natural or technological hazards? (Please describe ordinances, programs or plans you have in place to reduce risk. Attach additional sheets as necessary.)

________________________________________________________________________

________________________________________________________________________

________________________________________________________________________

________________________________________________________________________
5. What budget mechanisms, and internal or external funding sources are available to you to undertake hazard mitigation, vulnerability, or risk reduction activities? *(please list)*

________________________________________________________________________

________________________________________________________________________

________________________________________________________________________

6. From your agency or organization standpoint, what is the most important thing that could be done to reduce your vulnerability from the potential effects of natural or technological hazards?

________________________________________________________________________

________________________________________________________________________

________________________________________________________________________

7. Do you believe there are opportunities for interagency or inter-jurisdictional solutions to reducing vulnerability from natural or technological hazards? *(Please identify the hazard and possible opportunities.)*

________________________________________________________________________

________________________________________________________________________

________________________________________________________________________

8. May we contact you for additional information as we proceed through the planning process?  [ ] Yes  [ ] No
## Appendix B-1: ATF Survey – Summary of Responses and Trends

### Mitigation Survey Questions
- Hazards most concerned about
- Community services at risk
- Service provision concerns
- Risk reduction steps taken
- Budget mechanisms/funding sources
- Priority for reducing vulnerability
- Interagency opportunities

### Top Hazards
- Earthquake
- Airplane Crash

### Additional Hazards
- Civil Unrest
- Flood/Winter Storm
- Nuclear Incident
- Utility Failure
  - Water
  - Power
- Hazardous Materials
- Human Threat/Terrorism
- Wildfire
- Oil/Gas Line Ruptures
- Recycled Water System for Fire Protection

### Service/Facilities at Risk:
- Field Crews & Vehicles
- Water & Power System Failures
- Buildings Housing Critical and Day-to-Day Operations

### Service Provision Concerns:
- Personnel & Public Safety
- Maintain Critical Services
- Computer Systems/Technological Resources
- Loss of Power
- Damage to Transportation System

### Risk Mitigation Steps:
- Disaster Plans and Drills
- Training
- Communications/Interoperability
- Emergency Power
- Stockpile Supplies
- System Redundancy
- Post-Earthquake Engineering Surveys

### Budget/Funding:
- Annual Budget Process/General Fund
- State and Federal Grants/Programs
- Bonds and Loans

### Vulnerability Reduction Priorities:
- Seismic Retrofit of Civic Center Facilities
- Joint Exercises
- Computer Generated Damage Models for Water Systems and Infrastructure
Evacuation Training and CERT Training

Opportunities for Collaboration:
- Continue Advisory Task Force
- Offer CERT Trainings
- Purchase Transportable Generators
- Share Equipment and Expertise
- Set Common Priorities
- Mutual Aid Agreements
- Citywide Planning Meetings and Annual Drills

- Off Site Data Storage and Processing
- Develop Hazard Mitigation Plan
EARTHQUAKE IS THE BIGGEST CONCERN!
Solutions:
- Preparedness and Training
  - CERT
- Facilities
  - Evaluation
  - Retrofit
- Infrastructure
  - Strengthening
  - Redundancy
Appendix C: Stakeholder Workshop

City of Inglewood
Local Hazard Mitigation Plan

Stakeholders Workshop

I.T. Crisis Services, Inc. (ITC)

Workshop Agenda

- 9:00 Welcome and Introductions
- 9:30 DMA 2000 and Mitigation Planning
- 9:45 Hazard Description & Discussion
- 10:15 Break
- 10:30 Facilitated Discussion
- 11:45 Next Steps
Workshop Objectives

- To introduce workshop participants to the City of Inglewood Hazard Mitigation Planning Process
- To obtain input from workshop participants about concerns and suggestions for reducing their risk from identified hazards
- To meet federal DMA 2000 planning process requirements

Approach to City of Inglewood Local Hazard Mitigation Plan

Mitigation Planning is a *process* for local governments to identify policies, activities, and tools to implement mitigation actions. Mitigation is any sustained action taken to reduce or eliminate long-term risk to life and property from a hazard event. This process has four steps:

- organizing resources;
- assessing risks;
- developing a mitigation plan; and
- implementing the plan and monitoring progress
Approach to City of Inglewood Local Hazard Mitigation Plan

In accordance with the federal Disaster Mitigation Act of 2000, every community must have an approved hazard mitigation plan as a condition to receive federal hazard mitigation assistance.

Required Plan Elements:
- Planning Process
- Public Participation
- Risk Assessment
- Mitigation Strategy
- Plan Maintenance Process
- Formal Adoption
Approach to City of Inglewood Local Hazard Mitigation Plan

Planning Process Requirements:

- Opportunity for public comment
- Opportunity for involvement from other local, regional, state, federal agencies, academia, businesses, private and non-profit interests
- Incorporation of existing plans, studies, reports, and technical information
- Documentation of the planning process

Benefits of Mitigation

- Saved lives
- Reduced damage to property
- Reduced economic losses
- Minimized social disruption
- Local government to resume operations quickly
- Shorter recovery period for the community
- Improved attractiveness to individuals and businesses
Mitigation Measures

- Prevention
- Property protection
- Public education and awareness
- Natural resource protection
- Emergency services
- Structural projects

Prevention (Future Development)

- Keep a hazard risk from getting worse.
- Ensure that future development does not increase hazard losses.
- Guide future development away from hazards, while maintaining other community goals such as economic development and quality of life.
Property Protection (Existing Development)

- Modify existing buildings subject to hazard risk, or their surroundings
- Directly protect people and property at risk
- Inexpensive measures because often they are implemented or cost-shared with property owners.

Public Education and Awareness

- Inform and remind people about hazardous areas and the measures they can take to avoid potential damage and injury.
- Directed toward property owners, potential property owners, business owners and visitors.
Natural Resource Protection

- Reduce the intensity of hazard effects and improve the quality of the environment and wildlife habitats.
- Parks, recreation, or conservation agencies or organizations usually implement these activities.

Emergency Services

- Emergency services protect people before and after a hazard event.
- Most counties and many cities have emergency management offices to coordinate warning, response, and recovery during a disaster.
- Actions taken to ensure the continuity of emergency services are considered to be mitigation.
Structural Mitigation

- Directly protect people and property at risk.
- Called “structural” because they involve construction or modification of man-made structures to reduce injury, damage and improve functionality.
Appendix C-1: List of Invited Participants

February 20, 2009:

Partners for Progress
- Hollywood Park Casino
- Hollywood Park Land Company
- The Forum
- Centinela Hospital Medical Center
- Inglewood Park Cemetery
- Inglewood Airport Area Chamber of Commerce
- Los Angeles World Airports Chamber of Commerce
- Real Estate Association
- Hagen Group (Commercial Developer)
- Los Angeles World Airport (LAX)
- Airport Police
- LA County Animal Control
- Inglewood Unified School District
- Private Schools
  - Wilder’s Preparatory Academy Charter School
  - Animo Leadership Charter High School
  - St. Mary’s Academy

February 21, 2009:

Home Owners Associations (HOA) (with 75+ units)
- Crossroads
- Renaissance
- Carlton Square
- Briarwood

March 28, 2009:

Citizens Emergency Response Teams (CERT) - 165 invitees
### First Stakeholder Workshop – February 20, 2009

<table>
<thead>
<tr>
<th>Name</th>
<th>Organization</th>
<th>Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>Michael Calzada</td>
<td>City of Inglewood</td>
<td>RSI Director</td>
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<td>Michael D. Falkow</td>
<td>City of Inglewood</td>
<td>Acting Asst. City Administrator</td>
</tr>
<tr>
<td>Soheil Hekmat, MD</td>
<td>Hillcrest Medical Clinic</td>
<td>Medical Director</td>
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<tr>
<td>Micah Herd</td>
<td>Inglewood Police Dept</td>
<td>Grants Coordinator</td>
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<tr>
<td>Charlie Huyck</td>
<td>ITC</td>
<td>Consultant</td>
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<tr>
<td>James Madia</td>
<td>Inglewood Police Dept</td>
<td>Lieutenant</td>
</tr>
<tr>
<td>Elliott Mittler</td>
<td>ITC</td>
<td>Consultant</td>
</tr>
<tr>
<td>Terri Pond</td>
<td>ITC</td>
<td>Consultant</td>
</tr>
<tr>
<td>Paula Schulz</td>
<td>ITC</td>
<td>Consultant</td>
</tr>
<tr>
<td>Roland Talton</td>
<td>Inglewood Chamber of Commerce</td>
<td>Past President</td>
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### Second Stakeholder Workshop – February 21, 2009

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<tr>
<td>June Brown</td>
<td>Briarwood HOA Disaster Committee</td>
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<td>Michael D. Falkow</td>
<td>City of Inglewood</td>
<td>Acting Asst. City Administrator</td>
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<td>Kathryn Friar</td>
<td>Briarwood HOA</td>
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<td>Charlie Huyck</td>
<td>ITC</td>
<td>Consultant</td>
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<tr>
<td>Hazel Lee</td>
<td>Briarwood HOA Disaster Committee</td>
<td>Chairperson</td>
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<tr>
<td>Lena McKinnon</td>
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<td>James Madia</td>
<td>Inglewood Police Dept</td>
<td>Lieutenant</td>
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<td>ITC</td>
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<tr>
<td>Margaret Morris</td>
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<tr>
<td>Rev. Jackie Russell</td>
<td>Faithful Center Bible Church</td>
<td>Disaster Coordinator</td>
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<td>Terri Pond</td>
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<tr>
<td>Stewart Bailey</td>
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<td>Shannel Brown</td>
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<td>Floyd Harris</td>
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<td>Charlie Huyck</td>
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<td>Henry Harni</td>
<td>HAL Neighborhood Watch</td>
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<td>Richard Konker</td>
<td>Fairview Watchguard</td>
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<td>James Madia</td>
<td>Inglewood Police Dept</td>
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<td>Elliott Mittler</td>
<td>ITC</td>
<td>Consultant</td>
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<tr>
<td>Mari Morales</td>
<td>Citizen</td>
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<tr>
<td>Darryl Rouzan</td>
<td>Inglewood Police Dept</td>
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<td>Terri Pond</td>
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</tr>
<tr>
<td>Paula Schulz</td>
<td>ITC</td>
<td>Consultant</td>
</tr>
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Appendix D: Hazard Screening Maps

Map 1: 65 Decibel Noise Contours
Map 3: Alquist Priolo Fault Zones
Map 4: Landslide and Liquefaction
Map 5: Flood / Winter Storms
Map 6: Tsunami
Map 8: Major Facilities, Lifelines, and PGA in Inglewood for a 6.9 on the Newport Inglewood Fault

- Schools
- Military and DOD Contracting Facilities
- LA County Court Buildings
- Water Treatment Plants and Reservoirs
- Fire Station
- City Buildings
- Police Stations
- Medical Facilities
- Hazardous Materials
- Water Pumping Station
- Water Lines
- Fuel Lines
- Gas Lines
- Power Lines
- CCS liquefaction Susceptibility Areas
- Acquist Priolo Fault Zones

Peak Ground Acceleration (g):
- 0.32
- 0.36
- 0.38
Map 9: Newport-Inglewood zone located in close proximity to City Hall and other facilities in Inglewood
Map 10: Major Facilities, Lifelines, and Hazards in Inglewood

- Schools
- Military and DOD Contracting Facilities
- Los Angeles County Court Buildings
- Water Treatment Plants and Reservoirs
- Fire Station
- City Buildings
- Police Stations
- Medical Facilities
- Hazardous Materials
- Water Pumping Station
- Water Lines
- Fuel Lines
- Gas Lines
- Power Lines
- California Geologic Survey Liquefaction Susceptibility Areas
- 65 Decibel Noise Zones
- Alquist–Priolo Fault Zones
Area #2
Area #3
Area #5
Area #6
Area #7
Area #9
Area #12
Area #13
Area #15
Area #17
Area #20
Area #21
Area #22
Appendix E: Review of Inglewood Seismic Evaluation

Seismic evaluation of the City Service Center located at 222 West Beach Avenue, Inglewood and City Hall located at One Manchester Boulevard, Inglewood

A seismic evaluation of the City Center facility and the City Hall was performed by adopting ASCE/SEI criteria (see complete reports in Appendix E-1 and E-2). The intent of the evaluation was to ensure that both the buildings meet the level of performance required to safeguard against major structural failure or loss of life. It was also to determine the need (2001 California Building Code and FEMA requirements) of seismic retrofit of structural members of the lateral force resisting systems. The evaluation concluded that the risk to life safety in both the buildings is low.

The city center building is a collection of three separate structures- Phase I, which is a 3-story employee building, Phase II, composed of 3 sections, and a central building connected to Phase I building. The evaluation found inadequacies in several of the structural elements of the building which did not meet the acceptance criteria (ASCE/SEI 31-03). These included poorly distributed or lightly reinforced shear walls, wall reinforcements, and deteriorated diaphragms. The report provided retrofit recommendations for all these elements to ensure life safety levels of building performance.

The city hall is a 9-story reinforced concrete building with a penthouse and a subterranean parking. There is a partial level which is not located below the tower and serves as the emergency operations room. Most of the structural elements of the city hall including frame beams, shear walls, diaphragms, and foundation meet the acceptance criteria of ASCE/SEI 31-03. Most of the frame columns with the exception of some (identified in the report) meet the acceptance criteria. Recommendations have been provided for the frame columns that need retrofit.

Chemical release and dispersion analysis for the Sanford M. Anderson Water Treatment Plant

Plume modeling was performed for a worst case scenario and two additional scenarios. (see complete report in Appendix E-3) of the three scenarios considered the following factors: i. release quantity, ii. release rate, iii. topology, and iv. meteorological characteristics of the site. A summary of the dispersion analysis is presented in Table 1. The distance to the toxic endpoint was estimated for each scenario and the number of people exposed to chlorine gas was identified (Table 2). Several sensitive population centers (Table 3), such as, schools, parks, and senior centers were identified within a 0.5 mile radius of the water treatment plant facility. These fell within the zone with the potential of being exposed to toxic chlorine gas in the event of a chemical release due to an earthquake or other incidents.
**Parameter** | **Worst-Case** | **ALT-1** | **ALT-2**
--- | --- | --- | ---
Materials Released | Chlorine | Chlorine | Chlorine
Type of Material (liquid/gas/liquid under pressure/refrigerated liquid) | Liquid under pressure | Liquid under pressure | Liquid under pressure
Release Quantity (lb.) | 2,000 | 2,000 | 2,000
Type of Release (liquid/gas) | Liquid | Liquid | Liquid
Release Rate to Outside Air (lb./m) | 110 | 82.5 | 10
Release Time | 10 minutes | Until empty | Until Empty
Release Direction | Vertical | Vertical | Horizontal
Release Temperature (°F) | 77 | 77 | 77
Release Pressure (atm) | 1 | 1 | 1
Height of release (ft) / (m) | 0 / 0 | 8 / 2.4 | 0 / 0
Ambient Temperature (°F) | 77 | 77 | 77
Ambient Pressure (atm) | 1 | 1 | 1
Relative Humidity | 50% | 50% | 50%
Stability Class | F | D | D
Wind Speed (m/s) | 1.5 | 3.0 | 3.0
Surface Roughness | Urban | Urban | Urban
Averaging Time (minute) | N.A. | N.A. | N.A.
Type of gas (dense/neutrally buoyant) | Dense | Dense | Dense
Toxic Endpoint Concent. (ppm) / (mg/l) | 3 / 0.0087 | 3 / 0.0087 | 3 / 0.0087
Distance to Toxic Endpoint (mile) / (km) | 0.9 / 1.4 | 0.2 / 0.3 | 0.1 / 0.2

**Table E-1: Dispersion Analysis Summary**

<table>
<thead>
<tr>
<th>Scenario</th>
<th>Distance to Toxic Endpoint</th>
<th>Residential Population within the Circle</th>
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<tbody>
<tr>
<td>Worst Case Release</td>
<td>0.9 miles</td>
<td>37,940</td>
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<tr>
<td>ALT-1: Fuse plug leak inside the building</td>
<td>0.2 miles</td>
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<tr>
<td>ALT-2: Valve leak outside the building</td>
<td>0.1 mile</td>
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**Table E-2: Estimated Population Data**
<table>
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<tr>
<th>Population Receptor</th>
<th>Telephone Number</th>
<th>Address</th>
<th>Type</th>
<th>Distance to Release Point</th>
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<tbody>
<tr>
<td>Hudnall Elementary School</td>
<td>(310) 680-5420</td>
<td>331 W Olive St</td>
<td>School</td>
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<tr>
<td>Highland Elementary School</td>
<td>(310) 680-5460</td>
<td>430 Venice Way</td>
<td>School</td>
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<tr>
<td>La Tijera Elementary School</td>
<td>(310) 680-5260</td>
<td>1415 N La Tijera Blvd</td>
<td>School</td>
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<tr>
<td>Inglewood High School</td>
<td>(310) 680-5200</td>
<td>231 S Grevillea Ave</td>
<td>School</td>
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<tr>
<td>George W. Crozier Middle School</td>
<td>(310) 680-5280</td>
<td>151 N Grevillea Ave</td>
<td>School</td>
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<tr>
<td>Training Research Foundation</td>
<td>(310) 677-4711</td>
<td>323 S Eucalyptus Ave</td>
<td>Preschool</td>
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<tr>
<td>First Lutheran Pre-School</td>
<td>(310) 674-0310</td>
<td>600 W Queen St</td>
<td>Preschool</td>
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<td>Village Preschool</td>
<td>(310) 680-9922</td>
<td>434 S Grevillea Ave</td>
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<td>Training Research Foundation</td>
<td>(310) 677-6018</td>
<td>400 W Beach Ave</td>
<td>Daycare</td>
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<tr>
<td>Jordan Day Care</td>
<td>(310) 412-2060</td>
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<td>Inglewood Avenue Preschool</td>
<td>(310) 674-5011</td>
<td>215 S Inglewood Ave</td>
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<tr>
<td>Kid’s Castle Child Care Center</td>
<td>(310) 677-2997</td>
<td>745 N La Brea Ave</td>
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<tr>
<td>Sunshine Day Care Center</td>
<td>(310) 680-9717</td>
<td>504 Edgewood St</td>
<td>Daycare</td>
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<tr>
<td>Youth &amp; Family Center Infant</td>
<td>(310) 671-6719</td>
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<td>Daycare</td>
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</tr>
<tr>
<td>Village Preschool</td>
<td>(310) 680-9922</td>
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<td>Westchester Villa Retirement</td>
<td>(310) 673-1093</td>
<td>220 W Manchester Blvd</td>
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<tr>
<td>Population Receptor</td>
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<td>Eucalyptus Park Apartments</td>
<td>(310) 677-7482</td>
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<td>Wells Guest Home</td>
<td>(310) 412-1886</td>
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<td>Regency Towers</td>
<td>(310) 677-5400</td>
<td>151 N Locust St</td>
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<td>Inglewood Meadows</td>
<td>(310) 672-3988</td>
<td>1 S Locust St</td>
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<td>Rogers Park</td>
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<td>400 W Beach Ave</td>
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<td>Inglewood Recreation Park</td>
<td>(310) 412-5483</td>
<td>1 W Manchester Blvd</td>
<td>Park</td>
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Table E-3: Sensitive Population Receptors within 0.5-Mile Radius
July 8, 2008

Mr. Glen W. C. Kau, PE
Public Works Director
Public Works Department, City of Inglewood
One Manchester Boulevard
Inglewood, California 90312

Regarding: City Hall Seismic Evaluation, City of Inglewood, California

Dear Mr. Kau:

As indicated in the Scope of Work of the Professional Services Proposal from Professional Engineering Center to the Public Works Department, City of Inglewood, dated July 26, 2006, we are submitting our seismic evaluation report.

1.0 GENERAL BACKGROUND

The Public Works Department at the City of Inglewood requested seismic evaluation of the City Hall Building located at One Manchester Boulevard, Inglewood, California. The intent of the seismic evaluation as described by the Public Works Department is to ensure the life safety and determine the need for seismic retrofit of the structural members of the lateral force resisting system of the building if required according to the 2001 CBC code adopting the FEMA criteria. It has been clarified in a correspondence, dated October 2, 2006, from Professional Engineering Center to the Public Works Department at the City of Inglewood that the Life Safety Performance Level according to the FEMA 356 document constitutes buildings to experience extensive damage to structural and nonstructural components. Also, repairs may be required before reoccupancy of the building occurs, and repair may be deemed economically impractical. The risk to life safety in buildings meeting this target Building Performance Level is low.

2.0 SCOPE OF WORK

The scope of work includes the seismic evaluation of the City Hall Building located at One Manchester Boulevard, Inglewood, California. The seismic evaluation includes the following:

- Study the as-built structural drawings prepared by Johnson & Nielsen Associates Consulting Structural Engineers, Los Angeles, CA, January 1971.

- Provide site visits to confirm that the structural system of the City Hall building matches that as described in the as-built structural drawings and details.
Conduct three-dimensional elastic dynamic analysis of the lateral force resisting system of the City Hall Building according to the FEMA 356 document.

Evaluate the structural members of the lateral force resisting system according to the FEMA requirements considering the Life-Safety performance level.

Develop an evaluation report that includes the following:

- Seismic evaluation narrative describing the evaluation process and basis.
- Description of the structural system based on the as-built drawings and the structural observation resulted from the site visits.
- Evaluation process including modeling assumption, seismic hazard, three dimensional dynamic model and analysis description and results of the seismic evaluation of the structural members.
- Evaluation of the lateral force resisting system based on the results of the analysis and the acceptance criteria by FEMA 356.
- Identify structural members that need may need seismic retrofit, if any, and provide recommendations for seismic retrofit.

3.0 DOCUMENTS REVIEWED
We have reviewed to the extent necessary to develop our professional opinions the following documents related to the seismic evaluation of the City Hall Building. These documents included the as-built structural drawings prepared by Johnson & Nielsen Associates Consulting Structural Engineers, January 1971.

4.0 ADOPTED CODE AND ACCEPTANCE CRITERIA
The governing building code is the 2001 California Building Code. Chapter 16, Division VI-R, “Earthquake Evaluation and Design for Retrofit of Existing State-Owned Buildings”. Method B of Division VI-R was selected for the evaluation.

The requirements set forth by FEMA 356 Document, “Prestandard and Commentary for the Seismic Rehabilitation of Buildings” were adopted. The Life Safety performance level was employed as the seismic performance criteria for the evaluation study.
5.0 SITE VISITS

Two site visits were conducted to confirm that the structural system of the City Hall building matches the system as described in the provided as-built structural drawings and details. The following photographs include representative City Hall structural system and components:

![City Hall Building, One Manchester Boulevard](image)

Figure 5.1 City Hall Building, One Manchester Boulevard
Figure 5.2 Edge of Tower at the Parking Level

Figure 5.3 Girders supporting Shear Wall Above
Figure 5.4 Girders supporting Shear Wall Above

Figure 5.5 Girders supporting Shear Wall Above
6.0 DESCRIPTION OF THE CITY HALL BUILDING

The City Hall Building is a 9-Story reinforced concrete building with a penthouse and one subterranean parking level. Partial level is used for emergency operation room and is not located below the tower.

The gravity load supporting system is composed of reinforced concrete slabs, columns and foundation. The lateral force resisting system is composed of 6 reinforced concrete moment frames in each direction of the building, reinforced concrete shear walls between the first and the third levels and reinforced concrete diaphragms. Not all the shear walls reaching the foundation. One shear wall is supported by a footing. Two shear walls are supported by transfer girders at the first level. One shear wall is supported by a column and a basement wall. Figures 6.1 and 6.2 show the building elevation and the typical floor plan, respectively.

![Figure 6.1 Building Elevation](image-url)
7.0 EVALUATION PROCESS
The City Hall Building was modeled using the computer program ETABS. Three dimensional elastic dynamic analysis was conducted. The assumptions that were considered in the model followed Chapters 3 and 6 of the FEMA 356 Document.

7.1 PERFORMANCE OBJECTIVE
The Life Safety Building Performance Level (3-C) as presented in Section 1.5.3.3 was elected as the performance objective for the seismic evaluation. Buildings meeting this level may experience extensive damage to structural and nonstructural components, but some margin against either partial or total structural collapse remains.
Repairs may be required before reoccupancy of the building occurs, and repair may be deemed economically impractical. The risk to life safety in buildings meeting this target Building Performance Level is low. This target Building Performance Level entails somewhat more damage than anticipated for new buildings that have been properly designed and constructed for seismic resistance when subjected to their design earthquakes. Many building owners will desire to meet this target Building Performance Level for severe ground shaking.

7.2 ANALYSIS PROCEDURE
The Linear Dynamic Procedure (LDP) was adopted according to Section 3.2.1. The mathematical modeling requirements provided in Section 3.2.2 was used.

7.2.1 MODELING ASSUMPTIONS
Rigid diaphragms have been used in each floor. ETABS determines the center of mass and center of rigidity of for each floor and determines the torsion moments. The stiffness and strength assumptions of Sections 6.3 and 6.4 were considered.

The specified concrete strength and specified steel yield strength were used in the model. Since the component properties characterize building performance properly in the seismic analysis, the starting point for assessing component properties and condition should be retrieval of available construction documents. Review of these documents was performed to identify primary gravity and lateral load-carrying elements, systems, and their critical components and connections, Section 6.3.2.2.

Section 2.2.6.4 requires that to account for uncertainty in the collection of as-built data, a knowledge factor, k, shall be selected from Table 2-1 considering the selected Rehabilitation Objective, analysis procedure, and data collection process. Knowledge factors shall be applied on a component basis as determined by the level of knowledge obtained for individual components during data collection. A level factor of unity was used.

The stiffness of the framing members was used according to the specified material properties. The effective stiffness was considered according to Section 6.4.1.2. The effectiveness ratios listed in Table 6-5 was used. The effectiveness percentage of the flexural rigidity of the frame beams was taken as 50%, while that of the frame columns was taken as 70%. The concrete shear walls effectiveness percentage was considered as 50%. The effective shear rigidity for the frame beams and columns and the shear walls was considered as 40% of the gross shear rigidity.

7.2.2 SEISMIC HAZARD
Seismic hazard due to ground shaking shall be based on the location of the building with respect to earthquake faults, the regional and site-specific geologic characteristics, and a selected Earthquake Hazard Level.
Section 1.6 of the FEMA 356 requires hazards due to earthquake shaking to be defined on either a probabilistic or deterministic basis. Probabilistic hazards are defined in terms of the probability that more severe demands will be experienced (probability of exceedance) in a 50-year period. Two basic Earthquake Hazard Levels: Basic Safety Earthquake 1 (BSE-1) and Basic Safety Earthquake 2 (BSE-2). The BSE-1 is the earthquake that has a 10% probability of occurrence in 50 years while BSE-2 is that which has a 2% probability of occurrence in 50 years. The Basic Safety Objective (BSO) was achieved by the Life Safety Building Performance Level (3-C) for the BSE-1 Earthquake Hazard Level. Section 1.6.1.2 requires that the BSE-1 response acceleration parameters to be taken as two-thirds of the values of the parameters for the BSE-2 earthquake hazard level, determined in accordance with Section 1.6.1.1.

The USGS 2003 NEHRP maps were used to determine the response acceleration parameters. To accurately determine the seismic parameters, the City Hall Building was determined to be at Latitude of 33.96173 and Longitude of -118.35522. The latitude and longitude facilitate the use of electronic maps and resulted in accurate determination of the response spectra parameters. The site class was taken as D according to Section 1.6.1.4.2. The $S_0$ factor was found to be 1.677 while $S_1$ was found to be 0.637 for the Basic Safety Earthquake 2 (BSE-2). Since the Site Class was considered as D, the $F_a$ and $F_v$ were taken as 1.0 and 1.5. Therefore, $SM_0$ and $SM_1$ was determined to 1.677 and 0.955, respectively. The Basic Safety Earthquake 1 (BSE-1) parameters, $SD_0$ and $SD_1$ were developed by multiplying the $SM_0$ and $SM_1$ by two thirds. The developed Response Spectra is presented in Figure 1.1.

![Figure 1.1 Basic Safety Earthquake 1 (BSE-1) Response Spectra](image)
7.2.3 THREE DIMENSIONAL DYNAMIC MODEL

Three dimensional dynamic model was built using the computer program ETABS. The modeling assumptions are listed in Section 7.2.1 of this report. Figures 7.2 and 7.3 present the 3D model. Figure 7.2 shows the model including the diaphragm as a transparent layer, while the diaphragms were set off in Figure 7.3. The analysis was conducted considering the Basic Safety Earthquake 1 (BSE-1) Response Spectra. The results of the analysis include the modal results, the displacements and forces. The forces include the axial forces, bending moments and shear forces on the moment frame beam and column and on the shear walls.

Figure 7.2 Three Dimensional ETABS Model with Diaphragms
7.2.4 DYNAMIC ANALYSIS RESULTS
The dynamic analysis was conducted and the results were collected. The modal analysis was performed as a part of the dynamic analysis. The modal analysis results are the dynamic characteristics of the building. Twelve modes were considered in the analysis to capture more than 90% of the mass participation ratio. The natural periods for the first three modes were determined to be: 2.85, 2.76 and 2.75. Figures 7.4 to 7.6 show the first three modal shapes.

The frame column on the intersection of Gridlines C and 6 is supported by transfer girder at the 2nd Floor. This is resulted in transferring the seismic forces to the adjacent frames and increasing the moments of these frame columns, Figure 7.7. The shear wall supported by a column below the 1st Floor experiences high uplift force will relatively low gravity load, Figure 7.8.
Figure 7.4 First Modal Shape, $T_1 = 2.85$

Figure 7.5 Second Modal Shape, $T_2 = 2.76$
Figure 7.6 Third Modal Shape, $T_3 = 2.75$

Figure 7.7 Partial Framing Plan
7.2.5 ACCEPTANCE CRITERIA
FEMA 356, Section 2.4.4 requires that each component to be evaluated in accordance with the requirements of Section 3.4. Each component shall be classified as primary or secondary in accordance with Section 2.4.4.2, and each action shall be classified as deformation-controlled (ductile) or force-controlled (nonductile) in accordance with Section 2.4.4.3. Table C2-1 includes deformation-controlled and force-controlled components.

Component strengths, material properties, and component capacities shall be determined in accordance with Sections 2.4.4.4, 2.4.4.5, and 2.4.4.6, respectively. Section 2.4.4.6 requires that detailed criteria for calculation of individual component force and deformation capacities to comply with the requirements of Chapter 6 for reinforced concrete structures.
Since linear dynamic analysis procedure was used, capacities for deformation-controlled actions shall be defined as the product of m-factors and expected strengths, $Q_{CE}$. Capacities for force-controlled actions shall be defined as lower-bound strengths, $Q_{CL}$, as summarized in Table 2-3. Section 3.4.2.2 includes the acceptance criteria for linear procedures for both deformation-controlled and force-controlled actions. The following two criteria are used for deformation-controlled and force-controlled actions, respectively:

$$m \kappa Q_{CE} \geq Q_{UD} \quad \kappa Q_{CL} \geq Q_{UF}.$$

Table 6-11 and 6-12 of FEMA 356 include the m-factor values for both frame beams and columns, respectively. Multiple frame beams and columns and shear walls and diaphragms were evaluated using the adopted acceptance criteria.

8.0 EVALUATION CONCLUSIONS
After conducting the dynamic analysis and performing the evaluation adopting the acceptance criteria referenced in Section 7.2.5 of this report. The following are the evaluation conclusions:

8.1 Frame Beams:
The frame beams meet the acceptance criteria for the Life Safety Performance Objectives.

8.2 Frame Columns:
Most of the frame columns satisfy the acceptance criteria. The frame columns above the 2nd Floor, adjacent to the column at Gridlines C & 6 that is supported by transfer girders; will hinge earlier and experience high inelastic strains. These columns need to be retrofitted.

The column supporting a shear wall below the 1st Floor, Figure 7.8; experiences high uplift axial forces. A retrofit is needed for this column.

8.3 Shear Walls:
The shear walls satisfy the acceptance criteria.

8.4 Diaphragms:
The diaphragms have enough strength to meet the acceptance criteria.

8.5 Foundation:
The foundation satisfies the acceptance criteria.
9.0 RETROFIT RECOMMENDATIONS

The following retrofit recommendations are based on the seismic evaluation adopting the Life Safety Building Performance Level (3-C) as set forth by FEMA 356 document:

- A number of nearly six frame columns above the 2nd Floor may be retrofitted by providing confinement at the potential plastic hinge zones which are the top and bottom 4 feet of the columns. The confinement can be achieved by fiber wrapping.

- The column supporting a shear wall below the 1st Floor needs to be retrofitted by providing ties between the girders at the 1st Floor and to the foundation. These ties will need to be anchored to the girders, column and the footing. The column will need to be encased by concrete. Dowels will be drilled and epoxied.

We appreciate being given the opportunity to conduct the seismic evaluation for the City Hall Building. Also, we hope that this report satisfies the intent of the seismic evaluation you have requested.

Please do not hesitate to call should you have any questions.

Very truly yours,

Nagi Abo-Shadi
Principal
10.0 REFERENCES


December 28, 2007 (Draft)

Mr. Glen W. C. Kau, PE
Public Works Director
Public Works Department, City of Inglewood
One Manchester Boulevard
Inglewood, California 90312

Regarding: City Service Center Seismic Evaluation, City of Inglewood, California

Dear Mr. Kau:

As indicated in the Scope of Work of the Request for Proposal by the Public Works Department, City of Inglewood, dated June 25, 2007, we are submitting our seismic evaluation report.

1.0 GENERAL BACKGROUND
The Public Works Department at the City of Inglewood requested seismic evaluation of the City Service Center Building located at 222 West Beach Avenue, Inglewood, California 90302. The intent of the seismic evaluation as described by the Public Works Department is to ensure that the performance level of the building shall meet the provisions to safeguard against major structural failure or loss of life and determine the need for seismic retrofit of the structural members of the lateral force resisting system of the building if required according to the 2001 California Building Code and the FEMA Requirements. The Department eliminated evaluation of the non-structural element out of the scope of work as the focus at this point is on the building structural system.

The Life Safety Performance Level according to the FEMA documents constitutes buildings to experience extensive damage to structural and nonstructural components. Also, repairs may be required before re-occupancy of the building occurs, and repair may be deemed economically impractical. The risk to life safety in buildings meeting this target Building Performance Level is low

2.0 SCOPE OF WORK
The scope of work includes the seismic evaluation of the City Service Center Building located at 222 West Beach Avenue, Inglewood, California 90302. The seismic evaluation includes the following:

- Study the as-built structural drawings prepared by Kahn Kappe Lottery Architects Planners, Santa Monica, CA, dated September 1970.
• Provide site visits to confirm that the structural system of the City Service Center Building matches that as described in the as-built structural drawings and details.

• Conduct three-dimensional elastic dynamic analysis of the lateral force resisting system of the City Service Center Building according to the adopted code and evaluation criteria.

• Evaluate the structural members of the lateral force resisting system according to the evaluation criteria requirements considering the Life-Safety performance level as requested by the Public Works Department.

• Develop an evaluation report that includes the following:
  
  o Seismic evaluation narrative describing the evaluation process and basis.
  
  o Description of the structural system based on the as-built drawings and the structural observation resulted from the site visits.
  
  o Evaluation process including modeling assumption, seismic hazard, three-dimensional dynamic model and analysis description and results of the seismic evaluation of the structural members.
  
  o Evaluation of the lateral force resisting system based on the results of the analysis and the acceptance criteria.
  
  o Identify structural members that may need seismic retrofit, if any, and provide recommendations for seismic retrofit.

3.0 DOCUMENTS REVIEWED

We have reviewed to the extent necessary to develop our professional opinions the following documents related to the seismic evaluation of the City Service Center Building. These documents included the as-built structural drawings prepared by Kahn Kappe Lottery Architects Planners, September 1970. The precast shop drawings, details and calculations were not found. Also, the building original calculations for the foundation and the lateral system were not found. This is expected for a building designed to comply with the requirements of the 1967 Edition of the Uniform Building Code. The original Geotechnical Report is not available. However, the foundation information was provided in the as-built drawings.
4.0 ADOPTED CODE AND ACCEPTANCE CRITERIA

The governing building code is the 2001 California Building Code, Chapter 16, Division VI-R, “Earthquake Evaluation and Design for Retrofit of Existing State-Owned Buildings”. Method B of Division VI-R was selected for the evaluation.

The requirements set forth by the ASCE/SEI 31-03 Criteria, American Society of Civil Engineers, “Seismic Evaluation of Existing Building” were adopted. The Life Safety performance level as requested by the Department was employed as the seismic performance criteria for the evaluation study.

The ASCE/SEI 31-03 document is an advanced document of the FEMA 310 “Handbook for the Seismic Evaluation of Buildings—A Prestandard”. ASCE 31-03 is intended to replace FEMA 310. All aspects of building performance are considered and defined in terms of structural, nonstructural and foundation/geologic hazard issues. This standard was written to reflect advancements in technology; incorporate the experience of design professionals; incorporate lessons learned during recent earthquakes; be compatible with FEMA 356, Prestandard and Commentary for the Seismic Rehabilitation of Buildings (FEMA, 2000c); be suitable for adoption in building codes and contracts; be nationally applicable and provide evaluation techniques.

5.0 SITE VISITS

Two site visits were conducted to confirm that the structural system of the City Service Center Building matches the system as described in the provided as-built structural drawings and details. The following photographs include representative structural system and components:

Figure 5.1 Aerial Picture of the City Service Center Building
Figure 5.2 City Service Center Building, 222 West Beach Avenue, Inglewood, California 90302

Figure 5.3 East Stair Case
Figure 5.4 Parking Level Bridge

Figure 5.5 Bridge Connection to the Building
Figure 5.6 Typical Wall to Plank Connection

Figure 5.7 Moisture Effect on a Shear Wall
Figure 5.8 Moisture Effect on a Shear Wall

Figure 5.9 Seismic Joint between Gridlines 16 and 17
Figure 5.10 Moisture Effect on a Cantilever

Figure 5.11 Cantilever Cracks at Gridline 16
Figure 5.12 Mezzanine Slab between Gridlines 7 & 8 and Gridlines E & F

Figure 5.2 includes a picture of Phase I of the building that is called as the Employee Building. A stair case at the east side of the building, connecting to the parking level above is shown is Figure 5.3. The bridge connecting Cable Way to the parking level at the roof of the building is presented in Figures 5.4 and 5.5. The bridge construction is similar to the building construction.

Figure 5.6 shows a typical connection of a concrete brick wall to precast planks. A sample of the moisture effect on the shear walls is presented in Figures 5.7 and 5.8.

The seismic joint between Gridlines 16 and 17 is shown in Figure 5.9. The moisture leak at the seismic joint and at the columns supporting the 2 cantilevers is obvious. The two cantilevers have deflected and cracks are visible. See Figures 5.10 and 5.11.

A mezzanine level between Gridlines 7 & 8 and Gridlines E & F were found not to be documented in the as-built drawings (Figure 5.12). It was observed that no lateral resisting system is provided to brace it laterally. The precast columns are designed only to support the gravity loads. The as-bililt drawings do not include lateral forces to the precaster to consider in the design of the columns.
6.0 DESCRIPTION OF THE CITY SERVICE CENTER BUILDING

The City Service Center Building is composed of three separate buildings. Phase I consists of 3 stories and is used as the Employee Building. Phase II is composed of 3 sections with seismic gaps between them. The central building is connected to Phase I Building.

The gravity load supporting system is composed of precast reinforced concrete planks, beams, columns and foundation. The lateral force resisting system is composed of reinforced brick masonry walls. A few reinforced concrete walls are also utilized as part of the lateral force resisting system. Reinforced concrete topping slabs over the precast planks are utilized as structural diaphragms.

The building diaphragm is composed of 2½ inch average thickness concrete topping slabs with welded wire mesh. The minimum thickness for the concrete topping to be used in similar construction is 3½ inches with an average of 4 inches. The concrete topping were found to be cracked and deteriorated by the effect of moisture.

Brick masonry walls of nominal strength $f'_{m} = 1600$ psi and lightly reinforced with one layer of #6 rebars spaced horizontally at 48 inches and vertically at 32 inches. Reinforced concrete walls are 8 inches thick with one layer of #3 spaced at 11 inches in both directions. Reinforcing ratios are below the minimum required by current design codes. East section of the building has significant torsion irregularity due to the unbalance in wall layout. This layout was found to have detrimental effect on the shear wall and diaphragm forces. Pile foundations horizontal reinforcing is composed of #3 ties spaced at 24 inches throughout the entire height of the pile.

7.0 EVALUATION PROCESS

The City Service Center Building was modeled using Finite Element Analysis computer software. Three-dimensional elastic dynamic analysis was conducted. The assumptions considered in the modeling process followed Chapter 4 of the ASCE/SEI 31-03 Document. Analysis forces obtained from the three-dimensional analytical model constitutes the force demand on structural members whereas the strength of these members constitute the capacity. A Demand-to-Capacity ratio (DCR) is established for each member. The DCR is an indicator of the level of ductility demand on each member. The demand-to-capacity ratios were determined for the wall shear force, wall bending moments as well as the diaphragm shear and flexural forces. The demand-to-capacity ratios were evaluated using the acceptance criteria as depicted in Table 4-6 of the ASCE/SEI 31-03. Performance of a specific member is deemed acceptable if the ductility demand on that member (DCR) is less than the ductility capacity (also known as m-factors) as prescribed in Table 4-6. Otherwise, performance of that member is considered not acceptable and hence, a retrofit is necessary.
7.1 PERFORMANCE OBJECTIVE
The Life Safety Building Performance Level (LS) as presented in Sections 1.3 and 2.4 was elected as the performance objective for the seismic evaluation. Buildings meeting this level may experience extensive damage to structural and nonstructural components, but some margin against either partial or total structural collapse remains. Injuries may occur, however, the risk of life threatening injury as a result of structural damage is expected to be low.

Repairs may be required before reoccupancy of the building occurs, and repair may be deemed economically impractical. The risk to life safety in buildings meeting this target Building Performance Level is low. This target Building Performance Level entails somewhat more damage than anticipated for new buildings that have been properly designed and constructed for seismic resistance when subjected to their design earthquakes. Some building owners may desire to meet this target Building Performance Level for more severe ground shaking than the design earthquake.

7.2 ANALYSIS PROCEDURE
The Linear Dynamic Procedure (LDP) was adopted according to Section 4.2.2.2. The mathematical modeling requirements provided in Section 4.2.3 were used.

7.2.1 MODELING ASSUMPTIONS
Rigid diaphragms have been used in each floor. The computer software determines the center of mass and center of rigidity of for each floor and determines the torsion moments. No specific stiffness characteristics of cracked concrete or masonry shear walls are recommended by ASCE/SE31-03. Hence, stiffness of these structural elements was established based on the recommendations of the ACI-318 code and FEMA 356 document. Based on these recommendations, the effective stiffness of both masonry and concrete walls were considered to be 35% of the stiffness of the uncracked walls.

The specified concrete strength and specified steel yield strength were used in the model. Since the component properties characterize building performance properly in the seismic analysis, the starting point for assessing component properties and condition should be retrieval of available construction documents. Review of these documents was performed to identify primary gravity and lateral load-carrying elements, systems, and their critical components and connections.

7.2.2 SEISMIC HAZARD
Seismic hazard due to ground shaking shall be based on the location of the building with respect to earthquake faults, the regional and site-specific geologic characteristics, and a selected Earthquake Hazard Level.
Section 3.5.2.3.1 of the ASCE/SE31-03 requires hazards due to earthquake shaking to be defined on a probabilistic basis. Probabilistic hazards are defined in terms of the probability that more severe demands will be experienced (probability of exceedance) in a 50-year period. This section requires that structures be evaluated to withstand the design earthquake. The design earthquake is defined as the earthquake that has a 10% probability of exceedance in 50 years (or a return period of 475 years). Two approaches are allowed by ASCE/SE31-03 to determine this level of hazard:

- The use of two thirds of the mapped spectral accelerations (short period, \( S_o \), and one-second period spectral accelerations, \( S_1 \)) associated with ground motions with a 2% probability of exceedance in 50 years (Also known as the maximum considered earthquake, MCE, with a return period of 2500 years)

- The use the 10% in 50 years mapped spectral accelerations.

The first approach is more commonly used by prominent building codes (such as 2000 and later versions of the IBC).

In accordance with the 2002 ASCE 7 Standard, the USGS 2005 edition maps were used to determine the response acceleration parameters. To accurately determine the seismic parameters, the City Service Center Building was determined to be at Latitude of 33.96687 and Longitude of -118.3583. The latitude and longitude facilitate the use of electronic maps and resulted in accurate determination of the response spectra parameters. The site class was taken as D according to Section 3.5.2.3.1. The \( S_o \) factor was found to be 1.700 while \( S_1 \) was found to be 0.637 for the Maximum Considered Earthquake (MCE). The Site Coefficients \( F_s \) and \( F_v \) were determined using Tables 3-5 and 3-6 respectively. \( F_s \) and \( F_v \) were found to be 1.0 and 1.5 respectively. Therefore, \( S_{sm} \) and \( S_{sq1} \) were equal to 1.700 and 0.956, respectively. The Design Earthquake parameters, \( S_{ds} \) and \( S_{sq1} \) were developed by multiplying the \( S_{sm} \) and \( S_{sq1} \) by two thirds. The developed Response Spectra is presented in Figure 7.1.
7.2.3 THREE-DIMENSIONAL DYNAMIC MODEL

Three-dimensional dynamic model was built using a Finite Element program. The modeling assumptions are listed in Section 7.2.1 of this report. Figures 7.2, 7.3 and 7.4 present the 3D model of the East Building, Middle Building and the West Building, respectively. The diaphragms were set off to show the shear walls in the buildings.

The dynamic (spectral) analysis was conducted considering the Design Response Spectra. The results of the analysis include the modal results, the displacements and forces. The forces include the axial forces, bending moments and shear forces on the shear walls.

7.2.4 DYNAMIC ANALYSIS RESULTS

The dynamic analysis was conducted and the results were collected. The modal analysis was performed as a part of the dynamic analysis. The modal analysis results are the dynamic characteristics of the building. Forty modes were considered in the analysis to capture more than 90% of the mass participation ratio. The natural periods for the first modes for each building are presented in this report. The values for the natural periods were found to be 0.29 sec, 0.21 sec and 0.24 sec for the East Building, Middle Building and West Building, respectively. Figures 7.5 to 7.7 show the first modal shape for each building.

The shear stress and bending moment on the shear walls was calculated for the spectral forces. Also, the diaphragm forces were calculated for the evaluation. The demand-to-capacity ratios were determined for the wall shear stresses, wall bending...
moments and the diaphragm forces. The demand is at the spectral level as constituted by the ASCE/SEI 31-03. The demand-to-capacity ratios were evaluated using the acceptance criteria adopted for the seismic evaluation.

Figure 7.2 East Building - 3-Dimensional Model

Figure 7.3 Middle Building - 3-Dimensional Model
Figure 7.4 West Building - 3-Dimensional Model

Figure 7.5 East Building - First Modal Shape, T = 0.29 second
Figure 7.6 Middle Building - First Modal Shape, $T = 0.21$ second

Figure 7.7 West Building - First Modal Shape, $T = 0.24$ second
7.2.5 ACCEPTANCE CRITERIA
The ASCE/SEI 31-03 Criteria, American Society of Civil Engineers, “Seismic Evaluation of Existing Building” were adopted. The Life Safety performance level – as requested by the Department was employed as the seismic performance criteria for the evaluation study. The document requires that each component to be evaluated by comparing the demand at the spectral level to the expected capacity. Each force shall be classified as deformation-controlled (ductile) or force-controlled (non-ductile). Since linear dynamic analysis procedure was used, capacities for deformation-controlled actions shall be defined as the product of m-factors and expected strengths. Tables 4-6 and 4-17, ASCE/SEI 31-03 includes the m-factor values for concrete diaphragms and shear walls.

7.2.6 DISCUSSION
The following discussion is to present the evaluation outcomes:

Building Redundancy:
Section 4.4.2.1.1 indicates that for Tier 1 analysis, the building needs to have at least 2 or more lines of shear walls. This has been justified in this building.

Reinforced Masonry Shear Walls:
Wall Thickness
Section 4.4.2.3.6 requires that the thickness of bearing walls to be at least 1/25 of the unsupported height. In this building, all the walls are non-bearing walls due to the fact that the precast columns support the gravity loads.

Reinforcing Steel
Section 4.4.2.4.2 of the ASCE 31-03 indicates that the total vertical and horizontal reinforcing steel shall be greater than 0.002 for life safety. All the masonry shear walls in this building are lightly reinforced and the volumetric steel ratio is 0.0017.

Shear Stress
Tier 1 requires that the shear stress in the reinforced masonry walls to be less than 70 psi for life safety. The ASCE 31-03 requires that with the analysis presented in Section 4.2 and the “m” factor presented in Table 4-17, the adequacy of the walls shall be checked. Several walls fail to satisfy the acceptance criteria set forward by the ASCE 31-03. Figures 8.1 to 8.3 show the walls that fail in their shear capacity.

Diaphragms:
Building diaphragm is composed of 2½ inch average thickness concrete topping slabs with welded wire mesh. Performance of the diaphragm is evaluated based on the forces depicted in section 4.2.2.2.4. The demand-to-capacity ratio of the
concrete diaphragm shall be compared to the m-factor as in Table 4-6. The checks conducted included:

1. The adequacy of the diaphragm to resist in-plane (horizontal) shear forces
2. The adequacy of the shear transfer mechanism between the shear walls and the diaphragm along their interface
3. The adequacy of the chord members (chord bars) at the perimeter of the diaphragm to resist the in-plane bending actions

Foundation:
The foundation system is composed of piles and pile caps. The typical pile diameter is 24 inches and the typical cap depth is 4'-0". The pile capacity is not shown on the drawings. Also, the soil's report indicated on Sheet S1.1 is not available. Based on the pile size and cap thickness, the foundation system seems to be adequate. However, a confirmation is needed by a Geotechnical reference (original soil's report or more investigation to be performed later).

8.0 EVALUATION CONCLUSIONS
After conducting the dynamic analysis and performing the evaluation adopting the acceptance criteria referenced in Section 7.2.5 of this report, the following evaluation conclusions were found:

8.1 Shear Walls:
The shear walls are poorly distributed in the East Building. Also, all shear walls are lightly reinforced. Section 6.0 includes description of the shear walls. The shear walls that do not meet the acceptance criteria are shown in Figures 8.1 to 8.3.

Wall reinforcing that resist out-of-plane forces on shear walls with height of more than 20 feet is inadequate.

8.2 Diaphragms:
Investigation showed that the shear transfer dowels and the chord rebars are inadequate to resist the seismic forces. Also, the diaphragms have been deteriorated in many locations by the moisture effect.

8.3 Foundation:
The foundation seems satisfies the acceptance criteria provided that a confirmation of the pile capacity will be provided in the original soil's report. Please see the discussion on Section 7.2.6.
Figure 8.1 East Building - Roof Plan

Figure 8.2 Middle Building - Roof Plan
9.0 RETROFIT RECOMMENDATIONS

The following retrofit recommendations are based on the seismic evaluation adopting the Life Safety Building Performance Level as set forth by ASCE/SEI 31-03 document:

- The shear walls that fail to satisfy the acceptance criteria need to be retrofitted. A common retrofit scheme for walls is obtained by Gunite or Shotcrete technique where a layer of concrete is gunshot to one face of the wall. The thickness of this concrete layer ranges from 8 to 10 inches. Reinforcing of the shotcrete can be one layer of steel bars. It also includes drill and epoxy dowels with 90 degrees standard hooks to ensure the bond between the existing masonry wall and the new concrete layer. The wall boundary element reinforcing (jamb reinforcing) will be added in this layer.

- For walls of a height of 20 feet, and do not need retrofit, steel plates will be needed to reinforce the wall to resist the out-of-plane forces.

- To ensure the connection of the diaphragm to the shear walls, dowels will be needed besides steel angles that will work as drag members.
- Since the concrete topping is deteriorated by the moisture effect, partial replacing of the concrete topping will be needed. The size can be determined after removing the paving topping and confirm the extent of the damage. Moisture proof layer will be needed between the concrete topping and the paving layer. Chord bars are needed at the boundaries of the diaphragms (slabs). This can be provided by attaching steel sections (angles and/or channels) using post installed anchors (drill and epoxy). For those areas that the concrete topping will be replaced, conventional reinforcing bars will be used instead of the rolled steel sections such as angles and channels.

We appreciate being given the opportunity to conduct the seismic evaluation for the City Service Center Building. Also, we hope that this report satisfies the intent of the seismic evaluation you have requested.

Please do not hesitate to call should you have any questions.

Very truly yours,

Nagi Abo-Shadi, PhD, SE
Principal
10.0 REFERENCES


ASCE/SEI 31-03 Criteria, American Society of Civil Engineers, "Seismic Evaluation of Existing Building"


As-built Structural Drawings, Kahn Kappe Lotery Architects Planners, Santa Monica, CA, September 1970
4.0 METEOROLOGICAL CHARACTERISTICS OF THE SITE

The South Coast Air Quality Management District, Downtown Los Angeles Air Monitoring Station is identified as the local meteorological station for this site. The meteorological data from this site was reviewed to determine potential wind directions and atmospheric stability classes applicable to the Water Treatment Plant. Tables 1 and 2 provide the percentages of time for various atmospheric conditions in terms of wind direction, wind speed and atmospheric stability classes. Atmospheric stability class indicates level of turbulence in the air. Letter designations between A and F are used for this purpose. Stability Class A represents the most turbulent and Class F the most stable conditions. Light winds, which correlate with stable atmospheres (D-F Stability Classes), are more likely to originate from the west through north. Atmospheric stability classes D to F were recorded 60 % of the time during the monitoring year, calendar year 1981.

Table 1  Frequency of Wind Speed and Wind Direction
(Based on 1981 Data Collected at SCAQMD's Downtown Los Angeles Station)

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<td>1.1</td>
<td>0.74</td>
<td>0.02</td>
<td>0.02</td>
</tr>
<tr>
<td>W</td>
<td>0.71</td>
<td>0.42</td>
<td>0.08</td>
<td>0.21</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>WNW</td>
<td>0.97</td>
<td>0.72</td>
<td>0.09</td>
<td>0.16</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>NW</td>
<td>1.15</td>
<td>0.86</td>
<td>0.18</td>
<td>0.09</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>NNW</td>
<td>9.65</td>
<td>7.77</td>
<td>1.4</td>
<td>0.26</td>
<td>0.01</td>
<td>0</td>
</tr>
<tr>
<td>All Directions</td>
<td>100.0</td>
<td>54.98</td>
<td>28.25</td>
<td>15.67</td>
<td>0.98</td>
<td>0.1</td>
</tr>
</tbody>
</table>

* All entries are in percentage.

Table 2  Frequency of Atmospheric Stability Classes
(Based on 1981 Data Collected at SCAQMD's Riverside monitoring station)

<table>
<thead>
<tr>
<th>Stability Class</th>
<th>A</th>
<th>B</th>
<th>C</th>
<th>D</th>
<th>E</th>
<th>F</th>
<th>G</th>
</tr>
</thead>
<tbody>
<tr>
<td>%</td>
<td>1.6</td>
<td>10.56</td>
<td>13.89</td>
<td>21.99</td>
<td>12.28</td>
<td>16.35</td>
<td>13.33</td>
</tr>
</tbody>
</table>

Page 232
The meteorological conditions used in this study for dispersion modeling (per §2750.2 of CalARP; Reference 2) are summarized below:

<table>
<thead>
<tr>
<th>Scenario</th>
<th>Stability Class</th>
<th>Wind Speed</th>
<th>% Of Time</th>
</tr>
</thead>
<tbody>
<tr>
<td>Worst Case</td>
<td>F</td>
<td>1.5 m/s</td>
<td>16</td>
</tr>
<tr>
<td>Alternative Cases</td>
<td>D</td>
<td>3 m/s</td>
<td>22</td>
</tr>
</tbody>
</table>

Since, as it is discussed below, the dispersion distances provided in the Risk Management Program Guidance for Wastewater Treatment Plants (Reference 4) is used in this study, the ambient temperature and humidity levels recorded at the local meteorological station was not analyzed.

5.0 RELEASE SCENARIOS AND DISPERSION ANALYSIS

The offsite consequence modeling consists of a worst-case scenario and two alternative release scenarios. These scenarios and corresponding dispersion analysis are described below.

5.1 Worst-Case Release Scenario

Release Quantity

In §2750.3 (b) of Reference 2, the quantity to be considered for worst-case release scenario is defined as follows:

"... The worst-case release quantity shall be the greater of the following:

1. For substances in a vessel, the greatest amount held in a single vessel, taking into account administrative controls that limit the maximum quantity or

2. For substances in pipes, the greatest amount in a pipe, taking into account administrative controls that limit the maximum quantity."

The greatest amount held in a single vessel at this site is one ton (2,000 lb.) of liquid chlorine at ambient temperature, under pressure. The Chlorination System consists of a set of ten-containers connected to the system through a vacuum regulator valve attached to the upper valve (i.e., vapor side) of each container. Given individual self-closing vacuum regulators at each container, there is no single failure event that can lead to more than one container releasing. Therefore, release from only one container is selected for the worst-case analysis. The quantity for worst-case release scenario is taken to be 2,000 lb. (907 kg), the contents of a full ton-container.
Other Factors

According to §2750.3 (b) of Reference 2, the following two additional factors must be taken into consideration in defining the worst-case release scenario:

"... the owner or operator shall select as the worst case for flammable regulated substances or the worst case for regulated toxic substance, a scenario based on the following factors if such a scenario would result in a greater distance to an endpoint defined in Section 2750.3 (a) beyond the stationary source boundary than the scenario provided under paragraph (b) of this section:

(i) Smaller quantities handled at higher process temperature or pressure, and

(ii) Proximity to the boundary of the stationary source."

The above given provisions are not applicable to this site because the chlorination process does not use heat or external pressurization.

Release Rate

In §2750.3 (c) (1) of Reference 2, the release rate to be considered for a toxic gas worst-case release scenario is defined as follows:

“For regulated toxic substances that are normally gases at ambient temperature and handled as a gas or as a liquid under pressure, the owner or operator shall assume that the quantity in the vessel or pipe, as determined under paragraph (b) of this section, is released as a gas over 10 minutes. The release rate shall be assumed to be the total quantity divided by 10 unless passive mitigation systems are in place.”

As it was established above, the total quantity to be considered for worst-case release is 2,000 lb. of chlorine. Per the above statement in the regulation the release rate is therefore 2,000 lb.: 10 min. = 200 lb. per minute (1.51 kg/s).

Passive Mitigation

The one-ton containers are stored in an enclosed building, and the release rate to the outside air may be considerably less than if it were stored outside. This facility receives one-ton containers of chlorine from a vendor’s delivery truck. Chlorine deliveries are performed with the vendor’s truck inside the Chlorination Building. Therefore, the Chlorination Building can be considered as a passive mitigation measure. The regulation allows for the incorporation of passive mitigation features in establishing the release rate. Per Reference 2, the release rate may be modified by a factor of 0.55, to allow for this feature. Thus, the release rate considered for dispersion analysis is as follows.

\[(\text{Release Rate}) = 0.55 \times (\text{Release Quantity})/10\]

\[(\text{Release Rate}) = 0.55 \times 2,000 \text{ lb.}/10 \text{ min.} = 110 \text{ lb./min.}\]

The release rate for a one-ton container will be 110 pounds per minute.
Topography

The local topography surrounding the facility is classified as urban. An urban classification is assigned, per the definition provided in the regulation (§2750.2 (e) of Reference 2) because, as it is discussed in Section 3.2 above, a significant portion of the immediate area surrounding the facility is occupied by industrial or commercial buildings.

Estimation of the Distance to Toxic Endpoint

For this report, Exhibit 4-4 of Reference 4 is used to identify the distance to the toxic endpoint of 3-ppm (0.0087 mg/L). The downwind distance of the hazard footprint is found to be 0.9 miles (from an interpolation between 110 lb/min and 150 lb/min entries of Exhibit 4-4). It must be noted that the shape of the area downwind affected by chlorine gas resembles a teardrop, the maximum width of which depends on the meteorological conditions. Also, chlorine gas will reach the estimated distance only if the wind direction and wind speed would stay the same for the entire length of time.

Additional Worst Case Release Scenarios

Section 2750.3 of Reference 2 states:

"Additional worst-case release scenarios for a hazard class if a worst-case release from another covered process at the stationary source potentially affects public receptors different from those potentially affected by the worst-case release scenario developed under paragraphs . . ."

As was stated earlier in this section, the chlorination system is the only process at this site that requires the development of a hazard assessment.

5.2 Alternative Release Scenarios

In §2750.4 of Reference 2, the requirements for alternative release scenario analysis is specified as follows:

"(a) The number of scenarios. The owner or operator shall identify and analyze at least one alternative release scenario for each regulated toxic substance held in a covered process(es) . . .

(b) Scenarios to consider.

(1) For each scenario required under section (a), the owner or operator shall select a scenario:

(A) That is more likely to occur than the worst-case release scenario under Section 2750.3, and

(B) That will reach an endpoint offsite, unless no such scenario exists."

Scenario Definition
Two scenarios have been considered as alternative release scenarios. Since there were no releases in the past five years, the selection of alternative scenarios is based on the scenarios suggested in Section 2750.4 (b) (2) of Reference 2 and process hazard analysis (PHA) of this site (Reference 5).

In one scenario (designated as ALT-1) it is postulated that a fusible plug on the low side of a ton-container fails and leads to the release of liquid chlorine into the chlorination room. This scenario can be regarded as corresponding to the following scenario defined in Section 2750.4 (b) (2) (C) of Reference 2:

"process vessel or pump releases due to cracks, seal failure, or drain, bleed, or plug failure"

This scenario is equivalent to a mechanical failure (e.g., from fatigue or manufacturer error) of a fusible plug while. There are three fusible plugs on the end plate of each ton-container. The lowest plug, when the container is full, is always exposed to liquid chlorine. Therefore, to be conservative (i.e., to obtain the largest release quantity), it is postulated that the lowest plug fails and liquid chlorine is released. This scenario is postulated as a liquid release through a 1/4" diameter opening.

The second scenario (designated as ALT-2) is postulated as a valve leak on a ton-container outside the chlorine building. This is equivalent to receiving a ton-container with a defective (leaking) valve. This scenario can be regarded as corresponding to the following scenario defined in Section 2750.4 (b) (2) (C) of Reference 2:

"process piping releases from failures of flanges, joints, welds, valves and valve seals, and drains or bleeds"

There are two valves on a ton-container that are internally piped to the opposite sides of the container (top/bottom). This piping configuration allows, when valves are positioned vertically (i.e., one on top of the other), for one valve to draw from the vapor space of the container (top valve) and the other from the liquid side (bottom valve). For this scenario, to be conservative, it is postulated that the leaking valve draws from the liquid side. This scenario is postulated as a liquid release through a 1/16" diameter opening.

Release Rate

The release rate for the two alternative scenarios are estimated using the information provided in Exhibit 4-12 of Reference 4.

<table>
<thead>
<tr>
<th>Scenario</th>
<th>Opening</th>
<th>lb/min</th>
</tr>
</thead>
<tbody>
<tr>
<td>ALT-1</td>
<td>1/4&quot;</td>
<td>150</td>
</tr>
<tr>
<td>ALT-2</td>
<td>1/16&quot;</td>
<td>10</td>
</tr>
</tbody>
</table>
Since, ALT-1 occurs indoors, the release rate into the open atmosphere, per the methodology established in Reference 4, is 55% of the indoor release rate. Thus, the equivalent release rate for ALT-1 is 82.5 lb./m.

Topography

As discussed for the worst-case scenario, the local topography surrounding Sanford M. Anderson Water Treatment Plant is classified as urban. The same classification applies to the alternative release scenarios.

Estimation of Distance to Toxic Endpoint

From Exhibit 4-11 of Reference 4 and using the release rates of 82.5 lb./m and 10 lb./m for the two scenarios, the following downwind distances of the hazard footprint have been found:

<table>
<thead>
<tr>
<th>Scenario</th>
<th>mile</th>
<th>km</th>
</tr>
</thead>
<tbody>
<tr>
<td>ALT-1</td>
<td>0.20</td>
<td>0.32</td>
</tr>
<tr>
<td>ALT-2</td>
<td>0.10</td>
<td>0.16</td>
</tr>
</tbody>
</table>

As in the worst-case release scenario, the shape of the area downwind affected by chlorine gas resembles a teardrop, the maximum width of which depends on the meteorological conditions.

Active Mitigation Measures

Unlike the worst-case scenario, active mitigation measures can be considered in analyzing the alternate release scenario. For the alternative scenarios, it is conservatively assumed that no active mitigation takes place.

5.3 Summary of Release and Dispersion Analysis

Three release scenarios are postulated. The first scenario is considered as the worst-case and is defined per regulatory requirements as the release of the entire content of the largest vessel (2,000 lb.) in 10 minutes inside the Chlorination Building. Two alternative scenarios have been considered. ALT-1 is a fusible plug failure on the liquid side while the ton-container is located inside the Chlorination Building. Therefore, ALT-1 scenario considers passive mitigation in dispersion calculations. ALT-2 is a valve leak discovered upon delivery of a ton-container (an outdoor release). Table 3 provides a summary of the parameters used in defining the release scenarios, atmospheric and topographic conditions and toxic endpoints. The last row of Table 3 presents the downwind distances associated with the three scenarios.
Table 3 Dispersion Analysis Summary

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Worst-Case</th>
<th>ALT-1</th>
<th>ALT-2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Material Released</td>
<td>Chlorine</td>
<td>Chlorine</td>
<td>Chlorine</td>
</tr>
<tr>
<td>Type of Material (liquid : gas : liquid</td>
<td>Liquid under</td>
<td>Liquid under</td>
<td>Liquid under</td>
</tr>
<tr>
<td>under pressure : refrigerated liquid)</td>
<td>pressure</td>
<td>pressure</td>
<td>pressure</td>
</tr>
<tr>
<td>Release Quantity (lb.)</td>
<td>2,000</td>
<td>2,000</td>
<td>2,000</td>
</tr>
<tr>
<td>Type of Release (liquid : gas)</td>
<td>Liquid</td>
<td>Liquid</td>
<td>Liquid</td>
</tr>
<tr>
<td>Release Rate to Outside Air (lb./min)</td>
<td>110</td>
<td>82.5</td>
<td>10</td>
</tr>
<tr>
<td>Release Time</td>
<td>10 minutes</td>
<td>Until empty</td>
<td>Until empty</td>
</tr>
<tr>
<td>Release Direction</td>
<td>Vertical</td>
<td>Vertical</td>
<td>Horizontal</td>
</tr>
<tr>
<td>Release Temperature (°F)</td>
<td>77</td>
<td>77</td>
<td>77</td>
</tr>
<tr>
<td>Release Pressure (psi)</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Height of release (D) (ft)</td>
<td>6 : 0</td>
<td>8 / 2.4</td>
<td>0 : 0</td>
</tr>
<tr>
<td>Ambient Temperature (°F)</td>
<td>77</td>
<td>77</td>
<td>77</td>
</tr>
<tr>
<td>Ambient Pressure (kPa)</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Relative Humidity</td>
<td>50%</td>
<td>50%</td>
<td>50%</td>
</tr>
<tr>
<td>Stability Class</td>
<td>F</td>
<td>D</td>
<td>D</td>
</tr>
<tr>
<td>Wind Speed (m/s)</td>
<td>1.5</td>
<td>3.0</td>
<td>5.0</td>
</tr>
<tr>
<td>Surface Roughness</td>
<td>Urban</td>
<td>Urban</td>
<td>Urban</td>
</tr>
<tr>
<td>Averaging Time (minutes)</td>
<td>N. A</td>
<td>N. A</td>
<td>N. A</td>
</tr>
<tr>
<td>Type of gas (dense : neutrally buoyant)</td>
<td>Dense</td>
<td>Dense</td>
<td>Dense</td>
</tr>
<tr>
<td>Toxic Endpoint Concent. (ppm) : (mg/d)</td>
<td>3 : 0.0087</td>
<td>3 : 0.0087</td>
<td>3 : 0.0087</td>
</tr>
<tr>
<td>Distance to Toxic Endpoint (miles) : (km)</td>
<td>0.9 / 1.4</td>
<td>0.2 / 0.3</td>
<td>0.1 / 0.2</td>
</tr>
</tbody>
</table>

6.0 OFFSITE IMPACTS

6.1 Affected Population

The population around the facility that may potentially be affected by chlorine gas at a concentration exceeding the toxic endpoint is identified. In §2750.5 of Reference 2 it is specified that:

"(a) The owner or operator shall estimate in the RMP the population within a circle with its center at the point of the release and a radius determined by the distance to the endpoint defined in Section 2750.3(a)."
(b) Population to be defined: Population shall include residential population. The presence of institutions (schools, hospitals, prisons), parks and recreational areas, and major commercial, office, and industrial buildings shall be noted in the RMP. 13

Landview V Environmental Mapping Software (Reference 6) was used for this purpose, which is based on U.S. 2000 Census data. When calculating population densities for large areas, which encompass many tracts, Landview provides the results within a good level of accuracy. However, for small areas that encompass only two or three partial tracts, the population data may be skewed due to the unequal distribution within the tract.

Table 4 displays the estimated populations that are within the circle centered at the release point, with the radius defined by the downwind distances of the three scenarios. This representation of the population covers all wind directions. As it is mentioned in the preceding section, in the unlikely event of a release, the plume of chlorine gas will only cover a teardrop shaped surface extending downwind. Therefore, only a small fraction of the populations mentioned in Table 4 will be affected in case of an actual release.

<table>
<thead>
<tr>
<th>Scenario</th>
<th>Distance to Toxic Endpoint</th>
<th>Residential Population within the Circle</th>
</tr>
</thead>
<tbody>
<tr>
<td>Worst Case Release</td>
<td>0.9 miles</td>
<td>37,940</td>
</tr>
<tr>
<td>ALT-1: Fuse plug leak inside the building</td>
<td>0.2 miles</td>
<td>587</td>
</tr>
<tr>
<td>ALT-2: Valve leak outside the building</td>
<td>0.1 mile</td>
<td>1</td>
</tr>
</tbody>
</table>

6.2 Offsite Receptors

Population - RMP requirements state that sensitive populations such as schools, hospitals, day care centers, long term health care facilities, prisons, residential areas, public use parks/recreational areas, and major commercial facilities, located within the circles defined by the downwind distances must be identified. The sensitive population receptors were found using Landview V Environmental Mapping Software (Reference 6), Yahoo Maps (Reference 7), Thomas Guide (Reference 8) and a drive through of the neighborhood. The sensitive population receptors within a 0.5-mile radius are shown in Table 5.

Figure 2 shows a map of the sensitive population receptors within a 0.5-miles radius, since the larger of the two alternative release scenarios distance to the toxic endpoint is only 0.2 miles.
<table>
<thead>
<tr>
<th>Population Receptor</th>
<th>Telephone Number</th>
<th>Address</th>
<th>Type</th>
<th>Distance to Release Point</th>
</tr>
</thead>
<tbody>
<tr>
<td>Inglewood High School</td>
<td>(310) 680-5206</td>
<td>231 S Grevillea Ave</td>
<td>School</td>
<td>0.4</td>
</tr>
<tr>
<td>George W. Crozier Middle School</td>
<td>(310) 680-5280</td>
<td>151 S Grevillea Ave</td>
<td>School</td>
<td>0.3</td>
</tr>
<tr>
<td>Training Research Foundation</td>
<td>(310) 677-4711</td>
<td>323 S Eucalyptus Ave</td>
<td>Preschool</td>
<td>0.4</td>
</tr>
<tr>
<td>First Lutheran Pre-School</td>
<td>(310) 674-4530</td>
<td>600 W Queen St</td>
<td>Preschool</td>
<td>0.4</td>
</tr>
<tr>
<td>Village Preschool</td>
<td>(310) 610-9922</td>
<td>414 S Grevillea Ave</td>
<td>Preschool</td>
<td>0.5</td>
</tr>
<tr>
<td>Jordan Day Care</td>
<td>(310) 412-2068</td>
<td>200 W Queen St</td>
<td>Daycare</td>
<td>0.2</td>
</tr>
<tr>
<td>Inglewood Avenue Prechool</td>
<td>(310) 674-5911</td>
<td>315 S Inglewood Ave</td>
<td>Daycare</td>
<td>0.3</td>
</tr>
<tr>
<td>Kim's Castle Child Care Center</td>
<td>(310) 677-2997</td>
<td>745 N La Brea Ave</td>
<td>Daycare</td>
<td>0.4</td>
</tr>
<tr>
<td>Sunshine Day Care Center</td>
<td>(310) 680-9517</td>
<td>504 Edgewood St</td>
<td>Daycare</td>
<td>0.5</td>
</tr>
<tr>
<td>Youth &amp; Family Center Infant</td>
<td>(310) 671-6719</td>
<td>101 S Inglewood Ave</td>
<td>Daycare</td>
<td>0.5</td>
</tr>
<tr>
<td>Village Preschool</td>
<td>(310) 680-9922</td>
<td>434 S Grevillea Ave</td>
<td>Daycare</td>
<td>0.5</td>
</tr>
<tr>
<td>Westchester Villa Retirement</td>
<td>(310) 673-1093</td>
<td>220 W Manchester Blvd</td>
<td>Long Term Health</td>
<td>0.3</td>
</tr>
<tr>
<td>Eucalyptus Park Apartments</td>
<td>(310) 677-7482</td>
<td>811 N Eucalyptus Ave</td>
<td>Long Term Health</td>
<td>0.4</td>
</tr>
<tr>
<td>Wells Guest Home</td>
<td>(310) 412-1886</td>
<td>111 S Oak St</td>
<td>Long Term Health</td>
<td>0.4</td>
</tr>
<tr>
<td>Regency Towers</td>
<td>(310) 673-3400</td>
<td>121 N Locust St</td>
<td>Long Term Health</td>
<td>0.5</td>
</tr>
<tr>
<td>Inglewood Meadows</td>
<td>(310) 672-3988</td>
<td>1 S Locust St</td>
<td>Long Term Health</td>
<td>0.5</td>
</tr>
<tr>
<td>Rogers Park</td>
<td>(310) 412-5591</td>
<td>400 W Beach Ave</td>
<td>Park</td>
<td>0.1</td>
</tr>
<tr>
<td>Inglewood Recreation Park</td>
<td>(310) 412-5482</td>
<td>1 W Manchester Blvd</td>
<td>Park</td>
<td>0.5</td>
</tr>
</tbody>
</table>
# Hazardous Materials Inventory Statement

**Business Name:** SANFORD M ANDERSON WATER TREATMT PL  
**Facility Address:** 359 N FROSTY FEDS AVE  
**INDIABAD**  
**Facility ID #:** FA0034778

## Chemicals in Storage

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>Initial Quantity</th>
<th>Max. Storage Capacity</th>
<th>Hazmat Category</th>
<th>Storage Location</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Potassium</strong></td>
<td>14</td>
<td>12</td>
<td>A</td>
<td>Indoor Storage</td>
</tr>
<tr>
<td><strong>Potassium</strong></td>
<td>7726-67-7</td>
<td>512</td>
<td>A</td>
<td>Indoor Storage</td>
</tr>
</tbody>
</table>

**Note:** Components - Not Necessary for Poison Chemical.

---

**Code:** A, B, C  
**Storage Type:** Indoor Storage, Outdoor Storage, Wall Storage

- **A:** Air
- **B:** Water
- **C:** Organic Solvent
- **D:** Inorganic Solvent
- **E:** Physical Storage
- **F:** Wall Storage

---

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<table>
<thead>
<tr>
<th>ID</th>
<th>School</th>
<th>Address</th>
<th>Telephone</th>
<th>Fax</th>
<th>Principal</th>
<th>Enrollment</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Bennet/Kew Elementary (K-5)</td>
<td>11710 S. Cherry Avenue, Inglewood, CA 90303</td>
<td>310-680-5400</td>
<td>310-680-5409</td>
<td>Ms. Kelly McGowans</td>
<td>723</td>
</tr>
<tr>
<td>2</td>
<td>Centinela Elementary (K-6)</td>
<td>1123 Marlborough Avenue, Inglewood, CA 90302</td>
<td>310-680-5440</td>
<td>310-680-5457</td>
<td>Ms. Loma Martin</td>
<td>870</td>
</tr>
<tr>
<td>3</td>
<td>Child Development Center/Latchkey/Head Start</td>
<td>10409 10th Ave, Inglewood, CA, 90302</td>
<td>310-419-2691</td>
<td>310-672-0720</td>
<td>Ms. Linda Anderson (Coordinator)</td>
<td>NA</td>
</tr>
<tr>
<td>4</td>
<td>City Honors High School</td>
<td>155 W. Kelso Street, Inglewood, CA, 90301</td>
<td>310-680-4880</td>
<td>310-680-5209</td>
<td>Ms. Thelma Brown</td>
<td>502</td>
</tr>
<tr>
<td>5</td>
<td>Crozier Middle School (6-8)</td>
<td>120 W. Regent Street, Inglewood, CA, 90301</td>
<td>310-680-5280</td>
<td>310-680-5295</td>
<td>Mr. Steve Donahue</td>
<td>1175</td>
</tr>
<tr>
<td>6</td>
<td>Daniel Freeman Elementary (K-6)</td>
<td>2602 W. 79th Street, Inglewood, CA, 90305</td>
<td>310-680-5380</td>
<td>310-680-5399</td>
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<td>Hillcrest Continuation High School/Alternative Center</td>
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Appendix G: Bridges in and around the City of Inglewood
extracted from the National Bridge Inventory (NBI)

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Appendix H: HAZUS Damage States

Description of HAZUS® Building Damage States

Building damage varies from “none” to “complete” as a continuous function of building deformations (building response). Wall cracks may vary from invisible or “hairline cracks” to cracks of several inches wide. Generalized “ranges” of damage are used by the Methodology to describe structural and nonstructural damage, since it is not practical to describe building damage as a continuous function.

The Methodology predicts a structural and nonstructural damage state in terms of one of four ranges of damage or “damage states”: Slight, Moderate, Extensive, and Complete. For example, the Slight damage state extends from the threshold of Slight damage up to the threshold of Moderate damage. General descriptions of these damage states are provided for all model building types with reference to observable damage incurred by structural and nonstructural building components. Damage predictions resulting from this physical damage estimation method are then expressed in terms of the probability of a building being in any of these four damage states.

STRUCTURAL DAMAGE

Descriptions for Slight, Moderate, Extensive, and Complete structural damage states for the 16 basic model building types are provided below. For estimating casualties, the descriptions of Complete damage include the fraction of the total floor area of each model building type that is likely to collapse. Collapse fractions are based on judgment and limited earthquake data considering the material and construction of different model building types.

It is noted that in some cases the structural damage is not directly observable because the structural elements are inaccessible or not visible due to architectural finishes or fireproofing. Hence, these structural damage states are described, when necessary, with reference to certain effects on nonstructural elements that may be indicative of the structural damage state of concern. Small cracks are assumed, throughout this section, to be visible cracks with a maximum width of less than 1/8”. Cracks wider than 1/8” are referred to as “large” cracks.

Wood, Light Frame (W1):

Slight Structural Damage: Small plaster or gypsum-board cracks at corners of door and window openings and wall-ceiling intersections; small cracks in masonry chimneys and masonry veneer.

Moderate Structural Damage: Large plaster or gypsum-board cracks at corners of door and window openings; small diagonal cracks across shear wall panels exhibited by
small cracks in stucco and gypsum wall panels; large cracks in brick chimneys; toppling of tall masonry chimneys.

**Extensive Structural Damage:** Large diagonal cracks across shear wall panels or large cracks at plywood joints; permanent lateral movement of floors and roof; toppling of most brick chimneys; cracks in foundations; splitting of wood sill plates and/or slippage of structure over foundations; partial collapse of “room-over-garage” or other “soft-story” configurations; small foundations cracks.

**Complete Structural Damage:** Structure may have large permanent lateral displacement, may collapse, or be in imminent danger of collapse due to cripple wall failure or the failure of the lateral load resisting system; some structures may slip and fall off the foundations; large foundation cracks. Approximately 3% of the total area of W1 buildings with Complete damage is expected to be collapsed.

**Wood, Commercial and Industrial (W2):**

**Slight Structural Damage:** Small cracks at corners of door and window openings and wall-ceiling intersections; small cracks on stucco and plaster walls. Some slippage may be observed at bolted connections.

**Moderate Structural Damage:** Larger cracks at corners of door and window openings; small diagonal cracks across shear wall panels exhibited by cracks in stucco and gypsum wall panels; minor slack (less than 1/8” extension) in diagonal rod bracing requiring retightening; minor lateral set at store fronts and other large openings; small cracks or wood splitting may be observed at bolted connections.

**Extensive Structural Damage:** Large diagonal cracks across shear wall panels; large slack in diagonal rod braces and/or broken braces; permanent lateral movement of floors and roof; cracks in foundations; splitting of wood sill plates and/or slippage of structure over foundations; partial collapse of “soft-story” configurations; bolt slippage and wood splitting at bolted connections.

**Complete Structural Damage:** Structure may have large permanent lateral displacement, may collapse or be in imminent danger of collapse due to failed shear walls, broken brace rods or failed framing connections; it may fall its foundations; large cracks in the foundations. Approximately 3% of the total area of W2 buildings with complete damage is expected to be collapsed.

**Steel Moment Frame (S1):**

**Slight Structural Damage:** Minor deformations in connections or hairline cracks in few welds.
**Moderate Structural Damage:** Some steel members have yielded exhibiting observable permanent rotations at connections; few welded connections may exhibit major cracks through welds or few bolted connections may exhibit broken bolts or enlarged bolt holes.

**Extensive Structural Damage:** Most steel members have exceeded their yield capacity, resulting in significant permanent lateral deformation of the structure. Some of the structural members or connections may have exceeded their ultimate capacity exhibited by major permanent member rotations at connections, buckled flanges and failed connections. Partial collapse of portions of structure is possible due to failed critical elements and/or connections.

**Complete Structural Damage:** Significant portion of the structural elements have exceeded their ultimate capacities or some critical structural elements or connections have failed resulting in dangerous permanent lateral displacement, partial collapse or collapse of the building. Approximately 8%(low-rise), 5%(mid-rise) or 3%(high-rise) of the total area of S1 buildings with Complete damage is expected to be collapsed.

**Steel Braced Frame (S2):**

**Slight Structural Damage:** Few steel braces have yielded which may be indicated by minor stretching and/or buckling of slender brace members; minor cracks in welded connections; minor deformations in bolted brace connections.

**Moderate Structural Damage:** Some steel braces have yielded exhibiting observable stretching and/or buckling of braces; few braces, other members or connections have indications of reaching their ultimate capacity exhibited by buckled braces, cracked welds, or failed bolted connections.

**Extensive Structural Damage:** Most steel brace and other members have exceeded their yield capacity, resulting in significant permanent lateral deformation of the structure. Some structural members or connections have exceeded their ultimate capacity exhibited by buckled or broken braces, flange buckling, broken welds, or failed bolted connections. Anchor bolts at columns may be stretched. Partial collapse of portions of structure is possible due to failure of critical elements or connections.

**Complete Structural Damage:** Most the structural elements have reached their ultimate capacities or some critical members or connections have failed resulting in dangerous permanent lateral deflection, partial collapse or collapse of the building. Approximately 8%(low-rise), 5%(mid-rise) or 3%(high-rise) of the total area of S2 buildings with Complete damage is expected to be collapsed.
Steel Light Frame (S3):

These structures are mostly single story structures combining rod-braced frames in one direction and moment frames in the other. Due to repetitive nature of the structural systems, the type of damage to structural members is expected to be rather uniform throughout the structure.

Slight Structural Damage: Few steel rod braces have yielded which may be indicated by minor sagging of rod braces. Minor cracking at welded connections or minor deformations at bolted connections of moment frames may be observed.

Moderate Structural Damage: Most steel braces have yielded exhibiting observable significantly sagging rod braces; few brace connections may be broken. Some weld cracking may be observed in the moment frame connections.

Extensive Structural Damage: Significant permanent lateral deformation of the structure due to broken brace rods, stretched anchor bolts and permanent deformations at moment frame members. Some screw or welded attachments of roof and wall siding to steel framing may be broken. Some purlin and girt connections may be broken.

Complete Structural Damage: Structure is collapsed or in imminent danger of collapse due to broken rod bracing, failed anchor bolts or failed structural members or connections. Approximately 3% of the total area of S3 buildings with Complete damage is expected to be collapsed.

Steel Frame with Cast-In-Place Concrete Shear Walls (S4):

This is a “composite” structural system where primary lateral-force-resisting system is the concrete shear walls. Hence, slight, Moderate and Extensive damage states are likely to be determined by the shear walls while the collapse damage state would be determined by the failure of the structural frame.

Slight Structural Damage: Diagonal hairline cracks on most concrete shear wall surfaces; minor concrete spalling at few locations.

Moderate Structural Damage: Most shear wall surfaces exhibit diagonal cracks; some of the shear walls have exceeded their yield capacities exhibited by larger diagonal cracks and concrete spalling at wall ends.

Extensive Structural Damage: Most concrete shear walls have exceeded their yield capacities; few walls have reached or exceeded their ultimate capacity exhibited by large through-the-wall diagonal cracks, extensive spalling around the cracks and visibly buckled wall reinforcement. Partial collapse may occur due to failed connections of steel framing to concrete walls. Some damage may be observed in steel frame connections.
Complete Structural Damage: Structure may be in danger of collapse or collapse due to total failure of shear walls and loss of stability of the steel frames. Approximately 8%(low-rise), 5%(mid-rise) or 3%(high-rise) of the total area of S4 buildings with Complete damage is expected to be collapsed.

Steel Frame with Unreinforced Masonry Infill Walls (S5):

This is a "composite" structural system where the initial lateral resistance is provided by the infill walls. Upon cracking of the infills, further lateral resistance is provided by the steel frames "braced" by the infill walls acting as diagonal compression struts. Collapse of the structure results when the infill walls disintegrate (due to compression failure of the masonry "struts") and the steel frame loses its stability.

Slight Structural Damage: Diagonal (sometimes horizontal) hairline cracks on most infill walls; cracks at frame-infill interfaces.

Moderate Structural Damage: Most infill wall surfaces exhibit larger diagonal or horizontal cracks; some walls exhibit crushing of brick around beam-column connections.

Extensive Structural Damage: Most infill walls exhibit large cracks; some bricks may be dislodged and fall; some infill walls may bulge out-of-plane; few walls may fall off partially or fully; some steel frame connections may have failed. Structure may exhibit permanent lateral deformation or partial collapse due to failure of some critical members.

Complete Structural Damage: Structure is collapsed or in danger of imminent collapse due to total failure of many infill walls and loss of stability of the steel frames. Approximately 8%(low-rise), 5%(mid-rise) or 3%(high-rise) of the total area of S5 buildings with Complete damage is expected to be collapsed.

Reinforced Concrete Moment Resisting Frames (C1):

Slight Structural Damage: Flexural or shear type hairline cracks in some beams and columns near joints or within joints.

Moderate Structural Damage: Most beams and columns exhibit hairline cracks. In ductile frames some of the frame elements have reached yield capacity indicated by larger flexural cracks and some concrete spalling. Nonductile frames may exhibit larger shear cracks and spalling.

Extensive Structural Damage: Some of the frame elements have reached their ultimate capacity indicated in ductile frames by large flexural cracks, spalled concrete and buckled main reinforcement; nonductile frame elements may have suffered shear
failures or bond failures at reinforcement splices, or broken ties or buckled main reinforcement in columns which may result in partial collapse.

Complete Structural Damage: Structure is collapsed or in imminent danger of collapse due to brittle failure of nonductile frame elements or loss of frame stability. Approximately 13%(low-rise), 10%(mid-rise) or 5%(high-rise) of the total area of C1 buildings with Complete damage is expected to be collapsed.

Concrete Shear Walls (C2):

Slight Structural Damage: Diagonal hairline cracks on most concrete shear wall surfaces; minor concrete spalling at few locations.

Moderate Structural Damage: Most shear wall surfaces exhibit diagonal cracks; some shear walls have exceeded yield capacity indicated by larger diagonal cracks and concrete spalling at wall ends.

Extensive Structural Damage: Most concrete shear walls have exceeded their yield capacities; some walls have exceeded their ultimate capacities indicated by large, through-the-wall diagonal cracks, extensive spalling around the cracks and visibly buckled wall reinforcement or rotation of narrow walls with inadequate foundations. Partial collapse may occur due to failure of nonductile columns not designed to resist lateral loads.

Complete Structural Damage: Structure has collapsed or is in imminent danger of collapse due to failure of most of the shear walls and failure of some critical beams or columns. Approximately 13%(low-rise), 10%(mid-rise) or 5%(high-rise) of the total area of C2 buildings with Complete damage is expected to be collapsed.

Concrete Frame Buildings with Unreinforced Masonry Infill Walls (C3):

This is a “composite” structural system where the initial lateral resistance is provided by the infill walls. Upon cracking of the infills, further lateral resistance is provided by the concrete frame “braced” by the infill acting as diagonal compression struts. Collapse of the structure results when the infill walls disintegrate (due to compression failure of the masonry “struts”) and the frame loses stability, or when the concrete columns suffer shear failures due to reduced effective height and the high shear forces imposed on them by the masonry compression struts.

Slight Structural Damage: Diagonal (sometimes horizontal) hairline cracks on most infill walls; cracks at frame-infill interfaces.
Moderate Structural Damage: Most infill wall surfaces exhibit larger diagonal or horizontal cracks; some walls exhibit crushing of brick around beam-column connections. Diagonal shear cracks may be observed in concrete beams or columns.

Extensive Structural Damage: Most infill walls exhibit large cracks; some bricks may dislodge and fall; some infill walls may bulge out-of-plane; few walls may fall partially or fully; few concrete columns or beams may fail in shear resulting in partial collapse. Structure may exhibit permanent lateral deformation.

Complete Structural Damage: Structure has collapsed or is in imminent danger of collapse due to a combination of total failure of the infill walls and nonductile failure of the concrete beams and columns. Approximately 15%(low-rise), 13%(mid-rise) or 5%(high-rise) of the total area of C3 buildings with Complete damage is expected to be collapsed.

Precast Concrete Tilt-Up Walls (PC1):

Slight Structural Damage: Diagonal hairline cracks on concrete shear wall surfaces; larger cracks around door and window openings in walls with large proportion of openings; minor concrete spalling at few locations; minor separation of walls from the floor and roof diaphragms; hairline cracks around metal connectors between wall panels and at connections of beams to walls.

Moderate Structural Damage: Most wall surfaces exhibit diagonal cracks; larger cracks in walls with door or window openings; few shear walls have exceeded their yield capacities indicated by larger diagonal cracks and concrete spalling. Cracks may appear at top of walls near panel intersections indicating “chord” yielding. Some walls may have visibly pulled away from the roof. Some welded panel connections may have been broken, indicated by spalled concrete around connections. Some spalling may be observed at the connections of beams to walls.

Extensive Structural Damage: In buildings with relatively large area of wall openings most concrete shear walls have exceeded their yield capacities and some have exceeded their ultimate capacities indicated by large, through-the-wall diagonal cracks, extensive spalling around the cracks and visibly buckled wall reinforcement. The plywood diaphragms may exhibit cracking and separation along plywood joints. Partial collapse of the roof may result from the failure of the wall-to-diaphragm anchorages sometimes with falling of wall panels.

Complete Structural Damage: Structure is collapsed or is in imminent danger of collapse due to failure of the wall-to-roof anchorages, splitting of ledgers, or failure of plywood-to-ledger nailing; failure of beams connections at walls; failure of roof or floor diaphragms; or, failure of the wall panels. Approximately 15% of the total area of PC1 buildings with Complete damage is expected to be collapsed.
**Precast Concrete Frames with Concrete Shear Walls (PC2):**

**Slight Structural Damage:** Diagonal hairline cracks on most shear wall surfaces; minor concrete spalling at few connections of precast members.

**Moderate Structural Damage:** Most shear wall surfaces exhibit diagonal cracks; some shear walls have exceeded their yield capacities indicated by larger cracks and concrete spalling at wall ends; observable distress or movement at connections of precast frame connections, some failures at metal inserts and welded connections.

**Extensive Structural Damage:** Most concrete shear walls have exceeded their yield capacities; some walls may have reached their ultimate capacities indicated by large, through-the-wall diagonal cracks, extensive spalling around the cracks and visibly buckled wall reinforcement. Some critical precast frame connections may have failed resulting partial collapse.

**Complete Structural Damage:** Structure has collapsed or is in imminent danger of collapse due to failure of the shear walls and/or failures at precast frame connections. Approximately 15%(low-rise), 13%(mid-rise) or 10%(high-rise) of the total area of PC2 buildings with Complete damage is expected to be collapsed.

**Reinforced Masonry Bearing Walls with Wood or Metal Deck Diaphragms (RM1):**

**Slight Structural Damage:** Diagonal hairline cracks on masonry wall surfaces; larger cracks around door and window openings in walls with large proportion of openings; minor separation of walls from the floor and roof diaphragms.

**Moderate Structural Damage:** Most wall surfaces exhibit diagonal cracks; some of the shear walls have exceeded their yield capacities indicated by larger diagonal cracks. Some walls may have visibly pulled away from the roof.

**Extensive Structural Damage:** In buildings with relatively large area of wall openings most shear walls have exceeded their yield capacities and some of the walls have exceeded their ultimate capacities indicated by large, through-the-wall diagonal cracks and visibly buckled wall reinforcement. The plywood diaphragms may exhibit cracking and separation along plywood joints. Partial collapse of the roof may result from failure of the wall-to-diaphragm anchorages or the connections of beams to walls.

**Complete Structural Damage:** Structure has collapsed or is in imminent danger of collapse due to failure of the wall anchorages or due to failure of the wall panels. Approximately 13%(low-rise) or 10%(mid-rise) of the total area of RM1 buildings with Complete damage is expected to be collapsed.
Reinforced Masonry Bearing Walls with Precast Concrete Diaphragms (RM2):

**Slight Structural Damage:** Diagonal hairline cracks on masonry wall surfaces; larger cracks around door and window openings in walls with large proportion of openings.

**Moderate Structural Damage:** Most wall surfaces exhibit diagonal cracks; some of the shear walls have exceeded their yield capacities indicated by larger cracks.

**Extensive Structural Damage:** In buildings with relatively large area of wall openings most shear walls have exceeded their yield capacities and some of the walls have exceeded their ultimate capacities exhibited by large, through-the-wall diagonal cracks and visibly buckled wall reinforcement. The diaphragms may also exhibit cracking.

**Complete Structural Damage:** Structure is collapsed or is in imminent danger of collapse due to failure of the walls. Approximately 13%(low-rise), 10%(mid-rise) or 5%(high-rise) of the total area of RM2 buildings with Complete damage is expected to be collapsed.

Unreinforced Masonry Bearing Walls (URM):

**Slight Structural Damage:** Diagonal, stair-step hairline cracks on masonry wall surfaces; larger cracks around door and window openings in walls with large proportion of openings; movements of lintels; cracks at the base of parapets.

**Moderate Structural Damage:** Most wall surfaces exhibit diagonal cracks; some of the walls exhibit larger diagonal cracks; masonry walls may have visible separation from diaphragms; significant cracking of parapets; some masonry may fall from walls or parapets.

**Extensive Structural Damage:** In buildings with relatively large area of wall openings most walls have suffered extensive cracking. Some parapets and gable end walls have fallen. Beams or trusses may have moved relative to their supports.

**Complete Structural Damage:** Structure has collapsed or is in imminent danger of collapse due to in-plane or out-of-plane failure of the walls. Approximately 15% of the total area of URM buildings with Complete damage is expected to be collapsed.

Mobile Homes (MH):

**Slight Structural Damage:** Damage to some porches, stairs or other attached components.
**Moderate Structural Damage:** Major movement of the mobile home over its supports resulting in some damage to metal siding and stairs and requiring resetting of the mobile home on its supports.

**Extensive Structural Damage:** Mobile home has fallen partially off its supports, often severing utility lines.

**Complete Structural Damage:** Mobile home has totally fallen off its supports; usually severing utility lines, with steep jack stands penetrating through the floor. Approximately 3% of the total area of MH buildings with Complete damage is expected to be collapsed.

**NONSTRUCTURAL DAMAGE**

Four damage states are used to describe nonstructural damage: Slight, Moderate, Extensive and Complete nonstructural damage. Nonstructural damage is considered to be independent of the structural model building type (i.e. partitions, ceilings, cladding, etc. are assumed to incur the same damage when subjected to the same interstory drift or floor acceleration whether they are in a steel frame building or in a concrete shear wall building), consequently, building-specific damage state descriptions are not meaningful. Instead, general descriptions of nonstructural damage states are provided for common nonstructural systems.

Damage to drift-sensitive nonstructural components is primarily a function of interstory drift (e.g. full-height drywall partitions) while for acceleration-sensitive components (e.g. mechanical equipment) damage is a function of the floor acceleration. Developing fragility curves for each possible nonstructural component is not practicable for the purposes of regional loss estimation and there is insufficient data to develop such fragility curves. Hence, in this methodology nonstructural building components are grouped into drift-sensitive and acceleration-sensitive component groups, and the damage functions estimated for each group are assumed to be “typical” of its sub-components. Note, however, that damage depends on the anchorage/bracing provided to the nonstructural components. Damageability characteristics of each group are described by a set of fragility curves (see Subsection 5.4.3.3).

The type of nonstructural components in a given building is a function of the building occupancy-use classification. For example, single-family residences would not have curtain wall panels, suspended ceilings, elevators, etc. while these items would be found in an office building. Hence, the relative values of nonstructural components in relation to the overall building replacement value vary with type of occupancy. In Chapter 15, estimates of replacement cost breakdown between structural building components for different occupancy/use related classifications are provided; further breakdowns are provided by drift- and acceleration-sensitive nonstructural components.

In the following, general descriptions of the four nonstructural damage states are described for common nonstructural building components:
Partitions and Walls

**Slight Nonstructural Damage:** A few cracks are observed at intersections of walls and ceilings and at corners of door openings.

**Moderate Nonstructural Damage:** Larger and more extensive cracks requiring repair and repainting; some partitions may require replacement of gypsum board or other finishes.

**Extensive Nonstructural Damage:** Most of the partitions are cracked and a significant portion may require replacement of finishes; some door frames in the partitions are also damaged and require re-setting.

**Complete Nonstructural Damage:** Most partition finish materials and framing may have to be removed and replaced; damaged studs repaired, and walls refinished. Most door frames may also have to be repaired and replaced.

**Suspended Ceilings**

**Slight Nonstructural Damage:** A few ceiling tiles have moved or fallen down.

**Moderate Nonstructural Damage:** Falling of tiles is more extensive; in addition the ceiling support framing (T-bars) has disconnected and/or buckled at few locations; lenses have fallen off of some light fixtures and a few fixtures have fallen; localized repairs are necessary.

**Extensive Nonstructural Damage:** The ceiling system exhibits extensive buckling, disconnected t-bars and falling ceiling tiles; ceiling partially collapses at few locations and some light fixtures fall; repair typically involves removal of most or all ceiling tiles.

**Complete Nonstructural Damage:** The ceiling system is buckled throughout and/or fallen and requires complete replacement; many light fixtures fall.

**Exterior Wall Panels**

**Slight Nonstructural Damage:** Slight movement of the panels, requiring realignment.

**Moderate Nonstructural Damage:** The movements are more extensive; connections of panels to structural frame are damaged requiring further inspection and repairs; some window frames may need realignment.

**Extensive Nonstructural Damage:** Most of the panels are cracked or otherwise damaged and misaligned, and most panel connections to the structural frame are
damaged requiring thorough review and repairs; few panels fall or are in imminent
danger of falling; some window panes are broken and some pieces of glass have fallen.

**Complete Nonstructural Damage:** Most panels are severely damaged, most
connections are broken or severely damaged, some panels have fallen and most are in
imminent danger of falling; extensive glass breakage and falling.

**Electrical-Mechanical Equipment, Piping, Ducts**

**Slight Nonstructural Damage:** The most vulnerable equipment (e.g. unanchored or on
spring isolators) moves and damages attached piping or ducts.

**Moderate Nonstructural Damage:** Movements are larger and damage is more
extensive; piping leaks at few locations; elevator machinery and rails may require
realignment.

**Extensive Nonstructural Damage:** Equipment on spring isolators topples and falls;
other unanchored equipment slides or falls breaking connections to piping and ducts;
leaks develop at many locations; anchored equipment indicate stretched bolts or strain
at anchorages.

**Complete Nonstructural Damage:** Equipment is damaged by sliding, overturning or
failure of their supports and is not operable; piping is leaking at many locations; some
pipe and duct supports have failed causing pipes and ducts to fall or hang down;
elevator rails are buckled or have broken supports and/or counterweights have derailed.
Appendix I: Maps

6.9 Newport-Inglewood Earthquake Scenario

HAZUS® CASUALTY ESTIMATE MAPS: CASUALTY LEVEL 1

- LA County Court Buildings
- Water Treatment Plants and Reservoirs
- Fire Station
- City Buildings
- Police Stations
- Medical Facilities

Casualties Level 1
(medical aid required)

0 to 5
5 to 10
10 to 30
30 to 50
50 to 60
> 60
HAZUS® CASUALTY ESTIMATE MAPS: CASUALTY LEVEL 2

- LA County Court Buildings
- Water Treatment Plants and Reservoirs
- Fire Station
- City Buildings
- Police Stations
- Medical Facilities

Casualties Level 2
(hospital care required)

- 0 to 10
- 10 to 20
- 20 to 30
- 30 to 40
- 40 to 50
- > 50

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HAZUS® CASUALTY ESTIMATE MAPS: CASUALTY LEVEL 3

Casualties Level 3
(life threatening injuries)

- LA County Court Buildings
- Water Treatment Plants and Reservoirs
- Fire Station
- City Buildings
- Police Stations
- Medical Facilities
HAZUS® ECONOMIC LOSSES: TOTAL DIRECT BUILDING RELATED ECONOMIC LOSS
(Building and content damage, business interruption)

- Los Angeles County Courthouse Buildings
- Water Treatment Plants and Reservoirs
- Fire Stations
- City Buildings
- Police Stations
- Medical Facilities

Total Losses
(building related economic losses)

- 0 to 30
- 30 to 60
- 60 to 90
- 90 to 120
- 120 to 150
- >150
HAZUS® ECONOMIC LOSSES: BUILDING CONTENT LOSS

- LA County Court Buildings
- Water Treatment Plants and Reservoirs
- Fire Station
- City Buildings
- Police Stations
- Medical Facilities

Building Content Damage
(millions of dollars)

- 0 to 6
- 6 to 12
- 12 to 17
- 17 to 23
- 23 to 29
- > 29
HAZUS® INDUCED DAMAGE: DEBRIS GENERATION

- LA County Court Buildings
- Water Treatment Plants and Reservoirs
- Fire Station
- City Buildings
- Police Stations
- Medical Facilities

Debris Total
(thousands of tons)

- 0 to 11
- 11 to 21
- 21 to 32
- 32 to 42
- 42 to 52
- >52

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Number of People Requiring Short Term Shelter

- 0 to 30
- 30 to 50
- 50 to 80
- 80 to 120
- 120 to 200
- >200

HAZUS® SOCIAL IMPACTS: SHELTER REQUIREMENTS

- LA County Court Buildings
- Water Treatment Plants and Reservoirs
- Fire Station
- City Buildings
- Police Stations
- Medical Facilities
Appendix J: HAZMAT Site List

<table>
<thead>
<tr>
<th>Site Name</th>
<th>Address</th>
<th>Substance</th>
<th>Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 7-11 #24142</td>
<td>345 Manchester Blvd</td>
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<td>2 76 Products Station #2156</td>
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<td>3 76 Products Station #3349</td>
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<td>4 Abacus Roof Corp</td>
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<td>5 Airline Coach Service</td>
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</tr>
<tr>
<td>6 Airport Business Center</td>
<td>315 Glasgow Ave S</td>
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</tr>
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<td>7 Allright Self Storage</td>
<td>808 La Brea Ave</td>
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<td>8 Arco #1360</td>
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<td>13 Cal National Guard Armory</td>
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<td>14 Carmax</td>
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<td>64 Rent A Car Cheap</td>
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<tr>
<td>65 Rho-Chem Corporation</td>
<td>425 Isis Ave</td>
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</tr>
<tr>
<td>66 Sears Auto Center (Former)</td>
<td>500 Manchester Blvd E</td>
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<tr>
<td>67 Shell</td>
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<tr>
<td>68 Shell Service Station</td>
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<tr>
<td>69 Shell Service Station</td>
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<td>70 Simons Mini Market</td>
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<tr>
<td>71 Southern California Edison</td>
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<td>73 Ss #23552</td>
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<td>Aviation Gasoline And Additives</td>
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<td>74 Texaco Gas Food Mart</td>
<td>1235 Centinela Ave</td>
<td>Gasoline/Automotive</td>
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<td>75 Tire World (Former Arco)</td>
<td>920 Manchester Blvd W</td>
<td>Gasoline/Automotive</td>
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<td>76 Tosco - 76 Station #2365</td>
<td>8600 Aviation Blvd</td>
<td>Gasoline/Automotive</td>
<td>Open</td>
</tr>
<tr>
<td>77 Tosco S.S. #2900</td>
<td>9830 Crenshaw Blvd S</td>
<td>Gasoline/Automotive</td>
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<td>78 Toyota Of Inglewood</td>
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<td>79 Transit Mixed Concrete Company</td>
<td>505 Railroad Pl</td>
<td>Diesel Fuel Oil And Additives</td>
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<td>80 Trustees Of The Highland Street Connection</td>
<td>11950 Aviation Blvd.</td>
<td>8006619,13 Mtbe</td>
<td>Closed</td>
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<td>Site Name</td>
<td>Address</td>
<td>Substance</td>
<td>Status</td>
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<tr>
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<td>4520 Century Blvd W</td>
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<td>Unocal #1923</td>
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<tr>
<td>Unocal #3145</td>
<td>3101 Imperial Hwy W</td>
<td>Gasoline/Automotive</td>
<td>Closed</td>
</tr>
<tr>
<td>Unocal #3836</td>
<td>1740 Centinela Ave</td>
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<td>Unocal #5050 (Former)</td>
<td>4000 Century Blvd W</td>
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<td>Unocal #5771</td>
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<td>Gasoline/Automotive</td>
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</tr>
<tr>
<td>Unocal #6370</td>
<td>4760 Century Blvd W</td>
<td>Gasoline/Automotive</td>
<td>Open</td>
</tr>
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<td>Van’s Shell #2</td>
<td>3107 Manchester Blvd W</td>
<td>Hydrocarbons</td>
<td>Open</td>
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<tr>
<td>World Oil #1.5</td>
<td>740 Centinela Ave</td>
<td>Gasoline/Automotive</td>
<td>Open</td>
</tr>
<tr>
<td>Your Man Tour</td>
<td>8831 Aviation Blvd</td>
<td>Diesel Fuel Oil And Additives</td>
<td>Closed</td>
</tr>
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## Appendix K: HAZMAT Deaths

<table>
<thead>
<tr>
<th>Type</th>
<th>5 Yr. Average</th>
<th>General Population Risk Per Year</th>
<th>Risk Based on Exposure or Other Measures</th>
</tr>
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<tbody>
<tr>
<td><strong>Motor Vehicle</strong></td>
<td>36,676</td>
<td>1 out of 7,700</td>
<td>1.3 deaths per 100 million vehicle miles</td>
</tr>
<tr>
<td><strong>Poisoning</strong></td>
<td>15,206</td>
<td>1 out of 18,700</td>
<td></td>
</tr>
<tr>
<td><strong>Work Related</strong></td>
<td>5,800</td>
<td>1 out of 49,000</td>
<td>4.3 deaths per 100,000 workers</td>
</tr>
<tr>
<td><strong>Large Trucks</strong></td>
<td>5,150</td>
<td>1 out of 55,000</td>
<td>2.5 deaths per 100 million vehicle miles</td>
</tr>
<tr>
<td><strong>Pedestrian</strong></td>
<td>4,846</td>
<td>1 out of 58,000</td>
<td></td>
</tr>
<tr>
<td><strong>Drowning</strong></td>
<td>3,409</td>
<td>1 out of 83,500</td>
<td></td>
</tr>
<tr>
<td><strong>Fires</strong></td>
<td>3,312</td>
<td>1 out of 86,000</td>
<td></td>
</tr>
<tr>
<td><strong>Motorcycles</strong></td>
<td>3,112</td>
<td>1 out of 91,500</td>
<td>31.3 deaths per 100 million vehicle miles</td>
</tr>
<tr>
<td><strong>Railroads</strong></td>
<td>931</td>
<td>1 out of 306,000</td>
<td>1.3 deaths per million train miles</td>
</tr>
<tr>
<td><strong>Firearms</strong></td>
<td>779</td>
<td>1 out of 366,000</td>
<td></td>
</tr>
<tr>
<td><strong>Recreational Boating</strong></td>
<td>714</td>
<td>1 out of 399,000</td>
<td>5.6 deaths per 100,000 registered boats</td>
</tr>
<tr>
<td><strong>Bicycles</strong></td>
<td>695</td>
<td>1 out of 410,000</td>
<td></td>
</tr>
<tr>
<td><strong>Electric Current</strong></td>
<td>410</td>
<td>1 out of 695,000</td>
<td></td>
</tr>
<tr>
<td><strong>Air Carriers</strong></td>
<td>138a</td>
<td>1 out of 2,067,000</td>
<td>1.9 deaths per 100 million aircraft miles</td>
</tr>
<tr>
<td><strong>Flood</strong></td>
<td>58</td>
<td>1 out of 4,928,000</td>
<td></td>
</tr>
<tr>
<td><strong>Tornado</strong></td>
<td>57</td>
<td>1 out of 5,015,000</td>
<td></td>
</tr>
<tr>
<td><strong>Lightning</strong></td>
<td>47</td>
<td>1 out of 6,061,000</td>
<td></td>
</tr>
<tr>
<td><strong>HAZMAT Transportation</strong></td>
<td>12</td>
<td>1 out of 23,350,000</td>
<td>4.2 deaths per 100 million shipments</td>
</tr>
</tbody>
</table>

### Accidental Deaths - United States - 1999-2003

**Notes:**

2. National Transportation Statistics, Department of Transportation’s Bureau of Transportation Statistics. Air carrier data was calculated for all air carriers operating under either 14 CFR 121 or 14 CFR 135. Data used in this comparison was from air carriers operating under 14 CFR 121, which includes large aircraft, and under 14 CFR 135, which includes aircraft with less than 10 seats. Passenger and cargo aircraft are included in both categories.
3. National Transportation Statistics, Department of Transportation’s Bureau of Transportation Statistics. Railroad fatality statistics include railroad only fatalities and grade crossing fatalities. Mileage data used was for Railroad System Safety and Property Damage Data.

5. Traffic Safety Facts 2004, Department of Transportation’s National Highway Traffic Safety Administration. Motor vehicle fatalities are limited to occupant fatalities and exclude related fatalities to pedestrians, bicyclists, and others. On average, including fatalities to other than motor vehicle occupants in motor vehicle accidents would add approximately 5,500 fatalities to the motor vehicle fatality total. Large trucks are defined as having a gross vehicle weight greater than 10,000 pounds. Truck related fatalities are also counted in the overall motor vehicle category. FHWA-RD-89-013, Present Practices of Highway Transportation of Highway Material, Harwood and Russell, indicates about 5% of truck accidents reported to the FHWA involved trucks carrying hazardous materials. Applying this percentage to overall hazardous materials transportation yields a risk of about 260 fatalities related to general truck transportation risk apart from risks related to the particular hazards of the materials themselves.


8. WISQARS (Web-based Injury Statistics Query and Reporting System) Injury Mortality Reports 1999-2003, Department of Health and Human Services’ Centers for Disease Control and Prevention. Only unintentional fatalities were used in this report. Fire data was limited to fire/flame fatalities and excluded fatalities due to contact with hot objects/substances.

   a. Other than the persons aboard the aircraft who were killed, fatalities resulting from the September 11 terrorist acts are excluded.
   b. An average of approximately 285,000,000 over the period was used in computations.
   c. Deaths per passenger mile should also be considered as a basic risk measure when comparing risks amongst various modes of transportation. Since the average number of passengers in an aircraft far exceeds the average number of passengers in a motor vehicle, the passenger mile risk of air carrier transportation is significantly less than that of motor vehicle transportation.
   d. The fatality rate in currently about 1.3 fatalities per 100,000,000 vehicle miles in 1999-2003, or about 1 fatality per 77,000,000 miles. Another way of looking at this is that if a person drove about 770,000 miles in their lifetime (15,500 miles per year for 50 years), there is about 1 in 100 chance that person will die as a result of an automobile accident during their lifetime.
Appendix N

Documentation on Water Conservation Activity
Reporting Webpage:
WBMWD
Inglewood

Month

Water
Purchases
(Acre-Ft)

Wells
Production
(Acre-Ft)

Residential
Recycled
Consumption
by Commercial
Total
Total
Use
Served
Population Water Usage Water Used #
of Popluation Popluation #
of Percentage
(CII) (Acre-Ft) (Acre-Ft)
Complains Served
Final
Days (PRU)
(Acre-Ft)

R-GPCD

Jan-2016

477.820

191.843

669.663

250.598

8.61

1

86418

31

69.22%

58.28

Feb-2016
Mar-2016
Apr-2016
May-2016
Jun-2016
Jul-2016
Aug-2016
Sep-2016
Oct-2016
Nov-2016
Dec-2016
Jan-2017
Feb-2017
Mar-2017
Apr-2017
May-2017
Jun-2017
Jul-2017
Aug-2017
Sep-2017
Oct-2017
Nov-2017
Dec-2017
Jan-2018
Feb-2018
Mar-2018
Apr-2018
May-2018
Jun-2018
Jul-2018
Aug-2018
Sep-2018
Oct-2018
Nov-2018
Dec-2018
Jan-2019
Feb-2019
Mar-2019
Apr-2019

485.400
497.500
523.500
554.000
584.600
611.500
624.500
592.900
569.600
491.000
444.300
405.700
358.300
485.800
532.900
586.400
590.200
652.300
663.800
619.300
638.000
573.400
583.900
543.400
525.000
526.400
592.500
635.300
663.000
769.600
778.800
730.900
679.200
617.900
563.900
554.500
481.100
603.500
636.900

178.444
181.304
175.129
177.014
172.291
205.175
196.361
177.849
199.098
222.500
228.493
223.371
211.172
212.946
205.181
197.898
198.785
195.851
198.877
189.228
182.559
183.812
182.124
175.857
152.158
156.82
153.315
157.507
145.065
106.218
110.208
92.690
113.166
128.610
111.442
107.305
91.441
43.96
67.662

663.844
678.804
698.629
731.014
756.891
816.675
820.861
770.749
768.698
713.500
672.793
629.071
569.472
698.746
738.081
784.298
788.985
848.151
862.677
808.528
820.559
757.212
766.024
719.257
677.158
683.220
745.815
792.807
808.065
875.818
889.008
823.590
792.366
746.510
675.342
661.805
572.541
647.460
704.562

203.898
218.624
185.876
187.237
181.579
203.797
221.578
199.126
220.697
183.925
186.796
203.974
127.494
224.390
178.911
190.536
202.316
213.734
232.702
207.954
194.266
199.311
185.000
210.146
185.740
186.222
186.080
199.922
192.834
214.345
233.923
207.702
258.559
158.407
163.382
235.953
152.793
193.361
186.776

41.55
30.74
57.13
74.70
95.73
121.60
116.86
102.46
79.97
57.08
19.95
6.95
4.78
50.13
79.61
99.44
95.00
145.20
118.87
82.61
92.34
53.01
43.90
37.72
42.30
6.68
86.73
93.21
98.34
120.24
101.75
112.55
57.87
46.19
15.18
6.11
7.70
16.90
67.31

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31
30

71.39%

61.76
56.21
63.59
65.48
68.11
72.57
72.65
70.83
67.65
61.81
57.00
51.71
59.52
59.45
70.28
72.22
73.74
77.17
76.63
73.05
76.18
67.86
66.00
61.92
66.18
60.45
70.35
72.11
77.33
76.37
79.24
74.57
64.93
73.92
59.44
57.42
56.53
55.23
64.02

68.08%
72.42%
73.64%
71.59%
73.06%
72.76%
73.12%
72.35%
68.92%
69.65%
67.58%
77.61%
69.95%
75.76%
75.71%
74.36%
74.80%
73.03%
74.28%
76.33%
73.68%
70.83%
70.78%
72.57%
72.74%
75.05%
74.78%
76.14%
71.69%
73.28%
72.04%
67.37%
78.78%
72.36%
71.33%
73.31%
70.14%
72.29%

Note
THE CITY ORDINANCE
UPDATED-LEVEL 1

HAS

BEEN

THE CITY IS ON LEVEL 1 OF WATER CONSERVATION .
THE CITY IS ON LEVEL 1 OF WATER CONSERVATION .
THE CITY IS ON LEVEL 1 OF WATER CONSERVATION .
THE CITY IS ON LEVEL 1 OF WATER CONSERVATION .
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THE CITY IS ON LEVEL 1 OF WATER CONSERVATION PLAN.
THE CITY IS ON LEVEL 1 OF WATER CONSERVATION PLAN.
THE CITY IS ON LEVEL 1 OF WATER CONSERVATION PLAN.

None
None
None
None
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None
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None
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None
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6/4/2021


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<th>Month</th>
<th>Water Purchases (Acre-Ft)</th>
<th>Wells Production (Acre-Ft)</th>
<th>Commercial Water Usage (CII) (Acre-Ft)</th>
<th>Recycled Water Used (Acre-Ft)</th>
<th># of Complains</th>
<th>Total Population Served</th>
<th>Total Population Final</th>
<th># of Days</th>
<th>Use Percentage (PRU)</th>
<th>R-GPCD</th>
<th>Note</th>
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<tr>
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<td>618.600</td>
<td>102.867</td>
<td>721.467</td>
<td>182.205</td>
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<td>73.89%</td>
<td>64.84</td>
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<td>704.901</td>
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<td>112.95</td>
<td>0</td>
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<td>67.49%</td>
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<td>331.513</td>
<td>641.013</td>
<td>180.066</td>
<td>3.02</td>
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<td>84448</td>
<td>31</td>
<td>71.91%</td>
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<td>321.999</td>
<td>662.899</td>
<td>206.205</td>
<td>4.64</td>
<td>0</td>
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<td>166.524</td>
<td>39.83</td>
<td>0</td>
<td>84448</td>
<td>28</td>
<td>75.49%</td>
<td>70.67</td>
<td>None</td>
</tr>
<tr>
<td>Mar-2020</td>
<td>515.00</td>
<td>158.851</td>
<td>673.851</td>
<td>192.356</td>
<td>26.83</td>
<td>0</td>
<td>84448</td>
<td>31</td>
<td>71.45%</td>
<td>59.93</td>
<td>None</td>
</tr>
<tr>
<td>Apr-2020</td>
<td>491.50</td>
<td>165.972</td>
<td>657.472</td>
<td>166.889</td>
<td>9.43</td>
<td>0</td>
<td>84448</td>
<td>30</td>
<td>74.62%</td>
<td>63.10</td>
<td>None</td>
</tr>
<tr>
<td>May-2020</td>
<td>513.90</td>
<td>252.333</td>
<td>766.233</td>
<td>180.210</td>
<td>66.47</td>
<td>0</td>
<td>84448</td>
<td>31</td>
<td>75.91%</td>
<td>72.40</td>
<td>None</td>
</tr>
<tr>
<td>Jun-2020</td>
<td>517.50</td>
<td>279.371</td>
<td>796.871</td>
<td>200.264</td>
<td>93.57</td>
<td>0</td>
<td>84448</td>
<td>30</td>
<td>71.16%</td>
<td>72.93</td>
<td>None</td>
</tr>
<tr>
<td>Jul-2020</td>
<td>590.30</td>
<td>277.346</td>
<td>867.646</td>
<td>275.128</td>
<td>107.53</td>
<td>0</td>
<td>84448</td>
<td>31</td>
<td>68.29%</td>
<td>73.75</td>
<td>None</td>
</tr>
<tr>
<td>Aug-2020</td>
<td>570.40</td>
<td>264.057</td>
<td>834.457</td>
<td>246.526</td>
<td>103.12</td>
<td>0</td>
<td>84448</td>
<td>31</td>
<td>68.55%</td>
<td>71.20</td>
<td>None</td>
</tr>
<tr>
<td>Sep-2020</td>
<td>534.80</td>
<td>256.875</td>
<td>791.675</td>
<td>252.481</td>
<td>111.07</td>
<td>0</td>
<td>85545</td>
<td>30</td>
<td>68.11%</td>
<td>68.46</td>
<td>System No.: CA1910051. Los Angeles County. None. Reported in net water sent to Distribution.</td>
</tr>
<tr>
<td>Oct-2020</td>
<td>523.10</td>
<td>260.988</td>
<td>784.088</td>
<td>218.902</td>
<td>84.61</td>
<td>0</td>
<td>85545</td>
<td>31</td>
<td>72.08%</td>
<td>69.45</td>
<td>System No.: CA1910051. Los Angeles. None-no shortage plan declared by State.</td>
</tr>
<tr>
<td>Nov-2020</td>
<td>454.10</td>
<td>250.799</td>
<td>704.899</td>
<td>231.229</td>
<td>106.05</td>
<td>0</td>
<td>85545</td>
<td>30</td>
<td>67.20%</td>
<td>60.14</td>
<td>System No.: CA1910051. Los Angeles. None-no shortage plan declared by State.</td>
</tr>
<tr>
<td>Dec-2020</td>
<td>474.50</td>
<td>240.671</td>
<td>715.171</td>
<td>183.436</td>
<td>42.88</td>
<td>0</td>
<td>85545</td>
<td>31</td>
<td>74.35%</td>
<td>65.34</td>
<td>System No.: CA1910051. Los Angeles. None-no shortage plan declared by State.</td>
</tr>
</tbody>
</table>