3.19 UTILITIES AND SERVICE SYSTEMS

This section of the 2024 PEIR describes the existing utilities and service systems in the SCAG region, sets forth the regulatory framework that affects utilities and service systems, and analyzes the potential impacts of Connect SoCal 2024. In addition, this PEIR provides regional-scale mitigation measures as well as project-level mitigation measures that can and should be considered and implemented by lead agencies for subsequent, site-specific environmental review to reduce identified impacts as appropriate and feasible. Waste discharge requirements and water quality standards are discussed in greater detail in Section 3.10, *Hydrology and Water Quality*. Impacts associated with the consumption of electricity, natural gas, and other energy sources are addressed in Section 3.6, *Energy*, of this 2024 PEIR.

3.19.1 ENVIRONMENTAL SETTING

DEFINITIONS

Definitions of terms used in the regulatory framework, characterization of baseline conditions, and impact analysis for utilities and service systems follow:

- *Nonhazardous Municipal Solid Waste:* More commonly known as trash or garbage—consists of everyday items that are used and then thrown away, such as product packaging, grass clippings, furniture, clothing, bottles, food scraps, newspapers, appliances, paint, and batteries. This comes from homes, schools, and businesses.
- *Regional Water Quality Control Board (RWQCB):* There are nine RWQCBs in California. The RWQCBs enforce the federal and State Clean Water Acts, protecting groundwater and surface water quality and are responsible for implementing Water Quality Control Plans (WEF 2023a).
- *Sanitary Landfill:* Sanitary landfills are sites where nonhazardous municipal solid waste is disposed of. Sanitary landfills are subject to federal and state solid waste disposal regulations to protect air and water resources and to ensure public safety.
- *Septic Tank:* Septic tanks are underground vessels used for treating domestic wastewater from a single dwelling or building by a combination of settling and anaerobic digestion. They are regulated as Onsite Wastewater Treatment Systems (OWTS). Effluent is usually disposed of through a dispersal system which consists of one or a combination of leach fields, seepage pits, and/or subsurface drip dispersal system. Settled solids in a septic tank are pumped out periodically and hauled to a treatment facility for disposal.
- *Stormwater:* Stormwater (also referred to as "storm water") is surface water flow caused by precipitation. As stormwater runoff flows over the land or impervious surfaces (paved streets, parking lots, and building rooftops), it accumulates debris, chemicals, sediment, or other pollutants that could adversely affect water quality if the runoff is discharged untreated (USEPA 2023a). The federal and State Clean Water Acts regulate stormwater quality at construction sites, industrial sites, and municipal separate storm sewer systems.
- *Onsite Wastewater Treatment System (OWTS):* OWTS are onsite systems that treat domestic wastewater through the use of septic tanks, seepage pits, leach fields, or drip lines. Installation and maintenance requirements are regulated through the federal and State Clean Water Acts.
- *Water Supply System:* A water supply system is a system for the collection, transmission, treatment, storage and distribution of water from source to consumers, for example, homes, commercial establishments, industry, irrigation facilities and public agencies for water-related activities (firefighting, street flushing, and so forth).

- *Wastewater:* The spent or used water of a community or industry that contains dissolved and suspended matter. Wastewater is generated by municipal, commercial, and industrial land uses and is regulated through the federal and State Clean Water Acts.

3.19.1.1 WATER SUPPLY

WATER SUPPLIES

California faces ongoing challenges with its water supply, with limited water resources stretched tightly between the environment, agriculture, and residential uses. Severe weather patterns linked to climate change have exacerbated the water issue, resulting in record low snowpack in several recent years followed by record high snowpack in 2022/2023. Water supplies are captured from natural surface water runoff, stored groundwater, and treated wastewater. Natural sources consist of surface water bodies like rivers and lakes, and groundwater resources stored in underground aquifers. Extensive water storage and conveyance infrastructure has been built over the last century throughout the state to move water to where it is needed. Recycled water is treated wastewater that can be reused for beneficial uses such as irrigation, groundwater recharge, or potable use. Desalination of brackish groundwater or seawater desalination is also employed in California to augment water supplies.

Naturally occurring surface and groundwater within the SCAG region are insufficient to support the region's growing population. In the SCAG region, approximately three quarters of potable water comes from imported sources (SCAG 2008). Restrictions on imported water as well as drought conditions have necessitated water conservation measures. These conservation measures have lessened the use of potable water in many areas of the region. In addition, the demand for water is being partially fulfilled by the increasing use of reclaimed water for non-potable purposes such as greenbelt irrigation and industrial processing and servicing.

Counties within the SCAG region use groundwater and surface water to meet water demand. Integrated Regional Water Management Plans and Urban Water Management Plans (UWMPs), developed for cities and counties throughout the region, help guide water management and supply and demand projections. Water is imported by the Metropolitan Water District of Southern California (MWD) and the State Water Project (SWP), and groundwater is pumped from various local wells.

WATERSHED MANAGEMENT

Watershed management relates to sustaining watersheds at an acceptable level of quality, contributing to resource quality, and maintaining groundwater supplies. The watersheds in the SCAG region are shown in Section 3.10, *Hydrology and Water Quality* (Map 3.10-2, Watersheds in the SCAG Region). These large watersheds are further divided into smaller sections by internal surface water drainage areas and groundwater basins.

LOCAL WATER SUPPLIES

Local water supplies in the SCAG region include groundwater, stormwater runoff, desalinated ocean water, and recycled water. Major groundwater basins include the Oxnard Plain in Ventura County; the San Fernando Basin, Antelope Valley Basin, Santa Clara River Basin, San Gabriel Basin, Central Basin and West Coast Basin in Los Angeles County; the Orange County Groundwater Basin; the Chino Basin and Bunker Hill Basin in San Bernardino County; and the Coachella Valley Basin in Riverside County. Groundwater historically supported agriculture and municipal developments in the region. However, over-pumping of the basins resulted in the need to import water to support

the increasing demands. More recently, recycled water, desalinated water, and stormwater capture have become important local supplies that offset the need for imported water.

Recent efforts to store recycled water and surplus water in groundwater basins for use during drought periods have proven successful. As of fiscal year 2021/22, Metropolitan has invested $724 million to fund 88 recycled water projects and 28 groundwater recovery projects, which have produced 4 million acre-feet (af) of added capacity (MWD 2023b). A number of agencies within the region are also active in the recharge of surface water, including the Orange County Water District, Los Angeles County Department of Water and Power, Foothill Municipal Water District, San Bernardino County Water and Flood Control District, Coachella Valley Water District, the Water Replenishment District of Southern California, the San Gabriel Valley Municipal Water District, and the Calleguas Municipal Water District.

IMPORTED WATER SUPLIES

COLORADO RIVER AQUEDUCT

The Colorado River is a major source of water for Southern California, and is imported via the Colorado River Aqueduct, owned and operated by MWD.

Under water delivery contracts with the United States, California entities have relied upon legal entitlements to Colorado River water, beginning with the 1922 Colorado River Compact (USBR 1922). California was entitled to 4.4 million af, as well as half on any surplus, as defined by the U.S. Department of the Interior.

However, with increased urbanization in the states within the Colorado River Basin, and limitation agreements between those states,, surplus water for California was eliminated; the State is now negotiating with the US Bureau of Reclamation various strategies to reduce of Colorado River water diversions. Examples of these strategies include additional reservoir and storage agreements, new water transfers between agricultural and urban users, and more water conservation and recycling (MWD 2021a). The water levels of Colorado River have been significantly impacted by on-going drought conditions and chronic overuse, prompting the federal government to call for the collective reduction of water use by 2 million to 4 million acre-feet. The seven states which depend on the Colorado River's water supplies – California, Arizona, Colorado, Nevada, New Mexico, Utah and Wyoming – are currently in the process of developing agreements for how best to reduce their water use (USDOI 2023).

The Colorado River Hydrologic Region (see discussion below) is of particular concern because it encompasses the Coachella Valley in the West Basin and the desert in the East Basin. Irrigation needs in the Coachella Valley are met almost exclusively by water imported from the Colorado River. Historical extraction of groundwater in the Coachella Valley has caused overdraft. Currently, an extensive groundwater recharge project is being undertaken by the Coachella Valley Water District that recharges Colorado River Water into spreading basins. Within the East Basin, irrigation and domestic water is provided by the Colorado River with only approximately one percent groundwater use and little direct reclamation. Agricultural runoff and some domestic wastewater do get returned to the Colorado River. Therefore, the water at the southern end of the watershed is a mixture of Colorado River water, agricultural runoff, and reclaimed water.

STATE WATER PROJECT

The State Water Project supplies water to Southern California via the California Aqueduct, with delivery points in Los Angeles, San Bernardino, and Riverside Counties. SWP was constructed and is managed by the Department of Water Resources (DWR), and is the largest state-owned, multipurpose water project in the country. State Water

Project has historically provided 25 to 50 percent of MWD's water, anywhere from 450,000 af to 1.8 million af annually. In 2020, the SWP supplied 588,000 af of MWD's water (MWD 2021a). In February 2023, due to early gains in the Sierra snowpack, the DWR announced a 210,000 af increase in forecasted State Water Project (SWP) deliveries this year and is expected to deliver 35 percent of requested water supplies in 2023 (DWR 2023a). The State Water Project provides water to approximately 27 million people and irrigation water for roughly 750,000 acres of agricultural lands annually.

LOS ANGELES AQUEDUCT

The Los Angeles Aqueduct, originally built in 1913, carries water 233 miles south from Owens Valley to the City of Los Angeles. The original aqueduct project was extended in 1940 to the Mono Basin. The system was supplemented by a second project, parallel to the first, completed in 1970. Los Angeles Aqueduct deliveries from the Mono Basin and Owens Valley have ranged from a 2015 low of 36,000 af and a high of 467,000 af in 1998. Since 1990, average deliveries have been approximately 240,000 af per year. Due to environmental considerations, approximately half of the Los Angeles Aqueduct water supply has been reallocated to supply environmental mitigation and enhancement projects, including enhancing groundwater spreading grounds and other improvements to facilitate increasing supply (MWD 2015).

TRANSFERS AND WATER BANKING

In an effort to diversify water sources and reduce reliance on specific water imports, water agencies have engaged in water transfer agreements. These contractual agreements, made with irrigation districts, reduce water use on agricultural lands either through agricultural conservation or fallowing land.[1] The water "freed" by these reductions is transferred to a municipal water district, where it may be used or stored in aquifers for future use, a practice called water banking. Water banking is also done during wet years, when rainwater is collected and directed toward recharge facilities for future use.

WATER TREATMENT FACILITIES

As identified below in **Table 3.19-1, Active Water Treatment Facilities in the SCAG Region**, there are 27 water treatment facilities that service the SCAG region.

California's water-related assets and services are provided by many interdependent systems that historically have been managed on a project-by-project basis. The gap between water supply and water demand decreased substantially between 2001 and 2010. This narrowing gap was further exacerbated in the SCAG region by the 2012-2015 and 2020- 2022 California droughts. However, persistent heavy rains in late 2022 and early 2023 have resulted in an overall increase in water supplies statewide. More specifically, California has experienced 31 atmospheric rivers during Water Year 2023 through March, which have delivered between 1.5 to 2 water years' worth of precipitation in much of the state (National Integrated Drought Information System [NIDIS] 2023). Snowpack remained above normal as of April 2023 — over 200 percent of normal in many parts of the region. The precipitation from December 2022 to March 2023 has alleviated much of the precipitation deficit in the California central and south coast region (NIDIS 2023).

[1] Some urban agencies also have the ability to enter "spot" water markets and to purchase water on an "as needed" basis.

TABLE 3.19-1 **Active Water Treatment Facilities in the SCAG Region**

COUNTY	DESIGN FLOW (MGD)
Imperial	**0.53**
Calipatria-Emerg. Disch	0.53
Los Angeles	**33.619**
Alhambra Groundwater Treatment Plant	0.35
Chadron Plant	—
Delta Plant	12
Granular Activated Carbon Treatment Plant	0.021
Hawthorne Drinking WTP	0.027
LA Co Waterworks Dist 40	—
Lankershim Yard	4.3
Leo J. Vander Lans Advanced WTP	4.32
Live Oak Well	0.234
Puente Valley Operable Unit Intermediate Zone Interim Remedy	2.88
Saugus Perchlorate Treatment Facility	2
Water Treatment Plant	3.6
Well 2A, Well 3, Well 10, Well 12, Well 13, El Monte Operable Unit Wells	0.131
Well No. 5 WTP	0.3
Wells 201 and 205 Perchlorate Treatment	3.456
Orange	**156.3**
SCWD Aliso Creek Water Harvesting Project	34.37
Irvine Desalter Project Potable WT System	34.37
San Juan Capistrano GW TP	43.78
SCWD GW Recovery Facility	43.78
Riverside	**0.005**
Chiriaco Summit WD	0.005
JCSD Wells 27 and 28	—
San Bernardino	**0.511**
Richardson Treatment Plant	—
LLU Wellhead Treatment System	—
Riverside Public Utility's Wellhead Treatment Plants	0.021
San Bernardino MWD Wellhead Treatment Systems	0.49
Ventura	**0.067**
San Nicolas Desalinization Plant	0.067
Grand Total	***191.032***

Source: Cal EPA 2023

According to DWR's Draft 2023 California Water Plan Report (DWR 2023e), statewide annual water demand and water supplies vary substantially between 2016 and 2020, with the highest overall water consumption and corresponding supply (90.6 million af) occurring in Water Year 2019. The statewide demand and supply sources from 2016 to 2020 are summarized below in **Table 3.19-2, Statewide Applied Water Uses by Sector for Water Years 2016–2020 (in million acre-feet)**, and **Table 3.19-3, Statewide Dedicated and Developed Water Supplies by Supply or Place of Origin for Water Years 2016–2020 (in million acre-feet)**, respectively, below.

TABLE 3.19-2 **Statewide Applied Water Uses by Sector for Water Years 2016–2020 (in million acre-feet)**

SECTOR	2016	2017[A]	2018	2019	2020
Percent Average Rainfall	103%	161%	73%	130%	71%
Precipitation	198.1	309.4	140.6	249.2	136.3
Urban	**7.2**	**—**	**8.2**	**7.9**	**8.0**
Large Landscape	0.6	—	0.8	0.6	0.8
Commercial	1.2	—	1.1	1.1	1.1
Industrial	0.4	—	0.4	0.4	0.4
Energy Production	0.1	—	0.1	0.1	0.1
Residential – Interior	2.8	—	3.0	2.8	3.0
Residential – Exterior	1.4	—	1.9	1.9	1.9
Conveyance Applied Water	0.3	—	0.3	0.3	0.3
Groundwater Recharge Applied Water	0.4	—	0.6	0.7	0.4
Irrigated Agriculture	**33.2**	**—**	**33.7**	**31.6**	**32.4**
Applied Water-Crop Production	30.8	—	30.3	27.5	29.2
Conveyance Applied Water	2.3	—	2.7	2.9	2.7
Groundwater Recharge Applied Water	0.1	—	0.7	1.2	0.5
Environmental Water	**41.2**	**—**	**31.5**	**51.0**	**23.9**
Managed Wetlands	1.5	—	1.6	1.5	1.7
Minimum Required Delta Outflow	4.8	—	5.3	8.4	4.4
Instream Flow Requirements	6.3	—	6.5	7.7	6.4
Wild and Scenic Rivers	28.6	—	18.2	33.4	11.4
Total Uses[b]	***81.6***	**—**	***73.4***	***90.6***	***64.4***

Source: DWR 2023e.

Table Notes:

a. Data are not available for Water Year 2017.

b. Totals may not add up exactly due to rounding.

TABLE 3.19-3 **Statewide Dedicated and Developed Water Supplies by Supply or Place of Origin for Water Years 2016–2020 (in million acre-feet)**

SUPPLY OR PLACE OF ORIGIN	2016	2017[A]	2018	2019	2020
Percent Average Rainfall	103%	161%	73%	130%	71%
Precipitation	198.1	309.4	140.6	249.2	136.3
Instream Environmental Supply	**28.1**	**—**	**18.2**	**30.3**	**12.0**
Local Projects	5.4	—	6.9	8.3	6.5
Local Imported Deliveries	0.6	—	0.7	0.9	0.9
Colorado River Project	4.7	—	4.4	4.0	4.1
Federal Projects	7.0	—	8.7	8.9	7.8
State Project	1.8	—	2.5	2.4	1.9
Groundwater Extraction	17.9	—	16.2	12.2	16.4
Inflow and Return Flow for Carryover Storage		—	0.0	0.0	0.0
Reuse and Recycled Water	15.9	—	15.7	23.5	14.5
Total Supplies[b]	***81.6***	**—**	***73.4***	***90.6***	***64.4***

Source: DWR 2023e.

Table Notes:

a. Data are not available for Water Year 2017.

b. Totals may not add up exactly due to rounding.

There are typically three sources of supply water: (1) natural sources, (2) manmade sources, and (3) reclamation. Natural water sources include rivers, lakes, streams, and groundwater stored in aquifers. Manmade sources include runoff water that is treated and stored in reservoirs and other catchment structures. Reclaimed water is wastewater that has been conveyed to a treatment plant and then treated enough that it may be used again for certain uses (such as irrigation). However, reclaimed water is not potable (drinkable) and must be conveyed in a separate system in order to ensure there is no possibility of direct human consumption. See Table 3.19-3.

WATER SUPPLY AND USE

Surface and groundwater resources are largely managed as separate resources, when they are, in fact, a highly interdependent system of watersheds and groundwater basins. Water quality, land use, and flood management are also integral to the effective management of these systems (DWR 2013).

Within the SCAG region, water supply comes from a variety of sources. While MWD imports water from Colorado River and State Water Project and provides wholesale water supply to its coverage area, many cities and some

county areas rely on groundwater, especially those along the coast. San Bernardino and Riverside Counties, for example, rely on a mixture of groundwater and surface water.

Following are the descriptions of the two primary hydrologic regions (South Coast and Colorado River) as well as associated regional water budgets.

SOUTH COAST HYDROLOGIC REGION

The South Coast Hydrologic Region (see Map 3.10-1, Hydrologic Regions, in Section 3.10, *Hydrology and Water Quality*) has a diverse mix of both local and imported water supply sources. Local water sources include water recycling, groundwater storage, and infrastructure enhancements. The region imports water through the State Water Project, the Colorado River Aqueduct, and the Los Angeles Aqueduct. These resources allow the region flexibility in managing supplies and resources in wet and dry years. The MWD wholesales the water to a consortium of 26 member agencies, including 14 cities, 11 municipal water districts, and one county authority that serve over 20 million people living in six counties stretching from Ventura to San Diego. The MWD service area boundaries are shown in **Map 3.19-1, Metropolitan Water District of Southern California Service Area**, below. MWD imported an average of 1 million af of water per year from the SWP from 1995 to 2010, and just under 1 million af per year from the CRA during the same time period. **Table 3.19-4, South Coast Region Water Balance**, shows the water balance of the South Coast Hydrologic Region from 2016 to 2020.

TABLE 3.19-4 **South Coast Region Water Balance**

	2016	2017[a]	2018	2019	2020
Water Use[b]					
Urban	3,426.1	—	3,836.9	3,652.9	3,651.4
Agricultural	695.1	—	567.0	404.2	510.0
Environmental	50.4	—	62.5	216.5	112.1
Total	***4,171.6***	**—**	***4,466.4***	***4,273.6***	***4,273.5***
Supplies[b]					
Local Projects	90.4	—	107.6	170.7	173.6
Local Imported Deliveries	96.0	—	284.2	309.3	245.0
Colorado River Project	1,214.6	—	933.0	794.3	853.1
Federal Projects	0.1	—	0.0	1.5	0.3
State Project	920.4	—	1,060.2	935.3	1,051.6
Groundwater Extraction	1,331.2	—	1,579.5	1,415.1	1,362.3
Reuse and Recycled Water	501.8	—	501.9	647.4	587.6
Total	***4,171.6***	**—**	***4,466.4***	***4,273.6***	***4,273.5***

Source: DWR 2023.

Table Notes:

a. Data are not available for Water Year 2017.

b. Figures in thousands of acre-feet of water.

COLORADO RIVER HYDROLOGIC REGION

About 85 percent of the Colorado River Region's urban and agricultural water supply comes from surface water deliveries from the Colorado River. Water from the river is delivered to this region via the All American and Coachella canals, local diversions, and the Colorado River Aqueduct by means of an exchange for SWP water. The Colorado River is an interstate and international river whose use is apportioned among the seven Colorado River Basin states and Mexico by a complex body of statues, decrees, and court decisions known collectively as the "Law of the River." Local surface water, groundwater, and the SWP provide the reminder of water to the region. In addition, many of the alluvial valleys in the regions are underlain by groundwater aquifers that are the sole source of water for many local communities. However, some alluvial valleys contain groundwater of such poor quality it is not suitable for potable uses.

Other cities such as Banning, Coachella, Indio, Palm Desert, Hesperia, and Victorville, are solely dependent on groundwater; while other cities in the SCAG region have supplemented their groundwater supplies with water from the State Water Projects or local streams and reservoirs. **Table 3.19-5, Colorado River Region Water Balance**, shows the water balance for the Colorado River Hydrologic Region from 2016 to 2020.

TABLE 3.19-5 **Colorado River Region Water Balance**

WATER USE	2016	2017[a]	2018	2019	2020
Water Use[b]					
Urban	272.9	—	644.6	507.7	426.1
Agricultural	3,907.8	—	3,714.1	3,492.7	3,574.8
Environmental	45.1	—	45.1	45.1	45.1
Total	***4,225.8***	***—***	***4,403.8***	***4,045.5***	***4,046.0***
Supplies[b]					
Local Projects	2.0	—	1.8	1.7	1.7
Local Imported Deliveries	0.0	—	0.0	0.0	0.0
Colorado River Project	3,533.6	—	3,420.4	3,213.0	3,257.1
Federal Projects	0.0	—	0.0	0.0	0.0
State Project	97.5	—	217.0	52.9	158.4
Groundwater Extraction	123.0	—	273.2	302.6	156.3
Reuse and Recycled Water	469.7	—	491.4	475.3	472.5
Total	***4,225.8***	***—***	***4,403.8***	***4,045.5***	***4,046.0***

Source: DWR 2023.

Table Notes:

a. Data are not available for Water Year 2017.

b. Figures in thousands of acre-feet of water.

WATER DEMAND

CALIFORNIA WATER DEMAND SOURCES

California measures water use across three main sectors, including urban land uses (communities), agriculture, and environment (Public Policy Institute of California [PPIC] 2023). On average, communities use 10 percent of water statewide, agriculture uses 40 percent, and the environment uses 50 percent. These proportions vary depending on the region and whether the year is wet or dry. State accounting of water for the environment includes some water used for people, notably the water dedicated to keeping the Sacramento–San Joaquin Delta fresh enough for municipal and farm use. Some of the water used by each sector returns to rivers and groundwater basins, where it can be used again (PPIC 2023).

Total urban water use has plateaued, even as the population has grown (PPIC 2023). Water use by urban, suburban, and rural communities—also known as urban water use—is highest in the San Francisco Bay Area and the South Coast; both regions rely primarily on water imported from elsewhere. Per-capita water use has been steadily falling, even before the 2012–2016 drought made conservation a major priority. In severely affected areas, the 2020–22 drought resulted in large additional declines. Total urban use has plateaued, even though California's population grew by 5.5 million from 2000 to 2020. Initial water savings came mainly from more efficient indoor plumbing and fixtures; more recent efforts have also focused on reducing outdoor use, which accounts for nearly half of all urban use.

Agricultural water use has changed little, while the value of production has grown (PPIC 2023). California has 8.5 million acres of irrigated cropland. Perennial fruit and nut crops' share (led by almonds) has increased, up from roughly a quarter of irrigated acreage in 2000 to nearly half in 2018. In the San Joaquin Valley, perennials cover over 60 percent of irrigated acreage. Although irrigated acreage and farm water use have not grown, the value of agricultural output has been rising, reflecting the shift toward perennials. Adjusted for inflation, farm gross domestic product was 23% higher in 2018 than in 1980, while farm water use was 15% lower (PPIC 2023). Farms use both surface water—sometimes imported across long distances—and groundwater. Groundwater use increases in dry years, when surface supplies are lower.

Environmental water supports people and ecosystems in a variety of settings (PPIC 2023). Environmental water supports natural infrastructure that is important to people and freshwater biodiversity. Water use by the environment falls under four categories: wild and scenic rivers, instream ecosystem use, water quality maintenance for communities and farms, and wetlands within wildlife preserves. The environment's share of water use varies dramatically by region. The majority (63 percent) occurs in wild and scenic rivers, primarily in the north of the state. In wet years, environmental water makes up a larger share of available water (61 percent) than in dry years (41 percent); in critically dry years it can plummet.

Drought and implementation of the Sustainable Groundwater Management Act (SGMA; see discussion in Regulatory Framework in Section 3.10, *Hydrology and Water Quality*) will impact future water use (PPIC 2023). Cities avoided major supply disruptions in the 2012–16 and 2020–22 droughts, reflecting long-term investments in supplies and demand management. Small communities that depend on wells are much more vulnerable during droughts, when groundwater levels fall. Groundwater is a key drought reserve for agriculture, but long-term over-pumping threatens this resource. The 2014 SGMA requires pumpers to reach sustainability by the early 2040s, and will cause farm water use to fall, especially in critically overdrafted basins. Efforts to augment supply (e.g., through groundwater recharge) and flexible water trading rules can lessen the economic impacts.

WATER USE DURING DROUGHT CONDITIONS

Californians experienced the driest January, February and March on record in 2022 with the biggest jump in water use since the 2019-2022 drought began: a nearly 19-percent increase in March 2022 compared to two years earlier (Cal Matters 2022). Despite the urging for residents to conserve by water officials, California's water use in March 2022 was the highest since 2015, standing in stark contrast to February, when residents and businesses used virtually the same amount of water in cities and towns as two years prior. The massive increase shrank conservation gains since the summer of 2021, according to data provided by the State Water Resources Control Board (SWRCB): During the period from July 2021 through March 2022, Californians used 3.7 percent less water than during the same stretch in 2020. The largest increases, nearly 27 percent, came in the Los Angeles basin and San Diego County, as well as the desert regions of southeast California that include Palm Springs and the Imperial Valley. Residents and businesses in southern Sierra Nevada communities used about 23 percent more water than in 2020, and the Central Coast followed close behind with a 20-percent rise. The only savings came in the North Coast region, which used 4.3-percent less water. Even the San Francisco Bay Area had a 2.5-percent increase. While the data reflects water used by residents and industries statewide, it does not include agriculture, which accounts for roughly 40 percent of the total water used in the state (Cal Matters 2022).

3.19.1.2 WASTEWATER

WASTEWATER TREATMENT FACILITIES

Wastewater treatment is generally performed in three stages: primary treatment, secondary treatment, and tertiary treatment. During primary treatment, materials sink to the bottom of tanks and then microbes eat the organic material and settle out in the secondary treatment tanks. Tertiary treatment occurs last, in which remaining pollutants are filtered out via sand and coal. Along with the additions of disinfectant chemicals like chlorine and careful testing and monitoring, this process treats water to an acceptable level to be returned into natural water bodies or recycled for irrigation, industrial, and agricultural uses. More recently, advanced treatment techniques have achieved level of cleanliness that allows highly purified recycled water to recharge underground aquifers (LACSD 2023).

A majority of wastewater within the SCAG region is treated by one of the 68 major wastewater treatment facilities in the area. Such facilities are often located in densely populated areas and in close proximity to bodies of water for simple discharge of treated water. Within each SCAG county, various smaller municipal wastewater systems and agencies manage wastewater from cities on a smaller scale, and private on-site sewage disposal systems are also available to serve wastewater generators without access to a municipal system. **Table 3.19-6, Major Wastewater Treatment Facilities in the SCAG Region (2023)**, lists the 68 large-scale facilities managing wastewater within the region, which have a combined design flow of approximately 2,206 million gallons per day (mgd).

TABLE 3.19-6 **Major Wastewater Treatment Facilities in the SCAG Region (2023)**

COUNTY	DESIGN FLOW (MGD)
Imperial	**23.53**
Brawley City WWTP	5.9
Calexico City WWTP	4.3
Calipatria City WWTP	1.73
El Centro City WWTP	8

COUNTY	DESIGN FLOW (MGD)
Herber PUD WWTP	1.2
Imperial City WWTP	2.4
Los Angeles	**1,395.75**
Avalon WWTF	1.2
Civic Center Water Treatment Facility	0.35
Burbank WWRP	9.0
Donald C. Tillman WWRP	80
Edward C. Little Water Recycling Plant	5.2
Groundwater Reliability Improvement Project (WDR GRIP/ AWTF)	--
Hyperion WWTP	450
Joint Water Pollution Control Plant, Carson	400
Juanita Millender-McDonald Carson Regional Water Recycling Plant	1.2
Long Beach WRP	25
Los Angeles-Glendale WWRP	80
Los Coyotes WRP	37.5
Malibu Mesa WRP	0.2
Newhall Ranch WRP	2
Pomona Water Reclamation Plant	15
San Jose Creek Water Reclamation Plant	100
Saugus Water Reclamation Plant	6.5
Tapia WRF	16
Terminal Island Water Reclamation Plant	30
Valencia WRP	21.6
Whittier Narrows Water Reclamation Plant, El Monte	15
Orange	**420.6**
3A Treatment Plant	6.0
City of San Clemente WRP	5.0
El Toro WD WRP	3.7
IRWD Los Alisos WRP	7.5
Latham WWP	13.0
Michelson WWRF	28.0
OCSD Plant 1	182
OCSD Plant 2	150
SMWD Oso Creek WRP	3.3
SMWD-Chiquita WRP	3.4
SOCWA Coastal TP	6.7
SOCWA Regional TP	12.0

COUNTY	DESIGN FLOW (MGD)
Riverside	**4112.42**
Beaumont WWTP No. 1	6.0
Coachella SD WWTP	4.5
Coachella Valley WD WWTP	7
Corona WWRF No. 1	11.5
Corona WWRF No. 3	3
EVMWD Regional WWRF	8
Riverside City WWRF	40
Temescal Valley WD WWRF	2.25
Valley SD WWTP	9.5
WRCRWA Regional WWRF	14
San Bernardino	**160.26**
Big Bear WWRF	4.89
Colton WRF	5.6
Henry N. Wochholz WWRF	6.67
IEUA Carbon Canyon WWRF	11.4
IEUA Regional Plant No. 1	44
IEUA Regional Plant No. 4	14
IEUA Regional Plant No. 5	15
Margaret H Chandler WWRF	33.0
Rialto WWRF	11.7
Victor Valley Wastewater Reclamation Authority WTP	14.0
Ventura	**93.9**
Camarillo WRP	7.25
Camrosa Water Reclamation Facility	2.25
Hill Canyon WWTP	14
Moorpark WWTP	5.0
Ojai Valley WWTP	3.0
Oxnard Wastewater Treatment Plant	31.7
Santa Paula WWRP	4.2
Simi Valley WQCP	12.5
Ventura WRF	14
Total	***2,206.46***

Sources: Cal EPA 2023

Created by the State Legislature in 1967, the SWRCB has jurisdiction throughout California, where it protects water quality by setting statewide policies (SWRCB 2023a). The SCAG region incorporates five of the nine Regional Water Boards in the state:

- Region 4 – Los Angeles Regional Water Quality Control Board: Los Angeles and Ventura Counties (and small portions of Kern and Santa Barbara Counties)
- Region 6 – Lahontan Regional Water Quality Control Board: San Bernardino and Los Angeles (N/E corner) counties
- Region 7 – Colorado River Regional Water Quality Control Board: Imperial, San Bernardino, Riverside, and San Diego Counties
- Region 8 – Santa Ana Regional Water Quality Control Board: Orange, Riverside, and San Bernardino Counties
- Region 9 – San Diego Regional Water Quality Control Board: San Diego, Imperial, and Riverside Counties

STORM WATER DRAINAGE FACILITIES

Each city and county within the SCAG region maintains a storm drain system. The systems vary by age, size, and type depending on the municipality, and may consist of day pipe, iron/steel pipe, very old brick collector sewers, and reinforced concrete pipe facilities.

California Water Board Districts 4, 6, 7, 8, and 9 are all within the SCAG region and manage their own storm water drainage facilities, utilizing NPDES program permits. Under a NPDES permit, operators must develop a storm water management program to prevent polluted storm water run-off from entering Municipal Separate Storm Sewer Systems (MS4s), which often discharge to local water bodies.

In April 2018, the State Water Resources Control Board released a storm water strategy called the Strategy to Optimize Resource Management of Storm Water (STORMS). The report focuses on enhancing urban run-off capture and use by identifying barriers, providing incentives, and increasing public engagement. The STORMS report found that urban run-off can be a viable source of water and that hybrid strategies combining green and gray infrastructure will be imperative for future urban water management (SWRCB 2023b).

3.19.1.3 SOLID WASTE

EXISTING CONDITIONS

The majority of nonhazardous solid waste within the SCAG region is disposed of at local sanitary landfills. Due to increased recycling and waste reduction initiatives, solid waste within the SCAG region has declined in recent years. CalRecycle's Solid Waste Information System tracks the total tonnage of solid waste disposed by county. As shown below, in **Table 3.19-7, Solid Waste Tonnage within the SCAG Region (2022)**, the total amount of solid waste disposed of in the SCAG region was 18,904,570 tons in 2022 (the most recent year for which data is available). For comparison, the total region-wide disposal tonnage in 2019 was 20,300,023 tons (CalRecycle 2019b). This number includes waste trucked into the region from counties outside the SCAG boundaries.

TABLE 3.19-7 **Solid Waste Tonnage within the SCAG Region (2022)**

COUNTY	TOTAL TONNAGE
Imperial	349,325
Los Angeles	6,611,420
Orange	3,422,155
Riverside	4,735,739
San Bernardino	2,074,064
Ventura	1,711,867
Total	***18,904,570***

Source: CalRecycle 2022

SOLID WASTE MANAGEMENT FACILITIES

LANDFILLS

A landfill is a waste management unit at which waste is discharged in or on land for disposal. Landfills do not include surface impoundment, waste pile, land treatment unit, injection well, or soil amendments (CalRecycle 2023a). Landfills that receive solid waste in the SCAG region are listed in **Table 3.19-8, Active Solid Waste Landfills by SCAG County**.

TABLE 3.19-8 **Active Solid Waste Landfills by SCAG County**

COUNTY	NAME
Imperial	Calexico Solid Waste Site
Imperial	Niland Solid Waste Site
Imperial	Salton City Solid Waste Site
Imperial	Imperial Landfill
Imperial	Monofill Facility
Los Angeles	Scholl Canyon Landfill
Los Angeles	Burbank Landfill Site No. 3
Los Angeles	Lancaster Landfill and Recycling Center
Los Angeles	Chiquita Canyon Sanitary Landfill
Los Angeles	Calabasas Landfill
Los Angeles	Pebbly Beach (Avalon) Disposal Site
Los Angeles	San Clemente Island Landfill
Los Angeles	Sunshine Canyon City/County Landfill
Los Angeles	Antelope Valley Public Landfill
Los Angeles	Savage Canyon Landfill
Orange	Prima Deshecha Sanitary Landfill
Orange	Olinda Alpha Sanitary Landfill
Orange	Frank R. Bowerman Sanitary LF
Riverside	Badlands Sanitary Landfill
Riverside	Lamb Canyon Sanitary Landfill

COUNTY	NAME
Riverside	Oasis Sanitary Landfill
Riverside	Desert Center Landfill
Riverside	Blythe Sanitary Landfill
Riverside	El Sobrante Landfill
Riverside	Philadelphia Recycling Mine
San Bernardino	California Street Landfill
San Bernardino	Oro Grande Kiln Waste Dust Dump
San Bernardino	Victorville Sanitary Landfill
San Bernardino	Barstow Sanitary Landfill
San Bernardino	Mid-Valley Sanitary Landfill
San Bernardino	Landers Sanitary Landfill
San Bernardino	USMC – 29 Palms Disposal Facility
San Bernardino	Fort Irwin Sanitary Landfill
San Bernardino	Mitsubishi Cement Plant Cushenbury L.F.
San Bernardino	San Timoteo Sanitary Landfill
Ventura	Toland Road Landfill
Ventura	Simi Valley Landfill & Recycling Center
Total	***37***

Source: CalRecycle 2023b

TRANSFER STATIONS

Similar to the landfills, transfer stations accept trash for disposal. There are six county operated transfer stations. These stations accept waste of various types including general refuse and wood and green waste depending on size with flat and volume rates applying. These facilities collect material that is then "transferred" to be recycled or to the nearest landfill site. While not as all-inclusive as a landfill, transfer stations provide a broad collection opportunity for local residents.

Table 3.19-9, Active Transfer Stations by SCAG County, identifies active transfer stations within the region.

TABLE 3.19-9 **Active Transfer Stations by SCAG County**

COUNTY	NUMBER OF ACTIVE TRANSFER STATIONS
Imperial	9
Los Angeles	99
Orange	56
Riverside	40
San Bernardino	47
Ventura	8
Total	***259***

Source: CalRecycle 2023b

WASTE DIVERSION AND RECYCLING

The California Integrated Waste Management Act of 1989 (Chapter 1095, Statutes of 1989) requires every city and county, as part of the Countywide Integrated Waste Management Plan, to prepare a Source Reduction and Recycling Element (SRRE) that identifies how each jurisdiction would meet the mandatory state waste diversion goals of 50 percent of all solid waste through source reduction, recycling, and composting activities. The 50 percent diversion requirement is measured in terms of per-capita disposal expressed as pounds per person per day. CalRecycle calculates per-capita disposal for all counties and jurisdictions to monitor the success of program implementation, actual recycling, and other diversion programs (CalRecycle 2023c).

HAZARDOUS WASTE

Hazardous waste is a waste with properties that make it potentially dangerous or harmful to human health or the environment. Hazardous wastes can be liquids, solids, or contained gases. California has only two hazardous waste landfills: the Kettleman Hills Facility in Kings County and the Buttonwillow landfill facility in Kern County. Wastewater is defined as water that contains wastes from residential, commercial, and industrial processes. Sewage, gray water, and industrially polluted discharges can all be categorized as wastewater. Within the SCAG region, wastewater is generally conveyed through the storm drain and sanitary sewer systems.

3.19.1.4 ENERGY AND TELECOMMUNICATIONS

ELECTRICITY

According to the California Public Utilities Commission (CPUC), as of 2018 California had a total of approximately 34,000 miles of overhead transmission lines and approximately 147,000 miles of overhead distribution lines, for a total of over 181,000 miles of overhead power lines (CPUC 2018). A total of approximately 600 miles of underground transmission lines and nearly 74,000 miles of underground distribution lines, for a total of over 74,000 miles of underground power lines (CPUC 2018). The main electric utility providers in the region include Southern California Edison, Imperial Irrigation District, San Diego Gas & Electric, and the Los Angeles Department of Water & Power.

NATURAL GAS

Southern California Gas Company (SoCalGas) is the primary natural gas service provider in the region and delivers about 2.8 billion cubic feet of natural gas a day to 20.9 million consumers connected through nearly 5.8 million gas meters for a wide variety of needs, ranging from cooking and space heating to electric generation (SoCalGas 2013). These natural gas deliveries are made possible through a network of pipelines and in-line facilities. Most of the natural gas consumed by SoCalGas' customers comes from natural gas production fields in New Mexico, west Texas and Oklahoma, as well as in the Rocky Mountains and Canada. The remaining natural gas supply percentage is produced locally in Central and Southern California from onshore and offshore fields. Typically, natural gas is gathered from individual production wells and then processed to remove liquids and other impurities to meet pipeline specifications. The natural gas is then transported to distribution systems throughout the U.S. by large, high-pressure transmission pipelines (SoCalGas 2013).

SoCalGas contracts for capacity on interstate pipelines to bring natural gas from out-of-state producing regions into California. When natural gas enters Southern California, it moves into the more than 101,000-mile pipeline system that is owned, operated, and maintained by SoCalGas (SoCalGas 2013). Large, high-pressure transmission pipelines transport natural gas supplies from the California-Arizona border and other receipt locations in Central

and Southern California to areas throughout the company's service territory. It then may be moved into underground storage, to be made available when it is needed (SoCalGas 2013).

Underground storage of natural gas plays a vital role in balancing the region's energy supply and demand. SoCal Gas owns and operates four underground storage facilities located in Aliso Canyon, Honor Rancho, Goleta, and Playa Del Rey. These facilities have a combined theoretical storage capacity of over 130 billion cubic feet (Bcf) (California Gas and Electric Utilities 2022). However, the combined working inventory for SoCalGas is reduced due to current working inventory regulatory restrictions imposed at Aliso Canyon. In July 2019, to improve short-term reliability and price stability in the southern California region, the CPUC deemed that Aliso Canyon be made available for withdrawals if certain conditions are met, such as an imminent and identifiable risk of gas curtailments created by an emergency condition that would impact public health and safety or result in curtailments of electric load that could be mitigated by withdrawals from Aliso Canyon (California Gas and Electric Utilities 2022).

TELECOMMUNICATIONS

Telecommunication services in the region are provided by various companies, including but not limited to major providers such as AT&T, Spectrum, Cox Communications, Verizon, and T-Mobile (Sprint Corporation). Telecommunication companies are regulated by CPUC. A wide array of products and telecommunication services for residential and commercial uses are offered by various companies, including internet services, wireless services, television technology using digital fiber optic technology, and satellite technology. With regard to wireless communications, the range and service for an individual service tower can vary; therefore, some towers located in the region likely also serve populations outside of region. All cellular towers and equipment are managed by private telecommunications service providers under the jurisdiction of the Federal Communications Commission (FCC). Communication systems located throughout the region include underground fiber optic cable, telephone transmission lines (overhead and underground), and cellular towers owned or leased by telecommunications service providers.

Landline telephone service in the region is provided by various commercial communication companies. The majority of the landline facilities are located in county- or city-owned rights-of-way and on private easements. Telecommunications lines are either copper wire or fiber optic cable and are routed overhead on utility poles and underground.

In addition to landline service, a large number of communication towers have been constructed throughout the region for cellular telephone service. Cellular towers have been erected along major travel corridors to meet emergency service objectives. Cellular service is available, to varying degrees, throughout the region with the exception of remote areas located away from major transportation facilities (e.g., mountains, deserts, other rural areas).

3.19.2 REGULATORY FRAMEWORK

3.19.2.1 WATER SUPPLY

FEDERAL

CLEAN WATER ACT/NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM PERMITS

The Clean Water Act (CWA) (33 USC Sections 1251 et seq.) was enacted by Congress in 1972 and has been amended several times since its adoption. It is the primary federal law regulating water quality in the U.S. Its objective is to reduce or eliminate water pollution in the nation's rivers, streams, lakes, and coastal waters. The CWA prescribes the basic federal laws for regulating discharges of pollutants and sets minimum water quality standards for all surface waters in the U.S. The CWA is administered by USEPA (USEPA 2023a).

In California, the State Water Resources Control Board (State Water Board) and the nine Regional Water Quality Control Boards (Regional Water Boards) implement many of the Clean Water Act's provisions. The Clean Water Act requires the State to adopt water quality standards and to submit those standards for approval by USEPA. For point source discharges to surface water, the Clean Water Act authorizes the USEPA and/or approved states (such as California) to administer the National Pollutant Discharge Elimination System (NPDES) program. The NPDES program regulates the discharge of pollutants from point sources. Municipal point sources consist primarily of municipal wastewater treatment plant outfalls and stormwater conveyance system outfalls. The Clean Water Act also establishes a loan program—the State Revolving Fund—for the implementation of water quality improvement projects.

SAFE DRINKING WATER ACT

Passed in 1974 and amended in 1986 and 1996, the Safe Drinking Water Act (SDWA) gives USEPA the authority to set drinking water standards. Drinking water standards apply to public water systems, which provide water for human consumption through at least 15 service connections, or regularly serve at least 25 individuals. There are two categories of drinking water standards, the National Primary Drinking Water Regulations (NPDWR) and the National Secondary Drinking Water Regulations. The NPDWR are legally enforceable standards that apply to public water systems. NPDWR standards protect drinking water quality by limiting the levels of specific contaminants that can adversely affect public health and are known or anticipated to occur in water (USEPA 2023b).

STATE

PORTER-COLOGNE WATER QUALITY CONTROL ACT

See discussion of the Porter Cologne Act under Section 3.19.2.2, *Regulatory Framework* [Wastewater], above.

CALIFORNIA SAFE DRINKING WATER REGULATIONS

The SWRCB carries out the responsibilities as the federally designated primacy agency for the drinking water program in California (SWRCB 2021). This includes responsibility for the implementation of the federal SDWA. Additionally, the SWRCB carries out the responsibility for implementation of the California SDWA. The California SWDA (Sections 116270–116755 of the Health and Safety Code) is intended to ensure that the water delivered by public water systems of this state is at all times pure, wholesome, and potable, to improve upon the minimum requirements of the federal SDWA Amendments of 1996, to establish primary drinking water standards that are

at least as stringent as those established under the federal Safe Drinking Water Act, and to establish a program that is more protective of public health than the minimum federal requirements. This legislation also established a drinking water regulatory program within the SWRCB to provide for the orderly and efficient delivery of safe drinking water within the state and to give the establishment of drinking water standards and public health goals greater emphasis and visibility within the state (SWRCB 2021). These responsibilities are set forth in Chapter 4 of Part 12 (Drinking Water) of Division 104 (Environmental Health) of California H&S Code (Section116270 et seq.) and Articles 1 and 2 of Group 4, of Subchapter 1 of Chapter 5 (Sanitation) of Division 1 (Department of Health Services) of Title 17 and Chapters 1 through 19 of Division 4 (Environmental Health) of Title 22 of the California Code of Regulations. The Division of Drinking Water (DDW) within the SWRCB carries out the drinking water regulatory responsibilities. DDW implements the federal SDWA and California regulations applicable to public water systems. This direct implementation of the program is carried out at the local and regional level by DDW District Offices and Local Primacy Agencies. The overall management, support and control of the program is accomplished through the larger management structure, ultimately under the SWRCB members (SWRCB 2021).

DDW includes the Environmental Laboratory Accreditation Program, which is responsible for accreditation of laboratories that analyze environmental samples for regulatory purposes, including drinking water laboratories performing analyses pursuant to the California SDWA. The Environmental Laboratory Accreditation Program is of critical importance to a range of programs other than drinking water within the SWRCB and other partner agencies. DDW is also responsible for adopting uniform criteria for the use of recycled water that is protective of public health. The Regional Water Boards or the Division of Water Quality within the SWRCB incorporate DDW-developed criteria in Water Reclamation Permits or Waste Discharge Requirements (see Section 3.10, *Hydrology and Water Quality*, for additional discussion), which set out the specific requirements that a water recycling project must meet. DDW and the Regional Water Boards/Division of Water Quality work cooperatively on regulating water recycling projects including those that are designed to augment drinking water supplies, including recharging groundwater supplies and augmenting surface water supplies such as reservoirs, as well as implementing statutory requirements with the goal of developing standards for the safe use of recycled water for direct potable reuse.

CALIFORNIA ADMINISTRATIVE CODE

California Administrative Code Title 24 contains the California Building Standards, including the California Plumbing Code (Part 5), promotes water conservation. Title 20 addresses Public Utilities and Energy and includes appliance efficiency standards that promote water conservation. In addition, a number of State laws listed below require water-efficient plumbing fixtures in structures:

- Title 20, California Administrative Code, Section1604(g) establishes efficiency standards that give the maximum flow rate of all new showerheads, lavatory faucets, sink faucets, and tub spout diverters.
- Title 20 California Administrative Code Section1606 prohibits the sale of fixtures that do not comply with established efficiency regulations.
- Title 24, California Administrative Code, Sections 25352(i) and (j) address pipe insulation requirements, which can reduce water used before hot water reaches equipment or fixtures. Insulation of water-heating systems is also required.
- Health and Safety Code Section 17921.3 requires low-flush toilets and urinals in virtually all buildings.

Under Title 22, the State Department of Health establishes State-wide effluent bacteriological and treatment reliability standards for recycled water uses. The standards are based on the potential for human contact with recycled water. The regional water quality control board (RWQCB) has established and enforces requirements for the

application and use of recycled water. Permits are required from a RWQCB for any recycling operation. Applicants for a permit are required to demonstrate that the proposed recycled water operation is in compliance with Title 22 and will not exceed the ground and surface water quality objectives in the regional basin management plan (DPH 2014).

THE WATER CONSERVATION ACT OF 2009

These sections of the Water Code, enacted as SB X7-7—The Water Conservation Act of 2009, set water conservation targets and efficiency improvements for urban and agricultural water suppliers, Sections 10608.16 and Sections 10608.48, respectively. The legislation establishes a State-wide target to reduce urban per capita water use by 20 percent by 2020. Urban retail water suppliers are required, individually or on a regional basis, to develop an urban water use target by December 31, 2010, to meet their target by 2020, and to meet an interim target (half of their 2020 target) by 2015. Urban water suppliers cannot impose conservation requirements on process water (water used in production of a product) and are required to employ two critical efficient water management practices—water measurement and pricing. Urban retail water suppliers must include in a water management plan, to have been completed by July 2011, the baseline daily per capita water use, water use target, interim water use target, and compliance daily per capita water use (DWR 2009).

CALIFORNIA URBAN WATER MANAGEMENT PLANNING ACT

This part of the State Water Code (Section 10610) states that each urban water supplier that provides water to 3,000 or more customers, or that provides over 3,000 AF of water annually, 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 years by preparing a UWMP and updating it every five years. The Act describes the contents of UWMPs and requires each agency's UWMP to assess the reliability of the agency's water resources over a 20-year planning horizon (DWR 2023b).

CALIFORNIA SENATE BILL 610

Referred to as SB 610, the intent of this part of the State Water Code is to ensure that sufficient water supplies are available for growing communities. Water Code Section 10910 requires any project subject to CEQA of a specified minimum size to require a local public water provider with more than 3,000 service connections to prepare a water supply assessment (WSA) for the project. The WSA must document sources of water supply, quantify water demands, and compare future water supply and demand to show that sufficient water will be available to serve the development project. Water supply must be assessed for normal, single dry, and multiple dry water years during a 20-year forecast. If supplies are found to be insufficient to serve the project, the WSA must include plans for acquiring sufficient supplies. The WSA must be included in the CEQA document for the project (DWR 2001).

CALIFORNIA SENATE BILL 221

SB 221 applies to subdivisions of more than 500 dwelling units (Water Code Section 10912). Like SB 610, it is intended to ensure an adequate water supply for new development. SB 221 requires that approval of a tentative map showing the design and improvement of a proposed subdivision shall include a requirement that a sufficient water supply is available (DWR 2001).

AB 685

On September 25, 2012, Governor Edmund G. Brown Jr. signed AB 685, making California the first state in the nation to legislatively recognize the human right to water. Water Code Section 106.3 recognizes that "every human

being has the right to safe, clean, affordable, and accessible water adequate for human consumption, cooking, and sanitary purposes." The human right to water extends to all Californians, including disadvantaged individuals and groups and communities in rural and urban areas.

CALIFORNIA GROUNDWATER MANAGEMENT ACT

The Groundwater Management Act (AB 3030, Water Code Sections 10750 et seq.) provides guidance for applicable local agencies to develop voluntary groundwater management plans in State-designated groundwater basins. Groundwater management plans can allow agencies to raise revenue to pay for measures influencing the management of the basin, including extraction, recharge, conveyance, facilities' maintenance, and water quality (DWR 1992).

SUSTAINABLE GROUNDWATER MANAGEMENT ACT

In 2014, the California State Legislature approved a combination of bills that together formed the Sustainable Groundwater Management Act (SGMA). SGMA requires the formation of local Groundwater Sustainability Agencies (GSAs) that must develop Groundwater Sustainability Plans (GSPs) for medium or high priority groundwater basins in California by 2022. These plans must quantify basin characteristics and supplies and must establish management actions and projects to achieve basin sustainability within 20 years of implementation (by 2042). The SGMA imposes many new monitoring and reporting requirements, and other procedural and substantive mandates related to groundwater management.

CALIFORNIA MODEL WATER EFFICIENT LANDSCAPE ORDINANCE

The California Model Water Efficient Landscape Ordinance (MWELO) sets restrictions on outdoor landscaping. Because the City of Lincoln is a "local agency" under the MWELO, it must require project applicants to prepare plans consistent with the requirements of the MWELO for review and approval by the City. The MWELO was most recently updated by the Department of Water Resources and approved by the California Water Commission on July 15, 2015. All provisions became effective on February 1, 2016. The revisions, which apply to new construction with a landscape area greater than 500 square feet, reduced the allowable coverage of high-water-use plants to 25 percent of the landscaped area. The MWELO also requires use of a dedicated landscape meter on landscape areas for residential landscape areas greater than 5,000 square feet or nonresidential landscape areas greater than 1,000 square feet, and requires weather-based irrigation controllers or soil-moisture based controllers or other self-adjusting irrigation controllers for irrigation scheduling in all irrigation systems (California Code of Regulations, Title 23, Division 2, Chapter 2.7).

GOVERNOR'S EXECUTIVE ORDER B-29-15 ISSUED ON APRIL 1, 2015

Key provisions of Executive Order B-29-15 included ordering the State Water Resources Control Board to impose restrictions to achieve a 25-percent reduction in potable urban water usage through February 28, 2016; directing DWR to lead a statewide initiative, in partnership with local agencies, to collectively replace 50 million square feet of lawns and ornamental turf with drought tolerant landscapes, and directing the California Energy Commission to implement a statewide appliance rebate program to provide monetary incentives for the replacement of inefficient household devices (SWRCB 2015).

GOVERNOR'S EXECUTIVE ORDER N-79-20

See discussion of EO N-79-20 in Section 3.3, *Air Quality*, and under Section 3.19.2, *Regulatory Framework* [Wastewater], above.

EXECUTIVE ORDER N-8-23

On July 10, 2023, Governor Newsom issued Executive Order N-8-23, creating an Infrastructure Strike Team to work across state agencies to maximize federal and state funding opportunities for California innovation and infrastructure projects. Executive Order N-8-23 has the potential to facilitate coordinated and streamlined project review and permitting processes in California, as well as the development of a robust California-specific project tracking system. Under the order, the Infrastructure Strike Team is tasked with identifying priority infrastructure projects; supporting governmental coordination on review, permitting, and approvals; and creating working groups focused on specific project categories, such as transportation, energy, hydrogen, environmental remediation, broadband, water, and zero-emission vehicles. The order's approach is similar to that taken in the federal Fixing America's Surface Transportation Act, designed to improve the timeliness, predictability, and transparency of the federal environmental review and authorization process for covered infrastructure projects. The Infrastructure Strike Team is also tasked with holding government oversight bodies accountable to "deliver results in an expedited and effective fashion" and establishing dashboards to track the progress of priority projects, including milestones, funding, federal application deadlines, workforce development, and progress toward equity goals.

REGIONAL

The water quality control plans and groundwater protection responsibilities for the SCAG region are described in Section 3.10, *Hydrology and Water Quality*.

MWD PLANS

MWD 2020 INTEGRATED RESOURCES PLAN

MWD's 2020 Integrated Resources Plan (MWD 2020 IRP) anticipates how much water Southern California can expect from its imported and local supplies, and forecasts regional water demands (MWD 2020). Understanding the gap between supplies and demand helps set the targets to maintain reliability and inform the MWD board on what actions MWD and its member agencies can take to close that gap. While past plans looked at a single forecast, given all the uncertainties regarding water supplies in the region, the MWD 2020 IRP looks at multiple scenarios that could plausibly unfold in the future. From these collaborative exercises, MWD is investigating resources, policies, and investments needed to maintain reliable water supplies through 2045 and is developing an adaptive management strategy along with a series of performance measures and reality checks to help inform what plausible future the region is heading towards, so that plans can be adjusted as needed.

The first step in the MWD 2020 IRP process was to identify the uncertain factors that could challenge or benefit Southern California's water supply, including climate change, economics and demographics, legislation and regulations, federal and state support, technological advances in water, and aging infrastructure. With these potential impacts in mind, MWD then developed four scenarios looking at how these factors could play out in each situation, promoting greater understanding of the wider range of potential outcomes. These scenarios include:

- Scenario A: Gradual climate change impacts, low regulatory impacts and slow economic growth

- Scenario B: Gradual climate change impacts, low regulatory impacts, high economic growth
- Scenario C: Severe climate change impacts, high regulatory impacts, slow economic growth
- Scenario D: Severe climate change impacts, high regulatory impacts, and high economic growth

The MWD 2020 IRP evaluates the gap between expected water supplies and how much water the region will need in each scenario. Using insight from the gap analysis, the MWD 2020 IRP then identifies solutions and policies that address the outcomes of each scenario, promoting reliability despite the uncertainty of the future.

MWD 2020 REGIONAL URBAN WATER MANAGEMENT PLAN

MWD's 2020 UWMP (MWD 2021a) was prepared in compliance with the California Water Code (CWC). The 2020 UWMP provides an assessment of MWD's water service reliability, describes and evaluates sources of water supply, efficient uses of water, demand management measures, implementation strategy and schedule, and other relevant information and programs. In addition to the water reliability assessments, the 2020 UWMP includes an evaluation of frequent and severe periods of droughts, as described in the Drought Risk Assessment, and the preparation and adoption of the Water Shortage Contingency Plan (WSCP; see discussion below). MWD's 2020 UWMP was developed as part of the 2020 IRP planning process and provides a representation of Metropolitan's planning elements reported under the conditions required by the Act. The IRP represents MWD's comprehensive planning process and will serve as MWD's blueprint for long-term water reliability, including key supply development and water use efficiency goals. Together, these plans serve as the reliability roadmap for the region. The planning process involved extensive coordination with Southern California's water agencies, municipal service providers, and public planning agencies. MWD's Board of Directors provided oversight throughout the ongoing process for the development of the 2020 IRP that informed the preparation of the 2020 UWMP. MWD's outreach efforts sought to engage the general public, businesses, environmental organizations, diverse communities, cities, counties, and other stakeholders with an interest in the future of Southern California's water supplies. The information included in the 2020 UWMP represents the most current and available planning projections of supply capability and demand forecasts developed through a collaborative process with the member agencies. As with MWD's previous plans, the 2020 UWMP does not explicitly discuss specific activities undertaken by its member agencies unless they relate to one of MWD's water demand or supply management programs. Presumably, each member agency will discuss these activities in its UWMP.

MWD WATER SHORTAGE CONTINGENCY PLAN

MWD's Water Shortage Contingency Plan (WSCP) (MWD 2021b) complies with CWC Section 10632, which requires that every urban water supplier prepare and adopt a WSCP as part of its 2020 UWMP. Section 10632.2 provides, "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...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." Notwithstanding, 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. The WSCP is a guide for MWD's intended actions during water shortage conditions. It is meant to improve preparedness for droughts and other impacts on water supplies by describing the process used to address varying degrees of water shortages. Certain elements of the WSCP are required by the CWC, including response actions that align with six standard water shortage levels based on water supply conditions, as well as shortages resulting from catastrophic supply interruptions. The WSCP also describes MWD's procedures for conducting an Annual Water Supply and Demand Assessment (Annual Assessment) that is required by CWC Section 10632.1 and is to be submitted to the DWR on or before July 1 of each year, or within 14 days of receiving final allocations from the

SWP, whichever is later. MWD's WSCP is included as Appendix 4 to its 2020 UWMP, discussed above, which was submitted to DWR by July 1, 2021. However, the WSCP is created separately from MWD's 2020 UWMP and can be amended, as needed, without amending the UWMP.

URBAN WATER MANAGEMENT PLANS

Under California Water Code Division 6, Part 2.6, Section 10610–10656, the Urban Water Management Planning Act requires urban water suppliers that supply more than 3,000 acre-feet of water annually, or serve more than 3,000 connections, to submit an Urban Water Management Plan (UWMP). The UWMP is a public document prepared by water suppliers to support their long-term resource planning over a 20-year period and ensure adequate water supplies are available to meet existing and future water demands. The UWMP must be submitted to the DWR every 5 years, and must demonstrate progress toward reduction in 20 percent per capita urban water consumption by the year 2020, as required in the Water Conservation Bill of 2009, Senate Bill X7-7. There are 138 service districts in the SCAG region required to develop a UWMP, which is typically prepared and submitted to DWR within 30 days and reviewed 60 days prior to public hearing for plan adoption and implementation. The preparation of the plan includes guidebook, workshops, and programming for comprehensive strategies to conserve water.

LOCAL

UTILITY MASTER PLANS & UTILITY CAPITAL IMPROVEMENT PROGRAMS

Jurisdictions usually have utility master plans or other planning documents that identify and prioritize projects needed to maintain adequate levels of utility service in the jurisdiction. The Metropolitan Water District most recently updated its Integrated Water Resources Plan in 2020. The City of Los Angeles prepared One Water LA in 2017. Each local water provider prepares facility master plans that outline capital improvement projects that identify water demands, conservation measures, efficiency measures, and local source augmentation.

GENERAL PLANS

Local policies related to utilities and service systems are established in each jurisdiction's general plan. In general, jurisdictions have policies in place that state that utility and service systems must be provided at the same time (or in advance of) need. In addition to these general policies, jurisdictions may have more specific policies tailored to performance objectives including wastewater treatment services.

3.19.2.2 WASTEWATER

FEDERAL

CLEAN WATER ACT/NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM PERMITS

The Clean Water Act (CWA) (33 USC Sections 1251 et seq.) was enacted by Congress in 1972 and has been amended several times since its adoption. It is the primary federal law regulating water quality in the U.S. Its objective is to reduce or eliminate water pollution in the nation's rivers, streams, lakes, and coastal waters. The CWA prescribes the basic federal laws for regulating discharges of pollutants and sets minimum water quality standards for all surface waters in the U.S. The CWA is administered by USEPA (USEPA 2002).

In California, the State Water Resources Control Board (State Water Board) and the nine Regional Water Quality Control Boards (Regional Water Boards) implement many of the Clean Water Act's provisions. The Clean Water Act requires the State to adopt water quality standards and to submit those standards for approval by USEPA. For point source discharges to surface water, the Clean Water Act authorizes the USEPA and/or approved states (such as California) to administer the National Pollutant Discharge Elimination System (NPDES) program. The NPDES program regulates the discharge of pollutants from point sources. Municipal point sources consist primarily of municipal wastewater treatment plant outfalls and stormwater conveyance system outfalls. The Clean Water Act also establishes a loan program—the State Revolving Fund—for the implementation of water quality improvement projects.

MS4 PERMIT GUIDANCE PROVISION C.3

On May 17, 1996, USEPA published an Interpretive Policy Memorandum on Reapplication Requirements for Municipal Separate Storm Sewer Systems, which provided guidance on permit application requirements for regulated MS4s. MS4 permits include requirements for post-construction control of stormwater runoff in what is known as Provision C.3. The goal of Provision C.3 is for the Permittees to use their planning authorities to include appropriate source control, site design, and stormwater treatment measures in new development and redevelopment projects to address both soluble and insoluble stormwater runoff pollutant discharges and prevent increases in runoff flows from new development and redevelopment projects. This goal is to be accomplished primarily through the implementation of low-impact development (LID) techniques (GPO 1996).

STATE

PORTER-COLOGNE WATER QUALITY CONTROL ACT

The Porter-Cologne Act is the principal law governing water quality regulation in California. It establishes a comprehensive program to protect water quality and the beneficial uses of water. The Porter-Cologne Act applies to surface waters, wetlands, and ground water and to both point and nonpoint sources of pollution. Pursuant to the Porter-Cologne Act (California Water Code section 13000 et seq.), the policy of the State is as follows:

- That the quality of all the waters of the state shall be protected;
- That all activities and factors affecting the quality of water shall be regulated to attain the highest water quality within reason; and
- That the State must be prepared to exercise its full power and jurisdiction to protect the quality of water in the state from degradation.

The Porter-Cologne Act established nine Regional Water Boards (based on hydrogeologic barriers) and the State Water Board, which are charged with implementing its provisions and which have primary responsibility for protecting water quality in California. The State Water Board provides program guidance and oversight, allocates funds, and reviews Regional Water Boards decisions. In addition, the State Water Board allocates rights to the use of surface water. The Regional Water Boards have primary responsibility for individual permitting, inspection, and enforcement actions within each of nine hydrologic regions. The State Water Board and Regional Water Boards have numerous NPS-related responsibilities, including monitoring and assessment, planning, financial assistance, and management.

The Regional Water Boards regulate discharges under the Porter-Cologne Act primarily through issuance of NPDES permits and waste discharge requirements (WDRs for point and nonpoint source discharges. Anyone

discharging or proposing to discharge materials that could affect water quality (other than to a community sanitary sewer system regulated by an NPDES permit) must file a report of waste discharge.

The Porter-Cologne Act also implements many provisions of the Clean Water Act, such as NPDES permitting program. Section 401 of the Clean Water Act gives the State Water Board the authority to review any proposed federally permitted or federally licensed activity that may impact water quality and to certify, condition, or deny the activity if it does not comply with State water quality standards.

The Porter-Cologne Act also requires adoption of water quality control plans (basin plans) that contain the guiding policies of water pollution management in California. A number of statewide water quality control plans have been adopted by the State Water Board. In addition, regional basin plans have been adopted by each of the Regional Water Boards and get updated as needed. These plans identify the existing and potential beneficial uses of waters of the state and establish water quality objectives to protect these uses. The basin plans also contain implementation, surveillance, and monitoring plans. Statewide and regional water quality control plans include enforceable prohibitions against certain types of discharges, including those that may pertain to nonpoint sources. Portions of water quality control plans, the water quality objectives and beneficial use designations, are subject to review by USEPA, when approved they become water quality standards under the Clean Water Act (SWWRCB 2019a).

CALIFORNIA OCEAN PLAN

The California Ocean Plan establishes water quality objectives for California's ocean waters and provides the basis for regulation of wastes discharged into the state's coastal waters. The plan applies to point and nonpoint source discharges. Both the SWRCB and the six coastal RWQCBs implement and interpret the California Ocean Plan. The California Ocean Plan identifies the applicable beneficial uses of marine waters. These beneficial uses include preservation and enhancement of designated Areas of Special Biological Significance, rare and endangered species, marine habitat, fish migration, fish spawning, shellfish harvesting, recreation, commercial and sport fishing, mariculture, industrial water supply, aesthetic enjoyment, and navigation.

The California Ocean Plan establishes a set of narrative and numerical water quality objectives to protect beneficial uses. These objectives are based on bacterial, physical, chemical, and biological characteristics as well as radioactivity. The water quality objectives in Table 1 (formerly Table B) of the California Ocean Plan apply to all receiving waters under the jurisdiction of the plan and are established for the protection of aquatic life and for the protection of human health from both carcinogens and noncarcinogens. Within Table 1 there are 21 objectives for protecting aquatic life, 20 for protecting human health from noncarcinogens, and 42 for protecting human health from exposure to carcinogens. The Ocean Plan also includes an implementation program for achieving water quality objectives. Effluent limitations are established for the protection of marine waters (SWRCB 2015).

STRATEGY TO OPTIMIZE RESOURCE MANAGEMENT OF STORM WATER (STORMS)

In April 2018, the California State Water Resources Control Board published the STORMS report to advance the ideology that storm water is a valuable resource. The report explores policies for collaborative watershed level storm water management and pollution prevention, obstacles to funding and barriers to development. It also describes the importance of integrating regulatory and non-regulatory interests and how raised awareness of the benefits of storm water management invokes participation and enthusiasm with regards to this little-explored resource (SWRCB 2023b).

NPDES GENERAL PERMITS

CONSTRUCTION GENERAL PERMIT

The California Construction Stormwater Permit (Construction General Permit) 1 (also, known as Industrial General Permit), adopted by the State Water Resources Control Board (SWRCB), regulates construction activities that include clearing, grading, and excavation resulting in soil disturbance of at least one acre of total land area. The Construction General Permit authorizes the discharge of stormwater to surface waters from construction activities. It prohibits the discharge of materials other than stormwater and authorized non-stormwater discharges and all discharges that contain a hazardous substance in excess of reportable quantities established in Title 40, Sections 117.3 or 302.4 of the CFR, unless a separate National Pollution Discharge Elimination System (NPDES) permit has been issued to regulate those discharges. The Construction General Permit requires that all developers of land where construction activities will occur over more than 1 acre do the following:

- Complete a risk assessment to determine pollution prevention requirements pursuant to the three risk levels established in the General Permit;
- Eliminate or reduce non-stormwater discharges to storm sewer systems and other waters of the US;
- Develop and implement a Stormwater Pollution Prevention Plan (SWPPP), which specifies BMPs that will reduce pollution in stormwater discharges to the Best Available Technology Economically Achievable/ Best Conventional Pollutant Control Technology standards; and
- Perform inspections and maintenance of all BMPs.

To obtain coverage under the NPDES Construction General Permit, the Legally Responsible Person must electronically file all permit registration documents with the SWRCB before the start of construction. Permit registration documents must include:

- Notice of Intent
- Risk Assessment
- Site Map
- SWPPP
- Annual Fee
- Signed Certification Statement

Typical BMPs contained in SWPPPs are designed to minimize erosion during construction, stabilize construction areas, control sediment, control pollutants from construction materials, and address post construction runoff quantity (volume) and quality (treatment). The SWPPP must also include a discussion of the program to inspect and maintain all BMPs (SWRCB 2009).

INDUSTRIAL GENERAL PERMIT

The Statewide General Permit for Storm Water Discharges Associated with Industrial Activities, Order 2014-0057-DWQ (Industrial General Permit or IGP) implements the federally required storm water regulations in California for storm water associated with industrial activities discharging to waters of the United States (SWRCB 2023c).

MUNICIPAL STORMWATER PROGRAM

The Municipal Storm Water Program regulates storm water discharges from MS4s throughout California. Pursuant to the Federal Water Pollution Control Act (Clean Water Act) section 402(p), storm water permits are required for discharges from an MS4 serving a population of 100,000 or more. The Municipal Storm Water Program manages the Phase I Permit Program (serving municipalities over 100,000 people), the Phase II Permit Program (for municipalities less than 100,000), and the Statewide Storm Water Permit for the State of California Department of Transportation (Caltrans) (SWRCB 2023d).

Caltrans is responsible for the design, construction, management, and maintenance of the State highway system, including freeways, bridges, tunnels, Caltrans' facilities, and related properties, and is subject to the permitting requirements of CWA Section 402(p). Caltrans' discharges consist of storm water and non-storm water discharges from state-owned rights-of-way.

Before July 1999, discharges from Caltrans' MS4 were regulated by individual NPDES permits issued by the RWQCBs. On July 15, 1999, the SWRCB issued a statewide permit (Order No. 99-06-DWQ) that regulated all discharges from Caltrans MS4s, maintenance facilities, and construction activities (Caltrans 2023). On September 19, 2012, Caltrans' permit was reissued (Order No. 2012-0011-DWQ), and it became effective on July 1, 2013 (SWRCB 2013).

The Caltrans permit requires development of a program for communication with local agencies, and coordination with other MS4 programs where those programs overlap geographically with Caltrans facilities. As part of the permit, Caltrans is required to create and annually update a Stormwater Management Plan (SWMP) that is used to outline the regulation of pollutant discharge caused by current and future construction and maintenance activities. SWMP requirements apply to discharges from Caltrans stormwater conveyances, including catch basins and drain inlets, curbs, gutters, ditches, channels, and storm drains. The SWMP applies to discharges consisting of stormwater and non-stormwater resulting from the following:

- Maintenance and operation of state-owned highways, freeways, and roads
- Maintenance facilities
- Other facilities with activities that have the potential for discharging pollutants
- Permanent discharges from subsurface dewatering
- Temporary dewatering
- Construction activities

Caltrans' SWMP describes the procedures and practices used to reduce or eliminate the discharge of pollutants to storm drainage systems and receiving waters. The SWMP was most recently updated in July of 2016 (Caltrans 2016).

CALIFORNIA DEPARTMENT OF TRANSPORTATION NPDES PERMIT

The California Department of Transportation (Caltrans) was originally issued a statewide NPDES permit (Order 99-06-DWQ) in 1999, which requires Caltrans to regulate nonpoint source discharge from its properties, facilities, and activities. The Caltrans permit requires development of a program for communication with local agencies, and coordination with other MS4 programs where those programs overlap geographically with Caltrans facilities. As part of the permit, Caltrans is required to create and annually update a stormwater management plan (SWMP) that is used to outline the regulation of pollutant discharge caused by current and future construction and

maintenance activities. SWMP requirements apply to discharges from Caltrans stormwater conveyances, including catch basins and drain inlets, curbs, gutters, ditches, channels, and storm drains. The SWMP applies to discharges consisting of stormwater and non-stormwater resulting from:

- Maintenance and operation of state-owned highways, freeways, and roads
- Maintenance facilities
- Other facilities with activities that have the potential for discharging pollutants
- Permanent discharges from subsurface dewatering
- Temporary dewatering
- Construction activities

The discharges addressed by the SWMP flow through municipal stormwater conveyance systems or flow directly to surface water bodies in the state. These surface water bodies include creeks, rivers, reservoirs, lakes, wetlands, lagoons, estuaries, bays, and the Pacific Ocean and tributaries.

This SWMP applies to the oversight of outside agencies' or non-Caltrans entities' (third parties) activities performed within Caltrans' MS4 to ensure compliance with stormwater regulations. Non-Caltrans activities include highway construction and road improvement projects, as well as residential use and business operations on leased property.

The SWMP must be approved by the SWRCB and, as specified in the permit, it is an enforceable document. Compliance with the permit is measured by implementation of the SWMP. Caltrans' policies, manuals, and other guidance related to storm water are intended to facilitate implementation of the SWMP. Caltrans also requires all contractors to prepare and implement a program to control water pollution effectively during the construction of all projects. In lieu of the more recently adopted General Construction Permit as described above, Caltrans continues to modify its current policies and procedures to be consistent with the new permit (Caltrans 2016).

CALIFORNIA ADMINISTRATIVE CODE, TITLE 22

Under Title 22, the State Department of Health establishes State-wide effluent bacteriological and treatment reliability standards for recycled water uses. The standards are based on the potential for human contact with recycled water. The regional water quality control board (RWQCB) has established and enforces requirements for the application and use of recycled water. Permits are required from a RWQCB for any recycling operation. Applicants for a permit are required to demonstrate that the proposed recycled water operation is in compliance with Title 22 and will not exceed the ground and surface water quality objectives in the regional basin management plan (WEF 2023b).

REGIONAL

The water quality control plans and groundwater protection responsibilities for the SCAG region are described in Section 3.10, *Hydrology and Water Quality*.

URBAN WATER MANAGEMENT PLANS

Under California Water Code Division 6, Part 2.6, Section 10610 -10656, the Urban Water Management Planning Act requires urban water suppliers that supply more than 3,000 acre-feet of water annually, or serve more than 3,000 connections, to submit an Urban Water Management Plan (UWMP). The UWMP is a public document prepared by water suppliers to support their long-term resource planning over a 20-year period and ensure

adequate water supplies are available to meet existing and future water demands. The UWMP must be submitted to the DWR every 5 years and must demonstrate progress toward reduction in 20 percent per capita urban water consumption by the year 2020, as required in the Water Conservation Bill of 2009, Senate Bill X7-7 (DWR 2023a, 2023b).[7] There are 138 service districts in the SCAG region required to develop a UWMP, which is typically prepared and submitted to DWR within 30 days and reviewed 60 days prior to public hearing for plan adoption and implementation. The preparation of the plan includes guidebook, workshops, and programming for comprehensive strategies to conserve water.

LOCAL

UTILITY MASTER PLANS & UTILITY CAPITAL IMPROVEMENT PROGRAMS

Jurisdictions usually have utility master plans or other planning documents that identify and prioritize projects needed to maintain adequate levels of utility service in the jurisdiction. The City of Los Angeles prepared the Integrated Resources Plan for water, wastewater, and stormwater in 2006. This was updated by the One Water LA series of Master Plans in 2017. The City of Los Angeles operates several treatment facilities including the Tillman water reclamation plant and Hyperion water reclamation plant on the coast. Similarly, the County Sanitation Districts of Los Angeles County (LACSD) operate several large, integrated wastewater treatment systems including the Joint Water Pollution Control Plant in Carson. LACSD has prepared and regularly updates Master Plans for each of their facilities to ensure the capacity is appropriate for the local wastewater treatment demands. Other large scale wastewater treatment utility districts in the SCAG region that regularly update facility master plans include the Orange County Sanitation District which operates two treatment plants in Orange County that discharge to the ocean; the Inland Empire Utilities Agency which operates several treatment facilities in southwest San Bernardino County; Eastern Municipal Water District, Western Municipal Water District, and Coachella Valley Water District in Riverside County; and the Las Virgenes Municipal Water District in Los Angeles County.

GENERAL PLANS

Local policies related to utilities and service systems are established in each jurisdiction's general plan. In general, jurisdictions have policies in place that state that utility and service systems must be provided at the same time (or in advance of) need. In addition to these general policies, jurisdictions may have more specific policies tailored to performance objectives including wastewater treatment services.

3.19.2.3 SOLID WASTE

FEDERAL

RESOURCE CONSERVATION AND RECOVERY ACT OF 1976

Subtitle D of the Resource Conservation and Recovery Act of 1976 (42 USC Section 6901 et seq.), focuses on state and local governments as the primary planning, regulating, and implementing entities for the management of non-hazardous solid waste, such as household garbage and nonhazardous industrial solid waste (USEPA 2023b). To promote the use of safer units for solid waste disposal, Subtitle D provides regulations for the generation, transportation, and treatment, storage, or disposal of hazardous wastes. USEPA developed federal criteria for the proper design and operation of municipal solid waste landfills and other solid waste disposal facilities, but state and local governments are the primary planning, permitting, regulating, implementing, and enforcement agencies for management and disposal subject to approval by USEPA (USEPA 2023c). USEPA approved the State of California's program, a joint effort of the CIWMB, SWRCB, RWQCBs, and LEAs, on October 7, 1993.

STATE

CALIFORNIA INTEGRATED WASTE MANAGEMENT ACT

As many of the landfills in the state are approaching capacity and the siting of new landfills becomes increasingly difficult, the need for source reduction, recycling, and composting has become readily apparent. In response to this increasing solid waste problem, in September 1989 the state assembly passed Assembly Bill 939, known as the California Integrated Waste Management Act. This statute emphasizes conservation of natural resources through the reduction, recycling and reuse of solid waste. Assembly Bill 939 required cities and counties in the state to divert 25 percent of their solid waste stream from landfills by 1995 and 50 percent by year 2000 or face potential fines of millions of dollars per year. In 2008, the California Integrated Waste Management Act also requires that all cities conduct a Solid Waste Generation Study and prepare a Source Reduction Recycling Element.

AB 939 established CalRecycle. The purpose was to direct attention to the increasing waste stream and decreasing landfill capacity, and to mandate a reduction of waste being disposed. All jurisdictions were required to meet diversion goals of 25 percent by 1995 and 50 percent by the year 2000. A disposal reporting system was established with CalRecycle oversight, facility and program planning was required, and cities and counties began to address waste problems (CalRecycle 2023d).

AB 341 (Chapter 476, Statutes of 2011) established a statewide goal to reduce, recycle, or compost at least 75 percent of solid waste by 2020. AB 341 also requires local jurisdictions to implement commercial recycling programs to divert recyclable material away from landfills and required commercial generators and multi-family residences to arrange for recycling services starting in 2012 (CalRecycle 2023e).

AB 2020 – THE CALIFORNIA BOTTLE BILL

AB 2020 (Public Resources Code Section 14500 et seq.) took effect in 1987 as litter prevention legislation. At present, the minimum refund value established for each type of eligible beverage container is 5 cents for each container under 24 ounces and 10 cents for each container 24 ounces or greater (California Legislature 2017).

SB 20 ELECTRONIC WASTE "E-WASTE" RECYCLING

SB 20 (Public Resources Code Section 42460 et seq.) was signed in September of 2003; it establishes a system to recycle computers, TVs, and other video display devices (known as electronic waste) when they reach their end-of-life. Fees are collected from consumers at point of purchase to fund recycling programs.

AB 2901 – CELL PHONE RECYCLING

AB 2901 (Public Resources Code Section 42490 et seq.) was signed into law on September 29, 2004. It requires all cell phone retailers to take back used cell phones for recycling at no charge to the customer.

AB 2449 AND SB 270 – PLASTIC BAG RECYCLING

Adopted in 2006, AB 2449 (Chapter 845, Statutes of 2006) requires all California grocery stores to take back and recycle plastic grocery bags. The bill also requires retailers to provide consumers with a bag reuse opportunity by providing reusable bags which can be purchased and used in lieu of disposable ones.

Many cities and counties have adopted plastic bag ordinances. SB 270 of 2014 (Chapter 850, Statutes of 2014) established a statewide prohibition on the sale or distribution of single-use carryout plastic bags in grocery stores

and pharmacies, convenience food stores, and food marts. Retailers must charge customers at least 10 cents to buy a recycled paper bag or reusable grocery bag. A referendum to repeal this law failed in the November 2016 election.

AB 341 - SOLID WASTE DIVERSION RULE

Under commercial recycling law (Chapter 476, Statutes of 2011), Assembly Bill (AB) 341, directed CalRecycle to develop and adopt regulations for mandatory commercial recycling. The final regulation was approved by the Office of Administrative Law on May 7, 2012. AB 341 declared a policy goal of the state that not less than 75 percent of solid waste generated be source reduced, recycled, or composted by the year 2020.

ASSEMBLY BILL 2675

Adopted in 2014, AB 2675 (Chapter 617, Statues of 2014) requires each state agency to ensure that at least 75% of reportable purchases are recycled products on and after January 1, 2020, with exception to paint, antifreeze, and tires.

ASSEMBLY BILL 1045

Adopted in 2015, AB 1045 (Chapter 596, Statutes of 2015) requires the California Environmental Protection Agency (Cal EPA) in coordination with CalRecycle, the State Water Resources Control Board, CARB, and the Department of Food and Agriculture to develop and implement policies to aid in diverting organic waste from landfills with the goal of reducing at least 5 million metric tons of GHG emissions per year.

SENATE BILL 1383

Adopted in 2016, SB 1383 (Chapter 395, Statutes of 2016) requires the California Air Resources Board (CARB) to approve and implement a comprehensive strategy to reduce short-living GHG pollutants in organic waste landfills to achieve a 40% reduction in methane, 40% reduction in hydrofluorocarbon gases, and a 50% reduction in anthropogenic black carbon by 50% below 2013 levels by 2030. SB 1383 also requires CARB, in consultation with the Department of Food and Agriculture, to adopt regulations to reduce methane emissions from livestock and dairy manure management operations.

In response to SB 1383, CalRecycle developed the Short-Lived Climate Pollutants: Organic Waste Reductions strategy, which proposes a series of strategies and requirements to reduce methane emissions from organic waste. Strategies include maintaining a list of food recovery organizations, public outreach, and specific bin requirements (CalRecycle 2023f). CalRecycle has developed regulations to reduce disposal of organic waste by 75 percent of 2014 levels by 2025. Beginning in 2022, SB 1383 requires every jurisdiction to provide organic waste collection services to all residents and businesses.

ASSEMBLY BILL 2153 - LEAD-ACID BATTERY RECYCLING ACT

Adopted in 2016, AB 2153 (Chapter 666, Statues of 2016) updates the current law regarding the disposing of a lead-acid battery and creates numerous requirements related to lead-acid batteries. Some of these requirements include: starting April 2017, a $1 fee on both consumers and manufacturers of lead-acid batteries; in 2022, the fee to consumers increased to $2 and the fee to manufacturers will be eliminated; creates the Lead-Acid Battery Clean-Up Fund; and require dealers to charge consumers a refundable deposit for new lead-acid batteries.

ASSEMBLY BILL 1250

Adopted in 2016, AB 1250 (Chapter 861, Statues of 2016) requires plastic beverage containers subject to the California Redemption Value to report to CalRecycle the amount of virgin plastic and postconsumer recycled plastic used by the manufacturer for plastic CRV-eligible beverages solid within the state (CalRecycle 2023g).

TITLE 14, CALIFORNIA CODE OF REGULATIONS, DIVISION 7

CalRecycle regulations pertaining to nonhazardous waste management in California include minimum standards for solid waste handling and disposal; regulatory requirements for composting operations; standards for handling and disposal of asbestos containing waste; resource conservation programs; enforcement of solid waste standards and administration of solid waste facility permits; permitting of waste tire facilities and waste tire hauler registration; special waste standards; used oil recycling program; electronic waste recovery and recycling; planning guidelines and procedures for preparing, revising, and amending countywide IWMP; and solid waste cleanup program (California Code of Regulations, Title 14, Division 7).

TITLE 22, CALIFORNIA CODE OF REGULATIONS, DIVISION 4.5

Hazardous waste generation, handling and disposal regulations in California are outlined in the California Health & Safety Code, Division 20, Chapter 6.5 (Hazardous Waste Control Law). Regulations are included in the California Code of Regulations, Division 4.5, Title 22.

TITLE 27, CALIFORNIA CODE OF REGULATIONS, ENVIRONMENTAL PROTECTION, DIVISION 2, SOLID WASTE

CalRecycle and the SWRCB jointly issue regulations pertaining to waste disposal on land, including criteria for all waste management units, facilities and disposal sites; documentation and reporting; enforcement, financial assurance; and special treatment, storage, and disposal units (California Code of Regulations, Title 27 , Division 2).

2016 CALIFORNIA GREEN BUILDING STANDARD CODE

The California Green Building Standards Code (California Code of Regulations, Title 24, Part 11), commonly referred to as the CALGreen Code, is a statewide mandatory construction code that was developed and adopted by the California Building Standards Commission and the California Department of Housing and Community Development in 2008. The purpose of this code is to improve public health, safety and general welfare by enhancing the design and construction of buildings through the use of building concepts having a reduced negative impact or positive environmental impact and encouraging sustainable construction practices including recycling of construction (diversion of 50 percent) and other waste streams (CBSC 2022).

THE CALIFORNIA UNIVERSAL WASTE LAW

Special laws and regulations pertain to disposal of universal waste. (California Code of Regulations, Title 22, Section 66260 et seq.) Examples of universal wastes are batteries, fluorescent tubes, and some electronic devices, that contain mercury, lead, cadmium, copper, and other substances hazardous to humans and the environment. Universal waste cannot be disposed in solid waste landfills. Rather, universal wastes can be recycled. Recycling requirements are less stringent than those of other hazardous wastes to encourage recycling and recovery of valuable metals.

CALIFORNIA SOLID WASTE REUSE AND RECYCLING ACT

The California Solid Waste Reuse and Recycling Act of 1991 (Pub. Res. Code Sections 42900-42901) was enacted to assist local jurisdictions with accomplishing the goals of AB 939. In accordance with AB 2176, any development project that has submitted an application for a building permit must include adequate, accessible areas for the collection and loading of recyclable materials. Furthermore, the areas to be utilized must be adequate in capacity, number, and distribution to serve the proposed project. Moreover, the collection areas are to be located as close to existing exterior refuse collection areas as possible.

LOCAL

COUNTYWIDE INTEGRATED WASTE MANAGEMENT PLAN

Counties are required to prepare and submit to CalRecycle an integrated waste management plan which includes all SRRE, all Household Hazardous Waste Element (HHWE), a Countywide Siting Element, all Non-Disposal Facility Elements (NDFE), all applicable Regional SRREs, HHWEs. Public Resources Code Section 41751 requires that a countywide integrated waste management plan include a summary of significant waste management problems facing the county or city. The plan is required to provide an overview of the specific steps that will be taken by local agencies, acting independently and in concert, to achieve the purposes of this division. The plan is required to contain a statement of the goals and objectives set forth by the countywide task force.

SOURCE REDUCTION AND RECYCLING ELEMENT

The SRRE consists of the following components: waste characterization, source reduction, recycling, composting, solid waste facility capacity, education and public information, funding, special waste and integration. Each city and county is required to prepare, adopt, and submit to the California Department of Resources Recycling and Recovery (CalRecycle) an SRRE, which includes a program for management of solid waste generated within the respective local jurisdiction. The SRREs must include an implementation schedule for the proposed implementation of source reduction, recycling, and composting programs. In addition, the plan identifies the amount of landfill and transformation capacity that will be needed for solid waste which cannot be reduced, recycled, or composted (CalRecycle 2023h).

HOUSEHOLD HAZARDOUS WASTE ELEMENT

Cities and counties are required to prepare, adopt, and submit to CalRecycle, a HHWE that identifies a program for the safe collection, recycling, treatment, and disposal of hazardous wastes that are generated by households. The HHWE specifies how household hazardous wastes generated by households within the jurisdiction must be collected, treated, and disposed of (CalRecycle 2023i).

NON-DISPOSAL FACILITY ELEMENT (NDFE)

Cities and counties are required to prepare, adopt, and submit to CalRecycle, an NDFE that includes a description of new facilities and expansion of existing facilities, and all solid waste facility expansions (except disposal and transformation facilities) that recover for reuse at least 5 percent of the total volume. The NDFE are to be consistent with the implementation of a local jurisdiction's SRRE. Each jurisdiction must also describe transfer stations located within and outside of the jurisdiction, which recover less than 5 percent of the material received (CalRecycle 2023j).

COUNTYWIDE SITING ELEMENT

Counties are required to prepare a Countywide Siting Element that describes areas that may be used for developing new disposal facilities. The element also provides an estimate of the total permitted disposal capacity needed for a 15-year period if counties determine that their existing disposal capacity will be exhausted within 15 years or if additional capacity is desired (PRC Sections 41700-41721.5) (CalRecycle 2023k).

GENERAL PLANS AND OTHER PLANS

Local policies related to utilities and service systems are established in each jurisdiction's general plan. In general, jurisdictions have policies in place that state that utility and service systems must be provided at the same time (or in advance of) need. In addition to these general policies, jurisdictions may have more specific policies tailored to performance objectives including solid waste services. For further guidance regarding solid waste, many jurisdictions also produce an Integrated Waste Management Plan to manage solid waste.

3.19.2.4 ENERGY AND TELECOMMUNICATIONS

FEDERAL

UNITED STATES DEPARTMENT OF ENERGY (ENERGY POLICY ACT OF 2005)

The United States Department of Energy is the federal agency responsible for establishing policies regarding energy conservation, domestic energy production and infrastructure. The Federal Energy Regulatory Commission (FERC) is an independent federal agency, officially organized as part of the United States Department of Energy, which is responsible for regulating interstate transmission of natural gas, oil and electricity, reliability of the electric grid and approving of construction of interstate natural gas pipelines and storage facilities. The Energy Policy Act of 2005 has also granted FERC with additional responsibilities of overseeing the reliability of the nation's electricity transmission grid and supplementing state transmission siting efforts in national interest electric transmission corridors.

FERC has authority to oversee mandatory reliability standards governing the nation's electricity grid. FERC has established rules on certification of an Electric Reliability Organization, which establishes, approves and enforces mandatory electricity reliability standards. The North American Electric Reliability Corporation has been certified as the nation's Electric Reliability Organization by FERC to enforce reliability standards in all interconnected jurisdictions in North America. Although FERC regulates the bulk energy transmission and reliability throughout the United States, the areas outside of FERC's jurisdictional responsibility include state-level regulations and retail electricity and natural gas sales to consumers which falls under the jurisdiction of state regulatory agencies.

STATE

CALIFORNIA INDEPENDENT SYSTEM OPERATOR

The California ISO is an independent public benefit corporation responsible for operating California's long-distance electric transmission lines. The California ISO is led by a five-member board appointment by the Governor and is also regulated by FERC. While transmission owners and private electric utilities own their lines, the California ISO operates the transmission system independently to ensure that electricity flows comply with federal operational standards. The California ISO analyzes current and future electrical demand and plans for any needed expansion or upgrade of the electric transmission system.

CALIFORNIA PUBLIC UTILITIES COMMISSION (CPUC)

In 1911, the CPUC was established by a Constitutional Amendment as the Railroad Commission and the following year, the state Legislature passed the Public Utilities Act, expanding the Commission's regulatory authority to include natural gas, electric, telephone, and water companies as well as railroads and marine transportation companies. In 1946, the Commission was renamed the CPUC. The CPUC establishes policies and rules for electricity and natural gas rates provided by private utilities in California such as Southern California Edison, SoCalGas, and San Diego Gas & Electric. Publicly owned utilities such as Los Angeles Department of Water & Power do not fall under the CPUC's jurisdiction. The CPUC is overseen by five commissioners appointed by the Governor and confirmed by the State senate. The CPUC's responsibilities include regulating electric power procurement and generation, infrastructure oversight for electric transmission lines and natural gas pipelines and permitting of electrical transmission and substation facilities. In addition, with regard to telecommunications and broadband services, the CPUC develops and implements policies for the telecommunications industry, including ensuring fair, affordable universal access to necessary services; developing clear rules of the game and regulatory tools to allow flexibility without compromising due process; removing barriers that prevent a fully competitive market; and reducing or eliminating burdensome regulation.

CALIFORNIA ENERGY COMMISSION

The CEC is a planning agency which provides guidance on setting the state's energy policy. Responsibilities include forecasting electricity and natural gas demand, promoting and setting energy efficiency standards throughout the state, developing renewable energy resources and permitting thermal power plants 50 megawatts (MW) and larger. The CEC also has regulatory specific regulatory authority over publicly owned utilities to certify, monitor and verify eligible renewable energy resources procured. (d) Senate Bill 1389 Senate Bill (SB) 1389 (Public Resources Code Sections 25300–25323), adopted in 2002, requires the development of an integrated plan for electricity, natural gas, and transportation fuels. Under the bill, the CEC must adopt and transmit to the Governor and Legislature an Integrated Energy Policy Report every two years. In 2021, the CEC decided to write the Integrated Energy Policy Report in four volumes that were subsequently published in February 2022. Volume I highlights the actions necessary to decarbonize buildings within California. Additionally, the volume explores ways to reduce greenhouse gases from the agricultural and industrial sectors. Volume II explores actions to ensure California's energy system remains reliable and resilient. Volume III examines the role of gas in the energy system. Finally, Volume IV forecasts future demand in the electricity, gas, and transportation sectors (CEC 2021).

SENATE BILL 822 (SB 822)

SB 822 was signed into law in September 2018 as California's net neutrality law. SB 822 would ban internet providers from the following: blocking or throttling legal apps and websites; offering paid prioritization of content, or zero-rating (offering free data for specific apps). Shortly after SB 822 was signed, the U.S. Department of Justice filed suit against California over SB 822 on preemption grounds; California later agreed to hold off on enforcing its new net neutrality law until the U.S. Court of Appeals for the D.C. Circuit determines whether the FCC lawfully revoked its net neutrality regulations. In February 2021, the Department of Justice dropped the lawsuit and a preliminary injunction brought against SB 822 by the telecom industry was declined. As a result, SB 822 was allowed to go into effect.

LOCAL

Most local jurisdictions in the region have adopted ordinances and policies relating to the location and design of telecommunications facilities, most notably cellular towers. While some aspects of cellular tower development are under the jurisdiction of the FCC, and thus not subject to local land use controls, local jurisdictions can require design enhancements and other features that are generally intended to minimize the visual and operational effects of such facilities.

3.19.3 ENVIRONMENTAL IMPACTS

THRESHOLDS OF SIGNIFICANCE

For the purposes of this 2024 PEIR, SCAG has determined that implementation of Connect SoCal 2024 could result in significant impacts related to utilities and service systems if the Plan would exceed the following significance criteria, in accordance with California Environmental Quality Act (CEQA) Guidelines Appendix G:

- Require or result in the relocation or construction of new or expanded water, wastewater treatment or storm water drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects;
- Have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry and multiple dry years.
- Result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments.
- Generate solid waste in excess of state or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals;
- Comply with federal, state, and local management and reduction statutes and regulations related to solid waste.

METHODOLOGY

The methodology for determining the significance of impacts utilities and service systems compares existing conditions to the expected future use of landfills with the Plan. Factors such as existing capacity and expected demand (based on population and land use patterns) are reviewed at the regional level. The criteria above were applied to compare current conditions (2022) to future 2050 Plan conditions. The analysis of utilities and service systems considered public comments received on the NOP and feedback and discussions at the various public and stakeholder outreach meetings.

Implementation of Connect SoCal 2024 would affect the use of utility and service systems in the SCAG region. The analysis of these impacts is programmatic at the regional level.

With regard to water supply, the Plan's potential to exceed capacity of local infrastructure and require the relocation or construction of new or expanded facilities or result in a determination that projected demand in addition to current demands is used to determine the significance of the projects effects. The analysis presented

below utilizes SCAG Scenario Planning Model (SPM) data to inform the discussion of regional water consumption (demand), which considers both indoor and outdoor water use.

With regard to wastewater, the Plan's potential to exceed capacity of local infrastructure and require the relocation or construction of new or expanded facilities or result in a determination that projected demand in addition to current demand will be used to determine the significance of the projects effects. The analysis presented below utilizes SCAG SPM data to inform the discussion of regional wastewater generation based on the assumption that 85 percent of total indoor water consumed becomes wastewater requiring treatment at one or more wastewater treatment facilities in the region.

With regard to solid waste, the Plan's potential to exceed capacity of local infrastructure as well as compliance with applicable statutes and regulations are analyzed to determine whether or not there will be a significant impact.

With regard to energy and telecommunications, the Plan's potential to trigger the need for new or expanded electricity, natural gas, or telecommunications infrastructure is analyzed to determine whether or not there will be a significant impact. Also see Section 3.6, *Energy*, for a discussion of impacts regarding energy demands, consumption, and efficiency requirements regarding energy resources in the region.

As discussed in Chapter 2, *Project Description*, and Section 3.0, *Introduction to the Analysis*, Connect SoCal 2024 includes Regional Planning Policies and Implementation Strategies some of which will effectively reduce impacts in the various resource areas. Furthermore, compliance with all applicable laws and regulations (as set forth in the Regulatory Framework) would be reasonably expected to reduce impacts of the Plan (see CEQA Guidelines Section 15126.4(a)(1)(B)). As discussed in Section 3.0, *Introduction to the Analysis*, where remaining potentially significant impacts are identified, SCAG mitigation measures are incorporated to reduce these impacts. If SCAG cannot mitigate impacts of the Plan to less than significant, project-level mitigation measures are identified which can and should be considered and implemented by lead agencies as applicable and feasible.

IMPACTS AND MITIGATION MEASURES

IMPACT UTIL-1 **Require or result in the relocation or construction of new or expanded water, wastewater treatment or storm water drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects.**

IMPACT UTIL-2 **Result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments.**

Significant and Unavoidable Impact – Mitigation Required

As discussed in Section 3.0, *Introduction to the Analysis*, due to the similarities of the topic areas, Impacts UTIL-1 and UTIL-2 are addressed together.

Implementation of the Plan would involve construction of new or expanded water and wastewater conveyance and treatment facilities, storm water drainage, facilities, and electric, natural gas, and telecommunications facilities. Impacts regarding each of these infrastructure types are discussed individually below. It should be noted that while transportation projects under the Plan could incrementally increase the demand for additional utilities and services systems, due to the nature of transportation projects in general, the demand for such services and associated facilities would be relatively limited. As such, it is anticipated that the vast majority of demands that could trigger the need for new or expanded water, wastewater, storm water, energy, and telecommunications facilities would be driven by land use development in the region (some of which is facilitated by transportation projects), and thus the analysis below is focused on impacts resulting from land use development consistent with the Plan's Forecasted Regional Development Pattern.

WATER SUPPLY FACILITIES

WATER TREATMENT

Population in the SCAG region is expected to increase by 2.1 million people by 2050, which may result in a significant impact to the existing water infrastructure in the region. The region is anticipated to experience an overall increase in water demand in 2050 under the Plan compared to 2019 conditions resulting from an approximate 10.9 percent population increase in the region.

Water service providers have expressed concerns similar to those of wastewater service providers in the region regarding the zero-emission vehicle (ZEV) fleet requirements of EO N-79-20 and CARB's ACF regulation (see Section 3.8, *Greenhouse Gas Emissions*) that have the potential to impact the ability of State and local wastewater agencies to adequately maintain reliable wastewater management and infrastructure during emergency situations, such as a fire, earthquake, or other natural disaster (see more detailed discussion regarding wastewater below).

In 2014, California passed Proposition 1 to guarantee approximately $7.12 billion for water infrastructure projects, including $725 million for projects that treat wastewater or saltwater (LAO 2014). Additionally, the DWR has announced a series of financial grants statewide to improve water infrastructure and increase capacity, including $6 million to support desalination projects and $4 million to the Calleguas Municipal Water District in Ventura County for new pipeline construction (DWR 2022, 2023c). As of January 2021, DWR has awarded over $127 million in grants to local agencies for 70 desalination projects (DWR 2023d). A number of desalination projects have been proposed or are under construction within the SCAG region, including the Doheny Ocean Desalination Project which could produce 5 million gallons per day (with potential expansion to 15 mgd) (SCWD 2023). In February 2019 the City of Los Angeles announced its commitment to 100 percent recycled water at the Hyperion, L.A. Glendale, Tillman, and Terminal Island water treatment facilities by 2035 (California Water News Daily 2019).

Therefore, there is anticipated to be an increase in water supply within the SCAG region from recycling and desalination. However, this increase would likely be offset by future reductions in Colorado River water supplies due to reduced flows resulting from ongoing climate change effects. California residents used an estimated average 85 gallons of water per day in 2016 (Legislative Analyst's Office 2017). Assuming per capita water consumption remains consistent, the SCAG region could require approximately 174.7 million more gallons of water per day to meet the increase in population (see additional discussion below under Impact UTIL-3). In recent years, as a result of increased water conservation, urban water demand has remained relatively constant despite growing population. However, there may be a limit to how much water can be saved through conservation and even with increases in water efficiency, increasing population is expected to increase water demand. As a result, new water facilities will likely need to be constructed or expanded in order to meet this demand. Water facility projects vary

in sizes and locations, but larger regional-scale facilities may be constructed in sensitive environments (e.g., desalination plants adjacent to the ocean). The construction of these larger-scale facilities could result in significant impacts with respect to biological resources, air quality and noise and other issue areas similar to construction impacts of transportation projects and potential development projects as discussed throughout this 2024 PEIR. Increased use of recycled water can impact groundwater recharge if previous tertiary treated wastewater flows are diverted to other uses. New desalination facilities could impact ocean life off the coast in the vicinity of outflows. Therefore, impacts relative to construction of new or expanded water treatment facilities are considered significant and mitigation measures are required.

WATER CONVEYANCE

As development occurs incrementally throughout the region, upgrades to water conveyance facilities are anticipated to be required. Water agencies and local municipal utilities routinely construct and maintain the water distribution system within their respective service areas. Given uncertainties regarding the nature and location of future development and the location of associated water service facilities, it is not possible to determine specific impacts to affected water facilities in the region. Therefore, it is likely that the reasonably anticipated land use development encouraged by the Plan could exceed the capacity of water conveyance facilities, or the capacity of existing and planned fire hydrants. Local water delivery pipelines may need to be replaced and upgraded in the vicinity of new development that is more dense than existing development, as the majority would be expected to occur within PDAs under the Plan, and it is possible that the construction of new water lines may be necessary to serve new development in the region. However, local jurisdictions require that project applicants coordinate with the respective water service providers to ensure that existing and/or planned water conveyance facilities are capable of meeting water demand/pressure requirements.

The precise locations and points of connection would need to be determined at the time development is proposed. Should any new connections or upgrades be required, such upgrades would be subject to subsequent environmental review. Any future line size modifications or connections would be designed in accordance with applicable provisions of the respective municipal code or other relevant regulations. In coordination with the affected water service provider, project applicants are required to identify specific on- and off-site improvements needed to ensure that impacts related to water supply and conveyance demand/pressure requirements are addressed prior to issuance of a certificate of occupancy. Water supply and conveyance demand/pressure clearance from the local water purveyor is typically required at the time that a water connection permit application is submitted.

In addition, many local jurisdictions require applicants to coordinate with the local fire department and building and safety department to ensure that existing and/or planned fire hydrants are capable of meeting fire flow demand/pressure requirements. The issuance of building permits is normally dependent upon submission, review, approval, and testing of fire flow demand and pressure requirements, as established by the local jurisdiction prior to occupancy. Nonetheless, land use development under the Plan could require the construction of new or upgraded water storage or distribution facilities, which could result in adverse environmental effects throughout the region.

WASTEWATER FACILITIES

Municipal wastewater treatment requirements are related to water use. Most of the water that is not used in landscaping becomes wastewater. As noted above, California residents used an estimated average of 85 gallons of water per day in 2016 (Legislative Analyst's Office 2017). However, water demand varies substantially by

community and by land use type and therefore wastewater is anticipated to similarly vary substantially by community and water availability. In addition, periods of drought (such as between April 2019 and December 2022 [i.e., the 2020-2022 drought]) result in reduced wastewater flows. The reuse and recycling of wastewater also reduces the amount of treated wastewater to be discharged to the ocean and increases local potable and non-potable water supplies. Wastewater recycling represents an increasing share of water supplies in the region, particularly in areas that are reliant on imported water supplies, as recycling and reuse offsets the need to utilize purchased potable water for non-potable applications thereby reducing overall water costs. Wastewater recycling is based on traditional wastewater treatment processes, but typically involves advanced treatment processes such as microfiltration and reverse osmosis to achieve the necessary water quality in the recycled product water supply. This highly treated recycled water can then be used for various non-potable applications such as landscape irrigation, greywater applications (e.g., toilet flushing, cooling towers), and seawater intrusion barriers (i.e., injection into groundwater units in coastal areas to prevent intrusion of seawater into freshwater aquifers), and in some cases for potable re-use including groundwater injection. A secondary effect of water recycling is a proportionate reduction in the volume of treated wastewater discharged into receiving water bodies. While reductions in discharge flows from wastewater treatment facilities in the region does not necessarily result in notable changes in regional hydrologic conditions, the reductions can have localized effects on the flow depths, flow rates, and other hydrologic factors in affected drainage facilities. In some cases, the reduction in flows may affect the beneficial uses of some receiving water bodies (e.g., water recreation, fishing, habitat, etc.).

Wastewater generation rates are closely tied to population growth. The total population is expected to grow by approximately 11 percent across the SCAG region by 2050. While wastewater generation could proportionally increase by up to 11 percent, water conservation is likely to affect wastewater generation. Wastewater agencies are anticipated to be affected in different ways, with some agencies experiencing increases and others decreases. It is anticipated that overall wastewater generation in the region would increase between 2019 and 2050 given the increase in regional population over the same timeframe. In addition to increased demand for wastewater treatment facilities, increases in housing and population would increase wastewater flows in some existing wastewater conveyance infrastructure (sewers). Similarly, it is anticipated that increased wastewater flows would facilitate increased production, distribution, and consumption of recycled water in the region; as such, additional improvements to recycled water facilities, including advanced treatment systems, pump stations, storage tanks/reservoirs, and distribution infrastructure would be necessary to accommodate the growing demand for, and increased availability of, recycled water for non-potable applications.

Individual development projects would either be accommodated by existing infrastructure, or project proponents and/or local jurisdictions would be required to make improvements to wastewater infrastructure (replacing sewers and upgrading wastewater treatment facilities). In less developed areas of the region, new housing and employment developments could require additional wastewater infrastructure (new sewers and possibly new treatment facilities). The higher-density development reflected in the Plan could also result in the need to construct new and/or replace wastewater infrastructure including sewers with greater conveyance capacity in urban and urbanizing areas. In addition, additional wastewater entering the existing wastewater treatment facilities may overload the current capacity levels of some wastewater treatment facilities. Implementation of the Plan could result in a determination by one or more of the wastewater treatment providers in the region that there is inadequate capacity to serve the future population demand in addition to the provider's existing commitments, resulting in a significant impact requiring mitigation.

As relates to wastewater facilities, utility providers have expressed concerns regarding the ZEV fleet requirements of EO N-79-20 and CARB's ACF regulation (see Section 3.8, *Greenhouse Gas Emissions*) that have the potential to

impact the ability of State and local wastewater agencies to adequately maintain reliable wastewater management and infrastructure during emergency situations, such as a fire, earthquake, or other natural disaster. During emergencies, State and local utilities must often deploy specialized off-road vehicles which have no current ZEV equivalent, and such vehicles are unlikely to be produced by the ACF procurement deadlines. Additionally, the electrical charging requirements of ZEVs may be impractical when responding to emergencies that occur in rural, isolated locations within the SCAG region (Moline et al. 2023). Assembly Member Garcia introduced AB 1594 on February 17, 2023, which amends EO N-79-20 and requires CARB to ensure that the medium- and heavy-duty ZEVs required for procurement by State and local utility agencies "can support a public agency utility's ability to maintain reliable water and electric services, respond to disasters in an emergency capacity, and provide mutual aid assistance statewide and nationwide, among other requirements."

STORMWATER DRAINAGE FACILITIES

Please refer to Section 3.10, *Hydrology and Water Quality*, for a detailed discussion of hydrology and water quality impacts resulting from implementation of the Plan. The discussion below is focused on the potential environmental effects associated with the construction of new or expanded storm drainage infrastructure in the region.

Projects that increase impervious surface area, including expanding roadways, and new development projects generally increase stormwater runoff (in some cases existing hard pack soil is effectively impervious and replacing it with concrete or asphalt does not effectively reduce permeability). Increased stormwater runoff, especially in urban and suburban areas results in greater quantities of contaminants flowing in to receiving waters many of which are already impaired. Substantially increasing impervious surface area would require the construction of new storm water drainage facilities and/or expansion of existing facilities. The Plan would increase impervious surfaces in the SCAG region through a combination of transportation projects and development consistent with the Forecasted Regional Development Pattern, resulting in construction or expansion of storm water drainage facilities. As shown in **Table 3.19-10, Existing (2019) Lane Miles by County**, and **Table 3.19-11, 2050 Plan Lane Miles by County**, the Plan would increase total lane miles in the region, with the most increase in San Bernardino County (from 14,904 to 17,098 lane miles). Among all facilities freeway HOV has the most increase in lane miles from 927 in 2019 to 5,734 lane miles in 2050 with the Plan.

The increase in impervious surfaces associated with the increase in lane miles in the region, as well as runoff generated by potential land use development projects, would result in construction of new or expanded stormwater drainage facilities throughout the region, and particularly in those areas currently lacking such drainage improvements and areas subject to increased urbanization. Stormwater drainage facilities, including storm drain pipes, open drainage channels, retention facilities (surface ponds or buried tanks), and treatment facilities would be constructed throughout the region as implementation of transportation projects and urban development occur, and would generally be carried out in the course of other construction activities. Given the widespread need to construct or expand these facilities in the region to adequately capture and convey the increased stormwater flows anticipated to generated by transportation and potential land use development projects, impacts associated with stormwater facilities are considered significant.

TABLE 3.19-10 **Existing (2019) Lane Miles by County**

COUNTY	FREEWAY (MIXED-FLOW)	TOLL*	TRUCK	EXPRESSWAY/ PARKWAY	PRINCIPAL ARTERIAL	MINOR ARTERIAL	COLLECTOR	FREEWAY (HOV)	RAMP	TOTAL ALL FACILITIES)
Imperial	379	—	—	337	364	517	2,463	—	35	4,095
Los Angeles	4,599	84	17	45	8,383	8,931	7,064	474	887	30,483
Orange	1,322	337	16	4	3,582	2,777	1,026	252	372	9,687
Riverside	1,799	35	2	125	1,032	3,088	5,062	80	251	11,476
San Bernardino	2,558	—	5	97	1,725	3,892	6,189	113	323	14,904
Ventura	538	—	—	—	811	992	1,058	8	121	3,527
Total	***11,195***	***456***	***41***	***608***	***15,898***	***20,196***	***22,862***	***927***	***1,989***	***74,172***

Source: SCAG Transportation Modeling (2023)

Note:

* Toll includes truck and High-occupancy toll (HOT)

TABLE 3.19-11 **2050 Plan Lane Miles by County**

COUNTY	FREEWAY (MIXED-FLOW)	TOLL*	TRUCK	EXPRESSWAY/ PARKWAY	PRINCIPAL ARTERIAL	MINOR ARTERIAL	COLLECTOR	FREEWAY (HOV)	RAMP	TOTAL (ALL FACILITIES)
Imperial	417	-	—	324	413	529	2,479	-	38	4,199
Los Angeles	4,684	358	141	206	7,909	8,965	7,085	372	925	30,645
Orange	1,424	484	16	4	3,853	3,086	1,101	191	377	10,535
Riverside	1,937	221	13	122	1,359	3,695	5,837	80	361	13,625
San Bernardino	2,596	280	55	263	1,992	4,623	6,800	138	352	17,098
Ventura	570	—	—	—	846	989	1,076	68	122	3,671
Total	***11,627***	***1,343***	***224***	***917***	***16,371***	***21,887***	***24,377***	***850***	***2,175***	***79,773***

Source: SCAG Transportation Modeling (2023)

Note:

* Toll includes truck and High-occupancy toll (HOT)

ENERGY AND TELECOMMUNICATIONS FACILITIES

Also see Section 3.6, *Energy*, for a discussion of impacts regarding energy demands, consumption, generation, and efficiency requirements regarding energy resources in the region.

ELECTRICITY

Similar to other utilities, land use development typically results in the need for the construction or relocation of some power lines or service connections, such as the undergrounding of power lines. Future potential development projects would typically require a separate environmental review to determine impacts to electricity services and facilities within the respective local jurisdiction(s). However, impacts from future construction or relocation work would normally be anticipated to be less than significant as they would likely be constructed and/or installed in the existing right of way. These and similar public easements have been previously disturbed; in these instances, substantial adverse impacts would not be expected to occur. However, given the size and geographic complexity of the region, potential for large-scale improvement projects, and extent of sensitive resources in the region, it is possible that the construction of new or expanded electrical facilities could result significant impacts.

NATURAL GAS

Although many local jurisdictions in the region are transitioning away from natural gas for new developments, natural gas would continue to be provided to existing and some future land use development projects. Existing natural gas infrastructure (transmission lines and high distribution lines) is provided throughout the region and is typically located underground and along roadways to convey flows to residential and commercial users. Development under the Plan could increase the demand for natural gas and may potentially require new conveyance systems to supply areas with natural gas, despite the trend away from natural gas as a primary energy source for future development. As discussed in Section 3.6, *Energy*, of this 2024 PEIR, future total annual natural gas consumption under the Plan is expected to incrementally increase. For future land use development under the Plan, the exact locations of natural gas infrastructure would be confirmed during the design and review process. Any need for infrastructure upgrades would be accomplished through the required design review and approval of natural gas plans. Development under the Plan may necessitate the construction or relocation of new or expanded natural gas distribution facilities, including new service connections or gas lines to serve development projects. Impacts from such construction or relocation work would normally be anticipated to be less than significant based on their construction and installation in existing right of way and other public easements that have been previously disturbed and based on existing regulatory compliance measures and review and oversight by relevant local and state agencies. However, similar to electrical facilities discussed above, large-scale projects or unusual site-specific conditions could result in significant impacts.

TELECOMMUNICATIONS

As discussed in Section 3.14, *Population and Housing*, population in the region is expected to increase by approximately 11 percent by 2050. The telecommunication requirements for the region are expected to evolve as development increases and technologies change. Construction of additional telecommunications facilities or upgrades to existing facilities to meet demands would be undertaken by private telecommunication service providers in accordance with applicable federal, State, and local regulations. No restrictions on the ability to provide adequate telecommunication service are anticipated, but new or expanded facilities may be needed to meet increased demand in the region. Such expansions would result in temporary construction-related impacts pertaining to such issues as transportation, air quality, and noise. In addition, such facilities also typically are the

subject of increased public scrutiny regarding aesthetic impacts and visual compatibility with the surrounding community. These impacts, while typically not substantial, could collectively result in significant environmental effects when implemented throughout the region.

SUMMARY

Plan transportation projects and development projects consistent with the Forecasted Regional Development Pattern are anticipated to result in construction of new and/or expanded water, wastewater, stormwater, electricity, natural gas, and telecommunications facilities the construction of which could cause significant environmental impacts. These impacts would be similar to impacts of other construction activities associated with transportation projects and potential development. In addition, the increased demand for recycled wastewater for non-potable and potable uses including groundwater recharge is an additional impact that could result from the Plan. Therefore, the impact of the Plan on water, wastewater, stormwater, electricity, natural gas, and telecommunications facilities is considered significant and mitigation measures are required.

MITIGATION MEASURES

SCAG MITIGATION MEASURE

See **SMM-HYD-1**.

PROJECT-LEVEL MITIGATION MEASURES

See **PMM-HYD-1**.

PMM-UTIL-1 In accordance with provisions of sections 15091(a)(2) and 15126.4(a)(1)(B) of the CEQA Guidelines, a Lead Agency for a project can and should consider mitigation measures to reduce substantial adverse effects on utilities and service systems, particularly for construction of wastewater facilities, as applicable and feasible. Such measures may include the following or other comparable measures identified by the Lead Agency:

- During the design and CEQA review of individual future projects, implementing agencies and projects sponsors shall determine whether sufficient wastewater capacity exists for the proposed projects. The proposed development can and should be served by its existing or planned treatment capacity. If adequate capacity does not exist, project sponsors shall coordinate with the relevant service provider to ensure that adequate public services and utilities could accommodate the increased demand, and if not, infrastructure improvements for the appropriate public service or utility shall be identified in each project's CEQA documentation. The relevant public service provider or utility shall be responsible for undertaking project-level review as necessary to provide CEQA clearance for new facilities.

PMM-UTIL-2 In accordance with provisions of sections 15091(a)(2) and 15126.4(a)(1)(B) of the CEQA Guidelines, a Lead Agency for a project can and should consider mitigation measures to ensure sufficient water supplies, as applicable and feasible. Such measures may include the following or other comparable measures identified by the Lead Agency:

a) Reduce exterior consumptive uses of water in public areas, and should promote reductions in private homes and businesses, by shifting to drought-tolerant native landscape plantings, using weather-based irrigation systems, educating other public agencies about water use, and installing related water pricing incentives.

b) Promote the availability of drought-resistant landscaping options and provide information on where these can be purchased. Use of reclaimed water especially in median landscaping and hillside landscaping can and should be implemented where feasible.

c) Implement water conservation best practices such as low-flow toilets, water-efficient clothes washers, water system audits, and leak detection and repair.

d) For projects located in an area with existing reclaimed water conveyance infrastructure and excess reclaimed water capacity, use reclaimed water for non- potable uses, especially landscape irrigation. For projects in a location planned for future reclaimed water service, projects should install dual plumbing systems in anticipation of future use. Large developments could treat wastewater onsite to tertiary standards and use it for non-potable uses onsite.

LEVEL OF SIGNIFICANCE AFTER MITIGATION

As previously discussed, the Plan's Regional Planning Policies and Implementation Strategies (see Chapter 2, *Project Description*, and Section 3.0, *Introduction to the Analysis*) and compliance with existing laws and regulations would reduce impacts; however, given the regional scale of the analysis in this 2024 PEIR, it is not possible or feasible to determine if all impacts would be fully mitigated. Therefore, this 2024 PEIR identifies SCAG and project-level mitigation measures. At the project-level, lead agencies can and should consider the identified project-level mitigation measures during subsequent review of transportation and land use projects as appropriate and feasible. While the mitigation measures will reduce the impacts related to relocation or construction of new or expanded water, wastewater, storm water, electricity, natural gas, and telecommunications facilities, due to the regional nature of the analysis, unknown site conditions and project-specific details, and SCAG's lack of land use authority over individual projects, SCAG finds that the impact could be ***significant and unavoidable*** even with mitigation.

IMPACT UTIL-3 **Have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry, and multiple dry years.**

Significant and Unavoidable Impact – Mitigation Required

Between climate change, historic management of groundwater supplies and increasingly stringent regulation of water rights, water supply is likely to be challenging in the future. The Plan could result in demand for water supplies that exceeds existing entitlements and resources resulting in significant impacts. Transportation projects and potential development projects could increase demand for water despite increased conservation and water demand could exceed available water supply. Potential factors that would lead water supply capabilities being exceeded include vulnerability and uncertainty of water supply, related to the Colorado River and in relation to climate variability. Climate variability includes increased temperatures and reduced rainfall and snowpack. Large-scale wildfires exacerbated by climate change also result in increased demand for water. Agricultural production in California has been substantially affected by water availability and is likely to continue to be. In addition, regulatory and/or legislative decisions such as the Colorado River agreement and changes to the Bay Delta infrastructure commitments could affect the availability of imported water.

In December 2022 SCAG adopted a Water Action Resolution that affirms a drought and water shortage emergency in the SCAG Region and calls on local and regional partners to join together to reduce water use; improve water conservation, reuse, and efficiency; enhance water systems' health and resilience; and support investments in water

infrastructure and conservation practices that support the region's economic and population growth and fosters planning for the Region's Housing Needs identified in Connect SoCal 2024. The Water Action Resolution identified actions for SCAG to take. These actions have been incorporated into the Plan.

Water agencies in the SCAG region produce Urban Water Management Plans (UWMPs) and other long-range planning studies to provide a system adequate to supply water demand. At current usage rates, existing water supplies and infrastructure would not be sufficient to meet demand in 2050. The volume of water and water delivery infrastructure available within the SCAG region may not be sufficient to meet the future multiple dry year or average year water demand in 2050 without substantial reduction in water demand. **Table 3.19-12, Metropolitan Water District's 2015 IRP Update Total Level of Average-Year Demand and Supply Targets (acre-feet)**, shows the anticipated water supply targets. **Table 3.19-13, Metropolitan Water District's 2015 IRP Update Total Local Supplies Projections (acre-feet)**, shows the anticipated local water supplies for the MWD area, which makes up a large portion of the SCAG region, for 2020, 2030, and 2040 (2050 is not available).

TABLE 3.19-12 **Metropolitan Water District's 2015 IRP Update Total Level of Average-Year Demand and Supply Targets (acre-feet)**

	2016	2020	2025	2030	2035	2040
Retail Demands before Conservation	4,878,000	5,219,000	5,393,000	5,533,000	5,663,000	5,792,000
Total Conservation Target	1,034,000	1,096,000	1,197,000	1,310,000	1,403,000	1,519,000
Retail Demands after Conservation	*3,844,000*	*4,123,000*	*4,196,000*	*4,223,000*	*4,260,000*	*4,273,000*
Minimum CRA Diversion Target	900,000	900,000	900,000	900,000	900,000	900,000
Average Year SWP Target	1,202,000	984,000	984,000	1,213,000	1,213,000	1,213,000
Total Local Supply Target	2,199,000	2,307,000	2,356,000	2,386,000	2,408,000	2,426,000
Total Supply Reliability Target	***4,301,000***	***4,191,000***	***4,240,000***	***4,499,000***	***4,521,000***	***4,539,000***

Source: MWD 2020

Based on projected population growth under the Plan, the demand for municipal water would increase. Many agencies are implementing aggressive water conservation, recycling and planning strategies (water transfer and water banking) to sustain the supply of water during wet and dry years. The City of Los Angeles for example has maintained relatively constant water demand over the past ten years as a result of water conservation despite increasing population. Additionally, the Plan encourages compact development and smaller single-family lots in urbanized areas. Compact development tend to consume water more efficiently (lower per capita consumption). Given the uncertainty of water supplies and growth in population, water demand in the region could exceed existing and reasonably foreseeable water supplies.

Meeting future water demand is the responsibility of local and regional water agencies. Water supplies are either produced locally from groundwater and surface water sources or are imported via the Los Angeles Aqueduct, the California Aqueduct, the Colorado River Aqueduct, the All American Canal, or the Coachella Canal. Other means of providing water without increasing imported supplies include reclamation and recycling, conservation, water transfers, groundwater banking, developing brackish groundwater, and ocean desalination.

TABLE 3.19-13 **Metropolitan Water District's 2015 IRP Update Total Local Supplies Projections (acre-feet)**

LOCAL SUPPLY	2020	2025	2030	2035	2040
Groundwater Production	1,290,000	1,288,000	1,288,000	1,288,000	1,289,000
Surface Production	110,000	110,000	110,000	110,000	110,000
Los Angeles Aqueduct	261,000	264,000	264,000	266,000	268,000
Seawater Desalination[a]	51,000	51,000	51,000	51,000	51,000
Groundwater Recovery[a]	143,000	157,000	163,000	165,000	167,000
Recycling[a]	436,000	466,000	486,000	499,000	509,000
Recycling – M&I	243,000	267,000	285,000	298,000	308,000
Recycling – Replenishment	126,000	129,000	131,000	131,000	131,000
Recycling – Seawater Barrier	67,000	70,000	70,000	70,000	70,000
Other Non-Metropolitan Imports	13,000	13,000	13,000	13,000	13,000
Total Local Supplies	***2,304,000***	***2,348,000***	***2,374,000***	***2,392,000***	***2,406,000***

Source: MWD 2020

Table Note:

a. Projections only include projects that are currently producing water, or are under construction

The Urban Water Management Plan Act of 1990 requires that local water agencies prepare plans showing projected water supplies and demands for average years and multiple dry years. These plans are updated every five years. As part of the statewide continued efforts on reducing water usage, the UWMP has been amended to further require urban water suppliers to include narrative descriptions of their water demand management measures in the UWMPs. The descriptions include discussions on progress on water demand management measures implemented over the last five year and identify additional measures and water saving practices that will help suppliers achieve water use reduction targets. Additionally, the amended Act requires UWMPs to quantify distribution system water losses as a new category of past and current water use and allows water use projections to account for estimated water savings resulting from implementation of applicable codes, building design standards, ordinances, and transportation and land use plans.

The Metropolitan Water District of Southern California prepared the Integrated Water Resources Plan (IRP) (MWD 2015) that provides a roadmap for maintaining regional water supply. The framework places an increased emphasis on regional collaboration. Earlier plans dating back to 1996 set a regional reliability goal of meeting full-service demands at the retail level under all foreseeable hydrologic conditions. This updated plan seeks to stabilize Metropolitan's traditional imported water supplies and to continue developing additional local resources.

Over 80 percent of the projected population in the SCAG region for the year 2050 is within the MWD service area (MWD 2023c). It is anticipated that moderate density development in suburban areas, and compact development in urbanized areas, would reduce the need to extract and haul water to distances outside of the urbanized and undeveloped areas. Supplying the water necessary to meet future demand and/or minimizing that demand based on anticipated land use distribution would mitigate anticipated impacts. Each water district develops its own policy for determining its planning horizon and for acquiring and building water facilities. Water districts would provide water for the growth planned and authorized by the appropriate land use authority. However, given the challenges

to imported water supplies, meeting future demand is difficult. Therefore, impacts related to water supply are considered significant and mitigation measures are required.

MITIGATION MEASURES

SCAG MITIGATION MEASURE

See **SMM-USSWS-1** and **SMM-HYD-1**.

PROJECT-LEVEL MITIGATION MEASURES

See **PMM-UTIL-2**.

LEVEL OF SIGNIFICANCE AFTER MITIGATION

As previously discussed, the Plan's Regional Planning Policies and Implementation Strategies (see Chapter 2, *Project Description*, and Section 3.0, *Introduction to the Analysis*) and compliance with existing laws and regulations would reduce impacts; however, given the regional scale of the analysis in this 2024 PEIR, it is not possible or feasible to determine if all impacts would be fully mitigated. Therefore, this 2024 PEIR identifies SCAG and project-level mitigation measures. At the project-level, lead agencies can and should consider the identified project-level mitigation measures during subsequent review of transportation and land use projects as appropriate and feasible. While the mitigation measures will reduce the impacts related to sufficiency of water supplies, due to the regional nature of the analysis, unknown site conditions and project-specific details, and SCAG's lack of land use authority over individual projects, SCAG finds that the impact could be ***significant and unavoidable*** even with mitigation.

IMPACT UTIL-4 **Generate solid waste in excess of state or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals.**

Significant and Unavoidable Impact – Mitigation Required

Many of the transportation projects within the Plan have the potential to generate a substantial amount of solid waste during construction through grading and excavation activities, as well as debris resulting from removal of structures. Construction of anticipated land use projects would generate similar debris. Construction debris could be recycled or used as fill at other projects (clean dirt) or transported to the nearest landfill site and disposed of appropriately.

Although there are 34 landfills that serve the SCAG region (Table 3.19-8), the lifetime of many of these landfills does not extend to the year 2050. The total population is expected to grow by nearly 2.1 million people across the SCAG region by 2050 resulting in substantial generation of solid waste (Table 3.14-8, 2019–2050 Population, Households, and Employment Projections in the SCAG Region). CalRecycle estimates that the average resident in California disposed of 6.7 pounds of trash per day as of 2019 and the average employee disposed of 11.9 pounds of trash per day, as of 2017 (2017 is the last year for which the statewide per employee disposal rate is available) (CalRecycle 2019a). From 1989 to 2012, solid waste generation per employee and resident in California was reduced by approximately half in large part due to compliance with AB 939 (CalRecycle 2019a). AB 341 requires 75 percent diversion by 2020 as compared to 2000. Because 2017 solid waste generation already reflects some reductions from AB 341 (which was implemented in 2012 and requires at least 75 percent of waste to be reduced, recycled or composted), an 18 percent reduction from the 2017 and 2019 rates was assumed for the year 2050.

This equates to approximately 5.5 pounds of trash per day per resident and 9.8 pounds of trash per day per employee in 2050. (Because people both live and work in the region, calculating waste for total residents and total employees likely overestimates waste generation; nonetheless, in order to present a conservative estimate of solid waste generation this 2024 PEIR uses this method.) These solid waste generation rates were used to calculate the solid waste generated in 2050. As discussed above, solid waste generation per capita had been decreasing steadily each year, until 2013 when they began to rise again. Despite recent increases, it is expected that solid waste generation will return to a decreasing trend in the future due to sustainable policies and practices. As shown in **Table 3.19-14, Solid Waste Generated in the SCAG Region**, assuming solid waste generation for both residents and employees according to the factors discussed above, the waste generated per day in the SCAG region under the Plan in 2050 could be up to 107,643 tons per day as compared to 109,946 tons per day in 2019.[2] However, as noted above, because the calculation is for residents and employees likely there is some double counting in the calculated numbers shown in the table.

TABLE 3.19-14 **Solid Waste Generated in the SCAG Region**

YEAR	NUMBER OF PEOPLE	SOLID WASTE GENERATION RATE (LBS/DAY)[A]	SOLID WASTE GENERATED (TONS/DAY)
Population			
2019	18,827,000	6.7	63,071
2050	20,882,000	5.5	57,427
Employment			
2019	8,976,000	10.4	46,675
2050	10,248,000	9.8	50,216
Population and Employment			
2019 Total			***109,946***
2050 Total			***107,643***

Source: SCAG modeling (2023);ESA 2023

Table Notes: By separately calculating waste per employee and waster per resident, this table likely overestimates waste generated as people both live and work within the region.

a. CalRecycle 2019a

The maximum daily disposal capacity for the 37 landfills in the SCAG region is calculated to be 187,219 tons/day as of 2021 (CalRecycle 2023b). However, only 14 of the landfills are currently anticipated to be operational in 2050 with a combined daily disposal of 108,744 tons/day (CalRecycle 2023b). Therefore, the anticipated solid waste generated could exceed the projected landfill capacity which is considered a significant impact and mitigation measures are required.

[2] In order to estimate the amount of waste generated by residents and employees in 2019 and 2050, it was assumed that the same percentage of waste has been reduced each year from 2012 to 2020 to meet the AB 341 requirement. Therefore, each year represents a reduction of 6.25% (50% / 8 years = 6.25%/year). Based on this assumption, 2017's estimated waste stream already met 31.25% of the required reduction (6.25%/year x 5 years = 31.25%). From 2017 to 2019, an additional 12.5% reduction of waste is assumed (6.25%/year x 2 years = 12.5%). As a result, 2017 employment per capita waste generation is reduced by approximately 12.5%, resulting in a 2019 employment waste generation of 10.4 lbs/day.

MITIGATION MEASURES

SCAG MITIGATION MEASURES

SMM-USSW-1 SCAG shall continue to provide support for coordinating with waste management agencies, and appropriate local and regional jurisdictions, and sharing information to facilitate and encourage diversion of solid waste where applicable, appropriate, and feasible.

PROJECT LEVEL MITIGATION MEASURES

PMM-UTIL-3 In accordance with provisions of sections 15091(a)(2) and 15126.4(a)(1)(B) of the CEQA Guidelines, a lead agency for a project can and should consider mitigation measures to reduce the generation of solid waste, as applicable and feasible. Such measures may include the following or other comparable measures identified by the lead agency:

Integrate green building measures consistent with CALGreen (California Building Code Title 24) into project design including, but not limited to the following:

a) Reuse and minimize construction and demolition (C&D) debris and diversion of C&D waste from landfills to recycling facilities.

b) Include a waste management plan that promotes maximum C&D diversion.

c) Source reduction through (1) use of materials that are more durable and easier to repair and maintain, (2) design to generate less scrap material through dimensional planning, (3) increased recycled content, (4) use of reclaimed materials, and (5) use of structural materials in a dual role as finish material (e.g., stained concrete flooring, unfinished ceilings, etc.).

d) Reuse existing structure and shell in renovation projects.

e) Develop indoor recycling program and space.

f) Discourage the siting of new landfills unless all other waste reduction and prevention actions have been fully explored. If landfill siting or expansion is necessary, site landfills with an adequate landfill-owned, undeveloped land buffer to minimize the potential adverse impacts of the landfill in neighboring communities.

g) Discourage exporting of locally generated waste outside of the SCAG region during the construction and implementation of a project. Encourage disposal within the county where the waste originates as much as possible. Promote green technologies for long-distance transport of waste (e.g., clean engines and clean locomotives or electric rail for waste-by-rail disposal systems) and where appropriate and feasible.

h) Encourage waste reduction goals and practices and look for opportunities for voluntary actions to exceed the 80 percent waste diversion target.

i) Encourage the development of local markets for waste prevention, reduction, and recycling practices by supporting recycled content and green procurement policies, as well as other waste prevention, reduction, and recycling practices.

j) Develop ordinances that promote waste prevention and recycling activities such as: requiring waste prevention and recycling efforts at all large events and venues; implementing recycled content procurement programs; and developing opportunities to divert food waste away from landfills and toward food banks and composting facilities.

k) Develop and site composting, recycling, and conversion technology facilities that have minimum environmental and health impacts.

l) Integrate reuse and recycling into residential industrial, institutional, and commercial projects.

m) Provide education and publicity about reducing waste and available recycling services.

n) Implement or expand city or county-wide recycling and composting programs for residents and businesses. This could include extending the types of recycling services offered (e.g., to include food and green waste recycling) and providing public education and publicity about recycling services.

LEVEL OF SIGNIFICANCE AFTER MITIGATION

As previously discussed, the Plan's Regional Planning Policies and Implementation Strategies (see Chapter 2, *Project Description*, and Section 3.0, *Introduction to the Analysis*) and compliance with existing laws and regulations would reduce impacts; however, given the regional scale of the analysis in this 2024 PEIR, it is not possible or feasible to determine if all impacts would be fully mitigated. Therefore, this 2024 PEIR identifies SCAG and project-level mitigation measures. At the project-level, lead agencies can and should consider the identified project-level mitigation measures during subsequent review of transportation and land use projects as appropriate and feasible. While the mitigation measures will reduce the impacts related solid waste generation and disposal, due to the regional nature of the analysis, unknown site conditions and project-specific details, and SCAG's lack of land use authority over individual projects, SCAG finds that the impact could be ***significant and unavoidable*** even with mitigation.

IMPACT UTIL-5 **Comply with federal, state, and local management and reduction statutes and regulations related to solid waste.**

Significant and Unavoidable Impact – Mitigation Required

Potential land use projects implemented as a result of the Plan would be required to comply with federal, state, and local statutes and regulations related to solid waste, including county and city general plans. Local jurisdictions also have goals and policies for recycling and diversion of solid waste to ensure compliance with the California Integrated Waste Management Act (AB 939), the California Solid Waste Reuse and Recycling Act, and the Solid Waste Diversion Rule (AB 341). Local governments submit an annual report to CalRecycle on the implementation of waste diversion plans to comply with their respective per capita disposal targets. CalRecycle reviews each local government's progress in implementing its unique diversion program and progress in sustaining or achieving compliance. CalRecycle may refer some local governments for a compliance evaluation review, although the number of local governments referred is generally less than one percent. If a more thorough analysis reveals a jurisdiction is not meeting the "good faith" standard for implementing its diversion programs or for reaching per capita disposal targets, CalRecycle will issue a compliance order. If the jurisdiction fails to fulfill its implementation plan to correct the program deficiencies, then the jurisdiction will be subject to penalties.

There are also multiple additional laws aimed at reducing solid waste in California including, AB 1826 which sought to greatly reduce the amount of organic material deposited into landfills by further mandating waste recycling services for organic material. At the beginning of 2016, local jurisdictions were required under AB 1826 to implement an organic waste recycling program and measure and monitor their efforts. Also, Section 5.408 "Construction Waste Reduction, Disposal and Recycling" of the 2019 California Green Building Standards code

(CALGreen) requires all new construction and demolition projects to develop a Construction Waste Management Plan which recycles or salvages a minimum of 65 percent of non-hazardous construction and demolition waste.

Transportation and anticipated development projects would be required to comply with AB 341, as well as the additional laws sited above which would further reduce anticipated solid waste generation. However, due to the volume of solid waste debris expected to be generated with implementation of the Plan and potential for projects to conflict with solid waste management and reduction statutes and regulations, impacts are considered significant and mitigation measures are required.

MITIGATION MEASURES

SCAG MITIGATION MEASURES

See **SMM-USSW-1**.

PROJECT LEVEL MITIGATION MEASURES

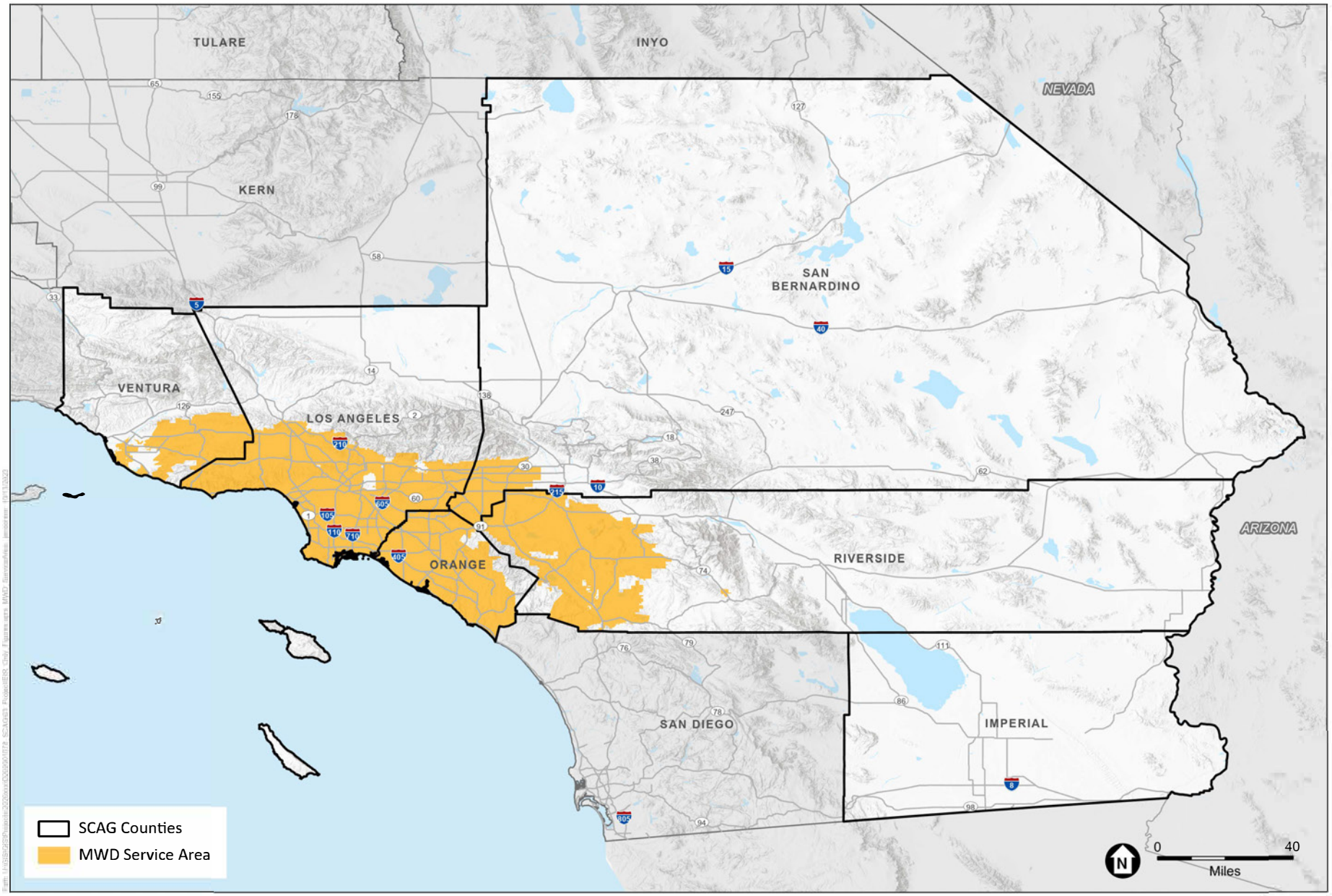
See **PMM-UTIL-3**

LEVEL OF SIGNIFICANCE AFTER MITIGATION

As previously discussed, the Plan's Regional Planning Policies and Implementation Strategies (see Chapter 2, *Project Description*, and Section 3.0, *Introduction to the Analysis*), compliance with existing laws and regulations would reduce impacts; however, given the regional scale of the analysis in this 2024 PEIR, it is not possible or feasible to determine if all impacts would be fully mitigated. Therefore, this 2024 PEIR identifies SCAG and project-level mitigation measures. At the project-level, lead agencies can and should consider the identified project-level mitigation measures during subsequent review of transportation and land use projects as appropriate and feasible. While the mitigation measures will reduce the impacts related to conflicts with federal, state, and local management and reduction statutes and regulations related to solid waste, due to the regional nature of the analysis, unknown site conditions and project-specific details, and SCAG's lack of land use authority over individual projects, SCAG finds that the impact could be ***significant and unavoidable*** even with mitigation.

CUMULATIVE IMPACTS

Connect SoCal 2024 is a regional-scale Plan comprised of policies and strategies, a regional growth forecast and land use pattern, and individual projects and investments. At this regional-scale, a cumulative or related project to the Plan is another regional-scale plan (such as Air Quality Management Plans within the region) and similar regional plans for adjacent regions. Because the Plan, in and of itself, would result in significant adverse environmental impacts with respect to solid waste, wastewater, and water supply, these impacts would add to the environmental impacts of other cumulative or related projects. Mitigation measures that reduce the Plan's impacts would similarly reduce the Plan's contribution to cumulative impacts.



SOURCE: MWD, 2023

Connect SoCal 2024 PEIR

Map 3.19-1
Metropolitan Water District of Southern California Service Area

3.19.4 SOURCES

WATER SUPPLY

Assembly Bill 1594, Chapter 585. Medium- and heavy-duty zero-emission vehicles: public agency utilities.

California Air Resources Board (CARB). 2023. Advanced Clean Fleets Regulation Summary. April 13. https://ww2.arb.ca.gov/resources/fact-sheets/advanced-clean-fleets-regulation-summary?utm_medium=email&utm_source=govdelivery. Accessed May 9, 2023.

California Code of Regulations. Title 23, Division 2, Chapter 2.7: Model Water Efficient Landscape Ordinance.

California Department of Public Health (DPH). 2014. Regulations Related to Recycled Water. June 18. https://www.waterboards.ca.gov/drinking_water/certlic/drinkingwater/documents/lawbook/Rwregulations_20140618.pdf.

California Department of Water Resources (DWR). 1992. 1992 Assembly Bill 3030 (AB3030). https://water.ca.gov/Programs/Groundwater-Management/Non-SGMA-Groundwater-Management#:~:text=The%20Groundwater%20Management%20Act%20was%20first%20introduced%20in,to%20be%20developed%20and%20adopted%20by%20local%20agencies. Accessed March 23, 2023.

DWR. 2001. Guidebook for Implementation of Senate Bill 610 and Senate Bill 221 of 2001. https://cawaterlibrary.net/wp-content/uploads/2017/06/guidebook.pdf.

DWR. 2009. SB X7-7. https://water.ca.gov/Programs/Water-Use-And-Efficiency/SB-X7-7. Accessed March 23, 2023.

DWR. 2013. *California Water Plan, Volume 1 – The Strategic Plan*. https://water.ca.gov/Programs/California-Water-Plan/Water-Plan-Updates. Accessed March 23, 2023.

DWR. 2022. DWR Announces $6 Million to Support Desalination Projects. September 8. https://water.ca.gov/News/News-Releases/2022/Sep-22/DWR-Announces-6-Million-to-Support-Desalination-Projects. Accessed March 23, 2023.

DWR. 2023a. DWR Announces Modest Increase in State Water Project Allocation. February 22. https://water.ca.gov/News/News-Releases/2023/Feb-23/DWR-Announces-Modest-Increase-in-State-Water-Project-Allocation. Accessed March 23, 2023.

DWR. 2023b. Urban Water Management Plans. https://water.ca.gov/Programs/Water-Use-And-Efficiency/Urban-Water-Use-Efficiency/Urban-Water-Management-Plans. Accessed May 9, 2023.

DWR. 2023c. DWR Awards $46 Million to Help Communities Statewide Improve Water Supply Reliability, Groundwater Recharge and Water Use Efficiency. https://water.ca.gov/News/News-Releases/2023/Feb-23/DWR-Awards-$46-Million-to-Help-Communities-Statewide-Improve-Water-Supply-Reliability. Accessed March 23, 2023.

DWR. 2023d. Water Desalination Grant Program. https://water.ca.gov/Work-With-Us/Grants-And-Loans/Desalination-Grant-Program. Accessed March 24, 2023.

DWR. 2023e. California Water Plan Update 2023. https://water.ca.gov/-/media/DWR-Website/Web-Pages/Programs/California-Water-Plan/Docs/Update2023/PRD/California-Water-Plan-Update-2023-Public-Review-Draft.pdf.

California Environmental Protection Agency. (Cal EPA). 2023. California Integrated Water Quality System Project (CIWQS)- Regulated Facility Report (Detail). https://ciwqs.waterboards.ca.gov/ciwqs/readOnly/CiwqsReportServlet?OWASP_CSRFTOKEN=0H4Q-515Q-VH6F-S8XG-GKO5-95JT-BYH5-KZR4. Accessed March 23, 2023.

Cal Matters. 2022. How bad is water use in California? March is the worst so far, up 19%. May. https://calmatters.org/environment/2022/05/california-water-use-up-19/. Accessed September 21, 2023.

California State Water Resources Control Board (SWRCB). 2015. Executive Order B-29-15 State of Emergency Due to Sever Drought Conditions. https://www.waterboards.ca.gov/waterrights/water_issues/programs/drought/docs/emergency_regulations/econ_analysis.pdf.

SWRCB. 2021. Safe Drinking Water Plan for California. https://calmatters.org/wp-content/uploads/2021/12/Safe-Drinking-Water-Plan-for-California-September-2021.pdf.

SWRCB. 2023. Porter-Cologne Water Quality Control Act. January. https://www.waterboards.ca.gov/laws_regulations/docs/portercologne.pdf.

California Water Code. Division 6, Part 2.6: Urban Water Management Planning.

California Water Code. Division 6, Part 2.10: Water Supply Planning to Support Existing and Planned Future Uses [10910-10915}, Section 10910.

California Water Code. Division 6, Part 2.10: Water Supply Planning to Support Existing and Planned Future Uses [10910-10915], Section 10912.

California Water News Daily. 2019. Los Angeles Mayor Garcetti Announces Goal to Recycle 100 Percent of City's Wastewater by 2035. http://californiawaternewsdaily.com/conservation/los-angeles-mayor-garcetti-announces-goal-to-recycle-100-percent-of-citys-wastewater-by-2035/. Accessed March 24, 2023.

U.S. Department of the Interior (USDOI). 2023. Press release. https://www.doi.gov/pressreleases/biden-harris-administration-announces-historic-consensus-system-conservation-proposal. Accessed September 1, 2023

Imperial Irrigation District (IID). 2021. Water Conservation. https://www.iid.com/water/water-conservation. Accessed March 23, 2023.

Legislative Analyst's Office (LAO). 2014. Water Quality, Supply, and Infrastructure Improvement Act of 2014. AB 1471 (Chapter 188, Statues of 2014), Rendon. Bond Measure. https://leginfo.legislature.ca.gov/faces/billCompareClient.xhtml?bill_id=201320140SB866&showamends=false. Accessed March 23, 2023.

LAO. 2017. Residential Water Use Trends and Implications for Conservation Policy. March 8. https://lao.ca.gov/Publications/Report/3611. Accessed May 9, 2023.

Los Angeles Times (LA Times). 2023. At the heart of Colorado River crisis, the mighty 'Law of the River' holds sway. February 3. https://www.latimes.com/california/story/2023-02-03/law-of-the-river-now-battleground-in-colorado-river-crisis. Accessed March 23, 2023.

Metropolitan Water District of Southern California (MWD). 2015. Integrated Water Resources Plan 2015 Update. https://www.mwdh2o.com/how-we-plan/integrated-resource-plan/. Accessed March 22, 2023.

MWD. 2016. *2015 Urban Water Management Plan*. https://www.mwdoc.com/wp-content/uploads/2017/05/UWMP_May-2016-v2.pdf.

MWD. 2020. Integrated Water Resources Plan. https://www.mwdh2o.com/how-we-plan/integrated-resource-plan/. Accessed September 13, 2023.

MWD. 2021a. *2020 Urban Water Management Plan*. June. https://www.mwdoc.com/wp-content/uploads/2017/05/UWMP_May-2016-v2.pdf.

MWD. 2021b. *Water Shortage Contingency Plan*. June. www.mwdh2o.com/media/21648/water-shortage-contingency-plan-june-2021.pdf.

MWD. 2023a. Members Agencies. https://www.mwdh2o.com/member-agencies/. Accessed March 22, 2023.

MWD. 2023b. Achievements in Conservation, Recycling, & Groundwater Recharge: Covering Fiscal Year 2021/2022. February. https://www.mwdh2o.com/media/3vah4zvt/2023-annual-achievement-report-final-metropolitan-water-district.pdf.

MWD. 2023c. Metropolitan's Member Agency Maps. https://www.mwdh2o.com/media/17142/642_maps_memberagencies.pdf?keywords=service%20area. Accessed March 24, 2023.

Moline, B., M. Webster, and R.S. Howard. 2023. California's Clean Fleets Rule Could Make Restoring Power and Water During an Emergency More Difficult. https://www.cmua.org/article_content.asp?adminkey=6f9a209a8d958343caf705e43c417baa&article=75&mc_cid=c3ff3c0010&mc_eid=UNIQID. Accessed May 9, 2023.

National Integrated Drought Information System. 2023. California-Nevada Drought Status Update. https://www.drought.gov/drought-status-updates/california-nevada-drought-status-update-2023-04-20#. Accessed September 14, 2023.

Public Policy Institute of California (PPIC). 2023. *Water Use in California*. https://www.ppic.org/wp-content/uploads/jtf-water-use.pdf.

South Coast Water District (SCWD). 2023. Doheny Ocean Desalination Project. https://www.scwd.org/about/district_projects/doheny_ocean_desalination_project/index.php. Accessed March 24, 2023.

Southern California Association of Governments (SCAG). 2008. Regional Comprehensive Plan: Water. https://scag.ca.gov/sites/main/files/file-attachments/f2008rcp_water.pdf?1605985521. Accessed May 9, 2023.

U.S. Bureau of Reclamation (USBR). 1922. *Colorado River Compact, 1922*. https://www.usbr.gov/lc/region/pao/pdfiles/crcompct.pdf.

U.S. Environmental Protection Agency (USEPA). 2023a. Clean Water Act, Section 402: National Pollutant Discharge Elimination System. https://www.epa.gov/cwa-404/clean-water-act-section-402-national-pollutant-discharge-elimination-system. Accessed May 9, 2023.

USEPA. 2023b. Safe Drinking Water Act (SDWA). https://www.epa.gov/sdwa. Accessed May 9, 2023.

WASTEWATER

Assembly Bill 1594, Chapter 585. Medium- and heavy-duty zero-emission vehicles: public agency utilities.

California Air Resources Board (CARB). 2023. Advanced Clean Fleets Regulation Summary. April 13. https://ww2.arb.ca.gov/resources/fact-sheets/advanced-clean-fleets-regulation-summary?utm_medium=email&utm_source=govdelivery. Accessed May 9, 2023.

California Department of Transportation (Caltrans). 2016. *Statewide Stormwater Management Plan*. https://www.waterboards.ca.gov/water_issues/programs/stormwater/docs/caltrans/swmp/swmp_approved.pdf.

Caltrans. 2023. Stormwater & Water Pollution Control. https://dot.ca.gov/programs/traffic-operations/ep/stormwater. Accessed May 9, 2023.

California Department of Water Resources (DWR). 2023a. Urban Water Management Plans. https://water.ca.gov/Programs/Water-Use-And-Efficiency/Urban-Water-Use-Efficiency/Urban-Water-Management-Plans. Accessed May 9, 2023.

DWR. 2023b. SB X7-7. https://water.ca.gov/Programs/Water-Use-And-Efficiency/SB-X7-7. Accessed May 9, 2023.

California Environmental Protection Agency (Cal EPA). 2023. Regulated Facility Report. https://ciwqs.waterboards.ca.gov/ciwqs/readOnly/CiwqsReportServlet?inCommand=reset&reportName=RegulatedFacility. Accessed March 22, 2023.

California State Water Resources Control Board (SWRCB). 2009. Construction General Permit Fact Sheet. https://www.waterboards.ca.gov/water_issues/programs/stormwater/docs/constpermits/wqo_2009_0009_complete.pdf.

SWRCB. 2012. *Fact Sheet: Water Quality Control Policy for Siting, Design, Operation and Maintenance of Onsite Wastewater Treatment Systems (OWTS Policy)*. https://www.waterboards.ca.gov/water_issues/programs/owts/docs/owts_policy.pdf.

SWRCB. 2013. Order No. 2012-0011-DWQ NPDES No. CAS000003 National Pollutant Discharge Elimination System (NPDES) Statewide Storm Water Permit Waste Discharge Requirements (WDRS) for State of California Department of Transportation. https://www.waterboards.ca.gov/board_decisions/adopted_orders/water_quality/2012/wqo2012_0011_dwq.pdf.

SWRCB. 2015. *California Ocean Plan*. https://www.waterboards.ca.gov/water_issues/programs/ocean/docs/cop2015.pdf.

SWRCB. 2019a. Porter-Cologne Water Quality Control Act. https://www.waterboards.ca.gov/laws_regulations/docs/portercologne.pdf.

SWRCB. 2019b. Strategy to Optimize Resource Management of Stormwater. https://www.waterboards.ca.gov/water_issues/programs/stormwater/storms/. Accessed May 9, 2023.

SWRCB. 2023a. Water Board Structure. https://www.waterboards.ca.gov/lahontan/about_us/water_boards_structure.html. Accessed March 22, 2023.

SWRCB. 2023b. Strategy to Optimize Resource Management of Storm Water (Storm Water Strategy, STORMS). https://www.waterboards.ca.gov/water_issues/programs/stormwater/storms/. Accessed March 22, 2023.

SWRCB. 2023c. Industrial Stormwater Program. See https://www.waterboards.ca.gov/water_issues/programs/stormwater/industrial.html. Accessed May 9, 2023.

SWRCB. 2023d. Municipal Stormwater Program. https://www.waterboards.ca.gov/water_issues/programs/stormwater/municipal.html. Accessed May 9, 2023.

California Water Code. Division 6, Part 2.6: Urban Water Management Plan.

Center for Watershed Protection (CWP). 1988. *Rapid Watershed Planning Handbook – A Resource Guide for Urban Subwatershed Management. Ellicott City, MD*. https://www.govinfo.gov/content/pkg/FR-1996-08-09/pdf/96-20228.pdf.

Legislative Analyst's Office. 2017. Residential Water Use Trends and Implications for Conservation Policy. March 8. https://lao.ca.gov/Publications/Report/3611. Accessed May 9, 2023.

Los Angeles County Sanitation Districts (LACSD). 2023. Wastewater Treatment Process. https://www.lacsd.org/services/wastewater-sewage/facilities/wastewater-treatment-process. Accessed March 22, 2023.

Moline, Barry, Michael Webster, and Randy S. Howard. 2023. California's Clean Fleets Rule Could Make Restoring Power and Water During an Emergency More Difficult. https://www.cmua.org/article_content.asp?adminkey=6f9a209a8d958343caf705e43c417baa&article=75&mc_cid=c3ff3c0010&mc_eid=UNIQID. Accessed May 9, 2023.

U.S. Environmental Protection Agency (USEPA). 2002. Federal Water Pollution Control Act. https://www.epa.gov/sites/production/files/2017-08/documents/federal-water-pollution-control-act-508full.pdf.

USEPA. 2023a. NPDES Stormwater Program. https://www.epa.gov/npdes/npdes-stormwater-program. Accessed May 9, 2023.

U.S. Bureau of Reclamation (USBR). 2023. *Los Angeles Basin Stormwater Conservation Study: Local Stormwater Capture*. https://www.usbr.gov/lc/socal/basinstudies/AppendixB.pdf.

U.S. Geological Survey (USGS). 2023. Impervious Surfaces and Flooding. https://www.usgs.gov/special-topic/water-science-school/science/impervious-surfaces-and-flooding?qt-science_center_objects=0#qt-science_center_objects. Accessed May 9, 2023.

Water Education Foundation (WEF). 2023a. Regional Water Quality Control Boards in California. https://www.watereducation.org/aquapedia/regional-water-quality-control-boards-california. Accessed May 9, 2023.

WEF. 2023b. Water Recycling and Title 22. https://www.watereducation.org/aquapedia/water-recycling-and-title-22. Accessed May 9, 2023.

SOLID WASTE

Assembly Bill No. 341. October 5, 2011.

Assembly Bill No. 1045, Chapter 596. October 8, 2015.

Assembly Bill No, 2153, Chapter 666. September 26, 2016.

Assembly Bill No. 2449, Chapter 845. September 30, 2006.

Assembly Bill No. 2675, Chapter 617. September 26, 2014.

Assembly Bill No. 2901, Chapter 891. September 29, 2004.

California Building Standards Commission (CBSC). 2022. 2022 California Green Building Standards Code. https://codes.iccsafe.org/content/CAGBC2022P1. Accessed March 22, 2023.

California Code of Regulations. Title 14, Division 7: Department of Resources Recycling and Recovery.

California Code of Regulations. Title 27, Division 2: Solid Waste.

California Department of Resources Recycling and Recovery (CalRecycle). 2019a. California Statewide per Resident, per Employee, and Total Disposed Since 1989. https://calrecycle.ca.gov/lgcentral/goalmeasure/disposalrate/graphs/disposal/. Accessed March 22, 2023.

CalRecycle. 2019b. Landfill Tonnage Reports (2019). https://www2.calrecycle.ca.gov/LandfillTipFees/. Accessed September 21, 2023.

CalRecycle. 2021. Landfill Tonnage Reports (2022). https://www2.calrecycle.ca.gov/LandfillTipFees/. Accessed March 22, 2023.

CalRecycle. 2023a. Permitting Landfills and Disposal Sites. https://www.calrecycle.ca.gov/swfacilities/permitting/facilitytype/landfill#Definitions. Accessed March 22, 2023.

CalRecycle. 2023b. SWIS Facility/Site Search. https://www2.calrecycle.ca.gov/swfacilities/Directory/13-AA-0004/Index. Accessed March 22, 2023.

CalRecycle. 2023c. Goal Measurement. November. https://www.calrecycle.ca.gov/LGCentral/GoalMeasure/. Accessed March 22, 2023.

CalRecycle. 2023d. History of California Solid Waste Law, 1985–1989. https://www.calrecycle.ca.gov/laws/legislation/calhist/1985to1989. Accessed March 22, 2023.

CalRecycle. 2023e. Mandatory Commercial Recycling. https://www.calrecycle.ca.gov/recycle/commercial. Accessed March 22, 2023.

CalRecycle. 2023f. Short-Lived Climate Pollutants (SLCP): Organic Waste Reductions. https://calrecycle.ca.gov/Climate/SLCP/. Accessed March 22, 2023.

CalRecycle. 2023g. History of California Solid Waste Law, 2015–2019. https://www.calrecycle.ca.gov/Laws/Legislation/CalHist/2015to2019/. Accessed March 22, 2023.

CalRecycle. 2023i. Household Hazardous Waste Element (HHWE) Adequacy. https://www.calrecycle.ca.gov/LGCentral/Library/Policy/CIWMPEnforce/Part1/HWWEAdq/. Accessed March 22, 2023.

CalRecycle. 2023j. Nondisposal Facility Element Adequacy. https://www.calrecycle.ca.gov/LGCentral/Library/Policy/CIWMPEnforce/Part1/NDFEAdq/. Accessed March 22, 2023.

CalRecycle. 2023k. Countywide Siting Element Adequacy. https://www.calrecycle.ca.gov/LGCentral/Library/Policy/CIWMPEnforce/Part1/CSEAdq/. Accessed March 22, 2023.

CalRecycle. 2023h. Source Reduction and Recycling Element Adequacy. https://www.calrecycle.ca.gov/LGCentral/Library/Policy/CIWMPEnforce/Part1/SRREAdq/. Accessed March 22, 2023.

California Legislature. 2017. *An Overview of California's Beverage Container Recycling (Bottle Bill) Program*. February 15. https://senv.senate.ca.gov/sites/senv.senate.ca.gov/files/background_hearing_on_ltrhead.pdf.

California Public Resources Code. Division 30, Part 2, Chapter 5, Article 1: Plan Preparation [41750–41751], Section 41751.

California Public Resources Code. Division 30, Part 3, Chapter 8.5, Article 1: General Provisions [42460–42461.5].

California Public Resources Code. Division 30, Part 3, Chapter 18, Article 1: Short Title and Findings and Declarations [42900–42901].

California Water Boards (CWB). 2018. *Fact Sheet: Water Quality Control Policy for Siting, Design, Operation and Maintenance of Onsite Wastewater Treatment Systems (OWTS Policy)*. April 17. https://www.waterboards.ca.gov/water_issues/programs/owts/docs/owts_fact_sheet_20180823.pdf.

Senate Bill No. 270, Chapter 850. September 30, 2014.

Senate Bill No. 1383, Chapter 395. September 19, 2016.

U.S. Environmental Protection Agency (USEPA). 2023a. NPDES Stormwater Program. https://www.epa.gov/npdes/npdes-stormwater-program. Accessed March 22, 2023.

USEPA. 2023b. Summary of the Resource Conservation and Recovery Act. https://www.epa.gov/laws-regulations/summary-resource-conservation-and-recovery-act. Accessed March 22, 2023.

USEPA. 2023c. Non-hazardous Waste. https://www.epa.gov/rcra/resource-conservation-and-recovery-act-rcra-regulations#nonhaz. Accessed March 22, 2023.

ENERGY AND TELECOMMUNICATIONS

California Energy Commission (CEC). 2021. 2021 Integrated Energy Policy Report. https://www.energy.ca.gov/data-reports/reports/integrated-energy-policy-report/2021-integrated-energy-policy-report. Accessed October 13, 2023

California Gas and Electric Utilities. 2022. 2022 California Gas Report. https://www.socalgas.com/sites/default/files/Joint_Utility_Biennial_Comprehensive_California_Gas_Report_2022.pdf.

California Public Utilities Commission (CPUC). 2018. Utility Infrastructure Data as of December 2018. https://www.cpuc.ca.gov/-/media/cpuc-website/files/uploadedfiles/cpuc_public_website/content/utilities_and_industries/energy/energy_programs/infrastructure/utility-infrastructure-data-formatted.pdf.

CPUC. 2021. CPUC Undergrounding Programs Description. https://www.cpuc.ca.gov/industries-and-topics/electrical-energy/infrastructure/electric-reliability/undergrounding-program-description. Accessed October 12, 2023.

Southern California Gas Company (SoCalGas). 2013. Pipeline Basics. https://www.socalgas.com/documents/news-room/fact-sheets/PipelineBasics.pdf.